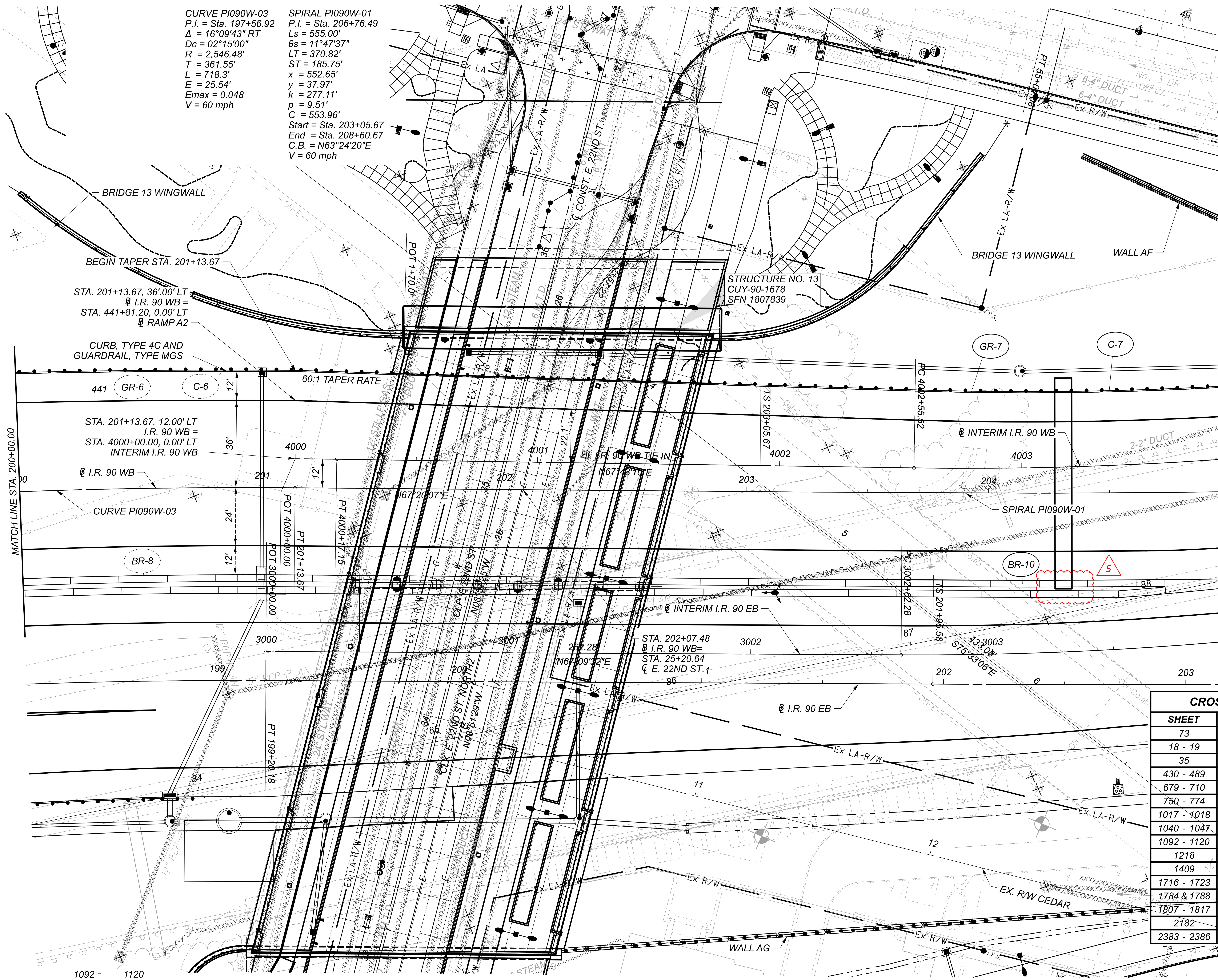


CROSS REFERENCES	
SHEET	DESCRIPTION
73	UTILITY SYMBOL LEGEND
18 - 19	EX. TYPICAL SECTIONS
35	PR. TYPICAL SECTIONS
430 - 489	SUBSUMMARIES
679 - 710	REMOVAL PLAN
750 - 774	CROSS SECTIONS
1017 - 1018	SUPERELEVATION TABLES
1040 - 1047	RAMP TERMINAL DETAILS
1092 - 1120	DRAINAGE PLANS
1218	WALL AF
1409	WATER WORK
1716 - 1723	LIGHTING PLAN
1784 & 1788	CPP DUCT BANK
1807 - 1817	LANDSCAPING
2182	CUY-90-1678 (BRIDGE 13)
2383 - 2386	FENCE PLAN

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN - I.R. 90 WB
STA. 200+00.00 TO STA. 205+00.00

DESIGN AGENCY
B&N
burgessniple.com

DESIGNER AJS
REVIEWER MRT 05/01/24
PROJECT ID 82382
SHEET 527 TOTAL 2696

CUY-90-16.28 (CCG3A)

MODEL: 82382_GP2208 PAPERSIZE: 34x22 (in.) DATE: 10/10/2025 TIME: 1:11:53 PM USER: Joseph.Hogan
pw:\\mb-us-pw.bentley.com:mb-us-pw-03\Documents\Cleveland_OH\OL_Projects\ODOT\District12\82382\400-Engineering\Roadway\Sheets\82382_GP2208.dgn


CURVE DATA
P.I. = Sta. 4006+44.80
Δ = 29°30'01" LT
Dc = 03°52'30"
R = 1,478.60'
T = 389.29'
L = 761.30'
E = 50.39'
CURVE DATA
P.I. = Sta. 4000+08.58
Δ = 00°23'03" RT
Dc = 02°14'22"
R = 2,558.48'
T = 8.58'
L = 17.15'
E = .01'
STRUCTURE NO. 13
CUY-90-1678
SFN 1807839
STA. 4000+97.62
INTERIM ℄ I.R. 90 WB=
STA. 25+32.57
℄ E. 22ND ST.
STA. 4000+00.00
INTERIM ℄ I.R. 90 WB =
STA. 201+13.67, 12.0' LT
℄ I.R. 90 WB
CURVE PI090WT-01
CURVE PI090WT-02
℄ CARNEGIE AVE.
CL CARN.
N80°56
WALL AF
BRIDGE 13 WINGWALL
CURB, TYPE 4C AND
GUARDRAIL, TYPE MGS
C-7
GR-7
PC 4002+55.52
TS 203+05.67
℄ INTERIM I.R. 90 WB
℄ I.R. 90 WB
CONC. BARRIER,
SINGLE SLOPE, TYPE C1, A.P.P.
℄ EX. I.R. 90
60:1 TAPER RATE
MATCH LINE STA. 4005+00.00
BEGIN PAVEMENT TAPER
STA. 4003+50.00
BR-10
CONC. BARRIER,
SINGLE SLOPE, TYPE C1
CONC. BARRIER,
SINGLE SLOPE, TYPE C1
℄ INTERIM I.R. 90 EB
℄ I.R. 90 EB
PC 3002+62.28
TS 201+95.58
N67°43'10"E
N67°20'07"E
192.00'
262.28'
N67°09'32"E
275.40'
433.08'
S75°33'06"E
N08°51'29"W
℄ E. 22ND ST. NORTH2
END CONC. BARRIER, SINGLE SLOPE, TYPE C1
BEGIN CONC. BARRIER, SINGLE SLOPE, TYPE C1, A.P.P.
STA. 3003+75.14
END CONC. BARRIER, SINGLE SLOPE, TYPE C1, A.P.P.
BEGIN CONC. BARRIER, SINGLE SLOPE, TYPE C1
STA. 3004+04.33
WALL AG
℄ CEDAR AVE.
Ex LA-R/W
Ex R/W
POT 4000+00.00
PT 4000+17.15
PT 201+13.67
PT 55+03.08
2-2" DUCT
BRUSH & SMALL TREES
BRUSH & (6) LARGE TREES

CROSS REFERENCES

SHEET	DESCRIPTION
73	UTILITY SYMBOL LEGEND
19	EX. TYPICAL SECTIONS
38	PR. TYPICAL SECTIONS
430 - 489	SUBSUMMARIES
679 - 710	REMOVAL PLAN
775 - 789	CROSS SECTIONS
1018 - 1019	SUPERELEVATION TABLES
1040 - 1047	RAMP TERMINAL DETAILS
1092 - 1120	DRAINAGE PLANS
1218	WALL AF
1409	WATER WORK
1716 - 1723	LIGHTING PLAN
1784 - 1788	CPP DUCT BANK
1807 - 1817	LANDSCAPING
2182	CUY-90-1678 (BRIDGE 13)
2383 - 2386	FENCE PLAN

HORIZONTAL SCALE IN FEET 0 10 20 40

PLAN - INTERIM I.R. 90 WB
STA. 4000+00.00 TO STA. 4005+00.00

DESIGN AGENCY
B&N burgessniple.com

DESIGNER AJS
REVIEWER MRT 05/01/24
PROJECT ID 82382
SHEET 534 TOTAL 2696

CUY-90-16.28 (CCG3A)

MODEL: 82382_GP240I PAPERSIZE: 34x22 (in.) DATE: 10/10/2025 TIME: 1:09:45 PM USER: Joseph.Hogan
pw:\\mb-us-pw.bentley.com:mb-us-pw-03\Documents\Cleveland_OH\01_Projects\ODOT\District12\82382\400-Engineering\Roadway\Sheets\82382_GP240I.dgn

ITEM 524 - DRILLED SHAFTS, 30" DIAMETER ABOVE BEDROCK, AS PER PLAN
THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS FOR SOLDIER PILE WALLS. THE DRILLED SHAFTS ARE REINFORCED WITH SOLDIER PILES INSTEAD OF REINFORCING STEEL CAGES. THE SOLDIER PILES EXTEND ABOVE THE TOP OF THE DRILLED SHAFTS. FURNISH AND INSTALL THE DRILLED SHAFTS ACCORDING TO C&MS 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

EXCAVATE THE HOLE FOR THE DRILLED SHAFT WITHIN 3 INCHES OF THE PLAN LOCATION. PLACE THE SOLDIER PILE WITHIN THE HOLE SO IT IS VERTICAL. PLACE THE SOLDIER PILE SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF THE ROW OF DRILLED SHAFTS. DO NOT ALLOW THE ORIENTATION OF THE FLANGES TO VARY BY MORE THAN 10 DEGREES. SUPPORT THE PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT.

USE CLASS QC5 CONCRETE ACCORDING TO C&MS 511 TO FILL THE HOLE TO THE TOP OF THE DRILLED SHAFT (ELEVATION "C"). THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDING THE DEPTH OF WATER IN THE SHAFT IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. PORING THE CONCRETE ALONG THE WEB OF THE SOLDIER PILE IS ACCEPTABLE.

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

FILL THE HOLE ABOVE THE CONCRETE TO THE EXISTING GROUND SURFACE WITH LOW STRENGTH MORTAR BACKFILL (LSM) PER C&MS 613.

REMOVE CONCRETE AND LSM AS NECESSARY FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE THE LAGGING. WAIT AT LEAST 12 HOURS AFTER PLACING CONCRETE BEFORE PLACING LAGGING.

ITEM SPECIAL - RETAINING WALL, TIMBER LAGGING
THIS ITEM CONSISTS OF FURNISHING AND INSTALLING UNTREATED HARDWOOD LAGGING TO SERVE AS TEMPORARY LAGGING FOR THE SOLDIER PILE WALL. THE LAGGING SHALL CONSIST OF HARDWOOD TIMBER WITH 3 INCH BY 8 INCH DIMENSIONS AND SHALL BE OF A GRADE AND TYPE WITH AN ALLOWABLE EXTREME FIBER STRESS IN BENDING OF A MINIMUM OF 1 KSI. THE TIMBER MATERIAL SHALL BE DOUGLAS FIR-LARCH DENSE NO. 1, SELECT STRUCTURAL OR DENSE SELECT STRUCTURAL. THE WOOD SHALL BE SEASONED, SOUND, AND FREE FROM DECAY AND INSECT ATTACK, WITH NO LOOSE AND/OR CLUSTER KNOTS. THE ENDS OF THE TIMBER SHALL BE SAWED SQUARE WITH THE AXIS OF THE TIMBER. THE TIMBER MEMBERS SHALL ALSO CONFORM TO C&MS 711.26. PROVIDE CERTIFICATION THAT THE TIMBER CONFORMS TO THE GRADE, SPECIES AND OTHER SPECIFIED REQUIREMENTS.

LAGGING SHALL BE PLACED IN A TOP-DOWN MANNER AS EXCAVATION PROCEEDS DOWNWARD. AT NO TIME SHOULD MORE THAN 3 FEET OF UNSUPPORTED EXCAVATION BE PERMITTED. REDUCE THE UNSUPPORTED HEIGHT AS NECESSARY TO PREVENT CAVING AND SLOUGHING OF THE SOILS BETWEEN THE SOLDIER PILES. PROVIDE ¼ INCH TO ½ INCH WOOD SPACERS TO PROVIDE HORIZONTAL JOINT SPACING BETWEEN THE LAGGING BOARDS TO PERMIT DRAINAGE.

HARDWOOD SHIMMING SHALL BE USED AS NEEDED TO MAINTAIN THE POSITIONING OF THE TIMBER MEMBERS AGAINST THE INTERIOR FLANGE FACE OF THE SOLDIER PILE DURING CONSTRUCTION OF THE RETAINING WALL SYSTEM. NO SHIM SHALL EXTEND BEYOND THE FLANGE OF THE H-PILE MORE THAN ¼ INCH AND NO SHIM SHALL EXTEND BEYOND THE TOP FACE OF THE TOP LAGGING.

THE DEPARTMENT WILL MEASURE THE TEMPORARY HARDWOOD LAGGING BY THE NUMBER OF SQUARE FEET. PAYMENT SHALL INCLUDE ALL LABOR, MATERIAL AND INCIDENTALS (INCLUDING HARDWOOD SHIMMING AND WOOD SPACERS) NECESSARY TO FURNISH AND INSTALL THE TEMPORARY HARDWOOD LAGGING.

ITEM 840 - MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN
CONSTRUCTION AND PAYMENT FOR MECHANICALLY STABILIZED EARTH (MSE) WALLS SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 840 EXCEPT AS MODIFIED BELOW.

FOUNDATION BEARING RESISTANCE: THE WALL AC REINFORCED SOIL MASS, AS DESIGNED, PRODUCES A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 4.59 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 9.50 KIPS PER SQUARE FOOT.

MSE WALLS, EXCAVATION, SELECT GRANULAR BACKFILL, AND FOUNDATION PREPARATION WILL BE PAID PER STRAP LENGTH DETERMINED IN THE SUPPLIER'S SHOP DRAWING APPROVED BY THE ENGINEER AS DESCRIBED IN ODOT SUPPLEMENTAL SPECIFICATION 840.

5

GENERAL NOTES - 2
WALL AC
ALONG NORTH SIDE OF I-90 WB

SFN
N/A

DESIGN AGENCY
B&N
burgessniple.com

DESIGNER	CHECKER
CAS	ODW

REVIEWER
DWL 06/22/22

PROJECT ID
82382

SUBSET	TOTAL
4	17

SHEET	TOTAL
1177	2696

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/10/2025 TIME: 10:38:37 AM USER: Maia.Gallagher
pw:\\mb-us-pw.bentley.com:mb-us-pw-03\Documents\Cleveland_OH\01_Projects\ODOT\District12\82382\400-Engineering\Structures\WALL_AC\Sheets\82382_AC_WN002.dgn

ITEM 524 - DRILLED SHAFTS, MISC.: DEMONSTRATION DRILLED SHAFT

5

PART 1: DESCRIPTION
THIS WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS TO CONSTRUCT A DEMONSTRATION DRILLED SHAFT FOR TESTING AND EVALUATION TO VERIFY THE PROPOSED CONSTRUCTION METHODS FOR THE PRODUCTION OF DRILLED SHAFTS.

PART 2: MATERIALS
THE DEMONSTRATION DRILLED SHAFT SHALL USE THE SAME CONCRETE MIX DESIGN AND STEEL REINFORCEMENT AS THE PRODUCTION DRILLED SHAFTS.

PART 3: EXECUTION
SUBMIT A DRILLED SHAFT INSTALLATION PLAN TO THE ENGINEER FOR ACCEPTANCE IN ACCORDANCE WITH THE REQUIREMENTS OF C&MS 524.03. CONSTRUCT AT LEAST ONE DEMONSTRATION DRILLED SHAFT IN THE AREA SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE ACCEPTED WRITTEN INSTALLATION. UPON CONSTRUCTION OF THE DEMONSTRATION DRILLED SHAFT, AND RECEIPT OF TESTING AND EVALUATION RESULTS CONFIRMING THE DEMONSTRATION DRILLED SHAFT HAS BEEN INSTALLED IN ACCORDANCE WITH CONTRACT DOCUMENT, THE ENGINEER WILL ISSUE A LETTER ACCEPTING THE INSTALLATION PLAN FOR THE CONSTRUCTION OF THE SUBSEQUENT PRODUCTION DRILLED SHAFTS.

IF MODIFICATION(S) TO THE INSTALLATION PLAN ARE MADE, WHETHER DUE TO THE TESTING AND EVALUATION RESULTS OR FOR OTHER REASON, THE DEPARTMENT WILL REQUIRE CONSTRUCTION OF AN ADDITIONAL DEMONSTRATION SHAFT CONSTRUCTED IN ACCORDANCE WITH THE MODIFIED INSTALLATION PLAN, AT NO ADDITIONAL COST. THE DIAMETER, LENGTH, REINFORCING, INSTALLATION METHODS, AND OTHER MISCELLANEOUS DETAILS OF THE DEMONSTRATION SHAFT SHALL BE THE SAME AS THE PRODUCTION DRILLED SHAFTS.

SUBMIT THE LOCATION OF THE DEMONSTRATION SHAFT TO THE ENGINEER FOR ACCEPTANCE. A PRODUCTION SHAFT SHALL BE USED AS THE DEMONSTRATION SHAFT.

LOCATE THE DEMONSTRATION DRILLED SHAFT SO THAT TESTING DOES NOT DAMAGE THE WALKER WEEKS BUILDING.

TEST THE DEMONSTRATION DRILLED SHAFT BY THERMAL INTEGRITY PROFILING (TIP) ACCORDING TO ASTM D7949, METHOD B.

PART 4: MEASUREMENT AND PAYMENT
THE DEPARTMENT WILL MEASURE DEMONSTRATION DRILLED SHAFT BY THE NUMBER OF FEET, MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM THE REQUIRED BOTTOM ELEVATI0N OF THE SHAFT TO THE PROPOSED TOP PLAN ELEVATION.

IN ADDITION TO THE PROVISIONS OF C&MS 524.17, THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES OF DEMONSTRATION DRILLED SHAFT AFTER INSTALLATION OF THE DEMONSTRATION SHAFT AND AFTER BEING PROVIDED WITH WRITTEN TESTING AND EVALUATION RESULTS ACCEPTABLE TO THE ENGINEER.

THE CONTRACT PRICE IS FULL COMPENSATION FOR FURNISHING AND INSTALLING DRILLED SHAFTS IN ACCORDANCE WITH THE ABOVE REQUIREMENTS, INCLUDING MOBILIZATION, AND SITE ACCESS.

THE DEPARTMENT WILL PAY FOR TESTING AND EVALUATION OF THE ACCEPTED DEMONSTRATION SHAFT SEPARATELY.

THE DEPARTMENT WILL NOT PAY FOR TESTING AND EVALUATION FOR ADDITIONAL DEMONSTRATION DRILLED SHAFTS.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS: ITEM 524 DRILLED SHAFTS, MISC.: DEMONSTRATION DRILLED SHAFT.

ITEM 524 - DRILLED SHAFTS, MISC.: THERMAL INTEGRITY PROFILER (TIP) TEST

PERFORM INTEGRITY TESTING ON 7 OF THE DRILLED SHAFTS AT RETAINING WALL AF BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING PER ASTM D7949, "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS," METHOD B.

ITEM SPECIAL - STRUCTURES: VIBRATION MONITORING

THIS PAY ITEM IS SPECIFICALLY INTENDED FOR THE PROTECTION OF THE WALKER WEEKS BUILDING, 2351 CARNEGIE AVENUE, CLEVELAND, OH 44115.

THIS WORK IS INCLUDED AND PAID FOR WITH THE CUY-90-1696 (BRIDGE 14) PLANS. SEE BRIDGE 14 PLANS FOR DETAILED NOTES.

ITEM SPECIAL - STRUCTURES: PRECONSTRUCTION/POST CONSTRUCTION CONDITION SURVEY

THIS PAY ITEM IS SPECIFICALLY INTENDED FOR THE PROTECTION OF THE WALKER WEEKS BUILDING, 2351 CARNEGIE AVENUE, CLEVELAND, OH 44115.

THIS WORK IS INCLUDED AND PAID FOR WITH THE CUY-90-1696 (BRIDGE 14) PLANS. SEE BRIDGE 14 PLANS FOR DETAILED NOTES.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN

THIS ITEM INCLUDES ALL EXCAVATION NECESSARY TO CONSTRUCT WALL AF.

THE DEPARTMENT WILL PAY FOR THIS ITEM AT THE CONTRACT LUMP SUM PRICE FOR ITEM 503 UNCLASSIFIED EXCAVATION, AS PER PLAN.

ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN

THIS WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO CONSTRUCT THE DRILLED TANGENT SHAFT CAP AND FENCE WALL ABOVE THE CAP. REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS: ITEM 511 CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN.

ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN

THIS WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO CONSTRUCT THE RETAINING WALL CAST-IN-PLACE CONCRETE FACING BELOW THE TANGENT DRILLED SHAFT CAP. REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS: ITEM 511 CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN.

ITEM 511 - CONCRETE, MISC.: ARCHITECTURAL TREATMENT

THIS WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO CONSTRUCT THE ARCHITECTURAL TREATMENTS IN THE CONCRETE SURFACE OF THE RETAINING WALL.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS: ITEM 511 CONCRETE, MISC.: ARCHITECTURAL TREATMENT.

ITEM 607 - VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN

INSTALL VANDAL PROTECTION FENCE ACCORDING TO STD. CONSTRUCTION DRAWING VPF-1-90 AND C&MS 607, EXCEPT AS MODIFIED BELOW.

POSTS, PLATES, TIE WIRES, CAULK AND ADDITIONAL VISIBLE HARDWARE SHALL BE COLOR BLACK (FEDERAL STD. 595C #17038). FENCE FABRIC SHALL BE BLACK VINYL-COATED, CHAIN LINK STYLE. MOUNT FENCING TO TOP OF RETAINING WALL WITH CAST-IN-PLACE ANCHORS.

SECTION/DETAIL/VIEW CALLOUTS

A / 10 — (SEE SECTION A ON SHEET 10)

A / 10 — (SECTION A CUT FROM SHEET 10)

A / 10 TITLE / NOTE

PLAN ABBREVIATIONS:

ABUT. = ABUTMENT
APPR. = APPROACH
B = BOTTOM
℄ = BASELINE
BM = BENCHMARK
BOT. OR BTM. = BOTTOM
℄ = CENTERLINE
C/C = CENTER TO CENTER
C.I.P. = CAST-IN-PLACE
C.J. = CONSTRUCTION JOINT
CLR. = CLEAR
CMS = CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. = CONCRETE
CONST. = CONSTRUCTION
DIA. = DIAMETER
DIM. = DIMENSION
DTBD = DISPOSITION TO BE DETERMINED
DWG. = DRAWING
EB = EASTBOUND
E.F. = EACH FACE
EL. OR ELEV. = ELEVATION
EQ. = EQUAL
EST. = ESTIMATED
EX. = EXISTING
F.A. = FORWARD ABUTMENT
F/F = FACE TO FACE
F.F. = FAR FACE
FT. = FOOT OR FEET
FTG. = FOOTING
FWD. = FORWARD
IN. = INCH
JT. = JOINT
LT. = LEFT
MAX. = MAXIMUM
MIN. = MINIMUM
MISC. = MISCELLANEOUS
N = NORTH
NB = NORTHBOUND
N.F. = NEAR FACE
NO. = NUMBER
N.P.C.P.P. = NON-PERFORATED CORRUGATED PLASTIC PIPE
OHWM = ORDINARY HIGH WATER MARK
O/O = OUT TO OUT
P.C.P.P. = PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
PROP. = PROPOSED
PSF = POUNDS PER SQUARE FOOT
R.A. = REAR ABUTMENT
S = SOUTH
SB = SOUTHBOUND
SER. = SERIES
SHLDR = SHOULDER
SPA. = SPACE OR SPACES
STA. = STATION
STD. = STANDARD
STR = STRAIGHT
T = TOP
T&B = TOP & BOTTOM
TBR = TO BE REMOVED
TBRBO = TO BE RELOCATED BY OTHERS
TEMP. = TEMPORARY
TYP. = TYPICAL
U.N.O. = UNLESS NOTED OTHERWISE
VAR. = VARIES
WB = WESTBOUND
WWR = WELDED WIRE REINFORCEMENT

WALL GENERAL NOTES (2 OF 2)
WALL AF
ALONG NORTH SIDE OF I.R. 90 NEAR E. 22ND ST. AND CARNEGIE AVE.

SFN N/A

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SW/GZ	JC/SD

REVIEWER LPC 05-09-24

PROJECT ID 82382

SUBSET	TOTAL
3	11

SHEET	TOTAL
1220	2696

CUY-90-16.28

ITEM 524 - DRILLED SHAFTS, MISC.: DEMONSTRATION DRILLED SHAFT

5

PART 1: DESCRIPTION
THIS WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS TO CONSTRUCT A DEMONSTRATION DRILLED SHAFT FOR TESTING AND EVALUATION TO VERIFY THE PROPOSED CONSTRUCTION METHODS FOR THE PRODUCTION OF DRILLED SHAFTS.

PART 2: MATERIALS
THE DEMONSTRATION DRILLED SHAFT SHALL USE THE SAME CONCRETE MIX DESIGN AND STEEL REINFORCEMENT AS THE PRODUCTION DRILLED SHAFTS.

PART 3: EXECUTION
SUBMIT A DRILLED SHAFT INSTALLATION PLAN TO THE ENGINEER FOR ACCEPTANCE IN ACCORDANCE WITH THE REQUIREMENTS OF C&MS 524.03. CONSTRUCT AT LEAST ONE DEMONSTRATION DRILLED SHAFT IN THE AREA SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE ACCEPTED WRITTEN INSTALLATION. UPON CONSTRUCTION OF THE DEMONSTRATION DRILLED SHAFT, AND RECEIPT OF TESTING AND EVALUATION RESULTS CONFIRMING THE DEMONSTRATION DRILLED SHAFT HAS BEEN INSTALLED IN ACCORDANCE WITH CONTRACT DOCUMENT, THE ENGINEER WILL ISSUE A LETTER ACCEPTING THE INSTALLATION PLAN FOR THE CONSTRUCTION OF THE SUBSEQUENT PRODUCTION DRILLED SHAFTS.

IF MODIFICATION(S) TO THE INSTALLATION PLAN ARE MADE, WHETHER DUE TO THE TESTING AND EVALUATION RESULTS OR FOR OTHER REASON, THE DEPARTMENT WILL REQUIRE CONSTRUCTION OF AN ADDITIONAL DEMONSTRATION SHAFT CONSTRUCTED IN ACCORDANCE WITH THE MODIFIED INSTALLATION PLAN, AT NO ADDITIONAL COST. THE DIAMETER, LENGTH, REINFORCING, INSTALLATION METHODS, AND OTHER MISCELLANEOUS DETAILS OF THE DEMONSTRATION SHAFT SHALL BE THE SAME AS THE PRODUCTION DRILLED SHAFTS.

SUBMIT THE LOCATION OF THE DEMONSTRATION SHAFT TO THE ENGINEER FOR ACCEPTANCE. A PRODUCTION SHAFT SHALL BE USED AS THE DEMONSTRATION SHAFT.

LOCATE THE DEMONSTRATION DRILLED SHAFT SO THAT TESTING DOES NOT DAMAGE THE WALKER WEEKS BUILDING.

TEST THE DEMONSTRATION DRILLED SHAFT BY THERMAL INTEGRITY PROFILING (TIP) ACCORDING TO ASTM D7949, METHOD B.

PART 4: MEASUREMENT AND PAYMENT
THE DEPARTMENT WILL MEASURE DEMONSTRATION DRILLED SHAFT BY THE NUMBER OF FEET, MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM THE REQUIRED BOTTOM ELEVATI0N OF THE SHAFT TO THE PROPOSED TOP PLAN ELEVATION.

IN ADDITION TO THE PROVISIONS OF C&MS 524.17, THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES OF DEMONSTRATION DRILLED SHAFT AFTER INSTALLATION OF THE DEMONSTRATION SHAFT AND AFTER BEING PROVIDED WITH WRITTEN TESTING AND EVALUATION RESULTS ACCEPTABLE TO THE ENGINEER.

THE CONTRACT PRICE IS FULL COMPENSATION FOR FURNISHING AND INSTALLING DRILLED SHAFTS IN ACCORDANCE WITH THE ABOVE REQUIREMENTS, INCLUDING MOBILIZATION, AND SITE ACCESS.

THE DEPARTMENT WILL PAY FOR TESTING AND EVALUATION OF THE ACCEPTED DEMONSTRATION SHAFT SEPARATELY.

THE DEPARTMENT WILL NOT PAY FOR TESTING AND EVALUATION FOR ADDITIONAL DEMONSTRATION DRILLED SHAFTS.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS: ITEM 524 DRILLED SHAFTS, MISC.: DEMONSTRATION DRILLED SHAFT.

ITEM 524 - DRILLED SHAFTS, MISC.: THERMAL INTEGRITY PROFILER (TIP) TEST

PERFORM INTEGRITY TESTING ON 3 OF THE DRILLED SHAFTS AT RETAINING WALL AH BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING PER ASTM D7949, "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS," METHOD B.

ITEM SPECIAL - STRUCTURES: VIBRATION MONITORING

THIS PAY ITEM IS SPECIFICALLY INTENDED FOR THE PROTECTION OF THE WALKER WEEKS BUILDING, 2351 CARNEGIE AVENUE, CLEVELAND, OH 44115.

THIS WORK IS INCLUDED AND PAID FOR WITH THE CUY-90-1696 (BRIDGE 14) PLANS. SEE BRIDGE 14 PLANS FOR DETAILED NOTES.

ITEM SPECIAL - STRUCTURES: PRECONSTRUCTION/POST CONSTRUCTION CONDITION SURVEY

THIS PAY ITEM IS SPECIFICALLY INTENDED FOR THE PROTECTION OF THE WALKER WEEKS BUILDING, 2351 CARNEGIE AVENUE, CLEVELAND, OH 44115.

THIS WORK IS INCLUDED AND PAID FOR WITH THE CUY-90-1696 (BRIDGE 14) PLANS. SEE BRIDGE 14 PLANS FOR DETAILED NOTES.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN

THIS ITEM INCLUDES ALL EXCAVATION NECESSARY TO CONSTRUCT WALL AH. THIS ALSO INCLUDES THE ADDITIONAL EXCAVATION BELOW THE TANGENT DRILLED SHAFT CAP TO COMPLETE THE INSTALLATION OF THE CUY-90-1696 (BRIDGE 14) REAR ABUTMENT DRAINAGE.

THE DEPARTMENT WILL PAY FOR THIS ITEM AT THE CONTRACT LUMP SUM PRICE FOR ITEM 503 UNCLASSIFIED EXCAVATION, AS PER PLAN.

ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN

THIS WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO CONSTRUCT THE DRILLED TANGENT SHAFT CAP AND FENCE WALL ABOVE THE CAP. REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS: ITEM 511 CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN.

ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN

THIS WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO CONSTRUCT THE RETAINING WALL CAST-IN-PLACE CONCRETE FACING BELOW THE TANGENT DRILLED SHAFT CAP. REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS: ITEM 511 CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN.

ITEM 511 - CONCRETE, MISC.: ARCHITECTURAL TREATMENT

THIS WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO CONSTRUCT THE ARCHITECTURAL TREATMENTS IN THE CONCRETE SURFACE OF THE RETAINING WALL.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS: ITEM 511 CONCRETE, MISC.: ARCHITECTURAL TREATMENT.

ITEM 601 - PAVED GUTTER, MISC.: PAVED GUTTER

THIS WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO CONSTRUCT THE PAVED GUTTER BEHIND THE WALL AS DETAILED IN THE PLANS.

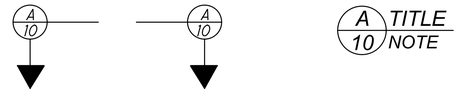
THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS: ITEM 601 PAVED GUTTER, MISC.: PAVED GUTTER

ITEM 607 - VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN

INSTALL VANDAL PROTECTION FENCE ACCORDING TO STD. CONSTRUCTION DRAWING VPF-1-90 AND C&MS 607, EXCEPT AS MODIFIED BELOW.

POSTS, PLATES, TIE WIRES, CAULK AND ADDITIONAL VISIBLE HARDWARE SHALL BE COLOR BLACK (FEDERAL STD. 595C #17038). FENCE FABRIC SHALL BE BLACK VINYL-COATED, CHAIN LINK STYLE. MOUNT FENCING TO TOP OF RETAINING WALL WITH CAST-IN-PLACE ANCHORS.

SECTION/DETAIL/VIEW CALLOUTS



(SEE SECTION A ON SHEET 10) (SECTION A CUT FROM SHEET 10)

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GENERAL NOTES (2 OF 2)
WALL AH
ALONG NORTH SIDE OF I.R. 90 UNDER CARNEGIE AVE.

SFN	N/A
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER / CHECKER	SW/GZ / JC/SD
REVIEWER	LPC 05-09-24
PROJECT ID	82382
SUBSET / TOTAL	3 / 9
SHEET / TOTAL	1243 / 2696

CUY-90-16.28

MODEL: Untitled Sheet PAPERSIZE: 34x22 (in.) DATE: 10/10/2025 TIME: 2:42:19 PM USER: Maia.Gallagher
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ITEM SPECIAL - RETAINING WALL, PRECAST CONCRETE LAGGING

THIS WORK CONSISTS OF FURNISHING AND PLACING PRECAST REINFORCED CONCRETE PANELS BETWEEN THE SOLDIER PILES TO FUNCTION AS LAGGING FOR THE RETAINING WALL. PROVIDE PRECAST CONCRETE LAGGING FROM A PRECAST CONCRETE MANUFACTURER CERTIFIED ACCORDING TO SUPPLEMENT 1073. PROVIDE CLASS QC1 CONCRETE ACCORDING TO C&MS 499. PROVIDE EPOXY COATED REINFORCING STEEL ACCORDING TO C&MS 709.00. IN LIEU OF EPOXY COATING, A CORROSION INHIBITING CONCRETE ADMIXTURE MAY BE USED AT THE SPECIFIED DOSAGE RATE. A QUALIFIED PRODUCT LIST OF CORROSION INHIBITING ADMIXTURES IS ON FILE AT THE LABORATORY. MANUFACTURERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR MAY AFFECT THE STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE MANUFACTURER'S CHOICE TO USE ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING ALL DESIGN REQUIREMENTS. DO NOT ALLOW THE DIMENSIONS OF THE LAGGING OR LOCATION OF THE REINFORCING STEEL TO VARY BY MORE THAN ¼-INCH. CAST THREADED INSERTS INTO THE TOP OF EACH PANEL FOR LIFTING AND PLACEMENT.

FINISH THE FACES OF THE PRECAST CONCRETE LAGGING PANELS THAT WILL NOT BE EXPOSED TO A UNIFORM SURFACE, FREE OF OPEN POCKETS OF AGGREGATE. *FINISH THE EXPOSED FACE OF THE PANELS TO A SMOOTH SURFACE. SEAL THE FRONT (EXPOSED) FACE AND SIDES OF EACH CONCRETE PANEL WITH ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY URETHANE). THE COLOR OF THE URETHANE SHALL BE SHERWIN WILLIAMS ALABASTER 7008 OR APPROVED EQUAL.

PERMANENTLY MARK EACH PRECAST CONCRETE LAGGING PANEL TO INDICATE WHICH FACE WILL BE PLACED AGAINST THE SOIL. PLACE THE PANEL BETWEEN THE FLANGES OF THE SOLDIER PILES AND BEARING AGAINST THE FLANGES ON THE EXPOSED SIDE OF THE WALL SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST ONE INCH MORE THAN THE CONCRETE COVER OVER THE REINFORCING STEEL AT BOTH ENDS OF THE LAGGING.

HANDLE, STORE, AND SHIP THE PRECAST CONCRETE LAGGING PANELS TO AVOID CHIPPING, CRACKING AND FRACTURING THE PANELS. SUPPORT THE PANELS ON FIRM BLOCKING WHILE STORING AND SHIPPING. DO NOT SHIP PANELS UNTIL CONCRETE HAS ATTAINED THE REQUIRED COMPRESSIVE STRENGTH. SUBMIT SHIPMENT DOCUMENTATION TO THE ENGINEER AS THE PANELS ARE DELIVERED TO THE PROJECT, INCLUDING THE PRECASTER'S RECORD OF FINAL INSPECTION, THE MEASUREMENTS AND TOLERANCES, STRENGTH, AND DIMENSIONS OF EACH PANEL, ALONG WITH THE TE-24 SHIPPING DOCUMENT AND THE DAMAGE SURVEY REPORT FOR ALL WALL PANELS.

INSPECT ALL PRECAST CONCRETE LAGGING PANELS AND REJECT PANELS HAVING ANY OF THE FOLLOWING:

1. DEFECTS THAT INDICATE IMPERFECT MOLDING.
2. DEFECTS THAT INDICATE HONEYCOMBED OR OPEN TEXTURE CONCRETE.
3. DEFECTS IN THE PHYSICAL CHARACTERISTICS OF THE CONCRETE, OR DAMAGE TO THE AESTHETIC SURFACE TREATMENTS.
4. CONCRETE CHIPS OR SPALLS THAT ARE LARGER THAN 4 INCHES WIDE OR 2 INCHES DEEP. REPAIR ALL CHIPS AND SPALLS THAT ARE SMALLER.
5. STAINED FORM FACES, DUE TO FORM OIL, CURING OR OTHER CONTAMINANTS.
6. SIGNS OF AGGREGATE SEGREGATION.
7. CRACKS WIDER THAN 0.01 INCH OR PENETRATING MORE THAN 1 INCH OR LONGER THAN 20 PERCENT OF THE LENGTH OF THE FACE CONTAINING THE CRACK.
8. PANELS THAT DO NOT MEET THE SPECIFIED DIMENSIONAL TOLERANCES.
9. UNUSABLE LIFTING INSERTS.
10. EXPOSED REINFORCING STEEL.
11. INSUFFICIENT CONCRETE COMPRESSIVE STRENGTH.

EITHER REPLACE DAMAGED PRECAST CONCRETE LAGGING PANELS OR DOCUMENT THE DAMAGE AND PROPOSE TO THE ENGINEER A REPAIR METHOD FOR THE DAMAGED PANEL. PROVIDE ACCEPTABLE REPLACEMENT PANELS FOR ANY THAT ARE REJECTED.
WHEN INSTALLING THE PRECAST CONCRETE LAGGING PANELS, PLACE HARDWOOD WEDGES NEAR THE TOP AND BOTTOM ON EACH SIDE TO HOLD THE LAGGING PANELS AGAINST THE FRONT INSIDE FLANGE OF THE STEEL PILES.

PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIAL REQUIRED TO FABRICATE, TRANSPORT, AND INSTALL THE PRECAST REINFORCED CONCRETE PANELS SHALL BE MADE AT THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR ITEM SPECIAL - RETAINING WALL, PRECAST CONCRETE LAGGING.

ITEM 840 - MECHANICALLY STABILIZED EARTH WALL, AS PER PLAN: WIRE FACED MSE WALL

GENERAL:

THIS WORK CONSISTS OF DESIGNING THE INTERNAL STABILITY OF THE WALL; PREPARING SHOP DRAWINGS; AND FABRICATING AND CONSTRUCTING THE WIRE FACED MSE WALLS.

ALL MSE WALL DESIGN, FABRICATION, ERECTION AND CONSTRUCTION SHALL CONFORM TO ODOT SUPPLEMENTAL SPECIFICATION 840 "MECHANICALLY STABILIZED EARTH WALLS" EXCEPT AS MODIFIED BELOW, AND AS SHOWN IN THE PLANS.

MATERIALS:

MATERIALS SHALL COMPLY WITH 840.03 EXCEPT THAT WIRE FACING AND SOIL RETENTION FABRIC SHALL BE PROVIDED INSTEAD OF PRECAST CONCRETE FACING PANELS.

A. WIRE FACING
THE WIRE FACING SHALL BE WELDED WIRE FABRIC (WWF) SATISFYING THE REQUIREMENTS OF CMS 709.10.

B. SOIL RETENTION FABRIC
THE INSIDE OF THE WIRE FACED MSE WALL SHALL HAVE RETENTION OR FILTER FABRIC PLACED WITHIN THE REINFORCED FILL AS SHOWN IN THE PLANS. RETENTION FABRIC SHALL BE A WOVEN POLYPOPYLENE FABRIC.

MSE WALLS, EXCAVATION, SELECT GRANULAR BACKFILL, AND FOUNDATION PREPARATION WILL BE PAID PER STRAP LENGTH DETERMINED IN THE SUPPLIER'S SHOP DRAWING APPROVED BY THE ENGINEER AS DESCRIBED IN ODOT SUPPLEMENTAL SPECIFICATION 840.

5

SECTION/DETAIL/VIEW CALLOUTS

A / 10

A / 10

A TITLE / 10 NOTE

(SEE SECTION A ON SHEET 10)

(SECTION A CUT FROM SHEET 10)

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WALL GENERAL NOTES (2 OF 2)
WALL N
UNDER BRIDGE 9 AND ALONG WEST SIDE OF RAMP A2 AND RAMP J2

SFN
N/A

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	MKB

REVIEWER
LPC 05-09-24

PROJECT ID
82382

SUBSET	TOTAL
4	13

SHEET	TOTAL
1273	2696

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/10/2025 TIME: 10:48:31 AM USER: Maia.Gallagher
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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:
DM-1.1 REVISED 1/17/2025

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:
800 DATED SEE TITLE SHEET
840 DATED 07/21/2023

REFER TO THE FOLLOWING SUPPLEMENT:
1083 DATED 1/20/2017

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS", 9TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND THE ODOT BRIDGE DESIGN MANUAL, 2020 (DATED 07-21-23).

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (CONCRETE COPING AND LEVELING PAD)
CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (BARRIER AND MOMENT SLAB)
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60, MINIMUM YIELD STRENGTH 60 KSI.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED PER CMS 709.00

REINFORCED FILL:
EFFECTIVE INTERNAL FRICTION ANGLE = 34°
UNIT WEIGHT = 120 pcf
EFFECTIVE COHESION = N/A
RETAINED FILL
EFFECTIVE INTERNAL FRICTION ANGLE = 30°
UNIT WEIGHT = 120 pcf
EFFECTIVE COHESION = N/A
FOUNDATION SOIL - DRAINED CONDITIONS
EFFECTIVE INTERNAL FRICTION ANGLE = 30°
UNIT WEIGHT = 115 pcf
EFFECTIVE COHESION = N/A
FOUNDATION SOIL - UNDRAINED CONDITIONS
EFFECTIVE INTERNAL FRICTION ANGLE = 30°
UNIT WEIGHT = 115 pcf
EFFECTIVE COHESION = N/A
SURCHARGE LOADS
LIVE LOAD SURCHARGE = 250 psf
THE DESIGN ASSUMES NO WATER PRESSURE ACT ON THE WALL

MSE WALL DESIGN PARAMETERS:

THE MINIMUM SOIL REINFORCEMENT LENGTH IS AT LEAST 8 FEET OR 70% OF THE WALL HEIGHT, WHICHEVER IS GREATER.

FACTORED BEARING RESISTANCE = 11.1 ksf

ITEM 511 - CLASS QC2 CONCRETE MISC.: MOMENT SLAB AND BARRIER WITH QC/QA

ALL PORTIONS OF THE BARRIER MOMENT SLAB SHALL BE PAID FOR UNDER THIS ITEM, UNLESS NOTED OTHERWISE. THIS INCLUDES, BUT IS NOT LIMITED TO MOMENT SLAB CONCRETE, BARRIER CONCRETE, PEJF, SAWCUTTING, JOINT SEALER, SLEEVED DOWELS, TRANSVERSE AND LONGITUDINAL JOINT TREATMENT ADJACENT TO ROADWAY PAVEMENT AND SHOULDERS, COMPACTION AND PREPARATION OF SOIL UNDERNEATH THE SLABS, AND ANY OTHER INCIDENTALS REQUIRED TO COMPLETE THE BARRIER MOMENT SLABS.

PAYMENT FOR THE ABOVE COMPLETED AND ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT BID PRICE PER CUBIC YARD FOR ITEM 511 - CLASS QC2 CONCRETE, MISC.: MOMENT SLAB AND BARRIER WITH QC/QA.

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

SEAL SURFACES OF THE C.I.P. WALL, MSE WALL PANELS, AND COPING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. THE FOLLOWING COLORS SHALL BE USED FOR PAINTING AND SEALING STRUCTURAL ELEMENTS:

COPING SEALER:	"DOVETAIL"	7018
MSE PANEL AND C.I.P. WALL SEALER:	"ALABASTER"	7008

ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIER'S COLOR PALATE.

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

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

A. THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED), NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES, OR POLYURETHANE COMPONENTS.

B. THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OF BEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).

C. THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIZE COMPOUNDS (EPA METHOD 24).

D. THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:
1. CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.
2. GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM 4578.
3. NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING, OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.
4. BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".
5. ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").
6. ADHESION RATING OF "8 - DIFFICULT TO REMOVE" AS PER ASTM D6677 (ADHESION BY KNIFE).

PROPRIETARY RETAINING WALL DATA:

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SS840 TO RETAIN EARTH FILL BELOW ADJACENT ROADWAY. 5

MSE WALLS, EXCAVATION, SELECT GRANULAR BACKFILL, AND FOUNDATION PREPARATION WILL BE PAID PER STRAP LENGTH DETERMINED IN THE SUPPLIER'S SHOP DRAWING APPROVED BY THE ENGINEER AS DESCRIBED IN ODOT SUPPLEMENTAL SPECIFICATION 840.

CONSTRUCTION SEQUENCE:

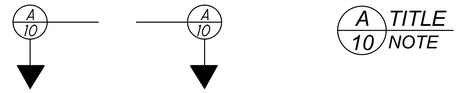
1. EXCAVATE TO THE ELEVATION OF THE MSE WALL LEVELING PAD. EXCAVATE TO THE ELEVATION OF THE C.I.P. WALL FOOTING.

2. PLACE CONCRETE LEVELING PAD. PLACE FORMWORK AND CAST C.I.P. WALL.

3. INSTALL MSE WALL UP TO PROPOSED HEIGHT.

4. INSTALL CAST-IN-PLACE CONCRETE COPING ALONG TOP OF WALL.

SECTION/DETAIL/VIEW CALLOUTS



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WALL GENERAL NOTES
WALL T
BETWEEN RAMP IH4 AND RAMP IH5

SFN
N/A

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
SSW	MKB

REVIEWER
LPC 05-09-24

PROJECT ID
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SUBSET	TOTAL
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STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD CONSTRUCTION DRAWINGS:
F-1.1 REVISED 7/19/2013
DM-1.1 REVISED 1/17/2025

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:
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1083 DATED 1/20/2017

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS", 9TH EDITION, ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS AND THE ODOT BRIDGE DESIGN MANUAL, 2020 (DATED 07-21-23).

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (CONCRETE COPING AND LEVELING PAD)
REINFORCING STEEL - ASTM A615 OR A996 GRADE 60, MINIMUM YIELD STRENGTH 60 KSI.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED PER CMS 709.00

REINFORCED FILL:
EFFECTIVE INTERNAL FRICTION ANGLE = 34°
UNIT WEIGHT = 120 pcf
EFFECTIVE COHESION = N/A
RETAINED FILL
EFFECTIVE INTERNAL FRICTION ANGLE = 30°
UNIT WEIGHT = 120 pcf
EFFECTIVE COHESION = N/A
FOUNDATION SOIL - DRAINED CONDITIONS
EFFECTIVE INTERNAL FRICTION ANGLE = 30°
UNIT WEIGHT = 115 pcf
EFFECTIVE COHESION = N/A
FOUNDATION SOIL - UNDRAINED CONDITIONS
EFFECTIVE INTERNAL FRICTION ANGLE = 30°
UNIT WEIGHT = 115 pcf
EFFECTIVE COHESION = N/A
SURCHARGE LOADS
LIVE LOAD SURCHARGE = 250 psf
THE DESIGN ASSUMES NO WATER PRESSURE ACT ON THE WALL

MSE WALL DESIGN PARAMETERS:

THE MINIMUM SOIL REINFORCEMENT LENGTH IS AT LEAST 8 FEET OR 70% OF THE WALL HEIGHT, WHICHEVER IS GREATER. FOR WALL SECTIONS AROUND ABUTMENTS, THE STRAP LENGTH WILL NEED TO BE 70% OF THE DISTANCE BETWEEN THE TOP OF THE LEVELING PAD AND THE TOP OF THE PAVEMENT.

FACTORED BEARING RESISTANCE = 11.2 ksf

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

SEAL SURFACES OF THE MSE WALL PANELS AND COPING AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER ACCORDING TO C&MS 512. THE FOLLOWING COLORS SHALL BE USED FOR PAINTING AND SEALING STRUCTURAL ELEMENTS:

COPING SEALER:	"DOVETAIL"	7018
MSE PANEL SEALER:	"ALABASTER"	7008

ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIER'S COLOR PALATE.

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

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

A. THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED), NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES, OR POLYURETHANE COMPONENTS.

B. THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OF BEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).

C. THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIZE COMPOUNDS (EPA METHOD 24).

D. THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:
1. CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.
2. GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM 4578.
3. NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING, OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.
4. BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".
5. ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").

PROPRIETARY RETAINING WALL DATA:

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SS840 TO RETAIN EARTH FILL AROUND AND BELOW THE ABUTMENT. FOR LOADS AND NOTES PERTAINING TO THE ABUTMENT, SEE THE GENERAL NOTES SHEETS FOR BRIDGE 12, BRIDGE NUMBER CUY-90-1652S.

5 MSE WALLS, EXCAVATION, SELECT GRANULAR BACKFILL, AND FOUNDATION PREPARATION WILL BE PAID PER STRAP LENGTH DETERMINED IN THE SUPPLIER'S SHOP DRAWING APPROVED BY THE ENGINEER AS DESCRIBED IN ODOT SUPPLEMENTAL SPECIFICATION 840.

ITEM 607 - FENCE, TYPE CLT, AS PER PLAN

INSTALL CHAIN LINK FENCE ACCORDING TO STD. CONSTRUCTION DRAWING F-1.1 AND C&MS 607, EXCEPT AS MODIFIED BELOW.

POSTS, PLATES, TIE WIRES, CAULK AND ADDITIONAL VISIBLE HARDWARE SHALL BE COLOR BLACK (FEDERAL STD. 595C #17038). FENCE FABRIC SHALL BE BLACK VINYL-COATED, CHAIN LINK STYLE.

CONSTRUCTION SEQUENCE:

1. EXCAVATE TO THE ELEVATION OF THE MSE WALL LEVELING PAD.

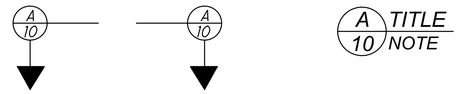
2. DRIVE ABUTMENT PILES.

3. PLACE CONCRETE LEVELING PAD.

4. INSTALL MSE WALL UP TO BOTTOM OF FOOTING.

5. CONSTRUCT ABUTMENT FOOTING AFTER WAITING PERIOD (SEE BRIDGE 12 PLANS FOR DETAILS).

SECTION/DETAIL/VIEW CALLOUTS



(SEE SECTION A ON SHEET 10) (SECTION A CUT FROM SHEET 10)

PLAN ABBREVIATIONS:

ABUT. = ABUTMENT
APPR. = APPROACH
B = BOTTOM
℄ = BASELINE
BM = BENCHMARK
BOT. OR BTM. = BOTTOM
℄ = CENTERLINE
C/C = CENTER TO CENTER
C.I.P. = CAST-IN-PLACE
C.J. = CONSTRUCTION JOINT
CLR. = CLEAR
CMS = CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. = CONCRETE
CONST. = CONSTRUCTION
DIA. = DIAMETER
DIM. = DIMENSION
DTBD = DISPOSITION TO BE DETERMINED
DWG. = DRAWING
EB = EASTBOUND
E.F. = EACH FACE
EL. OR ELEV. = ELEVATION
EQ. = EQUAL
EST. = ESTIMATED
EX. = EXISTING
F.A. = FORWARD ABUTMENT
F/F = FACE TO FACE
F.F. = FAR FACE
FT. = FOOT OR FEET
FTG. = FOOTING
FWD. = FORWARD
IN. = INCH
JT. = JOINT
LT. = LEFT
MAX. = MAXIMUM
MIN. = MINIMUM
MISC. = MISCELLANEOUS
N = NORTH
NB = NORTHBOUND
N.F. = NEAR FACE
NO. = NUMBER
N.P.C.P.P. = NON-PERFORATED CORRUGATED PLASTIC PIPE
OHWM = ORDINARY HIGH WATER MARK
O/O = OUT TO OUT
P.C.P.P. = PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
PROP. = PROPOSED
PSF = POUNDS PER SQUARE FOOT
R.A. = REAR ABUTMENT
S = SOUTH
SB = SOUTHBOUND
SER. = SERIES
SHLDR = SHOULDER
SPA. = SPACE OR SPACES
STA. = STATION
STD. = STANDARD
STR = STRAIGHT
T = TOP
T&B = TOP & BOTTOM
TBR = TO BE REMOVED
TBRBO = TO BE RELOCATED BY OTHERS
TEMP. = TEMPORARY
TYP. = TYPICAL
U.N.O. = UNLESS NOTED OTHERWISE
VAR. = VARIES
WB = WESTBOUND
WWR = WELDED WIRE REINFORCEMENT

WALL GENERAL NOTES
WALL Y
UNDER BRIDGE 12 AND ALONG SOUTH SIDE OF RAMP B6

SFN N/A
DESIGN AGENCY
Michael Baker INTERNATIONAL
DESIGNER SSW | CHECKER MKB
REVIEWER LPC 05-09-24
PROJECT ID 82382
SUBSET 3 | TOTAL 7
SHEET 1312 | TOTAL 2696

CUY-90-16.28 (CCG3A)

PROVISIONS FOR PROTECTING WORK

THE CONTRACTOR SHALL FURNISH ALL THE NECESSARY EQUIPMENT, SHALL TAKE ALL NECESSARY PRECAUTIONS AND SHALL ASSUME THE ENTIRE COST OF HANDLING ANY SEWAGE, SEEPAGE, STORM SURFACE AND FLOOD FLOWS OR ICE, WHICH MAY BE ENCOUNTERED AT ANY TIME DURING THE CONSTRUCTION OF THE WORK. THE MANNER OF PROVIDING FOR THESE OCCURRENCES SHALL MEET WITH THE APPROVAL OF THE ENGINEER. AFTER INSTALLATION, THE CONTRACTOR SHALL FURNISH AND MAINTAIN SATISFACTORY PROTECTION TO ALL EQUIPMENT WHETHER OF THIS OR OTHER CONTRACT AGAINST INJURY BY WEATHER, FLOODING OR BY DIRECT OR INCIDENTAL DAMAGE FROM HIS OWN OPERATIONS, LEAVING ALL WORK IN A PERFECT CONDITION AT THE COMPLETION OF THE CONTRACT. NO EXTRA PAYMENT WILL BE MADE FOR THIS WORK BUT THE ENTIRE COST OF THE SAME SHALL BE INCLUDED IN THE WORK TO BE DONE IN THIS CONTRACT.

DRAWINGS

(A) THE CONTRACTOR SHALL SUBMIT TO THE CITY THROUGH THE ENGINEER FOR APPROVAL, SIX (6) SETS OF PRINTS OF ALL SHOP DRAWINGS. SHOP DRAWINGS SHALL BE FULLY DIMENSIONED LEGIBLE DRAWINGS AS DEVELOPED BY THE MATERIALS FABRICATOR. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL BOLTLESS RESTRAINED IRON PIPE AND FITTINGS, PRESTRESSED CONCRETE PIPE AND FITTINGS, STEEL PIPE AND FITTINGS, SPECIAL FITTINGS, COUPLINGS, SPECIALS, AND MISCELLANEOUS DETAILS, SUCH AS VALVES, DRAIN FORGINGS, PRECAST VAULTS, CASTINGS, ETC. DRAWINGS SHALL INCLUDE DETAILS, LAYOUTS AND LAYING SCHEDULE FOR ALL PIECES FURNISHED REQUIRING DRAWING SUBMITTAL.

(B) TWO (2) SETS OF PRINTS OF EACH OF THE DRAWINGS SUBMITTED WILL BE RETURNED TO THE CONTRACTOR THROUGH THE ENGINEER WITH THE CRITICISMS OR APPROVAL OF THE CITY NOTED THEREON. IN CASE THE DRAWINGS ARE NOT APPROVED, THE CONTRACTOR SHALL AGAIN SEND FOR APPROVAL SIX (6) SETS OF REVISED PRINTS OF EACH OF THE DRAWINGS TO TAKE CARE OF THE CRITICISMS NOTED. NO WORK SHALL BE DONE IN THE SHOP UNTIL AFTER THE DRAWINGS HAVE BEEN FINALLY APPROVED.

(C) AFTER THE DRAWINGS HAVE BEEN FINALLY APPROVED, THE CONTRACTOR SHALL FURNISH THE CITY THROUGH THE ENGINEER WITH ONE (1) COMPLETE SET OF REPRODUCIBLE TRACINGS ON MYLAR OF EACH OF THE FINAL SHOP DRAWINGS. MYLAR SHALL BE OF MINIMUM 4-MIL THICKNESS, SHALL BE OF A SINGLE BASE STOCK WITH AN ETCHED SURFACE TO PROVIDE A MATTE FINISH ON THE FRONT AND SHALL BE OF A PERMANENT NON-ERASABLE, "WASH-OFF" TYPE, OF WHICH THE IMAGE ON THE MYLAR MEDIUM CANNOT BE REMOVED BY ERASURE. ALL SHOP DRAWINGS SHALL BE REPRODUCED FROM THEIR FULL SIZED ORIGINAL TRACINGS AND NOT AS REDUCED SIZES AS MAY HAVE BEEN SUBMITTED DURING THE REVIEW PROCESS. SMALL SIZED DRAWINGS PERTAINING TO A GIVEN ITEM SHALL BE GROUPED FOR REPRODUCTION SO THAT ALL TRACINGS SHALL BE 24" X 36" OVERALL. TRACINGS NOT 24" X 36" IN SIZE WILL NOT BE ACCEPTED.

(D) THE APPROVAL OF THE DRAWINGS BY THE ENGINEER AND THE CITY SHALL NOT RELIEVE THE CONTRACTOR OF ANY OF HIS OBLIGATIONS IN CONNECTION WITH THIS CONTRACT.

PAVEMENTS, ROAD SURFACES, BERMS, SIDEWALKS, DRIVEWAYS, CURBING, AND UNDERDRAINS

(A) THE CONTRACTOR SHALL REMOVE ALL PAVEMENTS AND ROAD SURFACES INCLUDING BERMS, SIDEWALKS, DRIVEWAYS, CURBING, AND UNDERDRAINS WITHIN THE LINES OF EXCAVATION. AFTER THE PIPE HAS BEEN LAID, ALL APPURTENANT WORK CONSTRUCTED AND BACKFILL COMPLETED, HE SHALL FURNISH, PLACE AND MAINTAIN, WHEREVER THE PAVEMENT OR ROAD SURFACE INCLUDING BERMS, SIDEWALKS, DRIVEWAYS, CURBING, AND UNDERDRAINS HAS BEEN REMOVED OR DAMAGED BY HIM, A TEMPORARY PAVEMENT IN THE PAVED PORTION OF STREETS, OR A TEMPORARY ROAD SURFACE IN THE UNPAVED PORTION OF STREETS, SO AS TO PROVIDE A SAFE AND PASSABLE ROADWAY UNTIL SUCH TIME AS THE FINAL PAVEMENT OR ROAD SURFACE INCLUDING BERMS, SIDEWALKS, DRIVEWAYS, CURBING, AND UNDERDRAINS IS COMPLETED.

(B) WHEN ONLY A PORTION OF THE STREET IS PAVED AND THE LINES OF EXCAVATION ARE IN THE UNPAVED PORTION OF SAME, THE CONTRACTOR SHALL USE THE UTMOST CARE IN PREVENTING INJURY TO THE PAVEMENT. IF, IN MAKING THE EXCAVATION OR FOR ANY OTHER CAUSE, THE PAVEMENT IS REMOVED OR INJURED BY THE CONTRACTOR, HE SHALL FURNISH, PLACE AND MAINTAIN A TEMPORARY PAVEMENT WHEREVER THE PAVEMENT HAS BEEN REMOVED OR DAMAGED, SO AS TO PROVIDE A SAFE AND PASSABLE ROADWAY UNTIL SUCH TIME AS THE FINAL PAVEMENT IS COMPLETED.

PAVEMENTS, ROAD SURFACES, BERMS, SIDEWALKS, DRIVEWAYS, CURBING, AND UNDERDRAINS (CONTINUED)

(C) ALL FINAL PAVING OF ROAD SURFACE, INCLUDING BASE PAVEMENT, BERMS, SIDEWALKS, DRIVEWAYS, CURBING, AND UNDERDRAINS SHALL BE DONE BY THE CONTRACTOR IN CONFORMITY TO ODOT SPECIFICATIONS DATED 2023 OR APPLICABLE STANDARD CUYAHOGA COUNTY DRAWINGS. THE CONTRACTOR SHALL BEAR THE ENTIRE COST OF WORK. THE BASE OF PAVEMENT CONCRETE SHALL BE INSTALLED ON A CAREFULLY PREPARED BED (LEVEL WITH THE BOTTOM OF THE ABUTTING BASE) OVER DISTURBED AREAS AND SHALL BE OF THE THICKNESS SPECIFIED, BUT IN NO CASE LESS THAN 7" THICK. WHERE PAVEMENT OR BASE OF PAVEMENT HAS BEEN DAMAGED BY CAVE-IN, OR BY TRENCH CUT LEAVING A PORTION OR PORTIONS OF PAVEMENT 18 INCHES OR LESS IN WIDTH (BETWEEN SUCH CUT OR DAMAGE) TO CURB OR OTHER SUBSTRUCTURE, THAT REMAINING PORTION OF PAVEMENT SHALL BE REMOVED AND RESTORED MONOLITHIC WITH THE TYPE AND KIND OF PAVEMENT SPECIFIED FOR THE ADJACENT TRENCH AREA. THE WEARING COURSE OVER TRENCH OR OTHER DISTURBED AREAS SHALL BE RESTORED TO MATCH EXISTING PAVEMENT UNLESS OTHERWISE SPECIFIED.
ASPHALTIC CONCRETE WEARING COURSE OVER SUCH AREAS SHALL BE NEATLY AND SQUARELY CUT, NOT LESS THAN 3 FEET WIDE, BEFORE THE INSTALLATION OF A CAREFULLY TOOTHED-IN TO ADJACENT PAVEMENT, UNLESS OTHERWISE SPECIFIED.
EXPANSION JOINTS SHALL BE INSTALLED BETWEEN BRICK WEARING COURSE (IF GROUTED) AND CURB OR OTHER SUBSTRUCTURE, WHERE SUCH RESTORATION IS REQUIRED BY THESE SPECIFICATIONS.

(D) ALL DAMAGED OR DISPLACED CURB AND UNDERDRAIN SHALL BE RENEWED, OR REPLACED OR RESET TO THE SATISFACTION OF THE ENGINEER. NO FAULTY CURB OR CURB LESS THAN 30" LONG WILL BE PERMITTED FOR REUSE.

(E) AT LOCATIONS NOT SPECIFICALLY MENTIONED, THE CONTRACTOR SHALL RESTORE THE SAME TYPE OF PAVEMENT INCLUDING BERMS, SIDEWALKS, DRIVEWAYS, CURBING, AND UNDERDRAIN AS ENCOUNTERED. IF THE THICKNESS OF THE CONCRETE BASE IS GREATER THAN THE RECORD CALLS FOR, THE CONTRACTOR SHALL RESTORE THE THICKNESS GIVEN IN THE RECORD. IF RECORDS ARE NOT AVAILABLE, THE CONTRACTOR SHALL MATCH EXISTING THICKNESSES WHICH HAS BEEN DONE BY THE CONTRACTOR, THEN HE SHALL RELAY SAME AFTER ALL WORK, INCLUDING BACKFILLING HAS BEEN COMPLETED.

(F) IF PRIOR TO THE EXPIRATION OF THIS CONTRACT, ANY OF THE PAVEMENTS, OR ROAD SURFACES, WITHIN THE LINES OF EXCAVATION OR ADJACENT THERETO, SHALL HAVE BEEN DAMAGED OR INJURED, DUE TO UNDERMINING, OR FOR ANY OTHER CAUSE WHICH MAY BE ATTRIBUTED TO THE WORK WHICH IS BEING DONE BY THE CONTRACTOR, THEN THE CONTRACTOR SHALL REMOVE SUCH DAMAGED OR INJURED PAVEMENTS OR ROAD SURFACES, FOUNDATIONS OF SAME AND ALL LOOSE EARTH. HE SHALL THEN BACKFILL WITH MATERIAL SPECIFIED HEREIN, PROPERLY COMPACTED AND REPLACE THE FINAL PAVEMENT, ROAD SURFACE INCLUDING BERMS, SIDEWALKS, DRIVEWAYS, CURBING, AND UNDERDRAINS.

(G) IF ANY SIDEWALKS, DRIVEWAYS, CURBS, OR UNDERDRAINS ARE REMOVED OR INJURED BY THE CONTRACTOR IN THE COURSE OF MAKING EXCAVATION OR HANDLING MATERIALS, OR FOR ANY REASON WHICH MAY BE ATTRIBUTED TO WORK WHICH HAS BEEN DONE BY THE CONTRACTOR, THEN HE SHALL RELAY SAME AFTER ALL WORK, INCLUDING BACKFILLING HAS BEEN COMPLETED. IF ANY STONE SIDEWALKS, DRIVEWAYS, OR CURBS WHICH HAVE BEEN REMOVED OR INJURED, ARE UNFIT TO BE RELAID, THEN THE CONTRACTOR SHALL FURNISH NEW MATERIAL AND RELAY SAME. ALL CONCRETE OR CEMENT SIDEWALKS, DRIVEWAYS OR CURBS, WHICH ARE REMOVED OR INJURED BY THE CONTRACTOR SHALL BE BROKEN UP BY HIM AND HE SHALL FURNISH ALL LABOR AND MATERIALS AND CONSTRUCT NEW SIDEWALKS, DRIVEWAYS OR CURBS, TO REPLACE THOSE REMOVED OR INJURED. AT INTERSECTING WALKS, DRIVE, ETC., ADDITIONAL CONCRETE SLABS BEYOND THE EXCAVATION LIMITS SHALL BE REMOVED AND REPLACED WITH NEW MATERIAL, IN ORDER TO AVOID HAVING MORE JOINTS THAN IN THE ORIGINAL WORK. ALL SLABS REPLACED SHALL BE OF FULL WIDTH. THE CONTRACTOR SHALL FURNISH, PLACE AND MAINTAIN, WHEREVER THE SIDEWALK HAS BEEN REMOVED OR DAMAGED BY HIM, A TEMPORARY SIDEWALK SO AS TO PROVIDE A SAFE AND PASSABLE SIDEWALK UNTIL SUCH TIME AS THE FINAL SIDEWALK IS COMPLETED.

(H) ALL PAVEMENTS, BASE PAVEMENTS, ROAD SURFACES, BERMS, SIDEWALKS, DRIVEWAYS, CURBS, OR UNDERDRAINS WHICH THE CONTRACTOR IS REQUIRED TO REPLACE OR TO HAVE REPLACED, SHALL, AT THE EXPIRATION OF THE PERIOD OF MAINTENANCE, BE IN AT LEAST AS GOOD CONDITION AS AT THE TIME OF AWARDING THE CONTRACT.

PAVEMENTS, ROAD SURFACES, BERMS, SIDEWALKS, DRIVEWAYS, CURBING, AND UNDERDRAINS (CONTINUED)

(I) ALL WORK WHICH THE CONTRACTOR MAY DO IN CONNECTION WITH THE OPENING UP OR REPLACING OF PAVEMENTS, ROAD SURFACES, BERMS, SIDEWALKS, DRIVEWAYS, CURBS, OR UNDERDRAINS AS WELL AS THE FINAL REPAVING, SHALL BE DONE AT HIS EXPENSE, IN ACCORDANCE WITH THE RULES AND REQUIREMENTS OF THE STREET OR SIDEWALK DEPARTMENTS OF THE CITY OF CLEVELAND, MUNICIPALITY OR TOWNSHIP IN WHICH THE WORK IS BEING DONE, AND IN ACCORDANCE WITH THE ADDITIONAL REQUIREMENTS OF THESE SPECIFICATIONS AND CONTRACT DRAWINGS. THE CONTRACTOR SHALL FURNISH EVIDENCE TO THE ENGINEER THAT THE WORK HAS BEEN COMPLETED TO THEIR SATISFACTION.

(J) THE CONTRACTOR SHALL MAKE ALL PAVEMENT CUTS BY CHANNELING MACHINE, HAND-OPERATED PNEUMATIC TOOLS OR BY SUCH OTHER METHODS AS WILL FURNISH A CLEAN CUT IN THE PAVEMENT AND PAVEMENT BASE WITHOUT UNDUE SHATTERING. THE USE OF BALL OR WEIGHT TO BREAK PAVEMENT WILL NOT BE PERMITTED.

(K) NO SPECIFIC OR SEPARATE PAYMENT WILL BE MADE FOR ALL OF THIS WORK, BUT THE COST OF ALL PAVEMENT REPLACEMENT, BOTH TEMPORARY AND PERMANENT INCLUDING PAVEMENT, BASE PAVEMENTS, ROAD SURFACES, BERMS, SIDEWALKS, CURBING, DRIVEWAYS, AND UNDERDRAINS SHALL BE INCLUDED IN THE PRICES BID FOR THE VARIOUS ITEMS OF WORK TO BE DONE UNDER THIS CONTRACT.

PAVEMENT SAW CUTS

WHERE "VERMEER" TYPE SAW, OR ANY OTHER TYPE OF MACHINERY OR MEANS IS USED TO CUT THE EXISTING PAVEMENT IN ADVANCE OF THE PAVEMENT REMOVAL, THE CONTRACTOR SHALL IMMEDIATELY FILL THE SAW-CUT GAP WITH ASPHALT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR, AND AT HIS EXPENSE, MAINTAIN, THE SAW-CUT GAPS AND SHALL REPAIR AND/OR REPLACE ASPHALT AS NECESSARY.

PAVEMENT DAMAGE - CONTRACTOR'S RESPONSIBILITY

THE CONTRACTOR SHALL BE RESPONSIBLE FOR, AND AT HIS EXPENSE, MAINTAIN, REPAIR AND/OR REPLACE ANY PAVEMENT, ROADWAYS, DRIVEWAYS, BERMS, CURBS, SIDEWALKS AND TREELAWNS OR OTHER AREAS WITHIN THE LIMITS OF THIS PROJECT, THAT MAY BE DAMAGED BY HIM OR BY THOSE IN HIS EMPLOY DUE TO MANEUVERING OF CONSTRUCTION EQUIPMENT, OR DAMAGED BY VEHICULAR TRAFFIC REROUTED DUE TO CONSTRUCTION AND TRAFFIC MAINTENANCE.

THE CONTRACTOR SHALL MAINTAIN, REPAIR AND/OR REPLACE ALL DAMAGED OR INJURED PAVEMENT, ROADWAYS, DRIVEWAYS, BERMS, CURBS, SIDEWALKS AND TREELAWNS, BOTH TEMPORARY AND PERMANENT, IN ACCORDANCE WITH THESE SPECIFICATIONS, CONTRACT DRAWINGS OR APPLICABLE CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE CUYAHOGA COUNTY ENGINEER OR STATE OF OHIO DEPARTMENT OF TRANSPORTATION (O.D.O.T.).

REMOVED ITEMS

ALL MATERIALS CONSISTING OF PIPE, FITTINGS, VALVES, CASTINGS AND OTHER WATER MAIN STRUCTURES, UNLESS SPECIFICALLY INDICATED OTHERWISE HEREIN, WHICH ARE DESIGNATED FOR REMOVAL BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE REMOVED AND DISPOSED BY HIM.

ITEM 202 - REMOVAL MISC.: WATER MAIN REMOVED (24" AND UNDER/OVER 24")

ALL WATER MAINS AND APPURTENANCES WHICH ARE NOT TO REMAIN IN SERVICE SHALL BE REMOVED. ALL SUCH WATER WORK SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY HIM.

5 ALL WATER MAINS AND APURTENANCES TO BE REMOVED WITH ROADWAY EXCAVATION OR OTHER ITEMS OF WORK CALLED FOR IN THESE PLANS SHALL BE PAID FOR UNDER ITEM: 202 REMOVAL MISC:WATERMAIN REMOVED 24" AND UNDER; AND ITEM: 202 REMOVAL MISC:WATERMAIN REMOVED OVER 24"

VALVE AND VALVE BOX REMOVAL

REMOVAL AND DISPOSAL OF EXISTING WATERMAIN AND WATER SERVICE CONNECTION VALVES AND VALVE BOXES, WHEN PERFORMED IN CONJUNCTION WITH SERVICE CONNECTION AND WATERMAIN REMOVALS SHALL BE CONSIDERED INCIDENTAL TO THE RESPECTIVE "SERVICE CONNECTION REMOVED" AND "WATERMAIN REMOVED" PAY ITEMS. NO SEPARATE PAYMENT SHALL BE MADE.

ITEM 638 - FIRE HYDRANT REMOVED AND DISPOSED OF, AS PER PLAN

ALL REMOVED HYDRANTS SHALL HAVE THE SERVICE BRANCH AND ANY VALVES REMOVED. THE TEE SHALL BE REMOVED AND A SPOOL PIECE INSTALLED. NO SEPARATE PAYMENT SHALL BE MADE.

ITEM SPECIAL - DUCTILE IRON PIPE AND FITTINGS - 20" AND SMALLER

WORK INCLUDED

(A) THE CONTRACTOR SHALL, UNDER ITEM SPECIAL - DUCTILE IRON PIPE AND FITTINGS - 20" AND SMALLER, FURNISH ALL THE MATERIALS FOR AND SHALL PROPERLY CONSTRUCT AND CONNECT IN PLACE AT THE LOCATIONS SHOWN ON THE DRAWINGS OR AS DIRECTED, ALL DUCTILE IRON PIPE AND FITTINGS, INCLUDING ALL EXCAVATION WORK, THE CUTTING INTO AND REMOVAL OF EXISTING PIPE, BACKFILLING, SAND BEDDING AND PREMIUM BACKFILL, AND REPAVING (BOTH TEMPORARY AND PERMANENT), ALL AS REQUIRED FOR THE PROPER COMPLETION OF THE WORK INCLUDED UNDER THIS CONTRACT. IN GENERAL THIS WORK SHALL INCLUDE THE FURNISHING, LAYING, CONNECTING, PAINTING, TESTING OF PIPE AND FITTINGS, THE EXCAVATION, REMOVAL AND RESTORATION OF MISCELLANEOUS ITEMS, SHEETING AND SHORING, BACKFILLING, SAND BEDDING AND PREMIUM BACKFILL, SEEDING AND SODDING, THE PERMANENT REPAVING, IF SO NOTED ON THE CONTRACT DRAWINGS, THE CUTTING INTO, REMOVAL AND STORAGE OF EXISTING MAINS, AND THE FURNISHING OF ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT TO COMPLETE THE WORK AS SPECIFIED, SHOWN OR ORDERED.

(B) IN MAKING THE CONNECTION TO EXISTING MAINS WHERE BRANCH SLEEVES CAN BE USED, THE CONTRACTOR SHALL SUPPLY THE SAME. THE DIVISION OF WATER WILL INSTALL THE BRANCH SLEEVE AND WILL MAKE THE PRESSURE TAP (IF APPLICABLE) IN ACCORDANCE WITH THE REQUIREMENTS INDICATED UNDER "WORK TO BE DONE BY CITY." IF THE INSTALLATION OF BRANCH SLEEVES AND VALVES CANNOT BE ACCOMPLISHED, THE CONTRACTOR WILL BE REQUIRED TO FURNISH AND INSTALL TEES WITH SLEEVES OR COUPLINGS TO COMPLETE THE CONNECTION. THE CONTRACTOR WILL BE REQUIRED TO MAKE THE NECESSARY EXCAVATION, BACKFILL AND REPAVING (IF NOT PAID FOR SEPARATELY AS PART OF THIS CONTRACT).

DUTILE IRON PIPE AND FITTINGS - 20" AND SMALLER

(A) ALL PIPE AND FITTINGS SHALL BE MANUFACTURED IN ACCORDANCE WITH AND IN ALL RESPECTS WITH THE REQUIREMENTS OF THE LATEST SPECIFICATIONS OF THE "AMERICAN NATIONAL STANDARD" FOR ANSI/AWWA C151/A21.51-86, "DUCTILE IRON PIPE CENTRIFUGALLY CAST IN METAL MOLDS OR SAND-LINED MOLDS, AND DUCTILE IRON FITTINGS FOR WATER AND OTHER LIQUIDS," AND ANSI/AWWA C111/A21.11-85, "RUBBER-GASKET JOINTS FOR DUCTILE-IRON PIPE AND GRAY-IRON PRESSURE PIPE AND FITTINGS," ADOPTED BY THE AMERICAN WATER WORKS ASSOCIATION; WHICH STANDARDS EXCEPT AS HEREIN MODIFIED ARE MADE A PART OF THESE SPECIFICATIONS. PIPE AND FITTINGS UP TO AND INCLUDING 20-INCHES SHALL HAVE RETAINED MECHANICAL JOINTS EXCEPT WHERE BOLTLESS RESTRAINED PUSH-ON JOINT PIPE AND FITTINGS IS CALLED FOR ON THE CONTRACT DRAWINGS OR DIRECTLY SPECIFIED.

(B) ALL PIPE AND FITTINGS SHALL BE CEMENT LINED AND OF THE SIZE AND THICKNESS AND PRESSURE CLASSES NOTED ON THE RESPECTIVE CONTRACT DRAWINGS OR DIRECTLY SPECIFIED. FITTINGS ON PIPE SIZES UP TO AND INCLUDING 12-INCHES MAY BE OF THE SHORT BODIED (COMPACT) TYPE.

(C) ALL DUCTILE IRON FITTINGS SHALL BE MANUFACTURED IN ACCORDANCE WITH AMERICAN NATIONAL STANDARD, ANSI/AWWA C110/A21.10-87, "DUCTILE IRON AND GRAY-IRON FITTINGS, 3-INCH THROUGH 48-INCH, FOR WATER OTHER LIQUIDS," AND ALL SUBSEQUENT AMENDMENTS THERETO. METAL FOR FITTINGS SHALL CONFORM TO AMERICAN NATIONAL STANDARD ANSI A21.10-87. FITTINGS ON PIPE SIZE UP TO AND INCLUDING 12" MAY BE OF THE SHORT BODIED TYPE IN ACCORDANCE WITH ANSI/AWWA C153/A21.53-88, "DUCTILE IRON COMPACT FITTINGS, 3" THROUGH 16" FOR WATER AND OTHER LIQUIDS," AND ALL SUBSEQUENT AMENDMENTS THERETO.

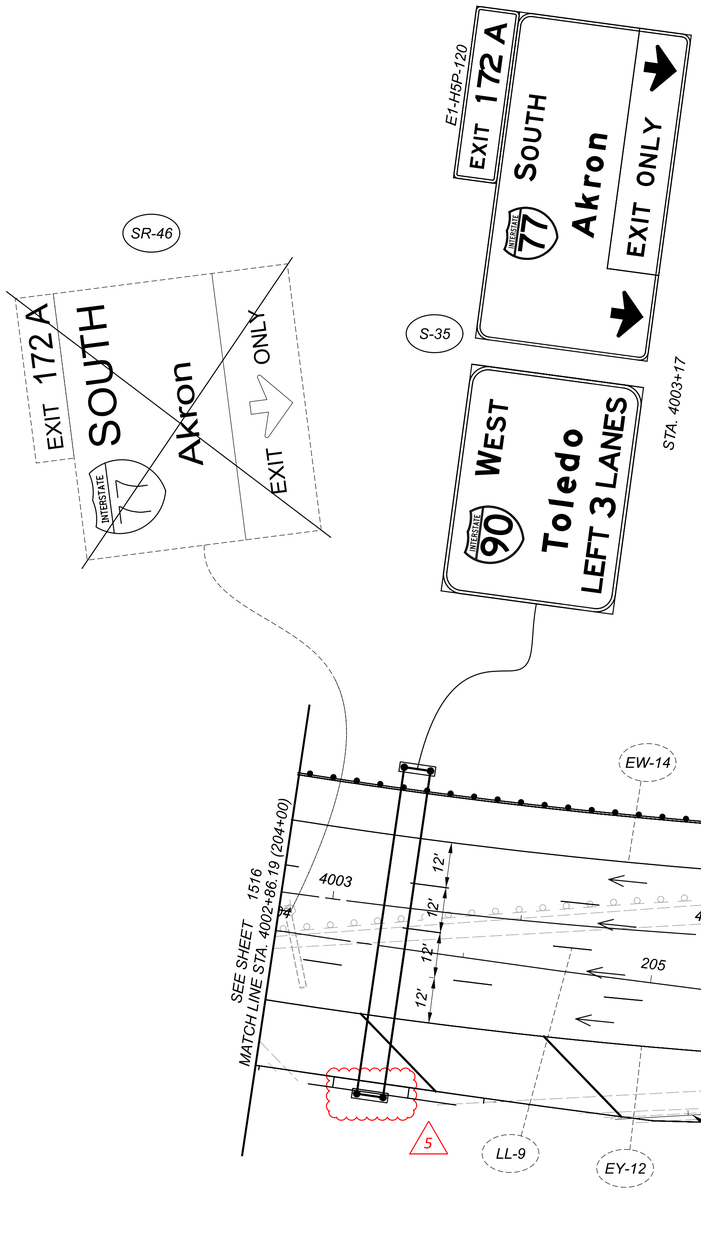
WATER WORK GENERAL NOTES

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER SMP
REVIEWER SM 05/15/24
PROJECT ID 82382
SHEET 1376 TOTAL 2696

CUY-90-16.28 (CCG3A)

MODEL: UN1206 PAPERSIZE: 34x22 (in.) DATE: 10/10/2025 TIME: 11:05:09 AM USER: Mala.Gallagher
pw:\\mb-us-pw.bentley.com:mb-us-pw-03\Documents\Cleveland_OH\01_Projects\ODOT\District12\82382\400-Engineering\Utilities\Sheets\82382_UN1201.dgn



TRAFFIC CONTROL LEGEND

EW	EDGE LINE, WHITE
EY	EDGE LINE, YELLOW
LL	LANE LINE
DW	DOTTED LINE, WHITE
CH	CHANNELIZING LINE
CV	CHEVRON
TW	TRANSVERSE / DIAGONAL LINES, WHITE
TY	TRANSVERSE / DIAGONAL LINES, YELLOW
LA	LANE ARROW
WA	WRONG WAY ARROW

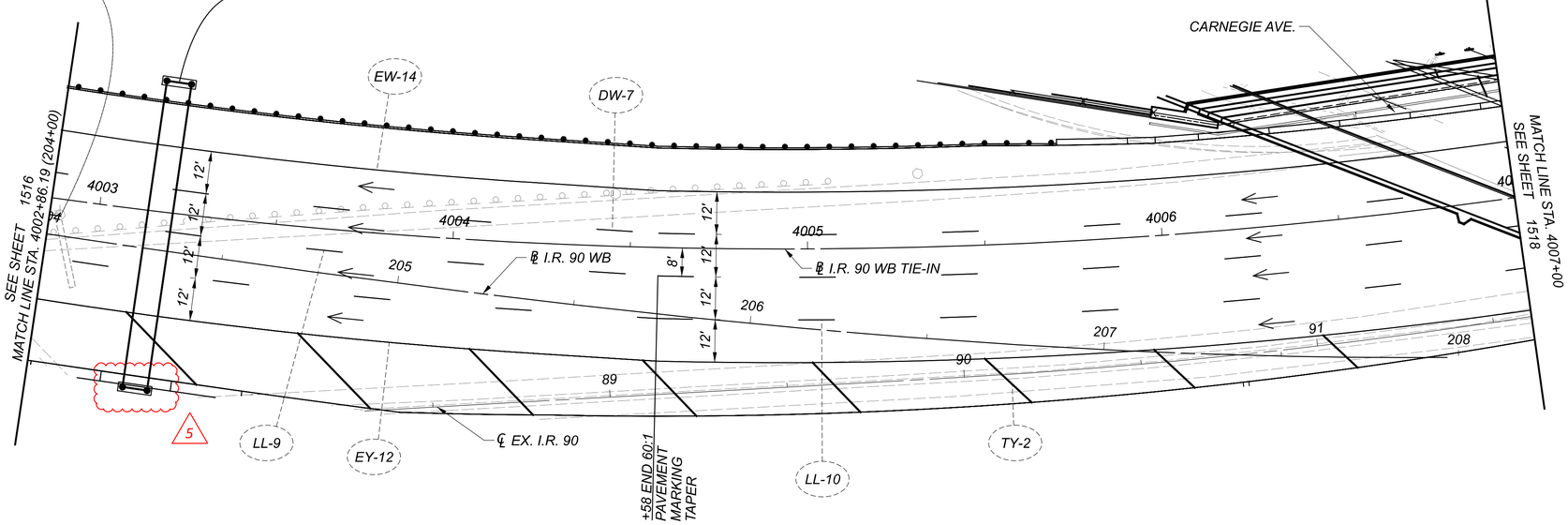
TRAFFIC DIRECTION

PROPOSED SIGN

EXISTING SIGN TO REMAIN (RELOCATIONS NOTED IN PLANS)

EXISTING SIGN TO BE REMOVED

NOTE:
ALL PAVEMENT MARKINGS ON CONCRETE SHALL BE ITEM 646 - EPOXY AND ALL PAVEMENT MARKINGS ON ASPHALT SHALL BE ITEM 644 - THERMOPLASTIC



HORIZONTAL SCALE IN FEET
0 10 20 40

SIGNING & PAVEMENT MARKING PLAN - I.R. 90 WB
STA. 4002+86.19 (204+00) TO STA. 4007+00.00

CUY-90-16.28 (CCG3A)

MODEL: 82382_TP2262 PAPERSIZE: 34x22 (in.) DATE: 10/10/2025 TIME: 11:45:15 PM USER: Joseph.Hogan
pw:\\mb-us-pw.bentley.com:mb-us-pw-03\Documents\Cleveland_OH01_Projects\000T\District2\82382\400-Engineering\Traffic\Sheets\82382_TP2262.dgn

DESIGN AGENCY
B&N
burgessniple.com

DESIGNER	KEH
REVIEWER	JTP 05/01/24
PROJECT ID	82382
SHEET	1517
TOTAL	2696

PROPOSED LIGHTING CIRCUITS

ALL NEW CITY STREETLIGHTING MAINTAINED BY CLEVELAND PUBLIC POWER (CPP), NEW PEDESTRIAN LIGHTING MAINTAINED BY THE CITY OF CLEVELAND, AND MODIFIED EXISTING LIGHTING CIRCUITS WILL BE SERVICED FROM 120/240 VOLT, SINGLE PHASE POWER SUPPLIES. ALL PROPOSED LIGHTING CIRCUITS WILL BE 240 VOLT, (PHASE TO PHASE CONNECTION), WITH A MARKED GROUND CONDUCTOR.

BOTH PHASE CONDUCTORS TO LIGHT POLES SHALL BE FUSED WITH INLINE KTK IN EACH LIGHT PULL BOX.

CONNECTOR KITS AND CABLE SPLICE KITS

CONNECTOR KITS FOR POLES AND PULL BOXES SHALL COMPLY WITH ODOT REQUIREMENTS.

ITEM 625 - LIGHT POLE, MISC.: 30' ROUND TAPERED FIBERGLASS STREETLIGHT
ITEM 625 - LIGHT POLE, MISC.: 15' ROUND TAPERED FIBERGLASS STREETLIGHT

IN ADDITION TO THE REQUIREMENTS OF ODOT C&MS 725, LIGHT POLES FOR DECORATIVE STYLE LUMINAIRES SHALL BE AS FOLLOWS:

ALL POLES SHALL BE A HOLLOW, TRUNCATED CONE OF SUITABLE WALL THICKNESS AND TAPER. THE TAPER SHALL BE UNIFORM FROM TOP TO BOTTOM (ANY SECTION SHALL BE CIRCULAR).

ANY POLE PROVIDED SHALL NOT WEIGH LESS THAN 95% OF THE MANUFACTURER'S ADVERTISED OR SPECIFIED WEIGHTS.

FIBERGLASS POLES FURNISHED AS PART OF THIS SPECIFICATION SHALL BE MANUFACTURED PER THE CUT SHEETS INCLUDED ON SHEET 1742 COLOR OF POLE SHALL MATCH LUMINAIRE.

CAPABLE OF BEING FITTED AS FOLLOWS:

DECORATIVE LUMINAIRE STREETLIGHT POLES

DECORATIVE LUMINAIRE AT NOMINAL MOUNTING HEIGHT (30' FOR ITEM 625 - LIGHT POLE, MISC.: 30' ROUND TAPERED FIBERGLASS STREETLIGHT AND 15' FOR ITEM 625 - LIGHT POLE, MISC.: 15' ROUND TAPERED FIBERGLASS STREETLIGHT) ABOVE THE PAVEMENT SURFACE. ADJUSTMENTS MAY BE REQUIRED IN THE POLE SHAFT LENGTH TO PROVIDE THE PROPER LUMINAIRE MOUNTING HEIGHT.

BASE PLATE AND COVER FOR ANCHOR BASE POLE

DETAILS FOR BASE PLATE AND COVER INCLUDED ON SHEET 1742.

ANCHOR RODS FOR ANCHOR BASE POLES

ONE SET OF FOUR (4) GALVANIZED 1 INCH ANCHOR RODS 40 (36 + 4) INCHES IN LENGTH, EACH WITH TWO NUTS AND TWO WASHERS, SHALL BE FURNISHED WITH EACH POLE ASSEMBLY. ANCHOR BOLTS SHALL CONFORM TO LATEST ASTM SPECIFICATION FOR HIGH STRENGTH, GALVANIZED ANCHOR BOLTS, 50,000 PSI MINIMUM.

SHIPPING

EACH POLE SHALL BE INDIVIDUALLY WRAPPED WITH PLASTIC SHRINK FILM OR POLY-BAGGED FOR PROTECTION DURING SHIPPING AND STORAGE.

POLES SHALL INCLUDE A DUPLEX RECEPTACLE BOX WITH WET LOCATION WHILE-IN-USE COVER.

WIND LOADING

THE POLES FURNISHED AS PART OF THIS SPECIFICATION SHALL BE DESIGNED IN ACCORDANCE WITH 90 MPH (30% GUST FACTOR) AASHTO WIND LOADING. CERTIFIED MATHEMATICAL WIND LOAD CALCULATIONS MUST BE SUBMITTED WITH THE BID.

LOADING TEST

THE MANUFACTURER SHALL PROVIDE ONE (1) SET OF SHOP DRAWINGS FOR THE POLE WITH CERTIFIED TEST DATA FOR DEFLECTION AND ULTIMATE STRENGTH. THIS INFORMATION SHALL ALSO BE SUBMITTED WITH THE BID. ALL TESTING IS TO BE PERFORMED ON THE POLE WITH THE APPROPRIATE SIZE HAND HOLE LOCATED ON THE COMPRESSION SIDE.

1. A HORIZONTAL LOAD IS TO BE APPLIED IN 100 POUND INCREMENTS AT A POINT 12 INCHES FROM THE TOP UNTIL AN ULTIMATE TOP LOAD OF 1,400 POUNDS HAS BEEN APPLIED. THE POLE SHALL WITHSTAND A MINIMUM OF 1400 POUNDS OF HORIZONTAL LOAD BEFORE FAILURE. UNDER THE SAME TEST PROCEDURE, THE MAXIMUM DEFLECTION UNDER 100 POUND LOADING SHALL BE 4% OF THE ABOVE GROUND LENGTH OF THE POLE.

ITEM 625 - LIGHT POLE, MISC.: 30' ROUND TAPERED FIBERGLASS STREETLIGHT CONTINUED
ITEM 625 - LIGHT POLE, MISC.: 15' ROUND TAPERED FIBERGLASS STREETLIGHT CONTINUED

LOADING TEST CONTINUED

2. A HORIZONTAL LOAD IS TO BE APPLIED IN 100 POUND INCREMENTS AT A POINT 12 INCHES FROM THE TOP OF THE POLE. THE LOAD IS TO BE HELD FOR FIVE (5) MINUTES WITHOUT POLE FAILURE AND THE POLE IS TO HAVE NO MORE THAN 1% PERMANENT DEFLECTION AFTER UNLOADING.

INVENTORY IDENTIFICATION

ALL POLE ARMS AND BASES SHALL BE PERMANENTLY MARKED WITH INVENTORY CODES SUPPLIED AT TIME OF ORDER. MARKING SHALL BE SUCH THAT THEY CANNOT BE REMOVED BY HAND OR FADED OR OTHERWISE MADE ILLEGIBLE BY RAIN, SNOW, WIND, SUN OR OTHER WEATHER CONDITIONS ENCOUNTERED IN OUTDOOR STORAGE.

SHOP DRAWINGS

SUBMIT SHOP DRAWINGS OF MANUFACTURER CATALOG CUTS TO THE ENGINEER/CPP FOR THEIR APPROVAL PRIOR TO ORDERING MATERIALS.

PAYMENT

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR ODOT C&MS ITEM 625 - LIGHT POLE, MISC.: 30' ROUND TAPERED FIBERGLASS STREETLIGHT FOR EACH PROPOSED STREETLIGHT POLE IN THE PLANS. PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR ODOT C&MS ITEM 625 - LIGHT POLE, MISC.: 15' ROUND TAPERED FIBERGLASS STREETLIGHT FOR EACH PROPOSED PEDESTRIAN POLE IN THE PLANS. THE UNIT PRICE BID SHALL INCLUDE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMAN LIKE MANNER.

ITEM 625 - LIGHT POLE ANCHOR BOLTS ON STRUCTURE

WHEN A LIGHT POLE IS MOUNTED ON A PILASTER ON A BRIDGE PARAPET, INTO A BRIDGE DECK, OR ON A RETAINING WALL, THE REQUIRED ANCHOR BOLTS MAY DIFFER IN LENGTH AND / OR SHAPE FROM THOSE REQUIRED WHEN THE POLE IS MOUNTED ON A CAST-IN-PLACE DRILLED SHAFT FOUNDATION. THE COST DIFFERENTIAL FOR FURNISHING SUCH BOLTS IS INCLUDED HEREIN.

IN ADDITION, THERE IS NO FOUNDATION CONSTRUCTION ITEM IN WHICH TO INCLUDE THE SETTING OF THE ANCHOR BOLTS. THUS, THE SETTING OF THE ANCHOR BOLTS INTO THE PILASTER OR DECK LOCATIONS IS ALSO PART OF THIS WORK.

PAYMENT WILL BE MADE AT EACH SUCH POLE LOCATION AT THE UNIT PRICE BID FOR EACH CMS ITEM 625 - LIGHT POLE ANCHOR BOLTS ON STRUCTURE AND SHALL BE FULL COMPENSATION FOR FURNISHING AND PLACING THE SET OF ANCHOR BOLTS REQUIRED.

ITEM 625 - DISTRIBUTION CABLE, MISC.: NO. 4/0 AWG 2400 VOLT DISTRIBUTION CABLE

DISTRIBUTION CABLE SHALL ADHERE TO THE REQUIREMENTS OF ODOT C&MS 625 AND SHALL BE 4/0 AWG IN SIZE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR ODOT C&MS ITEM 625 - DISTRIBUTION CABLE, MISC.: NO. 4/0 AWG 2400 VOLT DISTRIBUTION CABLE WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - CONDUIT, CONCRETE ENCASED, AS PER PLAN (2-2" CONDUIT, 725.051)
ITEM 625 - CONDUIT, CONCRETE ENCASED, AS PER PLAN (4-2" CONDUIT, 725.051)

THIS ITEMS OF WORK CONSIST OF THE INSTALLATION OF EITHER 2-2" CONDUIT DUCT BANK, 4-2" CONDUIT DUCT BANK, OR 6-2" CONDUIT DUCT BANK BETWEEN PULLBOXES AND UNDER PAVED ROADWAYS. REFER TO LIGHTING PLANS FOR LOCATIONS. PROVIDE A MINIMUM OF 2" BETWEEN CONDUITS AND A MINIMUM OF 3" OF CONCRETE ENCASEMENT ON ALL SIDES OF THE CONDUIT. PROVIDE A MINIMUM COVER OF 30" FROM FINISHED GRADE TO THE TOP OF CONCRETE ENCASEMENT.

A RUGGED POLYETHYLENE MATERIAL WARNING TAPE CAPABLE OF RESISTING HIGH OR LOW PH CONDITIONS SHALL BE PLACED ABOVE THE ELECTRICAL CONDUIT BANK. THIS WARNING TAPE IS TO BE 6" WIDE, RED IN COLOR AND IMPRINTED WITH THE WORDS, "DANGER - BURIED HIGH VOLTAGE CABLES BELOW." THIS TAPE IS TO BE PLACED 6" ABOVE THE NEWLY INSTALLED DUCT BANK. THIS SHALL CONFORM WITH THE STANDARDS AS SET BY THE OHIO UTILITIES PROTECTION SERVICE (OUPS). WARNING TAPE IS NOT INCIDENTAL TO THIS ITEM AND SHALL BE PAID FOR SEPARATELY.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR ODOT C&MS ITEM 625 - CONDUIT, CONCRETE ENCASED, AS PER PLAN (X-2" CONDUIT, 725.051) FOR EACH FOOT OF X-2" CONDUITS INSTALLED, WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

PULL WIRE

PULL WIRE SHALL BE WOVEN KEVLAR WITH A TENSILE RATING OF 1,200 LBS, EQUAL TO (OR EXCEEDING) HERCULINE A1250W PULL TAPE. THE QUANTITY SHALL BE SUFFICIENT TO RUN THE ENTIRE LENGTH OF THE PROJECT THROUGH EACH PULL BOX LOCATED ON BOTH SIDES OF THE RIGHT OF WAY. PULL WIRES SHALL BE SUPPLIED IN ALL EMPTY CONDUITS. THIS MATERIAL WILL BE INCLUDED AS INCIDENTAL TO THE CONDUIT AS INSTALLED.

ITEM 625 - LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN (CPP LED COBRA HEAD)

LUMINAIRES MOUNTED TO CPP WOOD POLES SHALL BE GENERAL ELECTRIC, CATALOG NUMBER:

ERLH-0-13-C3-40-A-GRAY-I-L (250 WATT EQUIVALENT) OR
ERL2-0-23-C3-40-A-GRAY-I-L (400 WATT EQUIVALENT)

5 PROVIDE 250 WATT EQUIVALENT FIXTURES ON EAST 14TH STREET SOUTH OF RAMP B6, CENTRAL AVENUE CONNECTOR, MIDTOWN CONNECTOR AND CEDAR AVENUE. PROVIDE 400 WATT EQUIVALENT FIXTURES ON CARNEGIE AVENUE. PAYMENT WILL BE MADE FOR EACH LUMINAIRE, BRACKET ARM AND OTHER APPURTENANCES AS REQUIRED BY THE MANUFACTURER TO COMPLETE THE WORK.

ITEM 625 - LUMINAIRE, UNDERPASS, SOLID STATE (LED), AS PER PLAN (CPP LED WALLPACK)

UNDERPASS LUMINAIRES FOR STREET LIGHTING SHALL BE VERSALED LIGHTING WP3-Q, CODE WP3-Q-41L-QT-40K.

ITEM 625 - LUMINAIRE, DECORATIVE, AS PER PLAN (30' POLES)

30' ROUND TAPERED FIBERGLASS STREETLIGHT LUMINAIRES:

LUMINAIRES FOR STREET LIGHTING ALONG EAST 22ND STREET, EAST 18TH STREET AND EAST 14TH STREET NORTH OF RAMP B6 SHALL BE MANUFACTURED BY COOPER LIGHTING SOLUTIONS, STREETWORKS, THE USSL LED COLLECTION, WITH 96 WATT, 4000K, 2 LIGHT SQUARE LUMINAIRE WITH PHOTOMETRIC DISTRIBUTION OF TYPE III OPTICS.

PROVIDE TENON ADAPTOR MA1020-BZ FOR STREETLIGHT POLE, INCIDENTAL TO PAYMENT OF THE LUMINAIRE.

CATALOG NO. USSL-C027-D-U-T3-SA-BZ-10MSP-4N7-TH

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR ODOT C&MS ITEM 625 - LUMINAIRE, DECORATIVE, AS PER PLAN (STREETLIGHT FIXTURE FOR 30' FIBERGLASS POLES) FOR EACH PROPOSED STREETLIGHT LUMINAIRE ALONG EAST 22ND STREET, EAST 18TH STREET AND EAST 14TH STREET NORTH OF RAMP B6 IN THE PLANS. THE UNIT PRICE BID SHALL INCLUDE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMAN LIKE MANNER.

ITEM 625 - LUMINAIRE, DECORATIVE, AS PER PLAN (15' POLES)

15' ROUND TAPERED FIBERGLASS STREETLIGHT LUMINAIRES:

LUMINAIRES FOR PEDESTRIAN LIGHTING ALONG EAST 22ND STREET AND MIDTOWN CONNECTOR SHALL BE MANUFACTURED BY COOPER LIGHTING SOLUTIONS, STREETWORKS, THE USSL LED COLLECTION, WITH 35 WATT, 4000K, 1 LIGHT SQUARE LUMINAIRE WITH PHOTOMETRIC DISTRIBUTION OF TYPE III OPTICS.

PROVIDE TENON ADAPTOR MA1020-BZ FOR STREETLIGHT POLE WITH ONE MOUNTED LUMINAIRE AND PROVIDE TENON ADAPTOR MA1034-BZ FOR STREETLIGHT POLE WITH TWO LUMINAIRES MOUNTED AT 180 DEGREES. TENON ADAPTOR SHALL BE INCIDENTAL TO PAYMENT OF THE LUMINAIRE.

CATALOG NO. BAA-USSL-P-C014-D-U-T3-SA-BZ-10MSP-4N7-TH

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR ODOT C&MS ITEM 625 - LUMINAIRE, DECORATIVE, AS PER PLAN (PEDESTRIAN FIXTURE FOR 15' FIBERGLASS POLES) FOR EACH PROPOSED PEDESTRIAN LUMINAIRE ALONG EAST 22ND STREET AND MIDTOWN CONNECTOR IN THE PLANS. THE UNIT PRICE BID SHALL INCLUDE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMAN LIKE MANNER.

LIGHTING GENERAL NOTES (CPP/PEDESTRIAN LIGHTING)

CUY-90-16.28 (CCG3A)
MODEL: Sheet-3 PAPERSIZE: 34x22 (in.) DATE: 10/10/2025 TIME: 11:06:43 AM USER: Caroline.Owings
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DESIGN AGENCY
Michael Baker INTERNATIONAL
DESIGNER JLD
REVIEWER SM 05/22/24
PROJECT ID 82382
SHEET 1686 TOTAL 2696

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	07-17-15
AS-2-15	REVISED	01-18-19
SBR-1-20	REVISED	07-19-24

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800	DATED	SEE TITLE SHEET
840	DATED	04-15-22
855	DATED	04-20-18
866	DATED	04-21-17
869	DATED	10-17-14
894	DATED	04-16-21

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.

SPECIAL DESIGN SPECIFICATIONS:

THIS BRIDGE REQUIRED THE USE OF A THREE DIMENSIONAL FINITE ELEMENT MODEL TO ANALYZE THE STRUCTURE, IN WHICH ALL STRUCTURAL COMPONENTS ARE EXPLICITLY MODELED (GIRDERS, DECK, AND ALL CROSSFRAME MEMBERS). THE COMPUTER PROGRAM USED FOR THE STRUCTURAL ANALYSIS WAS LARSA 4D (VERSION 8.00.R9021). THE BRIDGE COMPONENT FORCES WERE DETERMINED BY THIS METHOD AND THE LOAD DISTRIBUTION WAS DETERMINED AS FOLLOWS:

DEAD LOAD DISTRIBUTION: STRUCTURAL STEEL SELF-WEIGHT (NON-COMPOSITE) INCLUDES A 5% INCREASE OF STEEL DENSITY TO ACCOUNT FOR MISCELLANEOUS STEEL DETAILS. THE WEIGHT OF THE CONCRETE DECK SLAB (NON-COMPOSITE) IS PLACED AS A UNIFORMLY DISTRIBUTED LOAD, AND IS DETERMINED BY TRIBUTARY WIDTH TO EACH GIRDER. THE WEIGHT OF THE CONCRETE HAUNCH (NON-COMPOSITE) IS PLACED AS A UNIFORMLY DISTRIBUTED LOAD ALONG EACH GIRDER. EDGE RAILING LOADS (COMPOSITE) WERE PLACED AS UNIFORM SURFACE LOAD TO THE OVERHANG DECK PLATES, AND THE FUTURE WEARING SURFACE LOAD OF 60 PSF (COMPOSITE) WAS PLACED ON THE CONCRETE DECK AS A UNIFORM SURFACE LOAD IN THE THREE DIMENSIONAL FINITE ELEMENT MODEL.

LIVE LOAD DISTRIBUTION: A LIVE LOAD INFLUENCE SURFACE, IN CONJUNCTION WITH THE THREE DIMENSIONAL FINITE ELEMENT MODEL, WAS USED FOR LIVE LOAD ANALYSIS. INFLUENCE ORDINATES ARE DETERMINED WITHIN THE FINITE ELEMENT PROGRAM BY APPLYING A VERTICAL UNIT LOAD AT LONGITUDINAL AND TRANSVERSE POSITIONS AT DEFINED INCREMENTS ON THE CONCRETE DECK. LIVE LOADS ARE THEN PLACED ON THE INFLUENCE SURFACE AT CRITICAL LOCATIONS TO DETERMINE THE MAXIMUM/MINIMUM STRUCTURAL COMPONENT FORCE EFFECT BASED ON THE LONGITUDINAL AND TRANSVERSE STIFFNESS. THE LIVE LOAD DISTRIBUTION FACTORS VARY ALONG THE WIDTH AND LENGTH OF THE STRUCTURE.

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.

REDUNDANCY:

THE FOLLOWING ITEMS WERE CONSIDERED NON-REDUNDANT FOR DESIGN AND INCLUDED A LOAD MODIFIER EQUAL TO 1.05 IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.4: PIER 8 CAP AND COLUMNS

DESIGN LOADING:

HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT.

DESIGN DATA:

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
CONCRETE CLASS QC4 - COMPRESSIVE STRENGTH 4.0 KSI (MASS CONCRETE)
CONCRETE CLASS QC4 - COMPRESSIVE STRENGTH 6.0 KSI (MASS CONCRETE) PIER 8 CAP
CONCRETE CLASS QC5, WITH 3/8-IN. MAX. AGGREGATE SIZE: COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT) AT PIER 3
CONCRETE CLASS QC4, WITH 3/8-IN. MAX. AGGREGATE SIZE: COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT) AT PIER 7

CONCRETE REINFORCEMENT:
EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI (DECK SLABS, RAILING, ABUTMENTS, PIERS AND APPROACH SLABS)
GFRP REINFORECMENT - C&MS 705.28 (MODULUS = 8700 KSI)(RAILING)

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

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

CAST-IN PLACE STEEL PIPE PILES - ASTM A252, STEEL PIPE GRADE 3
MINIMUM YIELD STRENGTH 45 KSI

POST-TENSIONING DESIGN DATA:

A. POST-TENSIONING STRANDS SHALL BE IN ACCORDANCE WITH ASTM A416, GRADE 270, LOW RELAXATION.

B. THE DESIGN IS BASED UPON THE FOLLOWING INITIAL TENDON STRESSES AND TENDON CHARACTERISTICS:
DIAMETER: 0.6 INCHES
WOBBLE COEFFICIENT: 0.0002
FRICTION COEFFICIENT: 0.23
ANCHOR SET: 0.25 INCHES
MAXIMUM JACKING STRESS: 195 KSI
MAXIMUM STRESS AT ANCHORAGE AFTER SEATING: 187 KSI
MAXIMUM STRESS OTHER LOCATIONS AFTER SEATING: 187 KSI
APPARENT MODULUS OF ELASTICITY: 28,500 KSI

C. A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI SHALL BE OBTAINED PRIOR TO STRESSING OF POST-TENSIONING TENDONS.

MONOLITHIC WEARING SURFACE:

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1" THICK.

REAR ABUTMENT PILE DRIVING CONSTRAINTS:

PRIOR TO DRIVING ABUTMENT PILES TO THE ULTIMATE BEARING VALUE (UBV), CONSTRUCT THE MSE WALL AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENT UP TO THE BOTTOM OF THE FOOTING FOR A MINIMUM DISTANCE OF 200 FEET BEHIND THE REAR ABUTMENT. THE CONTRACTOR MAY PRE-DRIVE ABUTMENT PILES BEFORE CONSTRUCTING MSE WALLS. PRE-DRIVING CONSISTS OF INSTALLING THE ABUTMENT PILES INTO THE SOIL ONLY AS FAR AS NECESSARY SO THAT THE PILE WILL REMAIN VERTICAL DURING MSE WALL CONSTRUCTION. IF PRE-DRIVING PILES, INSTALL PILE SLEEVES AROUND PILES BEFORE CONSTRUCTING THE MSE WALL. PROVIDE AT LEAST 3-FT OF PILE ABOVE THE TOP OF THE PILE SLEEVE TO MEET THE REQUIREMENTS OF C&MS 507.09 REGARDING SPLICES.

IF NOT PRE-DRIVING ABUTMENT PILES, INSTALL THE ABUTMENT PILES THROUGH PILE SLEEVES AFTER THE ABOVE REQUIRED MSE WALL AND EMBANKMENT HAVE BEEN CONSTRUCTED.

ITEM 203 EMBANKMENT, AS PER PLAN:

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STATIONS 409+67.00 TO 431+97.00.

REAR ABUTMENT PROPRIETARY RETAINING WALL DATA:

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SS840 TO SUPPORT THE ABUTMENT. THE DESIGN FOR INTERNAL STABILITY SHALL INCLUDE A NOMINAL (I.E. UNFACTORED) HORIZONTAL STRIP LOAD DUE TO FRICTION (FR) FROM THE SUPERSTRUCTURE OF 1.85 K/FT AT THE REAR ABUTMENT (WALL N) APPLIED PERPENDICULAR TO THE FACE OF WALL AT THE BASE OF THE CONCRETE FOOTING. THIS STRIP LOAD DOES NOT INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL. HOWEVER, THE PROPRIETARY WALL SUPPLIER SHALL INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL IN THE DESIGN CALCULATIONS.

FRICTION DRILLED SHAFTS:

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 2038.9 KIPS AT PIER 3 AND 2534.0 KIPS AT PIER 7. THIS LOAD IS RESISTED BY FRICTIONAL SIDE RESISTANCE ALONG THE LENGTH OF THE DRILLED SHAFT AND BY TIP RESISTANCE. AT PIER 3, THE FACTORED SIDE RESISTANCE IS 1707.3 KIPS, ASSUMED TO ACT ALONG THE ENTIRE LENGTH OF THE DRILLED SHAFT, AND THE FACTORED TIP RESISTANCE IS 334.0 KIPS. AT PIER 7, THE FACTORED SIDE RESISTANCE IS 2115.3 KIPS, ASSUMED TO ACT ALONG THE BOTTOM 83 FEET OF THE DRILLED SHAFT, AND THE FACTORED TIP RESISTANCE IS 424.6 KIPS.

ITEM 524 - DRILLED SHAFTS, 90" DIAMETER, ABOVE BEDROCK, AS PER PLAN:

INSTALLATION OF DRILLED SHAFTS AT PIER 7 MAY CONFLICT WITH EXISTING FOUNDATIONS, SPECIALIZED EQUIPMENT, MATERIAL, AND ALL NECESSARY LABOR TO PERFORM THIS WORK WILL BE CONSIDERED INCIDENTAL AND INCLUDED WITH PAY ITEM 524-DRILLED SHAFTS, 90" DIAMETER, ABOVE BEDROCK, AS PER PLAN. REFER TO FOUNDATION PLANS FOR APPROXIMATE LOCATIONS OF EXISTING PILES.

LATERALLY LOADED DRILLED SHAFTS:

THE MAXIMUM FACTORED LATERAL LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT AT PIER 3 IS 58.5 KIPS. THIS LOAD PRODUCES A MAXIMUM FACTORED BENDING MOMENT OF 934 KIP-FEET, AND A MAXIMUM FACTORED SHEAR OF 58.5 KIPS, WITHIN THE DRILLED SHAFT.

THE MAXIMUM FACTORED LATERAL LOAD AND BENDING MOMENT TO BE SUPPORTED BY EACH DRILLED SHAFT AT PIER 7 ARE 100 KIPS AND 3739 KIP-FEET, RESPECTIVELY. THESE LOADS PRODUCE A MAXIMUM FACTORED BENDING MOMENT OF 5108 KIP-FEET, AND A MAXIMUM FACTORED SHEAR OF 133 KIPS, WITHIN THE DRILLED SHAFT.

ITEM 524 - DRILLED SHAFTS, MISC.: 90" DIAMETER DEMONSTRATION DRILLED SHAFT

PART 1: DESCRIPTION
THIS WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS TO CONSTRUCT A DEMONSTRATION DRILLED SHAFT FOR TESTING AND EVALUATION TO VERIFY THE PROPOSED CONSTRUCTION METHODS FOR THE PRODUCTION DRILLED SHAFTS.

5 COMPLETE THE INSTALLATION OF THE DEMONSTRATION DRILLED SHAFT A MINIMUM OF 30 DAYS PRIOR TO THE START OF CONSTRUCTION OF THE PRODUCTION DRILLED SHAFTS. THE DEPARTMENT WILL CONSIDER THE DEMONSTRATION DRILLED SHAFT INSTALLATION COMPLETE AFTER RECEIVING WRITTEN ACCEPTANCE FROM THE ENGINEER.

PART 2: MATERIALS
THE DEMONSTRATION DRILLED SHAFT SHALL USE THE SAME CONCRETE MIX DESIGN AND STEEL REINFORCEMENT AS THE PRODUCTION DRILLED SHAFTS.

PART 3: EXECUTION
SUBMIT A DRILLED SHAFT INSTALLATION PLAN TO THE ENGINEER FOR ACCEPTANCE IN ACCORDANCE WITH THE REQUIREMENTS OF C&MS 524.03. CONSTRUCT AT LEAST ONE DEMONSTRATION DRILLED SHAFT IN THE AREA SHOWN IN THE PLANS AND IN ACCORDANCE WITH THE ACCEPTED WRITTEN INSTALLATION. UPON CONSTRUCTION OF THE DEMONSTRATION DRILLED SHAFT, AND RECEIPT OF TESTING AND EVALUATION RESULTS CONFIRMING THE DEMONSTRATION DRILLED SHAFT HAS BEEN INSTALLED IN ACCORDANCE WITH CONTRACT DOCUMENTS, THE ENGINEER WILL ISSUE A LETTER ACCEPTING THE INSTALLATION PLAN FOR THE CONSTRUCTION OF THE SUBSEQUENT PRODUCTION DRILLED SHAFTS.

5 IF ANY MODIFICATIONS TO THE INSTALLATION PLAN ARE MADE, WHETHER DUE TO TESTING AND EVALUATION RESULTS OR FOR ANY OTHER REASON, THE DEPARTMENT WILL NOT REQUIRE CONSTRUCTION OF AN ADDITIONAL DEMONSTRATION SHAFT UNLESS REQUIRED BY THE ENGINEER. IF AN ADDITIONAL DEMONSTRATION DRILLED SHAFT IS REQUIRED BY THE ENGINEER IT WILL BE PAID FOR UNDER THE PAY ITEMS FOR DEMONSTRATION DRILLED SHAFT AND TESTING, AS LONG AS THE INSTALLATION AND TESTING ARE SUCCESSFUL, OTHERWISE IT WILL BE AT NO ADDITIONAL COST TO THE DEPARTMENT.

THE DIAMETER, LENGTH, REINFORCING, INSTALLATIONS METHODS, AND OTHER MISCELLANEOUS DETAILS OF THE DEMONSTRATION SHAFT SHALL BE THE SAME AS THE PRODUCTION DRILLED SHAFTS.

SUBMIT THE LOCATION OF THE DEMONSTRATION SHAFT TO THE ENGINEER FOR ACCEPTANCE. LOCATE THE DEMONSTRATION DRILLED SHAFT SUCH THAT NO INTERFERENCE OCCURS WITH THE FOUNDATIONS OF EXISTING OR PROPOSED STRUCTURES, THE PROPOSED MAINTENANCE OF TRAFFIC, OR EXISTING OR PROPOSED UTILITIES.

TEST THE DEMONSTRATION SHAFT BY THERMAL INTEGRITY PROFILING (TIP) ACCORDING TO ASTM D7949, METHOD B; BY CROSSHOLE SONIC LOGGING (CSL) ACCORDING TO ASTM D6760; BY HIGH-STRAIN DYNAMIC TESTING ACCORDING TO ASTM D4945; AND BY BI-DIRECTIONAL STATIC AXIAL COMPRESSIVE LOAD TESTING ACCORDING TO ASTM D8169.

PART 4: MEASUREMENT AND PAYMENT
THE DEPARTMENT WILL MEASURE DEMONSTRATION DRILLED SHAFT BY THE NUMBER OF FEET, MEASURED ALONG THE AXIS OF THE DRILLED SHAFT FROM THE REQUIRED BOTTOM ELEVATION OF THE SHAFT TO THE PROPOSED TOP PLAN ELEVATION.

IN ADDITION TO THE PROVISIONS OF C&MS 524.17, THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES OF DEMONSTRATION DRILLED SHAFT AFTER INSTALLATION OF THE DEMONSTRATION SHAFT AND AFTER BEING PROVIDED WITH WRITTEN TESTING AND EVALUATION RESULTS ACCEPTABLE TO THE ENGINEER.

THE CONTRACT PRICE IS FULL COMPENSATION FOR FURNISHING AND INSTALLING DRILLED SHAFTS IN ACCORDANCE WITH THE ABOVE REQUIREMENTS, INCLUDING MOBILIZATION, SITE ACCESS, AND FINAL REMOVAL OF THE SHAFT TO A DEPTH OF AT LEAST 2 FOOT BELOW THE BOTTOM OF THE PROPOSED LIGHTWEIGHT FILL.

THE DEPARTMENT WILL PAY FOR TESTING AND EVALUATION OF THE ACCEPTED DEMONSTRATION SHAFT SEPARATELY. THE DEPARTMENT WILL NOT PAY FOR TESTING AND EVALUATION OF ADDITIONAL DEMONSTRATION DRILLED SHAFTS.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS:
ITEM 524 – DRILLED SHAFTS, MISC.: 90" DIAMETER DEMONSTRATION DRILLED SHAFT

GENERAL NOTES - (1 OF 4)
CUY-77-1587 (BRIDGE 9)
I.R. 77 SB OVER I.R. 90 AND CR-721 (E. 14TH ST.)

SFN 1806910
DESIGN AGENCY HDR
DESIGNER TJE | CHECKER BTA
REVIEWER DWW 01/11/24
PROJECT ID 82382
SUBSET 12 | TOTAL 167
SHEET 1880 | TOTAL 2696

CUY-90-16.28 (CCG3A)

ITEM 506 - STATIC LOAD TEST, AS PER PLAN

AT THE REAR AND FORWARD ABUTMENTS, PERFORM DYNAMIC TESTING ON THE FIRST TWO PRODUCTION PILES. PERFORM THE STATIC LOAD TEST ON EITHER PILE. ALSO PERFORM DYNAMIC TESTING ON TWO OTHER PILES, TO BE USED AS ANCHOR PILES. DRIVE ALL PILES TO THE FULL ESTIMATED LENGTH FOR THE REAR & FORWARD ABUTMENT SUBSTRUCTURE UNITS (55 FT & 65 FT), IN ACCORDANCE WITH THE PLAN NOTE "PILES DRIVEN TO FULL ESTIMATED LENGTH WITH PILE/SOIL SETUP." OTHER PRODUCTION PILES IN THE SAME SUBSTRUCTURE UNIT MAY BE USED AS ANCHOR PILES. THE STATIC LOAD TEST PILE AND ALL ANCHOR PILES SHALL NOT BE BATTERED. AFTER DRIVING ALL PILES TO THE FULL ESTIMATED LENGTH, CEASE ALL DRIVING OPERATIONS AT THE SUBSTRUCTURE FOR A MINIMUM OF 14 DAYS. AFTER THE WAITING PERIOD, PERFORM THE STATIC LOAD TEST, AND THEN PERFORM PILE RESTRIKES ON THE FOUR DYNAMIC LOAD TEST PILES (TWO RESTRIKE TEST ITEMS). PERFORM A CAPWAP ANALYSIS ON EACH PILE TESTED IN THE SAME SUBSTRUCTURE UNIT FOR EVERY DYNAMIC LOAD TEST AND EVERY RESTRIKE TEST. THE ENGINEER WILL REVIEW THE RESULTS OF THE PILE RESTRIKES AND ESTABLISH THE DRIVING CRITERIA FOR THE PILING IN THE SUBSTRUCTURE IN ACCORDANCE WITH THE PLAN NOTE "PILES DRIVEN TO FULL ESTIMATED LENGTH WITH PILE/SOIL SETUP." SUBMIT ALL TEST RESULTS TO THE OFFICE OF GEOTECHNICAL ENGINEERING.

IF THE RESTRIKE TEST RESULTS INDICATE THAT ANY OF THE PILES DID NOT ACHIEVE THE REQUIRED UBV, DRIVE THE PILE TO THE ESTABLISHED DRIVING CRITERIA IN ACCORDANCE WITH THE PLAN NOTE "PILES DRIVEN TO FULL ESTIMATED LENGTH WITH PILE/SOIL SETUP."

THE CONTRACTOR HAS THREE ALTERNATIVES TO PERFORM THE STATIC LOAD TEST, AS PER PLAN:

1. PERFORM THE STATIC LOAD TEST ON A PRODUCTION PILE IN THE REAR ABUTMENT AND FORWARD ABUTMENT SUBSTRUCTURE UNITS AND USE OTHER PRODUCTION PILES IN THE SAME SUBSTRUCTURE UNIT AS ANCHOR PILES, PER THE NOTE ABOVE.
2. PERFORM THE STATIC LOAD TEST ON A PRODUCTION PILE IN THE REAR ABUTMENT AND FORWARD ABUTMENT SUBSTRUCTURE UNITS AND DRIVE SUPPLEMENTAL PILES FOR ANCHOR PILES. STILL DRIVE ALL PILES TO THE FULL ESTIMATED LENGTH FOR THE ABUTMENT SUBSTRUCTURE UNIT. IN THIS CASE, PERFORM DYNAMIC LOAD TESTING AND RESTRIKE TESTING ON THE STATIC LOAD TEST PILE, ONE OTHER PILE IN THE SAME SUBSTRUCTURE UNIT, AND ON TWO OF THE ANCHOR PILES.
3. PERFORM THE STATIC LOAD TEST OFFLINE, ON A SUPPLEMENTAL TEST PILE WITHIN 50 FEET OF BOTH THE REAR ABUTMENT AND FORWARD ABUTMENT AND DRIVE AN ARRAY OF SUPPLEMENTAL PILES AS ANCHOR PILES. STILL DRIVE ALL PILES TO THE FULL ESTIMATED LENGTH FOR THE ABUTMENT SUBSTRUCTURE UNIT. IN THIS CASE, PERFORM DYNAMIC LOAD TESTING AND RESTRIKE TESTING ON THE STATIC LOAD TEST PILE, ONE OF THE ANCHOR PILES, AND ON TWO PRODUCTION PILES IN THE ABUTMENT SUBSTRUCTURE UNIT, IN ACCORDANCE WITH THE PLAN NOTE "PILES DRIVEN TO FULL ESTIMATED LENGTH WITH PILE/SOIL SETUP."

INCLUDE FOR PAYMENT WITHIN THIS ITEM A QUANTITY OF TWO (2)- ITEM 523 DYNAMIC LOAD TESTING, AS PER PLAN AND TWO (2)- ITEM 523 RESTRIKE, AS PER PLAN, ONE EACH FOR THE REAR AND FORWARD ABUTMENT SUBSTRUCTURE UNITS. EACH OF THESE INCLUDES TESTING ON TWO PILES, IN ACCORDANCE WITH ITEM 523. ANY SUPPLEMENTAL PILES DRIVEN FOR THE STATIC LOAD TEST ARE INCIDENTAL TO ITEM 506 STATIC LOAD TEST, AS PER PLAN.

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

PROVIDE BUFF WASH FINISH ON EDGES AND BOTTOM OF DECK OVERHANGS AS DETAILED IN THE LANDSCAPE PLANS.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK, AS PER PLAN:

PLACE CONTROL JOINTS PER THE AESTHETIC ENHANCEMENT PLANS. PROVIDE PEJF AND SEALANT AROUND LUMINAIRES AT SIDEWALK PENETRATIONS AS SHOWN IN THESE PLANS.

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

ALL BRIDGE RAILS (PARAPETS), PILASTERS AND PLANTERS SHALL RECIEVE A BUFF WASH FINISH WITH CLEAR SEALER (NON-EPOXY) PER THE LANDSCAPE PLANS AND DETAILS.

PRIOR TO CONSTRUCTING ANY OF THE CONCRETE PARAPET, INCLUDING THE PILASTERS AND PLANTERS, THE CONTRACTOR SHALL CAST THE PARAPET, PILASTER AND PLANTERS TEST PIECES REQUIRED IN THE LANDSCAPE PLANS AND MEET THE APPROVAL STANDARDS THEREIN.

THE FINAL APPROVED TEST PIECES WILL SERVE AS A JOB SITE STANDARD FROM WHICH THE ACCEPTANCE OF ALL OTHER WORK WILL BE DETERMINED. THOSE PIECES OF WORK DETERMINED BY THE ENGINEER TO BE UNSATISFACTORY IN TERMS OF CONFORMANCE TO THE QUALITY AND REPRESENTATIVE APPEARANCE OF THE JOB STANDARD TEST PIECES WILL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST OF THE PROJECT.

ITEM 511 - CONCRETE, MISC.: ARCHITECHTURAL TREATMENT, ABUTMENT

FORMLINER FIELD PATTERN ON SHEET 1867

ITEM 511 - CONCRETE, MISC.: ARCHITECHTURAL TREATMENT, PIER

FORMLINER FIELD PATTERN ON SHEET 1867

ITEM 511 - CONCRETE, MISC.: ARCHITECHTURAL TREATMENT, PLANTER AESTHETIC TREATMENT

SHEET 1850

ITEM 511 - CONCRETE, MISC.: ARCHITECHTURAL TREATMENT, RAILING LETTERING

SHEET 1850 AND 1851

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

APPLY A PERMANENT GRAFFITI COATING MEETING THE REQUIREMENTS OF SUPPLEMENT 1083. THE GRAFFITI COATING MUST BE COMPATIBLE WITH THE UNDERLYING CONCRETE SEALER. APPLY THE GRAFFITI COATING ACCORDING TO THE MANUFACTURE'S REQUIREMENTS. THE ADDITIONAL MATERIAL AND LABOR REQUIRED TO SEAL THE FORM LINER RELIEF SHALL BE INCLUDED IN THIS ITEM. TO ACCOUNT FOR THE SURFACE VARIATIONS DUE TO THE FORM LINERS, AN EXTRA 20 PERCENT HAS BEEN ADDED TO THE SEALING QUANTITIES FOR THE PURPOSE OF ESTIMATING. PROVIDE A COATING THAT MEETS THE REQUIREMENTS LISTED BELOW.

THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED) NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES OR POLYURETHANE COMPONENTS.

THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OFBEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).

THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIC COMPOUNDS (EPA METHOD 24).

THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:

CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.

GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.

NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.

BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".

ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").

ADHESION RATING OF "8 - DIFFICULT TO REMOVE" AS PER ASTM D6677 (ADHESION BY KNIFE).

FINISH COLORS:

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

PAINT COLORS SHALL BE AS FOLLOWS:

BLACK FOX (SW 7020) - FASCIA GIRDERS (OUTER FACE AND BOTTOM FLANGE ONLY)

ALABASTER (SW 7008) - INSIDE GIRDERS, BRACING MEMBERS AND INSIDE FACE OF FASCIA GIRDERS

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

CONCRETE SEALER COLORS SHALL BE AS FOLLOWS:

BLACK FOX (SW 7020) - STREET NAME LETTERING ON RAILINGS

ALABASTER (SW 7008) - SUBSTRUCTURE - PIERS, ABUTMENTS AND ABUTMENT WALLS

ALPACA (SW 7022) - ABUTMENT AND WINGWALL ACCENTS

ALL COLOR NAME AND NUMBER REFERENCES ARE TAKEN FROM THE SHERWIN WILLIAMS COLOR PALATE. THE CONTRACTOR MAY SUBSTITUTE SIMILAR COLORS FROM ALTERNATIVE SUPPLIER'S COLOR PALATE.

ITEM 526 - REINFORCED CONCRETE APPROACH SLABS (T=17"), AS PER PLAN

CONSTRUCT REAR APPROACH SLAB AS DETAILED ON SHEET 89. SEE LANDSCAPING PLANS FOR INTEGRALLY COLORED CONCRETE DETAILS.

ITEM 607, VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC, AS PER PLAN

CANTILEVER FENCE PANELS AT CHEEKWALL LOCATIONS TO ENSURE AN OPENING GREATER THAN OR EQUAL TO 1" AND LESS THAN 4" EXISTS BETWEEN THE FENCE AND THE BACK FACE OF THE PILASTER. FENCE FABRIC SHALL BE BLACK.

ITEM 625, LIGHT POLE ANCHOR BOLTS ON STRUCTURE, AS PER PLAN
ITEM 625, LIGHTING, MISC.: PEDESTRIAN POLE ANCHORAGE

WHEN A LIGHT POLE OR PEDESTRIAN POLE IS MOUNTED ON A STRUCTURE, THE REQUIRED ANCHOR BOLTS MAY DIFFER IN LENGTH AND/OR SHAPE FROM THOSE REQUIRED WHEN THE POLE IS MOUNTED ON A CAST-IN-PLACE DRILLED SHAFT FOUNDATION. THE COST DIFFERENTIAL FOR FURNISHING SUCH BOLTS IS INCLUDED HEREIN.

IN ADDITION, THERE IS NO FOUNDATION CONSTRUCTION ITEM IN WHICH TO INCLUDE THE SETTING OF ANCHOR BOLTS. THUS, THE SETTING OF THE ANCHOR BOLTS INTO THE STRUCTURE IS ALSO PART OF THIS WORK.

PAYMENT SHALL BE AT THE UNIT PRICE FOR THE ITEM INCLUDING PLATE(S), ANCHOR ASSEMBLY, LABOR, EQUIPMENT, CONNECTIONS, INSPECTIONS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

4

12" GAS LINE INSTALLATION

ENBRIDGE GAS OHIO WILL INSTALL GAS PIPELINE ON BRIDGE AND WILL INSTALL LINK SEALS, SPACERS AND BOOT SEAL WHEN INSTALLING THE PIPELINE.

ITEM 625 - CONDUIT MISC.: AT&T 4" CONDUIT INSTALLATION

THIS ITEM INCLUDES PAYMENT FOR INSTALLATION OF THE AT&T CONDUIT ON THE STRUCTURE, AS SHOWN IN THE PLANS. MATERIALS WILL BE SUPPLIED TO THE GENERAL CONTRACTOR FOR INSTALLATION. AT&T WILL PROVIDE CONDUIT RACKS, FIBERGLASS CONDUITS TO ENDS OF APPROACH SLAB, FITTINGS AND EXPANSION JOINTS. CONTRACTOR TO INSTALL ALL MATERIALS ON BRIDGE. AT&T WILL INSTALL CONDUITS OUTSIDE OF APPROACH SLABS TO MANHOLES. AT&T WILL COMPLETE THE CABLE WORK.

ITEM 625 - CONDUIT, MISC.: CEI 4" CONDUIT INSTALLATION

THIS ITEM INCLUDES INSTALLATION OF THE CONDUIT ON THE STRUCTURE. CEI WILL PROVIDE ALL MATERIALS. CEI PULLS ALL CABLES. CEI CONTRACTOR WILL COMPLETE WORK UP TO THE OUTSIDE EDGE OF THE APPROACH SLABS (ALL CONDUIT OFF THE BRIDGE). CONTRACTOR WILL INSTALL THE CONDUIT BETWEEN THE OUTSIDE EDGES OF APPROACH SLABS (ALL CONDUIT UNDER APPROACH SLABS, ON THE BRIDGE AND THROUGH THE ABUTMENTS).

ITEM 625 - CONDUIT, MISC.: CPP 4" CONDUIT INSTALLATION

THIS ITEM INCLUDES INSTALLATION OF THE CPP CONDUIT ON THE STRUCTURE, AS SHOWN IN THE PLANS, AND PULLING THE WIRE. CPP WILL MAKE THE FINAL CONNECTION. CONTRACTOR TO PERFORM INTERMEDIATE (DEAD) SPLICING WITH CPP INSPECTION. CPP WILL COMPLETE CUT OVER SPLICING. CPP WILL REQUIRE NOTIFICATION OF SCHEDULE FOR THE PULLING OF CONDUIT. CPP TO INSPECT ALL WORK BEFORE FINAL CONNECTIONS ARE MADE IN MANHOLES.

ITEM 690 - ROLLER SUPPORTS (GAS LINE)

5

THIS ITEM INCLUDES FURNISHING AND INSTALLING STEEL ANGLE SUPPORT, ROLLERS AND HANGER ASSEMBLIES OF ALL GAS LINE SUPPORTS ON THE BRIDGE, AS SHOWN IN THE PLANS.

ITEM 690 - UTILITY SUPPORTS (AT&T DUCTS)

THIS ITEM INCLUDES INSTALLATION OF ALL AT&T DUCT SUPPORT HANGERS ON THE BRIDGE, AS SHOWN IN THE PLANS. AT&T WILL PROVIDE CONDUIT RACKS, FIBERGLASS CONDUITS TO ENDS OF APPROACH SLAB, FITTINGS AND EXPANSION JOINTS. CONTRACTOR TO INSTALL ALL MATERIALS ON BRIDGE.

ITEM 690 - UTILITY SUPPORTS (CEI DUCTS)

THIS ITEM INCLUDES INSTALLATION OF ALL CEI DUCT SUPPORT HANGERS ON THE BRIDGE, AS SHOWN IN THE PLANS. MATERIAL PROVIDED BY CEI FOR THIS WORK INCLUDES UTILITY HANGERS, CONDUIT RACKS, EXPANSION JOINTS AND SLEEVES. STEEL ANGLE SUPPORTS PROVIDED BY CONTRACTOR. CONTRACTOR TO INSTALL HANGERS AND CONDUIT RACKS. CONTRACTOR TO WORK WITH CEI TO GUARANTEE THAT THERE IS A PROPER ARRANGEMENT FOR THE DELIVERY OF MATERIALS.

ITEM 690 - UTILITY SUPPORTS (CPP DUCTS)

THIS ITEM INCLUDES INSTALLATION OF ALL CPP DUCT SUPPORT HANGERS ON THE BRIDGE, AS SHOWN IN THE PLANS.

ITEM 690 - UTILITY SUPPORTS (WATER LINE)

5

THIS ITEM INCLUDES INSTALLATION OF ALL WATER LINE SUPPORT HANGERS ON THE BRIDGE, AS SHOWN IN THE PLANS. CONTRACTOR SHALL PROVIDE ALL MATERIALS AND ELEMENTS SHOWN IN THE PLANS FOR THE WATER LINE.

GENERAL NOTES (3 OF 4)
CUY-90-1678 (BRIDGE 13)
CR-710 (E. 22ND ST.) OVER I.R. 90

SFN 1807839
DESIGN AGENCY
Michael Baker INTERNATIONAL
DESIGNER ZES | CHECKER KAG
REVIEWER CDC 05/10/24
PROJECT ID 82382
SUBSET 5 | TOTAL 99
SHEET 2186 | TOTAL 2696

CUY-90-16.28 (CCG3A)
MODEL: Sheet (3 of 4) PAPERSIZE: 34x22 (in.) DATE: 10/10/2025 TIME: 2:19:56 PM USER: Mala.Gallagher
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ITEM 524 - DRILLED SHAFTS, MISC.: DEMONSTRATION DRILLED SHAFT

PART 1: DESCRIPTION

THIS WORK CONSISTS OF ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS TO CONSTRUCT A DEMONSTRATION DRILLED SHAFT FOR TESTING AND EVALUATION TO VERIFY THE PROPOSED CONSTRUCTION METHODS FOR THE PRODUCTION DRILLED SHAFTS.

5 COMPLETE THE INSTALLATION OF THE DEMONSTRATION DRILLED SHAFT A MINIMUM OF 30 DAYS PRIOR TO THE START OF CONSTRUCTION OF THE PRODUCTION DRILLED SHAFTS. THE DEPARTMENT WILL CONSIDER THE DEMONSTRATION DRILLED SHAFT INSTALLATION COMPLETE AFTER RECEIVING WRITTEN ACCEPTANCE FROM THE ENGINEER.

IF THE VERTICAL DEFLECTION OF THE DEMONSTRATION DRILLED SHAFT DURING LOAD TESTING IS LESS THAN 5% OF THE DRILLED SHAFT NOMINAL DIAMETER, IT MAY BE REUSED AS A PRODUCTION DRILLED SHAFT.

PART 2: MATERIALS

THE DEMONSTRATION DRILLED SHAFT SHALL USE THE SAME CONCRETE MIX DESIGN AND STEEL REINFORCEMENT AS THE PRODUCTION DRILLED SHAFTS.

PART 3: EXECUTION

SUBMIT A DRILLED SHAFT INSTALLATION PLAN TO THE ENGINEER FOR ACCEPTANCE IN ACCORDANCE WITH THE REQUIREMENTS OF C&MS 524.03. CONSTRUCT AT LEAST ONE DEMONSTRATION DRILLED SHAFT WHERE DESIGNATED ON THE PLANS AND IN ACCORDANCE WITH THE ACCEPTED WRITTEN INSTALLATION. UPON CONSTRUCTION OF THE DEMONSTRATION DRILLED SHAFT, AND RECEIPT OF TESTING AND EVALUATION RESULTS CONFIRMING THE DEMONSTRATION DRILLED SHAFT HAS BEEN INSTALLED IN ACCORDANCE WITH CONTRACT DOCUMENTS, THE ENGINEER WILL ISSUE A LETTER ACCEPTING THE INSTALLATION PLAN FOR THE CONSTRUCTION OF THE SUBSEQUENT PRODUCTION DRILLED SHAFTS.

5 IF ANY MODIFICATIONS TO THE INSTALLATION PLAN ARE MADE, WHETHER DUE TO TESTING AND EVALUATION RESULTS OR FOR ANY OTHER REASON, THE DEPARTMENT WILL NOT REQUIRE CONSTRUCTION OF AN ADDITIONAL DEMONSTRATION SHAFT UNLESS REQUIRED BY THE ENGINEER. IF AN ADDITIONAL DEMONSTRATION DRILLED SHAFT IS REQUIRED BY THE ENGINEER IT WILL BE PAID FOR UNDER THE PAY ITEMS FOR DEMONSTRATION DRILLED SHAFT AND TESTING, AS LONG AS THE INSTALLATION AND TESTING ARE SUCCESSFUL, OTHERWISE IT WILL BE AT NO ADDITIONAL COST TO THE DEPARTMENT.

THE DIAMETER, LENGTH, REINFORCING, INSTALLATION METHODS, AND OTHER MISCELLANEOUS DETAILS OF THE DEMONSTRATION SHAFT SHALL BE THE SAME AS THE PRODUCTION DRILLED SHAFTS.

SUBMIT THE LOCATION OF THE DEMONSTRATION SHAFT TO THE ENGINEER FOR ACCEPTANCE. A PRODUCTION DRILLED SHAFT SHALL BE USED AS THE DEMONSTRATION SHAFT.

LOCATE THE DEMONSTRATION DRILLED SHAFT SO THAT TESTING DOES NOT DAMAGE THE WALKER WEEKS BUILDING.

TEST THE DEMONSTRATION DRILLED SHAFT; BY CROSSHOLE SONIC LOGGING (CSL) ACCORDING TO ASTM D6760, BY HIGH-STRAIN DYNAMIC TESTING ACCORDING TO ASTM D4945, AND BY BI-DIRECTIONAL STATIC AXIAL COMPRESSIVE LOAD TESTING ACCORDING TO ASTM D8169.

PART 4: MEASUREMENT AND PAYMENT

2 THE DEPARTMENT WILL MEASURE DEMONSTRATION DRILLED SHAFT BY THE ACTUAL NUMBER COMPLETED AND ACCEPTED.

ITEM 524 - DRILLED SHAFTS, MISC.: DEMONSTRATION DRILLED SHAFT, CONTINUED

IN ADDITION TO THE PROVISIONS OF C&MS 524.17, THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES OF DEMONSTRATION DRILLED SHAFT AFTER INSTALLATION OF THE DEMONSTRATION SHAFT AND AFTER BEING PROVIDED WITH WRITTEN TESTING AND EVALUATION RESULTS ACCEPTABLE TO THE ENGINEER.

THE CONTRACT PRICE IS FULL COMPENSATION FOR FURNISHING AND INSTALLING DRILLED SHAFTS IN ACCORDANCE WITH THE ABOVE REQUIREMENTS, INCLUDING MOBILIZATION AND SITE ACCESS.

THE DEPARTMENT WILL PAY FOR TESTING AND EVALUATION OF THE ACCEPTED DEMONSTRATION SHAFT SEPARATELY.

THE DEPARTMENT WILL NOT PAY FOR TESTING AND EVALUATION FOR ADDITIONAL DEMONSTRATION DRILLED SHAFTS.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS: ITEM 524 - DRILLED SHAFTS, MISC.: DEMONSTRATION DRILLED SHAFT.

ITEM 524 - DRILLED SHAFTS, MISC.: CSL TESTING, 48" DIA. SHAFT

PERFORM CROSSHOLE SONIC LOGGING TESTING ON THE DEMONSTRATION DRILLED SHAFT AT THE REAR ABUTMENT. PERFORM CROSSHOLE SONIC LOGGING PER PROJECT SPECIAL PROVISIONS.

ITEM 524 - DRILLED SHAFTS, MISC.: BI-DIRECTIONAL TESTING OF DRILLED SHAFTS

PERFORM FIELD VERIFICATION OF AXIAL RESISTANCE ON THE DEMONSTRATION DRILLED SHAFT AT THE REAR ABUTMENT BY BI-DIRECTIONAL STATIC AXIAL COMPRESSIVE LOAD TESTING. PERFORM BI-DIRECTIONAL STATIC AXIAL COMPRESSIVE LOAD TESTING PER ASTM D8169 AND THE PROJECT SPECIAL PROVISIONS.

ITEM 524 - DRILLED SHAFTS, MISC.: HIGH-STRAIN DYNAMIC TESTING OF DRILLED SHAFTS

PERFORM FIELD VERIFICATION OF NOMINAL AXIAL RESISTANCE ON 3 OF THE DRILLED SHAFTS AT THE REAR ABUTMENT BY HIGH-STRAIN DYNAMIC TESTING. PERFORM HIGH STRAIN DYNAMIC TESTING PER ASTM D4945, "STANDARD TEST METHOD FOR HIGH-STRAIN DYNAMIC TESTING OF DEEP FOUNDATIONS" AND THE PROJECT SPECIAL PROVISIONS. PERFORM HIGH-STRAIN DYNAMIC TEST ON THE DEMONSTRATION SHAFT AND TWO ADDITIONAL DRILLED SHAFTS PRIOR TO BEGINNING EXCAVATION AT ANY DRILLED SHAFT LOCATION. HIGH STRAIN DYNAMIC LOAD TESTING OF TWO (2) PRODUCTION REAR ABUTMENT DRILLED SHAFTS SHALL BE PERFORMED. THE PRODUCTION DRILLED SHAFTS TO BE TESTED SHALL BE FARTHEST AWAY FROM THE BUILDING AND THE TEST SHAFTS SHALL BE A MINIMUM OF 48 FEET AWAY FROM EACH OTHER. WING WALL DRILLED SHAFTS (DS01-DS04) SHALL NOT BE TESTED.

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

APPLY A PERMANENT GRAFFITI COATING MEETING THE REQUIREMENTS OF SUPPLEMENT 1083. THE GRAFFITI COATING MUST BE COMPATIBLE WITH THE UNDERLYING CONCRETE SEALER. APPLY THE GRAFFITI COATING ACCORDING TO THE MANUFACTURE'S REQUIREMENTS. THE ADDITIONAL MATERIAL AND LABOR REQUIRED TO SEAL THE FORM LINER RELIEF SHALL BE INCLUDED IN THIS ITEM. TO ACCOUNT FOR THE SURFACE VARIATIONS DUE TO THE FORM LINERS, AN EXTRA 20 PERCENT HAS BEEN ADDED TO THE SEALING QUANTITIES FOR THE PURPOSE OF ESTIMATING. PROVIDE A COATING THAT MEETS THE REQUIREMENTS LISTED BELOW.

THE MATERIAL SHALL BE A SINGLE COMPONENT, RTV (ROOM TEMPERATURE VULCANIZED) NEUTRAL MOISTURE CURE, PERMANENT (NON-SACRIFICIAL), TYPE III (WATER CLEANABLE) POLYSILOXANE (SILICONE) ANTI-GRAFFITI COATING, FREE OF ANY WAXES, EPOXIES OR POLYURETHANE COMPONENTS.

THE COATING SHALL BE A ONE COAT SYSTEM (NO PRIMER) CAPABLE OF BEING SPRAY APPLIED TO A DRY FILM THICKNESS OF 15 MILS (375 MICRONS) WITHOUT RUNS OR SAGS (MULTIPLE COAT APPLICATION ACCEPTABLE FOR BRUSH/ROLLER USAGE AND PRIMER USAGE ACCEPTABLE FOR SPECIALTY SUBSTRATES SUCH AS GALVANIZED METAL).

THE COATING SHALL EMIT LESS THAN 300 G/L (2.5 POUNDS PER GALLON) OF VOLATILE ORGANIC COMPOUNDS (EPA METHOD 24).

THE COATING SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:

CLEANABILITY LEVEL 1 (GRAFFITI COMPLETELY REMOVED WITH COLD WATER POWER WASH) AS PER ASTM D7089 WITH LOW PRESSURE (1200 PSI) COLD WATER WASH AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.

GRAFFITI RESISTANCE LESS THAN 7.5 AS PER ASTM D6578 AFTER 2000 HOURS ACCELERATED UV-CONDENSATION EXPOSURE IN ACCORDANCE WITH ASTM D4587.

NO SIGNS OF GRAFFITI OR GRAFFITI STAINING AND MUST BE INTACT AND EXHIBIT NO SIGNS OF STREAKING, CRACKING, PINHOLING, DISCOLORING OR OTHER VISIBLE COATING DEGRADATION UPON CASUAL OBSERVATION WHEN TESTED IN ACCORDANCE WITH TXDOT TEX 890-B, TYPE III METHOD.

BREATHABILITY OF 10 PERMS (+/- 3) PER ASTM D1653 USING "WET CUP METHOD".

ELONGATION AT BREAK GREATER THAN 100% AS PER ASTM D412 (USING DIE "D").

ADHESION RATING OF "8 - DIFFICULT TO REMOVE" AS PER ASTM D6677 (ADHESION BY KNIFE).

ITEM 518 - PREFABRICATED GEOCOMPOSITE DRAIN

THIS WORK CONSISTS OF FURNISHING AND PLACING PREFABRICATED GEOCOMPOSITE DRAIN (PGD) AGAINST THE TANGENT DRILLED SHAFTS.

FURNISH PGD CONSISTING OF A DRAINAGE CORE WITH A GEOTEXTILE FABRIC BONDED TO AT LEAST ONE SIDE. USE CORE MATERIAL THAT CONSISTS OF A STABLE, POLYMER PLASTIC MATERIAL WITH A CUSPATED OR GEONET STRUCTURE. THE CORE MATERIAL SHALL HAVE SUFFICIENT FLEXIBILITY TO WITHSTAND BENDING AND HANDLING DURING INSTALLATION WITHOUT DAMAGE. FURNISH GEOTEXTILE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS FORMED INTO A WOVEN OR NON-WOVENFABRIC. FURNISH PGD CONFORMING TO THE FOLLOWING REQUIREMENTS.
FURNISH MANUFACTURER'S CERTIFIED TEST DATA.

	PROPERTY	TEST METHOD	VALUE
CORE	THICKNESS	ASTM D5199	0.4 INCH
	COMPRESSIVE STRENGTH	ASTM D1621	13,650 PSF MIN.
	FLOW RATE	ASTM D4716	9 TO 25 GPM/FT.
FABRIC	APPARENT OPENING SIZE	ASTM D4751	0.3 MM MAX.
	FLOW RATE	ASTM D4491	40 GPM/ SQ.FT. MIN.
	GRAB TENSILE STRENGTH	ASTM D4632	90 LBS MIN.
	CBR PUNCTURE	ASTM D6241	65 LBS MIN.

PLACE PGD BETWEEN THE DRILLED SHAFTS. PLACE THE SIDE FACED WITH THE GEOTEXTILE AGAINST THE DRILLED SHAFTS, FACING TOWARDS THE RETAINED GROUND, AND SECURE THE PGD TO THE SACRIFICIAL PLYWOOD FORMS BETWEEN THE DRILLED SHAFTS.

SPLICE ABUTTING SECTIONS TOGETHER BY OVERLAPPING THE GEOTEXTILE FLAP (IF PROVIDED) ON ONE SECTION WITH THE ADJACENT SECTION OF PGD. OVERLAP THE GEOTEXTILE IN A SHINGLED OVERLAP SO THAT THE UPPER GEOTEXTILE IS ON TOP OF THE LOWER GEOTEXTILE. IF A GEOTEXTILE FLAP IS NOT PROVIDED, COVER THE SEAM WITH A 12 INCH WIDE STRIP OF GEOTEXTILE FABRIC CENTERED OVER THE SEAM AND SECURED IN PLACE USING 3 INCH WIDE WATERPROOF PLASTIC TAPE.

SEAL ALL EXPOSED EDGES OF THE CORE MATERIAL TO PREVENT SOIL INTRUSION. SEAL EXPOSED EDGES BY FOLDING THE GEOTEXTILE FLAPS OVER AND AROUND THE PGD OR, IF A FLAP IS NOT PROVIDED, COVERING THE EXPOSED EDGE WITH A 12 INCH WIDE STRIP OF GEOTEXTILE FABRIC, TAPING THE STRIP TO THE PGD GEOTEXTILE 8 INCHES FROM THE EXPOSED EDGE, AND FOLDING THE REMAINING 4 INCHES OVER AND AROUND THE PGD. SECURE LOOSE EDGES OF THE GEOTEXTILE FABRIC WITH 3 INCH WIDE WATERPROOF PLASTIC TAPE.

REPAIR ANY DAMAGE TO THE GEOTEXTILE FABRIC BY COVERING WITH A PATCH WHICH OVERLAPS THE DAMAGED AREA AND EXTENDS AT LEAST 6 INCHES BEYOND THE EDGE OF THE DAMAGED AREA. TAPE THE EDGES OF THE PATCH IN PLACE USING 3 INCH WIDE WATERPROOF PLASTIC TAPE. IF THE CORE OF THE PGD IS DAMAGED, REPLACE IT WITH A NEW SECTION OF PGD AND SPLICE AS DESCRIBED ABOVE.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN (SOLDIER PILE STRUT AND WALER)

MISCELLANEOUS STRUCTURAL STEEL MEMBERS SHALL BE FABRICATED, DELIVERED AND INSTALLED IN ACCORDANCE WITH ALL PROVISIONS OF ODOT C&MS ITEM 513.

FURNISH STEEL MEMBERS THAT MEET THE REQUIREMENTS AND CONFORM TO ASTM A572, GRADE 50 IN ACCORDANCE WITH C&MS 711.01. GALVANIZE STEEL MEMBERS AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH C&MS 711.02. THESE MISCELLANEOUS STRUCTURAL STEEL MEMBERS INCLUDE:

- WALER MEMBERS
- STRUT MEMBERS
- SHIM PLATES
- ALL MISCELLANEOUS METAL, REINFORCEMENT PLATES, CONNECTIONS, FABRICATIONS, BEARING PLATES, HYDRAULIC JACKS AND PUMPS, ETC. NECESSARY TO COMPLETE THE WALER AND STRUT INSTALLATION AND JACKING.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT UNIT PRICE PER POUND FOR ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN (SOLDIER PILE STRUT & WALER). PRICE SHALL CONSTITUTE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO FURNISH, DELIVER AND INSTALL THE PROPOSED STRUCTURAL STEEL MEMBERS AND COMPLETE THE JACKING TO THE SPECIFIED LOADS IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES HP16x101

THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL SOLDIER PILES INTO DRILLED HOLES AND INCLUDES MONITORING PLUMBNESS. FURNISH SOLDIER PILES CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM A572 GRADE 50 IN ACCORDANCE WITH C&MS 711.01. GALVANIZE SOLDIER PILES AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH C&MS 711.02. DO NOT FIELD WELD OR SPLICE STEEL SOLDIER PILES. THE ANCHOR DETAIL WHERE THE TIE BACK ANCHOR PASSES THROUGH THE FLANGES AND WEB SHALL BE SHOP FABRICATED AND NOT BE WELDED ON SITE.

MEASUREMENT FOR PAYMENT WILL BE THE DISTANCE FROM THE TOP OF THE PILE TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER. PAYMENT IS FULL COMPENSATION FOR FURNISHING AND PLACING THE SOLDIER PILES AND MONITORING THEIR PLUMBNESS UNTIL BACKFILL IN FRONT OF THE SOLDIER PILE WALL IS COMPLETE. THE DEPARTMENT WILL PAY FOR SOLDIER PILES AT THE CONTRACT UNIT PRICE PER FOOT OF ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES HP16x101.

ITEM SPECIAL - PERMANENT SHORING TIMBER LAGGING

THIS ITEM CONSISTS OF FURNISHING AND INSTALLING UNTREATED HARDWOOD LAGGING TO SERVE AS TEMPORARY LAGGING FOR THE SOLDIER PILE WALL. THE LAGGING SHALL CONSIST OF HARDWOOD TIMBER WITH 3 INCH BY 8 INCH DIMENSIONS AND SHALL BE OF A GRADE AND TYPE WITH AN ALLOWABLE EXTREME FIBER STRESS IN BENDING OF A MINIMUM OF 1 KSI. THE TIMBER MATERIAL SHALL BE DOUGLASS FIR-LARCH DENSE NO. 1, SELECT STRUCTURAL OR DENSE SELECT STRUCTURAL. THE WOOD SHALL BE SEASONED, SOUND, AND FREE FROM DECAY AND INSECT ATTACK, WITH NO LOOSE AND/OR CLUSTER KNOTS. THE ENDS OF THE TIMBER SHALL BE SAWED SQUARE WITH THE AXIS OF THE TIMBER. THE TIMBER MEMBERS SHALL ALSO CONFORM TO C&MS 711.26. PROVIDE CERTIFICATION THAT THE TIMBER CONFORMS TO THE GRADE, SPECIES AND OTHER SPECIFIED REQUIREMENTS.

LAGGING SHALL BE PLACED IN A TOP-DOWN MANNER AS EXCAVATION PROCEEDS DOWNWARD. AT NO TIME SHOULD MORE THAN 3 FEET OF UNSUPPORTED EXCAVATION BE PERMITTED. REDUCE THE UNSUPPORTED HEIGHT AS NECESSARY TO PREVENT CAVING AND SLOUGHING OF THE SOIL BETWEEN THE SOLIDER PILES. PROVIDE WOOD SPACERS TO PROVIDE HORIZONTAL JOINT SPACING BETWEEN THE LAGGING BOARDS TO PERMIT DRAINAGE.

GENERAL NOTES (4 OF 7)
CUY-90-1696 (BRIDGE 14)
CR-722 (CARNEGIE AVE.) OVER I.R. 90

SFN 1807898
DESIGN AGENCY
Michael Baker INTERNATIONAL
DESIGNER ZES | CHECKER MKB
REVIEWER KAG 12/26/23
PROJECT ID 82382
SUBSET 7 | TOTAL 90
SHEET 2287 | TOTAL 2696

CUY-90-16.28 (CCG3A)

12" GAS LINE INSTALLATION

ENBRIDGE GAS OHIO WILL FURNISH AND INSTALL GAS PIPELINE ON BRIDGE AND WILL INSTALL LINK SEALS, SPACERS AND BOOT SEAL WHEN INSTALLING THE PIPELINE.

ITEM 625 - CONDUIT, MISC.: AT&T 4" CONDUIT INSTALLATION

THIS ITEM INCLUDES PAYMENT FOR INSTALLATION OF THE AT&T CONDUIT ON THE STRUCTURE, AS SHOWN IN THE PLANS. MATERIALS WILL BE SUPPLIED TO THE GENERAL CONTRACTOR FOR INSTALLATION. AT&T WILL PROVIDE CONDUIT RACKS, FIBERGLASS CONDUITS TO ENDS OF APPROACH SLAB, FITTINGS AND EXPANSION JOINTS. CONTRACTOR TO INSTALL ALL MATERIALS ON BRIDGE. AT&T WILL INSTALL CONDUITS OUTSIDE OF APPROACH SLABS TO MANHOLES. AT&T WILL COMPLETE THE CABLE WORK.

ITEM 625 - CONDUIT, MISC.: CEI 4" CONDUIT INSTALLATION

THIS ITEM INCLUDES INSTALLATION OF THE CONDUIT ON THE STRUCTURE. CEI WILL PROVIDE ALL MATERIALS. CEI PULLS ALL CABLES. CEI CONTRACTOR WILL COMPLETE WORK UP TO THE OUTSIDE EDGE OF THE APPROACH SLABS (ALL CONDUIT OFF THE BRIDGE). CONTRACTOR WILL INSTALL THE CONDUIT BETWEEN THE OUTSIDE EDGES OF APPROACH SLABS (ALL CONDUIT UNDER APPROACH SLABS, ON THE BRIDGE AND THROUGH THE ABUTMENTS).

ITEM 625 - CONDUIT, MISC.: CPP 4" CONDUIT INSTALLATION

THIS ITEM INCLUDES INSTALLATION OF THE CPP CONDUIT ON THE STRUCTURE, AS SHOWN IN THE PLANS, AND PULLING THE WIRE. CPP WILL MAKE THE FINAL CONNECTION. CONTRACTOR TO PERFORM INTERMEDIATE (DEAD) SPLICING WITH CPP INSPECTION. CPP WILL COMPLETE CUT OVER SPLICING. CPP WILL REQUIRE NOTIFICATION OF SCHEDULE FOR THE PULLING OF CONDUIT. CPP TO INSPECT ALL WORK BEFORE FINAL CONNECTIONS ARE MADE IN MANHOLES.

ITEM 690 - ROLLER SUPPORTS (GAS LINE)

THIS ITEM INCLUDES FURNISHING AND INSTALLING STEEL ANGLE SUPPORT, ROLLERS AND HANGER ASSEMBLIES OF ALL GAS LINE SUPPORTS ON THE BRIDGE, AS SHOWN IN THE PLANS.

ITEM 690 - UTILITY SUPPORTS (AT&T DUCTS)

THIS ITEM INCLUDES INSTALLATION OF ALL AT&T DUCT SUPPORT HANGERS ON THE BRIDGE, AS SHOWN IN THE PLANS. AT&T WILL PROVIDE CONDUIT RACKS, FIBERGLASS CONDUITS TO ENDS OF APPROACH SLAB, FITTINGS AND EXPANSION JOINTS. CONTRACTOR TO INSTALL ALL MATERIALS ON BRIDGE.

ITEM 690 - UTILITY SUPPORTS (CEI DUCTS)

THIS ITEM INCLUDES INSTALLATION OF ALL CEI DUCT SUPPORT HANGERS ON THE BRIDGE, AS SHOWN IN THE PLANS. MATERIAL PROVIDED BY CEI FOR THIS WORK INCLUDES UTILITY HANGERS, CONDUIT RACKS, EXPANSION JOINTS AND SLEEVES. STEEL ANGLE SUPPORTS PROVIDED BY CONTRACTOR. CONTRACTOR TO INSTALL HANGERS AND CONDUIT RACKS. CONTRACTOR TO WORK WITH CEI TO GUARANTEE THAT THERE IS A PROPER ARRANGEMENT FOR THE DELIVERY OF MATERIALS.

ITEM 690 - UTILITY SUPPORTS (CPP DUCTS)

THIS ITEM INCLUDES INSTALLATION OF ALL CPP DUCT SUPPORT HANGERS ON THE BRIDGE, AS SHOWN IN THE PLANS.

ITEM 690 - UTILITY SUPPORTS (WATER LINE)

THIS ITEM INCLUDES INSTALLATION OF ALL WATER LINE SUPPORT HANGERS ON THE BRIDGE, AS SHOWN IN THE PLANS. CONTRACTOR SHALL PROVIDE ALL MATERIALS AND ELEMENTS SHOWN IN THE PLANS FOR THE WATER LINE.

ITEM 511 - CLASS QC1 CONCRETE, MISC.: CONCRETE FACING

ITEM 511 - CONCRETE, MISC.: ARCHITECHTURAL TREATMENT, ABUTMENT

ITEM 511 - CONCRETE, MISC.: ARCHITECHTURAL TREATMENT, PIER

ITEM 511 - CONCRETE, MISC.: ARCHITECHTURAL TREATMENT, RAILING

FORMLINER FIELD PATTERN ON SHEET 1867

ABBREVIATIONS

BOT.	= BOTTOM
BRGS.	= BEARINGS
C.J.	= CONSTRUCTION JOINT
CLR.	= CLEAR
CONST.	= CONSTRUCTION
DIA.	= DIAMETER
E.F.	= EACH FACE
ELEV.	= ELEVATION
EX.	= EXISTING
F.A.	= FORWARD ABUTMENT
F.F.	= FAR FACE
HORIZ.	= HORIZONTAL
I.R.	= INTERSTATE ROUTE
L.T.	= LEFT
MAX.	= MAXIMUM
MIN.	= MINIMUM
N.F.	= NEAR FACE
PR.	= PROPOSED
R.A.	= REAR ABUTMENT
RT	= RIGHT
SER.	= SERIES
S.O.	= SERIES OF
SPA.	= SPACED / SPACING / SPACES
S.R.	= STATE ROUTE
TYP.	= TYPICAL
VERT.	= VERTICAL
W.P.	= WORK POINT
W.W.	= WING WALL

SECTION / DETAIL / VIEW CALLOUTS

A / 10 — A / 10

(SEE SECTION A ON SHEET 10)

A / 9 SECTION NOTE

(SECTION A CUT FROM SHEET 9)

GENERAL NOTES (6 OF 7)
CUY-90-1696 (BRIDGE 14)
CR-722 (CARNEGIE AVE.) OVER I.R. 90

SFN 1807898

DESIGN AGENCY
Michael Baker INTERNATIONAL

DESIGNER	CHECKER
ZES	MKB

REVIEWER
KAG 12/26/23

PROJECT ID 82382

SUBSET	TOTAL
9	90

SHEET	TOTAL
2289	2696

CUY-90-16.28 (CCG3A)

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ESTIMATED QUANTITIES

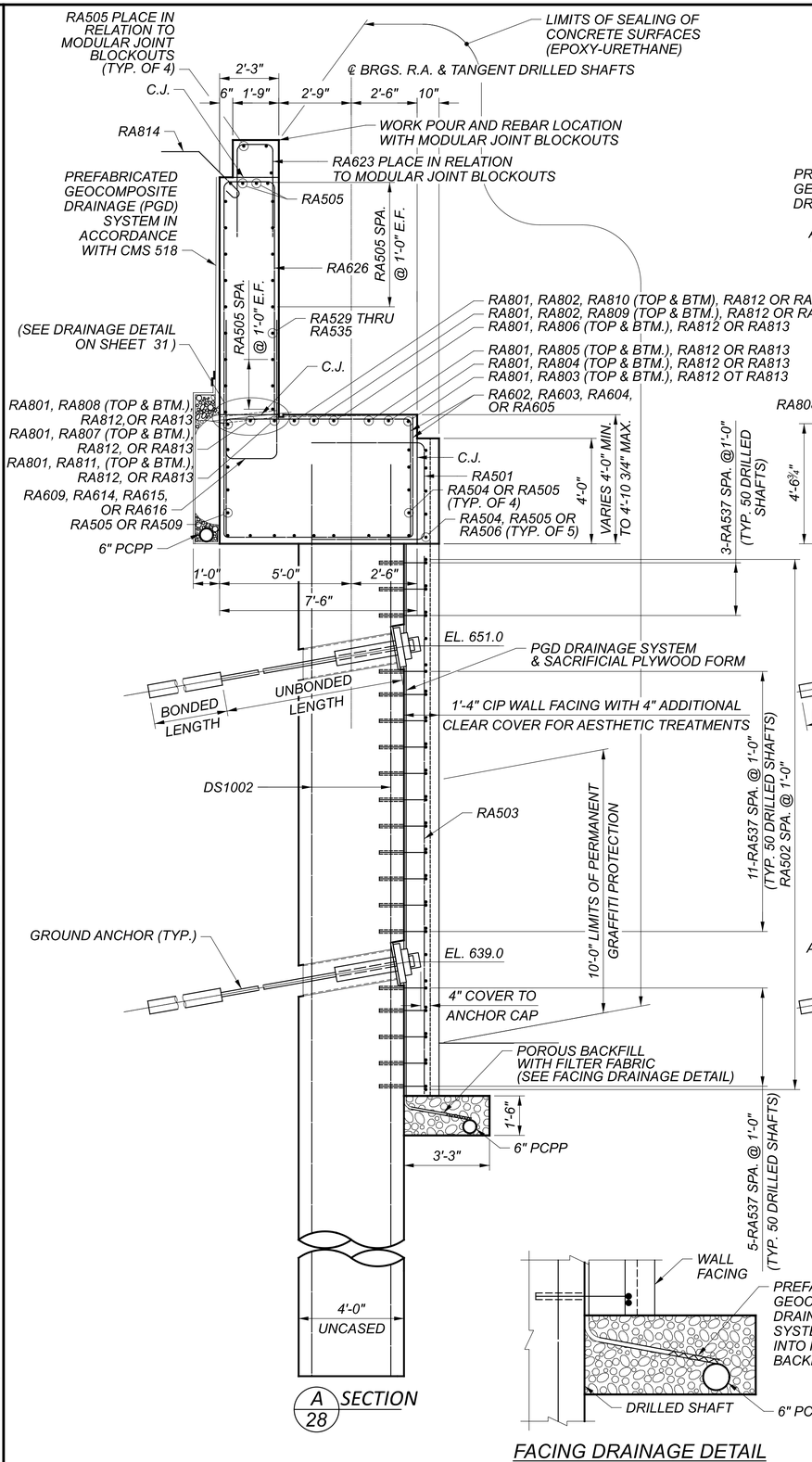
CALCULATED BY: ZES DATE: 03/20/24
CHECKED BY: DAF DATE: 05/15/24

PARTICIPATION	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPERSTR.	GENERAL	SHEET REF.
02/IMS/10	202	11003	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	15-18
02/IMS/10	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING				LS	
02/IMS/10	503	21101	10,842	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	7,516	3,326			6
02/IMS/10	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION				LS	
02/IMS/10	506	11101	LS		STATIC LOAD TEST, AS PER PLAN				LS	8
02/IMS/10	507	00400	490	FT	STEEL PILES, MISC.: SOLIDER PILES HP16x101	2			490	7
02/IMS/10	507	00700	19,355	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	19,355				
02/IMS/10	507	00750	20,530	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	20,530				
02/IMS/10	509	10000	742,913	LB	EPOXY COATED STEEL REINFORCEMENT				742,913	
02/IMS/10	510	10000	800	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT				800	
02/IMS/10	511	34447	1,320	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN			1,320		8
02/IMS/10	511	34451	137	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			137		8
02/IMS/10	511	42012	307	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS	4	307			
02/IMS/10	511	44112	806	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	806				
02/IMS/10	511	45602	794	CY	CLASS QC4 MASS CONCRETE, SUBSTRUCTURE WITH QC/QA				794	
02/IMS/10	511	46512	738	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	336	290		112	
02/IMS/10	511	51513	242	CY	CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK, AS PER PLAN			242		8
02/IMS/10	511	53010	243	CY	CLASS QC1 CONCRETE, MISC.: CONCRETE FACING	243				9
02/IMS/10	511	71200	13,986	SF	CONCRETE, MISC.: ARCHITECTURAL TREATMENT, ABUTMENT	13,986				9
02/IMS/10	511	71200	5,945	SF	CONCRETE, MISC.: ARCHITECTURAL TREATMENT, PIER		5,945			9
02/IMS/10	511	71200	2,851	SF	CONCRETE, MISC.: ARCHITECTURAL TREATMENT, RAILING			2,851		9
02/IMS/10	512	10001	688	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN (PERMANENT GRAFFITI PROTECTION)				688	7
02/IMS/10	512	10050	2,142	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)				2,142	
02/IMS/10	512	10101	2,563	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN				2,563	6
02/IMS/10	513	10201	13,000	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN (SOLDIER PILE STRUT AND WALER)			5 13,000		7
02/IMS/10	513	10280	3,777,400	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4			3,777,400		
02/IMS/10	513	20000	8,872	EACH	WELDED STUD SHEAR CONNECTORS			8,872		
02/IMS/10	514	00060	157,200	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			157,200		
02/IMS/10	514	00067	157,200	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			157,200		6
02/IMS/10	516	11210	145	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			145		
02/IMS/10	SPECIAL	516E12400	173	FT	MODULAR EXPANSION JOINT			173		79
02/IMS/10	516	42000	130	EACH	ELASTOMERIC BEARING PAD, MISC.: 6" x 9" x $\frac{3}{8}$" THICK				130	33
02/IMS/10	518	12200	8	EACH	SCUPPERS, INCLUDING SUPPORTS				8	

ESTIMATED QUANTITIES (1 OF 2)
CUY-90-1696 (BRIDGE 14)
CR-722 (CARNEGIE AVE.) OVER I.R. 90

SFN 1807898
DESIGN AGENCY Michael Baker INTERNATIONAL
DESIGNER DBW | CHECKER MKB
REVIEWER KAG 12/26/23
PROJECT ID 82382
SUBSET 11 | TOTAL 90
SHEET 2291 | TOTAL 2696

CUY-90-16.28 (CCG3A)



REAR ABUTMENT SECTIONS (1 OF 2)
CUY-90-1696 (BRIDGE 14)
CR-722 (CARNEGIE AVE.) OVER I.R. 90

SFN	1807898
DESIGN AGENCY	Michael Baker INTERNATIONAL
DESIGNER	DBW
CHECKER	MKB
REVIEWER	KAG 12/26/23
PROJECT ID	82382
SUBSET	30
TOTAL	90
SHEET	2310
TOTAL	2696

CUY-90-16.28 (CCG3A)
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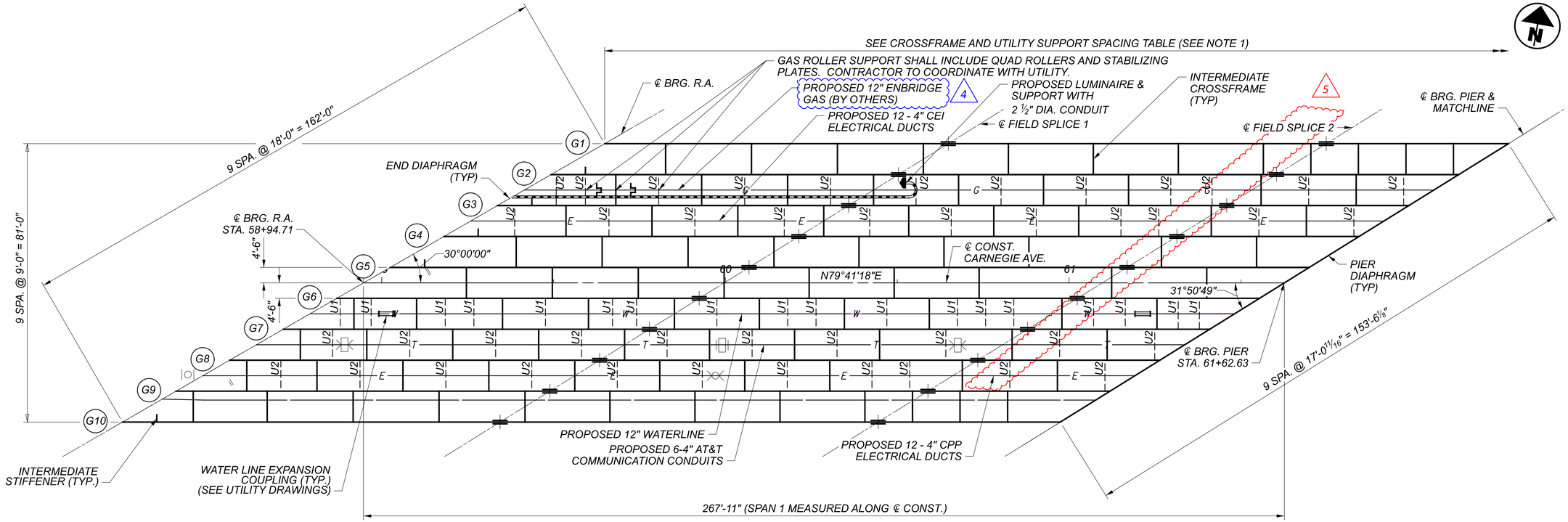
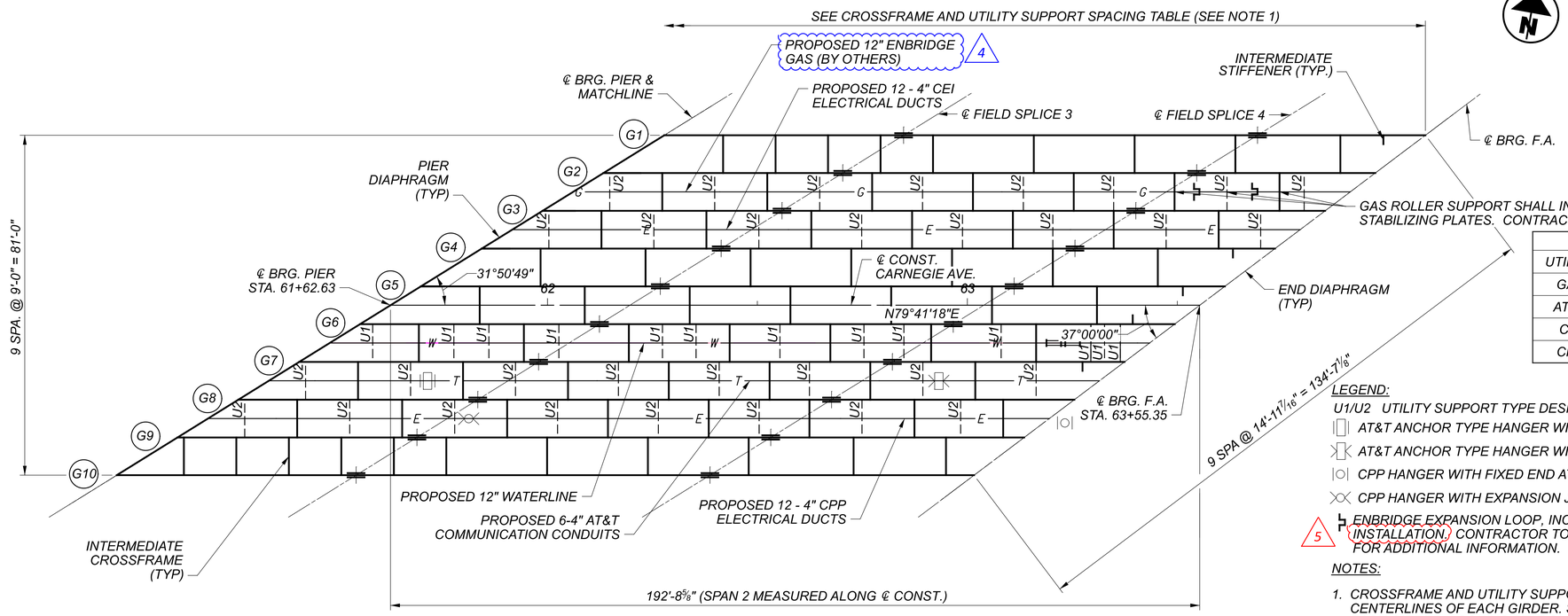


FRAMING PLAN SPAN 1



FRAMING PLAN SPAN 2

GAS ROLLER SUPPORT SHALL INCLUDE QUAD ROLLERS AND STABILIZING PLATES. CONTRACTOR TO COORDINATE WITH UTILITY.

UTILITY HANGER TABLE			
UTILITY	HOLE DIA.	HOLE QTY.	HOLE SPA.
GAS	1"	2	16⅛"
AT&T	15/16"	4	6½"
CEI	15/16"	5	6½"
CPP	15/16"	4	7¾"

LEGEND:

U1/U2 UTILITY SUPPORT TYPE DESIGNATION

AT&T ANCHOR TYPE HANGER WITH STOP RINGS

AT&T ANCHOR TYPE HANGER WITH O-RING EXPANSION JOINTS

CPP HANGER WITH FIXED END AT BACKWALL

CPP HANGER WITH EXPANSION JOINT

5 ENBRIDGE EXPANSION LOOP, INCLUDED WITH 12" PIPE/CONDUIT INSTALLATION. CONTRACTOR TO COORDINATE WITH UTILITY FOR ADDITIONAL INFORMATION.

NOTES:

1. CROSSFRAME AND UTILITY SUPPORT SPACINGS GIVEN ALONG THE CENTERLINES OF EACH GIRDER. SPACINGS GIVEN ON THE RIGHT SIDE OF EACH GIRDER, LOOKING STATIONS AHEAD. SEE SHEET 48/90 FOR CROSSFRAME AND UTILITY SUPPORT SPACING TABLE.
2. SEE SHEETS 57 - 60 / 90 FOR CROSSFRAME AND UTILITY SUPPORT DETAILS.

FRAMING PLAN (1 OF 2)
CUY-90-1696 (BRIDGE 14)
CR-722 (CARNEGIE AVE.) OVER I.R. 90

SFN 1807898
DESIGN AGENCY
Michael Baker INTERNATIONAL
DESIGNER ABC | CHECKER BWC
REVIEWER LPC 06-23-22
PROJECT ID 82382
SUBSET 47 | TOTAL 90
SHEET 2327 | TOTAL 2696

CUY-90-16.28 (CCG3A)

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 10/10/2025 TIME: 2:27:12 PM USER: Maia.Gallagher
pw:\\mb-us-pw.bentley.com:mb-us-pw-03\Documents\Cleveland_OH\01_Projects\ODOT\District12\82382\400-Engineering\Structures\SFN_1807898\Sheets\82382_SFN_1807898_SS001.dgn