ITEM 632 - POWER CABLE MISC. (VARIES) (CONT.)

I. BONDING

1. MAINTAIN SHIELD CONTINUITY AND CONNECTIONS TO METAL CONNECTION HARDWARE AT ALL CONNECTION POINTS.
2. GROUNDING CONDUCTORS: ROUTE ALONG SHORTEST AND STRAIGHTEST PATHS POSSIBLE UNLESS OTHERWISE INDICATED OR REQUIRED BY CODE. AVOID OBSTRUCTING ACCESS OR PLACING CONDUCTORS WHERE THEY MAY BE SUBJECTED TO STRAIN, IMPACT OR DAMAGE.
3. BONDING STRAPS AND JUMPERS: INSTALL IN LOCATIONS ACCESSIBLE FOR INSPECTION AND MAINTENACE EXCEPT WHERE ROUTED THROUGH SHORT LENGTHS OF CONDUIT.
4. BONDING TO STRUCTURE: BOND STRAPS DIRECTLY TO BASIC STRUCTURE, TAKING CARE NOT TO PENETRATE ANY ADJACENT PARTS.

J. TESTING

1. VISUAL AND MECHANICAL INSPECTIONS.
2. INSPECT EXPOSED CABLE SECTIONS FOR PHYSICAL DAMAGE.
3. INSPECT SHIELD GROUNDING AND CABLE SUPPORT. VISUALLY INSPECT CABLE TERMINATIONS PERFORMED BY CPP.
4. INSPECT COMPRESSION CONNECTORS FOR CORRECT CABLE MATCH AND IDENTIFICATION.
5. TESTING AGENCY: ENGAGE A QUALIFIED TESTING TO PERFORM TESTS AND INSPECTIONS.
6. PERFORM THE FOLLOWING TESTS AND INSPECTIONS WITH THE ASSISTANCE OF A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE:

   PERFORM EACH VISUAL AND MECHANICAL INSPECTION AND ELECTRICAL TEST STATED IN NETA ATS. CERTIFY CERTIFY COMPLIANCE TEST PARAMETERS.

   AFTER INSTALLING MEDIUM-VOLTAGE CABLES BEFORE ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, TEST FOR COMPLIANCE WITH REQUIREMENTS.

   PERFORM DIRECT-CURRENT HIGH POTENTIAL TEST OF EACH NEW CONDUCTOR ACCORDING TO NETA ATS, CH. 7.3.3. DO NOT EXCEED MANUFACTURER'S RECOMMENDED MAXIMIM TEST VOLTAGE.

7. MEDIUM-VOLTAGE CABLES WILL BE CONSIDERED DEFECTIVE IF THEY DO NOT PASS TESTS AND INSPECTIONS.
8. PREPARE TEST AND INSPECTION REPORTS.

K. MEASUREMENT

THE NUMBER OF FEET OF CABLE TO BE PAID FOR SHALL INCLUDE CABLE LENGTH IN DUCT PLUS LENGTH IN MANHOLES PER THE CABLE WIRING PLANS, INSTALLED IN PLACE INCLUDING CABLE RACKING, TRAINING, TESTING, CABLE TAGS, SPLICE KITS, AND OTHER INCIDENTAL WORK, EXLUDING SPLICE INSTALLATION.

L. PAYMENT

THE FOOTAGE MEASURED AS PROVIDED ABOVE SHALL BE PAID FOR AT THE CONTRACTOR PRICE BID PER FOOT FOR EACH INDIVIDUAL CABLE, UNDER ITEM 632 AS DIRECTED BELOW, CLASSIFIED AS TO SIZE AND TYPE, PAID FOR UNDER:

ITEM	UNIT	DESCRIPTION
632	FT	POWER CABLE, MISC.: 750 KCMIL-1C-CU-15kV EPR
632	FT	POWER CABLE, MISC.: 4/0-1C-CU-EPR-15kV WITH 133% INSULATION

ITEM 690 - SPECIAL MISC.: PRECAST ELECTRIC MANHOLE

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING COMPLETE IN PLACE PRECAST REINFORCED CONCRETE MANHOLE (VAULT) STRUCTURES IN ACCORDANCE WITH CLEVELAND PUBLIC POWER (CPP) REQUIREMENTS AND DESIGNED TO MEET OR EXCEED THE LATEST ASTM STANDARDS FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES (ASTM C858-10E1) AND MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST UTILITY STRUCTURES (ASTM 857-14) HS25 LOADING. THE FOLLOWING CPP DEVELOPED PLAN DETAILS HAVE BEEN INCLUDED IN THE PLAN SET FOR THIS WORK:

- SAMPLE INDIVIDUAL MANHOLE DETAILS INCLUDING WINDOW OPENING DETAILS AND LIST OF MANHOLE REQUIREMENTS TYPICAL INSTALLATION DETAILS
- TYPICAL INSTALLATION DETAILS
- SAMPLE PRECAST NECK RING SCHEDULE
- GENERAL UNDERGROUND CONSTRUCTION NOTES
- BACKFILL MATERIAL AND BACKFILLING PROCEDURES
- SAMPLE RACKING DETAILS

IT IS NOTED THAT VARIOUS UNDERGROUND UTILITIES ARE PRESENT ALONG THE PROJECT THAT COULD NECESSITATE CHANGES TO MANHOLE DEPTHS AND WINDOW DIMENSIONS. THE CONTRACTOR SHALL PERFORM UTILITY TEST HOLES AT ALL VAULT LOCATIONS PRIOR TO DEVELOPING SHOP DRAWINGS FOR ELECTRIC MANHOLES. IN ADDITION, THE CONTRACTOR WILL BE SUPPLYING AND INSTALLING ELECTRICAL RACK AND BOND SYSTEMS WITHIN THE MANHOLES. CABLE RACKING ASSEMBLIES SHALL CONSIST OF STEEL, HOT-DIP GALVANIZED STANCHIONS AND ARMS, AND PORCELAIN INSULATORS MANUFACTURED BY HUBBELL POWER SYSTEMS, INC OR APPROVED EQUIVALENT.

1. STANCHIONS: NOB-LOC; 1-3/4 INCH NOMINAL SIZE; DUIB SERIES FOR CABLE-ARM ATTACHMENT.
2. ARMS: 1.97 INCHES WIDE, LENGTHS RANGING FROM 3-7/8 INCHES WITH 400 LB MINIMUM CAPACITY TO 14-7/8 INCHES WITH 200 LB MINIMUM CAPACITY. ARMS SHALL BE ARRANGED FOR SECURE MOUNTING IN HORIZONTAL POSITION AT ANY VERTICAL LOCATION ON STANCHIONS.
3. INSULATORS: HIGH GLAZE, DRY-PROCESS PORCELAIN ARRANGED FOR MOUNTING ON CABLE ARMS. THE CONTRACTOR SHALL COORDINATE MANHOLE WORK WITH CPP TO ENSURE COMPATIBILITY AND TIMELY COMPLTION OF RELATED WORK ELEMENTS.

ITEM 690 - SPECIAL MISC.: PRECAST ELECTRIC MANHOLE (CONT.)

SEALING DUCT ENDS IN MANHOLES: USE SEALING COMPOUND IN DUCT ENDS CONTAINING CABLES AND PLUGS IN SPARE DUCTS TO WITHSTAND AT LEAST 15 PSIG HYDROSTATIC PRESSURE. DUCT SEALING COMPOUND SHALL BE NON-HARDENING, SAFE FOR CONTACT WITH HUMAN SKIN, NOT DELETERIOUS TO CABLE INSULATION AND WORKABLE AT TEMPERATURES AS LOW AS 35 DEG. CAPABLE OF WITHSTANDING TEMPERATURE OF 300 DEG F WITHOUT SLUMP, AND ADHERING TO CLEAN SURFACES OF PLASTIC DUCTS, METALLIC CONDUITS, CONDUIT COATINGS, CONCRETE, MASONRY, LEAD, CABLE SHEATHS, CABLE JACKETS, INSULATION MATERIALS AND COMMON METALS.

THE MANHOLES TO BE PAID WILL BE THE ACTUAL NUMBER COMPLETED AND ACCEPTED, INCLUDING CONCRETE LEVELING PAD, GROUND ROD (5/8 INCH X LENGTH PER CPP DETAILS), CLAMP, GROUND WIRE, BONDING, RACK SYSTEM, NECK RINGS, CAP RINGS, PULLING IRONS, AND CASTINGS.

PAYMENT: THE WORK INCLUDED IN THIS ITEM AND THE CONTRACT UNIT PRICE FOR EACH MANHOLE BID UNDER "ITEM 690 MISC.: PRECAST ELECTRIC MANHOLE" IN PLACE, COMPLETED AND ACCEPTED, SHALL FORM THE BASIS OF PAYMENT AND SHALL CONSTITUTE FULL COMPENSATION FOR ALL EXCAVATION AND BACKFILL, FOR FURNISHING, HAULING AND PLACING ALL CASTINGS AND TYING EXISTING OR NEW DUCTS INTO MANHOLES INCLUDING RAISING OR LOWERING DUCTS, REINFORCING STEEL, CONCRETE BRICK AND CONCRETE MASONRY, PULLING IRONS, GROUND RODS, BONDING, RACK SYSTEM AND OTHER MATERIAL, ETC., AND FOR ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THESE ITEMS. ALL MANHOLE CUT SHEETS SHALL BE APPROVED BY CPP ENGINEERING BEFORE THEY ARE CAST.

ITEM 625 - LIGHTING, MISC.: MANHOLE RECONSTRUCTED

TIE INTO EXISTING MANHOLES MH 35-56 AND 35-57

A. WHEN A NEW DUCT/BANK IS CONNECTED INTO AN EXISTING MANHOLE, A MINIMAL PART OF THE WALL SHALL BE CAREFULLY AND NEATLY CUT OR CORED TO RECEIVE THE DUCT/BANK. AFTER THE DUCT/BANK HAS BEEN INSTALLED, THE EXISTING MANHOLE SHALL BE REPAIRED, PATCHED AND SEALED WITH MORTAR OR AS DIRECTED.
B. CABLES SHALL BE PROTECTED DURING THIS WORK WITH EXTREME CARE. ANY DAMAGE TO EXISTING CABLES SHALL BE REPAIRED AT NO COST TO THE PROJECT. THIS WORK SHALL BE ACCOMPLISHED UNDER THE DIRECT SUPERVISION OF CPP.

PAYMENT SHALL BE MADE AT THE CONTRACT PRICE PER EACH BID, WHICH SHALL BE FULL COMPENSATION FOR EXCAVATION AND BACKFILL, REMOVAL AND DISPOSAL OF ALL SURPLUS EXCAVATION AND DISCARDED MATERIAL, PROTECTION OF EXISTING CABLES, ALL LABOR, EQUIPMENT TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

THIS ITEM AS PROVIDED ABOVE SHALL BE PAID FOR UNDER:

ITEM	UNIT	DESCRIPTION
625	EACH	LIGHTING, MISC.: MANHOLE RECONSTRUCTED

MAINTAIN EXISTING POWER

THE CONTRACTOR SHALL NOT INTERRUPT EXISTING POWER EXCEPT FOR SUCH PERIODS AS THE ENGINEER MAY REQUIRE FOR THE PROPER CONSTRUCTION OF NEW FACILITIES TO BE IN PLACE AND OPERATIONAL. FINAL CONNECTION SHALL BE MADE BY CPP AFTER ALL TESTING HAS BEEN CONDUCTED AND FACILITIES HAVE BEEN ACCEPTED BY CPP.

ITEM 202 - REMOVAL MISC.: CONCRETE ENCASED ELECTRIC DUCT BANK

EXISTING CPP FACILITIES TO BE REMOVED WITH THIS ITEM INCLUDE THE EXISTING CONCRETE ENCASED UTILITY DUCT BANK BETWEEN MANHOLES 35-56 AND 35-57, AND A PORTION OF THE CONCRETE ENCASED UTILITY DUCT BANK TO THE SOUTH OF MANHOLE 35-56 (APPROX. 34 FT), EXCLUDING THE BRIDGE SUPPORTED CONDUITS.

THE BRIDGE SUPPORTED CONDUITS SHALL BE REMOVED PER ITEM 202, PORTIONS OF EXISTING STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN, AS NOTED ON THE BRIDGE PLANS. THE EXPOSED CONDUITS ARE MADE OF ASBESTOS CONTAINING MATERIALS (ACM) AS NOTED IN THE ASBESTOS NOTIFICATION NOTE ON THE BRIDGE PLANS. IT IS POSSIBLE THAT THERE ARE NON-VISIBLE OR PREVIOUSLY UNIDENTIFIED ACM ENCOUNTERED DURING CONSTRUCTION. ANY MATERIAL SUSPECTED OF CONTAINING ASBESTOS SHALL BE EVALUATED BY A CERTIFIED ASBESTOS EVALUATION SPECIALIST TO DETERMINE WHETHER THE MATERIAL ACTUALLY CONTAINS ASBESTOS. IF IT DOES, THEN THE ACM SHALL BE REMOVED AS DESCRIBED IN THE ASBESTOS NOTIFICATION NOTE ON THE BRIDGE PLANS.

THE WORK IN THIS ITEM WILL BE PEFORMED AFTER THE EXISTING POWER CABLES ARE DE-ENERGIZED AND REMOVED BY CPP, AND AFTER RECEIVING APPROVAL FROM CPP THAT THE REMOVAL WORK CAN BE PERFORMED.

ITEM 804 - FIBER OPTIC CABLE, 24 CABLE, AS PER PLAN

THE FIBER OPTIC CABLE SHALL BE REPLACED FROM MH 44-07 TO THE CPP SUBSTATION, AS SHOWN IN THE PLANS.

CABLE SHALL MEET THE FOLLOWING REQUIREMENTS:

A. LOOSE TUBE GEL-FILLED FIBER OPTIC CABLE FOR INSTALLATION IN DUCTS, UNDERGROUND CONDUIT OR AERIAL/LASHED. 24 FIBER SINGLE MODE FIBERS 8.3 μM CORE DIAMETER, 125 μM CLADDING WITH A MAXIMIM ATTENUATION OF 0.4 dB/KM AT 1310 nm. COLOR CODED PER TIA/EIA 598A.
B. FIBERGLASS (EPOXY-GLASS ROD) DIELECTRIC CENTRAL STRENGTH MEMBER, ARAMID FIBER YARN OR FIBERGLASS OVERALL STRENGTH MEMBER. MAXIMUM TENSILE LOAD 600 LBS. DURING INSTALLATION AND IN SERVICE.
C. DUAL JACKET CONSTRUCTION WITH BLACK UV AND MOISTURE RESISTANT POLTETHYLENE (PE) INNER AND OUTER JACKETS.
D. THE FIBER OPTIC CABLE SHALL COMPLY WITH THE FOLLOWING, ANSI/TIA/EIA 568A, ICEA S-87-640 AND BE ETL VERIFIED.
E. GENERAL CABLE PART NUMBER AQ0244H1A-DWB OR EQUAL.

SPLICES SHALL BE COORDINATED WITH CPP BEFORE INSTALLATION.

CALCULATED JDH CHECKED JJK

CLEVELAND PUBLIC POWER (CPP) NOTES

CUY-090-13.45

ITEM SPECIAL - FORM LINER:

THIS ITEM SHALL INCLUDE THE FURNISHING OF ALL MATERIALS AND THE NECESSARY LABOR TO PROVIDE A REUSABLE ARCHITECTURAL TREATMENT ON THE INSIDE FACE OF BRIDGE AND APPROACH SLAB PARAPET RAILINGS.

ALL WORK SHALL CONFORM TO THE APPLICABLE PROVISIONS OF ITEM 511 EXCEPT AS MODIFIED AND ADDED HEREIN.

ARCHITECTURAL TREATMENT OF CONCRETE PARAPETS SHALL BE AS FOLLOWS:

GENERAL: THE WORK SHALL INCLUDE:

1. CONSTRUCTION OF TEXTURED CONCRETE SURFACES USING FORM LINERS DESIGNED TO DUPLICATE CLOSELY THE APPEARANCE OF NATURAL STONE.
2. DESIGN AND PATTERN OF THE CONCRETE SURFACES SHALL FOLLOW THE MANUFACTURER'S STANDARD DRAWING SELECTED.
3. PATTERN SHALL BE: CUSTOM ROCK #1203, NEW ENGLAND DRYSTACK; GREENSTREAK #330, ASHLAR STONE; ARCHITECTURAL POLYMERS #911, LARGE STONE DRYSTACK; OR APPROVED EQUAL.
4. SHOP DRAWINGS: PLAN, ELEVATION, AND DETAILS TO SHOW OVERALL PATTERN, JOINT LOCATIONS, FORM TIE LOCATIONS, AND END, EDGE AND OTHER SPECIAL CONSIDERATIONS.
5. SAMPLES: FORM TIES, SAMPLE AND DESCRIPTION, SHOWING METHOD OF SEPARATION WHEN FORMS ARE REMOVED.
6. MANUFACTURER OF FORM LINERS MUST HAVE A MINIMUM FIVE YEARS EXPERIENCE MAKING CUSTOM FORM LINERS AND COLOR STAINS TO CREATE FORMED CONCRETE SURFACES TO MATCH NATURAL STONE SHAPES AND SURFACE TEXTURES.
7. PRE-INSTALLATION MEETING: SCHEDULE CONFERENCE WITH MANUFACTURER'S REPRESENTATIVE TO ASSURE UNDERSTANDING OF FORM LINER USE, REQUIREMENTS FOR CONSTRUCTION OF MOCK-UP, AND TO COORDINATE THE WORK.

PRODUCTS:

1. FORM LINERS AS MANUFACTURED BY:

CUSTOM ROCK FORMLINER
2020 WEST 7TH STREET
ST. PAUL, MN 55116
(615) 699-1345
WWW.CUSTOMROCK.COM

ARCHITECTURAL POLYMERS
1220 LITTLE GAP ROAD
PALMERTON, PA 18071
(610) 824-3322
WWW.APFORMLINER.COM

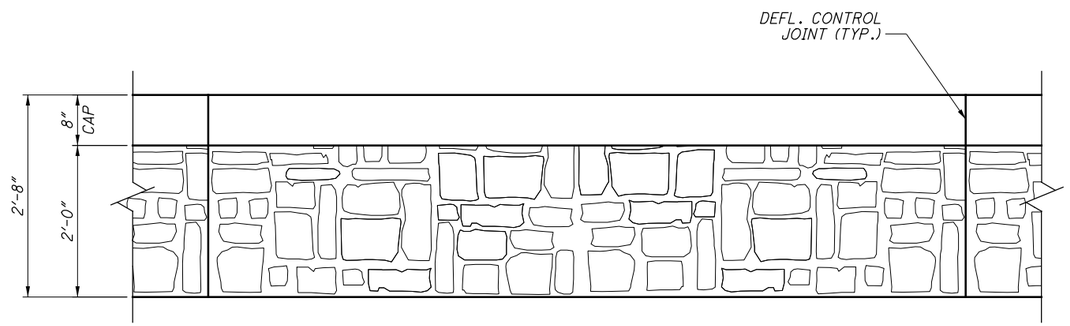
GREENSTREAK
3400 TREE COURT INDUSTRIAL BLVD.
ST. LOUIS, MO 63122-6614
(636) 225-9400
WWW.GREENSTREAK.COM

2. RELEASE AGENT: COMPATIBLE WITH FORM LINER. CONSULT MANUFACTURER.
3. FORM TIES: DESIGNED TO SEPARATE AT LEAST 1 INCH BACK FROM FINISHED SURFACE, LEAVING ONLY A NEAT HOLE THAT CAN BE PLUGGED WITH PATCHING MATERIAL.

EXECUTION:

1. FORMED CONCRETE CONSTRUCTION: INSTALLER SHALL HAVE A MINIMUM FIVE YEARS OF EXPERIENCE WITH VERTICALLY FORMED ARCHITECTURAL CONCRETE. INSTALLER SHALL BE TRAINED IN MANUFACTURER'S SPECIAL TECHNIQUES IN ORDER TO ACHIEVE REALISTIC SURFACES.
2. FORM LINER PREPARATION: CLEAN AND MAKE FREE OF BUILDUP PRIOR TO EACH POUR. INSPECT FOR BLEMISHES OR TEARS. REPAIR IF NEEDED FOLLOWING MANUFACTURER'S RECOMMENDATIONS.
3. FORM LINER ATTACHMENT: PLACE ADJACENT LINERS WITH LESS THAN 1/4 INCH SEPARATION BETWEEN LINERS. ATTACH LINERS TO FORM SECURELY, FOLLOWING MANUFACTURER'S RECOMMENDATIONS.
4. FORM RELEASE AGENT: APPLY FOLLOWING MANUFACTURER'S RECOMMENDATIONS.
5. FORM STRIPPING AND RELATED CONSTRUCTION SHALL AVOID CREATING DEFECTS IN THE FINISHED SURFACES.
6. WHERE FORM LINERS ABUT, CAREFULLY BLEND TO MATCH THE BALANCE OF THE STONE PATTERN, AVOIDING VISIBLE SEAMS OR FORM MARKS.
7. PLACE FORM TIES AT THE THINNEST POINTS OF LINER (HIGHER POINTS OF FINISHED WALL). NEATLY PATCH THE HOLE REMAINING AFTER DISENGAGING THE PROTRUDING PORTION OF THE TIE SO THAT IT WILL NOT BE VISIBLE AFTER SEALING THE CONCRETE SURFACE.
8. WHERE AN EXPANSION JOINT MUST OCCUR AT A POINT OTHER THAN AT MORTAR OR RUSTICATION JOINTS, SUCH AS AT THE FACE OF CONCRETE TEXTURE WHICH IS TO HAVE THE APPEARANCE OF STONE, CONSULT MANUFACTURER FOR PROPER TREATMENT OF EXPANSION MATERIAL.

BASIS OF PAYMENT: PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE IN PLACE, WILL BE MADE AT THE CONTRACT UNIT PRICE BID FOR ITEM SPECIAL - FORM LINER. THIS PRICE SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM AS SPECIFIED.



TYPICAL FORM LINER ELEVATION
(AS VIEWED FROM SIDEWALK)

ITEM 690 - DOMINION ENERGY ROLLER GUIDE/SUPPORT

UNDER THIS ITEM, THE CONTRACTOR WILL PROVIDE AND INSTALL PIPE ROLLER GUIDE/SUPPORT WHERE SHOWN ON THE PLANS TO SUPPORT THE PROPOSED DOMINION ENERGY (DE) 6" DIAMETER GAS LINE. ROLLERS/SUPPORTS WILL BE SIZED TO CARRY THE PROPOSED GAS LINE. FOR PIPE SUPPORTS, ROLLERS SHALL BE DOUBLE ROLLERS USING NON-CONDUCTIVE MATERIAL. THESE ROLLERS WILL BE FULLY FIELD-ADJUSTABLE AND BE PROVIDED WITH ALL REQUIRED HARDWARE AND FASTENERS FOR A COMPLETE OPERABLE SYSTEM. DOMINION ENERGY WILL SUPPLY AND INSTALL THE GAS MAIN. BEFORE ORDERING THE CONTRACTOR SHALL GET APPROVAL FROM DOMINION ENERGY. THE CONTRACTOR SHALL COORDINATE WITH DOMINION ENERGY TO SCHEDULE THE WORK. NO ADDITIONAL PAYMENT WILL BE MADE FOR ANY SCHEDULE DELAYS WHEN COORDINATING THIS WORK WITH DOMINION ENERGY.

PAYMENT WILL BE MADE AT THE PRICE PER EACH PER ITEM 690 - DOMINION ENERGY ROLLER GUIDE/SUPPORT.

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

THE ANCHORS SHALL BE CAST IN PLACE. ALL FENCE FABRIC SHALL BE BLACK VINYL COATED AND ALL RAILS, POSTS, PLATES AND ADDITIONAL VISUAL HARDWARE SHALL BE PAINTED WITH BLACK EPOXY-URETHANE SHOP APPLIED. ALL TIE WIRES AND CAULK SHALL BE BLACK.

PAYMENT SHALL BE AT THE UNIT PRICE BID PER LINEAR FOOT FOR ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ABBREVIATIONS

ABUT.	- ABUTMENT
APPR.	- APPROACH
APPROX.	- APPROXIMATE
BOT.	- BOTTOM
BRG.	- BEARING
C/C	- CENTER TO CENTER
CEI	- CLEVELAND ELECTRIC ILLUM.
C.J.	- CONSTRUCTION JOINT
COL.	- COLUMN
CONST.	- CONSTRUCTION
C.P.P.	- CORRUGATED PLASTIC PIPE
CPP	- CLEVELAND PUBLIC POWER
CWD	- CLEVELAND WATER DEPARTMENT
DIA.	- DIAMETER
E.F.	- EACH FACE
EL. - ELEV.	- ELEVATION
EQ. SPA.	- EQUAL SPACE
E.W.	- EACH WAY
EX. - EXIST.	- EXISTING
EXP.	- EXPANSION
F.A.	- FORWARD ABUTMENT
F.F.	- FAR FACE
FTG.	- FOOTING
FWD.	- FORWARD
H.M.W.M.	- HIGH MOLECULAR WEIGHT METHACRYLATE
MAX.	- MAXIMUM
M.O.T.	- MAINTENANCE OF TRAFFIC
MIN.	- MINIMUM
N.F.	- NEAR FACE
P.E.J.F.	- PREFORMED EXPANSION JOINT FILLER
R.A.	- REAR ABUTMENT
RT.	- RIGHT
S.B.	- SOUTHBOUND
SER.	- SERIES
SPA.	- SPACING
STA.	- STATION
T & B	- TOP AND BOTTOM
T.H.	- TEST HOLE
TYP.	- TYPICAL
T/T	- TOE TO TOE
VAR.	- VARIES
V.C.	- VERTICAL CURVE
VERT.	- VERTICAL
U.N.O.	- UNLESS NOTED OTHERWISE

CEI FIRST ENERGY COORDINATION

THE CONTRACTOR SHALL COORDINATE DE-ENERGIZING OF THE EXISTING CEI ELECTRIC CABLE(S) WHICH ARE SUPPORTED BY THE EXISTING BRIDGE GIRDERS AND WHICH EXTEND UNDERGROUND UNDER SOUTH MARGINAL AND NORTH MARGINAL ROADS. CEI WILL INSTALL TWO (2) NEW 5" DIA. DUCTS IN THE BRIDGE SIDEWALK AND APPROACH ROADWAYS, AND WILL ALSO INSTALL NEW CABLE(S) IN THE NEW CONDUITS. THE CONTRACTOR SHALL COORDINATE WITH CEI TO PROVIDE ACCESS AND TO SCHEDULE THEIR WORK.

THE EXISTING CEI CONDUITS WILL BE REMOVED BEFORE THE CPP DUCT BANK IS RELOCATED.

THE WORK FOR THIS ITEM SHALL BE INCIDENTAL TO THE PROJECT AND NO SEPARATE PAYMENT SHALL BE MADE.

ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN

THE CONCRETE PATCHING DEPTH SHALL BE 7". THE REINFORCING STEEL WITHIN THE PATCH IS INCLUDED WITH ITEM 509 EPOXY COATED REINFORCING STEEL FOR PAYMENT.

ASBESTOS NOTIFICATION

A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST SURVEYED THE BRIDGE STRUCTURE SCHEDULED FOR DEMOLTION AND/OR REHABILITATION; THE SURVEY DETERMINED THAT 6415 SQUARE FEET OF ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURE.

ODOT SHALL PROVIDE A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY (OEPA) NOTIFICATION OF DEMOLITION AND RENOVATION FORM, PARTIALLY COMPLETED AND SIGNED BY THE BRIDGE OWNER, TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL COMPLETE THE FORM AND SUBMIT IT TO ONE OF THE ADDRESSES BELOW AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION.

ASBESTOS PROGRAM
OHIO EPA, DAPC
P.O. BOX 1049
COLUMBUS, OH 43216-1049

OR

ASBESTOS PROGRAM
OHIO EPA, DAPC
50 W. TOWN ST., SUITE 700
COLUMBUS, OH 43215

THE CONTRACTOR SHALL PROVIDE A COPY OF THE COMPLETED FORM TO THE ENGINEER AT LEAST TEN (10) WORKING DAYS PRIOR TO THE START OF ANY DEMOLITION AND/OR RENOVATION. THE FORM SHALL INCLUDE: 1) THE CONTRACTORS NAME AND ADDRESS, 2) THE SCHEDULED DATES FOR THE START AND COMPLETION OF THE BRIDGE REMOVAL AND 3) A DESCRIPTION OF THE PLANNED DEMOLITION WORK AND THE METHOD(S) TO BE USED. COPIES OF THE OEPA FORM AND BRIDGE INSPECTION REPORT ARE AVAILABLE FOR REVIEW AT THE ODOT DISTRICT 12 OFFICE, 5500 TRANSPORTATION BOULEVARD, GARFIELD HEIGHTS, OHIO 44125.

BASIS FOR PAYMENT THE CONTRACTOR SHALL FURNISH ALL FEES, LABOR, AND MATERIAL NECESSARY TO COMPLETE AND SUBMIT THE OEPA NOTIFICATION FORM. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

DESIGN AGENCY
ms consultants, inc.
4608 St. Clair Avenue
Cleveland, Ohio 44103-1206

DESIGNED	DRAWN	REVIEWED	DATE
LAW	JSP	JDH	7/17/2019
CHECKED	REVISED	STRUCTURE FILE NUMBER	
SJR	JDH	1807811	

GENERAL NOTES (2 OF 2)
BRIDGE NO. CUY-090-1345
WEST 44TH STREET OVER I-90

CUY-090-13.45
PID No. 105792

BY:	TVB	6/24/2019
CHECKED:	LAW	9/20/2019

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	PARTICIPATION 01/BRO/BR	PARTICIPATION 02/BRO/BR	PARTICIPATION 03/BRO/BR	TOTAL	UNIT	DESCRIPTION	ABUTMENTS	PIERS	SUPERSTRUCTURE	GENERAL	SHEET REF.
202	11203	LS			LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	2
202	22900	240			240	SY	APPROACH SLAB REMOVED				240	
202	23500	240			240	SY	WEARING COURSE REMOVED			240		
503	11100	LS			LS		COFFERDAMS AND EXCAVATION BRACING				LS	
509	10000	106,810			106,810	LB	EPOXY COATED REINFORCING STEEL	10,317	1,309	91,824	3,360	
510	10000	362			362	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	268	94			
511	34446	269			269	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			269		
511	34450	45			45	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			45		
511	42510	12			12	CY	CLASS QC1 CONCRETE, PIER CAP		12			
511	45710	55			55	CY	CLASS QC1 CONCRETE, ABUTMENT	55				
511	51512	107			107	CY	CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK			107		
512	10050	462			462	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)			462		
512	10100	1,082			1,082	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	492	120	470		
512	10600	33			33	FT	CONCRETE REPAIR BY EPOXY INJECTION	33				
512	33000	11			11	SY	TYPE 2 WATERPROOFING	11				
513	10280	254,683			254,683	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4			254,683		
513	20000	3,168			3,168	EACH	WELDED STUD SHEAR CONNECTORS			3,168		
514	00060	14,468			14,468	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			14,468		
514	00066	14,468			14,468	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			14,468		
516	11210	101			101	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			101		
516	13600	86			86	SF	1" PREFORMED EXPANSION JOINT FILLER	86				
516	44100	12			12	EACH	ELASTOMERIC BEARING (10" X 16" X 2.0488") WITH INTERNAL LAMINATES (NEOPRENE) AND LOAD PLATE (11" X 19" X 1.5" MIN.)	12				
516	44200	6			6	EACH	ELASTOMERIC BEARING (18" X 20" X 3.1235") WITH INTERNAL LAMINATES (NEOPRENE) AND LOAD PLATE (19" X 30.5" X 1.5" MIN.)		6			
518	21200	45			45	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	45				
519	11101	537			537	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	153	384			2
526	30011	318			318	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN				318	2
526	90010	96			96	FT	TYPE A INSTALLATION				96	
SPECIAL	530E13000	733			733	SF	FORMLINER			733		3
607	39901	367			367	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN			367		3
SPECIAL	690E98000			11	11	EACH	DOMINION ENERGY ROLLER GUIDE/SUPPORT			11		3
844	10001	743			743	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN	743				3

DESIGN AGENCY
ms consultants, inc.
4608 St. Clair Avenue
Cleveland, Ohio 44103-1206

DESIGNED TVB | DRAWN KRM | REVIEWED JDH | DATE 7/17/2019
CHECKED SJR | REVISED SSR | STRUCTURE FILE NUMBER 1807811

ESTIMATED QUANTITIES
BRIDGE NO. CUY-090-1345
WEST 44TH STREET OVER I-90

CUY-090-13.45
PID No. 105792