

ROADWAY (CONTINUED)

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 A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTION 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 GRADE 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.

PAVING UNDER GUARDRAIL

THIS OPERATION SHALL INCLUDE PREPARATION OF THE GRADED SHOULDER USING ITEM 209, LINEAR GRADING, AS PER PLAN AND PAVING UNDER THE GUARDRAIL USING 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE1, (448), UNDER GUARDRAIL, AS PER PLAN.

ITEM 209, LINEAR GRADING, AS PER PLAN SHALL CONSIST OF EXCAVATING TOPSOIL, AND PLACING GRANULAR MATERIAL.

ALL COLLECTED DEBRIS AND TOPSOIL, INCLUDING RHIZOMES, ROOTS AND OTHER VEGETATIVE PLANT MATERIAL SHALL BE REMOVED AND DISPOSED OF AS SPECIFIES IN 105.17.

THE REMOVED MATERIAL SHALL BE REPLACED WITH COMPACTABLE GRANULAR MATERIAL CONFORMING TO 703.16 PLACED TO GRADE AS DETAILED ON THE TYPICAL SECTION OR AS APPROVED BY THE ENGINEER.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRE TO PERFORM THE WORK OUTLINED ABOVE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 209, LINEAR GRADING, AS PER PLAN.

PAVING UNDER GUARDRAIL SHALL CONSIST OF PLACING ITEM 441 TO THE DEPTH SPECIFIED USING ONE OF THE FOLLOWING METHODS:

METHOD A:

- 1. SET GUARDRAIL POSTS
- 2. PLACE ITEM 441

METHOD B:

- 1. PLACE ITEM 441
- 2. BORE ASPHALT AT POST LOCATIONS (MAY BE OMITTED IF STEEL POSTS ARE USED)
- 3. SET GUARDRAIL POSTS
- 4. PATCH AROUND POSTS. THE MATERIALS USED FOR PATCHING SHALL BE AN ASPHALT CONCRETE APPROVED BY THE ENGINEER. PATCHED AREAS SHALL BE COMPACTED USING EITHER HAND OR MECHANICAL METHODS. FINISHED SURFACES SHALL BE SMOOTH AND SLOPED TO DRAIN AWAY FROM THE POSTS.

ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO PERFORM THE WORK OUTLINED ABOVE, WITH THE EXCEPTION OF SETTING GUARDRAIL POSTS, SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 441, ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 1 (448), UNDER GUARDRAIL, AS PER PLAN.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

ITEM 606 - IMPACT ATTENUATOR, TYPE 3 UNIDIRECTIONAL

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE TYPE 3 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE (REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS). WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS. THE FACE OF THE IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

TYPE 3 IMPACT ATTENUATORS ARE NECESSARY AT THE FOLLOWING LOCATIONS:

- 1. RAMP C5/RAMP C6 GORE

[50 MPH, TEST LEVEL 3(TL-3), 90" HAZARD WIDTH, ASPHALT FOUNDATION, ATTENUATOR MANUFACTURER'S GUARDRAIL TRANSITION AND BACKUP SUPPORT, UNIDIRECTIONAL.]

- 2. RAMP C3/RAMP C5 GORE

[50 MPH, TEST LEVEL 3(TL-3), 48" HAZARD WIDTH, ASPHALT FOUNDATION, ATTENUATOR MANUFACTURER'S GUARDRAIL TRANSITION AND BACKUP SUPPORT, UNIDIRECTIONAL.]

- 3. I-70 EB PRIOR TO EX. FRA-70-1301R STRUCTURE

[60 MPH, TEST LEVEL 3(TL-3), 48" HAZARD WIDTH, ASPHALT FOUNDATION, ATTENUATOR MANUFACTURER'S GUARDRAIL TRANSITION AND BACKUP SUPPORT, UNIDIRECTIONAL.]

- 4. I-70 EB AFTER EX. FRA-70-1358R STRUCTURE

[60 MPH, TEST LEVEL 3(TL-3), 48" HAZARD WIDTH, ASPHALT FOUNDATION, ATTENUATOR MANUFACTURER'S GUARDRAIL TRANSITION AND BACKUP SUPPORT, UNIDIRECTIONAL.]

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 3 EACH AND SHALL INCLUDE ALL LABOR, TOOLS EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS/BACKSTOPS, TRANSITIONS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

ITEM 622 - BARRIER, MISC: CONCRETE BARRIER, TYPE B

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING CONCRETE BARRIER, TYPE B AS SHOWN ON THE PLAN INSERT SHEET ON SHEET 645-646. 4" RACEWAY ALSO REQUIRED

ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE ABOVE DESCRIBED WORK INCLUDING BUT NOT LIMITED TO CONCRETE AND STEEL, SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR:

ITEM 622 - BARRIER, MISC: CONCRETE BARRIER, TYPE B (FT)

ITEM 622 - BARRIER, MISC: CONCRETE BARRIER, TYPE B50

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING CONCRETE BARRIER, TYPE B50 AS SHOWN ON THE PLAN INSERT SHEET ON SHEET 645-646. 4" RACEWAY ALSO REQUIRED.

ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE ABOVE DESCRIBED WORK INCLUDING BUT NOT LIMITED TO CONCRETE AND STEEL, SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR:

ITEM 622 - BARRIER, MISC: CONCRETE BARRIER, TYPE B50 (FT)

ITEM 608 - WALKWAY, MISC.: COLUMBUS CURB RAMP TYPE A, P-7, AND P-4 MODIFIED

ALL CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF COLUMBUS SPECIFICATION ITEM 608 AND DETAILS ON SHEETS 657 - 663

GRATINGS, VALVE BOXES, AND UTILITY BOXES SHALL NOT BE LOCATED IN THE RAMP, LANDING, DETECTABLE WARNINGS, OR TRANSITION AREAS.

A MINIMUM OF 1 GALLON OF CURING MEMBRANE SHALL BE USED FOR EACH 200 SQUARE FEET OF SURFACE TREATED.

DETECTABLE WARNING PLATE SHALL BE CAST IRON. TYPE SHALL BE EITHER NEENAH DETECTABLE WARNING PLATE, 24" X 24" OR EAST JORDAN IRON WORKS DETECTABLE WARNING PLATE, OR APPROVED EQUAL.

PAYMENT FOR THIS WORK SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, NECESSARY MATERIALS, BACK OF SIDEWALK CURB, AND DETECTABLE WARNINGS.

THE CURB RAMP TYPE P-4 MODIFIED HAS VARYING WIDTHS AND SHALL FOLLOW THE CITY OF COLUMBUS STANDARD CONSTRUCTION DRAWING FOR CURB RAMP TYPE P-4 AS SHOWN ON SHEET 660.

ITEM 622 - CONCRETE BARRIER END SECTION, TYPE D, AS PER PLAN "A"

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING CONCRETE BARRIER END SECTION, TYPE D PER ODOT SCD RM-4.6. THE END SECTION SHALL TRANSITION THE PROPOSED SINGLE SLOPE TYPE D CONCRETE BARRIER TO MEET THE EXISTING PARAPET ON THE EXISTING FRA-70-1321R STRUCTURE APPROACH SLAB ALONG THE RIGHT SIDE OF I-71 NB.

ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE ABOVE DESCRIBED WORK SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR:

ITEM 622 - CONCRETE BARRIER END SECTION, TYPE D, AS PER PLAN "A" (EACH)

ITEM 622 - CONCRETE BARRIER END SECTION, TYPE D, AS PER PLAN "B"

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING CONCRETE BARRIER END SECTION, TYPE D PER ODOT SCD RM-4.6 WITH THE FOLLOWING MODIFICATIONS:

THE BARRIER FACE TRANSITION LENGTH SHALL BE INCREASED TO 11.0' MAKING THE TOTAL LENGTH OF THE END SECTION 15.0'. THE REINFORCING BARS SHALL BE SPACED EVENLY WITHIN THE BARRIER FACE TRANSITION AT 27".

ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE ABOVE DESCRIBED WORK SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR:

ITEM 622 - CONCRETE BARRIER END SECTION, TYPE D, AS PER PLAN "B" (EACH)

ITEM 608 - CONCRETE STEPS, TYPE B, AS PER PLAN

EXISTING CONCRETE STEPS LOCATED ALONG THE RIGHT SIDE OF FRONT STREET AT STA. 151+43.50 SHALL BE RECONSTRUCTED TO MATCH EXISTING RADIUS AND SHAPE (R=3.91').

ALL REQUIREMENTS OF ODOT CMS 608 AND ODOT SCD RM-2.1 SHALL APPLY.

ALL MATERIALS, LABOR AND OTHER INCIDENTALS SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 608 - CONCRETE STEPS, TYPE B, AS PER PLAN.

ITEM 622 - PORTABLE BARRIER, UNANCHORED, AS PER PLAN

THIS ITEM SHALL CONSIST OF PORTABLE BARRIER PER ODOT SCD RM-4.2. PORTABLE BARRIER SHALL BE SEGMENTS WITH NO VISIBLE GRAFITTI NOR MARKINGS AND CHIP-FREE AS APPROVED BY THE ENGINEER. PORTABLE BARRIER SHALL BE LEFT IN PLACE UPON COMPLETION OF PROJECT CONSTRUCTION AND BECOME THE PROPERTY OF THE OHIO DEPARTMENT OF TRANSPORTATION. GLARE SCREENS SHALL BE PROVIDED FOR THOSE PLACED ADJACENT TO OPPOSING TRAFFIC.

ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY INCLUDING THE GLARE SCREENS SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 622 - PORTABLE BARRIER, UNANCHORED, AS PER PLAN.

ITEM 622 - PORTABLE BARRIER, ANCHORED, AS PER PLAN

THIS ITEM SHALL CONSIST OF PORTABLE BARRIER PER ODOT SCD'S RM-4.2 AND PCB-91. PORTABLE BARRIER SHALL BE SEGMENTS WITH NO VISIBLE GRAFITTI NOR MARKINGS AND CHIP-FREE AS APPROVED BY THE ENGINEER. PORTABLE BARRIER SHALL BE LEFT IN PLACE UPON COMPLETION OF PROJECT CONSTRUCTION AND BECOME THE PROPERTY OF THE OHIO DEPARTMENT OF TRANSPORTATION. GLARE SCREENS SHALL BE PROVIDED FOR THOSE PLACED ADJACENT TO OPPOSING TRAFFIC.

IF ANCHORING CANNOT BE DONE AS PER ODOT SCD PCB-91:

- 1) USE THE PCB AS DETAILED ON PCB-91 (NJ SHAPE SEGMENTS WITH ANCHORING HOLES)
- 2) ANCHOR THE PCB ON AT LEAST 2 INCHES OF ASPHALT WITH 4 ANCHORING BOLTS PER BARRIER SEGMENT, ONE LOCATED AT EACH CORNER OF THE PCB.
- 3) EACH ANCHORING BOLT SHALL BE 1 INCH DIAMETER HIGH-STRENGTH STEEL WITH A NUT AND WASHER AS SPECIFIED IN PCB-91.
- 4) ANCHORING BOLTS WILL BE A MINIMUM OF 36 INCHES LONG.

ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY INCLUDING THE GLARE SCREENS SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 622 - PORTABLE BARRIER, ANCHORED, AS PER PLAN.

STONE CURB TO BE REMOVED AND SALVAGED

THE CONTRACTOR SHALL REMOVE, SALVAGE, AND DELIVER TO THE CITY OF COLUMBUS THE STONE (SANDSTONE, GRANITE) CURBING FROM THE EXISTING STREETS AS DIRECTED BY THE PLAN. ANY CURB SECTIONS FOUND SHALL BE CAREFULLY REMOVED WITHOUT NECESSARY DAMAGE AND CLEANED FOR RE-USE. STRAIGHT CURB SECTIONS TO BE SALVAGED SHALL BE AT LEAST TWO FEET IN LENGTH. CURVED SECTIONS OF ANY LENGTH SHALL BE SALVAGED. ALL CLEANED CURB SECTIONS SHALL BE STACKED (NO MORE THAN FOUR HIGH) AND SECURELY FASTENED OR BOXED ONTO PALLETS.

WHEN THE CURBING HAS BEEN SECURED ONTO PALLETS, THE CONTRACTOR SHALL TRANSPORT IT TO THE CITY OF COLUMBUS, DEPARTMENT OF PUBLIC SERVICE - 25TH AVE. STREET MAINTENANCE YARD. THE CONTRACTOR SHALL CALL THE MAINTENANCE YARD MANAGER @ (614) 645-8120 AT LEAST TWO WEEKS IN ADVANCE TO MAKE ARRANGEMENTS FOR DELIVERY. PAYMENT FOR THIS WORK SHALL BE MADE AFTER THE CURBING HAS BEEN DELIVERED TO THE 25TH AVE. MAINTENANCE YARD.

THE COST FOR ALL WORK REQUIRED TO REMOVE, CLEAN, SALVAGE, AND DELIVER CURBING SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM SPECIAL - CURB REMOVED FOR STORAGE - L.F.

ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING TYPE D SINGLE SLOPE BARRIER AS PER ODOT SCD RM-4.5 AND THE DETAIL "K" ON SHEET 39. THE BARRIER SHALL BE REINFORCED AS PER ODOT SCD RM-4.5. THIS BARRIER INCLUDES THE ADDITION OF A CONCRETE FOOTING UNDER THE ENTIRE WALL, VERTICAL EXTENSION OF THE WALL AND REINFORCING STEEL THROUGHOUT THE ENTIRE LENGTH OF THE BARRIER. BARRIER SHALL INCLUDE A MINIMUM 2' WIDE STRIP OF TYPE 2 MEMBRANE WATERPROOFING CONFORMING TO ODOT CMS 512 AT EACH VERTICAL JOINT LOCATION ON THE BURIED SIDE OF THE WALL.

DISTURBANCE TO THE EXISTING EARTHEN LEVEE WHICH ABUTS THE RIVER SIDE SHALL BE MINIMIZED AT ALL TIMES. THE MAXIMUM CUT SLOPE SHALL NOT EXCEED 3:1 HORIZONTAL TO VERTICAL. AS SUCH, SUITABLE EXCAVATION BRACING DESIGNED BY THE CONTRACTOR IN ACCORDANCE WITH CMS 501.05 SHALL BE INSTALLED AT ALL LOCATIONS REQUIRED TO LIMIT EXCAVATION DISTURBANCE NOTED HEREIN.

ALL MATERIALS, LABOR AND OTHER INCIDENTALS NECESSARY TO CONSTRUCT THIS BARRIER INCLUDING THE ADDITIONAL FOOTING AND EXTENSION CONCRETE AND REINFORCEMENT, EXCAVATION BRACING/SHORING AND WATERPROOFING SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN (FT).

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED PB NOTES	CWL	11-19-2021

QUANTITIES CARRIED TO GENERAL NOTES SUBSUMMARY ON SHEET 69A

CALCULATED
ATR
CHECKED
CWL

GENERAL NOTES

FRA -70/ 71-12.68 / 14.86

57
1815

SANITARY SEWER (CONTINUED)

SANITARY SEWER GENERAL NOTES

THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS, 2018 VERSION INCLUDING ALL SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS THAT ARE PART OF THIS PLAN UNLESS OTHERWISE NOTED.

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING DIVISIONS AT LEAST 24 HOURS IN ADVANCE OF THE ANTICIPATED START OF CONSTRUCTION.

DIVISION OF SEWERAGE AND DRAINAGE (614) 645-7102
DIVISION OF DESIGN AND CONSTRUCTION (614) 645-0433

THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THESE PLANS OR NOT. THE CONTRACTOR SHALL EXPOSE ALL UTILITIES OR STRUCTURES PRIOR TO CONSTRUCTION TO VERIFY THE VERTICAL AND HORIZONTAL EFFECT ON THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL CALL, TOLL FREE, THE OHIO UTILITIES PROTECTION SERVICES (1-800-362-2764) 72 HOURS PRIOR TO CONSTRUCTION AND SHALL NOTIFY ALL UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO WORK IN THE VICINITY OF THEIR UNDERGROUND LINES.

CONSTRUCTION OF THIS PROJECT MAY NOT BEGIN UNTIL THE EASEMENTS INDICATED HAVE BEEN RECORDED BY THE CITY.

ANY MODIFICATION TO THE WORK AS SHOWN ON THESE DRAWINGS MUST HAVE PRIOR WRITTEN APPROVAL BY THE ADMINISTRATOR, DIVISION OF SEWERAGE AND DRAINAGE.

ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.

ALL PVC SEWER LINES SHALL BE DEFLECTION TESTED AFTER INSTALLATION IN CONFORMANCE WITH THE REQUIREMENTS OF ITEM 901 OF THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT VERSION.

ALL CONCRETE PIPE, STORM AND SANITARY SEWER STRUCTURES WILL BE STAMPED OR HAVE SUCH IDENTIFICATION NOTING THAT SAID PIPE, STORM AND SANITARY STRUCTURES HAVE BEEN INSPECTED BY THE CITY OF COLUMBUS AND MEETS THEIR SPECIFICATIONS. PIPE AND STRUCTURES WITHOUT PROPER IDENTIFICATION WILL NOT BE PERMITTED FOR INSTALLATION.

THE CONTRACTOR SHALL ENSURE THERE IS A SURVEYOR'S LEVEL AND ROD ON THE PROJECT FOR USE IN PERFORMING GRADE CHECKS WHENEVER SEWER LINE STRUCTURES OR PIPE ARE BEING INSTALLED. THE CONTRACTOR SHALL ME THIS EQUIPMENT AVAILABLE FOR USE AND ASSIST THE INSPECTOR IN PERFORMING GRADE CHECKS WHEN REQUESTED BY THE INSPECTOR. THE INSPECTOR WILL MAKE ALL REASONABLE ATTEMPTS TO CONFINE REQUESTS FOR ASSISTANCE IN PERFORMING GRADE CHECKS TO TIMES CONVENIENT TO THE CONTRACTOR.

THESE CHECKS WILL BE PERFORMED TO ENSURE THE FOLLOWING:
1. PROPER PLACEMENT OF EACH STRUCTURE.
2. PROPER INSTALLATION OF INITIAL RUNS OF PIPE FROM A STRUCTURE
3. GRADE, AFTER AND OVERNIGHT OR LONGER SHUTDOWN.
4. GRADE, AT ANY OTHER TIME THE INSPECTOR HAS REASON TO QUESTION GRADE OF INSTALLATION.

GRADE CHECKS PERFORMED BY THE INSPECTOR IN NO WAY RELIEVE THE CONTRACTOR FROM THE ULTIMATE RESPONSIBILITY TO ENSURE CONSTRUCTION TO THE PLAN GRADE. LOCATE AND PROTECT ALL CITY OF COLUMBUS SEWER STRUCTURES WITH BARRICADES AND FENCING PLACED AROUND STRUCTURE. LOCATE AND PROTECT AREA ABOVE ALL SEWER PIPES. CONTRACTOR SHALL MAINTAIN 24-7 DRIVE UP ACCESS TO ALL CITY OF COLUMBUS VEHICLES TO ALL SEWER MANHOLES AND AREAS OVER SEWER PIPES.

CITY OF COLUMBUS MAINTAINS A FLOW MONITOR SC-MI-14 IN THE FRANKLIN MAIN AT MANHOLE 000650166 (S0166). SMC MUST BE PROVIDED ACCESS TO THIS MH AND ALL SEWER MANHOLES AND APPURTENANCES AT ALL TIMES. DO NOT STOCK PILE CONSTRUCTION MATERIALS OVER SEWER PIPES OR AROUND SEWER MANHOLE STRUCTURES. DO NOT PARK CONSTRUCTION EQUIPMENT AROUND SEWER MANHOLES OR OVER SEWER PIPES.

PAYMENT FOR THE ABOVE DESCRIBED TESTS AND CHECKS SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT SANITARY ITEMS.

ITEM 611 - MANHOLE ADJUSTED TO GRADE, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY FOR ADJUSTMENT OF THE MANHOLE IN ACCORDANCE WITH CMSC ITEM 604.

ITEM SPECIAL - CITY OF COLUMBUS MANHOLE, TYPE C (AA-S102) (SANITARY)

MANHOLES SHALL HAVE BOLT DOWN LIDS PER CITY OF COLUMBUS SCD AA-S143. ALL EXCAVATION AND BRACING NECESSARY (PER ODOT ITEM 503) SHALL BE INCLUDED IN THE COST OF THE MANHOLE.

THIS ITEM SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY FOR CONSTRUCTION OF THE MANHOLE IN ACCORDANCE WITH CMSC ITEM 604 AND THE DETAILS SHOWN ON SHEETS 670 - 675.

ITEM SPECIAL - CITY OF COLUMBUS MANHOLE, TYPE C, AS PER PLAN (AA-S102) (SANITARY)

ANY PROPOSED MANHOLES LOCATED IN THE FREEWAY AND RAMPS PROPOSED PAVEMENT SHALL BE CONSTRUCTED 2.0' BELOW THE PAVEMENT'S SUBGRADE WITH A FRAME AND COVER WITH NO VENT HOLES. FRAME SHALL BE BOLTED TO THE MANHOLE TOP. DROPS ARE INCLUDED IN THE COST OF THE MANHOLE. ALL EXCAVATION AND BRACING NECESSARY (PER ODOT ITEM 503) SHALL BE INCLUDED IN THE COST OF THE MANHOLE.

THIS ITEM SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY FOR CONSTRUCTION OF THE MANHOLE IN ACCORDANCE WITH CMSC ITEM 604 AND THE DETAILS SHOWN ON SHEETS 670 - 675.

ITEM 202 - MANHOLE ABANDONED, AS PER PLAN "B" (SANITARY)

THE CONTRACTOR SHALL ABANDON EXISTING MANHOLES WHERE INDICATED ON THE PLANS IN ACCORDANCE WITH CMSC 202.11. STRUCTURES SHALL BE REMOVED TO A MINIMUM DEPTH OF 2 FEET BELOW FINISHED SUBGRADE OR GROUND SURFACE. AT THE CONTRACTOR'S DISCRETION, OR AND REQUIRED TO COMPLETE THE PROPOSED WORK, MANHOLES CAN BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH CMSC 202.10. BACKFILL SHALL CONSIST OF ODOT ITEM 613 - LOW STRENGTH MORTAR BACKFILL. PAYMENT FOR THE ABOVE WORK INCLUDING BACKFILL WILL BE MADE AT THE UNIT PRICE BID PER EACH FOR ITEM 202 - MANHOLE ABANDONED, AS PER PLAN, "B" REGARDLESS OF THE METHOD USED.

BULKHEADS
SEWER PIPE BULKHEADS SHALL BE CONSTRUCTED BY THE CONTRACTOR AT THE OPEN ENDS OF ALL SEWER ABANDONED IN ACCORDANCE WITH CMSC 901.13. THE COST FOR PLACEMENT OF BULKHEADS SHALL BE INCLUDED IN THE UNIT PRICES BID FOR ITEM 202 - MANHOLE ABANDONED, AS PER PLAN "B".

ITEM 611 - CONDUIT, MISC.: SEWER VIDEO INSPECTION

PRIOR TO MOBILIZING ON SITE, THE CONTRACTOR SHALL CLOSED CIRCUIT TELEVISION (CCTV) INSPECT ALL SEWER LINES THAT ARE GOING TO BE REPLACED. THIS INFORMATION WILL BE USED TO DEVELOP A BYPASS PUMPING PLAN. CONTRACTOR SHALL ALSO PERFORM PRE AND POST CCTV INSPECTIONS ON THE FOLLOWING EXISTING SEWERS WITHIN THE PROJECT CONSTRUCTION LIMITS (NEAREST MANHOLE): OSIS, FRANKLIN MAIN, PETERS RUN/SOUTHSIDE RELIEF OUTLET REPAIRS AND PETERS RUN BRANCH SOUTHERN RELIEF SEWER. BYPASS PUMPING IS NOT EXPECTED TO BE REQUIRED IF THE INSPECTIONS ARE PERFORMED DURING OFF-PEAK OR AT NIGHT.

CONTRACTOR SHALL SUBMIT A PRE-CONDITION AND POST-CONDITION REPORT AND VIDEO WITH THE FOLLOWING INFORMATION:

- 1. DATE AND TIME OF INSPECTION
- 2. LOCATION (NEAREST MANHOLE)
- 3. DOCUMENT AND IDENTIFY LOCATION OF ALL VISIBLE INTERNAL DEFECTS WITHIN EACH SEWER SEGMENT.

ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS TO PERFORM THE SEWER VIDEO INSPECTION SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 611 - CONDUIT, MISC.: SEWER VIDEO INSPECTION (FT).

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE SUBSUMMARY:

ITEM 611 - CONDUIT, MISC.: SEWER VIDEO INSPECTION 3300 FT

ITEM SPECIAL - CITY OF COLUMBUS 18" CONDUIT, C905 PIPE, WITH TYPE 1 BEDDING, WITH ITEM 912 COMPACTED GRANULAR MATERIAL (SANITARY)

THIS ITEM SHALL CONSIST OF CONDUIT MEETING THE REQUIREMENTS OF CMSC ITEM 901 SPECIFICATIONS AND LISTED IN THE CITY OF COLUMBUS PRE-APPROVED SUPPLIER LIST. CONTACT JEREMY CAWLEY WITH THE CITY'S DOSD FOR THE PRE-APPROVED SUPPLIER LIST AT 614-645-6795 OR THE CITY'S WEBSITES LISTED ON SHEET 53.

SEWER PIPE SHALL CONFORM TO CMSC 901 SPECIFICATIONS. SEWER SHALL BE PVC C905 SDR 25 (165 PSI) FOR WATERTIGHT AND WATER LINE PRESSURE GRADE PIPE. ITEM SHALL INCLUDE ALL BYPASS PUMPING, DEWATERING, PERMITS, FEES, ETC. NECESSARY TO INSTALL THE SEWER.

BYPASS PUMPING/FLOW CONTROL

1.01 SUMMARY

THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO REDUCE/CONTROL OR ELIMINATE FLOWS VIA BYPASS PUMPING, CHASES, FLUMING OR OTHER APPROPRIATE METHODS THROUGH A SEGMENT OR SEGMENTS OF PIPE, OR STRUCTURES DESIGNATED FOR THE INSPECTION AND/OR REHABILITATION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONTROLLING AND MAINTAINING ALL SEWAGE FLOWS WITHIN THE SYSTEM WHILE CONDUCTING WORK. PLUGGING OF ANY SEWER LINE SHALL NOT BE PERMITTED WITHOUT BYPASS PUMPING.

2.01 SUBMITTALS

CONTRACTOR SHALL PROVIDE A METHOD OF REDUCING/CONTROLLING THE SEWAGE FLOW THAT WILL INCLUDE BUT IS NOT LIMITED TO:

- 1. A RECOMMENDED SEQUENCE OF OPERATIONS
- 2. SKETCHES OR DRAWINGS SHOWING LOCATIONS OF THE BYPASS SEWER AND CONSTRUCTION PROCEDURES FOR CROSSING STREETS, EXCAVATIONS FOR BENCHING ALONG WITH SUPPORT METHODS, ALL REQUIRED PERMIT INFORMATION, APPLICATIONS, FEES, ETC., TO OBTAIN ACCESS TO THE STREETS WHEN REQUIRED BY THE BYPASS METHOD SELECTED BY THE CONTRACTOR.
- 3. KEY OPERATIONAL FACTORS, (I.E. MAXIMUM FLOW ELEVATIONS UPSTREAM OF DAMS, PUMP SIZES AND FLOW RATES)
- 4. LOCATIONS OF MANHOLES FROM WHICH SEWAGE IS TO BE PUMPED, LOCATIONS OF RECEIVING MANHOLES, AND NEW MANHOLES. THE CITY IS REQUIRING THE FLOW BE PICKED UP AT THE EXISTING MANHOLE ON SHORT ST. AT STA. 11+25.55, 4.9' LEFT.
- 5. A CONTINGENCY PLAN TO PREVENT DAMAGE DURING HIGH FLOW.
- 6. METHOD OF HANDLING TRAFFIC WHERE STREETS ARE TO BE EXCAVATED.

CITY OF COLUMBUS DIVISION OF SEWERAGE AND DRAINAGE SHALL REVIEW CONTRACTOR'S METHOD AND PROVIDE COMMENTS OR APPROVAL WITHIN 14 CALENDAR DAYS OF RECEIPT (SEE SHEET 53 FOR CONTACT INFORMATION). THE CONTRACTOR SHALL SUBMIT A COPY OF ALL PROPERTY OWNER/RESIDENT NOTIFICATIONS TO THE ENGINEER PRIOR TO NOTIFICATION DISTRIBUTION PER SECTION 3.01.

3.01 PREPARATION

RIGHT OF ENTRY. WHEN PRIVATE PROPERTY MUST BE CROSSED FOR BYPASS PUMPING THE CONTRACTOR SHALL OBTAIN WRITTEN RIGHT OF ENTRY (ROE) SIGNED BY THE PROPERTY OWNER. THE ROE SHALL DESCRIBE THE EXTENT OF WORK, ITEMS TO BE RESTORED, WARRANTY AND SCHEDULE. A SIGNED COPY OF THE ROE SHALL BE PROVIDED TO THE PROJECT ENGINEER PRIOR TO COMMENCING WORK. THE COST FOR OBTAINING THE RIGHT OF ENTRY AND ASSOCIATED RESTORATION WORK SHALL BE INCLUDED IN THE BID PRICE.

THE CONTRACTOR SHALL PROVIDE 48-HOUR PRIOR WRITTEN NOTIFICATION TO ALL PROPERTY OWNERS AND OR RESIDENTS WHOSE SEWER LATERAL WILL BE AFFECTED BY THE DIVERSION OF FLOW IN THE SEWER. THE NOTICE SHALL CLEARLY STATE THE APPROXIMATE TIME WHEN SEWAGE CANNOT BE RECEIVED AS WELL AS WHEN THE SEWER WILL BE AVAILABLE AGAIN FOR RECEIVING SEWAGE, AND THE PURPOSE OF THE WORK. IT SHALL ALSO ADVISE ALL AFFECTED CUSTOMERS AGAINST WATER USAGE UNTIL THE SEWER LINE IS PLACED BACK IN SERVICE, AND SHALL CLEARLY STATE THE POTENTIAL CONSEQUENCES OF THE USE OF RESIDENTIAL WASTEWATER GENERATING FACILITIES DURING THE TIME WHEN THE BUILDING SEWER SERVICE WILL BE OUT OF SERVICE (I.E. SEWER BACK-UP).

A DOOR HANGER REMINDER SHALL BE PLACED 24 HOURS (EXCLUDING WEEKENDS AND HOLIDAYS) PRIOR TO REDUCING THE SANITARY SERVICE.

3.02 INSTALLATION

BYPASS PUMPING SHALL BE ESTABLISHED PRIOR TO ANY WORK COMMENCING. BECAUSE OF THE HIGH FLOWS POSSIBLE IN THIS SEWER, THE CONTRACTOR SHALL HAVE A CONTINGENCY PLAN TO PREVENT DAMAGE DURING HIGH FLOWS. THE CITY WILL NOT BE RESPONSIBLE FOR ANY DAMAGES DUE TO HIGH FLOWS. THE CONTRACTOR SHALL ALSO BE AWARE THAT ADJACENT SEWERS MAY NOT BE AVAILABLE FOR BYPASS DISCHARGE DUE TO SURCHARGED CONDITIONS IN THOSE SEWERS DURING HEAVY RAINS. THE BYPASS SHALL BE MADE BY PLUGGING AN EXISTING UPSTREAM MANHOLE, IF NECESSARY, AND PUMPING THE SEWAGE INTO A DOWNSTREAM MANHOLES OR ADJACENT SYSTEM APPROVED BY THE CITY OF COLUMBUS SANITARY ENGINEER. WHEN REQUIRED, THE CONTRACTOR SHALL ALSO BYPASS LATERALS BY PUMPING FROM A CLEANOUT. IF A NEW CLEANOUT IS REQUIRED IT SHALL BE INSTALLED PER CITY STANDARD DRAWING AA-S161. ALL PUMPS AND TEMPORARY BYPASS SEWER PIPING SHALL BE OF ADEQUATE CAPACITY AND SIZE TO HANDLE THE PEAK FLOW AND ANY NECESSARY DEWATERING. THE BYPASS PUMPING SHALL NOT PROHIBIT ACCESS WHEN CROSSING PRIVATE ACCESS DRIVES OR PUBLIC STREETS AND SHALL EITHER HAVE TEMPORARY PAVEMENT OR BE SECURELY PLATED. THE BYPASS SEWER MAY BE LAID OVER GROUND IN ALL OTHER INSTANCES. THE BYPASS SHALL BE A HEADER FOR ALL BYPASS AND DEWATERING PUMPING. CHECK VALVES SHALL BE PLACED AHEAD OF ALL PUMPING CONNECTIONS.

THE CONTRACTOR MAY SUGGEST ALTERNATE ROUTING OR METHODS OF CONTROLLING THE SEWAGE, BUT, SHALL SUBMIT THEIR RECOMMENDATIONS TO THE CITY OF COLUMBUS SANITARY ENGINEER IN WRITING COMPLETE WITH SKETCHES OR DRAWINGS SHOWING LOCATIONS OF THE BYPASS SEWER AND CONSTRUCTION PROCEDURES FOR CROSSING STREETS, EXCAVATIONS FOR BENCHING ALONG WITH SUPPORT METHODS, ALL REQUIRED PERMIT INFORMATION, APPLICATIONS, FEES, ETC. THE CITY OF COLUMBUS SANITARY ENGINEER WILL REVIEW THE PROPOSED ALTERATIONS TO ENSURE THAT THE RECEIVING SEWERS CAN ACCEPT THE FLOW AND THAT NO ACCESS OR STREET INTERFERENCE IS CREATED. CITY OF COLUMBUS DIVISION OF SEWERAGE AND DRAINAGE SHALL REVIEW ALTERNATE METHOD AND PROVIDE COMMENTS OR APPROVAL WITHIN 14 CALENDAR DAYS OF RECEIPT. NEITHER THE CITY NOR THE PROJECT ENGINEER WILL BE RESPONSIBLE FOR DAMAGES DUE TO HIGH FLOWS.

ALL COMMERCIAL ESTABLISHMENTS SHALL BE PROVIDED WITH TEMPORARY SEWER SERVICE. THE MEANS AND METHODS SHALL BE COORDINATED WITH THE MANAGERS AND THE AFFECTED RESIDENTS.

UNDER NO CIRCUMSTANCES WILL THE DUMPING OF RAW SEWAGE ON PRIVATE PROPERTY, STREETS AND ROADS BE ALLOWED NOR WILL SURCHARGING OF THE SEWERS BE ALLOWED DUE TO INSUFFICIENT PUMPING.

3.03 REPAIR/RESTORATION

SITE RESTORATION. THE CONTRACTOR SHALL BE AWARE OF THE CONDITIONS AT EACH SITE. THIS SHALL INCLUDE BUT NOT BE LIMITED TO TREES, SHRUBBERY, LANDSCAPING, STRUCTURES, FENCES, MAILBOXES, DRIVEWAYS, CURBS, WALKS, PAVEMENTS, ETC. THE CONTRACTOR SHALL VIDEOTAPE ALL ROE AREAS PRIOR TO USE. ALL PRE-CONSTRUCTION CONDITIONS SHALL BE FULLY RESTORED AS CLOSE TO ITS ORIGINAL CONDITIONS AS PRACTICABLE.

WHEN WORKING ON PRIVATE PROPERTY, THE CONTRACTOR SHALL OBTAIN ACKNOWLEDGEMENT-OF-COMPLETION (AOC) FROM THE PROPERTY OWNER THAT WORK WAS COMPLETED IN ACCORDANCE WITH THE ROE AGREEMENT. NO PAYMENT FOR THIS WORK WILL BE MADE UNTIL THE COPY OF THE AOC IS SUBMITTED TO THE PROJECT ENGINEER.

3.04 FIELD QUALITY CONTROL

RECORD ONLY PERMITS. WHEN A NEW CLEANOUT OR OTHER ADDITIONS TO A PRIVATE LATERAL ARE REQUIRED FOR BYPASS PUMPING, THE INSPECTOR SHALL COMPLETE A RECORD ONLY PERMIT FOR THAT LATERAL WHICH SHALL DOCUMENT ALL CHANGES OR ADDITIONS.

3.05 CLEANING

PURGING. AFTER ALL CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED THE CONTRACTOR SHALL PURGE THE BYPASS SEWER SYSTEM OF ALL SEWAGE BEFORE DISCONNECTING THE PUMPS AND PIPING WITH WATER. ALL WATER USED FOR PURGING THE BYPASS SYSTEM SHALL EITHER BE COLLECTED AND DISPOSED OF OFF-SITE OR ROUTED INTO THE SANITARY SEWER. UNDER NO CIRCUMSTANCES WILL THE DUMPING OF RAW SEWAGE ON PRIVATE PROPERTY, STREETS AND ROADS BE ALLOWED DUE TO PURGING THE SYSTEM.

3.06 PROTECTION

PRECAUTIONS SHALL BE TAKEN TO ENSURE THAT BYPASS PUMPING AND FLOW CONTROL OPERATIONS SHALL NOT CAUSE FLOODING OR DAMAGE TO PUBLIC OR PRIVATE PROPERTIES. IN THE EVENT FLOODING OR DAMAGE OCCURS, THE CONTRACTOR SHALL MAKE PROVISIONS TO CORRECT SUCH DAMAGE AT NO ADDITIONAL COST TO THE CITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO PUBLIC OR PRIVATE PROPERTY, OVERFLOWS FROM THE SEWER SYSTEM AND VIOLATIONS RESULTING IN FINES AS A RESULT OF THE DEWATERING/BYPASS OPERATION.

3.07 METHOD OF PAYMENT

ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS TO PERFORM THE WORK DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 611 - CONDUIT, MISC.: 18" CONDUIT, C905 PIPE, WITH TYPE 1 BEDDING, WITH ITEM 912 COMPACTED GRANULAR MATERIAL (SANITARY).

ITEM 611 - CONDUIT, MISC.: BYPASS PUMPING FOR VIDEO INSPECTION AND PIPE REPAIRS

A CONTINGENCY QUANTITY OF BYPASS PUMPING HAS BEEN PROVIDED TO BE USED AS DIRECTED BY THE ENGINEER FOR THE VIDEO INSPECTION AND PIPE REPAIRS OF SEWERS. THIS WORK SHALL MEET THE REQUIREMENTS OF THE BYPASS PUMPING/FLOW CONTROL NOTES ON THIS SHEET.

ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS TO PERFORM THE BYPASS PUMPING SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 611 - CONDUIT, MISC.: BYPASS PUMPING FOR VIDEO INSPECTION AND PIPE REPAIRS (LS).

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE SUBSUMMARY:
ITEM 611 - CONDUIT, MISC.: BYPASS PUMPING FOR VIDEO INSPECTION AND PIPE REPAIRS LS

QUANTITIES CARRIED TO GENERAL NOTES SUBSUMMARY ON SHEET 69A

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BYPASS NOTE	CWL	11-19-2021

01:2012:2012048 VERA\105625\ROADWAY\SHEETS\1056250401.1.DGN
11/20/2021
10:00:12 AM
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CALCULATED
ATR
CHECKED
CWL

GENERAL NOTES

FRA - 70/ 71-12.68 / 14.86

69
1815

01/20/21 12:28:48 FRA\105525\ROADWAY\SHEETS\105525\5025.DGN
 11/20/2021 10:05:56 AM
 G00TV81STD_USER

SHEET NO.	201		202		202		204		208		251		SPECIAL		SPECIAL		601		607		605		611		611		611		611	
	CLEARING AND GRUBBING, AS PER PLAN		REMOVAL MISC.: TRASH RECEPTACLES		CONCRETE BARRIER REMOVED		GEOTEXTILE FABRIC		VIBRATION CONTROL AND MONITORING, AS PER PLAN		PARTIAL DEPTH PAVEMENT REPAIR (442)		PAVEMENT OVERLAY FABRIC		SAWING AND SEALING CONCRETE JOINTS		TIED CONCRETE BLOCK MAT, TYPE 1		FENCE, TYPE CL, AS PER PLAN		6" UNCLASSIFIED PIPE UNDERDRAINS WITH GEOTEXTILE FABRIC		CONDUIT, MISC.: SEWER VIDEO INSPECTION		6" CONDUIT, TYPE B		6" CONDUIT, TYPE C		CONDUIT, MISC.: BYPASS PUMPING FOR VIDEO INSPECTION AND PIPE REPAIRS	
	LS		EACH		FT		SY		LS		SY		SY		FT		SY		FT		FT		FT		FT		FT		FT	LS
	01/IMS/PV	02/NHS/PV	01/IMS/PV		01/IMS/PV	02/NHS/PV	01/IMS/PV	02/NHS/PV	01/IMS/PV	02/NHS/PV		01/IMS/PV		01/IMS/PV	02/NHS/PV	01/IMS/PV	10/IMS/OT/COL	01/IMS/PV	02/NHS/PV	01/IMS/PV	02/NHS/PV	01/IMS/PV	02/NHS/PV	08/IMS/OT	01/IMS/PV	02/NHS/PV	01/IMS/PV	02/NHS/PV	08/IMS/OT	
53	LS	LS																												
54			4																											
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56					119	151						500		102	129															
61																														
63																		4	4					88	112		22	28	22	28
66A									LS	LS																				
67							880	1120													880	1120								
69																								3300						LS
TOTALS CARRIED TO GENERAL SUMMARY																														
	LS	LS	4		119	151	880	1120	LS	LS		500		102	129	368	44	4	4	880	1120	88	112	3300	22	28	22	28	LS	
SHEET NO.	611		611		611		611		SPECIAL		622		623		638		SPECIAL		SPECIAL		SPECIAL		SPECIAL		SPECIAL		SPECIAL			
	6" CONDUIT, TYPE E		6" CONDUIT, TYPE F		PRECAST REINFORCED CONCRETE OUTLET		CONDUIT, MISC.: INTERNAL JOINT SEAL		MISCELLANEOUS METAL		BARRIER, MISC.: CONCRETE BARRIER, TYPE B		PROVIDING ELECTRONIC INSTRUMENTATION		WATER WORK, MISC.: SURVEY COORDINATES		SURVEY CONTROL VERIFICATION		WORK INVOLVING NON-REGULATED MATERIALS		WORK INVOLVING HAZARDOUS WASTE		WORK INVOLVING SOLID WASTE		WORK INVOLVING NON-REGULATED WATER		WORK INVOLVING REGULATED WATER			
	FT		FT		EACH		EACH		LB		FT		LS		LS		TON		TON		TON		GAL		GAL					
	01/IMS/PV	02/NHS/PV	01/IMS/PV	02/NHS/PV	01/IMS/PV	02/NHS/PV	01/IMS/PV	02/NHS/PV	01/IMS/PV	02/NHS/PV	01/IMS/PV	02/NHS/PV	01/IMS/PV	02/NHS/PV	08/IMS/OT		01/IMS/PV	02/NHS/PV	01/IMS/PV	02/NHS/PV	01/IMS/PV	02/NHS/PV	01/IMS/PV	02/NHS/PV	01/IMS/PV	02/NHS/PV	01/IMS/PV	02/NHS/PV		
54																														
56											106	134																		
58													LS	LS																
63	22	28	110	140	2	2	26	34	440	560																				
66A																					440	560	44	56	220	280	4840	6160	4840	6160
68														LS																
TOTALS CARRIED TO GENERAL SUMMARY																														
	22	28	110	140	2	2	26	34	440	560	106	134	LS	LS	LS		LS	LS	440	560	44	56	220	280	4840	6160	4840	6160		

NO.	DESCRIPTION	REV.	BY	DATE
1	ADDED LIBERTY RMP NOTE		CWL	11-4-2021
3	UPDATED BYPASS NOTE		CWL	11-9-2021

CALCULATED CJC CHECKED CWL
GENERAL NOTES SUBSUMMARY
FRA - 70 / 71 - 12.68 / 14.86
 69A
 1815

ITEM 614 - MAINTAINING TRAFFIC

1. CONSTRUCTION OPERATIONS SHALL NOT BEGIN UNTIL ALL TRAFFIC CONTROL IS IN PLACE AND APPROVED BY ODOT PERSONNEL. THE PROJECT ENGINEER SHALL APPROVE ALL TEMPORARY TRAFFIC CONTROL DEVICES FOR CONDITION AND LOCATION BEFORE THE CONTRACTOR WILL BE ALLOWED TO BEGIN WORK. IF THE CONTRACTOR DOES NOT COMPLY WITH THE STANDARDS, HIS PERMIT SHALL BE REVOKED AND ALL WORK SHALL BE TERMINATED.

2. ALL SIGNS, BARRACADES, SIGN SUPPORTS, DRUMS, FLAGGERS, WORK ZONE TRAFFIC SIGNALS AND INCIDENTALS FOR TRAFFIC CONTROL SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR IN CONFORMANCE WITH THE MOST RECENT REVISIONS, CURRENT EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (OMUTCD). ALL SIGNS USED FOR THE MAINTENANCE OF TRAFFIC SHALL BE NEW OR LIKE NEW CONDITION SUBJECT TO THE APPROVAL OF THE ENGINEER. DEVICES USED TO MAINTAIN TRAFFIC SHALL BE REMOVED IMMEDIATELY AFTER THE TERMINATION OF SAID WORK. PAYMENT SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC.

3. FOR WORK WHICH IS CONFINED TO THE SHOULDER, TRAFFIC CONTROL SHALL CONFORM TO FIGURES TA-1, TA-3, TA-4, AND TA-6 OF THE OMUTCD AND SCD MT-95.45. IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR TRAFFIC CONTROL AS SET FORTH IN THESE PLANS AND PROVISIONS OF THE OMUTCD AND FAILURE RESULTS IN A CONDITION AT THE WORK SITE WHICH IS UNSAFE FOR TRAFFIC, THE ENGINEER HAS THE AUTHORITY TO SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS.

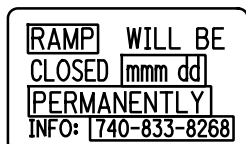
ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 -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

NOTIFICATION OF CONSTRUCTION INITIATION

AT LEAST FOURTEEN DAYS PRIOR TO STARTING INITIAL CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL ADVISE THE DISTRICT OFFICE OF COMMUNICATIONS VIA EMAIL AT D06.PIO@DOT.OHIO.GOV, THE DISTRICT WORK ZONE TRAFFIC MANAGER VIA EMAIL AT D06.MOT@DOT.OHIO.GOV AND THE CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION VIA EMAIL AT HAULING.PERMITS@DOT.OHIO.GOV OF THE ANTICIPATED START DATE OF ANY CONSTRUCTION ACTIVITIES INCLUDING BUT NOT LIMITED TO THE PLACING OF WORK ZONE SIGNS. THE NOTIFICATION SHALL ALSO INCLUDE THE PROJECT NUMBER, PID, NAME AND PHONE NUMBER OF THE CONTRACTOR, A POINT OF CONTACT AND THE ANTICIPATED IMPACT ON TRAFFIC. THE CONTRACTOR WILL IMMEDIATELY INFORM THE DISTRICT OFFICE OF COMMUNICATIONS AND THE DISTRICT WORK ZONE TRAFFIC MANAGER OF ANY AND ALL DELAYS AND/OR CHANGES REGARDING THE CONSTRUCTION INITIATION DATE.

NOTIFICATION OF PERMANENT RAMP CLOSURE

NOTICE OF CLOSURE SIGNS, AS DETAILED BELOW, SHALL BE ERECTED AT LEAST FOURTEEN DAYS PRIOR TO THE PERMANENT CLOSURE OF THE I-70 EB TO SR315 NB RAMP. THE SIGNS SHALL BE MOUNTED ON BOTH SIDES OF THE RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS.



W20-H13-60 (MODIFIED)

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 IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER 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 DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION TIME TABLE		
ITEM	DURATION OF CLOSURE	NOTIFICATION DUE TO PERMITS AND PIO
RAMP AND ROAD CLOSURES	≥ 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS AND < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES/RESTRICTIONS	≥ 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORSEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

PERMITTED LANE CLOSURES ON FREEWAYS, RAMPS AND CITY STREETS

THE EXISTING NUMBER OF LANES IN EACH DIRECTION ON ALL FREEWAYS SHALL BE MAINTAINED IN ACCORDANCE WITH THE LANE VALUE CONTRACT TABLE FOR EACH LOCATION UNLESS OTHERWISE SHOWN IN THE PLANS. THE EXISTING NUMBER OF LANES IN EACH DIRECTION ON ALL RAMPS AND CITY STREETS SHALL BE MAINTAINED FOR EACH LOCATION UNLESS OTHERWISE SHOWN IN THE PLANS.

IT MAY BE NECESSARY TO EXTEND THE ADVANCE WARNING, TAPER AND BUFFER ZONES BEYOND THE MINIMUM DISTANCES SHOWN ON THE STANDARD DRAWINGS DUE TO HORIZONTAL ALIGNMENT, VERTICAL ALIGNMENT, RAMP LOCATIONS, OR OTHER SIGHT OBSTRUCTIONS. TAPERS SHOULD BE PLACED IN TANGENT SECTIONS WHENEVER POSSIBLE.

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.

ALL WORK ZONE AND TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, APPLICABLE STANDARD DRAWINGS, AND THE OHIO MANUAL OF TRAFFIC CONTROL DEVICES (CURRENT EDITION).

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPERATELY ITEMIZED IN THE PLAN.

MAINTAINING TRAFFIC (TIME LIMITATION ON A DETOUR)

THE I-70 EB/I-71 NB TO FRONT STREET RAMP SHALL BE MAINTAINED AT ALL TIMES BY EITHER THE EXISTING OR PROPOSED RAMP, EXCEPT FOR A PERIOD NOT TO EXCEED 365 CONSECUTIVE CALENDAR DAYS, WHEN RAMP TRAFFIC MAY BE DETOURED TO THE FOURTH STREET/LIVINGSTON AVENUE RAMP. A DISINCENTIVE SHALL BE ASSESSED IN THE AMOUNT OF \$5,000 PER DAY FOR EACH CALENDAR DAY THE RAMP REMAINS CLOSED TO TRAFFIC BEYOND THE SPECIFIED LIMIT.

COORDINATION WITH ADJACENT PROJECTS

THE CONTRACTOR SHALL COORDINATE WORK WITH ODOT AND THE CONTRACTORS ON THE ADJACENT PROJECTS.

COORDINATION SHALL BE MADE TO PREVENT CONFLICTING ADVANCE WARNING SIGNS, CONFLICTING DETOUR ROUTES, OVERLAPING/CONFLICTING LANE CLOSURES, AND TO ENSURE THAT A MINIMUM DISTANCE OF 2 MILES BETWEEN ADJACENT LANE CLOSURES IS MAINTAINED. THIS IS NOT AN EXHAUSTIVE LIST OF COORDINATION ITEMS THAT MAY NEED TO BE RESOLVED BETWEEN PROJECTS. THE DEPARTMENT RESERVES THE RIGHT TO DECIDE WHICH PROJECT'S ACTIVITIES TAKE PRECEDENCE. PROJECTS THAT HAVE ACTIVITIES DELAYED DUE TO CONFLICTS WILL CONSIDER THIS AN EXCUSABLE, COMPENSABLE DELAY PER 108.06.D. ON PROJECTS THAT HAVE ACTIVITIES DELAYED DUE TO CONFLICTS WHERE THE CONTRACTOR FAILED TO MEET THE NOTIFICATION REQUIREMENTS, THE DELAYS SHALL NOT BE CONSIDERED EXCUSABLE OR COMPENSABLE, NOR SHALL THE COMPLETION DATE BE EXTENDED.

ATTENDANCE AT DEPARTMENT ORDERED TRAFFIC COORDINATION MEETINGS BETWEEN ADJACENT PROJECTS SHALL BE CONSIDERED MANDATORY FOR EACH PROJECT'S SUPERINTENDENT AND WORKSITE TRAFFIC SUPERVISOR (WTS), AND INCIDENTAL TO THE LUMP SUM MAINTENANCE OF TRAFFIC PAYMENT ITEM.

KNOWN ADJACENT ODOT PROJECTS ARE FRA-70/71 PROJECT 2E PID 105322, FRA-71-9.62 I-71 PID 93497, AND THE FUTURE FRA-70/71 BIG BUILD PID 77372 PROJECT (4A/1301R/4H/6A/4B).

ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

THE EXISTING SHOULDERS SHALL BE REPLACED WITH CLASS A TEMPORARY FLEXIBLE PAVEMENT FOR AREAS LISTED IN THIS MOT NOTE (COMPOSITION PER TABLE CMS 615.05 AND FOOTNOTE 4 TO LESSEN THE THICKNESS TO ALLOW FOR DRUMS DURING MOT SHOULDER WORK. THE SHOULDER REPLACEMENT WORK ZONE SHALL BE IN ACCORDANCE WITH ODOT STANDARD CONSTRUCTION DRAWING MT-95.30. THIS LANE CLOSURE SHALL ADHERE TO THE LANE VALUE CONTRACT TABLE.

THE SHOULDER LIMITS NEEDING REPLACED IF THE DETAILED MOT PLANS ARE FOLLOWED AS SHOWN IS:
 I-70EB STA. 114+40 TO 134+40 LT
 I-70EB TO I-71SB RAMP STA. 8+83 TO 19+00 RT
 I-70EB/I-71NB STA. 189+65 TO 193+50 RT
 I-70EB/I-71NB STA. 187+88 TO 196+00 LT
 I-70WB/I-71SB STA. 182+00 TO 198+92 LT
 I-70WB/I-71SB STA. 184+50 TO 192+57 RT
 THESE AREAS SHALL BE ADJUSTED AS NECESSARY DUE TO ANY CHANGES TO THE MOT CONCEPT.

ANY COSTS ASSOCIATED WITH THE PAVEMENT REMOVAL AND INSTALLATION INCLUDING ALL MATERIALS, MATERIAL REMOVAL, EDGE LINE REMOVAL, LABOR AND EQUIPMENT AND ALL OTHER INCIDENTALS OTHER THAN THE LANE CLOSURE SHALL BE INCLUDED IN THE BID FOR ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN.

ANY COSTS ASSOCIATED WITH THE LANE CLOSURES AS DESCRIBED IN THIS NOTE SHALL BE CONSIDERED INCIDENTAL TO AND INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC.

PN 121 CLARIFICATIONS

DESCRIPTION OR LOCATION OF CRITICAL WORK	COMPLETION DATE	TIME PERIOD	DISINCENTIVE \$ PER TIME PERIOD	INCENTIVE \$ PER TIME PERIOD	MAXIMUM INCENTIVE \$
SEE NOTE 1 BELOW	6/1/24	DAY	\$12,000	N/A	N/A
SEE NOTE 2 BELOW	5/1/24	DAY	\$5,000	N/A	N/A

THE ITEMS OF WORK THAT MUST BE COMPLETED BY THE INTERIM COMPLETION DATE ARE ITEMIZED BELOW:

- I-70/I-71 MAINLINE MOT PHASE 4 WORK SHALL BE COMPLETE ENOUGH FOR TRAFFIC TO BE SHIFTED TO THE MOT PHASE 5 LOCATION (SEE SHEETS 190 - 194) AND TRAFFIC SHIFTED PRIOR TO THE DATE LISTED.
- THE FULTON STREET RAMP (C5) AND STRUCTURES FRA-70-1390C AND FRA-70-1395C SHALL BE COMPLETE ENOUGH FOR TRAFFIC TO BE SHIFTED TO THE MOT PHASE 5 LOCATION (SEE SHEETS 192 - 193) AND TRAFFIC SHIFTED PRIOR TO THE DATE LISTED. THE RAMP MAY NOT CLOSE FOR ANY REASON AFTER THIS DATE.

PRE-MAINTENANCE OF TRAFFIC MEETING

A PRE-MAINTENANCE OF TRAFFIC MEETING SHALL BE HELD (MINIMUM OF 10 WORK DAYS) PRIOR TO WORK BEGINNING OR ANY CHANGE OF PHASING. THIS MEETING SHALL INCLUDE THE DISTRICT WORK ZONE TRAFFIC MANAGER (d06.mot@dot.ohio.gov) AS WELL AS THE CONTRACTOR AND ANY OF HIS SUB-CONTRACTORS INVOLVED WITH TEMPORARY TRAFFIC CONTROL. FOR COLUMBUS SECTIONS OF ROADWAY, ALSO INCLUDE THE TEMPORARY CONTROL COORDINATOR (614-645-6269 OR 614-645-5845) FROM THE CITY OF COLUMBUS TRANSPORTATION DIVISION.

WEEKLY MAINTENANCE OF TRAFFIC MEETING

AFTER THE INITIAL PRE-MAINTENANCE OF TRAFFIC MEETING, THE CONTRACTOR SHALL MEET WITH THE PROJECT ENGINEER ON A WEEKLY BASIS TO GO OVER A DETAILED MAINTENANCE OF TRAFFIC REPORT OF AT LEAST 7 CALENDAR DAYS. THIS MEETING SHOULD BE HELD ON THE SAME DAY AND TIME OF EACH WEEK.

THE CONTRACTOR WILL PROVIDE TO THE PROJECT ENGINEER A WRITTEN DETAIL OF THE INFORMATION REQUIRED BY THE NOTIFICATION OF TRAFFIC RESTRICTIONS NOTE PRIOR TO THE MEETING.

IN ADDITION TO THE DETAILED MAINTENANCE OF TRAFFIC REPORT THE CONTRACTOR SHALL GIVE A GENERAL LOOK AHEAD OF AN ADDITIONAL 2 WEEKS OF UPCOMING WORK ACTIVITIES. THIS WILL INCLUDE ANY NOTIFICATION REQUIREMENTS FOR RESTRICTIONS THAT HAVE A DURATION GREATER THAN 12 HOURS.

ITEM 614 - MAINTAINING TRAFFIC (ESTIMATED QUANTITIES)

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE A OR B
200 CU. YD.

MAINTENANCE OF FIRE LANE

THE FIRE LANE JUST SOUTH OF I-70/I-71 BETWEEN SHORT STREET AND SECOND STREET SHALL NOT BE UTILIZED FOR CONSTRUCTION EQUIPMENT, ACTIVITIES, OR CONSTRUCTION TRAFFIC. IT SHALL REMAIN CLEAR FOR FIRE DEPARTMENT USE AT ALL TIMES.

NO.	DESCRIPTION	REV. BY	DATE
3	NOTE CHANGES	EMW	11-16-2021

SHEET NUMBER							PARTICIPATION				ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED ATR	CHECKED CWL
69A		224	225				08/IMS/OT		10/IMS/OT/COL									
														WATER WORK (CONTINUED)				
		1					1			638	98000	1	EACH	WATER WORK, MISC.: 24" x 6" TAPPING SLEEVE AND VALVE AND APPURTENANCES (COLUMBUS 803)	68		68A	
		1					1			638	98000	1	EACH	WATER WORK, MISC.: FIRE HYDRANT, RELOCATED (COLUMBUS 809)	68			
		1					1			638	98000	1	EACH	WATER WORK, MISC.: 3" WATER SERVICE LINE TRANSFER (COLUMBUS 805)	68			
		1					1			638	98000	1	EACH	WATER WORK, MISC.: 6" WATER SERVICE LINE TRANSFER (COLUMBUS 805)	68			
		2					2			638	98000	2	EACH	WATER WORK, MISC.: 6" WATER MAIN ABANDONED (COLUMBUS 808)	68			
		2					2			638	98000	2	EACH	WATER WORK, MISC.: 8" WATER MAIN ABANDONED (COLUMBUS 808)	68			
		1					1			638	98000	1	EACH	WATER WORK, MISC.: 20" WATER MAIN ABANDONED (COLUMBUS 808)	68			
LS							LS			638	98100	LS		WATER WORK, MISC.: SURVEY COORDINATES	68			
		40					40			SPECIAL	69098700	40	CY	INCREASE OR DECREASE IN EXCAVATION AND BACKFILL (COLUMBUS 811)	68			
		500					500			SPECIAL	69099400	500	LB	DUCTILE IRON FITTINGS, INCREASE OR DECREASE (COLUMBUS 801)	68			
														SANITARY SEWER				
LS							LS			611	97300	LS		CONDUIT, MISC.: BYPASS PUMPING FOR VIDEO INSPECTION AND PIPE REPAIRS	69			
3300							3300			611	97400	3300	FT	CONDUIT, MISC.: SEWER VIDEO INSPECTION	69			
		2					2			611	99655	2	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN	68A		69	
		3					3			SPECIAL	69098000	3	EACH	CITY OF COLUMBUS MANHOLE, TYPE C (AA-S102)	69			
		1					1			SPECIAL	69098000	1	EACH	CITY OF COLUMBUS MANHOLE, TYPE C, AS PER PLAN (AA-S102)	69			
		204					204			SPECIAL	69098100	204	FT	CITY OF COLUMBUS 18" CONDUIT, C905 PIPE, WITH TYPE 1 BEDDING, WITH ITEM 912 COMPACTED GRANULAR MATERIAL	69			
														LIGHTING				
														FOR LIGHTING GENERAL SUMMARY	1164		1164A	
														ELECTRICAL				
			110				110			SPECIAL	69098000	110	EACH	BORE SPACERS FOR 6" SCH 40 PVC CONDUIT	921			
			2					2		SPECIAL	69098000	2	EACH	75KVA LOOP FEED SINGLE PHASE PADMOUNT TRANSFORMER (TDMIS-1201)	922A			
			1					1		SPECIAL	69098000	1	EACH	300KVA LOOP FEED THREE PHASE PADMOUNT TRANSFORMER, 14.4 KV, DELTA/208/120 (TDMIS-1202)	922A			
			1					1		SPECIAL	69098000	1	EACH	750KVA LOOP FEED THREE PHASE PADMOUNT TRANSFORMER, 14.4KV, DELTA/480/277 (TDMIS-1202)	922A			
			2					2		SPECIAL	69098000	2	EACH	FIBERGLASS FLAT PAD FOR SINGLE PHASE TRANSFORMERS (TDMIS-1009)	922A			
			4					4		SPECIAL	69098000	4	EACH	HANDHOLE	922A			
			1				1			SPECIAL	69098000	1	EACH	50'x2 WOOD POLE	921			
			1				1			SPECIAL	69098000	1	EACH	THREE PHASE DEADEND ATTACHMENTS (TDMIS-406)	921			
			1				1			SPECIAL	69098000	1	EACH	WOOD CROSSARM (TDMIS-10)	921			
			2				2			SPECIAL	69098000	2	EACH	PRIMARY DOWN GUY (TDMIS-100)	921			
			1				1			SPECIAL	69098000	1	EACH	DISTRIBUTION POLE GROUND (TDMIS-7)	921			
			7					7		SPECIAL	69098000	7	EACH	SUBMERSIBLE SEPARABLE CONNECTOR	922A			
			1				1			SPECIAL	69098000	1	EACH	DISTRIBUTION RISER (TDMIS-1001)	921			
			9				4		5	SPECIAL	69098000	9	EACH	DOP MANHOLE (TDMIS-1015)	921			
			2				2			SPECIAL	69098000	2	EACH	4'x 4' x 4' PULLBOX	921			
		65					65			SPECIAL	69098000	65	EACH	BRIDGE MOUNTED CONDUIT HANGER	921			
			1				1			SPECIAL	69098000	1	EACH	CABLE TRAY RISER	921			
			12				12			SPECIAL	69098000	12	EACH	11.25" SCH 40 PVC CONDUIT SWEEP	921			
			6				6			SPECIAL	69098000	6	EACH	22.5" SCH 40 PVC CONDUIT SWEEP	921			
			6				6			SPECIAL	69098000	6	EACH	FIBERGLASS TO PVC CONDUIT COUPLER	921			
			12					12		SPECIAL	69098000	12	EACH	WOOD POLE, REMOVAL (TDMIS-1600)	921			
			11					11		SPECIAL	69098000	11	EACH	OVERHEAD TRANSFORMER, REMOVAL (TDMIS-1600)	922A			
			11				11			SPECIAL	69098000	11	EACH	6" FIBERGLASS CONDUIT EXPANSION FITTINGS	922A			
			4				4			SPECIAL	69098000	4	EACH	ADJUSTING EXISTING GRADE	921			
			12				12			SPECIAL	69098000	12	EACH	5" FIBERGLASS 90° SWEEP	921			
			1				1			SPECIAL	69098000	1	EACH	EXISTING MANHOLE REMOVAL	921			
			12					12		SPECIAL	69098000	12	EACH	MEDIUM VOLTAGE CABLE ACCEPTANCE TESTING	922A			
			2				2			SPECIAL	69098000	2	EACH	PADMOUNT TRANSFORMER RELOCATION	921			
			1					1		SPECIAL	69098000	1	EACH	PADMOUNT SF6 SWITCHGEAR	922A			
			3453				2208		1245	SPECIAL	69098100	3453	FT	(3) - 750KCMIL Cu, 15kV, XLP Ins. 133% w/ Cu TAPE SHIELD WITH (1)-350KCMIL Cu, 600V NEUTRAL	921			
			1407				1407			SPECIAL	69098100	1407	FT	(3) - 350KCMIL Cu, 15kV, XLP Ins. 133% w/ Cu TAPE SHIELD WITH (1)-4/0 Cu, 600V NEUTRAL	921			
			282					282		SPECIAL	69098100	282	FT	(1) - 250KCMIL Cu, 15kV, XLP Ins. 133% w/ Cu TAPE SHIELD WITH (1)-1/0 Cu, 600V NEUTRAL	921			
			427					427		SPECIAL	69098100	427	FT	2x1 CONCRETE DUCT BANK - 5" PVC (TDMIS-3000)	922A			
			721					721		SPECIAL	69098100	721	FT	2x2 CONCRETE DUCT BANK - 5" PVC (TDMIS-3000)	922A			
			238				238			SPECIAL	69098100	238	FT	2x3 CONCRETE DUCT BANK - 6" PVC (TDMIS-3000)	921			
			671					475		SPECIAL	69098100	671	FT	3x3 CONCRETE DUCT BANK - 5" PVC (TDMIS-3000)	921			
			7400					7400		SPECIAL	69098100	7400	FT	WIRE AND CABLE REMOVAL (TDMIS-1600)	922A			
			84				84			SPECIAL	69098100	84	FT	5" SCH 40 PVC CONDUIT	921			
			5254				5254			SPECIAL	69098100	5254	FT	6" SCH 40 PVC CONDUIT	921			
			551				551			SPECIAL	69098100	551	FT	30" DIRECTIONAL BORE AND PIPE, 748.06	921			
			125					125		SPECIAL	69098100	125	FT	(2) - #2 AL, 15kV XLP, 133% INS JCN	922A			
			777				777			SPECIAL	69098100	777	FT	5" XHW FIBERGLASS CONDUIT	921			
			6210				6210			SPECIAL	69098100	6210	FT	6" XHW FIBERGLASS CONDUIT	921			
			347				347			SPECIAL	69098100	347	FT	4" SCH 40 PVC CONDUIT	921			
			420				420			SPECIAL	69098100	420	FT	(3)-#1 AL, 15kV, XLP WITH (1)-#2 AL, 600V NEUTRAL	921			
			1317					1317		SPECIAL	69098100	1317	FT	(3)-#1 Cu, 15kV, XLP Ins. 133% w/ Cu TAPE SHIELD WITH (1)-#1 Cu, 600V NEUTRAL	922A			
			1245					1245		SPECIAL	69098100	1245	FT	(3)-500KCMIL Cu, 15kV, XLP Ins. 133% w/ Cu TAPE SHIELD WITH (1)-350KCMIL Cu, 600V NEUTRAL	922A			

GENERAL SUMMARY

FRA - 70 / 71 - 12.68 / 14.86

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SHEET NUMBER				PARTICIPATION												ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
69B		225A		01/IMS/PV	02/NHS/PV	03/IMS/BR	04/IMS/BR	05/NHS/BR	06/IMS/BR	07/IMS/BR	08/IMS/OT	09/MPO/OT	10/IMS/OT/COL	11/ENH/OT/COL	12/IMS/OT/AEP						
		2											2			SPECIAL	69098000	2	EACH	OTHER UTILITIES	
		4											4			SPECIAL	69098000	4	EACH	PRIVATE TELECOM MANHOLE, AS PER PLAN	938C
		204											204			SPECIAL	69098100	204	FT	4" CONDUIT RISER	938B
		122											122			SPECIAL	69098100	122	FT	CONDUIT ENCASED, 1 - 4"	938B
		26											26			SPECIAL	69098100	26	FT	CONDUIT ENCASED, 2 - 4"	938B
		1117											1117			SPECIAL	69098100	1117	FT	CONDUIT ENCASED, 6 - 4"	938B
																				CONDUIT ENCASED, 8 - 4"	
																				TRAFFIC SURVEILLANCE	
																				FOR TRAFFIC SURVEILLANCE GENERAL SUMMARY	1122
																				TRAFFIC CONTROL	
																				FOR TRAFFIC CONTROL GENERAL SUMMARY	961,962
																				TRAFFIC SIGNALS	
																				FOR TRAFFIC SIGNALS GENERAL SUMMARY	1097
																				LANDSCAPING	
5				2	3											661	40081	5	EACH	DECIDUOUS TREE, 2" CALIPER, AS PER PLAN, CERCIS CANADENSIS - RED BUD	66
8				4	4											661	40101	8	EACH	DECIDUOUS TREE, 2-1/2" CALIPER, AS PER PLAN, CELTIS OCCIDENTALIS - HACKBERRY	66
12				5	7											661	40101	12	EACH	DECIDUOUS TREE, 2-1/2" CALIPER, AS PER PLAN, PLATANUS OCCIDENTALIS - SYCAMORE	66
5				2	3											661	40101	5	EACH	DECIDUOUS TREE, 2-1/2" CALIPER, AS PER PLAN, QUERCUS BICOLOR - SWAMP WHITE OAK	66
20				9	11											661	99900	20	EACH	PLANTING, MISC.: DECIDUOUS SHRUB, 24" - 36" HEIGHT, VIBURNUM DENTATUM - ARROWWOOD	66
20				9	11											661	99900	20	EACH	PLANTING, MISC.: DECIDUOUS SHRUB, 24" - 36" HEIGHT, PHYSOCARPUS OPULIFOLIUS - NINEBARK	66
																				FOR LANDSCAPING GENERAL SUMMARY	1207
																				RETAINING WALLS	
																				FOR FLOODWALL GENERAL SUMMARY	694
																				FOR RETAINING WALL 4W1 GENERAL SUMMARY	712
																				FOR RETAINING WALL 4W2 GENERAL SUMMARY	731
																				FOR RETAINING WALL 4W4 GENERAL SUMMARY	756
																				FOR RETAINING WALL 4W5 GENERAL SUMMARY	764
																				FOR RETAINING WALL 4W6 GENERAL SUMMARY	764
																				FOR RETAINING WALL 4W7 GENERAL SUMMARY	790
																				FOR RETAINING WALL 4W8 GENERAL SUMMARY	804
																				FOR RETAINING WALL 4W9 GENERAL SUMMARY	824
																				FOR RETAINING WALL 4W10 GENERAL SUMMARY	831
																				FOR RETAINING WALL 4W11 GENERAL SUMMARY	835
																				FOR RETAINING WALL 4W12 GENERAL SUMMARY	845
																				FOR RETAINING WALL 4W20 GENERAL SUMMARY	883
																				FOR RETAINING WALL 4W21A, 4W21B, 4W21C GENERAL SUMMARY	888A
																				FOR TEMPORARY SHORING AND WALL GENERAL SUMMARY	889
																				STRUCTURE OVER 20 FOOT SPAN	
																				FOR FRA-70-1282R GENERAL SUMMARY	1232
																				FOR FRA-70-1301A GENERAL SUMMARY	1277
																				FOR FRA-71-1518A GENERAL SUMMARY	1336
																				FOR FRA-70-1321A GENERAL SUMMARY	1375
																				FOR FRA-70-1343 GENERAL SUMMARY	1462A
																				FOR FRA-70-1357A GENERAL SUMMARY	1463
																				FOR FRA-70-1358A GENERAL SUMMARY	1476
																				FOR FRA-70-1373R GENERAL SUMMARY	1511
																				FOR FRA-70-1373A GENERAL SUMMARY	1542
																				FOR FRA-70-1390C GENERAL SUMMARY	1571
																				FOR FRA-70-1395C GENERAL SUMMARY	1687
																				FOR FRA-70-1395C AESTHETIC ENHANCEMENT GENERAL SUMMARY	1748
																				MAINTENANCE OF TRAFFIC	
																				FOR MAINTENANCE OF TRAFFIC GENERAL SUMMARY	80
																				INCIDENTALS	
				LS	LS											100	50100	LS	180000	DEPARTMENT'S SHARE OF THE DISPUTE RESOLUTION BOARD	
				LS	LS											108	10000	LS		CPM PROGRESS SCHEDULE	
				LS	LS											SPECIAL	11110000	LS	15250	DEPARTMENTS SHARE FACILITATED PARTNERING COSTS	
				LS	LS											614	11000	LS		MAINTAINING TRAFFIC	
				LS	LS											623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
				LS	LS											624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

FRA - 70 / 71 - 12.68 / 14.86

218
1815

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED ITEM 100 AND 111	CWL	11-19-2021

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FOR I-70 EB PROFILE, SEE SHEET 282
 FOR RAMP C5 PLANS, SEE SHEETS 331 - 361
 FOR STRUCTURE PLANS, SEE SHEETS 1364-1462
 FOR RETAINING WALL DETAILS, SEE SHEETS 883 - 888
 FOR PIPE PROFILES, SEE SHEETS 282, 266, 667
 FOR SIGNING PLANS, SEE SHEETS 1014 - 1049
 FOR UNDERDRAIN DETAILS, SEE SHEETS 677 - 680
 FOR LIGHTING PLANS, SEE SHEETS 1163 - 1205A
 FOR ITS PLANS, SEE SHEETS 1122 - 1162
 FOR RELOCATED BIKE PATH PLANS, SEE SHEETS 629 - 635
 FOR WATER WORK DETAILS, SEE SHEETS 905-920
 FOR PORTABLE BARRIER DETAILS, SEE SHEETS 959-1011
 FOR UTILITY LEGEND, SEE SHEET 3
 FOR ESTIMATED QUANTITIES, SEE SHEETS 230 - 255

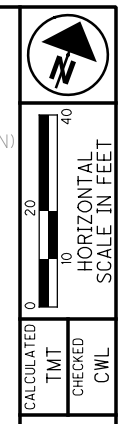
110 **CONST. I-70 EB**
 P.I. Sta. 4154+96.64
 $\Delta = 5^\circ 03' 26''$ (RT)
 $Dc = 1^\circ 00' 00''$
 $R = 5,729.58'$
 $T = 253.03'$
 $L = 505.73'$
 $E = 5.58'$
 $C = 505.57'$
 $C.B. = N 64^\circ 27' 46'' E$
 $e_{max} = exist.$
 P.C. Sta. 4152+43.61
 P.T. Sta. 4157+49.34
 D.S. = 60 MPH

ITEM 670 - DITCH EROSION PROTECTION

5 **CONST. FUTURE I-70 EB**
 P.I. Sta. 167+27.31
 $\Delta = 31^\circ 42' 37''$ (RT)
 $Dc = 1^\circ 30' 00''$
 $R = 3,819.72'$
 $T = 1,084.84'$
 $L = 2,114.01'$
 $E = 151.07'$
 $C = 2,087.14'$
 $C.B. = N 81^\circ 13' 18'' E$
 $e_{max} = 0.037$ (FUTURE)
 P.C.C. Sta. 156+42.47
 P.T. Sta. 177+56.48
 D.S. = 60 MPH

EX. STRUCTURE NO. FRA-70-1321R (TO REMAIN)

111 **CONST. I-70 EB**
 P.I. Sta. 4162+43.22
 $\Delta = 15^\circ 31' 32''$ (RT)
 $Dc = 3^\circ 01' 08''$
 $R = 1,897.86'$
 $T = 258.72'$
 $L = 514.26'$
 $E = 17.55'$
 $C = 512.69'$
 $C.B. = N 74^\circ 45' 15'' E$
 $e_{max} = exist.$
 P.C. Sta. 4159+84.50
 P.T. Sta. 4164+98.77
 D.S. = 60 MPH

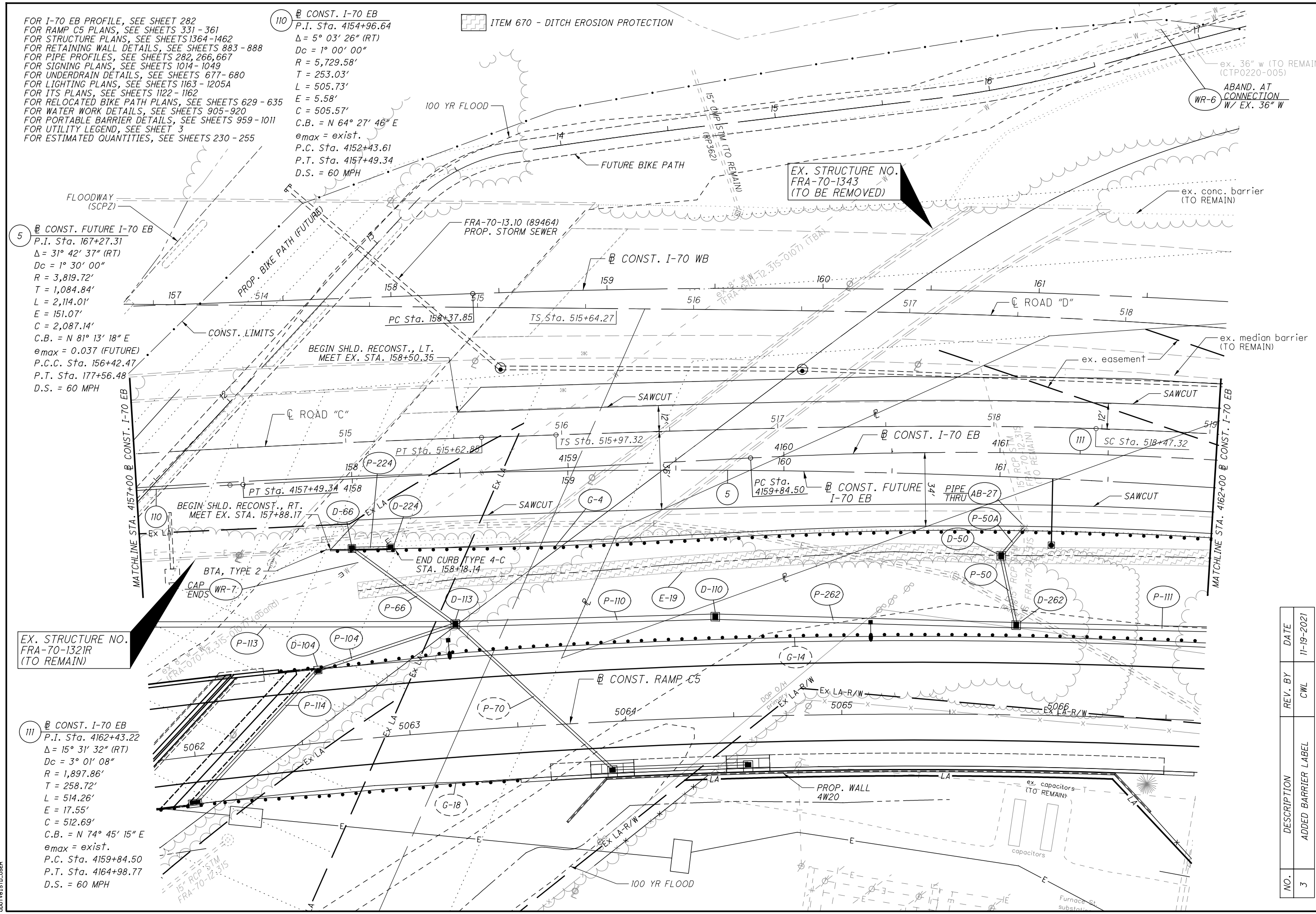


PLAN - I-70 EASTBOUND
STA. 4157+00.00 TO STA. 4162+00.00

NO.	DESCRIPTION	REV. BY	DATE
3	ADDED BARRIER LABEL	CWL	11-19-2021

FRA-70/71-12.68/14.86

281
1815



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ESTIMATED QUANTITIES

CALCULATED: TJW DATE: 9-05-2019

CHECKED: RFV DATE: 9-05-2019

ITEM	EXT.	TOTAL	PARTICIPATION		UNITS	DESCRIPTION	A.P.P. REFERENCE SHT. NO.
			01/TMS/PV	02/NHS/PV			
504	11101	10,732	4,722	6,010	SF	STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN	1
518	21200	100	44	56	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
518	40000	385	169	216	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
601	32105	3475	1529	1946	CY	ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC, AS PER PLAN	1
SPECIAL	690E98400	LS	LS	LS		SPECIAL - SUBSURFACE UTILITY LOCATING FOR ABANDONED SEWER	1

GENERAL NOTES

ITEM 504 - SHEET PILING LEFT IN PLACE, AS PER PLAN

THIS ITEM INCLUDES ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE PERMANENT SHEET PILE WALL 4W21, INCLUDING SEGMENTS IDENTIFIED AS 'A', 'B' AND 'C' AS SHOWN IN THESE PLANS. IN ADDITION TO THE REQUIREMENTS OF ITEM 504, THIS WORK SHALL INCLUDE CUTTING NECESSARY OPENINGS THROUGH THE SHEETING AS REQUIRED FOR OUTLETTING THE 6" PERFORATED PIPE ASSOCIATED WITH THE POROUS BACKFILL TO BE PLACED BEHIND THE SHEETING WALLS.

SHEET PILE MATERIAL SHALL BE HOT ROLLED STEEL WITH A MINIMUM YIELD STRENGTH OF 50 KSI, MINIMUM ELASTIC SECTION MODULUS OF 48.5 IN³/FT AND A MINIMUM MOMENT OF INTERIA OF 361.2 IN⁴/FT.

ALL WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 504 SHEET PILING LEFT IN PLACE, AS PER PLAN.

601 - ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC, AS PER PLAN

THIS WORK SHALL CONSIST OF CONSTRUCTING 2'-6" THICK TYPE B ROCK CHANNEL PROTECTION WITH GEOTEXTILE FABRIC. ROCK SHALL BE PLACED Laterally FROM THE BOTTOM OF EXISTING SLOPE UP TO THE FACE OF WALLS 4W21A, 4W21B AND 4W21C AND LONGITUDINALLY FOR THE LENGTH AS SHOWN IN THE RETAINING WALL PLANS, AS DIRECTED BY THE ENGINEER. ALL WORK SHALL CONFORM TO ITEM 601. GEOTEXTILE FABRIC SHALL MEET REQUIREMENTS OF ODOT CMS 712.09, TYPE B.

PAYMENT FOR THIS WORK SHALL BE MADE AT THE UNIT PRICE PRICE BID PER CUBIC YARD WHICH SHALL CONSTITUTE FULL PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS TO COMPLETE THE WORK AS DESCRIBED AND DIRECTED.

SPECIAL - SUBSURFACE UTILITY LOCATING FOR ABANDONED SEWER

THIS WORK SHALL CONSIST OF USING QUALITY LEVEL 'B' AND LEVEL 'A' SUBSURFACE UTILITY LOCATING TECHNIQUES IN ACCORDANCE WITH ODOT SUBSURFACE UTILITY LOCATING SERVICES SPECIFICATIONS TO PRECISELY LOCATE THE EXISTING ABANDONED 48" COMBINED SEWER IN THE VICINITY OF THE PROPOSED SHEETING WALL SEGMENTS WITHOUT CAUSING UNDUE DISTURBANCE OF THE EXISTING SLOPE. IT IS THE INTENT THAT THIS WORK BE PERFORMED FIRST AT EACH WALL SEGMENT LOCATION PRIOR TO DRIVING SHEETING. THE SEWER SHALL BE AVOIDED AND NOT BE DAMAGED BY THE PILING INSTALLATION OR OTHER RELATED WORK. HOLES EXCAVATED USING LEVEL 'A' METHODS SHALL BE BACKFILLED WITH LOW-STRENGTH MORTAR MATERIAL CONFORMING TO ITEM 613. THE CONTRACTOR SHALL PROVIDE THE HORIZONTAL AND VERTICAL LOCATION OF THE SEWER TO THE ENGINEER AT LEAST 10 DAYS PRIOR TO PERFORMING THE PILING INSTALLATION.

PAYMENT FOR THIS WORK SHALL BE MADE AT THE LUMP SUM PRICE BID WHICH SHALL CONSTITUTE FULL PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS TO COMPLETE THE WORK.

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DESIGNED	TJW	CHECKED	RFV
DRAWN	TJW	REVISED	
REVIEWED	DGN	STRUCTURE FILE NUMBER	
DATE	9-6-19		

ESTIMATED QUANTITIES & NOTES
SHEETING WALLS 4W21A, 4W21B, 4W21C
ALONG THE EAST SIDE OF RAMP A5

FRA -70/71-12.68 / 14.86
PID No. 105523

1 / 3
888A
1815

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED NOTE	CWL	11-19-2021

U.G. PULLBOX MISC.:

SIZE: 13" x 24"

1. THE EXTERIOR DIMENSIONS AT THE TOP SHALL BE 15.75" x 25.25" (NOMINAL)
2. THE BOX SHALL BE 26" DEEP (NOMINAL) AND SHALL TAPER OUTWARD FROM THE TOP TO THE OPEN BOTTOM.
3. THE INSIDE DIMENSIONS AT THE BOTTOM SHALL BE 15.3" x 24.8" (MINIMUM)
4. THE BOX (WITHOUT COVER) SHALL WEIGH APPROXIMATELY 133 LBS.
5. THE COVER SHALL BE 13.75" x 23.25", AND SHALL WEIGH APPROXIMATELY 54 LBS.

SIZE: 24" x 36"

1. THE EXTERIOR DIMENSIONS AT THE TOP SHALL BE 26" x 37.5" (NOMINAL)
2. THE BOX SHALL BE 26" DEEP (NOMINAL) AND SHALL TAPER OUTWARD FROM THE TOP TO THE OPEN BOTTOM.
3. THE INSIDE DIMENSIONS AT THE BOTTOM SHALL BE 25.5" x 37.25" (MINIMUM)
4. THE BOX (WITHOUT COVER) SHALL WEIGH APPROXIMATELY 199 LBS.
5. THE COVER SHALL BE 24" x 35.6", AND SHALL WEIGH APPROXIMATELY 122 LBS.

LOAD CAPACITY: - THE BOX AND COVER SHALL BE CAPABLE OF SUPPORTING A LOAD OF 20,000 LBS. ON A 10" x 10" AREA, TESTED IN ACCORDANCE WITH WESTERN UNDERGROUND COMMITTEE GUIDE 3.6. THE COVER DEFLECTION SHALL NOT EXCEED 1/2" AT DESIGN LOAD. THE COVER AND BOX SHALL SHOW NO SIGNS OF DAMAGE AFTER THE (10) CYCLES AT DESIGN LOAD.

MATERIAL AND CONSTRUCTION: THE BOX SHALL BE CONSTRUCTED OF FIBERGLASS REINFORCED POLYMER (FRP) WITH ISOPHTHALIT POLYESTER USING THE SPRAY-UP AND ROLL CONSTRUCTION METHOD. THE MATERIAL SHALL HAVE STABILIZERS TO RESIST ULTRAVIOLET (UV) DEGRADATION IN ACCORDANCE WITH ASTM D-790 AND ASTM D-11501-71, SECTION 6, PROCEDURE B. THE TOP RING OF THE BOX SHALL BE MADE OF POLYMER CONCRETE USING A POLYESTER BINDER WITH AGGREGATE FILLERS AND CHOPPED FIBERGLASS WITH A MINIMUM TENSILE STRENGTH OF 1900 PSI. THE RING SHALL HAVE THE SAME UV RESISTANCE AS THE FRP MATERIAL. THE THREADED INSERTS FOR THE COVER BOLTS SHALL BE STAINLESS STEEL. THE COVER SHALL BE MADE WITH A THICK MOLDING COMPOUND (TMC) USING THE COMPRESSION MOLDING METHOD. THE TMC SHALL CONSIST OF A MINIMUM OF TEN PERCENT (10%) FIBERGLASS IN A CALCIUM CARBONATE AND POLYESTER RESIN MATRIX. THE COVER SHALL BE MARKED WITH THE WORD "COMMUNICATIONS" IN 2" LETTERS, EMBOSSED INTO THE TMC, AND SHALL HAVE A NON-SKID SURFACE AND THE SAME UV RESISTANCE AS THE FRP MATERIAL SHALL BE U.L. LISTED.

THE COVER SHALL BE SECURED TO THE BOX USING TWO HEX HEAD STAINLESS STEEL BOLTS AND WASHERS WHICH SHALL ATTACH TO THREADED INSERTS IN THE BODY OF THE BOX.

CONDUIT OPENINGS - OPENING IN THE SIDE OF THE PULL BOX, WHICH ARE REQUIRED TO INSERT CONDUIT (INTO THE PULL BOX) SHALL BE DRILLED OR SAWN IN THE FIELD, ONCE THESE LOCATIONS HAVE BEEN DETERMINED. THE OPENING SHALL NOT EXCEED THE OUTSIDE DIAMETER OF THE CONDUIT BY MORE THAN FIVE PERCENT (5%). ALL OPENINGS IN THE SIDE OF THE PULL BOX SHALL BE THOROUGHLY GROUTED WITH CEMENT MOTAR AFTER PLACING THE CONDUIT.

NOTE - THE EXACT LOCATIONS OF PULL BOXES ARE TO BE STAKED AND CHECKED PRIOR TO PLACEMENT TO VERIFY CLEARANCE OF UNDERGROUND FACILITIES AND ANY ABOVE GROUND OBSTRUCTIONS. IF THERE ARE ANY CONFLICTS, THEY ARE TO BE ADJUSTED AS DIRECTED BY THE PROJECT MANAGER. SUBMIT SHOP DRAWINGS (CATALOG CUTS) TO THE PROJECT MANAGER FOR THEIR APPROVAL.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER ITEM, "PULL BOX MISC.:" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM SPECIAL: CONDUIT ENCASED (BY SIZE)

THIS ITEM INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PROVIDE A CONDUIT CONCRETE DUCTBANK (NUMBER AND SIZE OF CONDUIT AS INDICATED). THIS INCLUDES ALL TRENCHING DOWN TO SIX FEET, 3000 PSI CONCRETE, SPACERS, SCHEDULE 40 PVC CONDUIT(S), PULL ROPES AND BACKFILL BACK TO PAVEMENT OR SIDEWALK BASE. REFER TO DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

ITEM SPECIAL: PRIVATE TELECOM MANHOLE, AS PER PLAN

THIS ITEM INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PROVIDE A PRECAST MANHOLE. THIS MANHOLE SHALL BE SIZED AS 4'x 8'x 6' AND IN ACCORDANCE WITH CITY OF COLUMBUS SPECIFICATION TDMIS-1015 FOR ALL REQUIRED APPURTENANCES. THIS ALSO INCLUDES ALL CUTTING OF PAVEMENT OR SIDEWALK, EXCAVATION, PRECAST MANHOLE, FOUNDATION/BASE GROUNDING, ACCESS THROATS, MANHOLE COVERS/FRAMES AND BACKFILL TO PAVEMENT OR SIDEWALK BASE. REFER TO TDMIS-1015 SPECIFICATION FOR ADDITIONAL REQUIREMENTS.

ITEM SPECIAL: PULL BOXES (BY SIZE)

THIS ITEM INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PROVIDE AN UNDERGROUND PULL BOX. THIS INCLUDES ALL CUTTING OF SIDEWALK, EXCAVATION, PULL BOX BASE, UNDERGROUND PULL BOX WITH COVER, GROUNDING, BACKFILL TO GRADE OR SIDEWALK BASE. REFER TO DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

ITEM SPECIAL: CONCRETE CORE DRILLS

THIS ITEM INCLUDES ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO PROVIDE CORE DRILL IN EXISTING MANHOLE OR VAULT AS INDICATED FOR NEW CONDUIT ENTRY.

Plot Driver: \$PLOTDRIVERS\$
Pen Table: \$PENTBL\$

Plot Driver: \$PLOTDRIVERS\$
By: \$USER\$

By: \$USER\$

\$DAMES \$TIMES
File: \$FILE\$

CALCULATED
WCB
CHK.
EC
HORIZONTAL
SCALE IN FEET

TELECOM GENERAL NOTES

FRA - 70 / 71 - 12.68 / 14.86

938C
1815

ITEM 632 INTERCONNECT, MISC.: FIBER OPTIC SPLICE ENCLOSURE, CLAMHELL, 288 SPLICE

FIBER OPTIC CABLE SPLICES SHALL BE PERFORMED IN SPLICE ENCLOSURES AS SHOWN ON THE PLANS. THE SPLICE ENCLOSURES SHALL BE CORROSION RESISTANT, RODENT PROOF, RE-ENTERABLE, AND MANUFACTURER CERTIFIED FOR UNDERGROUND INSTALLATION.

288 CLAMHELL SPLICE ENCLOSURES ARE TO BE INSTALLED IN 32", 36", OR 48" PULL BOXES OR MOUNTED AERIALLY AS DIRECTED IN THE PLANS. CONTRACTOR SHALL ADVISE THE ENGINEER IN THE EVENT THAT CABLES CANNOT ENTER SPLICE ENCLOSURE PERPENDICULARLY TO CABLE PORT ENTRY PLATE, OR IF CABLE BENDS EXCEED MINIMUM INSTALLATION BEND RADIUS RATING AT THE ENCLOSURE ENTRY DUE TO EXISTING FIELD CONDITIONS SUCH AS INADEQUATE SPACE IN PULL BOX OR OTHER OBSTRUCTIONS. ADDITIONALLY, CONTRACTOR SHALL ADVISE THE ENGINEER PRIOR TO BEGINNING SPLICING IF PLANNED NUMBER OF SPLICES CANNOT BE NEATLY AND SECURELY CONTAINED IN THE TYPE OF SPLICE ENCLOSURE CALLED OUT IN THE PLANS.

FOR UNDERGROUND INSTALLATION, SPLICE ENCLOSURE AND SLACK CABLE MUST FIT WITHIN PULL BOX TO AVOID DAMAGE TO THE ENCLOSURE OR CABLE UPON CLOSING THE PULL BOX LID.

FOR AERIAL INSTALLATION, EXTENDED STRENGTH BRACKET SHALL BE INSTALLED WITH THE SPLICE ENCLOSURE TO ENSURE CABLE ENTRIES REMAIN PERPENDICULAR AND SECURELY FASTENED TO THE PORT ENTRY PLATE. AERIAL MOUNTED SLACK STORAGE RACKS ARE TO BE USED FOR ALL INSTALLATIONS WHERE CABLES ARE LOOPED OR BENT 180°. THE COST OF THE STRAIN RELIEF HARDWARE, STRENGTH BRACKETS, TIES OR OTHER INSTALLATION HARDWARE IS CONSIDERED INCIDENTAL TO THIS PAY ITEM.

ALL BUFFER TUBES NOT SHOWN AS BEING SPLICED IN THE PLANS ARE TO BE SECURELY COILED WITHIN THE SPLICE ENCLOSURE). THE SIZE OF THE CLOSURE SHALL ALLOW ALL THE FIBERS OF THE LARGEST OPTICAL FIBER TRUNK CABLE TO BE FUSION SPLICED TO A SECOND CABLE OF THE SAME SIZE, PLUS ADDITIONAL PIGTAILS. THE SPLICE ENCLOSURE SHALL ALLOW SPLICING OF ALL FIBERS UP TO THE MAXIMUM NUMBER SPECIFIED ON THE CONTRACT DRAWINGS.

FIBER OPTIC CABLE SPLICE ENCLOSURES SHALL HAVE A THREE-SECTION, 4, 6, OR 8 PORT END PLATE WITH 7/8" DIAMETER PORTS. PLUG KITS AND BRACKETS SHALL BE INCIDENTAL TO PAY ITEM. ANY PROPOSED EQUIVALENT MUST BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. FIBER OPTIC CABLE SPLICE ENCLOSURES MUST MEET THE REQUIREMENTS LISTED UNDER BELLCORE TESTING REQUIREMENT GR-771-CORE AND UL 1863.

THE WORK AS DESCRIBED WILL BE MEASURED AS ONE UNIT FOR EACH OF THE INSTALLATIONS SPECIFIED, AND SHALL INCLUDE ALL MATERIALS, EQUIPMENT AND INCIDENTALS, COMPLETE IN PLACE. TERMINATIONS, CONNECTIONS, AND OTHER MISCELLANEOUS ITEMS AND MATERIALS SHALL BE INCIDENTAL TO THIS WORK AND NO SEPARATE PAYMENT WILL BE MADE. 4/1/16

ITEM 632 INTERCONNECT, MISC.: FIBER OPTIC SPLICE ENCLOSURE, DOME, 800 SPLICE

FIBER OPTIC CABLE SPLICES SHALL BE PERFORMED IN SPLICE ENCLOSURES AS SHOWN ON THE PLANS. THE SPLICE ENCLOSURES SHALL BE CORROSION RESISTANT, RODENT PROOF, RE-ENTERABLE, AND MANUFACTURER CERTIFIED FOR UNDERGROUND INSTALLATION.

THE 800 DOME SPLICE ENCLOSURES ARE TO BE INSTALLED IN 48" PULL BOXES OR MOUNTED AERIALLY AS DIRECTED IN THE PLANS. CONTRACTOR SHALL ADVISE THE ENGINEER IN THE EVENT THAT CABLES CANNOT ENTER SPLICE ENCLOSURE PERPENDICULARLY TO CABLE PORT ENTRY PLATE, OR IF CABLE BENDS EXCEED MINIMUM INSTALLATION BEND RADIUS RATING AT THE ENCLOSURE ENTRY DUE TO EXISTING FIELD CONDITIONS SUCH AS INADEQUATE SPACE IN PULL BOX OR OTHER OBSTRUCTIONS. ADDITIONALLY, CONTRACTOR SHALL ADVISE THE ENGINEER PRIOR TO BEGINNING SPLICING IF PLANNED NUMBER OF SPLICES CANNOT BE NEATLY AND SECURELY CONTAINED IN THE TYPE OF SPLICE ENCLOSURE CALLED OUT IN THE PLANS.

FOR UNDERGROUND INSTALLATION, SPLICE ENCLOSURE AND SLACK CABLE MUST FIT WITHIN PULL BOX TO AVOID DAMAGE TO THE ENCLOSURE OR CABLE UPON CLOSING THE PULL BOX LID.

FOR AERIAL INSTALLATION, EXTENDED STRENGTH BRACKET SHALL BE INSTALLED WITH THE SPLICE ENCLOSURE TO ENSURE CABLE ENTRIES REMAIN PERPENDICULAR AND SECURELY FASTENED TO THE PORT ENTRY PLATE. AERIAL MOUNTED SLACK STORAGE RACKS ARE TO BE USED FOR ALL INSTALLATIONS WHERE CABLES ARE LOOPED OR BENT 180°. THE COST OF THE STRAIN RELIEF HARDWARE, STRENGTH BRACKETS, TIES OR OTHER INSTALLATION HARDWARE IS CONSIDERED INCIDENTAL TO THIS PAY ITEM.

ALL BUFFER TUBES NOT SHOWN AS BEING SPLICED IN THE PLANS ARE TO BE SECURELY COILED WITHIN THE SPLICE ENCLOSURE.

FIBER OPTIC CABLE SPLICE ENCLOSURES SHALL HAVE A ONE SECTION, 7 PORT END PLATE. EACH CABLE ENTERING THE ENCLOSURE SHALL BE SEALED WITH THE APPROPRIATELY SIZED GROMMET. GROMMETS, PLUG KITS AND BRACKETS SHALL BE INCIDENTAL TO PAY ITEM. ANY PROPOSED EQUIVALENT MUST BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. FIBER OPTIC CABLE SPLICE ENCLOSURES MUST MEET THE REQUIREMENTS LISTED UNDER BELLCORE TESTING REQUIREMENT GR-771-CORE AND UL 1863.

THE WORK AS DESCRIBED WILL BE MEASURED AS ONE UNIT FOR EACH OF THE INSTALLATIONS SPECIFIED, AND SHALL INCLUDE ALL MATERIALS, EQUIPMENT AND INCIDENTALS, COMPLETE IN PLACE. TERMINATIONS, CONNECTIONS, AND OTHER MISCELLANEOUS ITEMS AND MATERIALS SHALL BE INCIDENTAL TO THIS WORK AND NO SEPARATE PAYMENT WILL BE MADE.

ITEM 633 CONTROLLER ITEM MISC.: LAYER 2 ETHERNET SWITCH

THE CONTRACTOR SHALL PURCHASE AND INSTALL ENVIRONMENTALLY HARDENED LAYER 2 ETHERNET SWITCHES AS SHOWN ON THE PLANS. LAYER 2 ETHERNET SWITCHES SHALL BE COMNET MODEL CNGE8FX4TX4MS. THIS WORK IS THE FURNISHING AND INSTALLATION OF A LAYER 2 SWITCH WITH FOUR GIGABIT ETHERNET FULL-DUPLEX SWITCHED SFP PORTS, FOUR SWITCHED 10/100 MB COPPER ETHERNET (8P8C) PORTS, AND MODULES FOR CONNECTION TO THE FIBER NETWORK.

ALL EQUIPMENT SHALL BE NEW AND IN STRICT ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS AND THE SPECIFICATIONS. TRAFFIC MAINTENANCE SHALL BE CONTACTED AT 645-7393 14 CALENDAR DAYS PRIOR TO INSTALLATION TO PROGRAM THE SWITCH. THE CONTRACTOR SHALL INSTALL THE SWITCH IN THE CABINET BUT SHALL NOT MAKE ANY CONNECTIONS TO THE SWITCH.

THE TRAFFIC MAINTENANCE MANAGER SHALL INSPECT THE CONDITION OF ALL COMPONENTS UPON INSTALLATION. NO DAMAGED COMPONENT WILL BE ACCEPTED, AND NO COMPONENT SHALL BE CONSIDERED INSTALLED UNTIL THE TRAFFIC MAINTENANCE MANAGER APPROVES OF THE SWITCH INSTALLATION. LAYER 2 ETHERNET SWITCHES SHALL SUPPORT DIRECT CONNECTIVITY TO PROPOSED AND EXISTING NETWORKS CONFIGURED IN RING AND MESH FAULT TOLERANT TOPOLOGIES ENABLING APPLICATIONS TO OPERATE RELIABLY, AND WITH LOW LATENCY.

ALL EQUIPMENT SHALL INCLUDE LICENSES, WHERE REQUIRED, FOR ANY SOFTWARE OR HARDWARE IN THE SYSTEM.

LAYER 2 ETHERNET SWITCHES SHALL SUPPORT DIRECT CONNECTIVITY TO PROPOSED AND EXISTING NETWORKS CONFIGURED IN RING AND MESH FAULT TOLERANT TOPOLOGIES ENABLING APPLICATIONS TO OPERATE RELIABLY, AND WITH LOW LATENCY.

1. INSTALL POWER ADAPTER, POWER CABLES, CATEGORY 5E OR CATEGORY 6 PATCH CORDS, AND SINGLE MODE PATCH CABLES AS REQUIRED AND DEPICTED ON COMMUNICATIONS DIAGRAMS.
2. SECURELY MOUNT THE SWITCH AND POWER SUPPLY IN THE CABINET.
3. MAKE POWER CONNECTION TO AN AVAILABLE OUTLET ON THE INSTALLED SURGE SUPPRESSOR.
4. MAKE THE COMMUNICATION CONNECTIONS.
5. ESTABLISH AND VERIFY COMMUNICATIONS TO THE NETWORK PRIOR TO TRANSITIONING SIGNAL CONTROLLER TO NEW SYSTEM.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE, FUNCTIONAL SYSTEM INCLUDING ALL NECESSARY CABLES AND CONNECTORS IN ACCORDANCE TO THE SPECIFICATIONS AND AS SPECIFIED ON THE PLANS. ALL MISCELLANEOUS PATCH AND INTERCONNECT CABLES SHALL MEET THE PROPOSED EQUIPMENT SPECIFICATION REQUIREMENTS AND SHALL MEET EIA/TIA TELECOMMUNICATIONS STANDARDS. ADDITIONALLY, FIBER OPTIC PATCH CABLES SHALL CONFORM TO THE PLAN REQUIREMENTS FOR PATCH CABLES. 7/27/16

ITEM 633 CONTROLLER ITEM, MISC.: FIBER OPTIC ETHERNET TRANSCEIVER, SHORT RANGE

THE CONTRACTOR SHALL FURNISH AND INSTALL SINGLE MODE FIBER (SMF), SMALL FORM FACTOR PLUGGABLE (SFP) GIGABIT INTERFACE CONNECTOR (GBIC) MODULES AT LOCATIONS AS SHOWN ON THE PLANS.

THE GBIC TRANSCEIVER SHALL BE 1000BASE LX/LH SFP-LC TRANSCEIVER (CISCO PART #GLC-LX-SM-RGD).

THE CONTRACTOR SHALL INSTALL THE SFP MODULE IN THE ETHERNET SWITCH SLOT AND CONFIGURE AS NECESSARY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE, FUNCTIONAL SYSTEM INCLUDING ALL NECESSARY CABLES AND CONNECTORS IN ACCORDANCE TO THE SPECIFICATIONS AND AS SPECIFIED ON THE PLANS. ALL MISCELLANEOUS PATCH AND INTERCONNECT CABLES SHALL MEET THE PROPOSED EQUIPMENT SPECIFICATION REQUIREMENTS AND SHALL MEET EIA/TIA TELECOMMUNICATIONS STANDARDS.

THE WORK AS DESCRIBED WILL BE MEASURED AS ONE UNIT FOR EACH OF THE INSTALLATIONS SPECIFIED, AND SHALL INCLUDE ALL MATERIALS, EQUIPMENT AND INCIDENTALS, COMPLETE IN PLACE. PATCH CABLES, TERMINATIONS, CONNECTIONS, AND OTHER MISCELLANEOUS ITEMS AND MATERIALS SHALL BE CONSIDERED INCIDENTAL TO THIS WORK AND NO SEPARATE PAYMENT WILL BE MADE. 12/2/15

ITEM 809 SIDE-FIRED RADAR DETECTOR

VEHICLE DETECTION INSTALLATIONS THE CONTRACTOR SHALL FURNISH AND INSTALL THIS ITEM ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATION 809, AND ANY APPLICABLE STANDARD DRAWINGS

FURNISH AND INSTALL THE FOLLOWING UNDER THIS ITEM OF WORK:

- POLE, FOUNDATION AND ANCHOR BOLTS
- MICROWAVE DETECTOR
- MICROWAVE DETECTOR CABLE
- ALL MOUNTING HARDWARE

PAYMENT SHALL BE PER 809.

ITEM 625 - MEDIAN JUNCTION BOX, AS PER PLAN

THE CONTRACTOR SHALL SUPPLY THE MEDIAN PULL BOX THAT MEETS THE FOLLOWING SPECIFICATIONS:

SHALL BE OF TYPE POLYMER CONCRETE
SIZE: 17 INCHES (HEIGHT) X 30 INCHES (LENGTH)
MINIMUM WALL THICKNESS: 0.5 INCH
MINIMUM LID THICKNESS: 2 INCHES
ANSI TIER 22 RATING WITH A MINIMUM LOAD OF 22,000 POUNDS
LID SHALL BE MARKED "TRAFFIC"

THE MEDIAN JUNCTION BOX SHALL BE SECURED IN THE MEDIAN BARRIER WALL USING DOWELS. NON-SHRINK GROUT MAY BE USED WHEN NECESSARY.

NO.	DESCRIPTION	REV. BY	DATE
3	NOTE ADDITION	KMG	11-19-2021

SHEET NUMBER				PARTICIPATION				ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
1098		1099		01/IMS/PV	02/NHS/PV	10/IMS/OT/COL	11/ENH/OT/COL						
							7	625	17961	7	EACH	BRACKET ARM, 8', AS PER PLAN	1085
								625	18501	1	EACH	BRACKET ARM, 25', AS PER PLAN	1085
					1006	1281		625	23001	2287	FT	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE, AS PER PLAN	1084
					1216	1547		625	23304	2763	FT	NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	1084
					347	442		625	23400	789	FT	NO. 10 AWG POLE AND BRACKET CABLE	
					137	175		625	25408	312	FT	CONDUIT, 2", 725.051	
					25	31		625	25504	56	FT	CONDUIT, 3", 725.051	
					455	580		625	25802	1035	FT	CONDUIT, CONCRETE ENCASED, 2", 725.051	
					411	524	421	625	25920	1356	FT	CONDUIT, MISC.: ENCASED INTERCONNECT CONDUIT BANK, 4-3", 1-1.5", TC-2, SCH 40	1091
					47	59		625	25920	106	FT	CONDUIT, MISC.: ENCASED INTERCONNECT CONDUIT BANK, 4-3", 2-2", 1-1.5", TC-2, SCH 40	1091
					14	17		625	25920	31	FT	CONDUIT, MISC.: ENCASED INTERCONNECT CONDUIT BANK, 8-3", 1-1.5", TC-2, SCH 40	1091
					89	114		625	25920	203	FT	CONDUIT, MISC.: 1.5", FIBERGLASS REINFORCED, ATTACHED TO STRUCTURE	1085
					274	348		625	25920	622	FT	CONDUIT, MISC.: 2", FIBERGLASS REINFORCED, ATTACHED TO STRUCTURE	1085
					715	909		625	25920	1624	FT	CONDUIT, MISC.: 3", FIBERGLASS REINFORCED, ATTACHED TO STRUCTURE	1085
					69	87		625	29001	156	FT	TRENCH, AS PER PLAN	1084
					1	1		625	31600	2	EACH	PULL BOX, MISC.: 12"x18"	1083, 1084
					1	1		625	31600	1	EACH	PULL BOX, MISC.: CONCRETE 27"	1083, 1084
					3	4	2	625	31600	9	EACH	PULL BOX, MISC.: CONCRETE 32"	1083, 1084
					3	3	1	625	31600	7	EACH	PULL BOX, MISC.: CONCRETE 48"	1083, 1084
					9	11		625	32000	20	EACH	GROUND ROD	
					1	1		625	98000	2	EACH	LIGHTING, MISC.: PHOTO CELL	1085
							7	625	98000	7	EACH	LIGHTING, MISC.: LUMINAIRE, 150 W LED, 120 V, TEARDROP, BLACK	1085
					2	3		630	97700	5	EACH	SIGNING, MISC.: TRAFFIC SIGNAL SIGNS	1085
					1	2		632	04911	3	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, ALUMINUM, AS PER PLAN	1085
					7	8		632	05007	15	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	1086
					1	1		632	05081	1	EACH	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, ALUMINUM, AS PER PLAN	1085
					1	1		632	05087	2	EACH	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	1086
					7	9		632	20731	16	EACH	PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN	1086
					10	13		632	25001	23	EACH	COVERING OF VEHICULAR SIGNAL HEAD, AS PER PLAN	1086
					7	9		632	25011	16	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD, AS PER PLAN	1086
					4	4		632	26001	8	EACH	PEDESTRIAN PUSHBUTTON, AS PER PLAN	1086
					107	137		632	29901	244	FT	MESSENGER WIRE, 7 STRAND, 1/4" DIAMETER WITH ACCESSORIES, AS PER PLAN	1091
					1381	1758		632	40700	3139	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
					401	511		632	40900	912	FT	SIGNAL CABLE, 9 CONDUCTOR, NO. 14 AWG	
					2	3		632	62820	3	EACH	INTERCONNECT, MISC.: FIBER OPTIC SPLICE ENCLOSURE, CLAMSHELL, 288 SPLICE	1092
					2	2		632	64011	4	EACH	SIGNAL SUPPORT FOUNDATION, AS PER PLAN	1086
					2	2		632	64020	4	EACH	PEDESTAL FOUNDATION	
					452	575		632	65200	1027	FT	LOOP DETECTOR LEAD-IN CABLE	
					40	50		632	68200	90	FT	POWER CABLE, 2 CONDUCTOR, NO. 6 AWG	
					59	76		632	68300	135	FT	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	
					1	1		632	70001	2	EACH	POWER SERVICE, AS PER PLAN	1085
					1	1		632	70400	2	EACH	CONDUIT RISER, 2" DIAMETER	
							7	632	81700	7	EACH	COMBINATION SIGNAL SUPPORT, MISC.: CITY OF COLUMBUS DESIGN 4	1088
							1	632	81700	1	EACH	COMBINATION SIGNAL SUPPORT, MISC.: CITY OF COLUMBUS DESIGN 13	1088
					1	1		632	89300	2	EACH	WOOD POLE	
					1	1		632	89400	1	EACH	DOWN GUY	
					8		8	632	90010	8	EACH	PEDESTAL, MISC.: PEDESTAL, 10.7'	1088
					5	3		632	90101	5	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	1086
					1	1		632	90104	1	EACH	REUSE OF TRAFFIC CONTROL ITEM: VIDEO DETECTION CAMERA AND BRACKET ARM	1085
					4	2		632	90201	4	EACH	REUSE OF VEHICULAR SIGNAL HEAD, AS PER PLAN	1085
					8	4		632	90400	8	EACH	SIGNALIZATION, MISC.: COVERING OF PEDESTRIAN PUSHBUTTON	1086
					1	1	1	632	90400	1	EACH	SIGNALIZATION, MISC.: MAST ARM (ARM ONLY)	1087
					7	4		632	90400	7	EACH	SIGNALIZATION, MISC.: FOUNDATION PRE-EXCAVATION	1086
					4	2		632	90400	4	EACH	SIGNALIZATION, MISC.: PEDESTAL ATTACHED TO BRIDGE STRUCTURE	1086
					4	2		632	90400	4	EACH	SIGNALIZATION, MISC.: SIGNAL SUPPORT ATTACHED TO BRIDGE STRUCTURE	1086
					2	1		632	90400	2	EACH	SIGNALIZATION, MISC.: STOP LINE RADAR DETECTION SYSTEM	1088
					1	0	1	632	90400	1	EACH	SIGNALIZATION, MISC.: POWER METER CABINET, BASE MOUNT, WITH FOUNDATION	1088
					2	1		633	67101	2	EACH	CABINET FOUNDATION, AS PER PLAN	1089
					2	1		633	99000	2	EACH	CONTROLLER ITEM, MISC.: CONTROLLER UNIT TS2/A2, W/ CABINET 16CH, SIZE 6, GROUND MOUNTED	1092
					4	2		633	99000	4	EACH	CONTROLLER ITEM, MISC.: FIBER OPTIC ETHERNET TRANSCEIVER, SHORT RANGE	1092
					2	1		633	99000	2	EACH	CONTROLLER ITEM, MISC.: LAYER 2 ETHERNET SWITCH	1092
					89	113		804	32060	202	FT	DROP CABLE, 24 FIBER	
					2	2		804	34022	2	EACH	FIBER TERMINATION PANEL, 24 FIBER	1090
						1		809	60001	1	1	CCTV IP-CAMERA SYSTEM, DOME-TYPE, AS PER PLAN	1090

CALCULATED	MSS	CHECKED	KMG
TRAFFIC SIGNAL GENERAL SUMMARY			
FRA - 70 / 71 - 12.68 / 14.86			
(1097)			
1815			

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NO.	DESCRIPTION	REV.	BY	DATE
3	UPDATED QUANTITIES	KMG		11-19-2021

SHEET	LOCATION	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	630		
		BRACKET ARM, 8', AS PER PLAN	BRACKET ARM, 25', AS PER PLAN	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE, AS PER PLAN	NO. 8 AWG 600 VOLT DISTRIBUTION CABLE	NO. 10 AWG POLE AND BRACKET CABLE	CONDUIT, 2", 725.051	CONDUIT, 3", 725.051	CONDUIT, CONCRETE ENCASED, 2", 725.051	CONDUIT, MISC.: ENCASED INTERCONNECT CONDUIT BANK, 4-3", 1-1.5", TC-2, SCH 40	CONDUIT, MISC.: ENCASED INTERCONNECT CONDUIT BANK, 4-3", 2-2", 1-1.5", TC-2, SCH 40	CONDUIT, MISC.: ENCASED INTERCONNECT CONDUIT BANK, 8-3", 1-1.5", TC-2, SCH 40	CONDUIT, MISC.: 1.5", FIBERGLASS REINFORCED, ATTACHED TO STRUCTURE	CONDUIT, MISC.: 2", FIBERGLASS REINFORCED, ATTACHED TO STRUCTURE	CONDUIT, MISC.: 3", FIBERGLASS REINFORCED, ATTACHED TO STRUCTURE	TRENCH, AS PER PLAN	PULL BOX, MISC.: 12"X18"	PULL BOX, MISC.: CONCRETE 27"	PULL BOX, MISC.: CONCRETE 32"	PULL BOX, MISC.: CONCRETE 48"	GROUND ROD	LIGHTING, MISC.: PHOTO CELL	LIGHTING, MISC.: LUMINAIRE, 150 W LED, 120 V, TEARDROP, BLACK	SIGNING, MISC.: TRAFFIC SIGNAL SIGNS	
		EACH	EACH	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH		
1100	S. FRONT ST. AT RAMP C5 / W. FULTON ST.	3	1	1020	1503	345	146	22	372						444		73	1			2	9	1	3	1
1104	FULTON ST. AT S. HIGH ST.			193					52											1				1	
1107	S. FRONT ST. AT MOUND ST.																							1	
1111	S. FRONT ST. AT W. LIVINGSTON AVE.	4		1074	1260	444	166	34	589					178		83	1	1	1	1	1	10	1	4	1
1115	S. HIGH ST. AT LIVINGSTON AVE.																								1
	INTERCONNECT								22	1356	106	31	203		1624				8	4					
TOTALS CARRIED TO TRAFFIC SIGNAL GENERAL SUMMARY		7	1	2287	2763	789	312	56	1035	1356	106	31	203	622	1624	156	2	1	9	7	20	2	7	5	

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED QUANTITIES	KMG	11-19-2021

SHEET	LOCATION	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632				
		VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, ALUMINUM, AS PER PLAN	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, ALUMINUM, AS PER PLAN	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	PEDESTRIAN SIGNAL HEAD, TYPE D2, COUNTDOWN, AS PER PLAN	COVERING OF VEHICULAR SIGNAL HEAD, AS PER PLAN	COVERING OF PEDESTRIAN SIGNAL HEAD, AS PER PLAN	PEDESTRIAN PUSHBUTTON, AS PER PLAN	MESSENGER WIRE, 7 STRAND, 1/4" DIAMETER WITH ACCESSORIES, AS PER PLAN	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	SIGNAL CABLE, 9 CONDUCTOR, NO. 14 AWG	INTERCONNECT, MISC.: FIBER OPTIC SPLICE ENCLOSURE, CLAMSHELL, 288 SPLICE	SIGNAL SUPPORT FOUNDATION, AS PER PLAN	PEDESTAL FOUNDATION	LOOP DETECTOR LEAD-IN CABLE	POWER CABLE, 2 CONDUCTOR, NO. 6 AWG	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	POWER SERVICE, AS PER PLAN	CONDUIT RISER, 2" DIAMETER	COMBINATION SIGNAL SUPPORT, MISC.: CITY OF COLUMBUS DESIGN 4	COMBINATION SIGNAL SUPPORT, MISC.: CITY OF COLUMBUS DESIGN 13	WOOD POLE				
		EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	EACH	EACH	EACH	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH				
1100	S. FRONT ST. AT RAMP C5 / W. FULTON ST.		6		1	8	7	8	4						1273	337		1	2	530	35	135	1		2	1	
1104	FULTON ST. AT S. HIGH ST.		2					2							249			1							1		
1107	S. FRONT ST. AT MOUND ST.	1		1				4						309													
1111	S. FRONT ST. AT W. LIVINGSTON AVE.		7		1	8	8	8	4				1011	575				2	2	497	55		1		4		
1115	S. HIGH ST. AT LIVINGSTON AVE.	2						2						88	298											1	
	INTERCONNECT												156							3			2			1	
TOTALS CARRIED TO TRAFFIC SIGNAL GENERAL SUMMARY		3	15	1	2	16	23	16	8	244	3139	912	3	4	4	1027	90	135	2	2	7	1	2				

SHEET NUMBER														PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.	
1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	08/IMS/OT	EXT	TOTAL				
				94									168		262	625	25502	262	FT	CONDUIT, 3", 725.05	
				1328	2280	3912	2224			2190	2192	2404			16530	625	25752	16530	FT	CONDUIT, 4" MULTICELL, 725.20, AS PER PLAN	
	34		12												12	625	25900	12	FT	CONDUIT, JACKED OR DRILLED, 2", 725.04	1091
				94									84		34	625	25900	34	FT	CONDUIT, JACKED OR DRILLED, 3", 725.04	
				1	2	3				1	1	2			178	625	29100	178	FT	TRENCH, 36" DEEP	
															10	625	29931	10	EACH	MEDIAN JUNCTION BOX, AS PER PLAN	1092
					4	1	3			2	3	2			15	625	31600	15	EACH	PULL BOX, MISC.: 32" ROUND CONCRETE (725.08)	1083,1084
				1		2						1			4	625	31600	4	EACH	PULL BOX, MISC.: 48" ROUND CONCRETE (725.08), TYPE 1, AS PER PLAN	1083,1084
	1	4	5	3											13	625	32000	13	EACH	GROUND ROD	
				1											1	625	34000	1	EACH	POWER SERVICE	
	416	1487	692										244		2839	632	29901	2839	FT	MESSENGER WIRE, 7 STRAND, 1/4" DIAMETER WITH ACCESSORIES, AS PER PLAN	1091
	2	2	3												7	632	62820	7	EACH	INTERCONNECT, MISC.: MODIFIED CONDUIT RISER	1123
													1		1	632	62820	1	EACH	INTERCONNECT, MISC.: FIBER OPTIC SPLICE ENCLOSURE, CLAMSHELL, 288 SPLICE	1092
1						2									3	632	62820	3	EACH	INTERCONNECT, MISC.: FIBER OPTIC SPLICE ENCLOSURE, DOME, 800 SPLICE	1092
				109											109	632	68300	109	FT	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG	
	1	4	5												10	632	89300	10	EACH	WOOD POLE	
	1	2	4												7	632	89400	7	EACH	DOWN GUY	
892			227										700		1819	804	15010	1819	FT	FIBER OPTIC CABLE, 24 FIBER	
840	1105	2292	1906										1910	1957	10010	804	15040	10010	FT	FIBER OPTIC CABLE, 144 FIBER	
				898	1410	3007	1322	2594	801	2555	2617	3479	1963		20646	804	15050	20646	FT	FIBER OPTIC CABLE, 288 FIBER	
			356	21					17				453		847	804	32060	847	FT	DROP CABLE, 24 FIBER	
				1					1						2	804	37000	2	EACH	SPLICE ENCLOSURE, BUTT STYLE	
				948	1605	1248	1322	2594	669						8386	804	98000	8386	FT	FIBER OPTIC CABLE, MISC.: 96 FIBER, AS PER PLAN	1091
661	1105	1261	553												3580	804	98000	3580	FT	FIBER OPTIC CABLE, MISC.: 432 FIBER, AS PER PLAN	1091
				1											1	809	60030	1	EACH	CCTV IP-CAMERA SYSTEM, ENHANCED	
				1											1	809	61002	1	EACH	CCTV CONCRETE POLE, 70 FEET	
				1											1	809	65000	1	EACH	ITS CABINET - GROUND MOUNTED	
				1											1	809	68900	1	EACH	SIDE-FIRED RADAR DETECTOR	

ITS GENERAL SUMMARY

FRA-70/71-12.68/14.86

NO.	DESCRIPTION	REV. BY	DATE
3	CHANGED ITEM TO MEDIAN JUNCTION BOX	JML	11-19-2021

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Lanham, JY

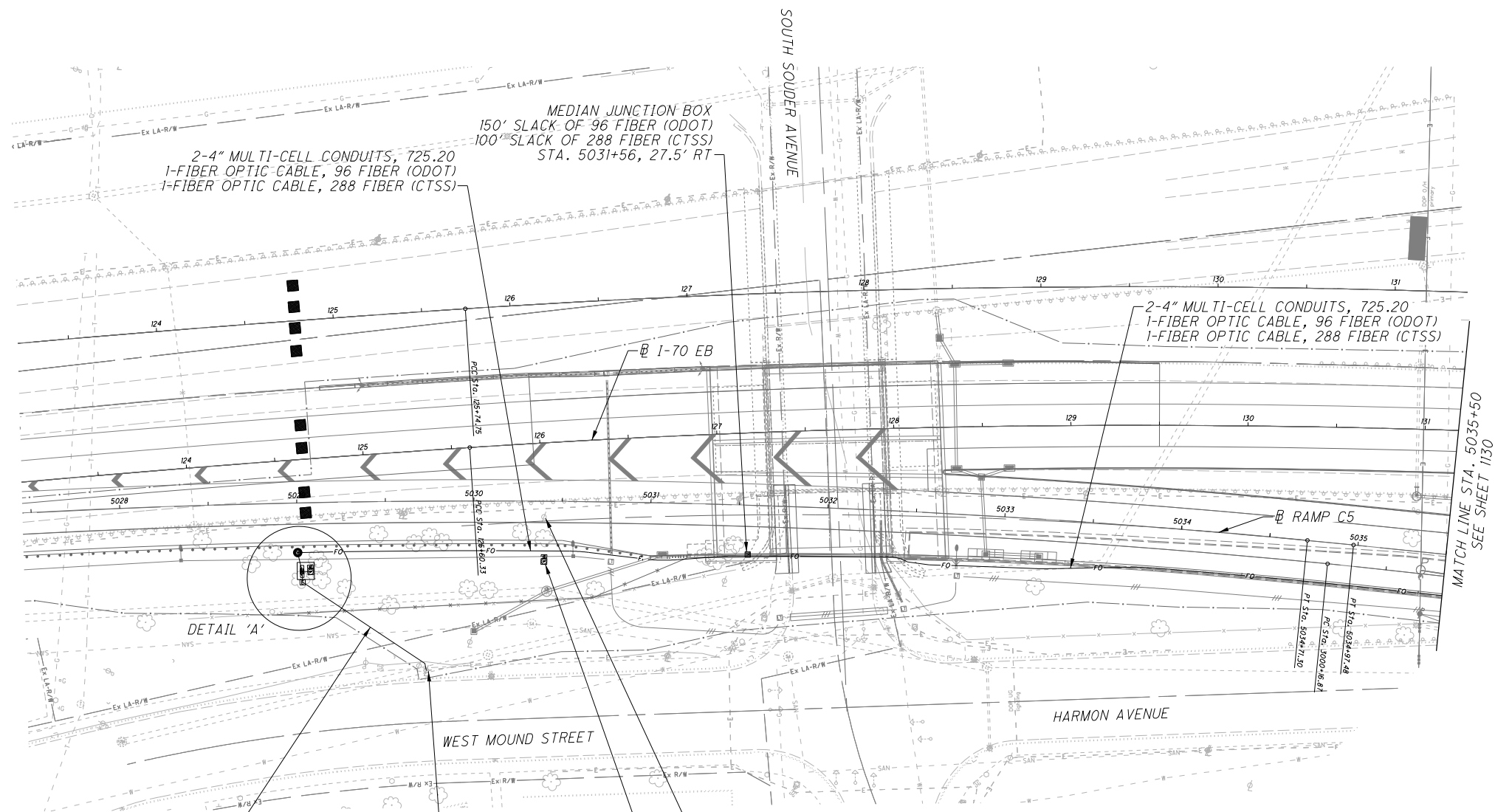


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CHECKED
JML

PERMANENT ITS PLAN - RAMP C5 (I-70 EB TO FULTON)
STA. 5024+50 TO STA. 5035+50

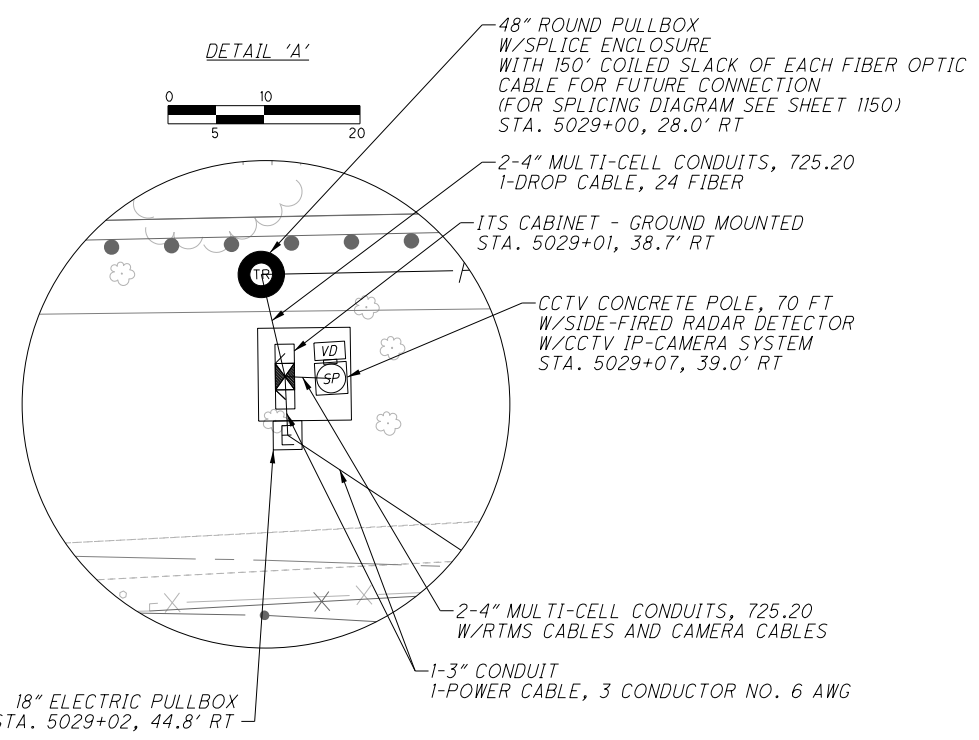
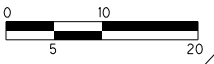
FRA-70/71-12.68/14.86

1129
1815



1-3" CONDUIT
1-POWER CABLE, 3 CONDUCTOR NO. 6 AWG

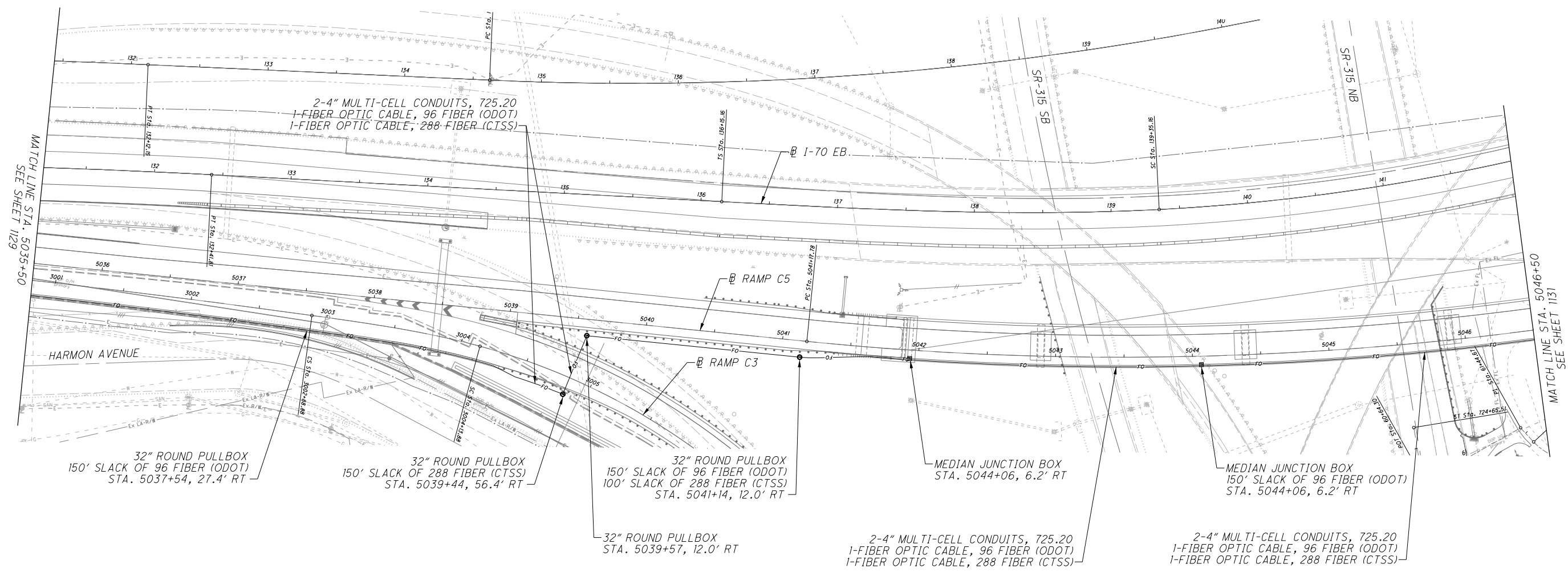
DETAIL 'A'



NO.	DESCRIPTION	REV. BY	DATE
3	CHANGED ITEM TO MEDIAN JUNCTION BOX	JML	11-19-2021

- NOTES:
1. INSTALL TRACER WIRE ABOVE TOP OF 4" CONDUIT.
 2. 4" MULTI-CELL CONDUIT CONTAINS 4 - 1 1/4" INNER DUCTS PER PROJECT DESIGN CRITERIA.
 3. PROPOSED RADAR DETECTION POLE AT 5029+07, 39.0' RT SHALL BE CONSTRUCTED AND IN OPERATION BEFORE EXISTING POLE IS REMOVED.

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Lanham, JY



NO.	DESCRIPTION	REV. BY	DATE
3	CHANGED ITEM TO MEDIAN JUNCTION BOX	JML	11-19-2021

NOTES:
 1. INSTALL TRACER WIRE ABOVE TOP OF 4" CONDUIT.
 2. 4" MULTI-CELL CONDUIT CONTAINS 4 - 1 1/4" INNER DUCTS PER PROJECT DESIGN CRITERIA.

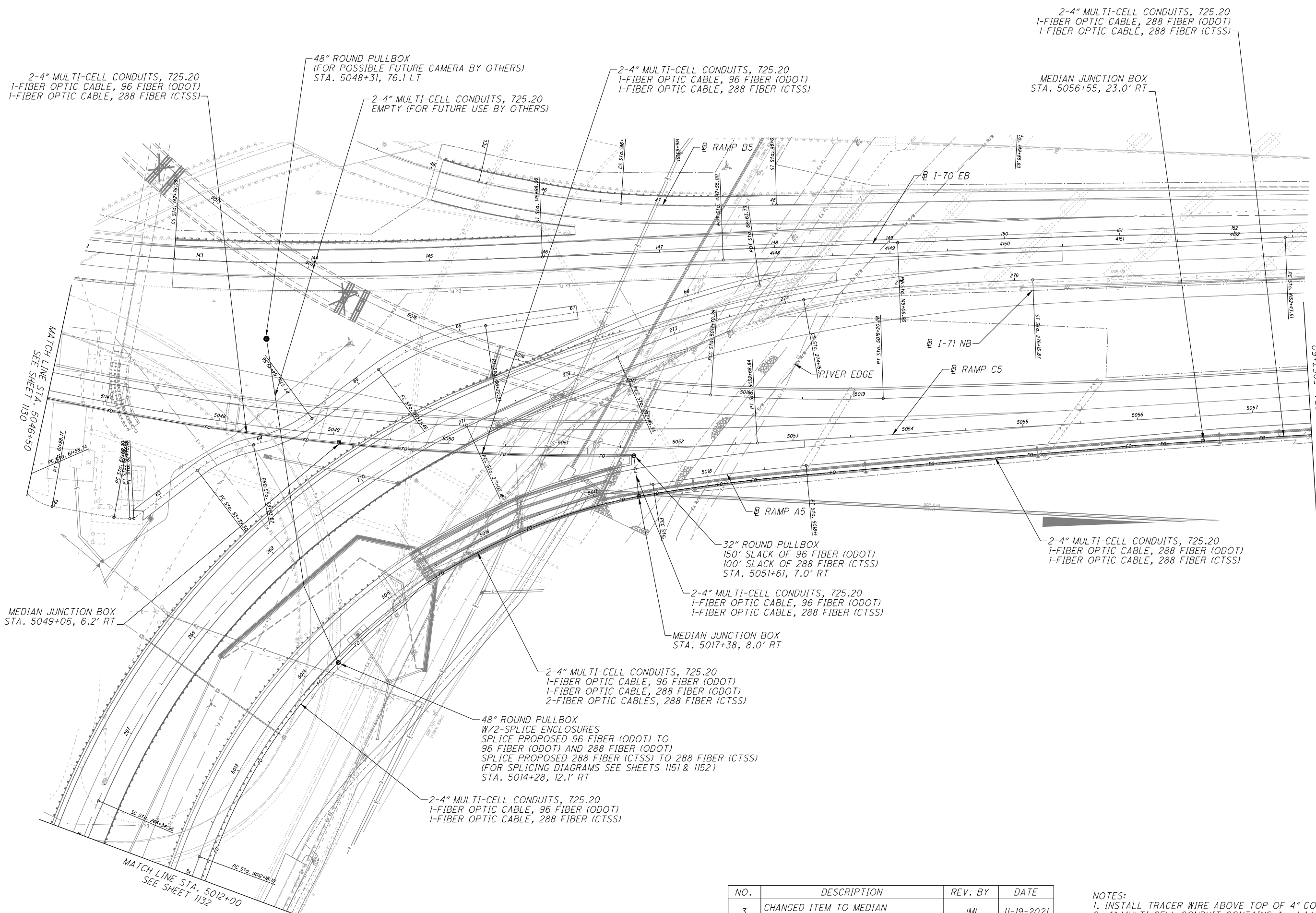


CALCULATED
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JML

PERMANENT ITS PLAN - RAMP C5 (I-70 EB TO FULTON)
STA. 5046+50 TO STA. 5057+50

FRA-70/71-12.68/14.86

1131
1815



2-4" MULTI-CELL CONDUITS, 725.20
1-FIBER OPTIC CABLE, 96 FIBER (ODOT)
1-FIBER OPTIC CABLE, 288 FIBER (CTSS)

48" ROUND PULLBOX
(FOR POSSIBLE FUTURE CAMERA BY OTHERS)
STA. 5048+31, 76.1' LT

2-4" MULTI-CELL CONDUITS, 725.20
EMPTY (FOR FUTURE USE BY OTHERS)

2-4" MULTI-CELL CONDUITS, 725.20
1-FIBER OPTIC CABLE, 96 FIBER (ODOT)
1-FIBER OPTIC CABLE, 288 FIBER (CTSS)

MEDIAN JUNCTION BOX
STA. 5056+55, 23.0' RT

2-4" MULTI-CELL CONDUITS, 725.20
1-FIBER OPTIC CABLE, 288 FIBER (ODOT)
1-FIBER OPTIC CABLE, 288 FIBER (CTSS)

32" ROUND PULLBOX
150' SLACK OF 96 FIBER (ODOT)
100' SLACK OF 288 FIBER (CTSS)
STA. 5051+61, 7.0' RT

2-4" MULTI-CELL CONDUITS, 725.20
1-FIBER OPTIC CABLE, 96 FIBER (ODOT)
1-FIBER OPTIC CABLE, 288 FIBER (CTSS)

MEDIAN JUNCTION BOX
STA. 5017+38, 8.0' RT

2-4" MULTI-CELL CONDUITS, 725.20
1-FIBER OPTIC CABLE, 96 FIBER (ODOT)
1-FIBER OPTIC CABLE, 288 FIBER (ODOT)
2-FIBER OPTIC CABLES, 288 FIBER (CTSS)

48" ROUND PULLBOX
W/2-SPLICE ENCLOSURES
SPLICE PROPOSED 96 FIBER (ODOT) TO
96 FIBER (ODOT) AND 288 FIBER (ODOT)
SPLICE PROPOSED 288 FIBER (CTSS) TO 288 FIBER (CTSS)
(FOR SPLICING DIAGRAMS SEE SHEETS 1151 & 1152)
STA. 5014+28, 12.1' RT

2-4" MULTI-CELL CONDUITS, 725.20
1-FIBER OPTIC CABLE, 96 FIBER (ODOT)
1-FIBER OPTIC CABLE, 288 FIBER (CTSS)

MATCH LINE STA. 5012+00
SEE SHEET 1132

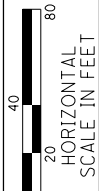
MATCH LINE STA. 5046+50
SEE SHEET 1130

MATCH LINE STA. 5057+50
SEE SHEET 1135

NO.	DESCRIPTION	REV. BY	DATE
3	CHANGED ITEM TO MEDIAN JUNCTION BOX	JML	11-19-2021

NOTES:
1. INSTALL TRACER WIRE ABOVE TOP OF 4" CONDUIT.
2. 4" MULTI-CELL CONDUIT CONTAINS 4 - 1 1/4" INNER DUCTS PER PROJECT DESIGN CRITERIA.

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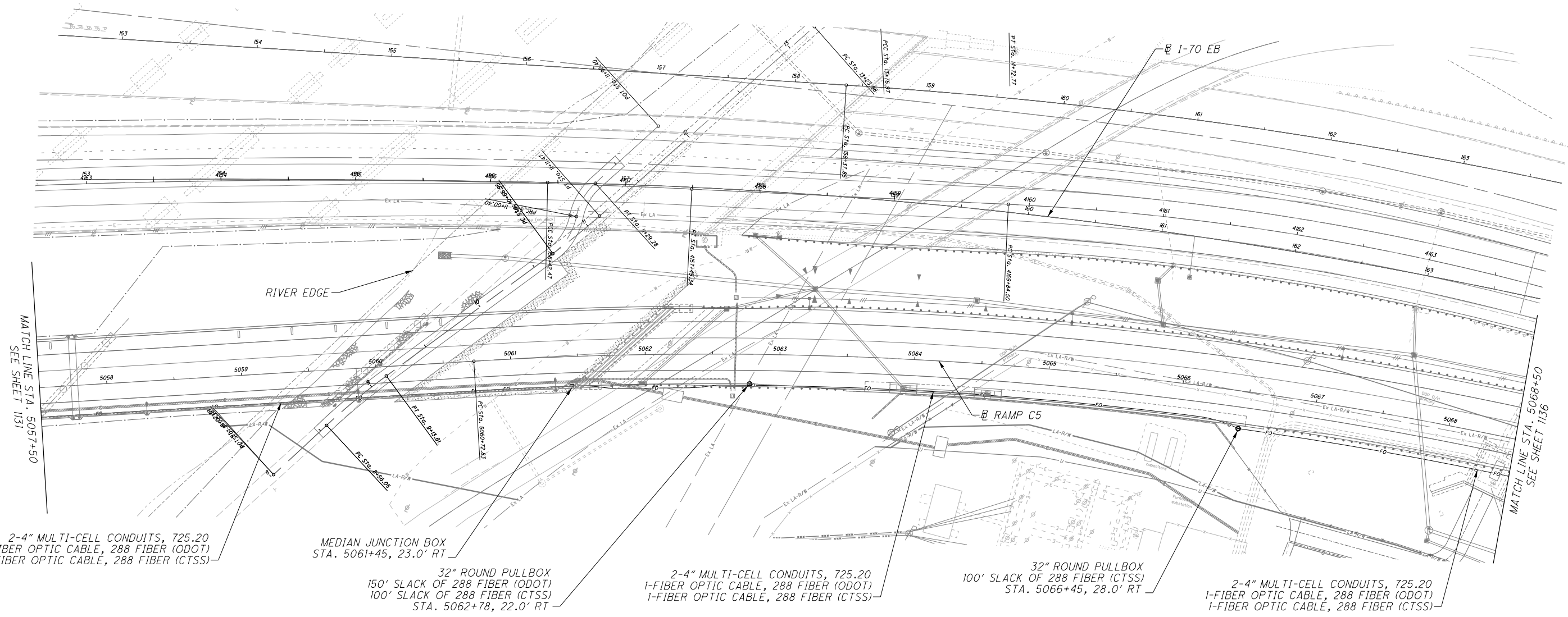


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JML

PERMANENT ITS PLAN - RAMP C5 (I-70 EB TO FULTON)
STA. 5057+50 TO STA. 5068+50

FRA-70/71-12.68/14.86

1135
1815



2-4" MULTI-CELL CONDUITS, 725.20
1-FIBER OPTIC CABLE, 288 FIBER (ODOT)
1-FIBER OPTIC CABLE, 288 FIBER (CTSS)

MEDIAN JUNCTION BOX
STA. 5061+45, 23.0' RT

32" ROUND PULLBOX
150' SLACK OF 288 FIBER (ODOT)
100' SLACK OF 288 FIBER (CTSS)
STA. 5062+78, 22.0' RT

2-4" MULTI-CELL CONDUITS, 725.20
1-FIBER OPTIC CABLE, 288 FIBER (ODOT)
1-FIBER OPTIC CABLE, 288 FIBER (CTSS)

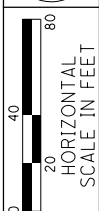
32" ROUND PULLBOX
100' SLACK OF 288 FIBER (CTSS)
STA. 5066+45, 28.0' RT

2-4" MULTI-CELL CONDUITS, 725.20
1-FIBER OPTIC CABLE, 288 FIBER (ODOT)
1-FIBER OPTIC CABLE, 288 FIBER (CTSS)

NO.	DESCRIPTION	REV. BY	DATE
3	CHANGED ITEM TO MEDIAN JUNCTION BOX	JML	11-19-2021

NOTES:
 1. INSTALL TRACER WIRE ABOVE TOP OF 4" CONDUIT.
 2. 4" MULTI-CELL CONDUIT CONTAINS 4 - 1 1/4" INNER DUCTS PER PROJECT DESIGN CRITERIA.

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 Lanham, Jey

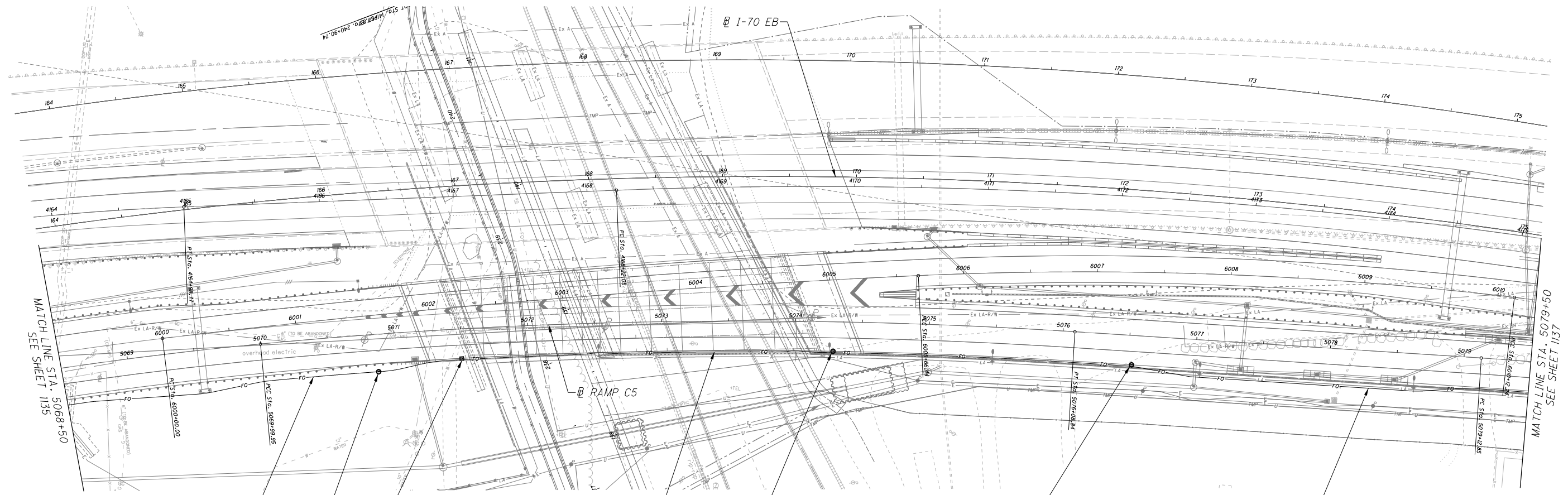


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PERMANENT ITS PLAN - RAMP C5 (I-70 EB TO FULTON)
STA. 5068+50 TO STA. 5079+50

FRA-70/71-12.68 / 14.86

1136
1815



2-4" MULTI-CELL CONDUITS, 725.20
1-FIBER OPTIC CABLE, 288 FIBER (ODOT)
1-FIBER OPTIC CABLE, 288 FIBER (CTSS)

32" ROUND PULLBOX
150' SLACK OF 288 FIBER (ODOT)
100' SLACK OF 288 FIBER (CTSS)
STA. 5070+87, 28.0' RT

MEDIAN JUNCTION BOX
STA. 5071+49, 23.0' RT

2-4" MULTI-CELL CONDUITS, 725.20
1-FIBER OPTIC CABLE, 288 FIBER (ODOT)
1-FIBER OPTIC CABLE, 288 FIBER (CTSS)

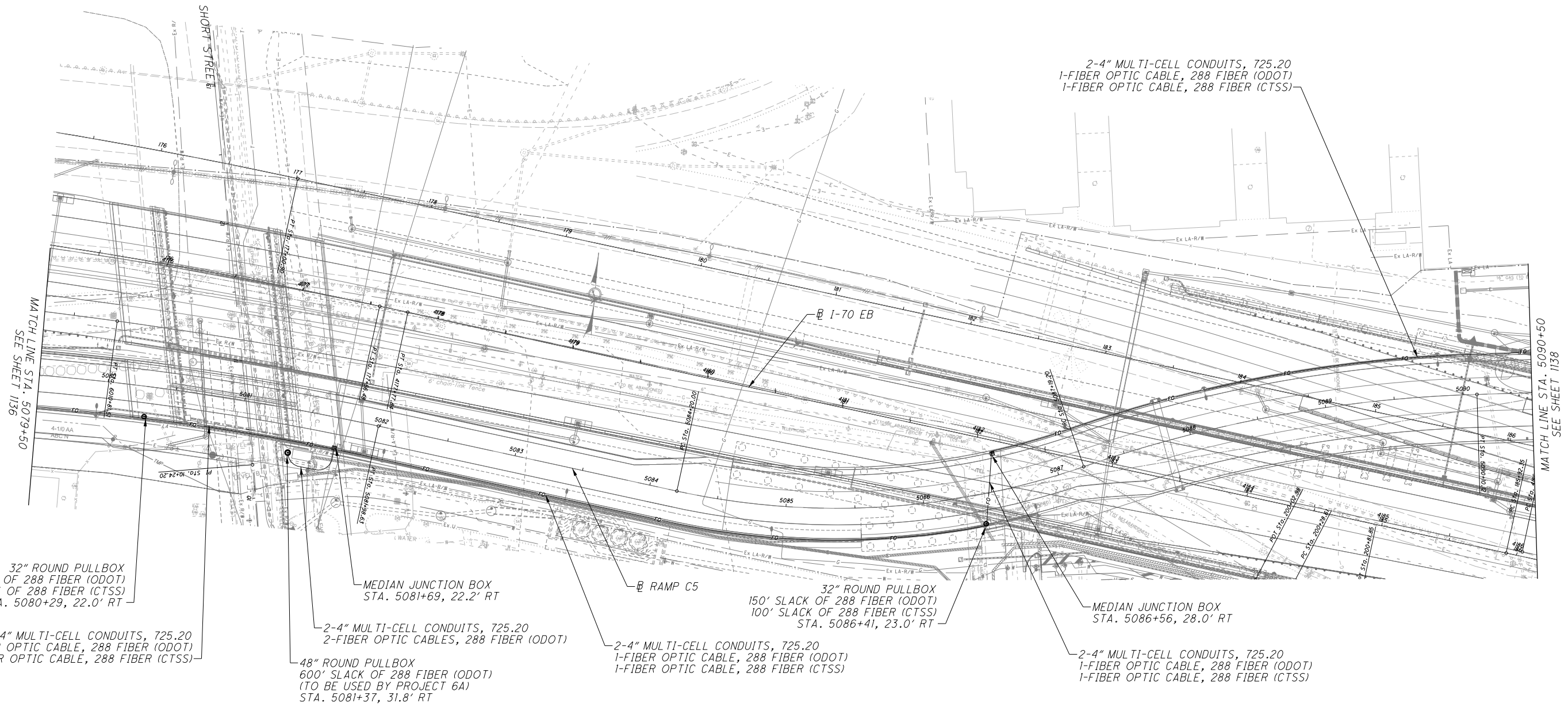
32" ROUND PULLBOX
STA. 5074+28, 22.0' RT

32" ROUND PULLBOX
150' SLACK OF 288 FIBER (ODOT)
STA. 5076+53, 22.0' RT

2-4" MULTI-CELL CONDUITS, 725.20
1-FIBER OPTIC CABLE, 288 FIBER (ODOT)
1-FIBER OPTIC CABLE, 288 FIBER (CTSS)

NO.	DESCRIPTION	REV. BY	DATE
3	CHANGED ITEM TO MEDIAN JUNCTION BOX	JML	11-19-2021

NOTES:
1. INSTALL TRACER WIRE ABOVE TOP OF 4" CONDUIT.
2. 4" MULTI-CELL CONDUIT CONTAINS 4 - 1 1/4" INNER DUCTS PER PROJECT DESIGN CRITERIA.



MATCH LINE STA. 5079+50
SEE SHEET 1136

MATCH LINE STA. 5090+50
SEE SHEET 1138

CALCULATED
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JML

80
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HORIZONTAL
SCALE IN FEET

PERMANENT ITS PLAN - RAMP C5 (I-70 EB TO FULTON)
STA. 5079+50 TO STA. 5090+50

FRA-70/71-12.68 / 14.86

1137
1815

NO.	DESCRIPTION	REV. BY	DATE
3	CHANGED ITEM TO MEDIAN JUNCTION BOX	JML	11-19-2021

NOTES:
1. INSTALL TRACER WIRE ABOVE TOP OF 4" CONDUIT.
2. 4" MULTI-CELL CONDUIT CONTAINS 4 - 1 1/4" INNER DUCTS PER PROJECT DESIGN CRITERIA.

ITEM	EXT.	TOTAL	PARTICIPATION		UNIT	DESCRIPTION	GENERAL	AS PER PLAN SHEET --/1815
			01/IMS/PV	02/NHS/PV				
202	11203	LS	LS	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	LUMP	1462A
202	22900	187	82	105	SY	APPROACH SLAB REMOVED	187	

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED NOTE	CWL	11-19-2021

DESIGN AGENCY
GPD GROUP
 1801 Watermark Drive, Suite 150, Columbus, Ohio 43215 614.210.0731
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DATE	REVIEWED	DRAWN	CHECKED	DESIGNED
9-6-19	TJW	MOJ	MOJ	MOJ

BRIDGE NO. FRA-70-1343
 WHITTIER STREET OVER I-70/77

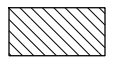
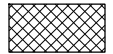
REMOVAL NOTES AND ESTIMATED QUANTITIES

FRA-70/71-12.68/14.86
 PID No. 105523
 1/1
 1462A
 1815

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE ENTIRE STRUCTURE NOT ALREADY REMOVED UNDER SEPARATE ITEMS EXCEPT THE LEFT FORWARD WINGWALL (LABELED "RETAINING WALL C" IN THE EXISTING PLANS), THE EXISTING MEDIAN BARRIER AND EXISTING WB-70 CONCRETE BARRIER, WHICH ARE TO REMAIN. CONTRACTOR SHALL USE CAUTION DURING REMOVAL OF THE STRUCTURE TO KEEP THE EXISTING MEDIAN BARRIER AND EXISTING WB-70 CONCRETE BARRIER INTACT WITHOUT UNNECESSARY DAMAGE. THE EXISTING VERTICAL EXPANSION JOINT (FILLED WITH 1" P.E.J.F.) BETWEEN THE WINGWALL AND ABUTMENT IS TO SERVE AS THE REMOVAL LIMIT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE EXISTING PLANS, PERFORMING THE EXISTING STRUCTURE VERIFICATION, AND DETERMINING REMOVAL EFFORTS. EXISTING PLANS MAY BE EXAMINED BY PROSPECTIVE BIDDERS AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 6 OFFICES, 400 E. WILLIAM ST., DELEWARE, OHIO 43015 (PHONE 740-833-8000). ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH CMS 202 AND CMS 501.05.

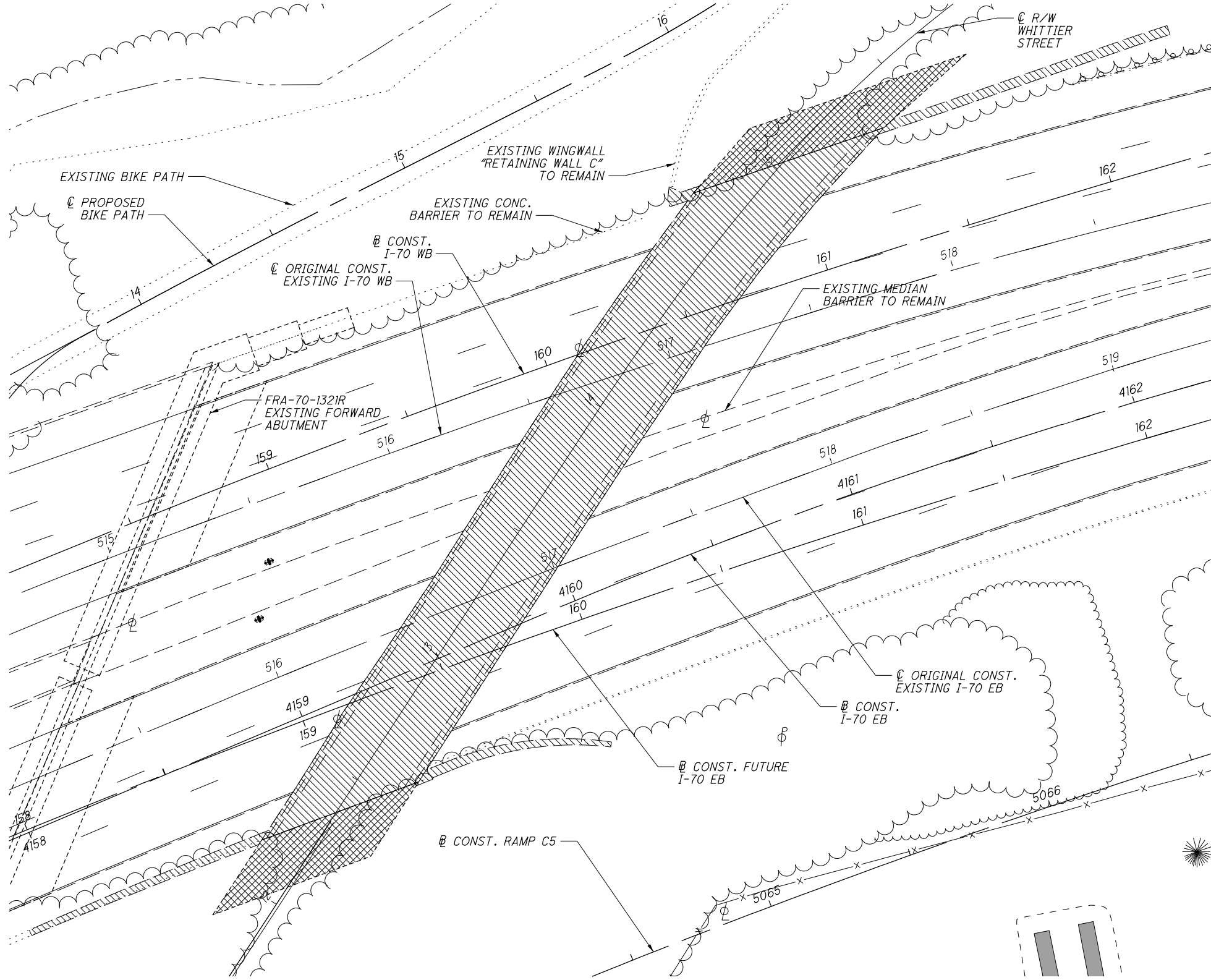
LEGEND:

-  PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
-  APPROACH SLAB REMOVED

NOTES:

1. SEE ROADWAY PLANS FOR FINAL GRADING.

EXISTING STRUCTURE	
TYPE:	TWO SPAN CONTINUOUS STEEL GIRDER BRIDGE WITH NON-COMPOSITE REINFORCED CONCRETE DECK AND SUBSTRUCTURE UNITS
SPANS:	132'-0"±, 132'-0"± C/C BEARINGS MEASURED ALONG ϕ ORIGINAL SURVEY
ROADWAY:	28'-0" F/F OF 2'-0" SAFETY CURBS 34'-0" O/O DECK
SKEW:	55°0'0" RF REAR ABUTMENT AND PIER 52°0'0" RF FORWARD ABUTMENT MEASURED TO ORIGINAL REFERENCE TANGENT
LOADING:	HS20-44
DATE BUILT:	1975
STRUCTURE FILE NUMBER (SFN):	2504464
APPROACH SLABS:	30'-0" LONG, AS-1-69
WEARING SURFACE:	1" MONOLITHIC CONCRETE
DISPOSITION:	TO BE REMOVED



PLAN

01/20/2021 11:20/2021 10:36:58 AM 0001Y81STD_USER



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msconsultants.com

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ITEM 202E11501 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

DURING CONSTRUCTION, THERE IS THE POTENTIAL FOR THE CONTRACTOR TO ENCOUNTER (8) ABANDONED CONCRETE PIER FOUNDATIONS ALONG MOUND STREET FROM APPROXIMATELY STATION 10+68 TO STATION 13+45. IF THESE STRUCTURES SHOULD BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL REMOVE THE PORTION OF THE STRUCTURE IN CONFLICT WITH PROPOSED CONSTRUCTION ACTIVITY PER C&S 109.05. THE COST FOR EACH ITEM SHALL BE \$1.00. THE FIXED AMOUNT SHOWN ON THE PROPOSAL IS INCLUDED (AS ANY OTHER BID ITEMS) IN THE TOTAL BID AMOUNT. THIS FIXED AMOUNT IS THE DEPARTMENT'S ESTIMATE OF THE TOTAL COST OF PORTIONS OF STRUCTURE REMOVED THAT IS REQUIRED TO BE PERFORMED WITHIN THE WORK LIMITS AS DIRECTED BY THE ENGINEER. C&S TABLE 104.02-2 DOES NOT APPLY TO REDUCTIONS IN THIS CONTRACT ITEM. FORCE ACCOUNT RECORDS SHALL BE KEPT TO TRACK AND ULTIMATELY DETERMINE THE AMOUNT OF THE PAY ITEM USED.

THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE.

202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
25,000 EACH

ITEM 611 - CONDUIT BORED OR JACKED, AS PER PLAN:

WHERE IT IS SPECIFIED THAT A CONDUIT BE INSTALLED BY THE METHOD OF BORING OR JACKING, NO TRENCH EXCAVATION SHALL BE CLOSER THAN 25 FEET OR AS SPECIFIED IN THE PLANS TO THE NEAREST RAIL. PROVIDE A 36 INCH STEEL CASING PIPE CONFORMING TO ODOT'S SPECIFICATIONS 748.06 HAVING JOINTS WITH A CIRCUMFERENTIAL FULLY PENETRATING B-U4B WELD THAT IS PERFORMED BY AN ODOT APPROVED FIELD WELDER. HYDROSTATIC TESTING IS NOT REQUIRED FOR THE CASING PIPE. THE CASING PIPE SHALL MEET OR EXCEED THE DESIGN REQUIREMENTS AS SPECIFIED IN "CSX DESIGN & CONSTRUCTION SPECIFICATIONS, PIPELINE OCCUPANCIES" REVISION DATE OCTOBER 14, 2015.

THE 36 INCH STEEL CASING PIPE SHALL HAVE A WALL THICKNESS OF 0.532 INCHES. THE INSTALLED CASING PIPE SHALL CONTAIN A 18 INCH STORM SEWER CARRIER PIPE. THE CARRIER PIPE SHALL BE AN 18" AWWA C905 GASKETED INTEGRAL BELL PVC PIPE, PC 200, DR 21.

ALL LABOR AND MATERIALS FOR THE INSTALLATION OF THE 36" CASING PIPE SHALL AND THE COST OF CONSTRUCTING THE 18" CARRIER PIPE PIPE SHALL BE PAID FOR AS:

ITEM 611 - CONDUIT, BORED AND JACKED, AS PER PLAN

BACKFILL FOR FORCEMAINS

FOR THE VOID CREATED TO EXCAVATE AND CONSTRUCT THE PROPOSED FORCE MAINS, WEST OF THE RIVER IN THE AREA OF THE EXISTING STORMWATER PUMP STATION, THE EXCAVATION AND BACKFILL SHALL BE PER THE CITY OF COLUMBUS SPECIFICATION 901 AND THE MOST RECENT USACE STANDARD OPERATING PROCEDURE (SOP) FOR EXCAVATION BENCHING AND/OR BACKFILL COMPACTION FOR LEVEE AND FLOODWALL MODIFICATIONS (14 JUNE 2021 LATEST VERSION).

USACE PROCEDURES AND GUIDANCE SHALL SUPERCEDE AND SHALL BE FOLLOWED FOR ALL EXCAVATION BENCHING AND BACKFILL WITHIN THE LEVEE EMBANKMENT AND WITHIN 15 FEET OF THE TOE OF THE LEVEE OR FACE OR FLOODWALL. ALL LEVEE EMBANKMENT MATERIAL AND LEVEE FOUNDATION MATERIAL DISTURBED DURING EXCAVATION FOR THE INSTALLATION OF THE FORCE MAINS SHALL BE REPLACED ACCORDING TO THE USACE SOP.

ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO PERFORM THE ABOVE DESCRIBED WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTING THE FORCE MAINS

STANDARD OPERATING PROCEDURE FOR EXCAVATION BENCHING AND/OR BACKFILL COMPACTION FOR LEVEE AND FLOODWALL MODIFICATIONS - 14 JUNE 2021

1. PLACING BACKFILL WITHIN THE LEVEE EMBANKMENT WILL REQUIRE THE FOLLOWING:

- A) THE SURFACE OF THE LEVEE SHALL BE STRIPPED OF ORGANICS AND TOPSOIL TO A DEPTH OF APPROXIMATELY 6 INCHES PRIOR TO BENCHING THE LEVEE SIDESLOPE.
- B) THE EXISTING LEVEE EMBANKMENT SHALL BE OVER-EXCAVATED IN ALL DIRECTIONS BY BENCHING 1 FT VERTICAL AND 3 FT HORIZONTAL INTO STIFF UNDISTURBED SOIL. A LEVEL BOTTOM SURFACE DAY-LIGHTING TOWARD THE LEVEE TOE SHALL BE PROVIDED FROM WHICH THE UPWARD BENCHING ON THE SIDES SHALL INITIATE. BENCHING MAY HAVE TO BE PERFORMED BY HAND METHODS OR USING SMALL-SCALE EXCAVATION EQUIPMENT.
- C) THE LEVEE SOIL ON WHICH THE BACKFILL IS TO BE PLACED SHOULD NOT BE EXCAVATED UNTIL IMMEDIATELY BEFORE BACKFILLING, AND SHALL NOT BE ALLOWED TO BECOME OVERLY WET OR DRY WHILE EXPOSED. THE SURFACE AREA OF THE BENCHES SHALL BE SCARIFIED AS NECESSARY TO ENSURE A GOOD BOND BETWEEN THE EXISTING SOIL AND THE BACKFILL MATERIAL.
- D) BACKFILL MATERIAL MUST BE LOW PERMEABILITY SOILS - IMPERMEABLE SOILS (E.G. SC, CL OR CL-ML WITH AN ESTIMATED HYDRAULIC CONDUCTIVITY LESS THAN 1 X10-5 CM/SEC) IN ACCORDANCE WITH ASTM 2488 - USCS CLASSIFICATION SYSTEM.
- E) BACKFILL MATERIAL SHALL BE PLACED IN LOOSE LIFTS WITH THICKNESSES NOT TO EXCEED 6-INCHES AND COMPACTED TO A MINIMUM OF 95 PERCENT STANDARD PROCTOR DENSITY DETERMINED AT OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D-698. MOISTURE CONTROL LIMITS ARE TO BE WITHIN -1% TO +3% OF OPTIMUM.
- F) COMPACTION TEST RESULTS OF WORK ACCOMPLISHED IN ITEM "E" ABOVE SHALL BE SUBMITTED TO USACE FOR REVIEW THROUGHOUT THE CONSTRUCTION PROCESS.
- G) EARTHWORK SPECIFICATION REQUIREMENTS SHALL BE SUBMITTED FOR REVIEW.
- H) THE FINISHED RIVERSIDE OR LANDSIDE SLOPE OF THE LEVEE SHALL BE GRADED TO MATCH THE EXISTING LEVEE SLOPES UPSTREAM AND DOWNSTREAM. A SITE-SPECIFIC GRADING PLAN MUST BE APPROVED FOR PROJECTS WHERE THE FINAL GRADE DIFFERS FROM THE ORIGINAL GRADE.
- I) THE DISTURBED AREAS SHALL BE SEEDED AND COVERED WITH A BIO-DEGRADABLE GEOTEXTILE WHEN FINAL GRADING IS COMPLETE.

2. PLACING BACKFILL MATERIALS OUTSIDE THE PROJECTED LEVEE SLOPES BUT WITHIN A MINIMUM OF 15 FEET OF THE TOE OF THE LEVEE OR FACE OF THE FLOODWALL REQUIRES THE FOLLOWING:

- A) BACKFILL MATERIAL MUST BE LOW PERMEABILITY SOILS - IMPERMEABLE SOILS (E.G. SC, CL OR CL-ML WITH AN ESTIMATED HYDRAULIC CONDUCTIVITY LESS THAN 1 X10-5 CM/SEC) IN ACCORDANCE WITH ASTM 2488 - USCS CLASSIFICATION SYSTEM. ALTERNATIVELY, CONTROLLED LOW STRENGTH MATERIAL (E.G. FLOWABLE FILL) MEETING THE ABOVE CONDUCTIVITY REQUIREMENTS AND THE GOVERNING STATE'S DOT STANDARD SPECIFICATION MAY ALSO BE USED AS BACKFILL MATERIAL.
- B) BACKFILL SHALL BE PLACED IN LOOSE LIFTS WITH THICKNESSES NOT TO EXCEED 8-INCHES AND COMPACTED TO A MINIMUM OF 95 PERCENT STANDARD PROCTOR DENSITY DETERMINED AT OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D-698, UNLESS OTHERWISE DIRECTED. MOISTURE CONTROL LIMITS ARE TO BE WITHIN -1% TO +3% OF OPTIMUM.
- C) THE DISTURBED AREAS SHALL BE SEEDED AND COVERED WITH A BIO-DEGRADABLE GEOTEXTILE WHEN FINAL GRADING IS COMPLETE.

ITEM 611 - CONDUIT UNDER RAILROAD

THE STATE SHALL PAY TO THE RAIL COMPANY ALL COSTS FOR WATCHMEN OR FLAGGERS DEEMED NECESSARY BY THE RAIL COMPANY, OR OCCASIONED BY THE OPERATIONS OF THE CONTRACTOR, OR ANY SUB-CONTRACTOR, IN CARRYING FORWARD THE INSTALLATION OF PIPE OR CONDUIT UNDER THE RAILROAD PER THE PLAN. THE COSTS FOR WATCHMEN OR FLAGGERS REQUIRED BY AN ALTERNATE METHOD OF INSTALLATION SHALL BE PAID TO THE RAIL COMPANY BY THE CONTRACTOR. THE COSTS FOR WATCHMEN OR FLAGGERS OCCASIONED BY THE NEGLIGENCE OF THE CONTRACTOR, OR ANY SUB-CONTRACTOR, IN CONNECTION WITH THE INSTALLATION OF THE PIPE OR CONDUIT SHALL BE PAID BY THE CONTRACTOR.

TRACK SUPPORTS REQUIRED BY THE RAIL COMPANY IN CONNECTION WITH THE INSTALLATION OF THE PIPE OR CONDUIT PER THE PLAN SHALL BE INCLUDED IN THE COMPANY FORCE ACCOUNT WORK AND PAID BY THE STATE. THE COST OF ANY TRACK SUPPORTS REQUIRED BY AN ALTERNATE METHOD OF INSTALLATION OF THE PIPE OR CONDUIT SHALL BE PAID TO THE RAIL COMPANY BY THE CONTRACTOR.

THE CONTRACTOR SHALL SECURE APPROVAL OF HIS OPERATIONS FROM THE STATE AND THE RAIL COMPANY. THE RAIL COMPANY WILL PERFORM AN ENGINEERING REVIEW OF METHODS OF OPERATIONS AND ENGINEERING SUPERVISION OF CONSTRUCTION WITHOUT COST TO THE CONTRACTOR.

PRIOR TO BIDDING, THE CONTRACTOR SHALL COORDINATE WITH THE RAIL COMPANY TO AGREE UPON THE REQUIREMENTS OF WATCHMEN AND FLAGGERS TO PROTECT RAILROAD TRAFFIC DURING THE CONTRACTOR'S OPERATIONS. THE CONTRACTOR SHALL EXECUTE A BOND IN FAVOR OF BOTH THE STATE AND THE COMPANY AS REQUIRED BY SECTION 5525.16 OF THE REVISED CODE OF OHIO.

THE CONTRACTOR SHALL CO-OPERATE WITH THE RAILROAD OFFICIALS CONCERNING WORK ADJACENT TO RAILROAD TRACKS, IN ORDER TO AVOID DELAY TO, OR INTERFERENCE WITH RAILROAD TRAFFIC, AND SHALL NOTIFY THE COMPANY 40 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS.

TEMPORARY DRAINAGE ITEMS

TEMPORARY DRAINAGE ITEMS LABELED ON THE MAINTENANCE OF TRAFFIC PLAN ARE ITEMIZED ON THE MOT PLANS. PAYMENT FOR THE TEMPORARY DRAINAGE ITEMS ARE ITEMIZED AND CARRIED TO THE GENERAL SUMMARY.

NORFOLK SOUTHERN NOTES

FOR PROJECTS EXCEEDING 30 DAYS OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE FLAGMAN A SMALL WORK AREA WITH A DESK/COUNTER AND CHAIR WITHIN THE FIELD/SITE TRAILER, INCLUDING THE USE OF BATHROOM FACILITIES, WHERE THE FLAGMAN CAN CHECK IN/OUT WITH THE PROJECT, AS WELL AS TO THE FLAGMAN'S HOME TERMINAL. THE WORK AREA SHOULD PROVIDE ACCESS TO TWO (2) ELECTRICAL OUTLETS FOR RECHARGING RADIO(S), AND A LAPTOP COMPUTER; AND HAVE THE ABILITY TO PRINT OFF NEEDED DOCUMENTATION AND ORDERS AS NEEDED AT THE FIELD/SITE TRAILER. THIS SHOULD AID IN MAXIMIZING THE FLAGMAN'S TIME AND EFFICIENCY ON THE PROJECT.

ALL UTILITY INSTALLATIONS OR RELOCATIONS THAT ARE REQUIRED IN CONJUNCTION WITH THIS PROJECT CAN BE INSTALLED OR RELOCATED AS PART OF THE PROJECT PROVIDED THE CONSTRUCTION IS PERFORMED BY THE PROJECT CONTRACTOR OR PROJECT CONTRACTOR'S SUB-CONTRACTOR. HOWEVER, THE UTILITY MUST SUBMIT AN APPLICATION FOR THE INSTALLATION OR RELOCATION TO AECOM FOR APPROPRIATE HANDLING FOR LICENSE AGREEMENT AND APPLICABLE FEES. FOR UTILITY APPLICATIONS GO TO:

www.nscorp.com > Real Estate > NS Services > Wire, Pipeline and Fiber Optics Projects

NOTE: LICENSE AGREEMENT MUST BE EXECUTED PRIOR TO UTILITY BEING INSTALLED OR RELOCATED.

TOP OF RAIL ELEVATIONS SHALL BE CHECKED AND THE MINIMUM VERTICAL CLEARANCE VERIFIED BEFORE START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE NORFOLK SOUTHERN ENGINEER PUBLIC IMPROVEMENTS.

NORFOLK SOUTHERN WILL BE PROVIDED AS-BUILT DRAWINGS OF THE BRIDGES SHOWING THE ACTUAL CLEARANCES AS CONSTRUCTED. DEPTH, SIZE, AND LOCATION OF ALL FOUNDATION COMPONENTS SHALL BE SHOWN ON THE DRAWINGS.

ITEM 253 - PAVEMENT REPAIR, AS PER PLAN

THE PAVEMENT REPAIR CALLED OUT ON THE PLAN SHEETS IS PER SQUARE YARD. THE CONTRACTOR SHALL USE THE FOLLOWING FOR THE PAVEMENT RESTORATION BUILDUP AT THE STATED LOCATIONS:

- 1) MOUND STREET BETWEEN FRONT STREET AND SHORT STREET, AND INCLUDING SHORT STREET, SHALL USE ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A.
- 2) MOUND STREET WEST OF SHORT STREET, IN THE MILLING AND RESURFACING AREA SHALL USE THE PAVEMENT BUILDUP AS SHOWN ON THE MOUND STREET TYPICAL SECTION ON SHEET 35.
- 3) I-71SB NEAR GREENLAWN AVE SHALL USE THE PAVEMENT BUILDUP AS SHOWN ON THE I-71SB TYPICAL SECTION ON SHEET 19.
- 4) SHARED USE PATH SHALL USE THE FOLLOWING BUILDUP FOR PAVEMENT RESTORATION:
 - * ITEM 823 - 1.5" OF ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448)
 - * ITEM 823 - 1.5" OF ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 (448)
 - * ITEM 304 - 4" AGGERGATE BASE

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATE ITEM 202 NOTE	LM	11-22-2021
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GENERAL NOTES

FRA - 71 - 14.36



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34" x 22"

6. AS INDICATED IN THE MAINTENANCE OF TRAFFIC PLAN NOTES AND PER COLUMBUS CITY CODE CHAPTER 2155.055 FEES FOR PARKING METERS OUT OF SERVICE, FOR ALL PAID PARKING (WHICH MAY INCLUDE PARKING METERS, KIOSKS, AND MOBILE PAYMENT ONLY ZONES) THAT ARE TAKEN OUT OF SERVICE (BAGGED OR REMOVED) DUE TO THE CONSTRUCTION OF THIS PROJECT, THE COST IS THE RESPONSIBILITY OF THE CONTRACTOR AS A PART OF THIS CONTRACT. WHILE THE ACTUAL PAID PARKING TO BE TAKEN OUT OF SERVICE IS NOT LISTED OR INCLUDED IN THESE PLANS, THE CONTRACTOR IS TO IDENTIFY THE PAID PARKING AREA TO BE REMOVED FROM SERVICE, AND DETERMINE THE COST.

THE CONTRACTOR IS RESPONSIBLE FOR PAYING THE DAILY LOST PAID PARKING REVENUE FOR EACH PAID PARKING SPACE TAKEN OUT OF SERVICE.

TO CALCULATE AN ESTIMATE FOR THE LOST METER REVENUE, VISIT THE METER MAP AT [HTTPS://WWW.COLUMBUS.GOV/PARKINGMETERMAP.ASPX](https://www.columbus.gov/parkingmetermap.aspx). FIND THE REQUESTED METER(S) ON THE MAP AND CLICK ON THE "P" SYMBOL. THERE WILL BE THE METER NUMBER, THE DURATION OF THE METER, AND THE HOURS OF OPERATION. TO DETERMINE THE DAILY LOST METER REVENUE, MULTIPLE THE HOURLY RATE TIMES THE NUMBER OF HOURS THE METER IS IN OPERATION EACH DAY.

EXAMPLE: A THREE (3) HOUR METER IS \$0.75 PER HOUR AND IS IN OPERATION 14 HOURS PER DAY. THE DAILY LOST METER REVENUE IS \$10.50 PER DAY (14 HOURS X \$0.75 PER HOUR = \$10.50 PER DAY).

7. FOR MOBILE PAYMENT ONLY ZONES, PLEASE REVIEW THE POSTED MOBILE PAYMENT ZONE SIGN AND PROVIDE THE MOBILE PAYMENT ZONE NUMBER FOR THE PARKING SPACE(S) THAT WILL BE REMOVED FROM SERVICE. IF "TICK-MARKS" ARE INCLUDED WITHIN THE PARKING ZONE, THEN COUNT THE NUMBER OF SPACES NEEDED TO BE OUT OF SERVICE. IF NO "TICK-MARKS" ARE WITHIN THE PARKING ZONE, THEN CALCULATE THE NUMBER OF "SPACES" NEEDED BY USING 20 FEET PER SPACE. ONCE ALL THE INFORMATION LISTED ABOVE HAS BEEN COLLECTED FOR THE PAID PARKING TO BE REMOVED FROM SERVICE, CONTACT THE CITY OF COLUMBUS, DIVISION OF PARKING SERVICES AT [PARKINGSERVICES@COLUMBUS.GOV](mailto:parkingservices@columbus.gov) FOR ASSISTANCE WITH ESTIMATING THE DAILY PAID PARKING REVENUE RATE. PROVIDE THE PROJECT ODOT PID AND CITY OF COLUMBUS E-PLAN IN THE SUBJECT LINE OF THE EMAIL.

ALL PAID PARKING SPACES ARE FREE ON SUNDAY AND CITY RECOGNIZED HOLIDAYS, SO THOSE DAYS DO NOT NEED TO BE INCLUDED IN THE CALCULATION. THE FOLLOWING ARE CITY RECOGNIZED HOLIDAYS: NEW YEAR'S DAY, MARTIN LUTHER KING DAY, PRESIDENTS' DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, VETERANS DAY, THANKSGIVING DAY, AND CHRISTMAS DAY. ALL RATES ARE SUBJECT TO CHANGE BY THE CITY OF COLUMBUS.

THIS COST IS TO BE INCLUDED IN THE BID FOR THIS PROJECT AS A PART OF ITEM 614 MAINTENANCE OF TRAFFIC, LUMP SUM.

AT THE TIME THE CONTRACTOR SUBMITS FOR THE STREET OCCUPANCY/EXCAVATION PERMIT, ALONG WITH THE PAID PARKING IDENTIFICATION NUMBERS TO BE INCLUDED ON THE PERMIT REQUEST FORM, THE CONTRACTOR IS TO PROVIDE A LISTING OF THE METER IDENTIFICATION NUMBERS OR MOBILE PAYMENT ONLY ZONE NUMBERS AND THE NUMBER OF DAYS THAT EACH PAID PARKING SPACE IS TO BE OUT OF SERVICE, TO THE DEPARTMENT OF PUBLIC SERVICE PERMIT OFFICE. THE PERMIT OFFICE WILL VERIFY THAT THE HOURLY RATES ARE CORRECT AND CALCULATE THE COST OF THE PERMIT.

ANY QUESTIONS ABOUT THIS SPECIAL PROVISION ARE TO BE SUBMITTED THROUGH THE OWNER AGENCY OFFERING THE SOLICITATION OF THIS BID AS A PRE-BID QUESTION.

8. TEMPORARY "EMERGENCY NO PARKING" SIGNS SHALL BE INSTALLED AT 50' C/C MINIMUM BY USE OF ANY OF THE FOLLOWING ITEMS: EXISTING SIGN POSTS, EXISTING UTILITY POLES, DRUMS AND/OR 42" CONES AND REMOVED BY THE CONTRACTOR IN AREAS WITH NO PARKING METERS. THE SIGNS SHALL HAVE THE INSTALLATION DATE, WORKING DATES, AND HOURS OF RESTRICTION SHOWN ON EACH SIGN. THESE SIGNS MAY BE OBTAINED FROM THE DEPARTMENT OF PUBLIC SERVICE'S PERMIT OFFICE. THE POLICE DIVISION REQUIRES THE "EMERGENCY NO PARKING" SIGNS BE POSTED A MINIMUM OF SEVENTY-TWO (72) HOURS PRIOR TO ANY VEHICLES BEING TOWED. WITHIN TWENTY-FOUR (24) HOURS OF POSTING, THE CONTRACTOR SHALL SUPPLY THE DEPARTMENT OF PUBLIC SERVICE WITH A WRITTEN RECORD OF POSTED LOCATIONS (FAX: 614-645-3298).

9. THE CONTRACTOR SHALL CONTACT OHIO UTILITY PROTECTION SERVICE (OUPS) TO LOCATE AND MARK ALL UNDERGROUND TRAFFIC CONTROL CABLES PRIOR TO THE BEGINNING OF ANY WORK WITHIN 450 FEET OF ANY SIGNALIZED INTERSECTION(S) OR WITHIN ANY POSTED AREA WHERE THE DEPARTMENT HAS UNDERGROUND CABLE. THE SIGNAL OPERATION ENGINEER (614-645-6418) SHALL BE NOTIFIED SIX (6) WEEKS IN ADVANCE FOR SIGNAL REVISIONS OR POLE RELOCATIONS.

10. NO EXCAVATION SHALL BE MADE WITHIN FIVE (5) FEET OF ANY FOUNDATION THAT SUPPORTS SIGNAL POLES, TRAFFIC SIGNAL DISPLAYS OR SIGNS BY MAST ARM OR SIGNAL SPAN. EXCAVATION WITHIN EIGHT (8) FEET, BUT MORE THAN FIVE (5) FEET SHALL REQUIRE ADDITIONAL SUPPORT (DOWN GUY, HEAD GUY, BASE GUY, ETC.). THE CONTRACTOR SHALL CONTACT SIGNAL OPERATION PERSONNEL AT 614-645-0423 (CELL 614-419-4501) AT LEAST FORTY-EIGHT (48) HOURS (EXCLUDING SAT. & SUN.) PRIOR TO THE BEGINNING OF SUCH EXCAVATION SO THAT THE CITY CAN APPROVE THE STABILIZATION SETUP BY THE CONTRACTOR. IF UNABLE TO MAKE CONTACT THROUGH ABOVE NUMBERS, CALL 614-645-7393. STABILIZATION WILL BE DONE BY THE CONTRACTOR AT THE OWNERS'/CONTRACTING AGENCY'S EXPENSE.

11. WHEN ANY TRAFFIC CONTROL DEVICE, CONDUIT, OR CABLE IS DAMAGED, THE CONTRACTOR SHALL NOTIFY SIGNAL OPERATION PERSONNEL AT 614-645-0423 (CELL 614-419-4501) BETWEEN 7:00 AM AND 4:00 PM, MONDAY THROUGH FRIDAY. IF UNABLE TO MAKE CONTACT THROUGH THE OTHER NUMBERS, CALL 614-645-7393.

12. THE ROADWAY OR ANY SECTION OF ROADWAY SHALL NOT BE OPENED TO NON-CONSTRUCTION TRAFFIC UNTIL ALL TEMPORARY, NON-REFLECTIVE, BLACKOUT TAPE HAS BEEN COMPLETELY REMOVED FROM NON-CONFLICTING PERMANENT PAVEMENT MARKINGS FOR THAT AREA OF THE ROADWAY, OR UNLESS OTHERWISE DIRECTED IN WRITING BY THE ENGINEER. THIS IS SUPPLEMENTAL TO CITY OF COLUMBUS, CMS-614.11- G, AND SHALL BE PAID FOR THROUGH THE 614-LUMP SUM.

13. WHENEVER YELLOW CENTERLINES OR TURN-LANE LINES ARE PAVED OVER, REMOVED, OR OTHERWISE UNSERVICEABLE, THE CONTRACTOR SHALL INSTALL CLASS II TEMPORARY STRIPING (MINIMUM 4' LONG SEGMENTS). TEMPORARY PAINT SHALL BE USED ON ALL MILLED SURFACES. TEMPORARY TAPE SHALL BE USED ON ALL FINAL COURSES OF ASPHALT. PAINT OR TAPE MAY BE USED ON INTERMEDIATE COURSES OF ASPHALT. IF APPROVED BY THE ENGINEER, DRUMS WITH STEADY BURNING TYPE C OR TYPE D 360 DEGREE WARNING LIGHTS AND "KEEP RIGHT" SIGNS MAY BE SUBSTITUTED FOR CENTERLINE MARKINGS.

14. CLASS II TEMPORARY STRIPING (MINIMUM 4' LONG SEGMENTS) SHALL BE AS PER ITEM 614 - WORK ZONE PAVEMENT MARKING AND SHALL BE PLACED WITHIN ONE (1) FOOT LONGITUDINAL TOLERANCE OF THE PERMANENT STRIPE(S). ALL TEMPORARY STRIPING NOT TO WITHIN ONE (1) FOOT TOLERANCE SHALL BE REMOVED AND REPLACED IN THE PROPER LOCATION BY THE CONTRACTOR. CLASS II TEMPORARY STRIPING SHALL BE OF THE APPROPRIATE COLOR AND SPACED A MAXIMUM OF FORTY (40) FEET CENTER TO CENTER.

EXISTING PERMANENT TRAFFIC CONTROL ITEMS - CITY OF COLUMBUS

THE FOLLOWING NOTES ARE APPLICABLE TO CITY STREETS ONLY:

1. ANY WORK DONE BY THE DEPARTMENT OF PUBLIC SERVICE, INCLUDING INSTALLATION, RELOCATION, REMOVAL AND/OR REPLACEMENT OF PERMANENT TRAFFIC CONTROL DEVICES AS A RESULT OF WORK DONE BY THE CONTRACTOR OR AS A RESULT OF NEGLIGENCE OF THE CONTRACTOR, SHALL BE AT THE CONTRACTORS' EXPENSE.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REINSTALLATION AND/OR REPLACEMENT OF ALL PERMANENT TRAFFIC CONTROL DEVICES DAMAGED OR REMOVED DURING CONSTRUCTION. PERMANENT TRAFFIC CONTROL NO LONGER IN CONFLICT WITH TEMPORARY TRAFFIC CONTROL SHALL BE REPLACED IMMEDIATELY.

3. THE CONTRACTOR SHALL REPLACE ALL PAVEMENT MARKINGS, INCLUDING RAISED PAVEMENT MARKERS (RPM) SHOWN IN CONFLICT, REMOVED DUE TO CONSTRUCTION OR MAINTENANCE OF TRAFFIC SET UP, DESTROYED, OR RENDERED UNSERVICEABLE BY THE PROJECT ENGINEER OR THE PUBLIC SERVICE PAVEMENT MARKING MANAGER. ALL PAVEMENT MARKING MATERIALS SHALL BE REPLACED IN-LIKE KIND IF NOT SHOWN IN THE PLAN OR PERMIT INCLUDING RAISED PAVEMENT MARKERS. ALL PAVEMENT MARKINGS SHALL BE REPLACED IN FULL. NO PARTIAL LENGTH OR SECTIONS OF PAVEMENT MARKINGS SHALL BE REPLACED WITHOUT REMOVING THE ENTIRE MARKING BY USE OF THE WATER BLAST METHOD. REMOVAL BY ABRASIVE WHEEL GRINDING SHALL ONLY BE APPROVED BY THE PUBLIC SERVICE PAVEMENT MARKING MANAGER.

4. ALL OVERHEAD CABLE, AND DOWN GUYS OR BACK GUYS SHALL NOT BLOCK ANY PORTION OF A TRAFFIC SIGNAL, TRAFFIC CONTROL SIGN, OR OTHER TRAFFIC CONTROL DEVICE SUCH THAT VISIBILITY OR OPERATION OF THE TRAFFIC CONTROL DEVICE IS IMPAIRED.

5. ALL PERMANENT PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS AS SHOWN ON THIS PLAN SHALL BE INSTALLED BY THE CONTRACTOR AT THE PROJECTS EXPENSE. THE PROJECT ENGINEER SHALL BE NOTIFIED TO DIRECT APPROPRIATE PERSONNEL A MINIMUM OF FORTY-EIGHT (48) HOURS (EXCLUDING SAT. & SUN.) PRIOR TO THE INSTALLATION OF PERMANENT MARKINGS TO INSPECT AND APPROVE THE PAVEMENT MARKING LAYOUT PRIOR TO PLACING THE PERMANENT MARKINGS.

6. PERMANENT STRIPING OR CLASS I TEMPORARY STRIPING SHALL BE INSTALLED NO LATER THAN FOURTEEN (14) CALENDAR DAYS AFTER THE FINAL PAVING COURSE IS COMPLETED. THE PAVING CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY THE STRIPING CONTRACTOR TO INSURE THE PERMANENT STRIPING IS INSTALLED WITHIN THE FOURTEEN (14) CALENDAR DAY LIMIT.

COORDINATION WITH ADJACENT PROJECTS

THE CONTRACTOR SHALL COORDINATE WORK WITH ODOT AND THE CONTRACTORS ON ADJACENT PROJECTS.

COORDINATION SHALL BE MADE TO PREVENT CONFLICTING ADVANCE WARNING SIGNS, CONFLICTING DETOUR ROUTES, OVERLAPPING/CONFLICTING LANE CLOSURES, AND TO ENSURE THAT A MINIMUM DISTANCE OF 2 MILES BETWEEN ADJACENT LANE CLOSURES IS MAINTAINED. THIS IS NOT AN EXHAUSTIVE LIST OF COORDINATION ITEMS THAT MAY NEED TO BE RESOLVED BETWEEN PROJECTS. THE DEPARTMENT RESERVES THE RIGHT TO DECIDE WHICH PROJECTS' ACTIVITIES TAKE PRECEDENCE. PROJECTS THAT HAVE ACTIVITIES DELAYED DUE TO CONFLICTS WILL CONSIDER THIS AN EXCUSABLE, COMPENSABLE DELAY PER 108.06.D. ON PROJECTS THAT HAVE ACTIVITIES DELAYED DUE TO CONFLICTS WHERE THE CONTRACTOR FAILED TO MEET THE NOTIFICATION REQUIREMENTS, THE DELAYS SHALL NOT BE CONSIDERED EXCUSABLE OR COMPENSABLE, NOR SHALL THE COMPLETION DATE BE EXTENDED.

ATTENDANCE AT DEPARTMENT ORDERED TRAFFIC COORDINATION MEETINGS BETWEEN ADJACENT PROJECTS SHALL BE CONSIDERED MANDATORY FOR EACH PROJECT'S SUPERINTENDENT AND WORKSITE TRAFFIC SUPERVISOR (WTS), AND INCIDENTAL TO THE LUMP SUM MAINTENANCE OF TRAFFIC PAYMENT ITEM.

KNOWN ADJACENT ODOT PROJECTS ARE FRA-70/71 PROJECT 2E PID 105322, FRA-71-9.62 I-71 PID 93497, AND THE FUTURE FRA-70/71 BIG BUILD PID 77372 PROJECT (4A/1301R/4H/6A/4B).

COORDINATION WITH FRANKLIN COUNTY JUVENILE DETENTION FACILITY

THE CONTRACTOR SHALL NOTIFY THE DIRECTOR OF FRANKLIN COUNTY PUBLIC FACILITIES MANAGEMENT DARLA REARDON AT 614-525-6322 OR DREARDON@FRANKLINCOUNTYOHIO.GOV AND MARK D. HUNTER AT 614-525-5580 OR MDHUNTER@FRANKLINCOUNTYOHIO.GOV 14 DAYS IN ADVANCE OF ANY WORK THAT WOULD AFFECT THE SALLY PORT ON THE SOUTH SIDE OF MOUND STREET.

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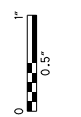
MAINTENANCE OF TRAFFIC - GENERAL NOTES

FRA-71-14.36

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NO.	DESCRIPTION	REV. BY	DATE
3	REVISED NOTE	KWR	11-16-2021



ITEM 614 - WORKSITE TRAFFIC SUPERVISOR

SUBJECT TO APPROVAL OF THE ENGINEER, THE CONTRACTOR SHALL EMPLOY AND IDENTIFY (SOMEONE OTHER THAN THE SUPERINTENDENT) A PREQUALIFIED WORKSITE TRAFFIC SUPERVISOR (WTS) BEFORE STARTING WORK IN THE FIELD. THE WTS SHALL BE TRAINED IN ACCORDANCE WITH CMS 614.03, SHALL HAVE SUCCESSFULLY COMPLETED ODOT ADMINISTERED WTS TESTING (AND RE-TESTING WHEN APPLICABLE) AND BE LISTED ON THE ODOT PREQUALIFIED WTS ROSTER. PREQUALIFICATION EXPIRES EVERY 5 YEARS. RE-TESTING SHALL BE SUCCESSFULLY REPEATED EVERY 5 YEARS TO REMAIN PREQUALIFIED.

THE NAME OF THE PREQUALIFIED WTS AND RELATED 24-HOUR CONTACT INFORMATION SHALL BE PROVIDED TO THE ENGINEER AT THE PRECONSTRUCTION CONFERENCE. IF THE DESIGNATED WTS WILL NOT BE AVAILABLE FULL TIME (24/7), THE CONTRACTOR MAY DESIGNATE AN ALTERNATE (SECONDARY) WTS TO BE AVAILABLE WHEN THE PRIMARY IS OFF DUTY; HOWEVER THE PRIMARY WTS SHALL REMAIN THE POINT OF CONTACT AT ALL TIMES. ANY ALTERNATE (SECONDARY) WTS IS SUBJECT TO THE SAME TRAINING, PREQUALIFICATION AND OTHER REQUIREMENTS OUTLINED WITHIN THIS PLAN NOTE. AT ALL TIMES THE ENGINEER, OR ENGINEER'S REPRESENTATIVES, MUST BE INFORMED OF WHO THE PRIMARY WTS (AND SECONDARY WTS, IF APPLICABLE) IS AT THE CURRENT TIME.

THE WTS POSITION HAS THE PRIMARY RESPONSIBILITY OF IMPLEMENTING THE TRAFFIC MANAGEMENT PLAN (TMP), MONITORING THE SAFETY AND MOBILITY OF THE ENTIRE WORK ZONE, AND CORRECTING TEMPORARY TRAFFIC CONTROL (TTC) DEFICIENCIES FOR THE ENTIRE WORK ZONE. THE WTS, AND ALTERNATE WTS WHEN ON DUTY, SHALL HAVE SUFFICIENT AUTHORITY TO EFFECTIVELY CARRY OUT THE IDENTIFIED WTS RESPONSIBILITIES AND DUTIES. THE DUTIES OF THE WTS ARE AS FOLLOWS:

1. BE AVAILABLE ON A 24-HOUR PER DAY BASIS.
2. BE ON SITE FOR ALL EMERGENCY TTC NEEDS WITHIN ONE HOUR OF NOTIFICATION BY POLICE OR PROJECT STAFF, AND EFFECT CORRECTIVE MEASURES IMMEDIATELY ON EXISTING WORK ZONE TTC DEVICES.
3. ATTEND PRECONSTRUCTION MEETING AND ALL PROJECT MEETINGS WHERE TTC MANAGEMENT IS DISCUSSED.
4. BE AVAILABLE ON SITE FOR OTHER MEETINGS OR DISCUSSIONS WITH THE ENGINEER UPON REQUEST.
5. BE AWARE OF ALL EXISTING AND PROPOSED TTC OPERATIONS OF THE CONTRACTOR, SUBCONTRACTORS AND SUPPLIERS, AND ENSURE COORDINATION OCCURS BETWEEN THEM TO ELIMINATE CONFLICTING TEMPORARY AND/OR PERMANENT TRAFFIC CONTROL.
6. COORDINATE PROJECT ACTIVITIES WITH ALL LAW ENFORCEMENT OFFICERS (LEOS). THE WTS SHALL ALSO BE THE MAIN CONTACT PERSON WITH THE LEOS WHILE LEOS ARE ON THE PROJECT.

7. COORDINATE AND FACILITATE MEETINGS WITH ODOT PERSONNEL, LEOS AND OTHER APPLICABLE ENTITIES BEFORE EACH PLAN PHASE SWITCH TO DISCUSS THE WORK ZONE TTC FOR IMPLEMENTING THE PHASE SWITCH. SUBMIT A WRITTEN DETAIL OF MOT OPERATIONS AND SCHEDULE OF EVENTS TO IMPLEMENT THE SWITCH BETWEEN PHASE PLANS TO THE ENGINEER 5 CALENDAR DAYS PRIOR TO THIS MEETING.

8. BE PRESENT, ON SITE FOR, AND INVOLVED WITH, EACH TTC SET UP/TAKE DOWN AND EACH PHASE CHANGE IN ACCORDANCE WITH CMS 614.03.

9. ON A CONTINUAL BASIS ENSURE THAT THE TTC ZONE AND ALL RELATED DEVICES ARE INSTALLED, MAINTAINED AND REMOVED IN COMPLIANCE WITH THE CONTRACT DOCUMENTS.

10. ON A CONTINUAL BASIS FACILITATE CORRECTIVE ACTION(S) NECESSARY TO BRING DEFICIENT TTC ZONES AND ALL RELATED DEVICES INTO COMPLIANCE WITH CONTRACT DOCUMENTS IN THE TIMEFRAME DETERMINED BY THE ENGINEER.

11. INSPECT, EVALUATE, PROPOSE NECESSARY MODIFICATIONS TO, AND DOCUMENT THE EFFECTIVENESS OF, THE TTC DEVICES AND TRAFFIC OPERATIONS ON A DAILY BASIS (7 DAYS A WEEK). IN ADDITION, PERFORM ONE WEEKLY NIGHT INSPECTION OF THE WORK ZONE SETUP FOR DAYTIME WORK OPERATIONS; AND ONE DAYTIME INSPECTION PER WEEK FOR NIGHTTIME PROJECTS. THIS SHALL INCLUDE (BUT NOT BE LIMITED TO) DOCUMENTATION ON THE FOLLOWING PROJECT EVENTS:

- A. INITIAL TTC SETUP (DAY AND NIGHT REVIEW).
- B. DAILY TTC SETUP AND REMOVAL.
- C. WHEN CONSTRUCTION STAGING CAUSES A CHANGE IN THE TTC SETUP.
- D. CRASH OCCURRENCES WITHIN THE CONSTRUCTION AREA AND WITHIN THE INFLUENCE AREA(S) APPROACHING THE WORK ZONE.
- E. REMOVAL OF TTC DEVICES AT THE END OF A PHASE OR PROJECT.
- F. ALL OTHER EMERGENCY TTC NEEDS.

12. COMPLETE THE DEPARTMENT APPROVED LONG TERM INSPECTION FORM (CA-D-8) AFTER EACH INSPECTION AS REQUIRED IN # 11 AND SUBMIT IT TO THE ENGINEER THE FOLLOWING WORKDAY. THESE REPORTS SHALL INCLUDE A CHECKLIST OF ALL TTC MAINTENANCE ITEMS TO BE REVIEWED. A COPY OF THE FORM WILL BE PROVIDED AT THE PRE-CONSTRUCTION MEETING. ANY DEFICIENCIES OBSERVED SHALL BE NOTED, ALONG WITH RECOMMENDED OR COMPLETED CORRECTIVE ACTIONS AND THE DATES BY WHICH SUCH CORRECTIONS WERE, OR WILL BE, COMPLETED. A COPY OF THE CURRENT CA-D-8 DOCUMENT CAN BE FOUND ON THE OFFICE OF CONSTRUCTION ADMINISTRATION'S INSPECTION FORMS WEBSITE.

13. HAVE COPIES OF THE ODOT TEMPORARY TRAFFIC CONTROL MANUAL AND CONTRACT DOCUMENTS AVAILABLE AT ALL TIMES ON THE PROJECT.

THE DEPARTMENT WILL DEDUCT:

A. THE PRORATED DAILY AMOUNT OF ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY IN WHICH THE WTS FAILS TO PERFORM THE DUTIES SET FORTH ABOVE. THE PRORATED DAILY AMOUNT WILL BE EQUAL TO THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC DIVIDED BY THE DIFFERENCE BETWEEN THE ORIGINAL COMPLETION DATE AND THE FIRST DAY OF WORK, IN CALENDAR DAYS.

B. 1% OF THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY THAT A TTC ISSUE IS IDENTIFIED IN THE FIELD AND IS NOT CORRECTED IN THE GIVEN TIMEFRAME PER THE ENGINEER. DEDUCTION B SHALL NOT APPLY TO SITUATIONS COVERED BY DEDUCTION C.

C. 1% OF THE ORIGINAL BID AMOUNT FOR ITEM 614 MAINTAINING TRAFFIC FOR ANY DAY THAT A LANE OR RAMP IS BLOCKED (FULLY OR PARTIALLY) WITHOUT TTC, AS DETERMINED BY THE ENGINEER. THIS DEDUCTION SHALL BE IN ADDITION TO ANY OTHER DISINCENTIVES ESTABLISHED FOR UNAUTHORIZED LANE USE.

FOR DAYS IN WHICH MORE THAN ONE DEDUCTION LISTED ABOVE OCCUR, THE HIGHEST DEDUCTION AMOUNT WILL APPLY.

IF THREE OR MORE TOTAL DAYS RESULT IN TTC ISSUES DESCRIBED IN DEDUCTION B OR C ABOVE, THE PRIMARY WTS SHALL BE IMMEDIATELY REMOVED FROM THE WORK IN ACCORDANCE WITH C&MS 108.05. UPON REMOVAL THE ENGINEER SHALL NOTIFY ODOT CENTRAL OFFICE (WTSPREQUALIFICATION@DOT.OHIO.GOV) TO REGISTER A REMOVAL AGAINST THE STATEWIDE PREQUALIFICATION FOR THE PRIMARY WTS. THREE REMOVALS SHALL CAUSE STATEWIDE DISQUALIFICATION FOR ANY PREVIOUSLY PREQUALIFIED WTS.

PAYMENT FOR THE ABOVE REQUIREMENTS, RESPONSIBILITIES AND DUTIES SHALL BE INCLUDED IN ITEM 614, MAINTAINING TRAFFIC.

MAINTENANCE OF TRAFFIC FOR MARKING PAVEMENT REPAIRS

PROVIDE LANE CLOSURES AS PER THE MAINTENANCE OF TRAFFIC NOTES IN THESE PLANS A MINIMUM OF 24 HOURS PRIOR TO PERFORMING PAVEMENT REPAIRS TO ALLOW THE ENGINEER TO IDENTIFY AND MARK THE AREAS OF THE PAVEMENT IN NEED OF REPAIRS.

PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS, LEO HOURS, AND INCIDENTALS NEEDED TO PERFORM THE ABOVE LISTED WORK IS CONSIDERED INCIDENTAL TO MAINTAINING TRAFFIC ON THE PROJECT AND WILL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 MAINTAINING TRAFFIC.

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN

THIS ITEM SHALL BE AS PER C&MS 615 EXCEPT THAT THE BUILD UP OF THE PAVEMENT SHALL BE AS SHOWN ON SHEET 167.

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 1; ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 2; ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 3;

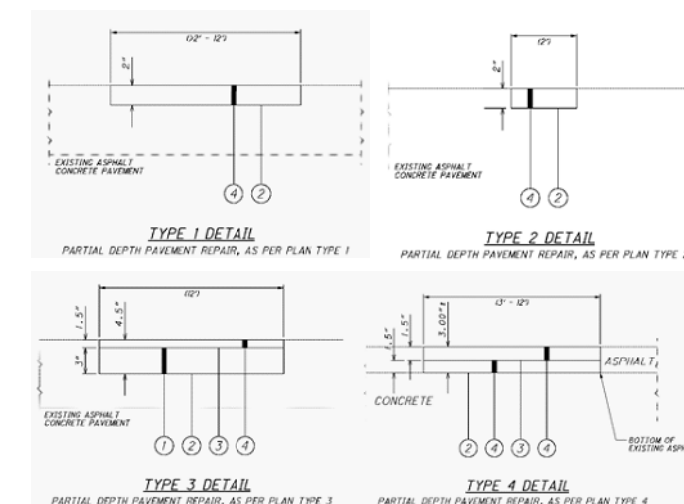
THIS ITEM SHALL BE UTILIZED FOR THE PAVEMENT REPAIRS NEEDED DURING THIS CONSTRUCTION PROCESS. CMS 104.02 ADJUSTMENTS WILL NOT APPLY. ALL AREAS TO BE REPAIRED SHALL BE LOCATED BY THE ENGINEER. IT IS LIKELY THAT REPAIRS WILL BE NEEDED PRIOR TO EACH PHASE SWITCH. GREAT CARE SHALL BE TAKEN TO MAINTAIN THE EXISTING PAVEMENT CROSS SLOPE AS WELL AS ALL LONGITUDINAL SLOPES. THE TYPE OF REPAIR SHALL BE DETERMINED BY THE PROJECT ENGINEER. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED FOR MAINTENANCE OF TRAFFIC FOR PAVEMENT REPAIRS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

TYPE 1 IS TO BE USED WHEN YOU NEED TO MILL & FILL AN AREA OF VARYING LENGTH AND HAVE AN AVERAGE WIDTH OF NOT LESS THAN 2 FEET.

TYPE 2 IS TO BE USED FOR FIXING THE LONGITUDINAL JOINT ISSUES OF VARYING LENGTH AND HAVE A CONSISTENT WIDTH OF 2 FEET. TYPE 3 IS TO BE USED FOR DEEPER REPAIRS OF VARYING LENGTH AND WILL HAVE AN AVERAGE WIDTH OF NOT LESS THAN 4 FEET.

TYPE 4 IS TO BE USED FOR COMPOSITE PAVEMENT REPAIRS OF VARYING LENGTH AND WILL HAVE AN AVERAGE WIDTH OF NOT LESS THAN 3 FEET.

ALL COSTS ASSOCIATED WITH REMOVING AND REPLACING PAVEMENT AND TACK COAT FOR THE REPAIRS SHALL BE INCIDENTAL TO ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN.



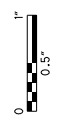
LEGEND

- ① ITEM 301 - ASPHALT CONCRETE BASE, PG64-22
- ② ITEM 407 - TACK COAT @0.075 PER SY. YD.
- ③ ITEM 407 - TACK COAT FOR INTERMEDIATE @ 0.05 PER SY. YD.
- ④ ITEM 441 - TYPE 1 (AS DESCRIBED IN C&MS 615.05)

ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 1 = 100 S.Y.
ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 2 = 50 S.Y.
ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, APP, TYPE 3 = 20 S.Y.

NO.	DESCRIPTION	REV. BY	DATE
3	REVISED NOTE	KWR	11-18-2021

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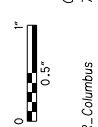
SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
48	67	170	276	278	279	284*	285	286	OFFICE		13/IMS/PV	14/NHS/PV	20/NHS/PV/CoIs						
ROADWAY																			
											LUMP			201	11001	LS	CLEARING AND GRUBBING, AS PER PLAN	50	
		2	8 11,962	4,725	1 9,288	7,593 11,624	511 9,997				6	5		202	20010	11	EACH	HEADWALL REMOVED	
											16,672	16,672	735	202	23000	34,079	SY	PAVEMENT REMOVED	
											9,628	9,627	2,366	202	30000	21,621	SF	WALK REMOVED	
						15					8	7		202	30001	15	SF	WALK REMOVED, AS PER PLAN	
						74					37	37		202	30001	74	SF	WALK REMOVED, AS PER PLAN "A"	
						62					31	31		202	30600	62	SY	CONCRETE MEDIAN REMOVED	
			19	476	1,452						974	973		202	30700	1,947	FT	CONCRETE BARRIER REMOVED	
			2,313	1,957	3,301	1,928	1,127				5,102	5,102	422	202	32000	10,626	FT	CURB REMOVED	
						12					6	6		202	32300	12	FT	STONE CURB REMOVED FOR REUSE	
		113	373	170	1,355	833	378				1,611	1,611		202	35100	3,222	FT	PIPE REMOVED, 24" AND UNDER	
			6								3	3		202	35200	6	FT	PIPE REMOVED, OVER 24"	
			4,935	1,802	2,686						4,712	4,711		202	38000	9,423	FT	GUARDRAIL REMOVED	
			1								1			202	47800	1	EACH	IMPACT ATTENUATOR REMOVED	
				2	4	7	7				10	10		202	58000	20	EACH	MANHOLE REMOVED	
						4					2	2		202	58001	4	EACH	MANHOLE REMOVED, AS PER PLAN	
		2	9	1	3	8	2				13	12		202	58100	25	EACH	CATCH BASIN REMOVED	
			4	3	15	4					13	13		202	58200	26	EACH	INLET REMOVED	
						7					4	3		202	58700	7	EACH	MANHOLE ABANDONED	
						1					1			202	58701	1	EACH	MANHOLE ABANDONED, AS PER PLAN	
						1,077					539	538		SPECIAL	20270000	1,077	FT	FILL AND PLUG EXISTING CONDUIT, DIAMETER VARIES	
			422								211	211		SPECIAL	20270110	422	FT	PIPE CLEANOUT, 24" AND UNDER	
			2,670	1,314	168		422				2,287	2,287		202	75000	4,574	FT	FENCE REMOVED	
							410				205	205		202	75001	410	FT	FENCE REMOVED, AS PER PLAN	
						42					21	21		202	75001	42	FT	FENCE REMOVED, AS PER PLAN "A"	
						202					101	101		202	75001	202	FT	FENCE REMOVED, AS PER PLAN "B"	
							2				1	1		202	75250	2	EACH	GATE REMOVED	
							2				1	1		202	75251	2	EACH	GATE REMOVED, AS PER PLAN	
						1					1			202	75251	1	EACH	GATE REMOVED, AS PER PLAN "A"	
				2							1	1		202	75255	2	EACH	GATE REMOVED FOR REUSE, AS PER PLAN	
						2					1	1		202	98100	2	EACH	REMOVAL MISC.: STEPS REMOVED, AS PER PLAN	
						1	2				2	1		202	98100	3	EACH	REMOVAL MISC.: TRASH RECEPTACLES REMOVED, AS PER PLAN	
							1				1			202	98100	1	EACH	REMOVAL MISC.: WOOD POLE WITH CONCRETE BASE, REMOVED	
											1			202	98100	1	EACH	REMOVAL MISC.: BENCH REMOVED, AS PER PLAN	
											2	1		202	98100	2	EACH	REMOVAL MISC.: METAL POSTS REMOVED, AS PER PLAN	
											4	2		202	98100	4	EACH	REMOVAL MISC.: PRIVATE LIGHT REMOVED, AS PER PLAN	
											2	1		202	98100	2	EACH	REMOVAL MISC.: PRIVATE SIGN REMOVED	
						4	6				5	5		202	98100	10	EACH	REMOVAL MISC.: TREE GRATES REMOVED, AS PER PLAN	
							51						51	202	98200	51	FT	REMOVAL MISC.: RAILROAD TIE RETAINING WALL REMOVED	
2											1	1		202	98200	2	FT	REMOVAL MISC.: INSPECTION WELL	
100											50	50		202	98200	100	FT	REMOVAL MISC.: CONDUIT	
							42				21	21		202	98200	42	FT	REMOVAL MISC.: TENNIS NET REMOVED, AS PER PLAN	
			138								69	69		202	98700	138	FT	ABANDON MISC.: 24" CONDUIT, BULKHEADED AND FILLED IN-PLACE	
			4,767								14,694	9,731	9,730	203	10000	19,461	CY	EXCAVATION	
			7,858								84,973	46,416	46,415	203	20000	92,831	CY	EMBANKMENT	
											25	25		203	20001	50	CY	EMBANKMENT, AS PER PLAN	
											23,497	11,726	11,725	46	204	10000	23,497	SY	SUBGRADE COMPACTION
											123			204	13000	123	CY	EXCAVATION OF SUBGRADE	
											1,319	655	654	10	204	13001	1,319	CY	EXCAVATION OF SUBGRADE, AS PER PLAN
								4			2	2		204	30010	4	CY	GRANULAR MATERIAL, TYPE B	
											5	3	2	204	45000	5	HOUR	PROOF ROLLING	
											4	2	2	204	45001	4	HOUR	PROOF ROLLING, AS PER PLAN	
											8,652	3,887	3,886	879	204	50001	8,652	SY	GEOTEXTILE FABRIC, AS PER PLAN
											276	138	138	206	10500	276	TON	CEMENT	
											7,796	3,898	3,898	206	11000	7,796	SY	CURING COAT	
											7,796	3,898	3,898	206	15010	7,796	SY	CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP	
																		**** INCLUDES QUANTITIES FROM SHEET 285A	

NO.	DESCRIPTION	REV. BY	DATE
1	Move Item from sheet 266	TJZ	10-14-21
3	Remove Duplicate Pay Qty.	TJZ	11-19-2021

CALCULATED HRB CHECKED TAZ
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1228
ms consultants, inc.

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Ohio DOT Workspace
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 www.msconsultants.com



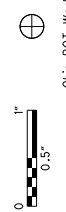
34" x 22"

SHEET NUM.								PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
287	295	297	298					13/M/S/PV	14/NHS/PV	18/NHS/O T						
WATER WORK																
			48							48	511	71100	48	CY	CONCRETE, MISC.: CONCRETE BLOCKING, CLASS C, INCREASE OR DECREASE (COL. 801)	641
6								3	3		638	10801	6	EACH	VALVE BOX ADJUSTED TO GRADE, AS PER PLAN	45
		1								1	638	98000	1	EACH	WATER WORK, MISC.: 3/4" WATER SERVICE TAP, TRANSFERRED (COL. 805)	641
		1								1	638	98000	1	EACH	WATER WORK, MISC.: 8"X6" TAPPING SLEEVE AND VALVE (COL. 803)	45, 641
		131								131	638	98600	131	FT	WATER WORK, MISC.: 12" DUCTILE IRON WATER PIPE AND FITTINGS (COL. 801)	641
		1,354								1,354	638	98600	1,354	FT	WATER WORK, MISC.: 36" WATER PIPE AND FITTINGS (COL. 801)	641
		379								379	638	98600	379	FT	WATER WORK, MISC.: 6" DUCTILE IRON WATER PIPE AND FITTINGS (COL. 801)	641
		1								1	SPECIAL	69098000	1	EACH	1 1/2" CURB STOP, RELOCATED (COL 805)	641
		2								2	SPECIAL	69098000	2	EACH	36" BUTTERFLY VALVE AND APPURTENANCES (COL 802)	45, 641
		5								5	SPECIAL	69098000	5	EACH	6" GATE VALVE AND APPURTENANCES (COL 802)	45, 641
			1							1	SPECIAL	69098000	1	EACH	12" GATE VALVE AND APPURTENANCES (COL 802)	45, 641
			2							2	SPECIAL	69098000	2	EACH	FIRE HYDRANT, ABANDONED (COL 809)	641
			4							4	SPECIAL	69098000	4	EACH	FIRE HYDRANT, RELOCATED (COL 809)	45, 641
			1							1	SPECIAL	69098000	1	EACH	FIRE HYDRANT, TYPE A (COL 809)	45, 641
			1							1	SPECIAL	69098000	1	EACH	FIRE HYDRANT, TYPE A MODIFIED (COL 809)	641
			3							3	SPECIAL	69098000	3	EACH	8" WATER MAIN ABANDONED	641
			128							128	SPECIAL	69098100	128	FT	54" CASING PIPE, 3/4" THICKNESS (COL 806)	641
			885							885	SPECIAL	69098100	885	FT	PIPE REMOVED (COL 202)	643
			LUMP								LUMP	SPECIAL	69098400	LS	CONTINUITY TESTING	641
			LUMP								LUMP	SPECIAL	69098400	LS	CORROSION PROTECTION	641
			LUMP								LUMP	SPECIAL	69098400	LS	FLANGE ISOLATION KITS FOR DUCTILE IRON PIPES	641
			LUMP								LUMP	SPECIAL	69098400	LS	SURVEY COORDINATES	641
			3,200							3,200	SPECIAL	69099400	3,200	LB	FITTINGS, INCREASE OR DECREASE (COL. 801)	641
SANITARY SEWER																
		1								1	SPECIAL	69098000	1	EACH	AIR RELEASE MANHOLE AND APPURTENANCES, COMPLETE	640
		1								1	SPECIAL	69098000	1	EACH	MANHOLE RECONSTRUCTED TO GRADE	45, 640
		3								3	SPECIAL	69098000	3	EACH	MANHOLE TYPE C, W/ OUTSIDE DROP (COL 901)	45, 640
		5								5	SPECIAL	69098000	5	EACH	SEWER ABANDONED(COL 202)	640
		1								1	SPECIAL	69098000	1	EACH	STRUCTURE REMOVED - AIR RELEASE MANHOLE VAULT (COL 202)	640
		1								1	SPECIAL	69098000	1	EACH	STRUCTURE REMOVED - SANITARY VAULT (COL 202)	640
		1								1	SPECIAL	69098000	1	EACH	STRUCTURE AT STATION 0+47, COMPLETE (COL 904)	640
		495								495	SPECIAL	69098100	495	FT	16" PVC C900 PIPE, WITH TYPE 1 BEDDING WITH 912 COMPACTED GRANULAR BACKFILL (COL 901)	640
		38								38	SPECIAL	69098100	38	FT	42" PIPE, WITH TYPE 1 BEDDING WITH 912 COMPACTED GRANULAR BACKFILL (COL 901)	640
		174								174	SPECIAL	69098100	174	FT	10" DIP FORCEMAIN W/ BEDDING AND BACKFILL PER COL 801	640
		120								120	SPECIAL	69098100	120	FT	18" DIP FORCEMAIN W/ BEDDING AND BACKFILL PER COL 801	640
		169								169	SPECIAL	69098100	169	FT	36" DIP OR PCCP FORCEMAIN W/ BEDDING AND BACKFILL PER COL 801	640
		40								40	SPECIAL	69098100	40	FT	24" CASING PIPE (COL 806)	640
		40								40	SPECIAL	69098100	40	FT	30" CASING PIPE (COL 806)	640
		40								40	SPECIAL	69098100	40	FT	54" CASING PIPE (COL 806)	640
		LUMP									LUMP	SPECIAL	69098400	LS	BYPASS PUMPING, COS	640
		18								18	SPECIAL	69098700	18	CY	INCREASED OR DECREASED EARTH EXCAVATION	640

NO.	DESCRIPTION	REV. BY	DATE
2	ADD QTY. FOR PIPE (TBR)	TAZ	11-12-2021
3	Items Deleted	ADB	11-22-2021

CALCULATED HRB CHECKED TAZ
GENERAL SUMMARY
FRA - 71 - 14.36
 271
 1228
 ms consultants, inc.

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34" x 22"

SHEET NUM.

PART. 14/NHS/P V

ITEM

ITEM EXT

GRAND TOTAL

UNIT

DESCRIPTION

SEE SHEET NO.

CALCULATED HRB CHECKED TAZ

SHEET NUM.	PART. 14/NHS/P V	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
857							
864							
						RETAINING WALLS (E5)	
438	438	203	20000	438	CY	EMBANKMENT	
LUMP	LUMP	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
24,388	24,388	509	10001	24,388	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
150	150	511	53012	150	CY	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	838
449	449	512	10001	449	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)	838
698	698	512	10100	698	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
875	875	516	13900	875	SF	2" PREFORMED EXPANSION JOINT FILLER	
179	179	607	39901	179	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	838
5,533	5,533	840	20001	5,533	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	843
1,162	1,162	840	21000	1,162	CY	WALL EXCAVATION	
691	691	840	22000	691	SY	FOUNDATION PREPARATION	
2,164	2,164	840	23000	2,164	CY	SELECT GRANULAR BACKFILL	
997	997	840	25010	997	FT	6" DRAINAGE PIPE, PERFORATED	
438	438	840	26000	438	FT	CONCRETE COPING	
4,658	4,658	840	26050	4,658	SF	AESTHETIC SURFACE TREATMENT	
5	5	840	27000	5	DAY	ON-SITE ASSISTANCE	
						RETAINING WALLS (E7)	
9,684	9,684	SPECIAL	20302000	9,684	CY	ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS II	841
451	451	SPECIAL	20302000	451	CY	ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS III	841
436	436	203	20000	436	CY	EMBANKMENT	
935	935	203	35110	935	CY	GRANULAR MATERIAL, TYPE B	
2	2	SPECIAL	20365000	2	EACH	SETTLEMENT PLATFORM	841
4,687	4,687	203	98000	4,687	CY	ROADWAY, MISC.: EPS GEOFOAM FILL	840
LUMP	LUMP	503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	838
31,202	31,202	509	10001	31,202	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
199	199	511	53012	199	CY	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	838
110	110	511	53012	110	CY	CLASS QC2 CONCRETE, MISC.: LOAD DISTRIBUTION SLAB	838
5,058	5,058	511	71200	5,058	SF	CONCRETE, MISC.: PRECAST WALL PANELS	838
121	121	511	81100	121	FT	CONCRETE, MISC.: PRECAST FOOTING	838
2,080	2,080	512	10100	2,080	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
76	76	516	13200	76	SF	1/2" PREFORMED EXPANSION JOINT FILLER	
857	857	516	13900	857	SF	2" PREFORMED EXPANSION JOINT FILLER	
363	363	607	39901	363	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	838
17,809	17,809	840	20001	17,809	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	839843
4,995	4,995	840	21000	4,995	CY	WALL EXCAVATION	
1,485	1,485	840	22000	1,485	SY	FOUNDATION PREPARATION	
2,660	2,660	840	23000	2,660	CY	SELECT GRANULAR BACKFILL	
506	506	840	25010	506	FT	6" DRAINAGE PIPE, PERFORATED	
523	523	840	26000	523	FT	CONCRETE COPING	
16,763	16,763	840	26050	16,763	SF	AESTHETIC SURFACE TREATMENT	
5	5	840	27000	5	DAY	ON-SITE ASSISTANCE	

GENERAL SUMMARY

FRA-71-14.36

NO.	DESCRIPTION	REV. BY	DATE
1	Removal of Item 203E35120	TAZ	11-05-2021
3	Remove Item 840E28000	TAZ	11-19-2021
3	Update Item 509 to A.P.P.	TAZ	11-19-2021

275C
1228

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SHEET NUM.

SHEET NUM.		PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
874	884	14/NHS/P V		EXT	TOTAL			
							RETAINING WALLS (E10)	
1,346		1,346	SPECIAL	20302000	1,346	CY	ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS II	841
122		122	SPECIAL	20302000	122	CY	ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS III	841
678		678	203	20000	678	CY	EMBANKMENT	
827		827	203	35110	827	CY	GRANULAR MATERIAL, TYPE B	
6,138		6,138	203	98000	6,138	CY	ROADWAY, MISC.:EPS GEOFOAM FILL	840
LUMP		LUMP	503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	838
39,409		39,409	509	10001	39,409	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
247		247	511	53012	247	CY	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	838
4,628		4,628	511	71200	4,628	SF	CONCRETE, MISC.: PRECAST WALL PANELS	838
152		152	511	81100	152	FT	CONCRETE, MISC.: PRECAST FOOTING	838
1,240		1,240	512	10100	1,240	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
10,345		10,345	840	20001	10,345	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	839
4,104		4,104	840	21000	4,104	CY	WALL EXCAVATION	
743		743	840	22000	743	SY	FOUNDATION PREPARATION	
1,748		1,748	840	23000	1,748	CY	SELECT GRANULAR BACKFILL	
455		455	840	25010	455	FT	6" DRAINAGE PIPE, PERFORATED	
5		5	840	27000	5	DAY	ON-SITE ASSISTANCE	
							RETAINING WALLS (W2)	
	2,649	2,649	203	20000	2,649	CY	EMBANKMENT	
	LUMP	LUMP	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
	87,095	87,095	509	10001	87,095	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
	560	560	511	53012	560	CY	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	838
	1,627	1,627	512	10001	1,627	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)	838
	4,459	4,459	512	10100	4,459	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
	216	216	516	13200	216	SF	1/2" PREFORMED EXPANSION JOINT FILLER	
	2,217	2,217	516	13900	2,217	SF	2" PREFORMED EXPANSION JOINT FILLER	
	431	431	601	37500	431	FT	PAVED GUTTER, TYPE 1-2	
	36,756	36,756	840	20001	36,756	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	843
	6,905	6,905	840	21000	6,905	CY	WALL EXCAVATION	
	3,332	3,332	840	22000	3,332	SY	FOUNDATION PREPARATION	
	27,781	27,781	840	23000	27,781	CY	SELECT GRANULAR BACKFILL	
	924	924	840	23050	924	CY	NATURAL SOIL	
	3,135	3,135	840	25010	3,135	FT	6" DRAINAGE PIPE, PERFORATED	
	1,555	1,555	840	26000	1,555	FT	CONCRETE COPING	
	33,647	33,647	840	26050	33,647	SF	AESTHETIC SURFACE TREATMENT	
	5	5	840	27000	5	DAY	ON-SITE ASSISTANCE	

GENERAL SUMMARY

FRA - 71 - 14.36

NO.	DESCRIPTION	REV. BY	DATE
1	Removal of Item 203E35120	TAZ	11-05-2021
3	Remove Item 840E28000	TAZ	11-19-2021
3	Update Item 509 to A.P.P.	TAZ	11-19-2021

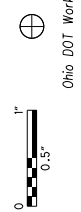
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SHEET NUM.												PART.		ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
170	277	278	894	909A	279	280	281	286	281A	282	199E	08/NHS/P V	08/NHS/P V	EXT	TOTAL				
RETAINING WALLS (W5)																			
			3,578										3,578	203	20000	3,578	CY	EMBANKMENT	
			278										278	203	35110	278	CY	GRANULAR MATERIAL, TYPE B	
			2										2	SPECIAL	20365000	2	EACH	SETTLEMENT PLATFORM	
			1,912										1,912	203	98100	1,912	SY	ROADWAY, MISC.: COLUMN SUPPORTED WALLS	
			LUMP										LUMP	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
			31,723										31,723	509	10001	31,723	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	
			524										524	511	53012	524	CY	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	
			5,418										5,418	512	10100	5,418	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
			419										419	516	13200	419	SF	1/2" PREFORMED EXPANSION JOINT FILLER	
			1,962										1,962	516	13900	1,962	SF	2" PREFORMED EXPANSION JOINT FILLER	
			746										746	601	37500	746	FT	PAVED GUTTER, TYPE 1-2	
			47,388										47,388	840	20001	47,388	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	
			12,124										12,124	840	21000	12,124	CY	WALL EXCAVATION	
			6,296										6,296	840	22000	6,296	SY	FOUNDATION PREPARATION	
			62,184										62,184	840	23000	62,184	CY	SELECT GRANULAR BACKFILL	
			9,690										9,690	840	23050	9,690	CY	NATURAL SOIL	
			4,033										4,033	840	25010	4,033	FT	6" DRAINAGE PIPE, PERFORATED	
			1,777										1,777	840	26000	1,777	FT	CONCRETE COPING	
			43,836										43,836	840	26050	43,836	SF	AESTHETIC SURFACE TREATMENT	
			5										5	840	27000	5	DAY	ON-SITE ASSISTANCE	
RETAINING WALLS (W3)																			
			1,393										1,393	203	20000	1,393	CY	EMBANKMENT	
			LUMP										LUMP	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
			30,007										30,007	509	10001	30,007	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	
			192										192	511	53012	192	CY	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	
			2,629										2,629	512	10100	2,629	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
			196										196	516	13200	196	SF	1/2" PREFORMED EXPANSION JOINT FILLER	
			720										720	516	13900	720	SF	2" PREFORMED EXPANSION JOINT FILLER	
			392										392	601	37500	392	FT	PAVED GUTTER, TYPE 1-2	
			27,132										27,132	840	20001	27,132	SF	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	
			3,256										3,256	840	21000	3,256	CY	WALL EXCAVATION	
			1,835										1,835	840	22000	1,835	SY	FOUNDATION PREPARATION	
			18,250										18,250	840	23000	18,250	CY	SELECT GRANULAR BACKFILL	
			701										701	840	23050	701	CY	NATURAL SOIL	
			1,090										1,090	840	25010	1,090	FT	6" DRAINAGE PIPE, PERFORATED	
			25										25	840	25020	25	FT	6" DRAINAGE PIPE, NON-PERFORATED	
			871										871	840	26000	871	FT	CONCRETE COPING	
			25,394										25,394	840	26050	25,394	SF	AESTHETIC SURFACE TREATMENT	
			5										5	840	27000	5	DAY	ON-SITE ASSISTANCE	
			LUMP										LUMP	867	00101	LS		TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	
MISCELLANEOUS STRUCTURE																			
			LUMP										LUMP	LUMP	202	11200	LS	PORTIONS OF STRUCTURE REMOVED	
													13,000	12,000	202	11501	25,000	EACH	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
			50		78								64	64	202	22900	128	SY	APPROACH SLAB REMOVED
LUMP										LUMP	LUMP		LUMP	LUMP	503	11100	LS	COFFERDAMS AND EXCAVATION BRACING	
										LUMP	LUMP		LUMP	LUMP	503	11101	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	
			2,096			739	2,924	206					2,983	2,982	512	10000	5,965	SY	SEALING OF CONCRETE SURFACES
											LUMP	LUMP	LUMP	LUMP	867	00100	LS	TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL	

NO.	DESCRIPTION	REV.	BY	DATE
1	Remove Item 203 to 35120	TAZ	TAZ	11-05-2021
2	Change 203 to 35100 Desc.	TAZ	TAZ	11-05-2021
3	Remove Duplicate Qty	TAZ	TAZ	11-19-2021
4	Remove Multi-Sheet Ref.	TAZ	TAZ	11-19-2021
5	Remove Item 840 of 28000	TAZ	TAZ	11-19-2021
6	Update Item 509 to 1A P.P.	TAZ	TAZ	11-19-2021
7	Revise 2021/500 to 1/501	TAZ	TAZ	11-19-2021

CALCULATED HRB CHECKED TAZ
GENERAL SUMMARY
FRA-71-14.36
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1228

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34" x 22"

SHEET NUM.		PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
1200		17/MSB R		EXT	TOTAL			
STRUCTURE (FRA-70-1373B)								
3		3	203	35110	3	CY	GRANULAR MATERIAL, TYPE B	
LUMP		LUMP	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION	
855		855	507	00100	855	FT	STEEL PILES HP10X42, FURNISHED	
810		810	507	00150	810	FT	STEEL PILES HP10X42, DRIVEN	
9		9	507	93300	9	EACH	STEEL POINTS OR SHOES	
133,381		133,381	509	10001	133,381	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	1199
309		309	511	34446	309	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK	
98		98	511	34450	98	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)	
168		168	511	41012	168	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS	
171		171	511	43512	171	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING	
116		116	512	10001	116	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)	1199
1,383		1,383	512	10100	1,383	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
27		27	512	33000	27	SY	TYPE 2 WATERPROOFING	
361,373		361,373	513	10300	361,373	LB	STRUCTURAL STEEL MEMBERS, LEVEL 5	
3,135		3,135	513	20000	3,135	EACH	WELDED STUD SHEAR CONNECTORS	
5,704		5,704	514	00060	5,704	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
5,704		5,704	514	00067	5,704	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN	1199
75		75	516	10010	75	FT	ARMORLESS PREFORMED JOINT SEAL	
75		75	516	11210	75	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	
160		160	516	13900	160	SF	2" PREFORMED EXPANSION JOINT FILLER	
88		88	516	25000	88	SF	NYLON REINFORCED NEOPRENE SHEETING	
3		3	516	44100	3	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)(1'-4" x 5 1/8" x 1'-7" PAD WITH 1'-5" x 2" x 1'-9" STEEL LOAD PLATE)	
1		1	516	44100	1	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)(1'-4" x 5 1/8" x 1'-7" PAD WITH 1'-5" x 2" x 2'-1" STEEL LOAD PLATE)	
3		3	516	44101	3	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN(1'-4" x 5 1/8" x 1'-7" PAD WITH 1'-5" x 2 3/8" x 1'-9" BEVELED STEEL LOAD PLATE)	1199
1		1	516	44101	1	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN(1'-4" x 5 1/8" x 1'-7" PAD WITH 1'-5" x 2 3/8" x 2'-1" BEVELED STEEL LOAD PLATE)	1199
3		3	516	44101	3	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN(2'-0 1/2" x 5 3/8" x 2'-0 1/2" PAD WITH 2'-1 1/2" x 2 1/4" x 2'-8" BEVELED STEEL LOAD PLATE)	1199
1		1	516	44101	1	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN(2' 0 1/2" x 5 3/8" x 2' 0 1/2" PAD WITH 2' 1 1/2" x 2 1/4" x 3' 0" BEVELED STEEL LOAD PLATE)	1199
1		1	518	12000	1	EACH	SCUPPERS, INCLUDING SUPPORTS	
20		20	518	21200	20	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
75		75	518	40000	75	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
25		25	518	40010	25	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
52		52	518	51200	52	FT	PIPE DOWNSPOUT, INCLUDING SPECIALS, 10"	
108		108	524	94700	108	FT	DRILLED SHAFTS, 36" DIAMETER	
156		156	524	94704	156	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK	
372		372	524	94802	372	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK	
249		249	526	30000	249	SY	REINFORCED CONCRETE APPROACH SLABS (T=17")	
75		75	526	90030	75	FT	TYPE C INSTALLATION	
205		205	607	39901	205	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	1199

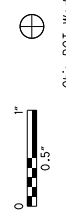
CALCULATED HRB CHECKED TAZ
GENERAL SUMMARY
FRA - 71 - 14.36
275F
1228

NO.	DESCRIPTION	REV. BY	DATE
3	Update Item 509 to A.P.P.	TAZ	11-19-2021
3	511E34451 to 511E34450	TAZ	11-19-2021

Ohio DOT Workspace
70171 West Interchange 6R
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34" x 22"

SHEET NUM.										PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
912	944									15/IMS/B R	16/NHS/B R	22/IMS/B R						
STRUCTURE REPAIR (FRA-70-1373L)																		
LUMP												LUMP	202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	911
157												157	202	22900	157	SY	APPROACH SLAB REMOVED	
705												705	202	23501	705	SY	WEARING COURSE REMOVED, AS PER PLAN	911
3												3	202	98100	3	EACH	REMOVAL MISC.: PILE REMOVED, EXISTING STRUCTURE	917
8												8	407	20000	8	GAL	NON-TRACKING TACK COAT	
5												5	441	10000	5	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), PG64-22	
LUMP												LUMP	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
11,409												11,409	509	25000	11,409	LB	UNCOATED REINFORCING STEEL	
372												372	510	10000	372	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
48												48	511	21521	48	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE, AS PER PLAN	911
117												117	512	33010	117	SY	TYPE 3 WATERPROOFING	
494												494	513	10200	494	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF	
1,005												1,005	513	10240	1,005	LB	STRUCTURAL STEEL MEMBERS, LEVEL 2	
4												4	518	12200	4	EACH	SCUPPERS, INCLUDING SUPPORTS	
32												32	SPECIAL	51912510	32	SY	PATCHING CONCRETE BRIDGE DECK	911
4												4	846	00110	4	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	
STRUCTURE (FRA-71-1503L)																		
LUMP												LUMP	202	11003	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	941
LUMP												LUMP	202	11201	LS		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	941
159												80	79	22900	159	SY	APPROACH SLAB REMOVED	
2,034												1,017	1,017	23500	2,034	SY	WEARING COURSE REMOVED	
21												11	10	98100	21	EACH	REMOVAL MISC.: PILE REMOVED, EXISTING STRUCTURE	946
LUMP												LUMP	503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	942
6,586												3,293	3,293	21101	6,586	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	942
LUMP												LUMP	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION	
980												490	490	00100	980	FT	STEEL PILES HP10X42, FURNISHED	
935												468	467	00150	935	FT	STEEL PILES HP10X42, DRIVEN	
1,760												880	880	00200	1,760	FT	STEEL PILES HP12X53, FURNISHED	
1,680												840	840	00250	1,680	FT	STEEL PILES HP12X53, DRIVEN	
27												14	13	93300	27	EACH	STEEL POINTS OR SHOES	
6,011,221												3,005,611	3,005,610	10001	6,011,221	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	942
8,950												4,475	4,475	34447	8,950	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN	942
1,506												753	753	34451	1,506	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN	942, 1143
278												139	139	43512	278	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING	
11,516												5,758	5,758	45602	11,516	CY	CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA	
1,642												821	821	10001	1,642	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)	942, 1143
22,021												11,011	11,010	10100	22,021	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
19												10	9	33000	19	SY	TYPE 2 WATERPROOFING	
13,156,600												6,578,300	6,578,300	10401	13,156,600	LB	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN	942, 1035
84,927												42,464	42,463	20000	84,927	EACH	WELDED STUD SHEAR CONNECTORS	
154,349												77,175	77,174	00060	154,349	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
154,349												77,175	77,174	00066	154,349	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	
118												59	59	10010	118	FT	ARMORLESS PREFORMED JOINT SEAL	
263												132	131	51612400	263	FT	MODULAR EXPANSION JOINT	943
26												13	13	13600	26	SF	1" PREFORMED EXPANSION JOINT FILLER	
10												5	5	12200	10	EACH	SCUPPERS, INCLUDING SUPPORTS	
83												42	41	21200	83	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
46												23	23	40000	46	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
38												19	19	40010	38	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	
229												115	114	51200	229	FT	PIPE DOWNSPOUT, INCLUDING SPECIALS, 10"	
130												65	65	94804	130	FT	DRILLED SHAFTS, 42" DIAMETER, INTO BEDROCK	
1,340												670	670	94902	1,340	FT	DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK	
725												363	362	94904	725	FT	DRILLED SHAFTS, 48" DIAMETER, INTO BEDROCK	
2,854												1,427	1,427	94906	2,854	FT	DRILLED SHAFTS, 54" DIAMETER, ABOVE BEDROCK	
290												145	145	94994	290	FT	DRILLED SHAFTS, 90" DIAMETER, INTO BEDROCK	
633												317	316	94996	633	FT	DRILLED SHAFTS, 96" DIAMETER, ABOVE BEDROCK	

GENERAL SUMMARY

FRA - 71 - 14.36

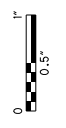
CALCULATED HRB CHECKED TAZ

NO.	DESCRIPTION	REV. BY	DATE
2	DOWEL PAY ITEM INCLUDED	TAZ	11-10-2021
3	Update Item & Qty	TAZ	11-19-2021

2756
1228



Ohio DOT Workspace
70771 West Interchange 6R
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Batchplot Spec: \\msconsultants.com\files\Production\03\60\06634_6R\standards\plotdrv\batplot.plt
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34" x 22"

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File: \\msconsultants.com\files\Production\03\60\06634_6R\roadway\sheet\055886009.dgn

SHEET NUM.									PART.				ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
59	65	66	67	68	69	71	77	944	13/MS/PV	14/NHS/PV	15/MSB R	16/NHSB R						
STRUCTURE (FRA-71-1503L) (CONT.)																		
								93			47	46	524	95100	93	EACH	DRILLED SHAFTS, MISC.: THERMAL INTEGRITY PROFILER (T.I.P.) WIRE CABLE TESTING OF DRILLED SHAFTS	
								LUMP			LUMP	LUMP	524	95200	LS		DRILLED SHAFTS, MISC. SHAFT INSPECTION DEVICE	
								392			196	196	526	30010	392	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17")	
								116			58	58	526	90030	116	FT	TYPE C INSTALLATION	
								LUMP			LUMP	LUMP	SPECIAL	53000200	LS		STRUCTURES SOLDIER PILE RETAINING WALL	
								465			233	232	607	39901	465	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	
								570			285	285	SPECIAL	69098100	570	FT	COVERED WALKWAY SYSTEM	
								148			74	74	869	00100	148	EACH	HIGH LOAD MULTI-ROTATIONAL (HLMR) BEARINGS	
MAINTENANCE OF TRAFFIC																		
			2,208						1,104	1,104			614	11110	2,208	hour	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
100									50	50			614	11111	100	hour	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE, AS PER PLAN	
							31		16	15			614	12380	31	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	
							1		1				614	12381	1	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL), AS PER PLAN	
		LUMP							LUMP	LUMP			614	12420	LS		DETOUR SIGNING	
		7							4	3			614	12484	7	EACH	WORK ZONE INCREASED PENALTIES SIGN	
	20								10	10			614	12500	20	EACH	REPLACEMENT SIGN	
	50								25	25			614	12600	50	EACH	REPLACEMENT DRUM	
							2,857		1,429	1,428			614	12801	2,857	EACH	WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN	
							1,542		771	771			614	13310	1,542	EACH	BARRIER REFLECTOR, TYPE 1, ONE WAY	
	15								8	7			614	13312	15	EACH	BARRIER REFLECTOR, TYPE 2, ONE WAY	
	15						510		263	262			614	13350	525	EACH	OBJECT MARKER, ONE WAY	
							4		2	2			614	13360	4	EACH	OBJECT MARKER, TWO WAY	
100									50	50			614	18020	100	hour	MAINTAINING TRAFFIC, MISC.: LAW ENFORCEMENT OFFICER (LEO) WITHOUT PATROL CAR	
					1,400				700	700			614	18030	1,400	FT	MAINTAINING TRAFFIC, MISC.: PORTABLE WATER FILLED BARRIER PROTECTED PEDESTRIAN WALKWAY	
			53						27	26			614	18601	53	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	
							2.75		1.38	1.37			614	20056	2.75	MILE	WORK ZONE LANE LINE, CLASS I, 6", 807 PAINT	
				1.38					0.69	0.69			614	20366	1.38	MILE	WORK ZONE LANE LINE, CLASS I, 6", 648	
			4.76						2.38	2.38			614	20410	4.76	MILE	WORK ZONE LANE LINE, CLASS II, 6"	
							6.91		3.46	3.45			614	22056	6.91	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 807 PAINT (WHITE)	
							5.72		2.86	2.86			614	22056	5.72	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 807 PAINT (YELLOW)	
							6.25		3.13	3.12			614	22336	6.25	MILE	WORK ZONE EDGE LINE, CLASS I, 6", 648	
							37,779		18,890	18,889			614	23110	37,779	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12", 807 PAINT	
			18,906						9,453	9,453			614	23150	18,906	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 12", 648	
							4,956		2,478	2,478			614	24102	4,956	FT	WORK ZONE DOTTED LINE, CLASS I, 6", 807 PAINT	
							349		175	174			614	25400	349	FT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I, 740.06, TYPE I	
							15		8	7			614	30400	15	EACH	WORK ZONE ARROW, CLASS I, 740.06, TYPE I	
							0.3		0.15	0.15			614	98000	0.3	MILE	WORK ZONE PAVEMENT MARKING, MISC.: CENTER LINE, DOUBLE SOLID, 5"	
							0.02		0.01	0.01			614	98000	0.02	MILE	WORK ZONE PAVEMENT MARKING, MISC.: EDGE LINE, 5" (WHITE)	
							0.1		0.05	0.05			614	98000	0.1	MILE	WORK ZONE PAVEMENT MARKING, MISC.: LANE LINE, 5"	
							1,225		613	612			614	98100	1,225	FT	WORK ZONE PAVEMENT MARKING, MISC.: CHANNELIZING LINE, 10"	
							765		383	382			614	98100	765	FT	WORK ZONE PAVEMENT MARKING, MISC.: DOTTED LINE, 5"	
							78		39	39			614	98100	78	FT	WORK ZONE PAVEMENT MARKING, MISC.: STOP LINE, 20"	
							6		3	3			614	98200	6	EACH	WORK ZONE PAVEMENT MARKING, MISC.: PAVEMENT TATOO	
							4		2	2			614	98200	4	EACH	WORK ZONE PAVEMENT MARKING, MISC.: SHARROW	
							30		15	15			615	20000	30	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
							8,511		4,256	4,255			615	20001	8,511	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN	
									3	3			615	20001	6	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A, AS PER PLAN, "A"	
						100			50	50			615	25001	100	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN, TYPE 1	
						50			25	25			615	25001	50	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN, TYPE 2	
						20			10	10			615	25001	20	SY	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN, TYPE 3	
					666				333	333			616	10000	666	MGAL	WATER	
							22,681		11,341	11,340			622	41100	22,681	FT	PORTABLE BARRIER, UNANCHORED	
							986		493	493			622	41101	986	FT	PORTABLE BARRIER, UNANCHORED, AS PER PLAN	
							829		415	414			622	41110	829	FT	PORTABLE BARRIER, ANCHORED	
							460		230	230			630	80300	460	SF	SIGN, TEMPORARY OVERLAY	
							9		5	4			630	89894	9	EACH	REMOVAL OF TEMPORARY OVERLAY SIGN AND DISPOSAL	
		168							84	84			808	18700	168	SNMT	DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY	

GENERAL SUMMARY

NO.	DESCRIPTION	REV.	BY	DATE
3	Revise See Sheet No.			11-19-2021

FRA-71-14.36

REF NO.	SHEET NO.	STATION TO STATION S.R. 315 SB = (315SB) I-71 SB = (I-71SB) EX ROAD "C" = (C) EX ROAD "D" = (D) SCIOTO BLVD. = (SC) TRANS. RAMP D3 = (TD3) I-71 SB = (I-71SB)		202	202	202	202	202			202	202	202	252		202	202	202	202							
				CURB REMOVED FT	PAVEMENT REMOVED SY	GUARDRAIL REMOVED FT	APPROACH SLAB REMOVED SY	PORTIONS OF STRUCTURE REMOVED			PIPE REMOVED, 24" AND UNDER FT	INLET REMOVED EACH	CONCRETE BARRIER REMOVED FT	FULL DEPTH PAVEMENT SAWING FT		GATE REMOVED FOR REUSE, AS PER PLAN EACH	FENCE REMOVED FT	MANHOLE REMOVED EACH	CATCH BASIN REMOVED EACH							
R100	327-328	57+45.00 RT (315SB)	TO	58+59.44 RT (315SB)	114																					
R101	327	57+45.00 RT (315SB)	TO	58+06.00 RT (315SB)		66								81												
R102	328	56+15.50 RT (315SB)	TO	56+73.00 RT (315SB)		44								72												
R103	328	56+13.36 RT (315SB)	TO	56+75.12 RT (315SB)			62.5																			
R104	328	56+15.50 RT (315SB)	TO	56+73.00 RT (315SB)	58																					
R105	329	499+12.23 LT (C)	TO	503+03.72 LT (C)		1334								33												
R106	329	499+16.14 LT (C)	TO	503+03.72 LT (C)			401																			
R107	329	499+16.14 LT (C)	TO	503+03.72 LT (C)	401																					
R109	329	498+98.48 LT (C)	TO	503+02.79 LT (C)			414																			
R110	329	498+98.48 LT (C)	TO	503+02.79 LT (C)	414																					
R111	329	240+72.82 RT (I-71SB)	TO	241+01.44 RT (I-71SB)				48																		
R113	329-330	501+53.08 RT (D)	TO	502+26.55 RT (D)		95								89												
R114	329-330	501+56.15 RT (D)	TO	502+26.55 RT (D)	70																					
R115	329	501+46.10 RT (D)	TO	501+53.08 RT (D)				2						8												
R116	329	501+41.24 RT (D)	TO	501+56.15 RT (D)						15																
R117	329-330	501+56.15 RT (D)	TO	502+84.59 RT (D)			129																			
R118	329	501+41.61 RT (D)	TO	501+78.95 RT (D)			37.5																			
R119	329	243+64.24 RT (I-71SB)	TO	243+72.74 RT (I-71SB)							27	1														
R120	329	242+06.98 RT (I-71SB)	TO	242+66.67 RT (I-71SB)		33								68												
R121	329	243+72.74 RT (I-71SB)	TO	243+79.00 RT (I-71SB)							6	1														
R122	330	246+88.99 RT (I-71SB)	TO	247+53.02 RT (I-71SB)		56								75												
R123	330	246+57.57 RT (I-71SB)	TO	248+88.96 RT (I-71SB)			198																			
R124	330	246+93.00 RT (I-71SB)	TO	247+73.74 RT (I-71SB)	84																					
R125	330	838+10.00 LT (TD3)	TO	841+69.23 LT (TD3)																						
R128	330-331	505+57.13 LT (D)	TO	2+51.94 LT (SC)													375	255								
R130	330	838+94.08 LT (TD3)	TO	839+11.53 LT (TD3)							27															
R131	330	2+35.95 LT (SC)	TO	2+51.94 LT (SC)													1									
R132	330	3+34.70 RT (SC)	TO	3+34.48 LT (SC)													1									
R134	341	833+83.77 LT (TD3)	TO	838+10.00 (LT) (TD3)														385								
R135	333	262+83.14 RT (I-71SB)	TO	263+71.94 LT (I-71SB)																						
R136	333	264+73.51 LT (I-71SB)	TO	264+99.37 RT (I-71SB)							110															
R137	333	262+37.45 RT (I-71SB)	TO	263+66.88 RT (I-71SB)		399								58												
R138	333	262+37.45 RT (I-71SB)	TO	263+66.82 RT (I-71SB)	132																					
R139	333	262+42.67 RT (I-71SB)	TO	263+66.88 RT (I-71SB)	124																					
R140	334-335	270+03.52 RT (I-71SB)	TO	275+59.74 RT (I-71SB)														554								
R141	335	527+64.26 LT (C.)																								
R142	335	530+80.57 LT (C.)																								
R143	335-336	526+65.14 LT (C.)	TO	532+15.53 LT (C.)			560																			
R144	335-336	526+65.14 LT (C.)	TO	532+15.53 LT (C.)	560																					
R145	335-336	527+16.16 LT (C.)	TO	532+23.15 LT (C.)										547												
R146	335-336	526+99.53 LT (C.)	TO	532+12.41 RT (C.)		1601								1060												
R147	335	529+36.28 LT (C.)																								
R148	335-336	527+48.86 LT (C.)	TO	532+09.44 RT (C.)							1															
R148	335-336	527+48.86 LT (C.)	TO	532+09.44 RT (C.)								461														
TOTALS CARRIED TO SUBSUMMARY					1957	4725	1802	50	LS					170	3	476	2091			2	1569	2		1		

NO.	DESCRIPTION	REV. BY	DATE
3	Remove Duplicate Pay Qty	TAZ	11-19-2021

CALCULATED TAZ CHECKED DLT

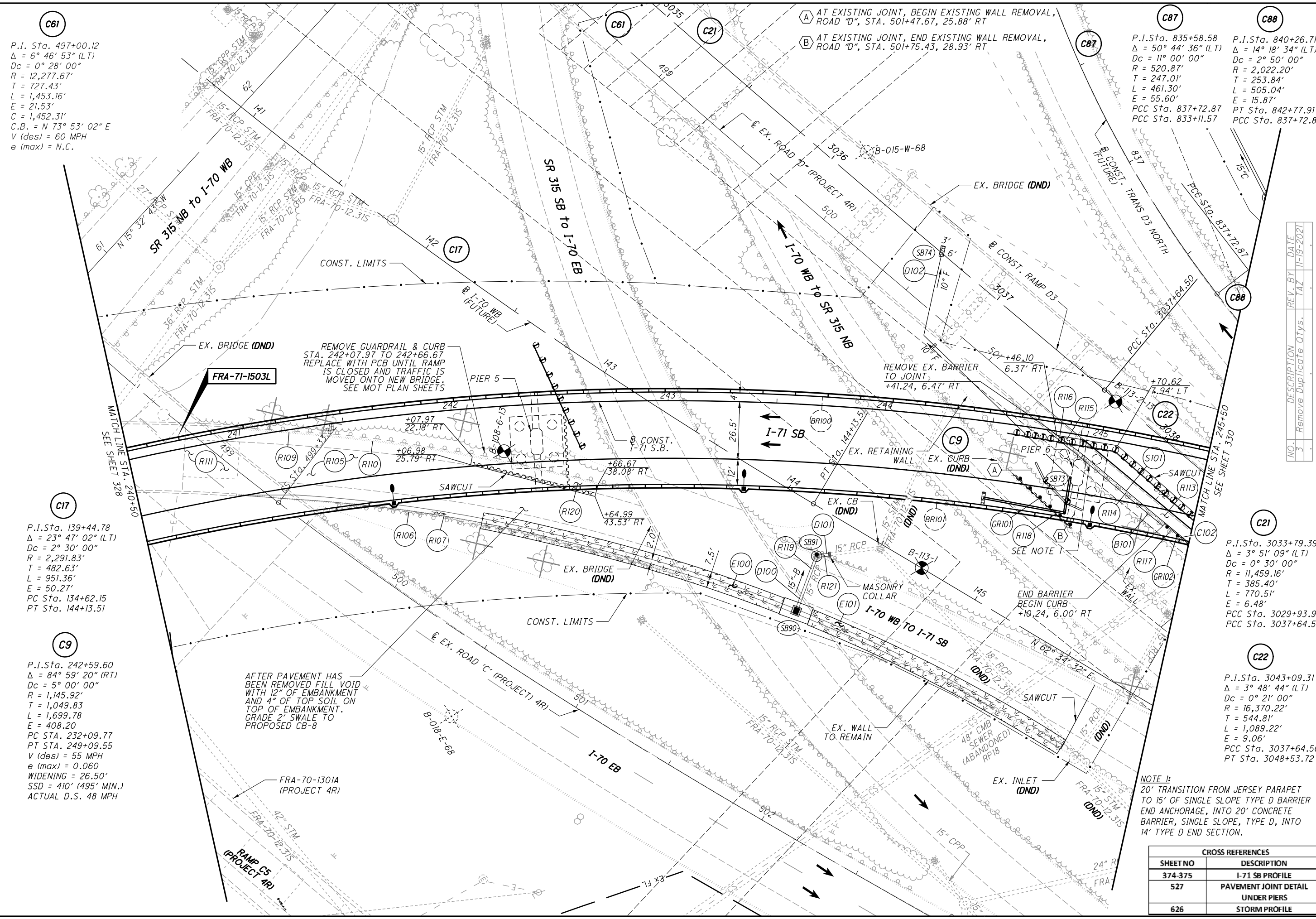
REMOVAL SUBSUMMARY - FREEWAYS & RAMPS

FRA - 71 - 14.36

278
1228

REF NO.	SHEET NO.	638	638	638	638	SPECIAL	SPECIAL	SPECIAL	SPECIAL	SPECIAL		SPECIAL	SPECIAL	SPECIAL	638		SPECIAL	SPECIAL			SPECIAL	253	252								
		WATER WORK, MISC.: 6" DUCTILE IRON WATER PIPE AND FITTINGS (COL. 801)	WATER WORK, MISC.: 12" DUCTILE IRON WATER PIPE AND FITTINGS (COL. 801)	WATER WORK, MISC.: 36" WATER PIPE AND FITTINGS (COL. 801)	WATER WORK, MISC.: 3/4" WATER SERVICE TAP, TRANSFERRED (COL. 805)	FIRE HYDRANT, TYPE A (COL. 809)	FIRE HYDRANT, TYPE A MODIFIED (COL. 809)	FIRE HYDRANT, ABANDONED (COL. 809)	FIRE HYDRANT, RELOCATED (COL. 809)	1 1/2" CURB STOP, RELOCATED (COL. 805)		6" GATE VALVE AND APPURTENANCES (COL. 802)	12" GATE VALVE AND APPURTENANCES (COL. 802)	36" BUTTERFLY VALVE AND APPURTENANCES (COL. 802)	WATER WORK.: 8"X6" TAPPING SLEEVE AND VALVE (COL. 803)		54" CASING PIPE, 3/4" THICKNESS (COL. 806)	8-INCH WATER MAIN ABANDONED (COL. 808)				PIPE REMOVED (COL. 202)	PAVEMENT REPAIR	FULL DEPTH PAVEMENT SAWING							
		FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH		FT	EACH				FT	SY	FT								
643				350		1						1		1																	
644				450																											
645			131	94												128															
646		15		460	1		1	2				1	1	1								35	160								
647		314																													
648		50							4	1		3																			
642																															
TOTAL		379	131	1354	1	1	1	2	4	1		5	1	2		128	3				885	35	160								

NO.	DESCRIPTION	REV. BY	DATE
2	ITEM & QUANTITY ADDED	ADB	11-12-21
3	REMOVED ITEM 690E98400	ADB	11-18-2021
3	REMOVED ITEM 690E98000	ADB	11-22-2021



C61
P.I. Sta. 497+00.12
 $\Delta = 6^\circ 46' 53''$ (LT)
Dc = $0^\circ 28' 00''$
R = 12,277.67'
T = 727.43'
L = 1,453.16'
E = 21.53'
C = 1,452.31'
C.B. = $N 73^\circ 53' 02'' E$
V (des) = 60 MPH
e (max) = N.C.

C17
P.I. Sta. 139+44.78
 $\Delta = 23^\circ 47' 02''$ (LT)
Dc = $2^\circ 30' 00''$
R = 2,291.83'
T = 482.63'
L = 951.36'
E = 50.27'
PC Sta. 134+62.15
PT Sta. 144+13.51

C9
P.I. Sta. 242+59.60
 $\Delta = 84^\circ 59' 20''$ (RT)
Dc = $5^\circ 00' 00''$
R = 1,145.92'
T = 1,049.83'
L = 1,699.78'
E = 408.20'
PC STA. 232+09.77
PT STA. 249+09.55
V (des) = 55 MPH
e (max) = 0.060
WIDENING = 26.50'
SSD = 410' (495' MIN.)
ACTUAL D.S. 48 MPH

A AT EXISTING JOINT, BEGIN EXISTING WALL REMOVAL, ROAD "D", STA. 501+47.67, 25.88' RT
B AT EXISTING JOINT, END EXISTING WALL REMOVAL, ROAD "D", STA. 501+75.43, 28.93' RT

C87
P.I. Sta. 835+58.58
 $\Delta = 50^\circ 44' 36''$ (LT)
Dc = $11^\circ 00' 00''$
R = 520.87'
T = 247.01'
L = 461.30'
E = 55.60'
PCC Sta. 837+72.87
PCC Sta. 833+11.57

C88
P.I. Sta. 840+26.71
 $\Delta = 14^\circ 18' 34''$ (LT)
Dc = $2^\circ 50' 00''$
R = 2,022.20'
T = 253.84'
L = 505.04'
E = 15.87'
PT Sta. 842+77.91
PCC Sta. 837+72.87

C21
P.I. Sta. 3033+79.39
 $\Delta = 3^\circ 51' 09''$ (LT)
Dc = $0^\circ 30' 00''$
R = 11,459.16'
T = 385.40'
L = 770.51'
E = 6.48'
PCC Sta. 3029+93.99
PCC Sta. 3037+64.50

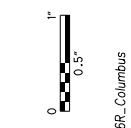
C22
P.I. Sta. 3043+09.31
 $\Delta = 3^\circ 48' 44''$ (LT)
Dc = $0^\circ 21' 00''$
R = 16,370.22'
T = 544.81'
L = 1,089.22'
E = 9.06'
PCC Sta. 3037+64.50
PT Sta. 3048+53.72

NOTE 1:
20' TRANSITION FROM JERSEY PARAPET TO 15' OF SINGLE SLOPE TYPE D BARRIER END ANCHORAGE, INTO 20' CONCRETE BARRIER, SINGLE SLOPE, TYPE D, INTO 14' TYPE D END SECTION.

CROSS REFERENCES	
SHEET NO	DESCRIPTION
374-375	I-71 SB PROFILE
527	PAVEMENT JOINT DETAIL UNDER PIERS
626	STORM PROFILE



Ohio DOT Workspace
70\71 West Interchange 6R
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PCF: 60-06634-6R_Columbus

Batchplot Spec: \mconsultants.com\files\Production\03\60\06634-6R\standards\plotdrv\batchplot.dwg
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ITEM SPECIAL - SURVEY COORDINATES

"ITEM SPECIAL - SURVEY COORDINATES" SHALL INCLUDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO OBTAIN HORIZONTAL AND VERTICAL (NORTHING, EASTING, AND CENTERLINE ELEVATION) SURVEY COORDINATES FOR THE WATER MAIN IMPROVEMENTS. THE SURVEY COORDINATES SHALL BE OBTAINED FOR THE COMPLETED WATER MAIN CONSTRUCTION AND SHALL INCLUDE ALL VALVES, TEES, CROSSES, BENDS, HORIZONTAL DEFLECTIONS, PLUGS, REDUCERS, TAPPING SLEEVES, FIRE HYDRANTS, AIR RELEASES, CURB STOPS, AND CASING PIPE TERMINI. ADDITIONAL SURVEY COORDINATES ARE REQUIRED ON THE WATER MAIN EVERY 200 FEET WHERE NO FITTING OR OTHER WATER MAIN STRUCTURE IS BEING INSTALLED WITHIN THAT LENGTH OF THE IMPROVEMENT.

ALL SURVEY COORDINATES SHALL BE REFERENCED TO THE APPLICABLE COUNTY ENGINEER'S MONUMENTS, AND SHALL BE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83) WITH THE 2011 ADJUSTMENT, WITH FURTHER REFERENCE MADE TO THE OHIO STATE PLANE SOUTH COORDINATE SYSTEM, SOUTH ZONE, WITH ELEVATIONS BASED ON NAVD 88 DATUM. ALL COORDINATES (NORTHING, EASTING, CENTERLINE ELEVATION) SHALL BE REFERENCED TO THE NEAREST HUNDREDTH (IN XXXXX.XX, E XXXXX.XX, C/L ELEV. XXX.XX). ALL SURVEY COORDINATES SHALL BE ACCURATE TO WITHIN 1.0 FOOT HORIZONTAL AND A TENTH OF A FOOT (0.10) OR LESS VERTICAL.

THE COORDINATES SHALL BE DOCUMENTED TO THE ENGINEER IN DIGITAL SPREADSHEET FORM AND SHALL INCLUDE THE APPLICABLE ITEM, STATION, NORTHING, EASTING, AND CENTERLINE ELEVATION. COORDINATES SHALL BE SUBMITTED TO THE ENGINEER ON A BI-WEEKLY BASIS. COORDINATES SHALL ALSO BE REQUIRED TO BE SUBMITTED TO THE DIVISION OF WATER AS PART OF THE REQUEST FOR CHLORINATION.

LUMP SUM PAYMENT IS FULL COMPENSATION FOR ALL WORK INVOLVED IN OBTAINING AND DOCUMENTING THE SURVEY COORDINATES AS DESCRIBED IN THIS SPECIFICATION.

SURFACE RESTORATION AREA

THE CONTRACTOR SHALL INSTALL A 5-FT BY 5-FT SURFACE RESTORATION AREA FOR ALL ABANDONED WATER LINE APPURTENANCES AND PROPOSED WATER SERVICE CONNECTIONS. THIS INCLUDES VALVE BOX ABANDONMENT, FIRE HYDRANT ABANDONMENT, CUT AND PLUG OF EXISTING WATER LINE, PROPOSED SHORT WATER SERVICE TRENCH INSTALLATION, SERVICE BOX ABANDONMENT, LONG WATER SERVICE BORE PITS, ETC.

THE CONTRACTOR MUST RESTORE THE SURFACE TO ITS PRE-CONSTRUCTION CONDITION IF NO ADDITIONAL IMPROVEMENTS ARE PLANNED AS PART OF THE CONTRACT.

AND ANY COST INCURRED SHALL BE INCLUDED IN THE UNIT PRICE OF THE ASSOCIATED ABANDONMENT OR SERVICE REPLACEMENT ITEM. THIS NOTE APPLIES TO ALL SURFACE TYPE REPLACEMENTS AND NO ADDITIONAL CONTINGENCY OR COST WILL BE AWARDED FOR SIDEWALK, ASPHALT PAVEMENT, DRIVEWAY, SEEDING OR ANY OTHER SURFACE.

CONSTRUCTION SEQUENCING

- 36" WATERLINE CONSTRUCTION SEQUENCING:
- INSTALL 36" WATERLINE FROM WATERTIGHT CAP LOCATION STA. 0+40 TO WATERTIGHT CAP LOCATION STA. 9+52.
 - INSTALL TEMPORARY FIRE HYDRANT OFF OF EXISTING 8" WATERLINE.
 - INSTALL WATERTIGHT CAPS AT THE TWO SPECIFIED LOCATIONS.
 - PERFORM PIG, PRESSURE TEST, CHLORINATION, IN THAT ORDER IN ACCORDANCE WITH COLUMBUS CMS 801. TEMPORARY HYDRANT SHALL BE USED FOR PRESSURE TESTING AND FOR ANY OTHER PROCEDURES NECESSARY TO MEET CMS 801.
 - REMOVE THE TEMPORARY CAPS AND HYDRANT.
 - DOW PERSONNEL TO CLOSE THE NEAREST ISOLATION VALVES ON THE EXISTING 36" WATERLINE.
 - INSTALL THE REMAINING 36" WATERLINE AND MAKE CONNECTIONS AT THE PROPOSED LOCATIONS. ENSURE NO MORE THAN 20 FT WILL BE HANDSWABBED.

ITEM SPECIAL - 36" WATER PIPE AND FITTINGS:

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL WATER MAIN AS PER REQUIREMENTS OF ITEM 801 WITH THE FOLLOWING EXCEPTION: IF THE CONTRACTOR USES STEEL PIPE, THEY SHALL NOT INCLUDE THE COST FOR THE DESIGN AND INSTALLATION OF THE CATHODIC PROTECTION SYSTEM DESIGN. THIS COST WILL BE INCLUDED UNDER THE "ITEM SPECIAL - ALLOWANCE FOR PASSIVE CATHODIC PROTECTION SYSTEM DESIGN AND INSTALLATION.

ITEM SPECIAL - CORROSION PROTECTION:

THE WATER MAIN INSTALLATION AND BASIS OF PAYMENT SHALL FOLLOW AND INCLUDE THE CORROSION PROTECTION REQUIREMENTS OF ITEM 801 WITH THE FOLLOWING EXCEPTIONS: IF THE PROJECT IS TO BE BID USING STEEL OR CONCRETE PIPE, PLEASE ONLY INCLUDE THE COST OF 2 FLANGE ISOLATION KITS IN THE BASE BID FOR THIS ITEM. THIS "ITEM SPECIAL-CORROSION PROTECTION" WILL INCLUDE THE BONDING OF THE JOINTS AND 2 FLANGE ISOLATION KITS. ANY ADDITIONAL FLANGE ISOLATION KITS REQUIRED FOR STEEL OR CONCRETE PIPE WILL BE INCLUDED AS WELL AS FIRE HYDRANT LEADS AND WILL BE CONSIDERED INCIDENTAL TO THE PROJECT FOR PAYMENT.

CATHODIC PROTECTION SYSTEM DESIGN AND INSTALLATION:

CATHODIC PROTECTION SYSTEM DESIGN AND INSTALLATION SHALL BE REQUIRED PER COC SPECIFICATIONS. PAYMENT SHALL BE INCIDENTAL TO THE PROJECT. CONTRACTOR SHALL INSTALL TESTING LOCATIONS AT EACH TIE-IN LOCATION AND PER COC SPECIFICATIONS AND PAYMENT SHALL BE INCIDENTAL TO THE PROJECT.

ITEM SPECIAL - CONTINUITY TESTING:

THE CONTRACTOR SHALL PERFORM AN ELECTRICAL CONTINUITY TEST TO CONFIRM CONTINUITY OF THE PIPELINE AND FUNCTION OF THE BONDING WIRES. THE CONTRACTOR SHALL MAKE A SUBMITTAL DEFINING THEIR TESTING METHODOLOGY, PERFORMANCE MEASURES, AND PROPOSED TESTING RESULTS SUBMISSION FORMAT AT THE BEGINNING OF THE PROJECT TO THE OWNER FOR REVIEW. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF ANY NECESSARY COMPONENTS TO EXECUTE THE CONTINUITY TESTING GIVEN THE LACK OF PERMANENT TEST STATION WITH THE PROJECT. THE COST FOR THESE ITEMS SHALL INCLUDE ALL MATERIAL AND LABOR, INCLUDING ANY ANCILLARY EFFORTS SUCH AS MAINTENANCE OF TRAFFIC PROVISIONS TO EXECUTE THE CONTINUITY TEST.

THRUST RESTRAINT FOR TESTING:

THE CONTRACTOR SHALL CONSIDER CONSTRUCTION SEQUENCING, TESTING, AND OUTAGE LIMITATIONS RELATIVE TO THE INSTALLATION OF CONCRETE THRUST BLOCKING WHERE REQUIRED ON THE PROJECT. THE CONTRACTOR SHALL ANTICIPATE UTILIZING ADDITIONAL MEASURES TO ENSURE THRUST RESTRAINT IS IN PLACE AND ADEQUATE PRIOR TO PRESSURE TESTING ADJACENT WATER MAINS. ADDITIONAL MEASURES MAY INCLUDE THE USE OF FAST SETTING CONCRETE AND/OR THE USE OF WEDGE-ACTION RESTRAINING GLANDS TO MEET OUTAGE LIMITATIONS. ALTERNATIVELY, TEMPORARY MEASURES MAY BE PROPOSED BUT ARE SUBJECT TO REVIEW BY THE CITY. THE CONTRACTOR IS SOLELY RESPONSIBLE TO ENSURE ADEQUATE THRUST RESTRAINT IS PROVIDED. COST OF THIS EFFORT SHALL BE INCLUDED IN THE UNIT PRICE OF THE WATER MAIN ITEMS.

Pipe Material and Size		Restrained Joint Lengths (ft.)										
		Vertical Up (Lower) Bend			Vertical Down (Upper) Bend			Horizontal Bend			Dead End	Tees
		Bend Angle (θ)			Bend Angle (θ)			Bend Angle (θ)				
DIP	36"	11.25°	22.5°	45°	11.25°	22.5°	45°	11.25°	22.5°	45°	N/A	N/A
PCCP	36"	10	20	45	35	65	130	10	20	45	155	N/A
		25	65	135	20	40	80	25	65	135	280	280

STA 1		STA 2		Type	Angle of Bends (θ)	Length* (L) (ft.)	Encroaching and Tee Restrained Lengths (ft.)			
							DIP		PCCP	
							Required Restraint** (ft.)		Required Restraint	
							Upper Bend	Lower Bend	Upper Bend	Lower Bend
0+20	0+46			Vertical Offset	22.5°	13	110	30		110
3+52	3+70			Vertical Offset	11.25°	9	55	10		35
4+79	5+11			Combined Horizontal	22.5°	16	25			110
5+11	5+75			Combined Horizontal	22.5°	32	Not Encroaching			95
5+93	N/A			36" x 12" Tee	N/A	40	0			280
8+76	8+94			Combined Horizontal	45°	9	75			260
0+30	0+80			Combined Horizontal	45°	25	60			245
2+88	3+91			Horizontal Offset	45°	51.5	Not Encroaching			220
3+31	3+44			Vertical Offset	22.5°	6.5	120	35		120
3+91	4+37			Horizontal Offset	45°	23	60			245
3+96	N/A			36" x 6" Tee	N/A	31	0			280
4+22	4+37			Vertical Offset	22.5°	7.5	115	35		120
4+37	4+60			Horizontal Offset	45°	11.5	75			260

*Length for bends is half the length between the bends. Length for tees is the length between joints on each side of tee.
**Not encroaching if the halfway length between bends > restraint required if single bend

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED NOTES	ADB	11-18-2021
3	REMOVED NOTE	ADB	11-22-2021

CALCULATED
CHECKED

WATER WORK - GENERAL NOTES

FRA-71-14.34

642
1228

GENERAL NOTES

PROPOSED WORK:

THE PROPOSED WORK CONSISTS OF BUILDING RETAINING WALLS W2, W3, W5, E4, E5, E7 & E10 WITHIN THE I-70/I-71 WEST INTERCHANGE.

STANDARD DRAWING AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATONS:

840 DATED 4-16-21
867 DATED 1-15-21

DESIGN SPECIFICATIONS:

THESE STRUCTURES CONFORM TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 9TH EDITION, 2020, AND THE ODOT BRIDGE DESIGN MANUAL, 2021 EDITION, INCLUDING REVISIONS THROUGH JANUARY 2021.

DESIGN LOADING:

HL-93 AND
250 PSF LIVE LOAD SURCHARGE

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (COPING & LEVELING PAD)

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (PARAPET & MOMENT SLAB)

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

MAINTENANCE OF TRAFFIC:

FOR MAINTENANCE OF TRAFFIC DETAILS, SEE THE ROADWAY PLANS.

UTILITIES:

THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE OBTAINED THROUGH UTILITY OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

PROPRIETARY RETAINING WALL DATA:

FOR ALL MSE WALL PORTIONS BELOW A BRIDGE ABUTMENT, THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 840 TO SUPPORT THE ABUTMENT. THE DESIGN FOR INTERNAL STABILITY SHALL INCLUDE A NOMINAL (I.E. UNFACTORED) HORIZONTAL STRIP LOAD DUE TO FRICTION (FR) FROM THE SUPERSTRUCTURE APPLIED PERPENDICULAR TO THE FACE OF WALL AT THE BASE OF THE CONCRETE FOOTING. SEE BELOW FOR STRIP LOADS AT INDIVIDUAL WALLS/BRIDGES. THIS STRIP LOAD DOES NOT INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL. HOWEVER, THE PROPRIETARY WALL SUPPLIER SHALL INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL IN THE DESIGN CALCULATIONS.

MSE WALL	BRIDGE	NOMINAL HORIZONTAL STRIP LOAD DUE TO FRICTION
E4	FRA-70-1373B	2.4 K/FT
E7	FRA-71-1503L	1.0 K/FT
W5	FRA-71-1503L	1.2 K/FT

CONSTRUCTION SEQUENCING:

WHERE WALL CONSTRUCTION IS PHASED AND A TEMPORARY RETAINING SYSTEM IS REQUIRED, SHOP DRAWINGS OF BOTH PERMANENT AND TEMPORARY WALLS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. THE COST OF THESE SUBMITTALS SHALL BE INCLUDED FOR PAYMENT WITH THE COST OF THE TEMPORARY WALLS.

EXCAVATION, SHEETING AND BRACING

EXCAVATION ENVELOPES AS DETAILED IN THE PLANS SHALL BE PROTECTED FROM CAVING AND SLOUGHING. WHERE CLEARANCES AND CONSTRUCTION SEQUENCING WILL NOT ALLOW FOR SLOPED EXCAVATIONS, APPROPRIATE SHEETING OR BRACING METHODS SHALL BE EMPLOYED BY THE CONTRACTOR. THIS TEMPORARY SHEETING OR BRACING IS CONSIDERED INCIDENTAL TO ITEM 503 - COFFERDAMS AND EXCAVATION BRACING.

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN (WALLS E4, E7 & E10)

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATIONS. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

GLASS FIBER REINFORCED POLYMER (GFRP) BARSH SHALL BE USED FOR DIAGONAL REINFORCEMENT AS SHOWN IN THE PLANS. PAYMENT FOR GFRP BARS SHALL BE INCIDENTAL TO THE COST OF ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN.

ITEM 511 CONCRETE MISC.: PRECAST WALL PANELS (WALLS E7 & E10)

THIS ITEM SHALL INCLUDE THE FABRICATION AND ERECTION OF THE PRECAST WALL PANELS AS DETAILED IN THE PLANS. CONCRETE FOR THE PRECAST PANELS SHALL BE CLASS QC1 AS PER CMS 511. PRECAST WALL PANELS SHALL BE USED ADJACENT TO WHERE EPS GEOFOAM FILL IS USED. THE FABRICATION OF THE PANELS, TESTING OF THE CONCRETE AND ERECTION OF THE PANELS SHALL MEET THE REQUIREMENTS OF SS 840.05. FORMLINERS SHALL BE USED TO PROVIDE AN AESTHETIC TREATMENT. THE AESTHETIC TREATMENT SHALL BE AN ASHLAR STONE FINISH WITH A MINIMUM OF 1" AND A MAXIMUM OF 1/2" RELIEF. THIS WORK ALSO INCLUDES THE PLACEMENT OF THE UNISTRUT P3754 (OR EQUIVALENT) CHANNELS AND THE F1554 GRADE 36 ANCHOR BOLTS. THE ANCHOR BOLTS SHALL BE GALVANIZED AS PER CMS 711.02.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE PRECAST PANELS BY THE NUMBER OF SQUARE FEET.

PAYMENT: ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR ITEM 511 CONCRETE MISC.: PRECAST WALL PANELS.

ITEM 511 CONCRETE MISC.: PRECAST FOOTING (WALLS E7 & E10)

THIS ITEM SHALL INCLUDE THE FABRICATION AND PLACEMENT OF THE PRECAST FOOTINGS AS DETAILED IN THE PLANS. INCLUDING THE REINFORCING STEEL. CONCRETE FOR THE PRECAST FOOTING SHALL BE CLASS QC1 AS PER CMS 511.

PRECAST FOOTING SHALL BE FOUNDED ON EITHER A GRANULAR EMBANKMENT TYPE C OR A CAST-IN-PLACE LEVELING PAD OR A LEVEL SURFACE OF LOW STRENGTH MORTAR BACKFILL (LSM) OR CLASSIC QC MISC CONCRETE. PRECAST FOOTING SHALL BE LEVEL.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE PRECAST FOOTINGS BY THE NUMBER OF FEET.

PAYMENT: ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR ITEM 511 CONCRETE MISC.: PRECAST FOOTING.

ITEM 511 CLASS QC2 CONCRETE MISC.: LOAD DISTRIBUTION SLAB (WALLS E7 & E10)

THIS ITEM SHALL INCLUDE THE CONCRETE CONSTRUCTION AS DETAILED IN THE PLANS INCLUDING THE WORK NECESSARY TO FURNISH & PLACE THE REINFORCING STEEL. CONCRETE FOR THE PROPOSED WORK SHALL BE CLASS QC2 AS PER CMS 511.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE CONCRETE CONSTRUCTION BY THE NUMBER OF CUBIC YARDS.

PAYMENT: ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED WITH WALL E7 IN THE CONTRACT BID PRICE FOR ITEM 511 CLASS QC2 CONCRETE MISC.: LOAD DISTRIBUTION SLAB.

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN. (PERMANENT GRAFFITI PROTECTIN) (WALLS E4, E5 & W2):

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. APPLY THE GRAFFITI COATING IN ACCORDNACE WITH MANUFACTURER'S PRINTED INSTRUCTIONS. APPLY PERMANENT GRAFFITI COATING TO THE WALLS E4 TO THE RAILROAD, E5 NORTH FACING, AND W2.

ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN:

ALL FENCE POSTS, RAILS, FABRIC, BASE PLATES, POST SLEEVES, TENSION BANDS, TRUSS RODS, FABRIC TIES AND ALL OTHER VISIBLE PORTIONS OF FENCE NOT LISTED SHALL BE BLACK PVC COATED.

THE MOUNTING BASE PLATE AND SLEEVE SHALL BE BP-5 PER STANDARD DRAWING VPF-1-90. FOR THE ROADWAY PLANS WHERE VANDAL PROTECTION FENCE IS MOUNTED ON THE BARRIER, THE POST SPACING SHALL BE 5 FOOT. SEE THE STRUCTURES PLANS FOR POST SPACING ON BRIDGE AND WALLS.

ITEM 840 - DRAINAGE PIPE:

PROVIDE A MINIMUM SLOPE OF 1.00% ON ALL MSE WALL DRAINS UNLESS NOTED OTHERWISE.

PIPE LOCATED OUTSIDE THE FACE OF THE MSE WALL PANEL SHALL BE INCLUDED WITH THE ROADWAY QUANTITIES FOR PAYMENT.

LOCATE THE PIPE AS CLOSE AS POSSIBLE TO THE TOP OF THE LEVELING PAD. IT MAY BE LOCATED ABOVE THE BOTTOM ROW OF REINFORCING STRAPS. HOWEVER, AT NO TIME SHALL THE PIPE BE LOCATED WITHIN 1 FOOT OF THE PROPOSED GROUND LINE.

ABBREVIATIONS:

- CCF - CELLULAR CONCRETE FILL
- CJ - CONSTRUCTION JOINT
- C/C - CENTER TO CENTER
- CLR - CLEAR
- CONST - CONSTRUCTION
- CSW - COLUMN SUPPORTED WALLS
- DIA - DIAMETER
- EF - EACH FACE
- ELEV - ELEVATION
- EOP - EDGE OF PAVEMENT
- EPS- EXPANDED POLYSTYRENE
- EX - EXISTING
- FF - FAR FACE
- I.R. 75 - INTERSTATE ROUTE 75
- INC - INCREMENT
- LT - LEFT
- LDS - LOAD DISTRIBUTION SLAB
- MAX - MAXIMUM
- MIN - MINIMUM
- MISC - MISCELLANEOUS
- NF - NEAR FACE
- PEJF - PREFORMED EXPANSION JOINT FILLER
- PERF CPP - PERFORATED CORRUGATED PLASTIC PIPE
- PROP - PROPOSED
- RT - RIGHT
- SB - SOUTHBOUND
- SER - SERIES
- SGB - SELECT GRANULAR BACKFILL
- SPA - SPACING
- STA - STATION
- ST - STRAIGHT
- TBA - TO BE ABANDONED
- TBR - TO BE REMOVED
- TBRL - TO BE RELOCATED
- TYP - TYPICAL
- VPF - VANDAL PROTECTION FENCE

NO.	DESCRIPTION	REV. BY	DATE
1	CHANGED CMC- CONTROLLED MODULUS COLUMNS TO CSW - COLUMN SUPPORTED WALLS	MMS	11/5/21
1	UPDATED SHEET TITLE	MMS	11/5/21
3	ADDED NOTE	MMS	11/18/21
3	REMOVED NOTE	MMS	11/18/21

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RESOURCE INTERNATIONAL, INC.
 6350 PRESIDENTIAL GATEWAY
 COLUMBUS, OHIO 43231
 (614) 823-4949

 DATE 6/23/2021
 NCK
 STRUCTURE FILE NUMBER
 DRAWN MMS
 MMS
 REVISIONS
 DESIGNED MMS
 MMS
 CHECKED
 JGM
RETAINING WALL NOTES 1 OF 9
 RETAINING WALLS
 I-70/I-71 WEST INTERCHANGE PROJECT
FRA - 71 - 14.36
 PID No. 105588
 1 / 9
 838
 1228

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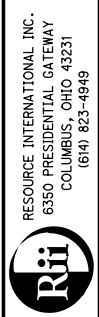
CALCULATED BY: KSJ DATE: 03/04/2020
 CHECKED BY: MMS DATE: 03/04/2020

ESTIMATED QUANTITIES					AS PER PLAN REFERENCE SHEET
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	
203	20000	961	CU YD	EMBANKMENT	
203	35000	2085	CU YD	GRANULAR EMBANKMENT	
203	35110	246	CU YD	GRANULAR MATERIAL, TYPE B	
203	65000	2	EACH	SPECIAL - SETTLEMENT PLATFORM	
203	98100	5260	SQ YD	ROADWAY MISC.: COLUMN SUPPORTED WALLS *	
503	11101	LS	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	838
509	10001	14932	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
511	53012	93	CU YD	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	
512	10001	348	SQ YD	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	838
512	10100	703	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)	
516	13200	56	SQ FT	1/2" PREFORMED EXPANSION JOINT FILLER	
516	13900	518	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	
840	20001	6894	SQ FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	839 & 843
840	21000	630	CU YD	WALL EXCAVATION	
840	22000	547	SQ YD	FOUNDATION PREPARATION	
840	23000	3908	CU YD	SELECT GRANULAR BACKFILL	
840	25010	608	FT	6" DRAINAGE PIPE, PERFORATED	
840	26000	315	FT	CONCRETE COPING	
840	26050	6264	SQ FT	AESTHETIC SURFACE TREATMENT	
840	27000	5	DAY	ON-SITE ASSISTANCE	
867	00101	LS	LS	TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN (WALL T1)	

839

* - QUANTITY FOR COLUMN SUPPORTED WALLS
 INCLUDE GROUND IMPROVEMENT UP TO RAMP D7
 STA. 7002+25.00

NO.	DESCRIPTION	REV. BY	DATE
1	CHANGED CONTROLLED MODULUS COLUMNS TO COLUMN SUPPORTED WALLS	MMS	11/5/21
3	UPDATED ITEM 509 TO AS PER PLAN	MMS	11/18/21
3	REMOVED ITEM 840E28000 - SGB INSPECTION AND COMPACTION TESTING	MMS	11/18/21



REVIEWED DATE
 NCK 6/23/2021
 STRUCTURE FILE NUMBER

DRAWN MMS
 REVISED

DESIGNED KSJ
 CHECKED MMS

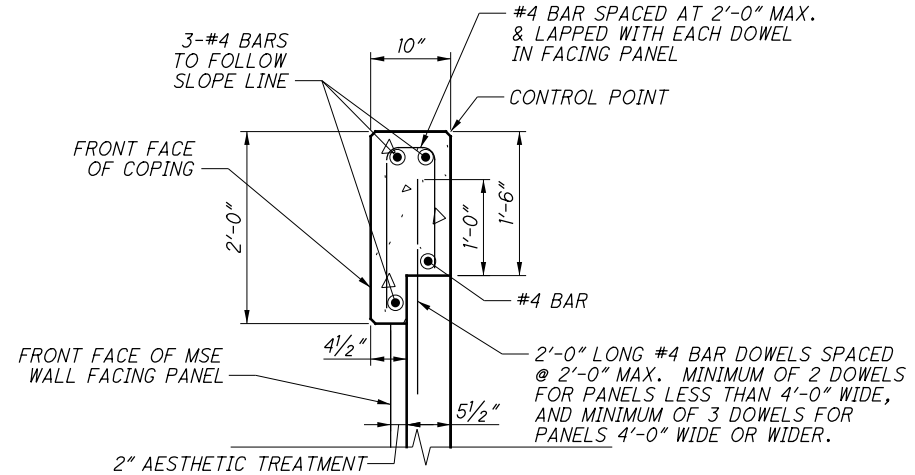
ESTIMATED QUANTITIES
 RETAINING WALL E4
 I-70/I-71 WEST INTERCHANGE PROJECT

FRA - 71 - 14.36
 PID No. 105588

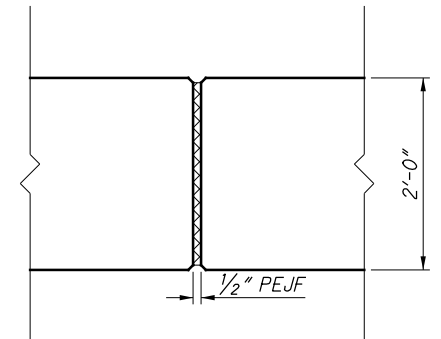
1 / 10

847
 1228

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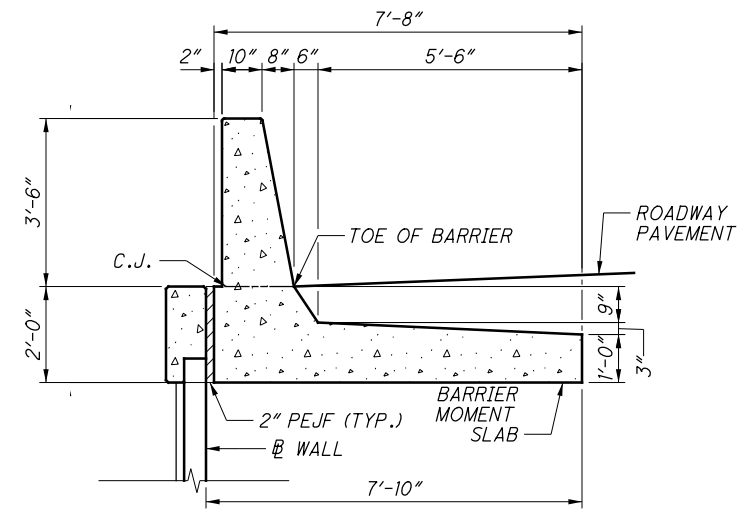


COPING DETAIL

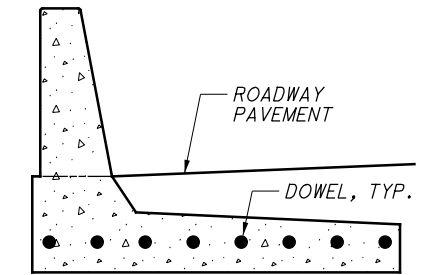


COPING EXPANSION JOINTS

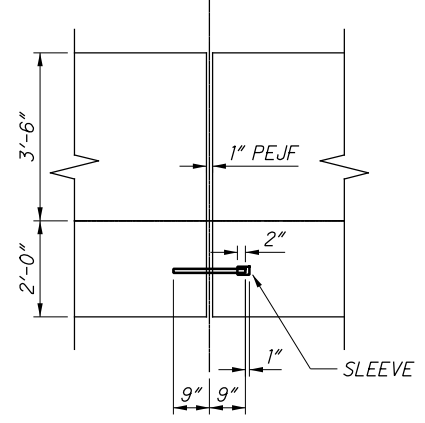
NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED REFERENCE TO ITEM 511	MMS	11/18/21



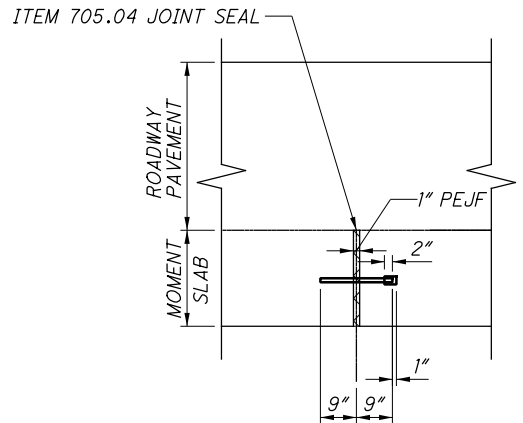
MOMENT SLAB DETAIL



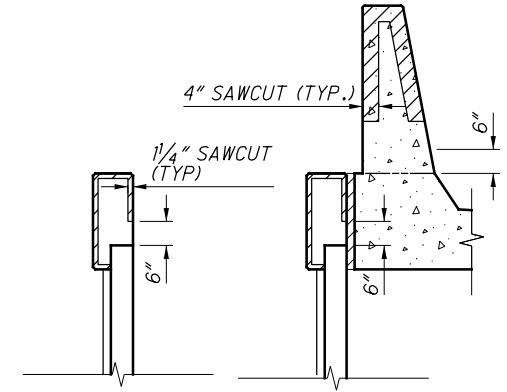
EXPANSION JOINT SECTION



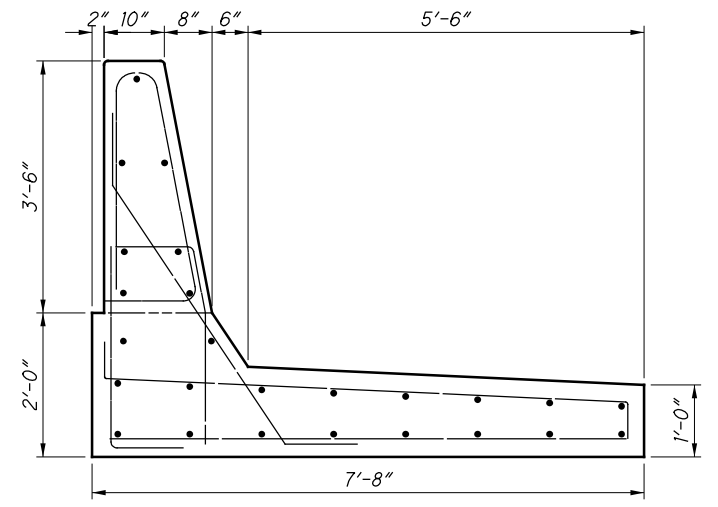
EXPANSION JOINT DETAIL (AT PARAPET)



EXPANSION JOINT DETAIL (AT PAVEMENT)



SAWCUT DETAILS
SEE SBR-1-13 FOR ADDITIONAL DETAILS



MOMENT SLAB REBAR

LEGEND:

- MINIMUM LAP LENGTHS:
- #5 LAP LENGTH = 2'-5"
- #6 LAP LENGTH = 2'-11"

NOTES:

- TRAFFIC BARRIER & MOMENT SLAB ARE INCIDENTAL TO ITEM - 511, CLASS QC2 CONCRETE, MISC: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA.
- CONTROL JOINT: SAWCUT 1/4" DEEP CONTROL JOINTS ALONG THE PERIMETER AS SHOWN ON THIS SHEET AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

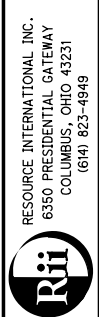
USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE BARRIER. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4".

SEAL THE PERIMETER OF THE CONTROL JOINT TO A MINIMUM DEPTH OF 1" WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO C920, TYPE S. LEAVE THE BOTTOM 1/2" OF BOTH THE INSIDE AND OUTSIDE FACES OF THE BARRIER UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.
- SAWCUT CONTROL JOINTS SHALL HAVE A MINIMUM SPACING OF 6' AND A MAXIMUM SPACING OF 15'. SEE SHEET 853 FOR BARRIER CONTROL JOINT LOCATIONS.
- FOR ABBREVIATIONS LEGEND, SEE SHEET 838
- FOR LOCATIONS OF CIP BARRIER TO RECEIVE 2" LIGHTING CONDUIT, SEE HIGHWAY LIGHTING PLANS. FOR ADDITIONAL CIP BARRIER CONDUIT DETAILS AND NOTES, SEE STD. DWG. HL-20.14.
- FOR LOCATIONS OF JUNCTION BOXES AND TRAFFIC CONDUIT IN CIP BARRIER, SEE TRAFFIC CONTROL PLANS.
- COPING EXPANSION JOINT SHALL BE SPACED NO MORE THAN 20 FEET APART AND ALIGNED WITH JOINTS BETWEEN FACING PANELS.

ESTIMATED QUANTITIES						AS PER PLAN REFERENCE SHEET
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION		
203	20000	438	CU YD	EMBANKMENT		
503	11100	LS	LS	COFFERDAMS AND EXCAVATION BRACING		
509	10001	24388	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN		838
511	53012	150	CU YD	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA		
512	10001	449	SQ YD	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)		838
512	10100	698	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)		
516	13900	875	SQ FT	2" PREFORMED EXPANSION JOINT FILLER		
607	39901	179	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN		838
840	20001	5533	SQ FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN		843
840	21000	1162	CU YD	WALL EXCAVATION		
840	22000	691	SQ YD	FOUNDATION PREPARATION		
840	23000	2164	CU YD	SELECT GRANULAR BACKFILL		
840	25010	997	FT	6" DRAINAGE PIPE, PERFORATED		
840	26000	438	FT	CONCRETE COPING		
840	26050	4658	SQ FT	AESTHETIC SURFACE TREATMENT		
840	27000	5	DAY	ON-SITE ASSISTANCE		

CALCULATED BY: KSJ DATE: 03/04/2020
 CHECKED BY: MMS DATE: 03/04/2020

NO.	DESCRIPTION	REV. BY	DATE
1	REMOVED ITEM 203 - GRANULAR MATERIAL, TYPE C QUANTITY	KSJ	11/5/21
3	UPDATED ITEM 509 TO AS PER PLAN	MMS	11/18/21
3	REMOVED ITEM 840E28000 - SGB INSPECTION AND COMPACTION TESTING	MMS	11/18/21



REVIEWED DATE
 NCK 6/23/2021
 STRUCTURE FILE NUMBER

DRAWN MMS
 CHECKED MMS
 REVISED

DESIGNED KSJ
 CHECKED MMS

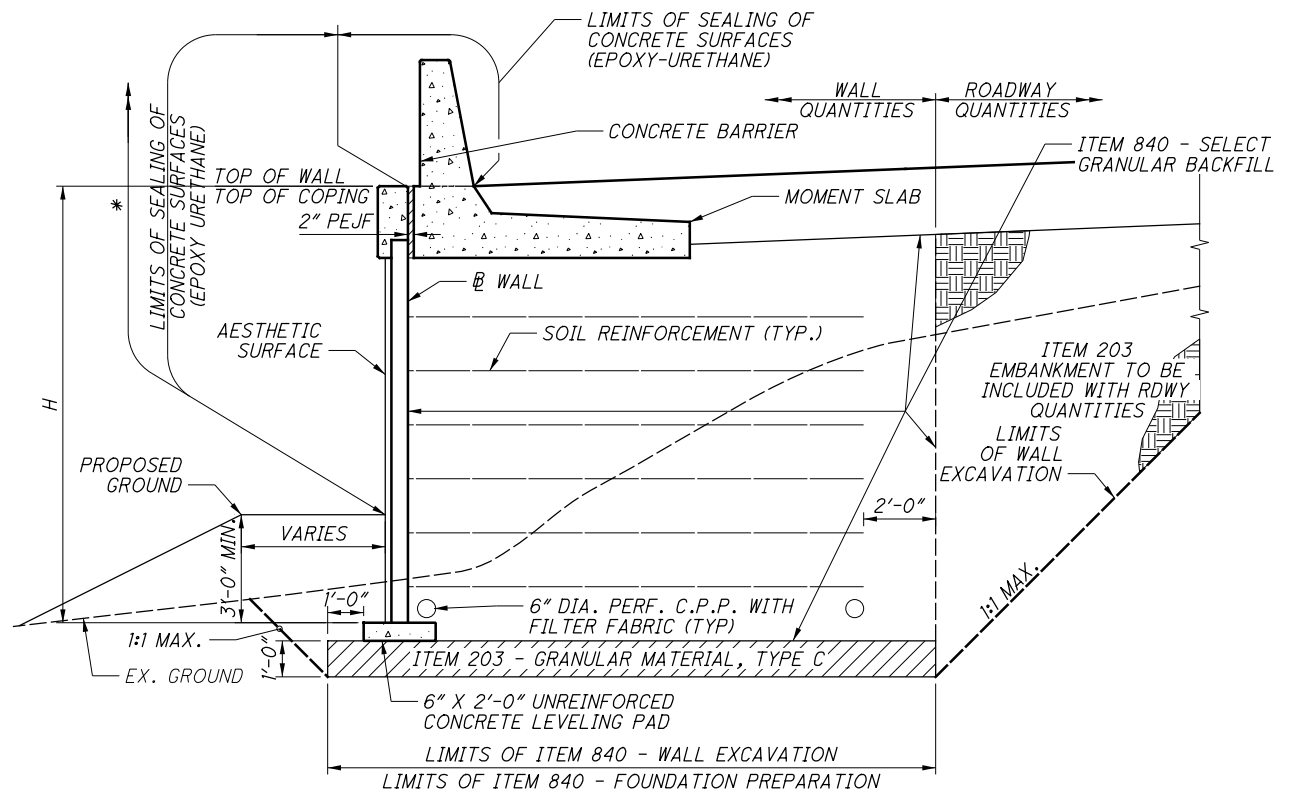
ESTIMATED QUANTITIES
 RETAINING WALL ES
 I-70/I-71 WEST INTERCHANGE PROJECT

FRA-71-14.36
 PID No. 105588

1/8

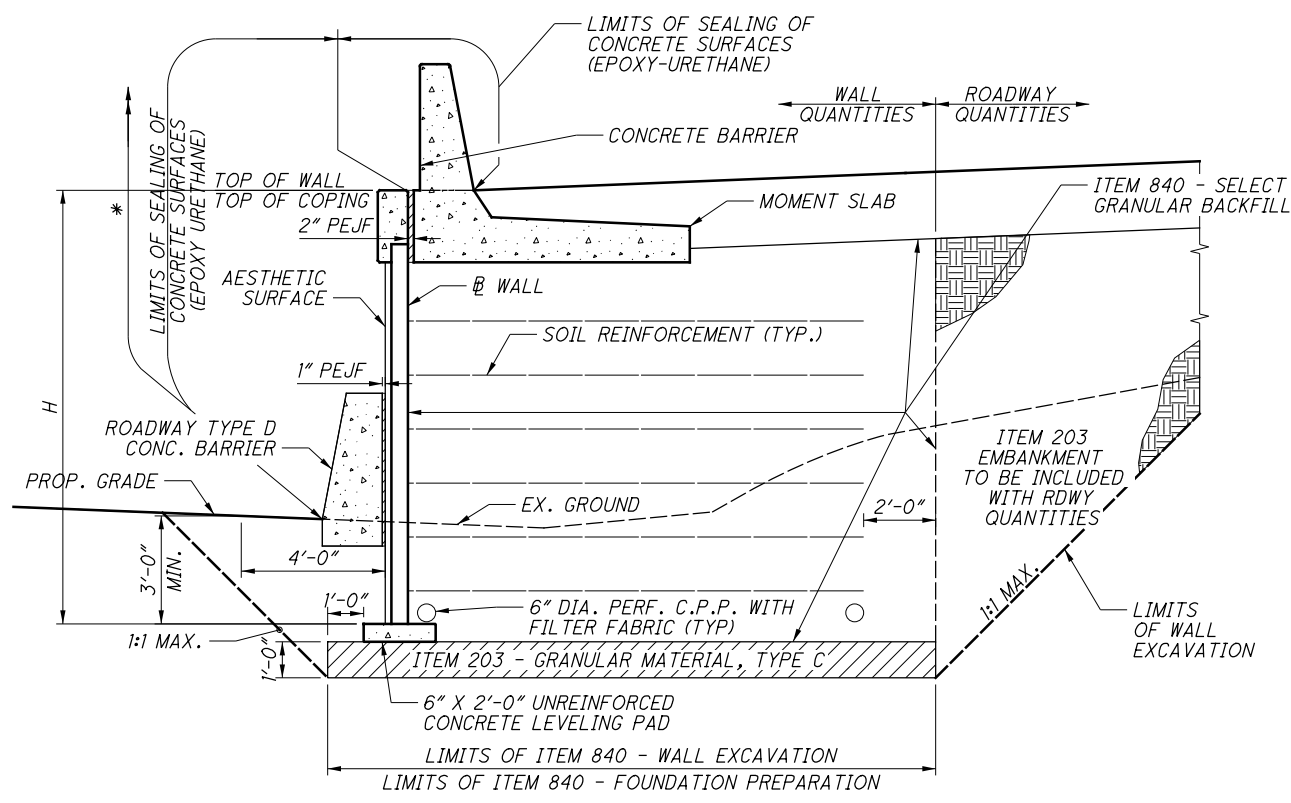
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TYPICAL SECTION

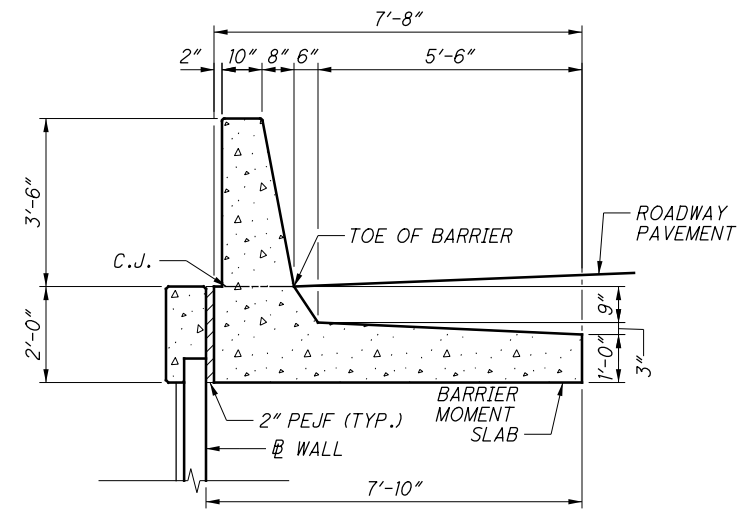
WALL E5 STA. 503+95.83 TO STA. 506+11.80



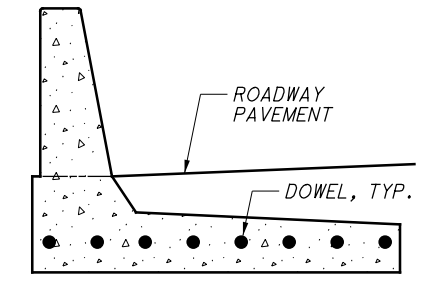
TYPICAL SECTION

WALL E5 STA. 501+18.34 TO STA. 503+39.67

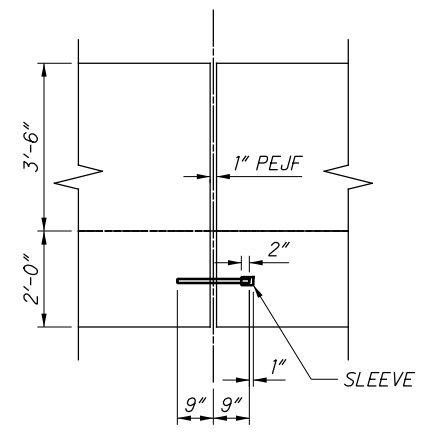
NO.	DESCRIPTION	REV. BY	DATE
1	ADDED ITEM 840 - FOUNDATION PREPARATION	KSJ	11/5/21
3	UPDATED REFERENCE TO ITEM 511	MMS	11/18/21



MOMENT SLAB DETAIL



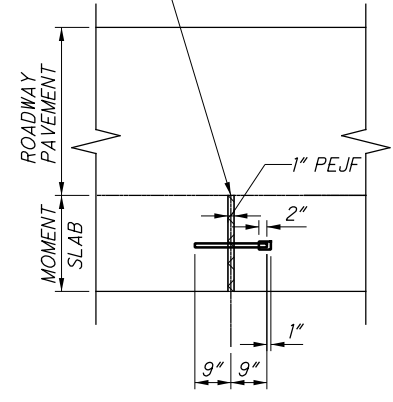
EXPANSION JOINT SECTION



EXPANSION JOINT DETAIL

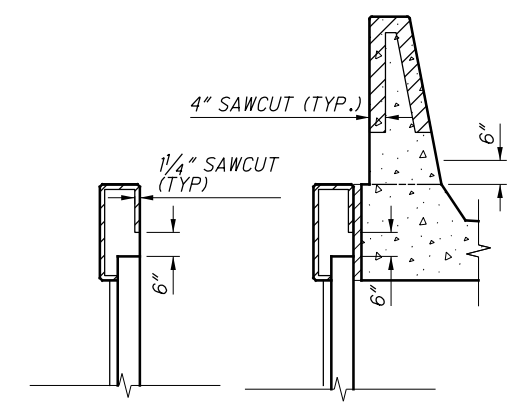
(AT PARAPET)

ITEM 705.04 JOINT SEAL

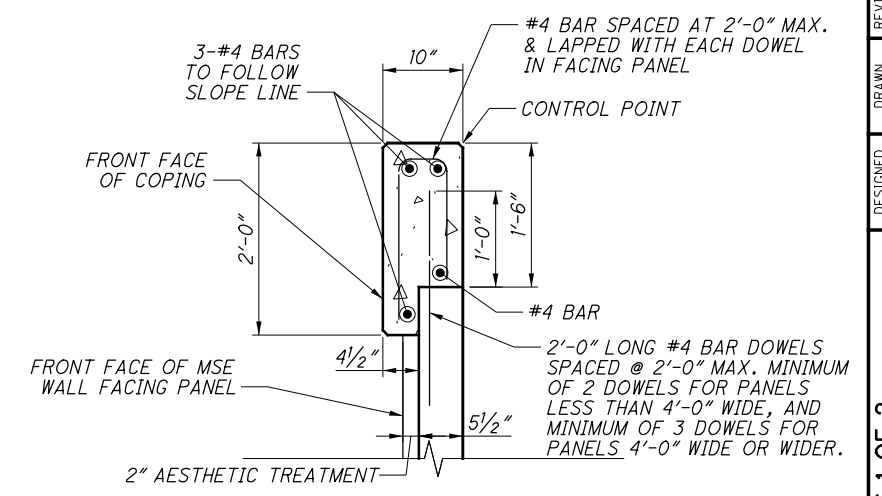


EXPANSION JOINT DETAIL

(AT PAVEMENT)



SAWCUT DETAILS
SEE SBR-1-13 FOR ADDITIONAL DETAILS



COPING DETAIL

LEGEND:

- * LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION) SEAL ALL EXPOSED SURFACES EXTENDING 10'-0" VERTICAL FROM GROUND LINE
 - # GRADING SLOPES AWAY FROM BARRIER. SEE WALL PLAN SHEETS AND ROADWAY CROSS SECTIONS FOR MORE INFORMATION.
- MINIMUM LAP LENGTHS:
 #5 LAP LENGTH = 2'-5"
 #6 LAP LENGTH = 2'-11"

NOTES:

1. TRAFFIC BARRIER & MOMENT SLAB ARE INCIDENTAL TO ITEM - 511, CLASS QC2 CONCRETE, MISC: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA.
2. CONTROL JOINT: SAWCUT 1/4" DEEP CONTROL JOINTS ALONG THE PERIMETER AS SHOWN ON THIS SHEET AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

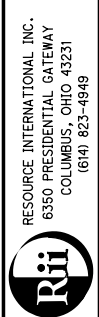
USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE BARRIER. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4".

SEAL THE PERIMETER OF THE CONTROL JOINT TO A MINIMUM DEPTH OF 1" WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO C920, TYPE S. LEAVE THE BOTTOM 1/2" OF BOTH THE INSIDE AND OUTSIDE FACES OF THE BARRIER UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.
3. SAWCUT CONTROL JOINTS SHALL HAVE A MINIMUM SPACING OF 6' AND A MAXIMUM SPACING OF 15'. SEE PLANS FOR BARRIER CONTROL JOINT LOCATIONS.
4. FOR ABBREVIATIONS LEGEND, SEE SHEET 838
5. FOR LOCATIONS OF CIP BARRIER TO RECEIVE 2" LIGHTING CONDUIT, SEE HIGHWAY LIGHTING PLANS. FOR ADDITIONAL CIP BARRIER CONDUIT DETAILS AND NOTES, SEE STD. DWG. HL-20.14.
6. FOR LOCATIONS OF JUNCTION BOXES AND TRAFFIC CONDUIT IN CIP BARRIER, SEE TRAFFIC CONTROL PLANS.

CALCULATED BY: KSJ DATE: 06/08/2020
 CHECKED BY: MMS DATE: 06/08/2020

ESTIMATED QUANTITIES					AS PER PLAN REFERENCE SHEET
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	
203	02000	9684	CU YD	SPECIAL - ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS II	
203	02000	451	CU YD	SPECIAL - ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS III	
203	20000	436	CU YD	EMBANKMENT	
203	35110	935	CU YD	GRANULAR MATERIAL, TYPE B	
203	65000	2	EACH	SPECIAL - SETTLEMENT PLATFORM	
203	98000	4687	CU YD	ROADWAY MISC.: EPS GEOFOAM FILL	
503	11101	LS	LS	COFFERDAMS AND EXCAVATION, AS PER PLAN	838
509	10001	31202	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
511	53012	199	CU YD	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	
511	53012	110	CU YD	CLASS QC2 CONCRETE, MISC.: LOAD DISTRIBUTION SLAB	
511	71200	5058	SQ FT	CONCRETE MISC.: PRECAST WALL PANELS	
511	81100	121	FT	CONCRETE MISC.: PRECAST FOOTING	
512	10100	2080	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)	
516	13200	76	SQ FT	1/2" PREFORMED EXPANSION JOINT FILLER	
516	13900	857	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	
607	39901	363	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN	838
840	20001	17809	SQ FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	839 & 843
840	21000	4995	CU YD	WALL EXCAVATION	
840	22000	1485	SQ YD	FOUNDATION PREPARATION	
840	23000	2660	CU YD	SELECT GRANULAR BACKFILL	
840	25010	506	FT	6" DRAINAGE PIPE, PERFORATED	
840	26000	523	FT	CONCRETE COPING	
840	26050	16763	SQ FT	AESTHETIC SURFACE TREATMENT	
840	27000	5	DAY	ON-SITE ASSISTANCE	

NO.	DESCRIPTION	REV. BY	DATE
1	REMOVED ITEM 203 - GRANULAR MATERIAL, TYPE C QUANTITY	KSJ	11/5/21
3	UPDATED ITEM 509 TO AS PER PLAN	MMS	11/18/21
3	REMOVED ITEM 840E28000 - SGB INSPECTION AND COMPACTION TESTING	MMS	11/18/21



REVIEWED DATE
 NCK 6/23/2021
 STRUCTURE FILE NUMBER

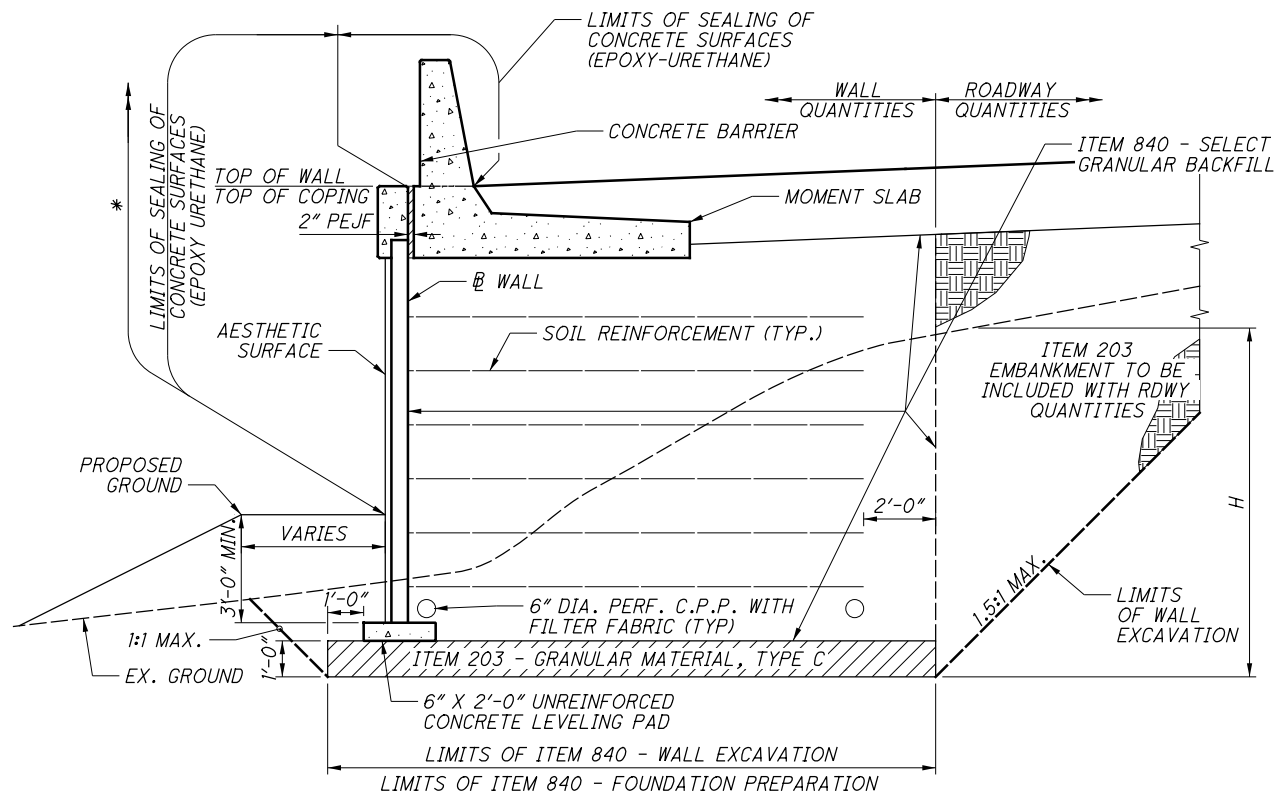
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 REVISED

DESIGNED KSJ
 CHECKED MMS

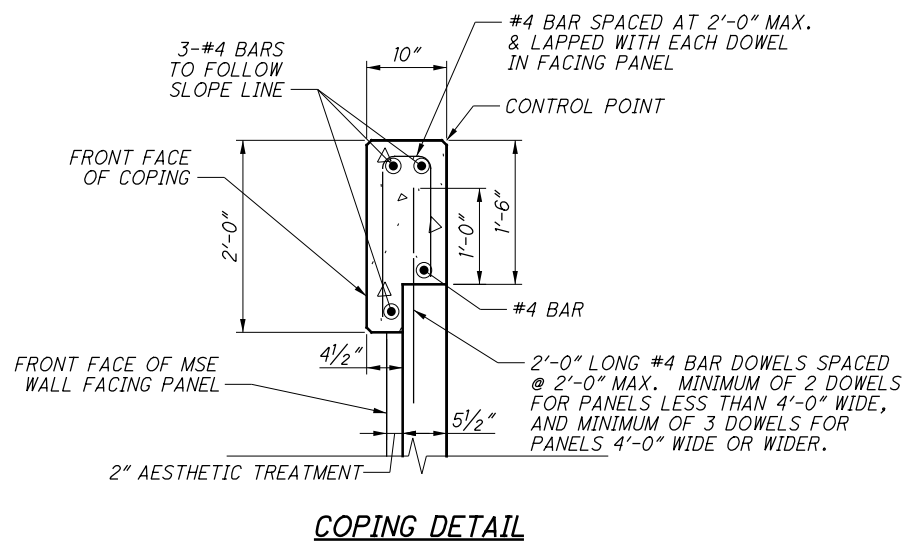
ESTIMATED QUANTITIES
 RETAINING WALL ET
 I-70/I-71 WEST INTERCHANGE PROJECT

FRA - 71 - 14.36
 PID No. 105588

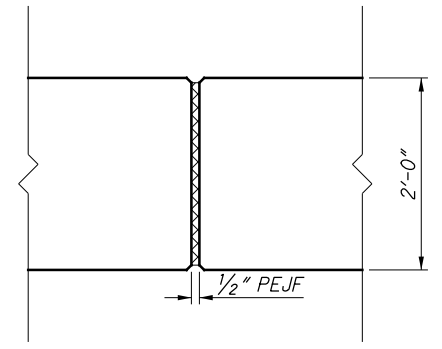
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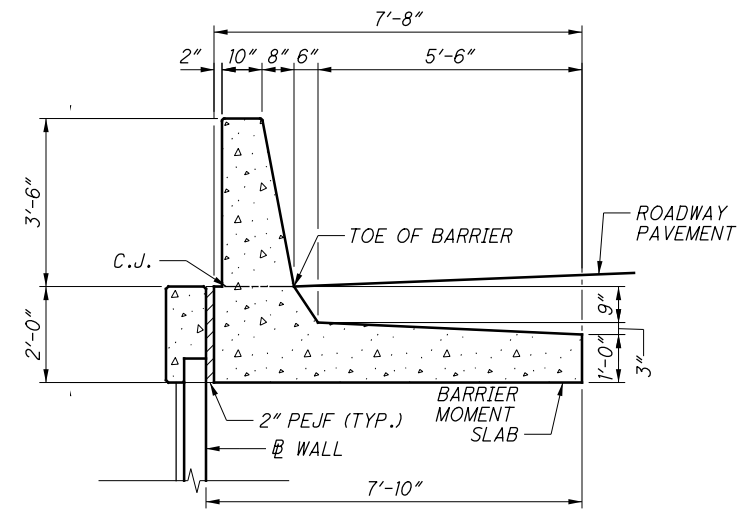
WALL E7 STA. 700+37.93 TO STA. 702+50.00



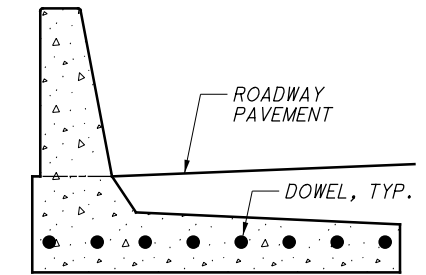
COPING DETAIL



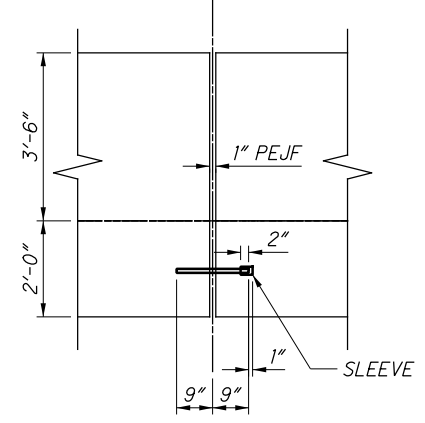
COPING EXPANSION JOINTS



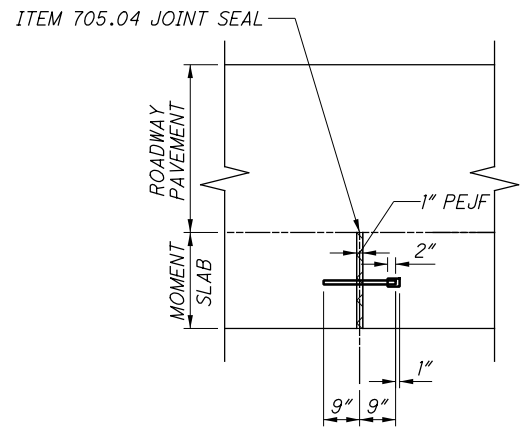
MOMENT SLAB DETAIL



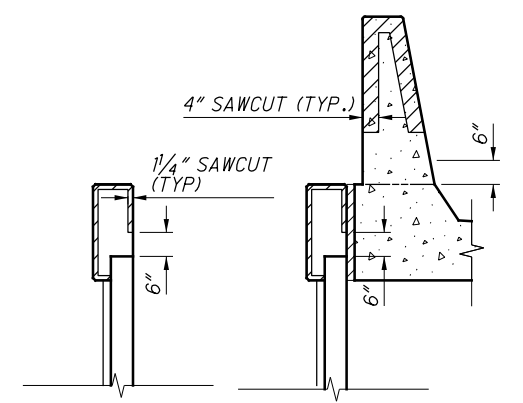
EXPANSION JOINT SECTION



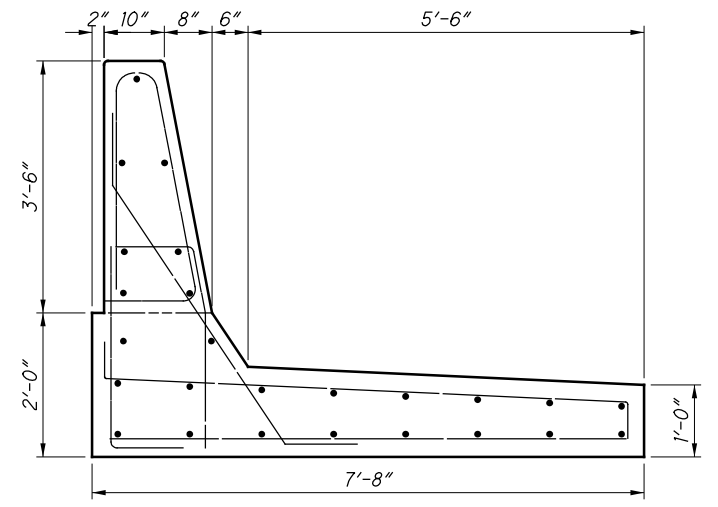
EXPANSION JOINT DETAIL (AT PARAPET)



EXPANSION JOINT DETAIL (AT PAVEMENT)



SAWCUT DETAILS
SEE SBR-1-13 FOR ADDITIONAL DETAILS



MOMENT SLAB REBAR

LEGEND:

- * LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION) SEAL ALL EXPOSED SURFACES EXTENDING 10'-0" VERTICAL FROM GROUND LINE
 - # GRADING SLOPES AWAY FROM BARRIER. SEE WALL PLAN SHEETS AND ROADWAY CROSS SECTIONS FOR MORE INFORMATION.
- MINIMUM LAP LENGTHS:
 #5 LAP LENGTH = 2'-5"
 #6 LAP LENGTH = 2'-11"

NOTES:

1. TRAFFIC BARRIER & MOMENT SLAB ARE INCIDENTAL TO ITEM - 511, CLASS QC2 CONCRETE, MISC: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA
2. CONTROL JOINT: SAWCUT 1/4" DEEP CONTROL JOINTS ALONG THE PERIMETER AS SHOWN ON THIS SHEET AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE BARRIER. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4".

SEAL THE PERIMETER OF THE CONTROL JOINT TO A MINIMUM DEPTH OF 1" WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO C920, TYPE S. LEAVE THE BOTTOM 1/2" OF BOTH THE INSIDE AND OUTSIDE FACES OF THE BARRIER UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.
3. SAWCUT CONTROL JOINTS SHALL HAVE A MINIMUM SPACING OF 6' AND A MAXIMUM SPACING OF 15'. SEE PLANS FOR BARRIER CONTROL JOINT LOCATIONS.
4. FOR ABBREVIATIONS LEGEND, SEE SHEET 838
5. FOR LOCATIONS OF CIP BARRIER TO RECEIVE 2" LIGHTING CONDUIT, SEE HIGHWAY LIGHTING PLANS. FOR ADDITIONAL CIP BARRIER CONDUIT DETAILS AND NOTES, SEE STD. DWG. HL-20.14.
6. FOR LOCATIONS OF JUNCTION BOXES AND TRAFFIC CONDUIT IN CIP BARRIER, SEE TRAFFIC CONTROL PLANS.
7. COPING EXPANSION JOINT SHALL BE SPACED NO MORE THAN 20 FEET APART AND ALIGNED WITH JOINTS BETWEEN FACING PANELS.

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED REFERENCE TO ITEM 511	MMS	11/18/21

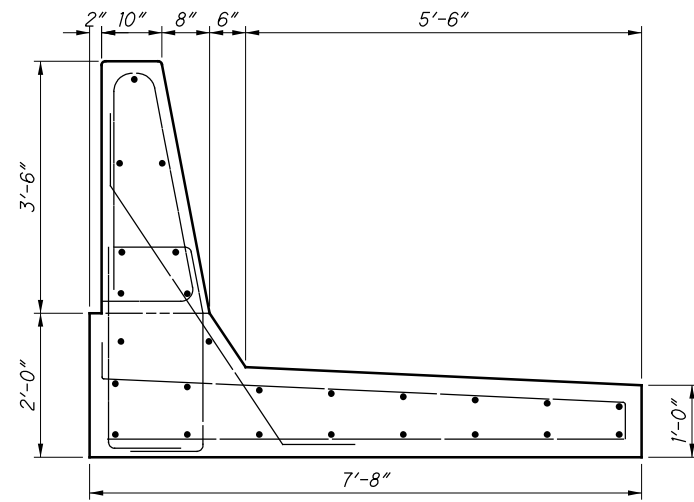
CALCULATED BY: KSJ DATE: 03/04/2020
 CHECKED BY: MMS DATE: 03/04/2020

ESTIMATED QUANTITIES						AS PER PLAN REFERENCE SHEET
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION		
203	02000	1346	CU YD	SPECIAL - ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS II		
203	02000	122	CU YD	SPECIAL - ENGINEERED FILL: LIGHTWEIGHT CELLULAR CONCRETE FILL, CLASS III		
203	20000	678	CU YD	EMBANKMENT		
203	35110	827	CU YD	GRANULAR MATERIAL, TYPE B		
203	98000	6138	CU YD	ROADWAY MISC.: EPS GEOFOAM FILL		
503	11101	LS	LS	COFFERDAMS AND EXCAVATION, AS PER PLAN	838	
509	10001	39409	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838	
511	53012	247	CU YD	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA		
511	71200	4628	SQ FT	CONCRETE MISC.: PRECAST WALL PANELS		
511	81100	152	FT	CONCRETE MISC.: PRECAST FOOTING		
512	10100	1240	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)		
840	20001	10345	SQ FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	839	
840	21000	4104	CU YD	WALL EXCAVATION		
840	22000	743	SQ YD	FOUNDATION PREPARATION		
840	23000	1748	CU YD	SELECT GRANULAR BACKFILL		
840	25010	455	FT	6" DRAINAGE PIPE, PERFORATED		
840	27000	5	DAY	ON-SITE ASSISTANCE		

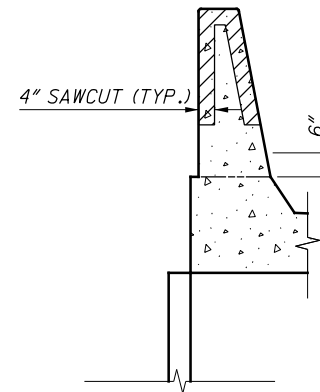
NO.	DESCRIPTION	REV. BY	DATE
1	REMOVED ITEM 203 - GRANULAR MATERIAL, TYPE C QUANTITY	KSJ	11/5/21
3	UPDATED ITEM 509 TO AS PER PLAN	MMS	11/18/21
3	REMOVED ITEM 840E28000 - SGB INSPECTION AND COMPACTION TESTING	MMS	11/18/21



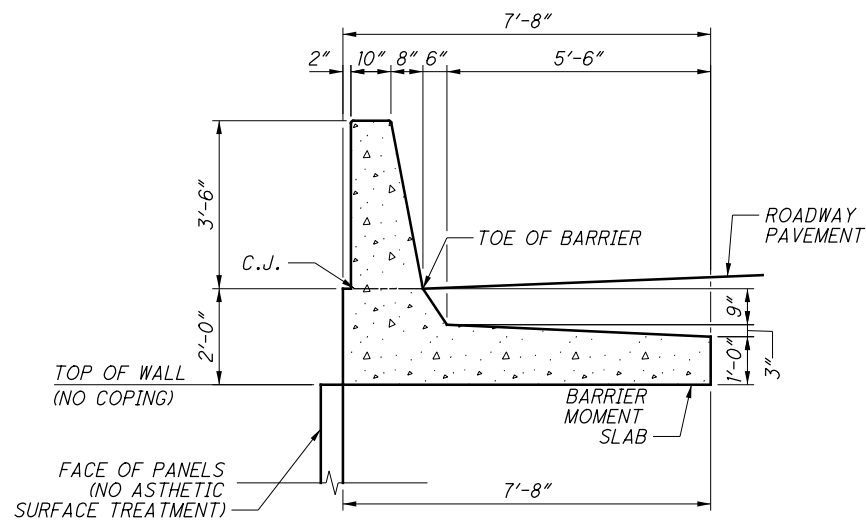
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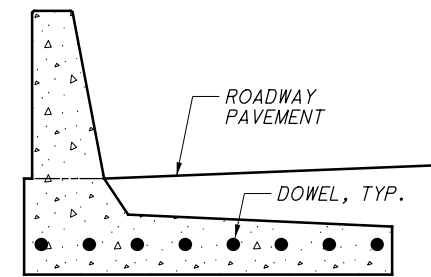
MOMENT SLAB REBAR



SAWCUT DETAILS
SEE SBR-1-13 FOR ADDITIONAL DETAILS



MOMENT SLAB DETAIL



EXPANSION JOINT SECTION

LEGEND:

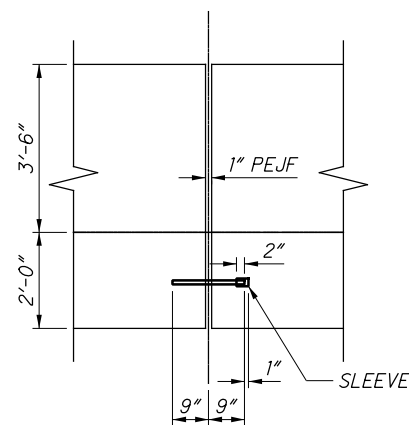
MINIMUM LAP LENGTHS:
#5 LAP LENGTH = 2'-5"
#6 LAP LENGTH = 2'-11"

NOTES:

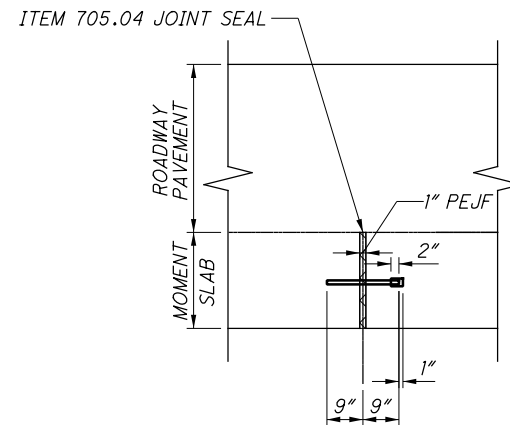
1. FOR MOMENT SLAB DETAILS, SEE SHEET 882
2. TRAFFIC BARRIER & MOMENT SLAB ARE INCIDENTAL TO ITEM - 511, CLASS QC2 CONCRETE, MISC: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA.
3. CONTROL JOINT: SAWCUT 11#4" DEEP CONTROL JOINTS ALONG THE PERIMETER AS SHOWN ON THIS SHEET AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE BARRIER. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1#4".

SEAL THE PERIMETER OF THE CONTROL JOINT TO A MINIMUM DEPTH OF 1" WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO C920, TYPE S. LEAVE THE BOTTOM 1#2" OF BOTH THE INSIDE AND OUTSIDE FACES OF THE BARRIER UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.
4. SAWCUT CONTROL JOINTS SHALL HAVE A MINIMUM SPACING OF 6' AND A MAXIMUM SPACING OF 15'. SEE PLANS FOR BARRIER CONTROL JOINT LOCATIONS.



EXPANSION JOINT DETAIL
(AT PARAPET)



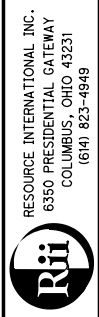
EXPANSION JOINT DETAIL
(AT PAVEMENT)

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED REFERENCE TO ITEM 511	MMS	11/18/21

CALCULATED BY: MMS DATE: 06/08/2020
 CHECKED BY: NCK DATE: 06/08/2020

ESTIMATED QUANTITIES					AS PER PLAN REFERENCE SHEET
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	
203	20000	2649	CU YD	EMBANKMENT	
503	11100	LS	LS	COFFERDAMS AND EXCAVATION BRACING	
509	10001	87095	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
511	53012	560	CU YD	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	
512	10001	1627	SQ YD	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)	838
512	10100	4459	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)	
516	13200	216	SQ FT	1/2" PREFORMED EXPANSION JOINT FILLER	
516	13900	2217	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	
601	37500	431	FT	PAVED GUTTER, TYPE 1-2	
840	20001	36756	SQ FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	843
840	21000	6905	CU YD	WALL EXCAVATION	
840	22000	3332	SQ YD	FOUNDATION PREPARATION	
840	23000	27781	CU YD	SELECT GRANULAR BACKFILL	
840	23050	924	CU YD	NATURAL SOIL	
840	25010	3135	FT	6" DRAINAGE PIPE, PERFORATED	
840	26000	1555	FT	CONCRETE COPING	
840	26050	33647	SQ FT	AESTHETIC SURFACE TREATMENT	
840	27000	5	DAY	ON-SITE ASSISTANCE	

NO.	DESCRIPTION	REV. BY	DATE
1	REMOVED ITEM 203 - GRANULAR MATERIAL, TYPE C QUANTITY	KSJ	11/5/21
3	UPDATED ITEM 509 TO AS PER PLAN	MMS	11/18/21
3	REMOVED ITEM 840E28000 - SGB INSPECTION AND COMPACTION TESTING	MMS	11/18/21



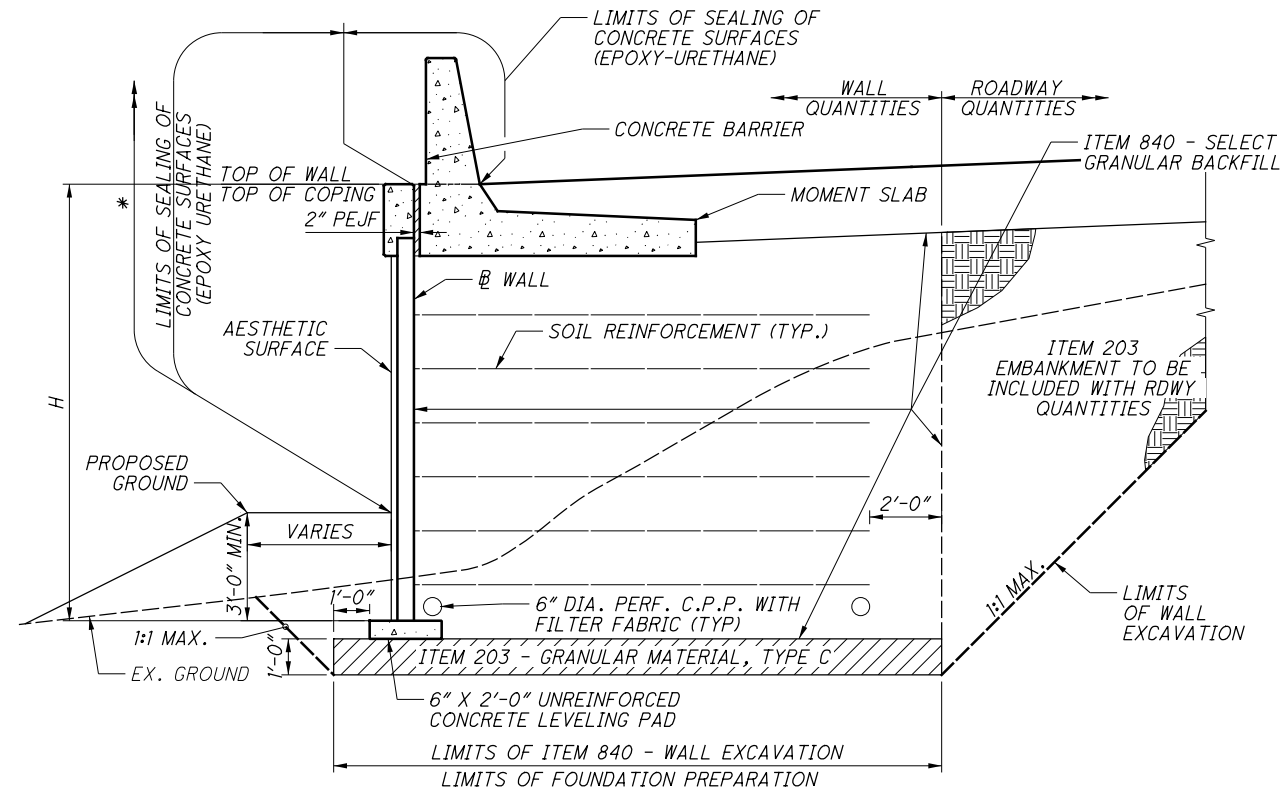
REVIEWED DATE
 NCK 6/23/2021
 STRUCTURE FILE NUMBER

DRAWN MMS
 MMS
 REVISIONS
 CHECKED JGM

ESTIMATED QUANTITIES
 RETAINING WALL W2
 I-70/I-71 WEST INTERCHANGE PROJECT

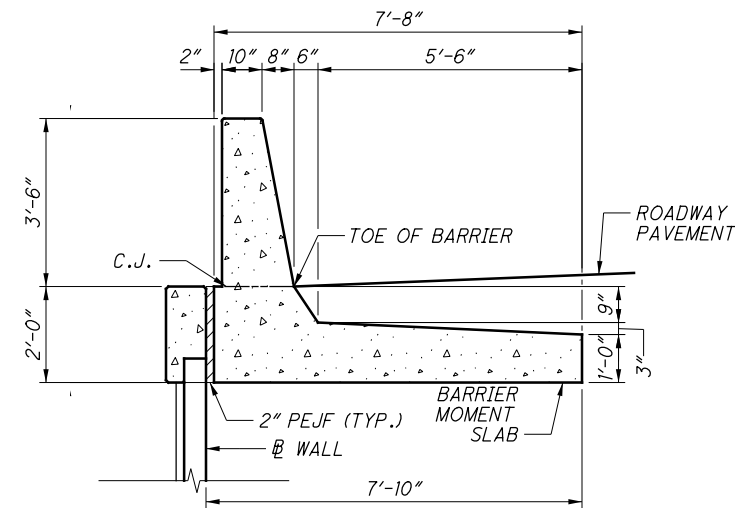
FRA - 71 - 14.36
 PID No. 105588

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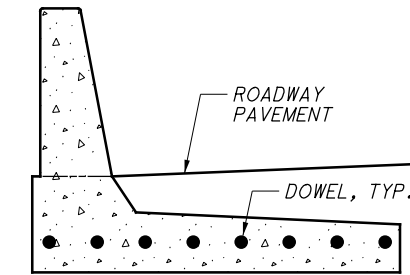


TYPICAL SECTION

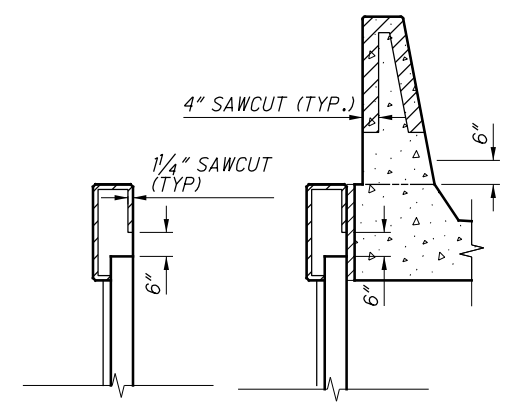
WALL W2 STA. 200+00.00 TO STA. 211+00.00



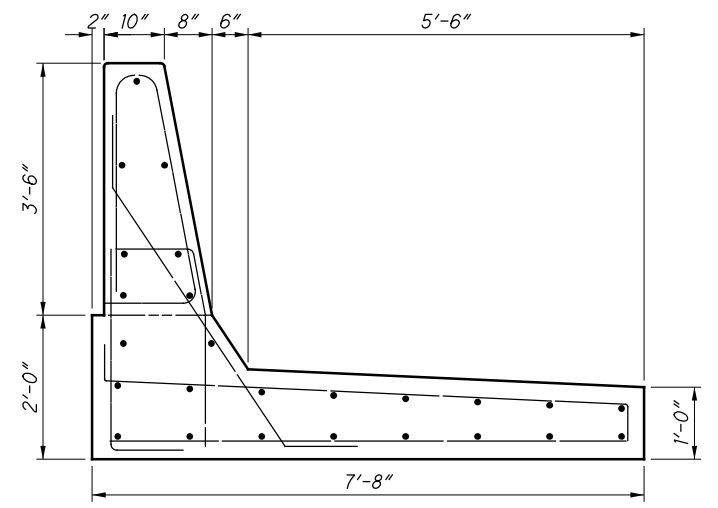
MOMENT SLAB DETAIL



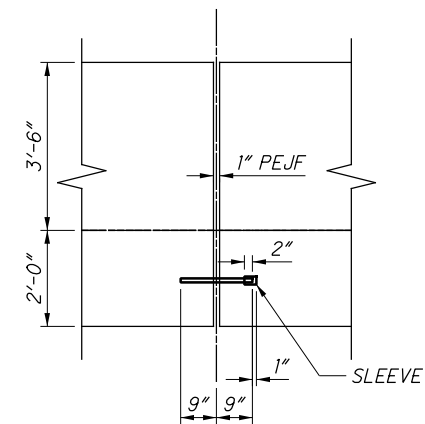
EXPANSION JOINT SECTION



SAWCUT DETAILS
SEE SBR-1-13 FOR ADDITIONAL DETAILS



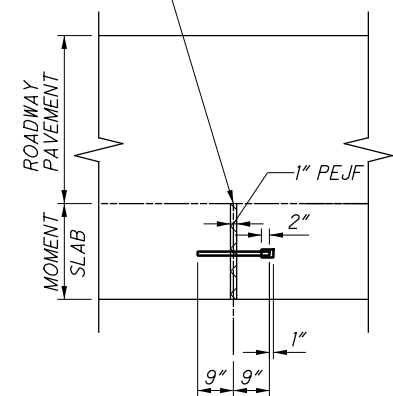
MOMENT SLAB REBAR



EXPANSION JOINT DETAIL

(AT PARAPET)

ITEM 705.04 JOINT SEAL



EXPANSION JOINT DETAIL

(AT PAVEMENT)

LEGEND:

- * LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION) SEAL ALL EXPOSED SURFACES EXTENDING 10'-0" VERTICAL FROM GROUND LINE
 - # GRADING SLOPES AWAY FROM BARRIER. SEE WALL PLAN SHEETS AND ROADWAY CROSS SECTIONS FOR MORE INFORMATION.
- MINIMUM LAP LENGTHS:
 #5 LAP LENGTH = 2'-5"
 #6 LAP LENGTH = 2'-11"

NOTES:

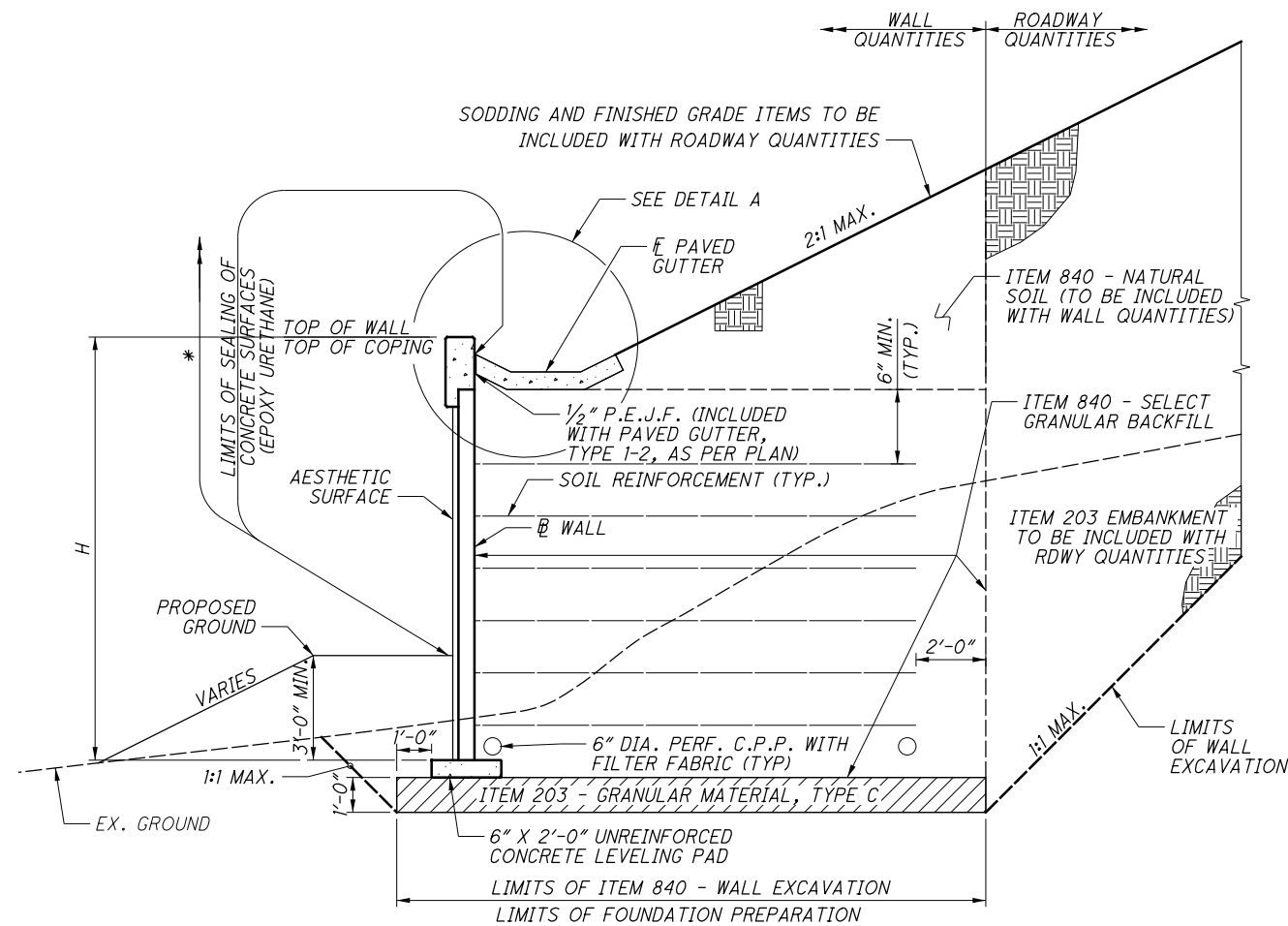
1. TRAFFIC BARRIER & MOMENT SLAB ARE INCIDENTAL TO ITEM - 511, CLASS QC2 CONCRETE, MISC: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA.
2. CONTROL JOINT: SAWCUT 1/4" DEEP CONTROL JOINTS ALONG THE PERIMETER AS SHOWN ON THIS SHEET AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE BARRIER. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4".

SEAL THE PERIMETER OF THE CONTROL JOINT TO A MINIMUM DEPTH OF 1" WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO C920, TYPE S. LEAVE THE BOTTOM 1/2" OF BOTH THE INSIDE AND OUTSIDE FACES OF THE BARRIER UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.
3. SAWCUT CONTROL JOINTS SHALL HAVE A MINIMUM SPACING OF 6' AND A MAXIMUM SPACING OF 15'. SEE PLANS FOR BARRIER CONTROL JOINT LOCATIONS.
4. FOR ABBREVIATIONS LEGEND, SEE SHEET 838
5. FOR LOCATIONS OF CIP BARRIER TO RECEIVE 2" LIGHTING CONDUIT, SEE HIGHWAY LIGHTING PLANS. FOR ADDITIONAL CIP BARRIER CONDUIT DETAILS AND NOTES, SEE STD. DWG. HL-20.14.
6. FOR LOCATIONS OF JUNCTION BOXES AND TRAFFIC CONDUIT IN CIP BARRIER, SEE TRAFFIC CONTROL PLANS.

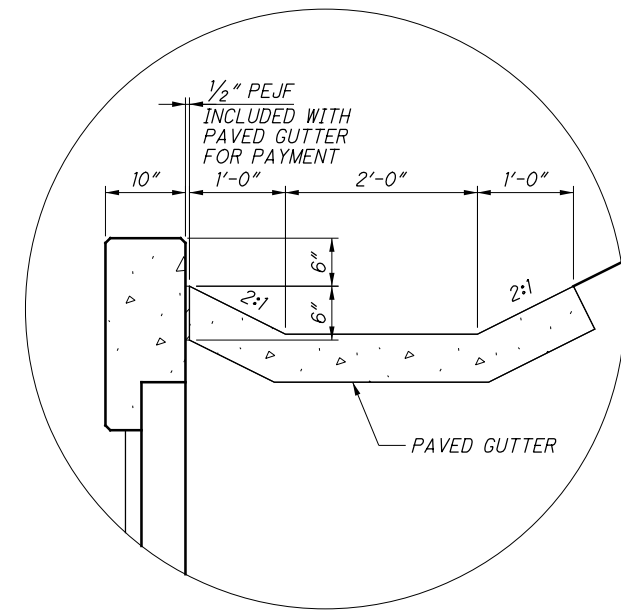
NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED REFERENCE TO ITEM 511	MMS	11/18/21

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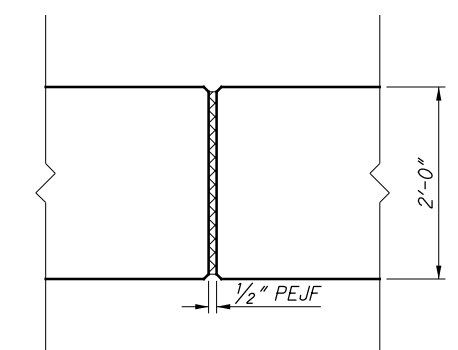


TYPICAL SECTION

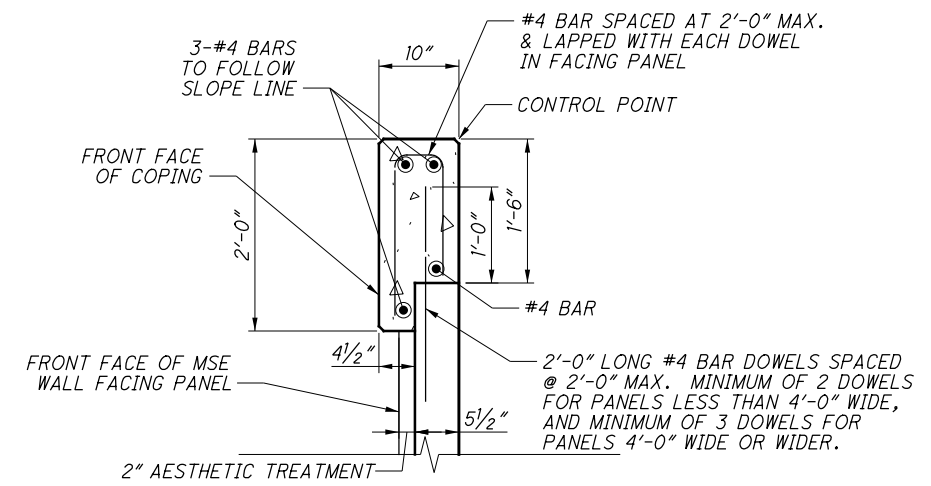
WALL W2 STA. 211+00.00 TO STA. 215+50.00



DETAIL A



COPING EXPANSION JOINTS



COPING DETAIL

LEGEND:

* LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION) SEAL ALL EXPOSED SURFACES EXTENDING 10'-0" VERTICAL FROM GROUND LINE.

MINIMUM LAP LENGTHS:
 #5 LAP LENGTH = 2'-5"
 #6 LAP LENGTH = 2'-11"

NOTES:

1. TRAFFIC BARRIER & MOMENT SLAB ARE INCIDENTAL TO ITEM - 511, CLASS QC2 CONCRETE, MISC: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA.
2. CONTROL JOINT: SAWCUT 1/4" DEEP CONTROL JOINTS ALONG THE PERIMETER AS SHOWN ON THIS SHEET AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

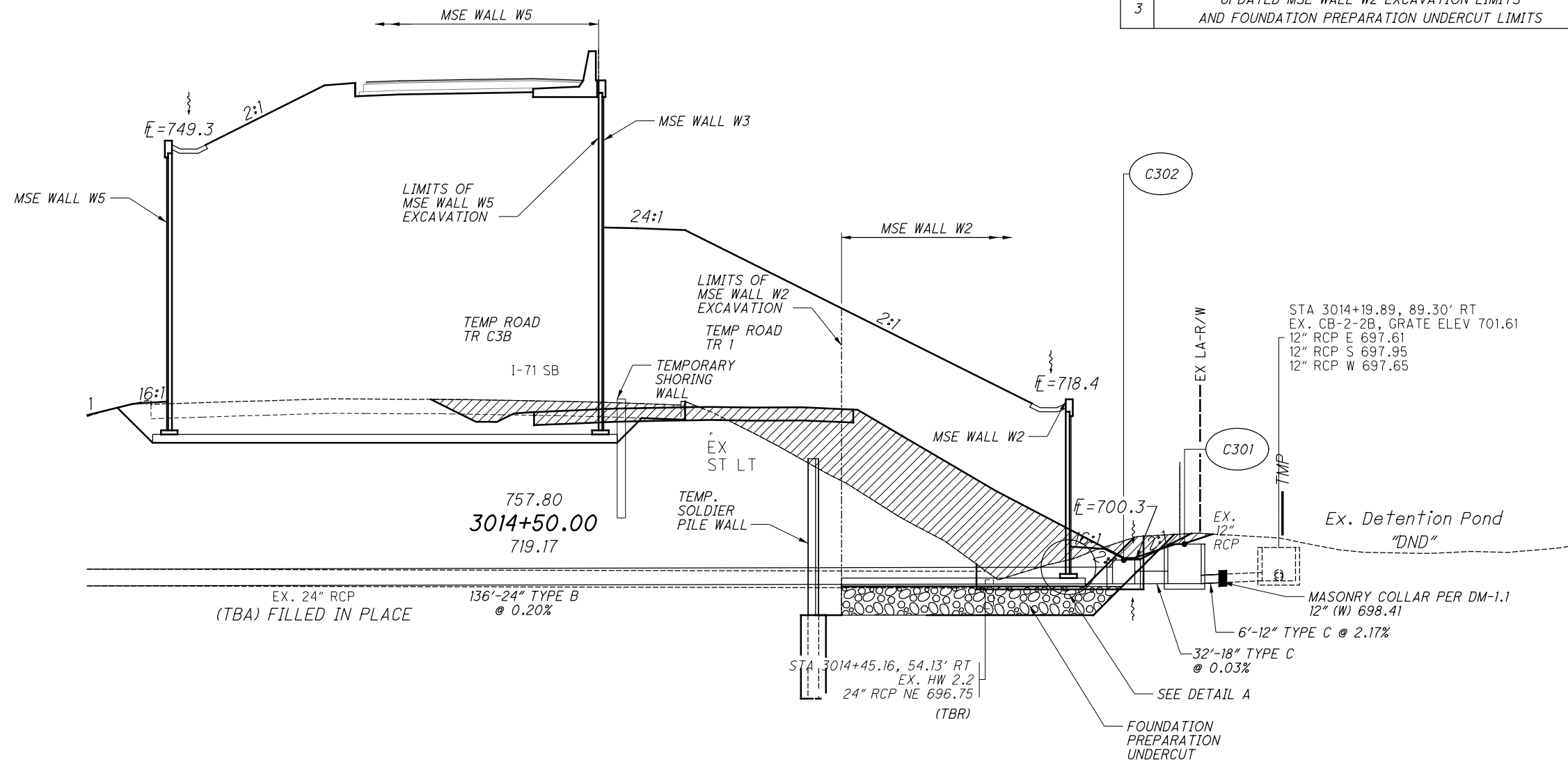
USE AND EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE BARRIER. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4".

SEAL THE PERIMETER OF THE CONTROL JOINT TO A MINIMUM DEPTH OF 1" WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO C920, TYPE S. LEAVE THE BOTTOM 1/2" OF BOTH THE INSIDE AND OUTSIDE FACES OF THE BARRIER UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.
3. SAWCUT CONTROL JOINTS SHALL HAVE A MINIMUM SPACING OF 6' AND A MAXIMUM SPACING OF 15'. SEE PLANS FOR BARRIER CONTROL JOINT LOCATIONS.
4. FOR ABBREVIATIONS LEGEND, SEE SHEET 838
5. FLOW LINE OF 6" DIAMETER PERFORATED PLASTIC PIPE WILL VARY TO PROVIDE POSITIVE DRAINAGE AT OUTLET. MINIMUM SLOPE OF PIPE SHALL BE 1/8" PER FOOT.
6. COPING EXPANSION JOINT SHALL BE SPACED NO MORE THAN 20 FEET APART AND ALIGNED WITH JOINTS BETWEEN FACING PANELS.

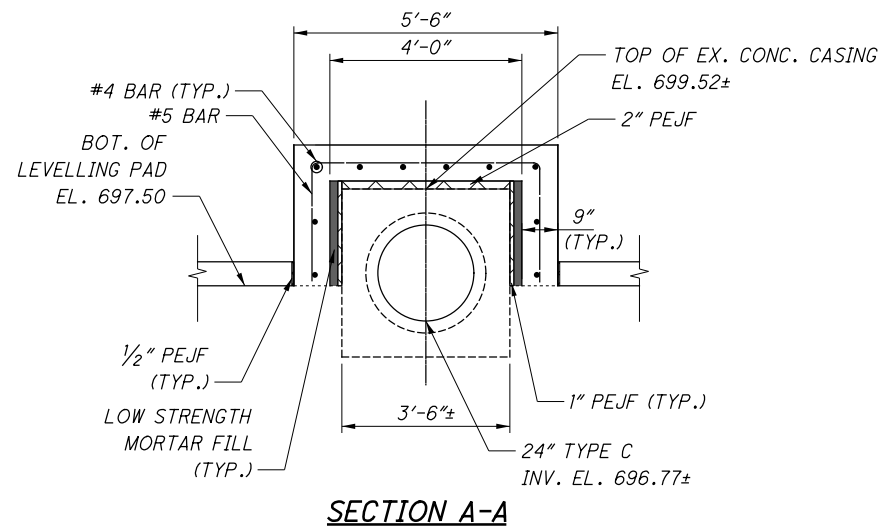
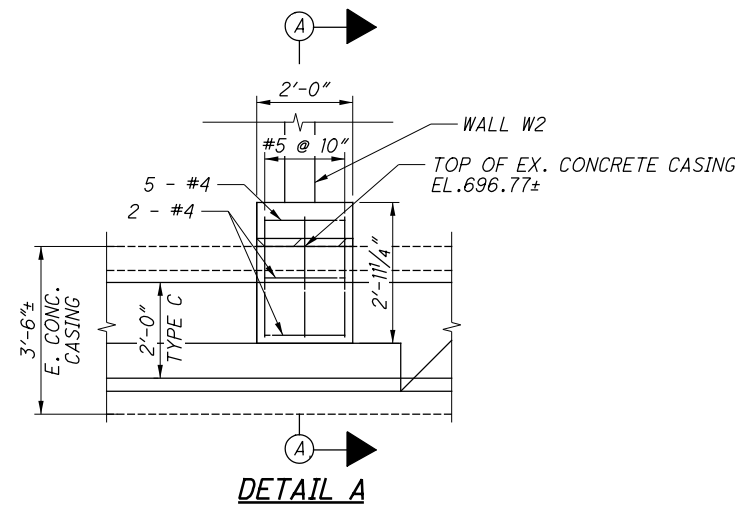
NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED REFERENCE TO ITEM 511	MMS	11/18/21

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NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED MSE WALL W2 EXCAVATION LIMITS AND FOUNDATION PREPARATION UNDERCUT LIMITS	MMS	11/18/21



TYPICAL SECTION
 @ WALL W2 STA. 215+01.17
 @ RAMP C3 STA. 3014+50.00



LEGEND:

■ - LOW STRENGTH MORTAR FILL

NOTES:

- COST OF REINFORCING, CONCRETE AND PEJF FOR CONCRETE PEDESTAL IS INCLUDED WITH PEDESTAL FOR PAYMENT.
- FILL THE GAP BETWEEN EXISTING CASING AND CONCRETE PEDESTAL WITH LOW STRENGTH MORTAR.

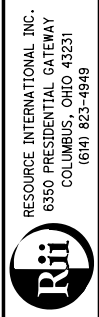
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CALCULATED BY: KSJ DATE: 03/04/2020
 CHECKED BY: MMS DATE: 03/04/2020

ESTIMATED QUANTITIES					AS PER PLAN REFERENCE SHEET
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	
203	20000	3578	CU YD	EMBANKMENT	
203	35110	278	CU YD	GRANULAR MATERIAL, TYPE B	
203	65000	2	EACH	SPECIAL - SETTLEMENT PLATFORM	
203	98100	1912	SQ YD	ROADWAY, MISC: COLUMN SUPPORTED WALLS *	
503	11100	LS	LS	COFFERDAMS AND EXCAVATION BRACING	
509	10001	31723	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
511	53012	524	CU YD	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	
512	10100	5418	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)	
516	13200	419	SQ FT	1/2" PREFORMED EXPANSION JOINT FILLER	
516	13900	1962	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	
601	37500	746	FT	PAVED GUTTER, TYPE 1-2	
840	20001	47388	SQ FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	843
840	21000	12124	CU YD	WALL EXCAVATION	
840	22000	6296	SQ YD	FOUNDATION PREPARATION	
840	23000	62184	CU YD	SELECT GRANULAR BACKFILL	
840	23050	9690	CU YD	NATURAL SOIL	
840	25010	4033	FT	6" DRAINAGE PIPE, PERFORATED	
840	26000	1777	FT	CONCRETE COPING	
840	26050	43836	SQ FT	AESTHETIC SURFACE TREATMENT	
840	27000	5	DAY	ON-SITE ASSISTANCE	

* - QUANTITY FOR COLUMN SUPPORTED WALLS INCLUDES GROUND IMPROVEMENTS PERFORMED UNDER THIS SET OF PLANS. SEE SHEET 909K FOR LIMITS.

NO.	DESCRIPTION	REV. BY	DATE
1	REMOVED ITEM 203 - GRANULAR MATERIAL, TYPE C QUANTITY	KSJ	11/5/21
1	CHANGED CONTROLLED MODULUS COLUMNS TO COLUMN SUPPORTED WALLS	KSJ	11/5/21
1	NOTE ADDED	KSJ	11/5/21
3	UPDATED ITEM 509 TO AS PER PLAN	MMS	11/18/21
3	REMOVED ITEM 840E28000 - SGB INSPECTION AND COMPACTION TESTING	MMS	11/18/21



REVIEWED DATE 6/23/2021
 NCK
 STRUCTURE FILE NUMBER

DRAWN JGM
 REVISED

DESIGNED JGM
 CHECKED MMS

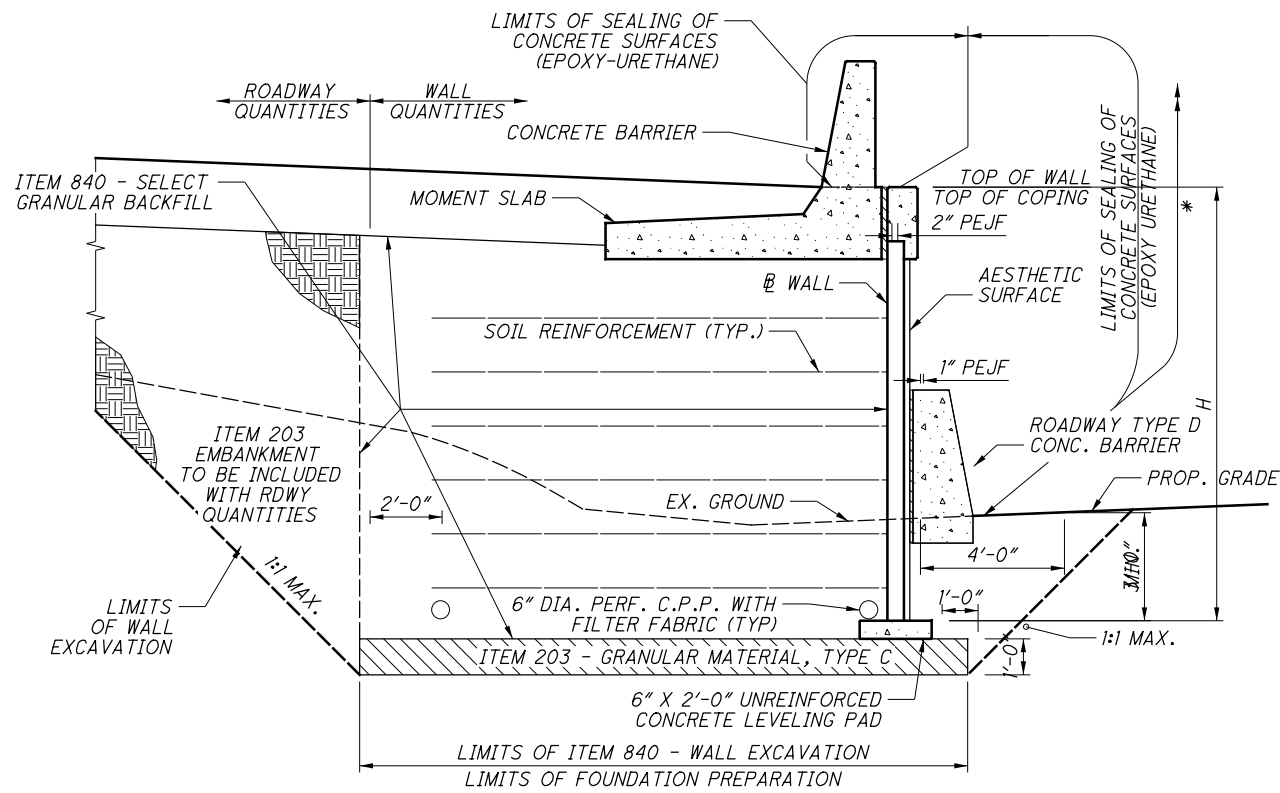
ESTIMATED QUANTITIES
 RETAINING WALL W5
 I-70/I-71 WEST INTERCHANGE PROJECT

FRA - 71 - 14.36
 PID No. 105588

1 / 16

894
 1228

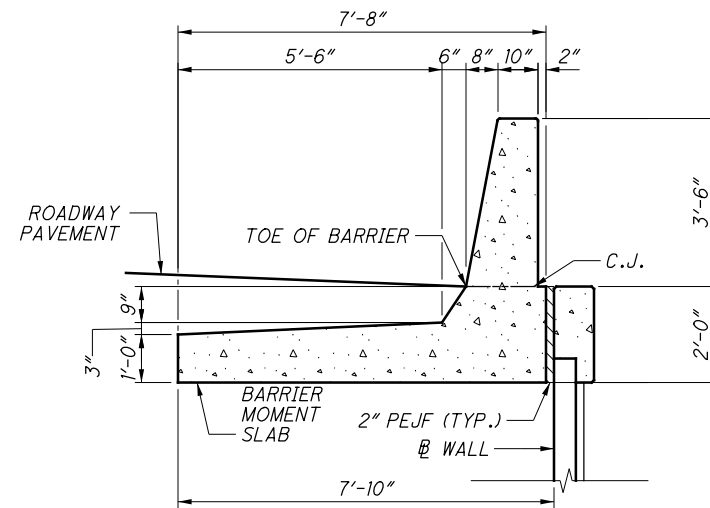
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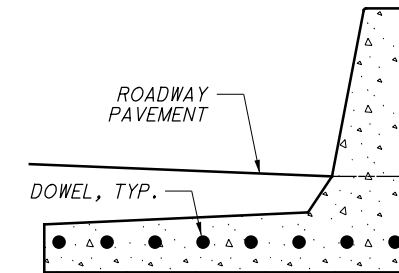
TYPICAL SECTION

WALL W5 STA. 500+00.00 TO STA. 507+00.00

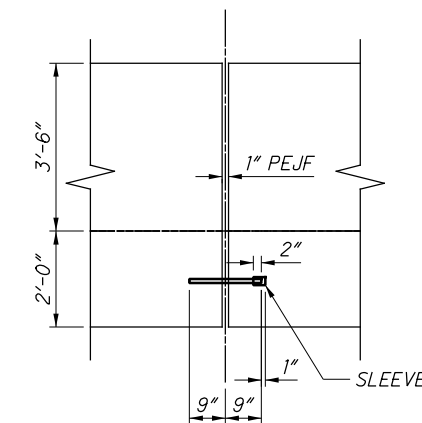
NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED REFERENCE TO ITEM 511	MMS	11/18/21



MOMENT SLAB DETAIL

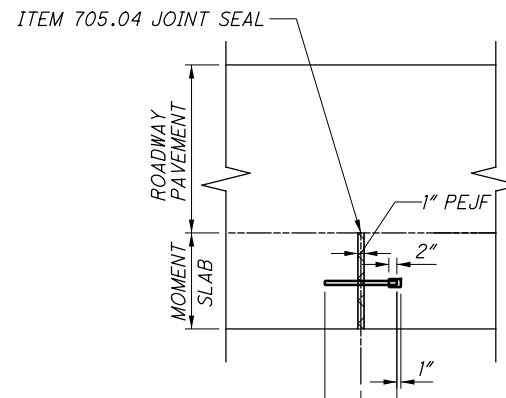


EXPANSION JOINT SECTION



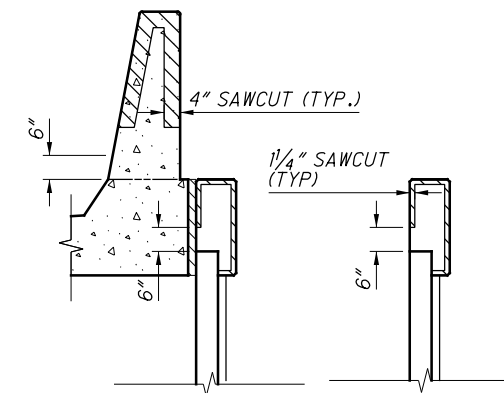
EXPANSION JOINT DETAIL

(AT PARAPET)

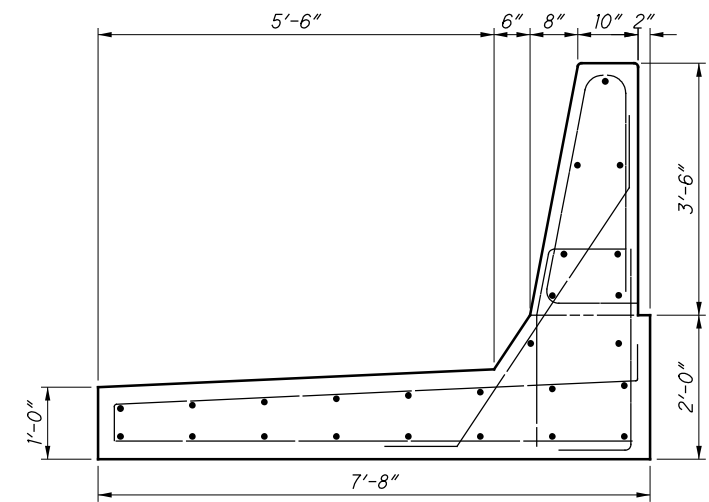


EXPANSION JOINT DETAIL

(AT PAVEMENT)



SAWCUT DETAILS
SEE SBR-1-13 FOR ADDITIONAL DETAILS



MOMENT SLAB REBAR

LEGEND:

- * LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION) SEAL ALL EXPOSED SURFACES EXTENDING 10'-0" VERTICAL FROM GROUND LINE
 - # GRADING SLOPES AWAY FROM BARRIER, SEE WALL PLAN SHEETS AND ROADWAY CROSS SECTIONS FOR MORE INFORMATION.
- MINIMUM LAP LENGTHS:
 #5 LAP LENGTH = 2'-5"
 #6 LAP LENGTH = 2'-11"

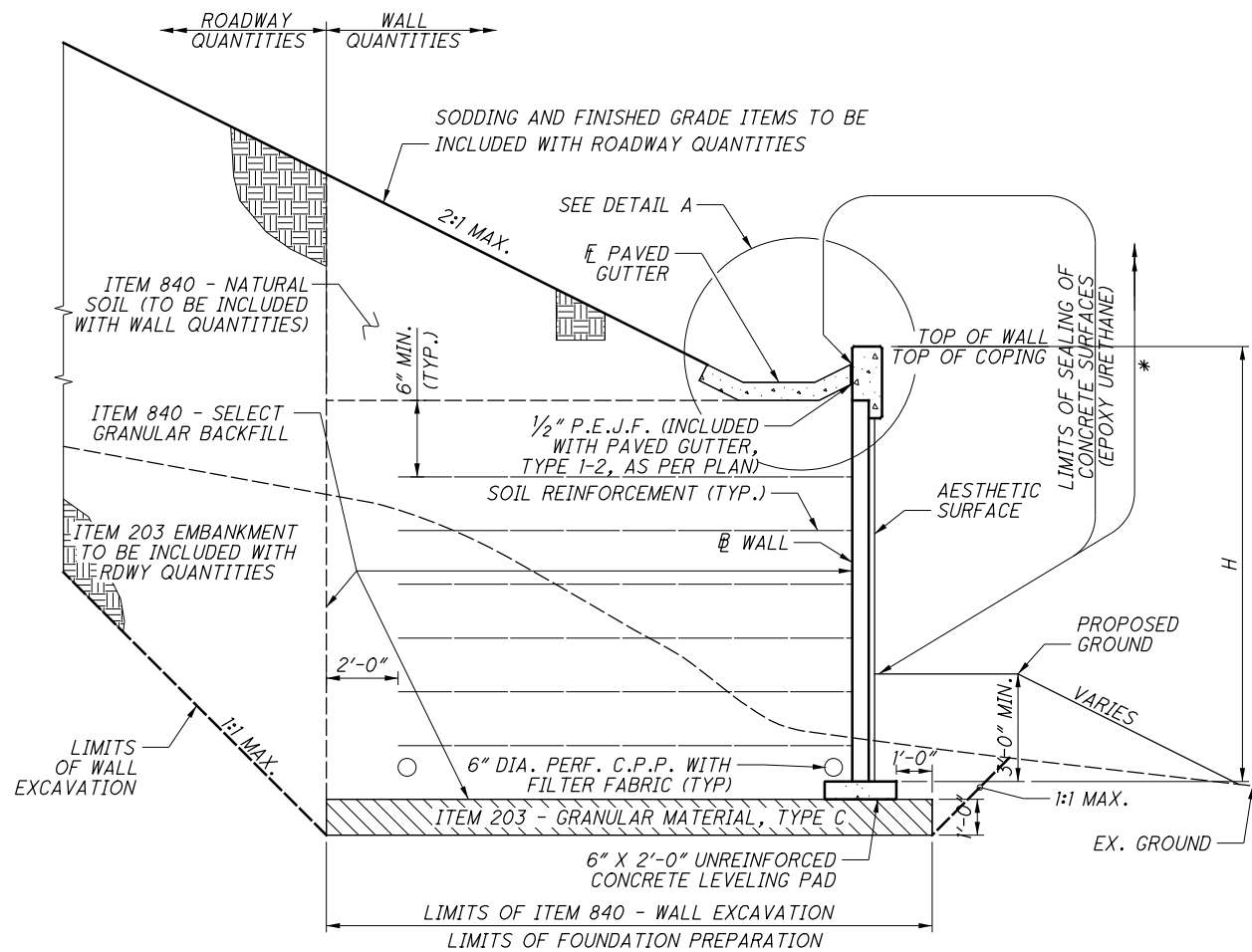
NOTES:

1. TRAFFIC BARRIER & MOMENT SLAB ARE INCIDENTAL TO ITEM - 511, CLASS QC2 CONCRETE, MISC: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA.
2. CONTROL JOINT: SAWCUT 1/4" DEEP CONTROL JOINTS ALONG THE PERIMETER AS SHOWN ON THIS SHEET AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE BARRIER. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4".

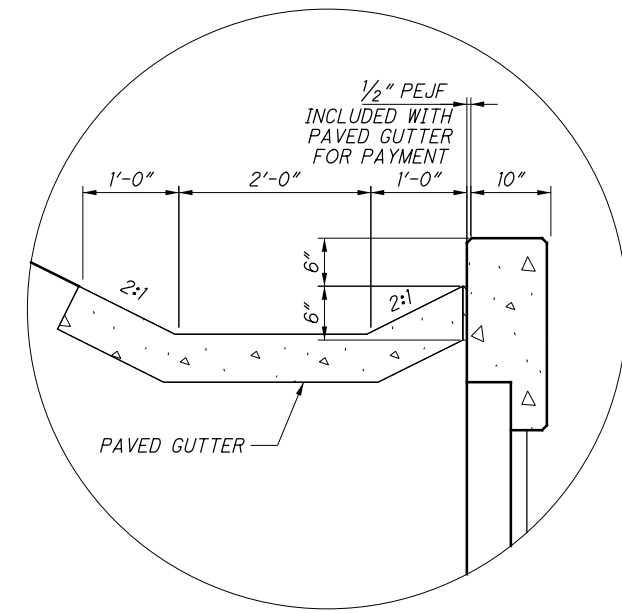
SEAL THE PERIMETER OF THE CONTROL JOINT TO A MINIMUM DEPTH OF 1" WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO C920, TYPE S. LEAVE THE BOTTOM 1/2" OF BOTH THE INSIDE AND OUTSIDE FACES OF THE BARRIER UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.
3. SAWCUT CONTROL JOINTS SHALL HAVE A MINIMUM SPACING OF 6' AND A MAXIMUM SPACING OF 15'. SEE PLANS FOR BARRIER CONTROL JOINT LOCATIONS.
4. FOR ABBREVIATIONS LEGEND, SEE SHEET 838
5. FOR LOCATIONS OF CIP BARRIER TO RECEIVE 2" LIGHTING CONDUIT, SEE HIGHWAY LIGHTING PLANS. FOR ADDITIONAL CIP BARRIER CONDUIT DETAILS AND NOTES, SEE STD. DWG. HL-20.14.
6. FOR LOCATIONS OF JUNCTION BOXES AND TRAFFIC CONDUIT IN CIP BARRIER, SEE TRAFFIC CONTROL PLANS.

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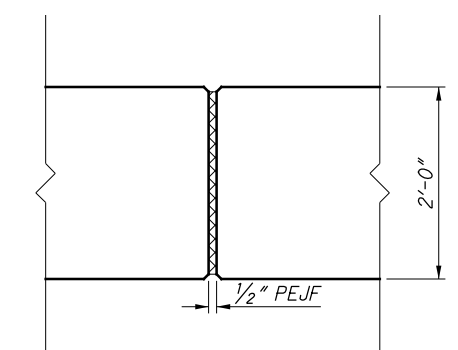


TYPICAL SECTION

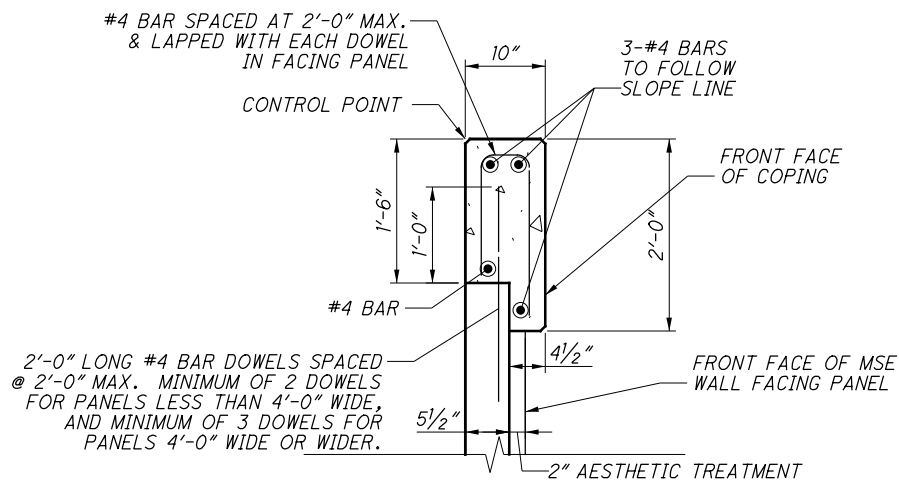
WALL W5 STA. 600+19.08 TO STA. 607+64.58



DETAIL A



COPING EXPANSION JOINTS



COPING DETAIL

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED REFERENCE TO ITEM 511	MMS	11/18/21

LEGEND:

* LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION) SEAL ALL EXPOSED SURFACES EXTENDING 10'-0" VERTICAL FROM GROUND LINE.

MINIMUM LAP LENGTHS:
 #5 LAP LENGTH = 2'-5"
 #6 LAP LENGTH = 2'-11"

NOTES:

1. TRAFFIC BARRIER & MOMENT SLAB ARE INCIDENTAL TO ITEM - 511, CLASS QC2 CONCRETE, MISC: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA.
2. CONTROL JOINT: SAWCUT 1/4" DEEP CONTROL JOINTS ALONG THE PERIMETER AS SHOWN ON THIS SHEET AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

USE AND EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE BARRIER. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4".

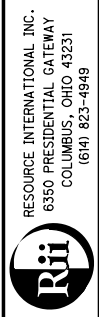
SEAL THE PERIMETER OF THE CONTROL JOINT TO A MINIMUM DEPTH OF 1" WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO C920, TYPE S. LEAVE THE BOTTOM 1/2" OF BOTH THE INSIDE AND OUTSIDE FACES OF THE BARRIER UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.
3. SAWCUT CONTROL JOINTS SHALL HAVE A MINIMUM SPACING OF 6' AND A MAXIMUM SPACING OF 15'. SEE PLANS FOR BARRIER CONTROL JOINT LOCATIONS.
4. FOR ABBREVIATIONS LEGEND, SEE SHEET 838
5. FLOW LINE OF 6" DIAMETER PERFORATED PLASTIC PIPE WILL VARY TO PROVIDE POSITIVE DRAINAGE AT OUTLET. MINIMUM SLOPE OF PIPE SHALL BE 1/8" PER FOOT.
6. COPING EXPANSION JOINT SHALL BE SPACED NO MORE THAN 20 FEET APART AND ALIGNED WITH JOINTS BETWEEN FACING PANELS.

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CALCULATED BY: MMS DATE: 06/01/2020
 CHECKED BY: JGM DATE: 06/01/2020

ESTIMATED QUANTITIES					AS PER PLAN REFERENCE SHEET
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	
203	20000	1393	CU YD	EMBANKMENT	
503	11100	LS	LS	COFFERDAMS AND EXCAVATION BRACING	
509	10001	30007	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	838
511	53012	192	CU YD	CLASS QC2 CONCRETE, MISC.: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA	
512	10100	2629	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY URETHANE)	
516	13200	196	SQ FT	1/2" PREFORMED EXPANSION JOINT FILLER	
516	13900	720	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	
601	37500	392	FT	PAVED GUTTER, TYPE 1-2	
840	20001	27132	SQ FT	MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN	843
840	21000	3256	CU YD	WALL EXCAVATION	
840	22000	1835	SQ YD	FOUNDATION PREPARATION	
840	23000	18250	CU YD	SELECT GRANULAR BACKFILL	
840	23050	701	CU YD	NATURAL SOIL	
840	25010	1090	FT	6" DRAINAGE PIPE, PERFORATED	
840	25020	25	FT	6" DRAINAGE PIPE, NON-PERFORATED	
840	26000	871	FT	CONCRETE COPING	
840	26050	25394	SQ FT	AESTHETIC SURFACE TREATMENT	
840	27000	5	DAY	ON-SITE ASSISTANCE	
867	00101	LS	LS	TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL (WALL T2), AS PER PLAN	839

NO.	DESCRIPTION	REV. BY	DATE
1	REMOVED ITEM 203 - GRANULAR MATERIAL, TYPE C QUANTITY	KSJ	11/5/21
3	UPDATED ITEM 509 TO AS PER PLAN	MMS	11/18/21
3	REMOVED ITEM 840E28000 - SGB INSPECTION AND COMPACTION TESTING	MMS	11/18/21



REVIEWED DATE: 6/23/2021
 NCK
 STRUCTURE FILE NUMBER

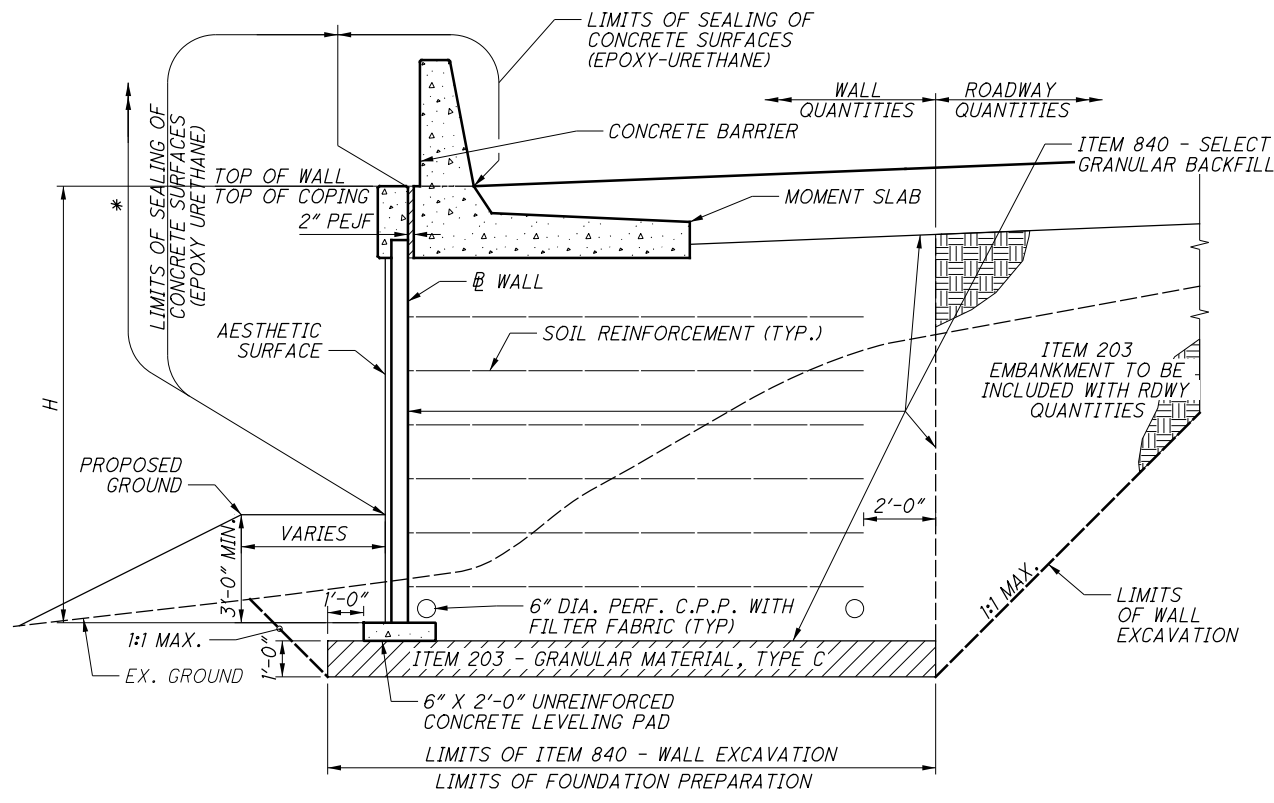
DRAWN JGM
 REVISED

DESIGNED JGM
 CHECKED MMS

ESTIMATED QUANTITIES
 RETAINING WALL W3
 I-70/I-71 WEST INTERCHANGE PROJECT

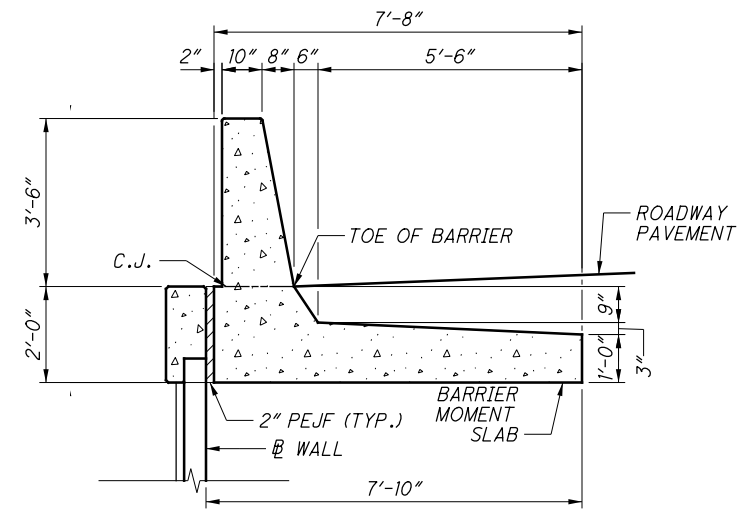
FRA-71-14.36
 PID No. 105588

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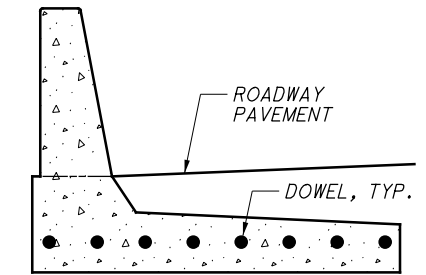


TYPICAL SECTION

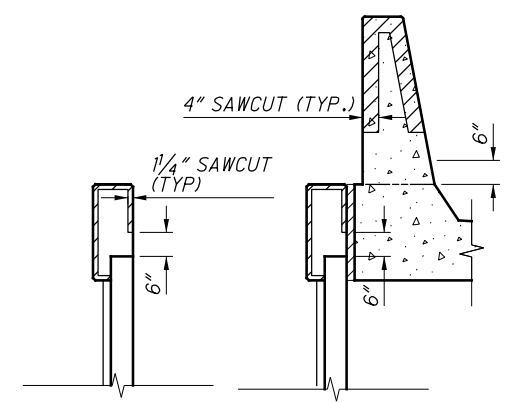
WALL W3 STA. 305+09.19 TO STA. 308+69.19



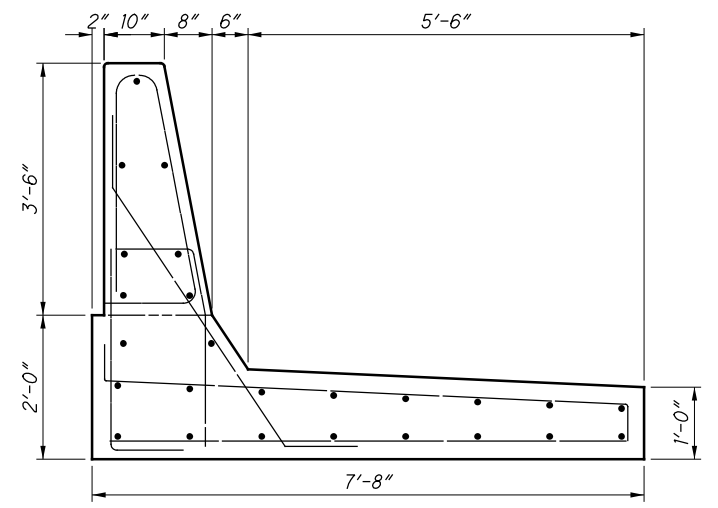
MOMENT SLAB DETAIL



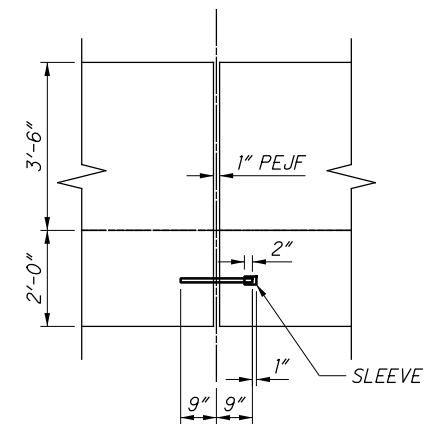
EXPANSION JOINT SECTION



SAWCUT DETAILS
SEE SBR-1-13 FOR ADDITIONAL DETAILS

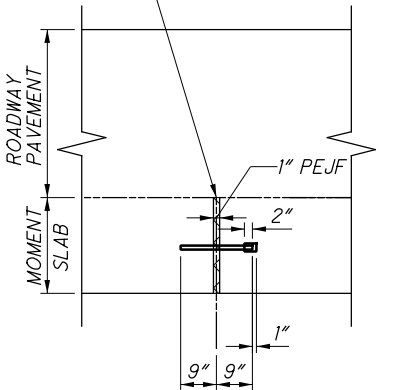


MOMENT SLAB REBAR



EXPANSION JOINT DETAIL (AT PARAPET)

ITEM 705.04 JOINT SEAL



EXPANSION JOINT DETAIL (AT PAVEMENT)

LEGEND:

- * LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION) SEAL ALL EXPOSED SURFACES EXTENDING 10'-0" VERTICAL FROM GROUND LINE
- # GRADING SLOPES AWAY FROM BARRIER. SEE WALL PLAN SHEETS AND ROADWAY CROSS SECTIONS FOR MORE INFORMATION.

MINIMUM LAP LENGTHS:
#5 LAP LENGTH = 2'-5"
#6 LAP LENGTH = 2'-11"

NOTES:

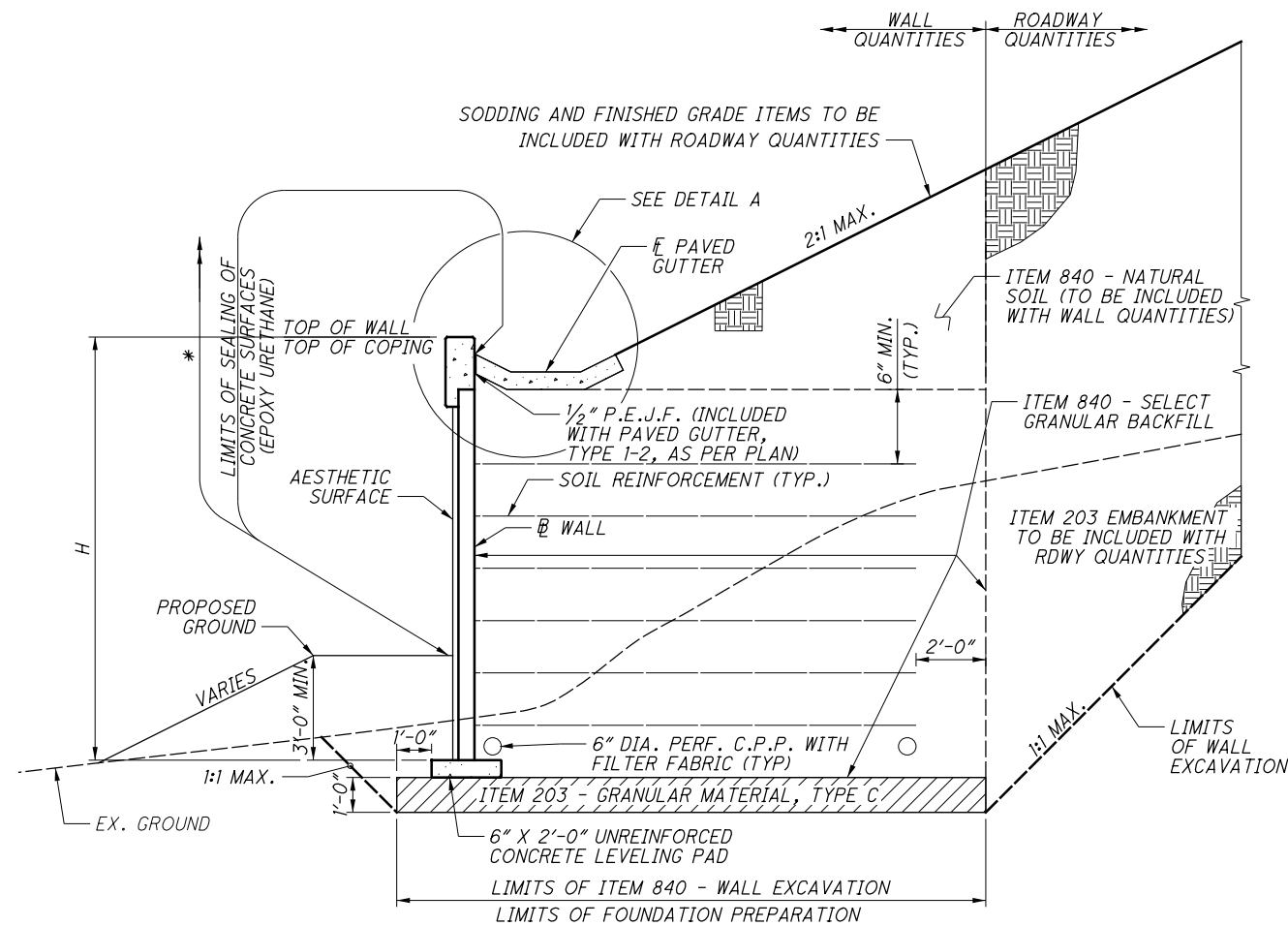
1. TRAFFIC BARRIER & MOMENT SLAB ARE INCIDENTAL TO ITEM - 511, CLASS QC2 CONCRETE, MISC: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA.
2. CONTROL JOINT: SAWCUT 1/4" DEEP CONTROL JOINTS ALONG THE PERIMETER AS SHOWN ON THIS SHEET AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

USE AN EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE BARRIER. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4".

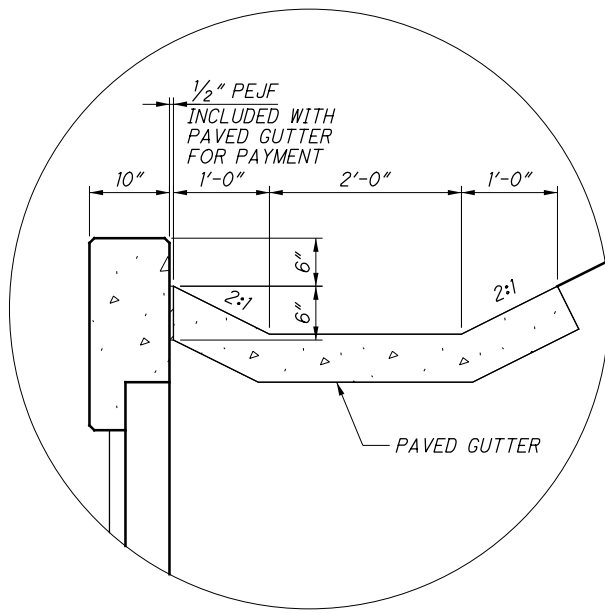
SEAL THE PERIMETER OF THE CONTROL JOINT TO A MINIMUM DEPTH OF 1" WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO C920, TYPE S. LEAVE THE BOTTOM 1/2" OF BOTH THE INSIDE AND OUTSIDE FACES OF THE BARRIER UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.
3. SAWCUT CONTROL JOINTS SHALL HAVE A MINIMUM SPACING OF 6' AND A MAXIMUM SPACING OF 15'. SEE PLANS FOR BARRIER CONTROL JOINT LOCATIONS.
4. FOR ABBREVIATIONS LEGEND, SEE SHEET 838
5. FOR LOCATIONS OF CIP BARRIER TO RECEIVE 2" LIGHTING CONDUIT, SEE HIGHWAY LIGHTING PLANS. FOR ADDITIONAL CIP BARRIER CONDUIT DETAILS AND NOTES, SEE STD. DWG. HL-20.14.
6. FOR LOCATIONS OF JUNCTION BOXES AND TRAFFIC CONDUIT IN CIP BARRIER, SEE TRAFFIC CONTROL PLANS.

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED REFERENCE TO ITEM 511	MMS	11/18/21

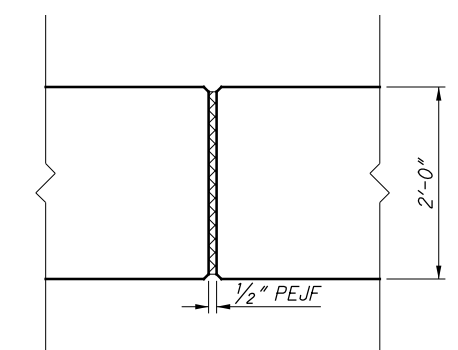
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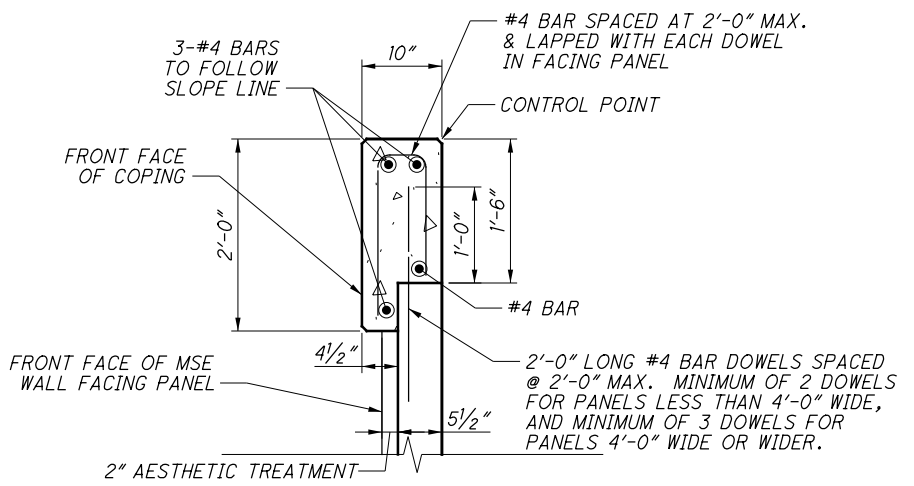
TYPICAL SECTION
WALL W3 STA. 300+00.00 TO STA. 305+09.19



DETAIL A



COPING EXPANSION JOINTS



COPING DETAIL

LEGEND:

* LIMITS OF ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION) SEAL ALL EXPOSED SURFACES EXTENDING 10'-0" VERTICAL FROM GROUND LINE.

MINIMUM LAP LENGTHS:
#5 LAP LENGTH = 2'-5"
#6 LAP LENGTH = 2'-11"

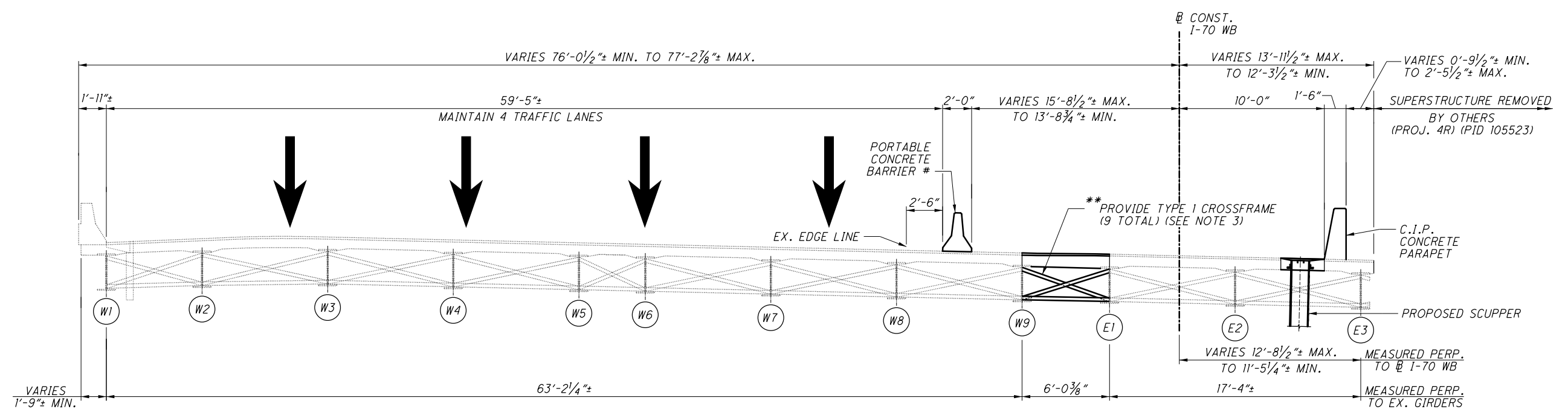
NOTES:

1. TRAFFIC BARRIER & MOMENT SLAB ARE INCIDENTAL TO ITEM - 511, CLASS QC2 CONCRETE, MISC: PARAPET INCLUDING SLEEPER SLAB WITH QC/QA.
2. CONTROL JOINT: SAWCUT 1/4" DEEP CONTROL JOINTS ALONG THE PERIMETER AS SHOWN ON THIS SHEET AS SOON AS THE SAW CAN BE OPERATED WITHOUT DAMAGING THE CONCRETE.

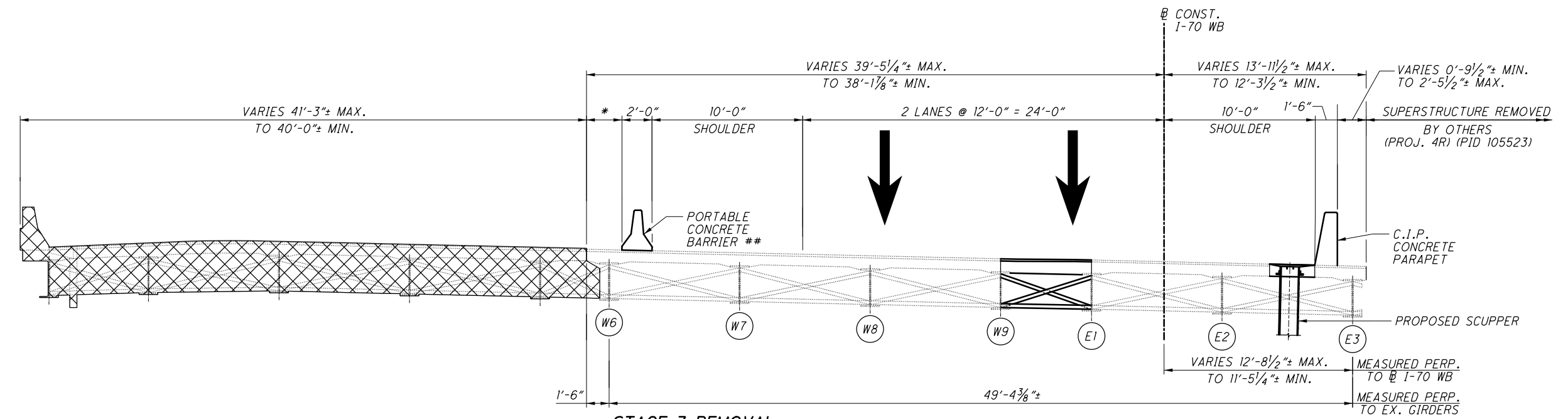
USE AND EDGE GUIDE, FENCE, OR JIG TO ENSURE THAT THE CUT JOINT IS STRAIGHT, TRUE AND ALIGNED ON ALL FACES OF THE BARRIER. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 1/4".

SEAL THE PERIMETER OF THE CONTROL JOINT TO A MINIMUM DEPTH OF 1" WITH A POLYURETHANE OR POLYMERIC MATERIAL CONFORMING TO C920, TYPE S. LEAVE THE BOTTOM 1/2" OF BOTH THE INSIDE AND OUTSIDE FACES OF THE BARRIER UNSEALED TO ALLOW ANY WATER WHICH MAY ENTER THE JOINT TO ESCAPE.
3. SAWCUT CONTROL JOINTS SHALL HAVE A MINIMUM SPACING OF 6' AND A MAXIMUM SPACING OF 15'. SEE PLANS FOR BARRIER CONTROL JOINT LOCATIONS.
4. FOR ABBREVIATIONS LEGEND, SEE SHEET 838
5. FLOW LINE OF 6" DIAMETER PERFORATED PLASTIC PIPE WILL VARY TO PROVIDE POSITIVE DRAINAGE AT OUTLET. MINIMUM SLOPE OF PIPE SHALL BE 1/8" PER FOOT.
6. COPING EXPANSION JOINT SHALL BE SPACED NO MORE THAN 20 FEET APART AND ALIGNED WITH JOINTS BETWEEN FACING PANELS.

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED REFERENCE TO ITEM 511	MMS	11/18/21



STAGE 2 CONSTRUCTION



STAGE 3 REMOVAL

PROPOSED WORK:

STAGE 2 CONSTRUCTION

1. INSTALL CROSSFRAMES.
2. INSTALL SLIDING PLATE EXPANSION JOINTS AT THE ABUTMENTS AND CONSTRUCT PORTIONS OF DECK SLAB AS SHOWN IN THE PLANS.
3. INSTALL WATERPROOFING TO 6'-0 3/8" WIDE CONCRETE STRIP ON THE APPROACH SLABS AND DECK, INSTALL ASPHALT, AND INSTALL POLYMER MODIFIED ASPHALT SYSTEM AT THE EXPANSION JOINTS.

STAGE 3 REMOVAL

1. PLACE STAGE 3 TRAFFIC CONTROL INCLUDING ANCHORED PORTABLE CONCRETE ACCORDING TO THE PLANS.
2. INSTALL THE TEMPORARY RETAINING WALL AT THE NORTHEAST WINGWALL.
3. REMOVE PORTIONS OF THE NORTH EDGE OF THE EXISTING BRIDGE INCLUDING THE DECK, APPROACH SLABS, ABUTMENTS AND PIERS, PER THE PLANS.

LEGEND:

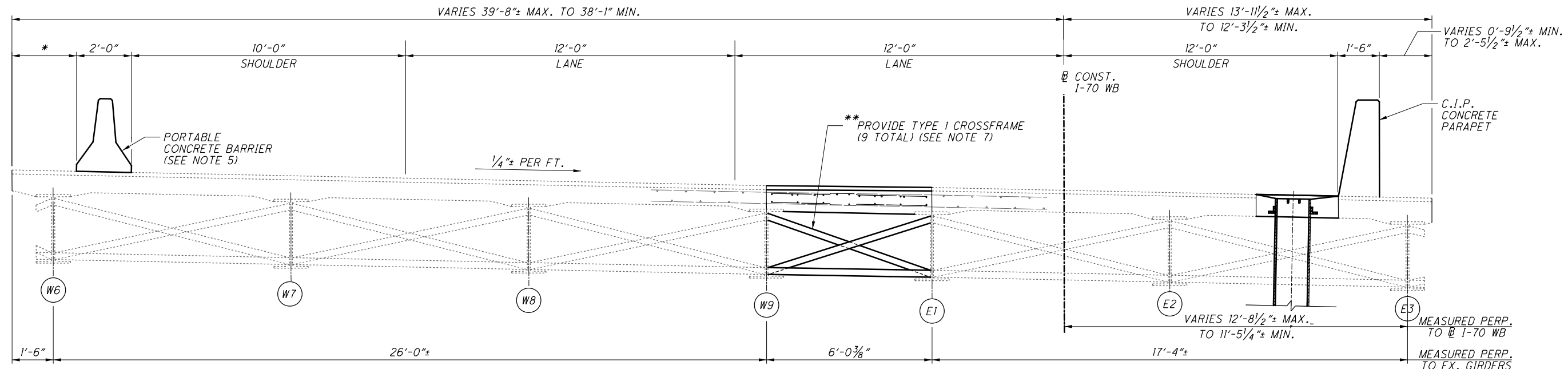
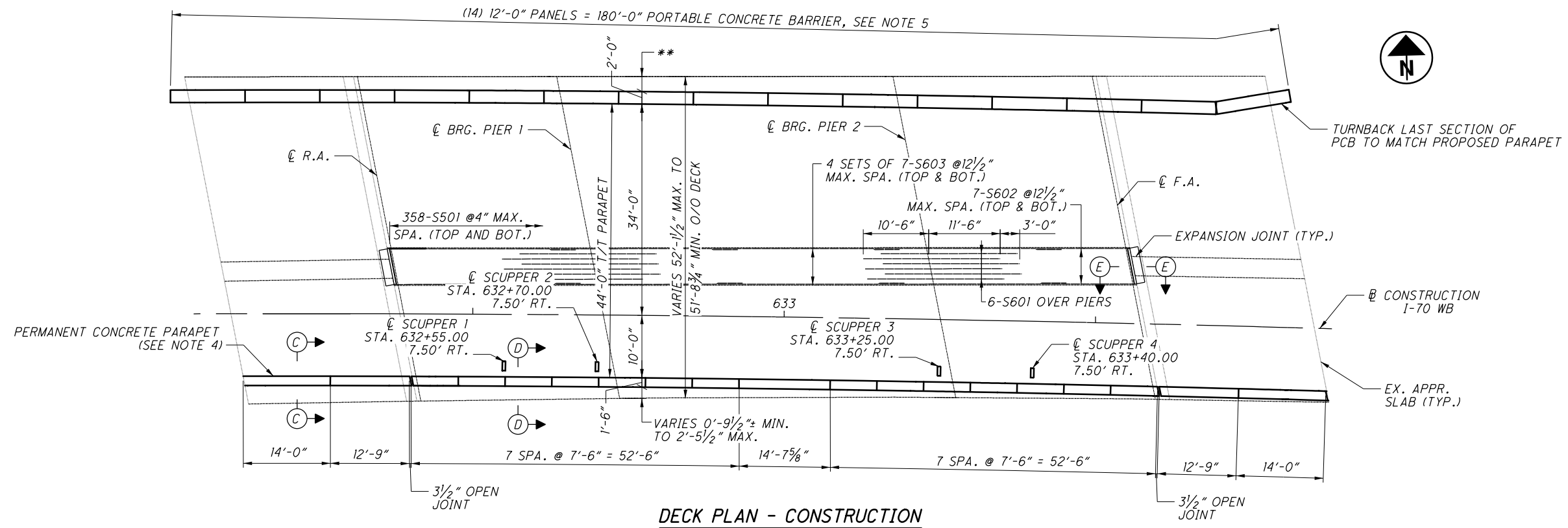
- ☒ - STAGE 3 - ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.
- * - VARIES 3'-8" MAX. TO 2'-1" MIN.
- ** - PROPOSED CROSSFRAMES SHALL BE SPACED EVENLY BETWEEN EXISTING ADJACENT CROSSFRAMES.
- # - PORTABLE CONCRETE BARRIER SHALL BE INSTALLED WITH 2 ANCHORS PER SEGMENT. SEE ODOT STD. DWG. PCB-91 FOR ADDITIONAL DETAILS.
- ## - PORTABLE CONCRETE BARRIER SHALL BE INSTALLED WITH 4 ANCHORS PER SEGMENT. SEE ODOT STD. DWG. PCB-91 FOR ADDITIONAL DETAILS.

NO.	DESCRIPTION	REV. BY	DATE
3	REVISED NOTE 3	DEA	11-18-2021

NOTES:

1. SEE MOT PLANS FOR ALLOWABLE LANE CLOSURE SCHEDULE AND OTHER MOT REQUIREMENTS.
2. SEE ROADWAY AND MOT PLANS FOR ASPHALT WEARING SURFACE REMOVALS AND REPLACEMENT PLAN.
3. FOR ADDITIONAL CROSSFRAME DETAILS, SEE STD. DWG. GSD-1-96 REVISED 7-19-02.

PLOT.CEL
 ms consultants, inc.
 msconsultants.com
 Ohio DOT Workspace
 70171 West Interchange 6R
 www.msconsultants.com
 Batchplot Spec: \\msconsultants.com\files\Production\03\60\06634_6R\standards\plotdrv\batchplot.dgn
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 34" x 22"



- NOTES:**
- MINIMUM LAP LENGTHS: #5 = 3'-1" #6 = 4'-0"
 - FOR SECTION C-C & D-D, SEE SHEET 11/12.
 - FOR SECTION E-E, SEE SHEET 10/12.
 - PARAPET CRACK CONTROL JOINT SPACING MEASURED ALONG INSIDE FACE OF PARAPET
 - PORTABLE CONCRETE BARRIER SHALL BE INSTALLED WITH 4 ANCHORS PER SEGMENT. SEE ODOT STD. DWG. PCB-91 FOR ADDITIONAL DETAILS.
 - FOR SCUPPER DETAILS SEE SHEET 10/12 AND GSD-1-19 REVISED 1-18-19.
 - FOR ADDITIONAL CROSSFRAME DETAILS, SEE STD. DWG. GSD-1-96 REVISED 7-19-02.

NO.	DESCRIPTION	REV. BY	DATE
3	REVISED NOTES 6 AND 7	DEA	11-18-2021

- LEGEND**
- * VARIES 3'-8" MAX. TO 2'-1" MIN.
 - ** PROPOSED CROSSFRAMES TO BE SPACED EVENLY BETWEEN EXISTING ADJACENT CROSSFRAMES.

DESIGN AGENCY
 ms consultants, inc.
 2221 Schrock Road
 Columbus, Ohio 43229

DATE
 20-APR

REVIEWED
 GLG

DRAWN
 CDH

DESIGNED
 DEB

CHECKED
 ELP

STRUCTURE FILE NUMBER
 2504537

SUPERSTRUCTURE REPAIR
 BRIDGE NO. FRA-70-1373L
 I-70 OVER SHORT STREET

FRA-71-14.36
 PID No. 105588

9 / 12

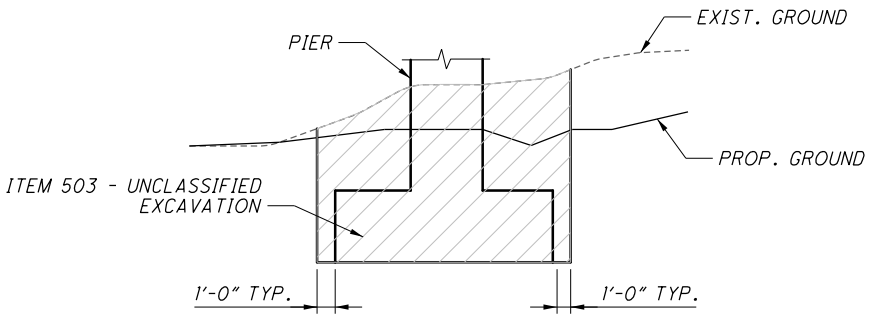
918
 1228

ms consultants, inc.



ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN

THE BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED IN 6" MAXIMUM LIFTS. THE LIMITS OF UNCLASSIFIED EXCAVATION ARE AS FOLLOWS:



TYPICAL PIER

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATIONS. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH CMS 501.05. THE DEPARTMENT WILL PAY FOR TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN

PROVIDE LONG TERM TEMPORARY BRIDGE BARRIER IN ACCORDANCE WITH THE PLAN DETAILS. PAYMENT IS BASED ON VOLUME THE OF BARRIER CONCRETE. ALL OTHER REQUIRED MATERIALS SHALL BE INCIDENTAL TO THE COST OF ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN.

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS.

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

GLASS FIBER REINFORCED POLYMER (GFRP) BARS SHALL BE USED FOR DIAGONAL REINFORCEMENT AS SHOWN IN THE PLANS. PAYMENT FOR GFRP BARS SHALL BE INCIDENTAL TO THE COST OF ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN.

ITEM 513 - STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN

A. DESCRIPTION

1. THIS WORK CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT TO FURNISH AND ERECT STRUCTURAL STEEL MEMBERS, DESIGNED AS A HYBRID/ MIX OF STEEL MATERIALS CONSISTING OF: ASTM A709, HIGH PERFORMANCE GRADE HPSTOW IN COMBINATION WITH GRADE 50W STEEL.
2. THIS WORK SHALL BE PERFORMED PER ITEM 513 STRUCTURAL STEEL MEMBER, LEVEL SIX(6) EXCEPT AS MODIFIED BY THE APRIL, 2011 3RD EDITION OF THE GUIDE FOR HIGHWAY BRIDGE FABRICATION WITH HPSTOW STEEL, A SUPPLEMENT TO ANSI/AASHTO AWS D1.5" AND AS MODIFIED BY THESE PLAN NOTES.

B. MATERIALS

1. STEEL FOR GIRDER WEBS AND FLANGES SHALL BE A COMBINATION OF ASTM A709 GRADE HPSTOW MANUFACTURED BY THE THERMO-MECHANICAL CONTROLLED PROCESSING (TMCP) OR QUENCHED AND TEMPERED HEAT TREATMENT PROCESSING ALONG WITH ASTM A588/709 GRADE 50W. ALL OTHER STEEL SHALL BE ASTM A709 GRADE 50W.
2. STEEL DESIGNATED CVN SHALL BE IMPACT TESTED TO EXCEED THE TEST VALUES OF ASTM A709 TABLE S1.2 NON-FRACTURE CRITICAL IMPACT TEST REQUIREMENTS FOR ZONE 2, TEMPERATURE RANGE.

C. ADDITIONAL FABRICATION RESTRICTIONS / WARNINGS

1. APPLICATION OF HEAT FOR CURVING AND STRAIGHTENING APPLICATIONS, CAMBER AND SWEEP ADJUSTMENT, OR OTHER REASON HEATING IS LIMITED TO 1100° F/590° C MAXIMUM, AND MUST BE DONE BY PROCEDURES APPROVED BY THE DIRECTOR OR HIS AUTHORIZED REPRESENTATIVE.
2. THE MATCHING SUBMERGED ARC WELDING CONSUMABLES ESAB EN14 ELECTRODE IN COMBINATION WITH LINCOLN MIL800H, RECOMMENDED IN APPENDIX A OF THE AASHTO GUIDE FOR HIGHWAY BRIDGE FABRICATION WITH HPSTOW STEEL, HAS PRODUCED WELDMENT CONTAINING UNACCEPTABLE DISCONTINUITIES IN A SUBSTANTIAL NUMBER OF COMPLETE PENETRATION GROOVE WELDS IN ONE STRUCTURE, BASED ON THE PARAMETERS USED AND EXPERIENCE OF ONE FABRICATOR. EXTREME CAUTION SHOULD BE EXERCISED WHEN USING THIS ELECTRODE/FLUX COMBINATION.
3. CONSIDERATION WILL BE GIVEN TO OTHER WELDING PROCESSES IF A WRITTEN REQUEST IS SUBMITTED TO THE OFFICE OF MATERIALS MANAGEMENT IN ACCORDANCE WITH CMS 108.05. OTHER WELDING PROCESSES MUST BE QUALIFIED AND TESTED AS REQUIRED BY THE REFERENCED SPECIFICATIONS AND THESE NOTES.
4. IN ADDITION TO THE REQUIREMENTS OF ANSI/AASHTO/AWS D1.5 SECTION 5.17. ALL PROCEDURE QUALIFICATION TESTS MUST BE ULTRASONICALLY TESTED IN CONFORMANCE WITH THE REQUIREMENTS OF AWS D1.5, SECTION 6, PART C. EVALUATION MUST BE IN ACCORDANCE WITH AWS D1.5, TABLE 6.3, ULTRASONIC ACCEPTANCE/REJECTION CRITERIA, TENSILE STRESS. INDICATIONS FOUND AT THE INTERFACE OF THE BACKING BAR MAY BE DISREGARDED, REGARDLESS OF THE DEFECT RATING.
5. WHENEVER MAGNETIC PARTICLE TESTING IS DONE, ONLY THE YOKE TECHNIQUE WILL BE ALLOWED, AS DESCRIBED IN SECTION 6.7.6.2 OF THE ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE, MODIFIED TO TEST USING ALTERNATING CURRENT ONLY. THE PROD TECHNIQUE WILL NOT BE ALLOWED.

D. BASIS OF PAYMENT

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	EXT	UNITS	DESCRIPTION
513	10401	POUND	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX FABRICATION, AS PER PLAN

ITEM 530 - SPECIAL STRUCTURE, MISC.: SOLDIER PILE RETAINING WALL

FURNISH AND INSTALL SOLDIER PILE RETAINING WALL AS INDICATED. ITEM INCLUDES PRE BORED HOLES, CONCRETE BACKFILL OR PREBORED HOLES, STEEL SOLDIER PILES, TIMBER LAGGING, BLOCKING, EXCAVATION FOR THE BOTTOM ROWS OF TIMBERS, AND ALL OTHER INCIDENTALS.

ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN

ALL FENCE POSTS, RAILS, FABRIC, BASE PLATES, POST SLEEVES, TENSION BANDS, TRUSS RODS, FABRIC TIES, AND ALL OTHER VISIBLE PORTIONS OF FENCE NOT LISTED SHALL BE BLACK PVC COATED.

ASBESTOS NOTIFICATION

AN ASBESTOS SURVEY OF THE FRA-71-1526 SFN 2507579 BRIDGE WAS CONDUCTED BY A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST. THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT AT THE BRIDGE.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORMS, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO:

OHIO EPA/DIVISION OF AIR POLLUTION CONTROL
CENTRAL DISTRICT OFFICE
P.O. BOX 1049
COLUMBUS, OHIO 43216-1049
KELLY TOTH
PHONE: 614-728-3778
FAX: 614-728-3898

AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR REHABILITATION. THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER.

INFORMATION REQUIRED ON THE FORM WILL INCLUDE: 1) THE CONTRACTORS NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED.

THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM.

DESIGN AGENCY
ms consultants, inc.
2221 Schrock Road
Columbus, Ohio 43229

DESIGNED	DRAWN	REVIEWED	DATE
AKS	PES	GLG	20-APR
CHECKED	REVISED	STRUCTURE FILE NUMBER	2510025
FBW			

GENERAL NOTES (3 OF 4)
BRIDGE NO. FRA-71-1503L
I-71 SB OVER SCIOTO RIVER

FRA-71-14.36
PID No. 105588

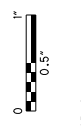
21 / 276

NO.	DESCRIPTION	REV. BY	DATE
3	GFRP PAYMENT MOVED TO ITEM 509	DEA	11-16-2021

942
1228



Ohio DOT Workspace
70171 West Interchange 6R
www.msconsultants.com



ohio1/8
PCF: 60-06634_6R_Columbus

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34" x 22"



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PARTICIPATION		ESTIMATED QUANTITIES					ABUT.	CALC.	DATE	CHK'D	DATE
15/IMS/BR	16/NHS/BR	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	PIERS	4/6/2020	DEA / ATM	4/9/2020	
								SUPER.	GEN.	SHEET REF.	
		202	11003	LUMP	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN			1	20/276	
		202	11201	LUMP	LS	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN			1	20/276	
80	79	202	22900	159	SY	APPROACH SLAB REMOVED			159		
1017	1017	202	23500	2034	SY	WEARING COURSE REMOVED			2,034		
11	10	202	98100	21	EACH	REMOVAL MISC.: PILE REMOVED, EXISTING STRUCTURE			21		
		503	11101	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN			1	21/276	
3293	3293	503	21101	6586	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	6,586			21/276	
		505	11100	LUMP	LS	PILE DRIVING EQUIPMENT MOBILIZATION			1		
495	495	507	00100	990	FT	STEEL PILES HPI0X42, FURNISHED	990				
468	467	507	00150	935	FT	STEEL PILES HPI0X42, DRIVEN	935				
880	880	507	00200	1760	FT	STEEL PILES HPI2X53, FURNISHED	1,760				
840	840	507	00250	1680	FT	STEEL PILES HPI2X53, DRIVEN	1,680				
14	13	507	93300	27	EACH	STEEL POINTS OR SHOES	27				
3005611	3005610	509	10001	6011221	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	34,142	3,181,074	2,796,005	21/276	
4475	4475	511	34447	8950	CY	CLASS QC2 CONCRETE WITH OC/OA, BRIDGE DECK, AS PER PLAN			8,950	21/276	
753	753	511	34451	1506	CY	CLASS QC2 CONCRETE WITH OC/OA, BRIDGE DECK (PARAPET), AS PER PLAN			1,506	21/276, 222/276	
139	139	511	43512	278	CY	CLASS QC1 CONCRETE WITH OC/OA, ABUTMENT INCLUDING FOOTING	278				
5758	5758	511	45602	11516	CY	CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH OC/OA		11,516			
821	821	512	10001	1642	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)		1,642		21/276	
11011	11010	512	10100	22021	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	638	11,903	9,480		
10	9	512	33000	19	SY	TYPE 2 WATERPROOFING	19				
6578300	6578300	513	10401	13156600	LB	STRUCTURAL STEEL MEMBERS, HYBRID GIRDER, LEVEL SIX (6) FABRICATION, AS PER PLAN			13,156,600	21/276, 114/276	
42464	42463	513	20000	84927	EACH	WELDED STUD SHEAR CONNECTORS			84,927		
77175	77174	514	00060	154349	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			154,349		
77175	77174	514	00066	154349	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			154,349		
59	59	516	10010	118	FT	ARMORLESS PREFORMED JOINT SEAL			118		
132	131	SPECIAL	12400	263	FT	SPECIAL - MODULAR EXPANSION JOINT	115	148		22/276	
13	13	516	13600	26	SF	1" PREFORMED EXPANSION JOINT FILLER			26		
5	5	518	12200	10	EACH	SCUPPERS, INCLUDING SUPPORTS			10		
115	114	518	51200	229	FT	10" PIPE DOWNSPOUT, INCLUDING SPECIALS		229			
42	41	518	21200	83	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	83				
23	23	518	40000	46	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	46				
19	19	518	40010	38	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	38				
65	65	524	94804	130	FT	DRILLED SHAFTS, 42" DIAMETER, INTO BEDROCK		130			
670	670	524	94902	1340	FT	DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK		1340			
363	362	524	94904	725	FT	DRILLED SHAFTS, 48" DIAMETER, INTO BEDROCK		725			
1427	1427	524	94906	2854	FT	DRILLED SHAFTS, 54" DIAMETER, ABOVE BEDROCK		2854			
145	145	524	94994	290	FT	DRILLED SHAFTS, 90" DIAMETER, INTO BEDROCK		290			
317	316	524	94996	633	FT	DRILLED SHAFTS, 96" DIAMETER, ABOVE BEDROCK		633			
47	46	524	95100	93	EACH	DRILLED SHAFTS, MISC.: THERMAL INTEGRITY PROFILER (T.I.P.) WIRE CABLE TESTING OF DRILLED SHAFTS		93			
		524	95200	LUMP	LS	DRILLED SHAFTS, MISC.: SHAFT INSPECTION DEVICE				1	
196	196	526	30010	392	SY	REINFORCED CONCRETE APPROACH SLABS WITH OC/OA (T=17")				392	
58	58	526	90030	116	FT	TYPE C INSTALLATION				116	
		SPECIAL	530E00200	LUMP	LS	STRUCTURE, MISC.: SOLDIER PILE RETAINING WALL				1	
60	60	605	14000	120	FT	6" BASE PIPE UNDERDRAINS *	120				
233	232	607	39901	465	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN			465	21/276	
285	285	SPECIAL	690E98100	570	LF	SPECIAL - COVERED WALKWAY SYSTEM			570	20/276	
		SPECIAL	690E98400	LUMP	LS	SPECIAL - EMERGENCY ACTION PLAN COORDINATION			1	20/276	
74	74	869	00100	148	EACH	HIGH LOAD MULTI-ROTATIONAL (HLMR) BEARINGS	11	137			

LEGEND:

* QUANTITY CARRIED TO ROADWAY GENERAL SUMMARY

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED ITEM NO. AND QUANTITY	DBL	11/18/21

DESIGN AGENCY
ms consultants, inc.
2221 Schrock Road
Columbus, Ohio 43229

DATE
20-ADP
2510025
REVIEWED
GLG
STRUCTURE FILE NUMBER

DRAWN
CMA
REVISID
DESIGNED
CMA
CHECKED
ABD

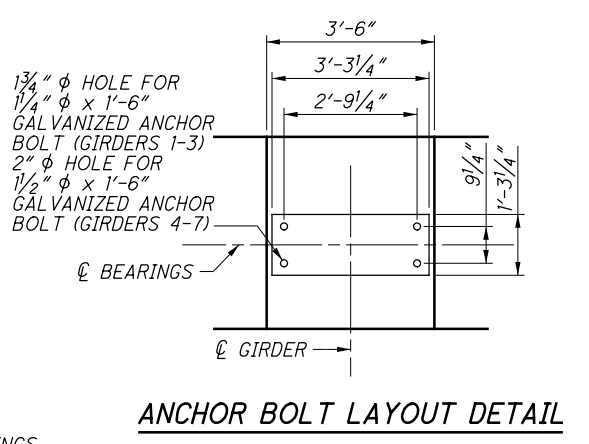
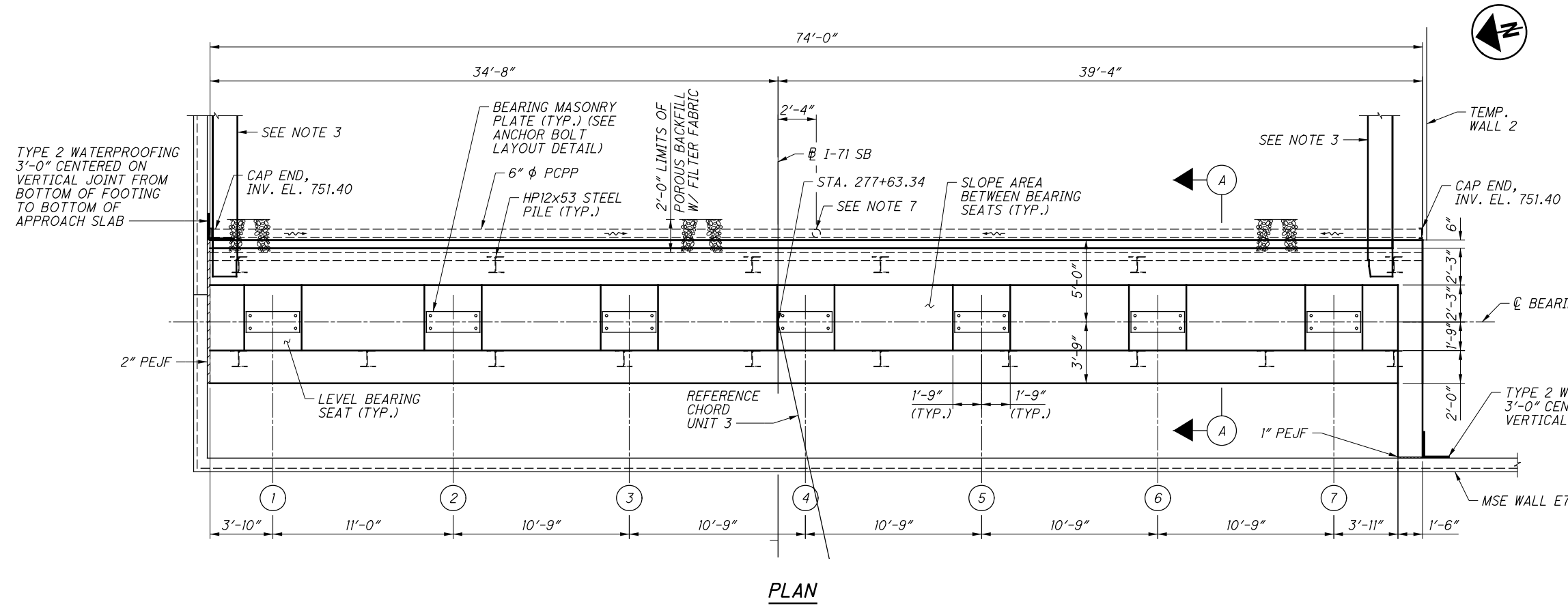
ESTIMATED QUANTITIES
BRIDGE NO. FRA-71-1503L
I-71 SB OVER SCIOTO RIVER

FRA-71-14.36
PID No. 105588

23/276

944
1228

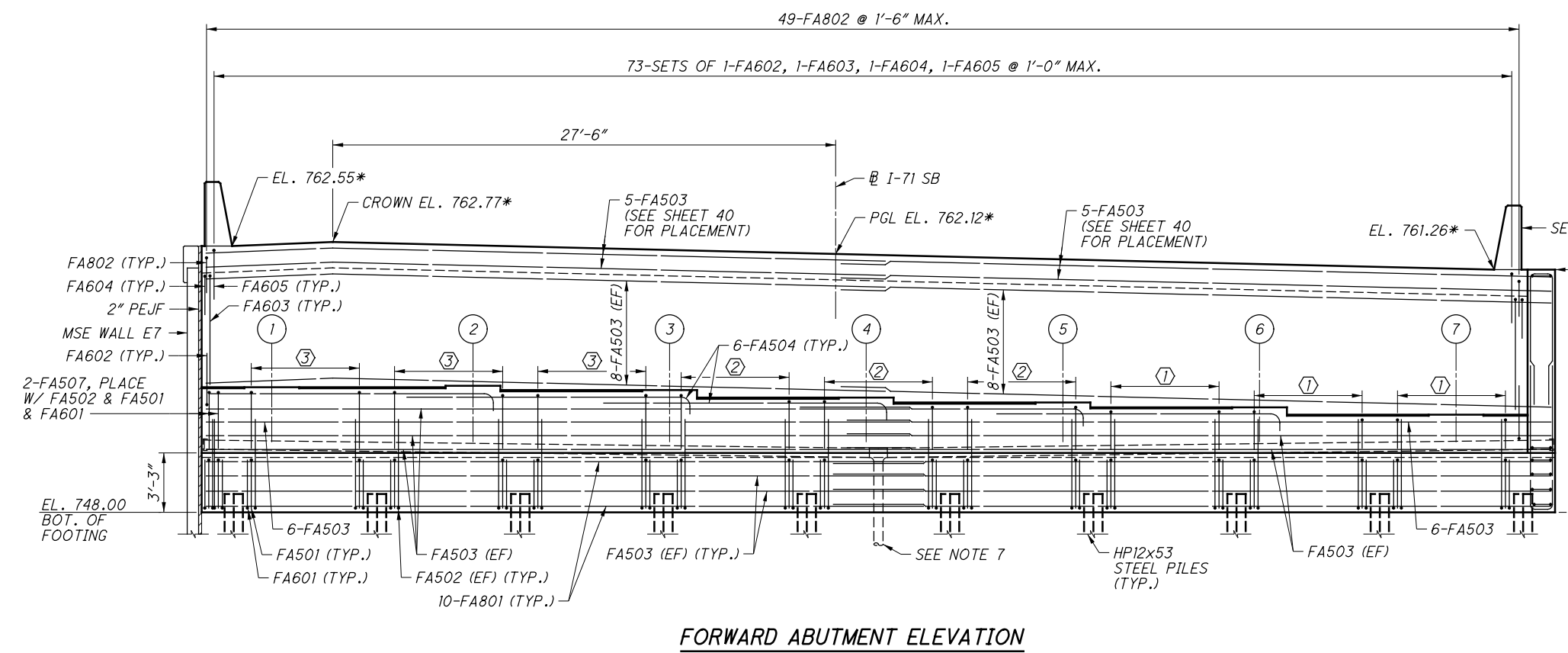
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BEARING SEAT ELEVATIONS	
GIRDER	ELEVATION
1	754.84
2	754.92
3	754.68
4	754.27
5	754.00
6	753.74
7	753.34

- LEGEND:**
- PCPP - PERFORATED CORRUGATED PLASTIC PIPE
 - NPCPP - NON-PERFORATED CORRUGATED PLASTIC PIPE
 - * - ELEVATION PROVIDED AT FRONT FACE OF BACKWALL
 - # DENOTES GIRDER NUMBER
 - ① 8-FA505, PLACE WITH FA601, FA501, AND FA502
 - ② 8-FA506, PLACE WITH FA601, FA501, AND FA502
 - ③ 8-FA507, PLACE WITH FA601, FA501, AND FA502

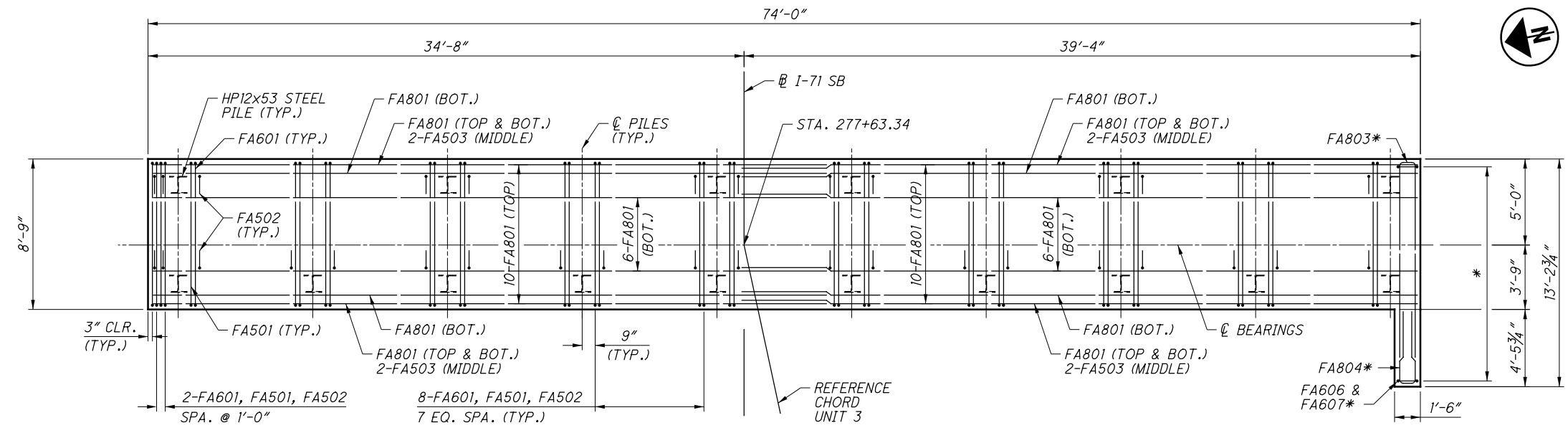
- NOTES:**
- GIRDER SEAT ELEVATIONS ARE GIVEN AT ∅ BEARINGS.
 - FOR ABUTMENT FOOTING PLAN, SEE SHEET 40.
 - FOR PARAPET ON BACKWALL DETAILS AND REINFORCING, SEE SHEET 38.
 - BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF BEARING ANCHOR HOLES OR THE PRE-SETTING OF BEARING ANCHORS.
 - INSTALLATION OF SEAL: DURING INSTALLATION OF THE SUPPORT/ARMOR FOR THE SUPERSTRUCTURE SIDE OF THE EXPANSION JOINT, OBSERVE THE SEATING OF GIRDERS ON BEARINGS TO ASSURE THAT POSITIVE BEARING IS MAINTAINED.
 - FOR JOINT SUPPORT BOX DETAILS, SEE SHEET 240.
 - 6" NPCPP FITTING AS REQUIRED, INVERT EL. 751.00. PAYMENT FOR PIPE FITTING AND CONNECTING PIPE TO MSE WALL DRAINAGE IS INCLUDED WITH BRIDGE QUANTITIES.



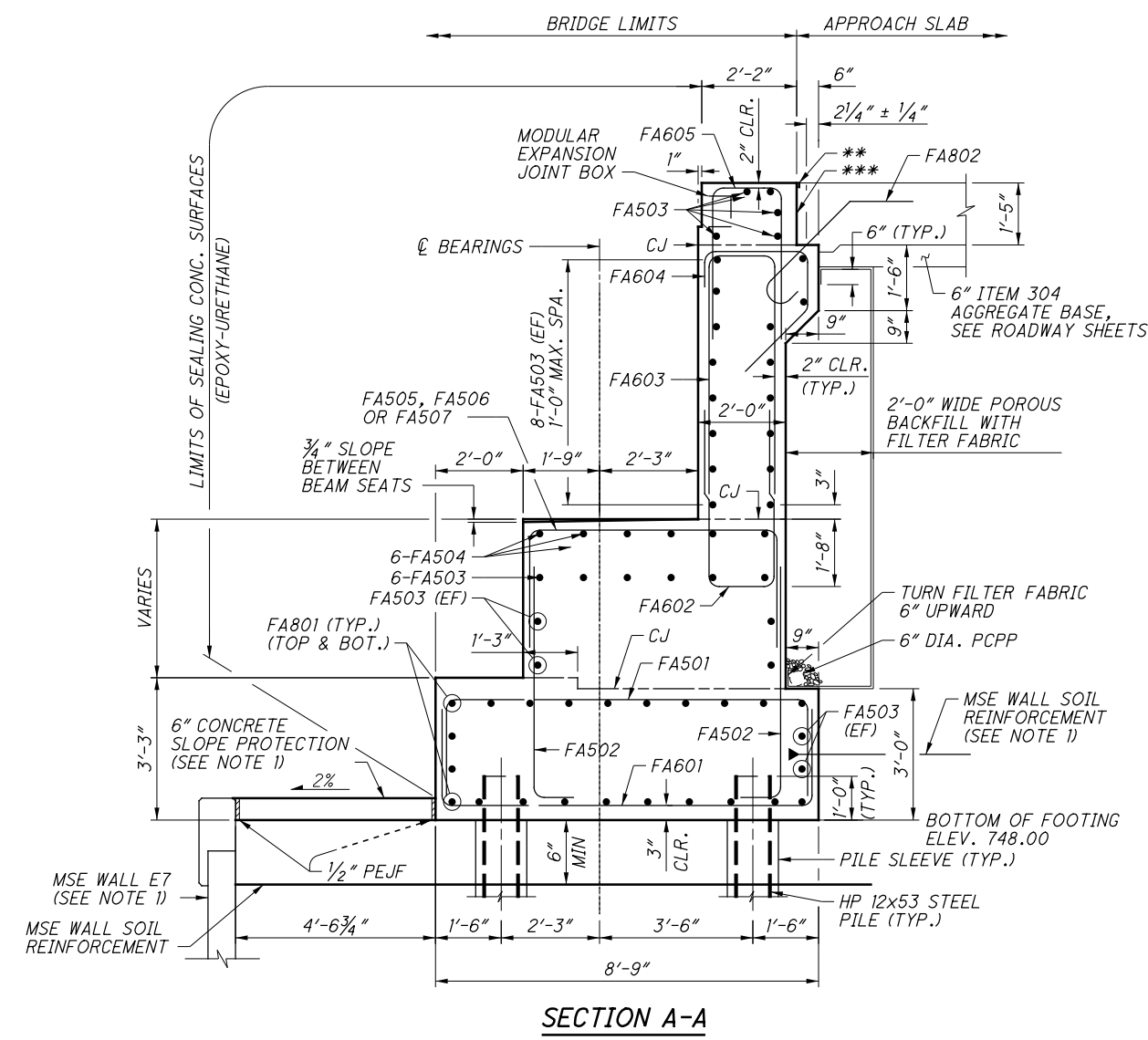
NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED FA BAR LABELS	DGS	11/11/21

DESIGN AGENCY: **ch2m**
 2 Easton Oval, Suite 500
 Columbus, Ohio 43219
 DATE: 7/15
 REVISED: VS
 STRUCTURE FILE NUMBER: 2510025
 DRAWN: ZNG
 CHECKED: JTC
 DESIGNED: ZNG
 FORWARDED ABUTMENT PLAN & ELEVATION
 BRIDGE NO. FRA-071-1503L
 I-71 SB OVER SCIOTO RIVER
 FRA-71-14.36
 PID No. 105588
 39/276
 960
 1228

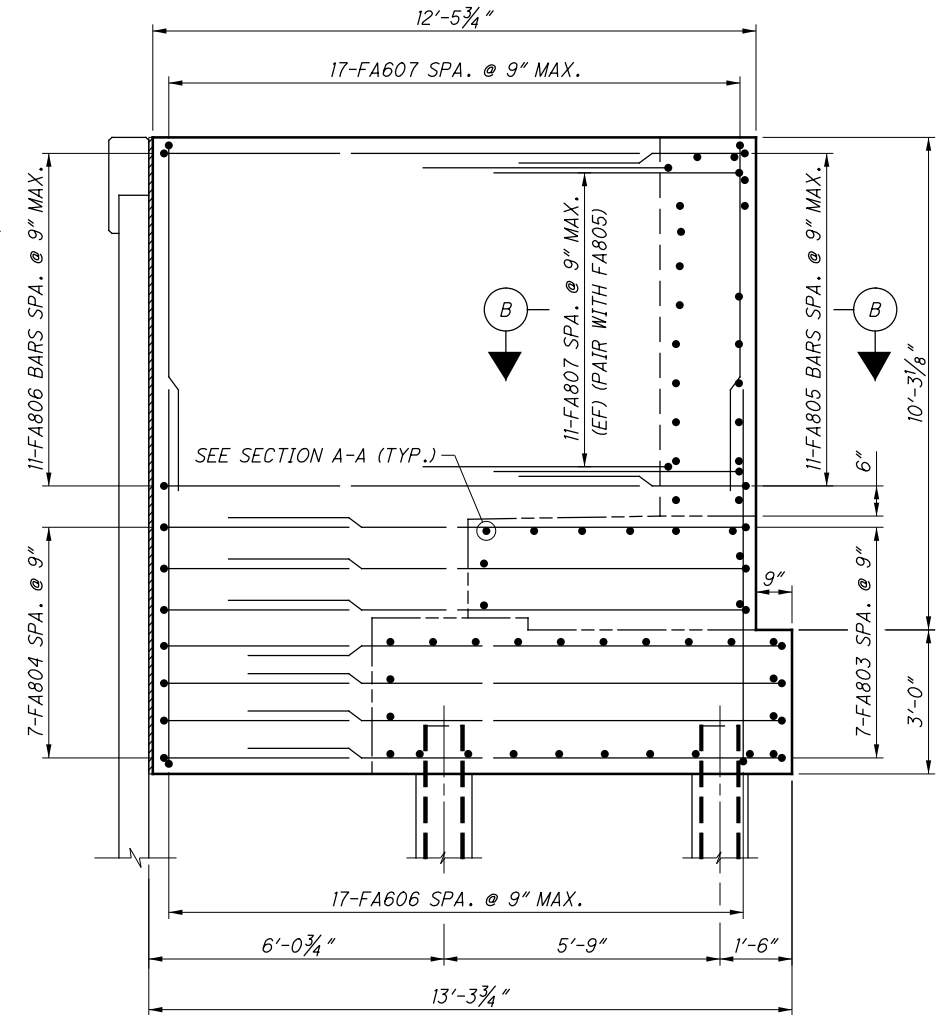
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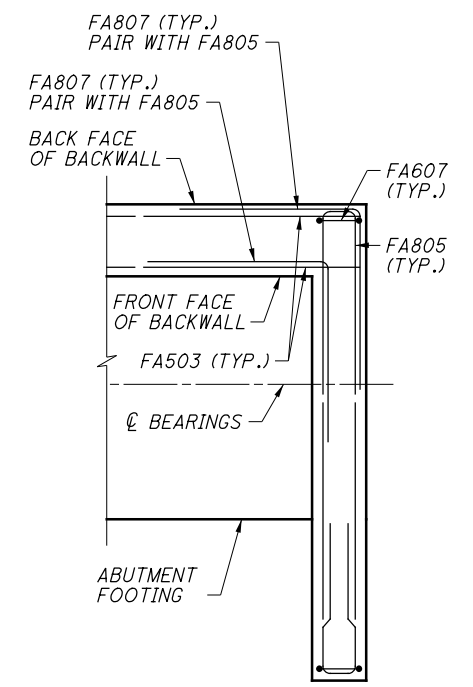
FOOTING PLAN



SECTION A-A



CLOSURE WALL ELEVATION



SECTION B-B

LEGEND:

- * SEE CLOSURE WALL ELEVATION
- ** PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, 705.11. INCLUDED FOR APPROACH SLAB FOR PAYMENT
- *** TYPE "A" WATERPROOFING

NOTES:

1. SEE MSE WALL PLANS FOR DETAILS AND PAYMENT.
2. MIN. REINFORCING STEEL LAP LENGTHS:
 NO. 5 BARS = 2'-5"
 NO. 6 BARS = 2'-11"
 NO. 8 BARS = 4'-11"
3. FOR REINFORCING STEEL LIST, SEE SHEET 269.

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED FA BAR LABEL	DGS	11/11/21

DESIGN AGENCY
ch2m
 2 Easton Oval, Suite 500
 Columbus, Ohio 43219

DATE: 7/15
 REVISED: VS
 STRUCTURE FILE NUMBER: 2510025

DESIGNED: ZNG
 CHECKED: JTC

DRAWN: ZNG
 REVISED:

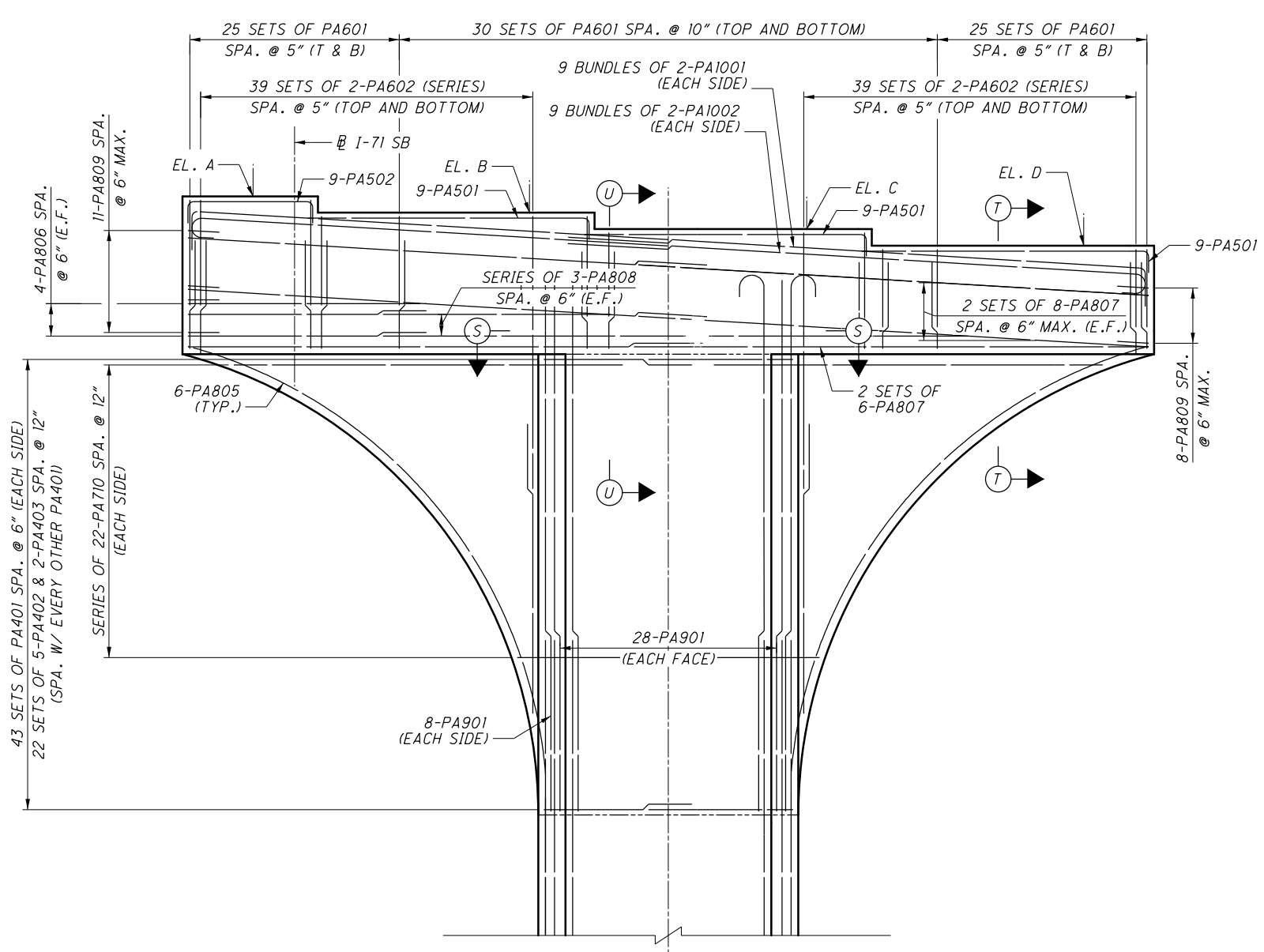
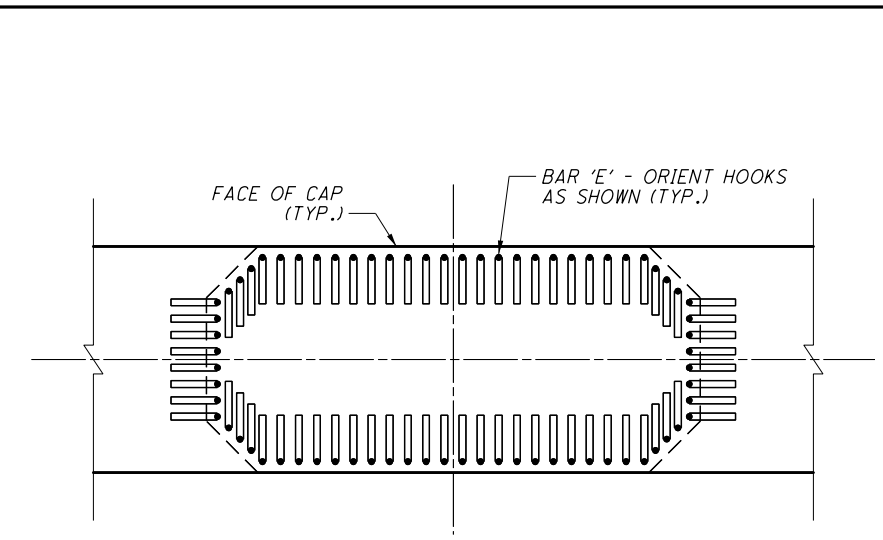
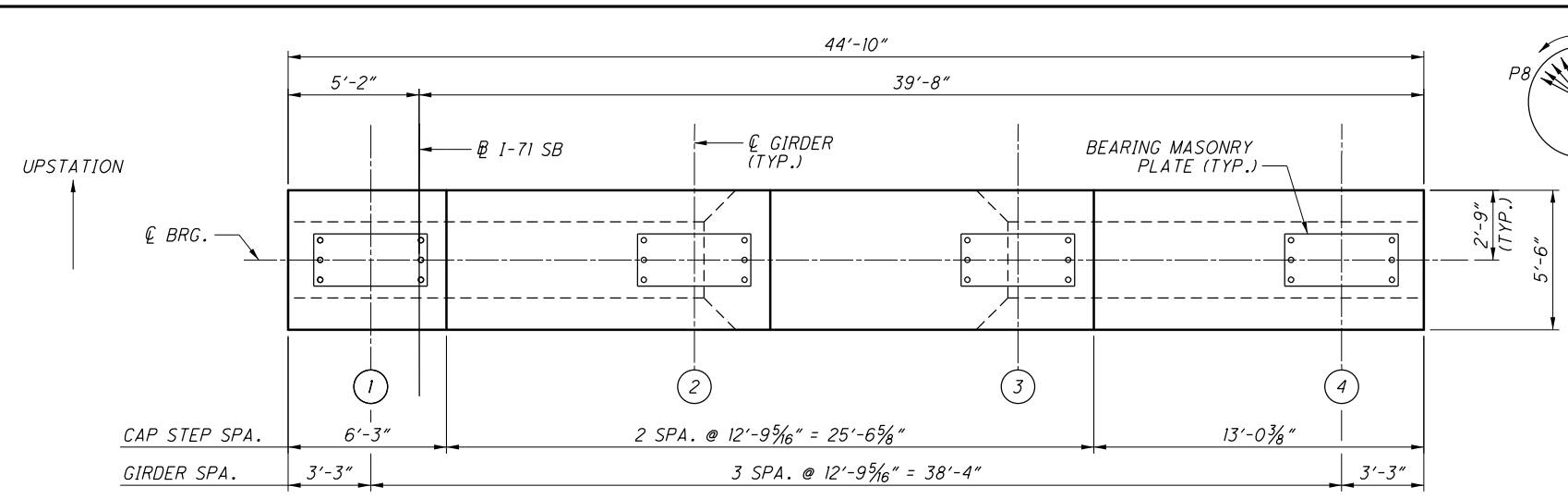
FORWARD ABUTMENT DETAILS
 BRIDGE NO. FRA-071-1503L
 I-71 SB OVER SCIOTO RIVER

FRA-71-14.36
 PID No. 105588

40 / 276

961
 1228

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 34" x 22"



	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7	PIER 8
A	752.72	764.43	775.67	784.84	788.49	786.60	780.27	777.38
B	751.97	763.67	774.95	784.10	787.77	785.87	779.50	776.66
C	751.21	762.94	774.18	783.35	787.02	785.13	778.76	775.89
D	750.46	762.18	773.42	782.56	786.23	784.36	777.99	775.12

MIN. REBAR LAP	
#8	= 6'-4"
#9	= 8'-1"
#10	= 9'-3"

LEGEND:
 (#) - DENOTES PROPOSED GIRDER NUMBER

NOTES:
 1. FOR COLUMN REINFORCEMENT, SEE SHEETS [48/276] & [49/276].
 2. FOR SECTION T-T AND U-U, SEE SHEET [51/276].
 3. FOR BEARING DETAILS, SEE SHEETS [225/276] THRU [232/276].

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED REBAR CALLOUT	DBL	11/21/21

DESIGN AGENCY: ms consultants, inc.
 2221 Schrock Road, Columbus, Ohio 43229

DATE: 20-APR
 REVIEWED: GLG
 DRAWN: ABD
 CHECKED: FBW

STRUCTURE FILE NUMBER: 2510025

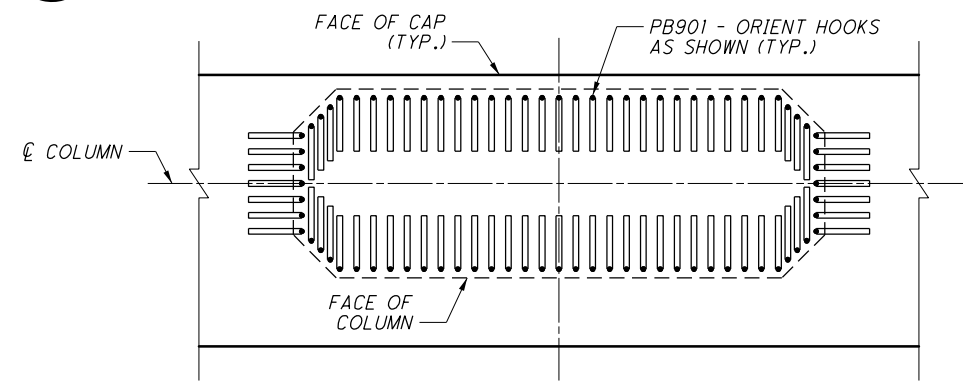
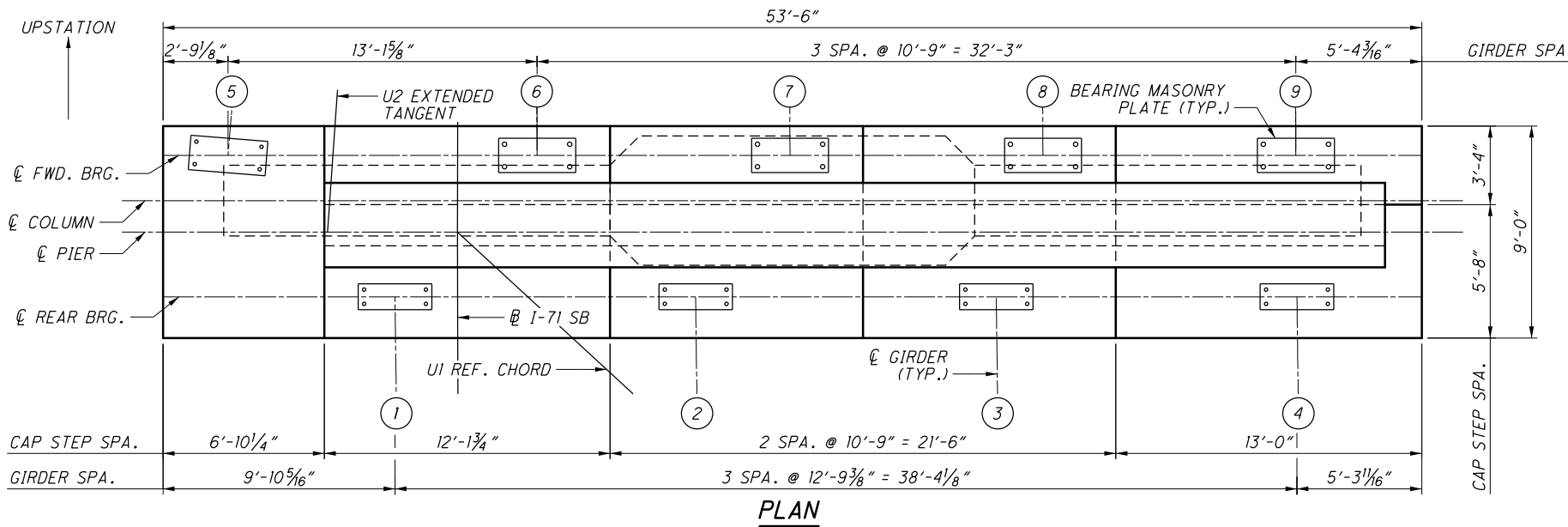
UNIT 1 - TYPICAL PIER CAP
 BRIDGE NO. FRA-71-1503L
 I-71 SB OVER SCIOTO RIVER

FRA-71-14.36
 PID No. 105588

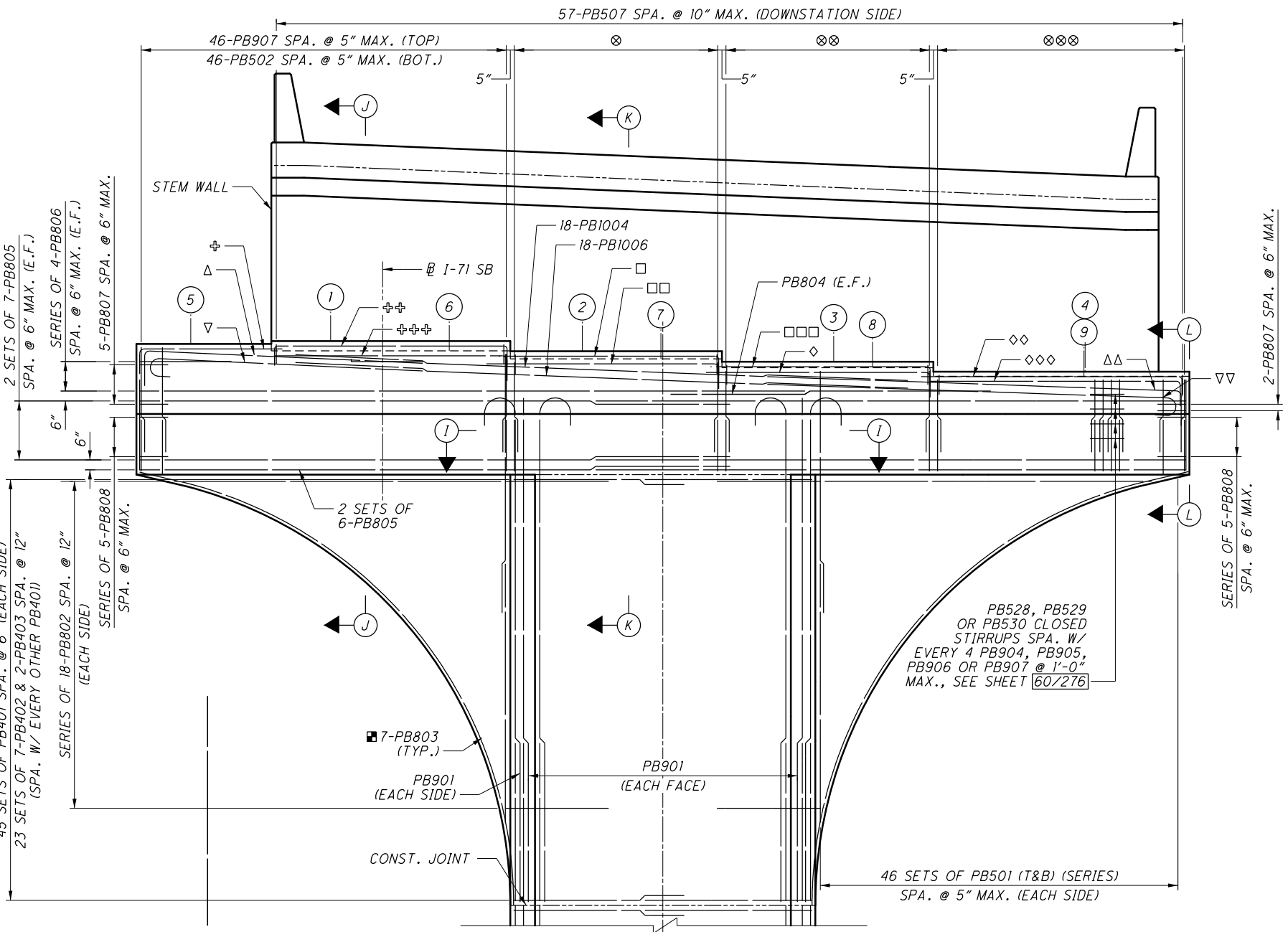
50/276
 971/1228

ms consultants, inc.

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SECTION I-I
 OTHER REINFORCEMENT NOT SHOWN



GIRDER (UNIT)	ELEVATION
5 (2)	777.08
1 (1)	777.13
6 (2)	776.73
2 (1)	776.63
7 (2)	776.32
3 (1)	776.10
8 (2)	775.88
9 (2)	775.44
4 (1)	775.59

MIN. REBAR LAP	
#4	= 2'-9"
#5	= 2'-6"
#8	= 6'-10"
#8	= 4'-11"
#9	= 8'-1"
#10	= 11'-0"

LEGEND:

- ⊙ DENOTES PROPOSED GIRDER NUMBER
- △ 18-PB1003 SPLICED W/ 18-PB1004 @ 6" MAX.
- △△ 18-PB1003 SPLICED W/ 18-PB1004 @ 6" MAX.
- ▽ 18-PB1005 SPLICED W/ 18-PB1006 @ 6" MAX.
- ▽▽ 18-PB1005 SPLICED W/ 18-PB1006 @ 6" MAX.
- ⊕ 9-PB503 @ 12" MAX. (DOWNSTATION SIDE)
9-PB503 @ 12" MAX. (UPSTATION SIDE)
- ⊕⊕ 7-PB505 @ 12" MAX. (DOWNSTATION SIDE)
- ⊕⊕⊕ 4-PB506 @ 12" MAX. (UPSTATION SIDE)
- 7-PB508 @ 12" MAX. (DOWNSTATION SIDE)
- 4-PB508 @ 12" MAX. (UPSTATION SIDE)
- 7-PB508 @ 12" MAX. (DOWNSTATION SIDE)
- ◇ 4-PB508 @ 12" MAX. (UPSTATION SIDE)
- ◇◇ 7-PB509 @ 12" MAX. (DOWNSTATION SIDE)
- ◇◇◇ 4-PB509 @ 12" MAX. (UPSTATION SIDE)
- ⊗ 26-PB906 SPA. @ 5" MAX. (TOP)
26-PB502 SPA. @ 5" MAX. (BOT.)
- ⊗⊗ 26-PB905 SPA. @ 5" MAX. (TOP)
26-PB502 SPA. @ 5" MAX. (BOT.)
- ⊗⊗⊗ 32-PB904 SPA. @ 5" MAX. (TOP)
32-PB502 SPA. @ 5" MAX. (BOT.)

NOTES:

1. FOR ADDITIONAL INFORMATION, SEE SHEET 54/276.
2. FOR COLUMN REINFORCEMENT, SEE SHEET 57/276.
3. FOR SECTION J-J THRU L-L, SEE SHEET 60/276.
4. FOR BEARING DETAILS, SEE SHEETS 225/276 THRU 232/276.
5. FOR STEM WALL DETAILS, SEE SHEET 59/276.

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED REBAR CALLOUTS	DBL	11/17/21
3	UPDATED PIER CAP REBAR LINEWORK	DBL	11/17/21

CAP ELEVATION
 LOOKING UPSTATION - STEM WALL REINFORCEMENT NOT SHOWN

DESIGN AGENCY: ms consultants, inc.
 2221 Schrock Road, Columbus, Ohio 43229

DATE: 20-APR
 REVIEWED: GLG
 STRUCTURE FILE NUMBER: 2510025

DRAWN: ABD
 CHECKED: TGH

DESIGNED: AKS
 CHECKED: TGH

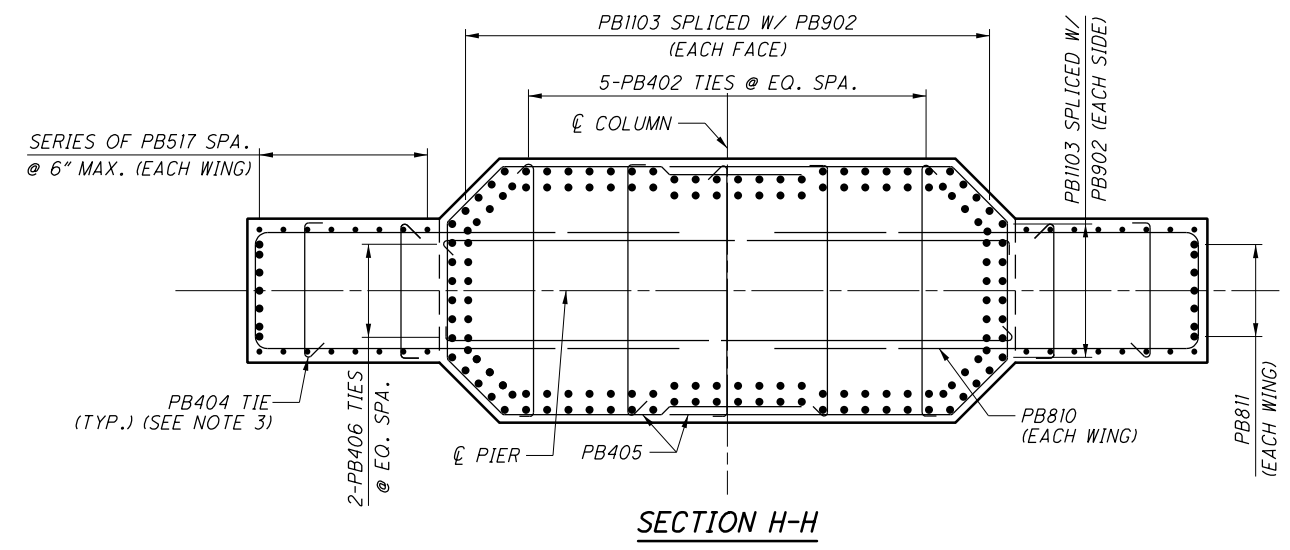
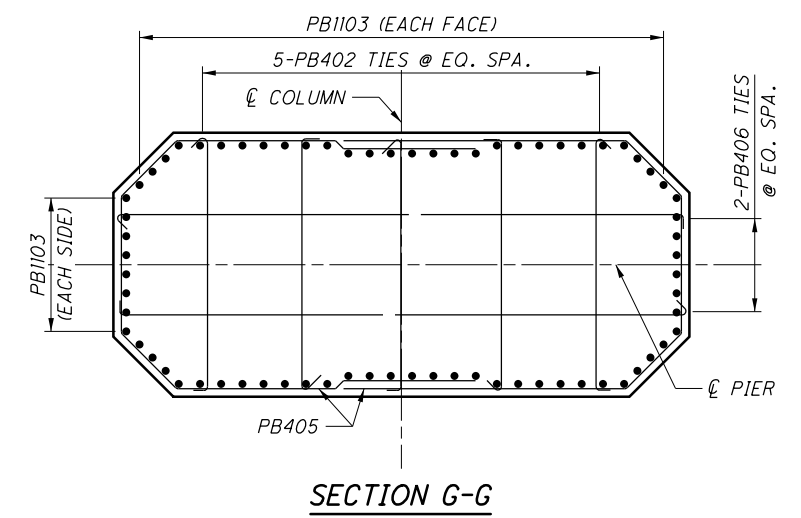
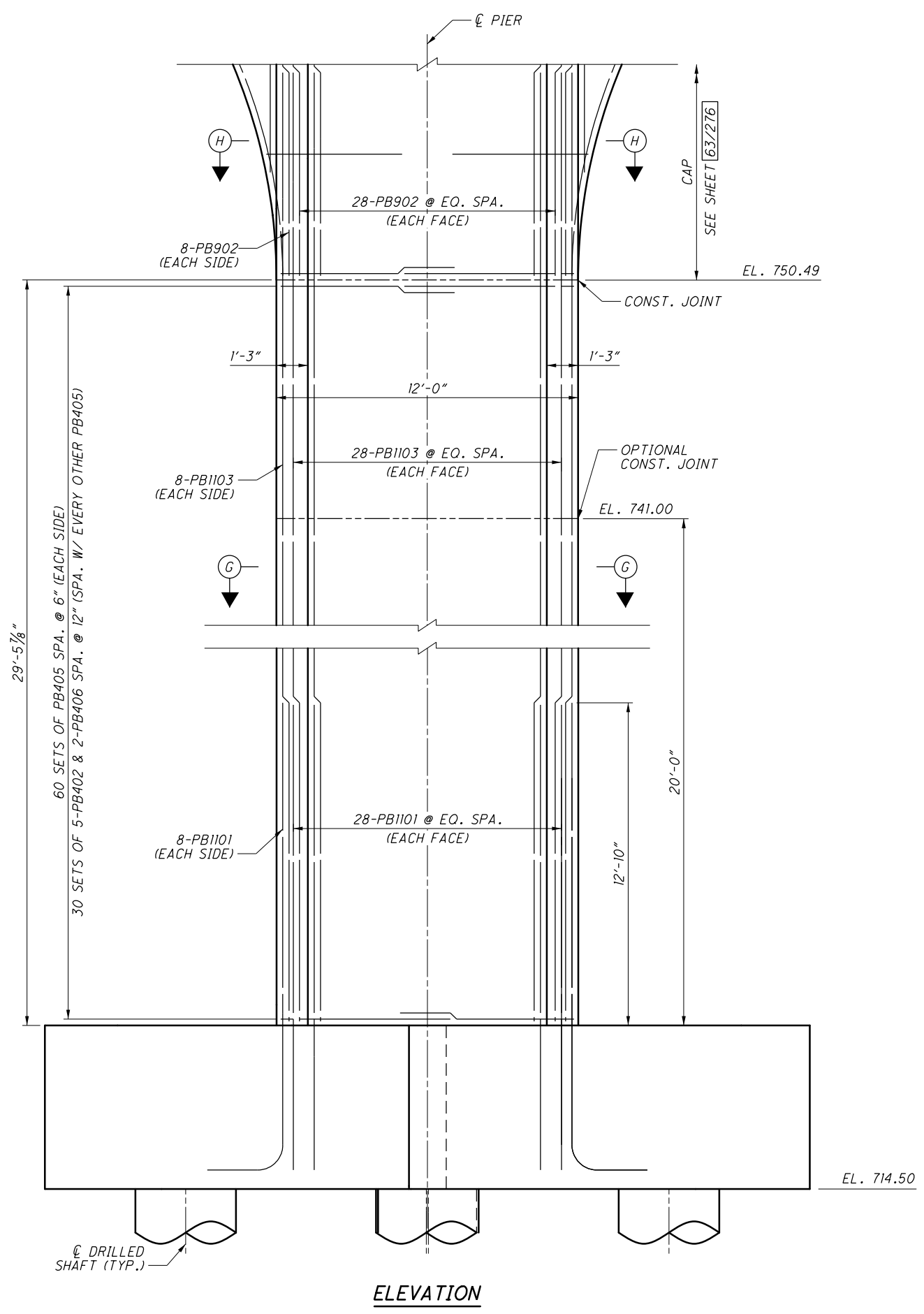
PIER 9R CAP DETAILS
 BRIDGE NO. FRA-71-1503L
 I-71 SB OVER SCIOTO RIVER

FRA-71-14.36
 PID No. 105588

58/276

979
 1228

ms consultants, inc.



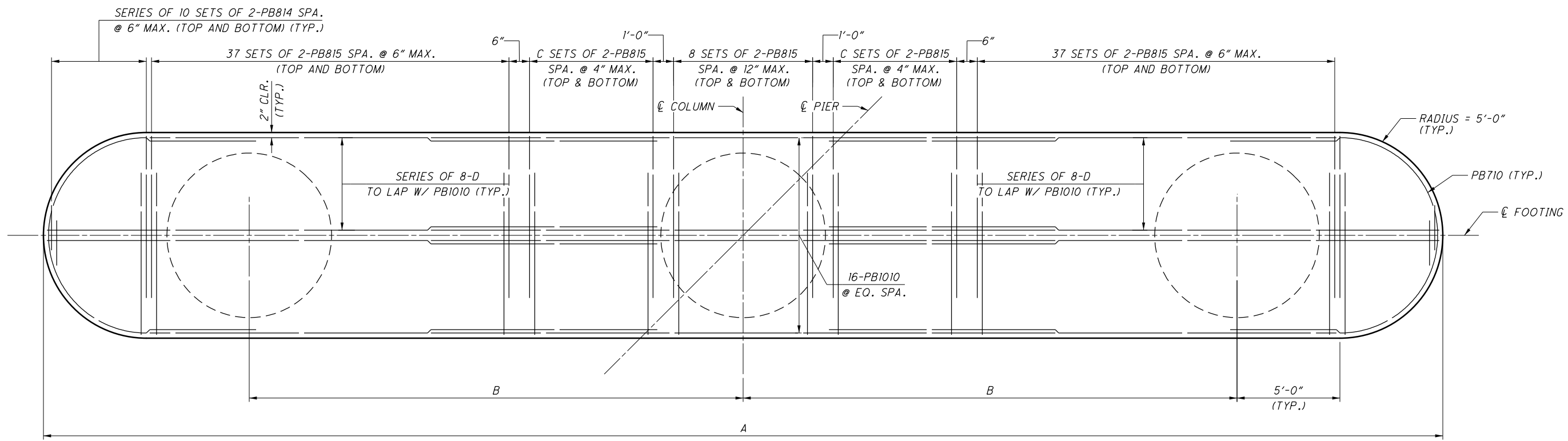
MIN. REBAR LAP	
#4	= 2'-9"
#5	= 2'-5"
#9	= 8'-1"
#10	= 10'-3"
#11	= 12'-8"

NOTES:

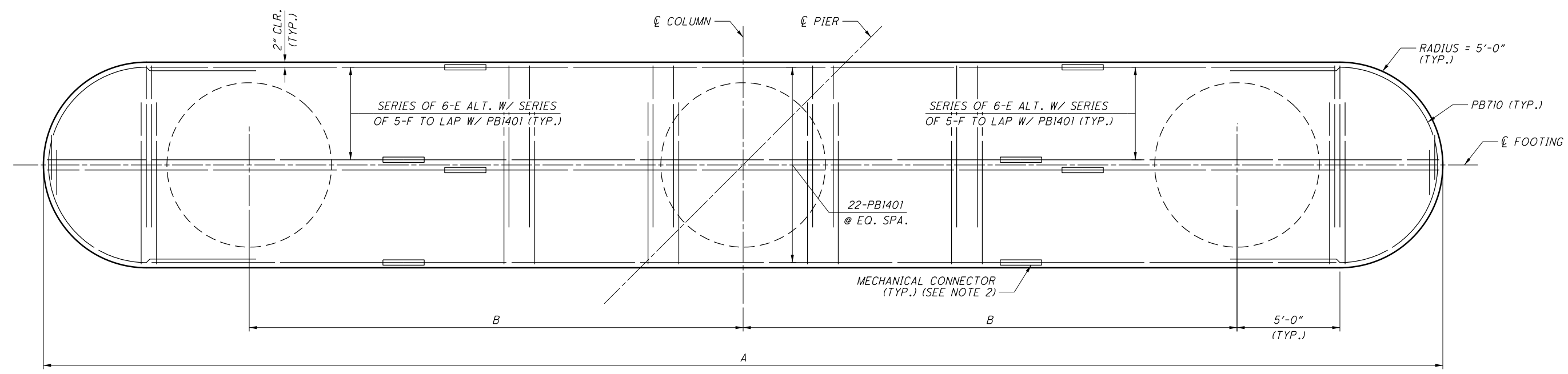
- FOR CAP DETAILS, SEE SHEETS 65/276 AND 66/276.
- FOR FOOTING DETAILS, SEE SHEETS 62/276 AND 63/276.
- TIES TO BE PLACED @ 48" MAX. IN ALL DIRECTIONS AND ALTERNATING 90 DEGREE HOOKS.

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED REBAR CALLOUT	DBL	11/17/21

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 34" x 22"



SECTION C-C



SECTION D-D

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED REBAR CALLOUTS	DBL	11/17/21

	PIER 10	PIER 11	PIER 12	PIER 13	PIER 14
A	68'-0"	69'-9 3/4"	71'-6 7/8"	73'-3 1/8"	74'-4 3/4"
B	24'-0"	24'-10 7/8"	25'-9 7/16"	26'-7 9/16"	27'-2 3/8"
C	19	22	25	27	29
D	PB1016	PB1017	PB1018	PB1019	PB1020
E	PB1402	PB1404	PB1406	PB1408	PB1410
F	PB1403	PB1405	PB1407	PB1409	PB1411

- NOTES:**
- FOR ADDITIONAL INFORMATION, SEE SHEET 68/276.
 - MECHANICAL CONNECTORS TO BE STAGGERED AT 3'-0" IN ALL DIRECTIONS IN ORDER TO OBTAIN AMPLE SPACE TO MAKE THE CONNECTION. MECHANICAL CONNECTORS SHALL BE INCIDENTAL TO ITEM 509 - EPOXY COATED REINFORCING STEEL.

DESIGN AGENCY: ms consultants, inc.
 2221 Schrock Road
 Columbus, Ohio 43229

DATE: 20-APR
 REVIEWED: FBW
 DRAWN: ABD
 CHECKED: TGH

STRUCTURE FILE NUMBER: 2510025

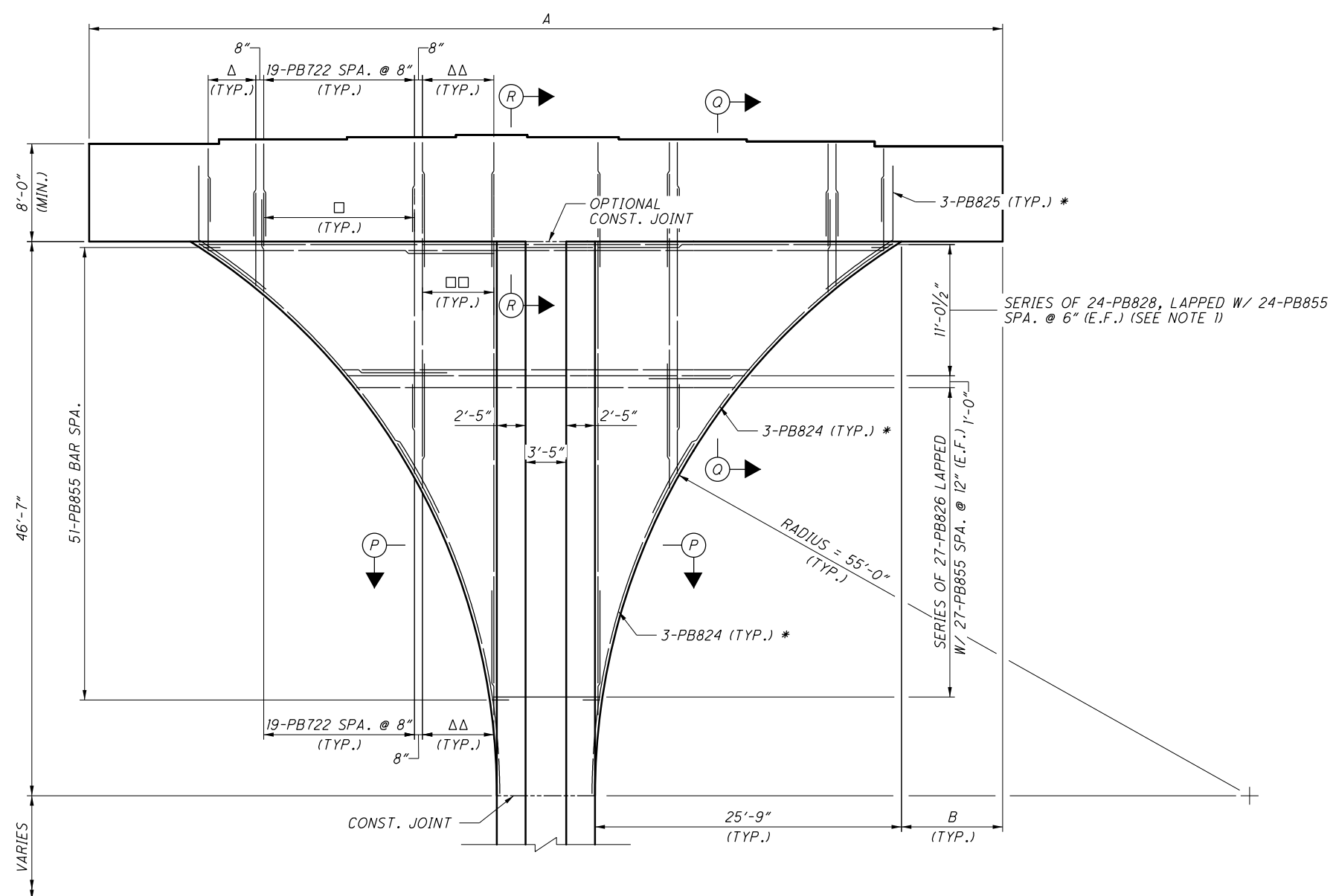
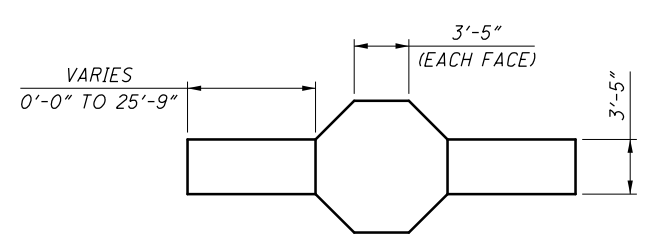
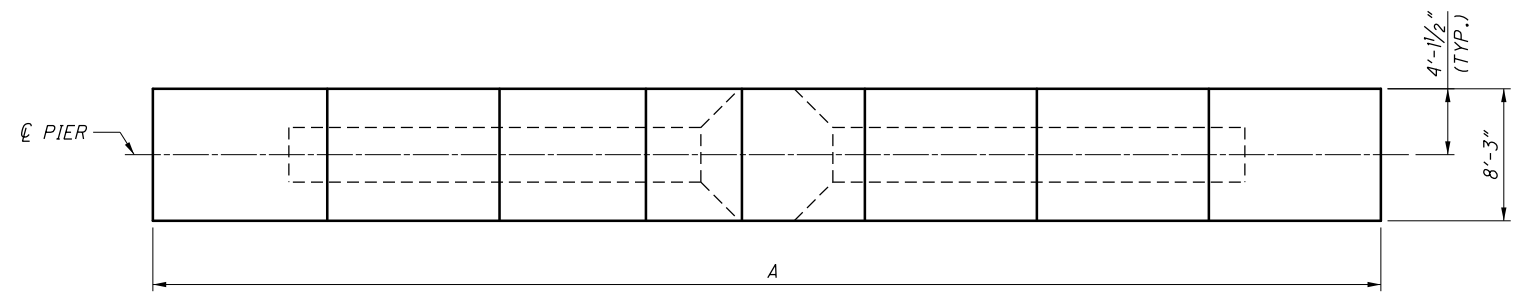
UNIT 2 - PIER 10 THRU 14 FOOTING DETAILS (2 OF 3)
 BRIDGE NO. FRA-71-1503L
 I-71 SB OVER SCIOTO RIVER

FRA-71-14.36
 PID No. 105588

69/276
 990
 1228

ms consultants, inc.

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 70171 West Interchange 6R
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	PIER 10	PIER 11	PIER 12	PIER 13	PIER 14
A	76'-9"	66'-0"	61'-0"	59'-9"	59'-9"
B	8'-6"	3'-1 1/2"	0'-7 1/2"	0'-0"	0'-0"

LEGEND:

- Δ 7 SETS OF A SERIES OF PB724 SPA. @ 8" (TOP AND BOTTOM)
- ΔΔ 13-PB1037 SPA. @ 6"
- SERIES OF 19-PB723 SPA. @ 8" (E.F.)
- SERIES OF 13-PB1038 SPA. @ 6" (E.F.)

MIN. REBAR LAP	
#7	= 3'-8"
#8	= 6'-10"
* #8	= 4'-11"
#10	= 7'-10"

NOTES:

1. SPLICE LOCATION TO ALTERNATE IN ALL DIRECTIONS.
2. FOR SECTIONS Q-Q AND R-R, SEE SHEET [79/276].

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED REBAR CALLOUTS	DBL	11/17/21

DESIGN AGENCY
 ms consultants, inc.
 2221 Schrock Road
 Columbus, Ohio 43229

DATE
 20-APR
 2510025

REVIEWED
 FBW

DRAWN
 ABD

DESIGNED
 AKS

CHECKED
 TGH

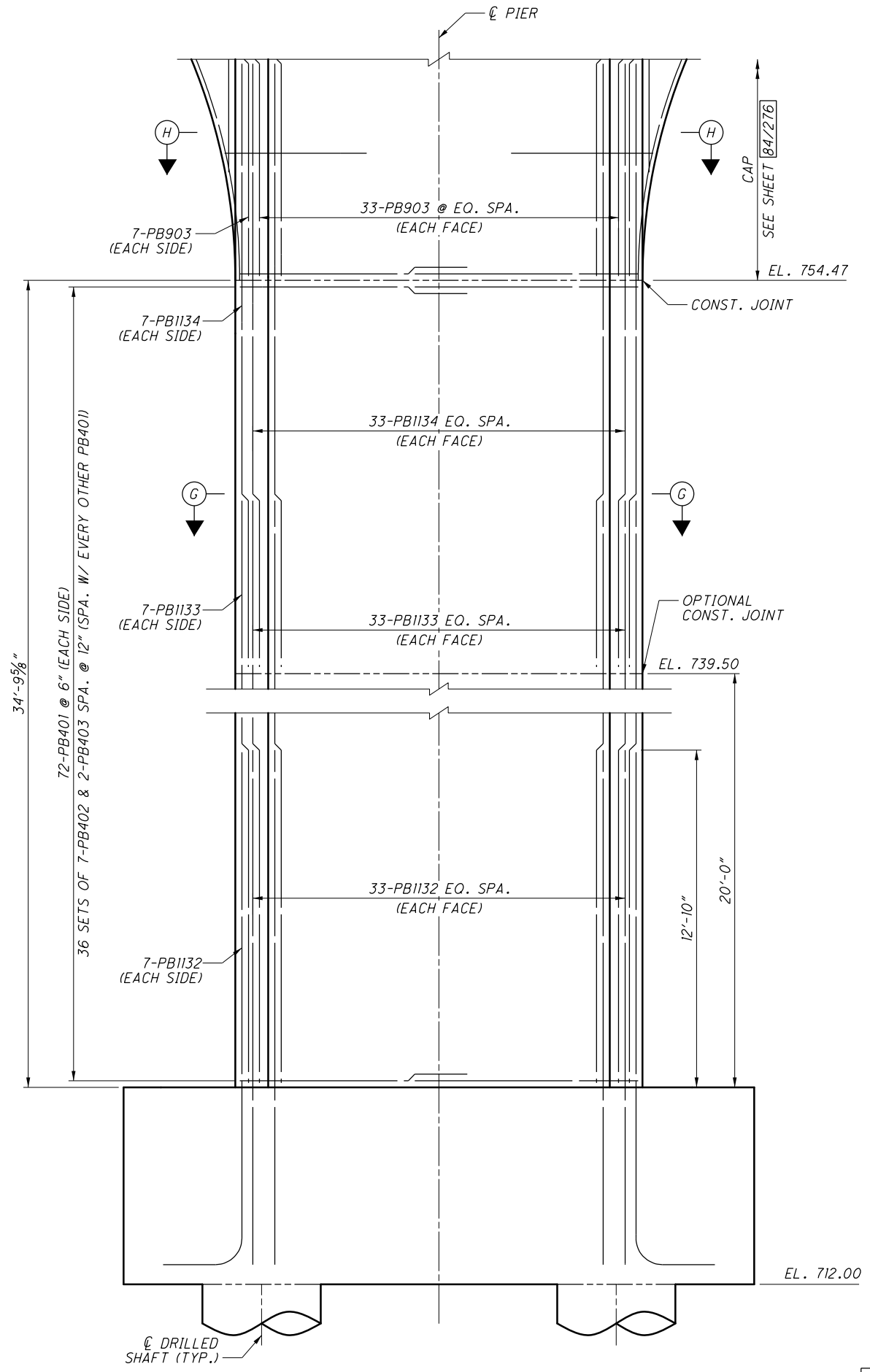
UNIT 2 - PIER 10 THRU 14 TOP PLAN, ELEVATION & SECTION
 BRIDGE NO. FRA-71-1503L
 I-71 SB OVER SCIOTO RIVER

FRA-71-14.36
 PID No. 105588

76/276

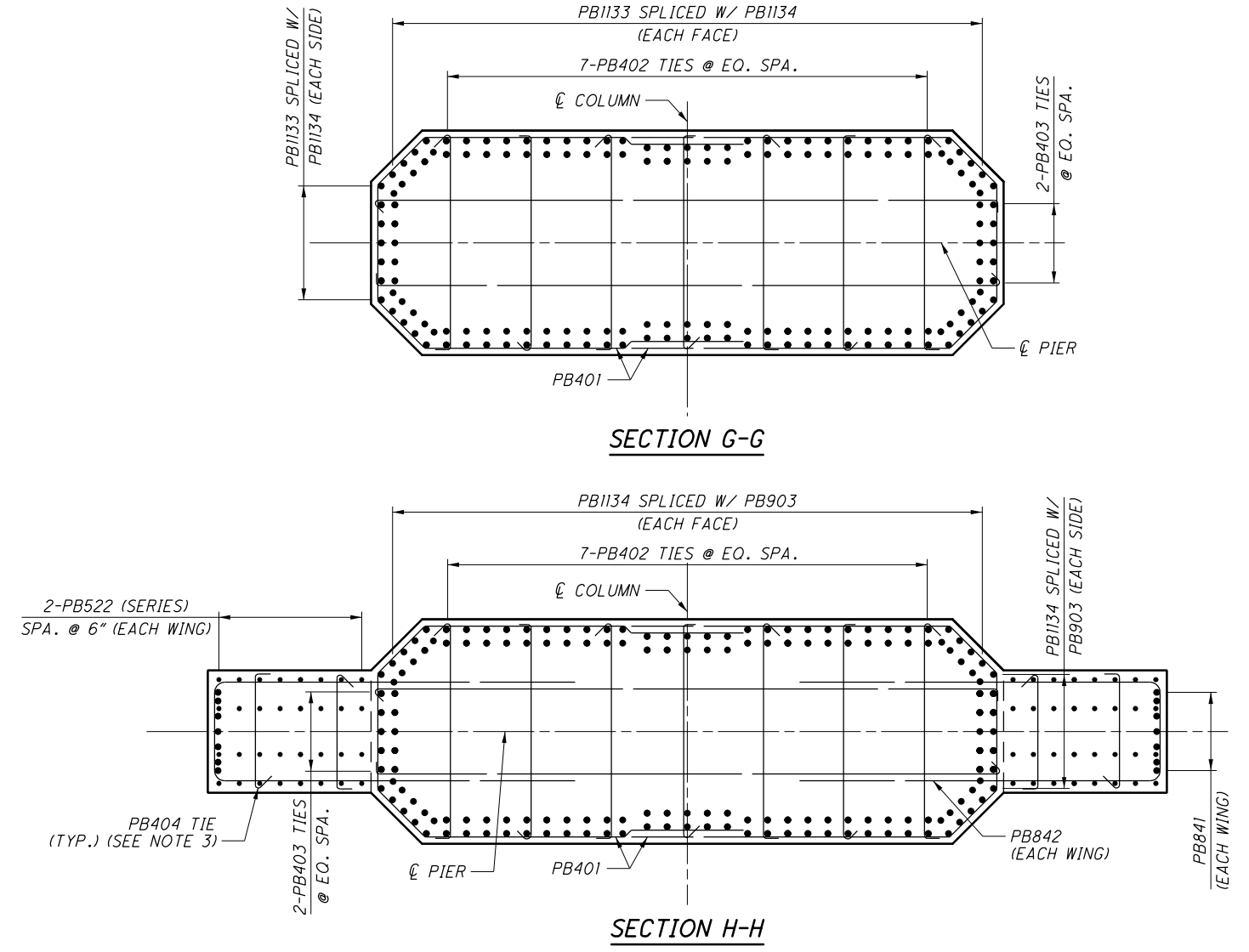
997
 1228

ms consultants, inc.



ELEVATION

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED REBAR CALLOUT	DBL	11/17/21

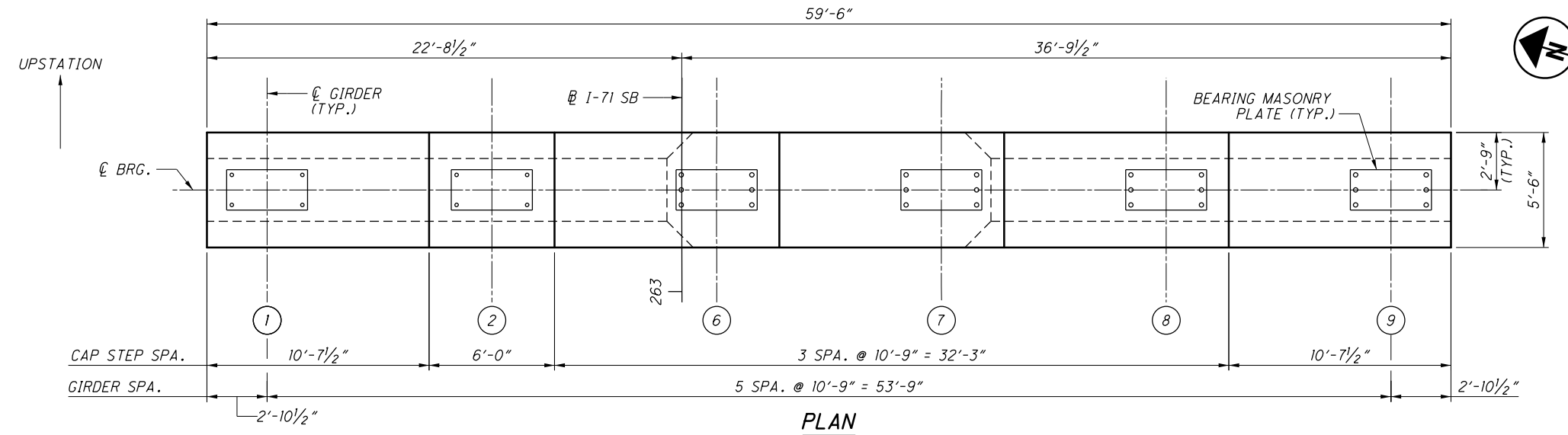


MIN. REBAR LAP	
#4	2'-9"
#9	8'-1"
#11	12'-7"

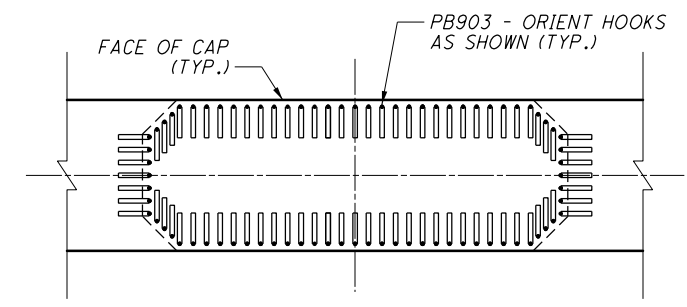
NOTES:

- FOR CAP DETAILS, SEE SHEETS 84/276 AND 85/276.
- FOR FOOTING DETAILS, SEE SHEETS 81/276 AND 82/276.
- TIES TO BE PLACED @ 48" MAX. IN ALL DIRECTIONS AND ALTERNATING 90 DEGREE HOOKS.

PLOT.CEL
 ms consultants, inc.
 msconsultants.com
 Ohio DOT Workspace
 70171 West Interchange 6R
 www.msconsultants.com
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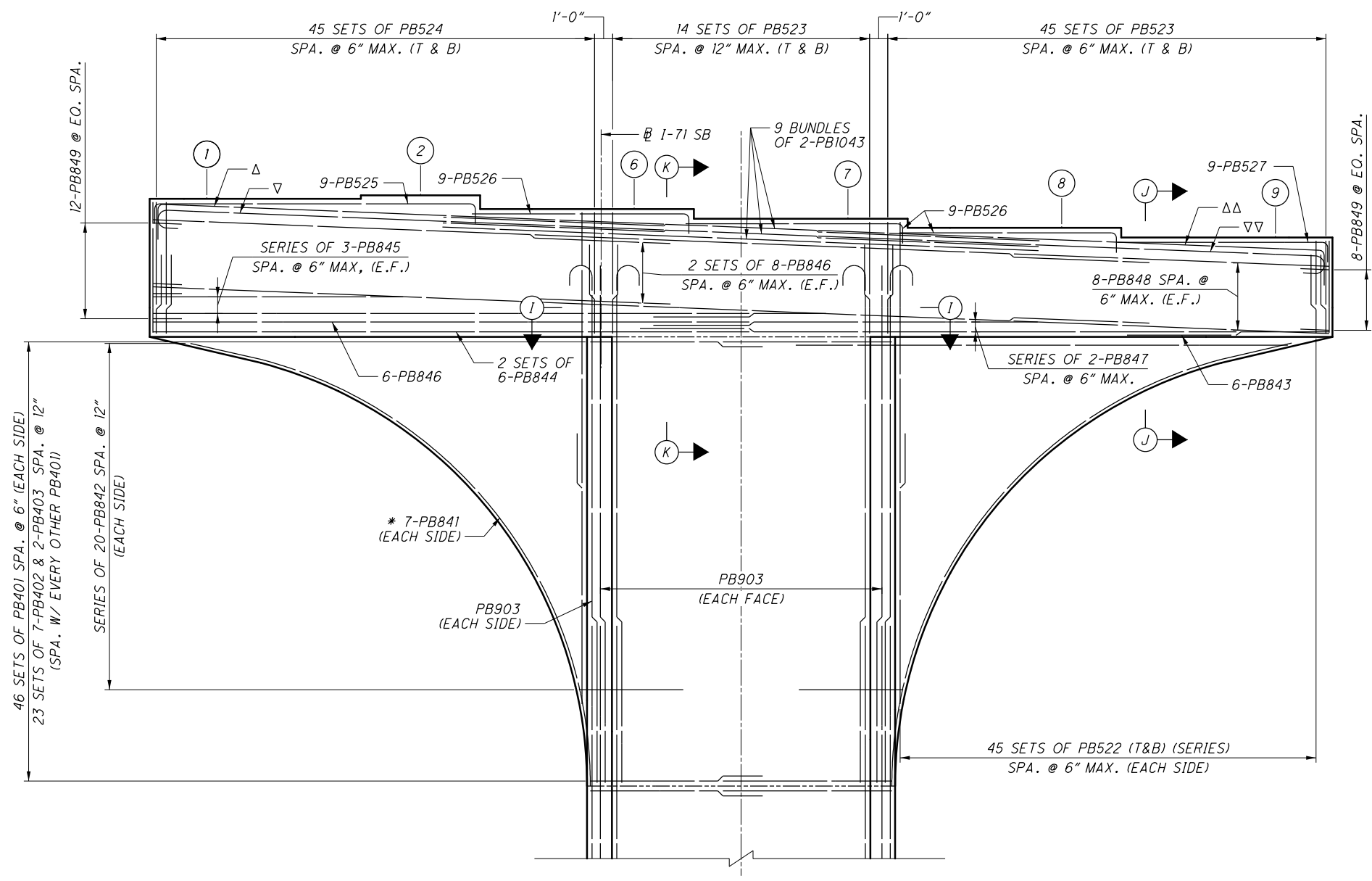


PLAN



SECTION I-I

OTHER REINFORCEMENT NOT SHOWN



CAP ELEVATION

BEARING SEAT ELEVATIONS	
GIRDER (UNIT)	ELEVATION
1 (2)	783.99
2 (2)	784.17
6 (2)	783.48
7 (2)	782.99
8 (2)	782.53
9 (2)	782.05

MIN. REBAR LAP	
#4	= 2'-9"
#5	= 2'-6"
* #8	= 5'-6"
#8	= 4'-11"
#9	= 8'-1"
#10	= 10'-7"

LEGEND:

- # DENOTES PROPOSED GIRDER NUMBER
- Δ 4 BUNDLES OF 2-PB1039 ALT. W/ 5 BUNDLES OF 2-PB1040 (EACH SIDE)
- ΔΔ 5 BUNDLES OF 2-PB1039 ALT. W/ 4 BUNDLES OF 2-PB1040 (EACH SIDE)
- ▽ 4 BUNDLES OF 2-PB1041 ALT. W/ 5 BUNDLES OF 2-PB1042 (EACH SIDE)
- ▽▽ 5 BUNDLES OF 2-PB1041 ALT. W/ 4 BUNDLES OF 2-PB1042 (EACH SIDE)

NOTES:

1. FOR ADDITIONAL DETAILS, SEE SHEET [80/276].
2. FOR COLUMN REINFORCEMENT, SEE SHEET [83/276].
3. FOR SECTION J-J AND K-K, SEE SHEET [85/276].
4. FOR BEARING DETAILS, SEE SHEETS [225/276] THRU [232/276].
5. SPLICE LOCATIONS SHALL ALTERNATE IN ALL DIRECTIONS FOR MULTIPLE LAYERS OF BUNDLED BARS.

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED REBAR CALLOUT	DBL	11/17/21

DESIGN AGENCY
 ms consultants, inc.
 2221 Schrock Road
 Columbus, Ohio 43229

DATE
 20-APR

REVIEWED
 GLG

STRUCTURE FILE NUMBER
 2510025

DRAWN
 ABD

CHECKED
 TGH

UNIT 2 - PIER 15 CAP DETAILS
 BRIDGE NO. FRA-71-1503L
 I-71 SB OVER SCIOTO RIVER

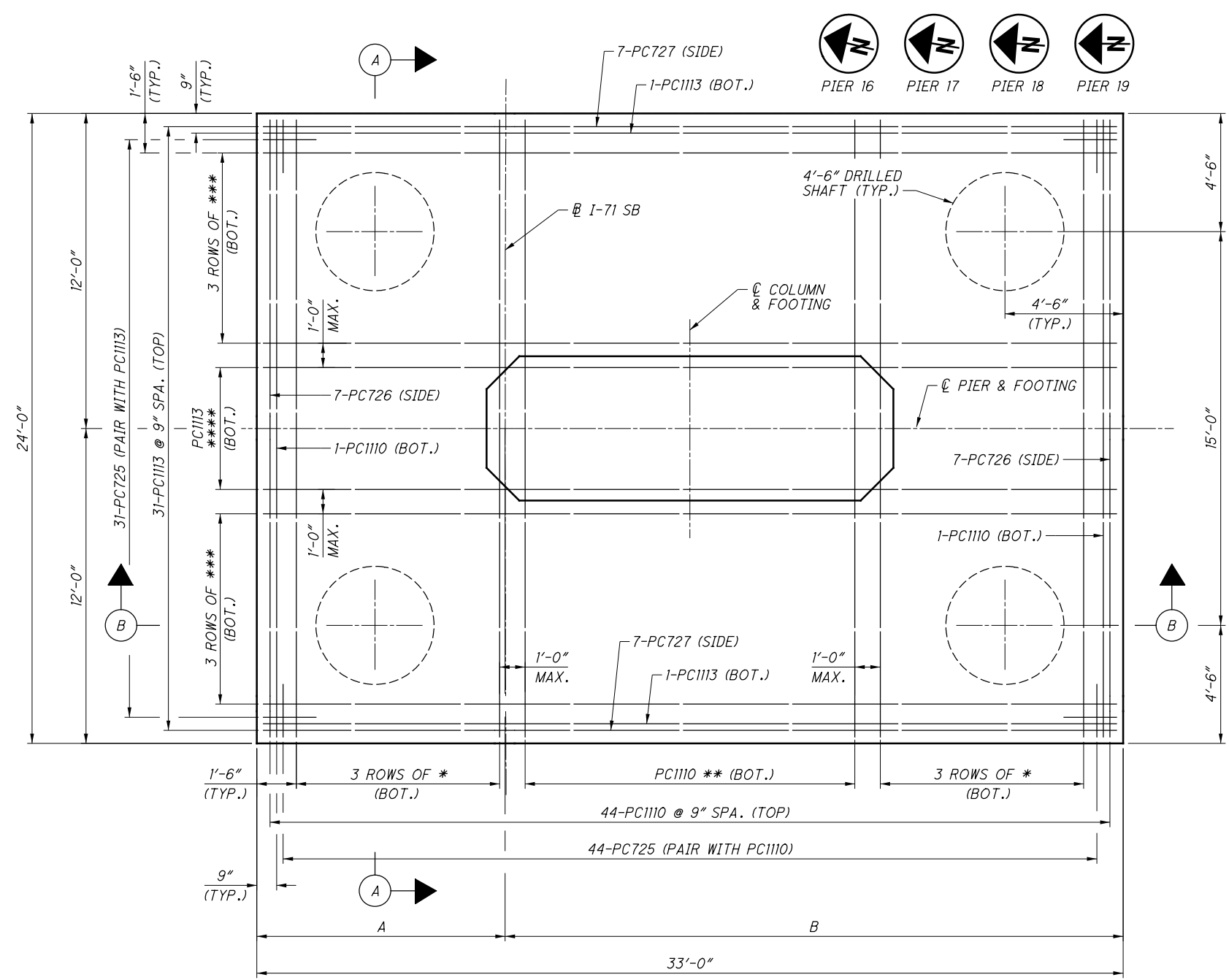
FRA-71-14.36
 PID No. 105588

84 / 276

1005
 1228

ms consultants, inc.

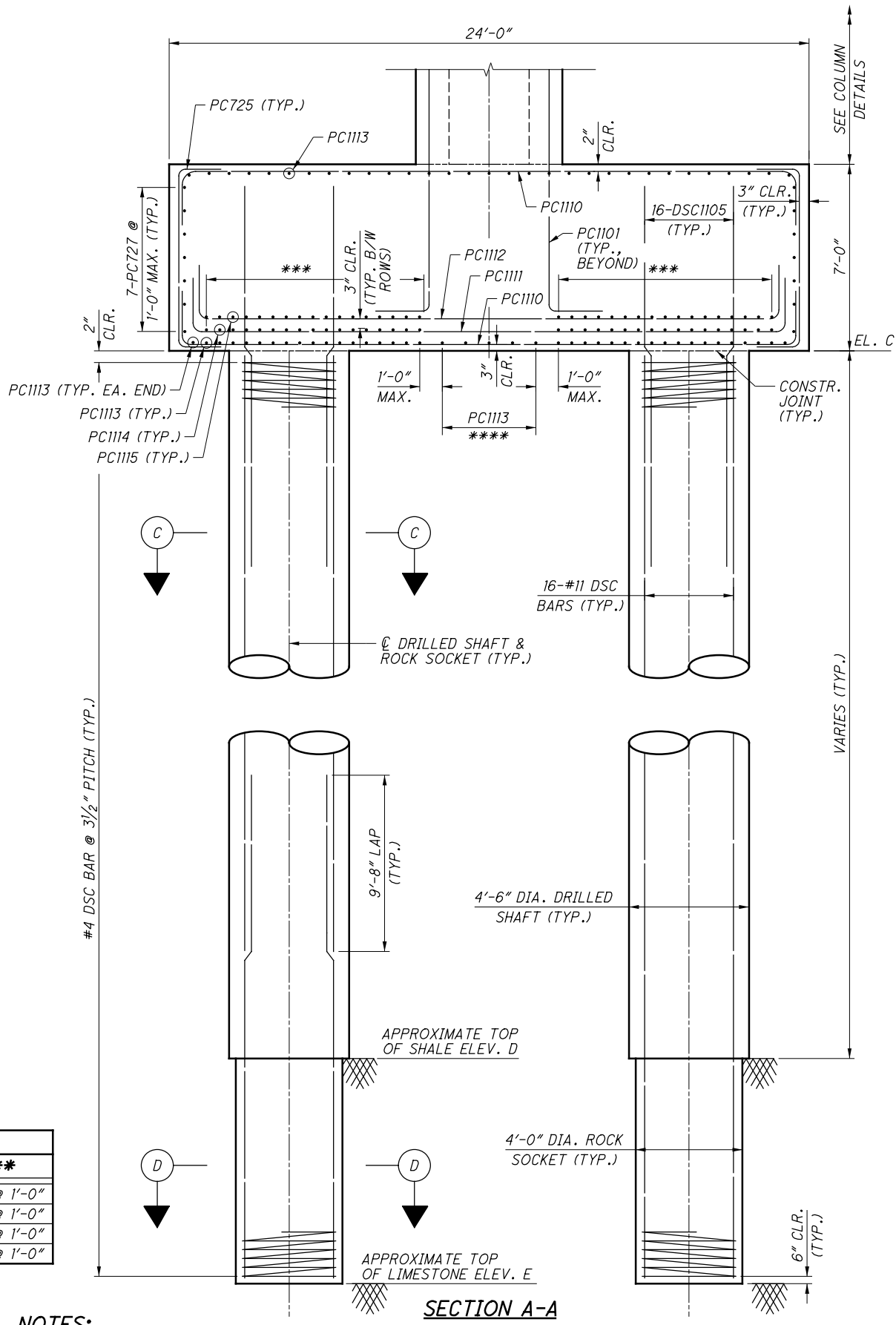
071_1503LPI002.dgn Sheet 11/17/2021 6:46:21 AM 89464_PDF_Half_BW.plt cfig 89464_Pen_BW.tbi mpierce



FOOTING PLAN

PIER FOOTING DATA						
PIER	A	B	C	BORING NO.	D	E
16	9'-5 1/2"	23'-6 1/2"	718.50	B-114-3-13	661.1	645.2
17	9'-5 1/2"	23'-6 1/2"	716.00	B-114-4-13	660.6	644.3
18	10'-9 1/8"	22'-2 1/8"	706.50	B-114-5-13	651.8	635.7
19	12'-10 3/8"	20'-1 1/8"	705.00	B-114-7-13	648.4	639.3

BAR SPACING DATA				
PIER	*	**	***	****
16	10 SPA. @ 9"	13 SPA. @ 1'-0"	11 SPA. @ 9"	3 SPA. @ 1'-0"
17	15 SPA. @ 6"	13 SPA. @ 1'-0"	17 SPA. @ 6"	2 SPA. @ 1'-0"
18	13 SPA. @ 7"	13 SPA. @ 1'-0"	14 SPA. @ 7"	3 SPA. @ 1'-0"
19	12 SPA. @ 8"	12 SPA. @ 1'-0"	10 SPA. @ 9"	4 SPA. @ 1'-0"



SECTION A-A

- NOTES:**
- FOR FOUNDATION PLAN, SEE SHEETS 29-31.
 - FOR SECTIONS B-B, C-C, AND D-D SEE SHEET 93.
 - TOP OF SHALE AND TOP OF LIMESTONE ELEVATIONS ARE BASED ON SUBSURFACE INFORMATION IN ADJACENT BORINGS. THE TIP OF DRILLED SHAFT SHALL BEAR ON LIMESTONE AS VERIFIED BY THE ENGINEER.
 - NUMBER 11 BAR SPACINGS ARE NOMINAL. ADJUST SPACING AS NEEDED DUE TO INTERFERENCE WITH THE DRILLED SHAFT VERTICAL REINFORCEMENT.

PIERS 16, 17, 18, & 19

NO.	DESCRIPTION	REV. BY	DATE
3	ADDED BARS TO FOOTER	DGS	11/11/21

DESIGN AGENCY
ch2m
 2 Easton Oval, Suite 500
 Columbus, Ohio 43219

DATE 7/15
 VS
 STRUCTURE FILE NUMBER 2510025

DESIGNED DGS
 CHECKED JTC

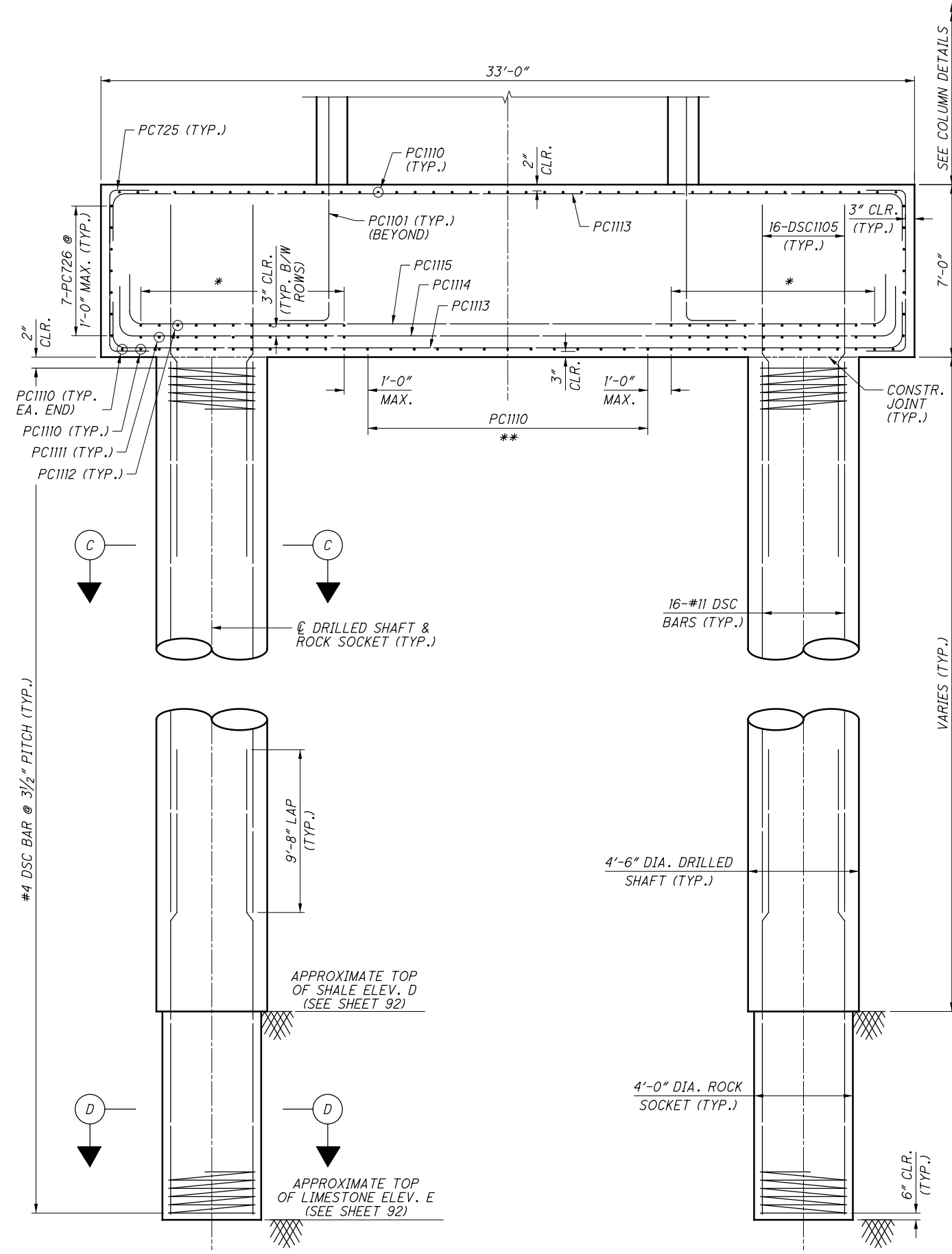
DRAWN JBA
 REVISED

UNIT 3 - PIER 16, 17, 18, & 19 FOOTING DETAILS (1 OF 2)
 BRIDGE NO. FRA-071-1503L
 I-71 SB OVER SCIOTO RIVER

FRA-71-14.36
 PID No. 105588

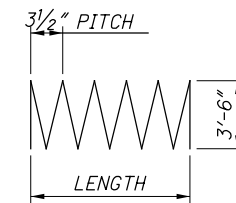
92 / 276
 1013
 1228

071_1503LPI003.dgn Sheet 11/17/2021 6:46:26 AM 89464_PDF_Half_BW.pltcfgr_89464_Pen_BW.tbl mpcierce

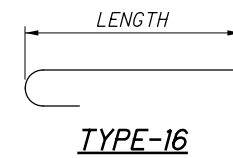


DRILLED SHAFT REINFORCING LIST			
MARK	NUMBER	LENGTH	TYPE
DSC401	4	72'-8"	27
DSC402	4	71'-0"	27
DSC403	4	70'-2"	27
DSC404	4	65'-0"	27
DSC1101	64	42'-6"	STR
DSC1102	64	40'-10"	STR
DSC1103	320	40'-0"	STR
DSC1104	64	34'-10"	STR
DSC1105	256	16'-6"	16

NOTE: BAR QUANTITIES IN ABOVE TABLE ARE FOR DRILLED SHAFTS 60-75.

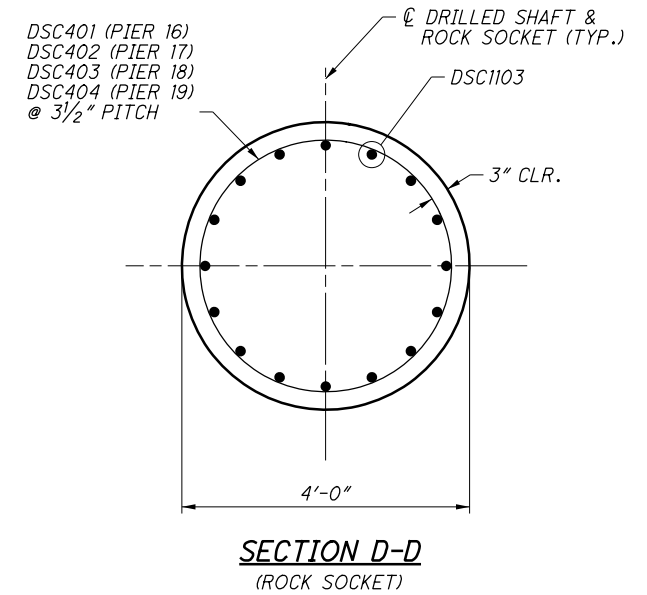
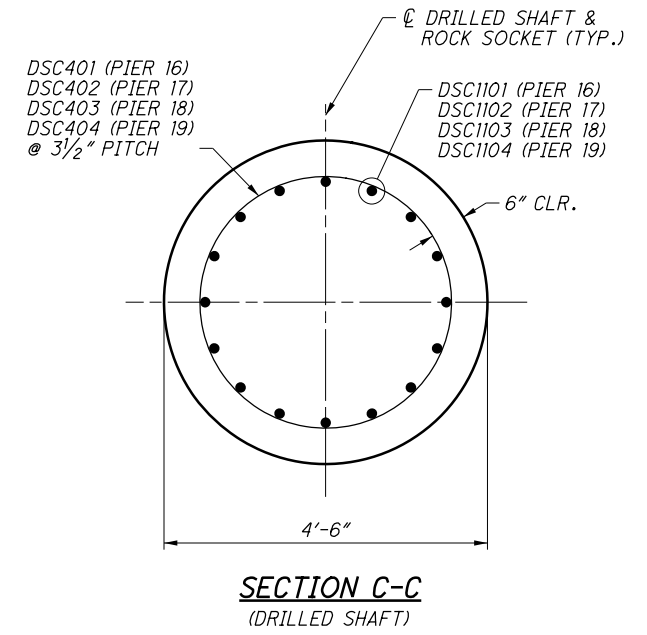


TYPE-27



TYPE-16

* SEE SHEET 92 FOR BAR SPACING DATA



NOTES:

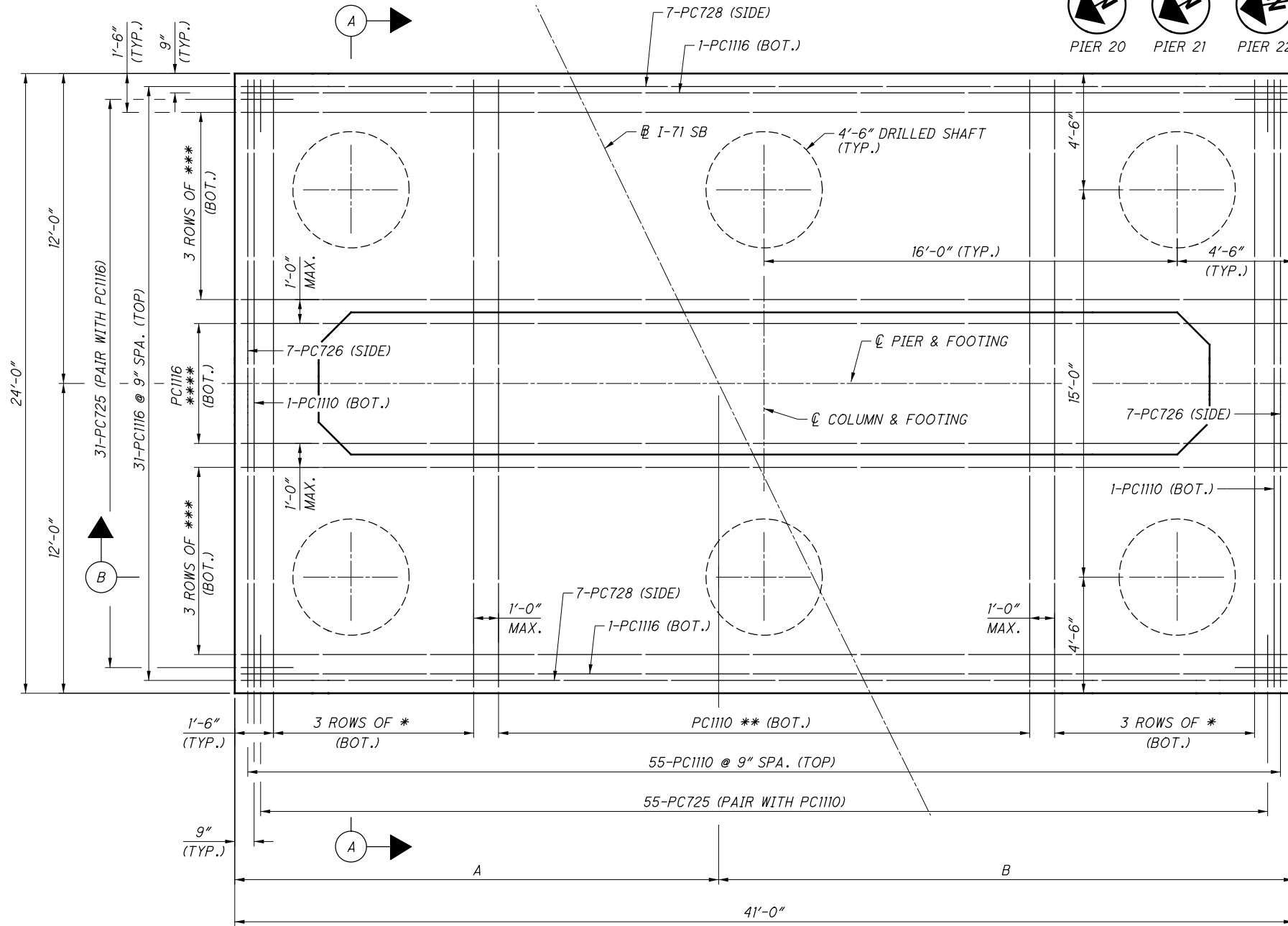
- REINFORCING LABELED "DSC" TO BE INCLUDED WITH ITEM 524 FOR PAYMENT.
- FOR LOCATION OF SECTION B-B, SEE SHEET 92.

NO.	DESCRIPTION	REV. BY	DATE
3	REVISED BARS AND LABELS	DGS	11/11/21

SECTION B-B

PIERS 16, 17, 18, & 19

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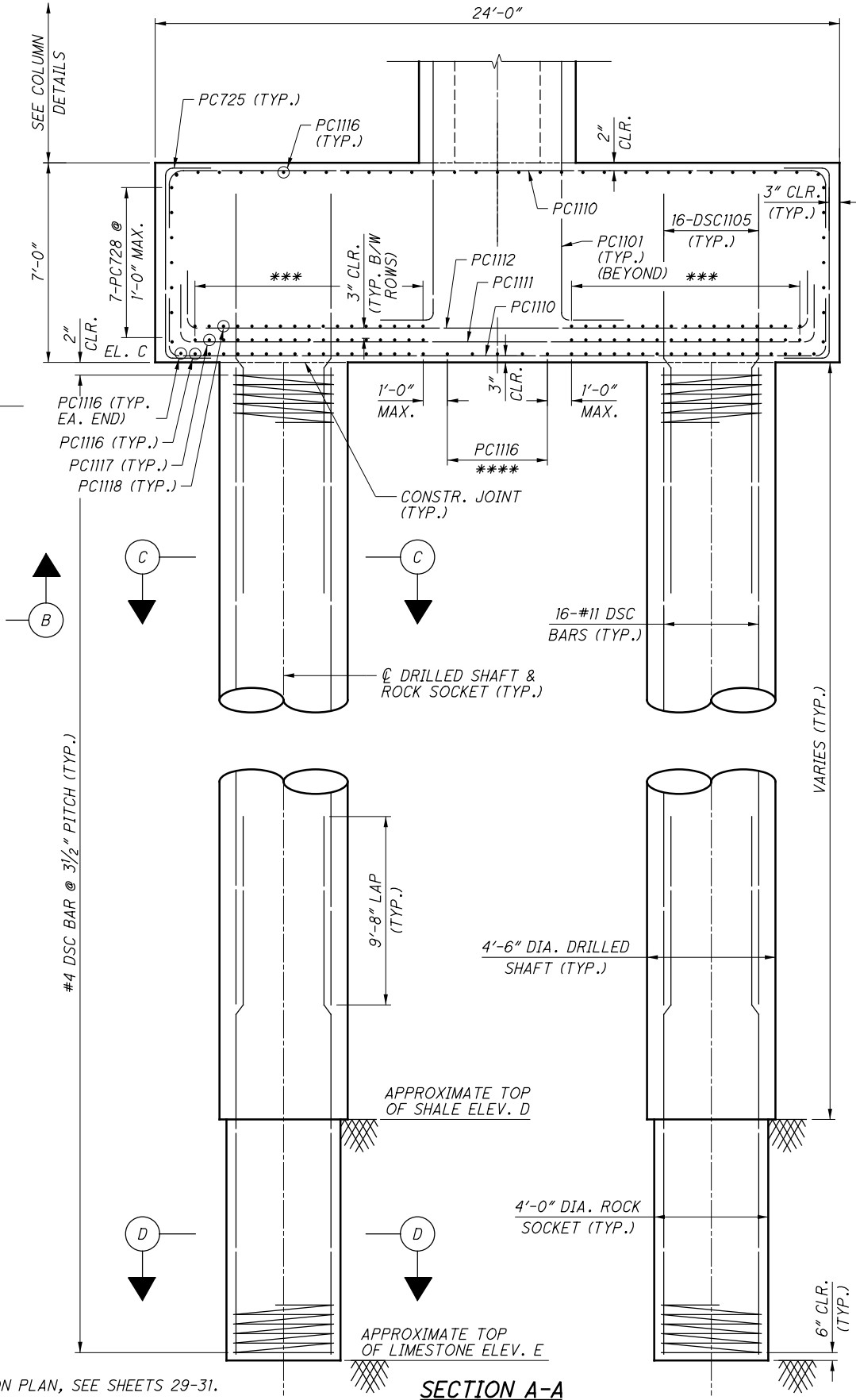
FOOTING PLAN

PIER FOOTING DATA						
PIER	A	B	C	BORING NO.	D	E
20	18'-8 ⁷ / ₈ "	22'-3 ¹ / ₈ "	705.00	B-114-8-13	650.5	637.0
21	18'-9 ³ / ₄ "	22'-2 ¹ / ₄ "	706.00	B-114-9-13	655.0	629.0
22	18'-11 ¹ / ₂ "	22'-0 ¹ / ₂ "	706.50	B-115-1-13	651.1 [#]	630.0

- THE TOP OF LIMESTONE ELEVATION WAS INTERPRETED FROM ADJACENT BORINGS

BAR SPACING DATA				
PIER	*	**	***	****
20	12 SPA. @ 8"	20 SPA. @ 1'-0"	7 SPA. @ 1'-1"	4 SPA. @ 1'-0"
21	12 SPA. @ 8"	20 SPA. @ 1'-0"	8 SPA. @ 1'-0"	3 SPA. @ 1'-0"
22	7 SPA. @ 1'-1"	21 SPA. @ 1'-0"	7 SPA. @ 1'-1"	4 SPA. @ 1'-0"

PIERS 20, 21, & 22



SECTION A-A

NOTES:

- FOR FOUNDATION PLAN, SEE SHEETS 29-31.
- FOR SECTIONS B-B, C-C & D-D, SEE SHEET 95.
- TOP OF SHALE AND TOP OF LIMESTONE ELEVATIONS ARE BASED ON SUBSURFACE INFORMATION IN ADJACENT BORINGS. THE TIP OF DRILLED SHAFT SHALL BEAR ON LIMESTONE AS VERIFIED BY THE ENGINEER.
- NUMBER 11 BAR SPACINGS ARE NOMINAL. ADJUST SPACING AS NEEDED DUE TO INTERFERENCE WITH THE DRILLED SHAFT VERTICAL REINFORCEMENT.

NO.	DESCRIPTION	REV. BY	DATE
3	ADDED BARS TO FOOTER	DGS	11/11/21

DESIGN AGENCY
ch2m
2 Easton Oval, Suite 500
Columbus, Ohio 43219

DATE 7/15
REVIEWED VS
STRUCTURE FILE NUMBER 2510025

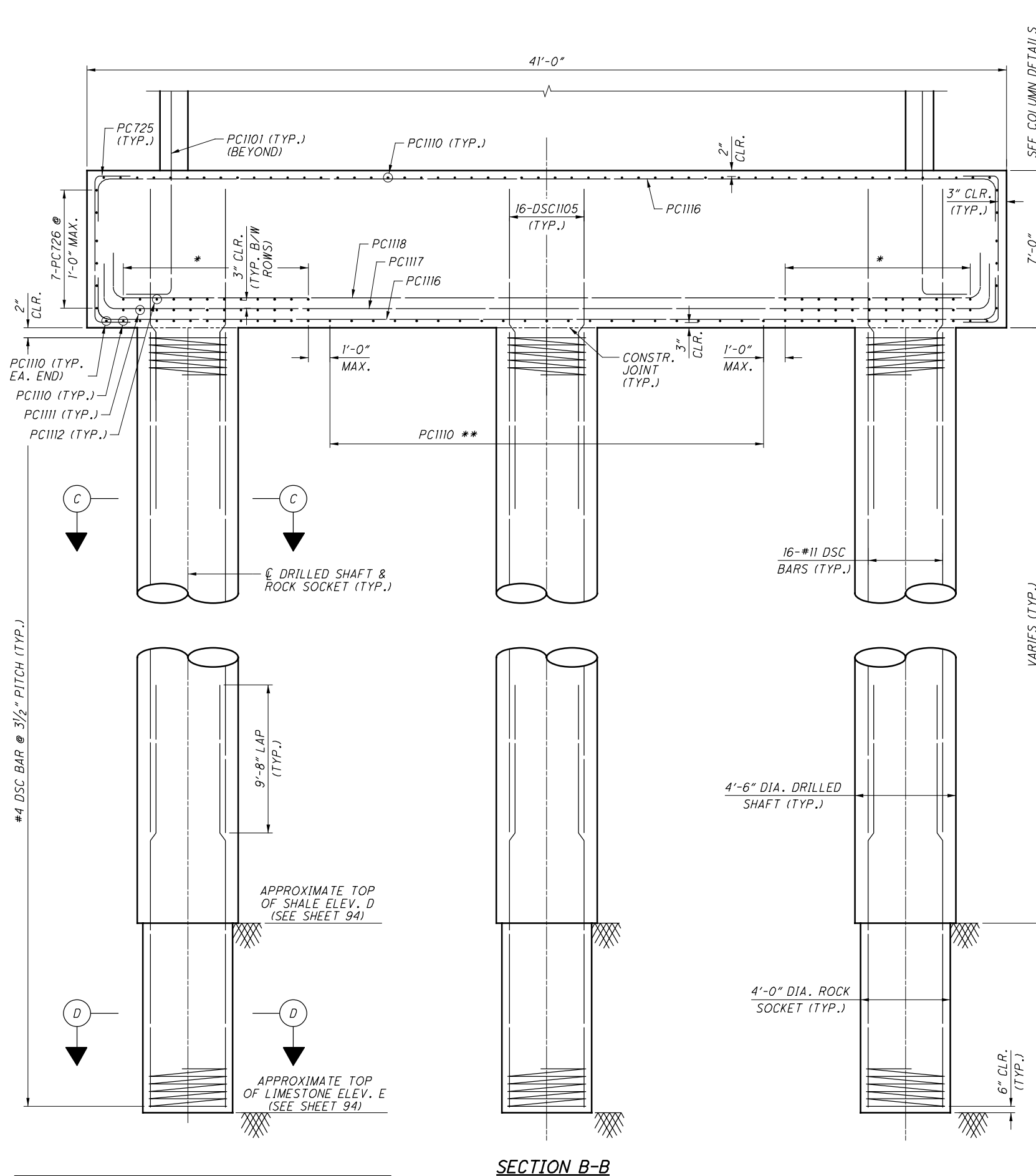
DRAWN JBA
CHECKED JTC
DESIGNED DGS

UNIT 3 - PIERS 20, 21, & 22 FOOTING DETAILS (1 OF 2)
BRIDGE NO. FRA-071-1503L
I-71 SB OVER SCIOTO RIVER

FRA-71-14.36
PID No. 105588

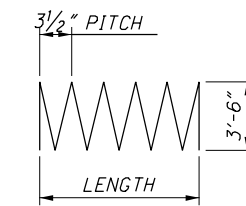
94/276
1015
1228

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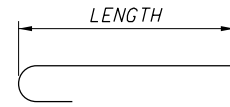


DRILLED SHAFT REINFORCING LIST			
MARK	NUMBER	LENGTH	TYPE
DSC405	6	67'-4"	27
DSC406	6	76'-4"	27
DSC407	6	75'-10"	27
DSC1103	288	40'-0"	STR
DSC1105	288	16'-6"	16
DSC1106	96	37'-2"	STR
DSC1107	96	46'-2"	STR
DSC1108	96	45'-8"	STR

NOTE: BAR QUANTITIES IN ABOVE TABLE ARE FOR DRILLED SHAFTS 76-93.

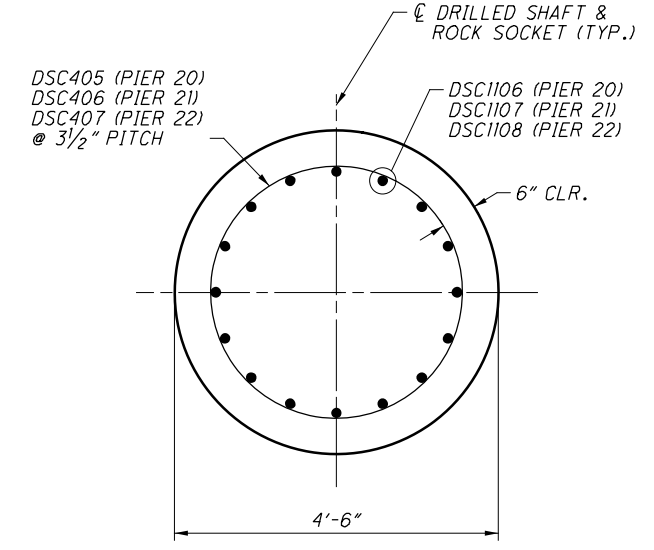


TYPE-27

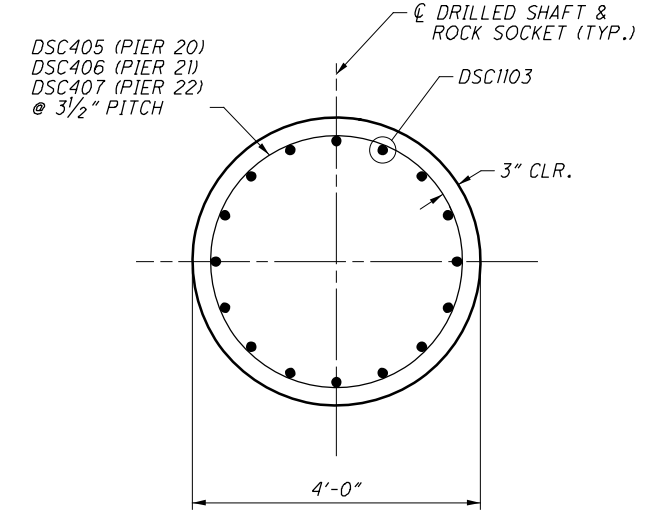


TYPE-16

* SEE SHEET 94 FOR
** BAR SPACING DATA



SECTION C-C
(DRILLED SHAFT)



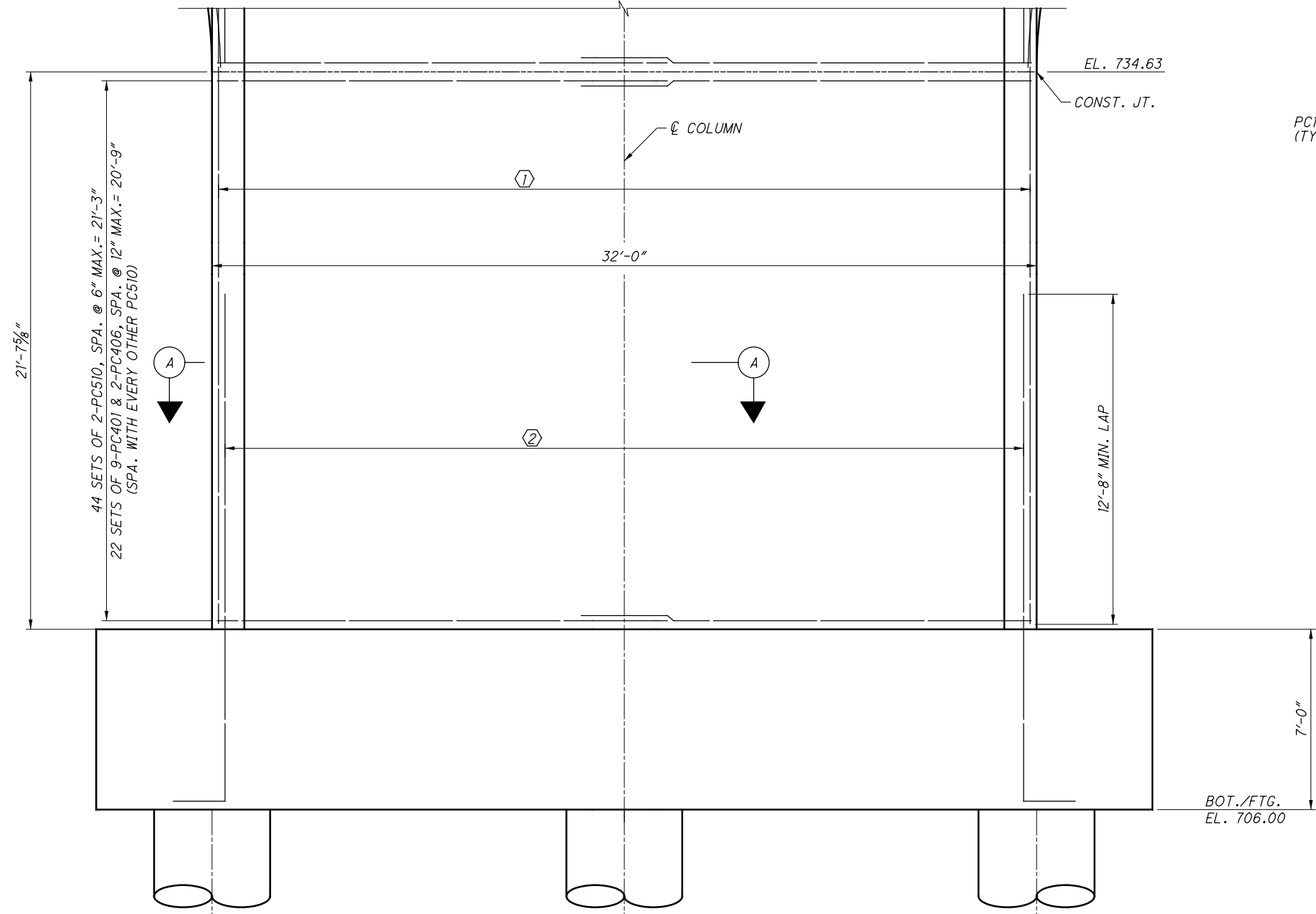
SECTION D-D
(ROCK SOCKET)

- NOTES:**
- REINFORCING LABELED "DSC" TO BE INCLUDED WITH ITEM 524 FOR PAYMENT.
 - FOR LOCATION OF SECTION B-B, SEE SHEET 94.

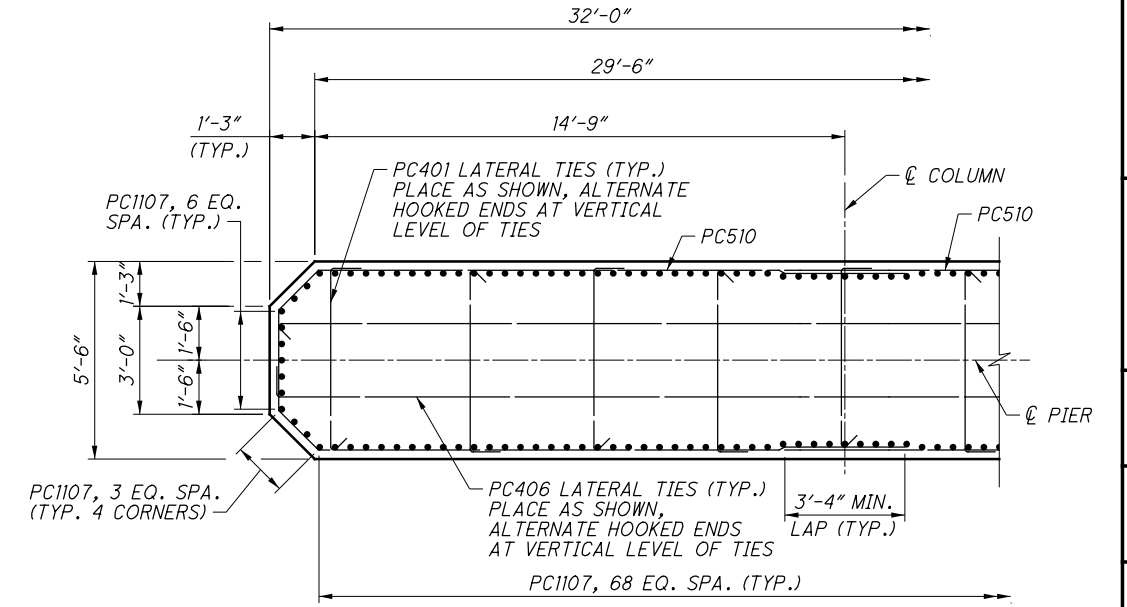
NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BARS AND LABELS	DGS	11/11/21

PIERS 20, 21, & 22

	DESIGN AGENCY 2 Easton Oval, Suite 500 Columbus, Ohio 43219	DATE 7/15	STRUCTURE FILE NUMBER 2510025
DESIGNED DGS	DRAWN JBA	REVIEWED VS	DATE 7/15
CHECKED JTC	REVISED	UNIT 3 - PIERS 20, 21, & 22 FOOTING DETAILS - (2 OF 2) BRIDGE NO. FRA-071-1503L I-71 SB OVER SCIOTO RIVER	
FRA-71-14.36	PID No. 105588	95 / 276	1016 1228



ELEVATION



SECTION A-A

LEGEND:

- ① 160-PC1107, SPA. AS SHOWN IN SECTION A-A.
- ② 160-PC1101, SPA. WITH PC1107 AS SHOWN IN SECTION A-A.

NOTES:

- 1. FOR PIER 21 CAP DETAILS, SEE SHEET 108.
- 2. FOR PIER 21 FOOTING DETAILS, SEE SHEETS 94 & 95.

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR QUANTITY	DGS	11/11/21

DESIGN AGENCY
ch2m
2 Easton Oval, Suite 500
Columbus, Ohio 43219

DATE 7/15
REVIEWED VS
STRUCTURE FILE NUMBER 2510025

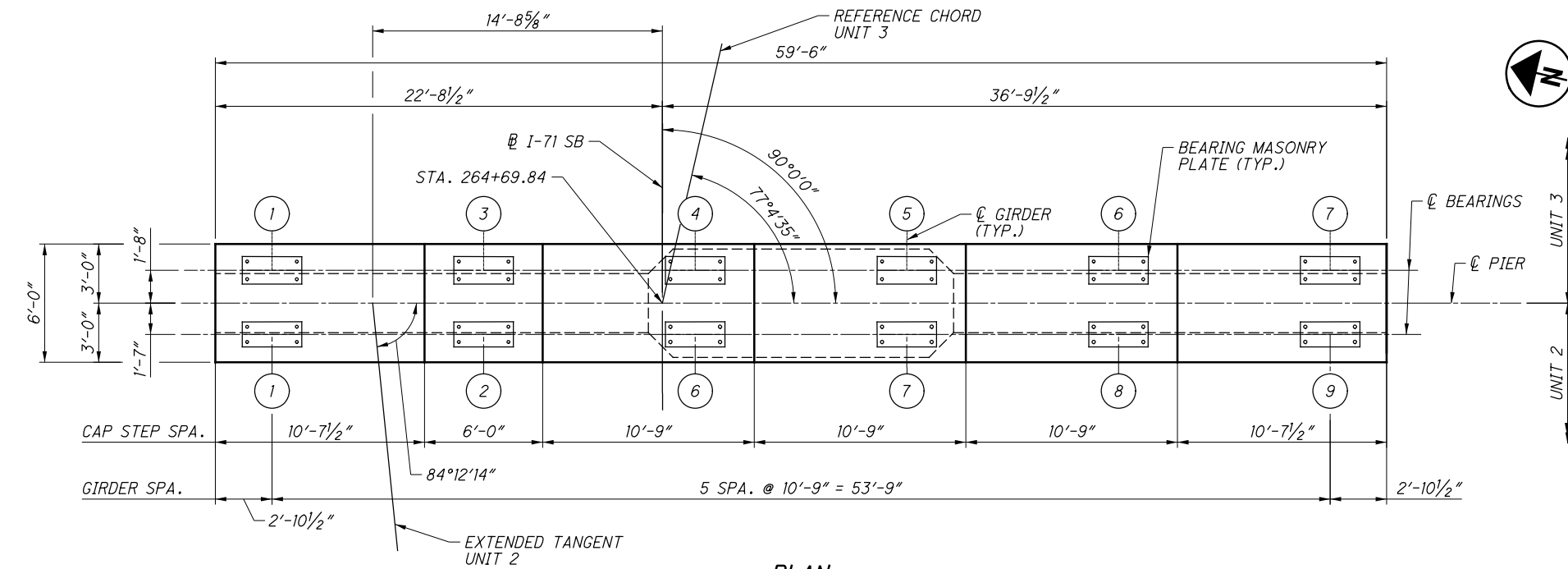
DRAWN JBA
REVISOR
DESIGNED DGS
CHECKED JTC

UNIT 3 - PIER 21 COLUMN DETAILS
BRIDGE NO. FRA-071-1503L
I-71 SB OVER SCIOTO RIVER

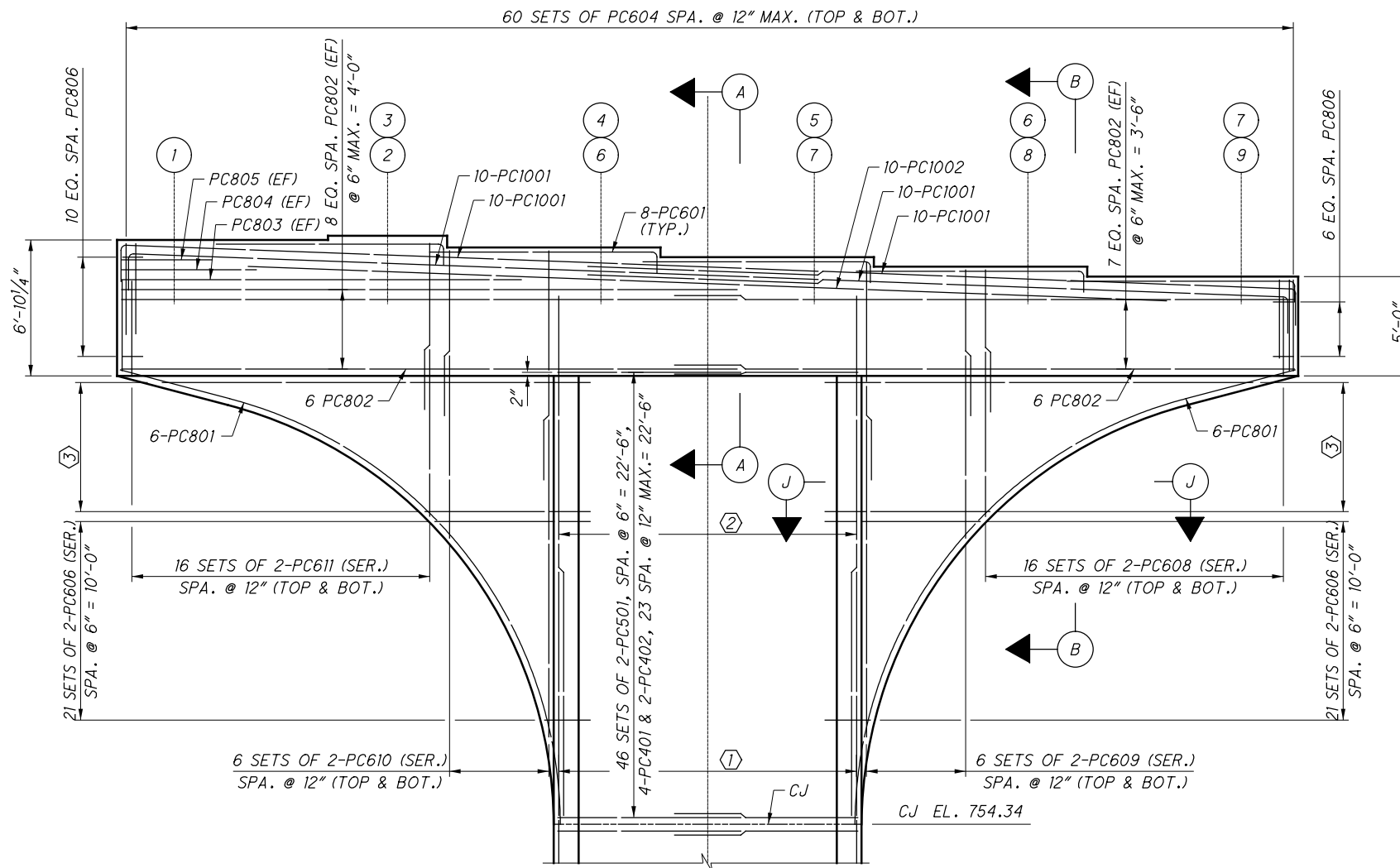
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PID No. 105588

101/276
1022
1228

071_1503L1013.dgn Sheet 11/17/2021 6:47:40 AM 89464_PDF_Hof_BW.plt cfig 89464_Pen_BW.tbl mperce



PLAN



ELEVATION

BEARING SEAT ELEVATIONS	
GIRDER (UNIT 2/3)	ELEVATION
1	783.77
2/3	784.98
6/4	783.39
7/5	782.90
8/6	782.42
9/7	781.92

LEGEND:

- ① DENOTES GIRDER NUMBER
- ① 76-PC1102, SPA. AS SHOWN IN SECTION A-A ON SHEET 96.
- ② 76-PC1109, SPA. WITH PC1102 AS SHOWN IN SECTION A-A ON SHEET 96.
- ③ 14 SETS OF 2-PC607 (SER.) SPA. @ 6" = 6'-6"

NOTES:

1. FOR PIER 16 COLUMN DETAILS, SEE SHEET 96.
2. FOR PIER 16 FOOTING DETAILS, SEE SHEETS 92 & 93.
3. FOR SECTIONS A-A & B-B, SEE SHEET 110.
4. FOR SECTION J-J, SEE SHEET 111.
5. MINIMUM REINFORCING SPLICE LENGTHS:
 NO. 5 BAR = 3'-4"
 NO. 8 BAR = 6'-10"
 NO. 10 BAR = 11'-7"

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR LABELS	DGS	11/11/21

UNIT 3 - PIER 16 CAP DETAILS

BRIDGE NO. FRA-071-1503L
I-71 SB OVER SCIOTO RIVER

FRA-71-14.36
PID No. 105588

103/276

1024
1228

DESIGN AGENCY
ch2m
2 Easton Oval, Suite 500
Columbus, Ohio 43219

DATE
7/15

REVIEWED
VS

DRAWN
JBA

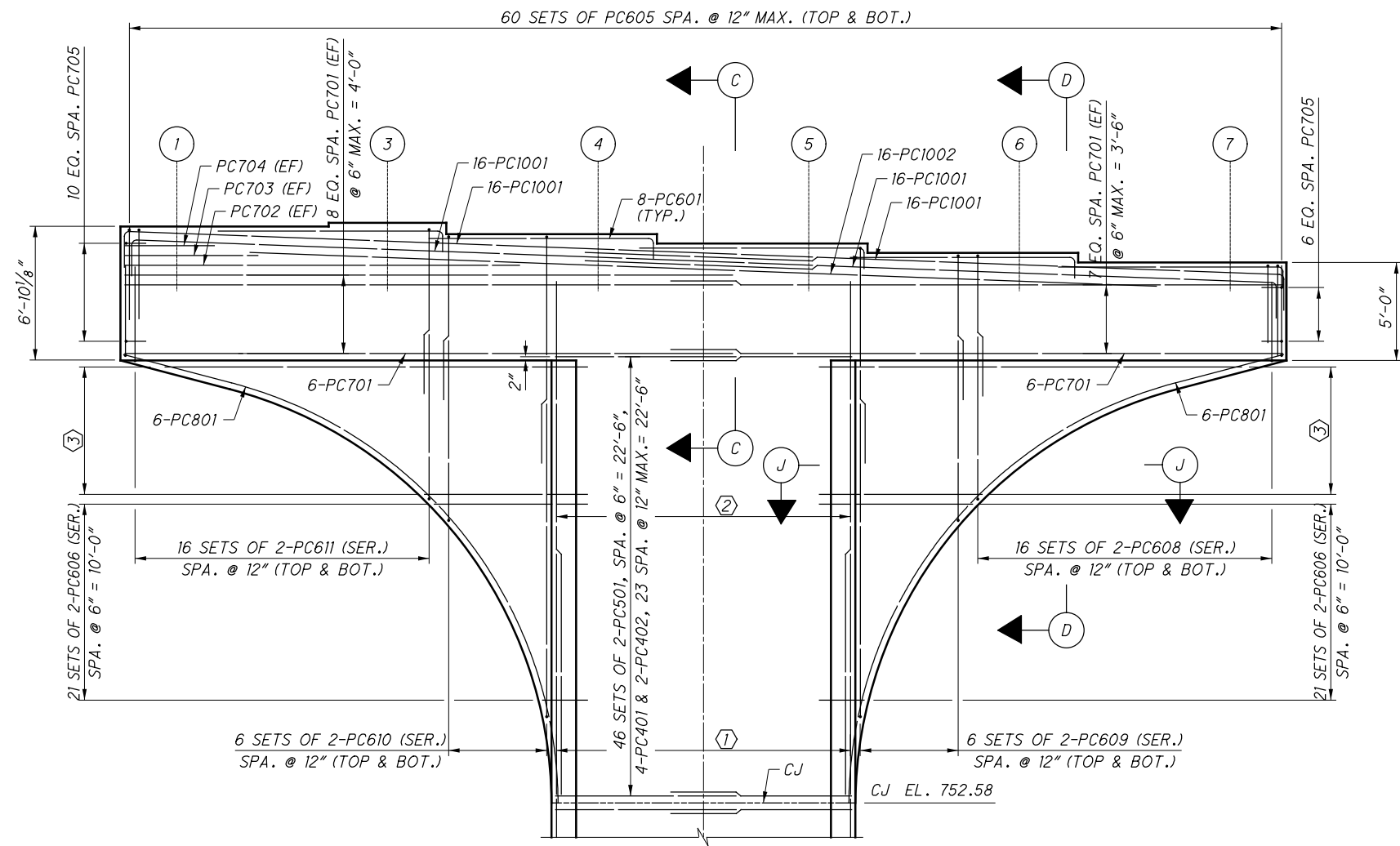
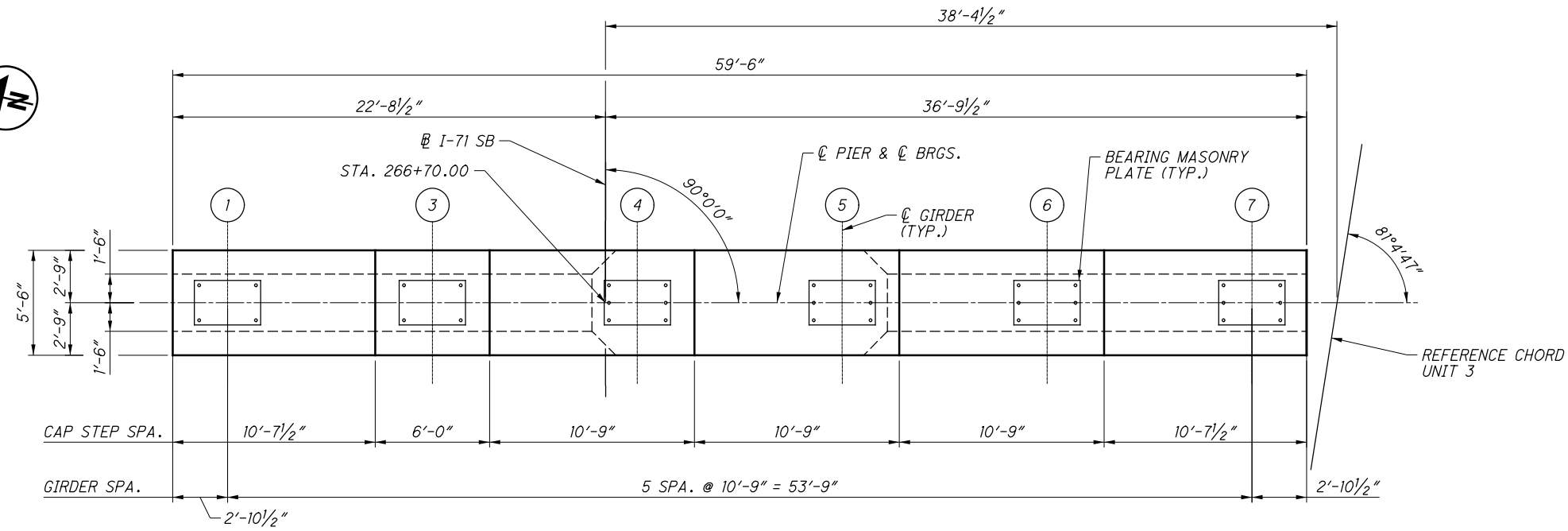
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DGS

STRUCTURE FILE NUMBER
2510025

REVISION
REVISED

CHECKED
JTC

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BEARING SEAT ELEVATIONS	
GIRDER	ELEVATION
1	782.00
3	782.18
4	781.61
5	781.13
6	780.65
7	780.16

- LEGEND:**
- Ⓝ DENOTES GIRDER NUMBER
 - ① 116-PC1103, SPA. AS SHOWN IN SECTION A-A ON SHEET 97.
 - ② 116-PC1109, SPA. WITH PC1103 AS SHOWN IN SECTION A-A ON SHEET 97.
 - ③ 14 SETS OF 2-PC607 (SER.) SPA. @ 6" = 6'-6"

- NOTES:**
1. FOR PIER 17 COLUMN DETAILS, SEE SHEET 97.
 2. FOR PIER 17 FOOTING DETAILS, SEE SHEETS 92 & 93.
 3. FOR SECTIONS C-C & D-D, SEE SHEET 110.
 4. FOR SECTION J-J, SEE SHEET 111.
 5. MINIMUM REINFORCING SPLICE LENGTHS:
 NO. 5 BAR = 3'-4"
 NO. 7 BAR = 5'-2"
 NO. 10 BAR = 11'-7"

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR LABELS	DGS	11/11/21

DESIGN AGENCY
ch2m
2 Easton Oval, Suite 500
Columbus, Ohio 43219

DATE 7/15
REVIEWED VS
STRUCTURE FILE NUMBER 2510025

UNIT 3 - PIER 17 CAP DETAILS
 BRIDGE NO. FRA-071-1503L
 I-71 SB OVER SCIOTO RIVER

FRA-71-14.36
PID No. 105588

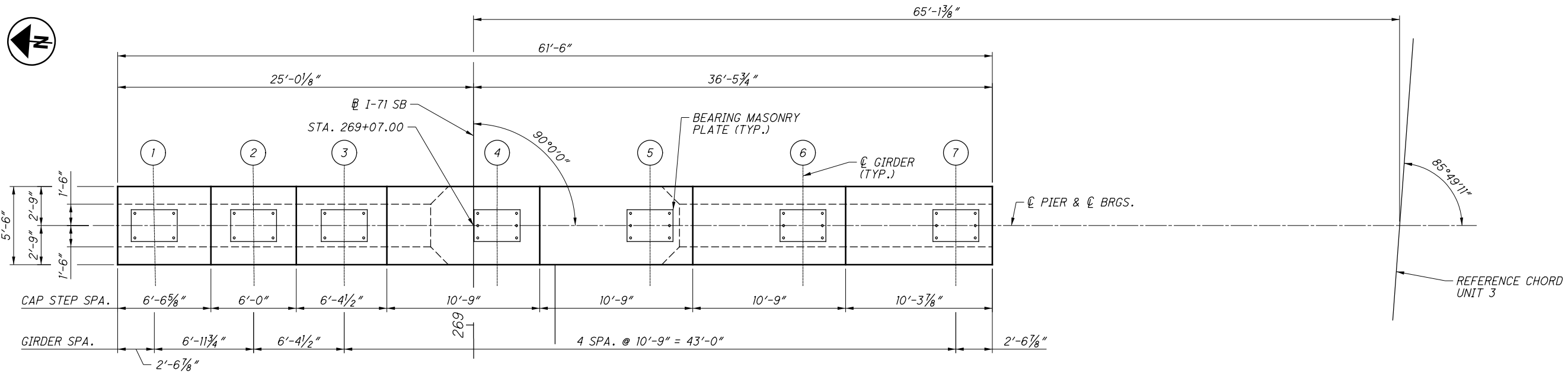
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DRAWN JBA
REVISED

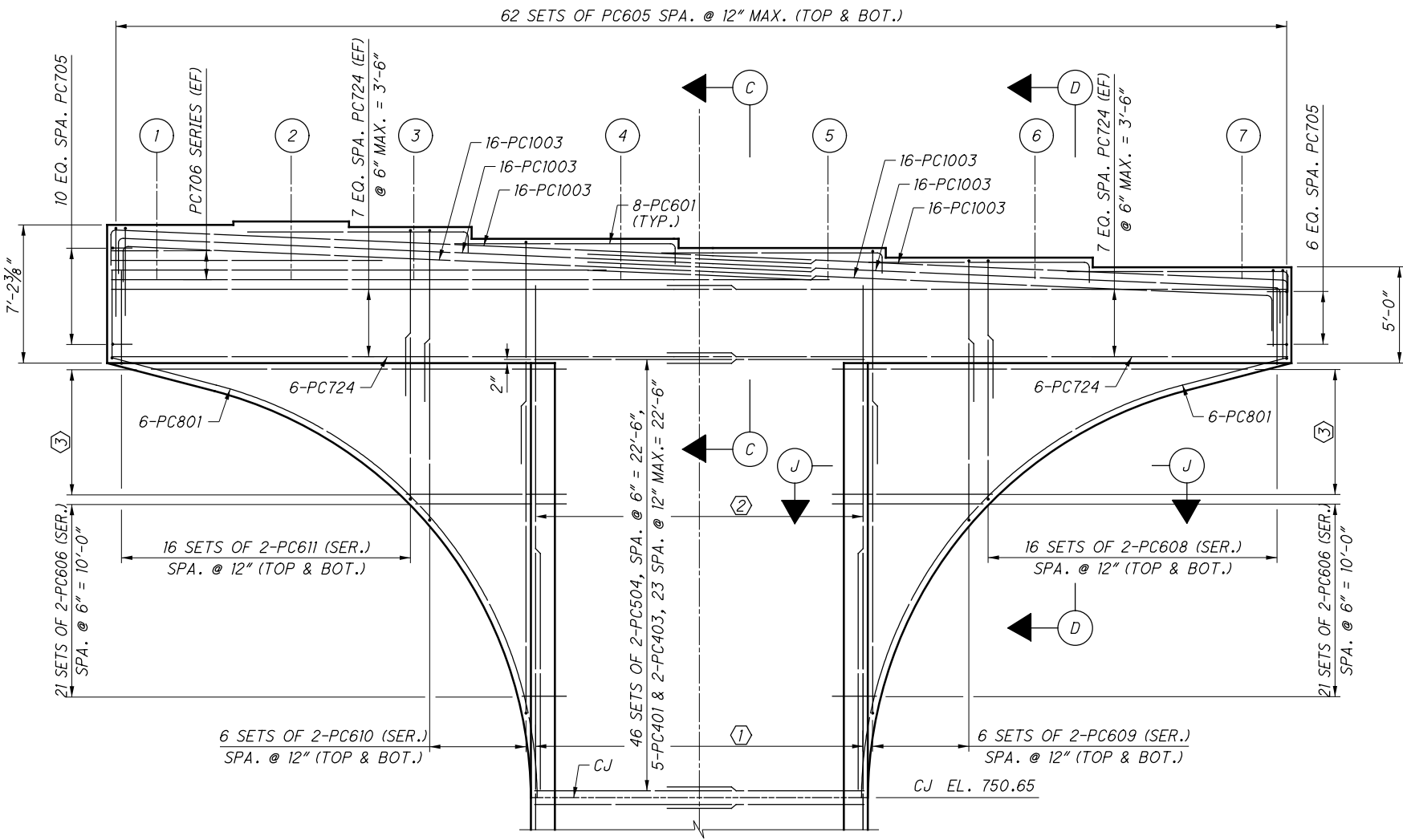
104/276

1025
1228

071_1503_L1015.dgn Sheet 11/17/2021 6:47:52 AM 89464_PDF_Half_BW.plt 89464_Pen_BW.tbl mpierce



PLAN



ELEVATION

BEARING SEAT ELEVATIONS	
GIRDER	ELEVATION
1	780.43
2	780.60
3	780.31
4	779.70
5	779.22
6	778.73
7	778.23

LEGEND:

- # DENOTES GIRDER NUMBER
- ① 86-PC1104, SPA. AS SHOWN IN SECTION A-A ON SHEET 98.
- ② 86-PC1109, SPA. WITH PC1104 AS SHOWN IN SECTION A-A ON SHEET 98.
- ③ 14 SETS OF 2-PC607 (SER.) SPA. @ 6" = 6'-6"

NOTES:

1. FOR PIER 18 COLUMN DETAILS, SEE SHEET 98.
2. FOR PIER 18 FOOTING DETAILS, SEE SHEETS 92 & 93.
3. FOR SECTIONS C-C & D-D, SEE SHEET 110.
4. FOR SECTION J-J, SEE SHEET 111.
5. MINIMUM REINFORCING SPLICE LENGTHS:
 NO. 5 BAR = 3'-4"
 NO. 7 BAR = 5'-2"
 NO. 10 BAR = 11'-7"

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR LABELS	DGS	11/11/21

DESIGN AGENCY
ch2m
 2 Easton Oval, Suite 500
 Columbus, Ohio 43219

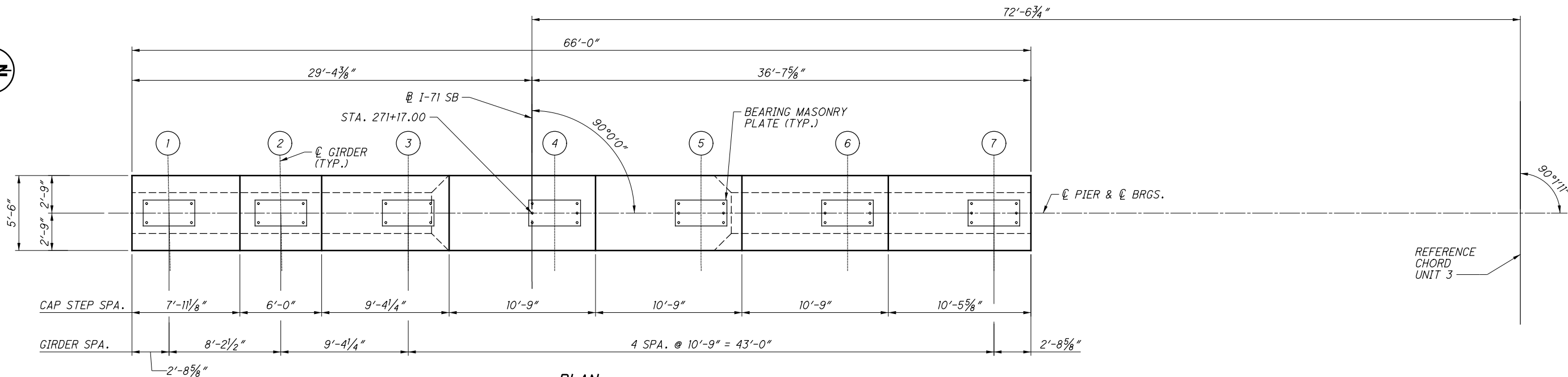
DESIGNED	DGS	CHECKED	JTC
DRAWN	JBA	REVISED	
REVIEWED	VS	STRUCTURE FILE NUMBER	2510025
DATE	7/15		

UNIT 3 - PIER 18 CAP DETAILS
 BRIDGE NO. FRA-071-1503L
 I-71 SB OVER SCIOTO RIVER

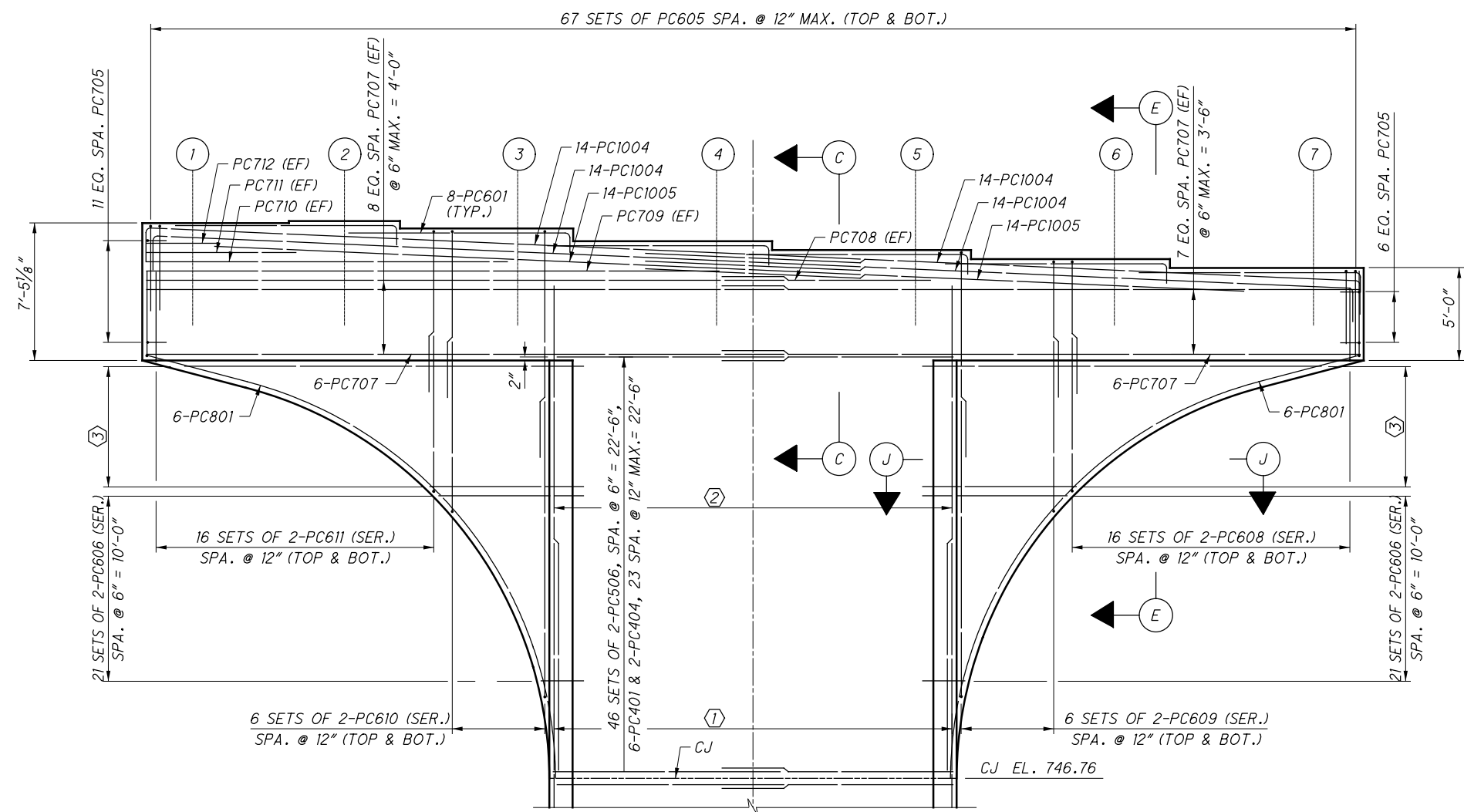
FRA-71-14.36
PID No. 105588

105/276
 1026
 1228

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PLAN



ELEVATION

BEARING SEAT ELEVATIONS	
GIRDER	ELEVATION
1	776.77
2	776.88
3	776.48
4	775.79
5	775.31
6	774.82
7	774.34

LEGEND:

- ⊘ DENOTES GIRDER NUMBER
- ① 110-PC1105, SPA. AS SHOWN IN SECTION A-A ON SHEET 99.
- ② 110-PC1109, SPA. WITH PC1105 AS SHOWN IN SECTION A-A ON SHEET 99.
- ③ 14 SETS OF 2-PC607 (SER.) SPA. @ 6" = 6'-6"

NOTES:

1. FOR PIER 19 COLUMN DETAILS, SEE SHEET 99.
2. FOR PIER 19 FOOTING DETAILS, SEE SHEETS 92 & 93.
3. FOR SECTIONS C-C & E-E, SEE SHEET 110.
4. FOR SECTION J-J, SEE SHEET 111.
5. MINIMUM REINFORCING SPLICE LENGTHS:
 NO. 5 BAR = 3'-4"
 NO. 7 BAR = 5'-2"
 NO. 10 BAR = 11'-7"

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR LABELS	DGS	11/11/21

UNIT 3 - PIER 19 CAP DETAILS

BRIDGE NO. FRA-071-1503L
I-71 SB OVER SCIOTO RIVER

FRA-71-14.36
PID No. 105588

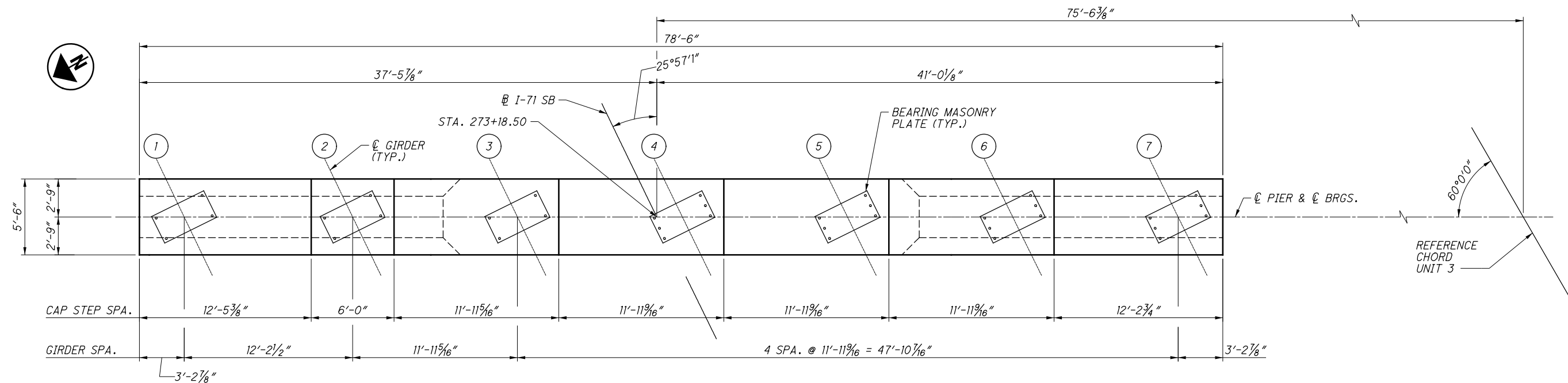
106/276

1027
1228

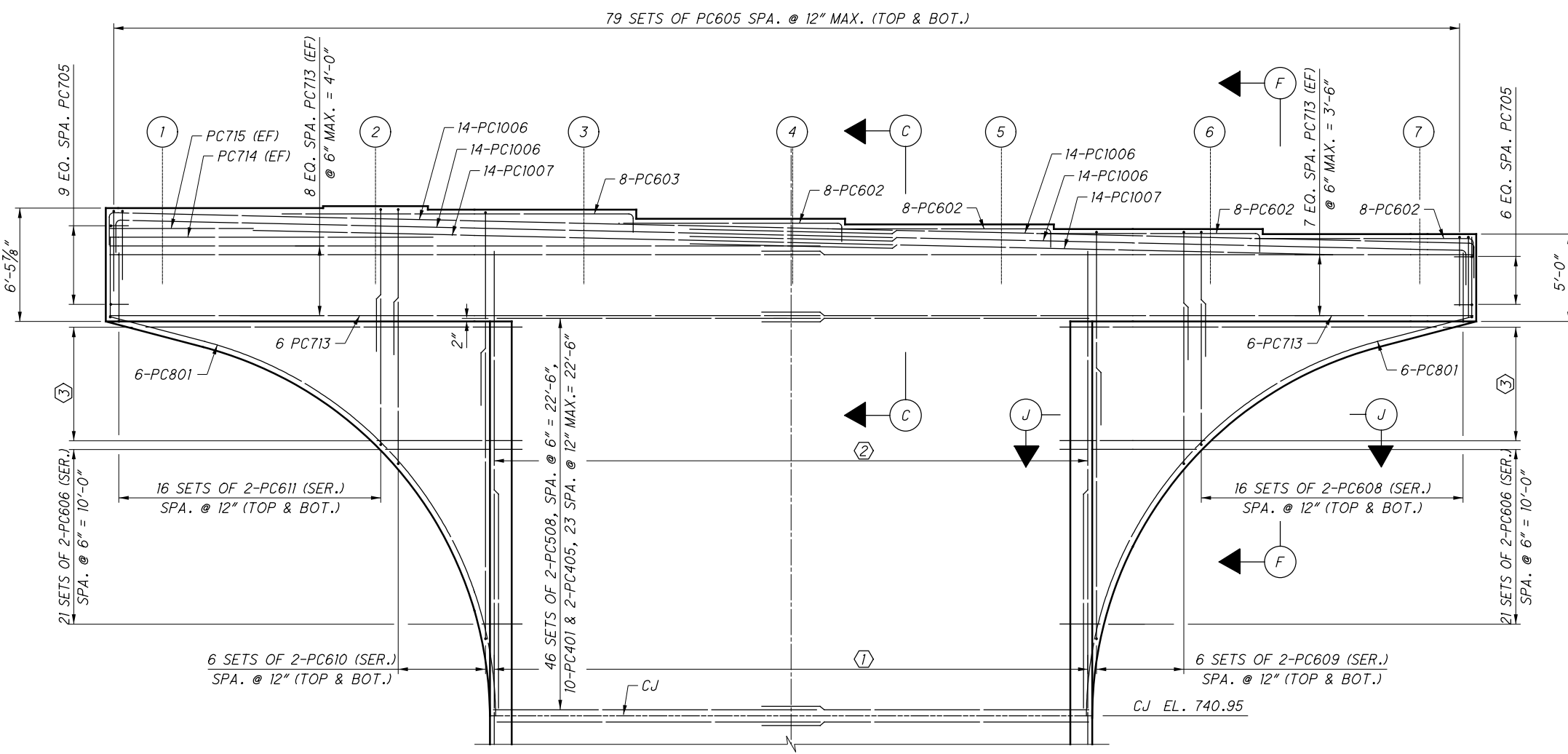
DESIGN AGENCY
ch2m
2 Easton Oval, Suite 500
Columbus, Ohio 43219

DESIGNED DGS
CHECKED JTC
DRAWN JBA
REVISED
REVIEWED VS
DATE 7/15
STRUCTURE FILE NUMBER 2510025

071_1503LP1017.dgn Sheet 11/17/2021 6:48:02 AM 89464_PDF_Half_BW.plt cfbg 89464_Pen_BW.tbl mpierce



PLAN



ELEVATION

BEARING SEAT ELEVATIONS	
GIRDER	ELEVATION
1	770.02
2	770.14
3	769.94
4	769.41
5	769.09
6	768.82
7	768.53

LEGEND:

- # DENOTES GIRDER NUMBER
- ① 174-PC1106, SPA. AS SHOWN IN SECTION A-A ON SHEET 100.
- ② 174-PC1109, SPA. WITH PC1106 AS SHOWN IN SECTION A-A ON SHEET 100.
- ③ 14 SETS OF 2-PC607 (SER.) SPA. @ 6" = 6'-6"

NOTES:

1. FOR PIER 20 COLUMN DETAILS, SEE SHEET 100.
2. FOR PIER 20 FOOTING DETAILS, SEE SHEETS 94 & 95.
3. FOR SECTION C-C, SEE SHEET 110.
4. FOR SECTIONS F-F & J-J, SEE SHEET 111.
5. MINIMUM REINFORCING SPLICE LENGTHS:
 NO. 5 BAR = 3'-4"
 NO. 7 BAR = 5'-2"
 NO. 10 BAR = 11'-7"

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR LABELS	DGS	11/11/21

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ch2m
 2 Easton Oval, Suite 500
 Columbus, Ohio 43219

DATE 7/15
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 STRUCTURE FILE NUMBER 2510025

DRAWN JBA
 CHECKED JTC

UNIT 3 - PIER 20 CAP DETAILS

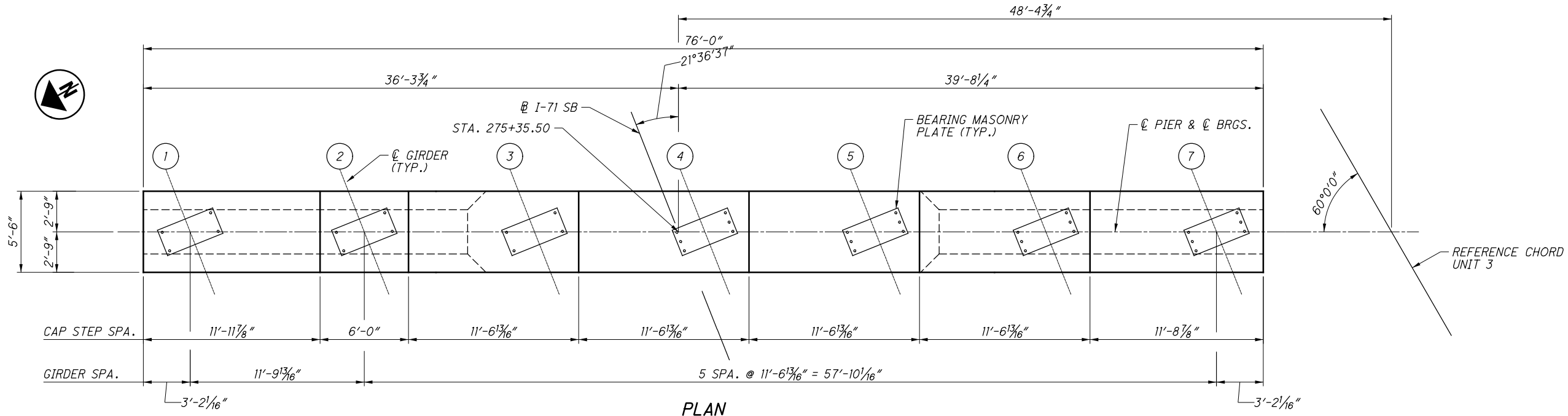
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 I-71 SB OVER SCIOTO RIVER

FRA-71-14.36
 PID No. 105588

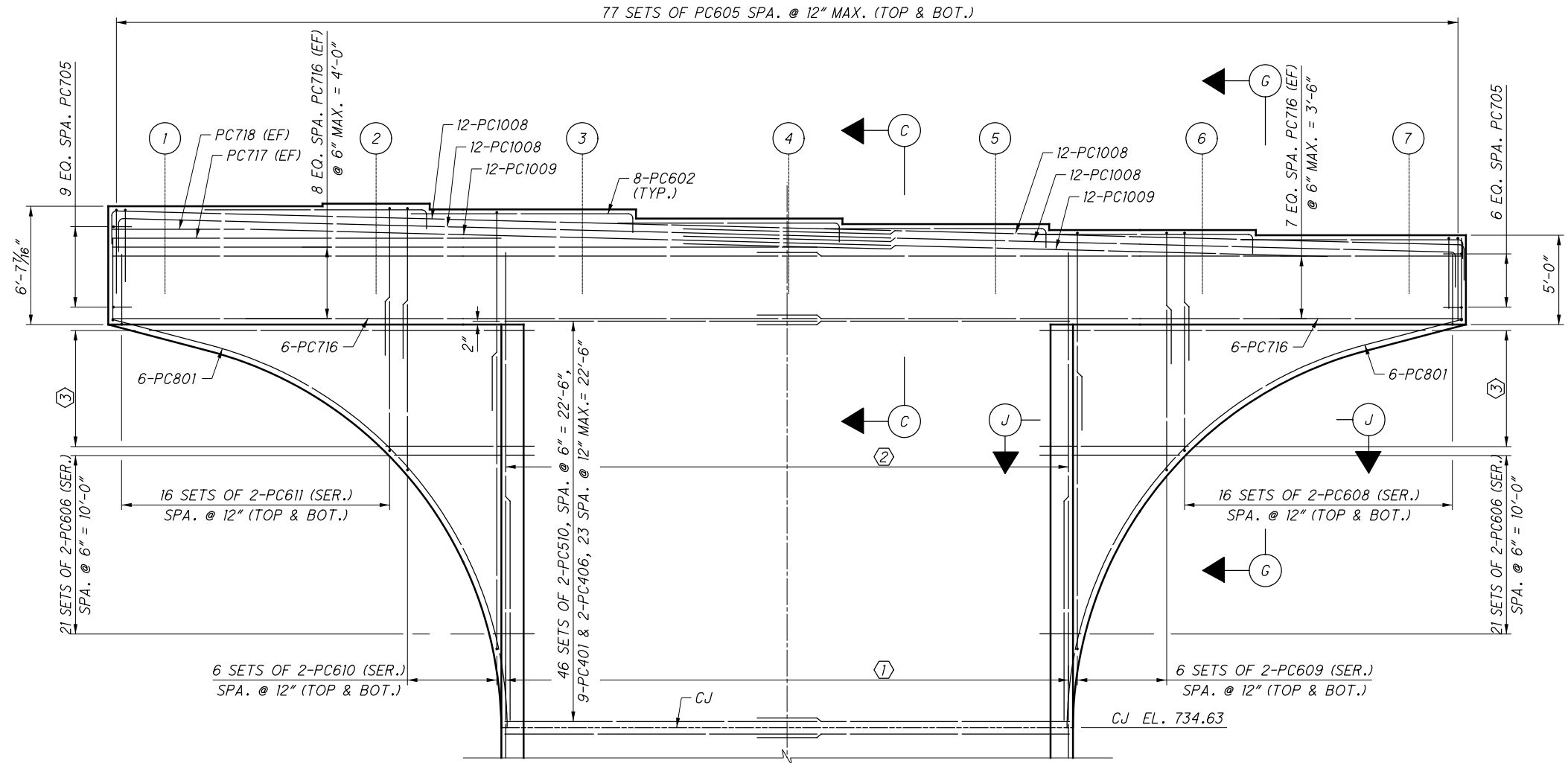
107/276

1028
 1228

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PLAN



ELEVATION

BEARING SEAT ELEVATIONS	
GIRDER	ELEVATION
1	763.83
2	763.98
3	763.66
4	763.14
5	762.83
6	762.50
7	762.21

LEGEND:

- # DENOTES GIRDER NUMBER
- ① 160-PC1107, SPA. AS SHOWN IN SECTION A-A ON SHEET 101.
- ② 160-PC1109, SPA. WITH PC1107 AS SHOWN IN SECTION A-A ON SHEET 101.
- ③ 14 SETS OF 2-PC607 (SER.) SPA. @ 6" = 6'-6"

NOTES:

1. FOR PIER 21 COLUMN DETAILS, SEE SHEET 101.
2. FOR PIER 21 FOOTING DETAILS, SEE SHEETS 94 & 95.
3. FOR SECTION C-C, SEE SHEET 110.
4. FOR SECTIONS G-G & J-J, SEE SHEET 111.
5. MINIMUM REINFORCING SPLICE LENGTHS:
 NO. 5 BAR = 3'-4"
 NO. 7 BAR = 5'-2"
 NO. 10 BAR = 11'-7"

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR LABELS	DGS	11/11/21

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Columbus, Ohio 43219

DATE
7/15

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STRUCTURE FILE NUMBER
2510025

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DGS

CHECKED
JTC

DRAWN
JBA

REVISED

UNIT 3 - PIER 21 CAP DETAILS

BRIDGE NO. FRA-071-1503L

I-71 SB OVER SCIOTO RIVER

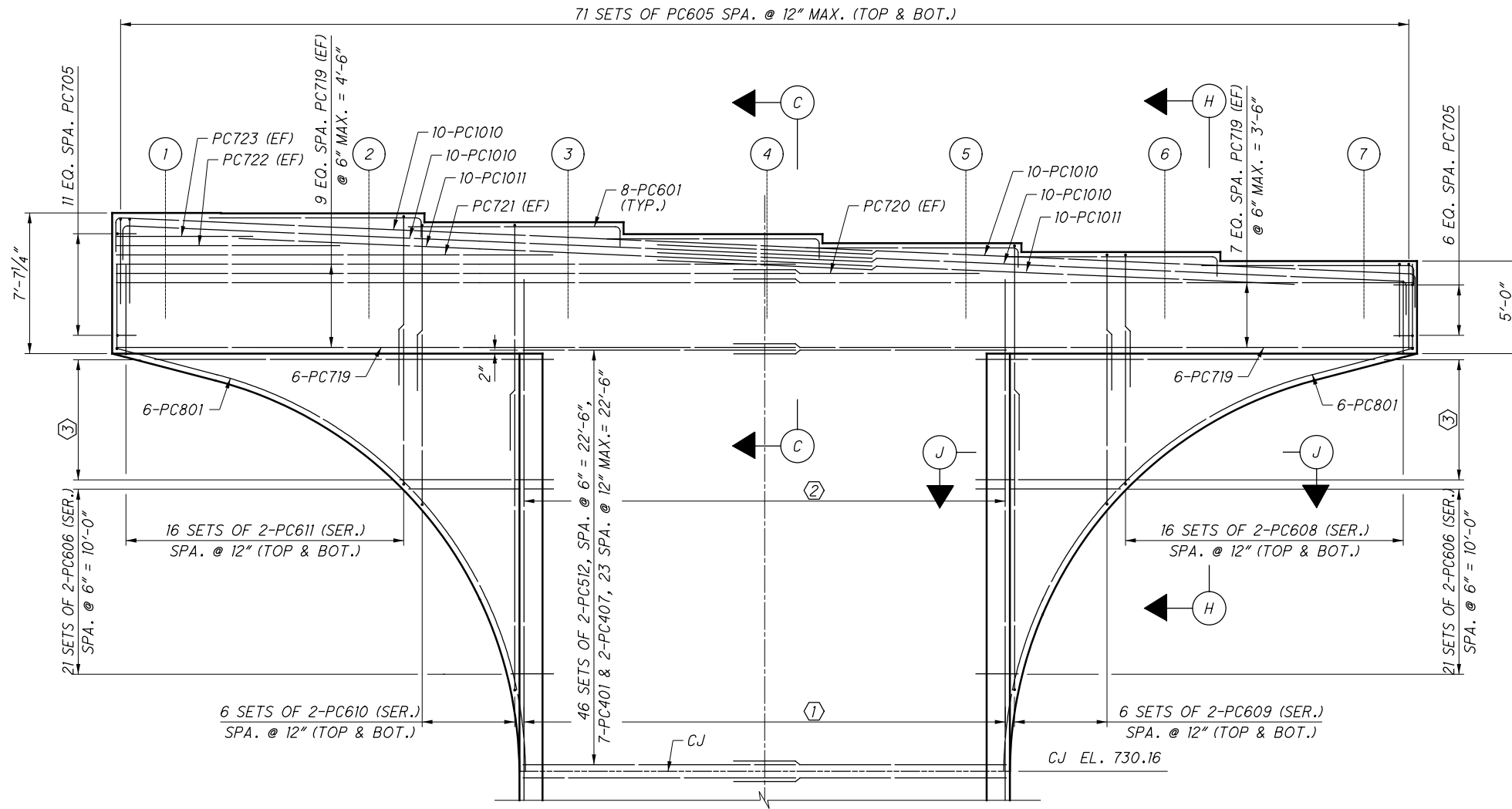
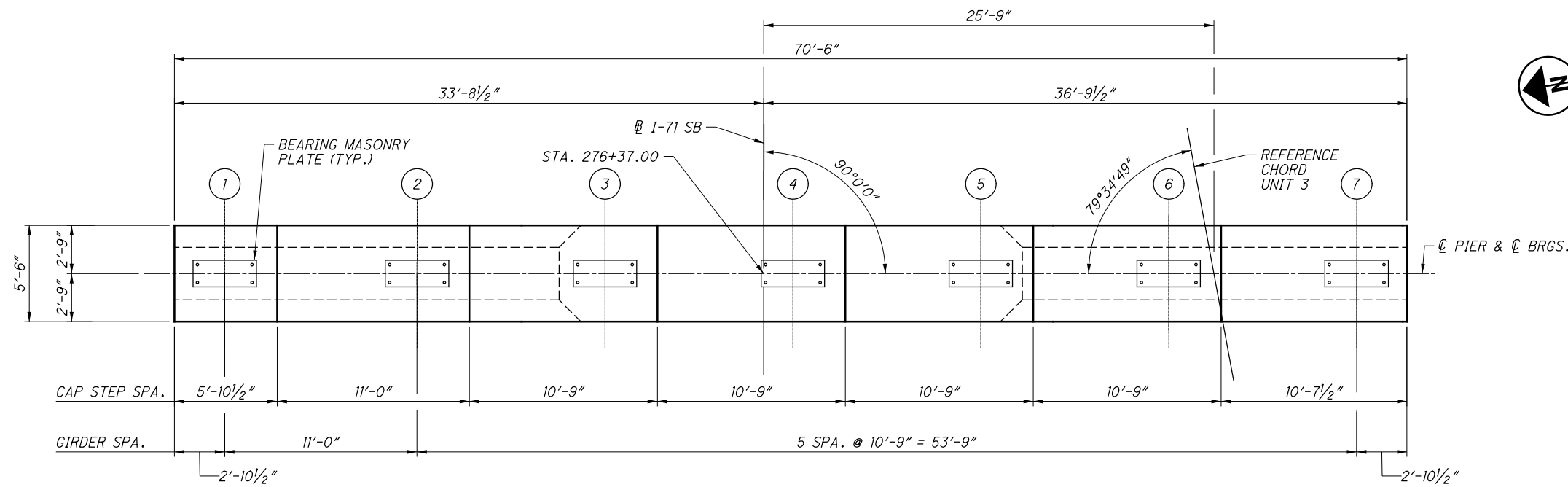
FRA-71-14.36

PID No. 105588

108/276

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1228

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BEARING SEAT ELEVATIONS	
GIRDER	ELEVATION
1	760.34
2	760.32
3	759.84
4	759.19
5	758.70
6	758.22
7	757.74

LEGEND:

- # DENOTES GIRDER NUMBER
- ① 132-PC1108, SPA. AS SHOWN IN SECTION A-A ON SHEET 102.
- ② 132-PC1109, SPA. WITH PC1108 AS SHOWN IN SECTION A-A ON SHEET 102.
- ③ 14 SETS OF 2-PC607 (SER.) SPA. @ 6" = 6'-6"

NOTES:

1. FOR PIER 22 COLUMN DETAILS, SEE SHEET 102.
2. FOR PIER 22 FOOTING DETAILS, SEE SHEETS 94 & 95.
3. FOR SECTION C-C, SEE SHEET 110.
4. FOR SECTIONS H-H & J-J, SEE SHEET 111.
5. MINIMUM REINFORCING SPLICE LENGTHS:
 NO. 5 BAR = 3'-4"
 NO. 7 BAR = 5'-2"
 NO. 10 BAR = 11'-7"

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR LABELS	DGS	11/11/21

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ch2m
 2 Easton Oval, Suite 500
 Columbus, Ohio 43219

DESIGNED	DGS	CHECKED	JTC
DRAWN	JBA	REVISED	
REVIEWED	VS	STRUCTURE FILE NUMBER	2510025
DATE	7/15		

UNIT 3 - PIER 22 CAP DETAILS

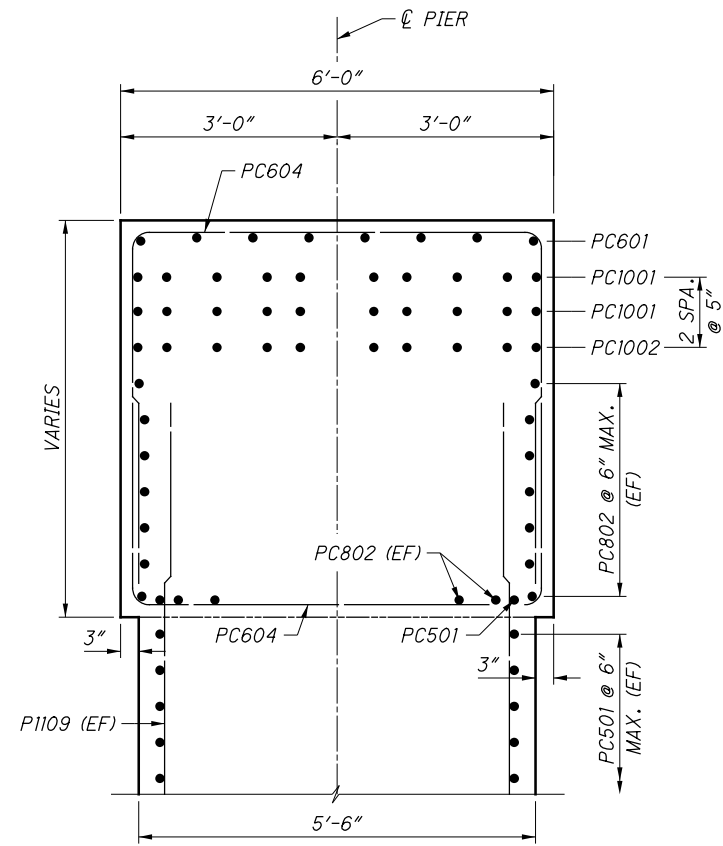
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FRA-71-14.36
PID No. 105588

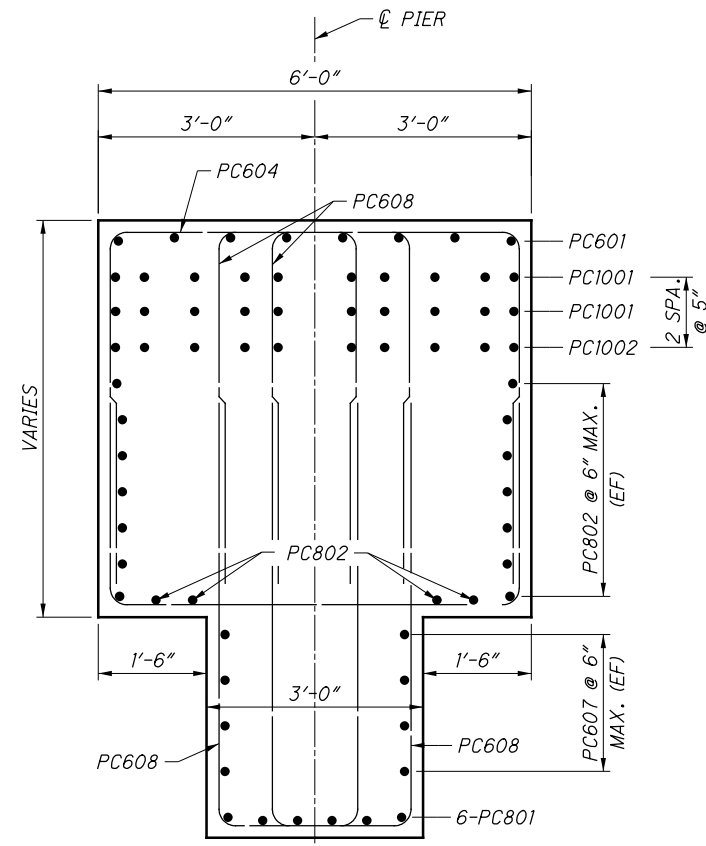
109/276

1030
1228

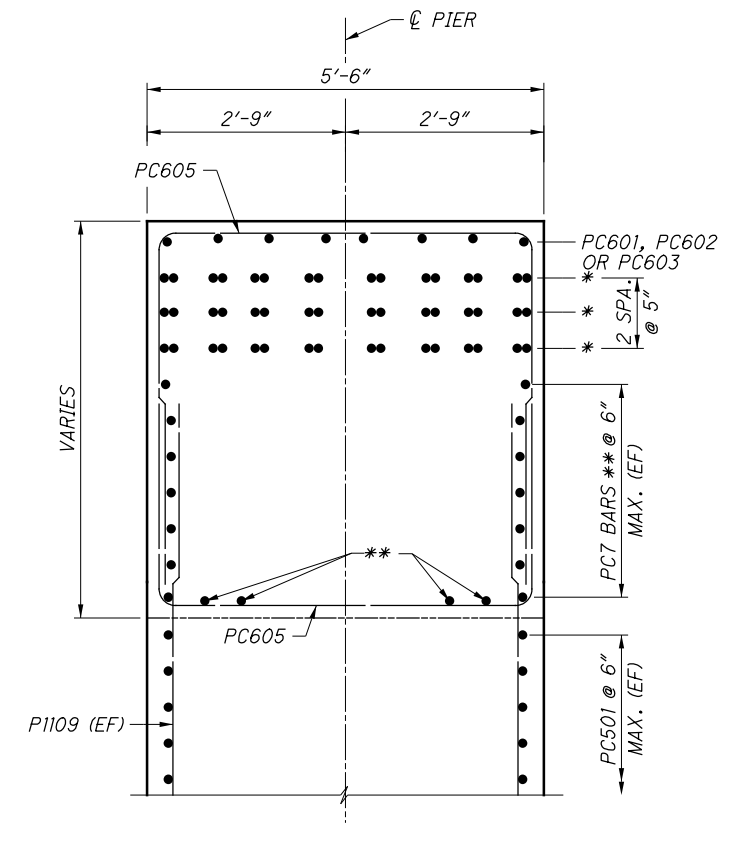
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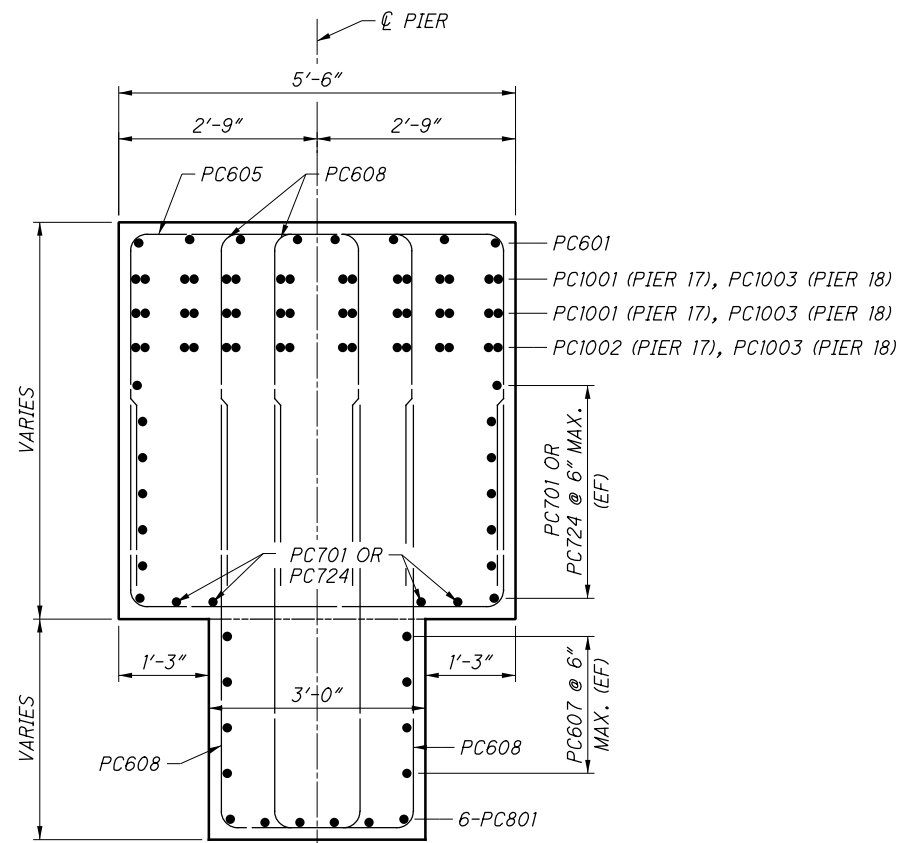
SECTION A-A



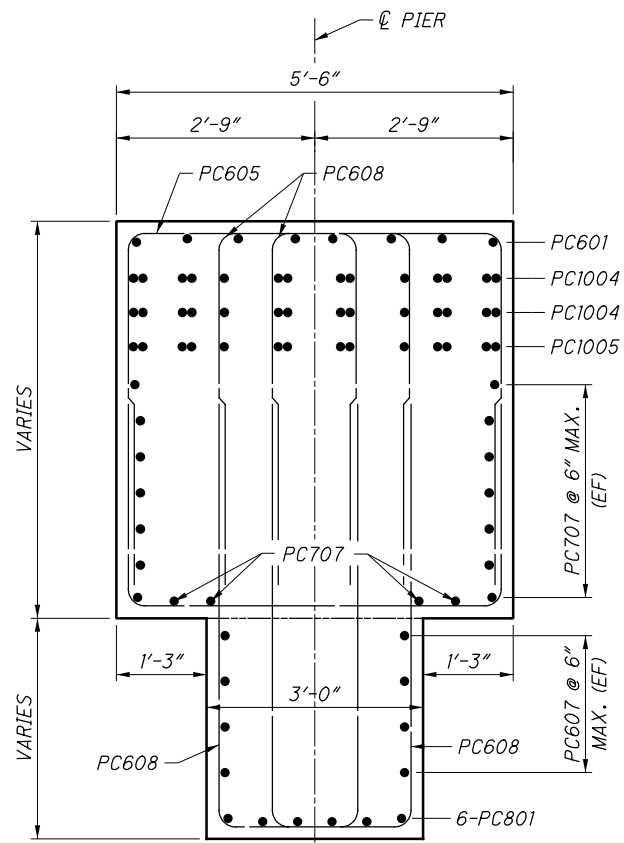
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

LEGEND:

- * FOR NUMBER OF BARS IN EACH PIER, REFER TO SECTION B-B, D-D THROUGH G-G
- ** FOR PC7 BAR MARK AND QUANTITY IN EACH PIER, REFER TO SHEETS 104-109.

NOTES:

1. FOR REINFORCING STEEL LIST, SEE SHEETS 275 & 276.
2. FOR LOCATIONS OF SECTIONS A-A THROUGH E-E, SEE SHEETS 103-109.
3. ANCHOR BOLTS NOT SHOWN, FOR ANCHOR BOLT LAYOUT DETAILS, SEE SHEETS 112 & 113.

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR LABELS	DGS	11/11/21

UNIT 3 - PIER MISCELLANEOUS SECTIONS (1 OF 2)

BRIDGE NO. FRA-071-1503L
I-71 SB OVER SCIOTO RIVER

FRA-71-14.36
PID No. 105588

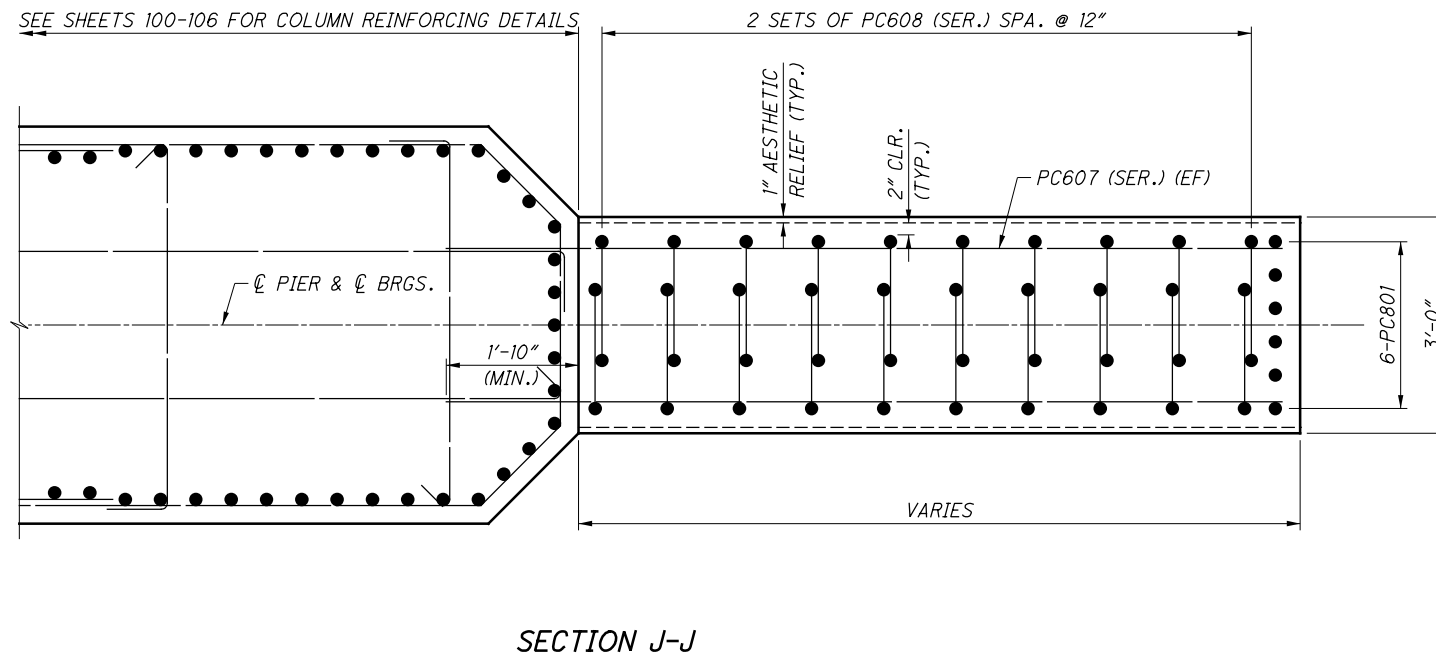
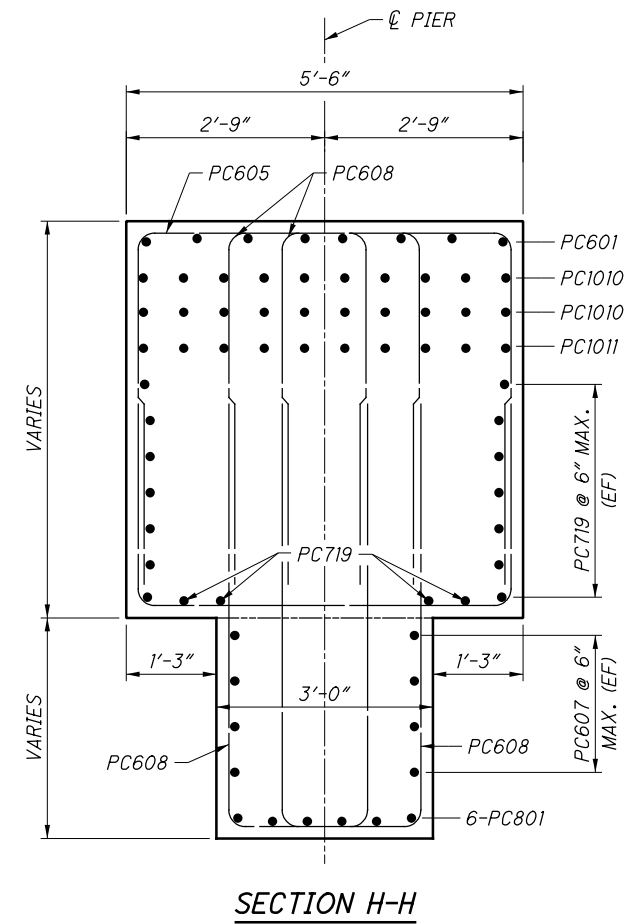
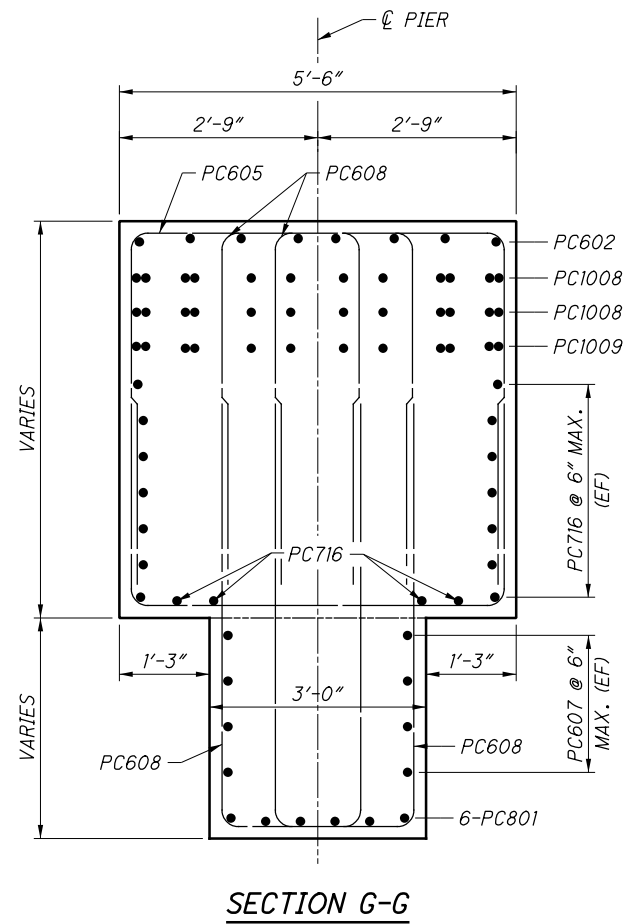
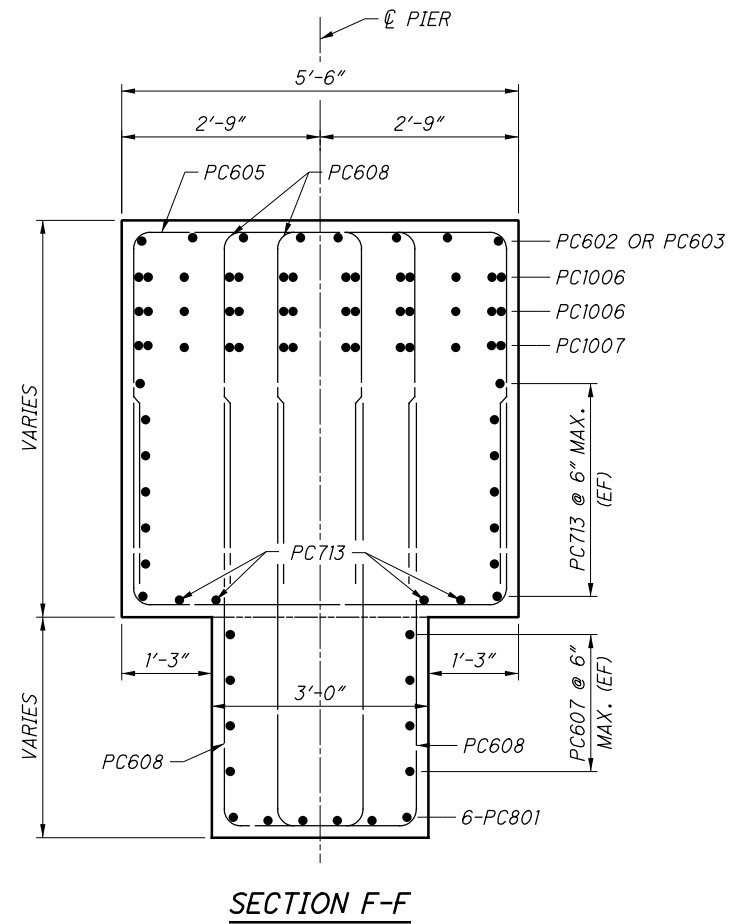
110/276

1031
1228

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2 Easton Oval, Suite 500
Columbus, Ohio 43219

DESIGNED DGS
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REVISED
REVIEWED VS
DATE 7/15
STRUCTURE FILE NUMBER 2510025

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NOTES:

1. FOR REINFORCING STEEL LIST, SEE SHEETS 275 & 276.
2. FOR LOCATIONS OF SECTIONS F-F THROUGH J-J, SEE SHEETS 103-109.
3. ANCHOR BOLTS NOT SHOWN, FOR ANCHOR BOLT LAYOUT DETAILS, SEE SHEETS 112 & 113.

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR LABELS	DGS	11/11/21

UNIT 3 - PIER MISCELLANEOUS SECTIONS - (2 OF 2)

BRIDGE NO. FRA-071-1503L
I-71 SB OVER SCIOTO RIVER

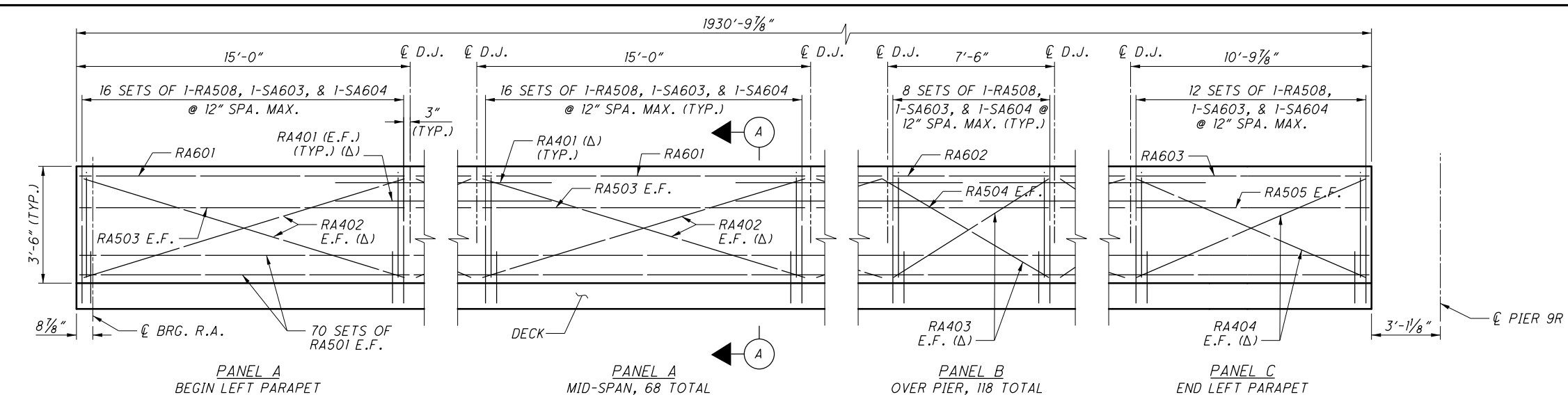
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111/276

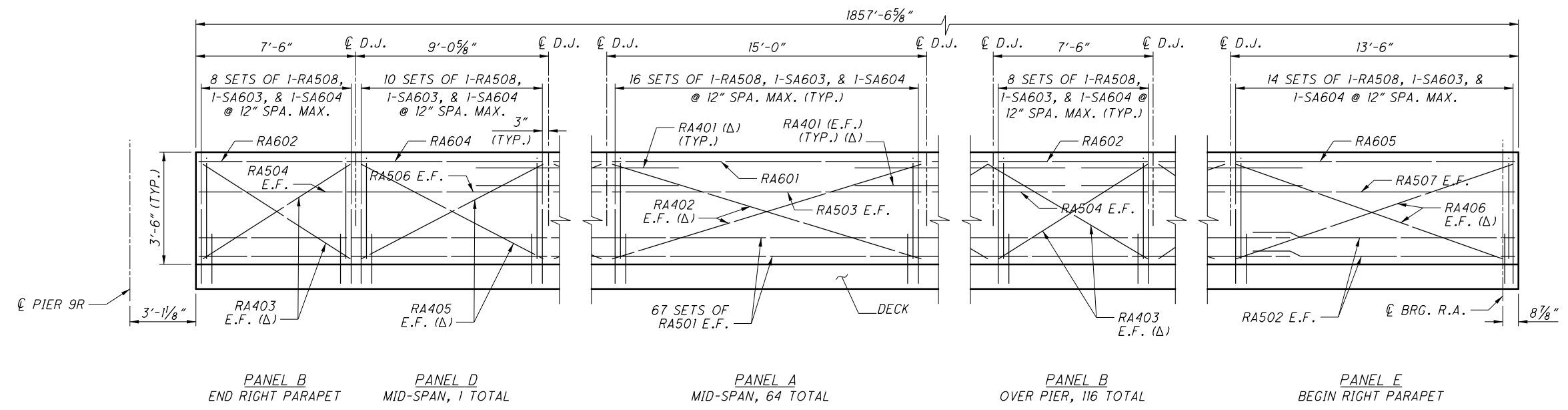
1032
1228

DESIGN AGENCY
ch2m
2 Easton Oval, Suite 500
Columbus, Ohio 43219

DESIGNED	DGS	CHECKED	JTC
DRAWN	JBA	REVISED	
REVIEWED	VS	STRUCTURE FILE NUMBER	2510025
DATE	7/15		



UNIT 1 LEFT PARAPET ELEVATION
DIMENSIONS ALONG INSIDE FACE OF PARAPET
EXPANSION PLATES NOT SHOWN
UPSTATION →



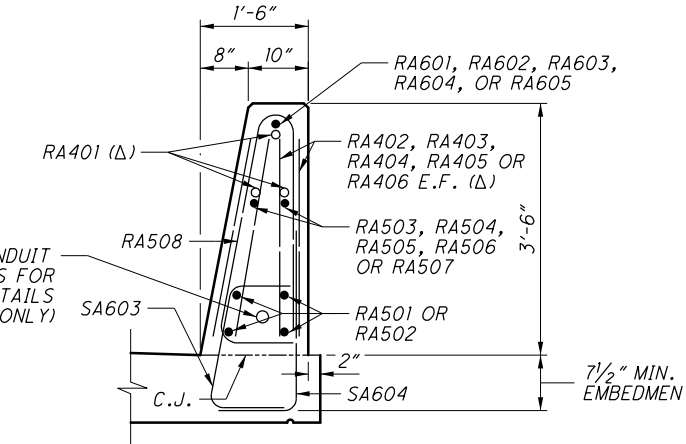
UNIT 1 RIGHT PARAPET ELEVATION
DIMENSIONS ALONG INSIDE FACE OF PARAPET
EXPANSION PLATES NOT SHOWN
← UPSTATION

LEGEND:

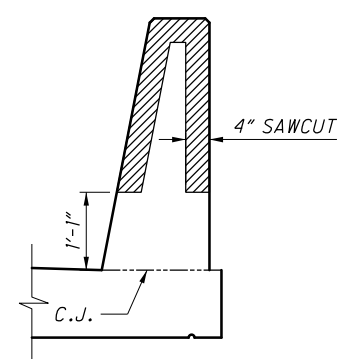
- Δ USE NO. 4 GLASS FIBER REINFORCING POLYMER (G.F.R.P.) FOR HORIZONTAL REINFORCING BAR RA401 AND STIFFENING BARS RA402 THROUGH RA406
- PAYMENT FOR GLASS FIBER REINFORCING BARS IS INCIDENTAL TO COST OF ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

NOTES:

1. FOR ADDITIONAL PARAPET DETAILS, SEE ODOT STD. DWG. SBR-1-13
2. FOR UNIT 1 LIGHT POLE LOCATIONS, SEE SHEET [16/276].
3. FOR LIGHT POLE PILASTER DETAILS, SEE SHEET [218/276].
4. FOR UNIT 1 DECK REINFORCING PLAN, SEE SHEETS [176/276] THRU [182/276].
5. FOR UNIT 1 PANEL LOCATIONS AND PARAPET CRACK CONTROL JOINT SPACING, SEE SHEETS [176/276] THRU [182/276].
6. FOR EXPANSION JOINT DETAILS INCLUDING EXPANSION PLATE INDENTATIONS, SEE SHEETS [233/276] THRU [240/276].
7. MINIMUM LAP LENGTHS:
#5 BARS = 2'-5"



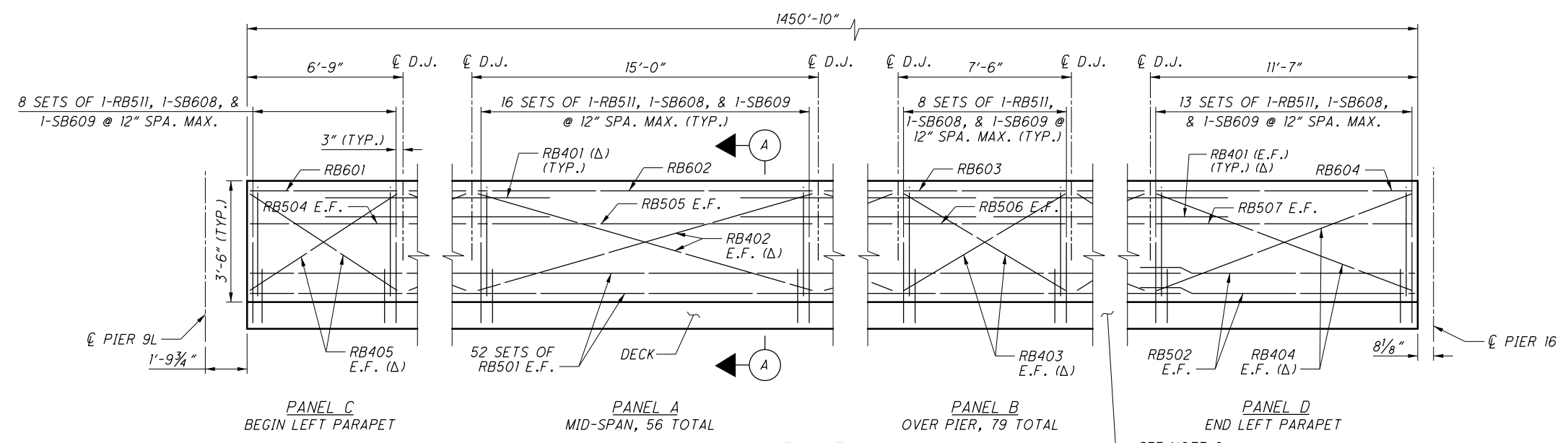
SECTION A-A



DEFLECTION JOINT (D.J.) DETAIL

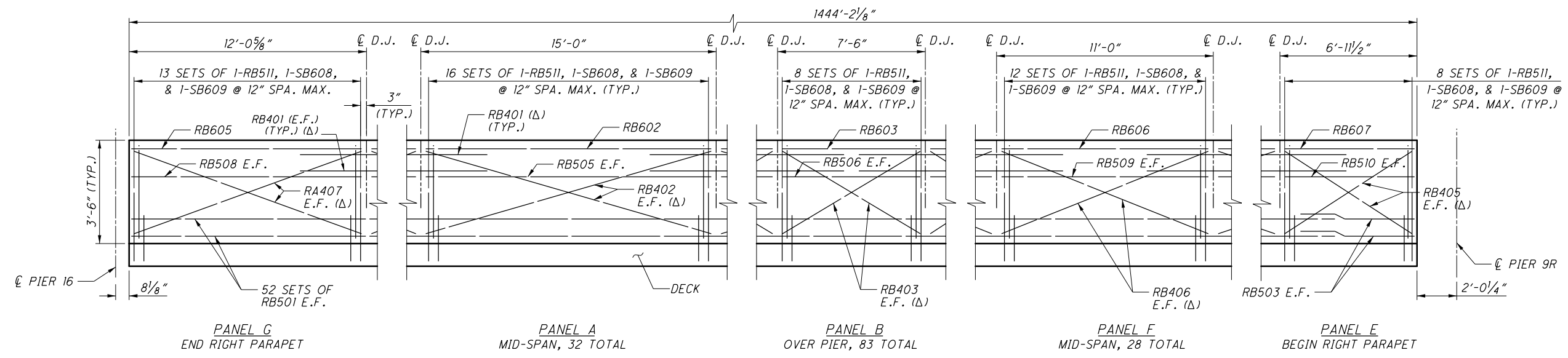
PARAPET G.F.R.P. REINFORCEMENT			
BAR MARK	TOTAL NUMBER	LENGTH	TYPE
RA401	1104	4'-6"	ST
RA402	528	14'-10"	ST
RA403	940	7'-8"	ST
RA404	4	10'-9"	ST
RA405	4	9'-1"	ST
RA406	4	13'-4'	ST

NO.	DESCRIPTION	REV. BY	DATE
3	GFRP MADE INCIDENTAL TO ITEM 509	DEA	11-18-2021



UNIT 2 LEFT PARAPET ELEVATION

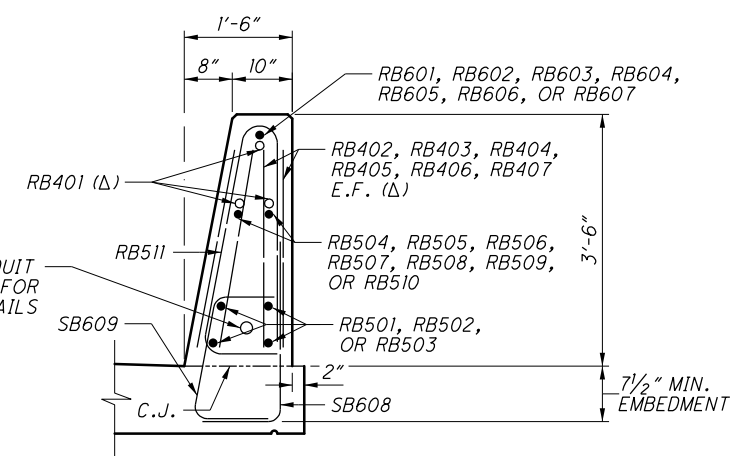
DIMENSIONS ALONG INSIDE FACE OF PARAPET
EXPANSION PLATES NOT SHOWN
UPSTATION →



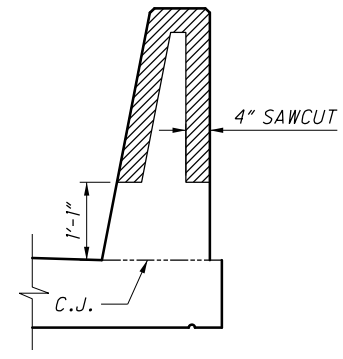
UNIT 2 RIGHT PARAPET ELEVATION

DIMENSIONS ALONG INSIDE FACE OF PARAPET
EXPANSION PLATES NOT SHOWN
← UPSTATION

NO.	DESCRIPTION	REV. BY	DATE
3	GFRP MADE INCIDENTAL TO ITEM 509	DEA	11-18-2021



SECTION A-A



DEFLECTION JOINT (D.J.) DETAIL

LEGEND:

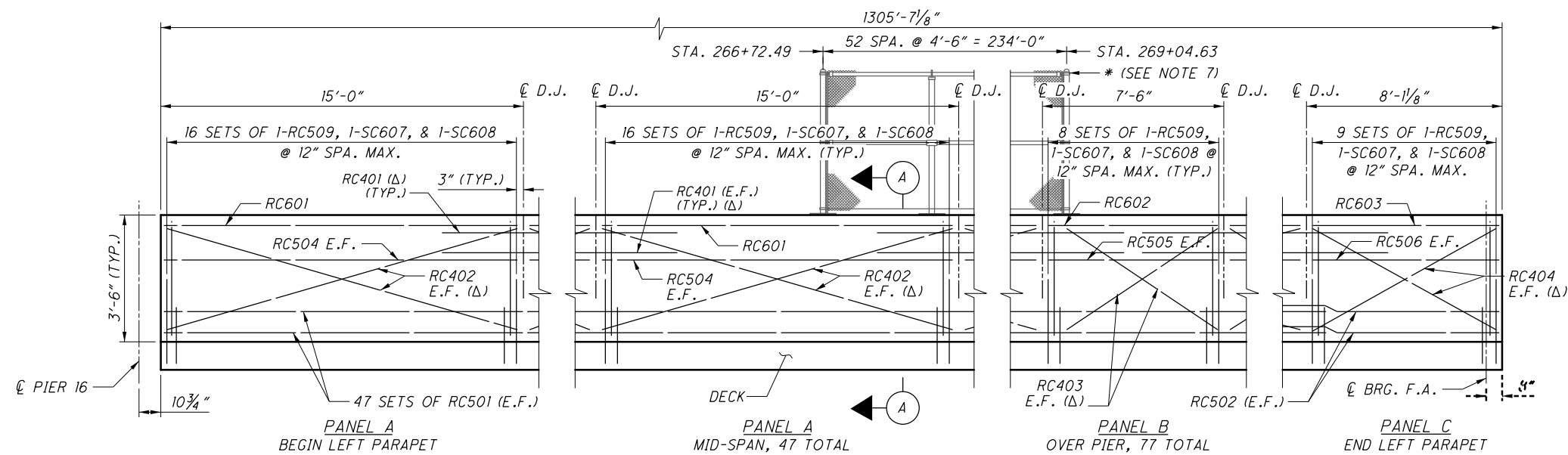
Δ USE NO. 4 GLASS FIBER REINFORCING POLYMER (G.F.R.P.) FOR HORIZONTAL REINFORCING BAR RB401 AND STIFFENING BARS RB402 THROUGH RB407

PAYMENT FOR GLASS FIBER REINFORCING BARS IS INCIDENTAL TO COST OF ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

PARAPET G.F.R.P. REINFORCEMENT			
BAR MARK	TOTAL NUMBER	LENGTH	TYPE
RB401	837	4'-6"	ST
RB402	352	14'-10"	ST
RB403	648	7'-8"	ST
RB404	4	11'-6"	ST
RB405	4	6'-11"	ST
RB406	112	10'-11"	ST
RB407	4	12'-0"	ST

NOTES:

- FOR ADDITIONAL PARAPET DETAILS, SEE ODOT STD. DWG. SBR-1-13
- FOR UNIT 2 LIGHT POLE LOCATIONS, SEE SHEET 17/276.
- FOR LIGHT POLE PILASTER DETAILS, SEE SHEET 218/276.
- FOR UNIT 2 DECK REINFORCING PLAN, SEE SHEETS 188/276 THRU 193/276.
- FOR UNIT 2 PANEL LOCATIONS AND PARAPET CRACK CONTROL JOINT SPACING, SEE SHEETS 188/276 THRU 191/276.
- FOR ATYPICAL UNIT 2 PARAPET PANEL DETAILS (STA. 250+18.42 TO STA. 250+22.50 & STA. 254+24.82 TO STA. 254+69.87), SEE SHEET 222/276.
- FOR EXPANSION JOINT DETAILS INCLUDING EXPANSION PLATE INDENTATIONS, SEE SHEETS 233/276 THRU 240/276.
- MINIMUM LAP LENGTHS:
#5 BARS = 2'-5"



UNIT 3 LEFT PARAPET ELEVATION

DIMENSIONS ALONG INSIDE FACE OF PARAPET
EXPANSION PLATES NOT SHOWN
UPSTATION →

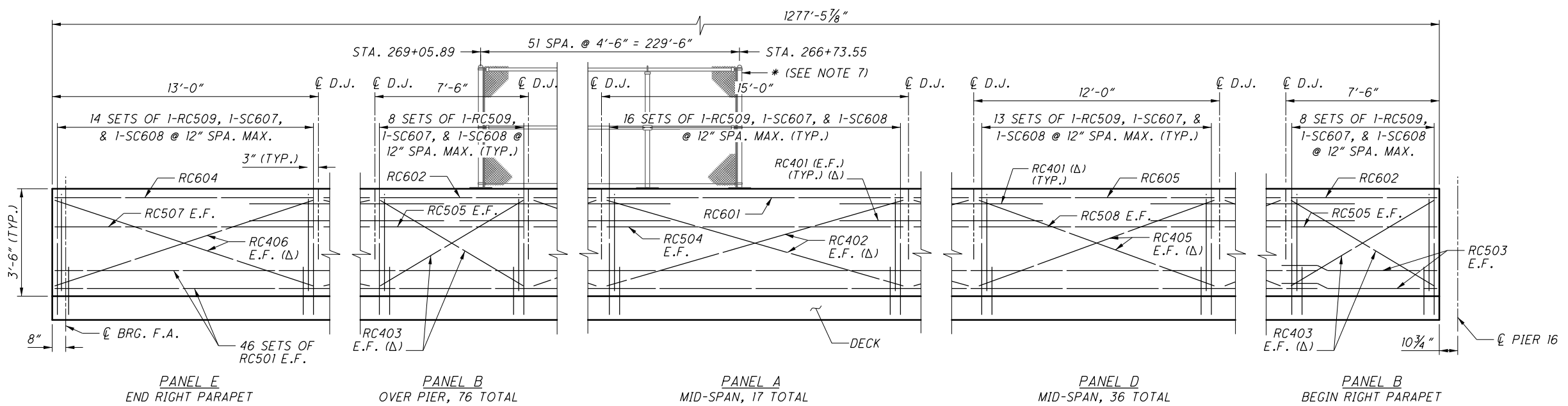
LEGEND:

Δ USE NO. 4 GLASS FIBER REINFORCING POLYMER (G.F.R.P.) FOR HORIZONTAL REINFORCING BAR RC401 AND STIFFENING BARS RC402 THROUGH RC406

PAYMENT FOR GLASS FIBER REINFORCING BARS IS INCIDENTAL TO COST OF ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

* VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN

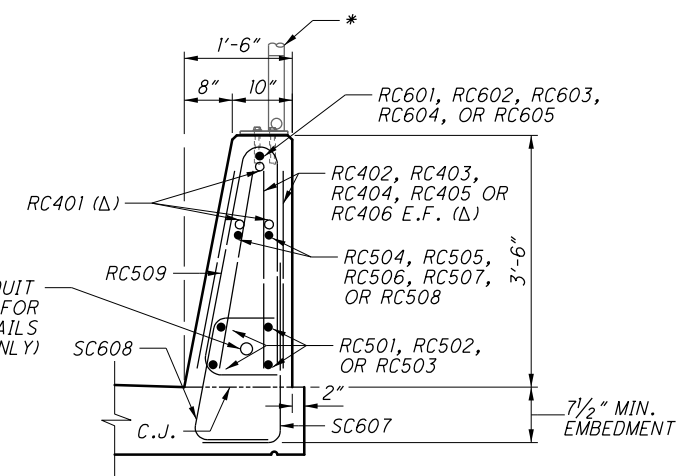
PARAPET G.F.R.P. REINFORCEMENT			
BAR MARK	TOTAL NUMBER	LENGTH	TYPE
RC401	765	4'-6"	ST
RC402	260	14'-10"	ST
RC403	616	7'-8"	ST
RC404	4	8'-2"	ST
RC405	144	11'-11"	ST
RC406	4	12'-11"	ST



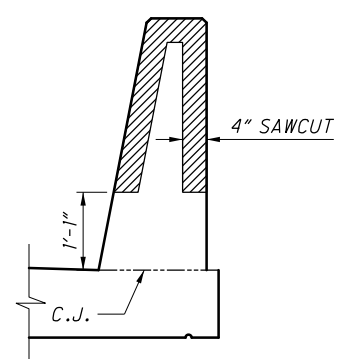
UNIT 3 RIGHT PARAPET ELEVATION

DIMENSIONS ALONG INSIDE FACE OF PARAPET
EXPANSION PLATES NOT SHOWN
UPSTATION →

- NOTES:**
- FOR ADDITIONAL PARAPET DETAILS, SEE ODOT STD. DWG. SBR-1-13
 - FOR UNIT 3 LIGHT POLE LOCATIONS, SEE SHEET [18/276].
 - FOR LIGHT POLE PILASTER DETAILS, SEE SHEET [218/276].
 - FOR UNIT 3 DECK REINFORCING PLAN, SEE SHEETS [202/276] THRU [206/276].
 - FOR UNIT 3 PANEL LOCATIONS, PARAPET CRACK CONTROL JOINT SPACING, AND VANDAL PROTECTION FENCE POST LOCATIONS SEE SHEETS [202/276] THRU [206/276].
 - FOR EXPANSION JOINT DETAILS INCLUDING EXPANSION PLATE INDENTATIONS, SEE SHEETS [233/276] THRU [240/276].
 - FOR ADDITIONAL VANDAL PROTECTION FENCE DETAILS SEE STD. DWG. VPF-1-90. BASE PLATE BP-5 AND POST SECTION PS-4 SHALL BE USED.
 - MINIMUM LAP LENGTHS:
#5 BARS = 2'-5"



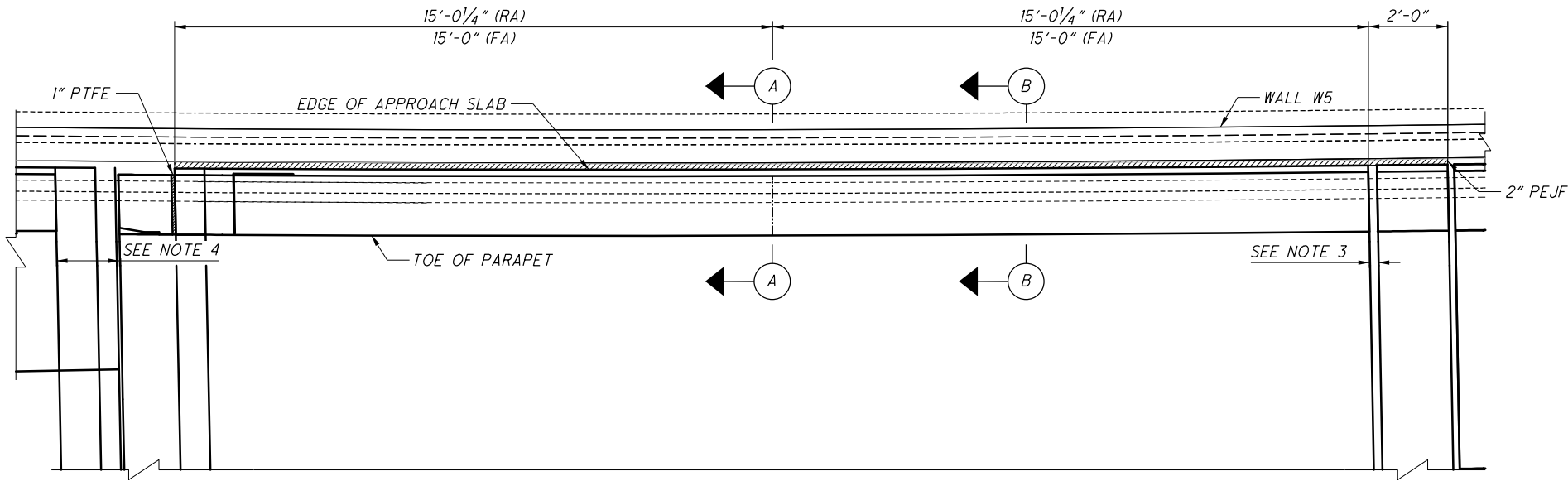
SECTION A-A



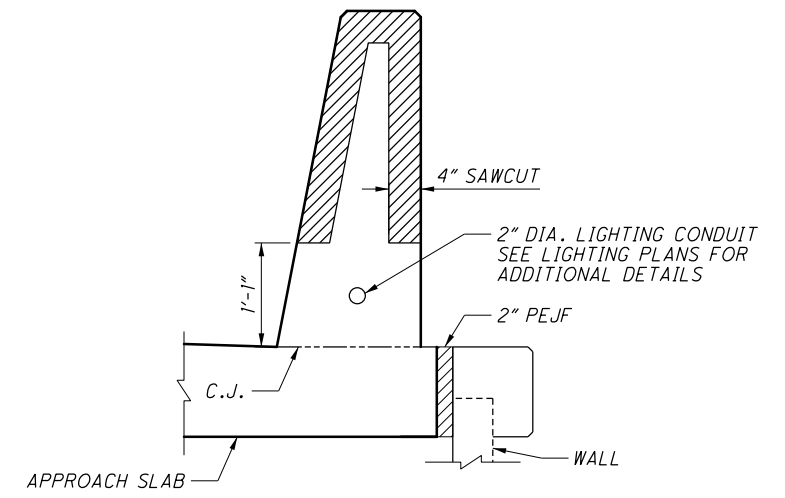
DEFLECTION JOINT (D.J.) DETAIL

NO.	DESCRIPTION	REV. BY	DATE
3	GFRP MADE INCIDENTAL TO ITEM 509	DEA	11-18-2021

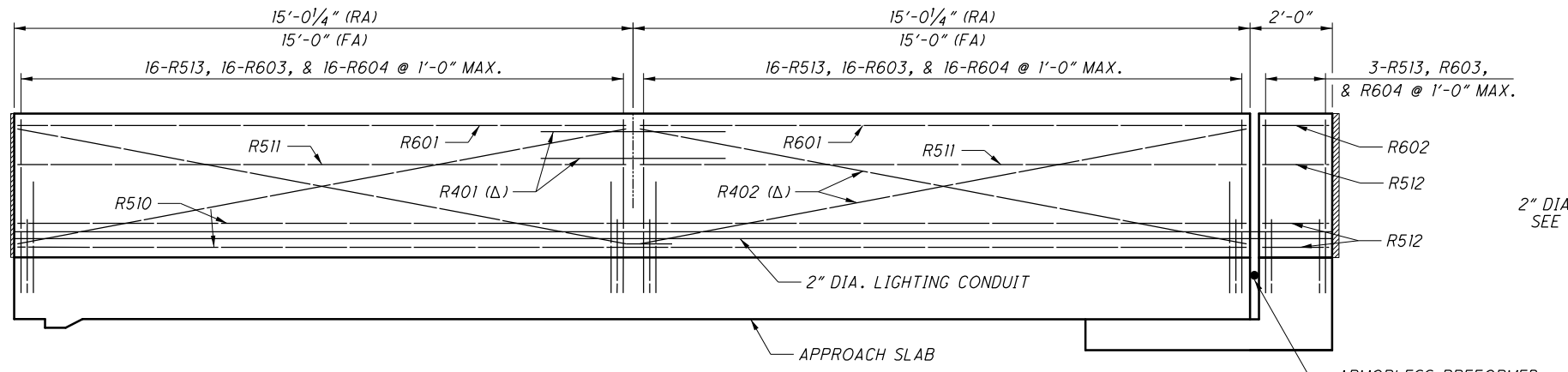
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 Ohio DOT Workspace
 70171 West Interchange 6R
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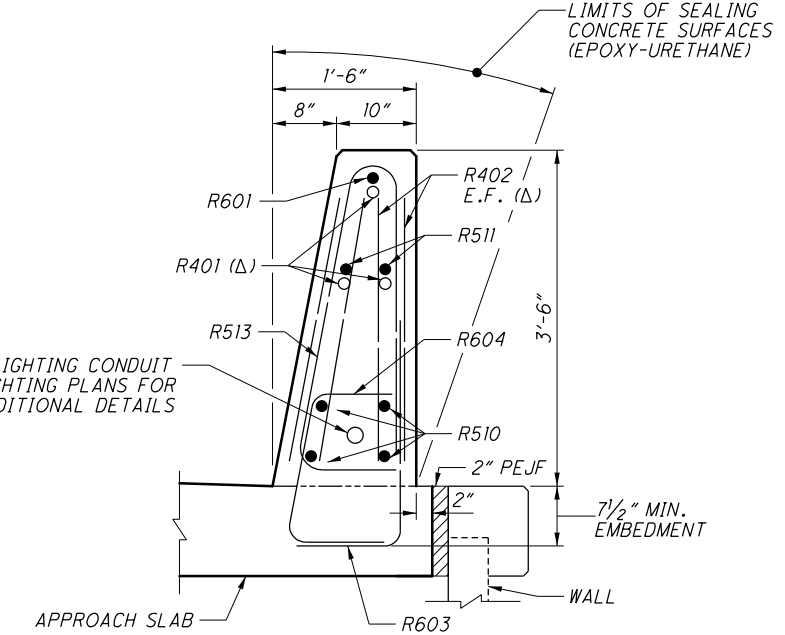
PARAPET PLAN VIEW
 REAR ABUTMENT, RIGHT PARAPET SHOWN
 OTHER PARAPETS SIMILAR



SECTION A-A
 (PARAPET AND APPROACH SLAB
 REINFORCEMENT NOT SHOWN)



PARAPET ELEVATION
 REAR ABUTMENT, RIGHT PARAPET SHOWN
 OTHER PARAPETS SIMILAR



SECTION B-B

LEGEND:

Δ USE NO. 4 GLASS FIBER REINFORCING POLYMER (G.F.R.P.) FOR HORIZONTAL REINFORCING BAR R401 AND STIFFENING BAR R402
 PAYMENT FOR GLASS FIBER REINFORCING BARS IS INCIDENTAL TO COST OF ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

PARAPET STIFFENING G.F.R.P. REINFORCEMENT			
BAR MARK	TOTAL NUMBER	LENGTH	TYPE
RB407	4	14'-4"	ST

NO.	DESCRIPTION	REV. BY	DATE
3	GFRP MADE INCIDENTAL TO ITEM 509	DEA	11-18-2021

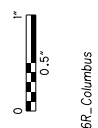
NOTES:

- FOR ADDITIONAL DETAILS NOT SHOWN AND NOTES REGARDING INSTALLATION AND SEALING OF DEFLECTION JOINTS, SEE STANDARD DRAWING SBR-1-13.
- FOR APPROACH SLAB PLAN, SEE SHEETS 245/276 AND 246/276.
- FOR JOINT OPENING AT SLEEPER SLAB AND ARMORLESS PREFORMED JOINT SEAL, SEE STD. DWG. AS-2-15.
- FOR EXPANSION JOINT OPENINGS, SEE SHEETS 233/276 AND 239/276.
- REINFORCING STEEL AND PEJF SHALL BE INCIDENTAL TO ITEM 526 REINFORCED CONCRETE APPROACH SLABS WITH OC/OA (T-17).

DESIGN AGENCY
 ms consultants, inc.
 2221 Schrock Road
 Columbus, Ohio 43229
 DATE
 20-APR
 REVIEWED
 GLG
 STRUCTURE FILE NUMBER
 2510025
 DRAIN
 PES
 REVISION
 DESIGNED
 PES
 CHECKED
 TGH
APPROACH SLAB DETAILS (3 OF 3)
 BRIDGE NO. FRA-71-1503L
 I-71 SB OVER SCIOTO RIVER
FRA-71-14.36
PID No. 105588
 247/276
 1168
 1228
 ms consultants, inc.



Ohio DOT Workspace
70171 West Interchange 6R
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By: B. Lester
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By: B. Lester

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NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR QUANTITIES	DBL	11/18/21

MARK	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS					
					A	B	C	D	E	INC.
REAR ABUTMENT BARS										
RA301	46	12'-7"	218	2	5'-9"	1'-2"	5'-9"			
RA501	62	23'-7"	1,525	ST						
RA502	6	18'-5"	115	ST						
RA503	6	15'-1"	94	ST						
RA504	6	14'-0"	88	ST						
RA505	18	16'-4"	307	ST						
RA506	6	8'-5"	53	23	11"	3'-3"	3'-0"			
RA507	14	1'-10"	27	ST						
RA601	104	13'-3"	2,070	2	2'-7"	8'-5"	2'-7"			
RA602	6	20'-4"	183	5	5'-8"	3'-8"	1'-2"			
RA603	14	21'-4"	449	5	5'-8"	4'-2"	1'-2"			
RA604	14	22'-4"	470	5	5'-8"	4'-8"	1'-2"			
RA605	15	23'-2"	522	5	5'-8"	5'-1"	1'-2"			
RA606	46	7'-6"	518	2	3'-1"	1'-8"	3'-1"			
RA607	46	9'-2"	633	12	1'-11"	1'-11"	1'-2"	2'-5"	3'-3"	
RA608	6	3'-4"	30	28	1'-7"	1'-0"	1'-0"			
RA609	6	2'-5"	22	1	1'-0"	1'-7"				
RA701	94	15'-9"	3,026	2	7'-3"	1'-8"	7'-3"			
RA801	46	5'-1"	624	18	2'-10"	1'-0"	1'-0"			
RA802	48	26'-1"	3,343	ST						
TOTAL			14,317							

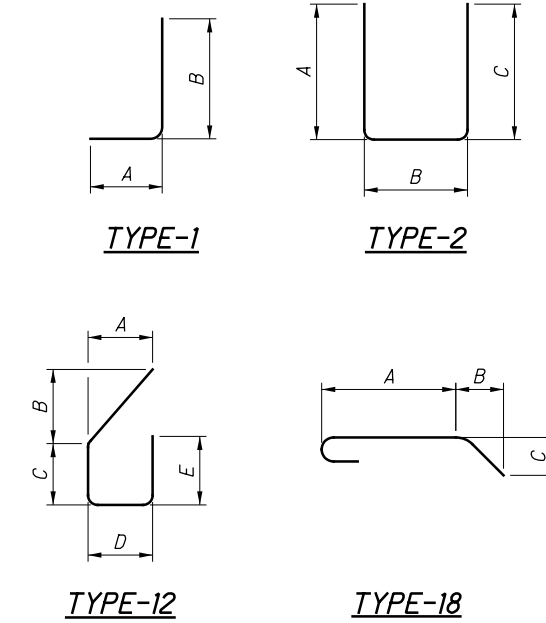
NOTES:

- FOR ADDITIONAL NOTES, SEE SHEET 264/276

DESIGNED DBL	CHECKED ELP	DRAWN DBL	REVISED	REVIEWED GLG	DATE 20-APR	STRUCTURE FILE NUMBER 2510025	DESIGN AGENCY ms consultants, inc. 2221 Setback Road Columbus, Ohio 43229
REAR ABUTMENT REINFORCING QUANTITIES							
BRIDGE NO. FRA-71-1503L I-71 SB OVER SCIOTO RIVER							
FRA - 71 - 14.36							
PID No. 105588							
268/276							
1189 1228							

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MARK	REAR ABUTMENT	FORWARD ABUTMENT	QUANTITY	LENGTH	WEIGHT	TYPE	DIMENSIONS						
							A	B	C	D	E	R	INC
SUBSTRUCTURE - ABUTMENT													
FA501	0	74	74	13'-4"	1029	2	2'-7"	8'-5"	2'-7"				
FA502	0	148	148	5'-10"	900	1	1'-0"	4'-11"					
FA503	0	72	72	38'-1"	2860	STR							
FA504	0	30	30	17'-3"	540	1	1'-4"	16'-0"					
FA505	0	24	24	9'-1"	227	2	1'-10"	5'-8"	1'-10"				
FA506	0	24	24	10'-5"	261	2	2'-6"	5'-8"	2'-6"				
FA507	0	26	26	11'-5"	310	2	3'-0"	5'-8"	3'-0"				
FA601	0	74	74	13'-3"	1473	2	2'-7"	8'-5"	2'-7"				
FA602	0	73	73	11'-4"	1243	2	5'-0"	1'-8"	5'-0"				
FA603	0	73	73	13'-4"	1462	2	6'-0"	1'-8"	6'-0"				
FA604	0	73	73	6'-5"	704	12	1'-6"	1'-6"	1'-3"	2'-5"	1'-0"		
FA605	0	73	73	7'-2"	786	2	2'-10"	1'-10"	2'-10"				
FA606	0	17	17	17'-6"	447	2	8'-4"	1'-2"	8'-4"				
FA607	0	17	17	16'-0"	409	2	7'-7"	1'-2"	7'-7"				
FA801	0	40	40	39'-4"	4201	STR							
FA802	0	49	49	5'-6"	720	18	3'-3"	1'-0"	1'-0"				
FA803	0	7	7	24'-8"	461	2	12'-0"	1'-1"	12'-0"				
FA804	0	7	7	9'-2"	171	2	4'-3"	1'-1"	4'-3"				
FA805	0	11	11	14'-6"	426	2	6'-11"	1'-1"	6'-11"				
FA806	0	11	11	21'-0"	617	2	10'-2"	1'-1"	10'-2"				
FA807	0	22	22	9'-10"	578	1	5'-0"	5'-0"					
SUB-TOTAL					19825								



NOTES:

1. THE BAR SIZE IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST NUMBER INDICATES THE BAR SIZE NUMBER.
2. ALL DIMENSIONS ARE MEASURED OUT-TO-OUT OF BAR UNLESS NOTED OTHERWISE.
3. RADIUS DIMENSION "R" IS TO THE OUTSIDE OF BAR. RADIUS DIMENSION "I.R." IS TO THE INSIDE OF BAR.
4. FOR STANDARD HOOK DIMENSIONS, SEE SECTION 509.05 OF THE SPECIFICATIONS.
5. ALL REINFORCING STEEL SHALL BE EPOXY COATED, GRADE 60.
6. BAR BEND TYPES SHOWN ON THIS SHEET ARE FOR FORWARD ABUTMENT.

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR TABLE AND DETAILS	DGS	11/11/21

FRA - 71 - 14.36 PID No. 105588	REINFORCING STEEL LIST I BRIDGE NO. FRA-071-1503L I-71 SB OVER SCIOTO RIVER	DESIGN AGENCY ch2m 2 Easton Oval, Suite 500 Columbus, Ohio 43219
DESIGNED DGS	DRAWN JBA	DATE 7/15
CHECKED JTC	REVISED VS	STRUCTURE FILE NUMBER 2510025
269/276	1190 1228	



ms consultants, inc.
msconsultants.com

Ohio DOT Workshop
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34" x 22"

0.5"

MARK	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS				
					A	B	C	D	E
PIER 9L BARS									
PB402	260	6'-2"	1,071	18	5'-0"		8"		
PB404	32	3'-10"	82	18	2'-8"		8"		
PB405	208	18'-2"	2,524	15		6'-2"	1'-2"	1'-2"	2'-10"
PB406	104	12'-8"	880	18	11'-6"		8"		
	4	12'-7"			3'-7"	5'-8"	3'-7"		
PB517	SER. OF TO	2,847	2	TO	TO	TO			
	30	32'-11"			13'-9"	5'-8"	13'-9"		
PB518	142	12'-6"	1,851	2	3'-6"	5'-8"	3'-6"		
PB519	31	4'-1"	132	2	10"	2'-8"	10"		
PB520	4	29'-9"	124	1	29'-1"	10"			
PB521	4	9'-0"	38	2	10"	7'-7"	10"		
PB701	12	23'-6"	576	ST					
PB702	48	7'-9"	760	2	1'-2"	5'-8"	1'-2"		
PB703	40	8'-0"	654	2	1'-2"	6'-0"	1'-2"		
PB726	12	19'-6"	478	ST					
PB801	20	25'-9"	1,375	2	1'-4"	23'-6"	1'-4"		
	2	9'-5"			3'-7"	2'-8"	3'-7"		
PB810	SER. OF TO	2,126	2	TO	TO	TO			
	17	37'-5"			17'-7"	2'-8"	17'-7"		
PB811	14	26'-9"	1,000	ST					
PB812	40	23'-1"	2,465	ST					
PB813	14	7'-11"	296	2	1'-4"	5'-8"	1'-4"		
PB850	24	21'-9"	1,394	2	1'-4"	19'-6"	1'-4"		
PB902	72	26'-4"	6,446	16	25'-1"				
PB1007	36	27'-6"	4,260	1	26'-0"	1'-10"			
PB1008	36	26'-11"	4,170	16	25'-6"				
PB1009	18	25'-5"	1,969	16	24'-0"				
PB1101	72	20'-3"	7,746	1	18'-7"	2'-0"			
PB1103	72	37'-6"	14,345	ST					
PB1135	31	26'-10"	4,420	2	2'-0"	23'-6"	2'-0"		
PB1136	26	25'-10"	3,569	2	2'-0"	21'-6"	2'-0"		
PB1137	33	22'-10"	4,003	2	2'-0"	19'-6"	2'-0"		
PB1138	22	21'-10"	2,552	2	2'-0"	17'-6"	2'-0"		
TOTAL			74,153						

NOTES:

- FOR ADDITIONAL NOTES, SEE SHEET 264/276.

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR QUANTITIES	DBL	11/18/21

MARK	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	INC.	
PIER 9R BARS											
PB401	186	17'-11"	2,226	15	5'-0"	6'-5"	1'-0"	1'-0"	2'-6"		
PB402	329	6'-2"	1,355	18	5'-0"		8"				
PB403	94	16'-2"	1,015	18	15'-0"		8"				
PB404	24	3'-10"	61	18	2'-8"		8"				
	4	15'-6"			3'-6"	8'-8"	3'-6"				
PB501	SER. OF TO	4,718	2	TO	TO	TO				0'-4 7/8"	
	46	33'-8"			12'-8"	8'-8"	12'-8"				
PB502	130	10'-2"	1,378	13	5'-3"	2'-11"	2'-11"	10"			
PB503	18	8'-4"	156	18	6'-11"	10"					
PB504	25	17'-2"	448	ST							
PB505	7	13'-8"	100	2	10"	12'-3"	10"				
PB506	4	12'-11"	54	1	10"	12'-3"					
PB507	57	6'-9"	401	2	10"	5'-4"	10"				
PB508	22	11'-6"	264	1	10"	10'-10"					
PB509	11	13'-9"	158	1	10"	13'-1"					
PB511	25	30'-0"	782	ST							
PB512	55	6'-0"	344	2	1'-6"	3'-3"	1'-6"				
PB513	55	9'-1"	521	2	4'-1"	1'-3"	4'-1"				
PB514	55	6'-10"	392	38	3'-1"	6"	1'-5"	1'-5"			
PB515	55	12'-0"	688	2	1'-5"	10'-10"					
	1	17'-0"			7'-11"	1'-5"	7'-11"				
PB516	SER. OF TO	1,018	2	TO	TO	TO				0'-0 3/8"	
	55	18'-6"			8'-8"	1'-5"	8'-8"				
PB528	34	17'-5"	618	4	8'-8"	4'-1"					
PB529	34	17'-3"	612	4	8'-6"	4'-1"					
PB530	34	16'-2"	573	4	7'-5"	4'-1"					
PB601	28	3'-5"	144	1	1'-1"	2'-6"					
PB602	28	3'-4"	140	28	1'-8"	1'-0"					
PB701	24	23'-6"	1,153	ST							
PB702	54	7'-8"	846	2	1'-2"	5'-8"	1'-2"				
PB703	54	8'-1"	892	2	1'-2"	6'-1"	1'-2"				
PB801	83	25'-9"	5,706	2	1'-4"	23'-6"	1'-4"				
	2	11'-1"			4'-5"	2'-8"	4'-5"				
PB802	SER. OF TO	2,860	2	TO	TO	TO				2'-2 3/8"	
	18	48'-5"			23'-1"	2'-8"	23'-1"				
PB803	14	31'-6"	1,177	ST							
PB804	2	16'-0"	85	ST							
PB805	40	30'-2"	3,222	ST							
	2	4'-9"									
PB806	SER. OF TO	371	ST							8'-5"	
	4	30'-0"									
PB807	7	10'-11"	204	2	1'-4"	8'-8"	1'-4"				
	2	8'-4"			1'-4"	6'-1"	1'-4"				
PB808	SER. OF TO	257	2	TO	TO	TO				0'-7 3/4"	
	5	10'-11"			1'-4"	8'-8"	1'-4"				
PB901	80	27'-9"	7,548	16	26'-6"						
PB904	32	16'-5"	1,786	12	2'-2"	2'-2"	1'-9"	8'-8"	3'-6"		
PB905	26	17'-1"	1,510	12	2'-2"	2'-2"	2'-2"	8'-8"	3'-9"		
PB906	26	17'-8"	1,562	12	2'-2"	2'-2"	2'-8"	8'-8"	4'-0"		
PB907	46	18'-4"	2,867	12	2'-2"	2'-2"	3'-0"	8'-8"	4'-2"		
PB1001	31	26'-6"	3,535	2	1'-10"	23'-6"	1'-10"				
PB1002	24	25'-6"	2,633	2	1'-10"	22'-6"	1'-10"				
PB1003	36	25'-0"	3,873	1	1'-10"	23'-6"					
PB1004	18	29'-4"	2,272	ST							
PB1005	36	24'-7"	3,808	16	23'-2"						
PB1006	18	29'-0"	2,246	ST							
PB1101	80	20'-5"	8,678	1	18'-9"	2'-0"					
PB1102	80	31'-10"	13,530	ST							
TOTAL			90,787								

MARK	NUMBER						LENGTH	WEIGHT	TYPE	DIMENSIONS			
	PIER 10	PIER 11	PIER 12	PIER 13	PIER 14	TOTAL				A	B	C	INC.
PIERS 10-14 BARS													
SPB401	1					1	1924'-11"	1,286	27	0'-6"	7'-0"	42'-6"	
SPB402		1				1	1997'-10"	1,335	27	0'-6"	7'-0"	44'-2"	
SPB403			1			1	2059'-9"	1,376	27	0'-6"	7'-0"	45'-7"	
SPB404				1		1	2121'-9"	1,418	27	0'-6"	7'-0"	47'-0"	
SPB405					1	1	2161'-11"	1,445	27	0'-6"	7'-0"	47'-11"	
SPB501	1					1	6425'-8"	6,702	27	0'-3"	7'-9"	65'-8"	
SPB502		1				1	6562'-8"	6,845	27	0'-3"	7'-9"	67'-1"	
SPB503			1			1	6699'-9"	6,988	27	0'-3"	7'-9"	68'-6"	
SPB504				1		1	6828'-9"	7,123	27	0'-3"	7'-9"	69'-10"	
SPB505					1	1	6917'-5"	7,215	27	0'-3"	7'-9"	70'-9"	
PB407	32	32	32	34	34	164	3'-11"	429	18	3'-2"		3"	
PB710	16	16	16	16	16	80	22'-9"	3,720	2	9'-6"	3'-11"	4'-9"	
PB711	18	18	18	18	18	90	13'-4"	2,453	2	5'-3"	3'-2"	5'-3"	
PB712	4 SER. OF 21					4 SER. OF 21	3'-5" TO 18'-9"	1,903	ST			0'-9 1/4"	
PB713		4 SER. OF 21				4 SER. OF 21	3'-5" TO 17'-7"	1,803	ST			0'-8 1/2"	
PB714			4 SER. OF 21			4 SER. OF 21	3'-5" TO 17'-7"	1,803	ST			0'-8 1/2"	
PB715				4 SER. OF 21		4 SER. OF 21	3'-5" TO 18'-4"	1,867	ST			0'-9"	
PB716					4 SER. OF 21	4 SER. OF 21	3'-5" TO 18'-2"	1,853	ST			0'-8 7/8"	
PB717	4 SER. OF 9					4 SER. OF 9	11'-5" TO 23'-11"	1,300	ST			1'-6 3/4"	
PB718		4 SER. OF 9				4 SER. OF 9	12'-3" TO 25'-2"	1,377	ST			1'-7 3/8"	
PB719			4 SER. OF 9			4 SER. OF 9	11'-5" TO 24'-2"	1,309	ST			1'-7 1/8"	
PB720				4 SER. OF 9		4 SER. OF 9	11'-10" TO 24'-8"	1,343	ST			1'-7 1/4"	
PB721					4 SER. OF 9	4 SER. OF 9	11'-8" TO 24'-6"	1,331	ST			1'-7 1/4"	
PB722	80 4	80 4	80 4	80 4	80 4	400 20	20'-11" 3'-8"	17,101	2	9'-1"	3'-1"	9'-1"	
PB723						400 20	20'-11" 3'-8"	9,256	ST			0'-11"	
PB724	19 4	19 4	19 4	19 4	19 4	19 20	20'-2" 16'-2"	5,115	2	6'-8"	3'-1"	6'-8"	
	7	7	7	7	7	7	19'-7"			8'-5"	3'-1"	8'-5"	

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR QUANTITIES	DBL	11/18/21

MARK	NUMBER						LENGTH	WEIGHT	TYPE	DIMENSIONS				
	PIER 10	PIER 11	PIER 12	PIER 13	PIER 14	TOTAL				A	B	C	D	INC.
PB814	4 SER. OF 20	4 SER. OF 20	4 SER. OF 20	4 SER. OF 20	4 SER. OF 20	20 SER. OF 20	13'-7" TO 18'-8"	17,222	2	4'-10"	4'-5"	4'-10"	0'-3 1/4"	
PB815	480	504	528	544	560	2,616	16'-6"	115,248	2	4'-10"	7'-4"	4'-10"		
PB816	60	60	60	60	60	300	14'-9"	11,815	2	6'-1"	3'-0"	6'-1"		
PB817	2 SER. OF 8	2 SER. OF 8	2 SER. OF 8	2 SER. OF 8	2 SER. OF 8	10 SER. OF 8	26'-4" TO 31'-1"	6,132	2	11'-10"	3'-1"	11'-10"	0'-8 1/8"	
PB818	120	126	132	136	140	654	21'-11"	38,270	ST	14'-2"	3'-1"	14'-2"		
PB819	2 SER. OF 60					2 SER. OF 60	16'-10" TO 53'-9"	11,307	2	7'-1"	3'-1"	7'-1"	0'-7 1/2"	
PB820		2 SER. OF 63				2 SER. OF 63	16'-10" TO 55'-7"	12,181	2	7'-1"	3'-1"	7'-1"	0'-7 1/2"	
PB821			2 SER. OF 66			2 SER. OF 66	16'-10" TO 57'-4"	13,070	2	7'-1"	3'-1"	7'-1"	0'-7 1/2"	
PB822				2 SER. OF 68		2 SER. OF 68	16'-10" TO 59'-0"	13,768	2	7'-1"	3'-1"	7'-1"	0'-7 1/2"	
PB823					2 SER. OF 70	2 SER. OF 70	16'-10" TO 60'-2"	14,391	2	7'-1"	3'-1"	7'-1"	0'-7 1/2"	
PB824	12	12	12	12	12	60	31'-1"	4,980	35	31'-1"	55'-3"			
PB825	6	6	6	6	6	30	11'-0"	881	19	6'-4"	3'-4"	3'-4"		
PB826	2 SER. OF 27	2 SER. OF 27	2 SER. OF 27	2 SER. OF 27	2 SER. OF 27	10 SER. OF 27	9'-2" TO 31'-10"	14,778	ST				0'-10 1/2"	
PB827	2 SER. OF 24	2 SER. OF 24	2 SER. OF 24	2 SER. OF 24	2 SER. OF 24	10 SER. OF 24	10'-3" TO 28'-0"	12,255	ST				0'-9 1/4"	
PB828	48	24	24	24	24	144	30'-0"	11,534	ST					
PB829	472	408	376	368	368	1,992	21'-10"	116,124	2	7'-8"	6'-11"	7'-8"		
PB830	12	12	12	12	12	60	14'-2"	2,270	2	3'-4"	7'-11"	3'-4"		
PB831	12					12	26'-10"	860	ST					
PB832		12				12	21'-0"	673	ST					
PB833			12			12	16'-0"	513	ST					
PB834				12	12	24	14'-7"	935	ST					
PB835	16					16	25'-2"	1,075	ST					
PB836		16				16	24'-7"	1,050	ST					
PB837			16			16	22'-8"	968	ST					
PB838				16	16	32	23'-8"	2,022	ST					
PB839					8	8	27'-6"	587	ST					
PB855	102	102	102	102	102	510	16'-4"	22,241	2	6'-10"	3'-1"	6'-10"		
PB1010	28	28	28	28	28	140	30'-0"	18,073	ST					
PB1011	24					24	24'-0"	2,479	ST					
PB1012		24				24	24'-11"	2,573	ST					
PB1013			24			24	25'-9"	2,659	ST					
PB1014				24		24	26'-8"	2,754	ST					
PB1015					24	24	27'-2"	2,806	ST					
PB1016	2 SER. OF 8					2 SER. OF 8	24'-0" TO 29'-0"	1,824	ST				0'-8 5/8"	
PB1017		2 SER. OF 8				2 SER. OF 8	24'-11" TO 29'-11"	1,888	ST				0'-8 5/8"	
PB1018			2 SER. OF 8			2 SER. OF 8	25'-9" TO 30'-9"	1,945	ST				0'-8 5/8"	
PB1019				2 SER. OF 8		2 SER. OF 8	26'-8" TO 31'-8"	2,008	ST				0'-8 5/8"	
PB1020					2 SER. OF 8	2 SER. OF 8	27'-2" TO 32'-2"	2,042	ST				0'-8 5/8"	

DESIGN AGENCY
ms consultants, inc.
2221 Setback Road
Columbus, Ohio 43229

DATE
20-APR
2510025

REVIEWED
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DRAWN
DBL

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DBL

CHECKED
ELP

UNIT 2 PIER REINFORCING QUANTITIES (2 OF 4)

BRIDGE NO. FRA-71-1503L
I-71 SB OVER SCIOTO RIVER

FRA-71-14.36
PID No. 105588

272/276

1193
1228

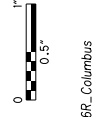
MARK	NUMBER						LENGTH	WEIGHT	TYPE	DIMENSIONS						
	PIER 10	PIER 11	PIER 12	PIER 13	PIER 14	TOTAL				A	B	C	INC.			
PB1021	80	88	104	112	120	504	27'-11"	60,543	2	12'-9"	3'-1"	12'-9"				
PB1022	SER. OF 8					SER. OF 8	21'-9"	8,319	ST						0'-6 1/2"	
PB1023		SER. OF 8				SER. OF 8	22'-5"	9,514	ST						0'-6 1/2"	
PB1024			SER. OF 8			SER. OF 8	22'-0"	11,262	ST						0'-6 3/8"	
PB1025				SER. OF 13		SER. OF 13	28'-4"									
PB1025				SER. OF 8		SER. OF 8	22'-3"	12,390	ST						0'-6 3/8"	
PB1025					SER. OF 14	SER. OF 14	29'-2"									
PB1026					SER. OF 8	SER. OF 8	22'-2"	13,382	ST						0'-6 3/8"	
PB1027	18					18	29'-8"									
PB1028	18					18	14'-9"	1,142	ST							
PB1029		18				18	17'-9"	1,375	ST							
PB1030		18				18	16'-6"	1,278	ST							
PB1031			18			18	19'-6"	1,510	ST							
PB1032			18			18	20'-2"	1,562	ST							
PB1033				18		18	23'-2"	1,794	ST							
PB1034				18		18	21'-9"	1,685	ST							
PB1035					18	18	24'-9"	1,917	ST							
PB1036					18	18	22'-10"	1,769	ST							
PB1037	52	52	52	52	52	260	25'-10"	2,001	ST							
PB1038	SER. OF 4	SER. OF 4	SER. OF 4	SER. OF 4	SER. OF 4	SER. OF 20	41'-7"	46,523	2	19'-6"	3'-4"	19'-6"				
PB1038	SER. OF 13	SER. OF 13	SER. OF 13	SER. OF 13	SER. OF 13	SER. OF 13	11'-6"	23,401	ST						1'-6 7/8"	
PB1038							30'-4"									
PB1104	SER. OF 1	SER. OF 1	SER. OF 1	SER. OF 1	SER. OF 1	SER. OF 5	24'-2"						9'-6"	3'-1"		
PB1104	SER. OF 8	SER. OF 8	SER. OF 8	SER. OF 8	SER. OF 8	SER. OF 8	TO	6,570	3	TO	TO	TO			1'-11 1/8"	
PB1104							37'-8"						16'-3"	3'-1"		
PB1105	42	42	42	42	42	210	40'-0"	44,629	ST							
PB1106	12					12	21'-2"	1,350	ST							
PB1107	12					12	15'-2"	967	ST							
PB1108		12				12	15'-10"	1,009	ST							
PB1109		12				12	9'-10"	627	ST							
PB1110			12			12	13'-4"	850	ST							
PB1111			12			12	7'-4"	468	ST							
PB1112				12	12	24	12'-8"	1,615	ST							
PB1113				12	12	24	6'-8"	850	ST							
PB1114	15					15	22'-10"	1,820	1	21'-2"	2'-0"					
PB1115	15					15	16'-10"	1,342	1	15'-2"	2'-0"					
PB1116	15					15	21'-9"	1,733	16	20'-2"						
PB1117	15					15	15'-9"	1,255	16	14'-2"						
PB1118		15				15	17'-6"	1,395	1	15'-10"	2'-0"					
PB1119		15				15	11'-6"	916	1	9'-10"	2'-0"					
PB1120		15				15	16'-5"	1,308	16	14'-10"						
PB1121		15				15	10'-5"	830	16	8'-10"						
PB1122			15			15	15'-0"	1,195	1	13'-4"	2'-0"					
PB1123			15			15	9'-0"	717	1	7'-4"	2'-0"					
PB1124			15			15	13'-11"	1,109	16	12'-4"						
PB1125			15			15	7'-11"	631	16	6'-4"						
PB1126				15	15	30	14'-4"	2,285	1	12'-8"	2'-0"					
PB1127				15	15	30	8'-4"	1,328	1	6'-8"	2'-0"					
PB1128				15	15	30	13'-3"	2,112	16	11'-8"						
PB1129				15	15	30	7'-3"	1,156	16	5'-8"						

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR QUANTITIES	DBL	11/18/21

MARK	NUMBER						LENGTH	WEIGHT	TYPE	DIMENSIONS						
	PIER 10	PIER 11	PIER 12	PIER 13	PIER 14	TOTAL				A	B	C	INC.			
PB1401	22	22	22	22	22	110	30'-0"	25,245	ST							
PB1402	SER. OF 4					SER. OF 4	16'-9"	3,534	ST						1'-0"	
PB1403	SER. OF 6					SER. OF 6	21'-9"									
PB1403	SER. OF 4					SER. OF 4	10'-9"	2,027	ST						1'-3"	
PB1404		SER. OF 4				SER. OF 4	17'-8"									
PB1404		SER. OF 6				SER. OF 6	22'-8"	3,703	ST						1'-0"	
PB1405		SER. OF 4				SER. OF 4	11'-8"									
PB1405		SER. OF 5				SER. OF 5	16'-8"	2,168	ST						1'-3"	
PB1406			4			4	18'-6"									
PB1406			SER. OF 6			SER. OF 6	23'-6"	3,856	ST						1'-0"	
PB1407			4			4	12'-6"									
PB1407			SER. OF 5			SER. OF 5	17'-6"	2,295	ST						1'-3"	
PB1408				SER. OF 4		SER. OF 4	19'-5"									
PB1408				SER. OF 6		SER. OF 6	24'-5"	4,024	ST						1'-0"	
PB1409				4		4	13'-5"									
PB1409				SER. OF 4		SER. OF 4	TO	2,435	ST						1'-3"	
PB1410							18'-5"									
PB1410							19'-11"									
PB1410				SER. OF 6		SER. OF 6	TO	4,116	ST						1'-0"	
PB1411							13'-11"									
PB1411				SER. OF 4		SER. OF 4	TO	2,512	ST						1'-3"	
PB1412							18'-11"									
PB1412	9	9	9	9	9	45	16'-4"	5,623	20	4'-3"	2'-8"	6'-6"				
PB1413	9	9	9	9	9	45	22'-5"	7,717	20	6'-10"	4'-3"	6'-6"				
PB1414	33					33	20'-1"	5,070	ST							
PB1415		33				33	21'-9"	5,491	ST							
PB1416			33			33	23'-2"	5,848	ST							
PB1417				33		33	24'-7"	6,206	ST							
PB1418					33	33	25'-5"	6,416	ST							
PB1419	16	16	16	16	16	80	20'-2"	12,342	ST							
PB1420	17	17	17	17	17	85	17'-2"	11,163	ST							
PB1421	25					25	26'-8"	5,100	1	24'-7"	2'-7"					
PB1422	25					25	23'-8"	4,526	1	21'-7"	2'-7"					
PB1423		25				25	28'-2"	5,387	1	26'-1"	2'-7"					
PB1424		25				25	25'-2"	4,813	1	23'-1"	2'-7"					
PB1425			25			25	29'-7"	5,658	1	27'-6"	2'-7"					
PB1426				25		25	26'-7"	5,084	1	24'-6"	2'-7"					
PB1427					25	25	30'-11"	5,913	1	28'-10"	2'-7"					
PB1428				25		25	27'-11"	5,339	1	25'-10"	2'-7"					
PB1429					25	25	31'-10"	6,088	1	29'-9"	2'-7"					
PB1430					25	25	28'-10"	5,514	1	26'-9"	2'-7"					
PB1431	50	50	50	50	50	250	40'-0"	76,500	ST							
PB1432																



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34" x 22"

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NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR QUANTITIES	DBL	11/18/21

MARK	TOTAL	LENGTH	WEIGHT	TYPE	DIMENSIONS					
					A	B	C	D	E	INC.
PIER 15 BARS										
PB401	236	15'-4"	2,417	15		5'-9"	10"	10"	1'-11"	
PB402	413	6'-2"	1,701	18	5'-0"		8"			
PB403	118	16'-2"	1,274	18	15'-0"		8"			
PB404	38	6'-4"	161	18	5'-2"		8"			
	4	13'-5"			4'-3"	5'-2"	4'-3"			
PB522	SER. OF	TO	4,248	2	TO	TO	TO			0'-5"
	45	31'-10"			13'-6"	5'-2"	13'-6"			
PB523	118	13'-5"	1,651	2	4'-3"	5'-2"	4'-3"			
PB524	90	13'-11"	1,306	2	4'-6"	5'-2"	4'-6"			
PB525	9	17'-8"	166	2	10"	16'-3"	10"			
PB526	27	11'-3"	317	1	10"	10'-7"				
PB527	9	11'-2"	105	1	10"	10'-5"				
PB701	32	23'-6"	1,537	ST						
PB724	25	8'-9"	447	2	1'-2"	6'-8"	1'-2"			
PB725	50	9'-0"	920	2	1'-2"	7'-0"	1'-2"			
PB801	91	25'-9"	6,256	2	1'-4"	23'-6"	1'-4"			
PB841	14	32'-7"	1,218	ST						
	2	11'-11"			3'-7"	5'-2"	3'-7"			
PB842	SER. OF	TO	3,587	2	TO	TO	TO			1'-1 2/3"
	20	55'-3"			25'-3"	5'-2"	25'-3"			
PB843	6	24'-11"	399	2	10'-1"	5'-2"	10'-1"			
PB844	12	64'-9"	2,075	2	30'-0"	5'-2"	30'-0"			
	2	12'-8"								
PB845	SER. OF	TO	342	ST						8'-8"
	3	30'-0"								
PB846	38	30'-0"	3,044	ST						
	2	3'-3"								
PB847	SER. OF	TO	108	ST						13'-8"
	2	16'-11"								
PB848	32	9'-7"	819	ST						
PB849	20	7'-5"	396	2	1'-4"	5'-2"	1'-4"			
PB903	80	28'-5"	7,729	16	27'-2"					
PB1001	44	26'-6"	5,017	2	1'-10"	23'-6"	1'-10"			
PB1002	36	24'-6"	3,795	2	1'-10"	21'-6"	1'-10"			
PB1039	18	27'-3"	2,111	1	1'-10"	25'-9"				
PB1040	18	27'-2"	2,104	16	25'-9"					
PB1041	18	26'-8"	2,065	16	25'-3"					
PB1042	18	23'-11"	1,852	1	24'-3"					
PB1043	54	30'-0"	6,971	ST						
PB1132	80	21'-3"	9,032	1	2'-0"	19'-7"				
PB1133	80	32'-4"	13,743	ST						
PB1134	80	22'-10"	9,705	ST						
TOTAL			98,618							

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MARK	NUMBER								LENGTH	WEIGHT	TYPE	DIMENSIONS					
	PIER 16	PIER 17	PIER 18	PIER 19	PIER 20	PIER 21	PIER 22	TOTAL				A	B	C	D	E	R
SUBSTRUCTURE - PIER																	
PC401	212	216	305	354	530	414	287	2318	6'-3"	9678	9	6"	6"	5'-1"	8"		
PC402	106	108						214	16'-4"	2335	9	6"	6"	15'-2"	8"		
PC403			122					122	18'-4"	1494	9	6"	6"	17'-2"	8"		
PC404				118				118	22'-10"	1800	9	6"	6"	21'-8"	8"		
PC405					106			106	35'-4"	2502	9	6"	6"	34'-2"	8"		
PC406						92		92	32'-10"	2018	9	6"	6"	31'-8"	8"		
PC407							82	82	27'-4"	1497	9	6"	6"	26'-2"	8"		
PC501	208	212						420	21'-7"	9455	44	7'-11"	1'-1"	1'-1"	2'-10"		
PC502								NOT USED									
PC503								NOT USED									
PC504			242					242	23'-7"	5953	44	8'-11"	1'-1"	1'-1"	2'-10"		
PC505								NOT USED									
PC506				232				232	28'-1"	6795	44	11'-2"	1'-1"	1'-1"	2'-10"		
PC507								NOT USED									
PC508					208			208	40'-7"	8804	44	17'-5"	1'-1"	1'-1"	2'-10"		
PC509								NOT USED									
PC510						180		180	38'-1"	7150	44	16'-2"	1'-1"	1'-1"	2'-10"		
PC511								NOT USED									
PC512							160	160	32'-7"	5438	44	13'-5"	1'-1"	1'-1"	2'-10"		
PC601	40	40	40	48				216	12'-5"	4028	1	1'-0"	11'-7"				
PC602					32	48		80	13'-3"	1592	1	1'-0"	12'-5"				
PC603					8			8	20'-10"	250	1	1'-0"	20'-0"				
PC604	120							120	14'-4"	2583	2	4'-6"	5'-8"	4'-6"			
PC605		120	124	134	158	154	142	832	13'-10"	17287	2	4'-6"	5'-2"	4'-6"			
PC606	4 SERIES OF 21	4 SERIES OF 21	4 SERIES OF 21	4 SERIES OF 21	4 SERIES OF 21	4 SERIES OF 21	4 SERIES OF 21	28 SERIES OF 21	2'-4" TO 7'-10"	4489	29	21	2'-4"	7'-10"		3 1/4"	
PC607	4 SERIES OF 14	4 SERIES OF 14	4 SERIES OF 14	4 SERIES OF 14	4 SERIES OF 14	4 SERIES OF 14	4 SERIES OF 14	28 SERIES OF 14	8'-4" TO 21'-7"	8832	29	14	8'-4"	21'-7"		1'-0 1/4"	
PC608	4 SERIES OF 16	4 SERIES OF 16	4 SERIES OF 16	4 SERIES OF 16	4 SERIES OF 16	4 SERIES OF 16	4 SERIES OF 16	28 SERIES OF 16	9'-7" TO 17'-1"	8972	36	16	4'-0"	7'-9"	1'-11"	3"	
PC609	4 SERIES OF 6	4 SERIES OF 6	4 SERIES OF 6	4 SERIES OF 6	4 SERIES OF 6	4 SERIES OF 6	4 SERIES OF 6	28 SERIES OF 6	18'-3" TO 28'-9"	5930	36	6	8'-4"	13'-7"	1'-11"	1'-0 5/8"	
PC610	4 SERIES OF 6	4 SERIES OF 6	4 SERIES OF 6	4 SERIES OF 6	4 SERIES OF 6	4 SERIES OF 6	4 SERIES OF 6	28 SERIES OF 6	19'-1" TO 29'-1"	6077	36	6	8'-9"	13'-9"	1'-11"	1'-0"	
PC611	4 SERIES OF 16	4 SERIES OF 16	4 SERIES OF 16	4 SERIES OF 16	4 SERIES OF 16	4 SERIES OF 16	4 SERIES OF 16	28 SERIES OF 16	11'-9" TO 18'-9"	10262	36	16	5'-1"	8'-7"	1'-11"	2 3/4"	
PC701		42						42	32'-2"	2761	STR						
PC702		2						2	20'-2"	82	STR						
PC703		2						2	6'-9"	28	STR						
PC704		2						2	4'-7"	19	STR						
PC705		18	18	19	17	17	19	108	6'-10"	1508	2	1'-0"	5'-2"	1'-0"			
PC706			2 SERIES OF 4					2 SERIES OF 4	2'-5" TO 37'-3"	324	29	4	2'-5"	37'-3"		11'-7 3/8"	
PC707				42				42	35'-5"	3040	STR						
PC708				2				2	11'-3"	46	STR						
PC709				2				2	30'-11"	126	STR						
PC710				2				2	19'-6"	80	STR						
PC711				2				2	8'-1"	33	STR						
PC712				2				2	3'-11"	16	STR						
PC713					42			42	41'-8"	3577	STR						
PC714					2			2	18'-8"	76	STR						
PC715					2			2	8'-3"	34	STR						
PC716						42		42	40'-5"	3470	STR						
PC717						2		2	21'-9"	89	STR						
PC718						2		2	7'-5"	30	STR						
PC719							44	44	37'-8"	3388	STR						
PC720							2	2	13'-3"	54	STR						
PC721							2	2	23'-7"	96	STR						
PC722							2	2	12'-1"	49	STR						
PC723							2	2	7'-4"	30	STR						
PC724			40					40	33'-2"	2712	STR						
PC725	150	150	150	150	172	172	172	1116	8'-6"	19389	2	1'-2"	6'-6"	1'-2"			
PC726	14	14	14	14	14	14	14	98	23'-6"	4707	STR						
PC727	14	14	14	14	14	14	14	56	32'-6"	3720	STR						
PC728					14	14	14	42	40'-6"	3477	STR						

SEE NEXT SHEET

NOTES:
1. SEE SHEET 276 FOR REINFORCING STEEL LIST NOTES.

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR TABLE AND DETAILS	DGS	11/11/21

DESIGN AGENCY
ch2m
2 Easton Oval, Suite 500
Columbus, Ohio 43219

DATE
7/15

REVIEWED VS
STRUCTURE FILE NUMBER
2510025

DRAWN JBA
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CHECKED JTC

REINFORCING STEEL LIST II
BRIDGE NO. FRA-071-1503L
I-71 SB OVER SCIOTO RIVER

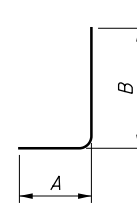
FRA - 71 - 14.36
PID No. 105588

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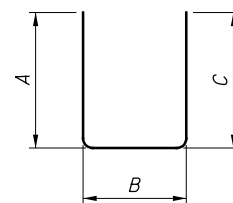
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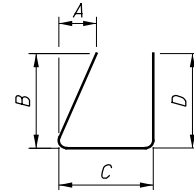
MARK	NUMBER							LENGTH	WEIGHT	TYPE	DIMENSIONS					
	PIER 16	PIER 17	PIER 18	PIER 19	PIER 20	PIER 21	PIER 22				TOTAL	A	B	C	D	E
SUBSTRUCTURE - PIER																
PC801	12	12	12	12	12	12	12	84	34'-6"	7738	STR					
PC802	42							42	33'-0"	3701	STR					
PC803	2							2	20'-2"	108	STR					
PC804	2							2	6'-9"	36	STR					
PC805	2							2	4'-7"	24	STR					
PC806	18							18	7'-3"	348	2	1'-0"	5'-8"	1'-0"		
PC1001	40	64						104	36'-11"	16521	1	1'-10"	35'-5"			
PC1002	10	16						26	45'-11"	5137	STR					
PC1003			96					96	37'-11"	15663	1	1'-10"	36'-5"			
PC1004				56				56	40'-2"	9679	1	1'-10"	38'-8"			
PC1005				28				28	33'-6"	4036	STR					
PC1006					56			56	46'-4"	11165	1	1'-10"	44'-10"			
PC1007					28			28	36'-7"	4408	STR					
PC1008						48		48	45'-2"	9329	1	1'-10"	43'-8"			
PC1009						24		24	35'-9"	3692	STR					
PC1010							40	40	42'-5"	7301	1	1'-10"	40'-11"			
PC1011							20	20	34'-2"	2940	STR					
PC1101	76	116	86	110	174	160	132	854	21'-3"	96418	1	2'-0"	19'-7"			
PC1102	76							76	41'-8"	16825	STR					
PC1103		116						116	42'-5"	26142	STR					
PC1104			86					86	50'-0"	22846	STR					
PC1105				110				110	47'-7"	27809	STR					
PC1106					174			174	41'-9"	38596	STR					
PC1107						160		160	34'-6"	29328	STR					
PC1108							132	132	29'-6"	20689	STR					
PC1109	76	116	86	110	174	160	132	854	26'-7"	120617	STR					
PC1110	82	92	88	85	104	104	95	650	31'-10"	109935	2	4'-6"	23'-6"	4'-6"		
PC1111	22	32	28	26	26	26	16	176	26'-4"	24624	2	2'-0"	23'-0"	2'-0"		
PC1112	22	32	28	26	26	26	16	176	25'-10"	24156	2	2'-0"	22'-6"	2'-0"		
PC1113	61	72	67	60				260	35'-10"	49499	2	2'-0"	32'-6"	2'-0"		
PC1114	24	36	30	22				112	35'-4"	21025	2	2'-0"	32'-0"	2'-0"		
PC1115	24	36	30	22				112	34'-10"	20728	2	2'-0"	31'-6"	2'-0"		
PC1116					54	55	54	163	49'-2"	42579	2	4'-8"	40'-6"	4'-8"		
PC1117					16	18	16	50	43'-4"	11512	2	2'-0"	40'-0"	2'-0"		
PC1118					16	18	16	50	42'-10"	11379	2	2'-0"	39'-6"	2'-0"		
SUB-TOTAL										1004715						



TYPE-1



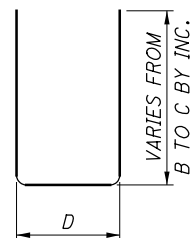
TYPE-2



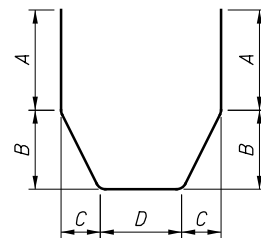
TYPE-9

VARIES FROM B TO C BY INC.
A = NO. OF BARS IN SERIES

TYPE-29



A = NO. OF BAR IN SERIES
TYPE-36



TYPE-44

NOTES:

1. THE BAR SIZE IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST NUMBER INDICATES THE BAR SIZE NUMBER.
2. ALL DIMENSIONS ARE MEASURED OUT-TO-OUT OF BAR UNLESS NOTED OTHERWISE.
3. RADIUS DIMENSION "R" IS TO THE OUTSIDE OF BAR. RADIUS DIMENSION "I.R." IS TO THE INSIDE OF BAR.
4. FOR STANDARD HOOK DIMENSIONS, SEE SECTION 509.05 OF THE SPECIFICATIONS.
5. ALL REINFORCING STEEL SHALL BE EPOXY COATED, GRADE 60.
6. BAR BEND TYPES SHOWN ON THIS SHEET ARE FOR PIERS 16-22.

NO.	DESCRIPTION	REV. BY	DATE
3	UPDATED BAR TABLE AND DETAILS	DGS	11/11/21

DESIGN AGENCY
ch2m
2 Easton Oval, Suite 500
Columbus, Ohio 43219

DATE
7/15
REVIEWED VS
STRUCTURE FILE NUMBER
2510025

DRAWN JBA
REVISOR
DESIGNED DGS
CHECKED JTC

REINFORCING STEEL LIST II
BRIDGE NO. FRA-071-1503L
I-71 SB OVER SCIOTO RIVER

FRA - 71 - 14.36
PID No. 105588

276/276

1195
1228

GENERAL NOTES

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

- AS-1-15 REVISED 07-17-15
- AS-2-15 REVISED 01-18-19
- EXJ-4-87 REVISED 01-19-18
- GSD-1-19 REVISED 01-18-19
- SBR-1-13 REVISED 07-20-18
- VPF-1-90 REVISED 07-20-18

AND TO THE FOLLOWING HIGHWAY LIGHTING STANDARD DRAWING(S):

- HL-10.13 DATED 04-17-20
- HL-20.14 DATED 04-17-20
- HL-30.32 DATED 04-17-20
- HL-50.21 DATED 04-17-20

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

- 832 DATED 10-19-18

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 7TH EDITION, 2014 AND THE ODOT BRIDGE DESIGN MANUAL 2007.

SPECIAL DESIGN SPECIFICATIONS

SPECIAL DESIGN SPECIFICATIONS: THIS BRIDGE REQUIRED THE USE OF A THREE DIMENSIONAL MODEL USING THE FINITE ELEMENT DESIGN METHOD TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAM USED FOR STRUCTURAL ANALYSIS WAS LARSA 4D. THE BRIDGE COMPONENTS DESIGNED BY THIS METHOD WERE THE STEEL GIRDERS.

MEMBER FORCES, BEARING REACTIONS, DEFLECTIONS, AND GIRDER TWIST WERE ALSO DESIGNED WITH THE THREE DIMENSIONAL FINITE ELEMENT MODEL USING THE LARSA 4D COMPUTER PROGRAM. THE FOLLOWING ELEMENT TYPES WERE USED:
 GIRDER WEBS: PLATE ELEMENT
 GIRDER FLANGES: BEAM ELEMENT
 CROSS FRAMES: TRUSS ELEMENT
 DECK: PLATE ELEMENT

DEAD LOAD DISTRIBUTION: THE NON-COMPOSITE DEAD LOAD WAS DISTRIBUTED TO THE GIRDERS BASED ON THE TRIBUTARY WIDTH OF THE GIRDER. THE PARAPET DEAD LOAD WAS PLACED AT THE RESPECTIVE LOCATIONS ON THE DECK.

LIVE LOADS WERE GENERATED AUTOMATICALLY BY THE COMPUTER PROGRAM AND WERE APPLIED WITHIN USER-DEFINED LANES. THE COMPUTER PROGRAM DISTRIBUTED LIVE LOADS ACCORDING TO THE MEMBER ELASTIC GROSS STIFFNESS PROPERTIES.

LRFD LOAD MODIFIERS

OPERATIONAL IMPORTANCE: A LOAD MODIFIER OF 1.00 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, 2007.

DESIGN LOADING

DESIGN LOADING: HL-93
 FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT.

DESIGN DATA

- CONCRETE CLASS OC2 - COMPRESSIVE STRENGTH
4.5 KSI (SUPERSTRUCTURE)
- CONCRETE CLASS OC1 - COMPRESSIVE STRENGTH
4.0 KSI (SUBSTRUCTURE), 3/8" MAXIMUM AGGREGATE SIZE (COLUMNS)
- CONCRETE CLASS OC5 - COMPRESSIVE STRENGTH
4.5 KSI (DRILLED SHAFT), 3/8" MAXIMUM AGGREGATE SIZE
- REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
- STRUCTURAL STEEL - ASTM A709 GRADE 50W - YIELD STRENGTH 50 KSI
- STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
 2 1/2" CONCRETE COVER

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

PILE DRIVING CONSTRAINTS

PRIOR TO DRIVING ABUTMENT PILES TO THE ULTIMATE BEARING VALUE (UBV) OR TO REFUSAL ON BEDROCK, CONSTRUCT THE MSE WALL AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENT UP TO THE BOTTOM OF THE FOOTING FOR A MINIMUM DISTANCE OF 200 FEET BEHIND THE ABUTMENT. THE CONTRACTOR MAY PRE-DRIVE ABUTMENT PILES BEFORE CONSTRUCTING MSE WALLS. PRE-DRIVING CONSISTS OF INSTALLING THE ABUTMENT PILES INTO THE SOIL ONLY AS FAR AS NECESSARY SO THAT THE PILE WILL REMAIN VERTICAL DURING MSE WALL CONSTRUCTION. IF PRE-DRIVING PILES, INSTALL PILE SLEEVES AROUND PILES BEFORE CONSTRUCTING THE MSE WALL. AT LEAST THREE FEET OF PILE MUST EXTEND ABOVE THE TOP OF THE PILE SLEEVE TO MEET THE REQUIREMENTS OF CMS 507.09 REGARDING SPLICES. DO NOT DRIVE ABUTMENT PILES TO THE UBV OR TO REFUSAL ON BEDROCK UNTIL AFTER THE ABOVE REQUIRED MSE WALL AND EMBANKMENT HAVE BEEN CONSTRUCTED AND A 30 CALENDAR DAY WAITING PERIOD HAS ELAPSED. THE ENGINEER MAY ADJUST THE LENGTH OF THE WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE ABUTMENT PILES TO THE UBV OR TO REFUSAL ON BEDROCK. IN ORDER TO REMOVE AND NEGATIVE SKIN FRICTION THAT HAS DEVELOPED DURING THE WAITING PERIOD, DRIVE EACH ABUTMENT PILE A DISTANCE OF AT LEAST 0.5 INCH.

IF NOT PRE-DRIVING ABUTMENT PILES, INSTALL THE ABUTMENT PILES THROUGH PILE SLEEVES AFTER THE ABOVE REQUIRED MSE WALL AND EMBANKMENT HAVE BEEN CONSTRUCTED AND THE SPECIFIED WAITING PERIOD HAS ELAPSED.

PROPRIETARY RETAINING WALL DATA

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SS840 TO SUPPORT THE ABUTMENT. FOR THE REAR ABUTMENT, THE DESIGN FOR INTERNAL STABILITY SHALL INCLUDE A NOMINAL (I.E. UNFACTORED) HORIZONTAL STRIP LOAD DUE TO FRICTION (FR) FROM THE SUPERSTRUCTURE OF 2.4 K/FT APPLIED PERPENDICULAR TO THE FACE OF WALL AT THE BASE OF THE CONCRETE FOOTING. FOR THE FORWARD ABUTMENT, THE DESIGN FOR INTERNAL STABILITY SHALL INCLUDE A NOMINAL STRIP LOAD DUE TO FRICTION (FR) FROM THE SUPERSTRUCTURE OF 2.6 K/FT APPLIED PERPENDICULAR TO THE FACE OF WALL DISTRIBUTED EQUALLY TO A MINIMUM OF TWO STRAPS PLACED ALONG THE BACK FACE OF THE ABUTMENT STEM AND FOOTING. BOTH ABUTMENT STRIP LOADS DO NOT INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL. HOWEVER, THE PROPRIETARY WALL SUPPLIER SHALL INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL IN THE DESIGN CALCULATIONS.

PILES TO BEDROCK

DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 250 KIPS PER PILE FOR THE REAR ABUTMENT PILES.

REAR ABUTMENT PILES (HP 10x42):
 9 PILES 95 FEET LONG, ORDER LENGTH

PILE SPLICES

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

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

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

DRILLED SHAFTS

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 1600 KIPS AT THE PIER AND 1100 KIPS AT THE FORWARD ABUTMENT. THE FORWARD ABUTMENT DRILLED SHAFTS INCLUDE AN ADDITIONAL 390 KIPS OF FACTORED LOAD PER DRILLED SHAFT TO ACCOUNT FOR POSSIBLE DOWNDRAG LOADING. THE FACTORED RESISTANCE PROVIDED BY EACH DRILLED SHAFT IS 3300 KIPS AND IS BASED ON THE STRUCTURAL LIMIT STATE OF THE DRILLED SHAFT.

UTILITY LINES

THE UTILITIES SHALL BEAR ALL EXPENSES INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITIES ARE TO COOPERATE BY ARRANGING THEIR WORK

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

EXTERIOR GIRDERS - FOR THE ENTIRE LENGTH OF GIRDER PAINT THE FASCIA BOTTOM OF TOP FLANGE, THE FASCIA SIDE OF WEB, FASCIA TOP OF BOTTOM FLANGE, BOTH SIDES OF BOTTOM FLANGE, AND ENTIRE BOTTOM SIDE OF BOTTOM FLANGE. THE FINISH COAT COLOR SHALL BE BLACK, FEDERAL COLOR NUMBER 17038.

FOR THE LAST 10 FEET OF EACH EXTERIOR GIRDER END ADJACENT TO THE ABUTMENTS PAINT THE INTERIOR BOTTOM OF TOP FLANGE, INTERIOR SIDE OF WEB, AND INTERIOR TOP OF BOTTOM FLANGE. THE PRIME COAT SHALL BE 708.01. THE TOP COAT COLOR SHALL CLOSELY APPROACH FEDERAL STANDARD NO. 595B-20045 OR 20059 (THE COLOR OF WEATHERING STEEL).

INTERIOR GIRDERS - FOR THE ENTIRE LENGTH OF GIRDER PAINT BOTH SIDES OF BOTTOM FLANGE AND ENTIRE BOTTOM SIDE OF BOTTOM FLANGE. THE FINISH COAT COLOR SHALL BE BLACK, FEDERAL COLOR NUMBER 17038.

FOR THE LAST 10 FEET OF EACH INTERIOR GIRDER END ADJACENT TO THE ABUTMENTS PAINT THE BOTTOM OF TOP FLANGE, SIDES OF WEB, AND TOP OF BOTTOM FLANGE AS WELL AS ALL CROSS FRAMES AND OTHER STEEL WITHIN THESE LIMITS. THE PRIME COAT SHALL BE 708.01. THE TOP COAT COLOR SHALL CLOSELY APPROACH FEDERAL STANDARD NO. 595B-20045 OR 20059 (THE COLOR OF WEATHERING STEEL).

ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN

FOR BEARING REQUIREMENTS, SEE SHEET 22.

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.22 KIPS FOR A TOTAL MACHINE LOAD OF 17.8 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103 INCHES.

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65 INCHES.

STRUCTURAL STEEL NOTES

FOR STRUCTURAL STEEL NOTES, REFER TO SHEET 16.

ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT COATED FABRIC, AS PER PLAN

ALL FENCES POSTS, RAILS, FABRIC, BASE PLATES, POST SLEEVES, TENSION BANDS, TRUSS RODS, FABRIC TIES AND ALL OTHER VISIBLE PORTIONS OF FENCE NOT LISTD SHALL BE BLACK PVC COATED.

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO SUPPLEMENT 1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS.

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

GLASS FIBER REINFORCED POLYMER (GFRP) BARS SHALL BE USED FOR DIAGONAL REINFORCEMENT AS SHOWN IN THE PLANS. PAYMENT FOR GFRP BARS SHALL BE INCIDENTAL TO THE COST OF ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN.

NO.	DESCRIPTION	REV. BY	DATE
3	GFRP PAYMENT MOVED TO ITEM 509	DGS	11/17/21

070_1373BGN001.dgn Sheet 11/17/2021 9:56:26 AM 89464_Half_BW.pltcf 89464_Pen_BW.tbl PDF-XChange Standard mpierce

DESIGN AGENCY
ch2m
 2 Easton Oval, Suite 500
 Columbus, Ohio 43219

DATE 05/15
 REVIEWED VS
 STRUCTURE FILE NUMBER 2510030
 DRAWN JBA
 CHECKED JTC

GENERAL NOTES
 BRIDGE NO. FRA-070-1373B
 RAMP D7 OVER SHORT STREET

FRA-71-14.36
 PID No. 105588

4 / 33
 1199
 1228

070_1373BE0001.dgn Sheet 11/17/2021 10:24:56 AM 89464_Half_BW.pltcf 89464_Pen_BW.tbl PDF-XChange Standard mpierce

PARTICIPATION					ESTIMATED QUANTITIES					
17/IMS/BR	ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
3	203	35110	3	CY	GRANULAR MATERIAL, TYPE B				3	
	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION				LS	
855	507	00100	855	FT	STEEL PILES HPI0X42, FURNISHED	855				
810	507	00150	810	FT	STEEL PILES HPI0X42, DRIVEN	810				
9	507	93300	9	EACH	STEEL POINTS OR SHOES	9				
133381	509	10001	133381	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	16880	5927	98338	12236	
309	511	34446	309	CY	CLASS QC2 CONCRETE WITH QC/OA, BRIDGE DECK			309		
98	511	34450	98	CY	CLASS QC2 CONCRETE WITH QC/OA, BRIDGE DECK (PARAPET)			98		
168	511	41012	168	CY	CLASS QC1 CONCRETE WITH QC/OA, PIER ABOVE FOOTINGS		31		137	
171	511	43512	171	CY	CLASS QC1 CONCRETE WITH QC/OA, ABUTMENT INCLUDING FOOTING	171				
116	512	10001	116	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)				116	
1383	512	10100	1383	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	174	96	695	418	
27	512	33000	27	SY	TYPE 2 WATERPROOFING	27				
361373	513	10300	361373	LB	STRUCTURAL STEEL MEMBERS, LEVEL 5			361373		
3135	513	20000	3135	EACH	WELDED STUD SHEAR CONNECTORS			3135		
5704	514	00060	5704	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			5704		
5704	514	00067	5704	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			5704	4/33	
75	516	10010	75	FT	ARMORLESS PREFORMED JOINT SEAL			75		
75	516	11210	75	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			75		
160	516	13900	160	SF	2" PREFORMED EXPANSION JOINT FILLER	82			78	
88	516	25000	88	SF	NYLON REINFORCED NEOPRENE SHEETING	88				
1	516	44100	1	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (1'-4" x 5/8" x 1'-7" PAD WITH 1'-5" x 2" x 2'-1" STEEL LOAD PLATE)	1				
3	516	44100	3	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (1'-4" x 5/8" x 1'-7" PAD WITH 1'-5" x 2" x 1'-9" STEEL LOAD PLATE)	3				
1	516	44101	1	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (1'-4" x 5/8" x 1'-7" PAD WITH 1'-5" x 2 3/8" x 2'-1" BEVELED STEEL LOAD PLATE), AS PER PLAN	1				4/33
3	516	44101	3	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (1'-4" x 5/8" x 1'-7" PAD WITH 1'-5" x 2 3/8" x 1'-9" BEVELED STEEL LOAD PLATE), AS PER PLAN	3				4/33
1	516	44101	1	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (2'-0 1/2" x 5 3/8" x 2'-0 1/2" PAD WITH 2'-1 1/2" x 2 1/4" x 3'-0" BEVELED STEEL LOAD PLATE), AS PER PLAN		1			4/33
3	516	44101	3	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (2'-0 1/2" x 5 3/8" x 2'-0 1/2" PAD WITH 2'-1 1/2" x 2 1/4" x 2'-8" BEVELED STEEL LOAD PLATE), AS PER PLAN		3			4/33
1	518	12000	1	EACH	SCUPPERS, INCLUDING SUPPORTS			1		
20	518	21200	20	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	20				
75	518	40000	75	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	75				
25	518	40010	25	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	25				
52	518	51200	52	FT	10" PIPE DOWNSPOUT, INCLUDING SPECIALS		52			
108	524	94700	108	FT	DRILLED SHAFTS, 36" DIAMETER				108	
156	524	94704	156	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK	81	75			
372	524	94802	372	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK	192	180			
249	526	30000	249	SY	REINFORCED CONCRETE APPROACH SLABS (T=17")				249	
75	526	90030	75	FT	TYPE C INSTALLATION				75	
38	605	14000	38	FT	6" BASE PIPE UNDERDRAINS*				38	
205	607	39901	205	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN				205	4/33

* QUANTITY CARRIED TO ROADWAY GENERAL SUMMARY

ABBREVIATIONS

THE FOLLOWING ABBREVIATIONS HAVE BEEN USED THROUGHOUT THESE PLANS:

& = AND
 @ = AT
 ° = DEGREES
 ' = FEET OR MINUTES
 " = INCHES OR SECONDS
 ± = PLUS OR MINUS

AASHTO = AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
 ABUT. = ABUTMENT
 ADT = AVERAGE DAILY TRAFFIC
 ADTT = AVERAGE DAILY TRUCK TRAFFIC
 A.P.P. = AS PER PLAN
 APPR. = APPROACH
 APPROX. = APPROXIMATE
 ASTM = AMERICAN SOCIETY OF TESTING AND MATERIALS

BM = BENCHMARK
 BOT. = BOTTOM
 BOT./FTG. = BOTTOM OF FOOTING
 BRGS. = BEARINGS
 B/W = BETWEEN

CL = CENTERLINE
 C/C = CENTER TO CENTER
 CFS = CUBIC FEET PER SECOND
 CJ = CONSTRUCTION JOINT
 CLR. = CLEAR
 CMP = CORRUGATED METAL PIPE
 CMS = CONSTRUCTION AND MATERIAL SPECIFICATIONS
 CONSTR./CONST. = CONSTRUCTION
 CON'T = CONTINUED
 COL. = COLUMN
 C.R./CR = COUNTY ROAD
 CU = CUBIC
 CVN = CHARPY V-NOTCH

DEFL. = DEFLECTION
 φ/DIA. = DIAMETER
 DIM. = DIMENSION
 DL = DEAD LOAD
 DWG. = DRAWING

EMBED. = EMBEDMENT
 EQ. = EQUAL
 EX./EXIST. = EXISTING
 EXP. = EXPANSION
 EXT. = EXTENSION

F = FAHRENHEIT
 FF = FAR FACE
 F/F = FACE TO FACE
 FS = FIELD SPLICE
 FT. = FEET
 FT/FT. = FOOT/FOOT
 FT/S = FEET PER SECOND
 FTG. = FOOTING
 FWD. = FORWARD
 FWS = FUTURE WEARING SURFACE

GEN. = GENERAL
 HR = HOUR
 HW = HIGH WATER
 IN. = INCHES
 INT. = INTERMEDIATE

JT. = JOINT
 LF = LEFT FORWARD
 LONG. = LONGITUDINAL
 LT. = LEFT

MAX. = MAXIMUM
 MIN. = MINIMUM
 MISC. = MISCELLANEOUS

N = NORTH
 NF = NEAR FACE
 NPCPP = NON-PERFORATED CORRUGATED PLASTIC PIPE
 #/NO. = NUMBER
 OHWM = ORDINARY HIGH WATER MARK
 OUT/OUT = OUT TO OUT

PEJF = PREFORMED EXPANSION JOINT FILLER

PCPP = PERFORATED CORRUGATED PLASTIC PIPE
 P/PL = PLATE
 PSF = POUND PER SQUARE FOOT
 PSI = POUND PER SQUARE INCH
 PT. = POINT
 PVI = POINT OF VERTICAL INTERSECTION

O = FLOW

R = RADIUS
 REF. = REFERENCE
 REINF. = REINFORCED
 REQ'D. = REQUIRED
 RF = RIGHT FORWARD
 RT. = RIGHT

SHLDR. = SHOULDER
 SPA. = SPACING
 SQ = SQUARE

STA. = STATION
 STD. = STANDARD
 STR. = STRAIGHT
 SUPER = SUPERSTRUCTURE

T = THICKNESS
 TELE = TELEPHONE
 TRANS. = TRANSVERSE
 TWP. = TOWNSHIP
 TYP. = TYPICAL

UBV = ULTIMATE BEARING VALUE

V = VELOCITY
 V.C. = VERTICAL CURVE
 VERT. = VERTICAL

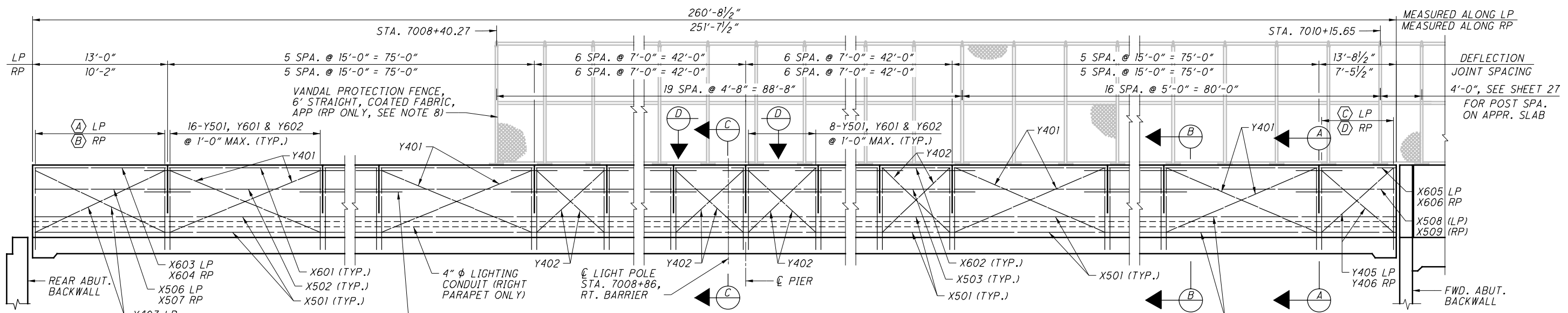
W = WEST
 W/O = WITH
 W/O = WITHOUT
 W.P. = WORKING POINT
 WT. = WEIGHT

YD = YARD

NO.	DESCRIPTION	REV. BY	DATE
3	GFRP PAYMENT MOVED TO ITEM 509	DGS	11/17/21

DESIGN AGENCY: **ch2m**
 2 Easton Oval, Suite 500
 Columbus, Ohio 43219
 DATE: 05/15
 REVIEWED VS: 2510030
 DRAWN JBA
 DESIGNED DGS
 CHECKED JTC
 ESTIMATED QUANTITIES
 BRIDGE NO. FRA-070-1373B
 RAMP D7 OVER SHORT STREET
 FRA-71-14.36
 PID No. 105588
 5 / 33
 1200
 1228

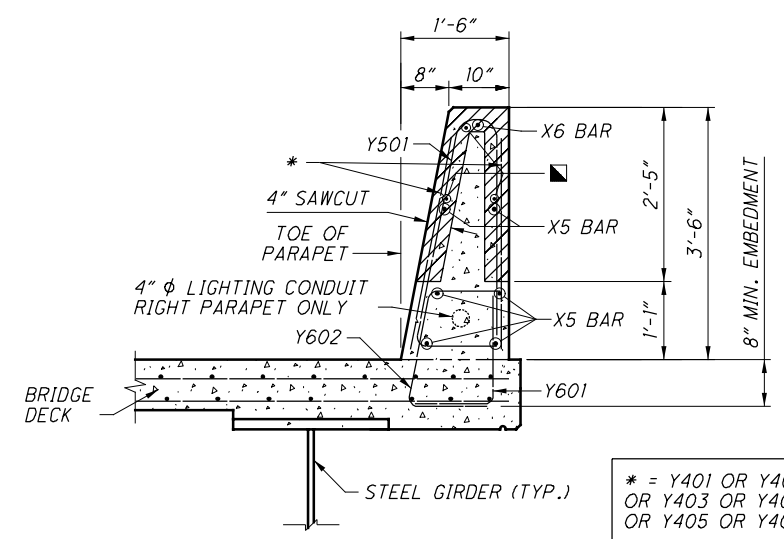
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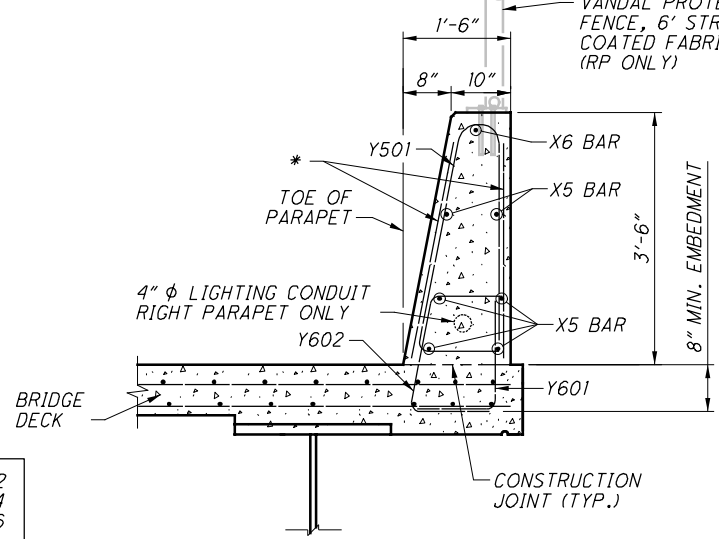
RAILING ELEVATION

DEFLECTION JOINT DETAIL FOR 42" SINGLE SLOPE CONCRETE BRIDGE RAILINGS FOR AESTHETIC ENHANCEMENTS ON LEFT PARAPET, SEE SHEET 27A

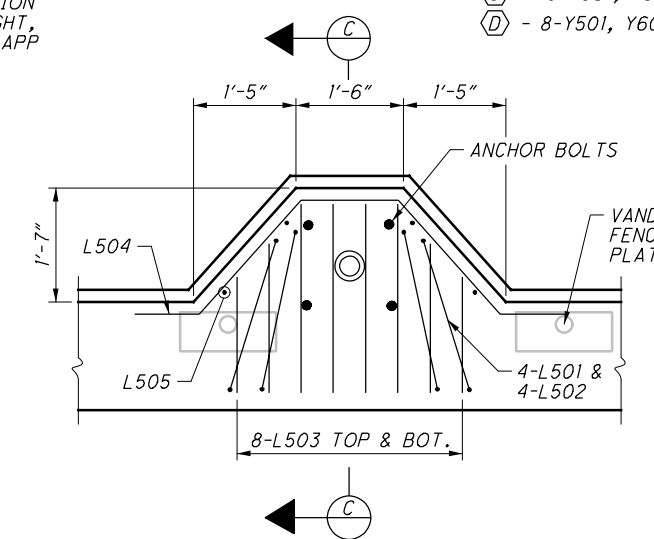
- (A) - 14-Y501, Y601, & Y602 @ 1'-0" MAX.
- (B) - 11-Y501, Y601, & Y602 @ 1'-0" MAX.
- (C) - 15-Y501, Y601, & Y602 @ 1'-0" MAX.
- (D) - 8-Y501, Y601, & Y602 @ 1'-0" MAX.



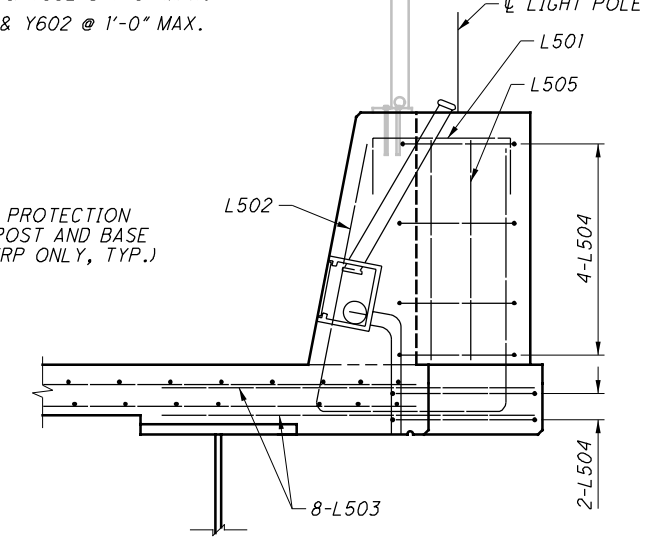
SECTION A-A



SECTION B-B



SECTION D-D



SECTION C-C

LIGHT POLE PILASTER DETAILS

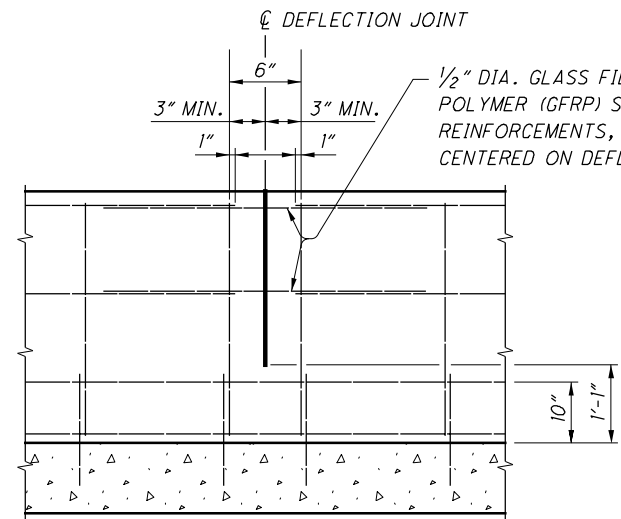
RIGHT PARAPET ONLY

LEGEND:

- = 1/2" DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENT
- LP = LEFT PARAPET
- RP = RIGHT PARAPET
- APP = AS PER PLAN

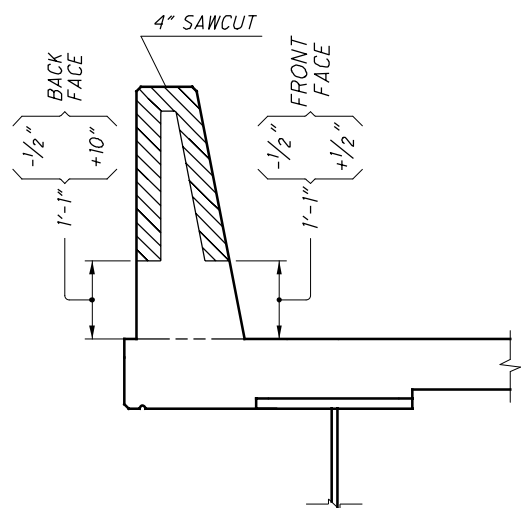
NOTES:

1. PAYMENT FOR 1/2" DIA. GLASS FIBER REINFORCED POLYMER (GFRP) STIFFENING REINFORCEMENT SHALL BE INCLUDED WITH CONTRACT PRICE FOR ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN.
2. LIMITS OF SAWCUT IS SHOWN IN SECTION AT DEFLECTION JOINT. THE 4" SAWCUT DEPTH IS THE MINIMUM REQUIRED. HOWEVER, THE CONTRACTOR HAS AN OPTION TO PERFORM FULL DEPTH SAWCUT.
3. SEE STANDARD DRAWING SBR-1-13 FOR ADDITIONAL DETAILS NOT SHOWN, NOTES REGARDING INSTALLATION AND SEALING OF DEFLECTION JOINTS, AND FOR NOTES AND PAYMENT DETAILS.
4. MINIMUM REQUIRED LAP LENGTHS:
#5 BAR = 2'-5"
5. FOR LIMITS OF SEALING OF CONCRETE SURFACES, SEE SHEET 23.
6. FOR PARAPET DETAILS ALONG LENGTH OF APPROACH SLAB, SEE SHEET 27.
7. GROUND STRUCTURE PER STD. DWG. HL-50.21.
8. FOR ADDITIONAL VANDAL PROTECTION FENCING DETAILS, SEE STD. DWG. VP-F-1-90. BASE PLATE BP-5 AND POST SECTION PS-4 SHALL BE USED.



JOINT ELEVATION

GFRP REBAR STIFFENING DETAIL AT DEFLECTION JOINTS FOR 42" SINGLE SLOPE CONCRETE BRIDGE RAILING (SEE NOTE 1)



SECTION AT DEFLECTION JOINT

NO.	DESCRIPTION	REV. BY	DATE
3	GFRP PAYMENT MOVED TO ITEM 509	DGS	11/17/21

DESIGN AGENCY: **ch2m**
2 Easton Oval, Suite 500
Columbus, Ohio 43219

DATE: 05/15
REVIEWED: VS
STRUCTURE FILE NUMBER: 2510030

DRAWN: JBA
CHECKED: JTC

DESIGNED: DGS

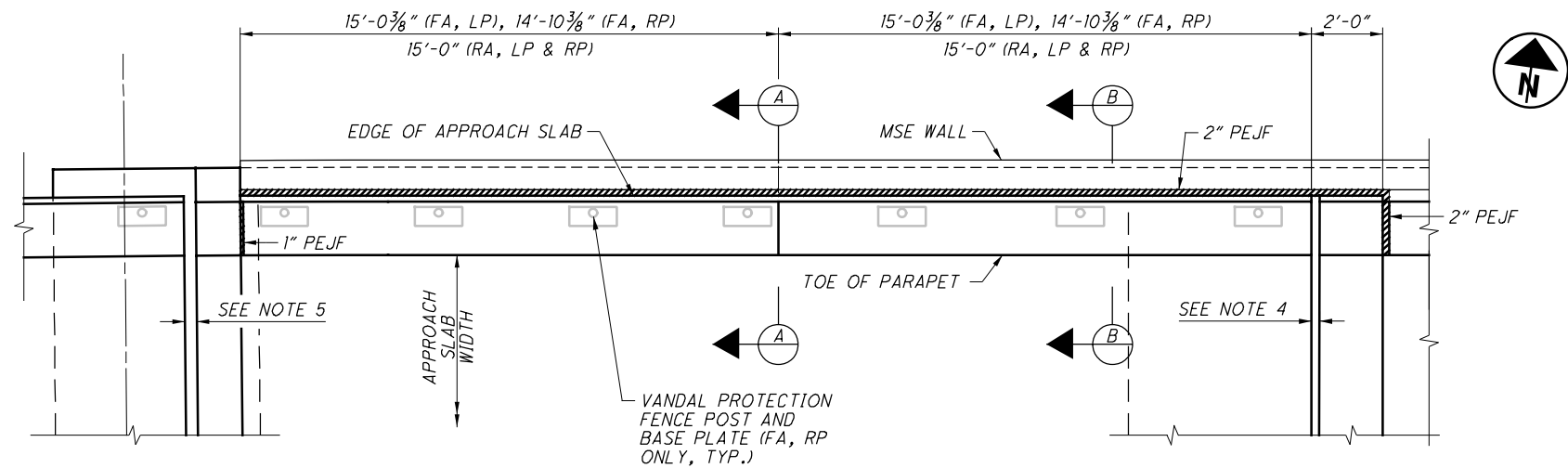
PARAPET ELEVATION AND DETAILS I
BRIDGE NO. FRA-070-1373B
RAMP D7 OVER SHORT STREET

FRA-71-14.36
PID No. 105588

26/33

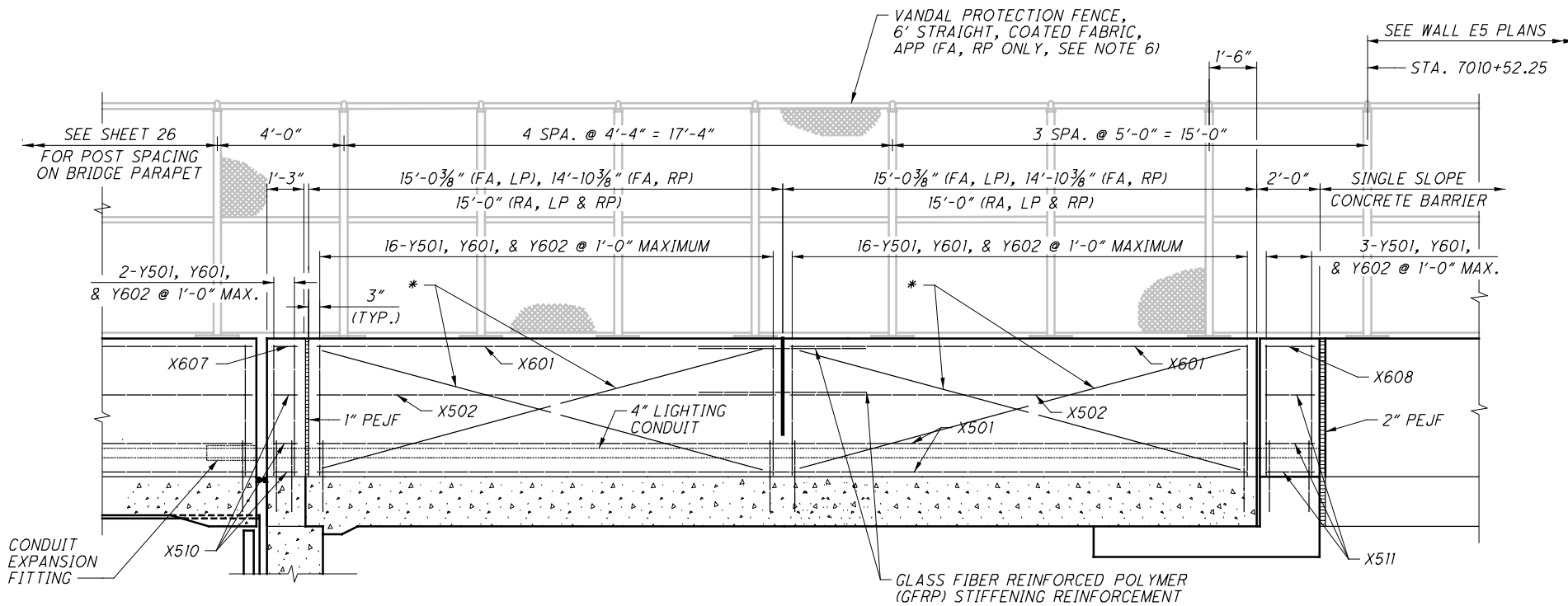
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PLAN VIEW

(FORWARD ABUTMENT, LEFT PARAPET SHOWN, OTHER PARAPETS SIMILAR)



PARAPET ELEVATION

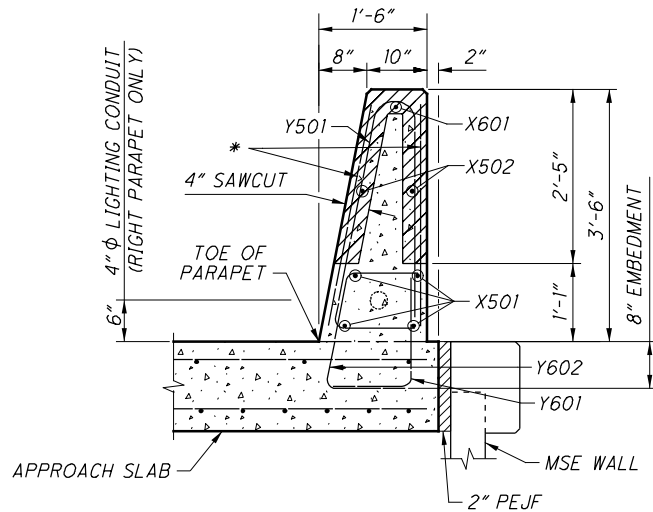
(FORWARD ABUTMENT, LEFT PARAPET SHOWN, OTHER PARAPETS SIMILAR)

* = Y401 FOR RA, LP & RP; FA, LP Y407 FOR FA, RP

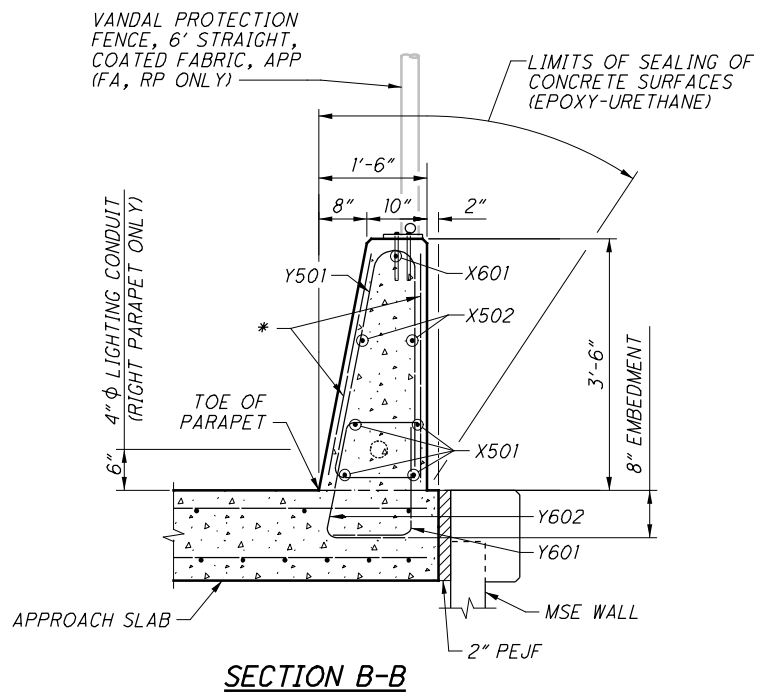
MARK	LENGTH	TYPE	MATERIAL
Y401	15'-0"	STR	GFRP
Y402	7'-0"	STR	GFRP
Y403	13'-0"	STR	GFRP
Y404	10'-2"	STR	GFRP
Y405	13'-9"	STR	GFRP
Y406	7'-6"	STR	GFRP
Y407	14'-10"	STR	GFRP

NOTE: FOR INFORMATION ONLY. REINFORCING IN THIS TABLE IS INCIDENTAL TO ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

NO.	DESCRIPTION	REV. BY	DATE
3	GFRP PAYMENT MOVED TO ITEM 509	DGS	11/17/21



SECTION A-A



SECTION B-B

LEGEND:

RA = REAR ABUTMENT
 FA = FORWARD ABUTMENT
 LP = LEFT PARAPET
 RP = RIGHT PARAPET
 APP = AS PER PLAN

NOTES:

- FOR LIMITS OF SAWCUT, SEE SHEET 26. THE 4" SAWCUT DEPTH IS THE MINIMUM REQUIRED. HOWEVER, THE CONTRACTOR HAS AN OPTION TO PERFORM FULL DEPTH SAWCUT.
- SEE STANDARD DRAWING SBR-1-13 FOR ADDITIONAL DETAILS NOT SHOWN, NOTES REGARDING INSTALLATION AND SEALING OF DEFLECTION JOINTS, AND FOR OTHER APPLICABLE NOTES.
- MINIMUM REQUIRED LAP LENGTHS:
 #5 BAR = 2'-5"
- FOR JOINT OPENING AT SLEEPER SLAB, SEE SHEET 29.
- FOR EXPANSION JOINT OPENING, SEE SHEET 28.
- FOR ADDITIONAL VANDAL PROTECTION FENCING DETAILS, SEE STD. DWG. VPF-1-90. BASE PLATE BP-5 AND POST SECTION PS-4 SHALL BE USED.

 DESIGN AGENCY 2 Easton Oval, Suite 500 Columbus, Ohio 43219	DATE 05/15	STRUCTURE FILE NUMBER 2510030	
DRAWN JBA	REVISIONS VS	CHECKED ZNG	DESIGNED DGS
PARAPET ELEVATION AND DETAILS II BRIDGE NO. FRA-070-1373B RAMP D7 OVER SHORT STREET			
FRA-71-14.36	PID No. 105588	27 / 33	
1222 1228			