

ELLEN DRIVE SANITARY SEWER IMPROVEMENTS

SPRINGFIELD TOWNSHIP MUSKINGUM COUNTY, OHIO

PROJECT DESCRIPTION

REPLACEMENT OF AN EXISTING VARIABLE GRADE SANITARY SEWER
WITH GRAVITY SANITARY SEWER



INDEX OF SHEETS:

TITLE SHEET.....	1
SYMBOLS & LINE STYLES LEGEND.....	2
QUANTITIES SUMMARY.....	3
GENERAL NOTES.....	4-5
DETAILS.....	6-7
PLAN & PROFILE VIEW.....	8-11

Cindy S. Cameron
CINDY S. CAMERON, PRESIDENT
MUSKINGUM COUNTY COMMISSIONER

7-11-2024
DATE

Mollie S. Crooks
MOLLIE S. CROOKS
MUSKINGUM COUNTY COMMISSIONER

7-11-2024
DATE

MELISSA J. BELL
MUSKINGUM COUNTY COMMISSIONER

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	10/03/2024	ADDITIONAL MANHOLE (MH 13) AND PIPE RUN (MH 10 TO MH 13) TO SERVE TWO ADDITIONAL HOUSES	10
2	03/17/2025	CHANGE T/C OF MH 2, MH 3 AND MH 11 PER SURVEY FIELD VERIFICATION	7, 8, 10, 11
3	06/25/2025	CHANGE SEWER ALIGNMENT AND PROFILE FROM MH 4 TO MH 7 PLUS ADD MH 6A TO ELIMINATE CROSSING DRIVEWAYS	7 - 11
4	10/07/2025	UPDATED DEPICTION OF EXISTING WATERLINE IN PROFILE; EXTENDED MH 12 APPROXIMATELY 33.5 FT WEST OF PREVIOUS LOCATION	8, 10, 11

ENGINEER'S SEAL:



SIGNED:

DATE:

10/7/25

Mark J. Eicher, PE, PS.
109 Graham Street
Zanesville, Ohio 43701
740-454-0155



PREPARED BY:

ELLEN DRIVE SANITARY SEWER IMPROVEMENTS

PROJECT NAME:

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

GJW

DATE:

07/11/2024

REVISED:

10/07/2025

SHEET SIZE:

11" x 17"

SHEET NAME:

TITLE SHEET

SHEET NUMBER:

01
11

1. **SPECIFICATIONS:**
THE REQUIREMENTS OF THE TECHNICAL SPECIFICATIONS MUSKINGUM COUNTY WATER AND SEWER DISTRICT AND THE CURRENT EDITION OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, INCLUDING ALL SUPPLEMENTS THERETO IN FORCE ON DATE OF THE CONTRACT SHALL GOVERN ALL MATERIALS AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS EXCEPT AS SUCH SPECIFICATIONS ARE MODIFIED BY THE FOLLOWING SPECIFICATIONS OR BY THE LATEST EDITION OF THE AWWA STANDARDS, SHALL APPLY AS NEEDED AND ARE HEREBY CONSIDERED A PART OF THESE PLANS.

2. **ELEVATION DATUM:**
ELEVATION SHOWN ON THESE PLANS ARE BASED ON NAVD 88 DATUM.

3. **BENCH MARKS:**
THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCH MARKS, PROPERTY CORNERS, REFERENCE POINTS, AND STAKES, ANY BENCH MARK PROPERTY CORNER, OR SURVEY MARKER DAMAGED OR DISTURBED BY THE CONTRACTOR SHALL BE RESET BY AN OHIO REGISTERED SURVEYOR AT THE CONTRACTORS EXPENSE.

4. **SAFETY REQUIREMENTS:**
THE CONTRACTOR AND ANY AND ALL SUBCONTRACTORS SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL , STATE, AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTOR TO INITIATE , MAINTAIN, AND PROGRAMS IN CONNECTION WITH THE WORK, INCLUDING ALL OSHA RULES AND REGULATIONS.

5. **CONFINED SPACE ENTRY:**
THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR FOLLOWING THE OSHA REQUIREMENTS FOR "CONFINED SPACE ENTRY" (CSE), TITLE 29 OF THE FEDERAL REGULATIONS CODE, PART 1910.146, WHILE PERFORMING WORK INSIDE ANY MANHOLE OR OTHER CONFINED SPACE REQUIRING A PERMIT. ONE COPY OF ALL CSE PERMITS SHALL BE GIVEN TO THE COUNTY UPON PROJECT COMPLETION.

6. **PERMITS:**
THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF APPROVED PERMITS FOR THIS PROJECT, UNIT PRICES MUST REFLECT PROVISIONS, MUSKINGUM COUNTY WILL NOT PROVIDE ADDITIONAL PAYMENT FOR CONTRACTOR'S COMPLIANCE WITH PROVISIONS OUTLINED IN APPROVED PERMITS.

7. **WORK HOURS:**
NO WORK SHALL BE PERMITTED ON WEEKENDS OR ON HOLIDAYS WITHOUT THE PRIOR, WRITTEN APPROVAL OF THE ENGINEER AND/OR THE OWNER.

GENERAL WORK HOURS ON THIS PROJECT SHALL BE 7:00 AM TO 5:00 PM, MONDAY THROUGH FRIDAY.

8. **UTILITIES:**
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 OWNER OF THE UNDERGROUND UTILITY AS REQUIRED BY SECTION 153.64 OR SECTION 3781.27 OF THE OHIO REVISED CODE, THE COUNTY AND THE ENGINEER ASSUME NO RESPONSIBILITY FOR THE ACCURACY OF LOCATIONS OR DEPTHS OF UNDERGROUND FACILITIES SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS.

THE CONTRACTOR SHALL DESIGNATE FOR EXISTING UTILITIES AROUND ALL PROPOSED STRUCTURES BEFORE DIGGING TO VERIFY NO CONFLICTS EXIST. WHEN UNKNOWN OR INCORRECTLY LOCATED UNDERGROUND UTILITIES ARE ENCOUNTERED DURING DESIGNATION AND/OR CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY OWNER, THE COUNTY AND THE ENGINEER.

THE CONTRACTOR SHALL NOTIFY THE OHIO UTILITIES PROTECTION SERVICE (OUPS) AT (1-800-362-2764) AT LEAST 48 HOURS, AND NO MORE THAN 10 DAYS PRIOR TO EXCAVATING WITH SUCH TIME PERIODS NOT INCLUDING WEEKENDS OR HOLIDAYS. CONTRACTOR SHALL SIMILARLY CONTACT ALL UTILITY OWNERS WHO ARE NOT SUBSCRIBERS TO OUPS.

IF THERE ARE MARKERS OR OTHER APPARENT PHYSICAL EVIDENCE IN OUR NEAR THE PROJECT AREA THAT MAY INDICATE THE EXISTENCE OF UNDERGROUND PETROLEUM OR NATURAL GAS PIPELINES, THE CONTRACTOR SHALL ADDITIONALLY CONTACT THE OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE (OGPUPS) AT 800-925-0988, TOLL FREE SAID NOTIFICATION SHALL BE GIVEN A MINIMUM OF 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.

THE FOLLOWING UTILITIES ARE KNOWN OR CAN BE EXPECTED TO BE LOCATED WITHIN THE LIMITS OF THIS PROJECT:

UTILITY	OWNER	PHONE NUMBER
GAS	COLUMBIA GAS OF OHIO	866.632.6243
ELECTRIC	AEP	866.237.5028
WATER	MAYSVILLE REGIONAL WATER DIVISION	740.849.2428
WASTEWATER	MUSKINGUM COUNTY SEWER DEPT	740.452.4940
COMMUNICATIONS	AT&T OHIO	800.288.2020

THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL PROCEED WITH THE WORK AND PROTECT ALL UNDERGROUND UTILITIES IN A MANNER AT LEAST AS CAUTIOUS AND PROTECTIVE OF SAFETY AND UNDERGROUND UTILITIES AS THOSE METHODS IDENTIFIED IN SECTIONS 3781.25 THROUGH 3781.30 OF THE OHIO REVISED CODE.

ALL MARKED PRIVATE UTILITY REPAIRS OR RELOCATION (GAS, ELECTRIC, PHONE, ETC.) WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

ANY REPAIRS OR RELOCATION OF UNMARKED PRIVATE UTILITIES (GAS, ELECTRIC, PHONE, ETC.) SHALL BE THE RESPONSIBILITY OF THE UTILITY OWNER. ANY REPAIRS OR RELOCATION OF UNMARKED PUBLIC UTILITIES SUCH AS WATER SHALL BE THE RESPONSIBILITY OF THE UTILITY OWNER. ANY REPAIRS TO WATER SERVICE LINES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM SPECIAL WATER SERVICE LINE REPAIR, A QUANTITY OF 20 WATER SERVICE LINE REPAIR UNITS HAVE BEEN INCLUDED IN THE ESTIMATED QUANTITIES FOR THIS PROJECT.

9. **SITE VISIT:**
THE CONTRACTOR SHALL PERFORM FIELD RECONNAISSANCE TO BECOME ACQUAINTED WITH THE EXISTING SITE CONDITIONS AND THE POTENTIAL EFFECTS UPON THE SCOPE OF WORK.

10. **MISCELLANEOUS:**
THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, SERVICES, AND RELATED ACCESSORIES FOR A COMPLETE PROJECT, AS SHOWN AND DESCRIBED IN THE PLANS AND SPECIFICATIONS. THE PRICE FOR ITEMS OF WORK OR MATERIALS SHOWN ON THE PLANS OR PROVIDED FOR IN THE SPECIFICATIONS OR SPECIAL PROVISIONS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED, SHALL BE PERFORMED BY THE CONTRACTOR AND THE COSTS INCLUDED AMONG THE VARIOUS BID ITEMS. SUBMISSION OF A BID SHALL BE CONSIDERED EVIDENCE THAT THE BIDDER IS SATISFIED WITH THE PLANS AND CONDITIONS, AS SHOWN, NO ADDITIONAL COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR COMPLIANCE WITH THE PLANS, SPECIFICATIONS, OR SPECIAL PROVISIONS.

11. **SUBSURFACE SOIL DATA: - NOT APPLICABLE**
TEST BORINGS HAVE BEEN TAKEN AT SEVERAL LOCATIONS ALONG THE PROJECT CORRIDOR FOR DESIGN PURPOSES, THE SUBSURFACE SOILS REPORT IS AVAILABLE FOR THE CONTRACTORS REVIEW, THE CONTRACTOR MUST MAKE WRITTEN REQUEST FOR THIS INFORMATION,ANY PERFORMANCE OF ADDITIONAL SITE SUBSURFACE INVESTIGATIONS (TEST HOLES) SHALL BE COORDINATED IN ADVANCED IN A CONTROLLED MANNER TO MINIMIZE IMPACT ON FIELD EARTHWORK. ANY REQUIREMENTS OR CONTINGENCIES INCLUDED WITHIN THE SOILS REPORT SHALL BE INCLUDED IN THE VARIOUS BID ITEMS UNLESS SPECIFICALLY IDENTIFIED IN THE ESTIMATE OF QUANTITIES.

12. **RIGHTS-OF-WAY:**
IN ADDITION TO THE DIRECT REQUIREMENTS OF THE CONTRACT SPECIFICATIONS THE CONTRACTOR SHALL OBSERVE AND CONFORM TO THE SPECIFIC REQUIREMENTS OF ALL RIGHT-OF-WAYS, INCLUDING EASEMENTS, COURT ENTRIES, RIGHT OF ENTRY, OR ACTION FIELD IN COURT IN ACCORDANCE WITH THE CODE OF THE APPLICABLE GOVERNING AGENCY, THE COST OF THE OPERATIONS NECESSARY TO FULFILL SUCH REQUIREMENTS SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS OF THE CONTRACT UNLESS SPECIFIC PROVISION IS MADE IN THE CONTRACT SPECIFICATIONS FOR SUCH COST UNDER SPECIFIC ITEMS OF THE CONTRACT.

13. **WORK LIMITS:**
THE CONTRACTOR IS RESPONSIBLE FOR CONTAINING ALL PERFORMED WORK AND ALL EQUIPMENT, MATERIALS, VEHICLES, ETC., USED TO COMPLETE THE WORK WITHIN THE RIGHTS-OF-WAY OF THE STREETS, ROADWAYS, PERMANENT EASEMENTS AND THE PROPERTY BOUNDARIES OF THE PROJECT IMPROVEMENTS, AS SHOWN ON THESE PLANS.

THE CONTRACTOR IS RESPONSIBLE FOR COST OF RESTORATION FOR ANY AREA DISTURBED OUTSIDE OF THE RIGHT-OF-WAY, PERMANENT EASEMENT OR PROJECT PROPERLY BOUNDARIES TO FORMER CONDITION OF BETTER AND TO THE SATISFACTION OF THE ENGINEER.

14. **CONTRACT WORK PERFORMED BY THE COUNTY:**
IN THE EVENT THAT IT BECOMES NECESSARY FOR THE COUNTY TO PERFORM WORK OF AN IMMEDIATE NATURE (SUCH AS THE PLACEMENT OF BARRICADES OR REPLACEMENT OF SIGNS OR OTHER WARNING OR PROTECTIVE DEVICES) REQUIRED OF THE CONTRACTOR BY THIS CONTRACT BECAUSE OF FAILURE OR REFUSAL OF THE CONTRACTOR TO PERFORM SUCH WORK, THE CONTRACTOR SHALL REIMBURSE THE COUNTY AT THE RATE OF 2.5 TIMES THE ACTUAL COST OF LABOR, MATERIALS AND EQUIPMENT NECESSARY TO PERFORM SUCH WORK THE COUNTY SHALL BE REIMBURSED BY THE CONTRACTOR BY WAY OF A DEDUCTION FROM THE CONTRACTOR'S NET PAYMENT UNDER THE CONTRACT.

15. **CONVENIENCE FACILITIES:**
THE CONTRACTOR SHALL FURNISH AND MAINTAIN SANITARY CONVENIENCE FACILITIES FOR THE WORKMEN AND INSPECTORS FOR THE DURATION OF THE WORK, COST SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS.

16. **NON-RUBBER TIRE VEHICLES:**
NO NON-RUBBER TIRED VEHICLES SHALL BE MOVED ON COUNTY STREETS, EXISTING PRIVATE ROADWAYS OR PARKING LOTS. EXCEPTIONS MAY BE GRANTED BY THE COUNTY, FOR PUBLIC ROADWAYS ONLY, WHERE SHORT DISTANCES AND SPECIAL CIRCUMSTANCES ARE INVOLVED, GRANTING OF EXCEPTIONS MUST BE IN WRITING AND ANY DAMAGE MUST BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE COUNTY.

17. **SIGNS, MAILBOXES, FENCES, ETC.:**
THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL SIGNS, MAILBOXES, FENCES, GUARDRAILS, SHRUBS, PROPERTY, DRAINAGE STRUCTURES, OR OTHER PHYSICAL FEATURES DISTURBED OR DAMAGED DURING CONSTRUCTION, WHETHER SHOWN ON THE PLANS OR NOT, TO THEIR ORIGINAL OR BETTER CONDITION AND LOCATION AND TO THE SATISFACTION OF THE PROPERTY OWNER AND THE COUNTY, COST TO BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS.

18. **STANDARD TOPSOIL, SEEDING, FERTILIZER, AND MULCHING:**
TOPSOIL SHALL BE NATIVE AND OF THE HIGHEST QUALITY AND FREE OF ALL STONES, TRASH AND OTHER DELETERIOUS MATERIALS GREATER THAN 1 INCH.

THE GRADES SHALL MATCH ALL EXISTING LANDSCAPE AND ANY IMPROVEMENTS COMPLETED UNDER THIS PLAN, THE CONTRACT SHALL SCARIFY THE SOIL SURFACE TO OPEN THE SOIL PRIOR TO SEEDING. ALL SEEDING FERTILIZER, AND MULCH SHALL BE PLACED WITHIN 7 WORKING DAYS OF PLACING TOPSOIL, THE SEEDING AND FERTILIZER MIXES SHALL BE AS SPECIFIED BY THE COUNTY AND SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

THE STARTER FERTILIZER MIX SHALL CONTAIN A HERBICIDE TO PREVENT WEED ESTABLISHMENT, NO WEEDS OR UNDESIRABLE GRASSES WILL BE ACCEPTED IN THE FINAL INSPECTION.

IF THE INITIAL SEEDING IS NOT 95% ESTABLISHED BY SEPTEMBER 15TH. THE CONTRACTOR SHALL RE-SEED, FERTILIZER, AND MULCH THE ESCAVATED AREAS PRIOR TO OCTOBER 1ST.

19. **DE-WATERING:**
THE CONTRACTOR IS SOLELY RESPONSIBLE TO THE OHIO DEPARTMENT OF NATURAL RESOURCES (O.D.N.R.) FOR REGISTRY, MAINTENANCE AND ABANDONMENT OF ANY WITHDRAWAL DEVICES USED IN THE CONSTRUCTION OF THIS PROJECT.

INSTALLATION OF ANY WELL, WELL POINT, PIT OR OTHER DEVICE USED FOR THE PURPOSE OF LOWERING THE GROUNDWATER LEVEL TO FACILITATE CONSTRUCTION OF THIS PROJECT SHALL BE PROPERLY ABANDONED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 3745-9-10 OF THE OHIO ADMINISTRATIVE CODE OR AS DIRECTED BY THE DIRECTOR OR THEIR DESIGNATED REPRESENTATIVE(S).

THE CONTRACTOR SHALL BE REQUIRED TO COMPLETE AND FILE A WELL LOG AND A DRILLING REPORT FORM WITH O.D.N.R. DIVISION OF WATER WITHIN 30 DAYS OF THE COMPLETION OF INSTALLATION OF ANY WELL, WELL POINT, PIT OR OTHER DEVICE USED FOR THE PURPOSE OF REMOVING GROUNDWATER FROM AN AQUIFER, IN ACCORDANCE WITH SECTIONS 1521.01 AND 1521.05 OF THE OHIO REVISED CODE, IN ADDITION, ANY SUCH FACILITY THAT HAS A CAPACITY TO WITHDRAW WATERS OF THE STATE IN AN AMOUNT GREATER THAN 100,000 GALLONS PER DAY FROM ALL SOURCES SHALL BE REGISTERED BY THE CONTRACTOR WITH THE CHIEF OF THE O.D.N.R. DIVISION OF WATER WITHIN THREE MONTHS OF THE COMPLETION OF THE FACILITY IN ACCORDANCE WITH SECTION 1521.16 OF THE OHIO REVISED CODE, COPIES OF THE NECESSARY PAPERWORK CAN BE OBTAINED AT O.D.N.R. DIVISION OF WATER, FOUNTAIN SQUARE, COLUMBUS, OHIO 43224-1387 - (614) 265-6717.

RECORDS OF THESE INSPECTIONS SHALL BE KEPT AND MADE AVAILABLE TO JURISDICTIONAL AGENCIES IF REQUESTED.

ANY SEDIMENT OR DEBRIS WHICH HAS REDUCED THE EFFICIENCY OF A STRUCTURE SHALL BE REMOVED IMMEDIATELY, SHOULD A STRUCTURE OR FEATURE BECOME DAMAGED, THE CONTRACTOR SHALL REPAIR OR REPLACE IT AT NO ADDITIONAL COST TO THE OWNER.THE CONTRACTOR SHALL FURNISH AND OPERATE SUITABLE PUMPING EQUIPMENT OF SUCH CAPACITY, ADEQUATE TO DE-WATER THE TRENCH, SHOULD WATER BE ENCOUNTERED, THE TRENCH SHALL BE SUFFICIENTLY DE-WATERED SO THAT THE PLACEMENT OF BEDDING AND THE LAYING AND JOINING OF PIPE IS MADE ON FIRM, DRY GROUND, IF DE-WATERING CANNOT PRODUCE ACCEPTABLE SUB-GRADING, AND ONLY AS DIRECTED BY THE ENGINEER, UNSUITABLE MATERIALS SHALL BE REMOVED AND REPLACED BY NO. 2, STONE FOUNDATION. THE CONTRACTOR SHALL CONVEY ALL TRENCH WATER TO A NATURAL DRAINAGE CHANNEL OR STORM SEWER WITHOUT DAMAGE TO PROPERTY, THE CONTRACTOR SHALL BE RESPONSIBLE TO PLACE AND MAINTAIN THE NECESSARY SEDIMENT AND EROSION CONTROL MEASURES TO FILTER THE DE-WATERING DISCHARGE AND TO PREVENT EROSION AT THE DISCHARGE LOCATION, COST FOR THE ABOVE SHALL BE INCLUDED IN THE BID PRICE FOR THE VARIOUS IMPROVEMENT ITEMS.

THE COST OF ANY DE-WATERING OPERATIONS REQUIRED FOR THE CONSTRUCTION OF THE SANITARY SEWER SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS IMPROVEMENT ITEMS.

20. **REPLACEMENT OF DRAIN TILES AND STORM SEWERS:**
ALL DRAIN TILE AND STORM SEWERS DAMAGED, DISTURBED, OR REMOVED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH THE SAME QUALITY PIPE OR N-12 AT CONTRACTORS COST, MAINTAINING THE SAME GRADIENT AS EXISTING. REPLACED DRAIN TILE SHALL BE LAID ON COMPACTED BEDDING EQUAL IN DENSITY TO SURROUNDING STRATUM. IF POSSIBLE, THE DRAIN TILE AND/OR STORM SEWER SHALL BE CONNECTED TO A STORM SEWER STRUCTURE, CURB, UNDERDRAIN, OR OUTLET INTO THE ROADWAY DITCH AS APPLICABLE. REPLACEMENT SHALL BE DONE AT THE BACKFILL OPERATION. COST OF THIS WORK TO BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS.

21. **MAINTAIN DRAINAGE:**
THE FLOW IN ALL SEWERS, DRAINS, AND WATERCOURSES ENCOUNTERED SHALL BE MAINTAINED BY THE CONTRACTED AT HIS OWN EXPENSE, AND WHENEVER SUCH WATERCOURSES AND DRAINS ARE DISTURBED OR DESTROYED DURING THE PROSECUTION OF THE WORK, THEY SHALL BE RESTORED BY THE

CONTRACTOR AT HIS OWN COST AND EXPENSE, UNLESS SPECIFIC PROVISION IS MADE WITHIN THE CONTRACT DOCUMENTS FOR THE MEASURE OF AND PAYMENT FOR SUCH COST SPECIFIC ITEMS, TO A CONDITION SATISFACTORY TO THE ENGINEER.

22. **EROSION AND SEDIMENTATION CONTROL:**
THE CONTRACTOR SHALL PROVIDE SEDIMENT CONTROL AT ALL POINTS WHERE STORM WATER RUNOFF LEAVES THE PROJECT INCLUDING WATERWAYS, OVERLAND SHEET FLOW, AND STORM SEWERS, EROSION AND SEDIMENT CONTROL SHALL BE PROVIDED AS PER THE REQUIREMENTS AND THE STANDARDS AND SPECIFICATIONS OF THE "RAINWATER AND LAND DEVELOPMENT" MANUAL OF THE ODNR.

EROSION CONTROL MEASURES ARE TO BE INSTALLED PER NPDES PERMIT REGULATIONS OR AS DIRECTED BY THE ENGINEER AND ARE TO BE MAINTAINED UNTIL SUCH TIME THEY ARE NO LONGER REQUIRED BY THE PERMIT AND THE ENGINEER. COST FOR EROSION AND SEDIMENTATION CONTROL SHALL BE INCLUDED IN THE PRICE BID FOR CMSC ITEM 207.

ALL LAND DISTURBING SHALL BE SUBJECT TO INSPECTION AND SITE INVESTIGATION BY THE COUNTY AND/OR THE OHIO EPA. FAILURE TO COMPLY WITH THESE REGULATIONS IS SUBJECT TO LEGAL ENFORCEMENT ACTION.

THE CONTRACTOR IS RESPONSIBLE TO NOTIFY THE COUNTY 48 HOURS PRIOR TO COMMENCEMENT OF INITIAL SITE LAND DISTURBANCE ON ANY SITE OF ONE OR MORE ACRES. THIS INCLUDES SITE CLEARING, GRUBBING, AND ANY EARTH MOVING. PRIMARY EROSION AND SEDIMENT CONTROL, PRACTICES ARE MANDATED BY REGULATIONS TO BE IN PLACE FROM THE BEGINNING OF THE CONSTRUCTION ACTIVITY.

ALL DENUDED AREAS SHALL HAVE SOIL STABILIZATION APPLIED WITHIN SEVEN (7) DAYS OF COMPLETION OF GRADING OPERATIONS IF SAID AREAS ARE TO REMAIN UNDISTURBED FOR MOTE THAN TWENTY-ONE (21) DAYS.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE SEDIMENT AND EROSION CONTROL FEATURES USED ON THIS PROJECT. THE SITE SHALL BE INSPECTED PERIODICALLY AND WITHIN 24 HOURS OF A SIGNIFICANT RAINFALL EVENT.

23. **SOIL STOCKPILES:**
THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ALL SOIL STOCKPILES INCLUDING TRENCH EXCAVATION STOCKPILES, PROTECTED FROM EROSION. THE AREAS SURROUNDING THE STOCKPILES ARE TO BE PROTECTED FROM SEDIMENT WITH THE USE OF PERIMETER CONTROL DEVICES SUCH AS EARTH OR STRAW BALE DEVICES OR SILT FENCES. THESE PERIMETER CONTROL DEVICES SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT.

24. **DISPOSAL OF EXCESS EXCAVATION:**
THE CONTRACTOR SHALL DISPOSE OF ALL EXCESS EXCAVATION AT A LOCATION OFF-SITE AND OUTSIDE OF EXISTING FLOODPLAINS . FOR DISPOSAL OUTSIDE THE LIMITS OF THE PROJECT THE CONTRACTOR SHALL PROVIDE A COPY OF THE SIGNED, WRITTEN AGREEMENT BETWEEN THE CONTRACTOR AND THE OFF-SITE LANDOWNER BEFORE SUCH DISPOSAL OCCURS. THIS WRITTEN AGREEMENT SHALL CLEARLY STATE THE PURPOSE OF THE AGREEMENT AND INDICATE THE LANDOWNER PERMISSION FOR SUCH USE.

25. **CONSTRUCTION DEBRIS:**
THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE CLEANUP OF ANY DEBRIS, MUD OR DIRT TRACKED OR SPILLED ON COUNTY AND/OR PUBLIC STREETS OR PRIVATE DRIVES WHETHER INSIDE OR OUTSIDE THE PROJECT AREA.THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF ANY SERVICES CONTRACTED AND/OR COMPLETED BY THE COUNTY IN THE CLEAN UP OF ANY TRACKING OR SPILLAGE ANYTIME DURING PROJECT CONSTRUCTION. THE ENGINEER MAY REQUIRE THE CONTRACTOR TO PERFORM WEEKLY STREET CLEANING IF EXCESSIVE AMOUNTS OF DIRT AND MUD ARE LEFT ALONG THE STREET, THIS MAY INCLUDE REMOVAL BY SWEEPING, POWER CLEANING, OR MANUAL METHODS. THE COST OF THIS WORK SHALL BE INCLUDED IN THE VARIOUS CONTRACT ITEMS. UNLESS OTHERWISE SPECIFIED.

26. **CLEAN UP:**
ALL DEBRIS, RUBBLE, UNUSABLE MATERIALS, AND ITEMS NOT SALVAGED BY THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND DISPOSED OF PROPERLY.

27. **MAINTENANCE:**
ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR CONSTRUCTION AND MAINTENANCE OPERATIONS (CURRENT EDITION), COPIES OF WHICH ARE AVAILABLE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, BUREAU OF TRAFFIC, 1980 WEST BROAD STREET, COLUMBUS, OHIO 43223.

STEADY-BURNING, TYPE "C" LIGHTS SHALL BE REQUIRED ON ALL BARRICADES, DRUMS, AND SIMILAR TRAFFIC CONTROL DEVICES IN USE AT NIGHT, CONES ARE NOT APPROVED FOR USE AT NIGHT.

ACCESS TO ALL PROPERTIES WITHIN THE PROJECT AREA SHALL BE MAINTAINED AT ALL TIMES.

ALL PERMANENT TRAFFIC CONTROLS NOT IN CONFLICT WITH THE TEMPORARY TRAFFIC CONTROLS SHALL BE MAINTAINED THROUGH THIS PROJECT BY THE CONTRACTOR. PERMANENT TRAFFIC CONTROLS MAY BE TEMPORARY RELOCATED AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR MISSING, DAMAGE, AND IMPROPERLY PLACED SIGNS.ANY WORK DONE BY THE COUNTY, INCLUDED INSTALLATION, MODIFICATION REMOVAL AND/OR REPLACEMENT OF PERMANENT TRAFFIC

Mark J. Eicher, PE, PS,
109 Graham Street
Zanesville, Ohio 43701
740-454-0155

Muskingum
County
ENGINEER'S OFFICE

PROJECT NAME:
ELLEN DRIVE SANITARY SEWER IMPROVEMENTS

PROJECT LOCATION:
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

GJW

DATE:

07/11/2024

REVISED:

SHEET SIZE:

11" x 17"

SHEET NAME:

GENERAL
NOTES (1)

SHEET NUMBER:

03
11

RESULT OF THE NEGLIGENCE OF THE CONTRACTOR SHALL BE AT THE EXPENSE OF THE CONTRACTOR.		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.		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.		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.	
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.		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.		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.		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.	
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.		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.		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.		SEEDING AND MULCHING: PERMANENT SEEDING SHALL BE APPROVED FOR ALL EXPOSED SOIL SURFACES WITHIN SEVEN (7) DAYS AFTER THE FINISH GRADE IS REACHED. PERMANENT SEEDING AND MULCHING AS SPECIFIED IN ODOT ITEM 659 IS ACCEPTABLE.	
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.		42. SWALE REPAIRS & CONSTRUCTION: WHERE CONSTRUCTION OF FORCEMAIN AND/OR SANITARY SEWER DISTURBS EXISTING DRAINAGE SWALES, THE CONTRACTOR WILL BE REQUIRED TO RESTORE		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.		AREAS WHERE PERMANENT SEEDING HAS FAILED TO GERMINATE SHALL BE RESEEDD AND MULCHING AS NECESSARY TO ACHIEVE STABILIZATION.	
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.		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.		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.			
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.		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.		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.			
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.		44. FORCEMAIN NOTES: - NOT APPLICABLE		MANHOLE CASTINGS: ALL MANHOLE CASTING SHALL BE NEENAH R-1916F BOLT DOWN LIDS WITH "MUSKINGUM COUNTY SEWER" STAMPED ON THEM WITH CHIMNEY SEALS. CASTING ADJUSTMENT BY GRADE RINGS MUST BE LESS THAN ONE (1) FOOT BEFORE A BARREL SECTION IS REQUIRED.			
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.		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.		SEWER PIPE: THE MINIMUM REQUIREMENTS FOR SEWER PIPE ON THIS PROJECT SHALL BE PVC-SDR 35 SEWER PIPE ASTM D3034, WITH JOINTS MEETING ASTM D-3212, AND FLEXIBLE RUBBER GASKETS MEETING ASTM F-477. BACKFILL SHALL CONFORM TO ASTM 2321, UNLESS OTHERWISE SHOWN ON THE PLANS.			
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.		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.		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.			
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.		45. SANITARY SEWER NOTES:		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.			
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 SPlicing FASTENER. THE CONTRACTOR SHALL ALSO INSTALL CONTINUOUS TRACER TAPE 12 INCHES ABOVE ALL FORCE MAINS.		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.		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.			
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.		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.		AREAS WHERE PERMANENT SEEDING HAS FAILED TO GERMINATE SHALL BE RESEEDD AND MULCHING AS NECESSARY TO ACHIEVE STABILIZATION.			
39. TRASH COLLECTION SERVICE: THE CONTRACTOR SHALL CONTACT THE APPROPRIATE TRASH COLLECTION		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.		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			
		FINAL BACKFILL SHALL BE PLACED IN SUCH A MANNER AS NOT TO DISTURB THE ALIGNMENT OF THE PIPE.		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.			
		BEDDING: ALL PIPE 8" OR SMALLER SHALL BE BEDDED IN #57, 6" BELOW AND 12" ABOVE TOP OF PIPE AS SHOWN ON SHEET 6.					

PREPARED BY:
Mark J. Eicher, PE., P.S.
109 Graham Street
Zanesville, Ohio 43701
740-454-0155



Muskingum
County
ENGINEER'S OFFICE

PREPARED BY:
Mark J. Eicher, PE., P.S.
109 Graham Street
Zanesville, Ohio 43701
740-454-0155

PROJECT NAME:
ELLEN DRIVE SANITARY SEWER IMPROVEMENTS

PROJECT LOCATION:
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

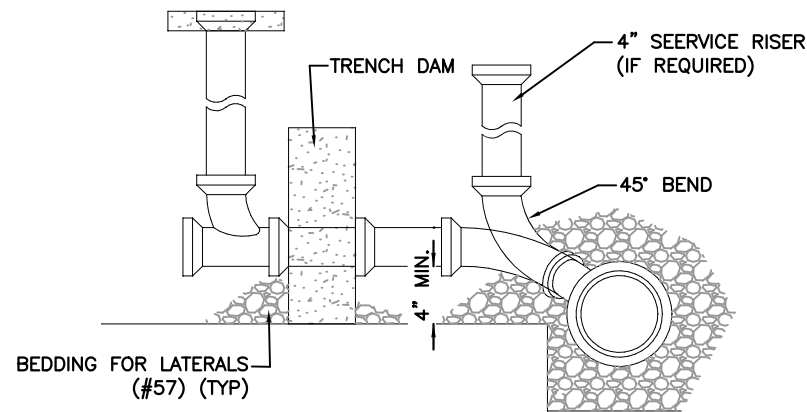
DATE:
07/11/2024

REVISED:

SHEET SIZE:
11" x 17"

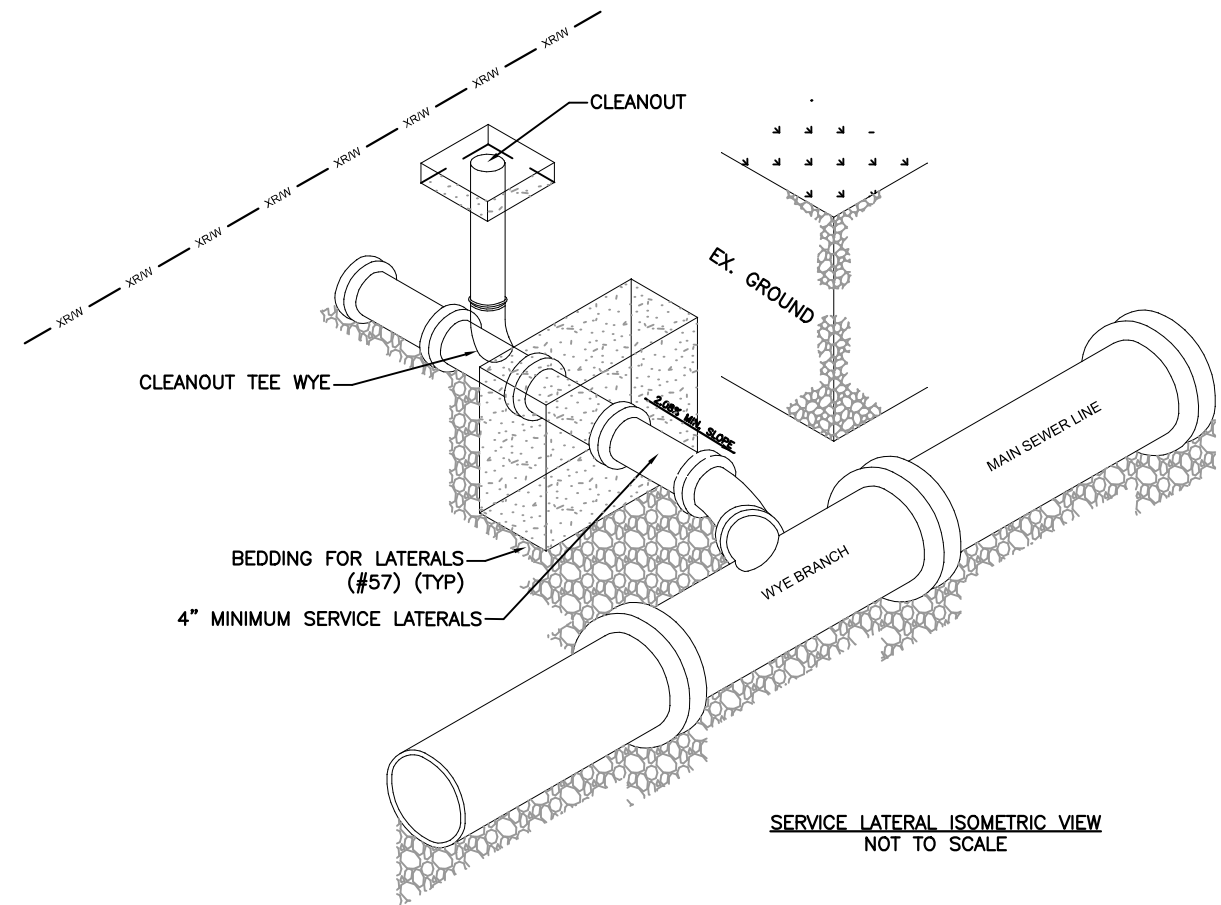
SHEET NAME:
GENERAL
NOTES (2)

SHEET NUMBER:
04
11

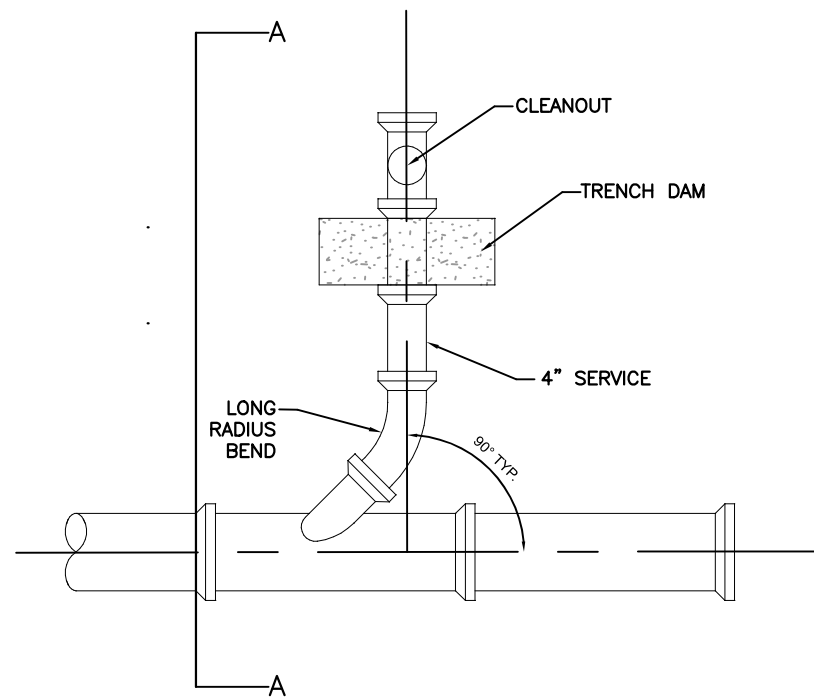


SERVICE LATERAL SECTION A-A
NOT TO SCALE

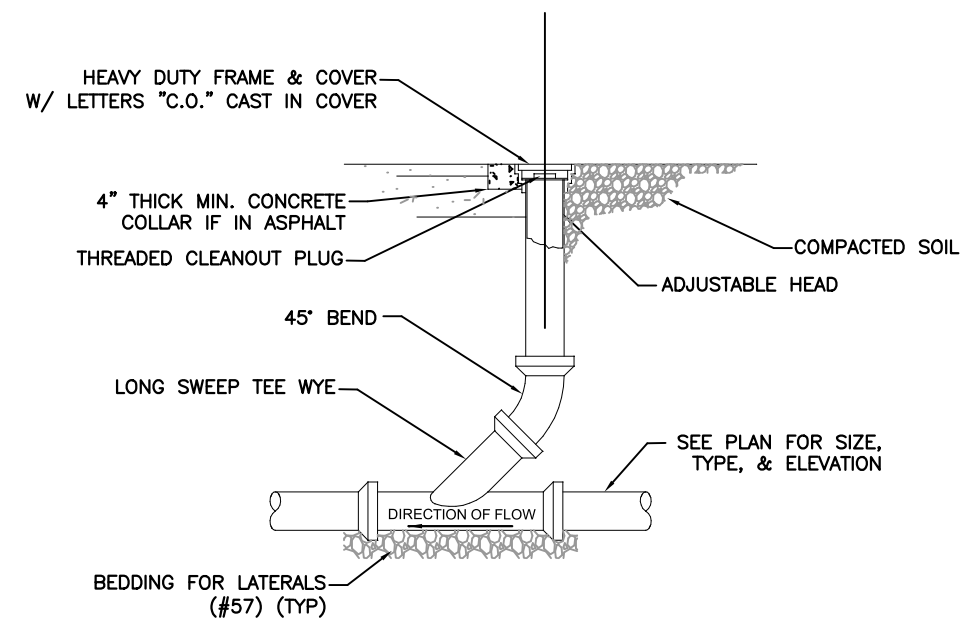
- NOTES:
1. COST OF TRENCH DAM, RISER, CLEAN OUT, CLEAN OUT TEE WYE, PIPE BENDS, BEDDING, HEAVY DUTY FRAME & COVER, CONCRETE COLLAR, AND COMPACTION TO BE INCLUDED IN THE PRICE FOR SERVICE LATERAL PIPE.
 2. ALL SERVICE LINES, RISERS, ETC. ASSOCIATED WITH NEW SANITARY SEWER SERVICE SHALL BE 4" DIAMETER 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.



SERVICE LATERAL ISOMETRIC VIEW
NOT TO SCALE



SERVICE LATERAL PLAN VIEW
NOT TO SCALE



ROAD ONLY CLEANOUT DETAIL
NOT TO SCALE

Mark J. Eicher, PE, P.E., P.S.
109 Graham Street
Zanesville, Ohio 43701

Muskingum
County
ENGINEER'S OFFICE

PREPARED BY:

ELLEN DRIVE SANITARY SEWER IMPROVEMENTS

PROJECT NAME:

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

GJW

DATE:

07/11/2024

REVISED:

SHEET SIZE:

11" x 17"

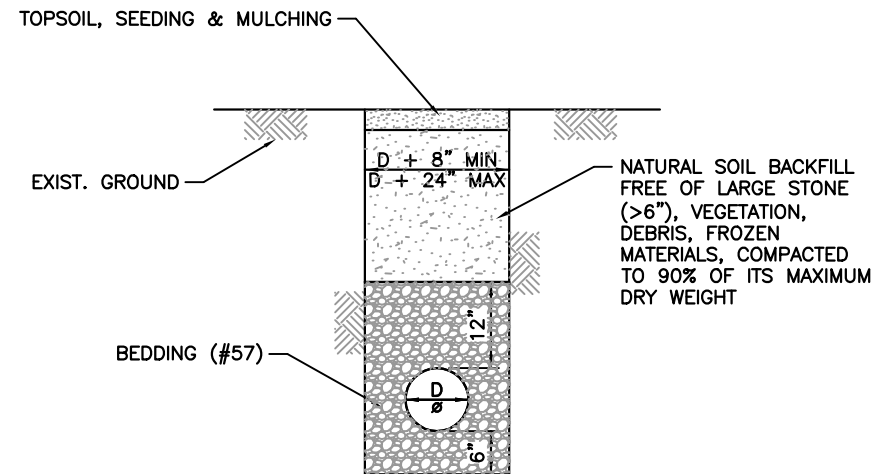
SHEET NAME:

SANITARY
DETAILS (1)

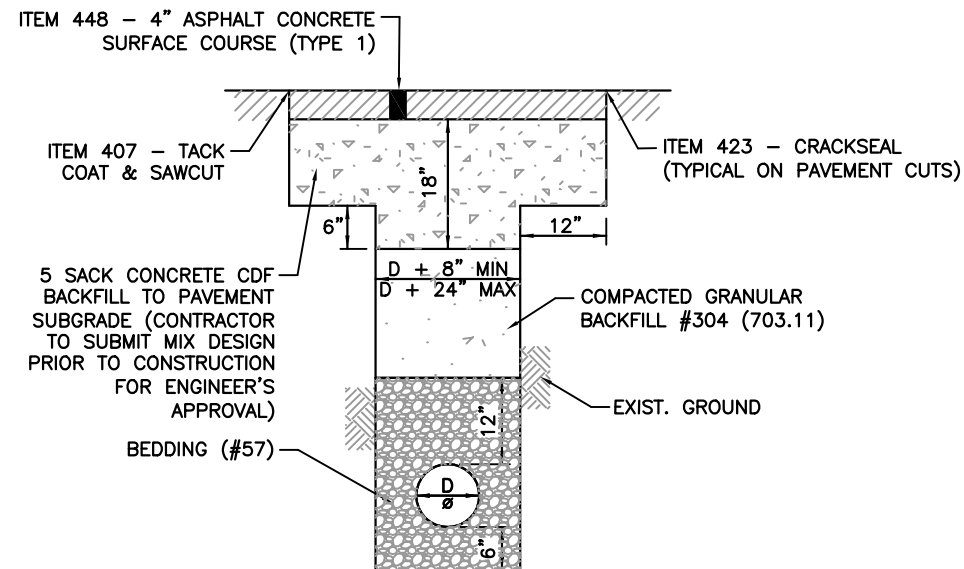
SHEET NUMBER:

05

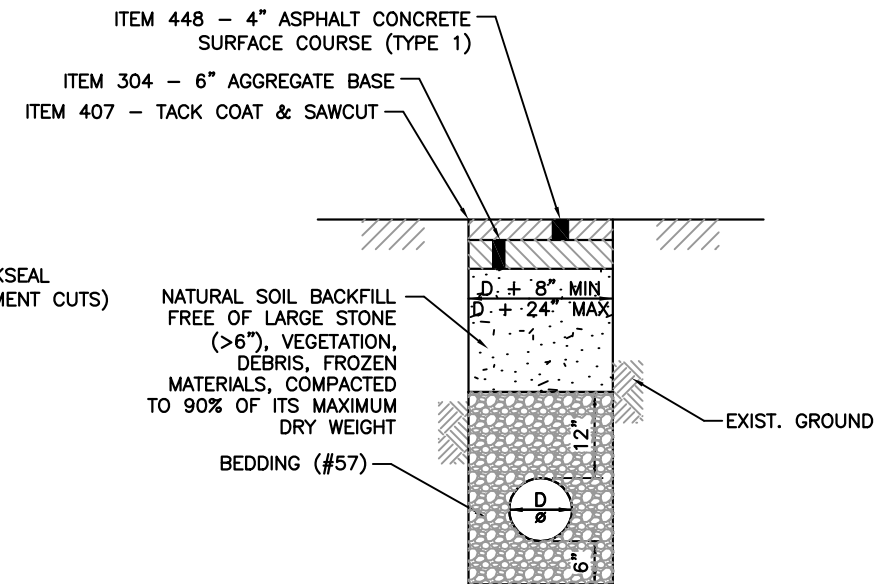
11



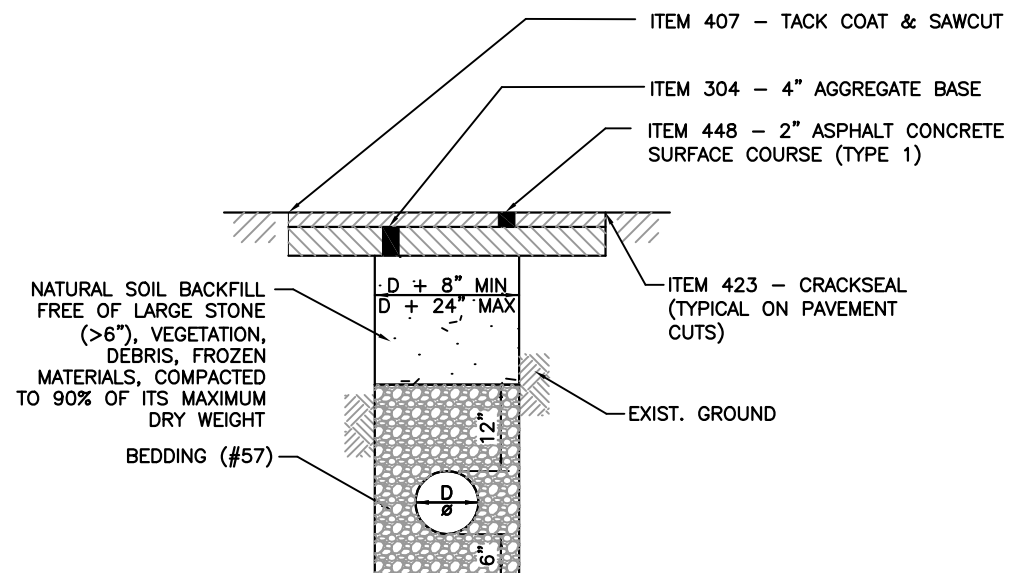
LANDSCAPE AREA REPAIR
NOT TO SCALE



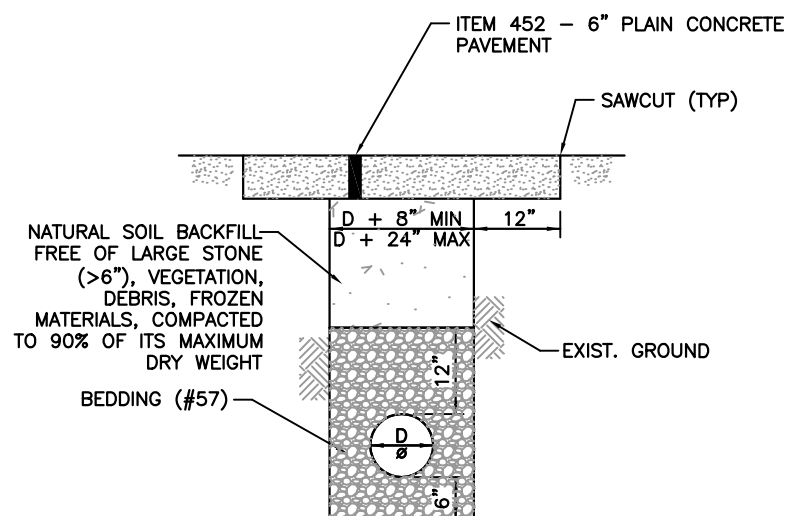
ROADWAY PAVEMENT REPAIR
NOT TO SCALE



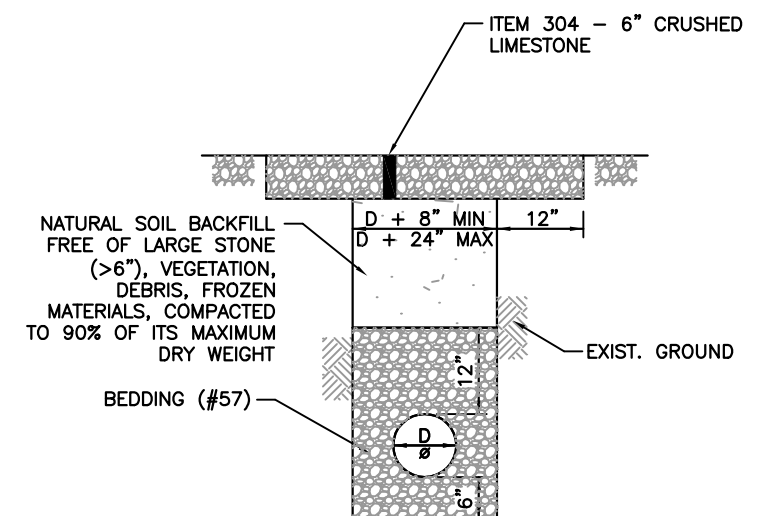
ALLEY PAVEMENT REPAIR
NOT TO SCALE



ASPHALT DRIVEWAY REPAIR
NOT TO SCALE



CONCRETE DRIVEWAY REPAIR
NOT TO SCALE



GRAVEL DRIVEWAY REPAIR
NOT TO SCALE

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



PREPARED BY:

ELLEN DRIVE SANITARY SEWER IMPROVEMENTS

PROJECT NAME

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

GJW

DATE:

07/11/2024

REVISED:

SHEET SIZE:

11" x 17"

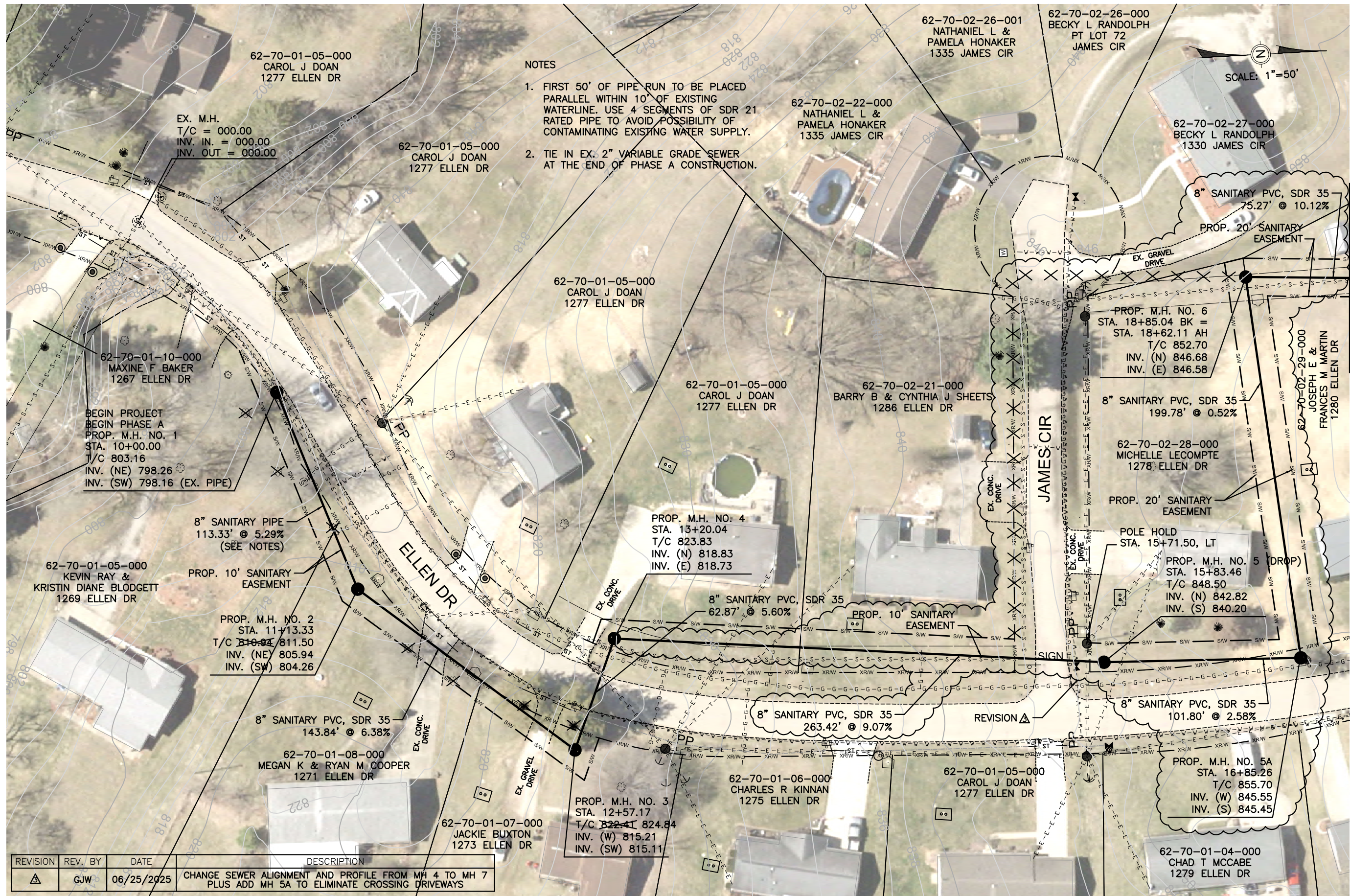
SHEET NAME:

SANITARY
DETAILS (2)

SHEET NUMBER:

06

11



MATCHLINE STA. 19+17

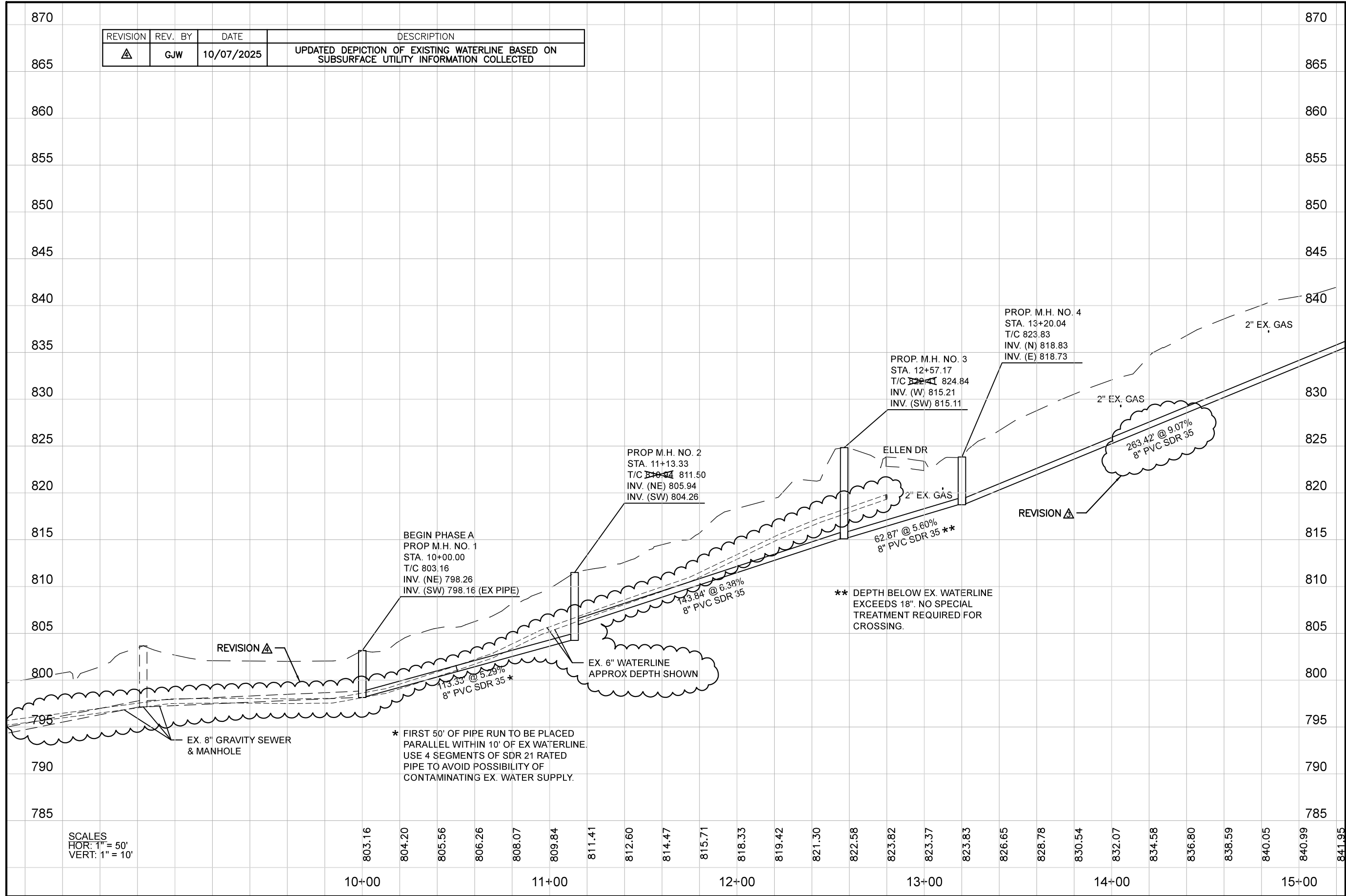
Mark J. Eicher, PE, PS.
109 Graham Street
Zanesville, Ohio 43701
740-454-0155

Markusium
County
ENGINEER'S OFFICE

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

ELLEN DRIVE SANITARY SEWER IMPROVEMENTS
ZANESVILLE, OHIO 43701

MJE
GJW
07/11/2024
06/25/2025
11" x 17"
PLAN SHEET (1)
07
11



REVISION	REV. BY	DATE	DESCRIPTION
A	GJW	10/07/2025	UPDATED DEPICTION OF EXISTING WATERLINE BASED ON SUBSURFACE UTILITY INFORMATION COLLECTED

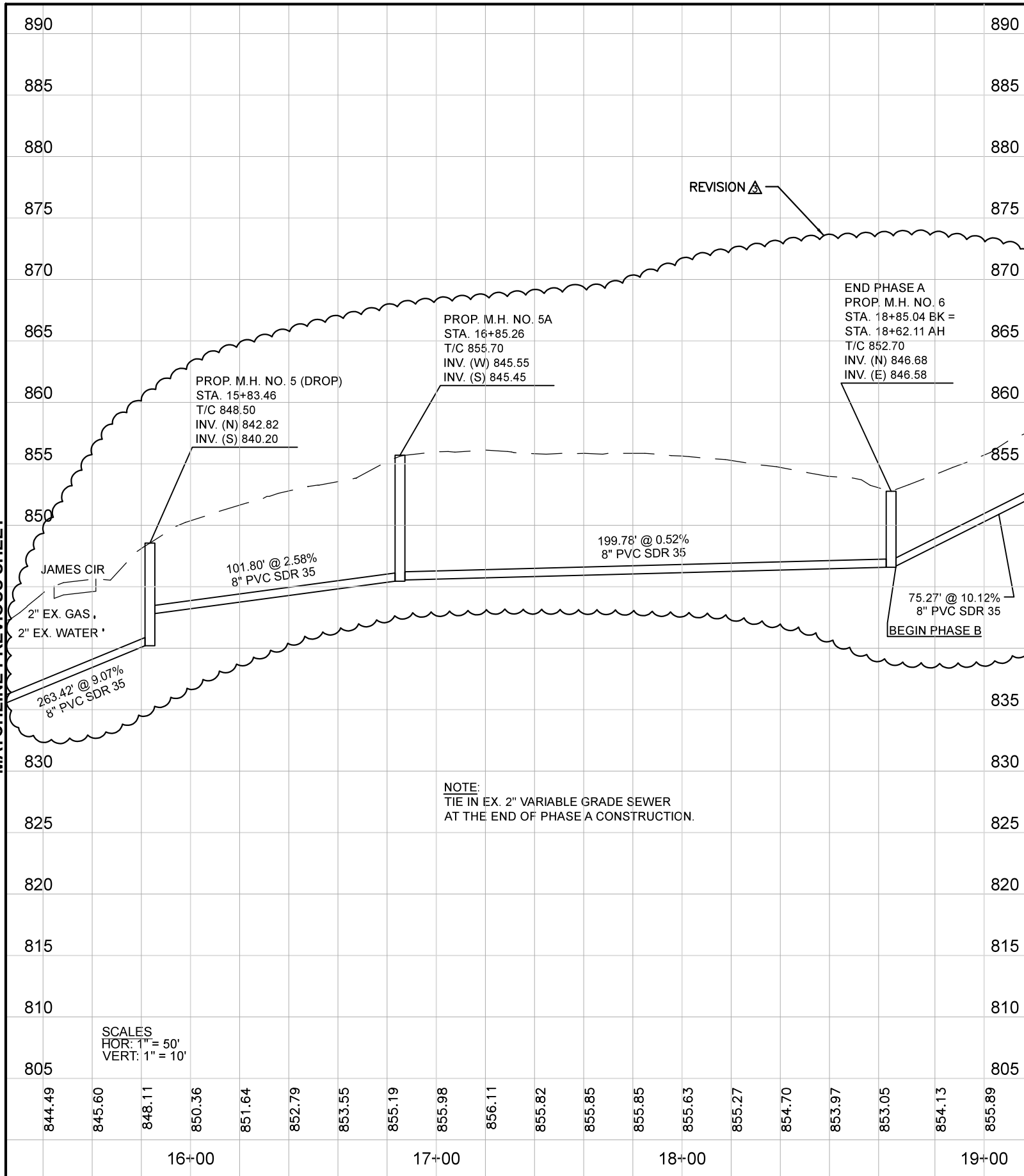
SCALES
HOR: 1" = 50'
VERT: 1" = 10'

* FIRST 50' OF PIPE RUN TO BE PLACED PARALLEL WITHIN 10' OF EX WATERLINE. USE 4 SEGMENTS OF SDR 21 RATED PIPE TO AVOID POSSIBILITY OF CONTAMINATING EX. WATER SUPPLY.

** DEPTH BELOW EX. WATERLINE EXCEEDS 18". NO SPECIAL TREATMENT REQUIRED FOR CROSSING.

MATCHLINE NEXT SHEET

MATCHLINE PREVIOUS SHEET



REVISION	REV. BY	DATE	DESCRIPTION
	GJW	06/25/2025	CHANGE SEWER ALIGNMENT AND PROFILE FROM MH 4 TO MH 7 PLUS ADD MH 5A TO ELIMINATE CROSSING DRIVEWAYS

Mark J. Eicher, PE, PS,
109 Graham Street
Zanesville, Ohio 43701
740-454-0155



PREPARED BY:

ELLEN DRIVE SANITARY SEWER IMPROVEMENTS

PROJECT NAME

PLANS APPROVED BY:

MJE

PLANS PREPARED BY:

GJW

DATE:

07/11/2024

REVISED:

06/25/2025

SHEET SIZE:

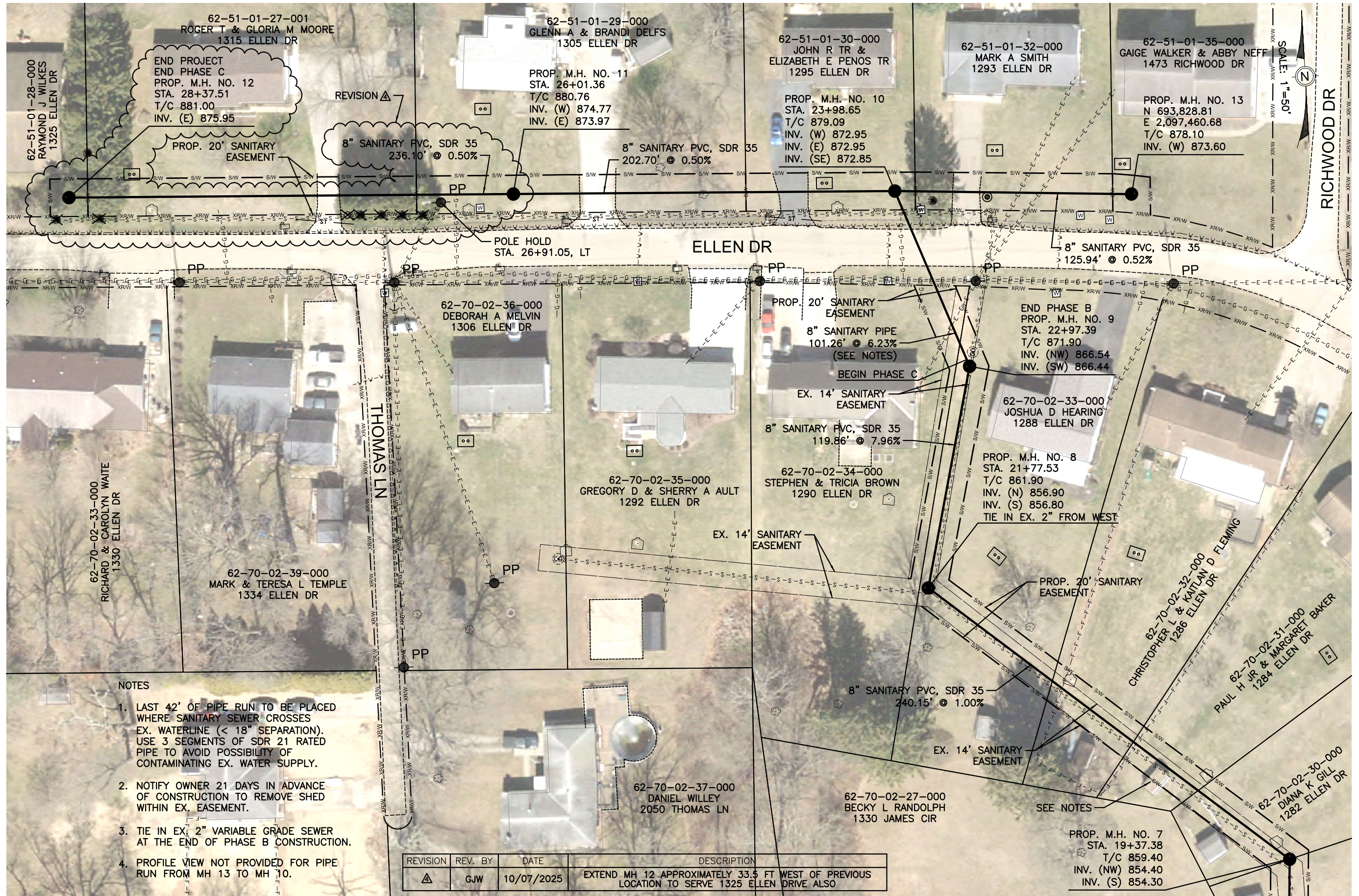
11" x 17"

SHEET NAME:

SEWER
LINE NO. 1
PROFILE

SHEET NUMBER:

09
11



Mark J. Eicher, PE, PS.
109 Graham Street
Zanesville, Ohio 43701
740-454-0155

Muskungum County
ENGINEER'S OFFICE

PREPARED BY:
PROJECT NAME:
PROJECT LOCATION:

ELLEN DRIVE SANITARY SEWER IMPROVEMENTS
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

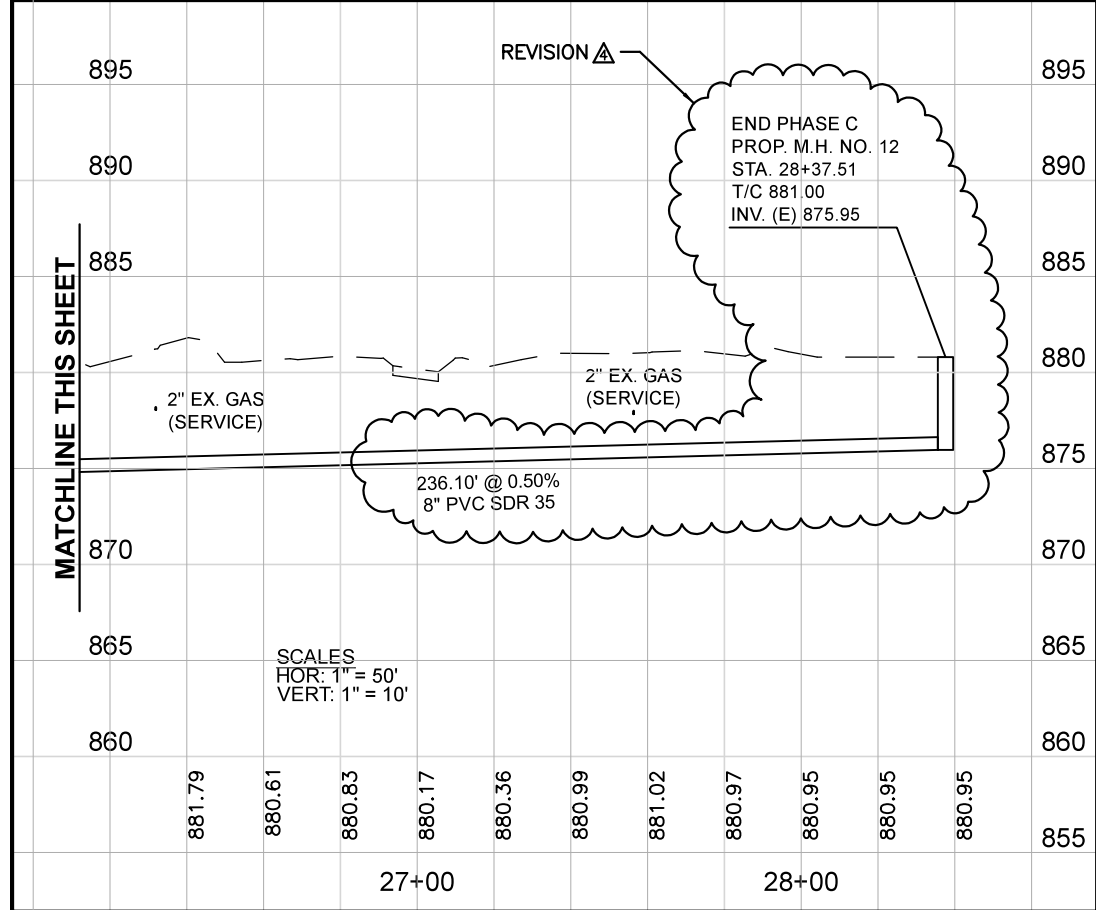
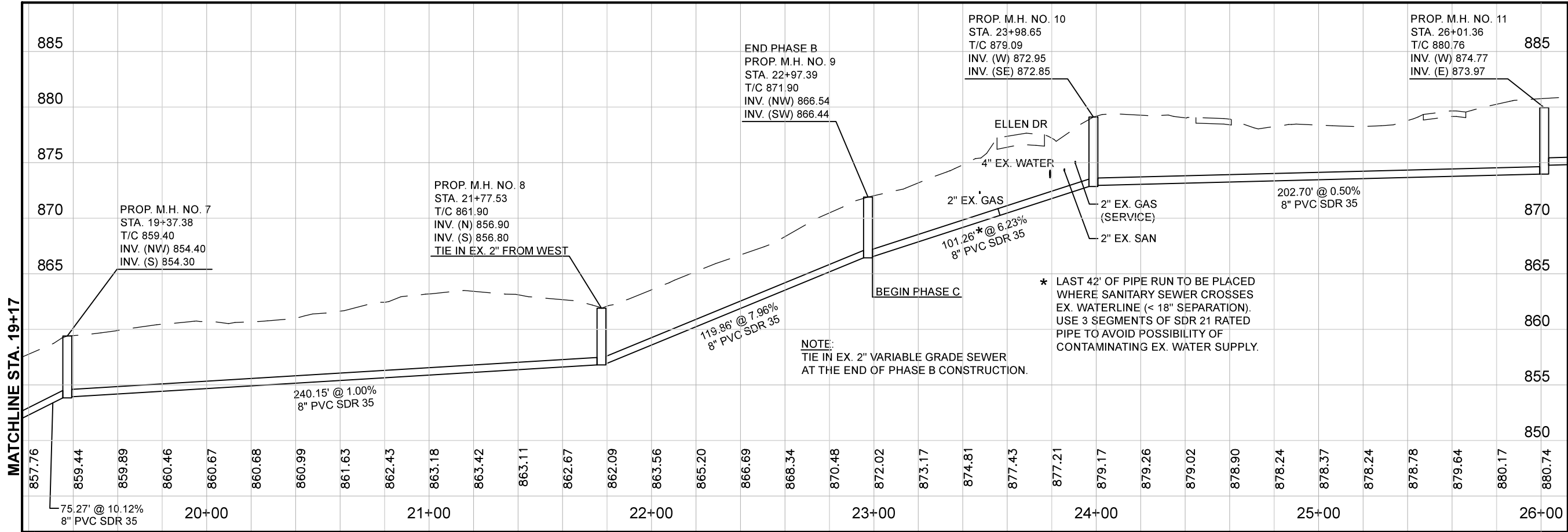
DATE:
07/11/2024

REVISED:
10/07/2025

SHEET SIZE:
11" x 17"


SHEET NAME:
PLAN SHEET (2)

SHEET NUMBER:
10
11



REVISION	REV. BY	DATE	DESCRIPTION
A	GJW	10/07/2025	EXTEND MH 12 APPROXIMATELY 33.5 FT WEST OF PREVIOUS LOCATION TO SERVE 1325 ELLEN DRIVE ALSO

Mark J. Eicher, PE, PS.
109 Graham Street
Zanesville, Ohio 43701
740-454-0155

Muskingum
County
ENGINEER'S OFFICE

PREPARED BY:
PROJECT NAME:
PROJECT LOCATION:

ELLEN DRIVE SANITARY SEWER IMPROVEMENTS
ZANESVILLE, OHIO 43701

PLANS APPROVED BY:
MJE

PLANS PREPARED BY:
GJW

DATE:
07/11/2024

REVISED:
10/07/2025

SHEET SIZE:
11" x 17"

SHEET NAME:
SEWER LINE
NOS. 1 & 2
PROFILE

SHEET NUMBER:
11