

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

BUT-SR4-23.17

LEMON AND MADISON TOWNSHIPS BUTLER COUNTY

PROJECT DESCRIPTION

REHABILITATE BRIDGE BUT-4-23.17 OVER THE GREAT MIAMI RIVER BY PATCHING AND STRENGTHENING PIERS WITH (FIBER REINFORCED POLYMER) FRP. REMOVE AND REPLACE BOTH PIER CAPS AND 2 FEET OF PIER STEMS AT PIER 4. REPLACE EXISTING BEARINGS AT PIER 4.

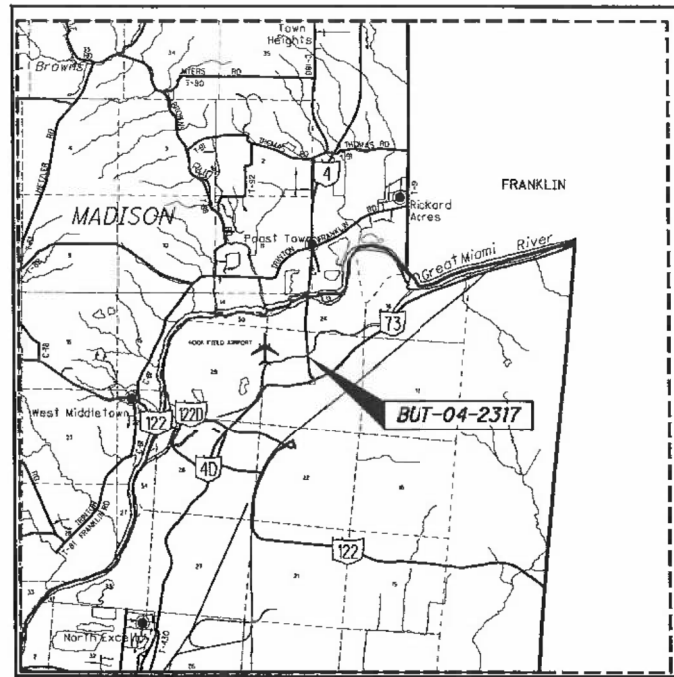
EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: 0 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.95 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: N/A ACRES
(MAINTENANCE PROJECT)

2019 SPECIFICATIONS

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

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



LOCATION MAP

LATITUDE: N 39°32'22" LONGITUDE: 84°23'04" W



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

DESIGN DESIGNATION

CURRENT ADT (2024)	8,100
DESIGN YEAR ADT (2044)	8,100
DESIGN HOURLY VOLUME (2036)	950
DIRECTIONAL DISTRIBUTION	52%
TRUCKS (24 HOUR B&C)	10%
DESIGN SPEED	35 MPH
LEGAL SPEED	35 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
(03) PRINCIPAL ARTERIAL	
NHS PROJECT	NO

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig

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

PLAN PREPARED BY:
BURGESS & NIPLÉ, INC.
525 VINE STREET, SUITE 1300
CINCINNATI, OH 45202

INDEX OF SHEETS:

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ARCHIVE SOIL PROFILES	

ENGINEERS SEAL:



SIGNED: *Samuel Bell*
DATE: 7/12/2022

ENGINEERS SEAL:



SIGNED: *Blake Stephens*
DATE: 7/13/2022

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
RM-3.1	7/20/18			800 SEE PROPOSAL	ASBESTOS INSPECTION
MT-95.31	7/19/19			821 4/20/12	REPORT 10/1/22
MT-95.32	4/19/19			832 10/19/18	
MT-95.41	1/17/20				WATERWAY PERMIT 03/29/24
MT-101.70	1/17/20				
MT-101.75	1/17/20				
MT-102.10	1/17/20				
MT-105.10	1/17/20				
DM-4.3	1/15/16				
DM-4.4	1/15/16				
TC-71.10	7/16/21				

APPROVED *Tammy K. Capbell*
DATE 10-4-2022 DISTRICT DEPUTY DIRECTOR

DIRECTOR, DEPARTMENT OF TRANSPORTATION
Jack Markowski

P:\PP59208\BUT102783\Design\Roadway\Sheets\02783.ctb\001.dgn Sheet 10/3/2022 3:24:38 PM gorsler

FEDERAL PROJECT NO. E170222
PID NO. 102783
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
BUT-SR4-23.17
1/21

ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF ONE LANE OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES IN EACH DIRECTION BY USE OF THE EXISTING PAVEMENT, ITEM 615 TEMPORARY PAVEMENT, AND TEMPORARY SURFACES USING ITEMS 410 AND 614.

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

WORK ZONE MARKINGS AND SIGNS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF C&MS 614.04 AND 614.11.

ITEM 614 - WORK ZONE LANE LINE, CLASS I, 4", 740.06, TYPE I
0.01 MILE

ITEM 614 - WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE I
0.59 MILE

ITEM 614 - WORK ZONE EDGE LINE, CLASS I, 4", 740.06,
TYPE I
0.26 MILE

ITEM 614 - WORK ZONE CHANNELIZING LINE, CLASS I, 8", 740.06,
TYPE I
170 FT

ITEM 614 - WORK ZONE DOTTED LINE, CLASS I, 740.06,
TYPE I
391 FT

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (BIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (BIDIRECTIONAL) CONTINUED

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

DELINEATION OF PORTABLE AND PERMANENT BARRIER

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL; AND, ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

INCREASED BARRIER DELINEATION, AS SPECIFIED HEREIN, SHALL BE INSTALLED ON ALL PB AND PERMANENT CONCRETE BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVELED LANE UNDER EITHER OF THE FOLLOWING CONDITIONS: ALONG TAPERS AND TRANSITION AREAS; OR ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES.

THE INCREASED BARRIER DELINEATION SHALL CONSIST OF EITHER DELINEATION PANELS OR THE TRIPLE STACKING OF WORK ZONE BARRIER REFLECTORS.

DELINEATION PANELS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6 INCHES WIDE AND SHALL BE "CRIMPED." PANELS SHALL BE INSTALLED AND SPACED PER TRAFFIC SCD MT-101.70.

TRIPLE-STACKED BARRIER REFLECTORS SHALL CONSIST OF ALIGNING THREE BARRIER REFLECTORS VERTICALLY, AT LOCATIONS WHERE A SINGLE BARRIER REFLECTOR WOULD BE OTHERWISE ATTACHED. THERE SHALL BE NO OPEN SPACE BETWEEN THE ADJACENT BARRIER REFLECTORS. THE TRIPLE-STACKED BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THEY SHALL BE SPACED AND ALIGNED PER TRAFFIC SCD MT-101.70.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE 1 (BI-DIRECTIONAL)
44 EACH

ITEM 614, OBJECT MARKER, TWO-WAY 44 EACH

ITEM 614, INCREASED BARRIER DELINEATION 100 FEET

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

ALONG RUNS OF INCREASED BARRIER DELINEATION WHERE THIS ITEM IS PROVIDED, THE QUANTITY SHALL BE MEASURED AS THE ENTIRE LENGTH OF THE RUN OF INCREASED BARRIER DELINEATION, INCLUDING THE SPACES BETWEEN THE INDIVIDUAL DELINEATION PANELS OR STACKS OF BARRIER REFLECTORS.

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

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

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

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

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

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

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

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

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

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

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

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 30 HOURS

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

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

MAINTENANCE OF CANOE TRAFFIC

CANOE TRAFFIC SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION OF THE PROJECT EITHER THROUGH EXISTING RIVER CHANNEL OR THROUGH PORTAGE TRAIL APPROVED BY THE ENGINEER.

ADEQUATE SIGNING BOTH UPSTREAM AND DOWNSTREAM SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR. THE FOLLOWING TYPE SIGNS ARE CONSIDERED TO BE MINIMUM TREATMENT:

1. APPROXIMATELY ONE-QUARTER MILE UPSTREAM, ADVANCED WARNING TYPE SIGNS ON BOTH BANKS;
2. APPROXIMATELY 300 FEET UPSTREAM, SIGNS SPECIFYING ACTIONS REQUIRED OF CANOEIST ON BOTH BANKS;
3. APPROXIMATELY ONE-QUARTER MILE DOWNSTREAM, ADVANCE WARNING TYPE SIGNS ON BOTH BANKS; AND
4. APPROXIMATELY 300 FEET DOWNSTREAM, SIGNS SPECIFYING ACTIONS REQUIRED OF CANOEIST OF BOTH BANKS.

THE ABOVE SIGNING SHALL BE MOUNTED IN SUCH A WAY AS TO BE A MINIMUM OF 4 FEET ABOVE THE WATER LEVEL, UNOBSTRUCTED BY TREE BRANCHES, AND PROPERLY ANGLED FOR MAXIMUM VISIBILITY FROM THE MAIN CLEAR CHANNEL. THE METHOD OF SUPPORTING THE SIGNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. UPON COMPLETION OF THE PROJECT, THE SIGNS AND SUPPORT SYSTEMS SHALL BE COMPLETELY REMOVED FROM THE RIVER CHANNEL. THE CONTRACTOR SHALL NOTIFY LOCAL CANOE LIVERIES USING THIS PORTION OF THE RIVER AT LEAST 10 DAYS PRIOR TO ANY CHANGES AFFECTING CANOE TRAFFIC. PORTAGE TRAILS IF USED SHALL BE CONSTRUCTED AND MAINTAINED BY THE CONTRACTOR WITH THE LEAST POSSIBLE DISTURBANCE TO THE SURROUNDING AREA. THE TRAIL SHALL BE ADEQUATELY MARKED IN BOTH DIRECTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE RIGHT-OF-WAY FOR THE PORTAGE TRAILS IF REQUIRED.

IN THE EVENT PIPES ARE USED TO DIVERT OR CARRY RIVER WATER, BOTH THE INLET AND OUTLET ENDS SHALL BE ADEQUATELY PROTECTED BY GRATES OR FENCE SO THAT PEOPLE OR CANOES ARE NOT DRAWN THROUGH OR HELD BY THEM.

PEDESTRIAN TRAFFIC - MAINTAIN MOVEMENT AND SAFETY

FOR GREAT MIAMI RIVER RECREATIONAL TRAIL, MAINTAIN PEDESTRIAN TRAFFIC AT ALL TIMES. DURING CONSTRUCTION, THE MULTI-USE PATH MUST BE OPEN AT ALL TIMES. THE CONTRACTOR MUST IMPLEMENT SAFETY MEASURES TO PROTECT USERS AND PREVENT FALLING DEBRIS DURING CONSTRUCTION.

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 OF TRAFFIC RESTRICTIONS TIME TABLE ITEM DURATION OF NOTICE DUE TO CLOSURE PERMITS & PIO

RAMP & >= 2 WEEKS 21 CALENDAR DAYS ROAD CLOSURES PRIOR TO CLOSURE

> 12 HOURS 14 CALENDAR DAYS & < 2 WEEKS PRIOR TO CLOSURE

<= 12 HOURS 4 CALENDAR DAYS PRIOR TO CLOSURE

LANE >= 2 WEEKS 14 CALENDAR DAYS CLOSURES & PRIOR TO CLOSURE RESTRICTIONS < 2 WEEKS 5 BUSINESS DAYS PRIOR TO CLOSURE

START OF N/A 14 CALENDAR DAYS CONSTRUCTION & PRIOR TO TRAFFIC PATTERN IMPLEMENTATION CHANGES

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

MISCELLANEOUS QUANTITIES

THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED FOR THE REPAIR, REMOVAL, AND REPLACEMENT OF EXISTING CONDITION FEATURES THAT WERE DISTURBED AS PART OF THE MAINTENANCE OF TRAFFIC CONSTRUCTION PHASING.

ITEM 202, TRAFFIC ISLAND REMOVED	48 SY
ITEM 609, CONCRETE TRAFFIC ISLAND	48 SY
ITEM 614, DETOUR SIGNING	LS
ITEM 615, PAVEMENT FOR MAINTAINING TRAFFIC	48 SY
ITEM 622, PORTABLE BARRIER, UNANCHORED	2090 FT
ITEM 644, EDGE LINE	0.55 MILE
ITEM 644, LANE LINE	0.34 MILE
ITEM 644, CENTER LINE	0.09 MILE
ITEM 644, CHANNELIZING LINE	360 FT
ITEM 644, LANE ARROW	2 EACH
ITEM 646, EDGE LINE	0.51 MILE
ITEM 646, LANE LINE	0.25 MILE

DELINEATION OF TEMPORARY AND PERMANENT GUARDRAIL

BARRIER REFLECTORS SHALL BE INSTALLED ON ALL TEMPORARY GUARDRAIL USED FOR TRAFFIC CONTROL; AND, ON ALL PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. BARRIER REFLECTORS SHALL CONFORM TO C&MS 626 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET.

OBJECT MARKERS SHALL BE INSTALLED ON ALL TEMPORARY AND PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKERS SHALL CONFORM TO C&MS 614.03 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET WITH A 25 FOOT OFFSET FROM THE BARRIER REFLECTORS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL) 9 EACH

ITEM 614, OBJECT MARKER, TWO-WAY 9 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE ABOVE ITEM(S).

SEQUENCE OF CONSTRUCTION

PRIOR TO PHASE 1, REMOVE MEDIAN AND INSTALL TEMPORARY PAVEMENT WHERE TRAFFIC CROSSES OVER BETWEEN STATIONS 1230+73 TO 1233+08.

PHASE 1:
SET UP CARMODY BLVD DETOUR AND KEEP DETOUR IN PLACE FOR THE ENTIRE PROJECT.

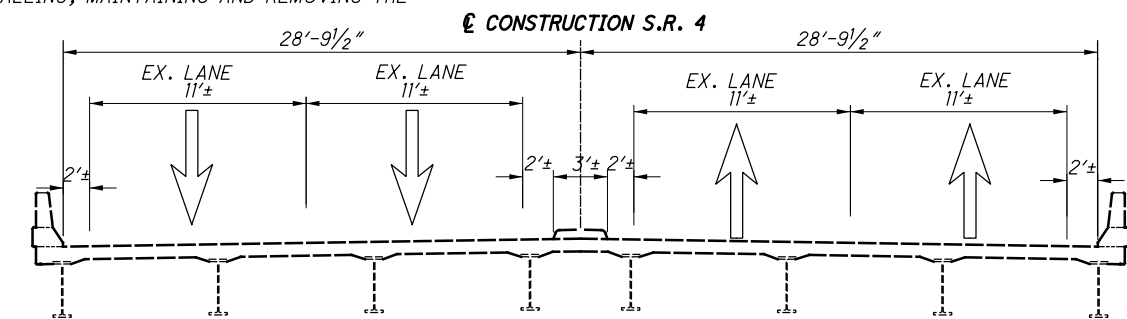
SET UP TRAFFIC CONTROL TO CLOSE SOUTHBOUND BRIDGE LANES AND MAINTAIN TRAFFIC IN EXISTING NORTHBOUND LANES. NORTHBOUND AND SOUTHBOUND TRAFFIC WILL EACH OCCUPY ONE LANE OF THE EXISTING NORTHBOUND BRIDGE LANES.

COMPLETE ALL WORK ON THE EXISTING SOUTHBOUND BRIDGE LANES SIDE OF THE ROAD.

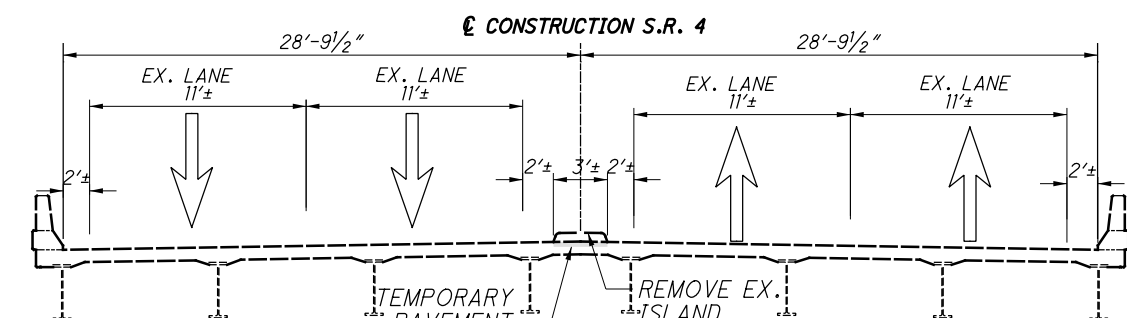
PHASE 2:
SET UP TRAFFIC CONTROL TO CLOSE NORTHBOUND BRIDGE LANES AND MAINTAIN TRAFFIC IN EXISTING SOUTHBOUND LANES. NORTHBOUND AND SOUTHBOUND TRAFFIC WILL EACH OCCUPY ONE LANE OF THE EXISTING SOUTHBOUND BRIDGE LANES.

COMPLETE ALL WORK ON THE EXISTING NORTHBOUND BRIDGE LANES SIDE OF THE ROAD.

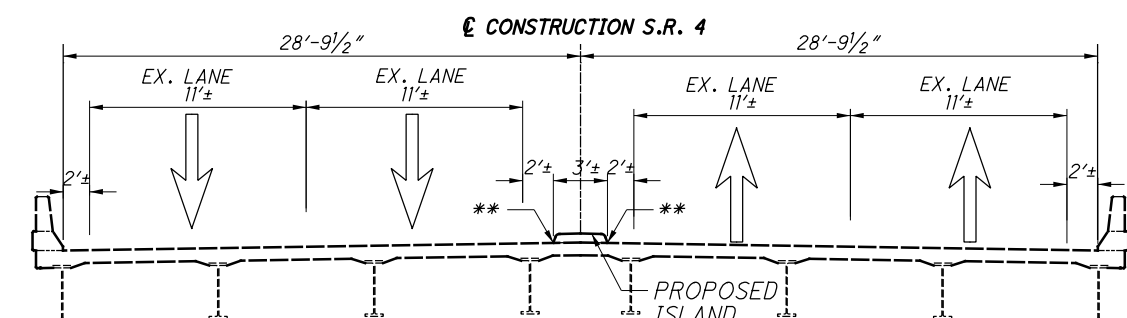
PHASE 3:
REMOVE WORK ZONE PAVEMENT MARKINGS AND RESTORE ORIGINAL PAVEMENT MARKINGS. REMOVE TEMPORARY PAVEMENT AND RESTORE THE CONCRETE MEDIAN BETWEEN STATIONS 1230+73 TO 1233+08.



EXISTING



PRE-PHASE (TEMPORARY PAVEMENT)



PHASE 3 (NEW PAVEMENT MARKINGS MATCH EXISTING)

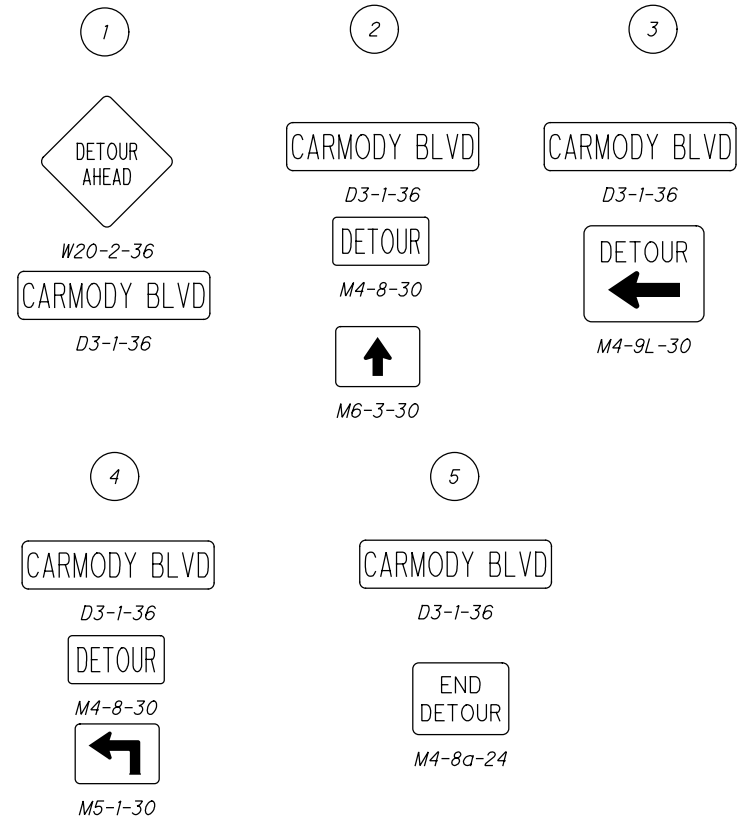
** SEAL WITH HOT APPLIED JOINT SEALER

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CALCULATED
MDH
CHECKED
STB

MAINTENANCE OF TRAFFIC NOTES

BUT - SR4 - 23.17

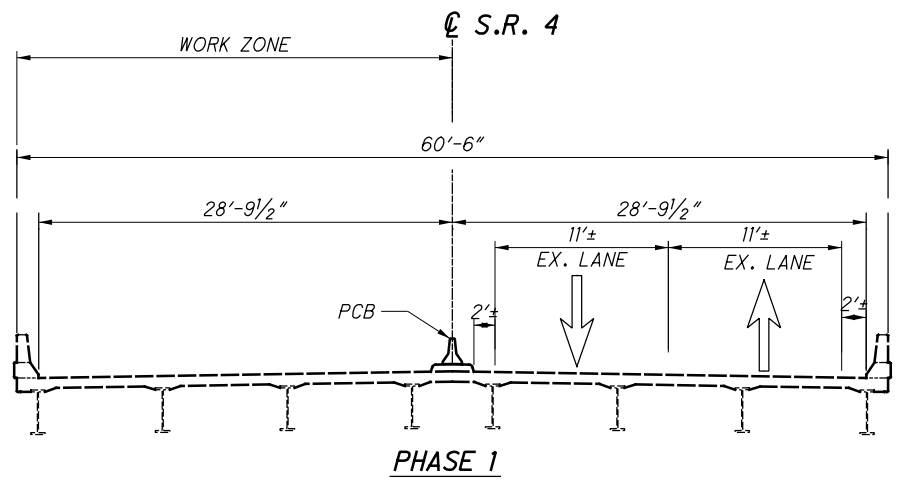
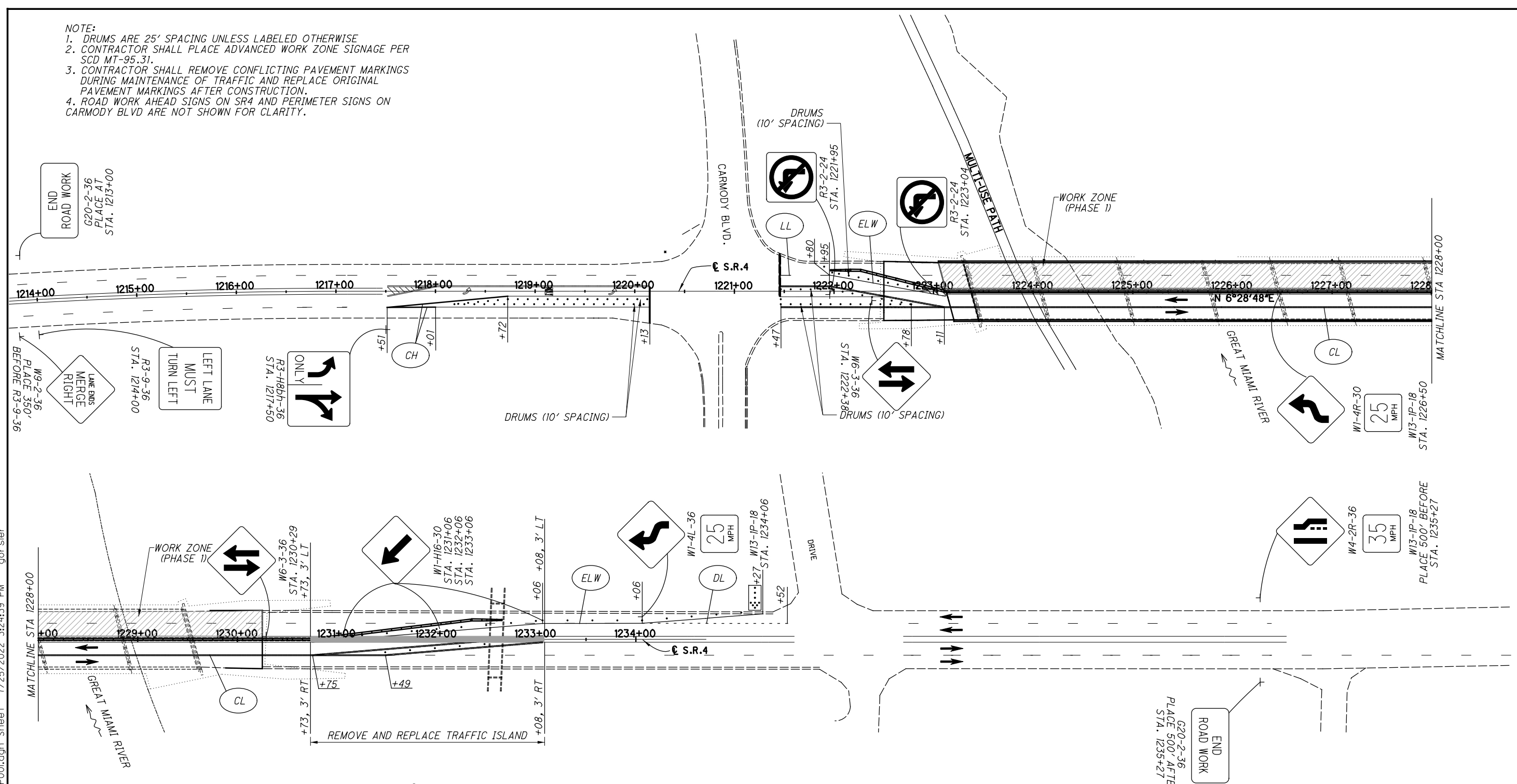


➔ OFFICIAL SIGNED DETOUR ROUTE

ESTIMATED SIGNED DETOUR
ADDITIONAL LENGTH = 1.57 MILES

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NOTE:
 1. DRUMS ARE 25' SPACING UNLESS LABELED OTHERWISE
 2. CONTRACTOR SHALL PLACE ADVANCED WORK ZONE SIGNAGE PER SCD MT-95.31.
 3. CONTRACTOR SHALL REMOVE CONFLICTING PAVEMENT MARKINGS DURING MAINTENANCE OF TRAFFIC AND REPLACE ORIGINAL PAVEMENT MARKINGS AFTER CONSTRUCTION.
 4. ROAD WORK AHEAD SIGNS ON SR4 AND PERIMETER SIGNS ON CARMODY BLVD ARE NOT SHOWN FOR CLARITY.



- LEGEND**
- (CL) - CENTER LINE, DOUBLE SOLID, YELLOW
 - (ELW) - EDGE LINE, WHITE
 - (CH) - CHANNELIZING LINE
 - (DL) - DOTTED LINE
 - (LL) - LANE LINE
 - ▨ - WORK ZONE
 - - PORTABLE BARRIER
 - - IMPACT ATTENUATOR
 - ... - DRUMS (SPACING)
 - ▲ - PORTABLE BARRIER
 - ▩ - WORK ZONE DRUM
 - - BARRICADE
 - ↔ - DIRECTION OF TRAVEL ARROW
 - ⋯ - ARROW PANEL
- SIGNING LEGEND**
- + - PROP. GROUND MTD. SIGN SUPPORT
 - - PROPOSED SIGN

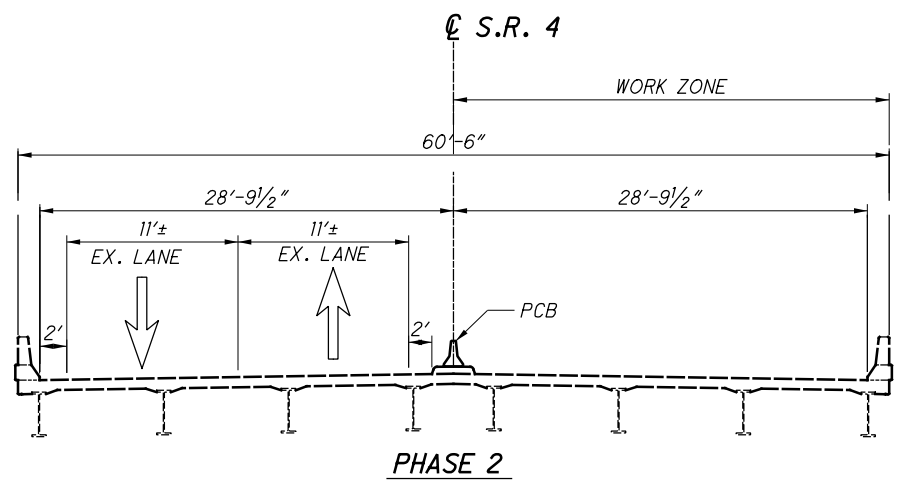
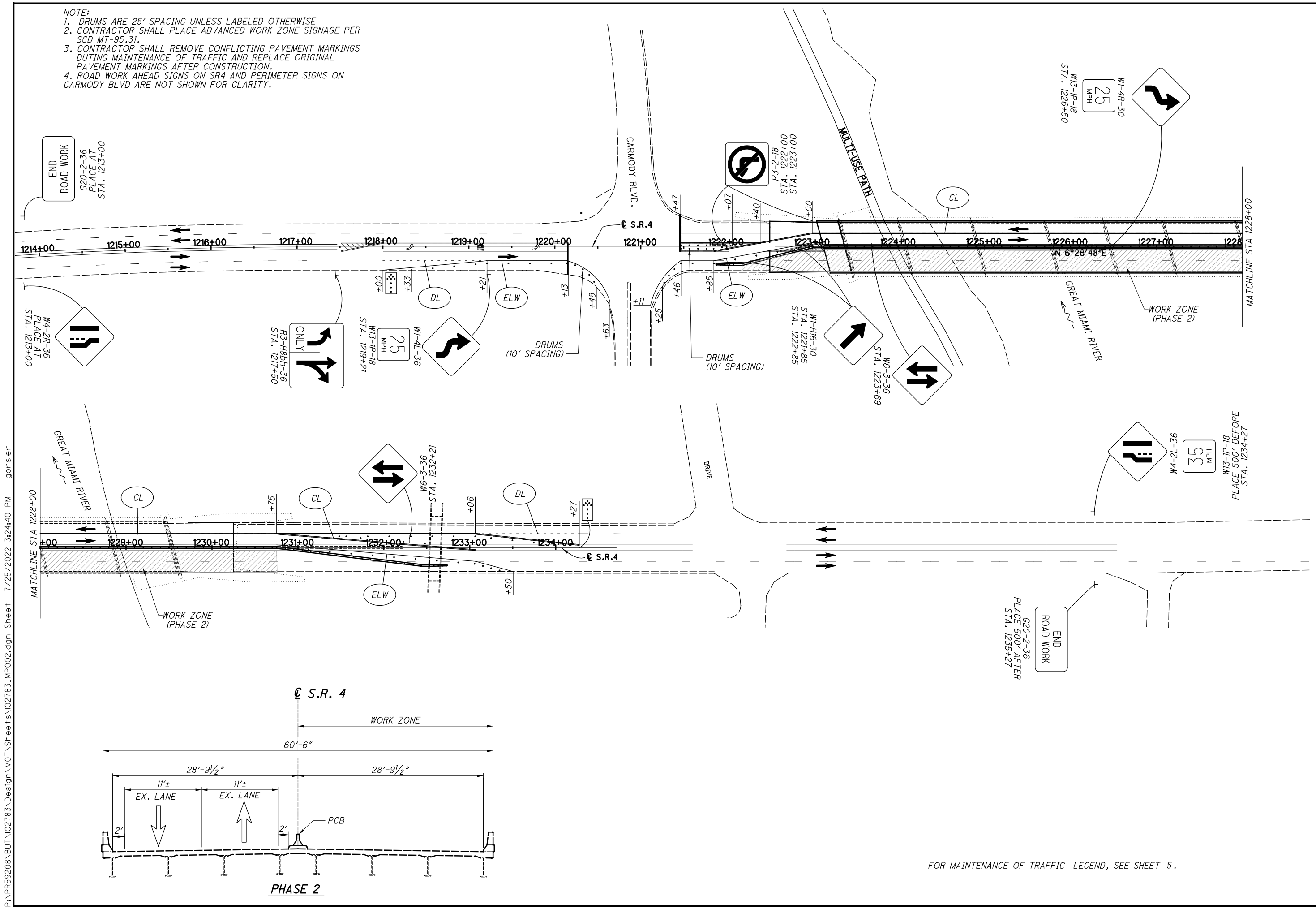
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- NOTE:
1. DRUMS ARE 25' SPACING UNLESS LABELED OTHERWISE
 2. CONTRACTOR SHALL PLACE ADVANCED WORK ZONE SIGNAGE PER SCD MT-95.31.
 3. CONTRACTOR SHALL REMOVE CONFLICTING PAVEMENT MARKINGS DURING MAINTENANCE OF TRAFFIC AND REPLACE ORIGINAL PAVEMENT MARKINGS AFTER CONSTRUCTION.
 4. ROAD WORK AHEAD SIGNS ON SR4 AND PERIMETER SIGNS ON CARMODY BLVD ARE NOT SHOWN FOR CLARITY.

CALCULATED
MDH
CHECKED
STB

0 50 100
25
HORIZONTAL
SCALE IN FEET

N



END ROAD WORK
G20-2-36
PLACE 500' AFTER
STA. 1235+27

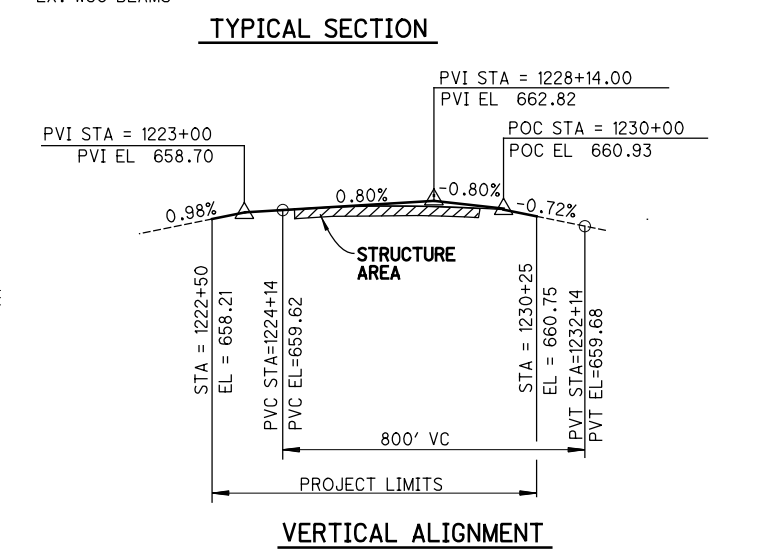
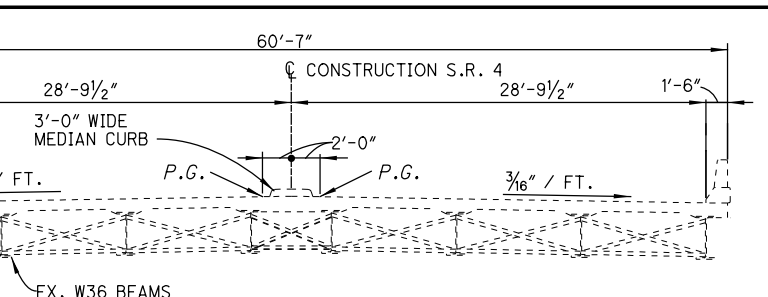
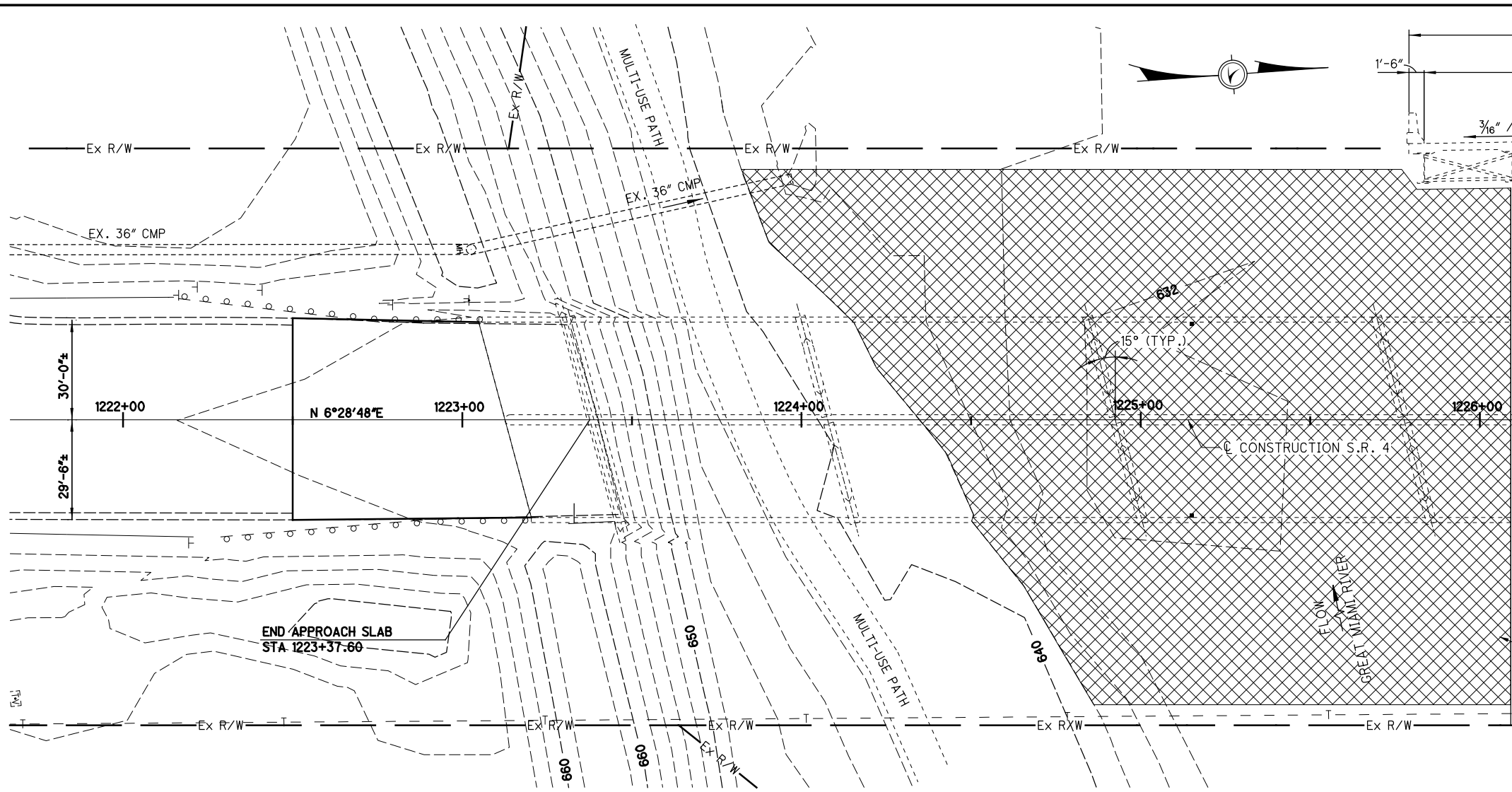
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MAINTENANCE OF TRAFFIC
PHASE 2

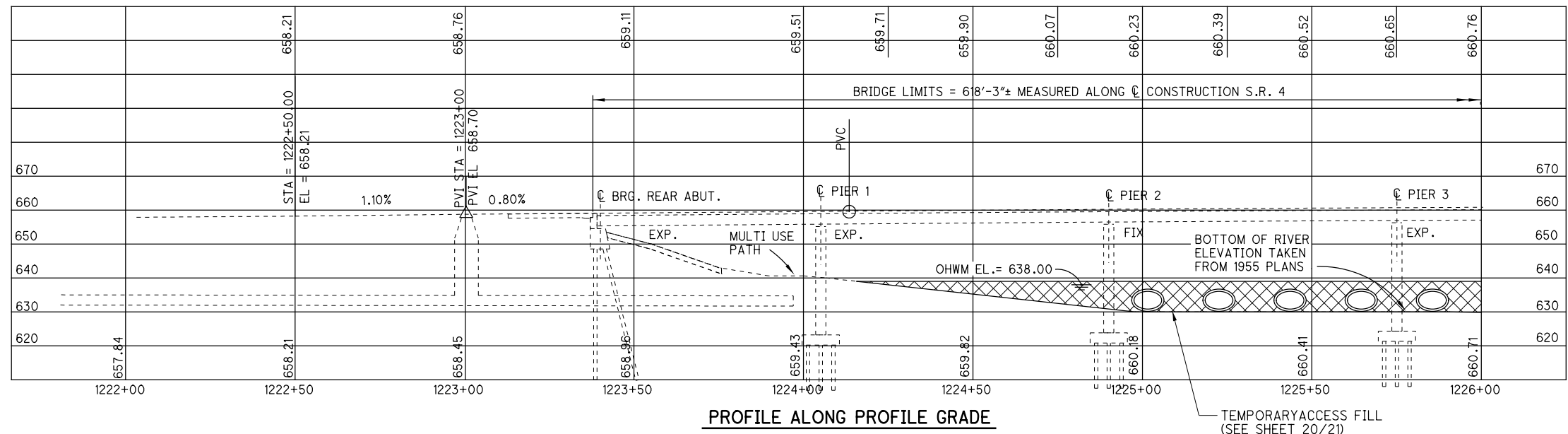
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FOR MAINTENANCE OF TRAFFIC LEGEND, SEE SHEET 5.

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BENCH MARKS	
BM#2 - STA 1220+49, 54' LEFT : CHISELED SQUARE NORTH CORNER OF CONCRETE TRAFFIC BOX PAD, SW CORNER OF INTERSECTION OF S.R.4 AND CARMODY BLVD. ELEV.=655.73	
BM#3 STA 1229+45, 35.5' L : CHISELED SQUARE ON NW ABUTMENT WALL OF S.R.4 BRIDGE OVER GREAT MIAMI RIVER. ELEV=661.47	



PROPOSED WORK

PATCH THE DETERIORATED AREAS OF PIERS PER ITEM 519. INSTALL COMPOSITE FIBER WRAP SYSTEM IN AREAS DESIGNATED IN THESE PLANS. REMOVE AND REPLACE BOTH PIER CAPS AND 2 FEET OF PIER STEMS AT PIER 4. REMOVE AND REPLACE EXISTING BEARINGS WITH ELASTOMERIC BEARINGS AT PIER 4 LOCATIONS. PAINT ALL STRUCTURAL STEEL IN SPAN 4 AND SPAN 5 LOCATED WITHIN 4'-0" OF PIER 4. PAINT COLOR TO MATCH EXISTING.

EXISTING STRUCTURE

TYPE: 8 SPAN STEEL BEAM BRIDGE WITH COMPOSITE CONCRETE DECK SUPPORTED BY REINFORCED CONCRETE SUBSTRUCTURE.

LENGTH OF SPANS: 68', 85', 85', 68', 68', 85', 85', 68' MEASURED C/C BEARINGS ALONG C CONSTRUCTION

ROADWAY WIDTH: 57'-7" F/F BRIDGE RAILING

DESIGN LOADING: HS-20-44 CASE II WITH ALTERNATE MILITARY LOADING

SKEW ANGLE: 15°00'00" RIGHT FORWARD

SUPERELEVATION: NONE, NORMAL CROWN

WEARING SURFACE: 1" MONOLITHIC CONCRETE

APPROACH SLAB: AS-1-81 (25' LONG)

ALIGNMENT: TANGENT

LATITUDE: N 39° 32' 22"

LONGITUDE: W 84° 23' 04"

DESIGN AGENCY
BURGESS & NIPLE
525 VINE ST. CINCINNATI, OHIO

DATE
9/22/21

REVIEWED
MAB

DRAWN
JDG

DESIGNED
BCS

BUTLER COUNTY
STA. 1223+37.60
STA. 1229+55.52

BRIDGE NO. BUT-04-2317
S.R. 4 OVER GREAT MIAMI RIVER

SITE PLAN - 1

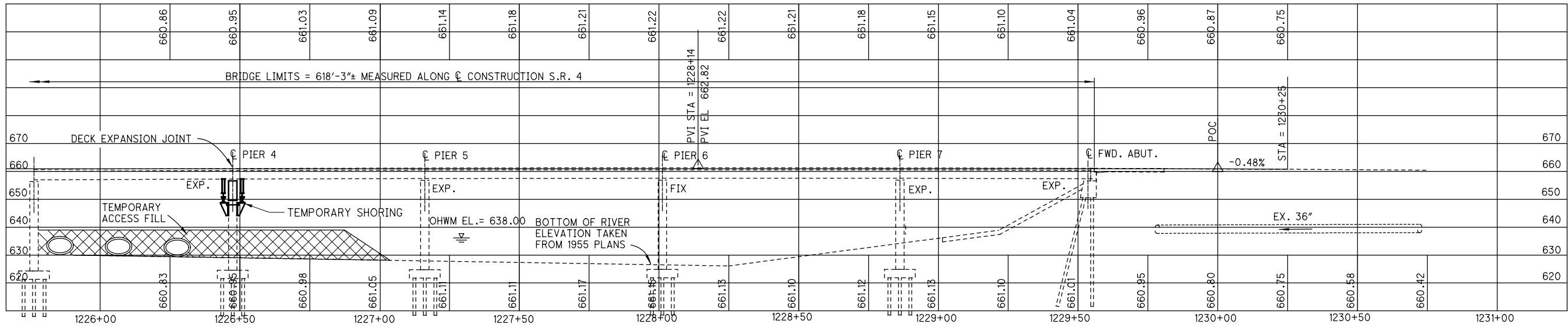
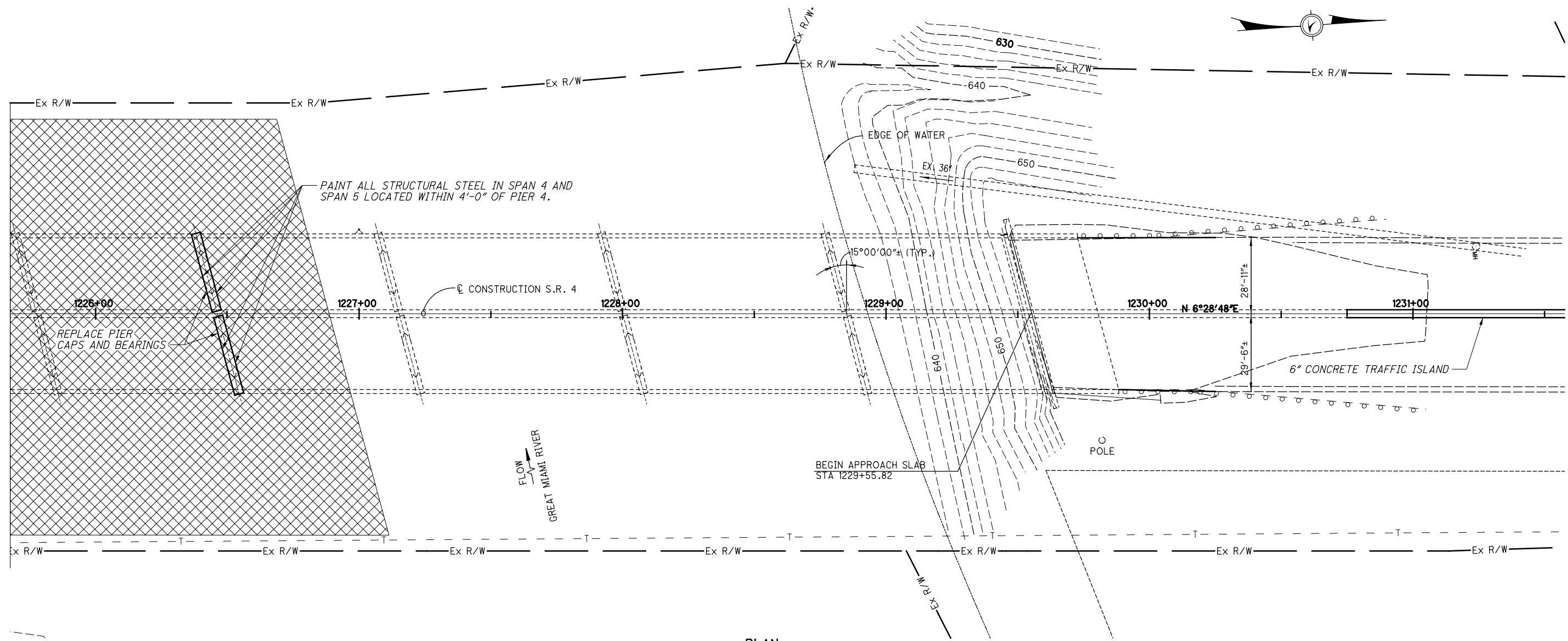
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PID No. 102783

1 / 14

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21

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BUT - SR4-23.17
 BRIDGE NO. BUT-04-2317
 S.R. 4 OVER GREAT MIAMI RIVER

SITE PLAN - 2

BUTLER COUNTY
 STA. 1223+37.60
 STA. 1229+55.52

DESIGNED: BCS
 CHECKED: SUA

DRAWN: JDG
 REVISED:

REVIEWED: MAB
 DATE: 9/22/21
 STRUCTURE FILE NUMBER: 0900397

DESIGN AGENCY:
 BURGESS & NIPLE
 525 VINE ST. CINCINNATI, OHIO

2 / 14
 9
 21

GENERAL NOTES:

REFERENCE SHALL BE MADE TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:
800 SEE PROPOSAL

PROPOSAL NOTES:
PN519 DATED 7-21-17

DESIGN SPECIFICATIONS

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

OPERATIONAL IMPORTANCE

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

DESIGN LOADING

DESIGN LOADING INCLUDES:
VEHICULAR LIVE LOAD: HL-93 - PIER 4 CAP AND BEARINGS
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/FT²

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

EXISTING STRUCTURE PLANS

THE EXISTING STRUCTURE PLANS ARE AVAILABLE ONLINE THROUGH THE FOLLOWING WEBSITE:
<ftp://ftp.dot.state.oh.us/pub/Contracts/Attach/D08-1027831/Reference%20Files/>

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BECOME FAMILIAR WITH ALL PERTINENT EXISTING DRAWINGS AND DETAILS RELEVANT TO THIS PROJECT.

CONSTRUCTION PROCEDURE AND MAINTENANCE OF TRAFFIC

THE PROPOSED BRIDGE WORK SHALL BE COORDINATED WITH OVERALL PROJECT MAINTENANCE OF TRAFFIC PLANS. MAINTAIN M.O.T. DEVICES AS SPECIFIED IN THE M.O.T. PLANS.

EXISTING STRUCTURE VERIFICATION

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

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

REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF REINFORCING STEEL, AS PER PLAN

REPLACEMENT OF ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE.

REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ADDITIONAL QUANTITIES HAVE BEEN PROVIDED FOR DOWEL HOLES, IF NEEDED, TO EMBED THE REPLACEMENT REINFORCING INTO THE EXISTING STRUCTURE. PAYMENT FOR DOWEL HOLES SHALL BE MADE AT THE BID UNIT PRICE FOR ITEM 510 DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT.

ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN

USE AN ANCHOR ADHESIVE EVALUATED ACCORDING TO ICCES REPORT AC308, "ACCEPTANCE CRITERIA FOR POST-INSTALLED ADHESIVE ANCHORS IN CONCRETE ELEMENTS", FOR CRACKED AND UNCRACKED CONCRETE APPLICATIONS. PUBLISHED ICCES REPORTS FOR ACCEPTABLE PRODUCTS ARE AVAILABLE AT:

WWW.ICC-ES.ORG/EVALUATION_REPORTS/INDEX.SHTML

SELECT FROM ONE OF THE FOLLOWING APPROVED PRODUCTS:

DEWALT/POWERS FASTENERS PURE 110 + EPOXY ADHESIVE ANCHOR SYSTEM (ICCES REPORT ESR-3298)

ADHESIVES TECHNOLOGY CORPORATION (ATC) ULTRABOND HS-ICC ADHESIVE ANCHOR SYSTEM (ICCES REPORT ESR-4094)

SIMPSON STRONG-TIE SET-3G EPOXY ADHESIVE ANCHORS (ICCES REPORT ESR-4057)

HILTI HIT-HY 200 ADHESIVE ANCHOR SYSTEM (ICCES REPORT ESR-3187)

INSTALL ADHESIVE ANCHORS ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS PUBLISHED IN SECTION 4.3 OF THE ICCES REPORTS LISTED ABOVE. THE MINIMUM EMBEDMENT DEPTH FOR ANCHORS SHALL BE AS SHOWN IN THE PLANS.

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

PAINT ALL STRUCTURAL STEEL IN SPAN 4 AND SPAN 5 LOCATED WITHIN FOUR FEET OF PIER 4. EXTEND PAINT LIMITS, AS NEEDED TO REPAIR PAINT DAMAGE CAUSED BY THE TEMPORARY BEAM SUPPORT INSTALLATION OR ANY OTHER CONTRACTOR CONSTRUCTION ACTIVITIES. ADDITIONAL REPAIR WORK, AS DESCRIBED ABOVE, SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND AT NO ADDITIONAL COST TO THE STATE. THE COLOR OF THE FINISH COAT SHALL MATCH EXISTING STEEL. ALL STEEL SHALL BE PAINTED USING OZEU PER CMS 514.02.

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

THIS WORK CONSISTS OF TEMPORARILY SUPPORTING THE EXISTING STRUCTURES TO COMPLETE THE WORK AT PIER 4 AS DEFINED IN THE PROJECT PLANS. SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05.

IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH CMS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN:

ESTIMATED QUANTITIES ARE BASED ON THE MOST RECENT IN-DEPTH INSPECTION OF THE STRUCTURE. AREAS TO BE PATCHED HAVE BEEN DETAILED IN THE PLANS.

IT IS POSSIBLE THAT ADDITIONAL AREAS REQUIRING PATCHING MAY HAVE DEVELOPED SINCE THE MOST RECENT INSPECTION OF THE STRUCTURE. THEREFORE, THE CONTRACTOR SHALL SOUND THE SURROUNDING PERIMETER OF THE AREA TO BE PATCHED AND PATCH NEW AREAS APPROVED BY THE ENGINEER THAT HAVE NOT BEEN DETAILED IN THE PLANS.

MEASUREMENT AND PAYMENT:
THE PLAN QUANTITIES INCLUDE AN INCREASE OF THE FIELD MEASURED QUANTITIES. THE ACCEPTED QUANTITIES FOR THE COMPLETED WORK AS DESCRIBED WILL BE MEASURED AND PAID BY ITEM 519 - PATCHING CONCRETE STRUCTURE.

PRIOR TO THE SURFACE CLEANING SPECIFIED IN CMS 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

CUT LINE CONSTRUCTION JOINT PREPARATION

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

ITEM 530 - SPECIAL-STRUCTURES (TEMPORARY SUPPORT FOR GIRDERS AT PIER 4)

THIS WORK CONSISTS OF DESIGNING AND INSTALLING A TEMPORARY SHORING STRUCTURE AT PIER 4 TO ALLOW THE PIER CAPS AND THE UPPER PORTION OF THE PIER STEM TO BE REMOVED AND REPLACED.

THE GREAT MIAMI RIVER RISES QUICKLY DURING STORM EVENTS. THE TEMPORARY ACCESS FILL (TAF) IS TO BE USED ONLY FOR CONSTRUCTION ACCESS AND EQUIPMENT THAT CAN BE QUICKLY MOVED TO HIGHER GROUND IN THE EVENT OF A FLOOD. NO SHORING TOWERS OR LONG TERM EQUIPMENT SHALL BE PLACED ON THE TAF OR PIER FOOTINGS.

A TEMPORARY BEAM SUPPORT SYSTEM SHALL BE INSTALLED WITH ENOUGH ROOM FOR THE PIER CAP FORMS. THE SUPPORT SYSTEM WILL NOT REST ON THE PIER FOOTINGS OR TAF IN ORDER TO AVOID ANY SNAG POINTS FOR RIVER DEBRIS. CROSS BEAMS THAT SUPPORT THE EXISTING SUPERSTRUCTURE SHALL REST ON SUPPORT BRACKETS THAT ARE THRU BOLTED TO THE EXISTING PIER STEM. COLUMNS BOLTED TO THE CROSS BEAM SHALL SUPPORT EACH BRIDGE BEAM. THRU BOLT HOLES SHALL BE PATCHED/GROUTED FULL DEPTH ONCE WORK IS COMPLETED.

IN ADDITION TO CONSTRUCTION LOADINGS THE TEMPORARY SHORING STRUCTURE SHALL BE DESIGNED FOR DEAD LOAD AND LIVE LOAD FROM ADJACENT MAINTAINED TRAFFIC AS NOTED BELOW:

GIRDER #	DEAD LOAD	LIVE LOAD
1 AND 8	35 KIPS	1 KIP
2, 3, 6 AND 7	38 KIPS	1 KIP
4 AND 5	32 KIPS	12 KIPS

GIVEN LOADS ARE PER BEARING. SHORING SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OHIO. SUBMIT CONSTRUCTION PLANS AND DESIGN CALCULATIONS IN ACCORDANCE WITH CMS 501.05.

THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 530 - SPECIAL - STRUCTURE (TEMPORARY SUPPORT FOR GIRDERS AT PIER 4).

CONTRACTOR SHOULD BEWARE OF EVIDENCE OF HUMAN HABITATION UNDER THE BRIDGE BUT-04-2317.

ECOLOGICAL STUDIES IDENTIFIED BIRD NESTS ON THE BRIDGE BUT-4-2317 (SFN: 0900397). IF CONSTRUCTION ACTIVITIES WILL OCCUR BETWEEN MAY 1 AND AUGUST 31 ON THIS STRUCTURE, INSPECT THE STRUCTURE FOR EVIDENCE OF AN ACTIVE BIRD NEST CONTAINING AN EGG OR CHICK PRIOR TO STARTING WORK. PROVIDE WRITTEN CONFIRMATION OF THE INSPECTION, INCLUDING A STATEMENT WHETHER AN ACTIVE NEST WAS FOUND, TO THE ENGINEER. IF NO NESTS ARE ENCOUNTERED DURING THE INSPECTION, OR IF ONLY INACTIVE NESTS THAT DO NOT CONTAIN AN EGG OR CHICK ARE ENCOUNTERED, PROCEED WITH CONSTRUCTION ACTIVITIES. THE CONTRACTOR MAY REMOVE AND DESTROY INACTIVE NESTS. THE CONTRACTOR MAY INSTALL EXCLUSION MEASURES BETWEEN AUGUST 31 AND MAY 1 TO PREVENT MIGRATORY BIRDS FROM NESTING ON THE STRUCTURE. PROJECTS PERFORMING CONSTRUCTION ACTIVITIES BETWEEN THE DATES OF SEPTEMBER 1 AND APRIL 30 DO NOT REQUIRE AN INSPECTION FOR MIGRATORY BIRDS OR AVOIDANCE MEASURES. IF AN ACTIVE NEST CONTAINING AN EGG OR CHICK IS ENCOUNTERED, AVOID IMPACTS TO THE NEST UNTIL ALL DEVELOPING BIRDS ARE ABLE TO INDEPENDENTLY FLY FROM THE NEST. IF AN ACTIVE NEST CONTAINING AN EGG OR CHICK CANNOT BE AVOIDED, CONTACT THE ENGINEER AT LEAST 4 WEEKS PRIOR DESTROYING AN ACTIVE NEST SO THE DEPARTMENT CAN OBTAIN A DEPREDATION PERMIT FROM THE U.S. FISH AND WILDLIFE SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS AND COMPLETING ALL TASKS RELATED TO OBTAINING THE DEPREDATION PERMIT EXCEPT FOR DIRECT COORDINATION WITH THE MIGRATORY BIRD REGIONAL PERMIT OFFICE. DO NOT PROCEED WITH ACTIVITIES THAT WILL IMPACT AN ACTIVE NEST UNTIL THE DEPARTMENT CONFIRMS THE DEPREDATION PERMIT IS RECEIVED.

ENDANGERED BAT HABITAT REMOVAL

ENSURE IMPACTS TO THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT AND THE STATE LISTED AND PROTECTED LITTLE BROWN BAT AND TRICOLORED BAT ARE AVOIDED AND MINIMIZED. DO NOT REMOVE TREES FROM APRIL 1 THROUGH SEPTEMBER 30. PERFORM ALL NECESSARY TREE REMOVAL FROM OCTOBER 1 THROUGH MARCH 31. DEMARCATÉ CLEARING LIMITS IN THE FIELD TO AVOID ANY UNAUTHORIZED TREE CLEARING. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

DUE TO THE RECENT SUPPLY SHORTAGES, THE DEPARTMENT HAS BEEN MADE AWARE OF DIFFICULTIES THAT SUPPLIERS ARE HAVING IN OBTAINING THE NECESSARY MATERIALS FOR EPOXY. ON THIS PROJECT THE CONTRACTOR CAN USE TRADITIONAL EPOXY-URETHANE SEALERS APPROVED ON THE QPL OR ELECT TO SUBSTITUTE BRIDGE COTE XL-70 W/SILANE THAT IS LISTED ON THE APPROVED NOISE SUPPLIER LIST UNDER APPROVED SEALERS FOR NOISE BARRIERS. APPROVEDNOISESUPPLIERSLIST.PDF (OHIO.GOV) . IF BRIDGE COTE XL-70 W/SILANE IS CHOSEN, MEET THE REQUIREMENTS OF THE BRIDGE COTE XL-70 W/SILANE TECHNICAL DATA SHEET WITH THE EXCEPTION OF THE SURFACE PREPARATION THAT WILL STILL FOLLOW THE REQUIREMENTS LISTED UNDER C&M 512 FOR EPOXY URETHANE SEALERS.

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DESIGNED	SJA	CHECKED	BCS
DRAWN	JDG	REVISED	
REVIEWED	MAB	STRUCTURE FILE NUMBER	0900397
DATE	9/22/21		
DESIGN AGENCY	BURGESS & NIPLE		525 VINE ST. CINCINNATI, OHIO
STRUCTURE GENERAL NOTES - 1			
BRIDGE NO. BUT-04-2317			
SR 4 OVER GREAT MIAMI RIVER			
BUT - SR 4-23.17	PID No. 102783		
		3 / 14	
		10	21

GENERAL NOTES CONTINUED:

ITEM SPECIAL STRUCTURES: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION

ALL CONCRETE SHALL BE TESTED. ALL TESTING, INSPECTION AND QUALITY CONTROL FOR CONCRETE, NOT INCLUDED UNDER QC/QA PAY ITEMS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A CONCRETE TESTING CONSULTANT WITH PREVIOUS EXPERIENCE AND FAMILIARITY IN ODOT PROCEDURES, CONCRETE TESTING REQUIREMENTS AND CONCRETE TESTING DOCUMENTATION. AT LEAST 30 DAYS PRIOR TO CONCRETE PLACEMENT, SUBMIT TO THE ENGINEER FOR APPROVAL, THE PROPOSED CONCRETE TESTING CONSULTANT ALONG WITH THE RESUMES OF THE PROPOSED TESTING PERSONNEL.

TESTING CONCRETE FOR STRUCTURES AND PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE PERFORMED AS OUTLINED IN CONSTRUCTION AND MATERIAL SPECIFICATIONS 455.

THROUGH THE CONTRACTOR, THE CONSULTANT SHALL BE RESPONSIBLE FOR ENSURING THAT ALL CONCRETE PLACED IS IN ACCORDANCE WITH THE SPECIFICATIONS. SUCH WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE ODOT CONSTRUCTION INSPECTION MANUAL OF PROCEDURES FOR CONCRETE. THE CONCRETE CONSULTANT SHALL PROVIDE THE NECESSARY TRAINED TECHNICIAN(S) AND EQUIPMENT AND SHALL FURNISH THE PROJECT ENGINEER WITH TWO (2) COPIES OF ALL TEST RESULTS WITHIN 24 HOURS AFTER COMPLETION OF CONCRETE PLACEMENT.

THE TECHNICIANS SHALL BE ACI LEVEL 1 CERTIFIED AND WILL BE REQUIRED TO DEMONSTRATE HIS/HER COMPETENCE AND EXPERIENCE LEVELS TO THE ENGINEER PRIOR TO BEGINNING WORK. THE ENGINEER WILL ORDER THE CONTRACTOR TO REPLACE ANY TECHNICIAN THAT IS NOT VERSED IN THE REQUIRED TESTING PROCEDURE.

THE TECHNICIAN SHALL VERBALLY NOTIFY THE ODOT PROJECT ENGINEER OF ANY FAILING TESTS AND SHALL SUBMIT FOLLOW-UP WRITTEN NOTIFICATION TO THE PROJECT ENGINEER OF REMEDIAL ACTION(S) TAKEN. TESTS SHALL BE TAKEN AS SPECIFIED WITHIN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, CONCRETE MANUAL OR APPROPRIATE SUPPLEMENTAL SPECIFICATION AS LISTED IN THE PROPOSAL GOVERNING THE PROJECT. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAKE IMMEDIATE CORRECTIONS OR ADJUSTMENTS TO THE CONCRETE MIX VIA DIRECT COMMUNICATION WITH THE CONCRETE SUPPLIER'S PLANT PERSONNEL TO MAINTAIN UNINTERRUPTED COMPLIANCE WITH THE SPECIFICATIONS UPON NOTIFICATION OF CONCRETE MIX NON-COMPLIANCE BY THE CONSULTANT TECHNICIAN. THE PROJECT ENGINEER MAY REQUIRE MORE FREQUENT TESTING AS CONDITIONS WARRANT.

UPON COMPLETION OF DAILY CONCRETE PLACEMENT(S), THE CONCRETE CONSULTANT SHALL PROVIDE THE PROJECT ENGINEER WITH DAILY TEST REPORTS, TE-45'S, INSPECTORS DAILY REPORT AND SUPPORTING DOCUMENTATION FOR EACH ITEM OF CONCRETE WORK PERFORMED SEPARATED BY MIX DESIGN. SUBSEQUENTLY, UPON COMPLETION OF AN ENTIRE CONCRETE SPECIFICATION ITEM, THE CONCRETE CONSULTANT SHALL ALSO PROVIDE THE PROJECT ENGINEER WITH TWO (2) COPIES OF AN ADDITIONAL INSPECTION REPORT BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHICH CONTAINS THE TESTING RESULTS SUMMARY FOR EACH ITEM BY CONTRACT REFERENCE NUMBER AND THE CONSULTANT'S CONCLUSIONS RELATIVE TO SPECIFICATION COMPLIANCE FOR ALL CONCRETE TESTING WORK.

THE ODOT PROJECT ENGINEER RESERVES THE RIGHT TO MAKE UNANNOUNCED QUALITY-CONTROL TESTS TO VERIFY PROCEDURES USED AND RESULTS BEING OBTAINED BY THE CONTRACTOR. THE CONCRETE TECHNICIAN SHALL WORK UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHO WILL MONITOR THE CONCRETE TEST RESULTS. THE FINAL INSPECTION REPORTS FOR EACH COMPLETED ITEM SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, CERTIFYING THAT ALL CONCRETE TESTS PROVIDED BY THE CONTRACTOR MET APPLICABLE CONTRACT REQUIREMENTS. A FINAL REPORT ISSUED BY THE CONSULTING FIRM SHALL CONTAIN A CERTIFIED STATEMENT OF COMPLIANCE WITH ODOT SPECIFICATIONS AND ANY OTHER CONCLUSIONS REGARDING THE CONCRETE MATERIALS INCORPORATED INTO THE PROJECT. SUCH STATEMENT SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO. AND, THE CONCRETE CONSULTANT SHALL BE REQUIRED TO ATTEND MONTHLY PROGRESS MEETINGS AS REQUIRED BY THE PROJECT ENGINEER.

ADDITIONALLY, THE CONTRACTOR SHALL BE REQUIRED TO KEEP A POSTED LIST OF BEAM AND CYLINDER IDENTIFICATION NUMBERS FOR THE PURPOSE OF IDENTIFYING THE CORRESPONDING PLACEMENT LOCATION AND CONCRETE SPECIFICATION ITEM.

PAYMENT SHALL BE BID AS LUMP SUM FOR ITEM SPECIAL STRUCTURES: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION. THE ITEM WILL BE PAID FOR AS FOLLOWS:

- UPON APPROVAL OF CONSULTANT 20%
- PROGRESSIVE EQUIVALENT PAYMENTS 50%
- UPON SUBMISSION OF FINAL REPORT 30%

THE TECHNICIAN SHALL HAVE THE FULL EFFECT AND AUTHORITY OF AN ODOT PROJECT INSPECTOR IN DETERMINING ACCEPTABILITY OF MATERIAL AND CONCRETE PLACEMENT PRACTICES.

UTILITIES

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

DUKE ELECTRIC (DISTRIBUTION)
2010 DANA AVE
CINCINNATI, OHIO 45207
PHONE 513-514-8209 (CHRIS TEPE)
CHRIS.TEPE@DUKE-ENERGY.COM

DUKE ELECTRIC (TRANSMISSION)
139 EAST 4TH STREET, ROOM 552A
CINCINNATI, OHIO 45202
513-287-1266 (TIM MEYER)
TIM.MEYER@DUKE-ENERGY.COM

DUKE ENERGY - GAS
139 EAST 4TH STREET, ROOM 460A
CINCINNATI, OHIO 45202
513-287-2517 (MARK BRANSCUM)
MARK.BRANSCUM@DUKE-ENERGY.COM
(PLEASE SEND ALL UTILITY PLAN REVIEWS TO THIS ADDRESS:
OH/KYHOUSEBILL@DUKE-ENERGY.COM)

AT&T OHIO
7201 FAR HILLS AVENUE
DAYTON, OHIO 45459
937-296-3588 (HOWARD LAUDERMILK)
HL1596@ATT.COM

CITY OF MIDDLETOWN
ONE DONHAM PLAZA
MIDDLETOWN, OHIO 45042
513-425-7845 (SCOTT TADYCH)
SCOTT@CITYOFMIDDLETOWN.ORG

CHARTER COMMUNICATIONS/SPECTRUM
10920 KENWOOD ROAD
BLUE ASH, OHIO 45242
(SEND ALL PLANS/CORRESPONDENCE TO EMAIL BOX FOR DISTRIBUTION:
DL-SOUTHERN-OHIO-OUTSIDE-PLANT@CHARTER.COM)

METROPOLITAN COMMUNICATIONS GROUP (MCG)
155 COMMERCE PARK DRIVE, SUITE #1
WESTERVILLE, OHIO 43082
614-392-2873 (CHAD HARKNESS)
CHAD.HARKNESS@MCGFIBER.COM
(PLEASE SEND PLANS TO CHAD AND PAT SUTTON FOR REVIEW:
PS4364@ATT.COM)

CCSI NETWORKS, LLC
2649 GARDNER ROAD
BROADVIEW, ILLINOIS 60155
713-830-7437 (TIM LAPOINTE)
TL0695@ATT.COM

BRENDA L. RUSSELL
UTILITY RELOCATION TECH 2
ODOT OFFICE OF REAL ESTATE, UTILITIES DIVISION
505 S. STATE ROUTE 741, LEBANON, OHIO 45036
513.933.6626
TRANSPORTATION.OHIO.GOV

AIRWAY/HIGHWAY CLEARANCE FOR PUBLIC AIRPORTS

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT WHICH IS LISTED IN THE TABLE BELOW. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 15 FEET.

POTENTIALLY IMPACTED AIRPORTS	AIRPORT ELEVATION "A"	PROJECT ELEVATION "B" + 25 FEET (CONTROLLING CRITERIA)	DISTANCE BETWEEN AIRPORT AND PROJECT "C"	NOTIFICATION SLOPE X:1	USE TYPE	AMOUNT OF CLEARANCE ABOVE NOTIFICATION SLOPE "2"
MIDDLETOWN REGIONAL AIRPORT	650 FT	661+20 = 681 FT	1,573 FT	100:1	PUBLIC	-15.3 FT

IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THESE HEIGHTS, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT A NEW FAA FORM 7460-1, ADVISING THE FAA THAT AERONAUTICAL STUDY NUMBER 2022-AGL-13626-OE IS BEING RESUBMITTED AND THAT AN ALTERATION TO THE ORIGINAL SUBMISSION IS REQUESTED. NOTIFY THE ODOT OFFICE OF AVIATION WHEN SUBMITTING FAA FORM 7460-1. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND THE ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER. FAA APPROVAL MAY TAKE UP TO 45 DAYS. ALL SUBMISSIONS SHALL BE DIRECTED TO THE FOLLOWING OFFICES.

IT IS REQUIRED THAT THE MANAGER OF THE MIDDLETOWN RGNL/HOOK FLD, (513) 705-1608 BE NOTIFIED AT LEAST 3 BUSINESS DAYS PRIOR TO THE TEMPORARY STRUCTURE BEING ERECTED AND AGAIN WHEN THE STRUCTURE IS REMOVED FROM THE SITE.

FAA CONTACT INFORMATION	ODOT OFFICE OF AVIATION CONTACT INFORMATION
FEDERAL AVIATION ADMINISTRATION SOUTHWEST REGIONAL OFFICE OBSTRUCTION EVALUATION GROUP 10101 HILLWOOD PARKWAY FORT WORTH, TX 76177 FAX: (817) 222-5920 HTTP://CEAAA.FAA.GOV	OHIO DEPARTMENT OF TRANSPORTATION OFFICE OF AVIATION 2829 WEST DUBLIN-GRANVILLE ROAD COLUMBUS, OHIO 43235 (614)-387-2346

DRINKING WATER RESOURCES

THIS PROJECT IS LOCATED WITHIN THE DRINKING WATER RESOURCES THE GREAT MIAMI SOLE SOURCE AQUIFER AND CITY OF MIDDLETOWN WELL 0018 500-YARD BUFFER. USE PROPER CONTAINMENT AND DIKING IN REFUELING AREAS. DO NOT STORE FUELS, TOXIC/HAZARDOUS MATERIALS, AND CHEMICALS NEAR DRAINAGE WAYS, DITCHES, OR STREAMS. MAINTAIN A SPILL KIT ON-SITE THROUGHOUT CONSTRUCTION ACTIVITIES. IMMEDIATELY MITIGATE ANY EVENT, SUCH AS A SPILL OF FUELS, OILS, OR CHEMICALS, THAT COULD THREATEN TO CONTAMINATE THE DRINKING WATER SUPPLY.

REPORT ALL SPILLS OR EVENTS TO THE CITY OF MIDDLETOWN WATER TREATMENT PLANT (513) 727-5320. IF THE SPILL IS A REPORTABLE AMOUNT (PER OHIO EPA'S RELEASE REPORTING REQUIREMENTS), CONTACT THE MADISON TOWNSHIP FIRE DEPARTMENT STATION 152 (513) 424-3384, THE MONROE FIRE DEPARTMENT STATION 62 (513) 539-8380 OR THE OHIO EPA'S SPILLS HOTLINE 1-800-282-9378 FOR CLEAN-UP OF THE SPILL.

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STRUCTURE GENERAL NOTES - 2
 DESIGN AGENCY: BURGESS & NIPLÉ
 525 VINE ST. CINCINNATI, OHIO
 DATE: 9/22/21
 REVIEWED: MAB
 STRUCTURE FILE NUMBER: 0900397
 DRAWN: JDG
 CHECKED: BCS
 BUT - SR 4 - 23.17
 BRIDGE NO. BUT-04-2317
 SR 4 OVER GREAT MIAMI RIVER
 PID No. 102783
 4 / 14
 11 / 21

GENERAL NOTES CONTINUED:

ITEM SPECIAL - STRUCTURE, MISC.: TEMPORARY CONSTRUCTION SITE ACCESS

IN ADDITION TO THE REQUIREMENTS SET FORTH IN THE WATERWAY PERMIT FOR THE CONSTRUCTION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL TEMPORARY ACCESS ROADS AND FILL, THE CONTRACTOR SHALL ALSO MAKE NOTE OF AND COMPLY WITH THE FOLLOWING:

IN-WATER WORK RESTRICTION DATES ARE FROM 4/15 TO 6/30. TEMPORARY ACCESS FILL MAY NOT BE PLACED, MOVED OR REMOVED DURING THIS TIME FRAME.

THE CONSTRUCTION MATERIALS SHALL BE STORED ABOVE THE 100 YEAR FLOOD ELEVATION 649.00 UNLESS PERFORMING ACTUAL INSTALLATIONS. UPON COMPLETION OF THE PROJECT, THE TEMPORARY FILLS WILL BE REMOVED AND DISPOSED OF IN AN UPLAND LOCATION OUTSIDE THE 100 YEAR FLOOD PLAIN OF THE STREAM AND ITS TRIBUTARIES.

ALL PERMANENT FILL MATERIAL SHALL BE LIMESTONE OR CONCRETE AND SHALL BE FREE OF SOILS AND ROCK FINES. ANY CONSTRUCTION FILL PLACED BELOW OHWM ELEVATION 638.00. MUST COMPLY WITH ALL ENVIRONMENTAL REQUIREMENTS. THE CONTRACTOR IS REQUIRED TO NOTIFY THE ENGINEER PRIOR TO THE INITIATION OF ANY WORK IN THE MASSIE CREEK.

THE CONTRACTOR SHALL ENSURE THAT PERMANENT AND/OR TEMPORARY ACCESS FILL MATERIALS ARE NOT DISCHARGED BEYOND THE ODOT PROJECT RIGHT-OF-WAY LIMITS. THE CONTRACTOR IS REQUIRED TO NOTIFY ODOT IMMEDIATELY OF ANY MATERIAL THAT MOVES BEYOND THE PROJECT RIGHT-OF-WAY BOUNDARIES. THE CONTRACTOR SHALL BE SUBJECT TO ALL PERMITS, REQUIREMENTS AND PENALTIES SET BY THE WATERWAY PERMIT(S) FOR FAILING TO MEET THE DISCHARGE REQUIREMENTS AND SHALL BE RESPONSIBLE FOR RECLAMATION OF DISCHARGED MATERIALS.

THE CONTRACTOR AND THE ENGINEER SHALL PERFORM A PRE-CONSTRUCTION INSPECTION OF THE SITE. WITH THE EXCEPTION OF THE PERMANENT FILL SHOWN IN THE PLAN, THE CONTRACTOR IS REQUIRED TO RESTORE THE SITE TO PRE-CONSTRUCTION CONDITIONS. ONCE THE TEMPORARY ACCESS FILL IS REMOVED, AND PRIOR TO COMPLETION OF PHYSICAL WORK, THE CONTRACTOR AND THE ENGINEER SHALL PERFORM A FINAL SITE INSPECTION TO ENSURE THAT THE SITE IS RESTORED TO PRE-CONSTRUCTION CONDITIONS. ANY VIOLATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM ODOT THAT THE RESTORATION IS SATISFACTORY. RESTORATION SHALL ADHERE TO ENVIRONMENTAL COMMITMENTS.

PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT THEIR CONSTRUCTION WORK PLAN TO THE PROJECT ENGINEER FOR APPROVAL. THE WORK PLAN SHALL INCLUDE PROPOSED METHODS FOR COFFERDAMS, DEWATERING AND MAINTAINING STREAM FLOW WHICH ADHERE TO ENVIRONMENTAL AND FLOOD PROTECTION REQUIREMENTS. ANY MODIFICATION TO THE APPROVED CONSTRUCTION WORK PLAN REQUIRES WRITTEN APPROVAL FROM THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN. THE CONTRACTOR IS REQUIRED TO INSTALL CONSTRUCTION BMP'S IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 832. ALL COSTS ASSOCIATED WITH CONSTRUCTION BMP'S AND RELATED GRADING IS INCIDENTAL TO THE WORK PERFORMED.

ITEM SPECIAL - STRUCTURE, MISC.: TEMPORARY CONSTRUCTION SITE ACCESS

THE CONTRACTOR IS REQUIRED TO PERFORM ALL IN-STREAM WORK IN ACCORDANCE WITH IN-STREAM AND WETLAND RESTRICTIONS AND INTERIM COMPLETION DATES WHERE APPLICABLE. THE CONTRACTOR IS REQUIRED TO COMPLETELY REMOVE ALL EQUIPMENT AND STORED MATERIALS FROM THE STREAM TO AN ELEVATION AT OR ABOVE THE 100 YEAR FLOOD ELEVATION WHEN FLOODING IS ANTICIPATED. AT NO TIME SHALL ANY CONSTRUCTION EQUIPMENT BE LEFT IDLE OR ALLOWED TO WORK IN A PARTIALLY SUBMERGED CONDITION. NO DEBRIS OR TEMPORARY EARTHWORK FILL/EXCAVATION SHALL BE LEFT IN THE STREAM OR ALONG THE STREAM BANKS. ALL EXCAVATED RIVER BOTTOM MATERIALS SHALL BE DISPOSED AND/OR STORED OFF-SITE AS NECESSARY. THE DISPOSAL/STORAGE SITE SHALL BE UPLAND AND LOCATED OUTSIDE OF THE 100 YEAR FLOOD BOUNDARY OF THE MASSIE CREEK.

THE CONTRACTOR SHALL PERFORM CLEARING AND GRUBBING AND GRADING AS REQUIRED TO ACCESS THE SITE. THE CONTRACTOR MAY CHOOSE AN ALTERNATE ENTRY LOCATION AND WILL BE RESPONSIBLE FOR ANY ACCESS AGREEMENTS.

UNLESS ITEMIZED SEPERATELY, ALL EQUIPMENT, MATERIAL, LABOR AND ANY MISCELLANEOUS APPURTENANCES ASSOCIATED WITH THE CONSTRUCTION, MAINTENANCE AND SUBSEQUENT REMOVAL OF THE TEMPORARY CONSTRUCTION ACCESS AND FILL AS WELL AS SITE INSPECTIONS, SURVEY, GRADING/EARTHWORK FOR SITE ACCESS SHALL BE INCLUDED FOR PAYMENT UNDER ITEM SPECIAL - TEMPORARY CONSTRUCTION SITE ACCESS.

ITEM 512 SPECIAL- URETHANE TOP COAT SEALER

THIS ITEM SHALL CONSIST OF THE APPLICATION OF A URETHANE TOP COAT SEALER OVER CONCRETE AREAS PREVIOUSLY COATED WITH FIBER WRAP.

THE AREA SHALL BE DRY AND FREE FROM DUST, DIRT, OIL, WAX, CURING COMPOUNDS, EFFLORESCENCE, LAITANCE AND OTHER FOREIGN MATERIALS WITH THE EXCEPTION OF THE FIBER WRAP.

THE COATING SHALL BE APPLIED BEFORE THE FINAL THICKENED EPOXY LAYER HAS BEEN ALLOWED TO CURE (AS DETERMINED BY THE MANUFACTURER) TO BETTER ADHERE TO THE COMPOSITE FIBER WRAP SYSTEM.

IF THE INSTALLED FRP IS ALLOWED TO COMPLETELY CURE PRIOR TO THE APPLICATION OF THE FINAL COATING, THE SURFACE GLOSS MUST BE BROKEN BY HAND SANDING OR LIGHT ABRASIVE BLASTING FOR PROPER ADHERENCE TO THE FINAL COATING.

THE COATING SYSTEM SHALL CONSIST OF THE APPLICATION OF A URETHANE TOP COAT SEALER OVER THE INSTALLED FRP SYSTEM. THE COLOR SHALL MATCH THE COLOR OF THE EXISTING SEALER AND THE MATERIAL AND APPLICATION SHALL CONFORM TO CMS 512.

THE COATING MATERIAL SUPPLIER MUST PROVIDE A LETTER VERIFYING THAT THE FULL COATING SYSTEM IS COMPATIBLE WITH THE INSTALLED FRP SYSTEM.

THE COST OF ALL LABOR, EQUIPMENT, AND MATERIAL NECESSARY TO ACCOMPLISH THIS ITEM OF WORK SHALL BE PAID FOR BY SQUARE YARDAGE COVERED.

ITEM SPECIAL - COMPOSITE FIBER WRAP SYSTEM

SEE BRIDGE PLAN FOR DRAWINGS.

SEE PROPOSAL NOTE 519 FOR SPECIFICATIONS.

DESCRIPTION

THIS WORK CONSISTS OF REMOVING EXCISING DETERIORATED FIBER WRAP, PREPARING THE UNDERLYING PATCHED CONCRETE SURFACES AND DESIGNING THE SYSTEM TO MEET THE REQUIREMENTS IN THE PLANS. FURNISH AND INSTALL A SINGLE LAYER OF FIBER REINFORCED POLYMER (FRP) COMPOSITE WRAP ORIENTED VERTICALLY OVER EACH REPAIR AREA DESIGNATED IN THE PLANS. FIBER MAY BE EITHER CARBON (CFRP) OR E-GLASS (EGFRP). EXTEND FIBER WRAP 12" BEYOND THE PATCH AREA.

- CUT OUT ALL FIBER WRAP NOT ADHERED TO THE CONCRETE OR COVERING DETERIORATED CONCRETE USING A GRINDER WITH A CUTTING WHEEL.
- REMOVE ANY UNSOUND CONCRETE AND PATCH PER ITEM 519.
- USE A ZEC WHEEL TO GRIND OFF THE ADJACENT EPOXY SEALER DOWN TO THE FABRIC/EPOXY LAYER. THE REMOVAL OF SEALER DOES NOT HAVE TO BE ANY LARGER THAN 4" FROM THE FRP REMOVAL CUT LINE EDGE.
- AFTER THE PATCH HAS CURED OUT. APPLY THE NEW FABRIC PATCH IN ACCORDANCE WITH THE SPECIFICATION. RESEAL.
- THE CERTIFIED AND EXPERIENCED INSTALLER SHALL SUBMIT A QUALITY CONTROL AND QUALITY ASSURANCE PLAN FOR THE FRP INSTALLATION.
- THE FRP SYSTEM SHALL BE INSTALLED UNDER THE DIRECT SUPERVISION OF A MANUFACTURER QUALIFIED TECHNICIAN UNTIL THE INSTALLER HAS DEMONSTRATED HIS ABILITY TO PERFORM THE INSTALLATION TO SATISFACTION OF THE ENGINEER AND THE MANUFACTURER.

IN ADDITION, END OF PIER 6 CAP AS SHOWN IN PLAN NEEDS TO BE PATCHED AND WRAPPED. THIS WORK CONSISTS OF PREPARING EXISTING SOUND CONCRETE SURFACES AND DESIGNING THE SYSTEM TO MEET THE REQUIREMENTS IN THE PLANS. FURNISH AND INSTALL A SINGLE LAYER OF FIBER REINFORCED POLYMER (FRP) COMPOSITE WRAP ORIENTED VERTICALLY OVER ALL FACES OF THE PIER CAP INCLUDING END OF THE CAP WITHIN THE LIMITS AS SHOWN IN THE PLANS. FIBER MAY BE EITHER CARBON (CFRP) OR E-GLASS (EGFRP).

MEASUREMENT AND PAYMENT

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES OF THE COMPLETED FRP COMPOSITE WRAP SYSTEM INCLUDING PREPARATION OF THE CONCRETE SUBSTRATE SURFACES AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
SPECIAL	SQUARE FEET	COMPOSITE FIBER WRAP SYSTEM

ABBREVIATIONS:

THE FOLLOWING ABBREVIATIONS HAVE BEEN USED THROUGHOUT THESE PLANS TO INDICATE THE DESIGNATIONS CONTAINED IN THE LEGEND BELOW:

ABUT. - ABUTMENT	FWD. - FORWARD	R.A. - REAR ABUTMENT
APPR. - APPROACH	GAL.V. = GALVANIZED	RF - RIGHT FORWARD
BTM. - BOTTOM	GEN. - GENERAL	RT. - RIGHT
BRG. - BEARING	LF - LEFT FORWARD	R/W - RIGHT OF WAY
BRGS. - BEARINGS	LT. - LEFT	SAN. - SANITARY
CL - CENTERLINE	MAX. - MAXIMUM	SER. - SERIES
C/C - CENTER TO CENTER	MIN. - MINIMUM	SHT. - SHEET
CIP - CAST-IN-PLACE	MISC. - MISCELLANEOUS	S.O. - SERIES OF
C.J. - CONSTRUCTION JOINT	MOT - MAINTENANCE OF TRAFFIC	SPA. - SPACES OR SPACING
CLR. - CLEARANCE	N.F. - NEAR FACE	SR - STATE ROUTE
CMS - CONSTRUCTION AND MATERIAL SPECIFICATIONS	N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE	STA. - STATION
CONC. - CONCRETE	NO./# - NUMBER	STD. - STANDARD
CONSTR. - CONSTRUCTION	O/O - OUT TO OUT	STM. - STORM
CONTR. - CONTRACTION	P.C.P.P - PERFORATED CORRUGATED PLASTIC PIPE	STR. - STRAIGHT
CU YD - CUBIC YARD	P.E.J.F. - PREFORMED EXPANSION JOINT FILLER	TBM - TEMPORARY BENCH MARK
DIA. - DIAMETER	PG - PROFILE GRADE	TEMP. - TEMPORARY
E.F. - EACH FACE	PGL - PROFILE GRADE LINE	T.O.S. - TOE OF SLOPE
ELEV., EL. - ELEVATION	PROP. - PROPOSED	T/PARAPET - TOE OF PARAPET
EQ. - EQUAL	PT - POINT OF TANGENCY	T/T - TOE TO TOE
EX. - EXISTING	PVC - POINT OF VERTICAL CURVATURE	TYP. - TYPICAL
EXP. - EXPANSION	PVI - POINT OF VERTICAL INTERSECTION	U.G. - UNDERGROUND
F.A. - FORWARD ABUTMENT	PVT - POINT OF VERTICAL TANGENCY	VAR. - VARIES
F.F. - FAR FACE	R. - RADIUS	VC - VERTICAL CURVE
F.S. - FIELD SPLICE		VERT. - VERTICAL
FT/FT - FOOT PER FOOT		W/O - WITHOUT
FTG. - FOOTING		

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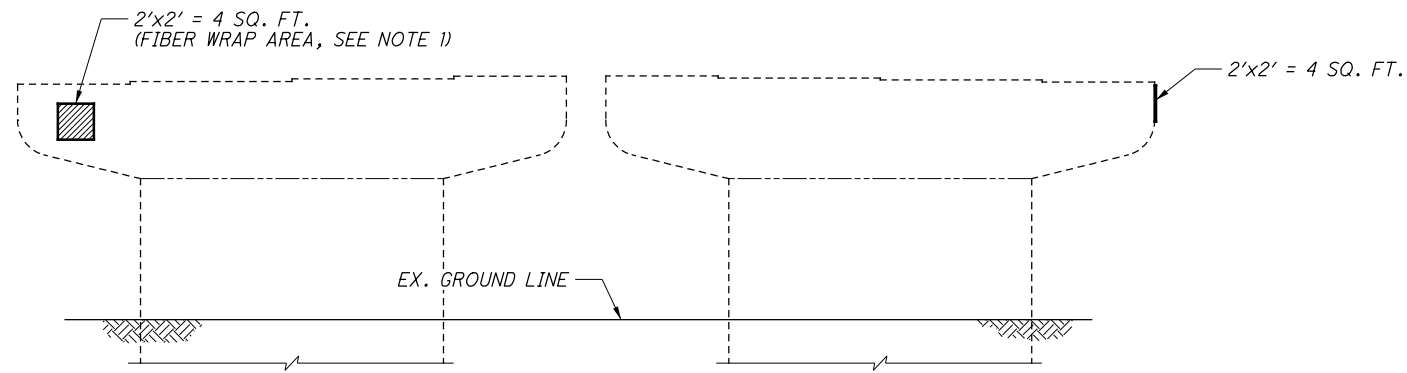
STRUCTURE GENERAL NOTES - 3 BRIDGE NO. BUT-04-2317 SR 4 OVER GREAT MIAMI RIVER	DESIGN AGENCY BURGESS & NIPLE 525 VINE ST. CINCINNATI, OHIO	DATE 9/22/21	STRUCTURE FILE NUMBER 0900397	REVIEWED MAB	DRAWN JDG	DESIGNED SJA	CHECKED BCS
BUT - SR 4 - 23.17 PID No. 102783	5 / 14	12 21					

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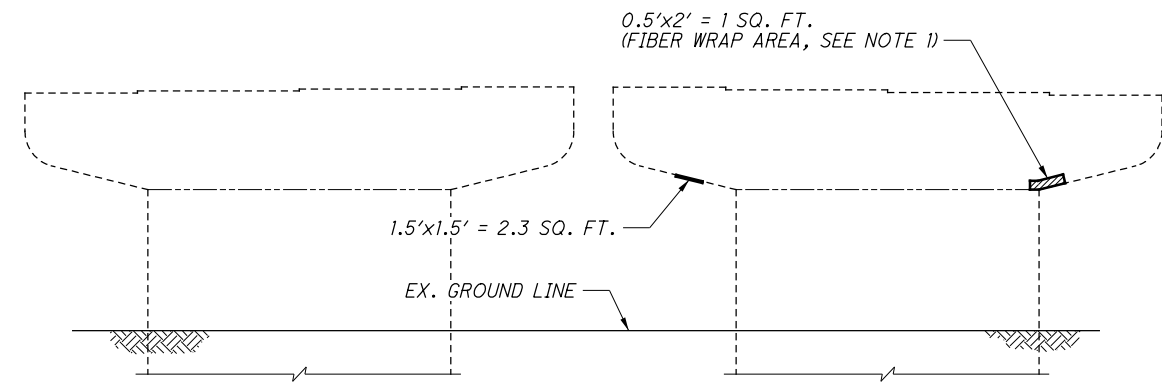
ESTIMATED BRIDGE QUANTITIES										CALC.	DATE	CHK'D	DATE	
ITEM	ITEM EXT.	PART. 01/NH/13	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GENERAL	SHT. REF.	SJA	9/12/21	MAB	3/1/22
202	11203	LS	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					3/14				
509	10000	4920	4920	LB	EPOXY COATED REINFORCING STEEL		4920							
509	20001	100	100	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN		100			3/14				
510	10001	20	20	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN		20			3/14				
511	42510	54	54	CY	CLASS QC1 CONCRETE, PIER CAP		54							
512	10101	133	133	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN		133							
512	10600	48	48	FT	CONCRETE REPAIR BY EPOXY INJECTION		48							
512	71500	4	4	SY	SPECIAL - URETHANE TOP COAT SEALER		4							
514	00050	1122	1122	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			1122						
514	00056	1122	1122	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			1122						
514	00060	1122	1122	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, INTERMEDIATE COAT			1122						
514	00067	1122	1122	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			1122		3/14				
514	00504	2	2	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			2						
514	10000	1	1	EACH	FINAL INSPECTION REPAIR			1						
516	44201	16	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (10"x1'-1"x3/4" WITH 11"x1'-5 1/2" BEVELED LOAD PLATE AND 11"x2'-8"x1 1/2" MASONRY PLATE)		16			12/14				
516	47001	LS	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN					3/14				
519	00100	36	36	SF	SPECIAL - COMPOSITE FIBER WRAP SYSTEM (SEE PROPOSAL NOTE 519)		36							
519	11101	236	236	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN		236			3/14				
530	00200	LS	LS		SPECIAL - STRUCTURE (TEMPORARY SUPPORT FOR GIRDERS AT PIER 4)		LS			3/14				
530	00200	LS	LS		SPECIAL - STRUCTURE (CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION)		LS			4/14				
530	00200	LS	LS		SPECIAL - STRUCTURE, MISC.: TEMPORARY CONSTRUCTION SITE ACCESS				LS	5/14				

DESIGNED BCS CHECKED SJA	DRAWN JDG REVISED	REVIEWED MAB STRUCTURE FILE NUMBER 0900397	DATE 9/22/21	DESIGN AGENCY BURGESS & NIPLÉ 525 VINE ST. CINCINNATI, OHIO
				ESTIMATED QUANTITIES BRIDGE NO. BUT-04-2317 SR 4 OVER GREAT MIAMI RIVER
BUT - SR 4 - 23.17 PID No. 102783				6 / 14
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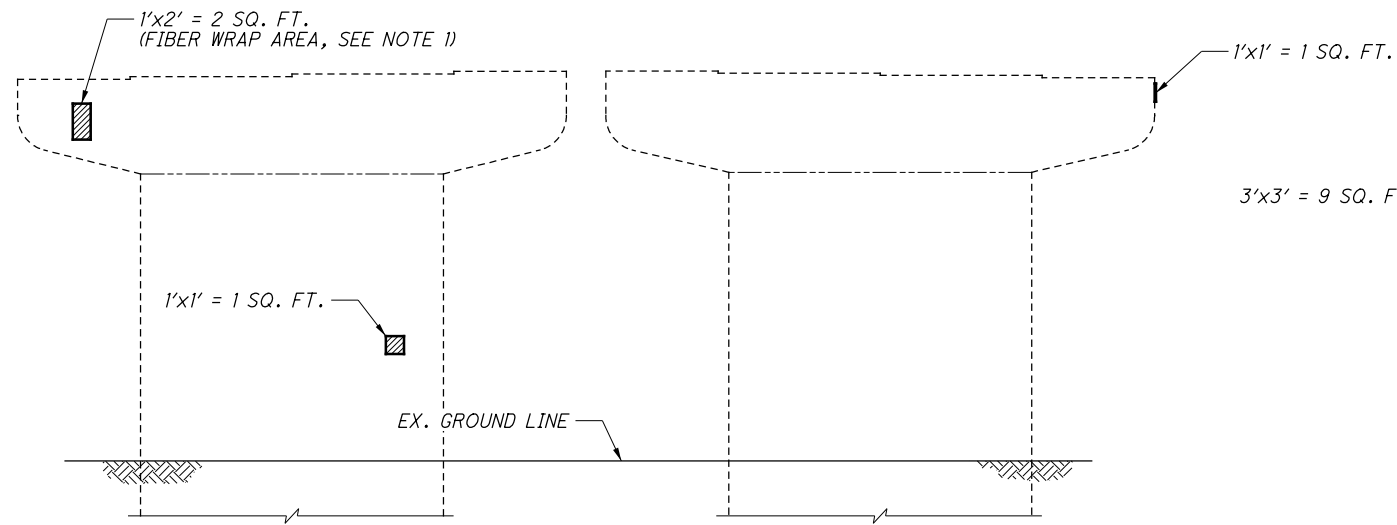
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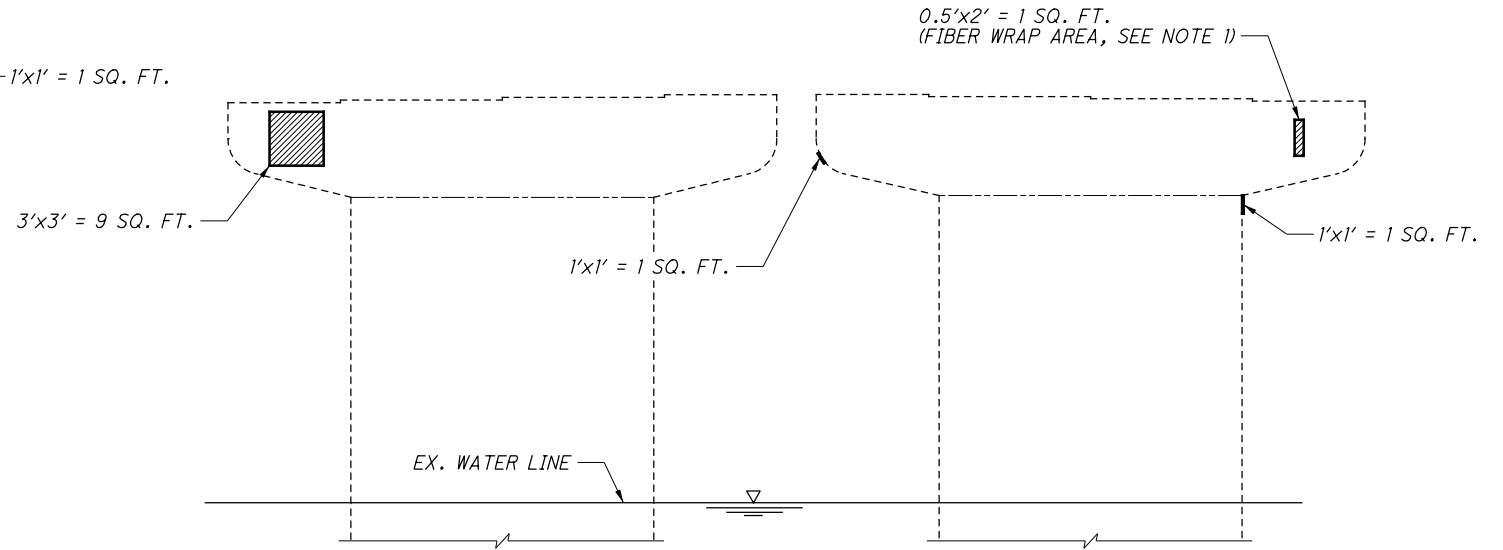
PIER 1 ELEVATION
(SOUTH FACE LOOKING NORTH)



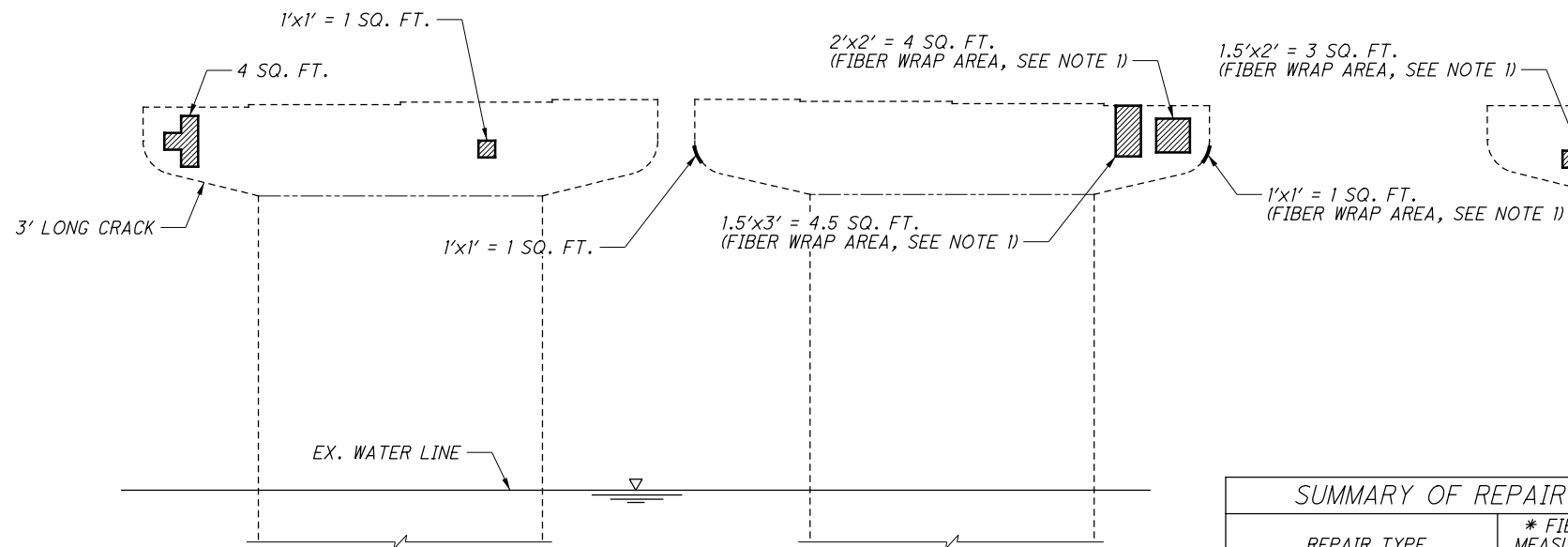
PIER 1 ELEVATION
(NORTH FACE LOOKING SOUTH)



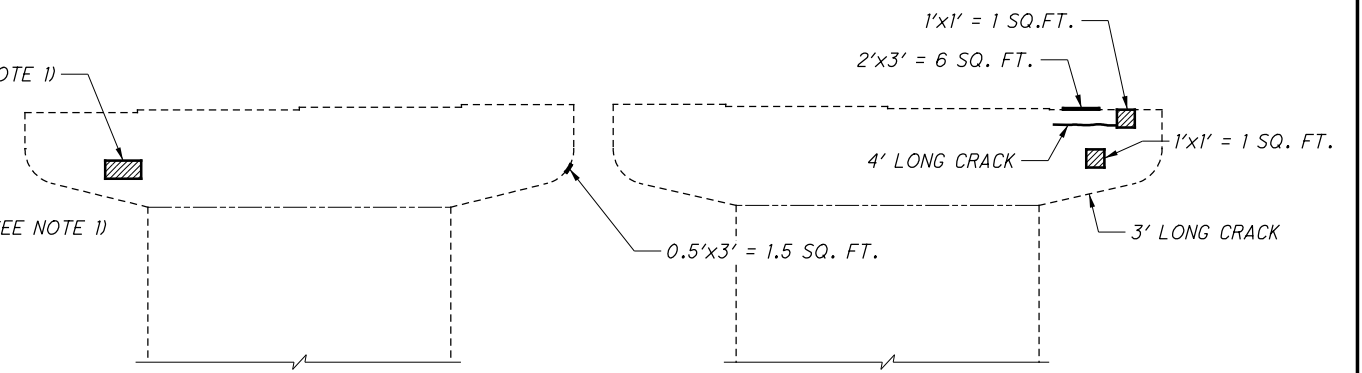
PIER 2 ELEVATION
(SOUTH FACE LOOKING NORTH)



PIER 2 ELEVATION
(NORTH FACE LOOKING SOUTH)



PIER 3 ELEVATION
(SOUTH FACE LOOKING NORTH)



PIER 3 ELEVATION
(NORTH FACE LOOKING SOUTH)

SUMMARY OF REPAIR QUANTITIES		
REPAIR TYPE	* FIELD MEASURED QUANTITY	** PLAN QUANTITY
ITEM 519 PATCHING	56 SF	84 SF
ITEM 512 EPOXY INJECTION	10 FT	15 FT

* FROM FIELD INSPECTION CONDUCTED JUNE 2021
** PLAN QUANTITIES HAVE BEEN INCREASED BY 50% FOR ADDITIONAL DETERIORATION

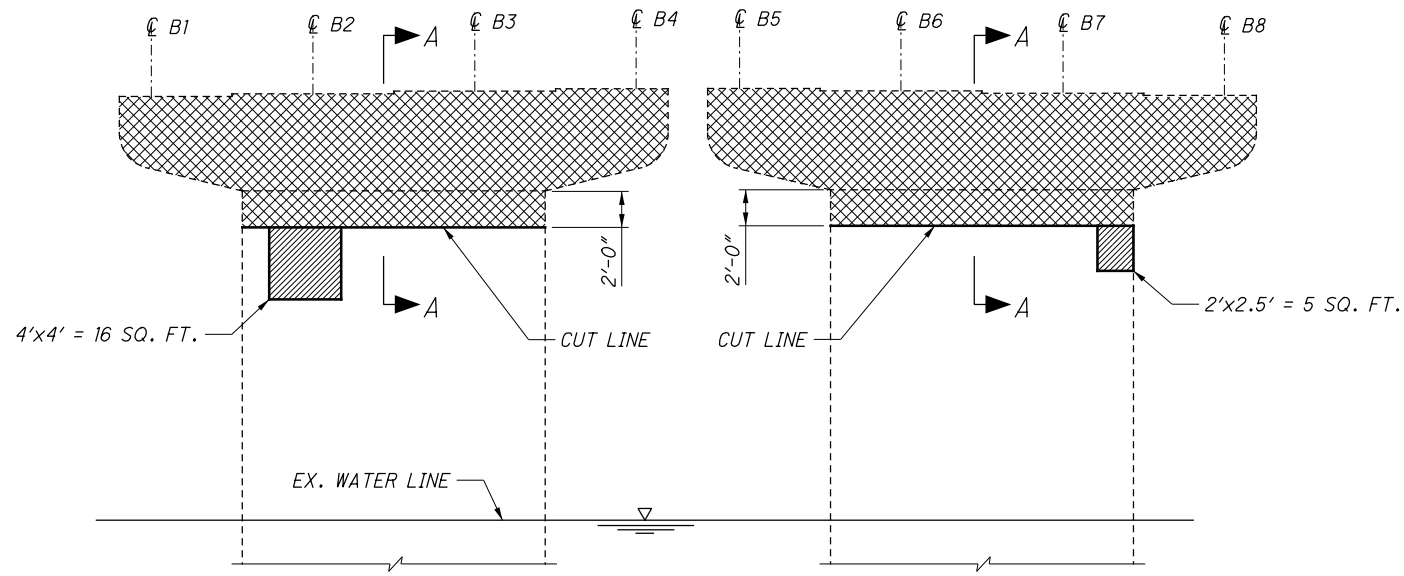
LEGEND:

LIMITS OF PATCHING PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

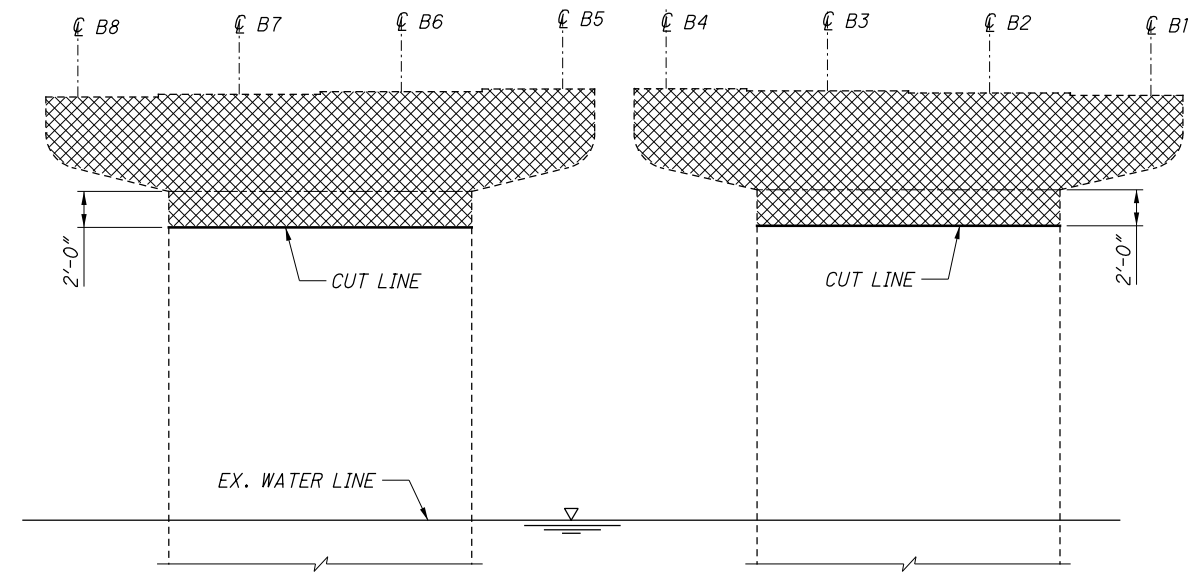
NOTES:

- FOR PATCHING AREAS NOTED AS (FIBER WRAP AREA, SEE NOTE 1), SEE GENERAL NOTE SHEET 5/14 FOR ADDITIONAL REPAIR INFORMATION.
- EPOXY INJECT CRACKS PER CMS 512.

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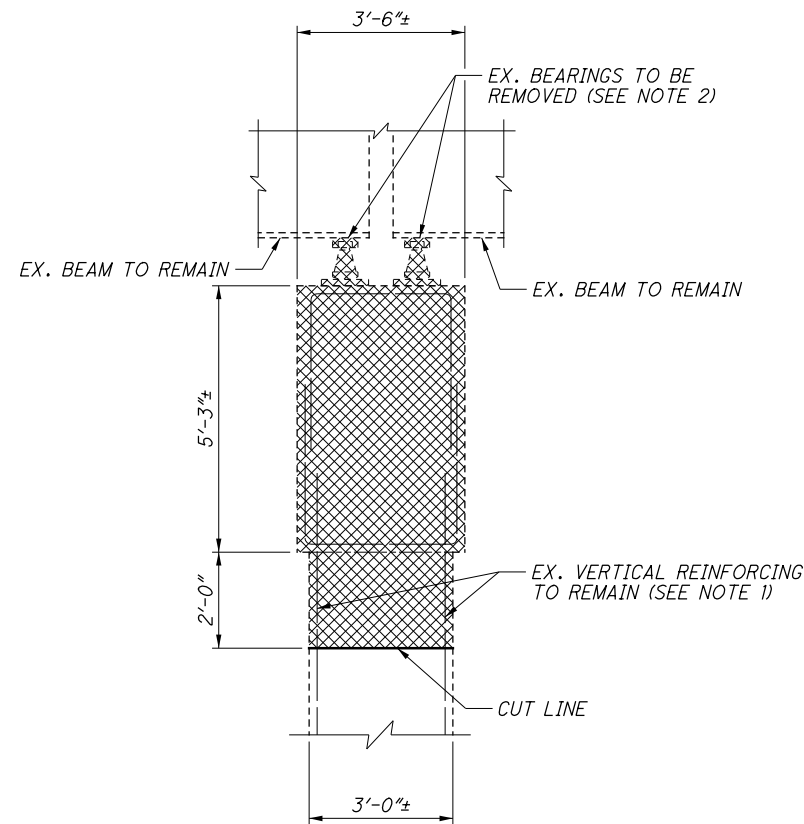
PIER 4 ELEVATION
(SOUTH FACE LOOKING NORTH)



PIER 4 ELEVATION
(NORTH FACE LOOKING SOUTH)

SUMMARY OF REPAIR QUANTITIES		
REPAIR TYPE	* FIELD MEASURED QUANTITY	** PLAN QUANTITY
ITEM 519 PATCHING	21 SF	32 SF

* FROM FIELD INSPECTION CONDUCTED JUNE 2021
 ** PLAN QUANTITIES HAVE BEEN INCREASED BY 50% FOR ADDITIONAL DETERIORATION



SECTION A-A

LEGEND:

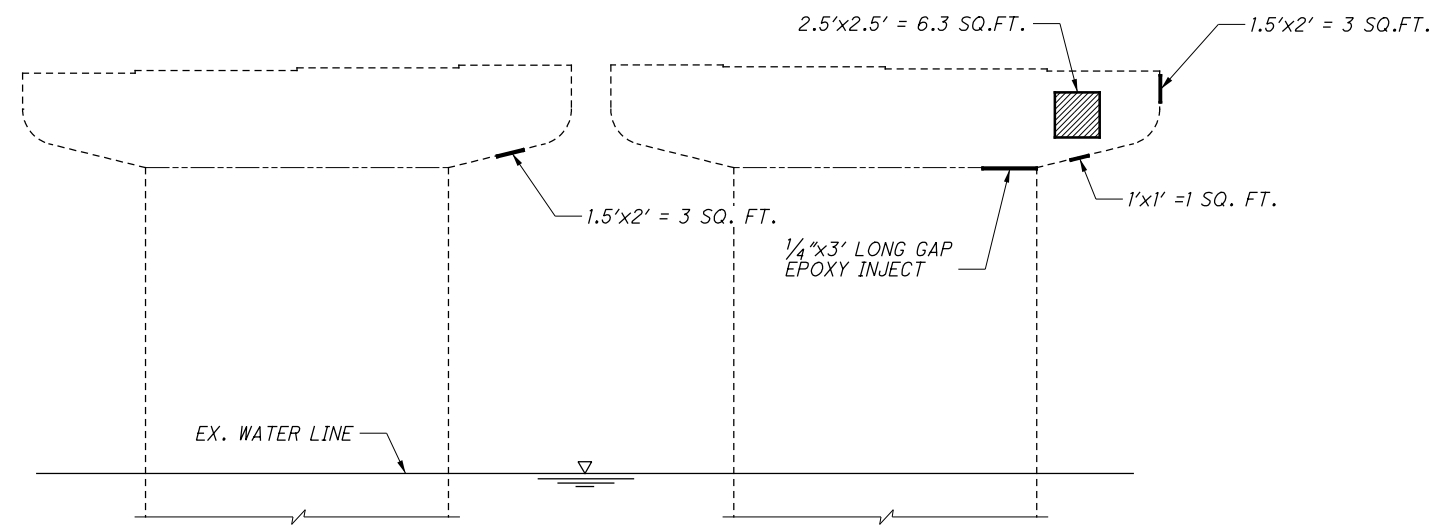
- LIMITS OF PATCHING PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN
- LIMITS OF REMOVAL PER ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

NOTES:

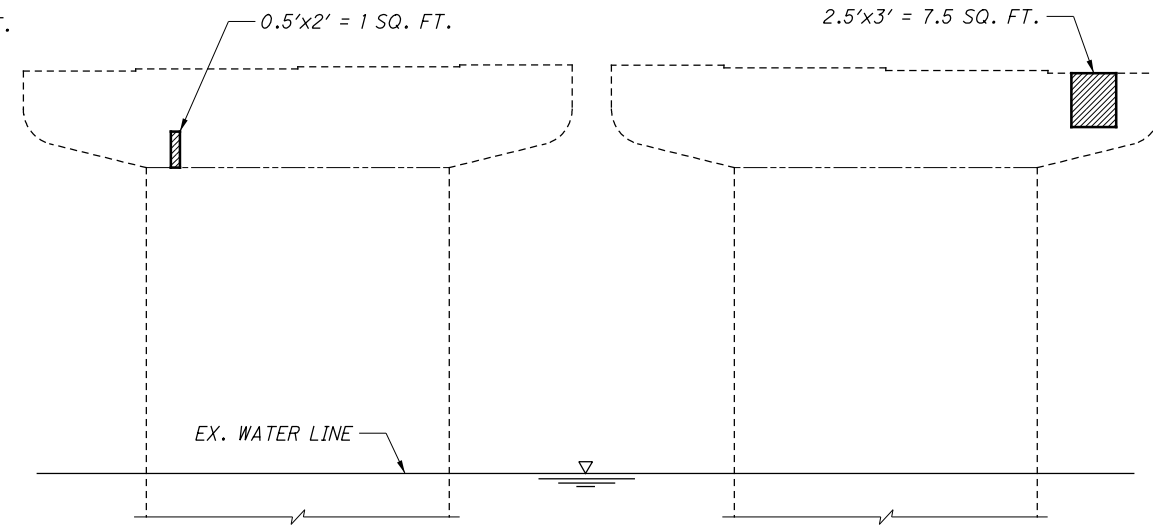
1. EXISTING VERTICAL REINFORCING SHALL REMAIN. EXISTING REINFORCING SHALL BE CLEANED AND PRESERVED WITHOUT DAMAGE TO THE SATISFACTION OF THE ENGINEER. DAMAGED REINFORCING SHALL BE REPLACED WITH #5 DOWEL BARS THAT ARE DOWELED 9" INTO THE EXISTING PIER STEM CONCRETE AS DIRECTED BY THE ENGINEER.
2. ALL LABOR AND MATERIALS REQUIRED TO REMOVE EXISTING BEARINGS AND GRIND SMOOTH EXISTING WELDS SHALL BE INCLUDED WITH ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

BUT - SR 4-23.17	BRIDGE NO. BUT-04-2317	DESIGN AGENCY BURGESS & NIPLE	DATE 9/22/21	525 VINE ST. CINCINNATI, OHIO
PID No. 102783	SR 4 OVER GREAT MIAMI RIVER	DESIGNED BCS	REVIEWED MAB	STRUCTURE FILE NUMBER 0900397
8 / 14	15	DRAWN JDG	CHECKED SJA	REVISER
21		REVISIONS		

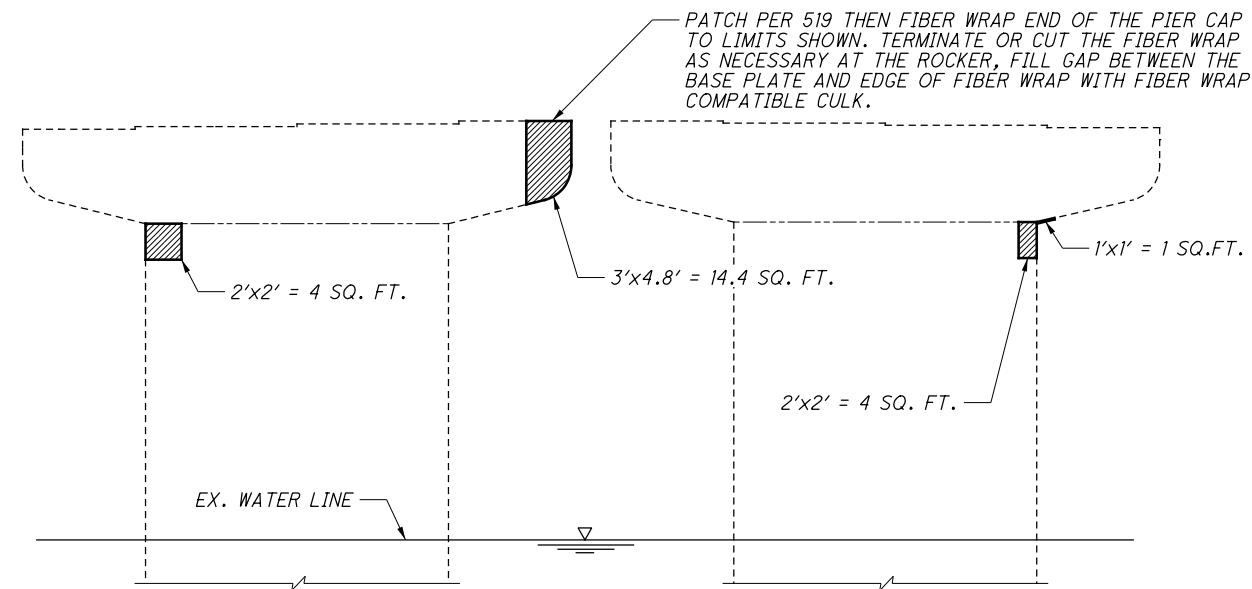
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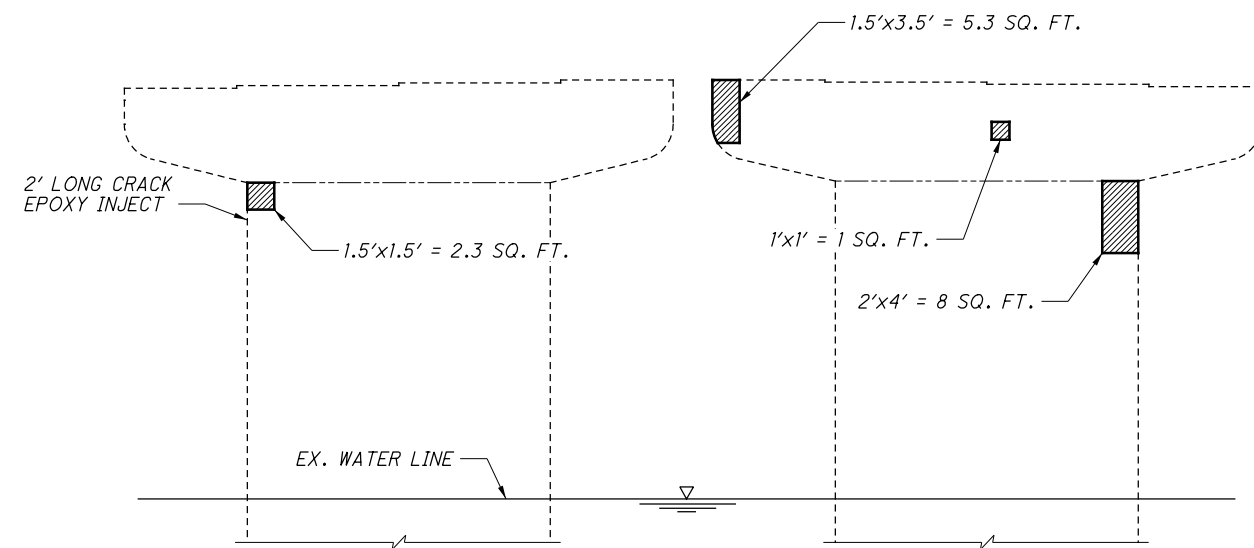
PIER 5 ELEVATION
(SOUTH FACE LOOKING NORTH)



PIER 5 ELEVATION
(NORTH FACE LOOKING SOUTH)



PIER 6 ELEVATION
(SOUTH FACE LOOKING NORTH)



PIER 6 ELEVATION
(NORTH FACE LOOKING SOUTH)

SUMMARY OF REPAIR QUANTITIES		
REPAIR TYPE	* FIELD MEASURED QUANTITY	** PLAN QUANTITY
ITEM 519 PATCHING	62 SF	93 SF
ITEM 512 EPOXY INJECTION	5 FT	8 FT

* FROM FIELD INSPECTION CONDUCTED JUNE 2021
** PLAN QUANTITIES HAVE BEEN INCREASED BY 50% FOR ADDITIONAL DETERIORATION

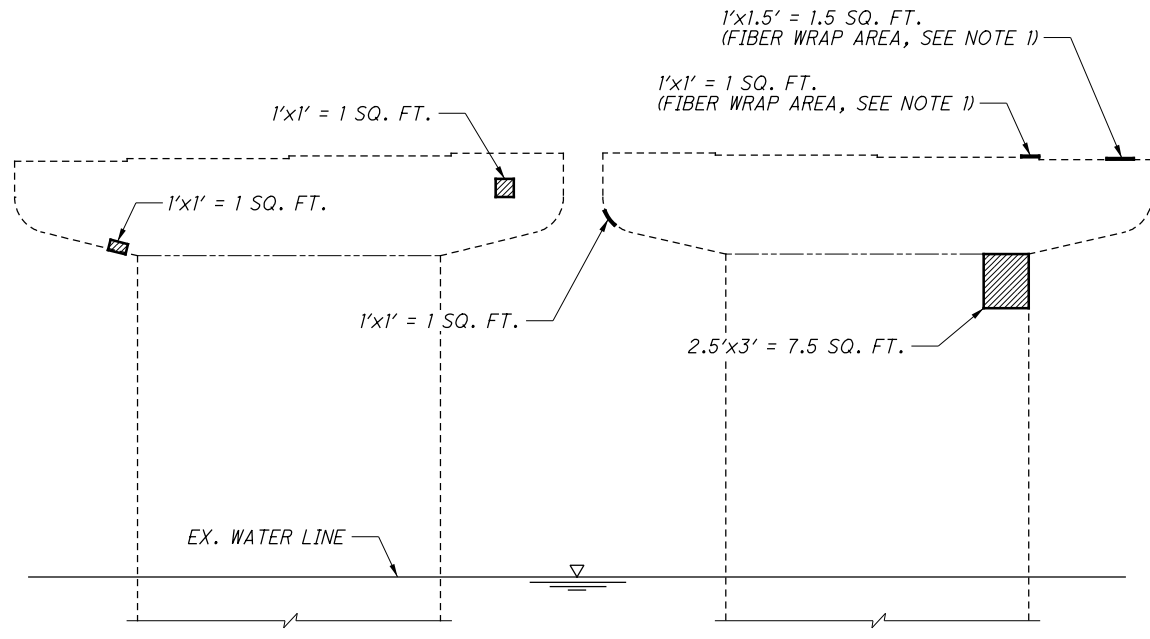
LEGEND:

LIMITS OF PATCHING PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

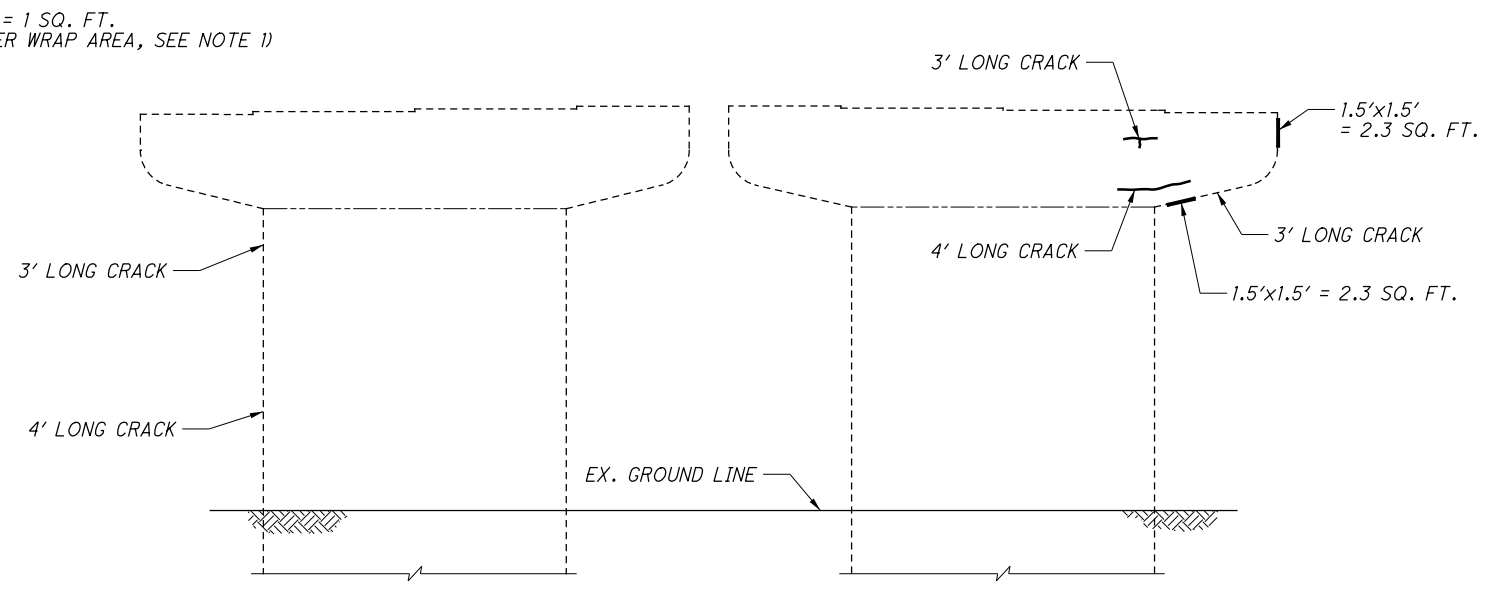
NOTES:

1. EPOXY INJECT CRACKS PER CMS 512.

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PIER 7 ELEVATION
(SOUTH FACE LOOKING NORTH)



PIER 7 ELEVATION
(NORTH FACE LOOKING SOUTH)

SUMMARY OF REPAIR QUANTITIES		
REPAIR TYPE	* FIELD MEASURED QUANTITY	** PLAN QUANTITY
ITEM 519 PATCHING	19 SF	29 SF
ITEM 512 EPOXY INJECTION	17 FT	26 FT

* FROM FIELD INSPECTION CONDUCTED JUNE 2021
** PLAN QUANTITIES HAVE BEEN INCREASED BY 50% FOR ADDITIONAL DETERIORATION

LEGEND:



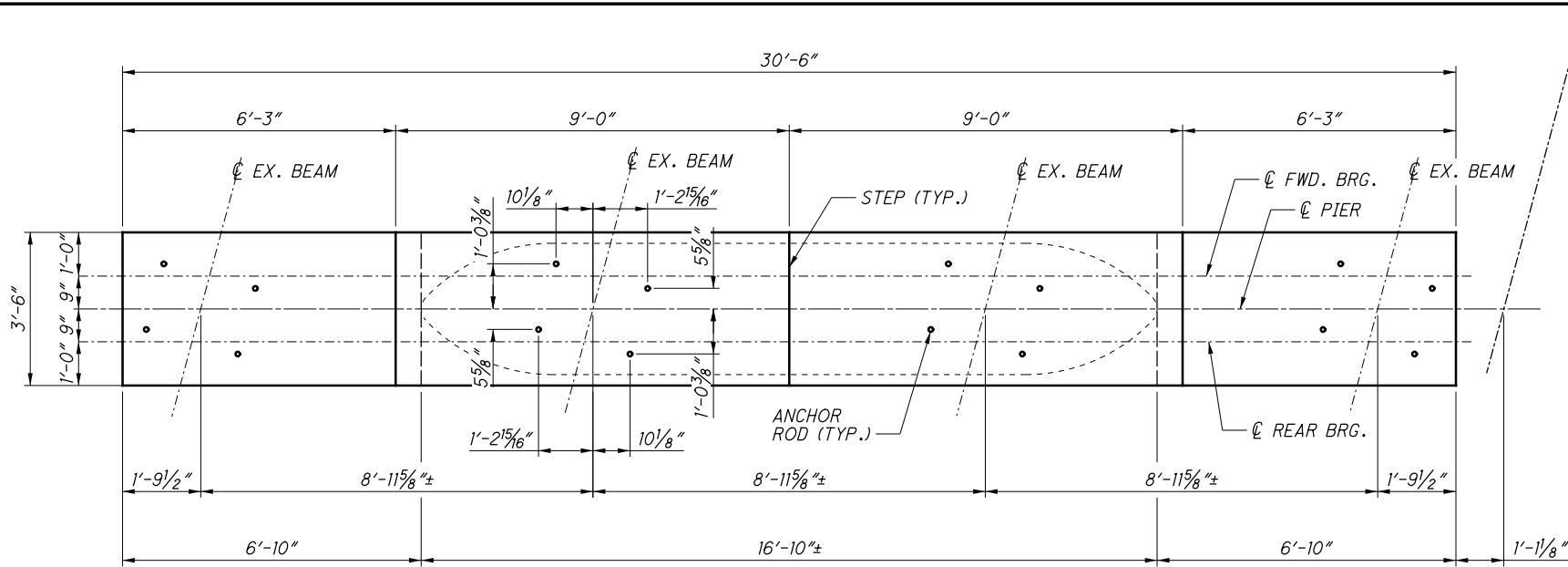
LIMITS OF PATCHING PER ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

NOTES:

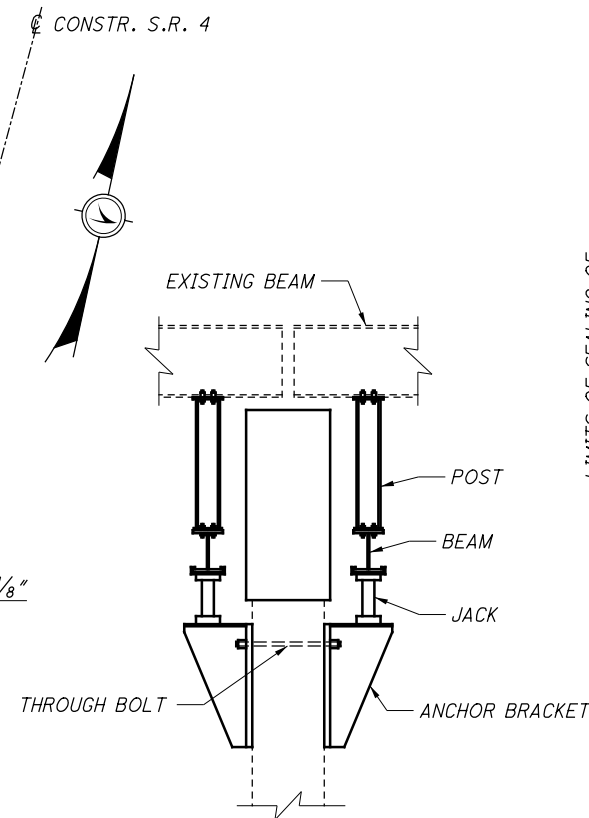
- FOR PATCHING AREAS NOTED AS (FIBER WRAP AREA, SEE NOTE 1), SEE GENERAL NOTE SHEET 5/14 FOR ADDITIONAL REPAIR INFORMATION.
- EPOXY INJECT CRACKS PER CMS 512.

DESIGNED BCS		DRAWN JDG	REVIEWED MAB	DATE 9/22/21	DESIGN AGENCY BURGESS & NIPLE
CHECKED SJA		REVISED	STRUCTURE FILE NUMBER 0900397		525 VINE ST. CINCINNATI, OHIO
PIER 7 PATCHING DETAILS					
BRIDGE NO. BUT-04-2317					
SR 4 OVER GREAT MIAMI RIVER					
BUT - SR 4 - 23.17					
PID No. 102783					
10 / 14					
17 21					

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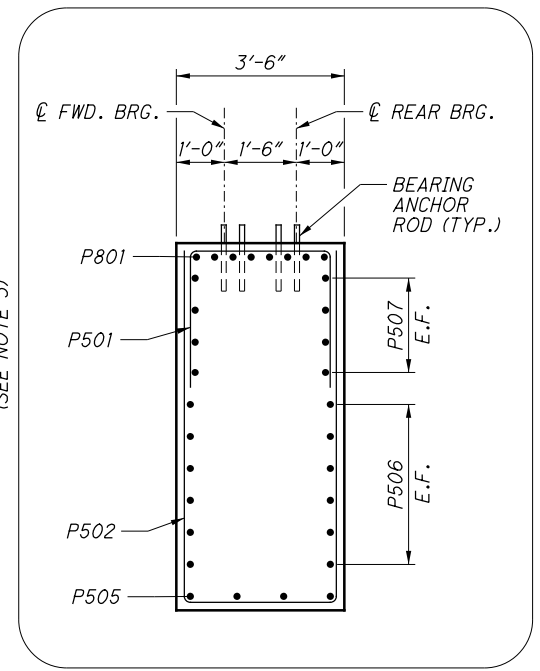


PLAN

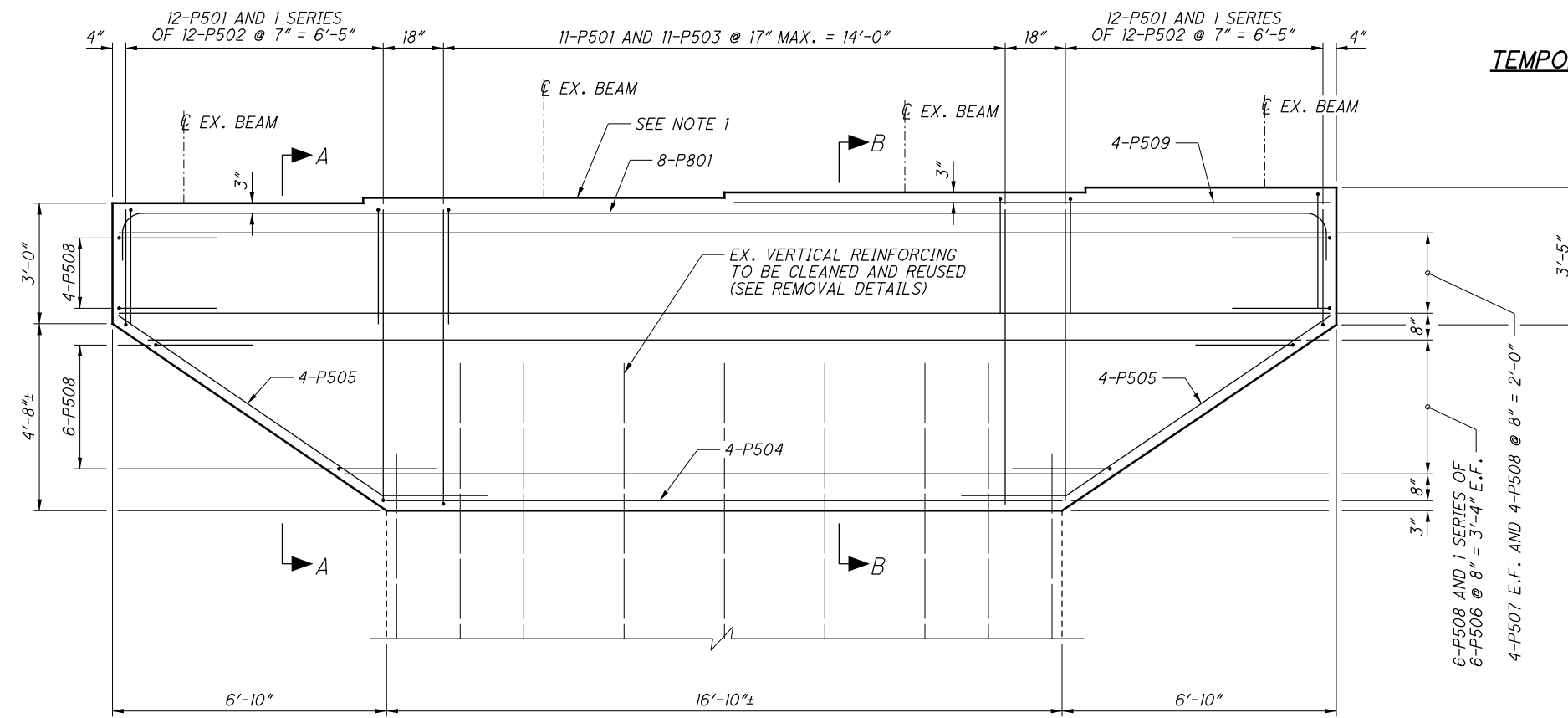


TEMPORARY SHORING DETAIL

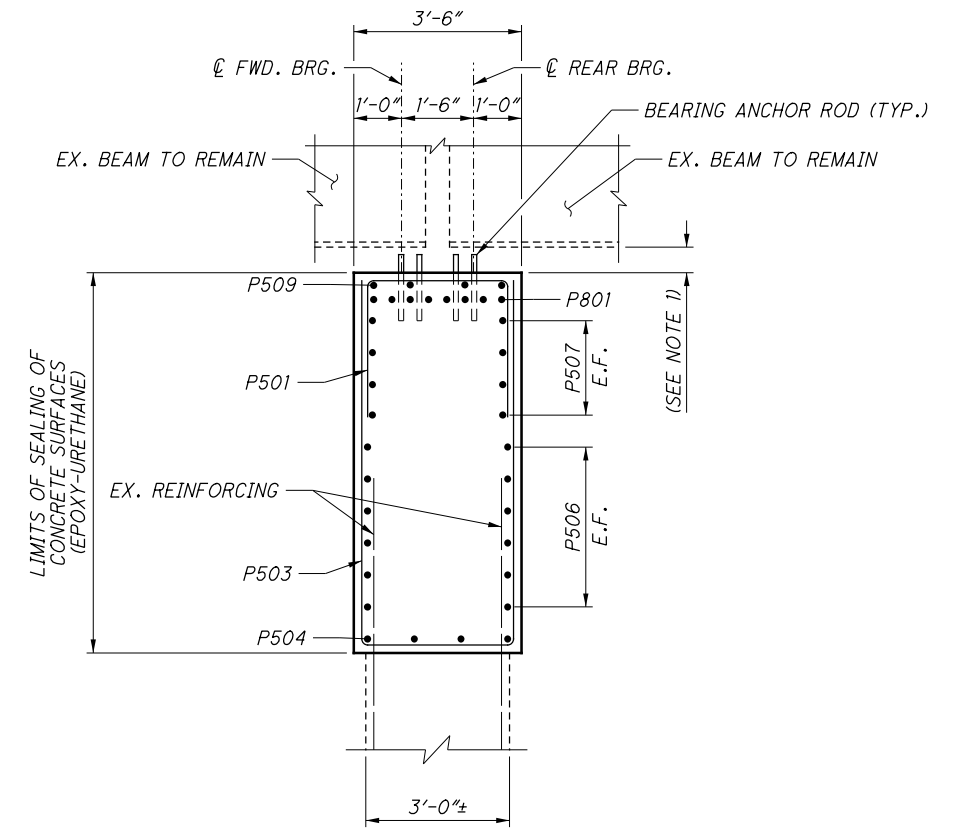
LIMITS OF SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) (SEE NOTE 3)



SECTION A-A



ELEVATION
(LEFT PIER SHOWN, RIGHT PIER SYMMETRICAL)



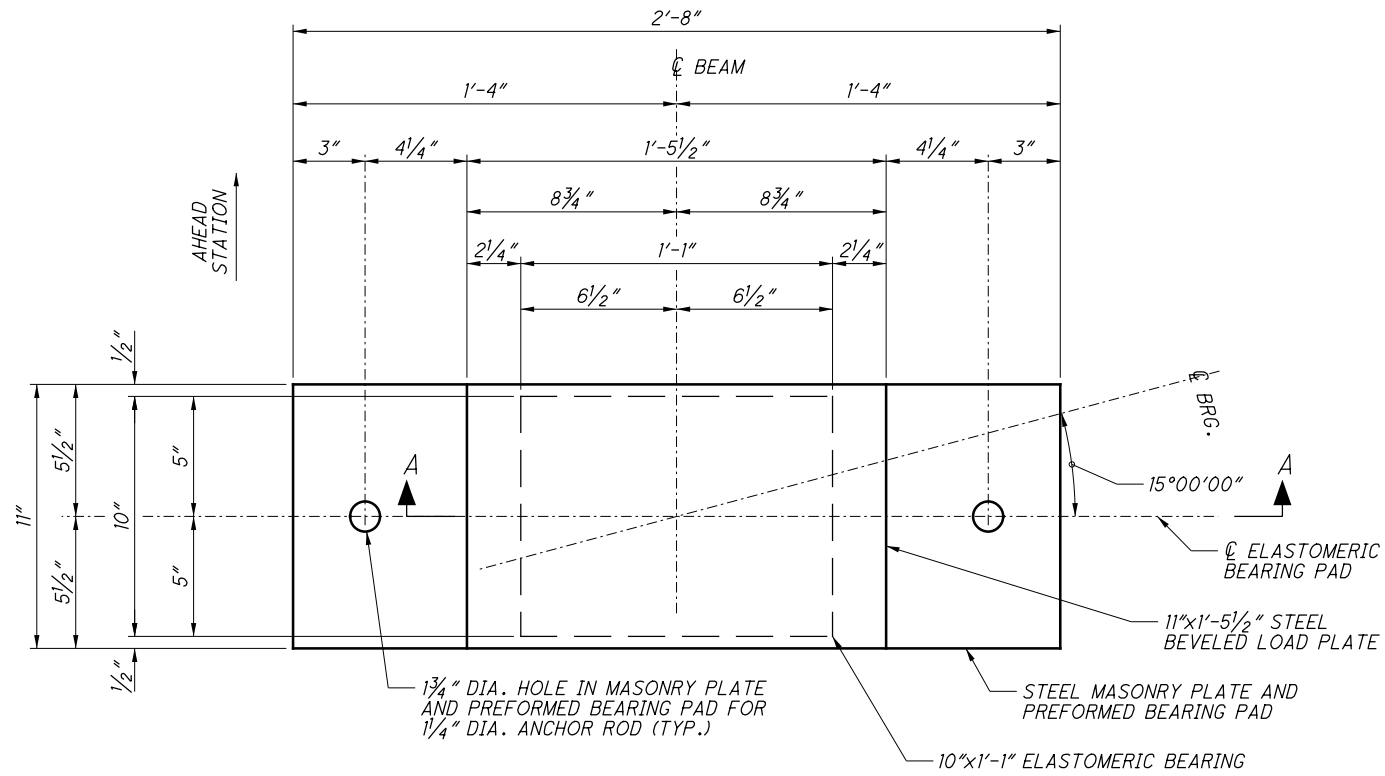
SECTION B-B

NOTES:

1. PROPOSED BEAM SEATS SHALL BE 6 1/2" BELOW THE LOWER BOTTOM OF BEAM ELEVATION AT THE INTERSECTION OF EX. BEAM AND REAR BEARING OR FORWARD BEARING FOR EACH EX. BEAM LINE. CONTRACTOR SHALL LOCATE THE LOWEST EXISTING BEAM ELEVATION PRIOR TO JACKING AND REMOVING THE EXISTING BEARINGS.
2. BRIDGE SEAT REINFORCING, SETTING ANCHORS: ACCURATELY PLACE REINFORCING STEEL IN THE VICINITY OF THE BRIDGE SEAT TO AVOID INTERFERENCE WITH THE DRILLING OF ANCHOR BAR HOLES.
3. SEAL ENTIRE CAP WITH EPOXY-URETHANE EXCEPT FOR AREAS UNDER BEARINGS.

DESIGNED BCS	DRAWN JDG	REVIEWED MAB	DATE 9/22/21	DESIGN AGENCY
				BURGESS & NIPLE 525 VINE ST. CINCINNATI, OHIO
CHECKED SJA	REVISED	STRUCTURE FILE NUMBER 0900397		BRIDGE NO. BUT-04-2317 SR 4 OVER GREAT MIAMI RIVER
BUT - SR 4 - 23.17 PID No. 102783				PIER 4 CAP REPLACEMENT DETAILS
11 / 14				18 21

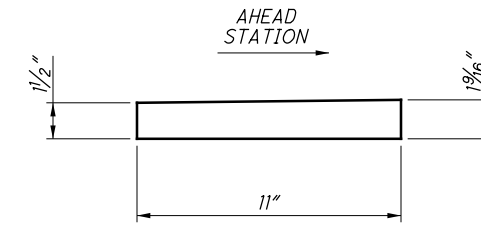
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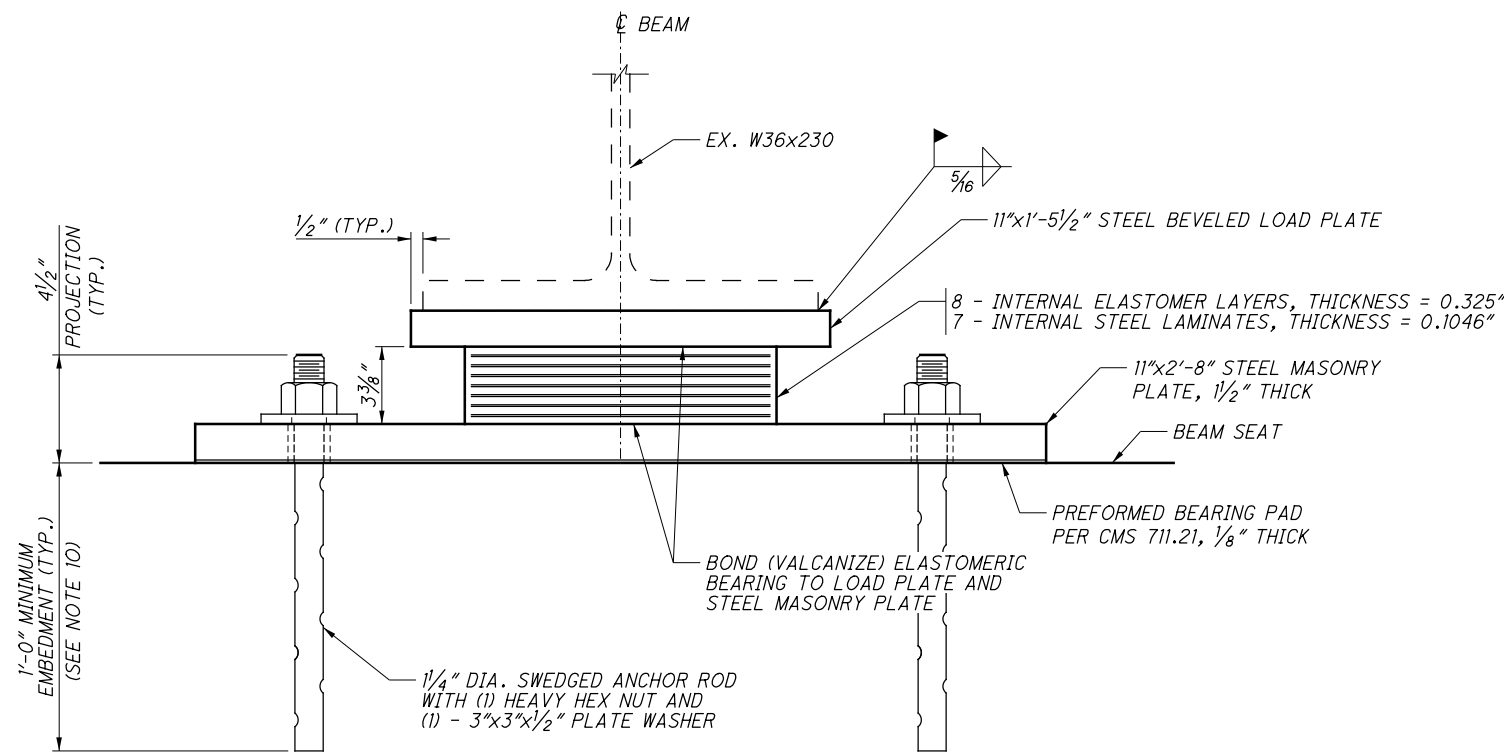
BEARING PLAN

LOCATION	TYPE	NO. REQ'D	REACTION (KIPS)		DESIGN LOAD (KIPS)
			DL	LL**	
PIER 4	EXP.	16	49	72	121

** LIVE LOAD WITHOUT IMPACT



BEVELED LOAD PLATE DETAIL

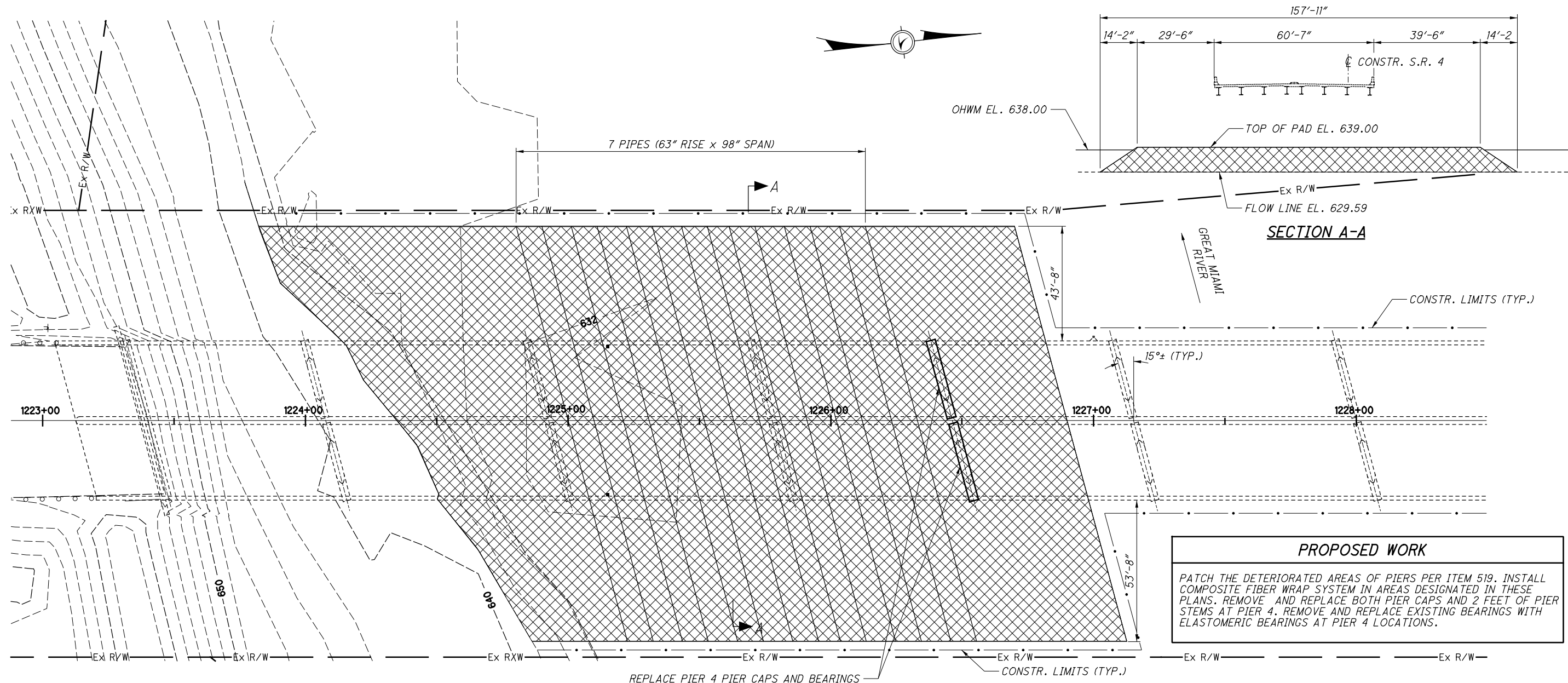


SECTION A-A

NOTES:

1. THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARING WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
2. STEEL LOAD PLATES AND PLATE WASHERS SHALL BE ASTM A709, GRADE 50. STEEL LOAD PLATES, MASONRY PLATES AND PLATE WASHERS SHALL BE PAINTED ACCORDING TO 514. MATCH EXISTING PAINT COLOR. ANCHOR RODS SHALL BE ASTM F1554, GRADE 105, GALVANIZED ACCORDING TO 711.02. HEAVY HEX NUTS SHALL BE ASTM A563, GRADE DH OR DH3, GALVANIZED ACCORDING TO 711.02, AND LUBRICATED WITH A LUBRICANT CONTAINING A VISIBLE DYE.
3. VULCANIZE THE LOAD PLATE AND MASONRY PLATE TO THE ELASTOMER DURING THE MOLDING PROCESS.
4. SHOP MARK THE LOAD PLATES WITH THE UPSTATION DIRECTION. ALL MARKS SHALL BE PERMANENT AND VISIBLE AFTER THE BEARING IS INSTALLED.
5. WHERE A MASONRY PLATE IS BONDED TO THE ELASTOMER AT THE BOTTOM OF THE BEARING AND A LOAD PLATE IS BONDED TO THE ELASTOMER AT THE TOP OF THE BEARING, ALL ELASTOMER LAYERS SHALL BE DESIGNATED AS INTERNAL LAYERS.
6. IN ADDITION TO THE REQUIREMENTS OF ITEM 516 AND THE DETAILS SHOWN ON THESE PLANS, THE CONTRACTOR SHALL VERIFY AND INSTALL ANY NECESSARY THICKNESS SHIMS TO PROVIDE A SNUG FIT BETWEEN THE BEARING DEVICE AND THE BEARING SEAT. THE BEARING SHIMS PROVIDED SHALL BE THE SAME MATERIAL AS THE PROPOSED STEEL LOAD PLATE. SHIM FOOTPRINT SHALL BE AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL ENSURE THAT ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS OR BEARING DEVICES ARE FLOATING. PRIOR TO BEARING PLACEMENT THE CONTRACTOR SHALL GRIND SMOOTH ALL EXISTING WELDS ON THE BOTTOM FLANGE OF THE BEAM.
7. THE CONTRACTOR IS REQUIRED TO FIELD VERIFY THE EXISTING BOTTOM OF BEAM ELEVATIONS PRIOR TO JACKING OPERATIONS. THE CONTRACTOR IS TO SUBMIT THE VERIFIED ELEVATIONS TO DISTRICT 8 ENGINEER PRIOR TO THE JACKING OPERATIONS. APPROVAL OF THE OPERATIONS IS NOT REQUIRED.
8. THE FINAL BEAM SHIM PLATE THICKNESSES ARE CONTRACTOR CALCULATED VALUES. ANY ADJUSTMENT IN SHIM PLATE THICKNESS NEEDED AS A RESULT OF CONTRACTOR ERROR WILL BE PROVIDED AT THE EXPENSE OF THE CONTRACTOR AND SHALL BE APPROVED BY THE ENGINEER. ONLY ONE BEARING SHIM WILL BE ALLOWED PER BEARING AND MUST BE INSTALLED ABOVE THE LOAD PLATE.
9. BASIS OF PAYMENT: THE UNIT PRICE INCLUDES ALL MATERIAL, LABOR, TESTING, AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS INCLUDING BEVELED STEEL LOAD PLATES, MASONRY PLATES, PREFORMED BEARING PADS, ANCHOR RODS, NUTS, SHIMS AND WASHERS. PAYMENT WILL BE INCLUDED WITH ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMENATES AND LOAD PLATE (NEOPRENE), AS PER PLAN.
10. PAINT ALL STRUCTUREAL STEEL WITHIN FOUR (4) FEET OF PIER 4. MATCH EXISTING PAINT COLOR.

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
IMPACT TOTALS
 LENGTH OF CHANNEL DISTURBED = 164 FEET ALONG SKEW
 PLAN AREA OF TEMPORARY ACCESS FILL = 1.05 ACRES
 FILL BELOW OHWM = 10,490 CUBIC YARDS
 TOTAL VOLUME OF TEMPORARY FILL MATERIAL = 11,910 CUBIC YARDS

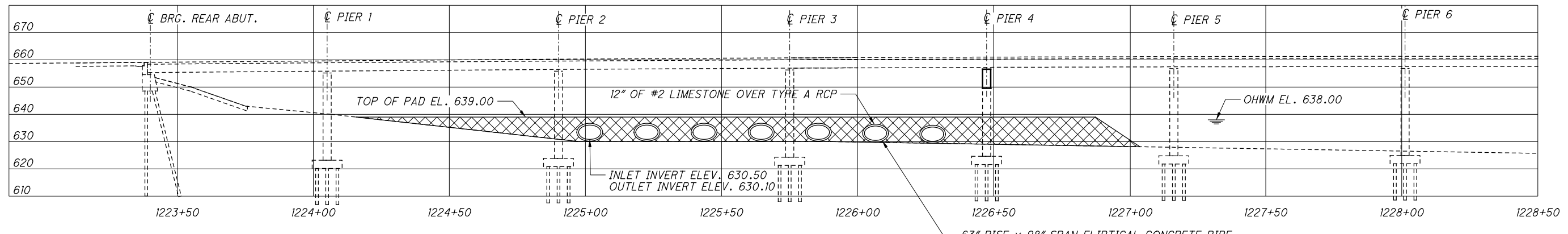
PLAN

HYDRAULIC DATA

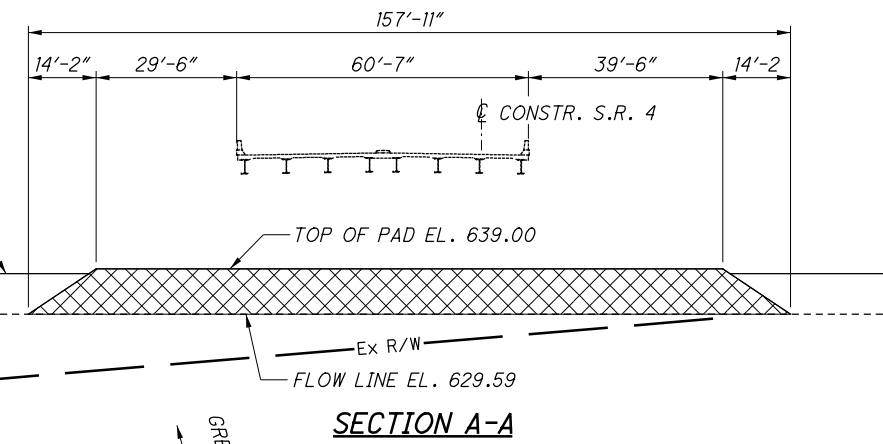
1. THE TEMPORARY ACCESS FILL SHALL BE DESIGNED TO MAINTAIN A FLOW EQUAL TO TWO TIMES THE HIGHEST AVERAGE MONTHLY FLOW (i.e. THE LARGEST OF Q1, Q2, Q3, ... Q12), AS REPORTED BY THE USGS WEB BASED APPLICATION STREAM STATS (SEE BDM SECTION 201.3.2) SUCH THAT NO RISE IN BACKWATER ABOVE THE OHWM IS PERMITTED.
2. ANY DEVIATION WILL REQUIRE HYDRAULIC ANALYSIS USING THE MCD MODEL. APPROVAL FROM MCD COULD TAKE A COUPLE OF MONTHS.

LEGEND

 = TEMPORARY ACCESS FILL
 OHWM = ORDINARY HIGH WATER MARK



PROFILE ALONG C CONSTRUCTION S.R. 4



SECTION A-A

DESIGN AGENCY
 BURGESS & NIPLE
 525 VINE ST. CINCINNATI, OHIO

DATE
 9/22/21
 REVIEWED
 MAB
 STRUCTURE FILE NUMBER
 0900397

DESIGNED
 XAC
 CHECKED
 JB

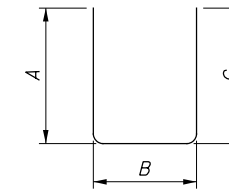
TEMPORARY ACCESS FILL DETAILS
 BRIDGE NO. BUT-04-2317
 SR 4 OVER GREAT MIAMI RIVER

BUT-SR4-23.17
 PID No. 102783

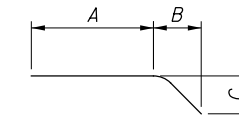
13 / 14

20
 21

MARK	NUMBER		LENGTH	WEIGHT	TYPE	DIMENSIONS					
	TOTAL					A	B	C	D	E	R
PIER 4 REINFORCING LIST											
P501	70		8'-7"	627	2	2'-10"	3'-2"	2'-10"			
	4 S.O.		8'-7"			2'-10"		2'-10"			0'-4 ³ / ₄ "
P502	OF		TO	647	2	TO	3'-2"	TO			
	12		17'-3"			7'-2"		7'-2"			0'-4 ³ / ₄ "
P503	22		17'-7"	403	2	7'-4"	3'-2"	7'-4"			
P504	8		16'-10"	140	STR						
P505	16		10'-9"	179	19	8'-2"	2'-2"	1'-6"			
	4 S.O.		18'-11"								
P506	OF		TO	596	STR						1'-11 1/2"
	6		28'-8"								
P507	16		30'-2"	503	STR						
P508	40		7'-9"	323	2	2'-5"	3'-2"	2'-5"			
P509	8		14'-10"	124	STR						
P801	16		32'-3"	1378	2	1'-4"	30'-0"	1'-4"			
			TOTAL	4,920							



TYPE-2



TYPE-19

REINFORCING NOTES:

- ALL REINFORCING STEEL TO BE EPOXY COATED.
- THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE NUMBERS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR NUMBERS ARE USED INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE A P1001 IS A NUMBER 10 BAR. P501 IS A NUMBER 5 BAR. BAR DIMENSIONS ARE OUT TO OUT UNLESS OTHERWISE INDICATED. R INDICATES INSIDE RADIUS UNLESS OTHERWISE NOTED.

BUT - SR 4-23.17	REINFORCING SHEET	DESIGN AGENCY BURGESS & NIPLE 525 VINE ST. CINCINNATI, OHIO
PID No. 102783	BRIDGE NO. BUT-04-2317 SR 4 OVER GREAT MIAMI RIVER	DATE 3/1/22
14 / 14	DESIGNED BCS	REVIEWED MAB
21 / 21	CHECKED SJA	STRUCTURE FILE NUMBER 0900397

SOIL PROFILE
BUTLER COUNTY
BUT - 4 - 22.98
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
 O. S. U. CAMPUS, COLUMBUS, OHIO

LEGEND FOR PROJECT-AVERAGE RESULTS OF TESTS-22 SAMPLES TESTED

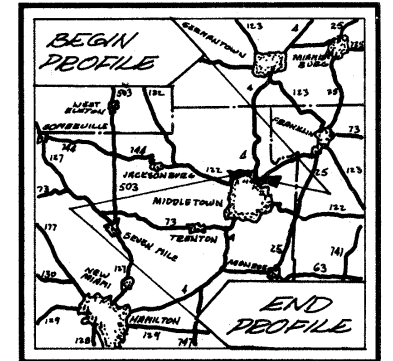
DESCRIPTION	H. R. B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL	A-1-a _(a)	A-1-a	69	16	5	8	2	22	1	-	3
COARSE & FINE SAND	-	A-3a	0	53	29	13	5	NON-PLASTIC		7	1
SANDY SILT	A-4 _(a)	A-4a	7	25	23	32	13	26	6	12	9
SILT	A-4 _(b)	A-4b	0	8	13	61	18	29	8	14	3
SILT AND CLAY	A-6 _(a)	A-6a	9	15	18	39	19	29	12	15	3
CLAY	A-7 _(a)	A-7-a	0	4	14	57	25	44	20	30	1
CINDERS & STACK DUST	CLASSIFIED BY VISUAL INSPECTION										2

- EXISTING PAVEMENT
- ▨ TOP SOIL - 75 = X' - APPROX. DEPTH
- AUGER BORING PLOTTED TO VERTICAL SCALE ONLY
- ⊕ AUGER BORING - PLAN VIEW
- ↕ FREE WATER

SAMPLES TESTED
 LAB. NO'S SO. 839-860 INCL.
 MOISTURE DENSITY SAMPLE
 LAB. NO. SO. - 860

NOTE: FIGURES BESIDE BORINGS INDICATE MOISTURE CONTENT IN PERCENT

NOTE: THE INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS SECURED FOR THE USE OF THE STATE OF OHIO AND IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING THE CONSTRUCTION OF THE PROJECT.



LOCATION MAP

