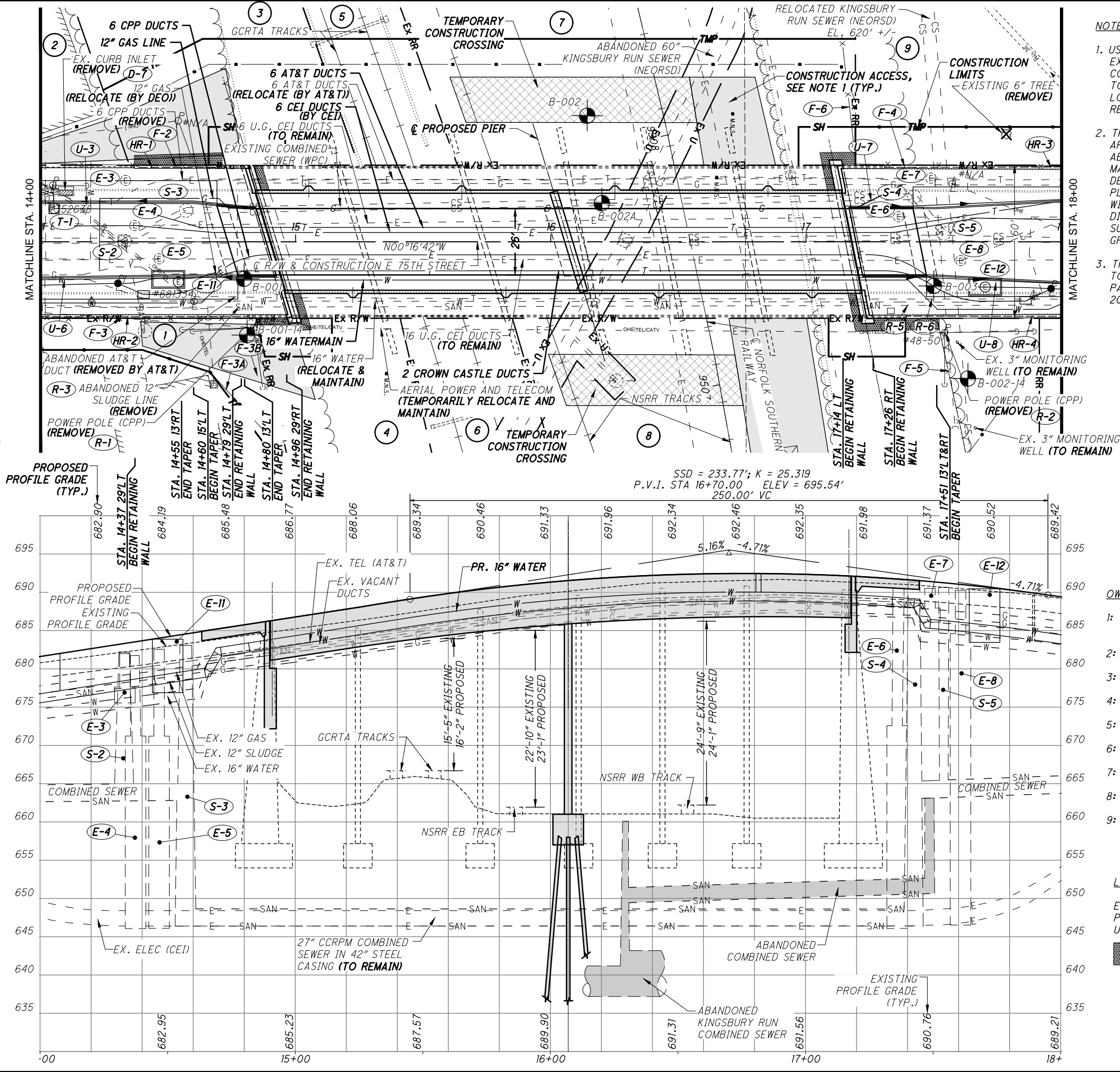


- (E-3) STA. 14+33.28, 24.02' LT EX. CPP MANHOLE (REMOVE)
- (E-4) STA. 14+36.94, 6.33' LT EX. CEI MANHOLE (ADJUST TO GRADE) EX. RIM = 682.36 PR. RIM = 683.42
- (E-5) STA. 14+46.46, 6.70' RT EX. CEI MANHOLE (ADJUST TO GRADE) EX. RIM = 682.66 PR. RIM = 683.90
- (E-6) STA. 17+36.28, 9.80' LT EX. CEI MANHOLE (ADJUST TO GRADE) EX. RIM = 691.03 PR. RIM = 691.58
- (E-7) STA. 17+48.94, 24.94' LT EX. CPP MANHOLE (REMOVE)
- (E-8) STA. 17+60.66, 7.38' RT EX. CEI MANHOLE (ADJUST TO GRADE) EX. RIM = 690.64 PR. RIM = 690.92
- (E-11) STA. 14+50.00, 16.00' RT PR. CPP MANHOLE
- (E-12) STA. 17+70.00, 18.00' RT PR. CPP MANHOLE
- (F-2) (F-3) (F-3A) SEE SHT 23
- (F-3B) STA. 14+82 TO STA. 14+89 EXISTING 6' TALL CHAIN LINK FENCE WITH 3-STRAND BARB WIRE (REMOVE)
- (F-4) STA. 17+31 TO STA. 19+12 EXISTING 6" TALL CHAIN LINK FENCE (REMOVE)
- (F-5) STA. 17+51 TO STA. 17+64 EXISTING 6" TALL CHAIN LINK FENCE (REMOVE & REPLACE)
- (F-6) STA. 17+15 TO STA. 17+20 EXISTING 6" TALL CHAIN LINK FENCE (REMOVE & REPLACE)
- (HR-1) STA. 14+38 TO STA. 14+69 EXISTING HANDRAIL (REMOVE)
- (HR-2) SEE SHEET 23
- (HR-3) STA. 17+31 TO STA. 19+12 EXISTING HANDRAIL (REMOVE)
- (HR-4) STA. 17+39 TO STA. 19+82 EXISTING HANDRAIL (REMOVE)
- (S-2) STA. 14+33.03, 0.38' LT EX. SANITARY MANHOLE (ADJUST TO GRADE) EX. RIM = 682.19 PR. RIM = 683.31
- (S-3) STA. 14+57.13, 12.27' LT EX. SANITARY MANHOLE (ADJUST TO GRADE) EX. RIM = 683.07 PR. RIM = 684.36
- (S-4) STA. 17+42.57, 17.69' LT EX. SANITARY MANHOLE (ADJUST TO GRADE) EX. RIM = 690.52 PR. RIM = 691.97
- (S-5) STA. 17+54.16, 3.16' LT EX. SANITARY MANHOLE (ADJUST TO GRADE) EX. RIM = 690.58 PR. RIM = 691.20
- (T-1) STA. 14+03.32, 17.30' LT EX. ATT MANHOLE (ATT TO REPLACE)

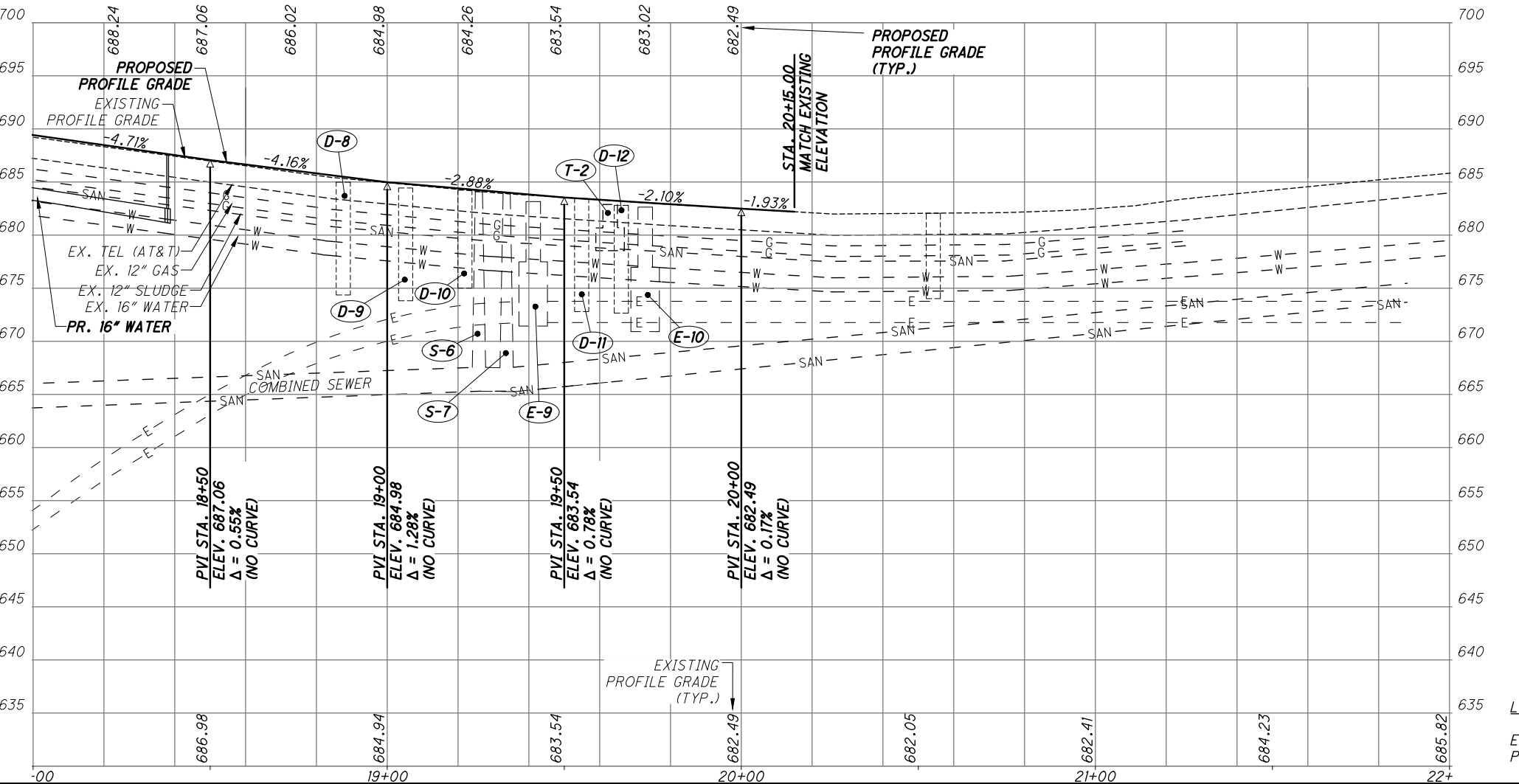
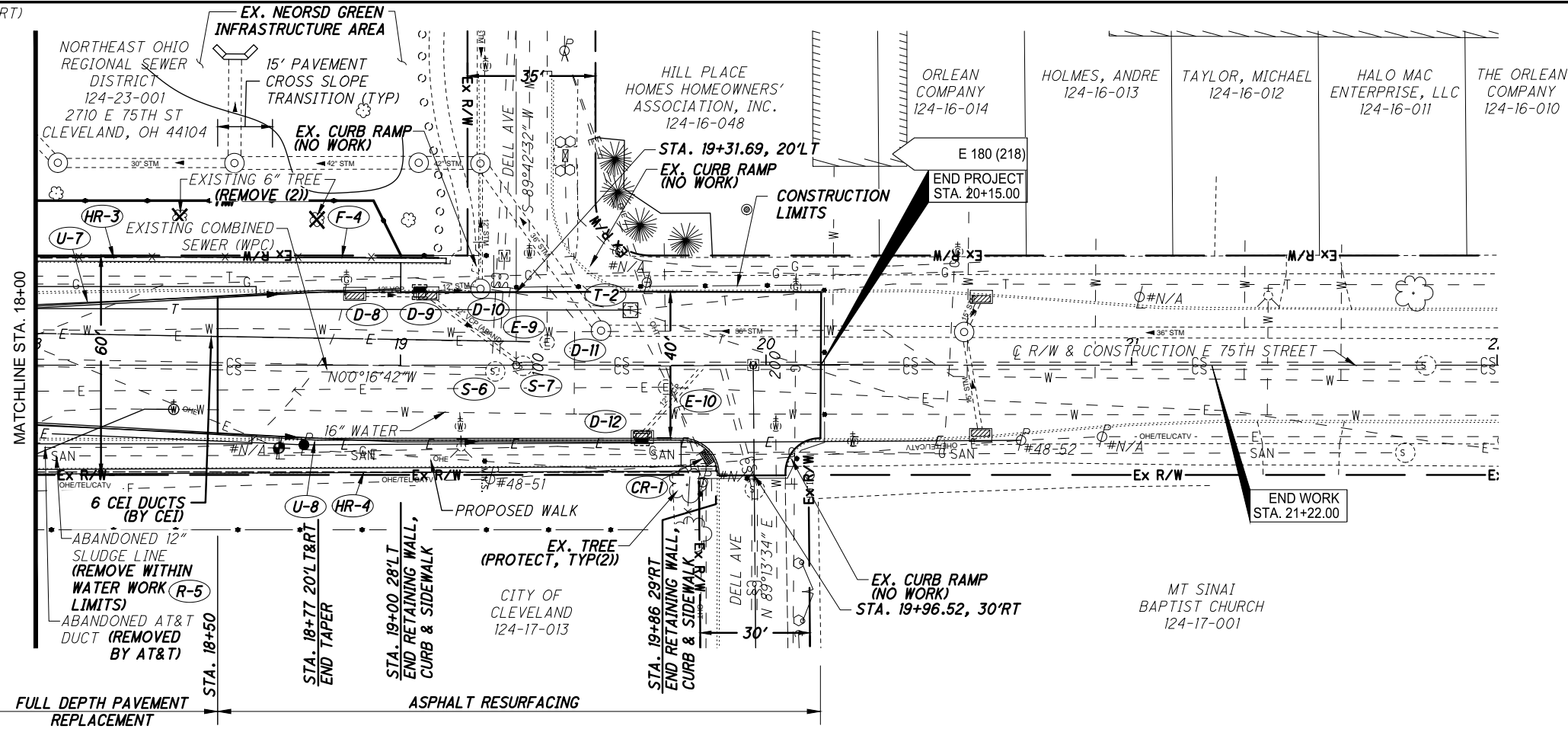


- NOTES:**
- USE #1 AND #2 STONE FOR STABILIZING EXISTING NSRR SERVICE ROAD AND CONSTRUCTION ACCESS DRIVES, AS REQUIRED TO PREVENT DAMAGE AND FLOODING. LOCATIONS TO BE APPROVED BY THE RESIDENT ENGINEER.
 - TREES AND STUMPS WITHIN EMBANKMENT AREAS TO BE REMOVED TO ACCESS BRIDGE ABUTMENTS HAVE NOT BEEN INDIVIDUALLY MARKED FOR REMOVAL. UNLESS SPECIFICALLY DESIGNATED AS TO BE PROTECTED IN THE PLANS, REMOVE ALL TREES AND STUMPS WITHIN THE CONSTRUCTION LIMITS, AS DIRECTED BY THE ENGINEER, UNDER THE LUMP SUM BID FOR ITEM 201: CLEARING AND GRUBBING.
 - TREE REMOVALS WITHIN NEORSR PROPERTY TO BE COORDINATED WITH THE OWNER AND PAID FOR AS PART OF A LUMP SUM PAY ITEM 201: CLEARING AND GRUBBING.

- OWNERSHIP NAME AND NUMBER:**
- THE ORLANDO BAKING COMPANY
P.P.N. 124-23-009
7777 GRAND AVE. CLEVELAND, OH 44104
 - CITY OF CLEVELAND
P.P.N. 124-24-056
 - GREATER CLEVELAND RTA
P.P.N. 124-23-006
 - GREATER CLEVELAND RTA
P.P.N. 124-23-003
 - GREATER CLEVELAND RTA
P.P.N. 124-23-008 LISTED WITH 124-23-007
 - GREATER CLEVELAND RTA
P.P.N. 124-23-007
 - NORFOLK & WESTERN RAILWAY CO
P.P.N. 124-23-002 LISTED WITH 124-22-008
 - NORFOLK & WESTERN RAILWAY CO
P.P.N. 124-23-003
 - NORTHEAST OHIO REGIONAL SEWER DISTRICT
P.P.N. 124-23-001
2710 E 75TH ST, CLEVELAND, OH 44104

- LEGEND:**
- EX. = EXISTING
 - PR. = PROPOSED
 - U.G. = UNDERGROUND
 - CRUSHED AGGREGATE SLOPE PROTECTION, SEE BRIDGE PLANS FOR LIMITS AND PAYMENT.

- (CR-1)** STA. 19+70 TO STA. 19+87± (RT)
PROPOSED CURB RAMP,
ODOT TYPE B3 (BP-7.1)
TOP EL. = 683.38±
BOT EL. = 682.48±
- (D-8)** STA. 18+87.52, 20' (LT)
EX. CATCH BASIN
(REPLACE THE TOP)
SEE NOTE 1
- (D-9)** STA. 19+05.23, 20' (LT)
EX. CATCH BASIN
(PROTECT)
- (D-10)** STA. 19+21.95, 20.87' LT
EX. STORM MANHOLE
(PROTECT)
- (D-11)** STA. 19+54.91, 9.50' LT
EX. STORM MANHOLE
(PROTECT)
- (D-12)** STA. 19+66.13, 20' (RT)
EX. CATCH BASIN
(REPLACE THE TOP)
SEE NOTE 1
- (E-9)** STA. 19+40.13, 6.28' LT
EX. CEI MANHOLE
(PROTECT)
- (E-10)** STA. 19+72.55, 6.00' RT
EX. CEI MANHOLE
(PROTECT)
- (F-4)** SEE SHEET 24
- (HR-3)** SEE SHEET 24
- (HR-4)** SEE SHEET 24
- (S-6)** STA. 19+25.88, 1.77' RT
EX. SANITARY MANHOLE
(PROTECT)
- (S-7)** STA. 19+33.61, 0.08' RT
EX. SANITARY MANHOLE
(PROTECT)
- (T-2)** STA. 19+62.94, 15.06' LT
EX. ATT MANHOLE
(AT&T TO RECONSTRUCT)



- NOTES:**
1. NEW CURB INLET TOP, INCLUDING FRAME AND GRATE, REQUIRED FOR CATCH BASINS D-8 AND D-12. USE TOP FROM "CATCH BASIN: CLE NO.1" DETAIL, INCLUDED IN THESE PLANS.
 2. TREE REMOVALS WITHIN NEORS PROPERTY TO BE COORDINATED WITH THE OWNER AND PAID FOR AS PART OF A LUMP SUM PAY ITEM 201: CLEARING AND GRUBBING.
 3. ALL EXISTING CURB RAMPS MARKED "NO WORK" ARE ADA COMPLIANT AND MUST BE PROTECTED DURING CONSTRUCTION.

LEGEND:
EX. = EXISTING
PR. = PROPOSED

CALCULATED: _____
R/J/W: _____
CHECKED: _____
MM: _____

PLAN AND PROFILE
STA. 18+00 TO STA. 22+00

CUY-EAST 75TH STREET

25
141

WATER WORK NOTES

ITEM 638 - WATER WORK, MISC.: 16" WATER MAIN GALVANIZED STEEL PIPE ASTM A-53, GRADE B

- (A) 16" GALVANIZED STEEL PIPE SHALL BE 16" O.D. X 0.50" WALL ASTM A-53, GRADE B HAVING A MINIMUM WORKING PRESSURE OF 350 PSI.
- (B) THE INTERIOR OF ALL STEEL PIPE SHALL BE TOTALLY PRIMED AND COATED WITH WATER RESISTANT WHITEWASH FOR A DISTANCE OF THREE (3) FEET FROM EACH END.

DRAWINGS - GALVANIZED STEEL PIPE ASTM A-53, GRADE B AND APPURTENANCES

- (A) THE CONTRACTOR SHALL SUBMIT TO THE CITY THROUGH THE ENGINEER FOR APPROVAL A MINIMUM OF SIX (6) SETS OF PRINTS OF ALL SHOP DRAWINGS GENERATED BY THE PIPE OR STRUCTURAL FABRICATOR OF ALL PIPE, FITTINGS AND MISCELLANEOUS OR SPECIAL DETAILS OF PIPE AND FITTING JOINTS INCLUDING LINE AND ASSEMBLY LAYOUT, FLANGE DETAILS, VICTAULIC GROOVING, VICTAULIC COUPLINGS, EXPANSION JOINTS, WELDING DETAILS, FACTORY APPLIED INSULATION, FIELD APPLIED INSULATION, JACKET, SLEEVE PACKING DETAILS, PIPE SUPPORT DETAILS INCLUDING CLAMP, SHIMS AND "LUBRITE" PLATE, AND ANY OTHER PIPE APPURTENANCES. THE LINE AND ASSEMBLY LAYOUT SHALL INCLUDE ALL PIPE AND FITTING DIMENSIONS, LOCATION OF ALL PIPE JOINTS AND LOCATION OF ANY OTHER PIPE APPURTENANCES. NO WORK SHALL BE DONE IN THE SHOP UNTIL AFTER THE DRAWINGS HAVE BEEN APPROVED.
- (B) THE APPROVAL OF THE DRAWINGS BY THE CITY SHALL NOT RELIEVE THE CONTRACTOR OF ANY OF HIS OBLIGATIONS IN CONNECTION WITH THIS CONTRACT.

JOINTS

(A) FLANGED JOINTS:

FLANGED JOINTS SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS. FLANGES SHALL STRADDLE VERTICAL AND HORIZONTAL CENTERLINES. FLANGES FOR 8", 12" AND 16" STEEL PIPE SHALL BE CLASS "D" OR WELDED NECK CLASS "D" FLANGES. FLANGES FOR 24" STEEL PIPE SHALL BE CLASS "E" OR WELDED NECK CLASS "E" FLANGES. FLANGES SHALL BE OF EITHER CAST STEEL, FORGED OR ROLLED STEEL, OR PROPERLY WELDED AND MACHINED FABRICATED STEEL PLATES, WELDED TO PIPE WITH TWO (2) CONTINUOUS WELDS. THEY SHALL HAVE PLAIN FACES AND SHALL BE FACED TRUE AND SMOOTH AT RIGHT ANGLES TO THE AXIS OF THE PIPE AND SHALL BE SPOT FACED ON THE BACK. DRILLING SHALL CONFORM TO "AMERICAN 1928 STANDARD" DRILLING 150 POUND TEMPLATE. BLIND FLANGES, WHERE REQUIRED, SHALL BE RIBBED STEEL OR SHALL BE DISHED CAST IRON HAVING BOSSES TAPPED AT TOP AND BOTTOM FOR TWO (2) INCH STANDARD PIPE AND FURNISHED WITH MALLEABLE IRON PLUGS. ALL BOLTS AND NUTS FOR FLANGES AND OTHER TYPES OF BOLTING SHALL BE MADE OF STAINLESS STEEL: ASTM A 276-89a, "SPECIFICATION FOR STAINLESS AND HEAT-RESISTING STEEL BARS AND SHAPES," TYPE 304, AND ASTM A 193/A 193m-89, "SPECIFICATION FOR ALLOY-STEEL AND STAINLESS STEEL BOLTING MATERIALS FOR HIGH TEMPERATURE SERVICE", HEAVY HEX.

(B) EXPANSION JOINT ASSEMBLY:

THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE CITY THROUGH THE ENGINEER FOR APPROVAL OF THE EXPANSION JOINT ASSEMBLY.

THE EXPANSION JOINT ASSEMBLY SHALL BE, "DRESSER STYLE 63, TYPE 1" SLIP TYPE, OR APPROVED EQUAL, WITH MINIMUM 1/2" THICK BODY AND SLIP, WITH AN 8-IN TRAVERSE. THE EXPANSION JOINT ASSEMBLY SHALL INCLUDE ALL MATERIALS, BOLTS, NUTS AND WASHERS, WELDED NECK FLANGES A.S.A. 150# AND GASKETS. ALL BOLTS AND NUTS SHALL BE MADE OF STAINLESS STEEL: ASTM A 276-89A, TYPE 304, "SPECIFICATION FOR STAINLESS AND HEAT-RESISTING SHEET BARS AND SHAPES." NO FIELD WELDING OF GALVANIZED STEEL PIPE WILL BE PERMITTED. THE EXPANSION JOINT SHALL BE GALVANIZED EXCEPT SLIP PIPE. THE EXPANSION JOINT SHALL HAVE FIELD APPLIED INSULATION AS PER DETAILS ON THE CONTRACT DRAWINGS.

(C) VICTAULIC TYPE COUPLINGS:

THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE CITY THROUGH THE ENGINEER FOR APPROVAL OF THE VICTAULIC COUPLING.

- (1) WHERE SHOWN ON THE DRAWINGS, OR WHERE REQUIRED, THE CONTRACTOR SHALL FURNISH AND INSTALL VICTAULIC TYPE JOINTS, INCLUDING COUPLINGS, FOR CONNECTION OF PIPE ENDS. STEEL PIPE ENDS SHALL BE FABRICATED AND GROOVED, AS SHOWN ON THE DRAWINGS, ADAPTED FOR INSTALLATION OF A STYPE 77 JOINT AND COUPLING.

VICTAULIC COUPLINGS SHALL BE STYLE 77 AND SHALL BE COMPOSED OF MALLEABLE IRON HOUSINGS HELD TOGETHER WITH STEEL BOLTS HEAT TREATED AND "HOT-DIP" GALVANIZED ACCORDING TO ASTM A 123-89A, "SPECIFICATION FOR ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS," AND WITH A CONTINUOUS, HOLLOW, MOLDED RUBBER SEALING RING OF SUCH TYPE THAT THE SEAL BECOMES TIGHT AS THE PRESSURE WITHIN THE PIPE INCREASES. THE JOINTS SHALL BE CONSTRUCTED AND INSTALLED AND BE EQUAL IN ALL RESPECTS TO THOSE MANUFACTURED BY THE "VICTAULIC COMPANY OF AMERICA". MALLEABLE HOUSINGS SHALL CONFORM TO ASTM A 47-89, "SPECIFICATION FOR FERRITIC MALLEABLE IRON CASTINGS," OR TO THE REQUIREMENTS OF ASTM A 536-84, "SPECIFICATION FOR DUCTILE-IRON CASTINGS."

BOLTS AND NUTS SHALL BE MANUFACTURED BY THE COUPLING MANUFACTURER AND SHALL COMPLY IN MATERIAL WITH THE REQUIREMENTS ASTM A 183-83, "SPECIFICATION FOR CARBON STEEL TRACK BOLTS AND NUTS".

- (2) ALL METAL PARTS OF THE COUPLINGS SHALL BE COATED AT THE SHOP WITH ONE COAT OF BITUMINOUS PRIMER FURNISHED BY THE SAME MANUFACTURER WHO FURNISHES THE COATINGS AS SPECIFIED UNDER "COATINGS".

PIPE SUPPORT ASSEMBLIES

PIPE SUPPORT ASSEMBLIES SHALL BE FABRICATED AS DETAILED ON THE PLANS AND SHALL BE COMPLETE IN ALL RESPECTS INCLUDING ALL MATERIALS, CADMIUM PLATED SHOULDER AND CLAMP BOLTS, FASTENERS AND NUTS. THE SUPPORT ASSEMBLY CLAMP, SEAT PLATE ("LUBRITE" PLATE) AND SHIMS SHALL ALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A-123, LATEST REVISION THEREOF. NO FIELD WELDING OF GALVANIZED STEEL PIPE WILL BE PERMITTED. THERE SHALL BE A MINIMUM OF TWO (2) PIPE SUPPORTS FOR EACH PIPE LENGTH.

INSULATION AND OUTER PROTECTIVE JACKET

INSULATION SHALL BE MINIMUM FOUR (4) INCHES FOR 9" O.D. STEEL PIPE, MINIMUM THREE AND ONE-HALF (3 1/2) INCHES FOR 12.75" O.D. STEEL PIPE AND MINIMUM THREE (3) INCHES FOR 16" O.D. STEEL PIPE OF A MINIMUM DENSITY OF 2 POUNDS PER CUBIC FOOT OF POLYURETHANE FOAM FACTORY APPLIED TO COMPLETELY FILL THE SPACE BETWEEN THE PIPE AND THE OUTER WEATHERPROOF JACKET. THE OUTER JACKET SHALL BE GALVANIZED STEEL OF THE DIMENSIONS SHOWN ON THE PLANS. THE OUTER JACKET SHALL BE A MINIMUM 22 GAUGE GALVANIZED STEEL, SPIRAL LOCK SEAM CONSTRUCTION. TO ASSURE NO VOIDS IN THE FOAM INSULATION ARE PRESENT, AN INFRARED OR X-RAY INSPECTION OF EACH PRE-INSULATED UNIT AT THE FACTORY IS REQUIRED.

EXTERIOR PIPE COATING ON 24" O.D., OR LARGER, STEEL WATER MAINS SHALL BE APPLIED IN ACCORDANCE WITH ANSI/AWWA C203-91, "COAL-TAR PROTECTIVE COATINGS AND LININGS FOR STEEL WATER PIPELINES - ENAMEL AND TAPE - HOT APPLIED" CONSISTING OF THE FOLLOWING:

- 1) COAT TAR PRIMER - TYPE A
- 2) COAL TAR ENAMEL - TYPE A, 1/32" THICK
- 3) FIBROUS GLASS MAT
- 4) 2ND COAT OF COAL TAR ENAMEL - TYPE A, 1/32" THICK
- 5) 2ND LAYER OF FIBROUS GLASS MAT
- 6) A COAT OF HEAVY BODIED COAL TAR EMULSION
- 7) TWO (2) FINISH COATS OF ALUMINUM PAINT

IN LIEU OF THE ABOVE, CONTRACTOR MAY FURNISH A FACTORY PRE-INSULATED SPRAY APPLIED POLYURETHANE FOAM INSULATION, THICKNESS AS INDICATED ABOVE, WITH A FIBERGLASS REINFORCED POLYESTER RESIN (FRP) JACKET APPLIED DIRECTLY OVER THE FOAM INSULATION. EXTERIOR PIPE COATING IS NOT REQUIRED. THE SYSTEM HEREIN SPECIFIED SHALL BE ONE WHICH IS DESIGNED TO BE SUPPORTED DIRECTLY ON THE FIBERGLASS JACKET AND PIPE SUPPORTS.

PIPE JOINTS, INCLUDING EXPANSION JOINTS AND SUPPORT AREAS, AND PIPE BETWEEN THE BACKWALLS OF THE BRIDGE ABUTMENTS SHALL BE FIELD INSULATED WITH FIBERGLASS OR PREFORMED POLYURETHANE FOAM (OR FRP IF APPLICABLE) AND JACKETED WITH GALVANIZED STEEL BANDED OVER ADJACENT JACKET. ALL FIELD APPLIED INSULATION SHALL BE INSTALLED TO FULLY FILL ANY VOIDS. FIELD PLACED INSULATION AND JACKET SHALL BE REMOVABLE IN ORDER TO PERFORM MAINTENANCE OR MAKE ADJUSTMENTS TO THE PACKING GLAND OF THE EXPANSION JOINT(S).

BURIED PIPE BEYOND THE BACKWALLS OF THE BRIDGE ABUTMENTS HAVING LESS THAN FOUR AND ONE-HALF FEET (4'-6") OF COVER SHALL BE INSULATED WITH A MINIMUM OF A ONE (1) FOOT INSULATION ENVELOPE EQUAL TO "WITCOLITE" OR "GILSULATE 500XR".

THE VOID BETWEEN THE SLEEVE AND THE STEEL WATER MAIN THROUGH EACH BRIDGE ABUTMENT WALL SHALL BE FILLED WITH JUTE PACKING AND SEALED AT BOTH ENDS WITH THREE (3) INCHES OF NON-SHRINKING GROUT AS SHOWN IN THE "SLEEVE PACKING DETAIL" ON THE PLANS.

MEASUREMENT

THE NUMBER OF LINEAR FEET OF STEEL PIPE TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF LINEAR FEET FURNISHED AND PLACED IN ACCORDANCE WITH THESE SPECIFICATIONS AS MEASURED ALONG THE AXIS OF THE PIPING.

PAYMENT

- (A) THE FOOTAGE MEASURED AS PROVIDED ABOVE SHALL BE PAID FOR AT THE CONTRACT PRICE BID PER LINEAR FOOT FOR "ITEM 638 - WATER WORK, MISC.: WATER MAIN GALVANIZED STEEL PIPE ASTM A-53, GRADE B" CLASSIFIED AS TO SIZE AND TYPE, WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR FURNISHING, HAULING, PLACING, CUTTING INTO AND CONNECTING THE PIPE, INCLUDING ALL EXPANSION JOINTS, COUPLINGS, PIPE INSULATION, INSTALLING SUPPORT ASSEMBLIES AND OTHER PIPE APPURTENANCE, FURNISHING AND COMPLETING THE SLEEVE PACKING DETAIL, INCLUDING THE SEAL, AND FOR ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM EXCEPT FOR ITEMS SPECIFICALLY LISTED AS SEPARATE PAY ITEMS.

- (B) THE CONTRACTOR WILL BE ASSESSED A CWD LABOR CHARGE FOR THE CHLORINATION OR THE FLUSHING, TESTING AND SAMPLING OF THE NEWLY LAID WATER MAIN BY THE CITY OF CLEVELAND, DIVISION OF WATER. PAYMENT OF THE CWD LABOR CHARGE FOR CHLORINATION OR THE FLUSHING, TESTING AND SAMPLING SHALL BE MADE BY THE CONTRACTOR TO THE PERMITS AND SALES SECTION OF THE DIVISION OF WATER BEFORE ANY WATER WORK IS PERFORMED.

ITEM 638 - WATER WORK, MISC.: 2" AIR RELIEF VALVE ASSEMBLY WITH VALVE BOX, COMPLETE

WORK INCLUDED

THE CONTRACTOR SHALL UNDER "ITEM 638 - WATER WORK, MISC.: 2" AIR RELIEF VALVE ASSEMBLY WITH VALVE BOX, COMPLETE" FURNISH ALL MATERIALS INCLUDING PIPE, VALVE, VALVE BOX COMPLETE REQUIRED TO INSTALL 2" AIR RELIEF VALVE ASSEMBLY WITH VALVE BOX COMPLETE AT THE LOCATION(S) SHOWN ON THE PLANS. THE 2" AIR RELIEF VALVE ASSEMBLY SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS.

PAYMENT

PAYMENT FOR WORK UNDER THIS ITEM SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR EACH "ITEM 638 - WATER WORK, MISC.: 2" AIR RELIEF VALVE ASSEMBLY WITH VALVE BOX, COMPLETE".

ITEM 638 - WATER WORK, MISC.: TEMPORARY BY-PASS CONNECTION, COMPLETE WITH PIPE AND FITTINGS

THE CONTRACTOR SHALL, UNDER ITEM 638 - WATER WORK, MISC.: TEMPORARY BY-PASS CONNECTION, COMPLETE WITH PIPE AND FITTINGS, DESIGN & 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, BACKFILLING, SAND BEDDING AND PREMIUM BACKFILL, STEEL PLATES 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 DESIGN, FURNISHING, LAYING, CONNECTING, TESTING OF PIPE AND FITTINGS, THE EXCAVATION, REMOVAL AND RESTORATION OF MISCELLANEOUS ITEMS, SHEETING AND SHORING, BACKFILLING, SAND BEDDING AND PREMIUM BACKFILL, 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.

THE CONTRACTOR SHALL ALSO DESIGN, FURNISH AND INSTALL SUPPORTS AND ANCHORING TO MINIMIZE LONGITUDINAL MOVEMENT AND RESIST THRUST FORCES WHEN THE TEMPORARY BY-PASS LINE IS INSTALLED ABOVE GROUND. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE DESIGN, FURNISHING AND INSTALLATION OF FROST PROOFING, AS REQUIRED PER CWD STANDARDS.

THE TEMPORARY BY-PASS LINE SHALL NOT OBSTRUCT ANY STREETS, SIDEWALKS OR DRIVEWAYS. FURNISH AND INSTALLATION OF STEEL PLATES, TRENCHING OR RAMPING SHALL BE PERFORMED AS REQUIRED TO PROVIDE PROTECTION FOR THE TEMPORARY WATER MAINS AND TO PROVIDE FOR THE SAFE MOVEMENT OF VEHICULAR TRAFFIC.

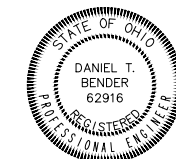
THE CONTRACTOR SHALL SUBMIT A PLAN FOR MAINTAINING WATER SERVICE IN CONFORMANCE WITH THE REQUIREMENTS HEREIN STIPULATED 2 WEEKS PRIOR TO INSTALLATION. THE PLAN SHALL ALSO SPECIFY ALL CONSTRUCTION METHODS, MATERIALS UTILIZED, VALVE LOCATIONS AND MEET THE APPROVAL OF THE ENGINEER, LOCAL FIRE DEPARTMENT AND THE CLEVELAND WATER DEPARTMENT BEFORE THE CONTRACTOR BEGINS ANY OF THE WATERWORK.

PAYMENT

- (A) THE WORK INCLUDED IN THIS ITEM SHALL BE PAID AT THE CONTRACT LUMP SUM BID FOR "ITEM 638, WATER WORK, MISC.: TEMPORARY BY-PASS CONNECTION COMPLETE, WITH PIPE AND FITTINGS", WHICH PRICE SHALL CONSTITUTE THE FURNISHING OF ALL LABOR, TOOLS, MATERIALS AND ALL EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN PLACE AS SHOWN AND LISTED ABOVE. SIDEWALK REPLACEMENT AND OTHER SITE RESTORATION SHALL BE INCLUDED IF NOT PAID FOR SEPARATELY UNDER OTHER ITEMS INDICATED IN THE PLANS.

- (B) THE DIVISION OF WATER WILL REQUIRE THAT THE CONTRACTOR PAY ALL DIVISION OF LABOR CHARGES FOR "FLUSHING, TESTING AND SAMPLING" OF THE TEMPORARY BY-PASS LINE IN ACCORDANCE WITH THE FEE SCHEDULE INDICATED IN THE GENERAL NOTES "DIVISION OF WATER CHARGES." PAYMENT FOR DIVISION OF WATER LABOR SHALL BE MADE TO THE PERMITS AND SALES SECTION.

- (C) UPON COMPLETION OF WATER WORK AND THE TEMPORARY BY-PASS LINE IS NO LONGER NEEDED, THE CONTRACTOR SHALL REMOVE THE TEMPORARY BY-PASS LINE AND REPLACE THE DAMAGED SEEDED, SODDED OR PAVED AREAS IF NOT PAID FOR SEPARATELY UNDER OTHER ITEMS OF WORK IN THIS CONTRACT.



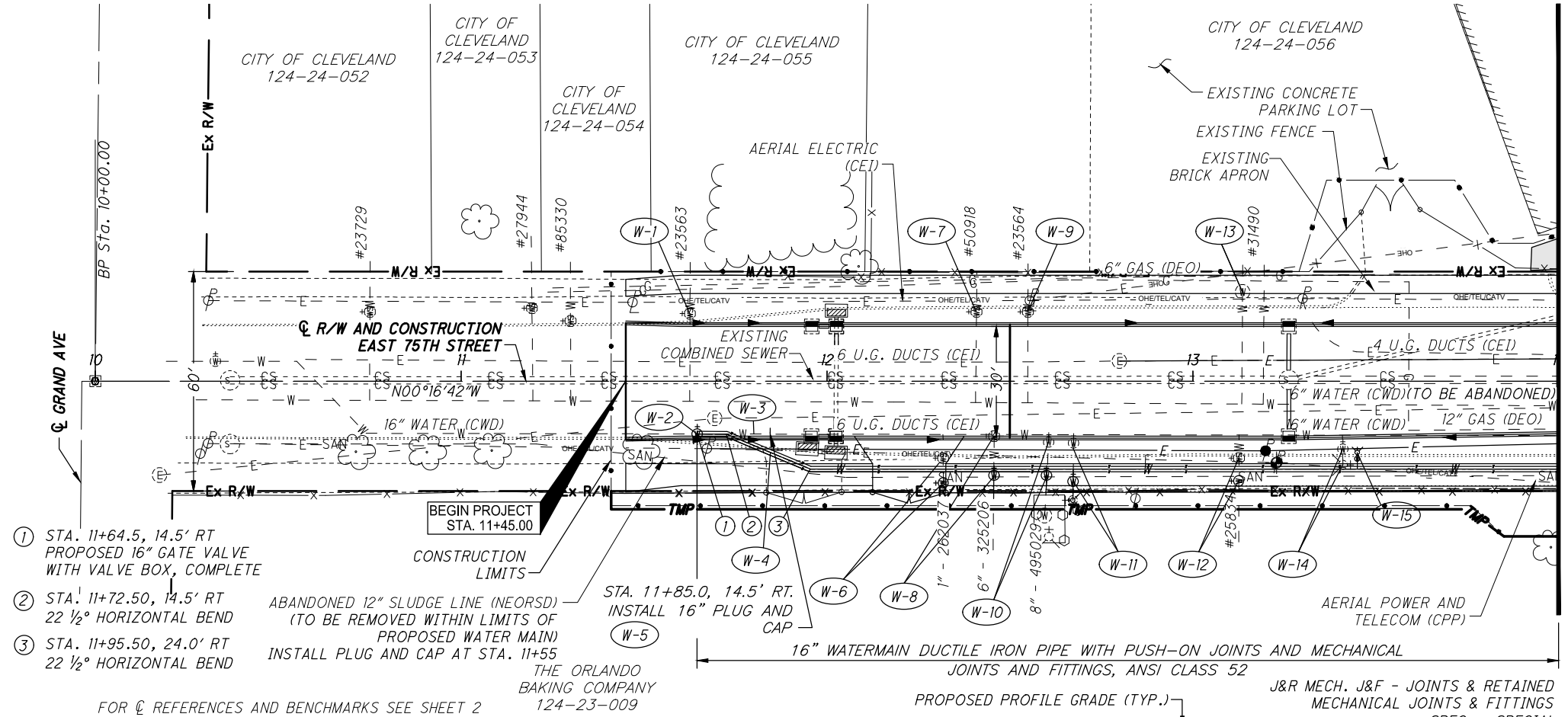
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WATERWORK NOTES

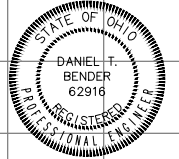
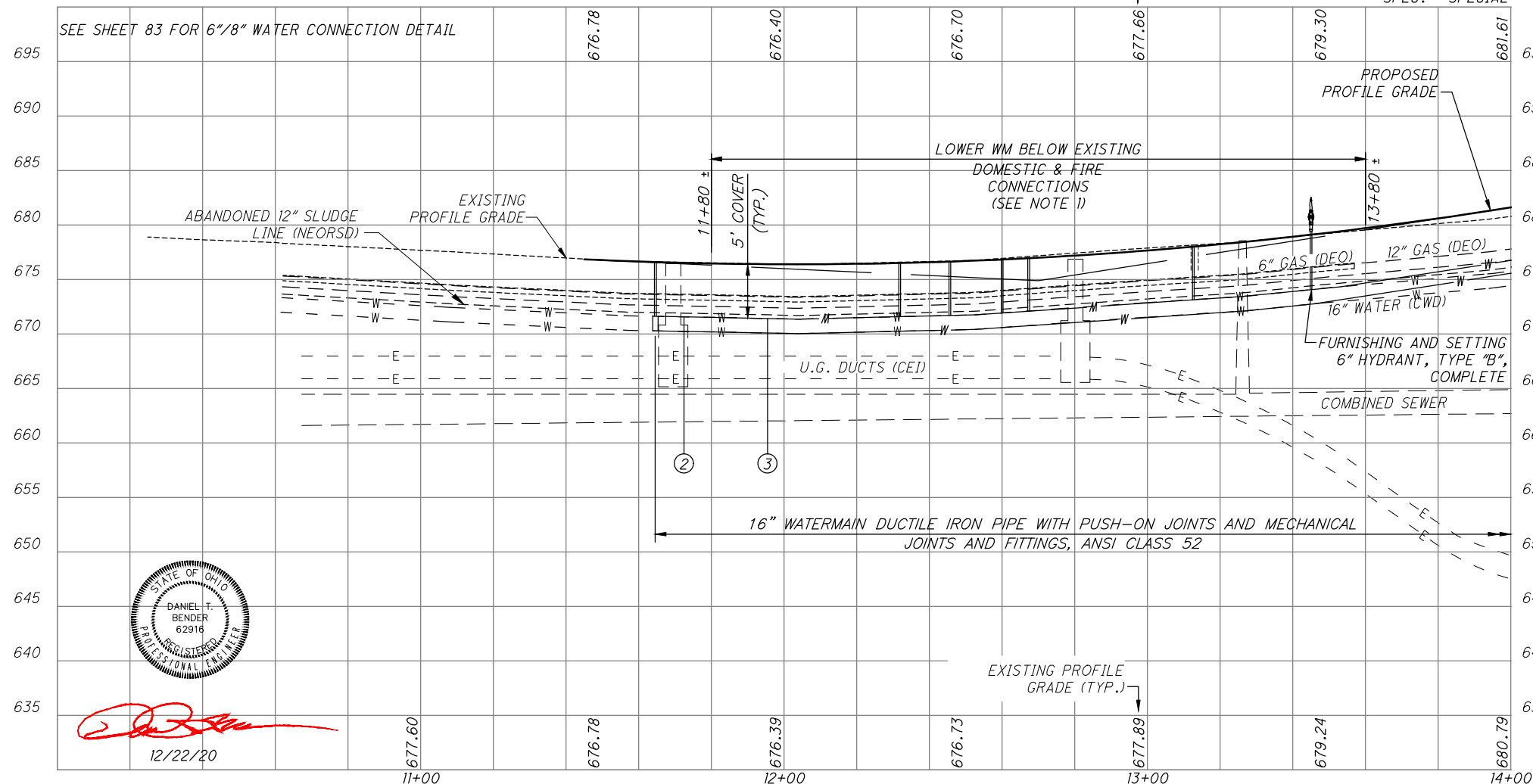
CUY-EAST 75TH STREET

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- ① STA. 11+64.5, 14.5' RT PROPOSED 16" GATE VALVE WITH VALVE BOX, COMPLETE
- ② STA. 11+72.50, 14.5' RT 22 1/2° HORIZONTAL BEND
- ③ STA. 11+95.50, 24.0' RT 22 1/2° HORIZONTAL BEND

FOR Q REFERENCES AND BENCHMARKS SEE SHEET 2



12/22/20

REF. NO.	SHEET NO.	STATION	DESCRIPTION	QUANTITY	UNIT
W-1	638	11+62.5	WATER WORK, MISC.: FURNISHING AND SETTING 6" HYDRANT, TYPE "A", COMPLETE (KENNEDY VALVE K8IA STYLE)	1	EACH
W-2	638	11+65	WATER WORK, MISC.: 16" X 16" X 6" TAPPING SLEEVE, VALVE WITH VALVE BOX, COMPLETE	1	EACH
W-3	638	11+65	WATER WORK, MISC.: 16" X 16" X 8" TAPPING SLEEVE, VALVE WITH VALVE BOX, COMPLETE	1	EACH
W-4	638	11+65	WATER WORK, MISC.: 16" GATE VALVE WITH VALVE BOX, COMPLETE	1	EACH
W-5	638	11+85	WATER WORK, MISC.: 6" WATERMAIN D.I. PIPE WITH PUSH-ON J&R MECH. J&F ANSI CLASS 52	8	FT
W-6	638	11+85	WATER WORK, MISC.: 8" WATERMAIN D.I. PIPE WITH PUSH-ON J&R MECH. J&F ANSI CLASS 52	7	FT
W-7	638	12+31.8	WATER WORK, MISC.: 16" WATERMAIN D.I. PIPE WITH PUSH-ON J&R MECH. J&F ANSI CLASS 52	265	FT
W-8	638	12+45.7	WATER WORK, MISC.: RETAP AND RECONNECT 1" WATER SERVICE CONN. SHORT SIDE, COMPLETE	1	EACH
W-9	638	12+54.9	FIRE HYDRANT REMOVED AND DISPOSED OF	1	EACH
W-10	638	12+60.6	WATER WORK, MISC.: PLUGGING EXISTING SERVICE CONNECTION	1	EACH
W-11	638	12+67.4	WATER WORK, MISC.: PLUGGING EXISTING WATER MAINS AND BRANCHES	1	EACH
W-12	202	13+12.6	MANHOLE REMOVED	1	EA
W-13	202	13+13.6	VALVE BOX REMOVED	1	EA
W-14	202	13+41	PIPE REMOVED, 24" AND UNDER, AS PER PLAN	51	FT
W-15	202	13+44.5			
TOTAL CARRIED TO GENERAL SUMMARY					

REVISIONS		
NO.	DATE	BY

CLEVELAND SERVICE DISTRICT

DEPARTMENT OF PUBLIC UTILITIES

DIVISION OF WATER
CLEVELAND, OHIO

SUBJECT: **16" WATERMAIN**
ALONG E. 75TH STREET
CITY OF CLEVELAND

DRAWN BY: _____ SCALE: _____
DATE: _____
CHECKED BY: _____ DATE: _____

No. _____

CLEVELAND WATER DEPARTMENT (CWD) UTILITY COORDINATION:

SEE PLAN SHEETS 58-86/141 FOR WATER WORK DETAILS. THE CONTRACTOR SHALL WORK CLOSELY WITH CWD TO FACILITATE THE CONSTRUCTION OF THIS PROJECT.

CLEVELAND PUBLIC POWER (CPP) UTILITY COORDINATION:

SEE PLAN SHEETS 91-92/141 FOR POWER PLAN DETAILS. THE CONTRACTOR SHALL WORK CLOSELY WITH CPP TO FACILITATE THE CONSTRUCTION OF THIS PROJECT.

ITEM SPECIAL - PREMIUM ON RAILROAD'S PROTECTIVE PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY INSURANCE (NS & GCRTA)

THE CONTRACTOR SHALL CARRY ADDITIONAL LIABILITY INSURANCE COVERING RAILROAD'S PROTECTIVE PUBLIC LIABILITY AND PROPERTY DAMAGE LIABILITY FOR BOTH NORFOLK SOUTHERN CORPORATION (NS) AND THE GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY (GCRTA).

ITEM SPECIAL - ASBESTOS ABATEMENT

A CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST SURVEYED THE BRIDGE STRUCTURE SCHEDULED FOR DEMOLITION AND/OR REHABILITATION; THE SURVEY DETERMINED THAT NO ASBESTOS IS PRESENT ON THE BRIDGE STRUCTURE.

ODOT SHALL PROVIDE A COPY OF THE 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 AN 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.

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

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL THE EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER INCLUDING ALL EXISTING UTILITIES ON THE BRIDGE. THE USE OF EXPLOSIVES AND/OR HEADACHE BALLS WILL NOT BE PERMITTED.

FOR PORTIONS OF THE EXISTING STRUCTURE WHICH ARE TO BE INCORPORATED INTO THE PROPOSED DESIGN, HOE-RAMS WILL NOT BE PERMITTED.

THE PORTABLE BARRIER ON THE DECK SHALL BE REMOVED BY THE CONTRACTOR AND RETURNED TO THE CITY OF CLEVELAND BUREAU OF BRIDGES AND DOCKS AT 2300 E. 67TH STREET, CLEVELAND, OHIO, 44104. THIS SHALL BE INCLUDED IN THE LUMP SUM COST FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

REMOVE PORTIONS OF EXISTING ABUTMENTS AS SHOWN IN THE PLANS. SEE BRIDGE GENERAL PLAN FOR EXISTING PIER NUMBERS WHICH ARE NUMBERED SOUTH TO NORTH. THE EXISTING PIERS NO. 1 AND 2 ADJACENT TO THE GCRTA TRACKS SHALL BE REMOVED TO 1'-0" BELOW GRADE. THE EXISTING PIERS NO. 4 AND 5 ADJACENT TO THE NSRR TRACKS SHALL BE REMOVED TO 2'-0" BELOW GRADE. EXISTING PIER NO. 3 SHALL BE REMOVED IN PHASES AS DETAILED ON PLAN SHEET 13/40.

CUT LINE CONSTRUCTION JOINT PREPARATION:

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

ABUTMENT CONCRETE REMOVAL:

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

PIER NO. 3 FOOTING REMOVAL:

THERE ARE TWO ACTIVE ELECTRICAL DUCTS (CEI) AND ONE ACTIVE STEEL-ENCASED COMBINED SEWER (WPC) THAT PASS BENEATH THE FOOTING OF EXISTING PIER NO. 3. EXTREME CARE SHALL BE TAKEN DURING REMOVAL OF THIS PIER FOOTING.

REMOVAL OF THE FOOTING ADJACENT TO THESE FACILITIES SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF THE EXISTING ENCASED SEWERS. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON APPROVAL OF THE ENGINEER.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL PAY FOR THE ACCEPTED REMOVALS ON A LUMP SUM BASIS AT THE CONTRACT PRICE BID FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 202 - WEARING COURSE REMOVED

THE CONTRACTOR SHALL RECOGNIZE THAT THE EXISTING WEARING COURSE VARIES IN DEPTH AND ACCOUNT FOR THIS IN HIS/HER BID. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE BID PER SQUARE YARD REMOVED. NO ADDITIONAL COMPENSATION WILL BE MADE FOR THE VARIABLE DEPTH WEARING COURSE.

FOUNDATION BEARING PRESSURE (ABUTMENTS):

THE EXISTING ABUTMENT FOOTINGS PRODUCE A MAXIMUM BEARING PRESSURE OF 3.46 KIPS PER SQUARE FOOT UNDER THE NEW LOADING. THE ALLOWABLE BEARING PRESSURE IS 3.66 KIPS PER SQUARE FOOT.

PILES DRIVEN TO BEDROCK (PIER):

DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 338 KIPS FOR THE PIER PILES.
PIER PILES: 15 PILES 115 FEET LONG, ORDER LENGTH.

PILES SPLICES:

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:
ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD., PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

PREBORED HOLES:

INSTALL THE PIER PILES IN PREBORED HOLES IN ACCORDANCE WITH CMS SECTION 507.11. THE DEPTH OF THE PREBORED HOLE SHALL EXTEND TO A MINIMUM OF 15 FEET BELOW THE EXISTING GROUND LINE.

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN

IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACING. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO 709.00.

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

DESCRIPTION: THIS ITEM SHALL CONSIST OF DRILLING HOLES INTO CONCRETE AND FURNISHING AND PLACING GROUT INTO THE HOLES IN ACCORDANCE WITH CMS 510 AND MODIFIED BY THE FOLLOWING REQUIREMENTS.

MATERIALS: FURNISH AN ADHESIVE ANCHOR SYSTEM THAT MEETS THE REQUIREMENTS OF ACI 355.4-11, SUCH AS DAYTON SUPERIOR CORPORATION PRO-POXY 500, HILTI HIT HY 200, DEWALT PURE 110+, OR APPROVED EQUAL.

METHOD OF MEASUREMENTS: THE QUANTITY MEASURED WILL BE THE NUMBER OF DOWEL HOLES COMPLETE IN PLACE.

BASIS OF PAYMENT: ACCEPTED QUANTITIES WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER EACH DOWEL HOLE COMPLETE IN PLACE. THIS PRICE SHALL INCLUDE FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT, AND INCIDENTALS INCLUDING DRILLING DOWEL HOLES, AND AN ADHESIVE ANCHOR SYSTEM. PAYMENT WILL BE MADE UNDER ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN.

ITEM 511 - CONCRETE WITH QC/QA:

GENERAL REQUIREMENTS: THE PROVISIONS OF ITEM 511 SHALL APPLY EXCEPT AS NOTED BELOW.

MIX DESIGN: ALL COARSE AGGREGATE SHALL HAVE AN ABSORPTION OF 1.00% OR GREATER AS DEFINED PER ASTM C127.

IN ADDITION, THE CONTRACTOR SHALL PROVIDE A RUBBED SURFACE IN ACCORDANCE WITH CMS 511.18(B) ON ALL EXPOSED SURFACES.

PARAPET CONSTRUCTION (FORMED AND POURED)

FORMS SHALL NOT BE REMOVED UNTIL AT LEAST 2 HOURS AFTER THE FINAL SET. DETERMINATION OF THE FINAL SET SHALL BE AS PER ASTM C266 (GILLMORE NEEDLE). TESTING SHALL BE PERFORMED BY THE CONTRACTOR AT NO COST TO THE STATE. THE MINIMUM CONCRETE SLUMP DURING PLACEMENT OF FORMED CONCRETE PARAPETS SHALL BE 6 INCHES, WITH A MAXIMUM SLUMP OF 8 INCHES.

ANCHOR BOLTS FOR FENCE POSTS SHALL BE CAST IN PLACE.

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