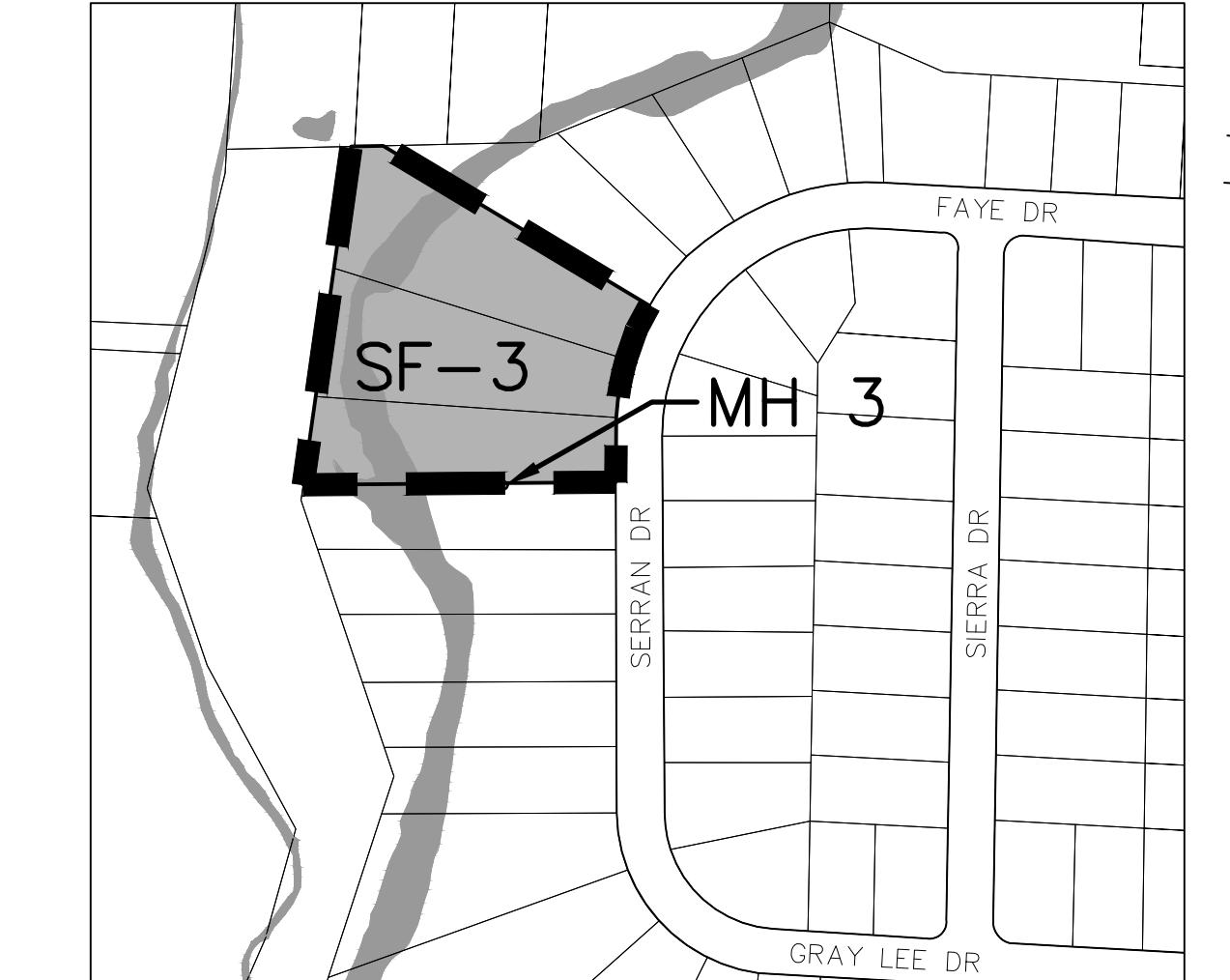


CLOTT'S RD TRIBUTARY BOUNDARY MAP

SCALE: 1" = 50'



# SERRAN DR TRIBUTARY BOUNDARY MAP

SCALE: 1" = 200

## EXISTING SANITARY SEWER DESIGN FLOW CALCULATION FOR SERRAN DR

1. TRIBUTARY AREA = 2.21 AC  
CITY OF GAHANNA ZONING CLASSIFICATIONS: SF-3 – SINGLE FAMILY RESIDENTIAL
2. ZONING BASED DENSITY =  $[21 \text{ PPL/AC} \times 2.21 \text{ AC}] = 46 \text{ PEOPLE}$
3. AVERAGE SANITARY SEWER FLOW =  
FLOW=  $[120 \text{ GAL/DAY/PPL} \times 46 \text{ PPL}] = 0.0056 \text{ MGD}$   
DESIGN FLOW FOR THE ZONING IS PER OEPA GREEN BOOK (PAGE 81–83).
4. PEAK SANITARY SEWER FLOW =  $0.0056 \times 3.5 \text{ PEAKING FACTOR} = 0.019 \text{ MGD}$   
3.5 PEAKING FACTOR IS PER COC DOSED SANITARY SEWER DESIGN MANUAL

SERRAN DR SANITARY SEWER FLOW							
ZONING	DESCRIPTION	AREA (AC)	PPL/AC	PEOPLE	GALLON/DAY/PPL	FLOW (MGD)	PEAK FLOW (MGD)
SF-3	SINGLE FAMILY RESIDENTIAL	2.21	21	46	120	0.0056	0.019
<b>TOTAL</b>		<b>2.21</b>		<b>46</b>		<b>0.0056</b>	<b>0.019</b>

EXISTING SANITARY SEWER DESIGN FLOW CALCULATION FOR CLOTT'S ROAD

1. TRIBUTARY AREA = 310.22 AC (SF-3) + 21.76 AC (SF-2) + 83.81 AC (ER-2) + 28.21 AC (PUD) + 3.93 AC (CC) + 44.74 AC (RID) = 489.65 AC  
CITY OF GAHANNA ZONING CLASSIFICATIONS: SF-2 & SF-3 – SINGLE FAMILY RESIDENTIAL; PUD – PLANNED UNIT DEVELOPMENT; RID – RESTRICTED INSTITUTIONAL DISTRICT; ER-2 – ESTATE RESIDENTIAL; CC – COMMUNITY COMMERCIAL.
2. ZONING BASED DENSITY = [21 PPL/AC x 310.22 AC] (SF-3) + [21 PPL/AC x 21.76 AC] (SF-2) + [17 x 83.81 AC] (ER-2) + [15 PPL/AC x 28.21 AC] (PUD) + [10 PPL/AC x 3.93 AC] (CC) = 8859 PPL
3. AVERAGE SANITARY SEWER FLOW FOR DENSITY- BASED FLOW = [120 GAL/DAY/PERSON x 8859 PEOPLE] = 1.06 MGD  
EXCLUDES GAHANNA MIDDLE SCHOOL EAST, HIGH POINT ELEMENTARY SCHOOL AND FAMILY FELLOWSHIP CHURCH FOR RID ZONING. RID FLOW IS CALCULATED BASED ON OEPA GREENBOOK (PAGE 81-83) AND INCLUDED IN FOLLOWING AVERAGE FLOW CALCULATION. OTHER DENSITIES PER COC DOSD SANITARY SEWER DESIGN MANUAL- EXHIBIT E "ZONING POPULATION DENSITY CHART".
4. AVERAGE SANITARY SEWER FLOW FOR USE-BASED FLOW PER OEPA GREEN BOOK (PAGE 81-83) = [526 STUDENTS & STAFF x 15 GAL/DAY/PPL] (HIGH POINT ELEMENTARY SCHOOL) + [520 STUDENTS x 20 GAL/DAY/PPL + 55 STAFF x 15 GAL/DAY/PPL] (GAHANNA MIDDLE SCHOOL EAST) STAFF + [150 3 GAL/DAY/PPL] (FAMILY FELLOWSHIP CHURCH) = 0.020 MGD
5. TOTAL AVERAGE SANITARY SEWER FLOW = [1.06 MGD + 0.02 MGD = 1.08 MGD]
6. PEAK SANITARY SEWER FLOW- 1.08 x 3.5 PEAKING FACTOR = 3.77 MGD

CLOTT'S RD SANITARY SEWER FLOW							
ZONING	DESCRIPTION	AREA (AC)	PPL/AC	PEOPLE	GALLON/DAY/PPL	FLOW (MGD)	PEAK FLOW (MGD)
SF-3	SINGLE FAMILY RESIDENTIAL	310.22	21	6515	120	0.78	2.74
SF-2	SINGLE FAMILY RESIDENTIAL	21.76	21	457	120	0.055	0.19
ER-2	ESTATE RESIDENTIAL	83.81	17	1425	120	0.17	0.60
PUD	PLANNED UNIT DEVELOPMENT	28.21	15	423	120	0.051	0.18
CC	COMMUNITY COMMERCIAL	3.93	10	39	15	0.00059	0.0021
RID	RESTRICTED INSTITUTIONAL DISTRICT	44.74					
	ELEMENTARY SCHOOL			526	15	0.0079	0.028
	MIDDLE SCHOOL			575	15-20	0.011	0.039
	CHURCH			150	3	0.00045	0.0016
<b>TOTAL</b>		<b>492.67</b>		<b>10110</b>		<b>1.08</b>	<b>3.77</b>

**GENERAL NOTES:**

THE CURRENT CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) TOGETHER WITH THE REQUIREMENTS OF THE CITY OF GAHANNA, OHIO, SHALL GOVERN MATERIALS AND WORKMANSHIP INVOLVED IN IMPROVEMENTS SHOWN ON THESE PLANS, EXCEPT THOSE SPECIFICATIONS MODIFIED BY THE FOLLOWING SPECIFICATIONS OR CONSTRUCTION DETAILS SET FORTH HEREIN.

ALL WORK IS TO BE ACCEPTABLE TO CITY OF GAHANNA OFFICIALS. NO WORK IS TO COMMENCE UNTIL ARRANGEMENTS HAVE BEEN MADE WITH THE CITY OF GAHANNA ENGINEER FOR INSPECTION.

THE CONTRACTOR SHALL NOTIFY THE CITY OF GAHANNA ENGINEER AT LEAST TWO WORKING DAYS PRIOR TO CONSTRUCTION.

THE CONTRACTOR IS TO SCHEDULE A PRE-CONSTRUCTION MEETING ONE BUSINESS WEEK PRIOR TO CONSTRUCTION. THE MEETING SHALL TAKE PLACE AT LEAST ONE BUSINESS WEEK PRIOR TO THE FOLLOWING: SITE CLEARING, MATERIAL DELIVERED ON-SITE, EQUIPMENT ON-SITE AND FIELD OFFICE ON-SITE.

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS INCLUDING THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970. THE CONTRACTOR SHALL EXERCISE PRECAUTION ALWAYS FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT SHALL ALSO BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, INCLUDING THE REQUIREMENTS FOR CONFINED SPACES PER 29 CFR 1910.146.

THE PRICE(S) QUOTED SHALL INCLUDE ALL ITEMS OF LABOR, MATERIALS, TOOLS, EQUIPMENT, INSURANCE AND OTHER COSTS NECESSARY TO FULLY COMPLETE THE WORK PURSUANT TO THE CONTRACT DOCUMENTS. IT IS THE INTENTION OF THE CONTRACT DOCUMENTS TO PROVIDE AND REQUIRE A COMPLETED WORK PROJECT READY FOR OPERATION. ANY WORK ITEMS OMITTED FROM SUCH CONTRACT DOCUMENTS WHICH ARE CLEARLY NECESSARY FOR THE COMPLETION OF SUCH WORK AND ITS APPURTENANCES SHALL BE CONSIDERED A PART OF SUCH WORK ALTHOUGH NOT DIRECTLY SPECIFIED OR CALLED FOR IN THE CONTRACT DOCUMENTS.

ALL FIELD TILE BROKEN DURING EXCAVATION SHALL BE REPLACED WITH PERFORATED PIPE OR CONNECTED TO THE STORM SEWER SYSTEM. THE COST FOR THIS WORK SHALL BE INCLUDED IN PRICE BID FOR THE VARIOUS RELATED ITEMS.

NO NATURAL DRAINAGE COURSES SHALL BE ALTERED AND NO FILL, MATERIALS OR STRUCTURES SHALL BE PLACED IN IT UNLESS PROVISIONS ARE MADE FOR THE FLOW OF WATER IN A MANNER SATISFACTORY TO THE CITY ENGINEER. AN EASEMENT SHALL BE PROVIDED ON BOTH SIDES OF ANY EXISTING IMPORTANT SURFACE DRAINAGE COURSE ADEQUATE FOR THE PURPOSE OF PROTECTING, WIDENING, DEEPENING, ENCLOSING OR OTHERWISE IMPROVING SUCH STREAM FOR DRAINAGE PURPOSES.

DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE AND PROPER SOIL EROSION CONTROL MEASURES FOR PROTECTION OF ALL ADJACENT ROADS AND LANDS.

THE CONTRACTOR SHALL REPAIR OR REPLACE ANY OR ALL EXISTING SIGNS, SHRUBS, FENCES, OR OTHER PHYSICAL FEATURES DAMAGED DURING THE EXECUTION OF THIS CONTRACT AT THEIR OWN EXPENSE. ALL REPAIRS SHALL BE TO THE SATISFACTION OF THE CITY OF GAHANNA.

THE CONTRACTOR SHALL CONFINE ACTIVITIES TO THE PROJECT SITE, EXISTING RIGHT-OF-WAYS, TEMPORARY EASEMENTS AND PERMANENT EASEMENTS, AND SHALL NOT ENTER UPON OTHER PROPERTIES WITHOUT WRITTEN PERMISSION OF THE PROPERTY OWNER.

DUST CONTROL SHALL BE MAINTAINED THROUGHOUT THE ENTIRE SITE.

THE CONTRACTOR SHALL CLEAN ADJACENT STREETS ON A DAILY BASIS IF MUD IS TRACKED FROM VEHICLES VISITING THE SITE.

SHOULD WATER BE ENCOUNTERED, THE CONTRACTOR SHALL FURNISH AND OPERATE SUITABLE PUMPING EQUIPMENT OF SUCH CAPACITY ADEQUATE TO Dewater THE TRENCH. THE TRENCH SHALL BE SUFFICIENTLY DewaterED SO THAT THE PLACEMENT OF BEDDING AND LAYING AND JOINING OF THE PIPE IS MADE IN A TRENCH FREE OF STANDING WATER. THE CONTRACTOR SHALL CONVEY ALL TRENCH WATER TO A NATURAL DRAINAGE CHANNEL OR STORM SEWER WITHOUT CAUSING ANY PROPERTY DAMAGE. THE COST FOR DewaterING ACTIVITIES SHALL BE INCLUDED IN PRICE BID FOR THE VARIOUS RELATED ITEMS.

THE CONTRACTOR IS ULTIMATELY RESPONSIBLE TO ENSURE CONSTRUCTION TO PLAN GRADE. THE CONTRACTOR SHALL ENSURE THERE IS A SURVEYOR'S LEVEL AND ROD ON THE PROJECT FOR USE IN PERFORMING GRADE CHECKS WHENEVER SEWER LINE STRUCTURES OR PIPES ARE BEING INSTALLED. THE CONTRACTOR SHALL MAKE THIS EQUIPMENT AVAILABLE FOR USE AND ASSIST THE CITY INSPECTOR IN PERFORMING GRADE CHECKS WHEN REQUESTED BY THE INSPECTOR. THE INSPECTOR WILL MAKE ALL REASONABLE ATTEMPTS TO CONFINE REQUESTS FOR ASSISTANCE IN PERFORMING GRADE CHECKS TO TIMES CONVENIENT TO THE CONTRACTOR. THESE CHECKS WILL BE PERFORMED TO ENSURE THAT CONSTRUCTION MATCHES PLAN GRADE, AND TO ENSURE THAT ALL EXISTING INVERTS ALONG WITH THE PROPOSED TOP OF CASTING ELEVATIONS ARE VERIFIED DURING CONSTRUCTION OF THE SEWER.

THE CONTRACTOR SHALL REFERENCE ALL IRON PINS OR MONUMENTS. IF ANY PINS OR MONUMENTS ARE DESTROYED OR DAMAGED BY THE CONTRACTOR, THEY SHALL BE ACCURATELY REPLACED BY A REGISTERED SURVEYOR IN THE STATE OF OHIO AT THE COMPLETION OF THE PROJECT.

VERTICAL CONTROL HAS BEEN ESTABLISHED FOR THE PROJECT AS SHOWN ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED SURVEYS TO COMPLETE THE PROJECT INCLUDING REESTABLISHMENT OF CONTROL POINTS, PROJECT LAYOUT AND STAKING OF EASEMENTS.

ALL CURB RAMPS AND SIDEWALKS SHALL BE CONSTRUCTED IN FULL COMPLIANCE WITH REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA) OF 1990, INCLUDING ALL SUPPLEMENTS IN ACCORDANCE WITH THE CITY OF COLUMBUS STANDARD DRAWING 2319, INCLUDING ALL SUPPLEMENTS AND/OR REPLACEMENTS, CURRENT ON THE DATE OF THE START OF PROJECT CONSTRUCTION. SIDEWALKS SHALL BE CONSTRUCTED WITH A 3/16" PER FOOT (1.56%) CROSS SLOPE.

NO NON-RUBBER TIRED VEHICLES SHALL BE MOVED ON CITY STREETS, EXISTING PRIVATE ROADWAYS, OR PARKING LOTS UNLESS WRITTEN APPROVAL IS GRANTED BY THE APPROPRIATE CITY AUTHORITY OR PROPERTY OWNER. ANY DAMAGE MUST BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY OF GAHANNA AT NO COST TO THE CITY OR PROPERTY OWNER.

ANY MODIFICATION TO THE WORK AS SHOWN ON THESE DRAWINGS MUST HAVE PRIOR WRITTEN APPROVAL BY THE CITY OF GAHANNA.

THE CONTRACTOR SHALL MAKE HIS OWN PROVISIONS TO PROVIDE A SITE STAGING AREA AND JOB TRAILER (IF REQUIRED) FOR THE PROJECT IMPROVEMENTS.

ORANGE CONSTRUCTION FENCING SHALL BE PLACED AROUND THE EXISTING TREES TO BE SAVED AND REMAIN IN PLACE DURING THE DEVELOPMENT CONSTRUCTION. THE LOCATION AND LIMITS OF THE FENCING AND ANY CLEARING NECESSARY SHALL BE AS PER THE APPROVED PLANS.

INCONVENIENCE TO THE ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC SHALL BE KEPT TO AN ABSOLUTE MINIMUM. ALL WORK IS TO CONTINUE ON A UNIFORM BASIS AND ON SCHEDULE, PARTICULARLY THE RESTORATION AND CLEAN UP OF DISTURBED AREAS AFTER CONSTRUCTION.

THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT SOIL TRANSPORT DURING CONSTRUCTION ONTO PUBLIC ROADS. THE CONTRACTOR SHALL CLEAN AND SWEEP STREETS AS DIRECTED BY THE CITY. THE COST FOR STREET SWEEPING AND CLEANING IS TO BE INCLUDED IN THE PRICE BID UNDER VARIOUS ITEMS.

THE COST OF RELOCATING AND/OR SECURING ANY POWER POLES AS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS OF THE CONTRACT.

ANY REQUIRED RELOCATION, SUPPORT, PROTECTION, RESTORATION, OR ANY OTHER ACTIVITY CONCERNED WITH THE CITY'S ELECTRICAL OR STREET LIGHTING SYSTEMS IN THE CONSTRUCTION AREA IS TO BE PERFORMED SOLELY BY THE CITY AT THE EXPENSE OF THE PROJECT. THE CITY SHALL BE NOTIFIED PRIOR TO CONSTRUCTION TO ALLOW FOR ENGINEERING AND RELOCATION OF FACILITIES.

IF ANY ELECTRIC FACILITY BELONGING TO THE CITY IS DAMAGED IN ANY MANNER BY THE CONTRACTOR, ITS AGENTS, SERVANTS, OR EMPLOYEES, THE CITY SHALL MAKE ALL NECESSARY REPAIRS, AND THE EXPENSE OF SUCH REPAIRS AND OTHER RELATED COSTS SHALL BE PAID BY THE CONTRACTOR TO THE CITY.

**UTILITIES:**

THE CONTRACTOR SHALL GIVE NOTICE TO THE OHIO UTILITIES PROTECTION SERVICE (PHONE 1-800-362-2764) AND TO THE OWNERS OF THE UTILITY FACILITIES SHOWN ON THE PLAN WHO ARE NOT MEMBERS OF A REGISTERED UTILITY PROTECTION SERVICE. THE ABOVE-MENTIONED NOTICE SHALL BE GIVEN AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THESE PLANS OR NOT. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS RELATED ITEMS. THE CONTRACTOR SHALL EXPOSE ALL UTILITIES OR STRUCTURES PRIOR TO CONSTRUCTION TO VERIFY THE VERTICAL AND HORIZONTAL EFFECTS ON THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL GIVE NOTICE TO OUPS AND OTHER UTILITY OWNERS PER THE GENERAL NOTES.

WHERE POTENTIAL GRADE CONFLICTS MIGHT OCCUR WITH EXISTING UTILITIES, THE CONTRACTOR SHALL EXPOSE AND VERIFY THE DEPTH OF THE EXISTING UTILITY IN ADVANCE OF THE PROPOSED CONSTRUCTION.

THE IDENTITY AND LOCATIONS OF EXISTING UNDERGROUND UTILITIES IN THE CONSTRUCTION AREA HAVE BEEN SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS AS ACCURATELY AS PROVIDED BY THE UTILITY OWNER. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR DEPTHS OF UNDERGROUND FACILITIES SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS. IF DAMAGE IS CAUSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF THE SAME AND FOR ANY RESULTING CONTINGENT DAMAGE.

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT AND ARE REGISTERED MEMBERS OF THE UNDERGROUND UTILITY PROTECTION SERVICE:

UTILITY	OWNER	TELEPHONE	FAX
WATER FACILITIES	CITY OF GAHANNA WATER DIVISION 200 S HAMILTON RD GAHANNA, OH 43230	(614) 342-4440	(614) 342-4100
SEWER FACILITIES	CITY OF GAHANNA SEWER DIVISION 200 S HAMILTON RD GAHANNA, OH 43230	(614) 342-4440	(614) 342-4100
ELECTRIC FACILITIES	AMERICAN ELECTRIC POWER 850 TECH CENTER DR GAHANNA, OH 43230	(614) 883-6811	(614) 883-6868
GAS	COLUMBIA GAS OF OHIO (DISTRIBUTION) ATTN: ROB CALDWELL 3550 JOHNNY APPLESEED CT COLUMBUS, OH 43231	P: (614) 818-2104 C: (614) 370-1906 E-MAIL: rcaldwell@hisource.com	(614) 460-4265
TELEPHONE	AT&T 150 E GAY ST COLUMBUS, OH 43212	(800) 660-1000	(614) 223-6296

**WATER NOTES:**

ALL WATER LINE MATERIALS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CURRENT RULES AND REGULATIONS OF THE CITY OF COLUMBUS, DIVISION OF WATER AND THE DIRECTION OF THE CITY OF GAHANNA.

WATER MAINS AND FIRE HYDRANT LEADS SHALL BE DUCTILE IRON PIPE, CLASS 52 OR GREATER (AWWA C151) WITH CEMENT MORTAR LINING AND SEAL COAT (AWWA C104) OR PVC, CLASS 150 MEETING AWWA C900. JOINTS SHALL BE RUBBER GASKET PUSH-ON MECHANICAL (AWWA C110).

FIRE HYDRANTS SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE AS SHOWN ON THE CITY OF COLUMBUS L-6409 AND L-6637 STANDARD CONSTRUCTION DRAWINGS. FIRE HYDRANTS SHALL BE MUELLER SUPER CENTURION 250 FIRE HYDRANT, AMERICAN DARLING 4-1/2 MK73 - 5, OR APPROVED EQUAL. PUBLIC HYDRANTS SHALL BE PAINTED RED FOR THE BONNET / CAPS AND SILVER FOR THE BARREL, FEATURE ONE (1) FOUR-INCH STEAMER NOZZLE PLUS TWO (2) 2.5-INCH HOSE NOZZLES AND SHALL OPEN TO THE LEFT (COUNTER-CLOCKWISE). DELIVER ANY ABANDONED PUBLIC HYDRANTS TO THE CITY OF GAHANNA AT ITS SERVICE FACILITY (152 OKLAHOMA AVE).

ALL WATER SERVICES SHALL BE INSTALLED IN ACCORDANCE AS SHOWN ON THE CITY OF COLUMBUS L-9901 STANDARD CONSTRUCTION DRAWING. STAINLESS STEEL SERVICE SADDLES SHALL BE PROVIDED FOR ALL WATER SERVICE TAPS.

ALL GATE VALVES SHALL BE RESILIENT SEAT TYPE MANUFACTURED TO MEET OR EXCEED TO REQUIREMENTS OF ANSI/AWWA C509 OR THE LATEST REVISION.

WATERLINES SHALL BE LAID WITH A MINIMUM OF 4'-0" OF COVER FROM THE FINISHED GRADE TO THE TOP OF THE WATER LINE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HORIZONTAL AND VERTICAL DEFLECTIONS OR BENDS OF THE WATER LINES IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. DEFLECT WATER LINES TO PROVIDE A 1'-6" VERTICAL AND 10'-0" HORIZONTAL CLEARANCE WITH SEWERS.

ALL WATER LINES, INCLUDING MAINS AND SERVICES, SHALL BE TESTED UNDER A MINIMUM HYDROSTATIC TEST OF 150 PSI AND IN ACCORDANCE WITH AWWA C600 AND CITY OF COLUMBUS CMS ITEMS 801.13 AND 801.14. NO PRESSURE TEST SHALL BE PERFORMED IF THE TEMPERATURE IS BELOW FREEZING.

THE CONTRACTOR SHALL SUBMIT TWO (2) COPIES OF THE PLANS, RESULTS OF THE PRESSURE TEST AND A LETTER REQUESTING CHLORINATION TO THE CITY OF GAHANNA. COST OF CHLORINATION SHALL BE INCLUDED IN THE PRICE BID FOR THE WATER LINE ITEMS.

NO PERSON SHALL INSTALL OR MAINTAIN A WATER SERVICE CONNECTION WHERE A BOOSTER PUMP HAS BEEN INSTALLED.

ALL MECHANICAL JOINTS ARE REQUIRED TO BE MEGALUGGED, CONCRETE BACKING IS STILL REQUIRED. ALL MECHANICAL PIPE DEFLECTIONS ARE REQUIRED TO BE MEGALUGGED, CONCRETE BACKED, AND JOINT RESTRAINTS MAY BE REQUIRED BY THE ENGINEER. THE HYDRANT TEE IS TO BE ALL-THREADED TO THE MAINLINE VALVE FOR FUTURE EXPANSION. 1 FULL STICK OF PIPE (20') IS TO BE LAID BEFORE THE PLUG.

ALL FITTINGS ARE TO BE GPS LOCATED PRIOR TO BACKFILL USING X, Y, AND Z COORDINATES.

ANY WATER USAGE FOR FILLING THE WATER MAIN AND CHLORINATION SHALL GO THROUGH A WATER METER. ANY UNMETERED WATER USE WILL BE CHARGED TO THE CONTRACTOR/DEVELOPER BASED ON FLOW RATE CALCULATIONS.

THE WATER LINE AND SEWER LINE TRENCH UNDER THE INFLUENCE OF PAVEMENT ARE TO BE COMPACTION TESTED.

INSTALL COPPERHEAD® OR EQUAL 12-GAUGE HIGH STRENGTH 452LB BREAK STRENGTH 30 MIL HDPE JACKET, COPPER-CLAD, STEEL REINFORCED TRACER WIRE ON ALL WATER MAIN AND SERVICE LINES INSTALLED BY TRENCHING METHODS.

INSTALL COPPERHEAD® OR EQUAL 12-GAUGE EXTRA HIGH STRENGTH 1150LB BREAK STRENGTH 45 MIL HDPE JACKET, COPPER-CLAD, STEEL REINFORCED TRACER WIRE ON ALL WATER MAIN AND SERVICE LINES INSTALLED BY BORING METHODS.

FASTEN WIRE TO PIPE IN TWO PLACES PER PIPE SECTION. EXTEND TRACER WIRE TO GROUND SURFACE AT ALL VALVES AND

HYDRANTS. SPLICE WIRES USING BURNDY COPPER SPLIT BOLT KS-15. THOROUGHLY WRAP THE CONNECTOR AND BARE WIRES WITH 3M TEMFLEX 2155 RUBBER SPLICING TAPE, COVER ENTIRE CONNECTION WITH SCOTCH SUPER 88 HEAVY DUTY GRADE ELECTRICAL TAPE.

CONNECT ALL SERVICE LINE WIRES TO MAIN LINE WIRES USING BURNDY COPPER SPLIT BOLT KS-15. THOROUGHLY WRAP THE CONNECTOR AND BARE WIRES WITH 3M TEMFLEX 2155 RUBBER SPLICING TAPE, COVER ENTIRE CONNECTION WITH SCOTCH SUPER 88 HEAVY DUTY GRADE ELECTRICAL TAPE.

ALL WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651.

THE NORMAL WORKING PRESSURE OF THE SYSTEM SHALL NOT DECREASE BELOW 35 PSI. ALL WATER MAIN IMPROVEMENTS HAVE BEEN DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI AT GROUND LEVEL AT ALL POINTS IN THE SYSTEM UNDER ALL CONDITIONS OF FLOW.

**SANITARY SEWER NOTES:**

SERVICE RISERS, ITEM 914, SHALL BE INSTALLED WHERE DEPTHS FROM THE WYES TO THE EXISTING OR PROPOSED ELEVATIONS EXCEED 10'. THE TOPS OF RISERS SHALL BE NO MORE THAN ±9' BELOW THE EXISTING OR PROPOSED SURFACE ELEVATION, WHICHEVER IS HIGHER.

A MINIMUM VERTICAL CLEARANCE OF 1.5' SHALL BE PROVIDED BETWEEN THE PROPOSED SANITARY SERVICE AND EXISTING UTILITIES OR STRUCTURES UNLESS OTHERWISE NOTED ON THESE PLANS.

ALL PVC SEWER LINES SHALL BE DEFLECTION TESTED AFTER INSTALLATION IN CONFORMANCE WITH THE REQUIREMENTS OF ITEM 901.21 OF THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT VERSION.

ALL SANITARY SEWER AND SANITARY SERVICES ARE TO BE MANDREL TESTED, AIR TESTED, CLEANED AND CAMERA INSPECTED.

ALL SANITARY MANHOLES ARE REQUIRED TO PASS A VACUUM TEST PER CITY OF COLUMBUS ITEM 901.20 AND ASTM-C-1244.

PIPE FOR ALL 6" SANITARY SERVICES SHALL BE PVC SEWER PIPE ASTM D-3034, SDR-35. THE SERVICES SHALL BE FIELD TESTED BY THE INFILTRATION, EXFILTRATION OR AIR TEST.

ALL PIPES SHALL BE LAID WITH TYPE 1 GRANULAR MATERIAL BEDDING AND BACKFILL AS SHOWN ON STANDARD CONSTRUCTION CITY OF COLUMBUS AA-S151. INSTALLATION SHALL CONFORM TO CMS SECTION 900.

**STORM SEWER NOTES:**

ANY PLACEMENT OF STORM SEWERS BENEATH EXISTING OR PROPOSED PAVEMENT SHALL BE BACKFILLED IN ACCORDANCE WITH COLUMBUS CMS ITEM 912, COMPACTED GRANULAR BACKFILL.

ALL PIPES SHALL BE LAID WITH TYPE 1 GRANULAR MATERIAL BEDDING AND BACKFILL AS SHOWN ON STANDARD CONSTRUCTION CITY OF COLUMBUS AA-S151. INSTALLATION SHALL CONFORM TO CMS SECTION 901.

ALL CONCRETE PIPE AND STORM SEWER STRUCTURES SHALL BE STAMPED OR HAVE SUCH IDENTIFICATION NOTING THAT SAID PIPE AND/OR STORM STRUCTURES HAVE BEEN INSPECTED BY THE CITY OF COLUMBUS AND MEETS THEIR SPECIFICATIONS. PIPE AND STRUCTURES WITHOUT PROPER IDENTIFICATION WILL NOT BE PERMITTED FOR INSTALLATION.

ALL CURB INLETS AND MANHOLES SHALL BE CHANNELLED AS DIRECTED. THE COST FOR THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR VARIOUS STORM SEWER ITEMS.

IN CASE OF CONFLICT IN GRADE BETWEEN WATER LINES AND STORM SEWERS, THE WATER LINES SHALL BE LOWERED DURING CONSTRUCTION.

ALL PLASTIC SEWER LINES SHALL BE DEFLECTION TESTED AFTER INSTALLATION IN CONFORMANCE WITH THE REQUIREMENTS OF COLUMBUS CMS ITEM 901.

ALL STORM SEWER IS TO BE MANDREL TESTED, CLEANED AND CAMERA INSPECTED.

**MAINTENANCE OF TRAFFIC:**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND SAFE MOVEMENT OF PEDESTRIANS THROUGH, AROUND AND AWAY FROM THE CONSTRUCTION SITE AS DESIGNATED IN SECTION 60.01 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD).

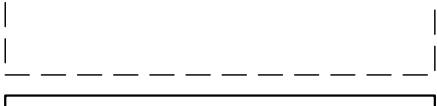
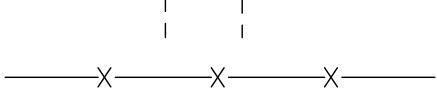
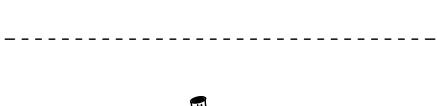
THE SAFETY OF PEDESTRIAN TRAFFIC SHALL BE CONSIDERED AT ALL TIMES IN THE PROVISION OF

## LEGENDE

## EXISTING UTILITIES AND STRUCTURES

— S — S — S —	SANITARY SEWER (LESS THAN 24" DIAMETER)
— SL — SL —	SANITARY SERVICE LATERAL
— ST — ST —	STORM SEWER (LESS THAN 24" DIAMETER)
— ST — ST —	STORM SEWER (24" DIAMETER AND GREATER)
— W — W — W —	WATER MAIN (LESS THAN 24" DIAMETER)
— OH — OH —	OVERHEAD ELECTRIC
— G — G — G —	GAS LINE
(S)	SANITARY SEWER MANHOLE OR STRUCTURE
(ST)	STORM SEWER MANHOLE OR STRUCTURE
(S)	STORM SEWER INLET STRUCTURE
(H)	WATER MAIN HYDRANT
(V)	WATER MAIN VALVE
∅	POLES — POWER, TELEPHONE, LIGHTING, COM
∅	POLES — POWER, TELEPHONE, LIGHTING, COM
∅	POLES — POWER, TELEPHONE, LIGHTING, COM
∅	POLES — POWER, TELEPHONE, LIGHTING, COM

#### EXISTING TOPOGRAPHIC FEATURE

EX. RW	EXISTING RIGHT-OF-WAY
¶	PROPERTY LINE
—	MINOR CONTOURS
-490—	MAJOR CONTOURS
	DRIVEWAYS AND PARKING LOTS
	BUILDING FOUNDATIONS
	ROADWAYS
	
X	FENCE
	SIDEWALK
	TREE STUMP
	TREE
	SIGNAGE

## PROPOSED UTILITIES AND STRUCTURES

The diagram consists of three horizontal lines. The top line is a solid black line with the letters 'S' written twice in black. To its right is the text 'PROPOSED SANITARY MAIN'. The middle line is a solid black circle with a smaller circle inside it, labeled with a circled '1'. To its right is the text 'PROPOSED SANITARY MANHOLE'. The bottom line is a dashed black line with six short black dashes. To its right is the text 'LIMITS OF CONSTRUCTION'.

STRUCTURE COORDINATE TABLE				
STRUCTURE	LOCATION	DESCRIPTION	NORTHING	EASTING
1	CLOTT'S RD	MH TYPE C, 48"	742208.56	1868093.11
2	CLOTT'S RD	MH TYPE C, 48"	742444.06	1868110.96
3	SERRAN DR	MH TYPE C, 48"	734493.38	1863932.58
EX	SERRAN DR	EX MH TO REMAIN	734672.41	1863931.73

## ESTIMATE OF QUANTITIES - CLOTT'S ROAD

ESTIMATE OF QUANTITIES		COSTS ROAD	
ITEM	DESCRIPTION	QUANTITY	UNITS
201	CLEARING AND GRUBBING	1	LS
202	MANHOLE REMOVED	2	EA
202	PAVEMENT REMOVED	181	SY
202	PIPE REMOVED	236	LF
204	SUBGRADE COMPACTION	202	SY
207	TEMPORARY EROSION AND SEDIMENT CONTROL	1	LS
304	6" AGGREGATE	34	CY
407	NON-TRACKING TACK COAT	11	GAL
423	CRACK SEALANT	18	LF
448	1-1/4" SURFACE COURSE ASPHALT	6	CY
448	1-3/4" INTERMEDIATE ASPHALT CONCRETE TYPE 2	9	CY
604	48" DIAMETER MANHOLE, TYPE "C"	2	EA
614	MAINTAINING TRAFFIC	1	LS
624	MOBILIZATION	1	LS
659	SEEDING AND MULCHING	343	SY
901	18 INCH SANITARY PS46 PVC PIPE, W/ TYPE 1 BEDDING, 912 BACKFILL	216	LF
901	18 INCH SANITARY PS46 PVC PIPE, W/ TYPE 1 BEDDING, 613 BACKFILL	20	LF
SS-3	BYPASS PUMPING	1	LS

ESTIMATE OF QUANTITIES – SERRAN DRIVE

ESTIMATE OF QUANTITIES		CERIAN DRIVE	
202	PIPE REMOVED	179	LF
207	TEMPORARY EROSION AND SEDIMENT CONTROL	1	LS
604	48" DIAMETER MANHOLE, TYPE "C"	1	EA
607	FENCE, CHAIN LINK	32	LF
607	FENCE, 6' WOODEN PRIVACY	16	LF
614	MAINTAINING TRAFFIC	1	LS
624	MOBILIZATION	1	LS
659	SEEDING AND MULCHING	450	SY
901	8 INCH SANITARY SDR 35 PVC PIPE, W/ TYPE 1 BEDDING, 912 BACKFILL	179	LF
918	6" SANITARY LATERAL CONNECTIONS	20	LF
SS-3	BYPASS PUMPING	1	LS



CITY OF GAHANNA, OHIO  
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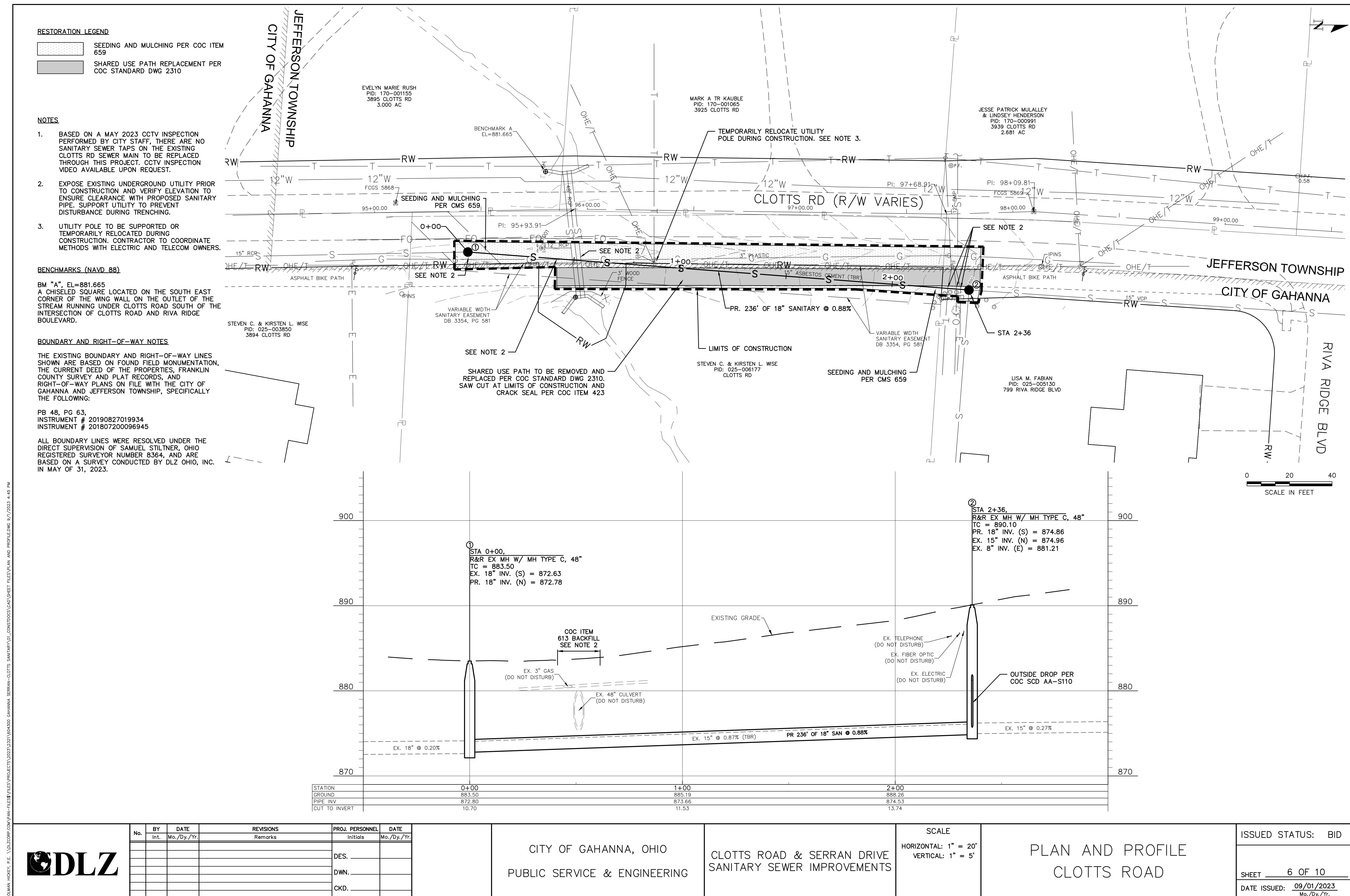
# CLOTT'S ROAD & SERRAN DRIVE SANITARY SEWER IMPROVEMENTS

## QUANTITIES & LEGEND

ISSUED STATUS PID

SHEET 5 OF 10

DATE ISSUED: 09/01/2023  
Mo./Dy./Yr.



## RESTORATION LEGEND

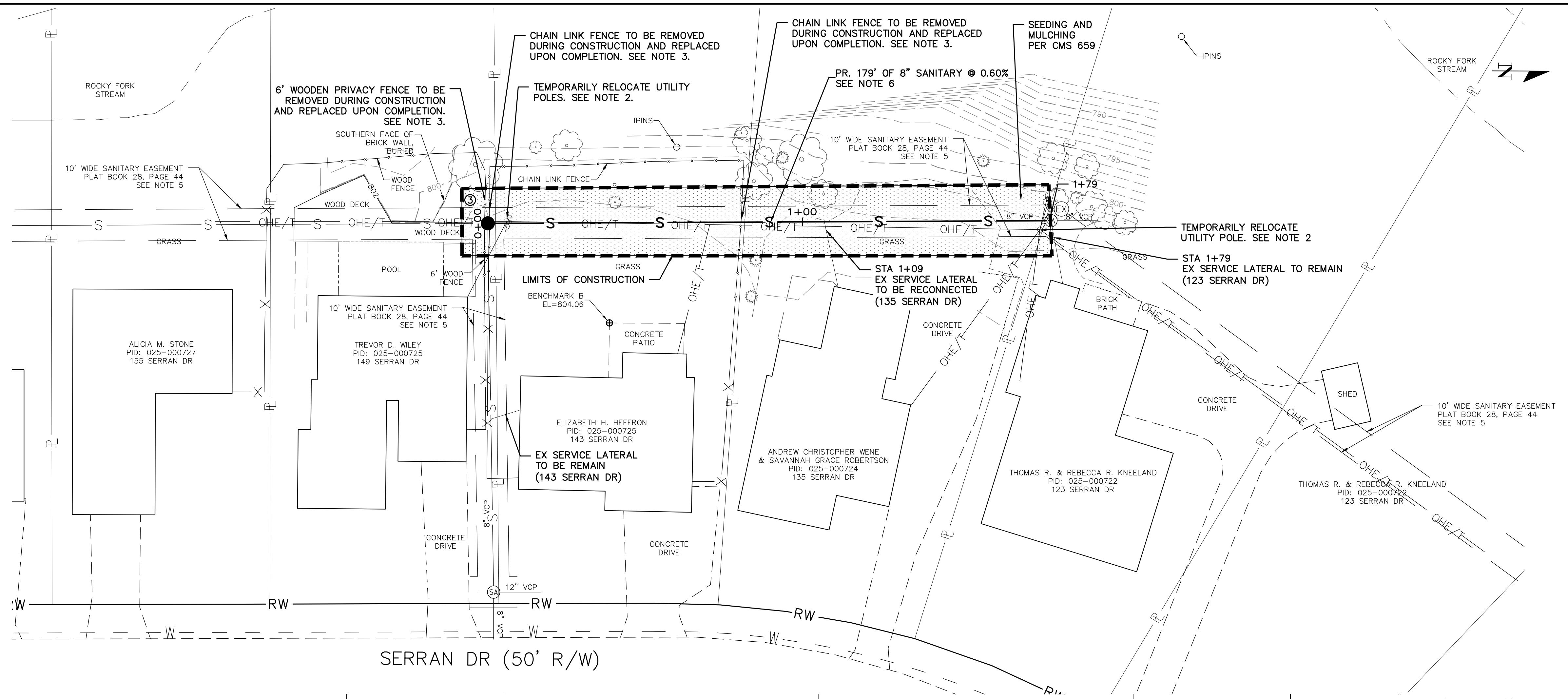
**SEEDING AND MULCHING PER COC ITEM  
659**

## NOTES

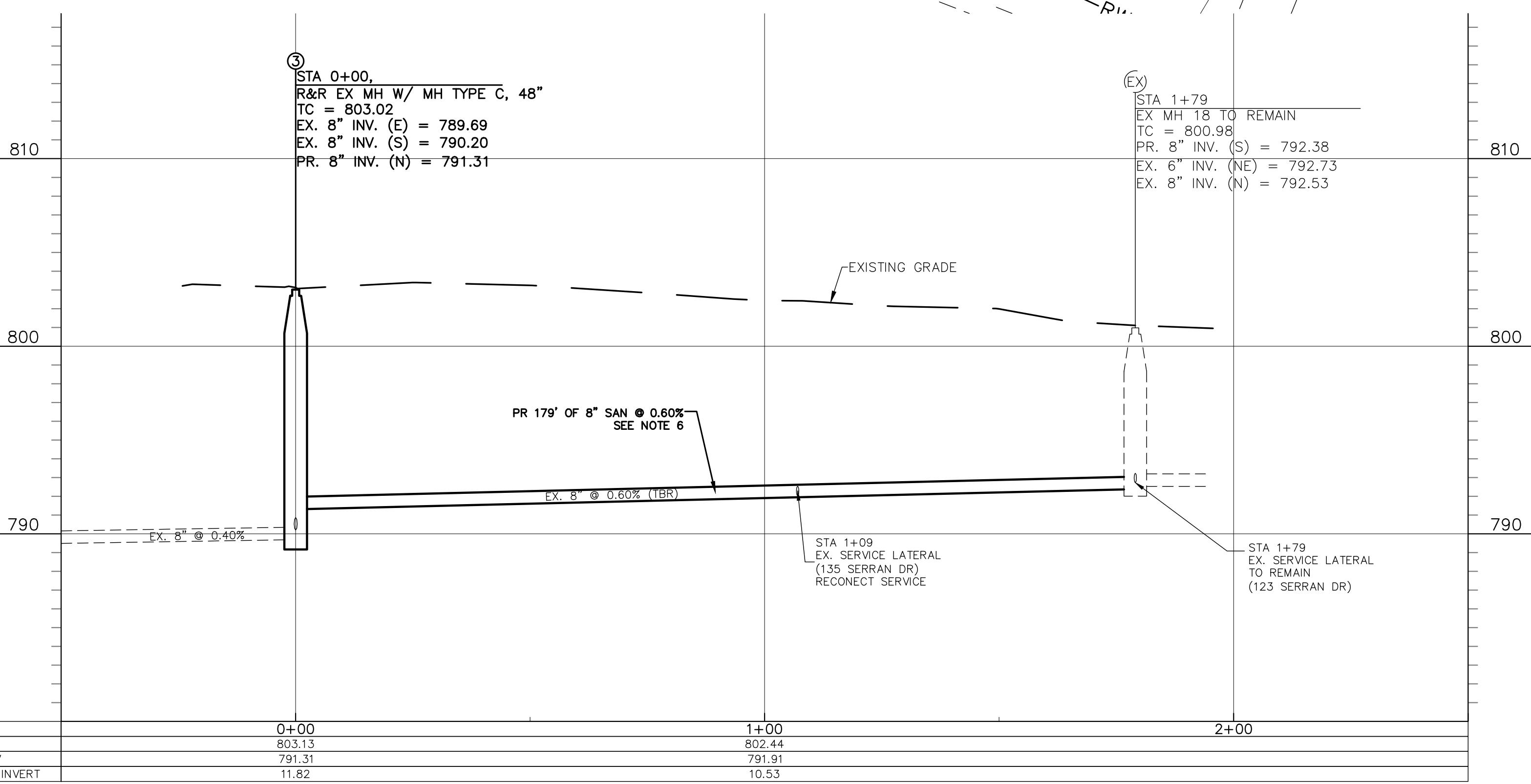
1. 2014 CCTV INSPECTION REPORTS/VIDEOS AND ORIGINAL CONSTRUCTION DRAWINGS FOR SEWERS IN PROJECT AREA AVAILABLE UPON REQUEST.
2. UTILITY POLE TO BE TEMPORARILY RELOCATED DURING CONSTRUCTION. CONTRACTOR TO COORDINATE MEANS AND METHODS WITH UTILITY OWNERS.
3. REMOVE FENCE DURING CONSTRUCTION AND REPLACE IN KIND AFTER PROPOSED SEWER HAS BEEN TESTED AND APPROVED. CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNER PRIOR TO REMOVAL AND TO ENSURE RESTORATION IS SATISFACTORY.
4. THE CITY HAS OBTAINED TEMPORARY WORK AGREEMENTS FOR PROPOSED CONSTRUCTION AT ALL PROPERTIES IMPACTED BY THIS PROJECT (149 SERRAN DR, 143 SERRAN DR, 135 SERRAN DR, 123 SERRAN DR). CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE TERMS OF THOSE AGREEMENTS.
5. THE DEPICTION OF EXISTING SANITARY EASEMENTS IS BASED ON SURVEYED SANITARY STRUCTURES AND THE SANITARY SEWER RECORD PLANS. REFER TO THE ROCKY FORK HEIGHTS PLAT MAP RECORDED IN PLAT BOOK 28, PAGE 44 OF THE FRANKLIN COUNTY RECORDER.
6. AS AN ALTERNATIVE TO OPEN-CUT SEWER INSTALLATION, THE CONTRACTOR MAY INSTALL THE SERRAN DRIVE SEWER BY WAY OF PIPE BURSTING ACCORDING TO SUPPLEMENTAL SPECIFICATION SS-2. PIPE BURSTING MAY ONLY BE USED ON THE SERRAN DRIVE PORTION OF THIS PROJECT AND WILL NOT BE PERMITTED FOR THE CLOTT'S ROAD PORTION.

## BENCHMARKS (NAVD 88)

BM "B", EL=804.06  
THE SOUTH WEST CORNER ON THE EXISTING CONCRETE  
PATIO LOCATED IN THE BACKYARD OF 143 SERRAN  
DR.



A horizontal scale bar with a black line and a white segment. The number '20' is above the left end of the bar, and the number '40' is above the right end. Below the bar, the text 'SCALE IN FEET' is written.



STATION	0+00	1+00	2+00
GROUND	803.13	802.44	
PIPE INV	791.31	791.91	
CUT TO INVERT	11.82	10.53	

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# CITY OF GAHANNA, OHIO

## PUBLIC SERVICE & ENGINEERING

# CLOTT'S ROAD & SERRAN DRIVE SANITARY SEWER IMPROVEMENTS

## SCALE

# PLAN AND PROFILE SERRAN DRIVE

ISSUED STATUS: BID

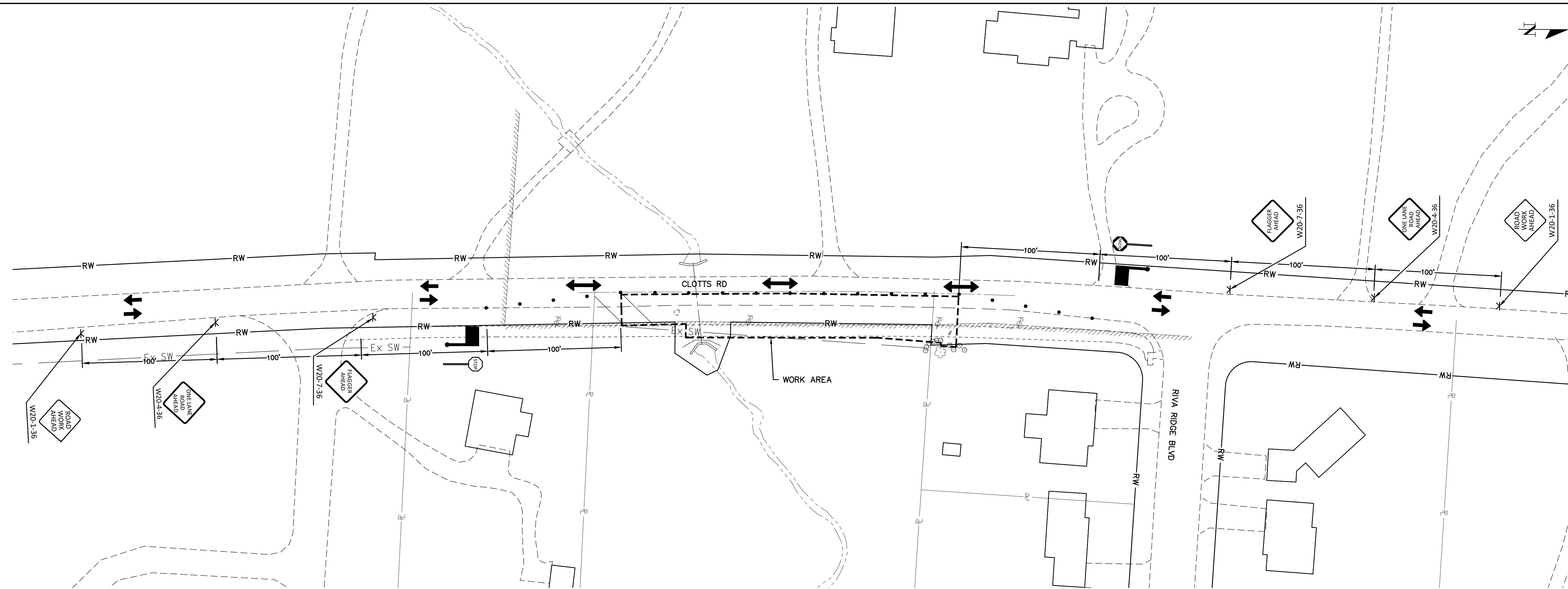
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# CLOTT'S ROAD FLAGGING OPERATION

SCALE: 1" = 40'

## NOTES

LANE CLOSURES AND FLAGGING OPERATIONS ON CLOTT'S ROAD SHALL ONLY BE PERMITTED WHILE THE GAHANNA-JEFFERSON PUBLIC SCHOOL SYSTEM IS ON SUMMER BREAK. SUMMER BREAK WILL BEGIN ON 5/27/2024 AND END ON 8/14/2024.

2

CITY OF GAHANNA, OHIO  
PUBLIC SERVICE & ENGINEERING

# CLOTT'S ROAD & SERRAN DRIVE SANITARY SEWER IMPROVEMENTS

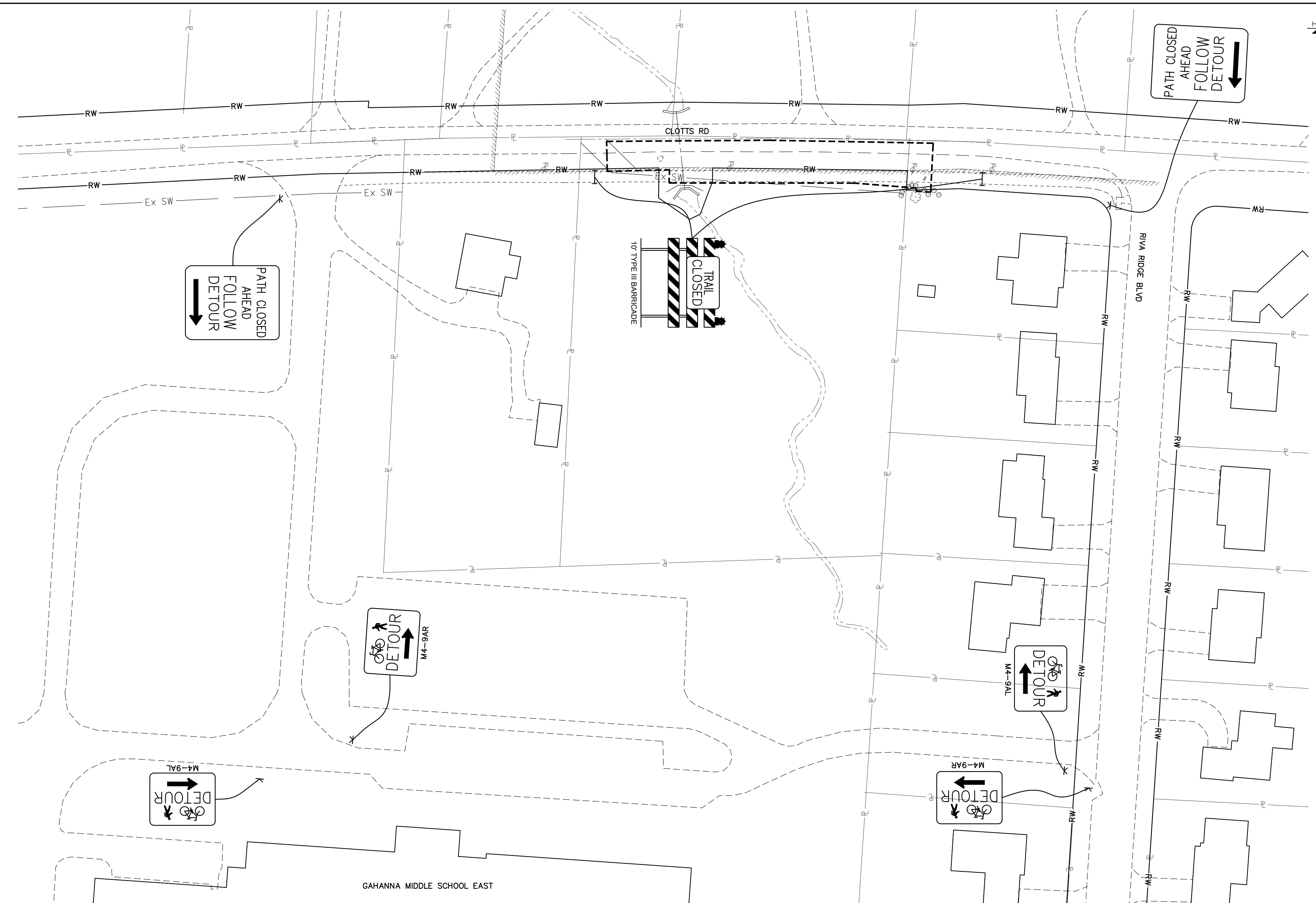
SCALE  
HORIZONTAL: 1" =

# MAINTENANCE OF TRAFFIC PLAN

ISSUED STATUS: BID

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# CLOTT'S ROAD SHARED USE PATH DETOUR

SCALE: 1" = 40'

## NOTES

LANE CLOSURES AND FLAGGING OPERATIONS ON CLOTT'S ROAD SHALL ONLY BE PERMITTED WHILE THE GAHANNA-JEFFERSON PUBLIC SCHOOL SYSTEM IS ON SUMMER BREAK. SUMMER BREAK WILL BEGIN ON 5/27/2024 AND END ON 8/14/2024.

CITY OF GAHANNA, OHIO

# CLOTT'S ROAD & SERRAN DRIVE SANITARY SEWER IMPROVEMENTS

SCALE HORIZONTAL: 1" = 40'	MAINTENANCE OF TRAFFIC PLAN
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ISSUED STATUS: BID

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HEET 10 OF 10

ATE ISSUED: 09/01/2023  
Mo./Dy./Yr.