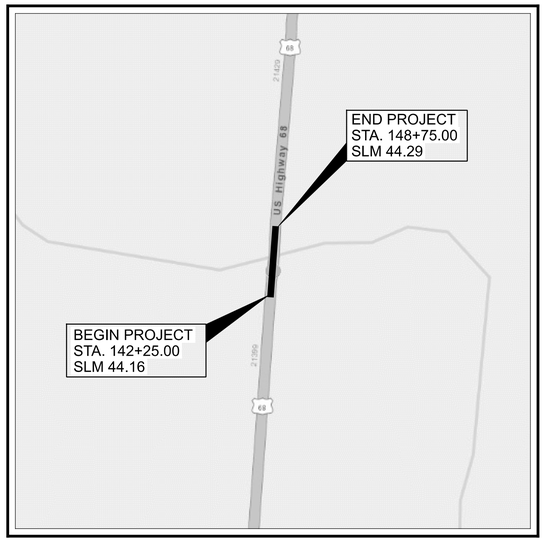


**LOCATION MAP**

*LATITUDE: 39°13'33" LONGITUDE: 83°54'39"*

N

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

## DESIGN DESIGNATION

| | |
|---|---|
| *CURRENT ADT (2025)* | *3,100* |
| *DESIGN YEAR ADT (2045)* | *3,200* |
| *DESIGN HOURLY VOLUME (2045)* | *300* |
| *DIRECTIONAL DISTRIBUTION* | *55%* |
| *TRUCKS (24 HOUR B&C)* | *14%* |
| *DESIGN SPEED* | *55 MPH* |
| *LEGAL SPEED* | *55 MPH* |

*DESIGN FUNCTIONAL CLASSIFICATION:*
*04 MINOR ARTERIAL (RURAL)*
*NHS PROJECT* — *NO*

## DESIGN EXCEPTIONS

*NONE*

## ADA DESIGN WAIVERS

*N/A*

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

*PLAN PREPARED BY:*

PRIME AE
*8415 PULSAR PLACE, SUITE 300*
*COLUMBUS, OH 43240*

# STATE OF OHIO
# DEPARTMENT OF TRANSPORTATION

# *BRO-68-44.16*

## *PERRY TOWNSHIP*

## *BROWN COUNTY*

### *INDEX OF SHEETS:*



### *FEDERAL PROJECT NUMBER*

E191(915)

### *RAILROAD INVOLVEMENT*

NONE

### *PROJECT DESCRIPTION*

*BRIDGE REPLACEMENT (SFN 0802042) OVER THE EAST FORK LITTLE MIAMI RIVER INCLUDING APPROACH PAVEMENT RECONSTRUCTION.*

### *EARTH DISTURBED AREAS*

| | |
|---|---|
| *PROJECT EARTH DISTURBED AREA:* | *1.91 ACRES* |
| *ESTIMATED CONTRACTOR EARTH DISTURBED AREA:* | *0.25 ACRES* |
| *NOTICE OF INTENT EARTH DISTURBED AREA:* | *2.16 ACRES* |

### *2023 SPECIFICATIONS*

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

*I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED AS INDICATED ON SHEET 8.*

***DISTRICT DEPUTY DIRECTOR***

Michael G. Dombrowski
09

***DIRECTOR, DEPARTMENT OF TRANSPORTATION***

*ENGINEER'S SEAL:*
*BRIDGE*
*BRO-68-44.16*
STATE OF OHIO
ANGELA M TRAUTMAN
E-82339
REGISTERED PROFESSIONAL ENGINEER

### *STANDARD CONSTRUCTION DRAWINGS*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *BP-3.1* | *01/21/22* | *MT-101.60* | *04/21/23* | *AS-1-15* | *01/20/23* | | | *800-2023* | *10/20/23* |
| *BP-9.1* | *01/18/19* | *MT-105.10* | *01/17/20* | *AS-2-15* | *07/21/23* | | | *832* | *07/21/23* |
| *BP-9.2* | *01/15/21* | | | *DS-1-92* | *07/15/22* | | | *836* | *01/19/18* |
| *DM-1.1* | *07/17/20* | *TC-42.20* | *10/18/13* | *PSID-1-13* | *01/20/23* | | | *894* | *04/16/21* |
| *DM-4.4* | *01/15/16* | *TC-52.10* | *10/18/13* | *SICD-1-21* | *01/21/22* | | | *902* | *07/19/19* |
| | | *TC-52.20* | *01/15/21* | *SICD-2-14* | *01/15/21* | | | | |
| *MGS-1.1* | *07/16/21* | *TC-64.10* | *07/21/23* | *TST-2-21* | *07/21/23* | | | | |
| *MGS-2.1* | *01/19/18* | *TC-65.10* | *01/17/14* | | | | | | |
| *MGS-3.3* | *07/16/21* | *TC-65.11* | *07/15/22* | | | | | | |
| *MGS-4.2* | *07/19/13* | | | | | | | | |
| *MGS-5.3* | *07/15/16* | | | | | | | | |

### *SUPPLEMENTAL SPECIFICATIONS*

### *SPECIAL PROVISIONS*

*WATERWAY PERMIT* *3/8/23*

DESIGN AGENCY
PRIME AE
DESIGNER JTB
REVIEWER AA 07/10/23
PROJECT ID 110556
SHEET P.1 TOTAL 64

TITLE SHEET

BRO-68-44.16


MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/18/2024 TIME: 2:00:03 PM USER: adesimone
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**UTILITIES**

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

| ELECTRIC | TELECOM |
|---|---|
| DUKE ENERGY | TDS TELECOM |
| 2010 DANA AVENUE | 525 JUNCTION ROAD |
| CINCINNATI, OHIO 45207 | MADISON, WI 53717 |
| MR. SHANE ERHART | MR. BRIAN KEISTER |
| 513-508-9609 | 608-664-0640 |

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

**SURVEYING PARAMETERS**

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE THIS SHEET FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

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

PROJECT CONTROL

POSITIONING METHOD: ODOT V.R.S.
MONUMENT TYPE: B

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID18

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (2011)
ELLIPSOID: GRS80
MAP PROJECTION:
COORDINATE SYSTEM: OHIO STATE PLANE, SOUTH
COMBINED SCALE FACTOR: 1.00009951
ORIGIN OF COORDINATE SYSTEM: (0,0)

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

UNITS ARE IN U.S. SURVEY FEET.

CONTROL POINTS

| POINT NAME | NORTHING | EASTING | ELEV. | DESCRIPTION |
|---|---|---|---|---|
| SV1 | 449124.3065 | 1568984.654 | 924.806 | IPINS\5/8"REBAR & ODOT CAP SET |
| SV2 | 449529.6368 | 1569061.578 | 929.155 | IPINS\5/8"REBAR & ODOT CAP SET |
| SV3 | 450063.5555 | 1569073.499 | 944.681 | IPINS\5/8"REBAR & ODOT CAP SET |
| SV4 | 449677.9792 | 1569139.051 | 910.084 | IPINS\5/8"REBAR & ODOT CAP SET |
| TBM1 | 449746.3719 | 1569096.797 | 930.309 | BM\BENCHTIE IN P.POLE #31B357E |
| TBM2 | 449525.9173 | 1569076.675 | 919.900 | BM\BENCHTIE IN P.POLE #31B279E |

**WORK LIMITS**

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

**ROUNDING**

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

**CLEARING AND GRUBBING**

ALL TREES WITHIN THE CONSTRUCTION LIMITS HAVE BEEN DROPPED BY A SEPARATE CONTRACT. THE TRUNKS HAVE BEEN STORED WITHIN THE R/W AND THE REMAINING STUMPS WERE LEFT ±3'-0" ABOVE EXISTING GROUND. INCLUDE THE COST TO REMOVE ALL TRUNKS FROM THE PROJECT SITE AND TO REMOVE ALL THE REMAINING STUMPS IN THE LUMP SUM BID FOR ITEM 201 - CLEARING AND GRUBBING.

**SEEDING AND MULCHING**

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

| | |
|---|---|
| 659, TOPSOIL | 761 CU. YD. |
| 659, SEEDING AND MULCHING | 6855 SQ. YD. |
| 659, REPAIR SEEDING AND MULCHING | 343 SQ. YD. |
| 659, COMMERCIAL FERTILIZER | 1.02 TON |
| 659, LIME | 1.56 ACRES |
| 659, WATER | 41 M. GAL. |

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

**EXISTING SUBSURFACE DRAINAGE**

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS OR AGGREGATE DRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE. UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 605, AGGREGATE DRAINS 100 FT.

**FARM DRAINS**

PROVIDE UNOBSTRUCTED OUTLETS TO ALL FARM DRAINS ENCOUNTERED DURING CONSTRUCTION. REPLACE EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY WITHIN THE (RIGHT OF WAY)( CONSTRUCTION) LIMITS WITH ITEM 611, CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

OUTLET EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES INTO THE ROADWAY.

DITCH USING ITEM 611, TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION IS ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. INTERCEPT LATERAL FIELD TILES WHICH CROSS THE ROADWAY WITH ITEM 611, TYPE E CONDUIT, AND CARRY IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS IS DETERMINED BY THE ENGINEER AND PAYMENT MADE ON FINAL MEASUREMENTS.

PROVIDE EROSION CONTROL PADS AT THE OUTLET END OF ALL FARM DRAINS PER STANDARD CONSTRUCTION DRAWING DM-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE.

PAYMENT FOR THE EROSION CONTROL PADS AND ANY NECESSARY BENDS OR BRANCHES IS INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEMS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

611 - 6" CONDUIT, TYPE F 30 FT.

**ITEM 204 - PROOF ROLLING**

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 - PROOF ROLLING 2 HOUR.

**ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING**

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

1. SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.

2. EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. THE EXCAVATION LIMITS ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSUITABLE SUBGRADE. UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO SECTION 204.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS).

   IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.

**ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING (CONTINUED)**

3. COMPACT THE SUBGRADE ACCORDING TO C&MS 204.03.

4. APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSTABLE SUBGRADE. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.

   PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO C&MS 204.06.

5. EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO C&MS 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.

6. PROOF ROLL THE STABILIZED AREAS ACCORDING TO C&MS 204.06 TO VERIFY STABILITY.

7. FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

THE QUANTITIES FOR EXCAVATING THE UNSUITABLE SUBGRADE AND UNSTABLE SUBGRADE ARE BOTH PAID UNDER ITEM 204, EXCAVATION OF SUBGRADE.

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

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

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

GENERAL NOTES

DESIGN AGENCY
PRIME AE

DESIGNER JTB
REVIEWER AA 07/10/23
PROJECT ID 110556
SHEET P.4 TOTAL 64

BRO-68-44.16

## GENERAL NOTES:

### REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

| | | |
|---|---|---|
| AS-1-15 | REVISED | 01/20/23 |
| AS-2-15 | REVISED | 07/21/23 |
| DM-1.1 | REVISED | 07/17/20 |
| DS-1-92 | REVISED | 07/15/22 |
| PSID-1-13 | REVISED | 01/20/23 |
| SICD-1-21 | REVISED | 01/21/22 |
| SICD-2-14 | REVISED | 01/15/21 |
| TST-2-21 | DATED | 07/21/23 |

### AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

| | |
|---|---|
| SS894 | REVISED |

### 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, 2020.

### DESIGN LOADING:

VEHICULAR LIVE LOAD: HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/FT²

### DESIGN DATA:

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4 KSI (SUBSTRUCTURE)
CONCRETE CLASS QC5, WITH 1-IN. MAX. AGGREGATE SIZE - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT)
EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI
STRUCTUAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) F'C = 9 KSI
COMPRESSIVE STRENGTH (RELEASE) F'CI = 7 KSI
WELDED WIRE FABRIC:
YIELD STRENGTH - 70 KSI
PRESTRESSING STRAND:
AREA = 0.217 SQ. IN.
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

### MONOLITHIC WEARING SURFACE:

IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

### SCOUR ELEVATIONS:

| | REAR ABUTMENT | FORWARD ABUTMENT |
|---|---|---|
| DESIGN FLOOD | 913.44 | 912.50 |
| CHECK FLOOD | 912.50 | 911.56 |

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

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. DO NOT BEGIN WORK UNTIL THE ENGINEER ACCEPTS THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING CONCRETE REINFORCEMENT TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH CONCRETE REINFORCEMENT THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05. THIS WORK CONSISTS OF:

A. REMOVAL OF ABUTMENTS, FOOTINGS, AND WINGWALLS PER THE CONSTRUCTION PLANS. REMOVAL OF PIERS TO TOP OF FOOTINGS.

### 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 2.30 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

### ROCK-SOCKETED DRILLED SHAFTS:

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 476 KIPS. AT THE REAR ABUTMENT, THE FACTORED TIP RESISTANCE IS 3640 KIPS. AT THE FORWARD ABUTMENT THE FACTORED TIP RESISTANCE IS 3741 KIPS.

### LATERALLY LOADED DRILLED SHAFTS:

THE MAXIMUM FACTORED LATERAL LOAD AND BENDING MOMENT TO BE SUPPORTED BY EACH DRILLED SHAFT ARE 107 KIPS, AND 753 KIP-FEET, RESPECTIVELY. THESE LOADS PRODUCE A MAXIMUM FACTORED BENDING MOMENT OF 1208 KIP-FEET, AND A MAXIMUM FACTORED SHEAR OF 351 KIPS, WITHIN THE DRILLED SHAFT.

### SHAFT DRILLING CONSTRAINTS:

PRIOR TO DRILLING SHAFTS AT THE ABUTMENT, CONSTRUCT THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP AT A 1:1 SLOPE FROM THE TOP OF THE HEEL OF THE FOOTING TO THE SUBRADE ELEVATION AND FOR A MINIMUM DISTANCE OF 250-FT BEHIND THE ABUTMENTS. DO NOT BEGIN THE DRILLING OF THE ABUTMENT SHAFTS UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED. AFTER THE FOOTING AND THE BREASTWALL HAVE BEEN CONSTRUCTED, CONSTRUCT THE EMBANKMENT IMMEDIATELY BEHIND THE ABUTMENTS UP TO THE BEAM SEAT ELEVATION AND ON A 1:1 SLOPE UP TO THE SUBGRADE ELEVATION PRIOR TO SETTING THE BEAMS ON THE ABUTMENTS.

### ITEM 894 - THERMAL INTEGRITY PROFILER (T.I.P.) TEST:

PERFORM INTEGRITY TESTING ON 1 OF THE DRILLED SHAFTS AT EACH ABUTMENT BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING PER ASTM D7949, "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS," METHOD B, AND PER THE PROJECT SPECIAL PROVISIONS.

INSTALL EVENLY SPACED THERMAL WIRE CABLES IN EACH FOUNDATION ELEMENT. INSTALL 4 CABLES SPACED AT 90 DEGREES IN EACH DRILLED SHAFT TO BE TESTED.

### ABBREVIATIONS:

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

| | | |
|---|---|---|
| BOT. | - | BOTTOM |
| C/C | - | CENTER TO CENTER |
| ℄ | - | CENTERLINE |
| C.J. | - | CONSTRUCTION JOINT |
| CLR. | - | CLEAR |
| CMS | - | CONSTRUCTION AND MATERIAL SPECIFICATIONS |
| CON. | - | CONCRETE |
| CY | - | CUBIC YARD |
| DIA. | - | DIAMETER |
| E.F. | - | EACH FACE |
| EL. | - | ELEVATION |
| EQ. | - | EQUAL |
| EXIST. | - | EXISTING |
| EXP. | - | EXPANSION |
| F.A. | - | FORWARD ABUTMENT |
| F.F. | - | FAR FACE |
| FT | - | FEET |
| LB | - | POUNDS |
| MAX. | - | MAXIMUM |
| MIN. | - | MINIMUM |
| N.F. | - | NEAR FACE |
| PEJF | - | PREFORMED EXPANSION JOINT FILLER |
| PROP. | - | PROPOSED |
| R.A. | - | REAR ABUTMENT |
| R/W | - | RIGHT OF WAY |
| SER. | - | SERIES |
| SF | - | SQUARE FEET |
| SPA. | - | SPACING/SPACES |
| STA. | - | STATION |
| SY | - | SQUARE YARD |
| TYP. | - | TYPICAL |

GENERAL NOTES
BRIDGE NO. BRO-68-4412
U.S. 68 OVER EAST FORK LITTLE MIAMI RIVER

SFN 0802043
DESIGN AGENCY PRIME AE
DESIGNER EEB | CHECKER AMT
REVIEWER SN 07/10/23
PROJECT ID 110556
SUBSET 2 | TOTAL 22
SHEET P.33 | TOTAL 64

BRO-68-44.16

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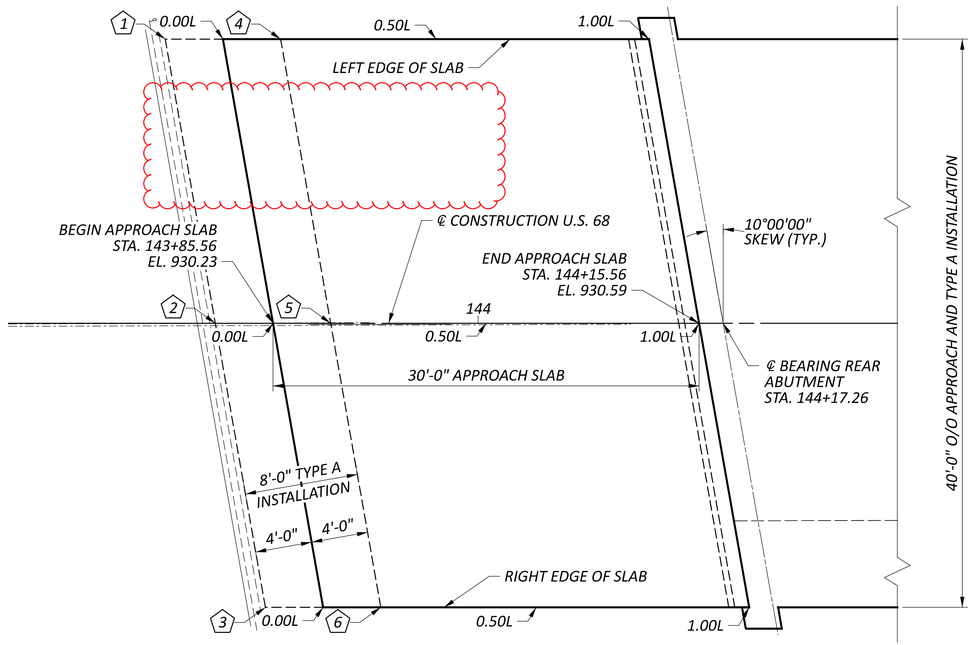
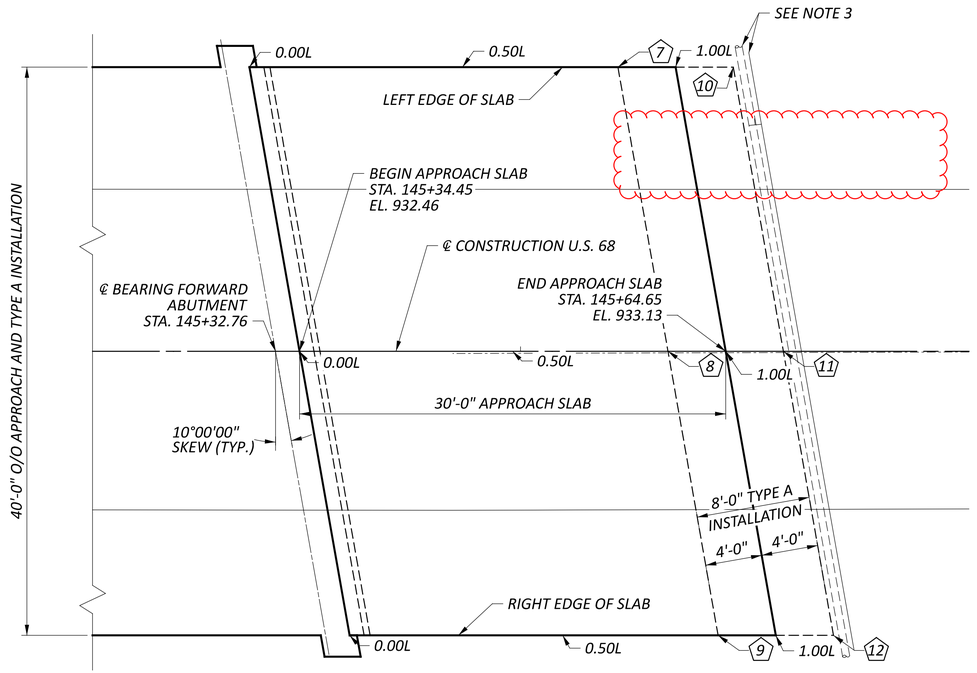



REAR APPROACH SLAB PLAN




FORWARD APPROACH SLAB PLAN

| TYPE A INSTALLATION ELEVATION TABLE | | |
|---|---|---|
| | STATION | ELEVATION |
| 1 | 143+77.97 | 928.40 |
| 2 | 143+81.50 | 928.76 |
| 3 | 143+85.03 | 928.49 |
| 4 | 143+86.10 | 928.50 |
| 5 | 143+89.62 | 928.86 |
| 6 | 143+93.15 | 928.58 |
| 7 | 145+56.86 | 931.22 |
| 8 | 145+60.39 | 931.62 |
| 9 | 145+63.91 | 931.38 |
| 10 | 145+64.98 | 931.40 |
| 11 | 145+68.51 | 931.81 |
| 12 | 145+72.04 | 931.57 |

| APPROACH SLAB ELEVATION TABLE | | | | | | | |
|---|---|---|---|---|---|---|---|
| LOCATION | | LEFT EDGE OF SLAB | | ℄ CONSTRUCTION U.S. 68 | | RIGHT EDGE OF SLAB | |
| | | STATION | ELEVATION | STATION | ELEVATION | STATION | ELEVATION |
| REAR ABUTMENT | 0.00L | 143+82.04 | 929.87 | 143+85.56 | 930.23 | 143+89.09 | 929.95 |
| | 0.50L | 143+97.04 | 930.05 | 144+00.56 | 930.41 | 144+04.09 | 930.13 |
| | 1.00L | 144+12.04 | 930.23 | 144+15.56 | 930.59 | 144+19.09 | 930.31 |
| FORWARD ABUTMENT | 0.00L | 145+30.92 | 932.07 | 145+34.45 | 932.46 | 145+37.97 | 932.22 |
| | 0.50L | 145+45.92 | 932.39 | 145+49.45 | 932.79 | 145+52.97 | 932.54 |
| | 1.00L | 145+60.92 | 932.73 | 145+64.45 | 933.13 | 145+67.97 | 932.89 |

## NOTES:

1. SEE STANDARD DRAWING AS-1-15 FOR REINFORCING AND ADDITIONAL APPROACH SLAB DETAILS.
2. SEE STANDARD DRAWING AS-2-15, FOR ADDITIONAL TYPE A INSTALLATION DETAILS.
3. PROVIDE 6" DIAMETER PERFORATED PIPE (CMS 707.31) UNDERDRAIN (CMS 605.03) INCLUDING GRANULAR MATERIAL AT THE REAR & FORWARD APPROACH SLEEPER SLAB PER STANDARD DRAWING AS-2-15.

# APPROACH SLAB DETAILS
## BRIDGE NO. BRO-68-4412
## U.S. 68 OVER EAST FORK LITTLE MIAMI RIVER

SFN 0802043
DESIGN AGENCY PRIME AE
DESIGNER EEB | CHECKER AMT
REVIEWER SN 07/10/23
PROJECT ID 110556
SUBSET 20 | TOTAL 22
SHEET P.51 | TOTAL 64

BRO-68-44.16

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/17/2024 TIME: 9:06:33 PM USER: adesimone
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