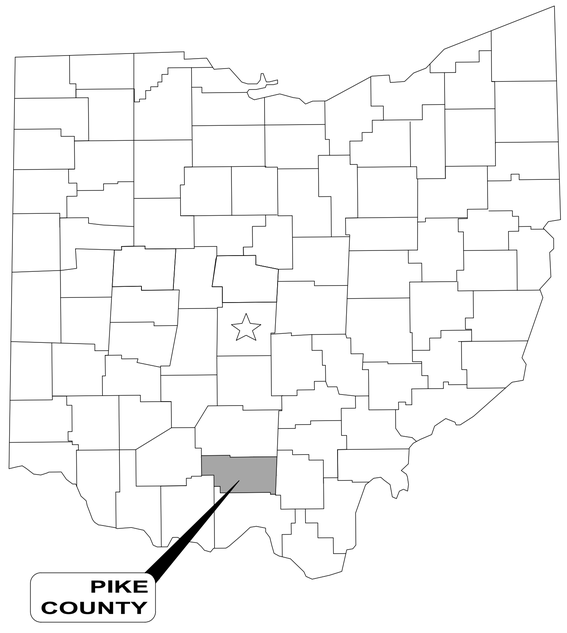
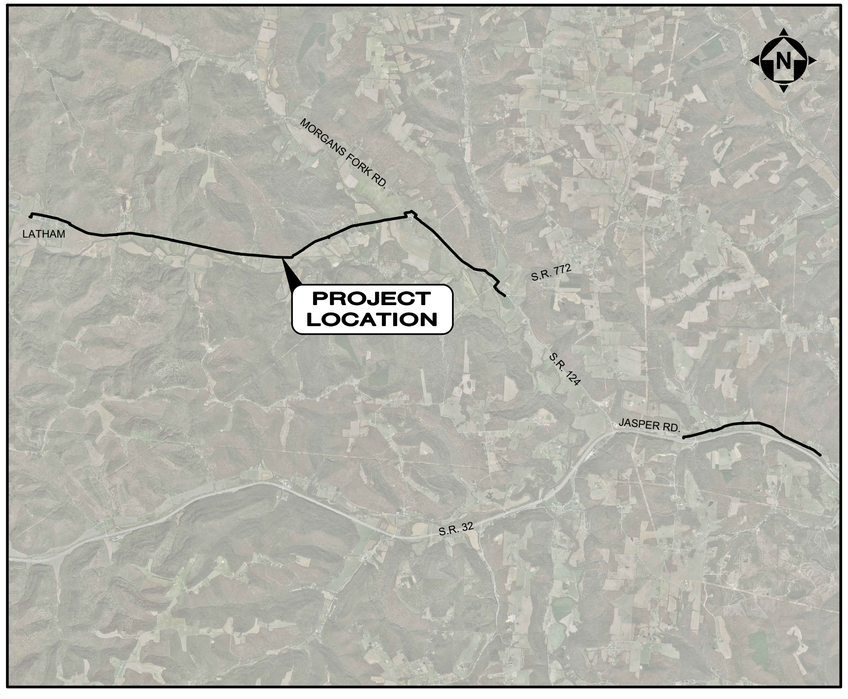
# SR 124 WATERLINE IMPROVEMENTS

# PIKE WATER, INC.

## PIKE COUNTY, OHIO

OCTOBER 2022




LOCATION MAP

200' 0' 200'

SCALE: 1" = 200'

PIKE WATER APPROVALS:

FARON YOUNG, GENERAL MANAGER

ENGINEER:

CT CONSULTANTS, INC.
7965 NORTH HIGH STREET, SUITE 340
COLUMBUS, OH 43235

(614) 885-1700 PHONE
(614) 885-1701 FAX

STATE OF OHIO
BARBARA RAE ANDERSON
51761
REGISTERED
PROFESSIONAL ENGINEER

Barbara R. Anderson 3/3/2023

BARBARA R. ANDERSON OHIO P.E. No. E-51761

OHIO Utilities Protection SERVICE
*Call Before You Dig*
1-800-362-2764
CALL TWO WORKING DAYS BEFORE YOU DIG
(NON MEMBERS MUST BE CALLED DIRECTLY)

1. UNDERGROUND BUILDING SERVICE UTILITY LINES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING AND REPLACING AS NECESSARY TO ENSURE CONTINUAL SERVICE TO BUILDINGS.
2. THE CONTRACTOR IS RESPONSIBLE TO CALL OHIO UTILITIES PROTECTION SERVICE @ 1-800-362-2764, THREE WORKING DAYS PRIOR TO CONSTRUCTION.

your trusted advisor consultants engineers architects planners

ENGINEER'S PROJECT No. 220239

BID SET

your trusted advisor consultants engineers architects planners

| NO | REVISION | DATE |
|---|---|---|
| 1 | REVISED FOR CONSTRUCTION | 3/20/2025 |

| | |
|---|---|
| ISSUED FOR: | BIDDING |
| ISSUE DATE: | 2/6/2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RAB |
| DRAWN BY: | RAB |
| CHECKED BY: | BRA |

SR 124 WATERLINE IMPROVEMENTS
- PIKE COUNTY, OH -

TITLE SHEET

PROJECT NO.
220239

DISCIPLINE

SHEET NAME
G-01

SHEET 1 OF 29

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# GENERAL NOTES:

CONTRACTOR:
THE TERM CONTRACTOR IN THESE DOCUMENTS REFERS TO THE GENERAL CONTRACTOR, ALL SUB-CONTRACTORS, SUPPLIERS AND SERVICE SUPPLIERS PROVIDING SERVICES, MATERIAL OR LABOR DIRECTLY OR INDIRECTLY TO THIS PROJECT.

CERTIFICATION:
BY SUBMITTING A BID OR STARTING CONSTRUCTION THE CONTRACTOR CERTIFIES THAT:

THE CONTRACTOR HAS VISITED THE SITE AND IS SATISFIED THAT HE UNDERSTANDS ALL SITE CONDITIONS THAT MAY HAVE AN EFFECT ON THE BID PRICE AND CONSTRUCTION SCHEDULE.

THE CONTRACTOR FULLY UNDERSTANDS THE MAKE-UP, CONSTRUCTION, AND OPERATION OF ALL SYSTEMS AND EQUIPMENT HE IS CONSTRUCTING AND THAT HE HAS INCLUDED IN HIS PRICE ALL MATERIALS, SUPPLIES, ACCESSORIES, AND SERVICES NECESSARY TO MAKE THESE SYSTEMS COMPLETE AND OPERATIONAL WHETHER SUCH MATERIALS, SUPPLIES, AND SERVICES ARE EXPLICITLY SHOWN ON THE DRAWINGS OR INCLUDED IN THESE SPECIFICATIONS OR ONLY IMPLIED BY THE CLEAR INTENT OF THESE DOCUMENTS FOR THE CONTRACTORS TO PROVIDE A COMPLETE AND FULLY OPERATIONAL SYSTEM AS PART OF THE SCOPE OF WORK UNDERTAKEN BY THIS CONTRACTOR.

RESPONSIBILITY:
THE OWNER DOES NOT SUPERVISE, NOR ARE THEY ENGAGED IN CONSTRUCTION. THE OWNER HAS NO CONTROL OVER OR CHARGE OF, AND THEREFORE IS NOT RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THESE ARE SOLELY THE CONTRACTOR'S RESPONSIBILITY UNDER THE CONTRACT FOR CONSTRUCTION.

MSDS SHEETS:
MATERIAL SAFETY DATA SHEETS (MSDS'S) FOR ALL PRODUCTS AND/OR BUILDING MATERIALS THAT MAY CONTAIN HAZARDOUS OR TOXIC CHEMICALS SHALL BE MADE READILY AVAILABLE TO CONTRACTOR, EMPLOYEES AND OWNER'S PERSONNEL DURING CONSTRUCTION.

MAINTAINING TRAFFIC:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND CONTROLLING TRAFFIC ON ALL STREETS AND ROADS AFFECTED BY CONSTRUCTION AND SHALL, PRIOR TO ANY CONSTRUCTION, SUBMIT A CONSTRUCTION SCHEDULE TO THE OWNER FOR APPROVAL INDICATING DATES AND DURATION OF EACH PHASE OF CONSTRUCTION.

ALL CONSTRUCTION SIGNS AND TEMPORARY TRAFFIC CONTROL AND PROTECTION DEVICES SHALL BE ERECTED AND MAINTAINED IN ACCORDANCE WITH "OHIO DEPARTMENT OF TRANSPORTATION MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND O.D.O.T. ITEM 614 - MAINTAINING TRAFFIC.

MAINTENANCE OF TRAFFIC OPERATIONS MUST ADHERE TO ALL REGULATIONS AND/OR MANDATES BY THE APPROPRIATE MAINTAINING AUTHORITY OF THE ROADWAY.

COSTS FOR MAINTENANCE OF TRAFFIC SHALL BE INCLUDED IN THE LUMP SUM PAY ITEM - MAINTAINING TRAFFIC.

TEMPORARY SURFACES:
TEMPORARY SURFACES WHERE EXCAVATIONS ARE LOCATED IN STREETS, DRIVES AND PARKING AREAS SHALL BE FURNISHED AND PLACED BY THE CONTRACTOR AND SHALL BE FULLY MAINTAINED TO MINIMIZE INCONVENIENCE TO THE PUBLIC.

SAFETY TRENCH PROTECTION AND BACKFILLING:
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, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENT, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR SHALL ALSO ABIDE BY ALL ORDINANCES OF THE MUNICIPALITY.

BACKFILLING SHALL FOLLOW IMMEDIATELY BEHIND CONSTRUCTION. ONLY THE MINIMUM LENGTH OF TRENCH REQUIRED FOR CONSTRUCTIONS SHALL BE OPEN AT ANY GIVEN TIME, AND NO EXCAVATIONS SHALL REMAIN OPEN OVERNIGHT OR BEYOND THE COMPLETION OF THE DAYS WORK.

DEWATERING:
THE CONTRACTOR SHALL, AT ALL TIMES DURING CONSTRUCTION, PROVIDE PROPER AND SATISFACTORY MEANS AND DEVICES FOR THE REMOVAL OF ALL WATER ENTERING THE EXCAVATIONS AND SHALL REMOVE ALL SUCH WATER AS FAST AS IT MAY COLLECT IN SUCH A MANNER AS SHALL NOT INTERFERE WITH THE EXECUTION OF THE WORK. FLOWS SHOULD BE FILTERED BEFORE ENTERING STORM DRAINS OR STREAMS.

CHANGES TO WORK:
ANY MODIFICATIONS AND CHANGES TO THE WORK AS SHOWN ON THE DRAWINGS MUST HAVE THE PRIOR WRITTEN APPROVAL OF THE OWNER AND ENGINEER.

SITE INVESTIGATION:
THE CONTRACTOR SHALL INVESTIGATE THE SITE PRIOR TO BIDDING. THE CONTRACTOR SHALL EXAMINE IN THE FIELD THE ACCESS PROBLEMS, AVAILABLE WORK AREAS, WATER CONDITIONS, NEARBY STRUCTURES, TREES, GROUND CONDITIONS AND FILL MATERIALS. FIELD VISITS SHALL BE COORDINATED WITH THE OWNER.

SURVEY MONUMENTS:
ALL PROPERTY LINE MARKERS (IRON PINS, SPIKES, CONCRETE MONUMENTS, ETC.) THAT ARE LIABLE TO BE DISTURBED BY THE CONSTRUCTION OPERATIONS SHALL BE REFERENCED AND PROPERLY RESET AT THE CONTRACTOR'S EXPENSE FOLLOWING CONSTRUCTION UNDER THE SUPERVISION OF A PROFESSIONAL SURVEYOR REGISTERED IN THE STATE OF OHIO.

DISPOSAL OF WASTE CONSTRUCTION MATERIALS:
THE CONTRACTOR SHALL MAKE HIS OWN ARRANGEMENTS FOR THE DISPOSAL OF SURPLUS EXCAVATED MATERIAL AND WASTE CONSTRUCTION MATERIALS. TREES, LIMBS, BRUSH AND STUMPS REMOVED BY THE CONTRACTOR'S OPERATION SHALL BE REMOVED FROM THE CONSTRUCTION SITE AND DISPOSED OF BY THE CONTRACTOR FOLLOWING OEPA REGULATIONS.

ITEMS TO BE INCLUDED:
THE CONTRACTOR SHALL FURNISH ALL TOOLS, MATERIAL, LABOR AND INCIDENTALS AND APPURTENANCES TO COMPLETE IN EVERY DETAIL AND LEAVE IN WORKING ORDER ALL ITEMS OF WORK CALLED FOR AND/OR SHOWN IN THE DRAWINGS. MATERIAL OR WORK NOT SPECIFICALLY MENTIONED OR SHOWN IN THE DRAWINGS, BUT NECESSARY TO COMPLETE THE WORK SHALL BE FURNISHED,

DRAINAGE TILE:
FIELD DRAINAGE TILE, STORM DRAINS, UNDER DRAINS, DRIVE CULVERTS AND FIELD TILE MAY BE ENCOUNTERED DURING THE COURSE OF EXCAVATION UNDER THIS CONTRACT. THE CONTRACTOR SHALL REPAIR, REPLACE OR REROUTE THE AFFECTED TILE SO AS TO LEAVE THE DRAINAGE SYSTEM IN ORIGINAL CONDITION OR BETTER AND THE SYSTEM IN GOOD WORKING ORDER. THE COST OF WORK THIS SHALL BE INCLUDED IN THE RELATED BID ITEMS.

PERMITS:
UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE PERMITS EXCEPT OHIO EPA PERMIT TO INSTALL FOR THE PROPOSED FACILITIES AND RIGHT OF WAY PERMITS FOR THE AREAS DESIGNATED ON THE DRAWINGS.

SURVEYS:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING ALL DETAIL SURVEYS NEEDED FOR CONSTRUCTION.

ELEVATION DATUM:
ALL ELEVATIONS ARE BASED ON U.S.G.S. 1988 DATUM.

WORK LIMITS:
THE CONTRACTOR SHALL CONFINE HIS ACTIVITIES TO THE PROJECT SITE UNDER DEVELOPMENT, THE EXISTING RIGHTS-OF-WAY, OR CONSTRUCTION AND PERMANENT EASEMENTS AND SHALL NOT TRESPASS UPON OTHER PRIVATE PROPERTY WITHOUT WRITTEN CONSENT OF THE OWNER. EXISTING PROPERTY LINES AND RIGHTS OF WAY SHOWN ON THE DRAWINGS ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY EXACT LOCATION IN ADVANCE OF CONSTRUCTION OPERATIONS.

EROSION CONTROL DEVICES AND MEASURES:
THE CONTRACTOR SHALL PROVIDE EROSION AND SEDIMENT CONTROL DEVICES AND MEASURES SO THAT THE SITE COMPLIES WITH THE REQUIREMENTS AND RECOMMENDATIONS OF THE OHIO DEPARTMENT OF NATURAL RESOURCES; RAINWATER AND LAND DEVELOPMENT MANUAL; OHIO STANDARDS FOR STORM WATER MANAGEMENT AND LAND DEVELOPMENT AND URBAN STREAM PROTECTION.

DUST CONTROL:
THE CONTRACTOR SHALL RESTRICT THE EMISSION OF ALL FUGITIVE DUST AND PARTICULATE, AIRBORNE OR OTHERWISE, THAT ARISES FROM HIS OPERATION AND ACTIVITIES RELATIVE TO THIS PROJECT. DUST CONTROL MEASURES SHALL BE IMPLEMENTED AND MAINTAINED PURSUANT TO THE APPLICABLE REQUIREMENTS OF THE OHIO ADMINISTRATIVE CODE (OAC) SECTION 3745-17-08 IN EFFECT AT THE TIME OF THE CONTRACT. SUCH MEASURES SHALL APPLY TO ACTIVITIES ON-SITE AS WELL AS OFF-SITE.

ROCK EXCAVATION AND DISPOSAL:
THE COST OF ALL ROCK REMOVAL AND DISPOSAL SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE VARIOUS PIPELINE ITEMS. BLASTING WILL NOT BE PERMITTED. NO SEPARATE PAYMENT WILL BE MADE FOR ROCK EXCAVATION.

ESTIMATED QUANTITIES:
ALL ITEMS OF WORK CALLED FOR ON THE PLAN FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED, SHALL BE PERFORMED BY THE CONTRACTOR AND THE COST OF THE SAME SHALL BE INCLUDED IN THE RELATED VARIOUS BID ITEMS FOR PAYMENT.

EXISTING WATER DISTRIBUTION SYSTEM:
UNLESS OTHERWISE INDICATED, THE EXISTING WATERLINES SHOWN ON THESE DRAWINGS ARE OWNED AND OPERATED BY PIKE WATER, INC.

OPERATION OF EXISTING VALVES:
OPERATION OF EXISTING VALVES SHALL ONLY BE DONE BY THE OWNER OR OWNER'S REPRESENTATIVE.

BACKING:
ALL BENDS, JOINT DEFLECTIONS AND FITTINGS SHALL BE BACKED WITH CONCRETE IN ACCORDANCE WITH THE SPECIFICATIONS AND BACKING DETAILS.

COVER:
WATER MAINS SHALL BE LAID WITH A MINIMUM OF 4'-0" COVER FROM FINISHED GRADE TO THE TOP OF THE WATER MAIN, UNLESS OTHERWISE NOTED.

GRADE CONFLICT:
IN CASE OF CONFLICT IN GRADE BETWEEN WATER MAINS AND SEWERS, THE WATER MAINS SHALL BE LOWERED AT THE TIME OF CONSTRUCTION.

DEFLECTION:
UNLESS OTHERWISE APPROVED BY THE ENGINEER, WATER MAINS SHALL BE DEFLECTED AROUND STRUCTURES WITHOUT THE USE OF SPECIAL FITTINGS AND WITHOUT EXCEEDING THE MANUFACTURER'S ALLOWABLE DEFLECTION.

EXTENSION STEM:
IF THE TOP OF THE OPERATING NUT FOR ANY VALVE IS MORE THAN 36" BELOW THE FINISHED GRADE, AN EXTENSION STEM SHALL BE PROVIDED TO PLACE THE OPERATING NUT BETWEEN 24" AND 36" OF THE FINISHED GRADE.

GRANULAR BACKFILL:
EXCAVATION AT ALL STREETS, DRIVES, WALKS, PARKING AREAS AND OTHER ROADWAYS SHALL BE BACKFILLED AND COMPACTED WITH GRANULAR MATERIAL CONFORMING TO THESE DRAWINGS. ADDITIONAL GRANULAR MATERIAL SHALL BE STOCKPILED AT SELECT LOCATION (APPROVED BY OWNER) FOR USE WHEN SETTLEMENT OCCURS. ALL GRANULAR MATERIAL SHALL BE MECHANICALLY COMPACTED IN 8" LAYERS. THE COST OF ALL GRANULAR BACKFILL AND PLACEMENT SHALL BE INCLUDED IN THE BID PRICE OF THE RESPECTIVE WATERLINE ITEMS. SEPARATE PAYMENT WILL NOT BE MADE.

LEAKS:
ALL LEAKS ENCOUNTERED DURING TESTING AND CONSTRUCTION SHALL BE LOCATED AND REPAIRED AT THE CONTRACTOR'S EXPENSE.

MINIMUM PRESSURE:
THE NORMAL WORKING PRESSURE MAINTAINED AT SERVICE CONNECTIONS SHALL NOT BE LESS THAN 35 P.S.I.. SYSTEM OPERATION SHALL MAINTAIN A MINIMUM PRESSURE OF 20 P.S.I. AT GROUND LEVEL AT ALL POINTS IN THE DISTRIBUTION SYSTEM UNDER ALL CONDITIONS OF FLOW.

WATER SERVICE INTERRUPTIONS:
INTERRUPTION OF EXISTING WATER SERVICE IS PROHIBITED WITHOUT THE AUTHORIZATION OF THE OWNER AND ENGINEER. WATER SERVICE INTERRUPTIONS THAT ARE REQUIRED AS PART OF THIS PROJECT SHALL BE COORDINATED WITH THE OWNER AND ENGINEER AND A MINIMUM NOTICE OF 72 HOURS SHALL BE PROVIDED.

WATERLINE BREAKS:
IN THE EVENT THAT THE CONTRACTOR'S OPERATIONS CAUSE A BREAK IN THE EXISTING WATER MAINS OR SERVICE LINE, THE CONTRACTOR SHALL CEASE CONSTRUCTION OPERATIONS AND REPAIR THE BREAK AT HIS OWN COST. ONCE THE BREAK HAS BEEN REPAIRED TO SATISFACTION OF THE OWNER OR ENGINEER, CONSTRUCTION OPERATIONS MAY RESUME.

MATERIAL STANDARDS:
ALL MATERIALS UTILIZED IN THE CONSTRUCTION OF THIS PROJECT THAT WILL COME IN CONTACT WITH POTABLE WATER SHALL BE AWWA AND/OR NSF 60/61 APPROVED. PIPE AND MATERIALS INCORPORATED INTO THIS PROJECT SHALL ALSO CONFORM TO THE LATEST REVISION OF THE APPROPRIATE STANDARDS AS FOLLOWS:

| | |
|---|---|
| PIPE: | AWWA C900 |
| FITTINGS: | AWWA C-153 |
| VALVES: | AWWA C-509 |
| SERVICE LINE: | AWWA C-901 |
| APPURTENANCES: | AWWA/NSF STANDARDS AS APPLICABLE |

INDIVIDUAL BOOSTER PUMPS:
CONNECTION OF INDIVIDUAL BOOSTER PUMPS TO THE PROPOSED WATERLINE IS PROHIBITED.

SERVICE CONNECTIONS:
THE SERVICE CONNECTION LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND ARE FOR REFERENCE ONLY.

SUBSURFACE CONDITIONS:
IT IS THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO MAKE HIS OWN INVESTIGATIONS OF SUBSURFACE CONDITIONS PRIOR TO SUBMITTING HIS BID PROPOSAL.

FITTINGS REQUIRED FOR CONSTRUCTION:
THE CONTRACTOR SHALL FURNISH ALL FITTINGS REQUIRED, WHETHER SHOWN ON THE DRAWINGS OR NOT, NECESSARY TO ACHIEVE THE DESIRED HORIZONTAL/VERTICAL ALIGNMENT AND COMPLETE CONSTRUCTION. COST FOR THE REQUIRED FITTINGS SHALL BE INCLUDED IN THE VARIOUS WATERLINE ITEMS BID.

EQUIPMENT MOVEMENT:
NO NON RUBBER-TIRED VEHICLES SHALL BE MOVED ON ANY STREETS. EXCEPTIONS MAY BE GRANTED BY THE OWNER WHERE SHORT DISTANCES AND SPECIAL CIRCUMSTANCES ARE INVOLVED AND PROTECTION IS PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY PAVEMENT DAMAGED AS A RESULT OF THE CONTRACTOR'S ACTIVITIES, WITH NO EXCEPTIONS.

WATER FOR CONSTRUCTION:
WATER USED FOR FILLING, FLUSHING, AND TESTING WILL BE COORDINATED WITH AND SUPPLIED BY THE OWNER. IF THE CONTRACTOR REQUESTS WATER FROM A HYDRANT, THE CONTRACTOR MUST COORDINATE THAT WITH THE OWNER AND PROVIDE THE REQUIRED BACKFLOW PREVENTION DEVICE. THE OWNER SHALL PROVIDE A QUANTITY OF WATER THAT IS DEEMED REASONABLE FOR COMPLETION OF THE WORK AND MAY ADJUST THE POINT WHERE WATER IS MADE AVAILABLE AT THEIR DISCRETION.

SERVICE LINE INSTALLATION:
ALL NEW SERVICE LINES TO BE INSTALLED UNDER EXISTING PAVEMENT, CURBS AND SIDEWALK SHALL BE BORED. OPEN TRENCHING FOR SERVICE LINES IN UNPAVED AREAS IS ACCEPTABLE.

WATERLINE TESTING:
THE CONTRACTOR SHALL THOROUGHLY CLEAN, FLUSH, AND TEST THE WATER MAINS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS PRIOR TO ACCEPTANCE AND PLACEMENT INTO SERVICE. ALL COSTS ASSOCIATED WITH THE PRESSURE AND DISINFECTION TESTING SHALL BE BORNE BY THE CONTRACTOR. TESTING LAB MUST BE ON OHIO EPA APPROVED LIST.

THE CONTRACTOR SHALL SUPPLY ALL EQUIPMENT, MATERIALS, TAPS, AND LABOR NECESSARY FOR CONDUCTING TESTING.

PRESSURE TESTING SHALL BE IN ACCORDANCE WITH A.W.W.A. C-600 AND AWWA C-605 FOR DUCTILE IRON AND PVC MAINS RESPECTIVELY.

DISINFECTION SHALL BE IN ACCORDANCE WITH A.W.W.A. C-651.

FINAL GRADING AND RESTORATION:
ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND ELEVATION. ALL UNPAVED AREAS SHALL BE SEEDED AND MULCHED.

ALL SIGNS, MAILBOXES, FENCES, GUARDRAILS, ROADSIDE DITCHES, OR OTHER PHYSICAL FEATURES DISTURBED OR DAMAGED DURING WORK UNDER THIS CONTRACT SHALL BE RESTORED TO THEIR ORIGINAL CONDITION BY THE CONTRACTOR. THE COST OF ALL SUCH WORK SHALL BE INCLUDED IN BID FOR VARIOUS ITEMS.

TREES, SHRUBS AND THE OTHER PLANTINGS DISTURBED OR DESTROYED IN EASEMENT AREAS OR WORK AREAS WHICH ARE OUTSIDE ROAD RIGHT-OF-WAY SHALL BE REPLACED AS NECESSARY IN LIKE KIND. THE OWNER SHALL BE GIVEN NOTICE OF INTENT TO REMOVE TREES IN THE RIGHT-OF-WAY A MINIMUM OF 48 HOURS BEFORE REMOVAL. NO TREES SHALL BE REMOVED OR DISTURBED WITHOUT PRIOR CONSENT OF THE ENGINEER AND OWNER,

ALL DISTURBED AREAS NOT SUBJECT TO TRAFFIC SHALL BE ROUGH GRADED WITHIN SEVEN DAYS OF PIPE INSTALLATION AND FINISH GRADED, SEEDED AND MULCHED WITHIN ONE MONTH OF PIPE INSTALLATION. TRENCH IN THESE AREAS MAY BE MOUNDED TO 12" HIGH OVER EXCAVATED AREAS AFTER ROUGH GRADING TO ACCOUNT FOR SETTLEMENT, FINISH GRADING SHALL BE BROUGHT TO ORIGINAL GRADE.

EXISTING SERVICE LINES
EXISTING WATER SERVICES MAY NOT BE SHOWN. CONTRACTOR SHALL COORDINATE EXCAVATION PROCEDURES TO IDENTIFY LOCATION OF THESE FACILITIES AND TO LIMIT DAMAGE. REPAIR OF DAMAGED FACILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

SERVICE SIZE:
UNLESS OTHERWISE DESIGNATED WATER SERVICES SHALL INCORPORATE 3/4" SERVICE LINE.

EXPOSURE OF UTILITY CROSSINGS:
CONTRACTOR SHALL CAREFULLY REVIEW DRAWINGS FOR LOCATIONS WHERE THE PROPOSED WATERLINE CROSSES EXISTING UNDERGROUND FACILITIES. CROSSING LOCATIONS SHALL BE EXPOSED BY CONTRACTOR IN ADVANCE OF PIPE INSTALLATION ACTIVITIES TO AVOID GRADE CONFLICT AND POTENTIAL DELAY.

FEDERAL ENVIRONMENTAL REQUIREMENTS:
WHEN CONSTRUCTING A PROJECT INVOLVING TRENCHING AND/OR OTHER RELATED EARTH EXCAVATIONS, CONTRACTOR SHALL COMPLY WITH THE FOLLOWING ENVIRONMENTAL CONSTRAINTS:

WETLANDS - WHEN DISPOSING OF EXCESS, SPOIL, OR OTHER CONSTRUCTION MATERIALS ON PUBLIC OR PRIVATE PROPERTY, CONTRACTOR SHALL NOT FILL IN OR OTHERWISE CONVERT WETLANDS.

FLOODPLAINS - WHEN DISPOSING OF EXCESS, SPOIL, OR OTHER CONSTRUCTION MATERIALS ON PUBLIC OR PRIVATE PROPERTY, CONTRACTOR SHALL NOT FILL IN OR OTHERWISE CONVERT 100 YEAR FLOODPLAIN AREAS DELINEATED ON THE LATEST FEDERAL EMERGENCY MANAGEMENT AGENCY FLOODPLAIN MAPS, OR OTHER APPROPRIATE MAPS, I.E., ALLUVIAL SOILS ON NRCS SOIL SURVEY MAPS.

HISTORIC PRESERVATION - ANY EXCAVATION BY CONTRACTOR THAT UNCOVERS AN HISTORICAL OR ARCHAEOLOGICAL ARTIFACT SHALL BE IMMEDIATELY REPORTED TO OWNER AND A REPRESENTATIVE OF AGENCY. CONSTRUCTION SHALL BE TEMPORARILY HALTED PENDING THE NOTIFICATION PROCESS AND FURTHER DIRECTIONS ISSUED BY AGENCY AFTER CONSULTATION WITH THE STATE HISTORIC PRESERVATION OFFICER (SHPO).

ENDANGERED SPECIES - CONTRACTOR SHALL COMPLY WITH THE ENDANGERED SPECIES ACT, WHICH PROVIDES FOR THE PROTECTION OF ENDANGERED AND/OR THREATENED SPECIES AND CRITICAL HABITAT. SHOULD ANY EVIDENCE OF THE PRESENCE OF ENDANGERED AND/OR THREATENED SPECIES OR THEIR CRITICAL HABITAT BE BROUGHT TO THE ATTENTION OF CONTRACTOR, CONTRACTOR WILL IMMEDIATELY REPORT THIS EVIDENCE TO OWNER AND A REPRESENTATIVE OF AGENCY. CONSTRUCTION SHALL BE TEMPORARILY HALTED PENDING THE NOTIFICATION PROCESS AND FURTHER DIRECTIONS ISSUED BY AGENCY AFTER CONSULTATION WITH THE U.S. FISH AND WILDLIFE SERVICE.

MITIGATION MEASURES - IF THE PROJECT HAD AN ENVIRONMENTAL REPORT, ENVIRONMENTAL ASSESSMENT, OR ENVIRONMENTAL IMPACT STATEMENT TO MEET THE REQUIREMENTS OF THE NATIONAL ENVIRONMENTAL POLICY ACT, COMPLIANCE WITH THE MITIGATION MEASURES, IF ANY, IN THAT DOCUMENT ARE HEREBY INCLUDED AS A CONDITION OF THIS CONTRACT. THESE MITIGATION MEASURES INCLUDE BUT MAY NOT BE LIMITED TO, THE FOLLOWING:

CONSTRUCTION - CONSTRUCTION SPECIFICATIONS AND OTHER CONTRACT PROVISIONS WILL REQUIRE: (1) LIMITING NORMAL CONSTRUCTION TO DAYLIGHT HOURS TO MINIMIZE DISTURBANCE FROM NOISE AND LIGHTS, (2) CONTROL OF UNNECESSARY NOISE, (3) DUST CONTROL, (4) TEMPORARY SILTATION CONTROL, INCLUDING MINIMIZING DISTURBED AREAS AND USING PROMPT TEMPORARY SEEDING WHEN NEEDED AND THE USE OF SILT FENCES, (5) RESTORATION OF DISTURBED PIPELINE AREAS TO PRE-CONSTRUCTION CONDITIONS, (6) ROAD SURFACES WILL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS, AND (7) LINES CROSSING UNDER COUNTY HIGHWAYS WILL BE BORED.

FLOODPLAIN - CONSTRUCTION WITHIN FLOODPLAIN AREAS WILL HAVE TO BE APPROVED BY THE LOCAL FLOODPLAIN MANAGEMENT COORDINATOR AND COMPLY WITH ALL LOCAL FLOODPLAIN MANAGEMENT REGULATIONS.

CULTURAL RESOURCES/VISUAL AESTHETICS - CONTRACTOR SHALL AVOID DISRUPTION TO ANY EXISTING CEMETERIES ADJACENT TO THE PROJECT CORRIDOR.

BIOLOGICAL RESOURCES - NO TREES THAT ARE SUITABLE HABITAT FOR THE INDIANA BAT CAN BE TAKEN DOWN BETWEEN APRIL 1ST AND SEPTEMBER 30TH.

WATER QUALITY - IMPACTS TO WATER QUALITY DUE TO RUNOFF AND EROSION WILL BE MITIGATED THROUGH COMPLIANCE WITH THE OHIO DEPARTMENT OF NATURAL RESOURCE'S MANUAL OF RAINWATER AND LAND DEVELOPMENT.

INDIANA BAT HABITAT - IF SUITABLE INDIANA BAT HABITAT OCCURS WITHIN THE PROJECT AREA, THESE TREES MUST BE CONSERVED. IF SUITABLE HABITAT OCCURS ON THE PROJECT AREA AND TREES MUST BE CUT, CUTTING MUST OCCUR BETWEEN OCTOBER 1 AND MARCH 31. IF SUITABLE HABITAT MUST BE CUT DURING THE SUMMER MONTHS, A NET SURVEY MUST BE CONDUCTED BETWEEN JUNE 15 AND JULY 31, PRIOR TO CUTTING. NET SURVEYS SHALL INCORPORATE EITHER TWO NET SITES PER SQUARE KILOMETER OF PROJECT AREA WITH EACH NET SITE CONTAINING A MINIMUM OF TWO NETS USED FOR TWO CONSECUTIVE NIGHTS, OR ONE NET SITE PER KILOMETER OF STREAM WITHIN THE PROJECT LIMITS WITH EACH NET SITE CONTAINING A MINIMUM OF TWO NETS USED FOR TWO CONSECUTIVE NIGHTS.

UNDERGROUND UTILITIES:
THE INFORMATION SHOWN CONCERNING EXISTING UTILITIES IS NOT REPRESENTED, WARRANTED OR GUARANTEED TO BE COMPLETE OR ACCURATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PHYSICALLY LOCATE AND VERIFY, IN THE FIELD, ALL UTILITY LOCATIONS AND ELEVATIONS, PRIOR TO THE BEGINNING OF HIS CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL SUPPORT, PROTECT, AND RESTORE ALL EXISTING UTILITIES AND THEIR ASSOCIATED ITEMS.

THE IDENTITY AND LOCATION OF THE EXISTING UNDERGROUND UTILITY FACILITIES KNOWN TO BE LOCATED IN THE CONSTRUCTION AREA HAVE BEEN SHOWN ON THE DRAWINGS AS ACCURATELY AS PROVIDED BY THE OWNER OF THE UTILITY. THE OWNER AND/OR ENGINEER ASSUME NO RESPONSIBILITY AS TO THE ACCURACY OR THE DEPTHS OF THE UNDERGROUND FACILITIES SHOWN ON THESE DRAWINGS.

THE CONTRACTOR SHALL NOTIFY ALL UTILITY OWNERS, IN ACCORDANCE WITH SECTION 153.64, OHIO REVISED CODE, AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO THE BEGINNING OF ANY WORK, COORDINATE HIS WORK WITH THEM, AND KEEP THE UTILITY OWNERS APPRAISED OF HIS SCHEDULE AND REQUIREMENTS UNTIL ALL WORK IS COMPLETED. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH EVIDENCE OF HAVING NOTIFIED THE UTILITIES AND PROVIDING THEM WITH HIS WORK SCHEDULE PRIOR TO BEGINNING ANY WORK. NOTICE SHALL BE GIVEN TO THE OHIO UTILITIES PROTECTION SERVICE AND TO THE OIL AND GAS PRODUCERS UNDERGROUND PROTECTION SERVICE.

THE FOLLOWING IS A PARTIAL LIST OF UTILITY REGISTRATION SERVICES AND UTILITY OWNERS WHO MUST BE NOTIFIED. THE CONTRACTOR SHALL COMPLY WITH THE REGULATIONS SET FORTH BY THE RESPECTIVE PUBLIC SERVICE CORPORATIONS AS LISTED:

OHIO UTILITIES PROTECTION SERVICE
4740 BELMONT AVE
YOUNGSTOWN, OH 44505
(800) 362-2764

FRONTIER COMMUNICATIONS
1315 ALBERT ST.
PORTSMOUTH, OH 45662
(740) 204-2259

OHIO OIL AND GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
PO BOX 535
GRANVILLE OH, 43023
(800) 925-0988

PIKE WATER INC.
ATTN: FARON YOUNG
2277 BOSWELL RUN RD
PIKETON, OH 45661
(740) 947-2524

AMERICAN ELECTRIC POWER
3225 SCIOTO TRAIL
PORTSMOUTH, OH 45662
(800) 672-2231

COLUMBIA GAS OHIO
2315 17TH ST.
PORTSMOUTH, OH 45662
(740) 354-4761

INTERFACE WITH EXISTING UTILITIES:
THE CONTRACTOR SHALL MAINTAIN AND PROTECT ALL PUBLIC OR PRIVATE UTILITY FACILITIES DURING CONSTRUCTION. SHOULD IT BECOME NECESSARY TO MOVE, ADJUST, OR TEMPORARILY RELOCATE ANY SUCH FACILITY, THE WORK SHALL BE DONE BY THE OWNER OF THE UTILITY FACILITY. ANY DAMAGE TO UTILITY FACILITIES BY THE CONTRACTOR OR HIS SUBCONTRACTORS WILL BE REPAIRED BY THE OWNER OF SAID UTILITY, AND THE COST OF SAID REPAIRS WILL BE PAID BY THE CONTRACTOR, THE CONTRACTOR SHALL SEND PROOF OF PAYMENT TO THE UTILITY FOR THE REPAIR TO THE OWNER, PRIOR TO FINAL PAYMENT.

IT IS UNDERSTOOD AND AGREED THAT THE CONTRACTOR HAS CONSIDERED IN HIS BID ALL OF THE PERMANENT AND TEMPORARY UTILITY APPURTENANCES IN THEIR PRESENT OR RELOCATED POSITIONS AND THAT NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR ANY DELAYS. INCONVENIENCE, OR DAMAGE SUSTAINED BY HIM DUE TO ANY INTERFERENCE FROM THE SAID UTILITY APPURTENANCES OR THE OPERATION OF MOVING THEM.

CONTRACTOR SHALL ENSURE ALL POWER POLES, ELECTRICAL SERVICES AND ANY OTHER UTILITIES ARE SUPPORTED AS NECESSARY WHILE CONSTRUCTION THE PROPOSED IMPROVEMENTS. COST FOR THIS WORK SHALL BE INCLUDED IN THE VARIOUS BID ITEMS FOR PAYMENT.

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|---|---|---|
| 1 | REVISED FOR CONSTRUCTION | 3/20/2025 |

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| ISSUE DATE: | 2/6/2025 |
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SR 124 WATERLINE IMPROVEMENTS
- PIKE COUNTY, OH -

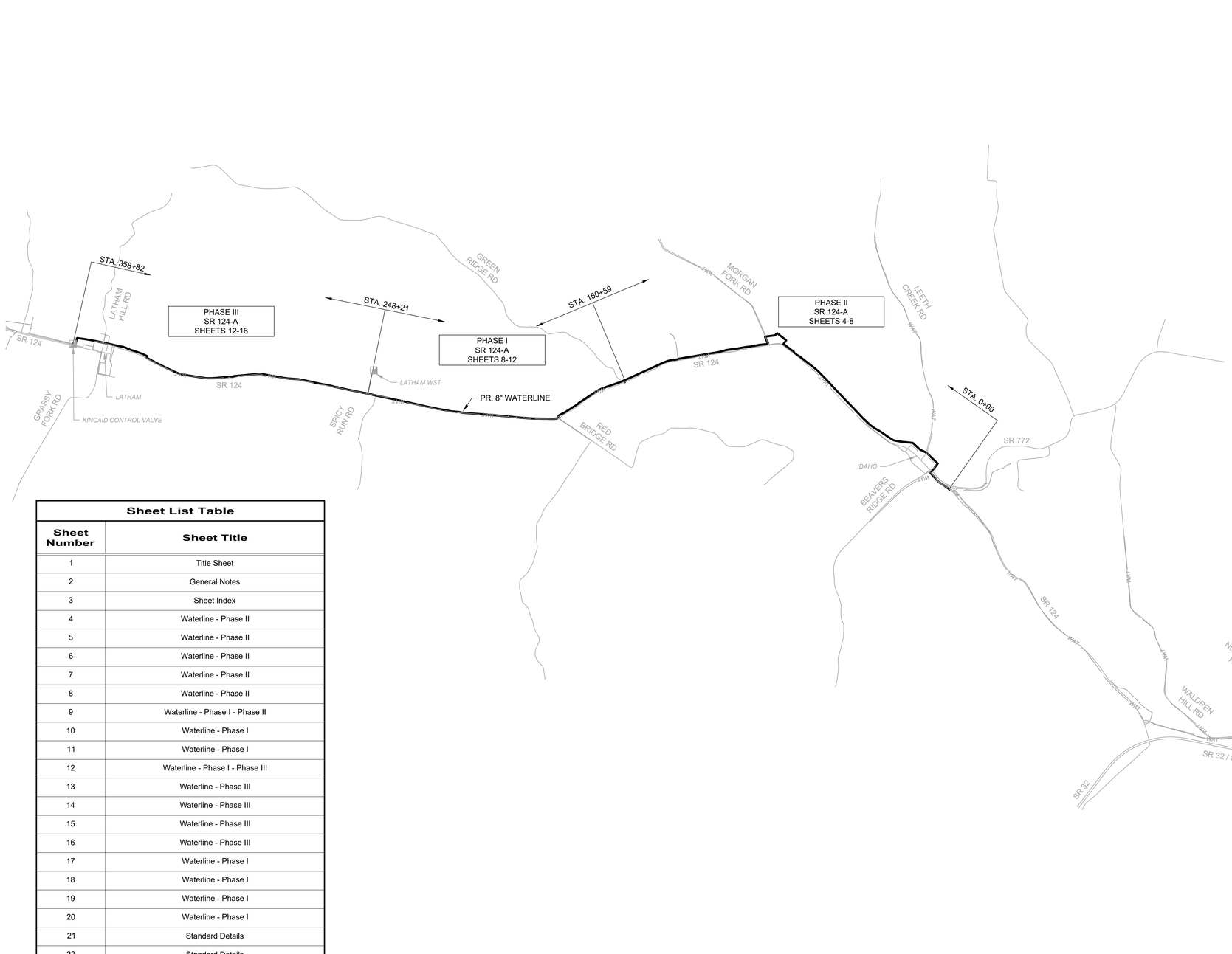
GENERAL NOTES

PROJECT NO.
220239

DISCIPLINE

SHEET NAME
GEN NOTE

SHEET 2 OF 29




## Sheet List Table

| Sheet Number | Sheet Title |
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| 3 | Sheet Index |
| 4 | Waterline - Phase II |
| 5 | Waterline - Phase II |
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| 9 | Waterline - Phase I - Phase II |
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| 21 | Standard Details |
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| 23 | Standard Details |
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| 25 | Hydraulics - Phase I II & III |
| 26 | Booster Station Site Plan |
| 27 | BPS Electrical Legend & General Notes |
| 28 | BPS Elec. Site Plan, Internal Layout & Dist. Diagram |
| 29 | BPS Electrical Details |

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# SR 124 WATERLINE IMPROVEMENTS
- PIKE COUNTY, OH -

# SHEET INDEX

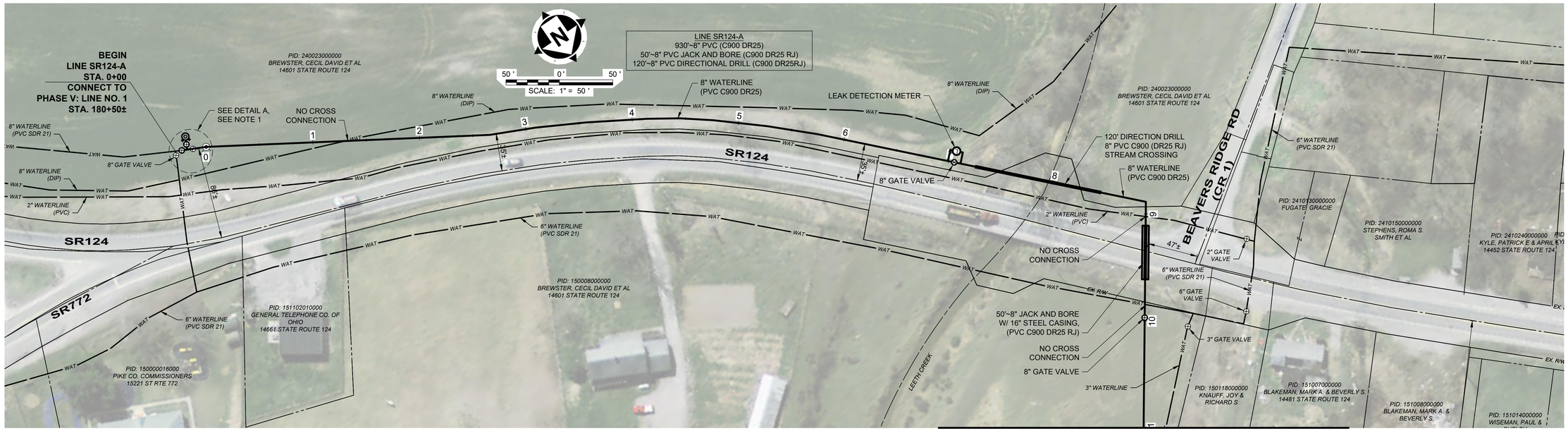
PROJECT NO.
220239

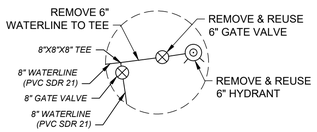
DISCIPLINE

SHEET NAME
G-02

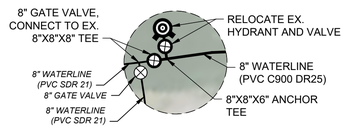
SHEET 3 OF 29

C:\CTI\CADI_DRIVES_H\2022\220239\DWG\SHEETS\C_220239 - SHEET INDEX.DWG - SHEET INDEX - 2/6/2025 9:23:07 AM - ADAM DAWSON




**DETAIL A**
**EXISTING**
SCALE: 1"=30'




**DETAIL A**
**PROPOSED**
SCALE: 1"=30'

NOTES:

1. CONTRACTOR SHALL PERFORM TEE INSTALLATION VIA OPEN CUT. WATERLINE SHUTDOWN SHALL BE COORDINATED WITH OWNER.
2. WATERLINE TO BE INSTALLED IN PUBLIC RIGHT OF WAY:
   - LINE 124-A: STA. 07+48 TO STA. 08+26
   - LINE 124-A: STA. 08+93 TO STA. 09+82
   - LINE 124-A: STA. 18+64 TO STA. 18+14

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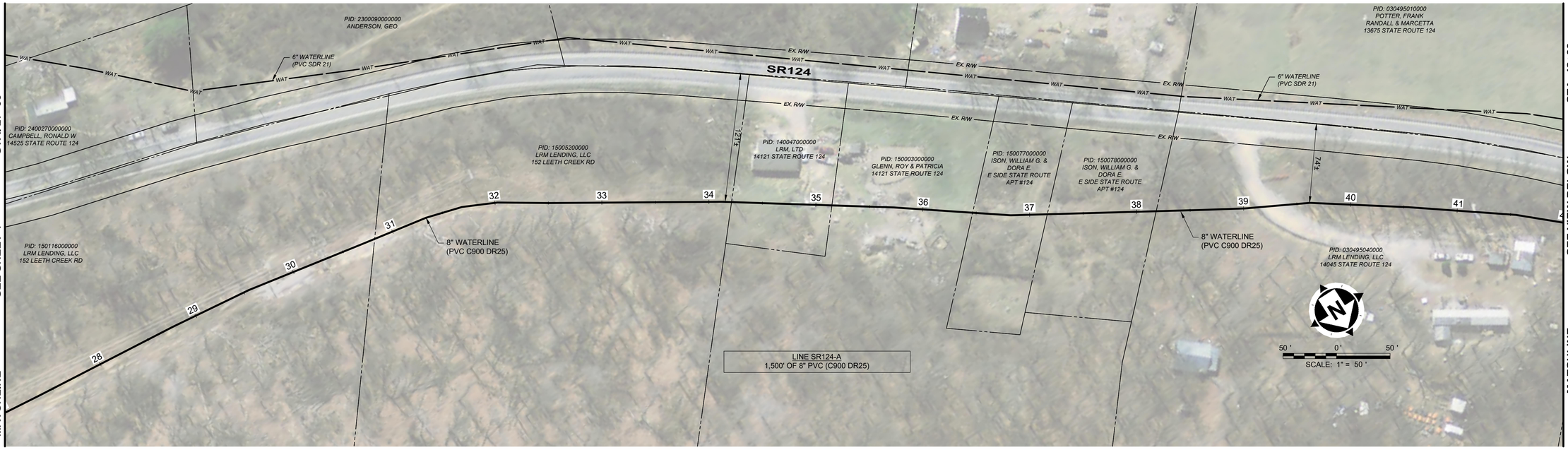
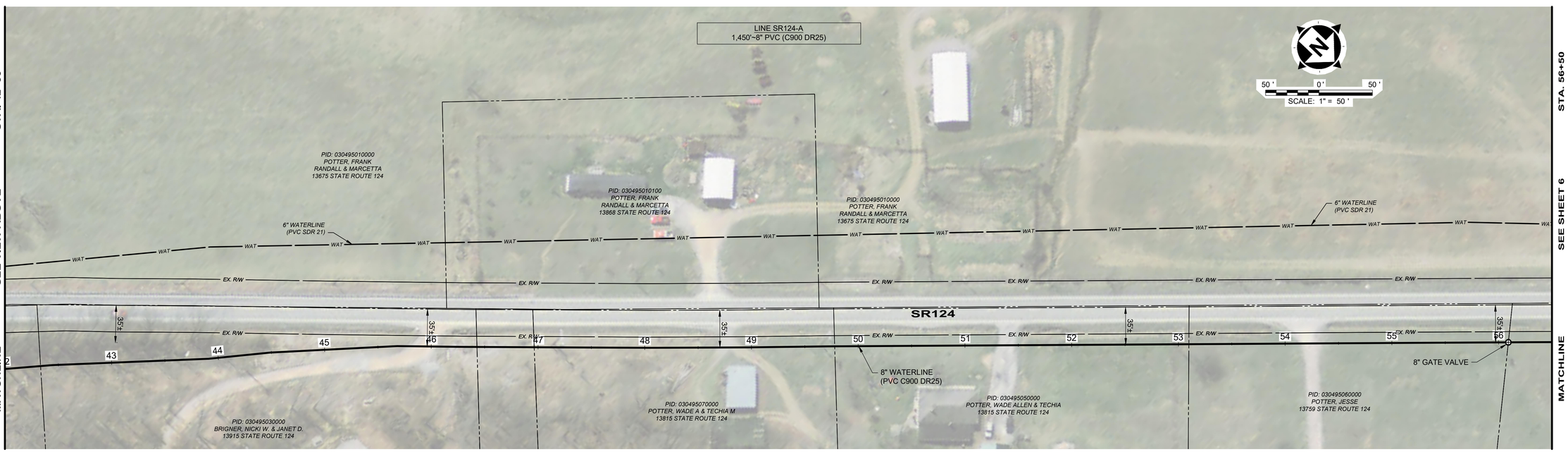
**SR 124 WATERLINE IMPROVEMENTS**
- PIKE COUNTY, OH -

**WATERLINE - PHASE II**

| PROJECT NO. |
|---|
| 220239 |
| DISCIPLINE |
| |
| SHEET NAME |
| C-01 |
| SHEET 4 / OF 29 |

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# SR 124 WATERLINE IMPROVEMENTS
- PIKE COUNTY, OH -

# WATERLINE - PHASE II

PROJECT NO.
220239

DISCIPLINE

SHEET NAME
C-02

SHEET 5 OF 29

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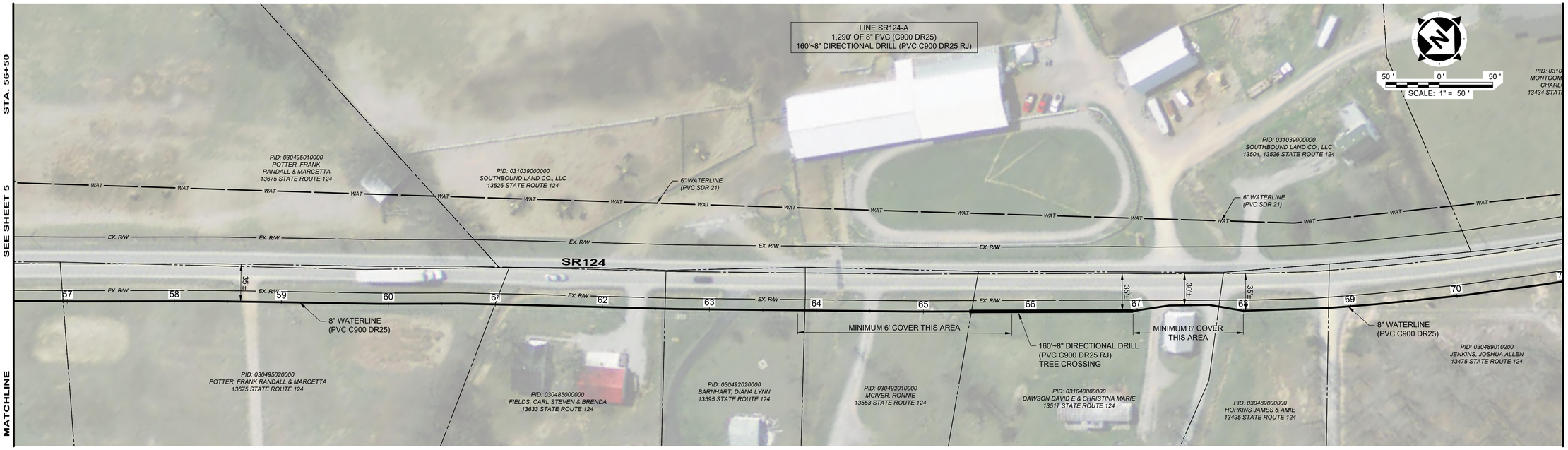


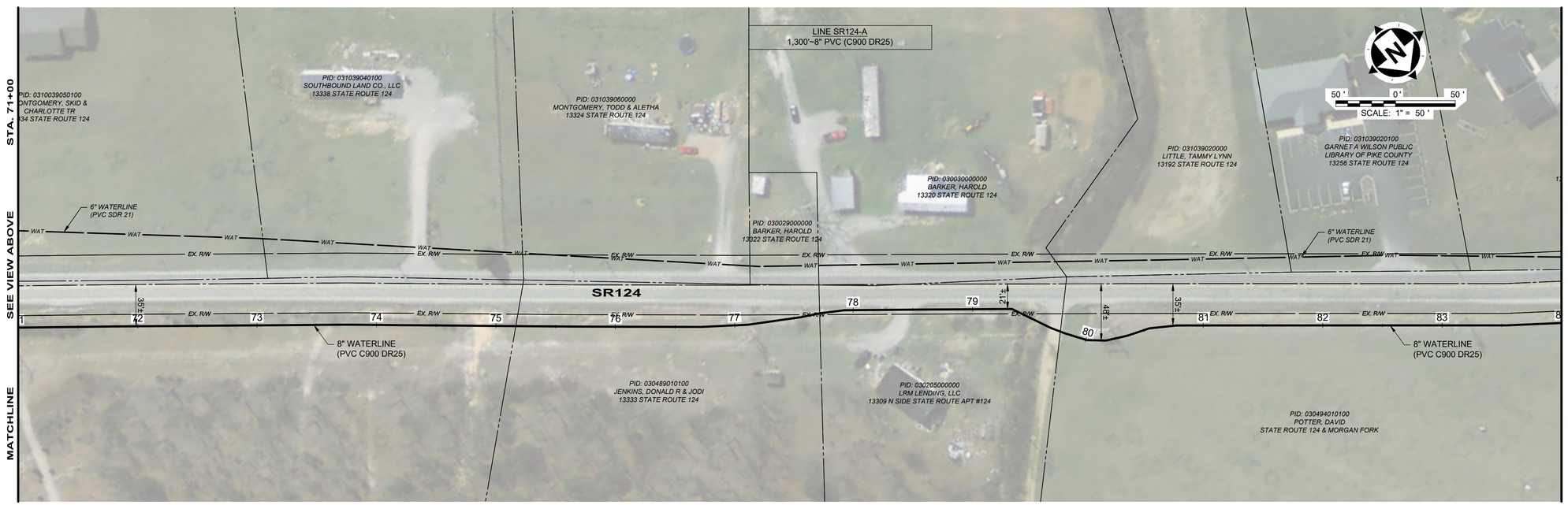


NOTES:

1. WATERLINE TO BE INSTALLED IN PUBLIC RIGHT OF WAY:
   - LINE 124-A: STA. 77+66 TO STA. 79+42

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# SR 124 WATERLINE IMPROVEMENTS
- PIKE COUNTY, OH -

## WATERLINE - PHASE II

PROJECT NO.
220239

DISCIPLINE

SHEET NAME
C-03

SHEET 6 OF 29

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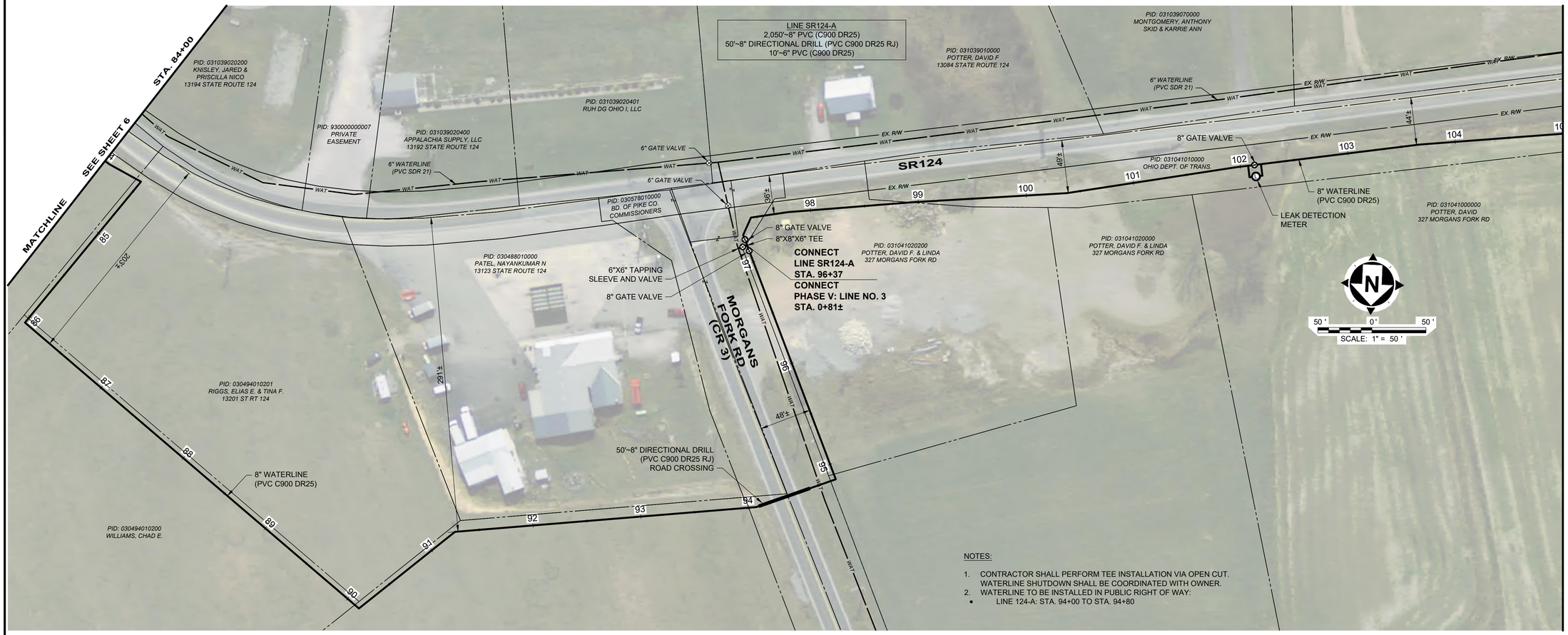


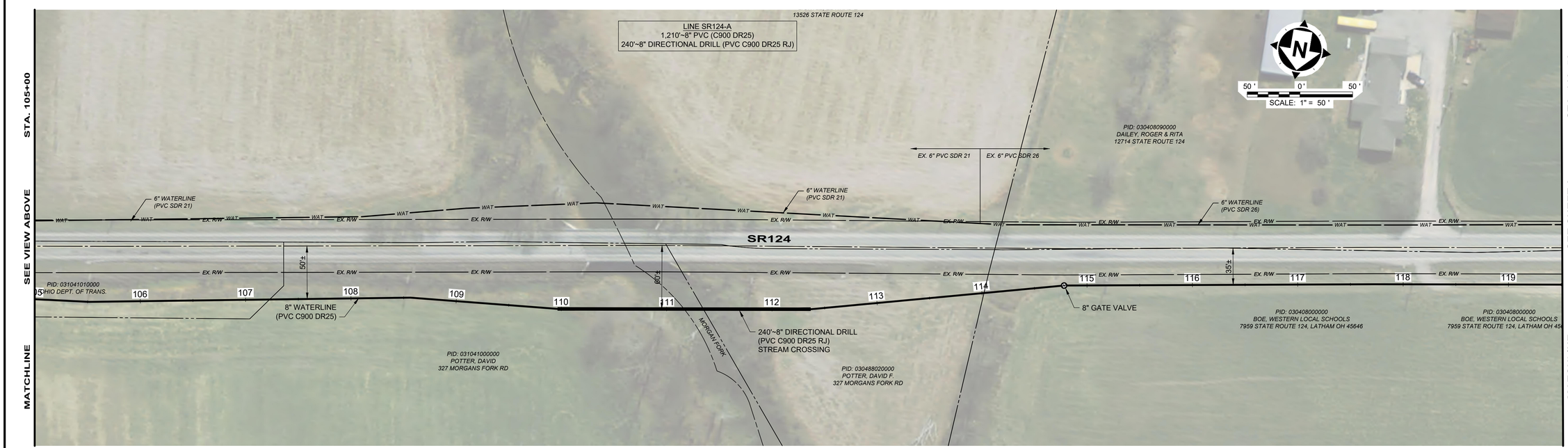


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# SR 124 WATERLINE IMPROVEMENTS
- PIKE COUNTY, OH -

## WATERLINE - PHASE II

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| PROJECT NO. | 220239 |
| DISCIPLINE | |
| SHEET NAME | C-04 |
| SHEET | 7 |
| OF | 29 |

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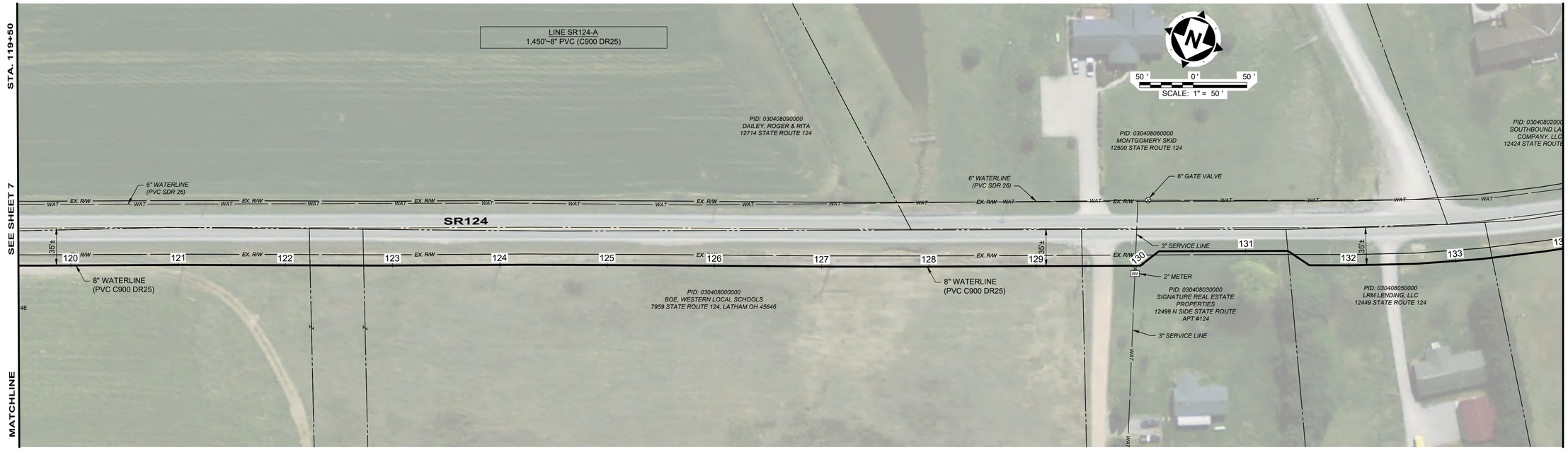


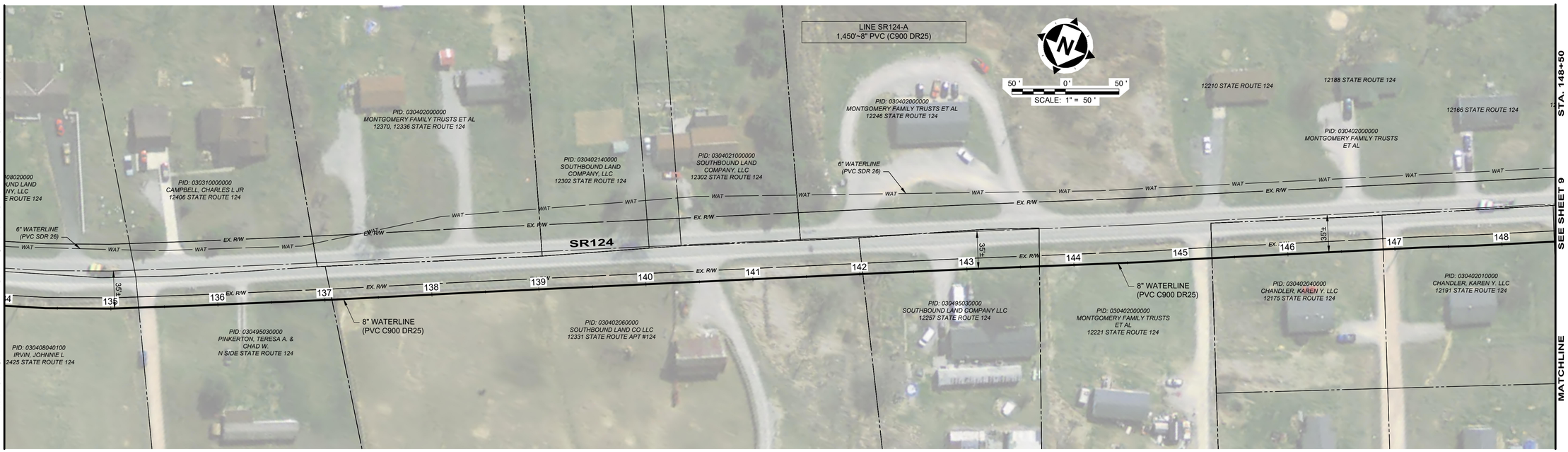


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# SR 124 WATERLINE IMPROVEMENTS
- PIKE COUNTY, OH -

## WATERLINE - PHASE II

PROJECT NO.
220239

DISCIPLINE

SHEET NAME
C-05

SHEET 8 OF 29

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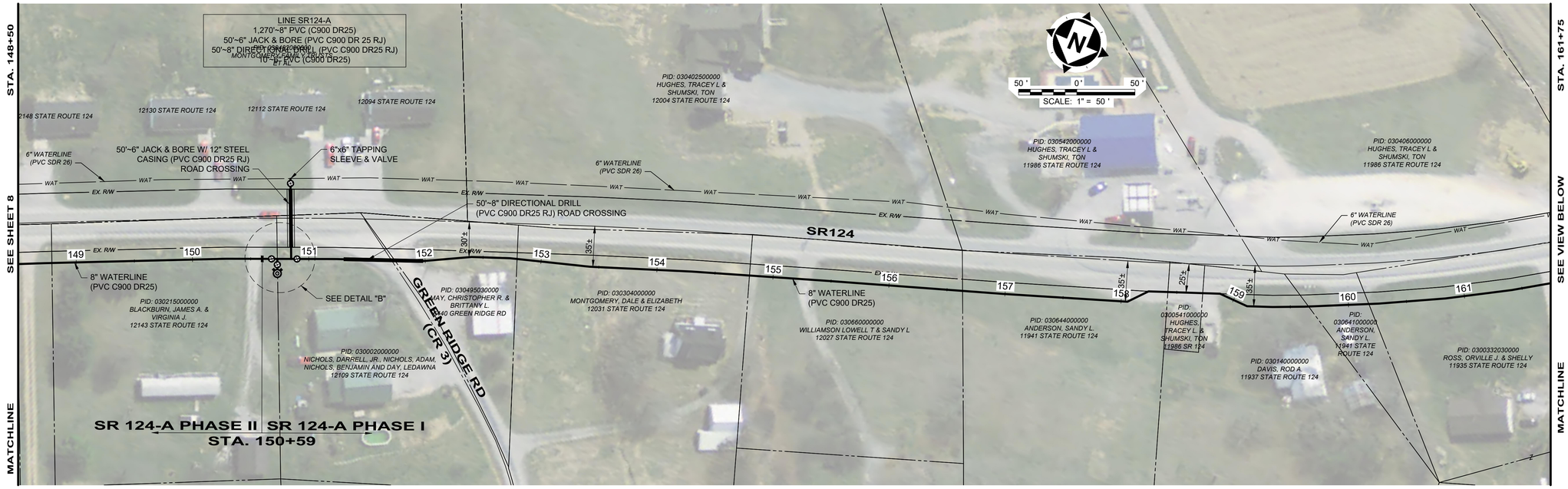
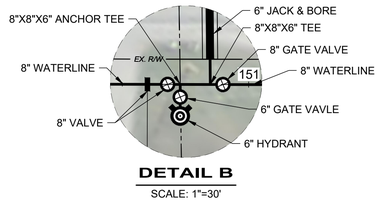


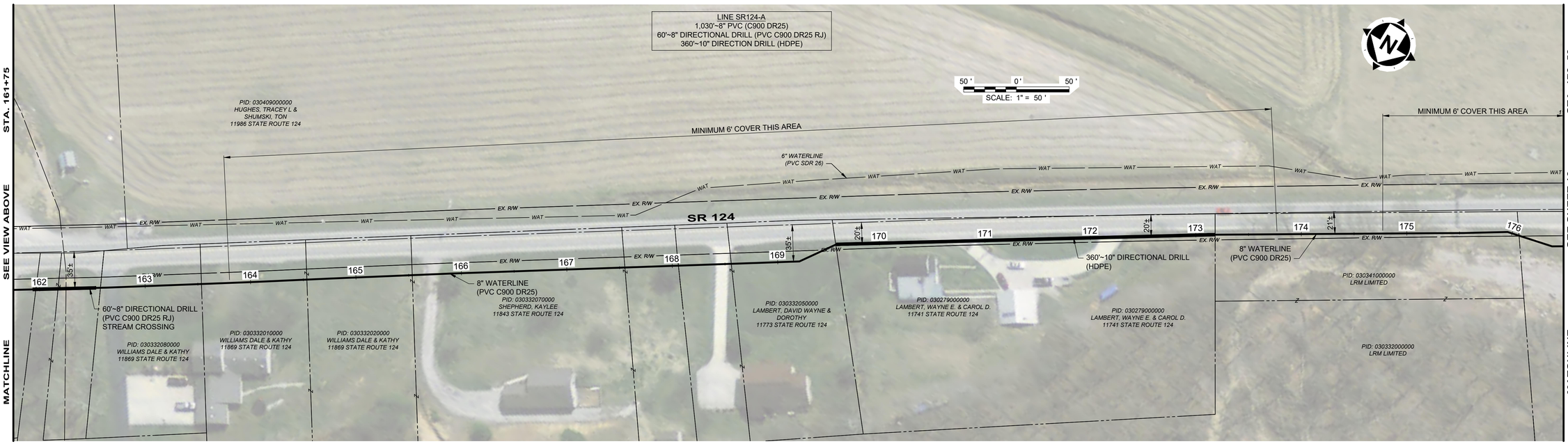




**DETAIL B**

SCALE: 1"=30'

NOTES:

1. WATERLINE TO BE INSTALLED IN PUBLIC RIGHT OF WAY:
   - LINE 124-A: STA. 158+26 TO STA. 158+87
   - LINE 124-A: STA. 169+46 TO STA. 176+07

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**SR 124 WATERLINE IMPROVEMENTS**
- PIKE COUNTY, OH -

**WATERLINE - PHASE I - PHASE II**

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|---|---|
| PROJECT NO. | 220239 |
| DISCIPLINE | |
| SHEET NAME | C-06 |
| SHEET | 9 |
| OF | 29 |

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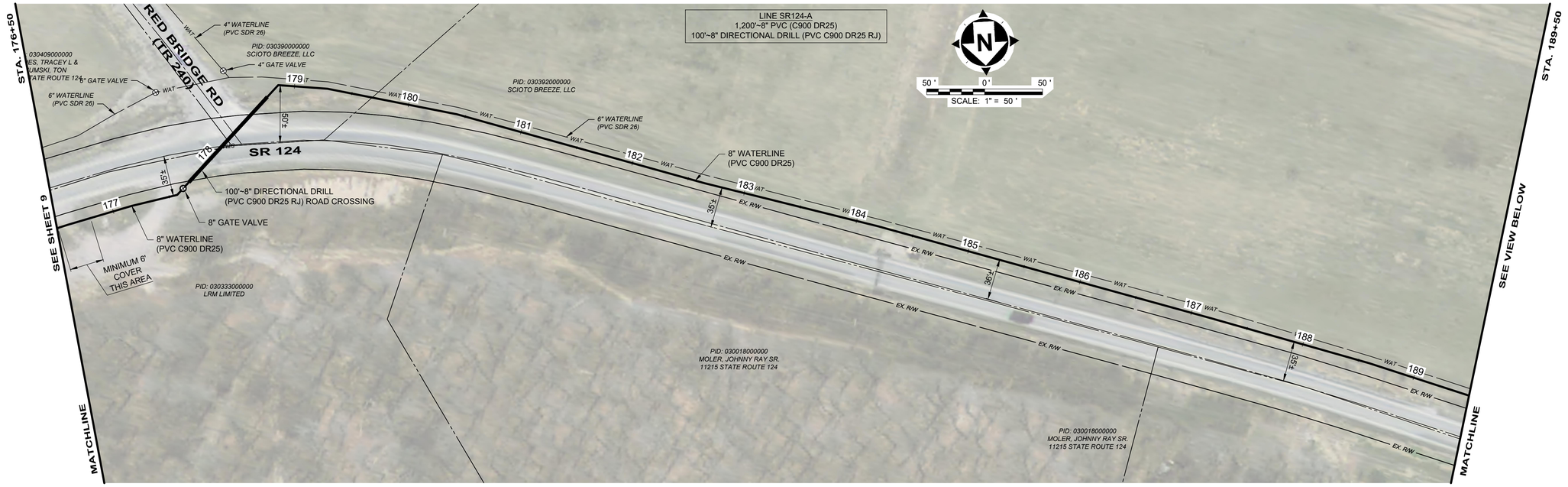


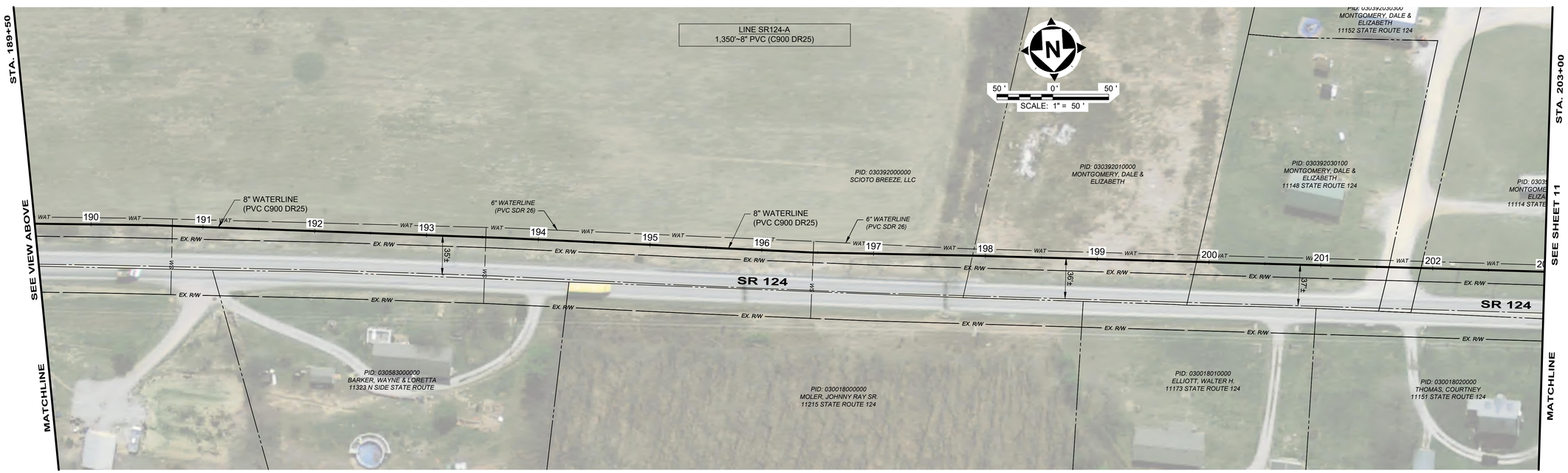


NOTES:

1. WATERLINE TO BE INSTALLED IN PUBLIC RIGHT OF WAY:
   - LINE 124-A: STA. 177+73 TO STA. 178+51

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# SR 124 WATERLINE IMPROVEMENTS
- PIKE COUNTY, OH -

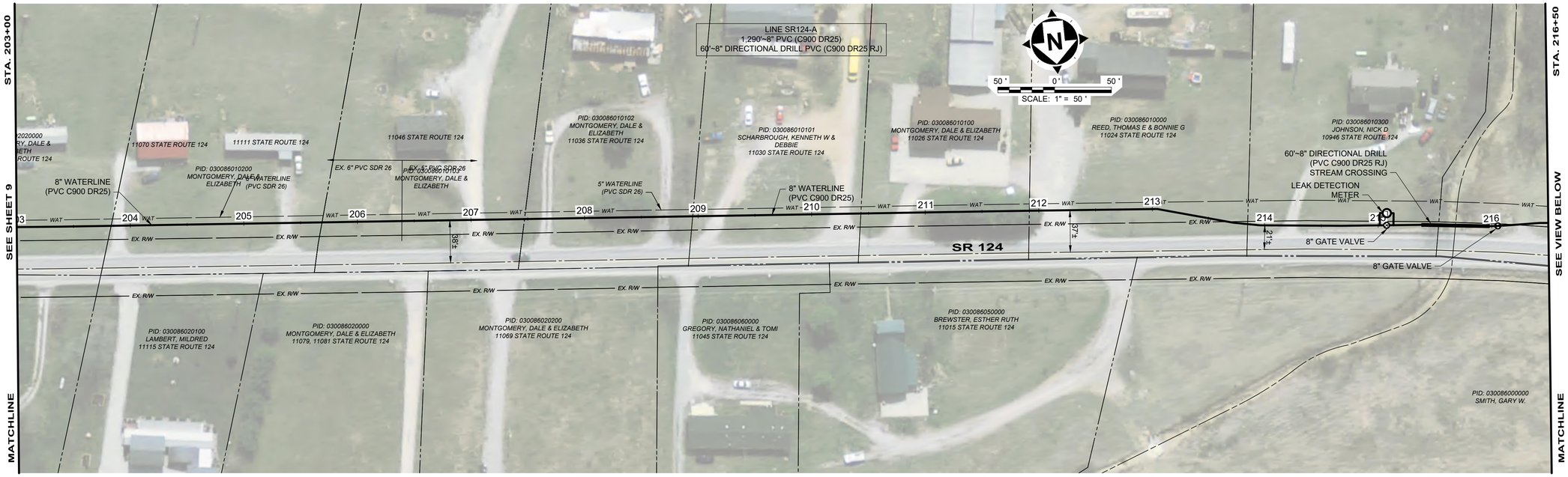
## WATERLINE - PHASE I

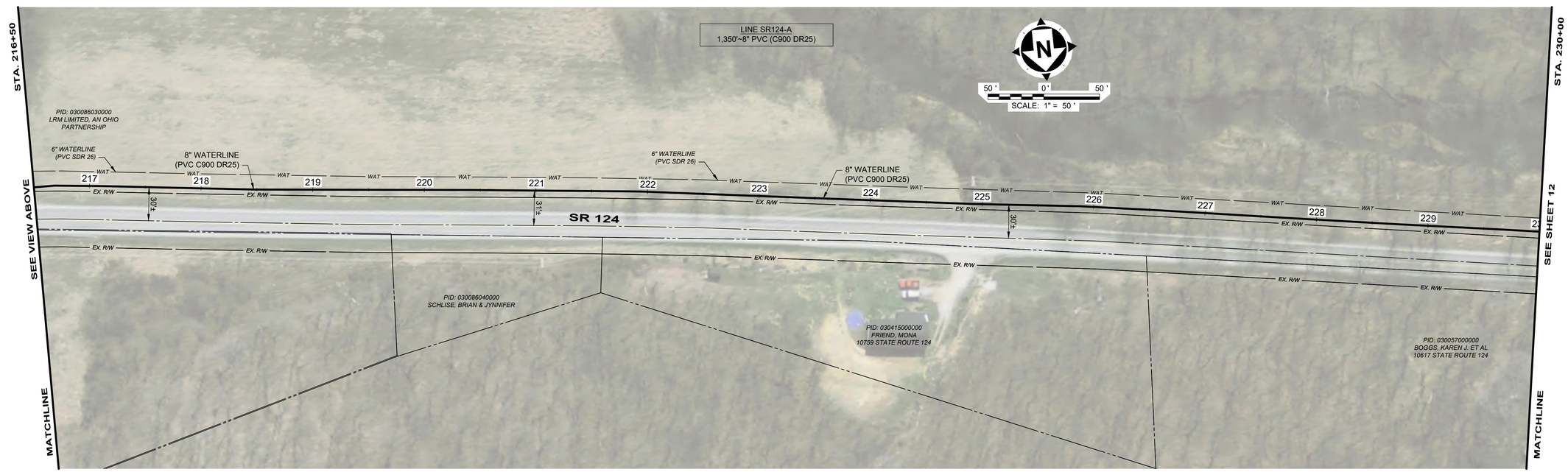
PROJECT NO.
220239

DISCIPLINE

SHEET NAME
C-07

SHEET 10 OF 29




NOTES:

1. WATERLINE TO BE INSTALLED IN PUBLIC RIGHT OF WAY:
   - LINE 124-A: STA. 213+67 TO STA. 216+21

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# SR 124 WATERLINE IMPROVEMENTS
- PIKE COUNTY, OH -

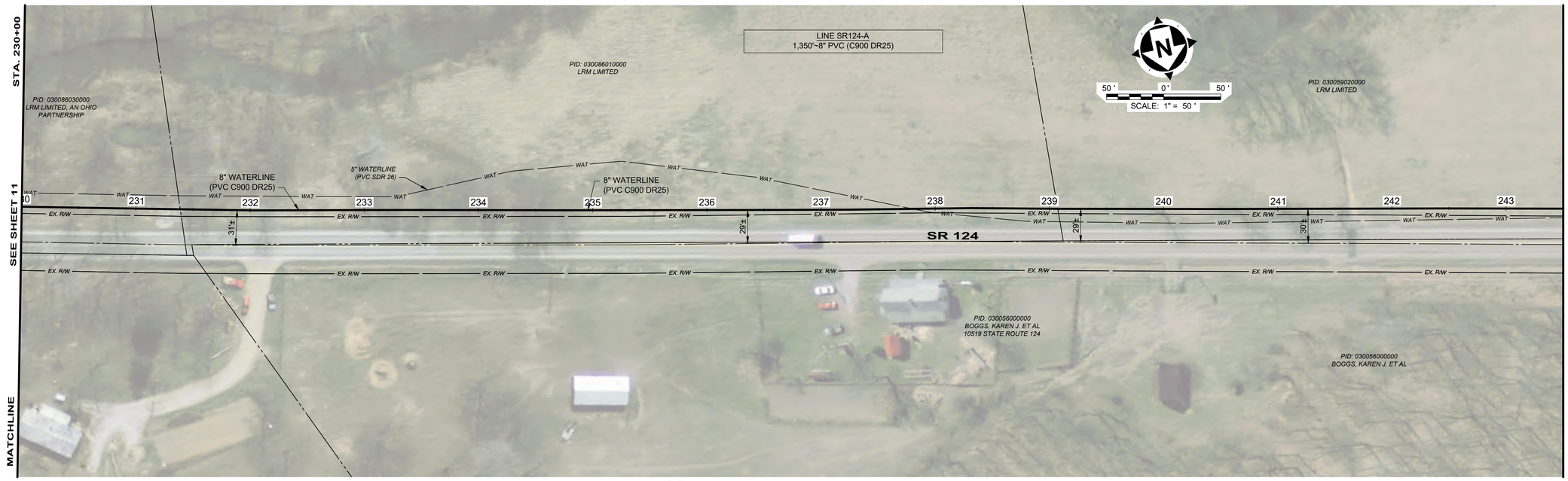
## WATERLINE - PHASE I

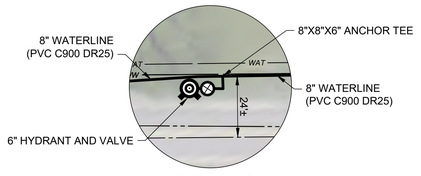
PROJECT NO.
220239

DISCIPLINE

SHEET NAME
C-08

SHEET 11 OF 29

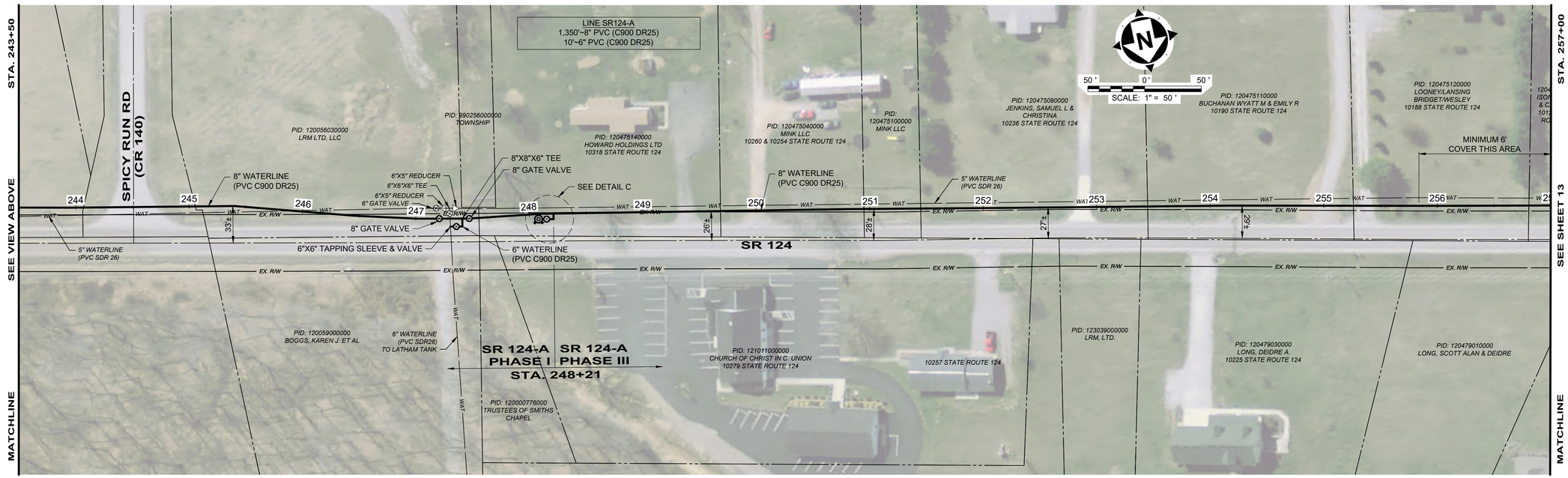



**DETAIL C**
**PHASE III**
SCALE: 1"=30'

NOTES:

1. WATERLINE TO BE INSTALLED IN PUBLIC RIGHT OF WAY:
   - LINE 124-A: STA. 246+31 TO STA. 249+00

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**SR 124 WATERLINE IMPROVEMENTS**
**- PIKE COUNTY, OH -**

**WATERLINE - PHASE I - PHASE III**

PROJECT NO.
220239
DISCIPLINE
SHEET NAME
C-09
SHEET 12 OF 29

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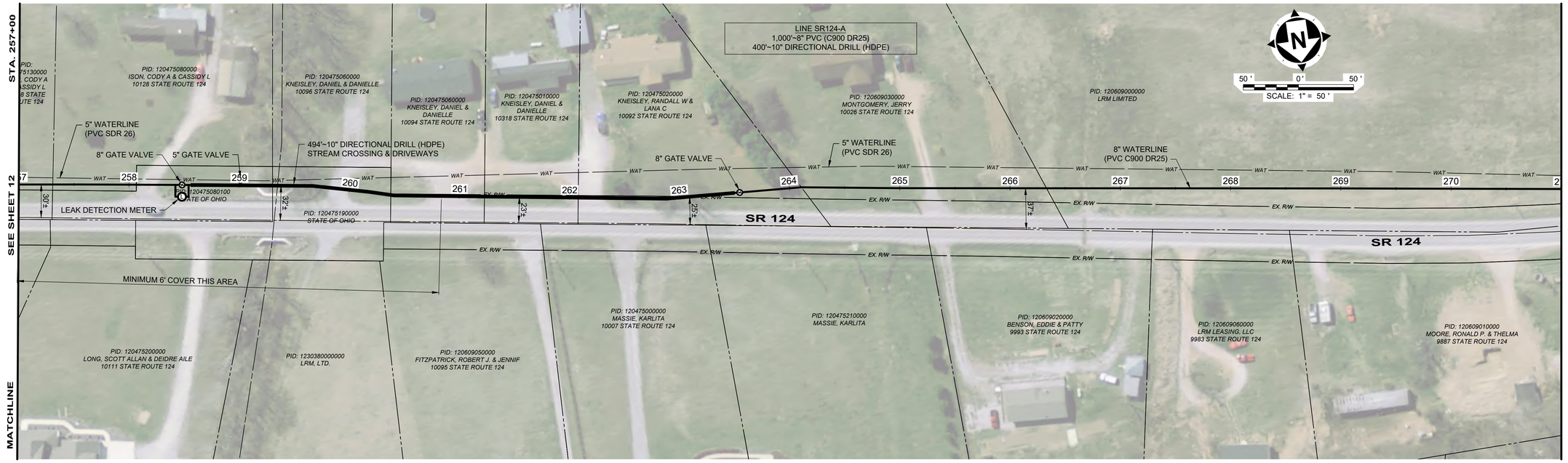


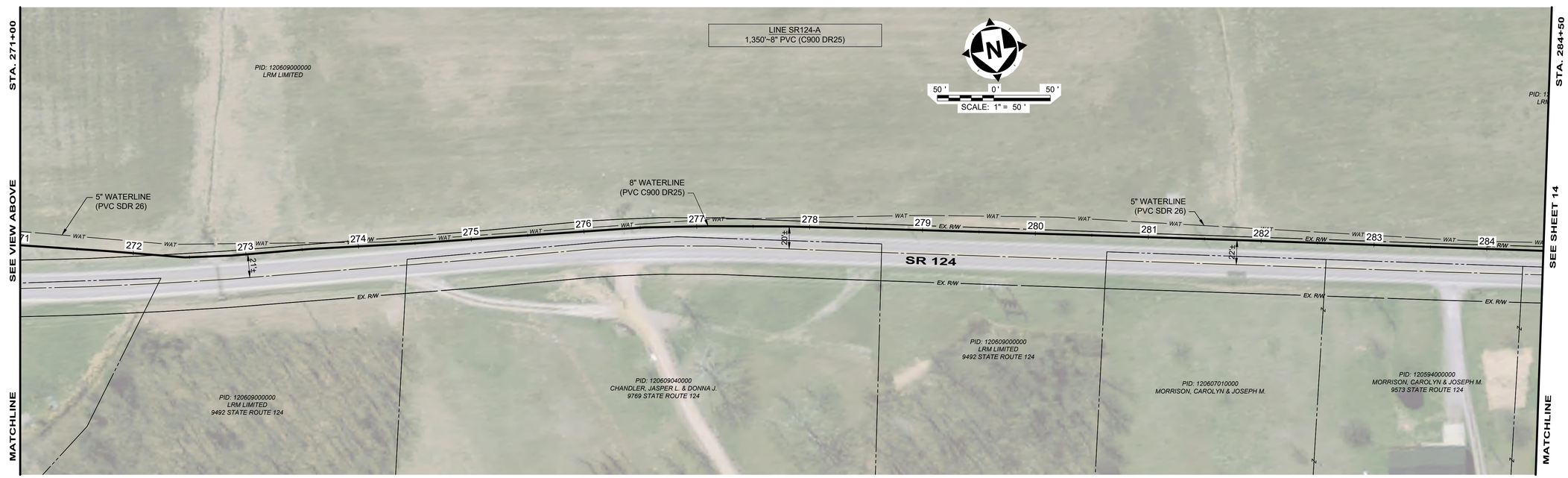


NOTES:

1. WATERLINE TO BE INSTALLED IN PUBLIC RIGHT OF WAY:
   - LINE 124-A: STA. 258+06 TO STA. 263+09
   - LINE 124-A: STA. 272+21 TO STA. 284+50

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# SR 124 WATERLINE IMPROVEMENTS
- PIKE COUNTY, OH -

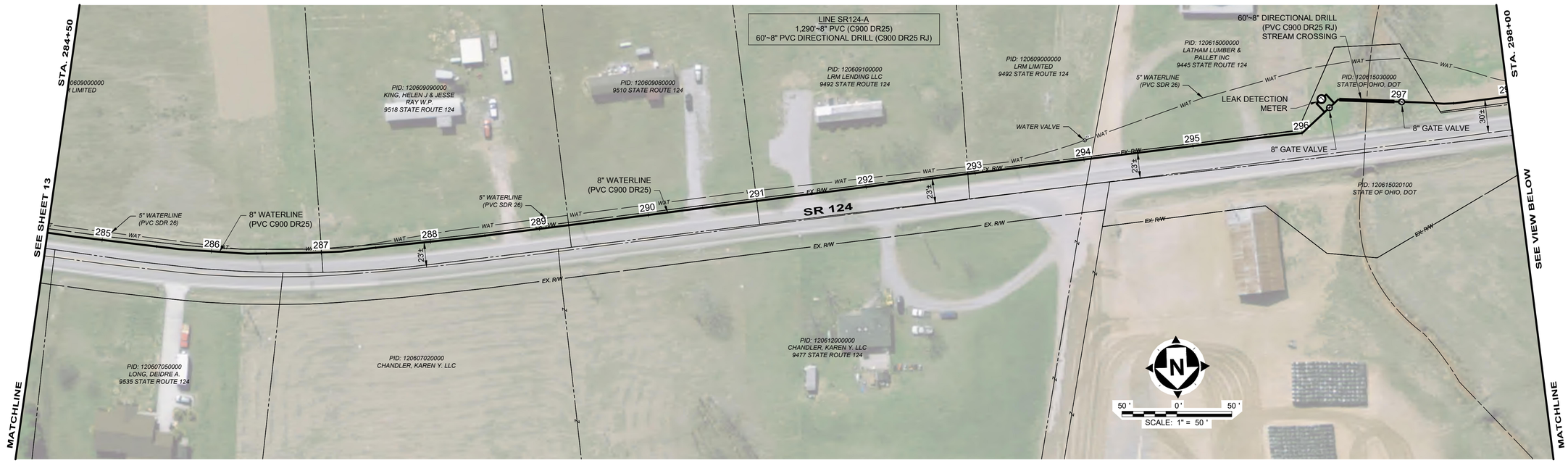
## WATERLINE - PHASE III

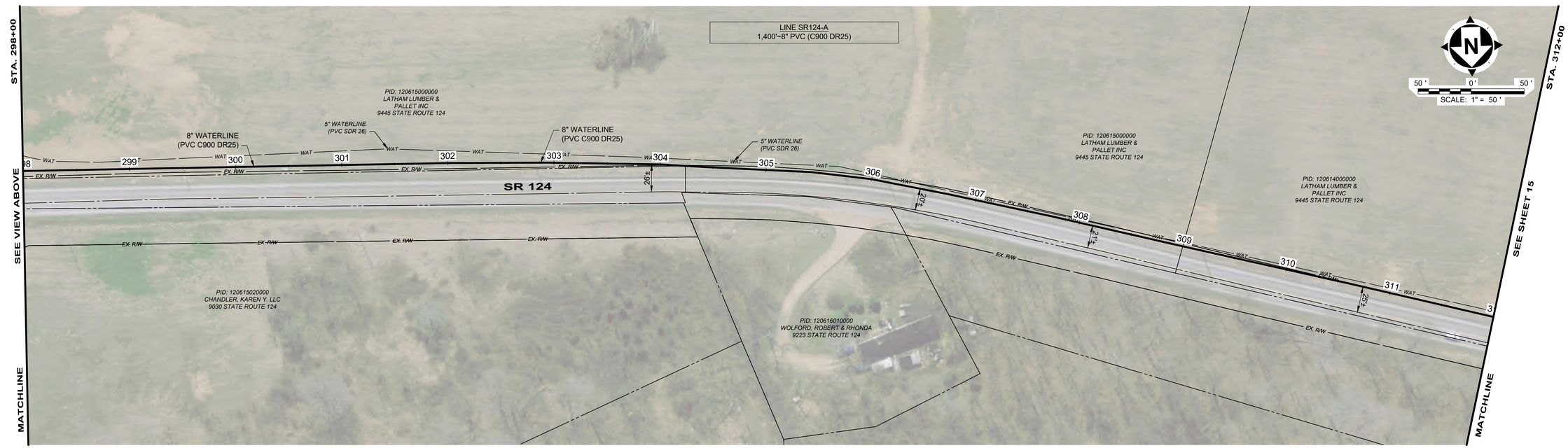
PROJECT NO.
220239

DISCIPLINE

SHEET NAME
C-10

SHEET 13 OF 29




NOTES:

1. WATERLINE TO BE INSTALLED IN PUBLIC RIGHT OF WAY:
   - LINE 124-A: STA. 284+50 TO STA. 297+43
   - LINE 124-A: STA. 304+15 TO STA. 312+00

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# SR 124 WATERLINE IMPROVEMENTS
## - PIKE COUNTY, OH -

# WATERLINE - PHASE III

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|---|---|
| PROJECT NO. | 220239 |
| DISCIPLINE | |
| SHEET NAME | C-11 |
| SHEET | 14 |
| OF | 29 |

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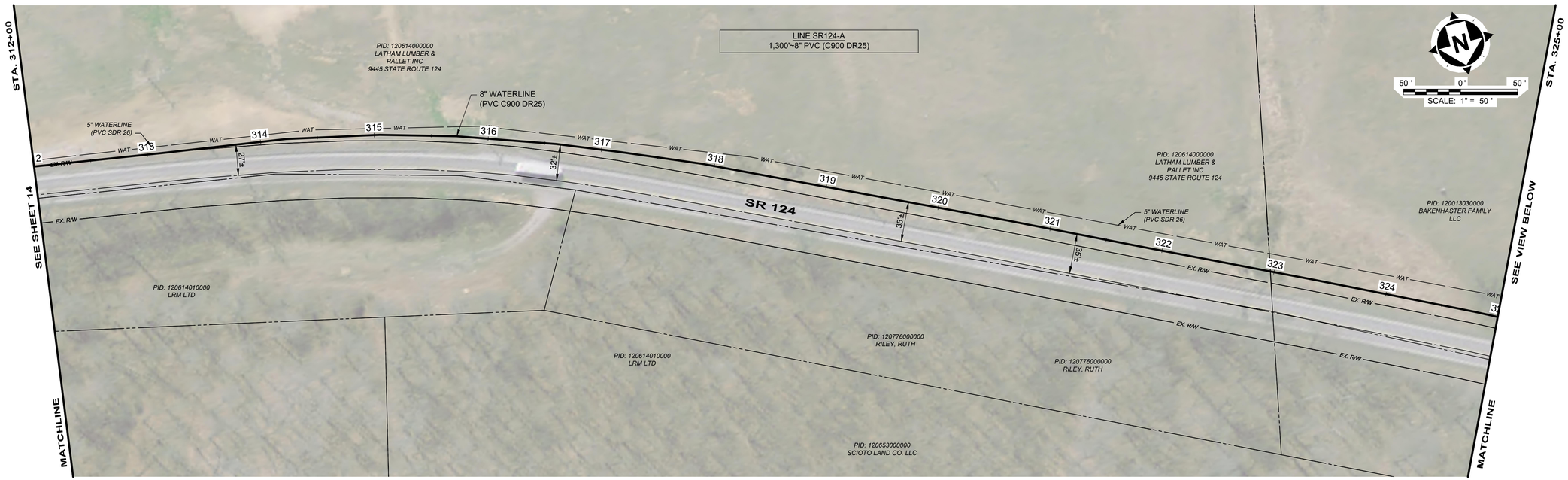
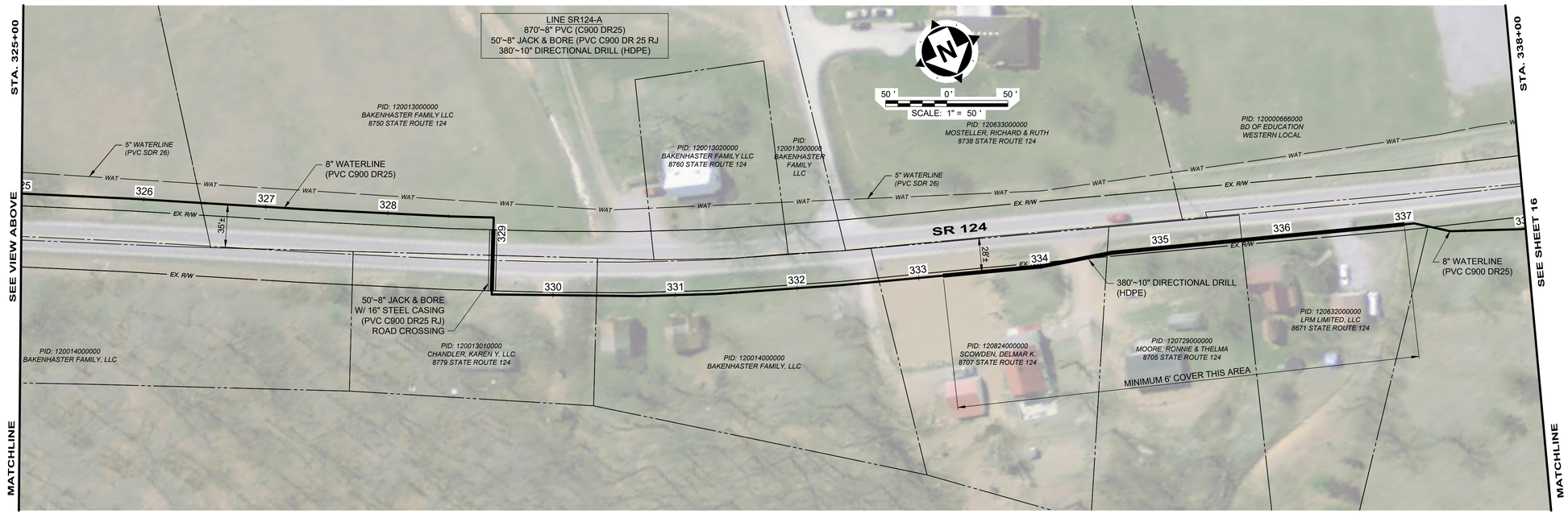



NOTES:

1. WATERLINE TO BE INSTALLED IN PUBLIC RIGHT OF WAY:
   - LINE 124-A: STA. 312+00 TO STA. 313+00
   - LINE 124-A: STA. 328+97 TO STA. 329+47
   - LINE 124-A: STA. 334+31 TO STA. 337+20

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| 1 | REVISED FOR CONSTRUCTION | 3/20/2025 |

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| ISSUE DATE: | 2/6/2025 |
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# SR 124 WATERLINE IMPROVEMENTS
- PIKE COUNTY, OH -

## WATERLINE - PHASE III

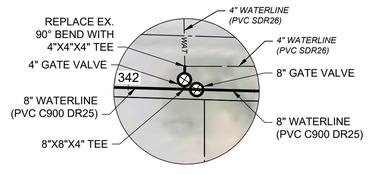
PROJECT NO.
220239

DISCIPLINE

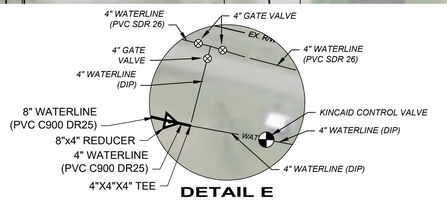
SHEET NAME
C-12

SHEET 15 OF 29

C:\CT\CAD_DRIVES_H2022\220239\DWG\SHEETS\C_220239 - PLAN - 3.DWG - C-12 - 3/24/2025 10:29:05 AM - ADAM DAWSON


**DETAIL D**
SCALE: 1"=30'

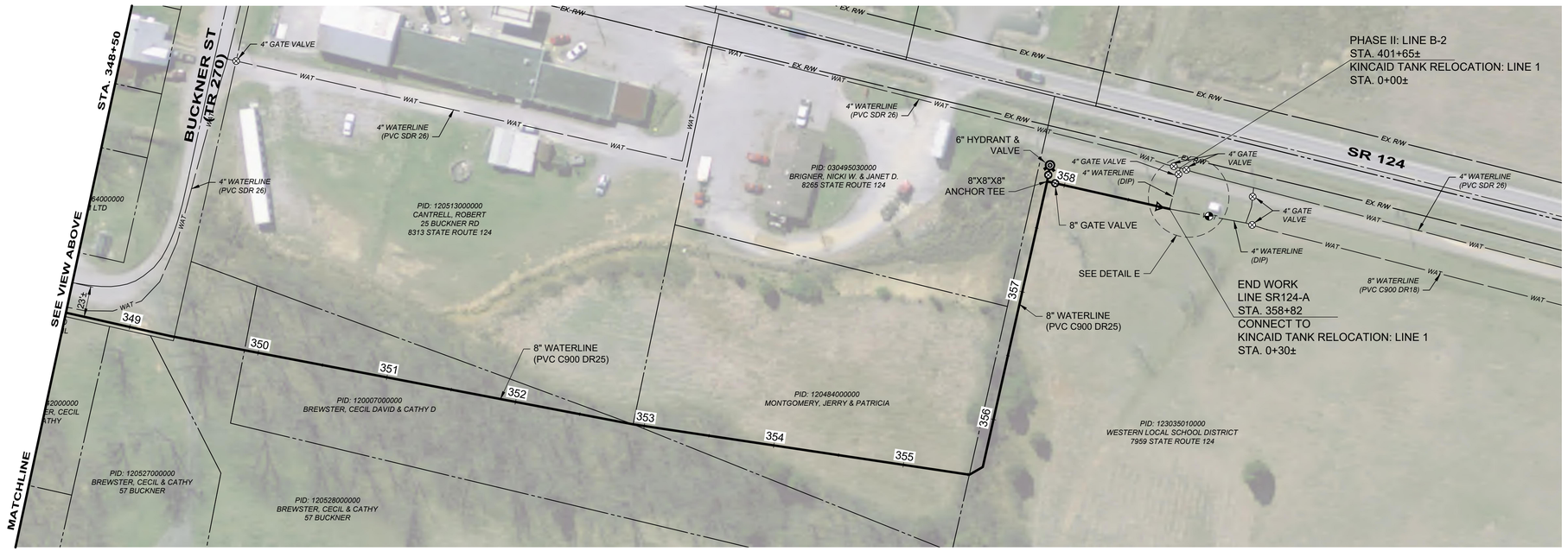


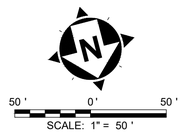

**DETAIL E**
SCALE: 1"=30'

NOTES:

1. THE KINCAID CONTROL VALVE OPERATES BASED UPON PRESSURES SENSED AT THE KINCAID BOOSTER STATION. VALVE OPENS TO REGULATE WATER LEVEL WITHIN THE KINCAID TANK.
2. CONTRACTOR SHALL COORDINATE OPEN-CUT TIE-INS WITH THE OWNER TO FACILITATE WATERLINE SHUTDOWN.
3. WATERLINE TO BE INSTALLED IN PUBLIC RIGHT OF WAY:
   - LINE 124-A: STA. 339+96 TO STA. 349+35

LINE SR124-A
1,024'~8" PVC (C900 DR25)
8'~4" PVC (C900 DR25)

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| 1 | REVISED FOR CONSTRUCTION | 3/20/2025 |

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| ISSUE DATE: | 2/6/2025 |
| SCALE: | AS SHOWN |
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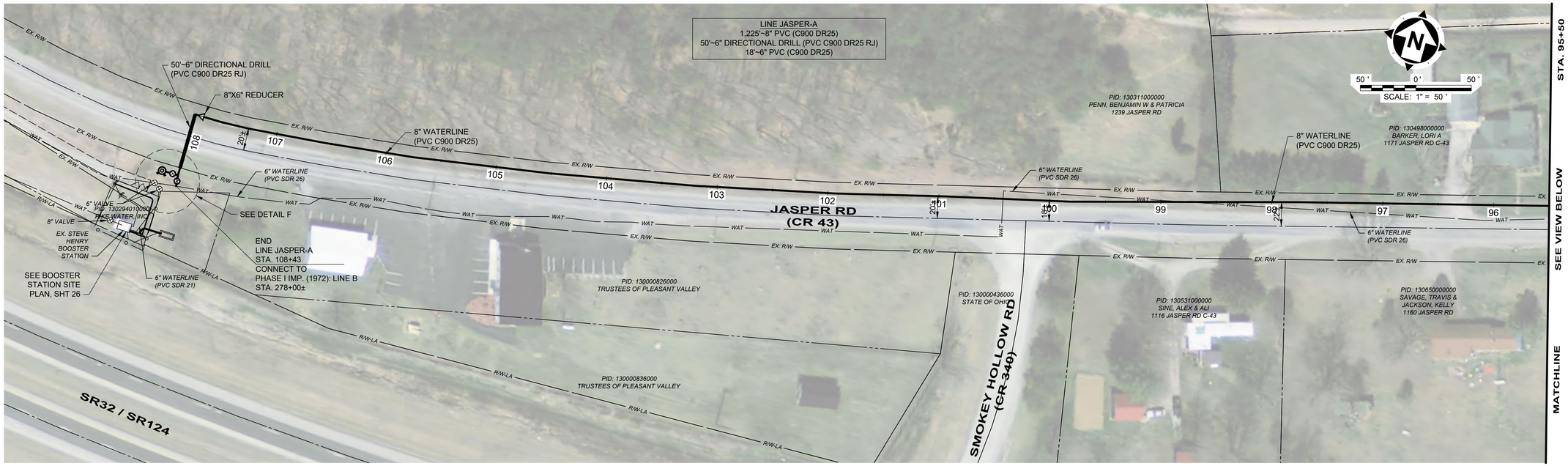
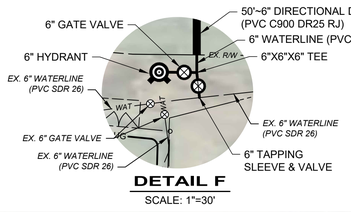
**SR 124 WATERLINE IMPROVEMENTS**
- PIKE COUNTY, OH -

**WATERLINE - PHASE III**

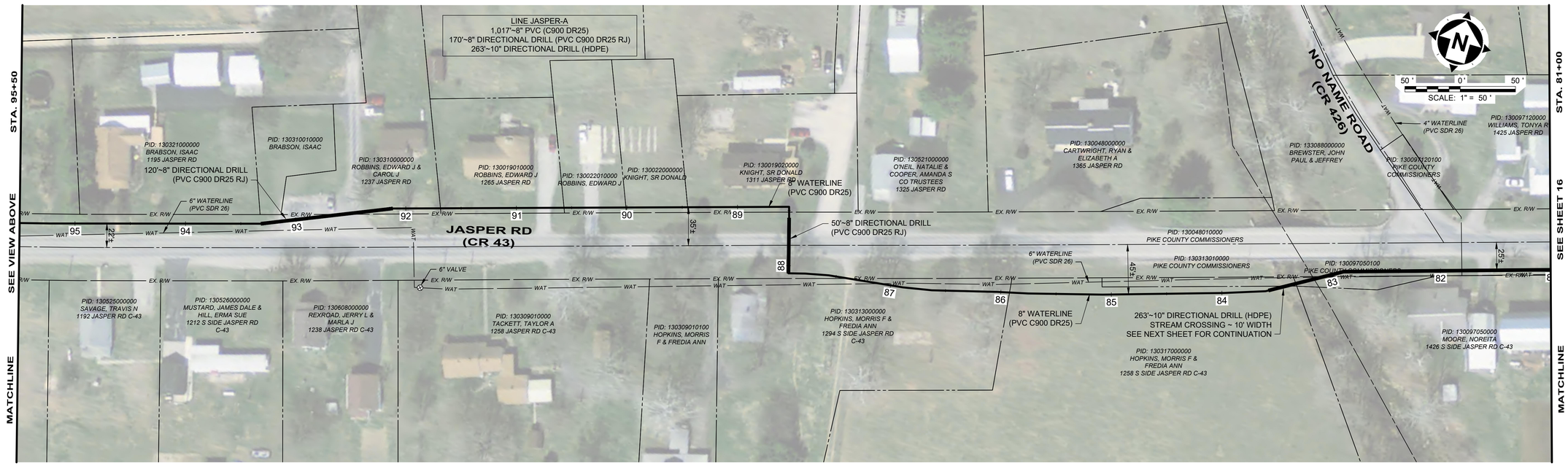
| | |
|---|---|
| PROJECT NO. | 220239 |
| DISCIPLINE | |
| SHEET NAME | C-13 |
| SHEET | 16 |
| OF | 29 |




**DETAIL F**

SCALE: 1"=30'




NOTES:

1. WATERLINE TO BE INSTALLED IN PUBLIC R/W:
   - LINE JASPER-A: STA. 108+50 TO STA. 92+58
   - LINE JASPER-A: STA. 88+48 TO STA. 87+38
   - LINE JASPER-A: STA. 83+05 TO STA. 81+00

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| ISSUE DATE: | 2/6/2025 |
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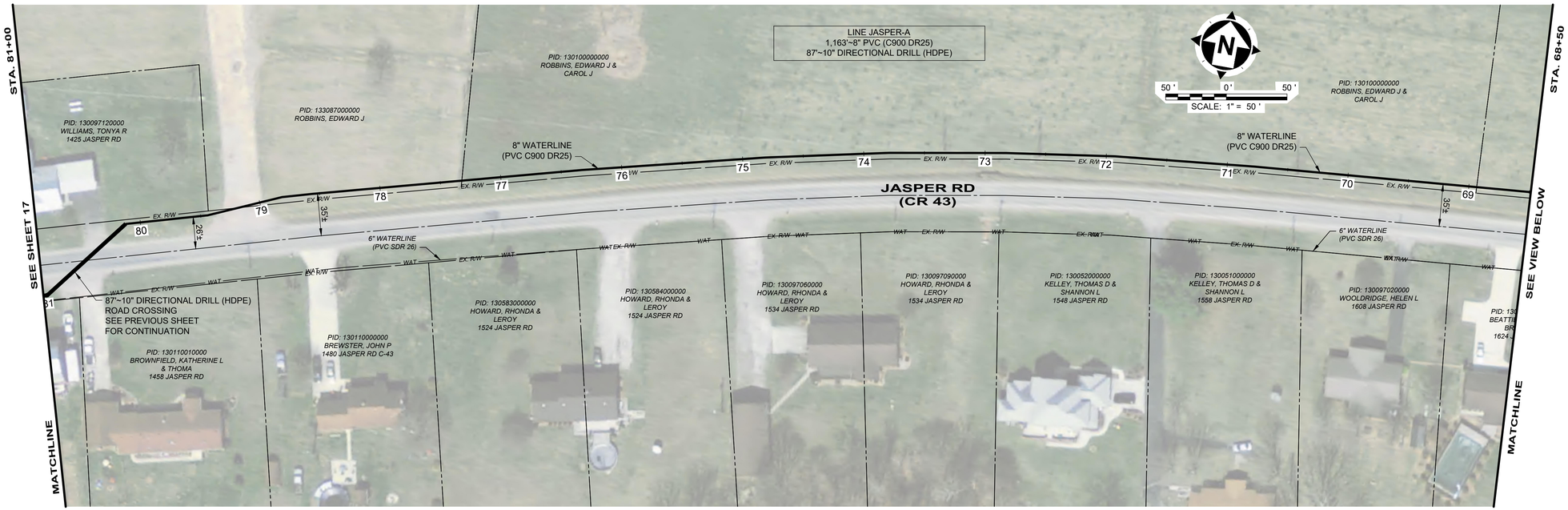
**SR 124 WATERLINE IMPROVEMENTS**
- PIKE COUNTY, OH -

**WATERLINE - PHASE I**

| PROJECT NO. | |
|---|---|
| 220239 | |
| DISCIPLINE | |
| | |
| SHEET NAME | |
| C-14 | |
| SHEET | OF |
| 17 | 29 |





NOTES:

1. WATERLINE TO BE INSTALLED IN PUBLIC R/W:
   - LINE JASPER-A: STA. 81+00 TO STA. 79+18
   - LINE JASPER-A: STA. 66+22 TO STA. 55+00

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|---|---|---|
| ISSUED FOR: | BIDDING | |
| ISSUE DATE: | 2/6/2025 | 3/20/2025 |
| SCALE: | AS SHOWN | |
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| CHECKED BY: | BRA | |

# SR 124 WATERLINE IMPROVEMENTS
- PIKE COUNTY, OH -

## WATERLINE - PHASE II

PROJECT NO.
220239

DISCIPLINE

SHEET NAME
C-15

SHEET 18 OF 29

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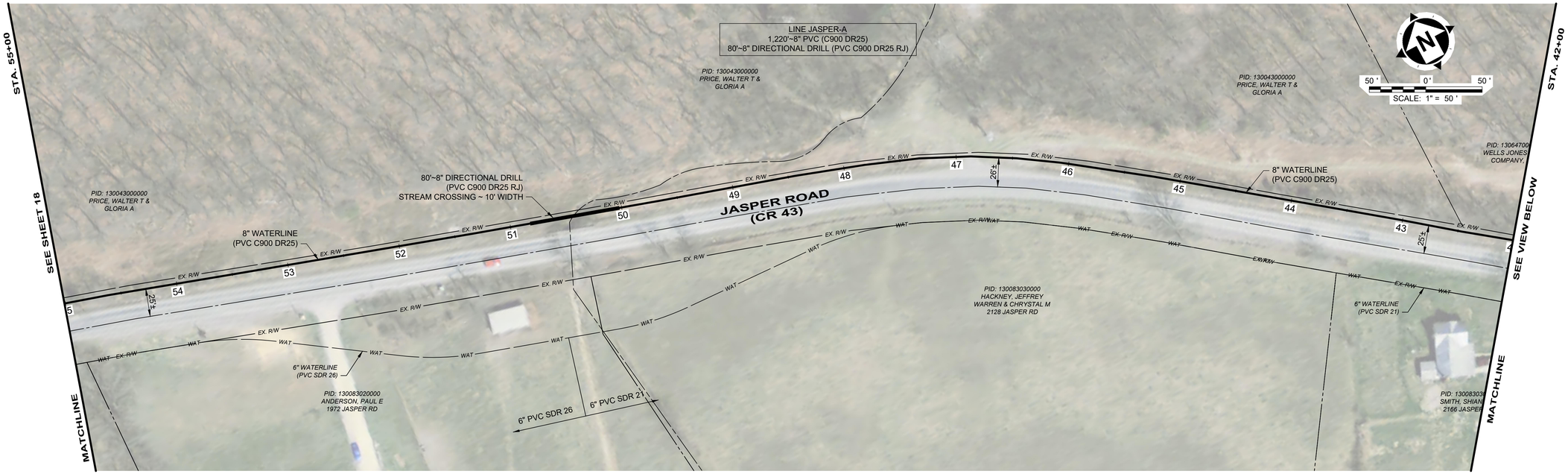


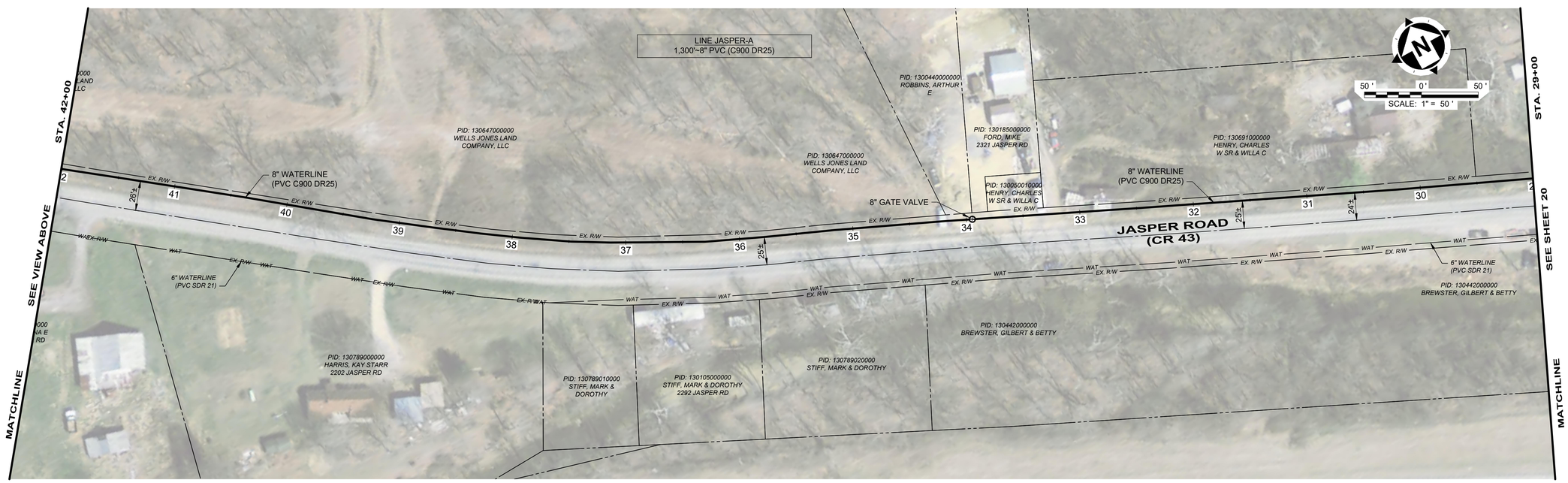


NOTES:

1. WATERLINE TO BE INSTALLED IN PUBLIC R/W:
   - LINE JASPER-A: STA. 55+00 TO STA. 29+00

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| ISSUE DATE: | 2/6/2025 |
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**SR 124 WATERLINE IMPROVEMENTS**
**- PIKE COUNTY, OH -**

**WATERLINE - PHASE II**

PROJECT NO.
220239

DISCIPLINE

SHEET NAME
C-16

SHEET 19 OF 29

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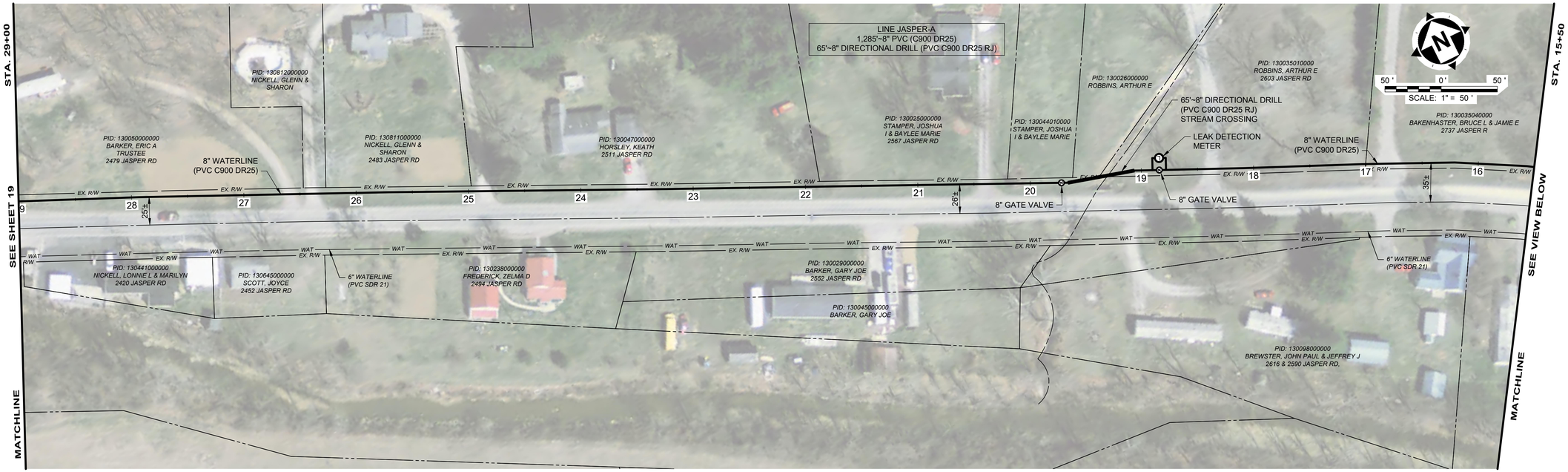
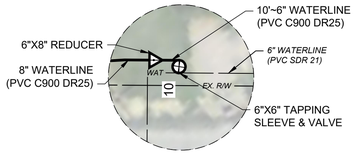
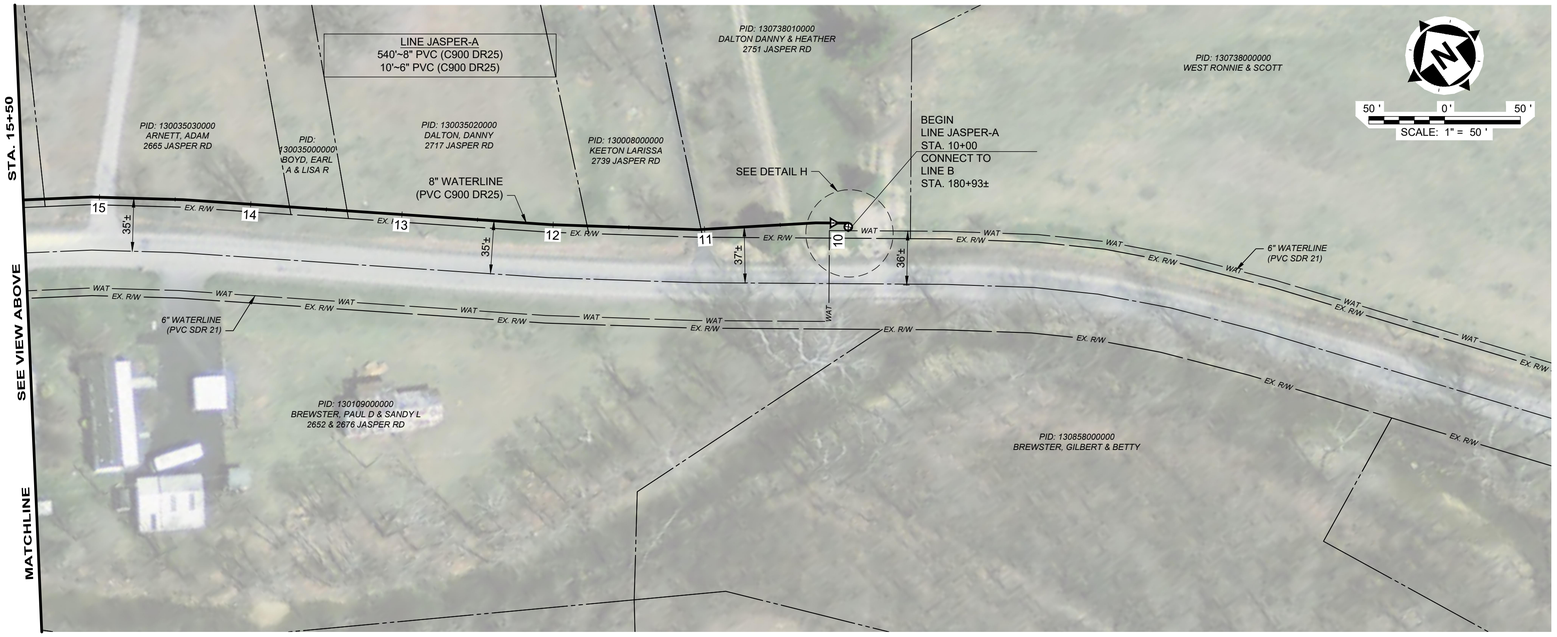



**DETAIL H**
SCALE: 1"=30'

NOTES:

1. WATERLINE TO BE INSTALLED IN PUBLIC R/W:
   - LINE JASPER-A: STA. 29+00 TO STA. 19+37

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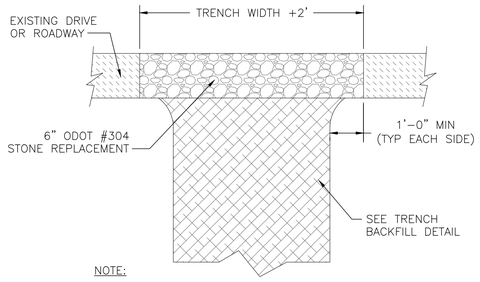
**SR 124 WATERLINE IMPROVEMENTS**
- PIKE COUNTY, OH -

**WATERLINE - PHASE I**

PROJECT NO.
220239
DISCIPLINE

SHEET NAME
C-17

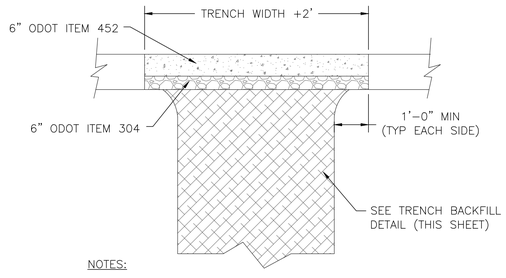
SHEET 20 OF 29




NOTE:

1. EXISTING SUBBASE MATERIAL SHALL BE RE-USED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

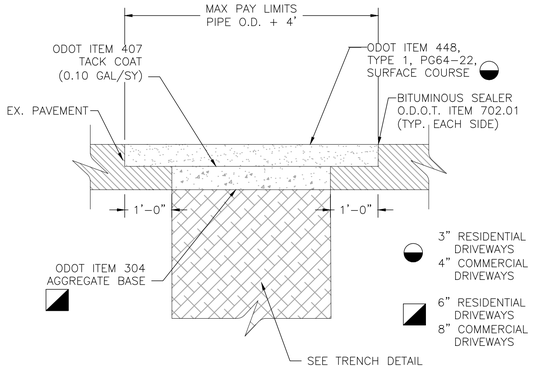
## GRAVEL DRIVE REPLACEMENT
NOT TO SCALE




NOTES:

1. EXISTING SUBBASE MATERIAL SHALL BE RE-USED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. EXISTING PAVEMENT EDGES SHALL BE NEATLY SAWCUT
3. APPLY (2) COATS OF ANTI-SPALLING COMPOUND 3 WEEKS AFTER CONCRETE IS PLACED. ALLOW DRYING TIME BETWEEN COATS.
4. IN NO CASE SHALL THICKNESS OF CONCRETE DRIVE REPLACEMENT BE LESS THAN EXISTING DRIVEWAY THICKNESS.

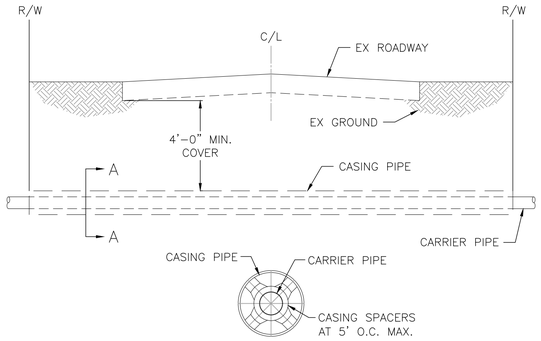
## CONCRETE DRIVE REPLACEMENT
NOT TO SCALE




NOTES:

1. EXISTING DRIVEWAY PAVEMENT SHALL BE NEATLY SAW CUT. TRENCH EDGES DAMAGED BY EXCAVATION ACTIVITIES SHALL BE EXTENDED BACK TO ALLOW FOR NEAT EDGE. MAXIMUM PAY LIMITS FOR ASPHALT RESTORATION SHALL BE AS SHOWN.
2. IN NO CASE SHALL THICKNESS OF DRIVEWAY REPLACEMENT BE LESS THAN EXISTING DRIVEWAY THICKNESS.
3. ASPHALT SHALL BE PLACED IN LIFT THICKNESSES IN ACCORDANCE WITH ODOT REQUIREMENT.

## ASPHALT DRIVE REPLACEMENT
NOT TO SCALE



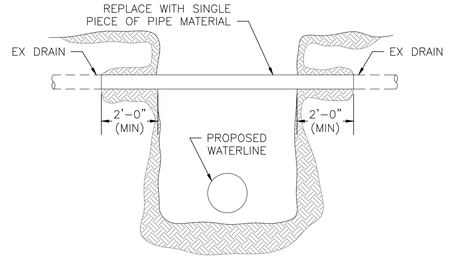

### SECTION A-A

| CASING PIPE SCHEDULE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CARRIER PIPE DIA. | 2" | 3" | 4" | 6" | 8" | 10" | 12" | 14" |
| CASING PIPE DIA. | 5" | 6" | 8" | 14" | 16" | 18" | 20" | 24" |

NOTES:

1. CARRIER PIPE INSTALLED WITHIN & 5'-0" OF EITHER SIDE OF ROAD BORE CASING SHALL BE RESTRAINED JOINT PVC OR D.I. WITH FIELD LOCK GASKETS IN ACCORDANCE WITH THE SIZE & CLASS SPECIFIED. NON-RESTRAINED PUSH-ON JOINT PIPE SHALL NOT BE USED.
2. CASING PIPE SHALL BE STEEL PIPE IN ACCORDANCE WITH ODOT CMS ITEM 748.06, UNLESS AN ALTERNATE MATERIAL HAS BEEN AUTHORIZED BY THE GOVERNING HIGHWAY AUTHORITY.
3. CASING ENDS SHALL BE SEALED. UTILIZING COMMERCIALLY MANUFACTURED SEALS AS OUTLINED IN THE SPECIFICATIONS.
4. CARRIER PIPE INSTALLATION SHALL INCORPORATE ONE INSULATED NO. 12 GAUGE, SOLID COPPER WIRE INSTALLED WITH THE PIPE FOR LOCATING PURPOSES. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

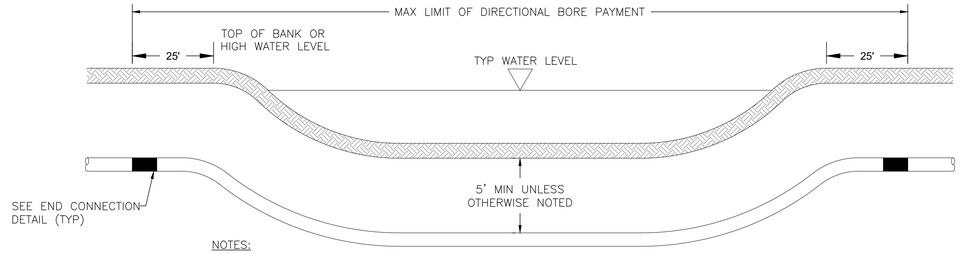
## CASING PIPE FOR ROADWAY BORE
NOT TO SCALE




NOTES:

1. INSIDE DIAMETER OF REPLACEMENT PIPE SHALL BE EQUAL TO OR GREATER THAN INSIDE DIAMETER OF EXISTING PIPE.
2. REPLACEMENT MATERIAL USED SHALL BE EQUAL TO OR BETTER THAN THE EXISTING MATERIAL AS DIRECTED BY THE ENGINEER OR HIS REPRESENTATIVE.
3. PROVIDE RUBBER FLEXIBLE PIPE COUPLING WHERE EXISTING TILE OR UNDERDRAIN HAS WATERTIGHT JOINTS. PROVIDE 30# FELT OR CONCRETE MORTAR OVER THE UPPER HALF OF THE JOINT WHERE OPEN JOINTS ARE ENCOUNTERED.
4. BACKFILL BETWEEN WATERLINE AND REPLACEMENT TILE OR UNDERDRAIN SHALL BE COMPACTED GRANULAR.
5. MINIMUM ROAD AND CURB UNDERDRAIN REPLACEMENT MATERIAL SHALL BE:
   - PERFORATED CONCRETE: ODOT ITEM 706.06
   - CONCRETE DRAIN TILE: ODOT ITEM 706.07
   - VITRIFIED CLAY: ODOT ITEM 706.08
   - PERFORATED PVC: ODOT ITEM 707.41
   - POLYETHYLENE DRAINAGE TUBING (PERFORATED): ODOT ITEM 707.31
6. MINIMUM DRAIN TILE REPLACEMENT MATERIAL SHALL BE:
   - PVC: ASTM-D 2241, SDR 26
   - DUCTILE IRON: AWWA C151, PC 350
   - STEEL PIPE: ASTM-A 139 GRADE B
   - CONCRETE: ODOT ITEM 706.02

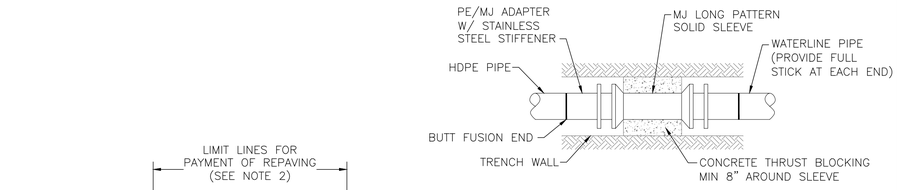
## DRAIN TILE AND UNDERDRAIN REPLACEMENT
NOT TO SCALE



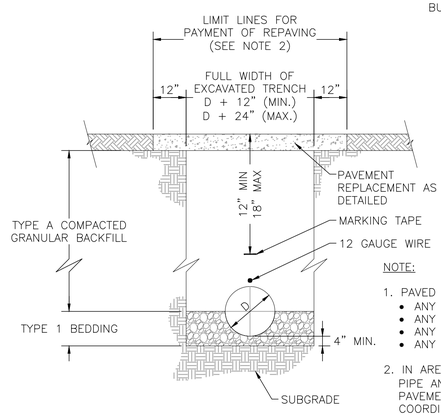

NOTES:

1. WHERE DIRECTIONAL BORE INCORPORATES RESTRAINED JOINT PVC PIPE, OMIT PE/MJ ADAPTER.
2. DIRECTIONAL BORE SHALL INCORPORATE TWO INSULATED NO 12 GAUGE, SOLID, COPPER WIRES INSTALLED WITH THE PIPE FOR LOCATING PURPOSES. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

## HORIZONTAL DIRECTIONAL DRILLING @ STREAM CROSSING
NOT TO SCALE



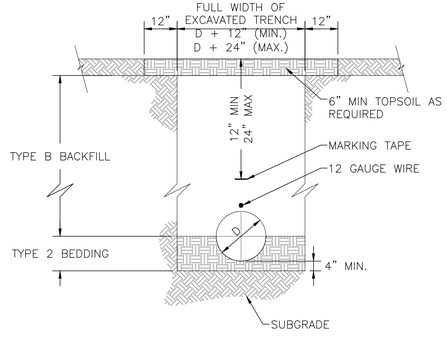

## END CONNECTION DETAIL
NOT TO SCALE




NOTE:

1. PAVED AREAS INCLUDE:
   - ANY ROAD (ASPHALT, CONCRETE, GRAVEL)
   - ANY DRIVEWAY
   - ANY PARKING LOT
   - ANY OTHER AREA SUBJECT TO TRAFFIC
2. IN AREAS WHERE DISTANCE BETWEEN CENTERLINE OF PIPE AND FACE OF CURB/GUTTER EXCEEDS "D"+2', PAVEMENT RESTORATION QUANTITIES SHALL BE COORDINATED WITH THE ENGINEER TO ALLOW SURFACE REPAIR TO EXTEND TO THE FACE OF CURB/GUTTER.

## TRENCH DETAIL FOR WATERLINE INSTALLED UNDER OR WITHIN 5' OF PAVED AREAS
NOT TO SCALE




## TRENCH DETAIL FOR WATERLINE INSTALLED IN NON-PAVED AREAS
NOT TO SCALE

BACKFILL:

1. TYPE A, SHALL BE COMPACTED GRANULAR MATERIAL AS SPECIFIED IN ODOT CMS ITEM 304.
2. TYPE B SHALL BE NATURAL SOIL FREE FROM STONES LARGER THAN 2 INCHES ACROSS THEIR GREATEST DIMENSION, TOPSOIL, VEGETATION, DEBRIS, RUBBISH OR FROZEN MATERIAL.
3. TYPE C SHALL BE LOW STRENGTH MORTAR BACKFILL, TYPE 1 AS SPECIFIED IN ODOT CMS ITEM 613.

BEDDING:

1. TYPE 1-GRANULAR MATERIAL No. 57,6,8,67,68 OR 7 PER ODOT CMS TABLE 703.01-1.
2. TYPE 2-NATIVE SOIL FREE FROM STONES LARGER THAN 2 INCHES ACROSS THEIR GREATEST DIMENSIONS, TOP SOIL, VEGETATION, DEBRIS OR FROZEN MATERIAL.
3. TYPE 3-CONCRETE BEDDING, CLASS QC1 CONCRETE PER ODOT CMS 499.

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| ISSUE DATE: | 2/6/2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RAB |
| DRAWN BY: | RAB |
| CHECKED BY: | BRA |

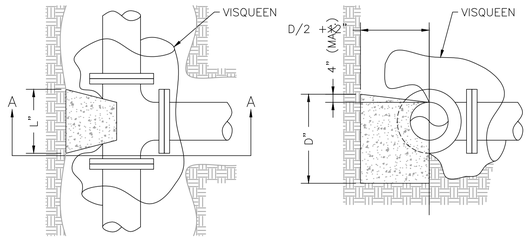
**SR 124 WATERLINE IMPROVEMENTS**
**- PIKE COUNTY, OH -**

**STANDARD DETAILS**

PROJECT NO.
220239
DISCIPLINE
SHEET NAME
SD-01
SHEET 21 OF 29

| RUN | BRANCH | | | | | | | | | | | | BRANCH | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3" | | | 4" | | | 6" | | | 8" | | | 12" | | | 16" | | | 20" | | | 24" | | |
| | L | D | V | L | D | V | L | D | V | L | D | V | L | D | V | L | D | V | L | D | V | L | D | V |
| 3" | 12 | 5 | 0.5 | | | | | | | | | | | | | | | | | | | | | |
| 4" | 10 | 6 | 0.5 | 11 | 8 | 0.8 | | | | | | | | | | | | | | | | | | |
| 6" | 9 | 7 | 0.5 | 11 | 8 | 0.8 | 18 | 12 | 1.9 | | | | | | | | | | | | | | | |
| 8" | 8 | 8 | 0.5 | 10 | 9 | 0.7 | 18 | 12 | 1.9 | 23 | 16 | 3.5 | | | | | | | | | | | | |
| 12" | 6 | 12 | 0.6 | 8 | 12 | 0.8 | 18 | 12 | 1.9 | 23 | 16 | 3.5 | 38 | 22 | 8.7 | | | | | | | | | |
| 16" | 6 | 16 | 0.8 | 6 | 16 | 0.8 | 14 | 16 | 2.0 | 20 | 18 | 3.3 | 36 | 23 | 8.7 | 49 | 30 | 13.6 | | | | | | |
| 20" | 6 | 20 | 1.0 | 6 | 20 | 1.0 | 11 | 20 | 1.9 | 18 | 20 | 3.3 | 35 | 24 | 8.7 | 46 | 32 | 13.6 | 60 | 38 | 26.5 | | | |
| 24" | 6 | 24 | 1.2 | 6 | 24 | 1.2 | 9 | 24 | 1.9 | 15 | 24 | 3.3 | 30 | 28 | 8.7 | 42 | 36 | 14.0 | 54 | 42 | 26.3 | 68 | 48 | 45.4 |

V = VOLUME OF CONCRETE IN CUBIC FEET




PLAN VIEW




SECTION A–A

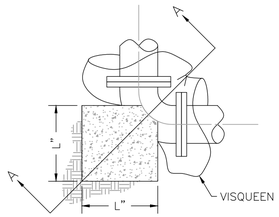
NOTES:

1. CONCRETE FOR BACKING SHALL BE ODOT CLASS "QC1".
2. BACKING SHALL BE DESIGNED FOR 3000 PSF SOIL BEARING.
3. REINFORCING STEEL SHALL BE USED AS DIRECTED BY THE CONTRACT ADMINISTRATOR.
4. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED EARTH.
5. PROVIDE CLEARANCE FOR REMOVAL OF BOLTS.
6. VISQUEEN SHALL BE PLACED IN A MANNER SUCH THAT CONCRETE BLOCKING DOES NOT HAVE DIRECT CONTACT WITH TEE AND/OR FITTINGS.

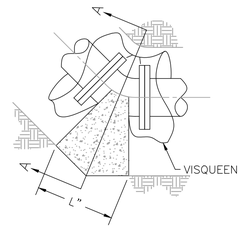
## BACKING FOR TEES
NOT TO SCALE

| PIPE SIZE | DEGREE OF BEND | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 11 1/4° | | | 22 1/2° | | | 45° | | | 90° | | | | | | | | |
| | L | D | V | L | D | V | L | D | V | L | D | V | L | D | V | L | D | V |
| 3" | 4 | 3 | 0.1 | 6 | 4 | 0.2 | 10 | 4 | 0.3 | 10 | 4 | 0.3 | | | | | | |
| 4" | 5 | 4 | 0.2 | 9 | 5 | 0.4 | 14 | 5 | 0.6 | 14 | 5 | 0.6 | | | | | | |
| 6" | 8 | 6 | 0.5 | 12 | 7 | 0.7 | 20 | 8 | 1.4 | 18 | 9 | 1.7 | | | | | | |
| 8" | 9 | 8 | 0.7 | 16 | 9 | 1.4 | 24 | 12 | 2.7 | 25 | 11 | 4.0 | | | | | | |
| 12" | 14 | 12 | 1.8 | 24 | 14 | 3.6 | 36 | 18 | 6.8 | 32 | 18 | 10.7 | | | | | | |
| 16" | 18 | 16 | 3.4 | 32 | 18 | 6.7 | 36 | 32 | 13.4 | 41 | 26 | 25.4 | | | | | | |
| 20" | 25 | 20 | 6.4 | 30 | 30 | 11.5 | 49 | 36 | 20.5 | 50 | 32 | 46.5 | | | | | | |
| 24" | 27 | 24 | 9.0 | 39 | 34 | 18.4 | 60 | 42 | 35.0 | 58 | 40 | 77.7 | | | | | | |

V = VOLUME OF CONCRETE IN CUBIC FEET




90° BENDS

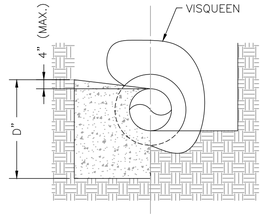



BENDS LESS THAN 90°

PLAN VIEWS

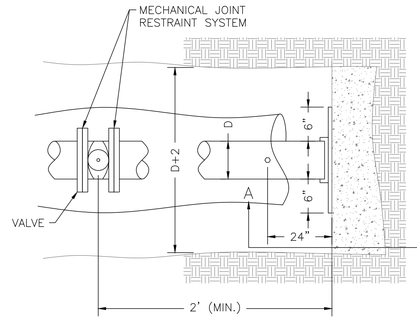
NOTES:

1. CONCRETE FOR BACKING SHALL BE ODOT CLASS "QC1".
2. BACKING SHALL BE DESIGNED FOR 3000 PSF SOIL BEARING.
3. REINFORCING STEEL SHALL BE USED AS DIRECTED BY THE CONTRACT ADMINISTRATOR.
4. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED EARTH.
5. PROVIDE CLEARANCE FOR REMOVAL OF BOLTS.
6. VISQUEEN SHALL BE PLACED IN A MANNER SUCH THAT CONCRETE BLOCKING DOES NOT HAVE DIRECT CONTACT WITH TEE AND OR FITTINGS.

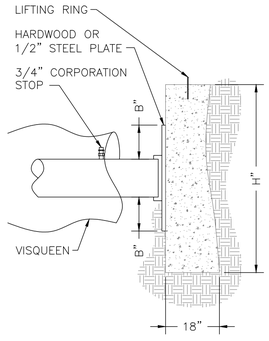



SECTION A–A

## BACKING FOR BENDS
NOT TO SCALE



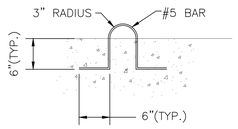

PLAN VIEW




SECTION A–A

NOTES:

1. CONCRETE FOR BACKING SHALL BE ODOT CLASS "QC1".
2. BACKING SHALL BE DESIGNED FOR 3000 PSF SOIL BEARING.
3. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED EARTH.
4. PROVIDE CLEARANCE FOR REMOVAL OF BOLTS.
5. VISQUEEN SHALL BE PLACED IN A MANNER SUCH THAT CONCRETE BLOCKING DOES NOT HAVE DIRECT CONTACT WITH TEE AND OR FITTINGS.
6. END OF PIPE SHALL BE CAPPED OR PLUGGED.
7. STEEL PLATE SHALL BE GREASED WHERE IN CONTACT WITH CONCRETE BACKING.
8. PLUG POLES SHALL BE INSTALLED AT ALL END–OF–LINE STUBS AT THE THRUST BLOCK.




LIFTING RING DETAIL

| SIZE OF PIPE | H | B | L (PVC) | L (DIP) | V |
|---|---|---|---|---|---|
| 6" | 8 | 1 | 20 | 18 | 2.52 |
| 8" | 12 | 1 | 20 | 18 | 4.00 |
| 12" | 23 | 3 | 20 | 18 | 8.64 |
| 16" | 37 | 3 | 20 | 18 | 15.39 |

V = VOLUME OF CONCRETE IN CUBIC FEET.

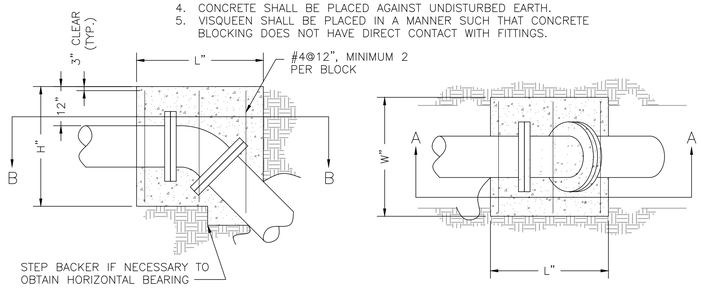
## THRUST BLOCK
NOT TO SCALE

| PIPE SIZE | DEGREE OF BEND | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 11 1/4° | | | | 22 1/2° | | | | 45° | | | | 90° | | | | | |
| | L | W | H | V | L | W | H | V | L | W | H | V | L | W | H | V | | |
| 3" | 12 | 18 | 12 | 1.5 | 13 | 25 | 16 | 3.0 | 18 | 30 | 19 | 5.9 | 25 | 30 | 24 | 10.4 | | |
| 4" | 12 | 24 | 16 | 2.6 | 16 | 30 | 18 | 5.0 | 22 | 36 | 24 | 11.0 | 27 | 48 | 25 | 18.7 | | |
| 6" | 12 | 48 | 18 | 6.0 | 15 | 43 | 36 | 13.4 | 30 | 55 | 24 | 22.9 | 37 | 54 | 36 | 41.6 | | |
| 8" | 12 | 63 | 24 | 10.5 | 18 | 57 | 34 | 20.2 | 36 | 57 | 33 | 39.2 | 47 | 60 | 46 | 75.0 | | |
| 12" | 20 | 54 | 36 | 22.6 | 37 | 62 | 37 | 49.0 | 48 | 62 | 51 | 87.9 | 66 | 66 | 66 | 166.4 | | |
| 16" | 31 | 65 | 38 | 44.3 | 60 | 65 | 39 | 88.1 | 65 | 65 | 65 | 159.2 | 72 | 96 | 72 | 288.0 | | |
| 20" | 45 | 70 | 40 | 72.8 | 56 | 70 | 60 | 136.2 | 72 | 76 | 78 | 247.0 | 86 | 108 | 84 | 451.8 | | |
| 24" | 41 | 72 | 54 | 92.3 | 67 | 74 | 69 | 198.0 | 88 | 84 | 84 | 359.1 | 96 | 120 | 96 | 640.0 | | |

V = VOLUME OF CONCRETE IN CUBIC FEET

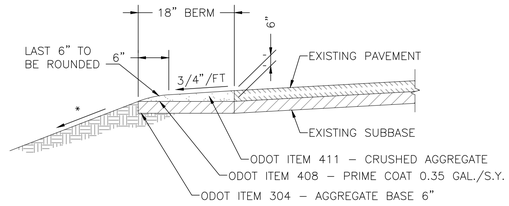
NOTES:

1. CONCRETE FOR BACKING SHALL BE ODOT CLASS "QC1".
2. BACKING SHALL BE DESIGNED FOR 3000 PSF SOIL BEARING.
3. REINFORCING STEEL SHALL BE USED AS SHOWN.
4. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED EARTH.
5. VISQUEEN SHALL BE PLACED IN A MANNER SUCH THAT CONCRETE BLOCKING DOES NOT HAVE DIRECT CONTACT WITH FITTINGS.




SECTION A–A SECTION B–B

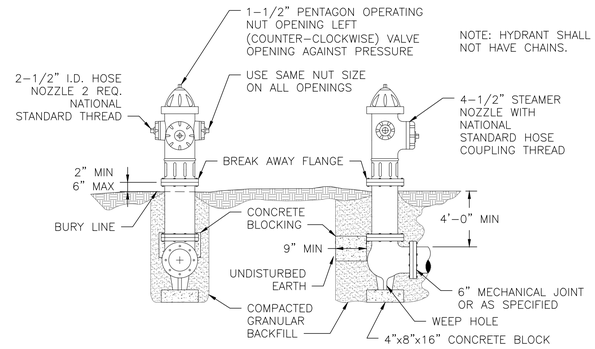
## BACKING FOR VERTICAL BENDS
NOTES:



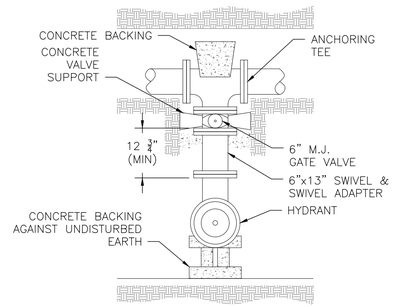

NOTES:

1. BERM REPLACEMENT SHALL BE REQUIRED WHERE PROPOSED WATERLINE IS LOCATED WITHIN 3' OF EXISTING EDGE OF PAVEMENT.
2. COST FOR THE RESTORATION OF BERM SHALL BE INCLUDED IN THE COST BID FOR INSTALLATION OF THE PIPE.

## TYPICAL BERM REPLACEMENT
NOT TO SCALE




FRONT VIEW SIDE VIEW




PLAN VIEW

NOTES:

1. BACKFILL SHALL BE GRANULAR MATERIAL CONFORMING TO (ODOT #57 STONE). ITEM 703.11 TYPE 2, GRADE A, OR APPROVED SUITABLE EXCAVATED MATERIAL POWER TAMPED IN LAYERS NOT EXCEEDING 4" IN THICKNESS, LOOSE MEASUREMENT. BACKFILL SHALL EXTEND FROM THE BOTTOM OF THE PIT OR TRENCH TO 6" BELOW THE EXISTING OR PROPOSED SURFACE. COST OF FURNISHING AND PLACING BACKFILL SHALL BE INCLUDED IN THE PRICE BID FOR EACH HYDRANT.
2. ALL HYDRANTS SHALL BE INSTALLED WITH HARDWOOD OR CONCRETE BLOCKING AGAINST UNDISTURBED EARTH.
3. DRAIN ROCK AROUND AND ABOVE HYDRANT SHALL BE 2" OR LARGER. CLOTH FILTER MATERIAL SHALL BE PLACED BETWEEN DRAIN AND FILL.
4. CONNECTIONS SHALL BE WRAPPED IN VISQUEEN TO PROTECT BOLTS FROM ENCASEMENT BY CONCRETE PROVIDED FOR BLOCKING.

## TYPICAL 6" HYDRANT SETTING – TYPE A
NOT TO SCALE

BID SET

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| NO | REVISION | DATE |
|---|---|---|
| 1 | REVISED FOR CONSTRUCTION | 3/20/2025 |

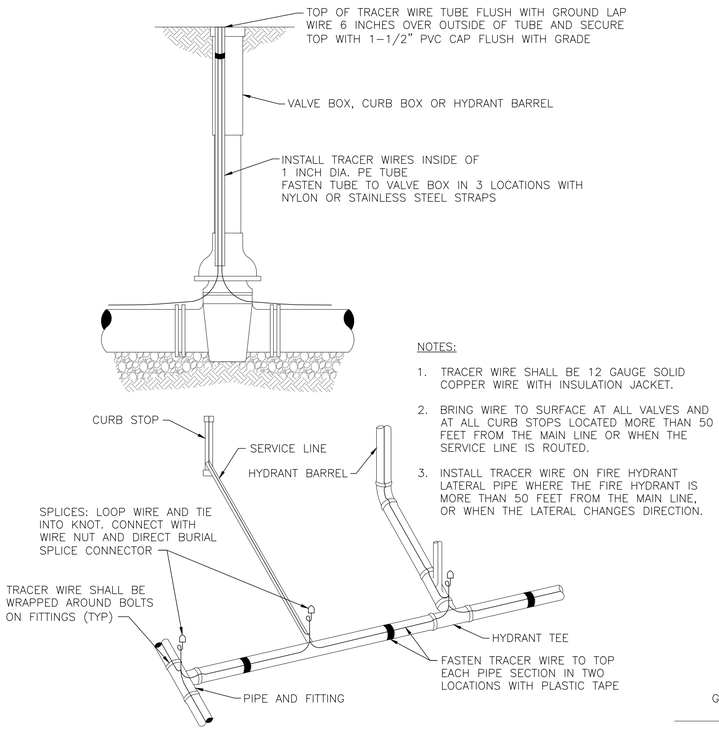
| BIDDING | 2/6/2025 |
|---|---|
| AS SHOWN | |
| DESIGNED BY: | RAB |
| DRAWN BY: | RAB |
| CHECKED BY: | BRA |

ISSUED FOR:
ISSUE DATE:
SCALE:

**SR 124 WATERLINE IMPROVEMENTS**
**- PIKE COUNTY, OH -**

**STANDARD DETAILS**

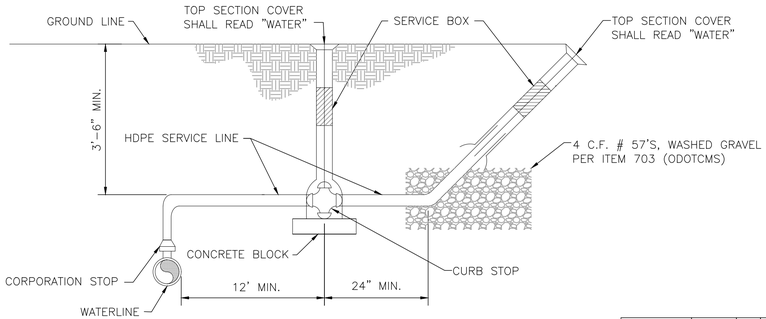
PROJECT NO. 220239
DISCIPLINE
SHEET NAME: SD-02
SHEET 22 OF 29



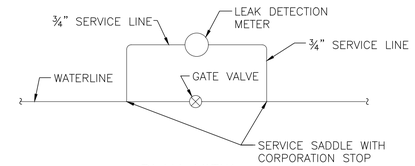

NOTES:

1. TRACER WIRE SHALL BE 12 GAUGE SOLID COPPER WIRE WITH INSULATION JACKET.
2. BRING WIRE TO SURFACE AT ALL VALVES AND AT ALL CURB STOPS LOCATED MORE THAN 50 FEET FROM THE MAIN LINE OR WHEN THE SERVICE LINE IS ROUTED.
3. INSTALL TRACER WIRE ON FIRE HYDRANT LATERAL PIPE WHERE THE FIRE HYDRANT IS MORE THAN 50 FEET FROM THE MAIN LINE, OR WHEN THE LATERAL CHANGES DIRECTION.

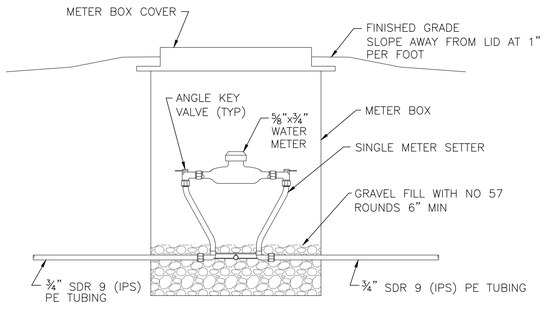
## TRACER WIRE DETAIL
NOT TO SCALE




## AIR RELEASE DETAIL
NOT TO SCALE

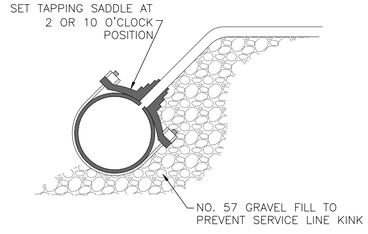



PLAN VIEW




ELEVATION VIEW

## LEAK DETECTION METER
NOT TO SCALE



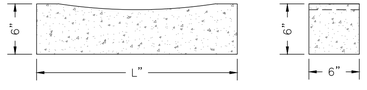

## TAP DETAIL
NOT TO SCALE

| | SIZE | L | V |
|---|---|---|---|
| GATE VALVES | 3" | 15 | 0.31 |
| | 4" | 16 | 0.33 |
| | 6" | 17 | 0.36 |
| | 8" | 20 | 0.42 |
| | 12" | 24 | 0.50 |
| BUTTERFLY VALVES | 14" | 28 | 0.58 |
| | 16" | 30 | 0.63 |
| | 20" | 36 | 0.75 |
| | 24" | 42 | 0.88 |
| | 30" | 48 | 1.00 |

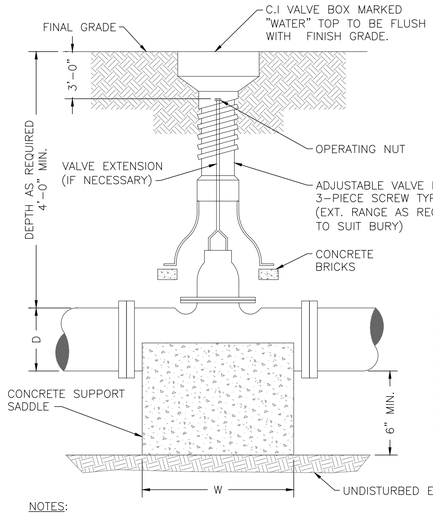
V = VOLUME OF CONCRETE IN CUBIC FEET

NOTES:

1. CONCRETE FOR SUPPORTS SHALL BE ODOT CLASS "QC1".
2. BACKING SHALL BE DESIGNED FOR 300 PSF SOIL BEARING.
3. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED EARTH.
4. PROVIDE CLEARANCE FOR REMOVAL BOLTS.




## CONCRETE VALVE SUPPORTS
NOT TO SCALE




| D (IN) | W (IN) |
|---|---|
| 3 | 4 |
| 4 | 5 |
| 6 | 5 |
| 8 | 6 |
| 10 | 6 |
| 12 | 7 |

NOTES:

1. VISQUEEN SHALL BE PLACED IN A MANNER SUCH THAT CONCRETE BLOCKING DOES NOT HAVE DIRECT CONTACT WITH VALVE.

## STANDARD VALVE BOX
NOT TO SCALE

BID SET

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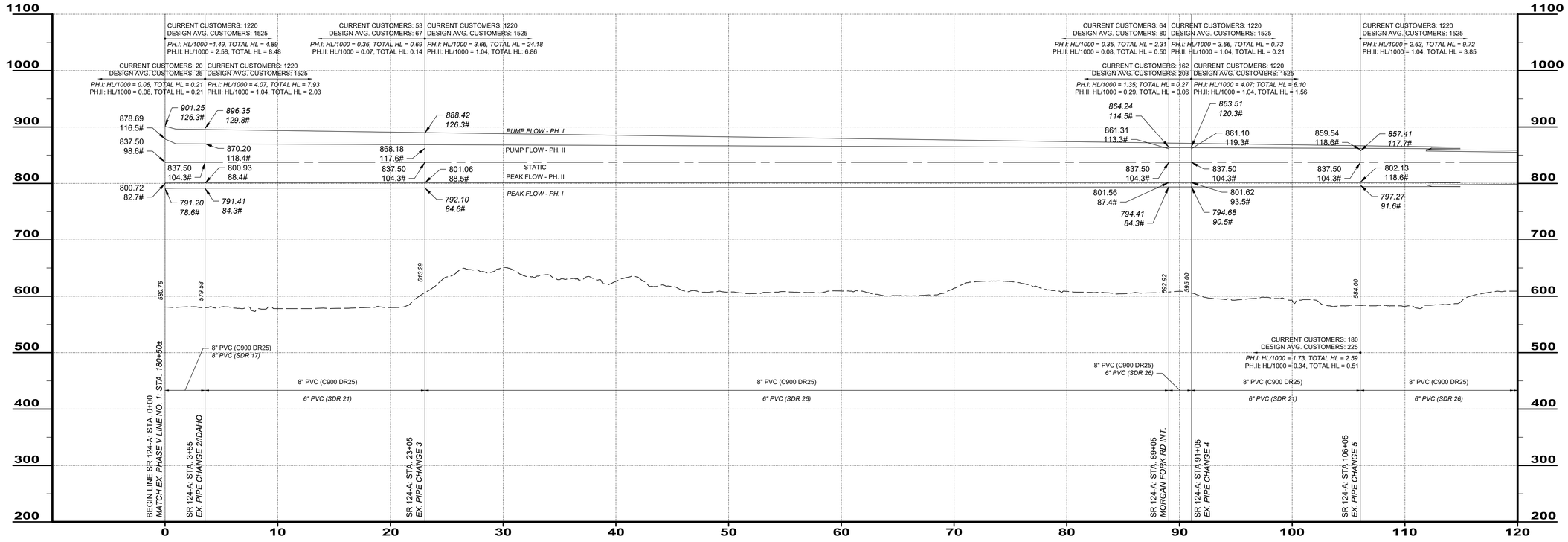
| NO | REVISION | DATE |
|---|---|---|
| 1 | REVISED FOR CONSTRUCTION | 3/20/2025 |

ISSUED FOR: BIDDING
ISSUE DATE: 2/6/2025
SCALE: AS SHOWN
DESIGNED BY: RAB
DRAWN BY: RAB
CHECKED BY: BRA

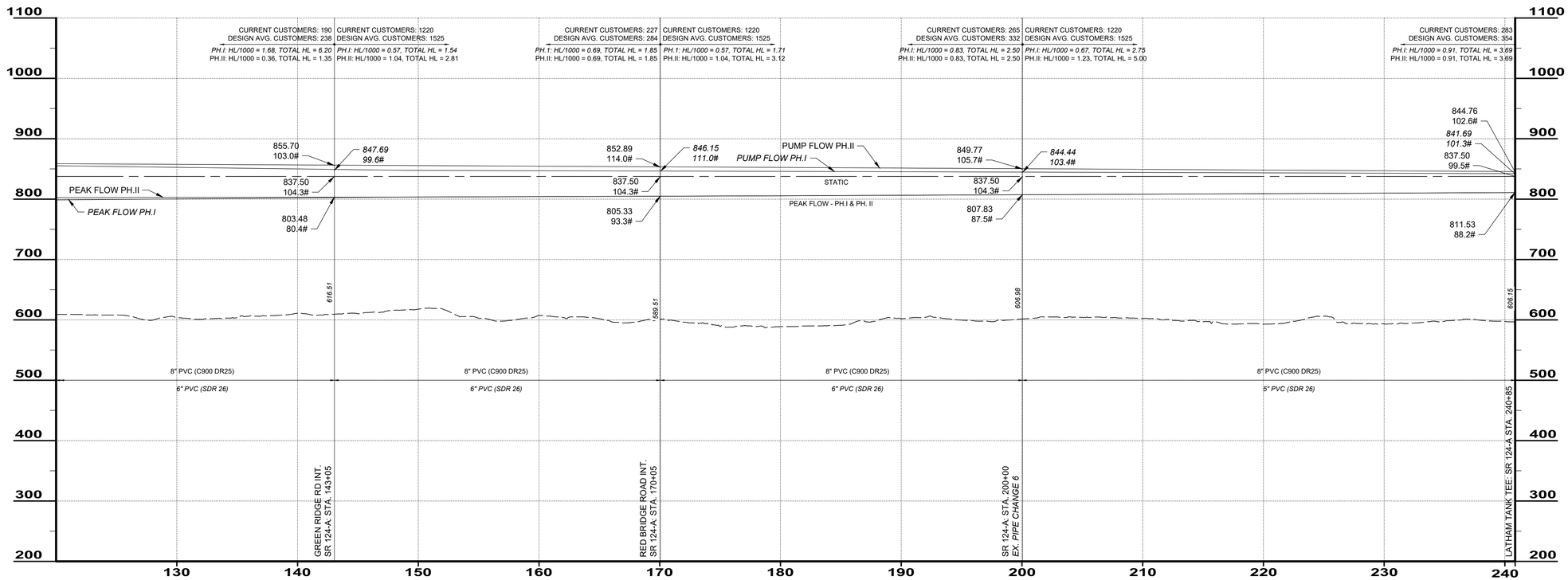
**SR 124 WATERLINE IMPROVEMENTS**
- PIKE COUNTY, OH -

**STANDARD DETAILS**

PROJECT NO. 220239
DISCIPLINE
SHEET NAME SD-03
SHEET 23 OF 29




## HYDRAULIC PROFILE - SR124-A - STA. 0+00 TO 120+00




## HYDRAULIC PROFILE - SR124-A - STA. 120+00 TO 240+85

NOTES:

1. ALL PHASE I DATA IS REPRESENTED WITH ITALICS TEXT.
2. STATION 0+00 IS NOT THE START POINT FOR THE PUMP. THE PUMPS ARE APPROXIMATELY 18,050' SOUTH ALONG SR 124 AND JASPER ROAD.
3. FLOWS FOR PHASE I ARE CALCULATED AT 260 GPM. CALCULATIONS UTILIZE EXISTING PUMPS AT STEVE HENRY BOOSTER STATION. CHANGES IN PRESSURE FROM PIPE UPGRADES ALLOWS A PUMP INCREASE OF 40 GPM ±.
4. FLOWS FOR PHASE II ARE CALCULATED AT 350 GPM. THESE FLOWS WILL BE GENERATED FROM THE UPGRADED BOOSTER STATION AT STEVE HENRY AND INCREASED PIPE CAPACITY.
5. PHASE I / PHASE II IS AT GREEN RIDGE RD. HYDRAULICS FOR PEAK FLOW FROM LATHAM TANK TO GREEN RIDGE RD MATCH.

BID SET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| NO | REVISION | DATE |
|---|---|---|
| 1 | REVISED FOR CONSTRUCTION | 3/20/2025 |

| | |
|---|---|
| ISSUED FOR: | BIDDING |
| ISSUE DATE: | 2/6/2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RAB |
| DRAWN BY: | RAB |
| CHECKED BY: | BRA |

# SR 124 WATERLINE IMPROVEMENTS
- PIKE COUNTY, OH -

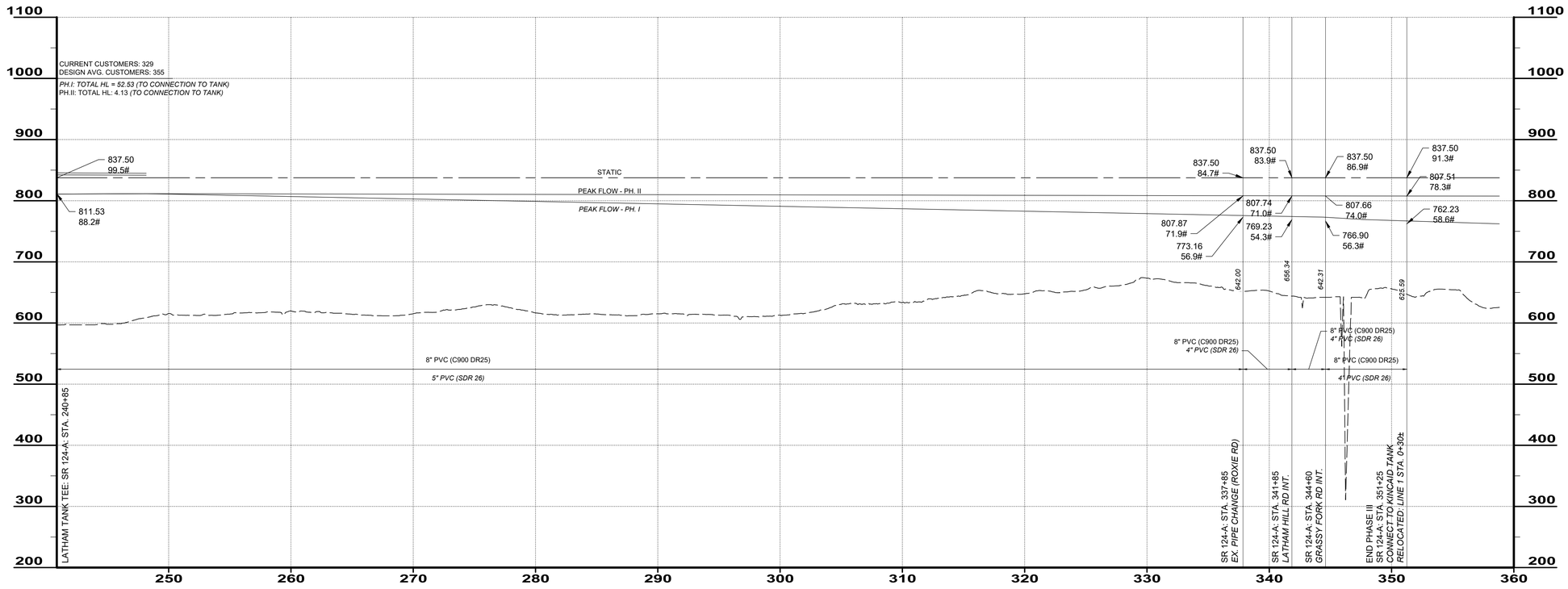
# HYDRAULICS - PHASE I & II

PROJECT NO.
220239

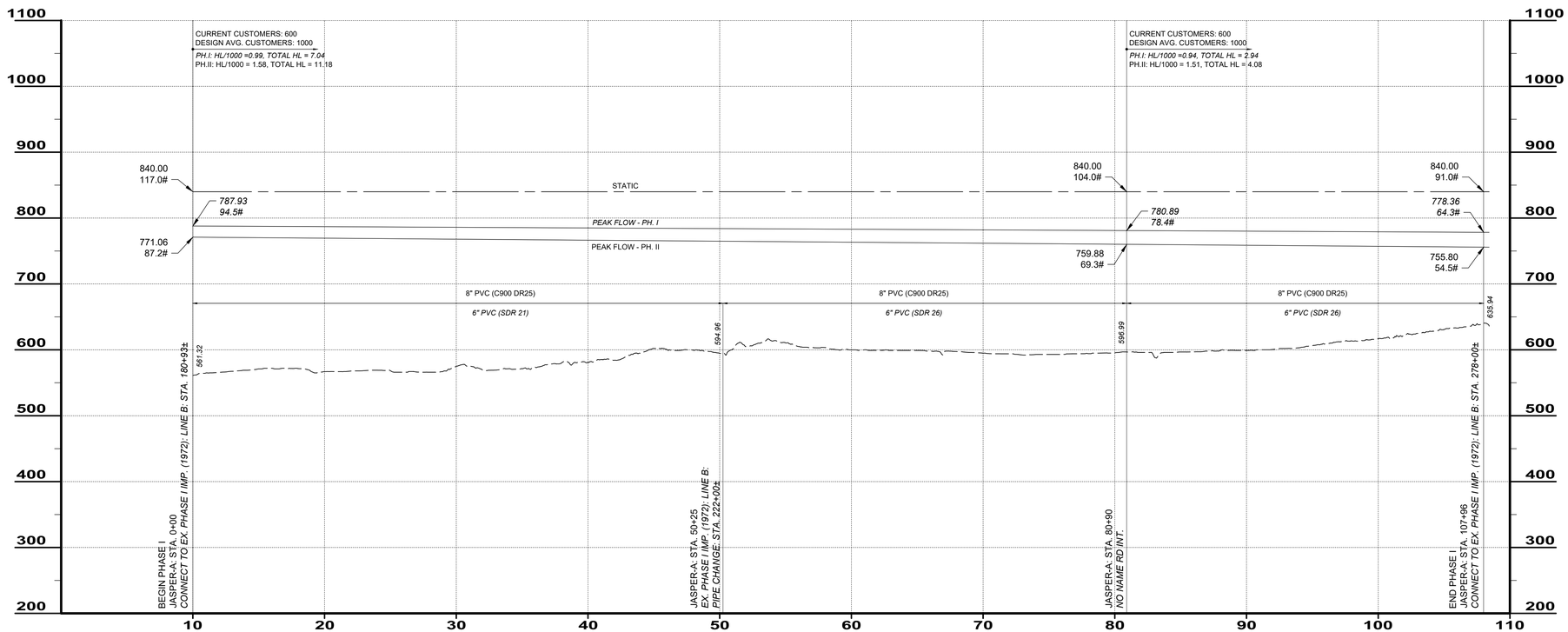
DISCIPLINE

SHEET NAME
H-01

SHEET 24 OF 29




HYDRAULIC PROFILE - SR124-A - STA. 240+85 TO 351+25




HYDRAULIC PROFILE - JASPER-A

NOTES:

1. ALL PHASE I DATA IS REPRESENTED WITH ITALICS TEXT.
2. STATION 0+00 IS NOT THE START POINT FOR THE PUMP. THE PUMPS ARE APPROXIMATELY 18,050' SOUTH ALONG SR 124 AND JASPER ROAD.
3. FLOWS FOR PHASE I ARE CALCULATED AT 260 GPM. CALCULATIONS UTILIZE EXISTING PUMPS AT STEVE HENRY BOOSTER STATION. CHANGES IN PRESSURE FROM PIPE UPGRADES ALLOWS A PUMP INCREASE OF 40 GPM ±.
4. FLOWS FOR PHASE II ARE CALCULATED AT 350 GPM. THESE FLOWS WILL BE GENERATED FROM THE UPGRADED BOOSTER STATION AT STEVE HENRY AND INCREASED PIPE CAPACITY.
5. PHASE I / PHASE II IS AT GREEN RIDGE RD. HYDRAULICS FOR PEAK FLOW FROM LATHAM TANK TO GREEN RIDGE RD ARE EQUIVALENT.

BID SET

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engineers
architects
planners

| NO | REVISION | DATE |
|---|---|---|
| 1 | REVISED FOR CONSTRUCTION | 3/20/2025 |

| | |
|---|---|
| ISSUED FOR: | BIDDING |
| ISSUE DATE: | 2/6/2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | RAB |
| DRAWN BY: | RAB |
| CHECKED BY: | BRA |

# SR 124 WATERLINE IMPROVEMENTS
- PIKE COUNTY, OH -

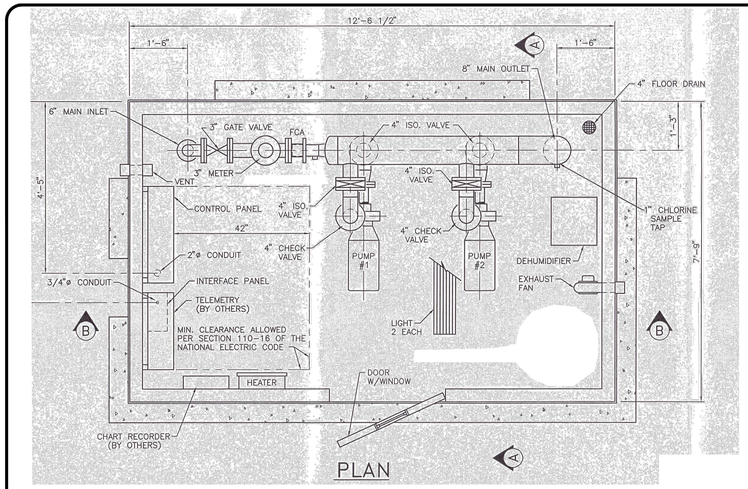
# HYDRAULICS - PHASE I & II

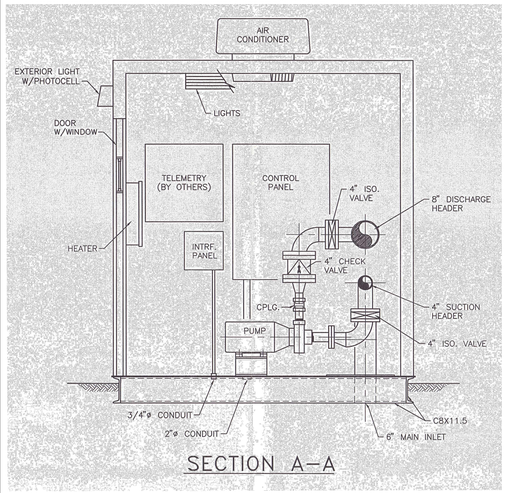
PROJECT NO.
220239

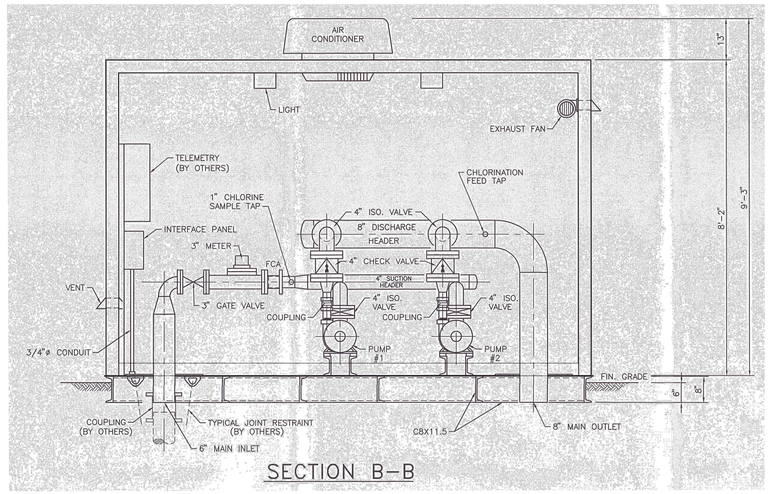
DISCIPLINE

SHEET NAME
H-02

SHEET 25 OF 29

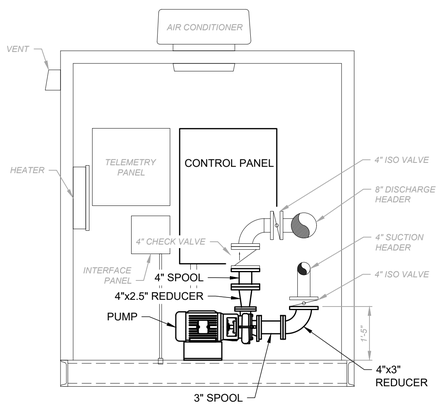


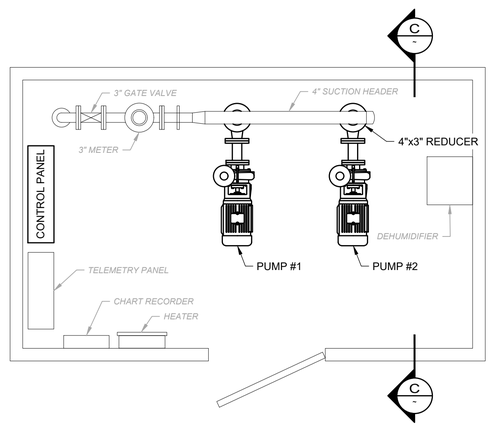




## EXISTING STEVE HENRY BOOSTER

SCALE: 1/2" = 1'-0"



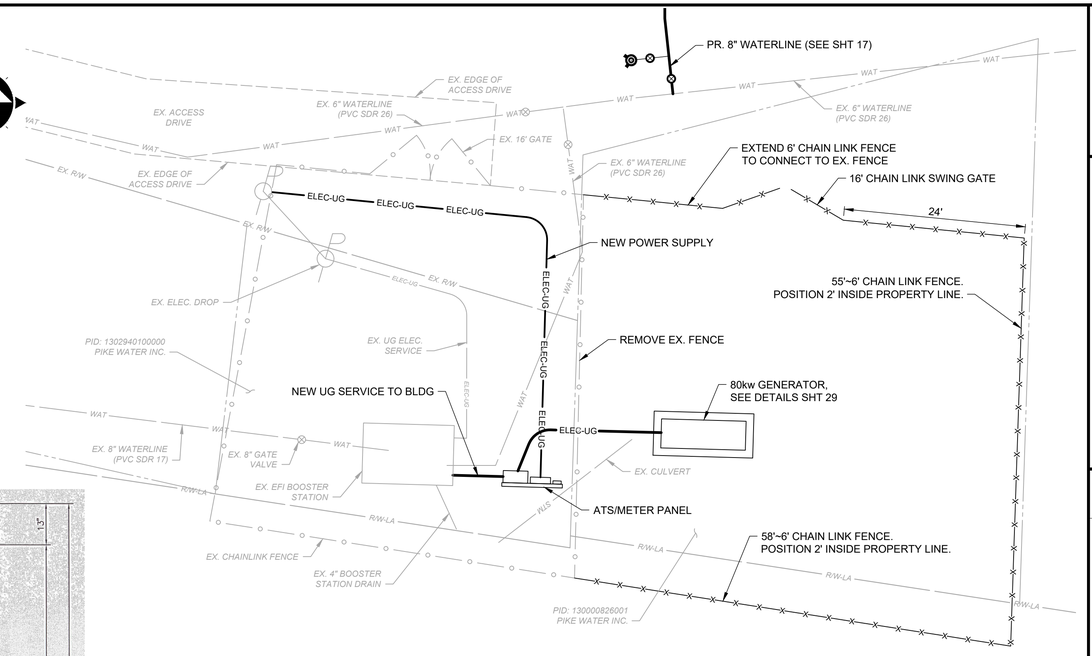

## SECTION C-C




## PLAN VIEW - NEW

## PROPOSED STEVE HENRY BOOSTER

SCALE: 1/2" = 1'-0"




## STEVE HENRY BOOSTER SITE PLAN

SCALE: 1" = 10'

NOTES:

1. OWNER TO COORDINATE UPGRADED ELECTRIC SERVICE DROP WITH UTILITY. POWER SERVICE TO UPGRADED FROM 240V/3PH TO 480V/3PH.
2. 100-YR FLOOD ELEVATION IS NOT PRESENT IN THE AREA OF THE BOOSTER STATION SITE. FEMA FLOOD MAPPING (PANEL 39131 CO2.25C2. DATED 11/4/2010) INDICATES 100-YR FLOOD ELEVATION (ZONE A) BOUNDARY AT ELEV. 600.00± TO THE EAST OF THE BOOSTER STATION SITE. ELEVATION AT THE SITE IS 628.00±
3. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF REVISED ELECTRICAL SERVICE FROM UTILITY POLE TO BOOSTER STATION.
4. CONTRACTOR TO REPLACE EXISTING PUMPS WITHIN STATION WITH NEW EQUIPMENT AS FOLLOWS. SCOPE SHALL INCLUDE MODIFICATION OF EXISTING PIPING TO FACILITATE PUMP CHANGE.

   EXISTING PUMPS: CORNELL 2W
   210 GPM @ 162' TDH
   2" x 2½"x7"
   15 HP, 3600 HP

   PROPOSED PUMPS: CORNELL 2.5WH-CC OR EQUAL
   350 GPM @ 161' TDH
   2½"x3"x6.75"
   25 HP, 3600 HP
5. CONTRACTOR SCOPE INCLUDES REPLACEMENT OF EXISTING BOOSTER CONTROL PANEL. REPLACEMENT PANEL SHALL INCORPORATE VFD'S RATED FOR NEW PUMPS. ALL EXISTING CONTROL INTERFACE SHALL BE INCORPORATED INTO THE PANEL TO FACILITATE TELEMETRY INTERFACE, LOW SUCTION CUTOFF, PUMP ALTERNATION, ETC.
6. CONTRACTOR SHALL COORDINATE WORK AT STATION WITH OWNER A MINIMUM OF 72 HOURS IN ADVANCE. BOOSTER STATION SHALL REMAIN OPERATIONAL WITH MINIMUM OF ONE PUMP OPERATING THROUGH CONSTRUCTION WITH SERVICE INTERRUPTIONS LIMITED TO A 3 HOUR DURATION PERIOD.
7. EXISTING FENCE AT SITE SHALL BE MODIFIED TO ENCLOSE ADJACENT PARCEL. SCOPE TO INCLUDE REMOVE EXISTING EAST LEG OF FENCE. NEW 16' ACCESS GATE TO BE POSITIONED TO SUPPORT ACCESS TO NEW GENERATOR. FENCE AND APPURTENANCES ARE TO BE INSTALLED BY OWNER.
8. EXISTING STATION CONTROL PANEL IS 30"W x 42"H x 9"D. REPLACEMENT CONTROL PANEL SHALL MAINTAIN SIMILAR DIMENSIONS TO FACILITATE PANEL RETROFIT WHILE MAINTAINING REQUISITE NEC CLEARANCES.

BID SET

your trusted advisor — engineers architects planners consultants

| NO | REVISION | DATE |
|---|---|---|
| 1 | REVISED FOR CONSTRUCTION | 3/20/2025 |

ISSUED FOR: BIDDING
ISSUE DATE: 2/6/2025
SCALE: AS SHOWN
DESIGNED BY: RAB
DRAWN BY: RAB
CHECKED BY: BRA

SR 124 WATERLINE IMPROVEMENTS
- PIKE COUNTY, OH -

BOOSTER STATION SITE PLAN

PROJECT NO. 220239
DISCIPLINE
SHEET NAME S-01
SHEET 26 OF 29

C:\CTCADI_DRIVES_H2022\220239\DWG\SHEETS_C_220239 - BOOSTER SITE PLAN.DWG - BOOSTER STATION SITE PLAN - 2/6/2025 8:20:01 AM - ADAM DAWSON

## ELECTRICAL SYMBOLS - PLAN:

- HOME RUN TO PANEL
- MOTOR
- MOTOR CONTROLLER
- FUSIBLE SAFETY SWITCH
- NON-FUSIBLE DISCONNECT SWITCH
- SIMPLEX RECEPTACLE, EXPLOSION PROOF
- DUPLEX RECEPTACLE
- QUADPLEX RECEPTACLE
- DATA PORT, RJ45
- SPECIAL RECEPTACLE, NEMA TYPE NOTED
- SINGLE-POLE SWITCH, "3" INDICATES 3-WAY, "OS" INDICATES OCCUPANCY SENSING
- DRY-TYPE TRANSFORMER
- PUSHBUTTON STATION
- LOUVER OPERATOR
- JUNCTION BOX
- SOLENOID VALVE
- LIMIT SWITCH
- FLOW: SWITCH, SENSOR, TRANSMITTER W / DISPLAY
- LEVEL: SWITCH, SENSOR, TRANSMITTER W / DISPLAY
- PRESSURE: SWITCH, SENSOR, TRANSMITTER W / DISPLAY
- TEMPERATURE: SWITCH, SENSOR, TRANSMITTER W / DISPLAY
- OTHER SENSOR / INDICATING TRANSMITTER AS NOTED
- HAZARDOUS AREA LIGHT FIXTURE
- OUTDOOR CANOPY LIGHT FIXTURE
- EXTERIOR WALL-PACK LIGHT FIXTURE
- HIGH BAY LIGHT FIXTURE
- LINEAR LED LIGHT FIXTURE
- EXIT SIGN
- EMERGENCY REMOTE HEAD
- EMERGENCY WALL-PACK
- FIRE ALARM PULL STATION, STROBE, HORN-STROBE
- FIRE ALARM AREA SMOKE DETECTOR

## ELECTRIC SYMBOLS - UTILITIES:

| EX: | PR: | |
|---|---|---|
| AC | AC | AIR CONDITIONING UNIT |
| CB | CB | ELECTRIC CONTROL BOX |
| JB | JB | ELECTRIC JUNCTION BOX |
| PB | PB | ELECTRIC PULL BOX |
| RI | RI | ELECTRIC RISER BOX |
| VLT | VLT | ELECTRIC VAULT BOX |
| | | ELECTRIC LIGHT - GROUND |
| | | ELECTRIC LIGHT - POST |
| | | ELECTRIC MARKER POST |
| EM | EM | ELECTRIC METER |
| | | ELECTRIC MANHOLE - 48" |
| | | ELECTRIC MANHOLE - 48" - ADJUST |
| | | ELECTRIC MANHOLE - LID |
| | | ELECTRIC PAINT MARK |
| EP | EP | ELECTRIC PEDESTAL |
| TR | TR | ELECTRIC TRANSFORMER |

## SINGLE LINE, ELEMENTARY, & INTERCONNECTION DIAGRAMS (ONLY) SYMBOLOGY:

- 30A 3P DISC — DISCONNECT SWITCH - AMP RATING
- 30A 3P — FUSE - AMP RATING
- 30A [S] — CIRCUIT BREAKER - AMP RATING
- 30A 3P — CIRCUIT BREAKER - AMP RATING
- (40) MOTOR W / HORSEPOWER INDICATED
- (AM) AMMETER
- (VM) VOLT METER
- (PF) POWER FACTOR METER
- (GF) GROUND FAULT RELAY
- TRANSFORMER
- (CR) RELAY COIL
- (TR) TIMING RELAY COIL
- (MS) MOTOR STARTER COIL
- [ETM] ELAPSED TIME TOTALIZER
- [G] GROUNDING BUS
- [SPD] TRANSIENT VOLTAGE SURGE SUPPRESSOR
- N.O. LIMIT SWITCH
- N.O. FLOW SWITCH
- N.O. LEVEL SWITCH
- N.O. PRESSURE SWITCH
- N.O. TEMPERATURE SWITCH
- N.O. TIME DELAY AFTER ENERGIZATION
- N.C. TIME DELAY AFTER ENERGIZATION
- N.C. TIME DELAY AFTER DE-ENERGIZATION
- N.O. TIME DELAY AFTER DE-ENERGIZATION
- N.O. SWITCH (GENERAL)
- START PUSHBUTTON NORMALLY OPEN
- STOP PUSHBUTTON NORMALLY CLOSED
- CONTACT - NORMALLY OPEN
- CONTACT - NORMALLY CLOSED
- SOLENOID COIL
- (G) PILOT LIGHT - PUSH TO TEST (COLOR)
- GROUND
- CAPACITOR
- X0 / 0X — 2 POSITION SELECTOR SWITCH
- X00 / 00X — 3 POSITION SELECTOR SWITCH
- EQUIPMENT FIELD TERMINAL

## ABBREVIATIONS:

| | |
|---|---|
| A | AMPERES |
| AF | AMPERE FRAME |
| AI | ANALOG INPUT (PLC) |
| AL | ALUMINUM |
| AM | AMMETER |
| AO | ANALOG OUTPUT (PLC) |
| AP | ALARM PANEL |
| AT | AMPERE TRIP |
| AWG | AMERICAN WIRE GAUGE |
| C | CONDUIT |
| CAP | CAPACITOR |
| CB | CIRCUIT BREAKER |
| CJB | CONTROL JUNCTION BOX |
| CP | CONTROL PANEL |
| CPT | CONTROL POWER TRANSFORMER |
| CR | CONTROL RELAY |
| CS | CONTROL STATION |
| CT | CURRENT TRANSFORMER |
| Cu | COPPER |
| DB | DUCT BANK |
| DI | DIGITAL INPUT (PLC) |
| DO | DIGITAL OUTPUT (PLC) |
| EAG | ELECTRICALLY ACTIVATED GATE |
| EAV | ELECTRICALLY ACTIVATED VALVE |
| EF | EXHAUST FAN |
| ESPB | EMERGENCY STOP PUSHBUTTON (MAINTAINED) |
| ETM | ELAPSED TIME MONITOR |
| EWD | ELEMENTARY WIRING DIAGRAM |
| FDS | FUSED DISCONNECT SWITCH |
| FLA | FULL LOAD AMPERES |
| FS | FLOW SWITCH |
| FVC | FULL VOLTAGE CONTACTOR |
| FVNR-1 | FULL VOLTAGE NON-REVERSING STARTER, SIZE 1 |
| GFI | GROUND FAULT INTERRUPTER |
| GND | GROUND |
| GFR | GROUND FAULT RELAY |
| HOA | HAND/OFF/AUTO SELECTOR SWITCH |
| HP | HORSEPOWER |
| HTR | HEATER |
| HTS | HIGH TORQUE SWITCH |
| Hz | HERTZ |
| IAW | IN ACCORDANCE WITH |
| ICP | INSTRUMENTATION & CONTROL PANEL |
| IPP | INSTRUMENT POWER PANEL |
| JB | JUNCTION BOX |
| JBC | JUNCTION BOX-CONTROL |
| JBM | JUNCTION BOX-METERING |
| JBP | JUNCTION BOX-POWER |
| kCM | KILO (1000) CIRCULAR MILL |
| kVA | KILOVOLT AMPERES |
| kVAR | KILOVOLT AMPERES-REACTIVE |
| kW | KILOWATT |
| LA | LIGHTNING ARRESTOR |
| LGT | LIGHT |
| LOR | LOCAL/OFF/REMOTE SELECTOR SWITCH |
| LP | LIGHTING PANEL |
| LS | LEVEL SWITCH |
| MCC | MOTOR CONTROL CENTER |
| MCP | MOTOR CIRCUIT PROTECTOR |
| MDP | MAIN DISTRIBUTION PANEL |
| MJB | METERING JUNCTION BOX |
| NEC | NATIONAL ELECTRICAL CODE |
| NEMA | NATIONAL ELECTRICAL MFR ASSOC. |
| NEU | NEUTRAL |
| NFDS | NON-FUSED DISCONNECT SWITCH |
| OCSS | OPEN/CLOSE SELECTOR SWITCH |
| OL | OVERLOAD |
| OOSS | ON/OFF SELECTOR SWITCH |
| OS | OCCUPANCY SENSING |
| OTS | OVER TORQUE SWITCH |
| P | POLE |
| PB | PUSHBUTTON |
| PBC | PULLBOX-CONTROL |
| PBM | PULLBOX-METERING |
| PBP | PULLBOX-POWER |
| PE | PHOTOEYE |
| PF | POWER FACTOR |
| PH | PHASE |
| PLC | PROGRAMMABLE LOGIC CONTROLLER |
| PJB | POWER JUNCTION BOX |
| PP | POWER PANEL |
| PRI | PRIMARY |
| PS | PRESSURE SWITCH |
| PT | POTENTIAL TRANSFORMER |
| R | RELAY |
| RCP | REINFORCED CONCRETE PIPE |
| RVSS | REDUCED VOLTAGE SOFT STARTER |
| SCP | SURGE CONTROL PANEL |
| SCR | SILICON-CONTROLLED RECTIFIER |
| SEC | SECONDARY |
| SF | SUPPLY FAN |
| SHLD | SHIELDED |
| SP | SHEAR PIN SWITCH |
| SPK | SPEAKER |
| SS | SELECTOR SWITCH OR STAINLESS STEEL |
| SSOR | SOLID STATE OVERLOAD RELAY |
| SSPB | START/STOP PUSHBUTTON |
| SSS | SOLID STATE STARTER |
| STD | STANDARD |
| STP | SHIELDED TWISTED PAIR |
| STR | STARTER |
| SV | SOLENOID VALVE |
| SW | SWITCH |
| T | TELEPHONE |
| TB | TERMINAL BOARD |
| TC | TIME CLOCK |
| TD | TRENCH DUCT |
| TEB | TELEPHONE EQUIPMENT BACKBOARD |
| TEMP | TEMPERATURE |
| TOR | THERMAL OVERLOAD RELAY |
| TR | TIMING RELAY |
| TSTAT | THERMOSTAT |
| TVSS | TRANSIENT VOLTAGE SURGE SUPPRESSOR |
| UH | UNIT HEATER |
| UNO | UNLESS NOTED OTHERWISE |
| UPS | UNINTERRUPTIBLE POWER SUPPLY |
| UTP | UNSHIELDED TWISTED PAIR |
| V | VOLTS |
| VC | VOLUME CONTROL |
| VFD | VARIABLE FREQUENCY DRIVE |
| VM | VOLT METER |
| XP | EXPLOSION PROOF |
| XF | TRANSFORMER |
| WP | WATERPROOF |
| ZS | LIMIT SWITCH |

## ELECTRICAL LINE SYMBOLOGY:

**PROPOSED:**

- CONDUIT AND WIRE RUN EXPOSED
- CONDUIT AND WIRE BELOW GRADE
- ELEC — ELEC — ELECTRIC LINE
- ELEC-OH — ELEC-OH — ELECTRIC LINE - OVERHEAD
- ELEC-UG — ELEC-UG — ELECTRIC LINE - UNDERGROUND
- ELEC — ELEC — ELEC — ELEC SERVICE
- ELEC-OH — ELEC-OH — ELEC-OH — ELEC SERVICE - OVERHEAD
- ELEC-UG — ELEC-UG — ELEC-UG — ELEC SERVICE - UNDERGROUND
- LIGHT-OH — LIGHT-OH — LIGHT-OH — ELEC LIGHTING - OVERHEAD
- LIGHT-UG — LIGHT-UG — LIGHT-UG — ELEC LIGHTING - UNDERGROUND

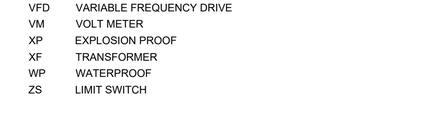
*EXISTING:*

- *ELEC — ELEC — ELECTRIC LINE*
- *ELEC-ABAN — ELEC-ABAN — ELEC-ABAN — ELECTRIC LINE - ABANDONED*
- *ELEC-OH — ELEC-OH — ELECTRIC LINE - OVERHEAD*
- *ELEC-UG — ELEC-UG — ELECTRIC LINE - UNDERGROUND*
- *ELEC — ELEC — ELEC — ELEC — ELECTRIC SERVICE*
- *ELEC-OH — ELEC-OH — ELEC-OH — ELECTRIC SERVICE - OVERHEAD*
- *ELEC-UG — ELEC-UG — ELEC-UG — ELECTRIC SERVICE - UNDERGROUND*
- *LIGHT-OH — LIGHT-OH — LIGHT-OH — ELECTRIC LIGHTING - OVERHEAD*
- *LIGHT-UG — LIGHT-UG — LIGHT-UG — ELECTRIC LIGHTING - UNDERGROUND*
- *ELECTRIC DUCT*

## ELECTRICAL CODED NOTES:

| | | |
|---|---|---|
| (1) NEW WORK - NOTE 1 | (1) DEMOLITION - NOTE 1 | (1) REVISION - NOTE 1 |
| (2) NEW WORK - NOTE 1 | (2) DEMOLITION - NOTE 2 | (2) REVISION - NOTE 2 |
| (3) NEW WORK - NOTE 1 | (3) DEMOLITION - NOTE 3 | (3) REVISION - NOTE 3 |

## ELECTRICAL DETAIL REFERENCE:




## ELECTRICAL GENERAL NOTES:

1. ALL ELECTRICAL EQUIPMENT AND MATERIALS WILL BE SELECTED AND INSTALLED IN COMPLIANCE WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL FIRE CODES, INCLUDING BUT NOT LIMITED TO ALL PERTINENT NFPA REGULATIONS. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO ENSURE COMPLIANCE WITH THESE CODES.
2. DO NOT INSTALL DEVICES SCALED FROM THESE DRAWINGS. ALL DEVICES SHALL BE INSTALLED AT LOCATIONS SHOWN IN THE APPROVED CONDUIT/DEVICE LAYOUT DRAWINGS AND WITH DIMENSIONS TAKEN IN THE FIELD.
3. ELECTRICIAN TO VISIT SITE AND VERIFY ALL EXISTING CONDITIONS PRIOR TO BID.
4. NO DUCTWORK OR PIPING TO BE RUN ABOVE ELECTRICAL PANELS OR THROUGH ELECTRICAL EQUIPMENT ROOMS. ELECTRICIAN SHALL COORDINATE WITH ALL TRADES FOR EQUIPMENT LAYOUTS PRIOR TO ROUGH-IN OF ALL SYSTEMS.
5. MANUFACTURERS AND CATALOG NUMBERS SHOWN IN THE LIGHT FIXTURE SCHEDULE ARE PROVIDED TO INDICATE DESIRED LIGHT FIXTURE CHARACTERISTICS. IT IS THE INTENT OF THE DOCUMENTS TO ALLOW ALTERNATE MANUFACTURERS TO PROVIDE LIGHTING PRODUCTS FOR THE PROJECT, AS LONG AS PROPOSED ALTERNATES PROVIDE THE SAME GENERAL DESIGN AND LIGHTING CHARACTERISTICS AS NOTED IN THE LIGHT FIXTURE DESCRIPTION.
6. ELECTRICIAN TO CONFIRM LOCATIONS OF ALL ELECTRICAL EQUIPMENT AND ELECTRICAL CHARACTERISTICS OF PROCESS EQUIPMENT PROVIDED BY OTHER TRADES PRIOR TO INSTALLING ROUGH-INS AS SHOWN ON THE ELECTRICAL PLANS. ALL SHOP DRAWING REQUIREMENTS WILL BE CONSIDERED AS THE MEANS AND METHODS OF INSTALLATION.
7. THIS PROJECT INVOLVES WORK AT AN INDUSTRIAL FACILITY AND THE CONTRACTOR IS EXPECTED TO PROVIDE CRAFTSMANSHIP REFLECTING THE NATURE OF THE FACILITY. CONDUITS IN PROCESS AREAS ARE TO BE SURFACE MOUNTED RIGID GALVANIZED STEEL (RGS). IN CLASSIFIED AREAS SEAL ALL CONDUITS TO RESTRICT THE PASSAGE OF GASSES AND VAPORS, AND ARRANGE SEALING FITTING DRAINS IN CONDUIT SYSTEMS TO PREVENT ACCUMULATION OF CONDENSATE ABOVE SEALS. ALL CONDUITS ENTERING OR LEAVING A MOTOR CONTROL CENTER, CONTROL PANEL, VALVE ACTUATOR, INSTRUMENT, A BUILDING, OR A PANELBOARD SHALL BE MADE WATERTIGHT USING AN INFLATABLE SEALED BLADDER DUCT SEALING SYSTEM, RAYCHEM 'RAYFLATE' DUCT SEALING SYSTEM RDSS OR APPROVED EQUAL. ALL HARDWARE IS TO BE STAINLESS STEEL UNLESS OTHERWISE DIRECTED.

   ALL ENCLOSURES ARE TO BE RATED AS FOLLOWS (UON):

   - OUTDOORS: NEMA 4X (STAINLESS STEEL)
   - CLASSIFIED AREAS: NEMA 7
   - INDOORS (CORROSIVE AREAS): NEMA 4X (STAINLESS STEEL)
   - INDOORS (CONTROLLED ENVIRONMENT) NEMA 12
8. ELECTRICIAN SHALL REVIEW ALL OTHER TRADES' CONSTRUCTION DOCUMENTS AND/OR COORDINATE WITH OTHER TRADES AND VERIFY IF THERE ARE ANY ADDITIONAL ELECTRICAL REQUIREMENTS NOT SHOWN ON ELECTRICAL DRAWINGS. COST FOR WORK SHOWN ON OTHER TRADES' DRAWINGS SHALL BE INCLUDED IN BASE BID. ALL FIELD WIRING AND TERMINATIONS OF PROCESS EQUIPMENT AND INSTRUMENTATION AND CONTROLS SHALL BE THE RESPONSIBILITY OF THE ELECTRICIAN. ALL CABLES AND WIRES PROVIDED BY VENDORS SHALL BE INSTALLED AND TERMINATED BY THE ELECTRICIAN. WIRE ALL MISCELLANEOUS POWER AND CONTROLS AS REQUIRED TO PROVIDE A COMPLETE FUNCTIONING SYSTEM.
9. ELECTRICAL WIRES SHALL BE MINIMUM #12 AWG, COPPER, 600 V RATED. #14 AWG COPPER SHALL BE PERMISSIBLE FOR CONTROL CIRCUITRY. AMPACITY RATINGS SHALL BE BASED UPON 75°C RATINGS.
   A. #14, #12, AND #10 AWG CONDUCTORS SHALL BE "THHN/THWN".
   B. #8 AND LARGER SHALL BE STRANDED "THHN/THWN".
10. A 4-20mA SIGNAL IS AN ANALOG SIGNAL USED TO TRANSMIT DATA (LEVEL, FLOW, ETC.) FOR PROCESS CONTROLS. THE ELECTRICIAN SHALL PROVIDE, INSTALL, AND TERMINATE SHIELDED TWISTED PAIRS (STP) WIRING IN RIGID GALVANIZED STEEL CONDUIT (RGS). RGS IS USED IN AN ATTEMPT TO REDUCE THE DISTORTION AFFECT FROM EMI AND RFI. BELOW GRADE CONDUITS SHALL BE PVC SCHED-40. PARALLEL RUNS OF DATA CONDUITS AND POWER CONDUITS SHALL BE SEPARATED BY 2 FEET. THE STP SHIELD SHALL BE GROUNDED AT THE CONTROL PANEL ONLY (DO NOT GROUND AT BOTH ENDS).
11. THE ELECTRICIAN SHALL BE RESPONSIBLE FOR LAYOUT AND COORDINATION OF OPENINGS AND CHASES AND SHALL PERFORM ALL CUTTING AND PATCHING AS REQUIRED TO INSTALL THEIR WORK. ALL CONCRETE HOUSE KEEPING PADS SHALL BE FRAMED AND POURED BY THE ELECTRICIAN. PADS SHALL HAVE A 45 DEGREE, 1" CHAMFER AROUND UPPER EDGE.
12. THE ELECTRICIAN SHALL INSTALL & DISTRIBUTE TEMPORARY POWER SERVICE FOR THE DURATION OF THIS PROJECT AS DEFINED IN DIVISION 1 SPECIFICATIONS. ALL COSTS ASSOCIATED WITH THE INSTALLATION, DISTRIBUTION AND MAINTENANCE OF THE TEMPORARY POWER IS THE RESPONSIBILITY OF THE ELECTRICIAN. THERE SHALL BE 480/277V,3PH,4W; 208/120V,3PH,4W; AND 120/240V,1PH,3W POWER AVAILABLE AT ALL LOCATIONS OF CONSTRUCTION AS DIRECTED IN FIELD AND AS SPECIFIED. ALL TEMPORARY EQUIPMENT, CONDUITS & CONDUCTORS SHALL BE COMPLETELY REMOVED AT COMPLETION OF PROJECT.
13. ALL ELECTRICAL EQUIPMENT, DEVICES, LIGHTING FIXTURES, CONDUIT, AND WIRING SHOWN ON THE ELECTRICAL DRAWINGS IS NEW UNLESS CLEARLY CALLED OUT AS EXISTING. ALL EXISTING ELECTRICAL EQUIPMENT THAT IS CALLED OUT TO BE REUSED SHALL BE INSPECTED IN THE FIELD BY THE ELECTRICIAN AND THE CONSTRUCTION MANAGER TO DETERMINE ITS CONDITION PRIOR TO STARTING ANY WORK. PROVIDE DOCUMENTATION TO OWNER INDICATING CONDITION OF THE EXISTING EQUIPMENT, AND REUSE EXISTING EQUIPMENT ONLY IF ALL PARTIES AGREE THE CONDITION IS ACCEPTABLE. ALL EXISTING EQUIPMENT DETERMINED TO BE UNUSABLE SHALL BE REPLACED WITH LIKE KIND AS DIRECTED BY THE OWNER. ANY OF THE OWNERS EQUIPMENT DETERMINED TO BE REUSED THAT IS DAMAGED BY ANY CONTRACTOR DURING SWITCHOVER SHALL BE REPLACED BY THAT CONTRACTOR. ALL EXISTING EQUIPMENT IS THE PROPERTY OF THE OWNER (NOT THE CONTRACTOR) AND SHALL BE TREATED ACCORDINGLY.
14. THE ELECTRICIAN SHALL BE HELD RESPONSIBLE TO ENSURE ALL CONTROLLERS TO BE INSTALLED ARE CAPABLE OF LOCKOUT / TAGOUT PRIOR TO INSTALLATION.
15. CONFORM TO THE NEC, OSHA, FIRE MARSHAL, BUILDING DEPARTMENT AND OTHER APPLICABLE CODES AND REGULATIONS. OBTAIN PERMITS, PAY ALL FEES, AND ARRANGE FOR REQUIRED INSPECTIONS.
16. ALL LIGHTING AND RECEPTACLE WIRING TO BE #12 XHHW WITH EQUIPMENT GROUND IN 3/4" C UNLESS OTHERWISE NOTED.
17. DO NOT MOUNT ANY LIGHT FIXTURE DIRECTLY OVER PIPING OR EQUIPMENT THAT WILL INTERFERE WITH NORMAL LIGHTING DISTRIBUTION.
18. SIZE JUNCTION BOXES AS REQUIRED PER NEC. PROVIDE BARRIER TYPE TERMINAL STRIPS, AND ALL WIRING TO BE IN CONDUIT.
19. SIZE PULL BOXES (PB) AS REQUIRED PER NEC.
20. PROVIDE SEPARATE PB'S FOR CONTROL AND POWER.
21. MOTOR OVERLOAD SETTING SHALL BE FIELD SELECTED PER MOTOR NAME PLATE CURRENT AND INSTALLED ACCORDINGLY.
22. MOUNT LOCAL CONTROLS AND SERVICE DISCONNECTS ON WALL NEAREST EQUIPMENT WHERE POSSIBLE. (MAXIMUM 60" ABOVE FINISHED FLOOR OR FINAL GRADE, MAXIMUM LATERAL DISTANCE FROM WALL TO EQUIPMENT - 10 FEET).
23. ALL FEEDERS RUN BELOW GRADE SHALL BE RUN IN PVC CONDUIT AT MINIMUM 3'-0" BELOW FINISHED GRADE, TRANSITION TO ABOVE GRADE SHALL BE MADE USING FACTORY PVC COATED RIGID STEEL CONDUIT SWEEPS.

BID SET

your trusted advisor — consultants — engineers architects planners

| NO | REVISION | DATE |
|---|---|---|
| 1 | REVISED FOR CONSTRUCTION | 3/20/2025 |

| | |
|---|---|
| ISSUED FOR: | BIDDING |
| ISSUE DATE: | 2/6/2025 |
| SCALE: | AS SHOWN |
| DESIGNED BY: | JPB |
| DRAWN BY: | JPB |
| CHECKED BY: | JPB |

**SR 124 WATERLINE IMPROVEMENTS**
**- PIKE COUNTY, OH -**

**ELECTRICAL LEGEND & GENERAL NOTES**

| | |
|---|---|
| PROJECT NO. | 220239 |
| DISCIPLINE | ELECTRICAL |
| SHEET NAME | E-01 |
| SHEET | 27 |
| OF | 29 |

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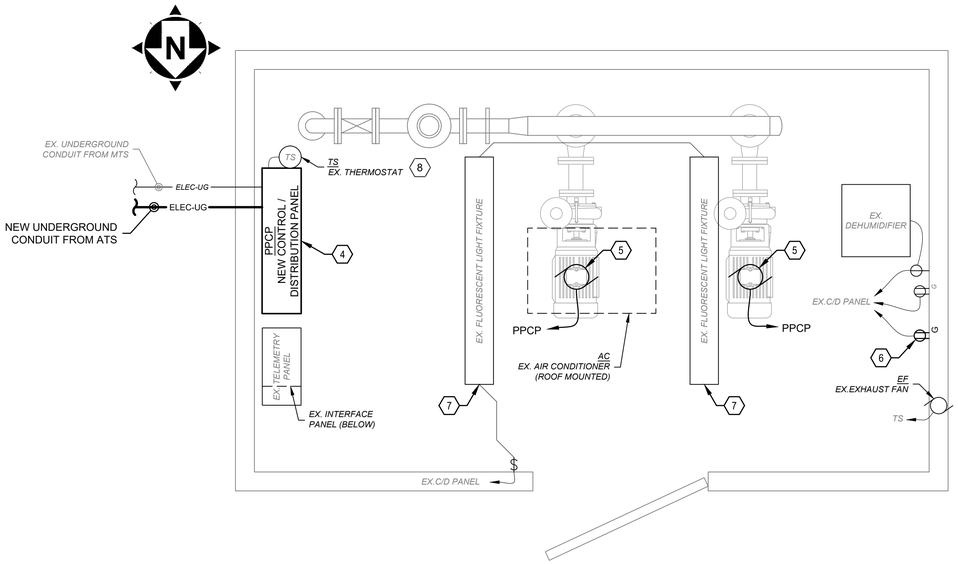
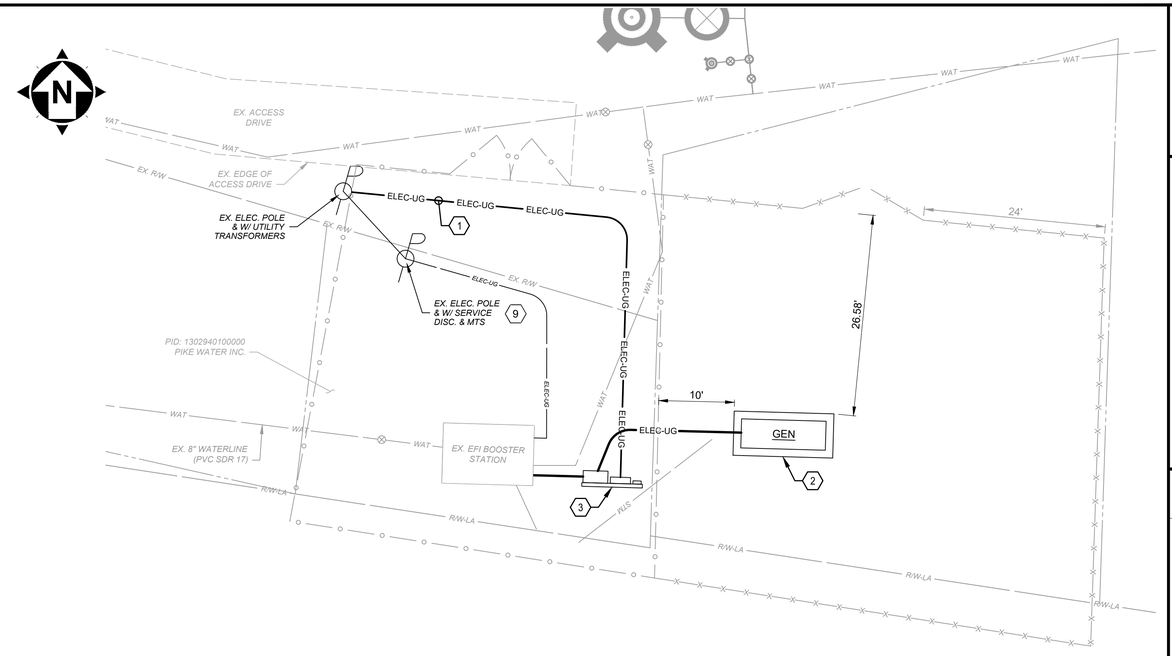


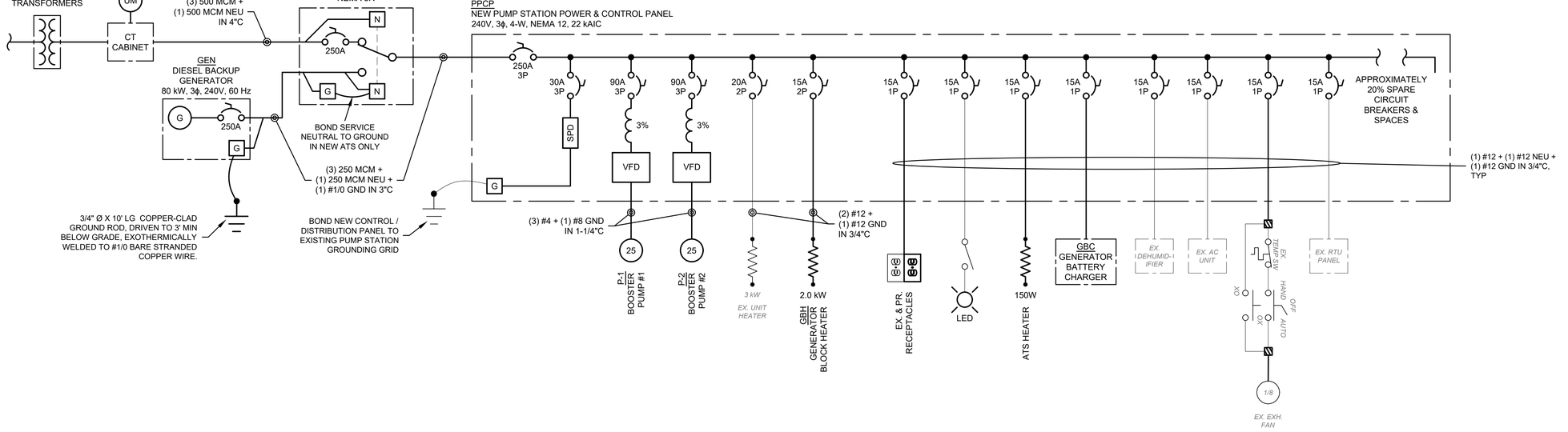

## BOOSTER STATION INTERNAL ELECTRICAL LAYOUT

SCALE: 3/4" = 1'-0"




## STEVE HENRY BOOSTER STATION - ELECTRICAL SITE PLAN

SCALE: 1" = 10'




## PUMP STATION POWER DISTRIBUTION DIAGRAM

## GENERAL NOTES:

1. EXISTING EQUIPMENT BASED ON DRAWING SET BY ENGINEERED FLUID, INC. DATED 5/08/1996, AS WELL AS PHOTOS TAKEN DURING SITE VISITS IN THE MONTHS OF OCTOBER & NOVEMBER, 2024.
2. CAP AND ABANDON IN PLACE ALL UNDERGROUND CONDUIT CONTAINING EXISTING FEEDERS TO BE REMOVED UNLESS OTHERWISE NOTED.
3. ALL PROPOSED UNDERGROUND DUCT BANKS TO UTILIZE 36" SWEEPS, MINIMUM.

## (X) CODED NOTES:

1. NEW 400A, 240V, 3ϕ, 4-W UNDERGROUND SERVICE FEEDER FROM UTILITY POLE TO CT ENCLOSURE ON NEW ELECTRICAL BACKBOARD. SEE DISTRIBUTION DIAGRAM ON THIS SHEET FOR CONDUIT & CONDUCTORS. SEE SHEET #29, E-03 FOR BACKBOARD DETAILS.
2. 80 kW DIESEL-POWERED BACKUP GENERATOR W/ 24-HR STATE APPROVED STORAGE TANK; 240V, 3ϕ, 4-W, 60 Hz OUTPUT WITH 250A LCB. SEE SHEET #29, E-03 FOR FOUNDATION & ARRANGEMENT DETAILS. SEE SPECIFICATION SECTION 263213.16 FOR ADDITIONAL DETAILS.
3. NEW ELECTRICAL EQUIPMENT BACKBOARD PER DETAILS ON SHEET #29, E-03. INCLUDES THE FOLLOWING:
   3.1. CT CABINET & METER SOCKET PER UTILITY STANDARDS
   3.2. AUTOMATIC TRANSFER SWITCH "ATS", 400A, SERVICE ENTRANCE RATED W/250A MCB, NEMA 3R ENCLOSURE. SEE SPECIFICATION SECTION 263623 FOR ADDITIONAL DETAILS.
   3.3. GROUNDING ROD AND BONDING JUMPER PER DISTRIBUTION DIAGRAM ON THIS SHEET
4. REPLACE EXISTING PUMP CONTROL & POWER DISTRIBUTION PANEL WITH NEW VENDOR-SUPPLIED UNIT. COORDINATE WITH CLIENT AND OTHER TRADES TO MINIMIZE DOWNTIME.
5. DISCONNECT (2) EXISTING BOOSTER PUMPS & DEMOLISH EXISTING CONDUCTORS BACK TO CONTROL PANEL. REUSE EXISTING CONDUIT IF POSSIBLE TO CONTAIN FEEDERS FOR NEW 240V, 3ϕ, 60 Hz, 25 HP MOTORS. SEE DISTRIBUTION DIAGRAM ON THIS SHEET FOR CONDUIT & CONDUCTORS.
6. REPLACE EXISTING SIMPLEX RECEPTACLE WITH NEMA 5-15R, GFCI, DUPLEX RECEPTACLE. MATCH EXISTING EQUIPMENT COLORS AND FACEPLATES.
7. REPLACE FLUORESCENT BULBS IN EXISTING FIXTURES WITH LED VERSIONS, 1500 LUMENS TOTAL OUTPUT.
8. DISCONNECT AND REWIRE EXISTING THERMOSTAT TO NEW CONTROL PANEL WHILE MAINTAINING EXISTING FUNCTIONS.
9. ONCE NEW WORK IS COMPLETE, DEMOLISH EXISTING SERVICE EQUIPMENT INCLUDING: MANUAL TRANSFER SWITCH, SERVICE DISCONNECT, METER SOCKET, EQUIPMENT RACK. CAP AND ABANDON IN PLACE ALL UNDERGROUND CONDUIT.

BID SET

your trusted advisor — engineers architects planners consultants

| NO | REVISION | DATE |
|---|---|---|
| 1 | REVISED FOR CONSTRUCTION | 3/20/2025 |

| ISSUED FOR: | ISSUE DATE: | SCALE: | DESIGNED BY: | DRAWN BY: | CHECKED BY: |
|---|---|---|---|---|---|
| BIDDING | 2/6/2025 | AS SHOWN | JPB | JPB | JPB |

# SR 124 WATERLINE IMPROVEMENTS
- PIKE COUNTY, OH -

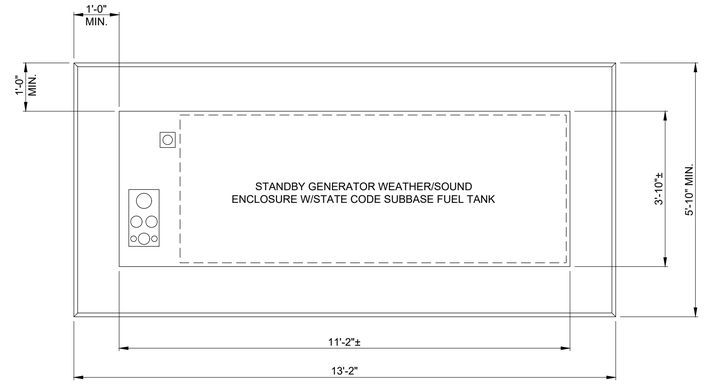
# BPS ELEC. SITE PLAN, INTERNAL LAYOUT & DIST. DIAGRAM

PROJECT NO. 220239

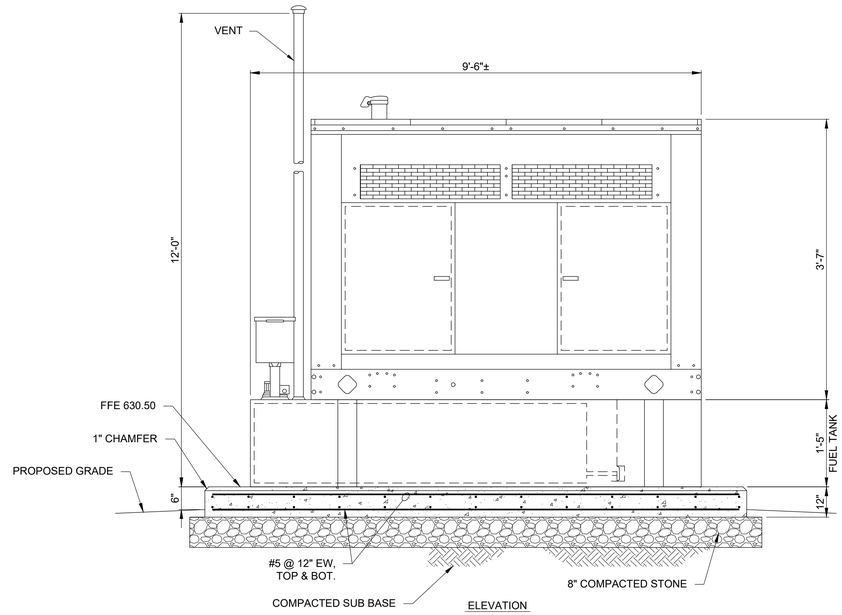
DISCIPLINE: ELECTRICAL

SHEET NAME: E-02

SHEET 28 OF 29




PLAN



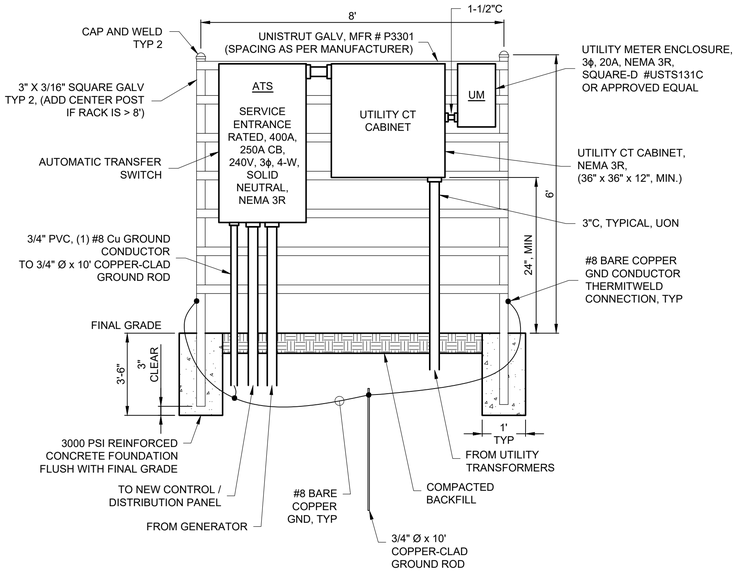

ELEVATION

NOTES:

1. CONCRETE PAD TO BE STEEL REINFORCED AS SHOWN. CONCRETE TO BE AIR-ENTRAINED, ODOT CLASS QCI. REINFORCING STEEL CLEARANCE TO BE 2" MINIMUM TOP AND SIDES, 3" MINIMUM BOTTOM. TOP SURFACE TO BE BEVELED SO THAT WATER DOES NOT POOL UNDER EQUIPMENT. WHEN PAD IS LOCATED ON SLOPING TERRAIN, THICKEN PAD SO THAT PAD EXTENDS 6" ABOVE GRADE AT THE HIGHEST GROUND ELEVATION ON THE PERIMETER OF THE PAD AND 6" BELOW GRADE AT THE LOWEST GROUND ELEVATION ON THE PERIMETER OF THE PAD.
2. PLAN DIMENSIONS ARE APPROXIMATE. MINIMUM FINAL DIMENSIONS IN PLAN SHALL CAUSE THE FOUNDATION TO EXTEND TWO FEET BEYOND LARGEST DIMENSIONS OF SUB BASE FUEL TANK. WORK FROM APPROVED SUB BASE FUEL TANK DRAWINGS.
3. POSITION CONDUIT WITHIN FOUNDATION SLAB AS REQUIRED TO RISE INTO PERMITTED SPACES OF GENERATOR ENCLOSURE/SUB BASE FUEL TANK. DO NOT PLACE FOUNDATION CONCRETE WITHOUT CONDUIT INSTALLED BASED UPON APPROVED SHOP SUBMITTALS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING THE PERMIT AND FOR ANY TESTING FOR THE PROPOSED SUB BASE FUEL TANK FROM THE STATE OF OHIO, DEPARTMENT OF COMMERCE, STATE FIRE MARSHALL'S OFFICE.
5. THE PROPOSED SUB BASE FUEL TANK SHALL BE LISTED FOR ABOVE GROUND USE FOR CONTAINING FLAMMABLE AND COMBUSTIBLE LIQUIDS AND SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH NFPA 30 (2008), SECTION 21.4.2 AND OTHER APPLICABLE CODES AND STANDARDS.
6. SUB BASE FUEL TANK SHALL BE UL-142 LISTED.
7. SUB BASE FUEL TANK SHALL BE PRESSURE TESTED ON SITE PRIOR TO FILLING.
8. CONTRACTOR TO SUPPLY A MINIMUM OF 215 GALLONS OF DIESEL FUEL AT TIME OF STARTUP.

## STANDBY GENERATOR DETAIL

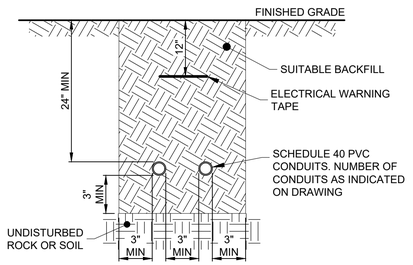
NOT TO SCALE




NOT TO SCALE

## ELECTRICAL BACKBOARD DETAILS

NOTE: ALL UTILITY EQUIPMENT SUBJECT TO APPROVAL BY AES OHIO. SEE AES SPECIFICATIONS FOR REFERENCE.




## ELECTRICAL TRENCH DETAIL

NOT TO SCALE

BID SET

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| NO | REVISION | DATE |
|---|---|---|
| 1 | REVISED FOR CONSTRUCTION | 3/20/2025 |

ISSUED FOR: BIDDING
ISSUE DATE: 2/6/2025
SCALE: AS SHOWN
DESIGNED BY: RAB
DRAWN BY: RAB
CHECKED BY: BRA

# SR 124 WATERLINE IMPROVEMENTS
- PIKE COUNTY, OH -

# BPS ELECTRICAL DETAILS

PROJECT NO.
220239
DISCIPLINE
ELECTRICAL
SHEET NAME
E-03
SHEET 29 OF 29