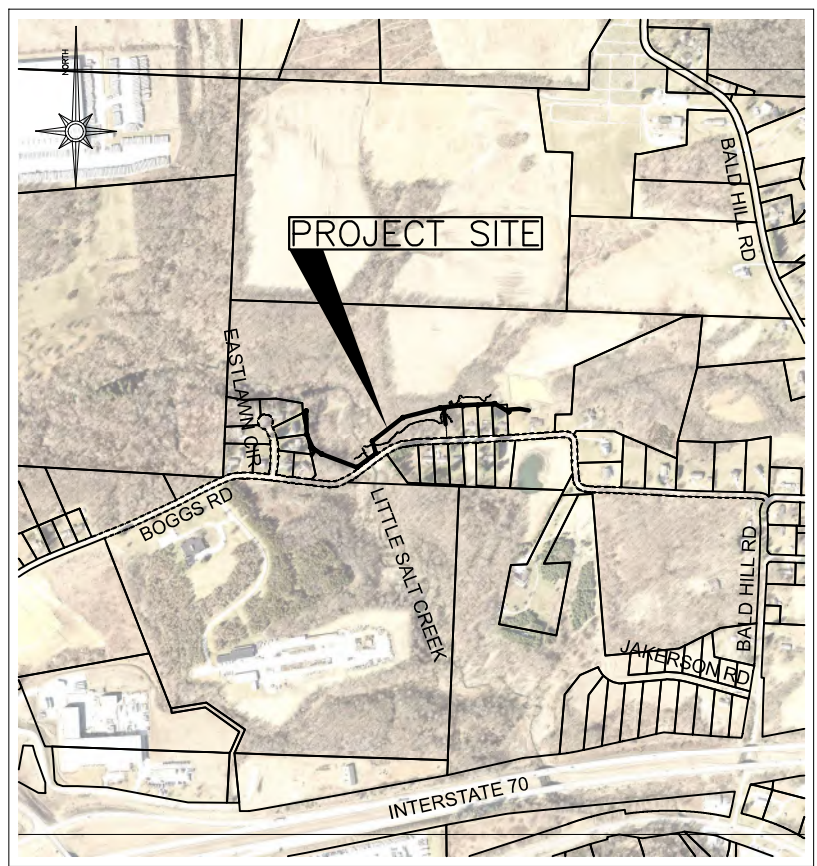


BOGGS ROAD SANITARY SEWER IMPROVEMENTS

PERRY TOWNSHIP MUSKINGUM COUNTY, OHIO

PROJECT DESCRIPTION

THE DESIGN OF SANITARY SEWER IMPROVEMENTS ON BOGGS ROAD
FROM EASTLAWN CIRCLE TO 5305 BOGGS ROAD




INDEX OF SHEETS:

TITLE SHEET.....	1
SYMBOLS & LINE STYLES LEGEND.....	2
GENERAL NOTES.....	3-4
DETAILS.....	5-6
PLAN & PROFILE SHEETS.....	7-15
EROSION CONTROL DETAILS.....	16-18


CINDY S. CAMERON, PRESIDENT
MUSKINGUM COUNTY COMMISSIONER

9-09-2024
DATE


MOLLIE S. CROOKS
MUSKINGUM COUNTY COMMISSIONER

09-09-2024
DATE


MELISSA J. BELL
MUSKINGUM COUNTY COMMISSIONER

09.09.24
DATE

PROPERTY OWNER:
MUSKINGUM COUNTY COMMISSIONERS
401 MAIN STREET
ZANESVILLE, OHIO 43701

CONTACT PERSON:
DON MADDEN, PROJECTS DIRECTOR
401 MAIN STREET
ZANESVILLE, OHIO 43701
(740) 588-4389

NOTE TO CONTRACTOR:


ANY MODIFICATIONS TO THE SANITARY SEWER IMPROVEMENTS SHOWN ARE SUBJECT TO THE APPROVAL OF THE PROJECT ENGINEER. THIS POLICY SHALL BE ADHERED TO THROUGHOUT THE LIFE OF THIS PROJECT. ANY MODIFICATIONS MADE THAT HAVE NOT BEEN APPROVED BY THE PROJECT ENGINEER MAY BE SUBJECT TO REMOVAL, AT THE DISCRETION OF THE PROJECT ENGINEER. THE COST TO REMOVE UNAPPROVED WORK SHALL BE BURDENED BY THE CONTRACTOR WHO PERFORMED SAID WORK, NOT THE OWNERS OR THE PROJECT ENGINEER.

UNDERGROUND UTILITIES

TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

REVISIONS			
NO.	DATE ISSUED	DESCRIPTION	SHEET NOS.
1	10/06/2025	MODIFICATION OF MANHOLE CASTING REQUIREMENTS. GENERAL NOTE ADDED TO ADDRESS RESTRICTED PERIODS OF CONSTRUCTION AS A RESULT OF PERMIT AND EASEMENTS.	4
2	10/09/2025	MODIFICATION OF MANHOLE CASTING REQUIREMENTS. MODIFICATION OF MANHOLE TOP OF CASTING ELEVATIONS. CLARIFICATION ON HOW JOINT RESTRAINTS WILL BE PAID.	4, 5, 7-15

ENGINEER'S SEAL:



SIGNED: _____
DATE: _____

Mark J. Eicher, P.E., P.S.
109 Graham Street
Zanesville, Ohio 43701
740-454-0155

Muskingum County
ENGINEER'S OFFICE

PROJECT NAME: BOGGS ROAD SANITARY SEWER IMPROVEMENTS
PROJECT LOCATION: ZANESVILLE, OHIO 43701

PLANS APPROVED BY: MJE
PLANS PREPARED BY: GJW
DATE: 09/09/2024
REVISED: 10/09/2025
SHEET SIZE: 11" x 17"
SHEET NAME: TITLE SHEET
SHEET NUMBER: 01/18

RESULT OF THE NEGLIGENCE OF THE CONTRACTOR SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

28. TREE REMOVAL:

THE CONTRACTOR SHALL REMOVE TREES AND VEGETATION ONLY AS NECESSARY TO PERFORM HIS WORK WITHIN THE SPECIFIED WORK LIMITS OR RIGHT-OF-WAY. THEY SHALL MAKE EVERY EFFORT TO MINIMIZE REMOVALS EXCEPT THOSE SPECIFICALLY MARKED FOR REMOVAL IN THE PLANS. CONTRACTOR SHALL ALSO COMPLY WITH RESTRICTIONS ON TREE REMOVAL ASSOCIATED WITH THE INDIANA BAT HABITAT.

29. OPEN EXCAVATIONS:

ALL EXCAVATIONS WITHIN 40 FEET OF ANY ROADWAY SHALL BE CLOSED OR PLANTED DURING NONWORKING HOURS. DRUMS OR CONCRETE BARRIER SHALL BE USED DURING WORKING HOURS TO SEPARATE TRAFFIC FROM THESE HAZARDS. ALL OTHER EXCAVATION SHALL BE SECURED BY CONSTRUCTION FENCE.

30. MANHOLE AND LIFT STATION COATING:

ALL INTERIOR EXPOSED CONCRETE SURFACES OF FORCE MAIN RECEIVING MANHOLES, INSIDE THE MANHOLE, AND THE NEXT TWO IN SEQUENCE SHALL BE COATED/SEALED WITH ADVANCED REHABILITATION TECHNOLOGY OBIC ARMOR 1000 OR APPROVED EQUAL. COST SHALL BE INCLUDED IN THE UNIT PRICE OF THE MANHOLE.

31. MAINTAINING SEWAGE SYSTEM OPERATION:

THE CONTRACTOR SHOULD BE EXPECTED TO ENCOUNTER EXISTING SEPTIC TANKS, PIPES OR TREATMENT DEVICES THAT ARE ACTIVE. THE CONTRACTOR SHALL SEQUENCE THEIR WORK AND MAKE PROVISIONS NECESSARY TO MAINTAIN SERVICE FOR THE STRUCTURES SERVED BY THESE SYSTEMS. ALL COSTS FOR PUMPING, HAULING, TEMPORARY STORAGE OR OTHER WORK REQUIRED TO MAINTAIN SERVICE SHALL BE INCLUDED WITH THE PIPE AND VARIOUS RELATED ITEMS.

32. VOLUNTARY ALTERNATIVES:

THE CONTRACTOR MAY VOLUNTARY SUBMIT MATERIAL, EQUIPMENT OR METHODS ALTERNATES FOR CONSIDERATION BY THE ENGINEER, EXAMPLES OF VOLUNTARY ALTERNATIVES INCLUDE, BUT LIMITED TO PIPE MATERIALS, PUMPS AND CONTROLS. DIRECTIONAL BORING PLANS, ETC. ALL SUBMITTAL MUST INCLUDE SUFFICIENT INFORMATION FOR THE ENGINEER TO DETERMINE IF THE ALTERNATIVE IS EQUAL AND MUST BE DELIVERED TO THE ENGINEER NO LESS THAN 10 DAYS PRIOR TO THE BID OPENING. PLAN HOLDERS WILL BE NOTIFIED OF APPROVED ALTERNATIVES BY ADDENDUM. ALTERNATIVES MUST BE LISTED ON THE BID FORM. OTHERWISE THE CONTRACT SHALL BE AWARDED BASED ON THE EQUIPMENT SPECIFIED.

33. WYE POLES:

THE CONTRACTOR SHALL FURNISH AND PLACE AS DIRECTED, APPROVED WYE POLES 2" X 2" OR LARGER AT ALL WYE LOCATIONS, ENDS OF EXTENDED SERVICES, OR AT END OF EACH RISER WHERE RISERS ARE REQUIRED. EXTENDING A MINIMUM OF 3 FEET ABOVE FINAL SURFACE GRADES WITH THE TOP 2 FEET BEING PAINTED WHITE.

34. CLEAN WATER CONNECTIONS:

NO FOUNDATION DRAINS, ROOF DRAINS, OR OTHER STORM WATER DRAINS OF ANY KIND SHALL BE CONNECTED INTO THE SANITARY SEWER SYSTEM.

35. ITEM SPECIAL: ORANGE CONSTRUCTION FENCE:

PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCE AS SHOWN ON PLANS OR OTHERWISE ESTABLISHED BY THE ENGINEER, FENCE MATERIAL SHALL BE RESINET SLM60 OR APPROVED EQUAL AND INSTALLED PER THE DETAIL ON SHEET AA. THIS PAY ITEM INCLUDES INSTALLATION, ALL MATERIALS REQUIRED FOR INSTALLATION, AND REMOVAL. FENCE SHALL BE REMOVED ONCE THEY HAVE SERVED THEIR USEFUL PURPOSE AND APPROVAL BY THE ENGINEER IS GRANTED.

36. TRENCH DAMS:

THE CONTRACTOR SHALL PLACE A CUT OFF TRENCH DAM OF NATIVE CLAY OR IMPERVIOUS SOIL ACROSS AND ALONG THE TRENCH OVER AND UPSTREAM FROM THE MAIN LINE SEWER CONNECTION TO RETARD AND RESIST THE MOVEMENT OF GROUNDWATER THROUGHOUT THE TRENCH GRANULAR BEDDING OR BACKFILL MATERIAL. THE TRENCH DAMS SHALL BE CAREFULLY COMPACTED AND SHALL BE 3 FEET IN THICKNESS AS MEASURED ALONG THE SERVICE CENTER LINE AND SHALL BE CONSTRUCTED AGAINST THE UNDISTURBED TRENCH SIDES FROM THE SUB-GRADE OR BOTTOM OF THE STONE FOUNDATION, WHICHEVER IS LOWER, TO THE LIMIT OF 36 INCHES OVER THE TOP OF THE PIPE, NO MORE THAN 10 FEET FROM THE MAIN LINE SANITARY SEWER.

37. TRACER TAPE & TRACER WIRE:

THE CONTRACTOR SHALL INSTALL 12-GAUGE COPPER HEAD JACKETED TRACER WIRE ON ALL FORCE MAINS. FASTEN WIRE TO PIPE IN TWO PLACES PER PIPE SECTION. SPLICE WIRE USING DRYCON CONNECTIONS SPICING FASTENER. THE CONTRACTOR SHALL ALSO INSTALL CONTINUOUS TRACER TAPE 12 INCHES ABOVE ALL FORCE MAINS.

38. MAIL SERVICE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING MAIL SERVICE IN THE CONSTRUCTION AREA. PRIOR TO DISTURBING ANY MAILBOXES, THE CONTRACTOR SHALL CONTACT THE POSTAL AUTHORITIES AND SHALL TEMPORARILY RELOCATE MAILBOXES IN ACCORDANCE WITH POSTAL REQUIREMENTS. THE CONTRACTOR SHALL RESTORE MAILBOXES TO THEIR ORIGINAL CONDITION AND LOCATION. COST TO BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS.

39. TRASH COLLECTION SERVICE:

THE CONTRACTOR SHALL CONTACT THE APPROPRIATE TRASH COLLECTION

AUTHORITIES FOR CURRENT COLLECTION DATE EACH WEEK PRIOR TO STARTING WORK AND BEING RESPONSIBLE FOR MAINTAINING A 20 FOOT WIDE CLEAR AREA FOR TRASH CAN PLACEMENT IN THE FRONT OF EACH LOT FOR TRASH COLLECTION SERVICE IN THE CONSTRUCTION AREA ON THE DESIGNATED TRASH DAY.

40. FORCEMAIN PLACEMENT:

IN AREAS WHERE FORCEMAIN AND SEWER ARE PLACED IN THE SAME TRENCH, FORCEMAIN SHALL BE PLACED 2 FOOT FROM SANITARY SEWER (CENTER TO CENTER) WITH IDENTICAL INVERTS AND ELEVATIONS. IN AREAS WHERE FORCEMAIN IS PLACED IN ITS OWN TRENCH, IT SHALL BE PLACED 4 FOOT BELOW EXISTING GRADE UNLESS OTHERWISE NOTED IN PLANS.

41. LANDSCAPE, DRIVEWAY, ALLEY & ROADWAY REPAIRS:

WHERE CONSTRUCTION OF FORCEMAIN AND/OR SANITARY SEWER REQUIRES TRENCHING ACROSS LANDSCAPE, DRIVEWAYS, ALLEYS, AND ROADWAYS REFER TO SANITARY DETAILS FOR REPAIR REQUIREMENTS. COST OF REPAIRS IS TO BE INCLUDED IN THE UNIT PRICE FOR FORCEMAIN AND/OR SANITARY SEWER PIPE. REFER ALSO TO GENERAL NOTE #18 FOR ADDITIONAL GUIDANCE.

42. SWALE REPAIRS & CONSTRUCTION:

WHERE CONSTRUCTION OF FORCEMAIN AND/OR SANITARY SEWER DISTURBS EXISTING DRAINAGE SWALES, THE CONTRACTOR WILL BE REQUIRED TO RESTORE

THE DRAINAGE SWALES TO PRE-CONSTRUCTION CONDITIONS, ADDITIONALLY, NEW DRAINAGE SWALES CONSTRUCTION WILL BE REQUIRED IN SOME AREAS DISTURBED BY THE SANITARY SEWER CONSTRUCTION, ALL SWALE REPAIRS AND/OR NEW CONSTRUCTION SHALL BE INCLUDED IN THE UNIT PRICE FOR FORCEMAIN AND/OR SANITARY SEWER PIPE.

43. FLOW REQUIREMENTS THROUGH PROPOSED SANITARY MANHOLES:

CONTRACTOR MUST CONSTRUCT PROPOSED SANITARY MANHOLES WITH A MINIMUM FLOOR SLOPE OF 2.5% TO ENSURE POSITIVE FLOW THROUGHOUT MANHOLES. COST OF FLOOR SLOPE REQUIREMENT INCIDENTAL TO THE COST OF A MANHOLE.

44. FORCEMAIN NOTES: - NOT APPLICABLE

BACKFILL:

WHERE THE FORCEMAIN CROSSES PAVEMENT THE TOP OF BEDDING SHALL BE BACKFILLED WITH SUITABLE MATERIAL. BACKFILL SHALL BE SUITABLE MATERIAL FROM THE BOTTOM OF THE TRENCH TO WITHIN 8" OF THE FINISHED OR EXISTING GRADE. 8" OF COMPACTED GRANULAR MATERIAL SHALL BE PLACED TO FINISHED GRADE. ALL TRENCH BACKFILL SHALL BE COMPACTED IN 12-INCH LAYERS LOOSE MEASUREMENT. COMPACTION SHALL BE TO AT LEAST THE DENSITY OF THE SURROUNDING GROUND. THE COST OF ALL BACKFILLS IS TO BE INCLUDED IN THE PRICE BID FOR THE VARIOUS SEWER ITEMS. PAYMENT FOR THIS ITEM SHALL NOT EXCEED A 4 FEET WIDE TRENCH. THE COST OF ALL BACKFILL IS INCLUDED IN THE PRICE BID FOR VARIOUS SEWER SYSTEMS.

MATERIALS:

ALL FORCEMAIN MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT RULES AND REGULATIONS. ALL FORCEMAIN MATERIAL SHALL BE PVC IN GRADE BETWEEN WATER LINES AND FORCEMAIN. THE FORCEMAIN SHALL BE LOWERED DURING CONSTRUCTION. BACKFILL GROUND OVER THE TOP OF THE PIPE SHALL BE FREE OF ROCKS, ORGANIC REFUSE OR OTHER OBJECTIONABLE MATERIAL. SEE BACKFILL NOTE ABOVE. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR CONDUCTING PRESSURE AND LEAKAGE TESTS AT A PRESSURE OF 150 PSI IN ACCORDANCE WITH AWWA C-600.

45. SANITARY SEWER NOTES:

SERVICES:

PIPE FOR ALL SERVICES SHALL BE 4-INCH, SCHEDULE 40 PVC SEWER PIPE ASTM D3034, SDR 35, THE SERVICE IS SUBJECT TO EITHER THE INFILTRATION/EXFILTRATION OR AIR TEST. ALL SERVICE EXTENSIONS SHALL BE LAID AT A MINIMUM GRADE OF ¼ INCH PER FOOT. CONTRACTOR SHALL INSTALL A WYE, RISER AND CAP 3' PAST THE PROPERTY LINE WITH CLEAN OUT, PAYMENT FOR THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 6" SANITARY SEWER SERVICE LATERAL, RISER AND APPURTENANCES AS PER PLAN.

BACKFILL:

WHERE THE SANITARY SEWER OR SEWER SERVICE CROSSES PAVEMENT THE TOP OF BEDDING SHALL BE BACKFILL WITH SUITABLE MATERIAL. BACKFILL SHALL BE SUITABLE MATERIAL FROM THE BOTTOM OF THE TRENCH TO WITHIN 8" OF THE FINISHED OR EXISTING GRADE. 8" OF COMPACTED GRANULAR MATERIAL SHALL BE PLACED TO FINISHED GRADE. ALL TRENCH BACKFILL SHALL BE COMPACTED IN 12-INCH LAYERS, LOOSE MEASUREMENT, COMPACTION SHALL BE TO AT LEAST THE DENSITY OF THE SURROUNDING GROUND. THE COST OF ALL BACKFILL IS TO BE INCLUDED IN THE PRICE BID FOR THE VARIOUS SEWER ITEMS. PAYMENT FOR THIS ITEM SHALL NOT EXCEED A 4 FEET WIDE TRENCH, FOR LANDSCAPE AREAS.

FINAL BACKFILL:

FINAL BACKFILL SHALL BE OF A SUITABLE MATERIAL REMOVED FROM EXCAVATION EXCEPT WHERE OTHER MATERIAL IS SPECIFIED. DEBRIS, FROZEN MATERIAL, LARGE CLOUDS OR STONES, ORGANIC MATTER, OR OTHER UNSTABLE MATERIALS SHALL NOT BE USED FOR FINAL BACKFILL WITHIN 2 FEET OF THE TOP OF THE PIPE.

FINAL BACKFILL SHALL BE PLACED IN SUCH A MANNER AS NOT TO DISTURB THE ALIGNMENT OF THE PIPE.

BEDDING:

ALL PIPE 8" OR SMALLER SHALL BE BEDDED IN #57, 6" BELOW AND 12" ABOVE TOP OF PIPE. AS SHOWN ON PAGES 2, 3, & 4.

LEAKAGE TEST:

LEAKAGE TEST SHALL BE SPECIFIED. THIS MAY INCLUDE APPROPRIATE WATER OR LOW PRESSURE AIR TESTING. THE TESTING METHODS SELECTED SHOULD TAKE INTO CONSIDERATION THE RANGE IN GROUNDWATER ELEVATIONS DURING THE TEST AND ANTICIPATED DURING THE DESIGN LIFE OF THE SEWER.

WATER (HYDROSTATIC) TEST (FORCEMAIN):

THE LEAKAGE EXFILTRATION OR INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM. AN EXFILTRATION OR INFILTRATION TEST SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET.

AIR TEST (GRAVITY SEWER):

THE AIR TEST SHALL, AS A MINIMUM, CONFORM TO THE TEST PROCEDURE DESCRIBED IN ASTM C-828-86 FOR CLAY PIPE, ASTM C 924 FOR CONCRETE PIPE, ASTM F-1417 FOR PVC, AND FOR OTHER MATERIALS TEST PROCEDURES APPROVED BY THE REGULATORY AGENCY.

STORM SEWER CROSSING:

WHERE THE SANITARY SEWER CROSSES A PROPOSED STORM SEWER, THE TRENCH SHALL BE BACKFILLED TO THE BOTTOM OF THE PROPOSED STORM SEWER WITH COMPACTED GRANULAR MATERIAL. EXTENDING A DISTANCE OF 10 LINEAL FEET CENTERED ON THE STORM SEWER. THE COST OF THIS IS TO BE INCLUDED IN THE PRICE BID FOR VARIOUS SEWER ITEMS.

WATER LINE CROSSING:

ALL SANITARY SEWERS OR MANHOLES SHALL BE PLACED WITH AT LEAST 10 FEET HORIZONTAL SEPARATION FROM WATER LINES. WHENEVER A WATER LINE AND SEWER MUST CROSS. THE SEWER MAIN SHALL BE LAID SUCH THAT THE CROWN OF THE SEWER IS AL LEAST 18 INCHES BELOW THE INVERT OF THE WATER LINE MEASURED BETWEEN THE OUTSIDE PIPE WALLS. IN CASES WHERE THE REQUIRED SEPARATION CANNOT BE MAINTAINED, CLOSER INSTALLATION MAY BE PERMITTED ON A CASE-BY-CASE BASIS ONLY AFTER RECEIPT OF WRITTEN CONCURRENCE FROM THE OHIO EPA DIVISION OF DRINKING WATER.

MANHOLES:

ALL MANHOLES SHALL BE PRE-CAST, CONSTRUCTION AND PLACED IN ACCORDANCE WITH ASTM C-478 MATERIAL SPECIFICATIONS. THE JOINTS SHALL CONFORM TO ASTM C-443 JOINT SPECIFICATIONS. ALL MANHOLES SHALL REQUIRE MECHANICAL CHIMNEY SEALS TO BE INSTALLED, ALL MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH ASTM-1244 SPECIFICATIONS.

MANHOLE CASTINGS:

ALL MANHOLE CASTINGS SHALL BE DUCTILE IRON AND MEET THE REQUIREMENTS OF ASTM A48. ADDITIONALLY, CASTINGS SHALL BE NEENAH R-1916-F, SUBJECT TO THE COUNTY'S APPROVAL, WITH TOP SURFACE LETTERING "SANITARY SEWER", OR EQUAL. CHIMNEY SEALS TO BE INCLUDED WITH THE CASTINGS. CASTING ADJUSTMENT BY GRADE RINGS MUST BE LESS THAN ONE (1) FOOT BEFORE A BARREL SECTION IS REQUIRED.

SEWER PIPE:

THE MINIMUM REQUIREMENTS FOR SEWER PIPE ON THIS PROJECT SHALL BE PVC-SDR 35 SEWER PIPE MEETING ASTM D-3034 WITH JOINTS MEETING ASTM D-3212 AND FLEXIBLE RUBBER GASKETS MEETING ASTM F-477. BACKFILL SHALL CONFORM TO ASTM D-2321, UNLESS OTHERWISE SHOWN ON THE PLANS.

DEFLECTION TEST:

DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE. THE TEST SHALL BE CONDUCTED AFTER FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM, AND 1 YEAR AFTER INITIAL TESTING.

NO PIPE SHALL EXCEED A DEFLECTION OF 5 PERCENT, IF DEFLECTION EXCEEDS 5 PERCENT REPLACEMENT OR CORRECTION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH REQUIREMENTS IN THE APPROVED SPECIFICATIONS. THE RIGID BALL OR MANDREL USED FOR THE DEFLECTION TEST SHALL HAVE A DIAMETER NOT LESS THAN 95 PERCENT OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE DEPENDING ON WHICH IS SPECIFIED IN ASTM SPECIFICATION, INCLUDING THE APPENDIX TO WHICH THE PIPE IS MANUFACTURED. THE PIPE SHALL BE MEASURED IN COMPLIANCE WITH ASTM D-2122 STANDARD TEST METHOD OF DETERMINING DIMENSIONS OF THERMOPLASTIC PIPE AND FITTINGS. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES. MANDREL TESTING MUST BE PERFORMED AT 30 DAYS AND ONE (1) YEAR FOLLOWING INSTALLATION.

SEEDING AND MULCHING:

PERMANENT SEEDING SHALL BE APPROVED FOR ALL EXPOSED SOIL SURFACES WITHIN SEVEN (7) DAYS AFTER THE FINISH GRADE IS REACHED. PERMANENT EEDING AND MULCHING AS SPECIFIED IN ODOT ITEM 659 IS ACCEPTABLE.

AREAS WHERE PERMANENT SEEDING HAS FAILED TO GERMINATE SHALL BE RESEEDDED AND MULCHING AS NECESSARY TO ACHIEVE STABILIZATION.

46. GRINDER PUMP:

SHALL BE E/ONE EXTREME MODEL DH071 MEETING THE FOLLOWING SPECIFICATIONS:
RATED FOR 700GPD
70 GALLON CAPACITY
INDOOR OR OUTDOOR INSTALLATION
STANDARD OUTDOOR HEIGHTS RANGE FORM 61 INCHES TO 160 INCHES

GRINDER PUMP ELECTRIC MOTOR:

SHALL BE A 1HP, 1725RPM, 240 VOL 60 HERTZ, 1 PHASE, CAPACITOR START, BALL BEARING, AIR-COOLED INDUCTION TYPE WITH CLASS F INSULATION, LOW STARTING CURRENT NOT TO EXCEED 30AMPS.

47. FIELD VERIFICATION OF SURVEY:

CONTRACTOR SHALL FIELD VERIFY EXISTING GROUND ELEVATIONS AT ALL EXISTING AND PROPOSED MANHOLES TO CONFIRM THE TOP OF CASTINGS. FIELD VERIFICATION SHALL BE COMPLETED BEFORE MANHOLE SHOP DRAWINGS ARE SUBMITTED.

CONTRACTOR SHALL PROVIDE MUSKINGUM COUNTY WITH AN ELECTRONIC COPY OF ALL SURVEY SHOTS TAKEN IN X, Y, Z COORDINATES.

48. WETLAND IMPACTS / RESTORATION:

MATERIAL RESULTING FROM TRENCH EXCAVATION MAY BE TEMPORARILY SIDECAST INTO WATERS OF THE UNITED STATES FOR NO MORE THAN THREE MONTHS, PROVIDED THE MATERIAL IS NOT PLACED IN SUCH A MANNER THAT IT IS DISPERSED BY CURRENTS OR OTHER FORCES. THE DISTRICT ENGINEER MAY EXTEND THE PERIOD OF TEMPORARY SIDE CASTING FOR NO MORE THAN A TOTAL OF 180 DAYS, WHERE APPROPRIATE. IN WETLANDS, THE TOP 6 TO 12 INCHES OF THE TRENCH SHOULD NORMALLY BE BACKFILLED WITH TOPSOIL FROM THE TRENCH. THE TRENCH CANNOT BE CONSTRUCTED OR BACKFILLED IN SUCH A MANNER AS TO DRAIN WATERS OF THE UNITED STATES (E.G., BACKFILLING WITH EXTENSIVE GRAVEL LAYERS, CREATING A FRENCH DRAIN EFFECT). ANY EXPOSED SLOPES AND STREAM BANKS MUST BE STABILIZED IMMEDIATELY UPON COMPLETION OF THE UTILITY LINE CROSSING OF EACH WATERBODY. CONTRACTOR SHALL BE REQUIRED ONLY TO SEED WETLAND AREAS THAT ARE IMPACTED. SEED MIX MUST BE A RIPARIAN / WETLAND SEED MIX.

MUSKINGUM COUNTY WILL COMPLETE THE REMAINDER OF WETLAND RESTORATION BY REPLANTING SPECIES THAT WERE DAMAGED BY CONSTRUCTION ACTIVITIES WITHIN THE FORESTED WETLAND AREAS DESIGNATED ON THE PLANS. PLANTINGS WILL BE COMPLETED USING THE GUIDE OF 100-200 BARE ROOT TREES PER ACRE. MUSKINGUM COUNTY WILL COMPLETE A PRE-CONSTRUCTION SURVEY OF THE SPECIES FOUND WITHIN THE FORESTED WETLAND AREAS FOR RESTORATION PURPOSES. THE FOLLOWING SPECIES ARE KNOWN TO EXIST: QUERCUS BICOLOR, QUERCUS PALUSTRIS, ULMUS AMERICANA, AND PLATANUS OCCIDENTALIS.

49. RESTRICTED PERIODS OF CONSTRUCTION

CONTRACTOR RESTRICTED TO A CONSTRUCTION PERIOD THAT BEGINS FEBRUARY 4, 2026 AND ENDS NOVEMBER 28, 2026. ADDITIONALLY, THE OHIO ENVIRONMENTAL PROTECTION AGENCY WILL NOT ALLOW CONSTRUCTION WITHIN THE LITTLE SALT CREEK FROM MARCH 15, 2026 UNTIL JUNE 30, 2026.

Mark J. Eicher, P.E., P.S.
Muskingum County
ENGINEER'S OFFICE

109 Graham Street
Zanesville, Ohio 43701
740-454-0155

PREPARED BY:

PROJECT NAME:
BOGGS ROAD SANITARY SEWER IMPROVEMENTS

PROJECT LOCATION:
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

GJW

DATE:

09/09/2024

REVISED:

10/09/2025

SHEET SIZE:

11" x 17"

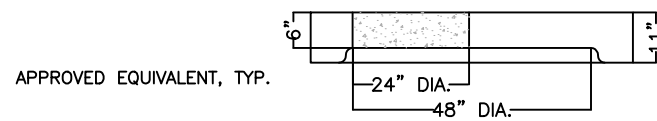
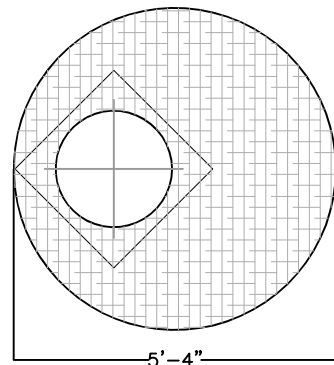
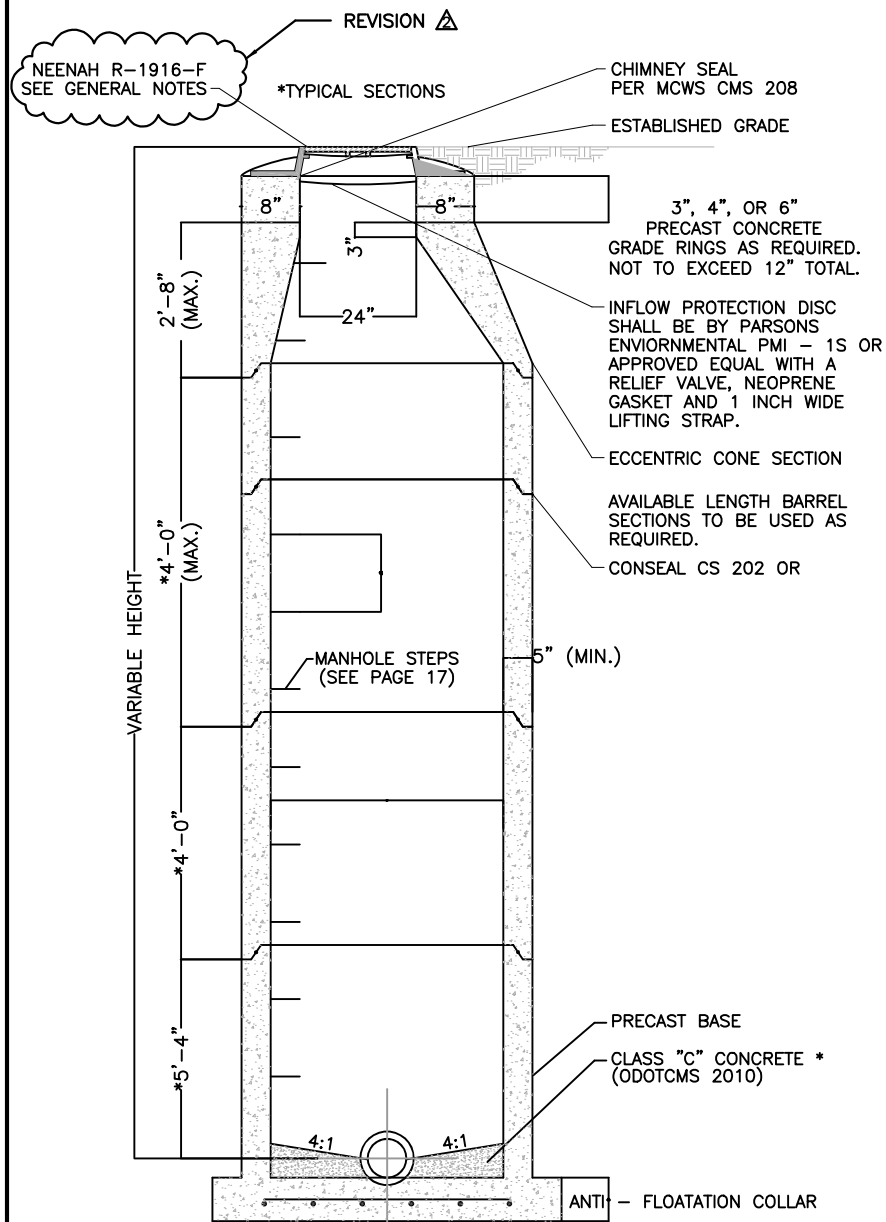
SHEET NAME:

GENERAL NOTES (2)

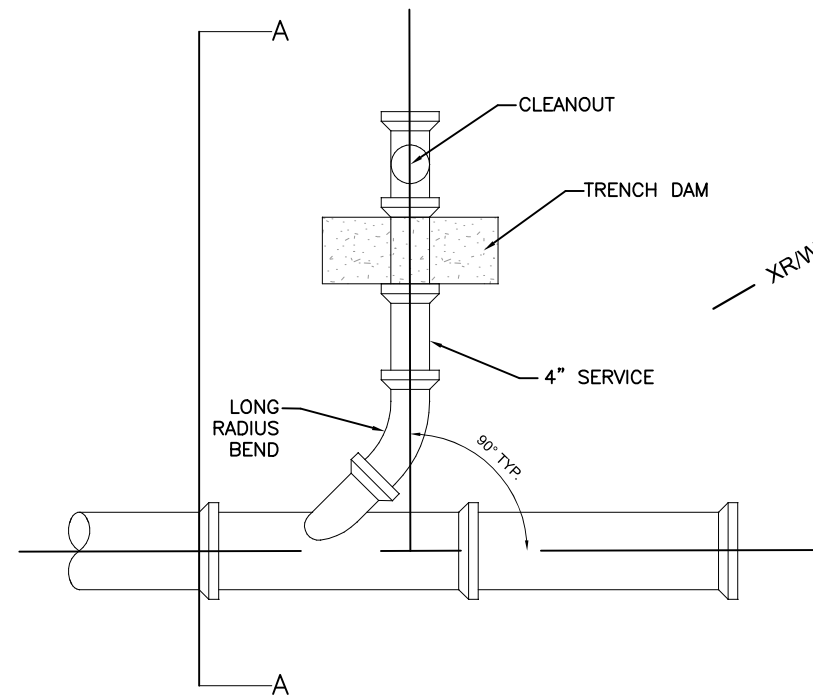
SHEET NUMBER:

04
18

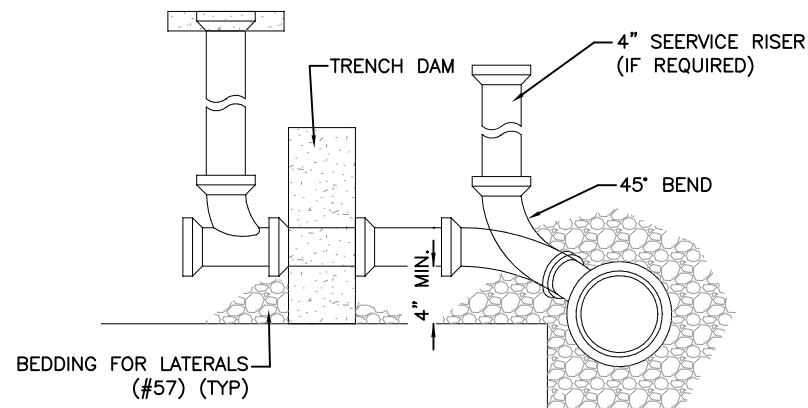
REVISION	REV. BY	DATE	DESCRIPTION
△	GJW	10/09/2025	MODIFICATION OF MANHOLE CASTING REQUIREMENTS.



ALTERNATE TOP SLAB

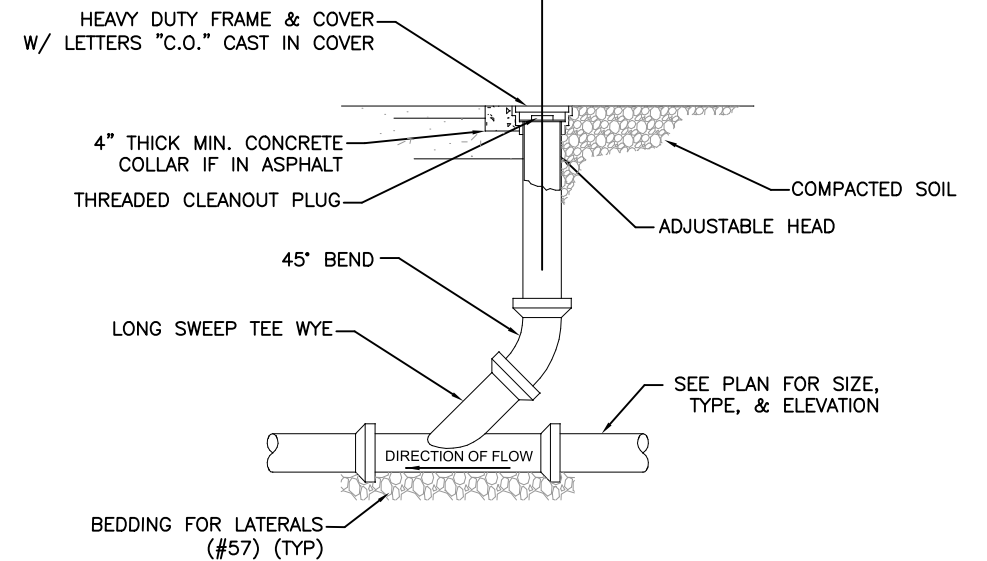
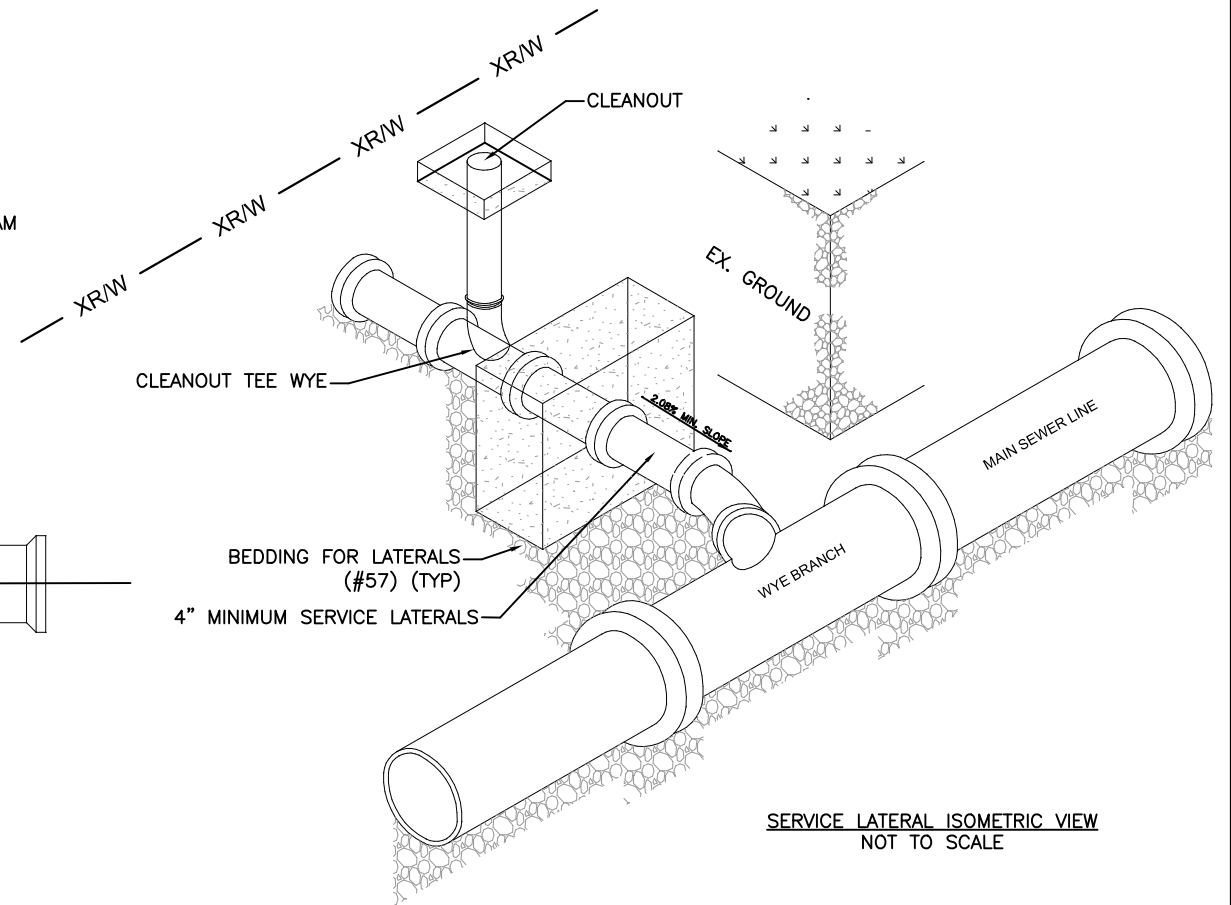


SERVICE LATERAL PLAN VIEW
NOT TO SCALE



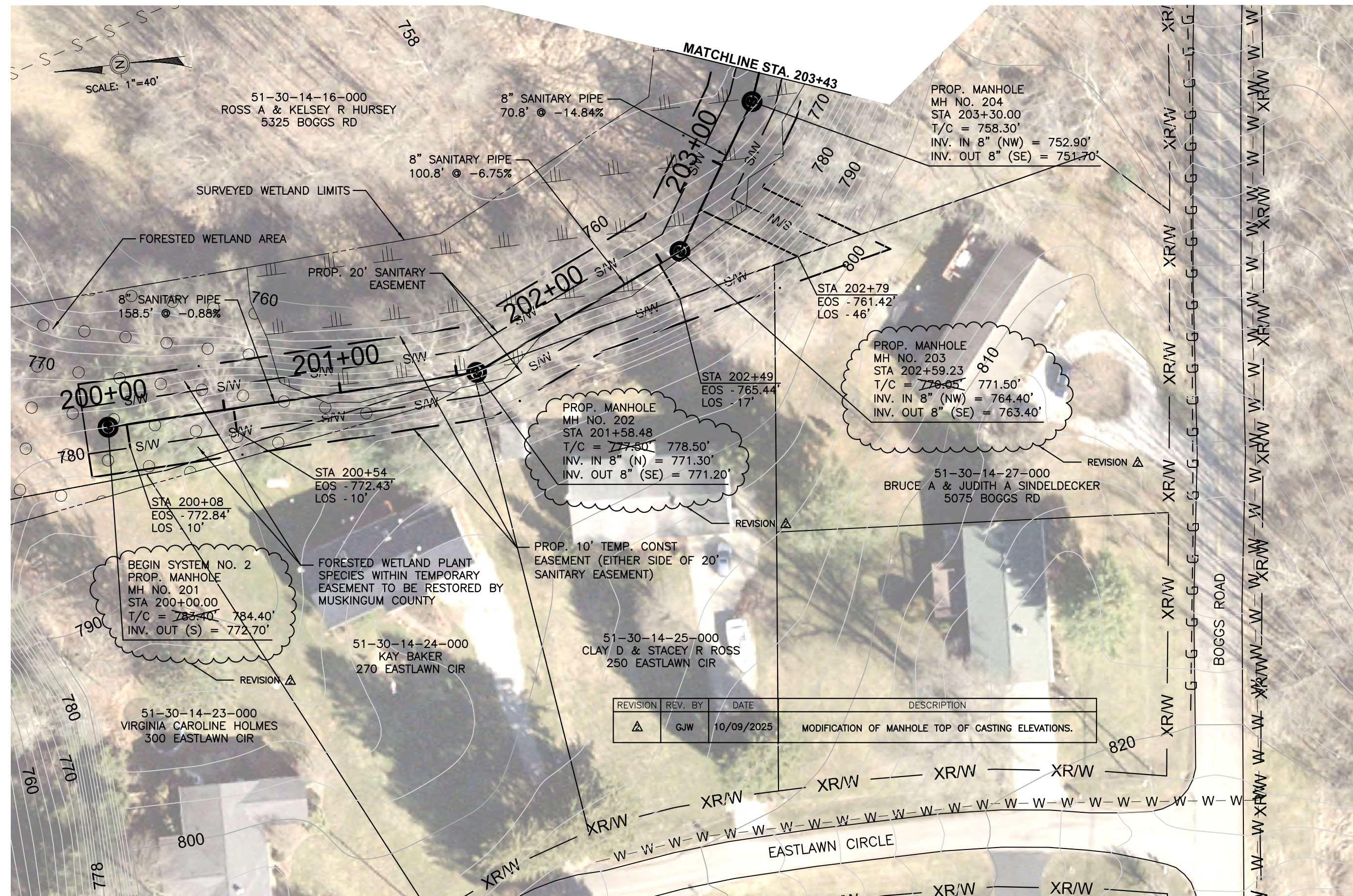
SERVICE LATERAL SECTION A-A
NOT TO SCALE

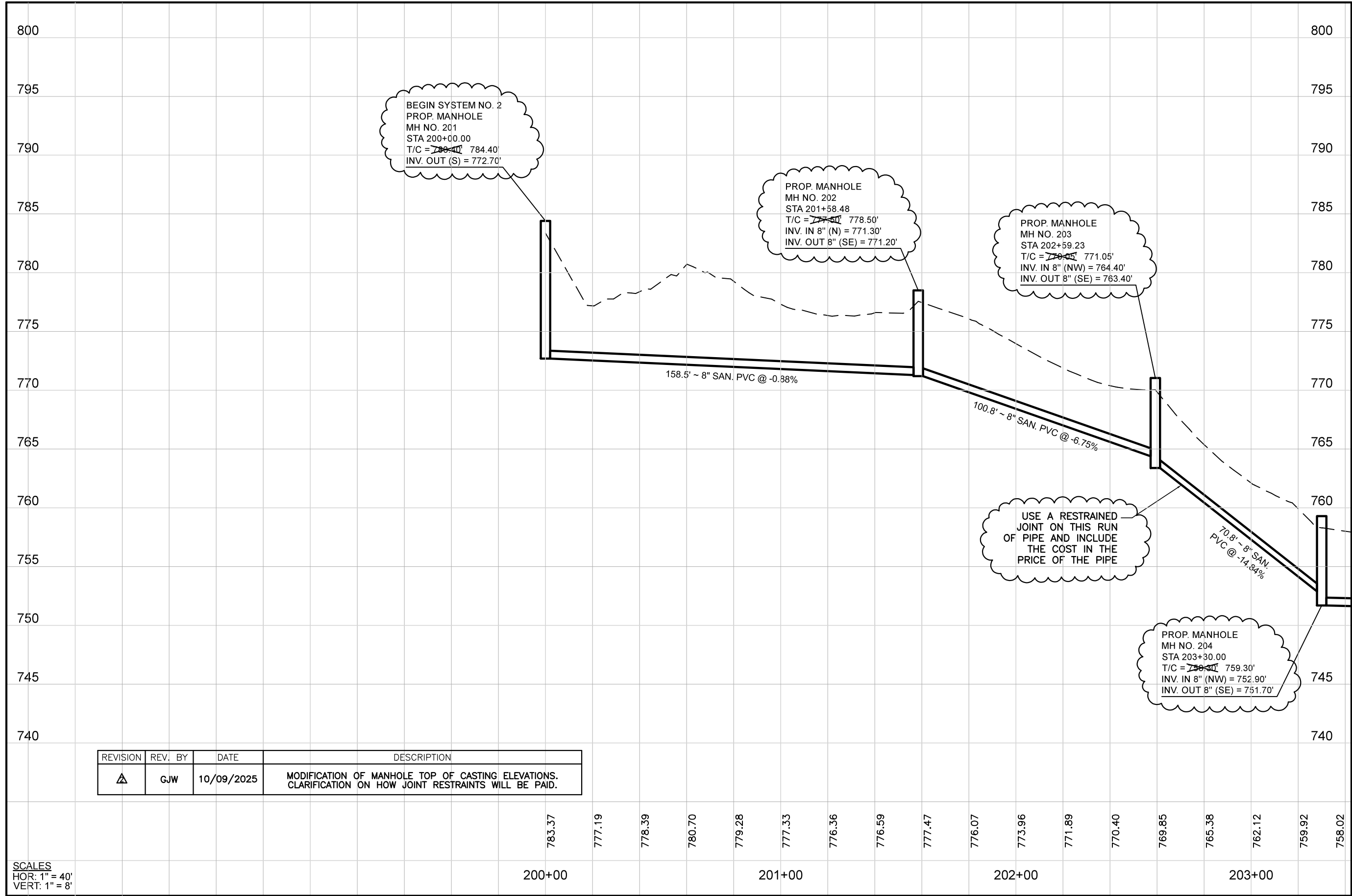
- NOTES:
1. COST OF TRENCH DAM, RISER, CLEAN OUT, CLEAN OUT TEE WYE, PIPE BENDS, BEDDING, HEAVY DUTY FRAME & COVER, CONCRETE COLLAR, AND COMPACTION TO BE INCLUDED IN THE PRICE FOR SERVICE LATERAL PIPE.
 2. ALL SERVICE LINES, RISERS, ETC. ASSOCIATED WITH NEW SANITARY SEWER SERVICE SHALL BE 4" DIAMETER UNLESS NOTED IN THE PLANS OTHERWISE.
 3. CONTRACTOR CAN USE NO. 8 STONE IN LIEU OF NO. 57 STONE AS LONG AS COMPACTION REQUIREMENTS ARE MET AT NO ADDITIONAL COST TO THE OWNER.
 4. SEE MUSKINGUM COUNTY SEWER STANDARDS FOR ADDITIONAL INFORMATION REGARDING STANDARD MANHOLE SHOWN HERE.



ROAD ONLY CLEANOUT DETAIL
NOT TO SCALE

REVISION	REV. BY	DATE	DESCRIPTION
A	GJW	10/09/2025	MODIFICATION OF MANHOLE CASTING REQUIREMENTS.





Mark J. Eicher, P.E., P.S.
109 Graham Street
Zanesville, Ohio 43701
740-454-0155

Muskingum County
ENGINEER'S OFFICE

PREPARED BY:
PROJECT NAME:
PROJECT LOCATION:

BOGGS ROAD SANITARY SEWER IMPROVEMENTS
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

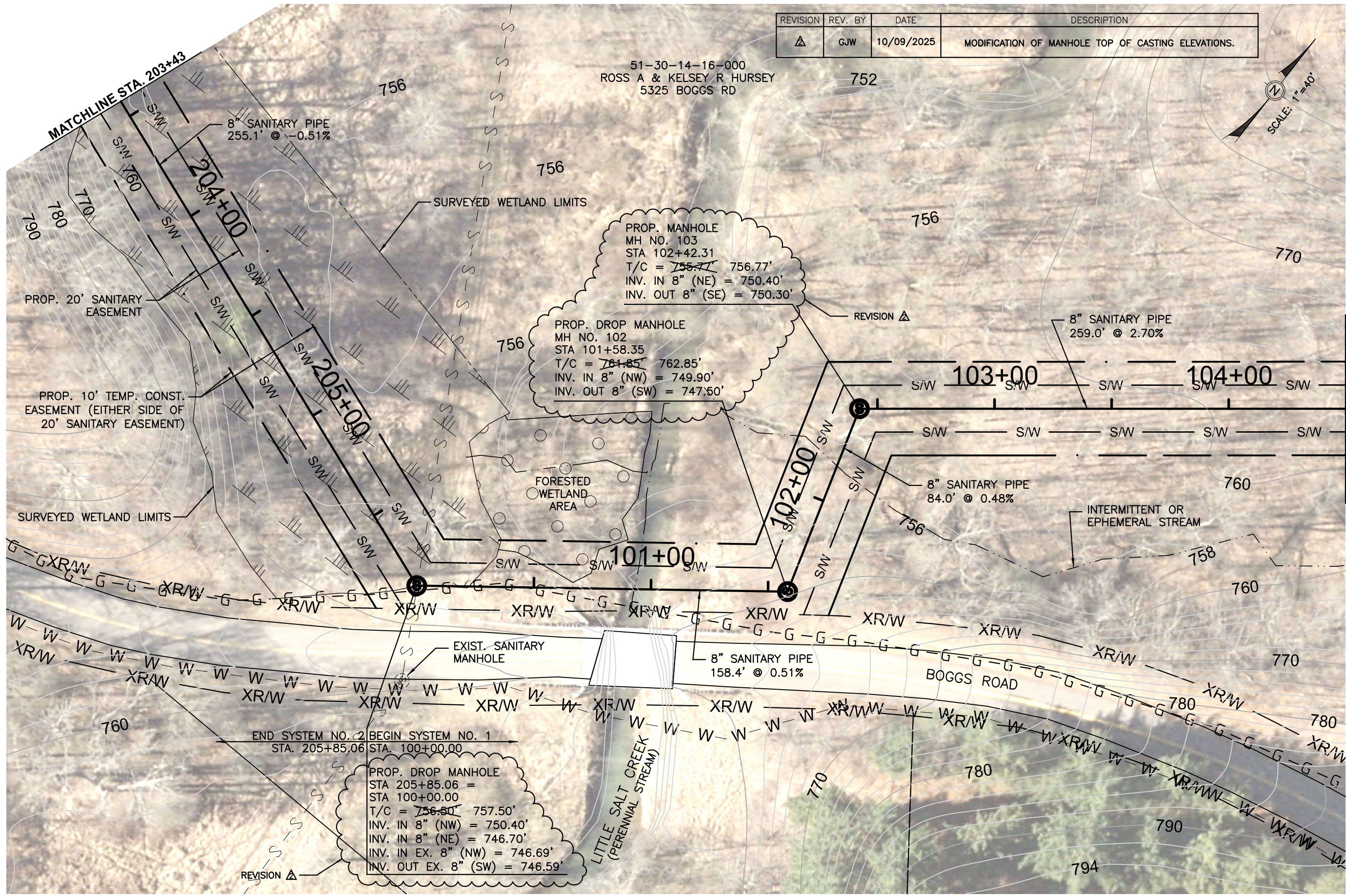
DATE:
09/09/2024

REVISED:
10/09/2025

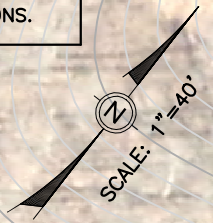
SHEET SIZE:
11" x 17"

SHEET NAME:
PROFILE SHEET (1)

SHEET NUMBER:
08
18



REVISION	REV. BY	DATE	DESCRIPTION
Δ	GJW	10/09/2025	MODIFICATION OF MANHOLE TOP OF CASTING ELEVATIONS.



51-30-14-16-000
ROSS A & KELSEY R HURSEY
5325 BOGGS RD

PROP. MANHOLE
MH NO. 103
STA 102+42.31
T/C = ~~755.77~~ 756.77'
INV. IN 8" (NE) = 750.40'
INV. OUT 8" (SE) = 750.30'

PROP. DROP MANHOLE
MH NO. 102
STA 101+58.35
T/C = ~~761.85~~ 762.85'
INV. IN 8" (NW) = 749.90'
INV. OUT 8" (SW) = 747.50'

PROP. DROP MANHOLE
STA 205+85.06 =
STA 100+00.00
T/C = ~~756.50~~ 757.50'
INV. IN 8" (NW) = 750.40'
INV. IN 8" (NE) = 746.70'
INV. IN EX. 8" (NW) = 746.69'
INV. OUT EX. 8" (SW) = 746.59'

MATCHLINE STA. 104+50

Mark J. Eicher, P.E., P.S.
109 Graham Street
Zanesville, Ohio 43701
740-454-0155

PREPARED BY:
PROJECT NAME:
PROJECT LOCATION:
PLANS APPROVED BY:
PLANS PREPARED BY:
DATE:
REVISED:
SHEET SIZE:
SHEET NAME:
SHEET NUMBER:

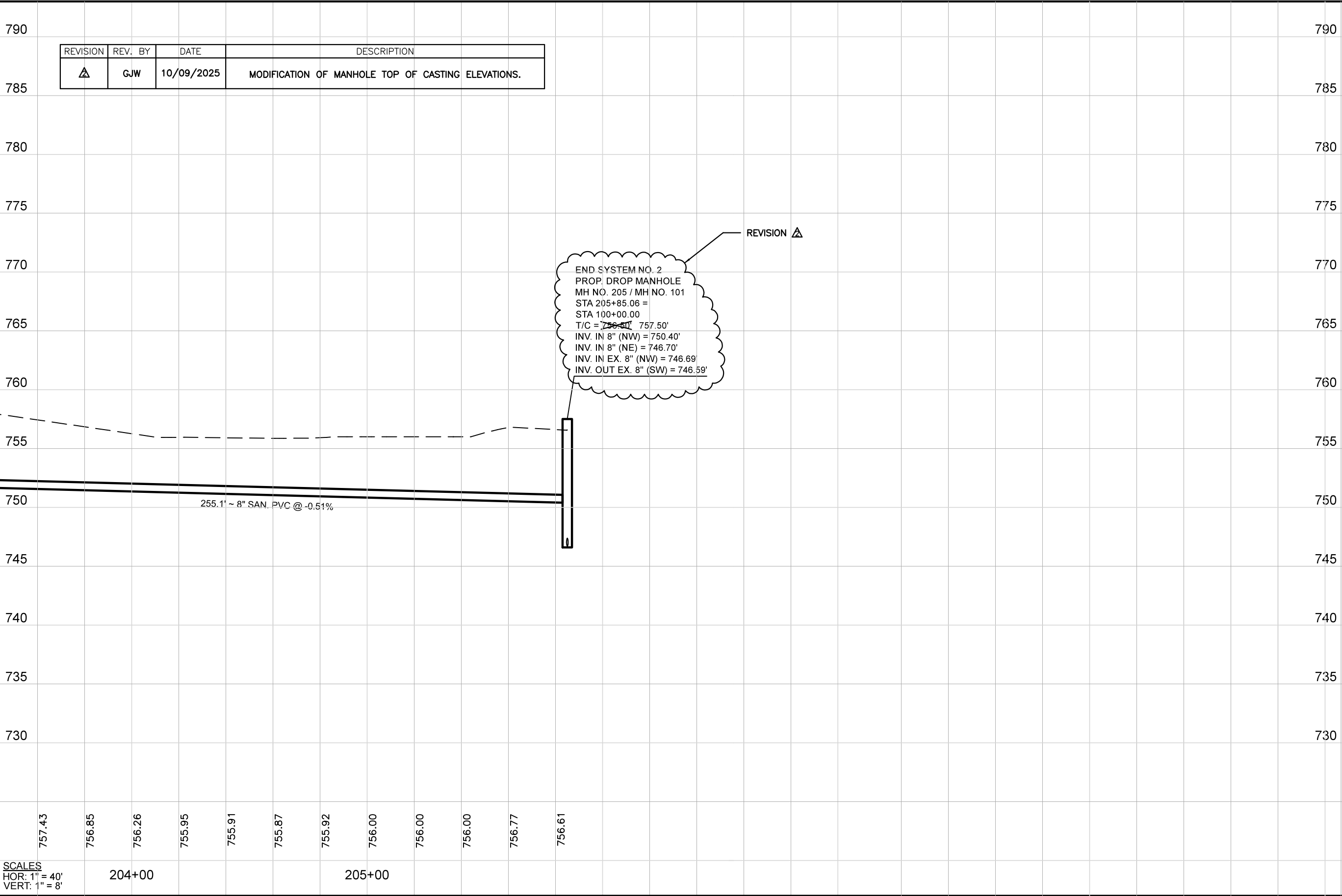
BOGGS ROAD SANITARY SEWER IMPROVEMENTS
ZANESVILLE, OHIO 43701

PLAN SHEET (2)

09
18

MATCHLINE STA. 203+43

REVISION	REV. BY	DATE	DESCRIPTION
△	GJW	10/09/2025	MODIFICATION OF MANHOLE TOP OF CASTING ELEVATIONS.



Mark J. Eicher, P.E., P.S.
109 Graham Street
Zanesville, Ohio 43701
740-454-0155

Muskie County
ENGINEER'S OFFICE

PREPARED BY:
Mark J. Eicher, P.E., P.S.

PROJECT NAME:
BOGGS ROAD SANITARY SEWER IMPROVEMENTS

PROJECT LOCATION:
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

DATE:
09/09/2024

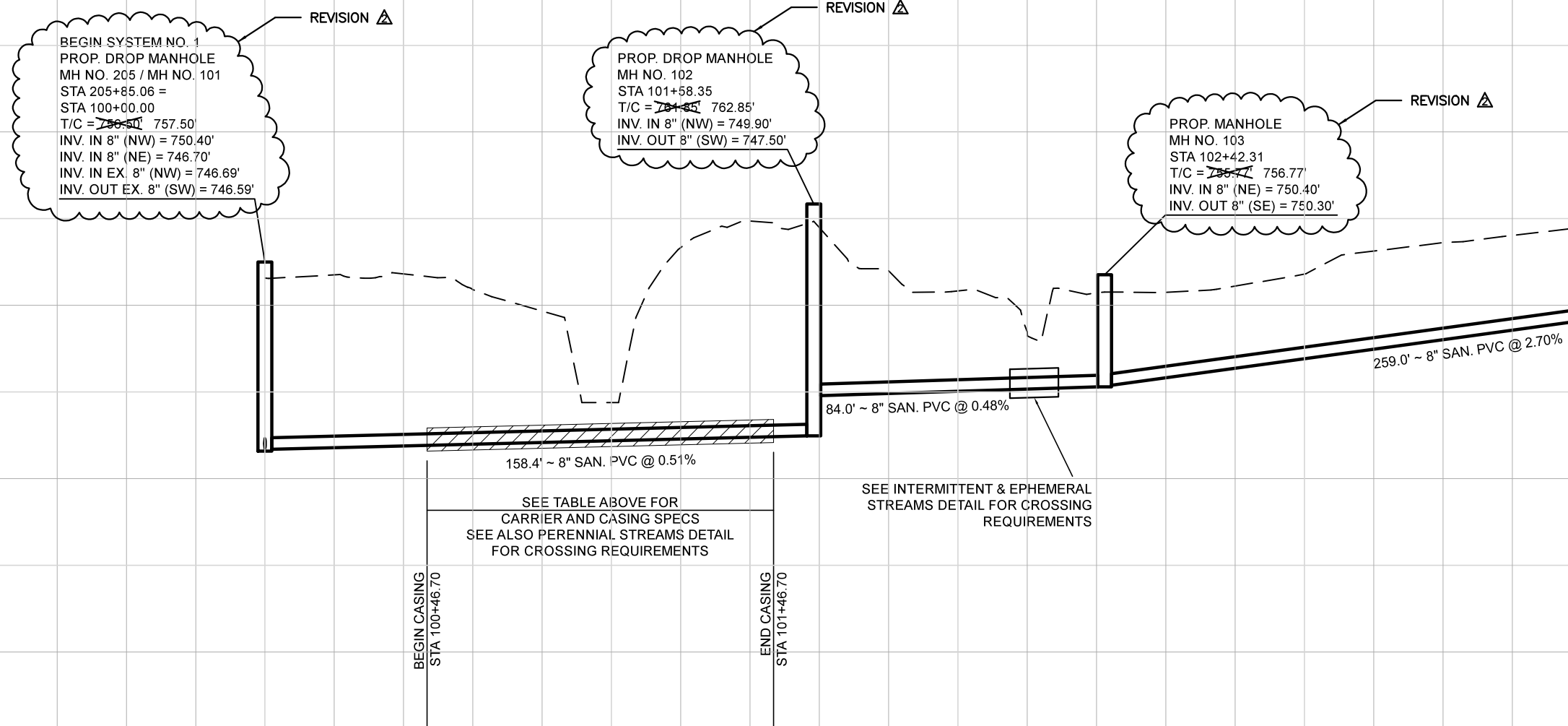
REVISED:
10/09/2025

SHEET SIZE:
11" x 17"

SHEET NAME:
PROFILE SHEET (2)

SHEET NUMBER:
10 / 18

		CARRIER & CASING PIPE DETAILS											
CARRIER PIPE DETAILS													
MATERIAL	SIZE	PIPE SPECS	JOINT SPECS	INSTALLATION	PRESSURE PSI	WALL THICKNESS - IN	GRADE	TENSILE STRENGTH MIN - PSI	YIELD STRENGTH MIN - PSI				
PVC / SDR 35	8"	ASTM D3034	ASTM D3212	ASTM D2321	146	0.253	-	-	-				
CASING PIPE DETAILS													
STEEL ASTM A53	16"	-	-	-	1,148	0.375	A	48,000	30,000				



REVISION	REV. BY	DATE	DESCRIPTION
△	GJW	10/09/2025	MODIFICATION OF MANHOLE TOP OF CASTING ELEVATIONS.

SCALES
HOR: 1" = 40'
VERT: 1" = 8'

MATCHLINE STA. 104+50

BOGGS ROAD SANITARY SEWER IMPROVEMENTS

ZANESVILLE, OHIO 43701

VOLUME 1

MAN APPROVED BY:

MJE

ANS PREPARED BY:

GJW

08/25/2025

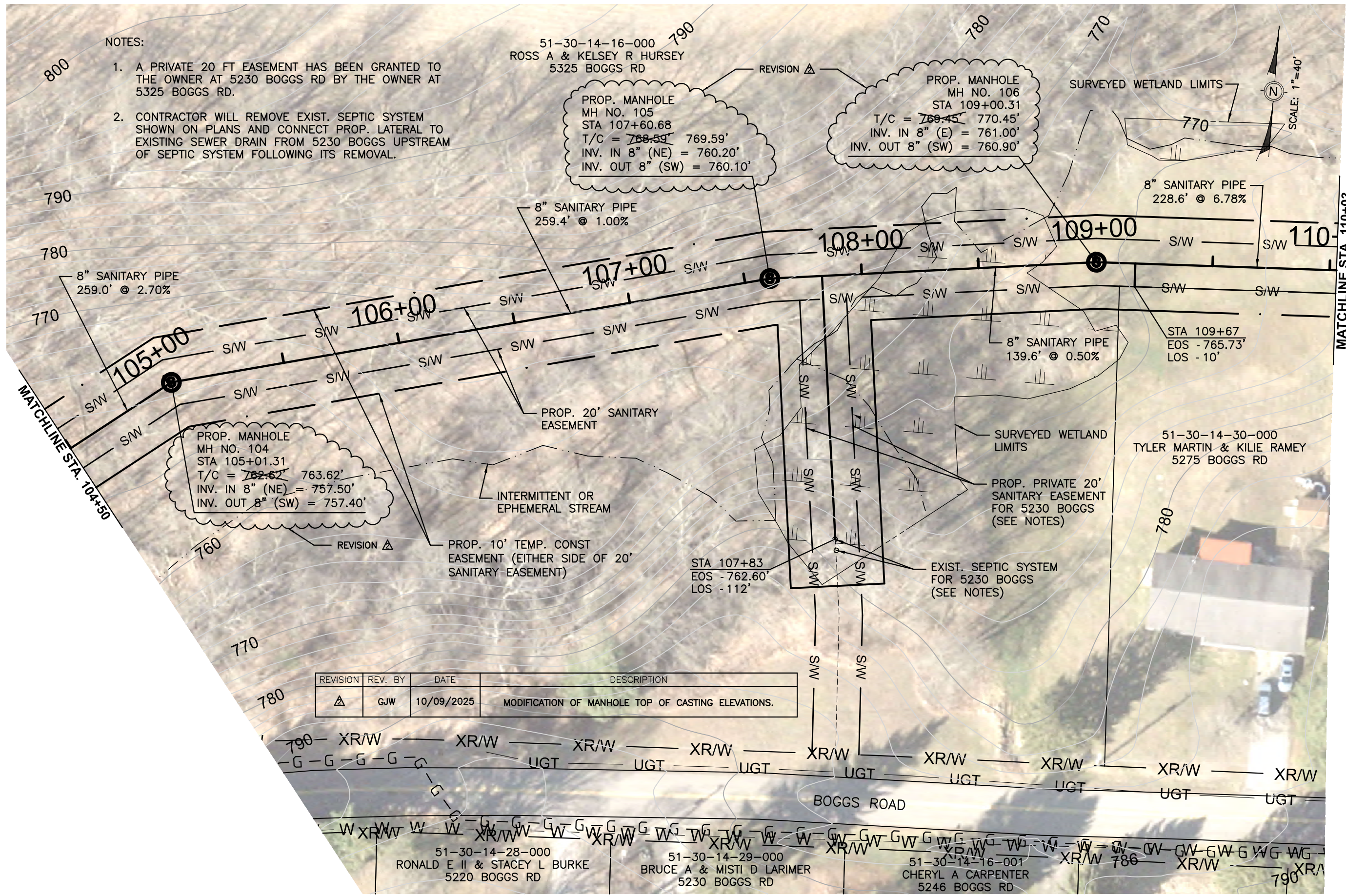
10/09/2025

11" x 17"

PROFILE
SHEET (2A)

SHEET NUMBER:

Waskungum
County
109 Graham Street
Zanesville, Ohio 43701
ENGINEER'S OFFICE 740-454-0155



- NOTES:
1. A PRIVATE 20 FT EASEMENT HAS BEEN GRANTED TO THE OWNER AT 5230 BOGGS RD BY THE OWNER AT 5325 BOGGS RD.
 2. CONTRACTOR WILL REMOVE EXIST. SEPTIC SYSTEM SHOWN ON PLANS AND CONNECT PROP. LATERAL TO EXISTING SEWER DRAIN FROM 5230 BOGGS UPSTREAM OF SEPTIC SYSTEM FOLLOWING ITS REMOVAL.

PROP. MANHOLE
MH NO. 105
STA 107+60.68
T/C = ~~768.59~~ 769.59'
INV. IN 8" (NE) = 760.20'
INV. OUT 8" (SW) = 760.10'

PROP. MANHOLE
MH NO. 106
STA 109+00.31
T/C = ~~769.45~~ 770.45'
INV. IN 8" (E) = 761.00'
INV. OUT 8" (SW) = 760.90'

PROP. MANHOLE
MH NO. 104
STA 105+01.31
T/C = ~~762.62~~ 763.62'
INV. IN 8" (NE) = 757.50'
INV. OUT 8" (SW) = 757.40'

REVISION	REV. BY	DATE	DESCRIPTION
Δ	GJW	10/09/2025	MODIFICATION OF MANHOLE TOP OF CASTING ELEVATIONS.

Mark J. Eicher, P.E., P.S.
109 Graham Street
Zanesville, Ohio 43701
740-454-0155

ENGINEER'S OFFICE

PROJECT NAME
BOGGS ROAD SANITARY SEWER IMPROVEMENTS

PROJECT LOCATION
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

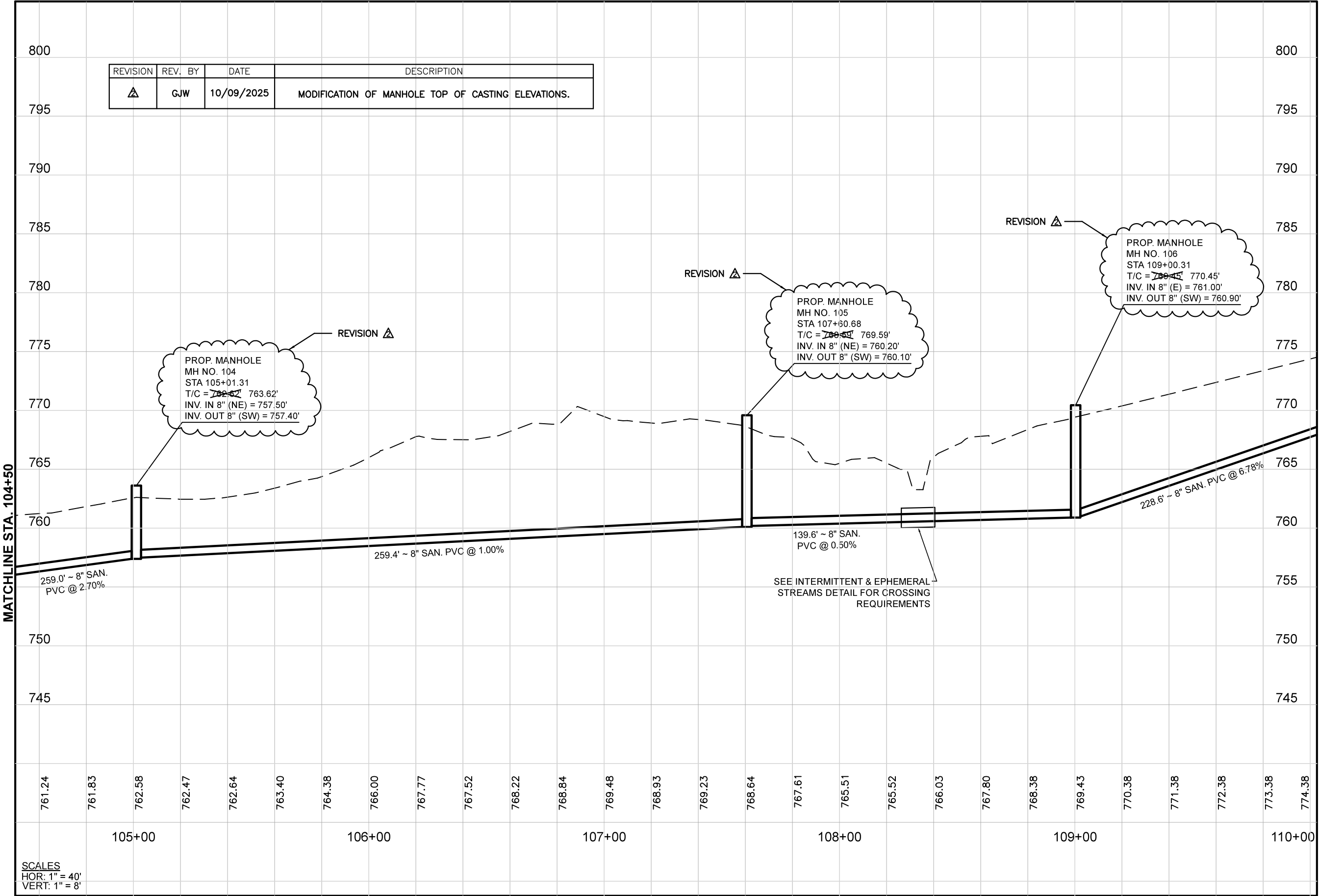
DATE:
09/09/2024

REVISED:
10/09/2025

SHEET SIZE:
11" x 17"

SHEET NAME:
PLAN SHEET (3)

SHEET NUMBER:
12 / 18



Mark J. Eicher, P.E., P.S.
109 Graham Street
Zanesville, Ohio 43701
740-454-0155


ENGINEER'S OFFICE

PREPARED BY:
Muskingum County Engineer's Office

PROJECT NAME:
BOGGS ROAD SANITARY SEWER IMPROVEMENTS

PROJECT LOCATION:
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

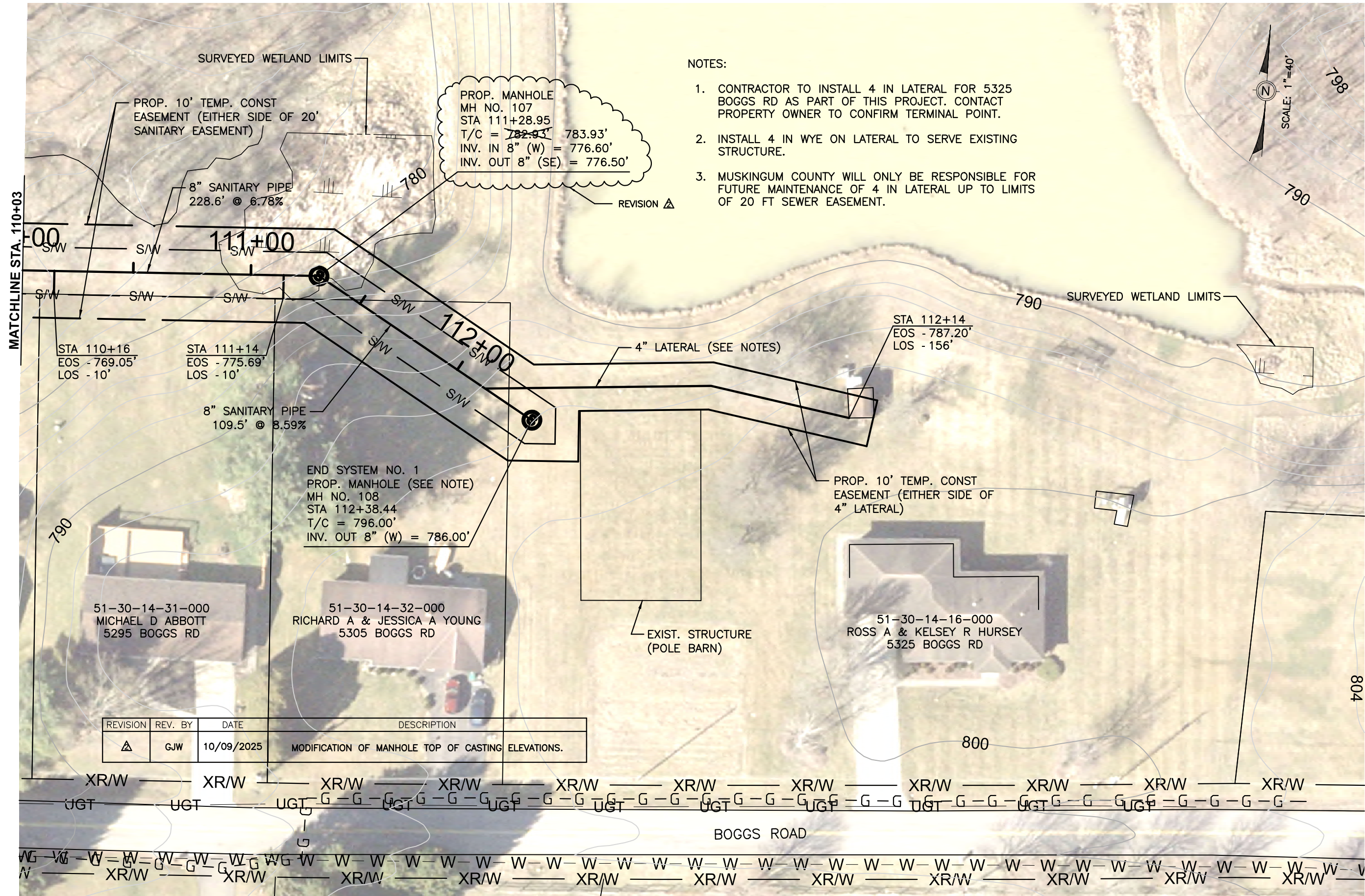
DATE:
09/09/2024

REVISED:
10/09/2025

SHEET SIZE:
11" x 17"

SHEET NAME:
PROFILE SHEET (3)

SHEET NUMBER:
13 / 18



NOTES:

- 1. CONTRACTOR TO INSTALL 4 IN LATERAL FOR 5325 BOGGS RD AS PART OF THIS PROJECT. CONTACT PROPERTY OWNER TO CONFIRM TERMINAL POINT.
- 2. INSTALL 4 IN WYE ON LATERAL TO SERVE EXISTING STRUCTURE.
- 3. MUSKINGUM COUNTY WILL ONLY BE RESPONSIBLE FOR FUTURE MAINTENANCE OF 4 IN LATERAL UP TO LIMITS OF 20 FT SEWER EASEMENT.

REVISION	REV. BY	DATE	DESCRIPTION
Δ	GJW	10/09/2025	MODIFICATION OF MANHOLE TOP OF CASTING ELEVATIONS.

Mark J. Eicher, P.E., P.S.
109 Graham Street
Zanesville, Ohio 43701
740-454-0155

ENGINEER'S OFFICE

PROJECT NAME
BOGGS ROAD SANITARY SEWER IMPROVEMENTS

PROJECT LOCATION
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

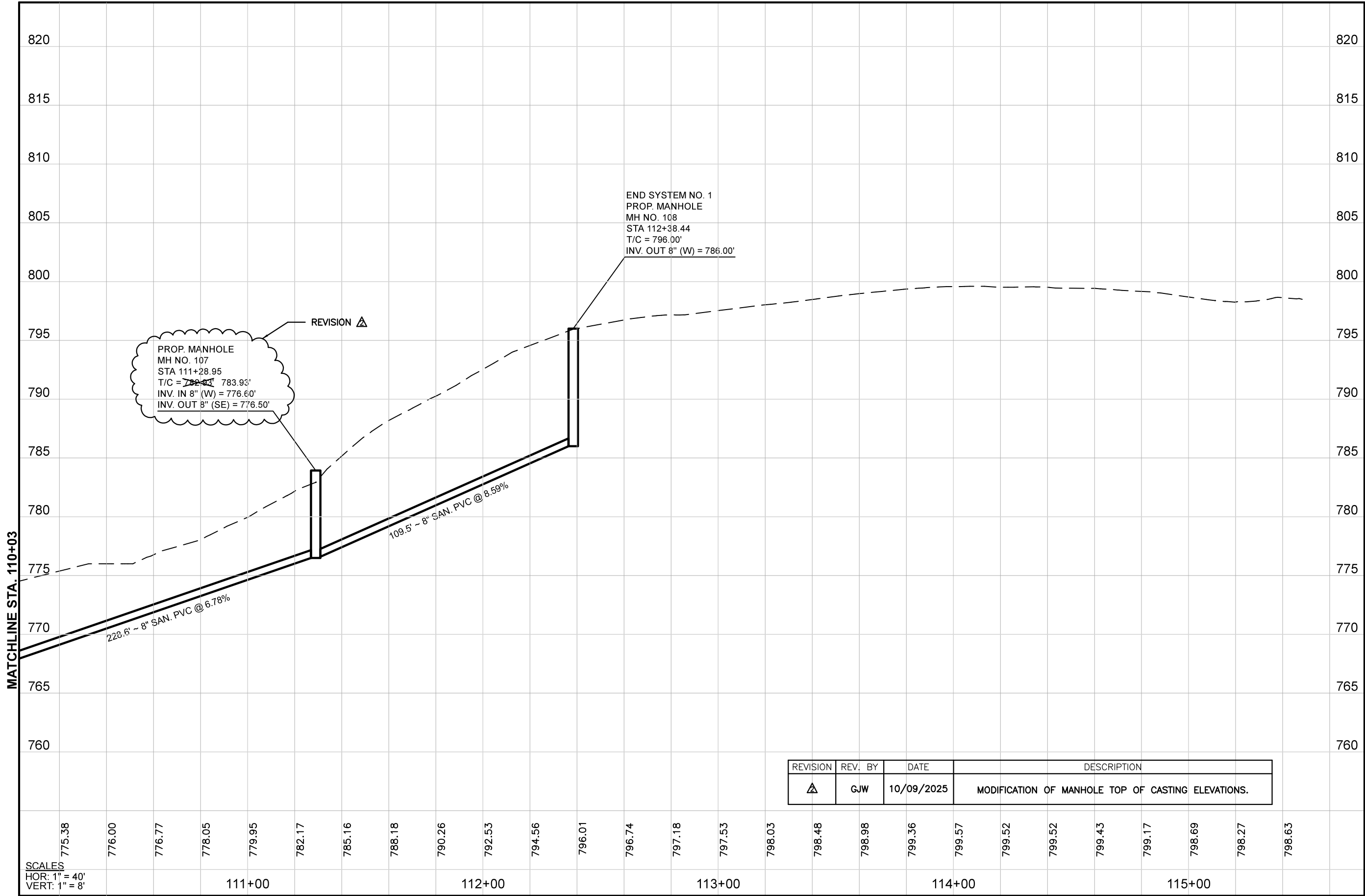
DATE:
09/09/2024

REVISED:
10/09/2025


SHEET SIZE:
11" x 17"

SHEET NAME:
PLAN SHEET (4)

SHEET NUMBER:
14 / 18



SCALES
HOR: 1" = 40'
VERT: 1" = 8'

REVISION	REV. BY	DATE	DESCRIPTION
	GJW	10/09/2025	MODIFICATION OF MANHOLE TOP OF CASTING ELEVATIONS.

Mark J. Eicher, P.E., P.S.
109 Graham Street
Zanesville, Ohio 43701
740-454-0155

**Muskingum County**
ENGINEER'S OFFICE

PREPARED BY:

PROJECT NAME:
BOGGS ROAD SANITARY SEWER IMPROVEMENTS

PROJECT LOCATION:
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

GJW

DATE:

09/09/2024

REVISED:

10/09/2025

SHEET SIZE:

11" x 17"

SHEET NAME:

PROFILE SHEET (4)

SHEET NUMBER:

15