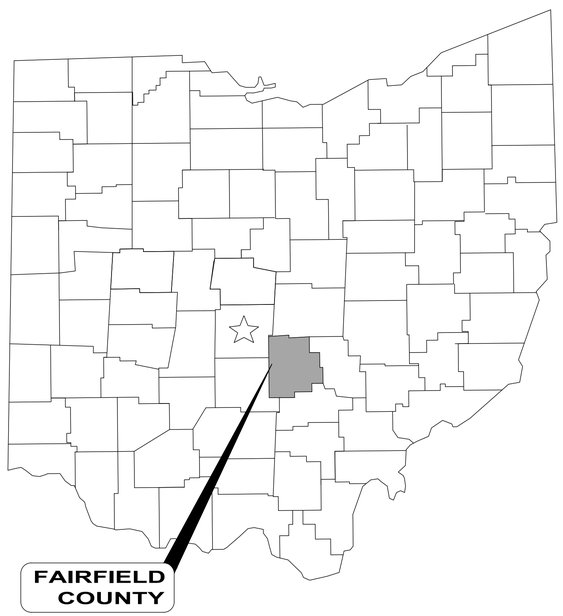
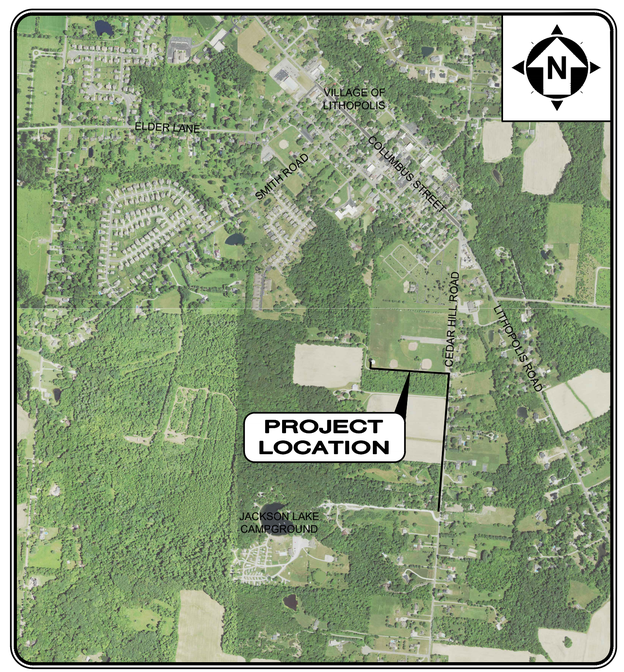
# VILLAGE OF LITHOPOLIS

# JACKSON LAKE CAMPGROUND WATER MAIN INTERCONNECT

## FAIRFIELD COUNTY, OHIO

MARCH 2025




LOCATION MAP
NOT TO SCALE

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.

**OWNER:**

VILLAGE OF LITHOPOLIS
11820 LITHOPOLIS ROAD NW
LITHOPOLIS, OH 43136

(614) 837-2031 PHONE
(614) 837-2722 FAX

ERIC SANDINE, MAYOR — DATE 3/19/25

AMANDA WOLIN, VILLAGE ADMINISTRATOR — DATE

**ENGINEER:**

VERDANTAS
6397 EMERALD PARKWAY, SUITE 200
DUBLIN, OH 43016

(614) 793-8777 PHONE

STATE OF OHIO — BARBARA RAE ANDERSON 51761 — REGISTERED PROFESSIONAL ENGINEER

BARBARA R. ANDERSON — OHIO No. E-51761 — DATE 3/19/2025

**OHIO EPA RE-SUBMISSION**
**DATE: 9/3/2025**

ENGINEER'S PROJECT No. 241569

BID SET

verdantas

| NO | REVISION | DATE |
|---|---|---|
| 1 | REVISED FOR OEPA RE-SUBMISSION | 8/8/2025 |
| 2 | REVISED FOR OEPA RE-SUBMISSION | 9/3/2025 |

ISSUED FOR: BIDDING
ISSUE DATE: 9/3/25
SCALE: AS NOTED
DESIGNED BY: BRA
DRAWN BY: AGD
CHECKED BY: BRA

JACKSON LAKE CAMPGROUND
WATER MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

COVER SHEET

PROJECT NO. 241569
DISCIPLINE: GENERAL
SHEET NAME: CVR-SHT
SHEET 1 OF 12

## GENERAL NOTES:

G-1 GENERAL: THE CURRENT FAIRFIELD COUNTY CONSTRUCTION AND MATERIAL SPECIFICATIONS (FCCMS), INCLUDING ALL SUPPLEMENTS THERETO, WITH THE REQUIREMENTS OF FAIRFIELD COUNTY IN FORCE ON THE DATE OF CONTRACT, SHALL GOVERN ALL MATERIALS, METHODS OF CONSTRUCTION AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS, EXCEPT AS SUCH SPECIFICATIONS ARE MODIFIED BY THE FOLLOWING SPECIFICATIONS OR BY THE CONSTRUCTION DETAILS SET FORTH HEREIN. ANY MODIFICATION TO THE SPECIFICATIONS OR CHANGES TO THE WORK AS SHOWN ON THESE PLANS MUST HAVE PRIOR WRITTEN APPROVAL OF THE OWNER.

G-2 WORK LIMITS: THE CONTRACTOR SHALL CONFINE HIS ACTIVITIES TO THE PROJECT SITE UNDER DEVELOPMENT, EXISTING RIGHTS-OF-WAY, CONSTRUCTION EASEMENTS AND PERMANENT EASEMENTS, AND SHALL NOT TRESPASS UPON OTHER PRIVATE PROPERTY WITHOUT THE WRITTEN CONSENT OF THE PROPERTY OWNER. APPROVAL OF THESE PLANS IS CONTINGENT UPON ALL EASEMENTS REQUIRED FOR CONSTRUCTION OF THE WORK BEING SECURED OR PLATTED, AND FURNISHED TO THE OWNER.

G-3 MISCELLANEOUS WORK: ALL ITEMS OF WORK CALLED FOR ON THE PLANS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED SHALL BE PERFORMED BY THE CONTRACTOR AND THE COST OF SAME SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS RELATED ITEMS.

G-4 FIELD TILE: ALL FIELD TILE AND OTHER DRAINAGE TILE BROKEN DURING EXCAVATION SHALL BE REPLACED TO ITS ORIGINAL CONDITION OR CONNECTED EITHER TO A CURB SUB-DRAIN OR A STORM SEWER SYSTEM, AS DIRECTED BY THE OWNER.

G-5 SURPLUS EXCAVATION: THE CONTRACTOR SHALL PROPERLY DISPOSE OF ALL SURPLUS EXCAVATION.

G-6 EXISTING 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, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO THE BEGINNING OF CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL SUPPORT, PROTECT, AND RESTORE ALL EXISTING UTILITIES AND ASSOCIATED ITEMS TO THE SATISFACTION OF THE UTILITY OWNER.

THE CONTRACTOR SHALL NOTIFY ALL UTILITY OWNERS, IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE, AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO THE BEGINNING OF ANY WORK, TO REQUEST UTILITY LOCATIONS, TO COORDINATE THE WORK, AND TO KEEP THE UTILITY OWNERS APPRAISED OF THE CONSTRUCTION SCHEDULE AND REQUIREMENTS UNTIL ALL WORK IS COMPLETED. THE CONTRACTOR SHALL PROVIDE THE COUNTY SANITARY ENGINEER WITH EVIDENCE OF HAVING NOTIFIED THE UTILITY OWNERS OF THE CONSTRUCTION WORK AND SCHEDULE PRIOR TO BEGINNING ANY WORK.

NOTICE SHALL BE GIVEN TO THE OHIO UTILITIES PROTECTION SERVICE (800-362-2764) FOR THE MEMBER UTILITIES. THE VILLAGE OF LITHOPOLIS IS A MEMBER UTILITY FOR WATER AND SANITARY SEWER UTILITIES. THE FAIRFIELD COUNTY ENGINEER (740-652-2300) AND LOCAL GOVERNMENTAL ENTITY RESPONSIBLE FOR STORM SEWERS ARE NOT MEMBERS OF A REGISTERED UNDERGROUND PROTECTION SERVICE AND MUST BE CONTACTED DIRECTLY.

G-7 SAFETY OF CONSTRUCTION: COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AS AMENDED AND APPLICABLE OSHA REGULATIONS IS REQUIRED OF ALL CONTRACTORS ON THE PROJECT. EACH CONTRACTOR AND SUBCONTRACTOR IS RESPONSIBLE TO IMPLEMENT, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.

G-8 NOTIFICATION: THE CONTRACTOR SHALL NOTIFY THE VILLAGE OF LITHOPOLIS SEVENTY-TWO (72) HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO THE START OF CONSTRUCTION OF WATER AND/OR SANITARY SEWER UTILITIES. WHEN CONSTRUCTION IS SUSPENDED FOR MORE THAN SEVEN DAYS, THE CONTRACTOR SHALL NOTIFY THE VILLAGE OF LITHOPOLIS SEVENTY-TWO (72) HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO RESUMING CONSTRUCTION. CONSTRUCTION SHALL NOT START PRIOR TO THE REQUIRED NOTICE BEING GIVEN.

G-9 CLEAN-UP: THE TRACKING OF MUD, DIRT OR DEBRIS UPON ANY PUBLIC ROADWAY IS PROHIBITED AND ANY SUCH OCCURRENCE SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. THE CONTRACTOR SHALL CLEAN UP ALL DEBRIS AND MATERIALS RESULTING FROM THE CONSTRUCTION OPERATION AND RESTORE ALL SURFACES, STRUCTURES, DITCHES, AND PROPERTY TO ITS ORIGINAL CONDITION AND TO THE SATISFACTION OF THE VILLAGE OF LITHOPOLIS AND GOVERNING HIGHWAY AUTHORITY.

G-10 PERMITS: THE CONTRACTOR SHALL OBTAIN ANY AND ALL NECESSARY PERMITS PRIOR TO BEGINNING CONSTRUCTION. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE FEDERAL, STATE AND COUNTY REGULATIONS AND REQUIREMENTS.

G-11 CROSSINGS: ALL WATER MAINS AND SERVICES SHALL BE CONSTRUCTED WITH AT LEAST 10 FEET HORIZONTAL SEPARATION AND AT LEAST AN 18 INCH VERTICAL SEPARATION FROM ALL SANITARY AND STORM SEWERS. WHEN THE 10 FOOT OR 18 INCH CLEARANCE CANNOT BE OBTAINED, THE SANITARY OR STORM SEWER SHALL BE CONSTRUCTED OF WATERLINE MATERIALS AS APPROVED IN THE COUNTY'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND/OR THE WATERLINE MUST BE RELOCATED OR LOWERED AS DIRECTED BY THE VILLAGE OF LITHOPOLIS.

G-12 TRAFFIC CONTROL: A SUBDIVISION STREET, UNLESS IT IS ALSO A COUNTY OR STATE HIGHWAY, MAY BE CLOSED TO THROUGH TRAFFIC ONE (1) BLOCK AT A TIME FROM 8:00 A.M. TO 4:00 P.M. MONDAY THROUGH FRIDAY. THE CONTRACTOR SHALL SUBMIT A PLAN AND SCHEDULE FOR DETOURING TRAFFIC TEN (10) DAYS PRIOR TO THE CLOSING OF ANY STREET. ANY TEMPORARY CLOSING OF A STREET DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PROVIDE ACCESS TO THE PROPERTY BY EMERGENCY VEHICLES, MAIL/DELIVERY VEHICLES AND THE OWNERS.

WHERE IT IS ANTICIPATED THAT WORK WILL CLOSE A STREET, THE CONTRACTOR SHALL INFORM THE RESIDENTS TO BE AFFECTED, COUNTY SHERIFF'S OFFICE, TOWNSHIP FIRE DEPARTMENT, COUNTY SANITARY ENGINEER, COUNTY ENGINEER, APPLICABLE SCHOOL DISTRICT, AND OTHER APPLICABLE CITY AND TOWNSHIP ENTITIES AS TO THE EXTENT, NATURE, AND TIME OF THE ANTICIPATED WORK. NO STREET SHALL BE CLOSED UNTIL THE SCHEDULE IS APPROVED BY THE COUNTY ENGINEER.

ADEQUATE LIGHTS, SIGNS, AND BARRICADES SHALL BE USED, AS REQUIRED IN ITEM 614 OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS AND OMUTCD, TO SAFEGUARD THE TRAVELING PUBLIC AT ALL ALL TRENCHES SHALL BE BACKFILLED OR SECURELY PLATED WITHIN THE PUBLIC RIGHT-OF-WAY DURING NON-WORKING HOURS.

G-13 CURB MARKINGS: THE VILLAGE OF LITHOPOLIS REQUIRES THAT THE LETTERS "V" FOR WATER MAIN VALVE, "W" FOR WATER SERVICE LINE AND "S" FOR SANITARY SEWER SERVICE LINE BE EMBEDDED IN THE CONCRETE CURB. FOR STANDARD CURBS, THE LETTER IS TO BE LOCATED IN THE CENTER ON THE TOP FLAT PORTION OF THE CURB. FOR ROLLED CURBS, THE TOP OF THE LETTER IS TO BE LOCATED ON THE FACE OF THE CURB WITHIN ONE AND ONE-HALF (1-1/2) INCHES OF THE CREST. THE LETTER IS TO BE AT LEAST TWO (2) INCHES WIDE, THREE (3) INCHES HIGH AND ONE QUARTER (1/4) INCH DEEP. THE LETTER "V" IS TO BE LOCATED ON THE CURB IMMEDIATELY ADJACENT TO ALL WATER MAIN VALVES. THE LETTERS "W" AND "S" ARE TO BE LOCATED DIRECTLY OVER THE HOUSE SERVICE LINES.

G-14 SEDIMENT AND EROSION CONTROL: THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROVIDING NECESSARY AND ADEQUATE MEASURES FOR PROPER CONTROL OF EROSION AND SEDIMENT RUNOFF FROM THE SITE ALONG WITH PROPER MAINTENANCE AND INSPECTION IN COMPLIANCE WITH THE NPDES GENERAL PERMIT FOR STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITY. ALL SEDIMENT AND EROSION CONTROL MEASURES REQUIRED IN THE PLANS, THE FAIRFIELD COUNTY CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND THE OHIO EPA STORM WATER REGULATIONS AND GENERAL PERMIT SHALL BE IN PLACE AND OPERATIONAL PRIOR TO CONSTRUCTION BEGINNING IN THE WORK AREA.

G-15 PROHIBITED CONSTRUCTION ACTIVITIES: THE FOLLOWING CONSTRUCTION ACTIVITIES ARE PROHIBITED ON THE PROJECT.

- USING ANY SUBSTANCE OTHER THAN WATER TO CONTROL DUST.
- TRACKING OF MUD, DIRT AND DEBRIS ONTO ANY PUBLIC ROADWAY.
- OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE PERMIT OR DISPOSING OF THE TREES AND STUMPS.
- PUMPING OF SEDIMENT-LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS INTO ANY SURFACE WATERS, ANY STREAM CORRIDORS, ANY WETLANDS, OR STORM SEWERS.
- DISCHARGING POLLUTANTS - SUCH AS CHEMICALS, FUELS, LUBRICANTS, BITUMINOUS MATERIALS, RAW SEWAGE - AND OTHER HARMFUL WASTE INTO OR ALONGSIDE RIVERS, STREAMS, IMPOUNDMENTS OR INTO NATURAL OR MAN-MADE CHANNELS LEADING THERETO.
- STORING CONSTRUCTION EQUIPMENT AND VEHICLES AND/OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY, PUBLIC OR PRIVATE, NOT PREVIOUSLY SPECIFIED FOR SAID PURPOSES.
- DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIAL IN WETLANDS OR FLOODPLAINS, EVEN WITH THE PERMISSION OF THE PROPERTY OWNER.
- INDISCRIMINATE, ARBITRARY, OR CAPRICIOUS OPERATION OF EQUIPMENT IN ANY STREAM CORRIDORS, WETLANDS, SURFACE WATERS, OR OUTSIDE THE EASEMENT AREA.
- PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOW LINE OF A STREAM.
- REMOVAL OF TREES AND BUSHES, OR DAMAGING VEGETATION OUTSIDE THE LIMITS OF THE CONSTRUCTION AREA.
- DISPOSAL OF TREES, BRUSH AND OTHER DEBRIS IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS OR AT UNSPECIFIED LOCATIONS.

G-16 RECORD DRAWINGS: ONE (1) SET OF RECORD CONSTRUCTION DRAWINGS AND A COMPUTER DISK IN AUTOCAD FORMAT AND .TIFF OR .PDF FORMAT SHALL BE PROVIDED TO THE VILLAGE OF LITHOPOLIS AS SOON AS ALL PUBLIC IMPROVEMENTS ARE COMPLETED AND PRIOR TO FINAL ACCEPTANCE.

G-17 THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA, NORTHERN LONG-EARED, AND TRI-COLORED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT (ESA). FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS: A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK 3 INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

## WATERLINE NOTES:

W-1 CONNECTING WATERLINES: THE CONNECTION OF PROPOSED WATERLINES TO EXISTING WATERLINES SHALL BE DONE IN A MANNER THAT WILL CAUSE A MINIMUM OF INCONVENIENCE TO THOSE WITH AFFECTED SERVICES. WORK CONCERNING THE DISCONNECTION AND RECONNECTION OF EXISTING WATERLINES SHALL BE DONE BETWEEN THE HOURS OF 10:00 P.M. AND 5:00 A.M., OR AS DIRECTED BY THE OWNER. NO SUCH WORK SHALL BEGIN UNTIL THE VILLAGE OF LITHOPOLIS AND RESIDENTS WHOSE SERVICES WILL BE AFFECTED ARE ALL NOTIFIED AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO THE CONNECTION, OF THE EXTENT, NATURE AND TIME OF THE ANTICIPATED WORK, NOR UNTIL THE METHOD AND SCHEDULE OF SUCH WORK HAS BEEN APPROVED BY THE VILLAGE OF LITHOPOLIS.

W-2 SERVICE LOCATIONS: ALL WATER SERVICES SHALL BE LOCATED NEAR THE LOT LINE UNLESS OTHERWISE NOTED, AND SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM THE SANITARY SEWER SERVICE AND IN A SEPARATE TRENCH. A PERMIT FOR EACH WATER SERVICE MUST BE OBTAINED FROM THE VILLAGE OF LITHOPOLIS, PRIOR TO MAKING ANY CONNECTION FROM THE WATER MAIN OR WATER SERVICE BOX TO ANY EXISTING OR PROPOSED BUILDING.

W-3 CONFLICTS: WHEN CONFLICTS IN GRADE BETWEEN WATERLINES AND SEWERS ARE FOUND DURING CONSTRUCTION, THE WATERLINES SHALL BE LOWERED, UNLESS DIRECTED OTHERWISE BY THE VILLAGE OF LITHOPOLIS. A MINIMUM VERTICAL SEPARATION OF 18 INCHES, MEASURED FROM THE OUTSIDE OF EACH PIPE, SHALL BE MAINTAINED.

W-4 MINIMUM DEPTH: WATER LINES SHALL BE LAID WITH A MINIMUM OF FOUR (4) FEET OF COVER FROM THE FINAL PROPOSED GROUND OR PAVEMENT GRADE TO THE TOP OF THE WATERLINE.

W-5 LINE CROSSINGS: AT ALL POINTS OF CROSSING OF WATER MAINS AND SEWERS, THE BACKFILL SHALL BE GRANULAR MATERIAL BETWEEN THE DEEPER AND SHALLOWER PIPE. THE MINIMUM HORIZONTAL SEPARATION BETWEEN WATER MAINS AND ALL SANITARY AND STORM SEWERS SHALL BE TEN (10) FEET MEASURED FROM THE OUTSIDE OF EACH PIPE. THE MINIMUM VERTICAL SEPARATION AT CROSSINGS OF WATER MAINS AND ALL SEWERS SHALL BE 18 INCHES MEASURED FROM THE OUTSIDE OF EACH PIPE.

W-6 DISINFECTION: ALL WATER MAINS SHALL BE CLEANED AND DISINFECTED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF AWWA SPECIFICATION C651. SPECIAL ATTENTION IS DIRECTED TO THE REQUIREMENTS OF FLUSHING AND CHLORINATING VALVES AND FIRE HYDRANTS. RESULTS OF THE DISINFECTION TESTS SHALL BE FURNISHED TO THE VILLAGE OF LITHOPOLIS PRIOR TO ACCEPTANCE OF THE SYSTEM.

W-7 TESTING: A HYDROSTATIC TEST, AS REQUIRED IN SECTION 7.3 OF AWWA SPECIFICATION C605 FOR PVC PIPE OR SECTION 5.2 OF AWWA SPECIFICATION C600 FOR DUCTILE IRON PIPE AS APPLICABLE, SHALL BE APPLIED TO THE WATER MAIN. IF THERE ARE INDICATIONS OF LEAKS UNDER THIS PRESSURE TEST, THE CONTRACTOR SHALL LOCATE AND REPAIR ALL LEAKS AT THE CONTRACTOR'S EXPENSE UNTIL THE LEAKAGE IS WITHIN THE SPECIFIED ALLOWANCE. ALL BENDS, JOINT DEFLECTIONS AND HYDRANTS SHALL HAVE CONCRETE BACKING, AND ALL VALVES SHALL HAVE CONCRETE SUPPORTS, IN ACCORDANCE WITH THE STANDARD CONSTRUCTION DRAWINGS. FINAL WATER PRESSURES TESTING FOR ACCEPTANCE TO BE CONDUCTED AFTER ALL OTHER UTILITIES ARE INSTALLED IN NEW DEVELOPMENT AREAS.

W-8 FIRE HYDRANTS: FIRE HYDRANTS SHALL BE AMERICAN FLOW CONTROL MODEL MK-73 OR MUELLER SUPER CENTURION 250 MODEL A-421, AS SHOWN ON DETAIL DRAWING , AND BE INSTALLED AS PER DETAIL DRAWINGS. FIRE HYDRANTS AND LIDS OF WATCH VALVE BOXES SHALL BE THOROUGHLY CLEANED AND PREPPED, BE PRIMED WITH ONE COAT TNEMEC UNI-BOND DF SERIES GRAY AND BE PAINTED WITH TWO COATS TNEMEC ENDURATONE SERIES 1028 CHILEAN RED FOR THE TOP HYDRANTS SHALL BE OF THE SAME MANUFACTURER AS CONSISTENT WITHIN A SUBDIVISION OR SERVICE.

W-9 CURB AND VALVE BOXES: CURB BOXES SHALL BE LOCATED 12 INCHES FROM THE PROPERTY LINE OR EASEMENT LINE FOR SHORT SERVICES AND 12 INCHES FROM THE PROPERTY LINE ON LONG SERVICES, UNLESS OTHERWISE SHOWN ON THE PLANS. ALL CURB BOX AND VALVE BOX TOPS SHALL BE ADJUSTED TO BE 3" ABOVE FINAL SURFACE GRADES. THE CONTRACTOR SHALL FURNISH AND PLACE, AS DIRECTED, A STAKE MADE OF 4" X 4" TREATED HARDWOOD LUMBER AT ALL CURB BOXES AND VALVE BOXES, EXTENDING A MINIMUM OF 3 FEET ABOVE FINAL SURFACE GRADES WITH THE FINAL 2 FEET PAINTED COVE BLUE. ALL CURB AND VALVE BOX LIDS SHALL BE THOROUGHLY CLEANED AND PREPPED, BE PRIMED WITH ONE COAT TNEMEC UNI-BOND DF SERIES GRAY AND BE PAINTED WITH TWO COATS TNEMEC ENDURATONE SERIES 1028 COVE BLUE FOR THE TOP COATS.

W-10 VALVE EXTENSION: IF THE TOP OF THE OPERATING NUT IS LOWER THAN 36 INCHES BELOW FINISHED GRADE, AN EXTENSION STEM SHALL BE FURNISHED TO BRING THE TOP OF THE OPERATING NUT TO BETWEEN 24 INCHES AND 36 INCHES OF FINISHED GRADE ELEVATION.

W-11 INSTALLATION IN EMBANKMENT: WHERE WATER MAINS ARE TO BE INSTALLED IN EMBANKMENT AREAS, THE EMBANKMENT SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS PRIOR TO THE INSTALLATION OF THE WATER MAIN. THE WATER MAIN SHALL BE INSTALLED WITH A MINIMUM OF FOUR FEET OF COVER IN ALL DIRECTIONS.

W-12 VALVE OPERATION: EXISTING VALVES SHALL BE OPERATED BY VILLAGE OF LITHOPOLIS PERSONNEL ONLY.

W-13 FITTING MARKERS: THE CONTRACTOR SHALL PROVIDE 3M ELECTRONIC MARKING SYSTEM FULL RANGE MAKERS AT EVERY FITTING BEND OR TEE THAT DOES NOT HAVE A VALVE OR EVERY 50' ON A STRAIGHT RUN. THE MARKERS SHALL BE ATTACHED TO THE PIPE WITH A PLASTIC ZIP TIE.

W-14 CONSTRUCTION AND MATERIAL SPECIFICATIONS: ALL MATERIALS AND CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE CURRENT FAIRFIELD COUNTY CONSTRUCTION AND MATERIAL SPECIFICATIONS, INCLUDING ALL SUPPLEMENTS THERETO. WATER MAIN PIPE SHALL BE PVC PLASTIC PIPE, AWWA C900 DR 14. DUCTILE IRON PIPE CLASS 53, AWWA C151, CEMENT LINED AWWA C104, WITH JOINTS CONFORMING TO AWWA C111 IS AN ACCEPTABLE ALTERNATE WATER MAIN PIPE. ALL BENDS, JOINT DEFLECTIONS AND FITTINGS SHALL BE BACKED WITH CONCRETE. BLUE METALLIC FIELD LOCATOR TAPE OF SIX (6) INCH WIDTH SHALL BE PLACED OVER ALL WATER MAINS, WITHIN 12 TO 18 INCHES OF FINISHED GRADE. COPPERHEAD 10 GAUGE TRACER WIRE (1030 – HS, OPEN TRENCH, 1045-EHS DIRECTIONAL DRILL) SHALL BE LAID WITH THE PIPE TRENCH AND EXTENDED INTO EACH VALVE OPENING.

WATER MAIN VALVES SHALL BE AWWA C509 OR C515, RESILIENT WEDGE WITH 250 PSI WORKING PRESSURE, NON-RISING STEM, LEFT HAND OPEN VALVE WITH RUBBER "O" PACKING SEALS. ALL BOLTS TO BE 304 STAINLESS STEEL. WATER MAIN VALVES SHALL BE OF THE SAME MANUFACTURER AS THE HYDRANTS IN THE SUBDIVISION OR SERVICE AREA.

WATER SERVICE LINE PIPE SHALL BE PHILLIPS DRISCOPIPE POLYETHYLENE SDR 9, AND SHALL BE INSTALLED WITH A COVER OF FOUR (4) FEET. SERVICE SADDLES TO BE ALL STAINLESS STEEL WITH FULL RUBBER INSERT. SEE FCU ACCEPTABLE SERVICE SADDLES AND TAPPING SADDLE APPROVED LIST.

W-15 WATER SYSTEM PRESSURE: THE NORMAL WORKING PRESSURE IN THE WATER SYSTEM WILL NOT BE LESS THAN 35 PSI. 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. INDIVIDUAL BOOSTER PUMPS ARE NOT PERMITTED FOR ANY INDIVIDUAL SERVICE. IF THE STATIC PRESSURE IN THE WATER SYSTEM AT THE WORK AREA IS GREATER THAN 80 PSI, THEN A PRESSURE REDUCING VALVE SHALL BE REQUIRED FOR EACH HOUSE OR BUILDING.

W-16 TOOLS AND SPARE PARTS: THE FOLLOWING TOOLS AND SPARE PARTS SHALL BE DELIVERED TO THE OWNER PRIOR TO CONDITIONAL ACCEPTANCE OF THE PROJECT: ONE MAINLINE WRENCH, ONE PROBE (SIX FEET), 1 CURB BOX WRENCH, 1 COMPLETE CURB BOX, 1 FIRE HYDRANT WRENCH.

W-17 EXISTING WATER WELLS WILL BE ABANDONED AND SEALED IN ACCORDANCE WITH OAC RULES 3745-9-7 AND 3745-9-10 AND/OR ANY WATER WELL LEFT IN SERVICE WILL BE CONSIDERED PART OF AN AUXILIARY WATER SYSTEM AND SUBJECT TO BACKFLOW REQUIREMENTS OF OAC RULE 3745-95-04.

### Sheet List Table


| Sheet # | Sheet Title |
|---|---|
| 1 | COVER SHEET |
| 2 | GENERAL NOTES |
| 3 | OVERALL SHEET LAYOUT |
| 4 | WATERLINE PLAN & PROFILE - 0+00 - 3+00 |
| 5 | WATERLINE PLAN & PROFILE - 3+00 - 8+00 |
| 6 | WATERLINE PLAN & PROFILE - 8+00 - 13+00 |
| 7 | WATERLINE PLAN & PROFILE - 13+00 - 17+50 |
| 8 | WATERLINE PLAN & PROFILE - 17+50 - 22+50 |
| 9 | WATERLINE PLAN & PROFILE - 22+50 - 27+50 |
| 10 | WATERLINE PLAN & PROFILE - 27+50 - 29+52 |
| 11 | CONSTRUCTION DETAILS |
| 12 | CONSTRUCTION DETAILS |


BID SET

verdantas

| NO | REVISION | DATE |
|---|---|---|
| 1 | REVISED FOR OEPA RE-SUBMISSION | 8/8/2025 |
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JACKSON LAKE CAMPGROUND
WATER MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

GENERAL NOTES

PROJECT NO. 241569
DISCIPLINE GENERAL
SHEET NAME GEN-NTS
SHEET 2 OF 12

# JACKSON LAKE CAMPGROUND
## WATER MAIN INTERCONNECT
### - VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

## OVERALL SHEET LAYOUT

| | |
|---|---|
| ISSUED FOR: | BIDDING |
| ISSUE DATE: | 9/3/25 |
| SCALE: | AS NOTED |
| DESIGNED BY: | BRA |
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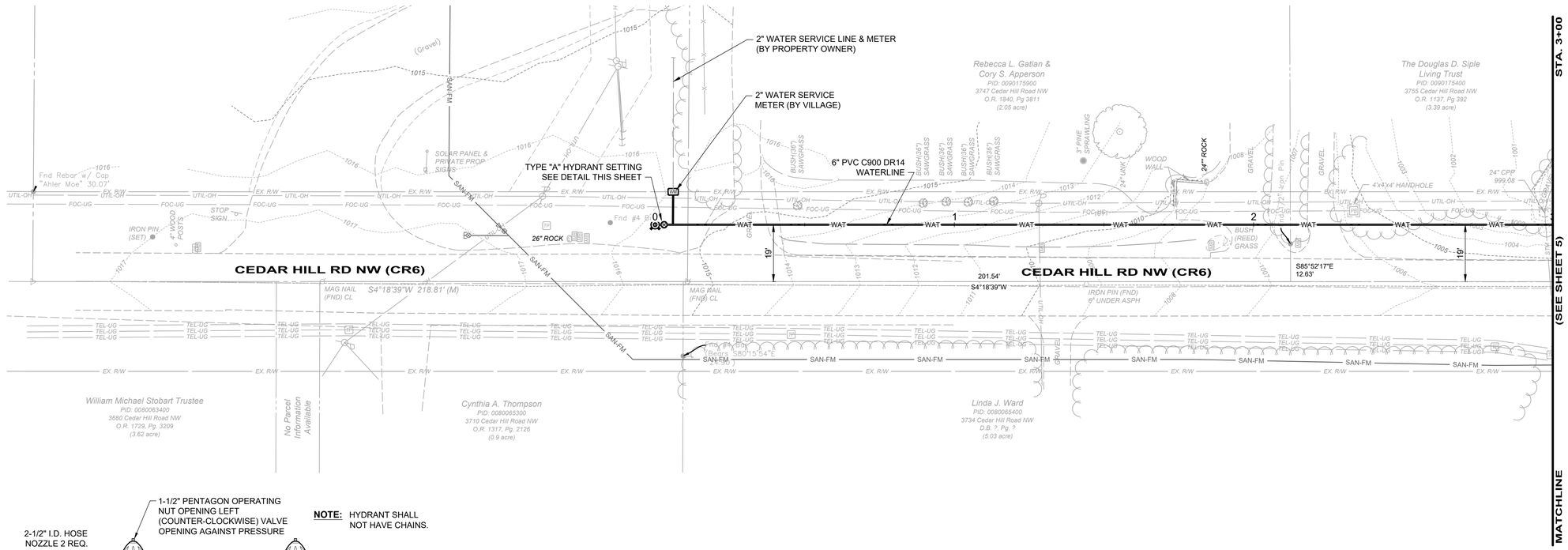
verdantas

BID SET

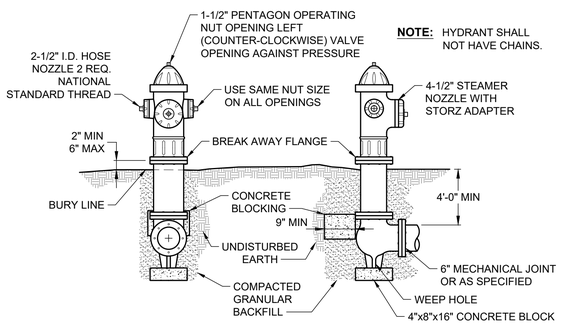
PROJECT NO. 241569
DISCIPLINE CIVIL
SHEET NAME SHT-LAY
SHEET 3 OF 12




SCALE: 1" = 20 '

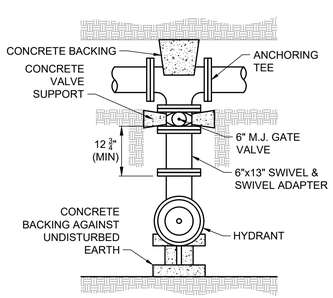
## NOTES:

1. WATERLINE SHOWN SHALL BE INSTALLED VIA OPEN CUT METHODS UNLESS OTHERWISE SHOWN. RESTORATION SHALL BE IN ACCORDANCE WITH CLASS B PIPE EMBEDMENT DETAILS.




**NOTE:** HYDRANT SHALL NOT HAVE CHAINS.

**FRONT VIEW** **SIDE VIEW**



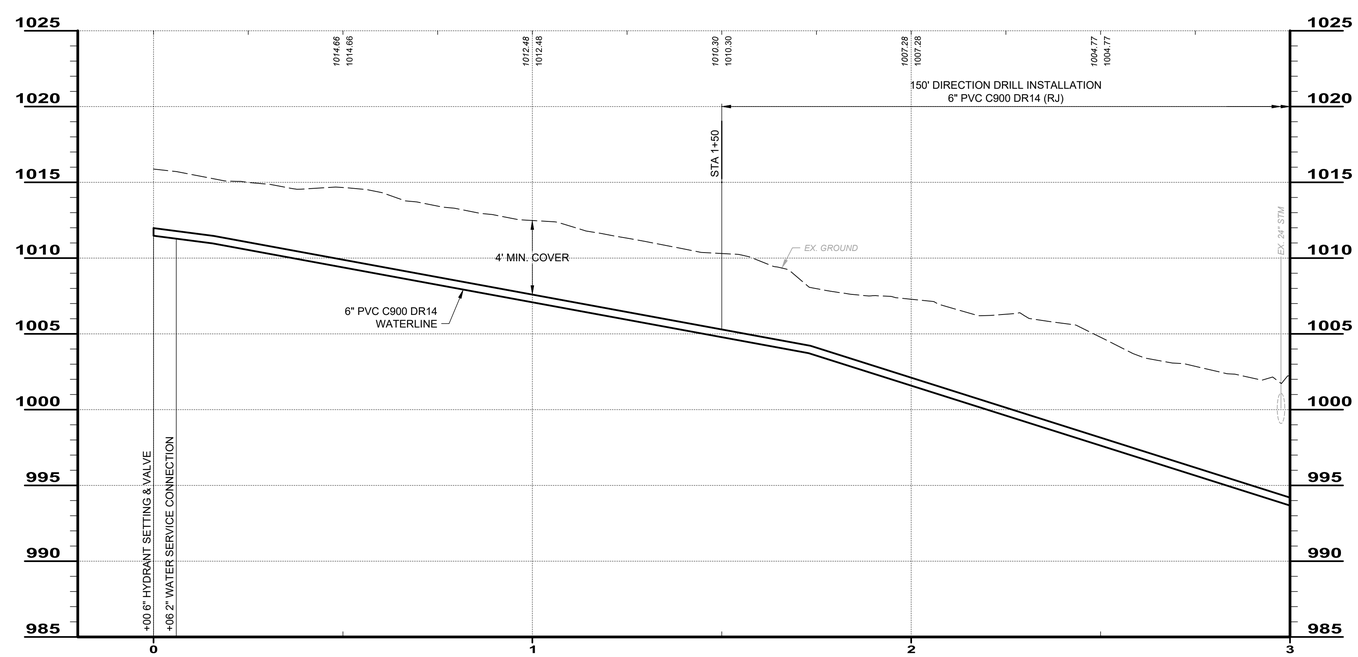

**PLAN VIEW**

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. HYDRANT LATERAL MATERIAL SHALL MATCH WATER MAIN MATERIAL.
5. WEEP HOLES SHALL BE PLUGGED.

**TYPICAL 6" HYDRANT SETTING - TYPE A**

SCALE: NONE




BID SET

verdantas

| NO | REVISION | DATE |
|---|---|---|
| 1 | REVISED FOR OEPA RE-SUBMISSION | 8/8/2025 |
| 2 | REVISED FOR OEPA RE-SUBMISSION | 9/3/2025 |

| | |
|---|---|
| ISSUED FOR: | BIDDING |
| ISSUE DATE: | 9/3/25 |
| SCALE: | AS NOTED |
| DESIGNED BY: | BRA |
| DRAWN BY: | AGD |
| CHECKED BY: | BRA |

# JACKSON LAKE CAMPGROUND
## WATER MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

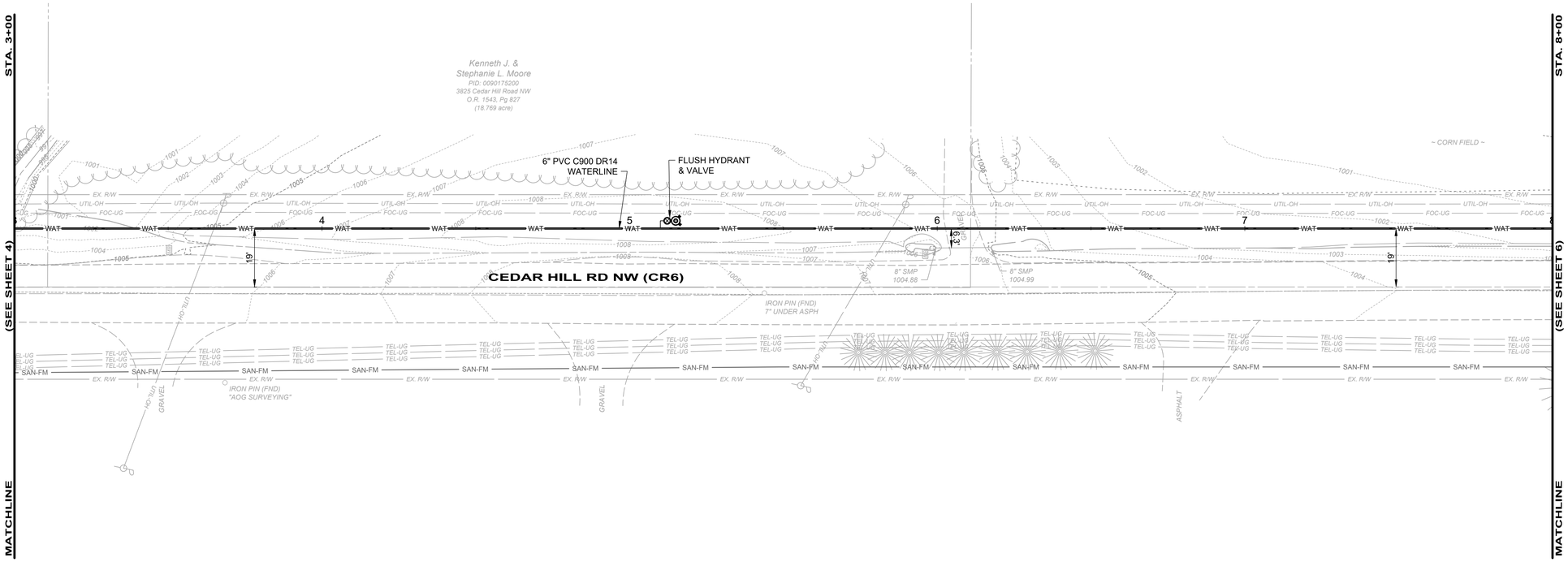
## WATERLINE PLAN & PROFILE - 0+00 - 3+00

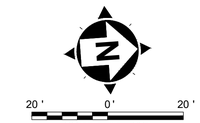
PROJECT NO. 241569

DISCIPLINE: CIVIL

SHEET NAME: WAT-P&P1

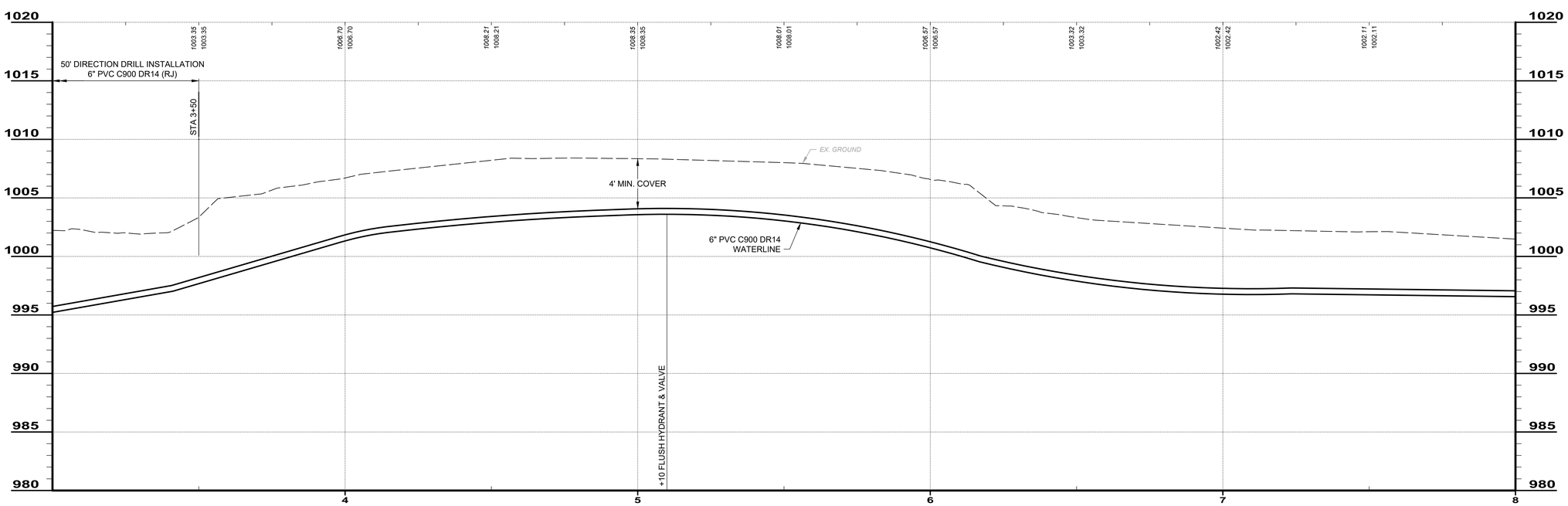
SHEET 4 OF 12




## NOTES:

1. WATERLINE SHOWN SHALL BE INSTALLED VIA OPEN CUT METHODS UNLESS OTHERWISE SHOWN. RESTORATION SHALL BE IN ACCORDANCE WITH CLASS B PIPE EMBEDMENT DETAILS.




BID SET

verdantas

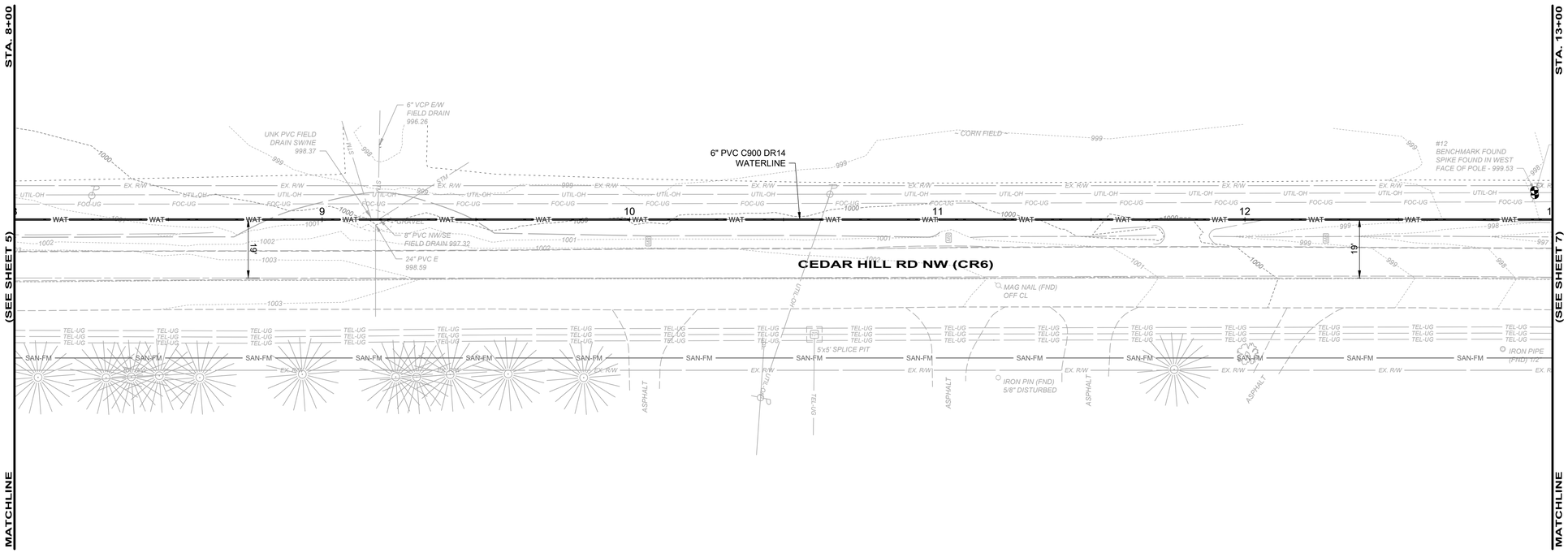
| NO | REVISION | DATE |
|---|---|---|
| 1 | REVISED FOR OEPA RE-SUBMISSION | 8/8/2025 |
| 2 | REVISED FOR OEPA RE-SUBMISSION | 9/3/2025 |

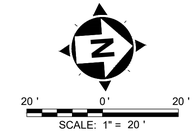
| | |
|---|---|
| ISSUED FOR: | BIDDING |
| ISSUE DATE: | 9/3/25 |
| SCALE: | AS NOTED |
| DESIGNED BY: | BRA |
| DRAWN BY: | AGD |
| CHECKED BY: | BRA |

# JACKSON LAKE CAMPGROUND
## WATER MAIN INTERCONNECT
### - VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

## WATERLINE PLAN & PROFILE - 3+00 - 8+00

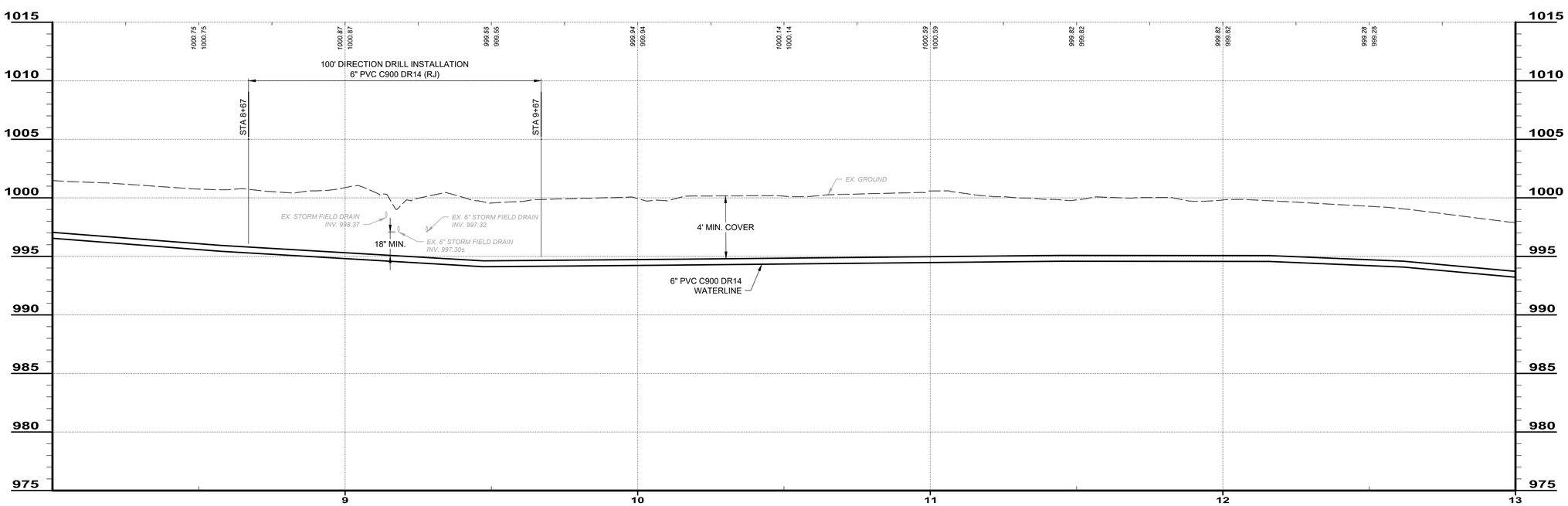
| PROJECT NO. | |
|---|---|
| 241569 | |
| DISCIPLINE | |
| CIVIL | |
| SHEET NAME | |
| WAT-P&P2 | |
| SHEET | OF |
| 5 | 12 |




## NOTES:

1. WATERLINE SHOWN SHALL BE INSTALLED VIA OPEN CUT METHODS UNLESS OTHERWISE SHOWN. RESTORATION SHALL BE IN ACCORDANCE WITH CLASS B PIPE EMBEDMENT DETAILS.

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verdantas

| NO | REVISION | DATE |
|---|---|---|
| 1 | REVISED FOR OEPA RE-SUBMISSION | 8/8/2025 |
| 2 | REVISED FOR OEPA RE-SUBMISSION | 9/3/2025 |

| | |
|---|---|
| ISSUED FOR: | BIDDING |
| ISSUE DATE: | 9/3/25 |
| SCALE: | AS NOTED |
| DESIGNED BY: | BRA |
| DRAWN BY: | AGD |
| CHECKED BY: | BRA |

# JACKSON LAKE CAMPGROUND
## WATER MAIN INTERCONNECT
### - VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

## WATERLINE PLAN & PROFILE - 8+00 - 13+00

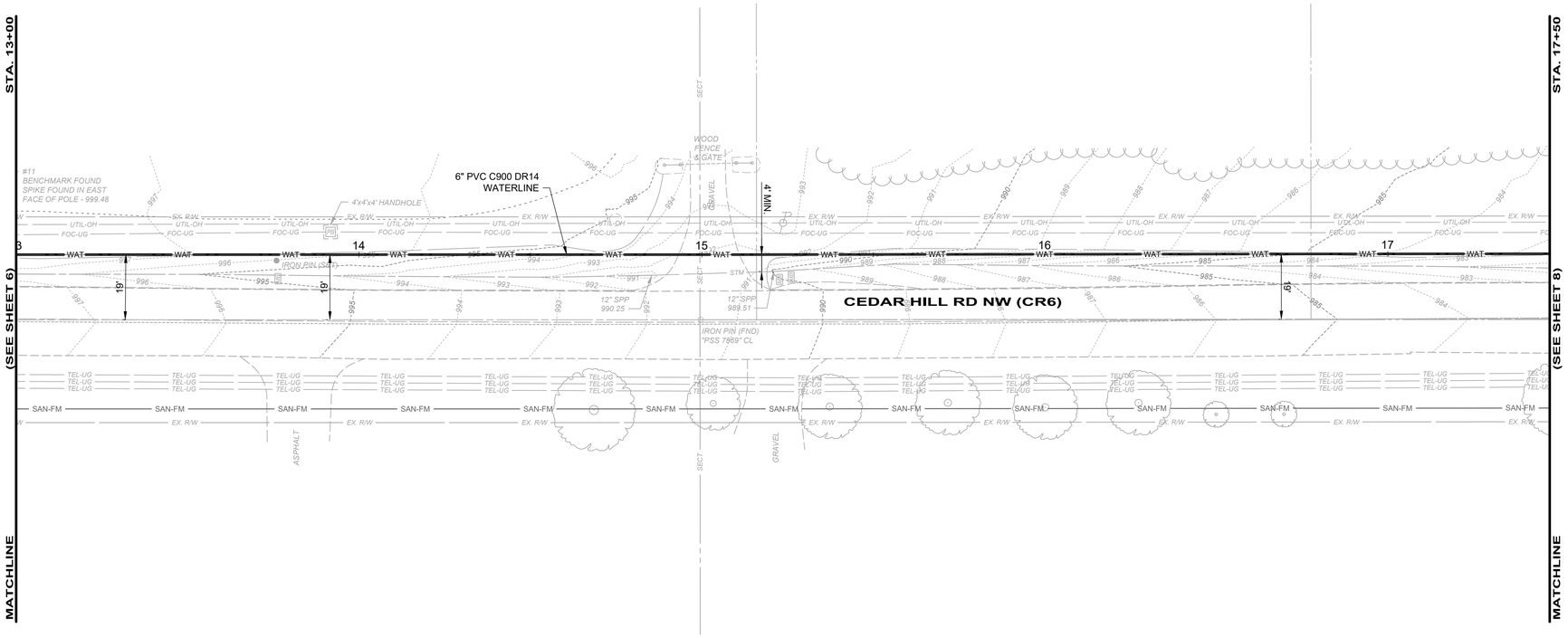
PROJECT NO. 241569

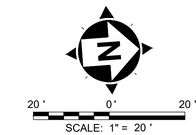
DISCIPLINE: CIVIL

SHEET NAME: WAT-P&P3

SHEET 6 OF 12

C:\ICT\CAD_DRIVES_H\2024\241569\DWG\SHEETS - WATIC_241569 - WAT PLAN & PROFILES.DWG - WAT-P&P3 - 9/3/2025 11:11:08 AM - ADAM DAWSON

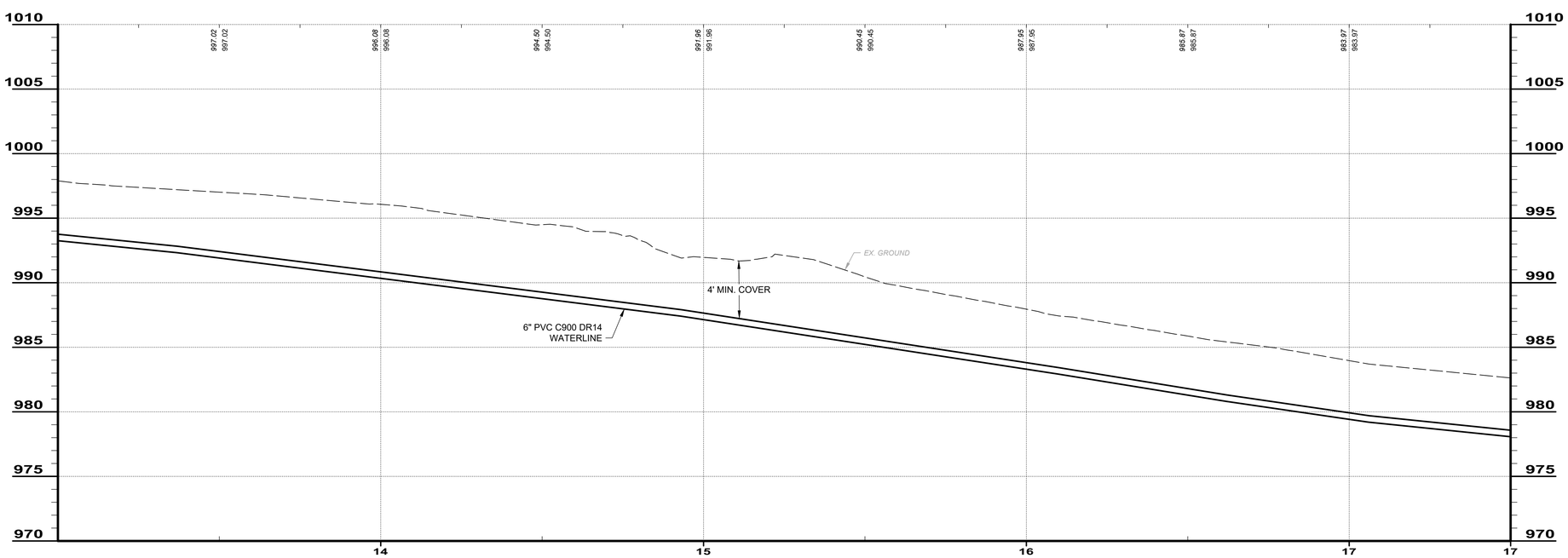



## NOTES:

1. WATERLINE SHOWN SHALL BE INSTALLED VIA OPEN CUT METHODS UNLESS OTHERWISE SHOWN. RESTORATION SHALL BE IN ACCORDANCE WITH CLASS B PIPE EMBEDMENT DETAILS.

2. CONTRACTOR MAY AT HIS DISCRETION INSTALL THE WATERLINE STA. 13+78 TO STA. 14+08 VIA DIRECTIONAL DRILL, AND ELIMINATE THE NOTED BENDS. ALL PIPE INSTALLED VIA DIRECTIONAL DRILL SHALL BE RESTRAINED JOINT.




BID SET

verdantas

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|---|---|---|
| 1 | REVISED FOR OEPA RE-SUBMISSION | 8/8/2025 |
| 2 | REVISED FOR OEPA RE-SUBMISSION | 9/3/2025 |

| | |
|---|---|
| ISSUED FOR: | BIDDING |
| ISSUE DATE: | 9/3/25 |
| SCALE: | AS NOTED |
| DESIGNED BY: | BRA |
| DRAWN BY: | AGD |
| CHECKED BY: | BRA |

# JACKSON LAKE CAMPGROUND
## WATER MAIN INTERCONNECT
### - VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

## WATERLINE PLAN & PROFILE - 13+00 - 17+50

PROJECT NO.
241569

DISCIPLINE
CIVIL

SHEET NAME
WAT-P&P4

SHEET 7 OF 12

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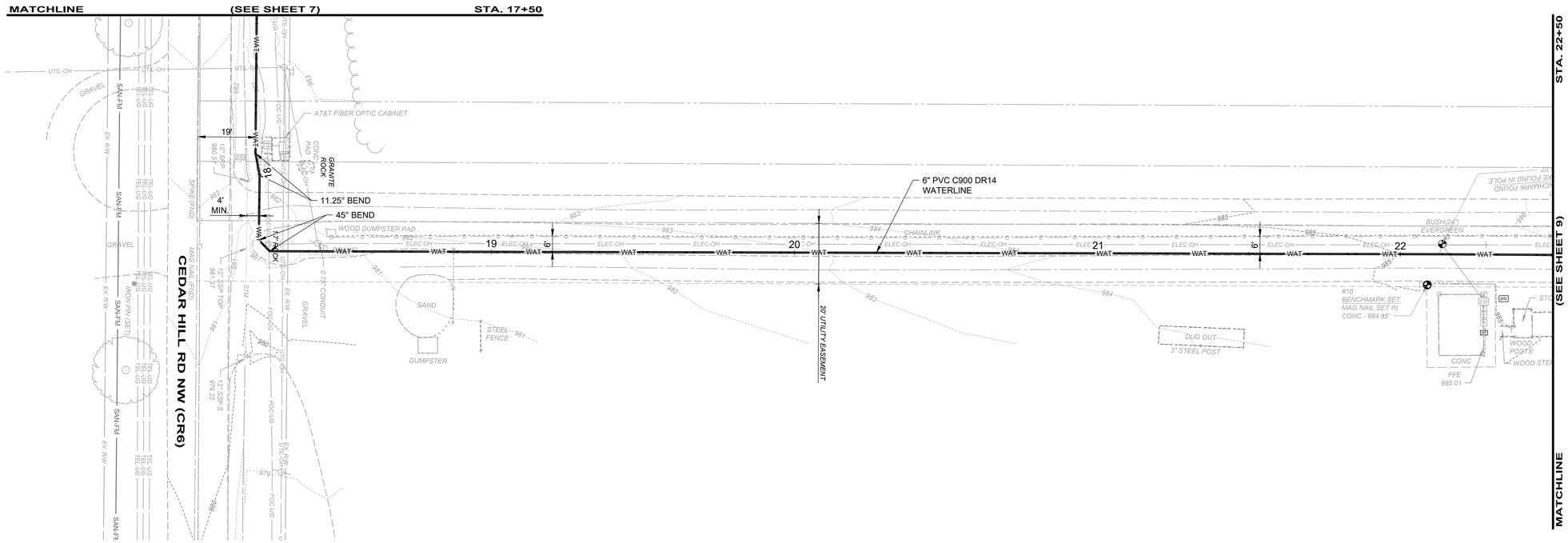


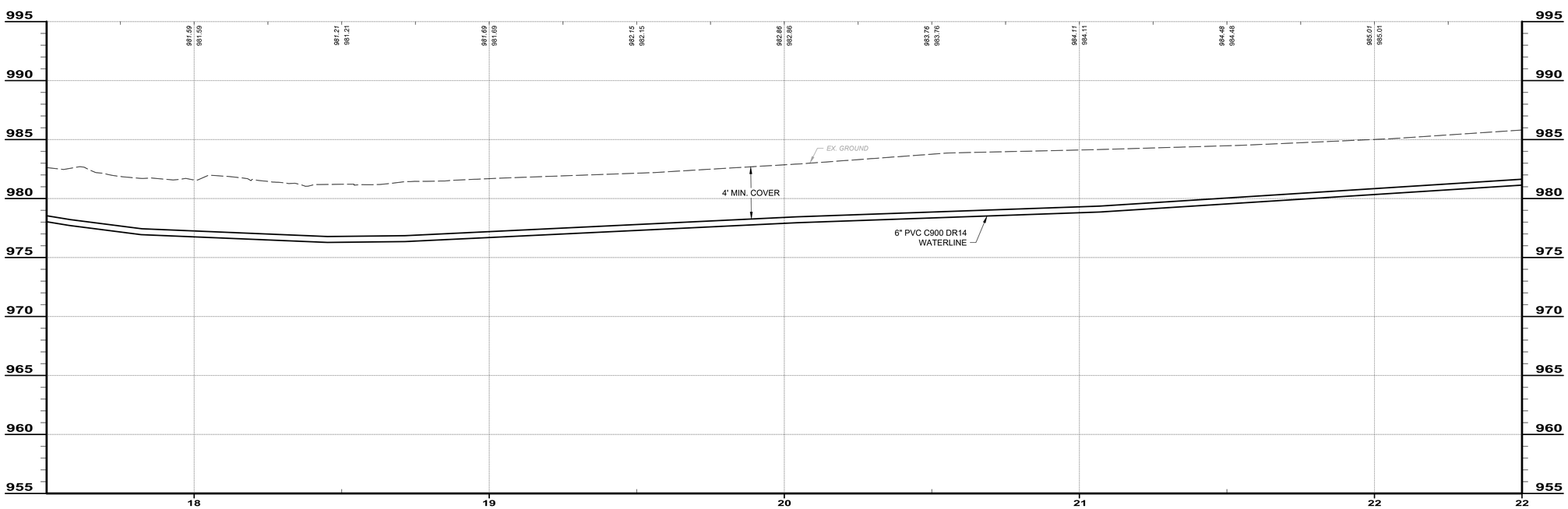


N

20 ' 0 ' 20 '

SCALE: 1" = 20 '

## NOTES:

1. WATERLINE SHOWN SHALL BE INSTALLED VIA OPEN CUT METHODS UNLESS OTHERWISE SHOWN. RESTORATION SHALL BE IN ACCORDANCE WITH CLASS B PIPE EMBEDMENT DETAILS.
2. CONTRACTOR MAY AT HIS DISCRETION INSTALL THE WATERLINE STA. 17+52 TO STA. 18+25± VIA DIRECTIONAL DRILL, AND ELIMINATE THE NOTED BENDS. ALL PIPE INSTALLED VIA DIRECTIONAL DRILL SHALL BE RESTRAINED JOINT.
3. CONTRACTOR TO COORDINATE WATERLINE ALIGNMENT STAKING WITH OWNER IN ADVANCE OF CONSTRUCTION.

BID SET

verdantas

| NO | REVISION | DATE |
|---|---|---|
| 1 | REVISED FOR OEPA RE-SUBMISSION | 8/8/2025 |
| 2 | REVISED FOR OEPA RE-SUBMISSION | 9/3/2025 |

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|---|---|
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| ISSUE DATE: | 9/3/25 |
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| DESIGNED BY: | BRA |
| DRAWN BY: | AGD |
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# JACKSON LAKE CAMPGROUND
## WATER MAIN INTERCONNECT
### - VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

## WATERLINE PLAN & PROFILE - 17+50 - 22+50

PROJECT NO. 241569

DISCIPLINE: CIVIL

SHEET NAME: WAT-P&P5

SHEET 8 OF 12

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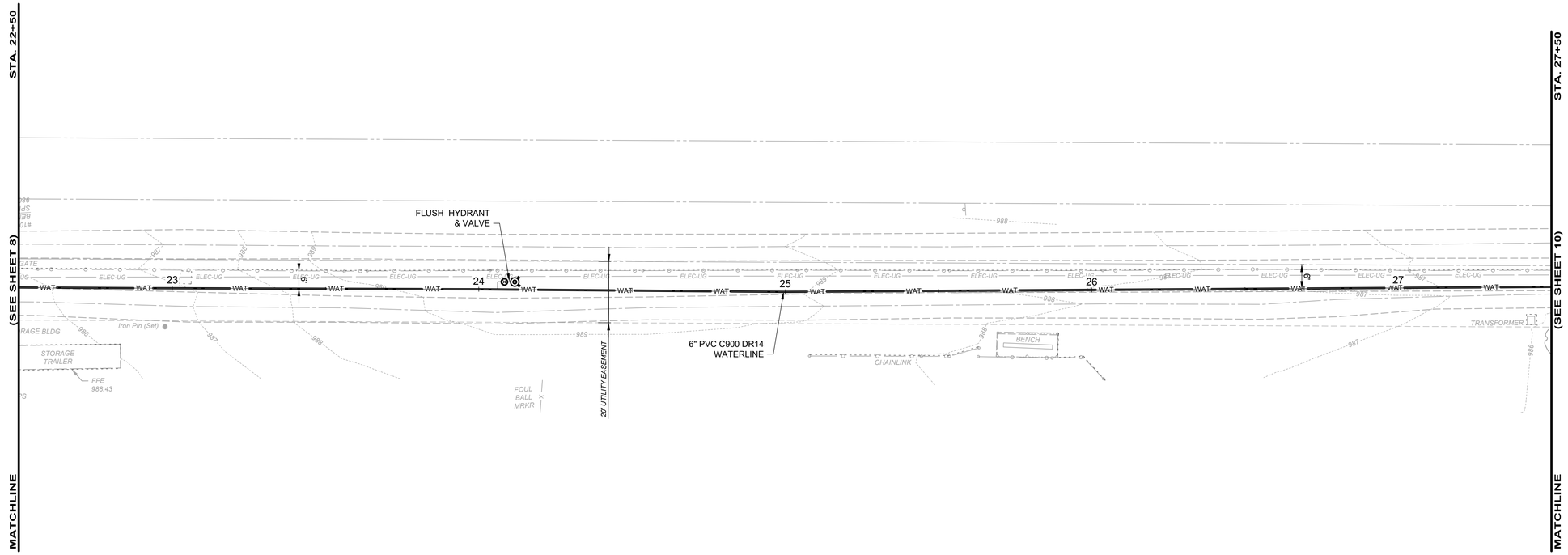
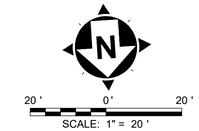
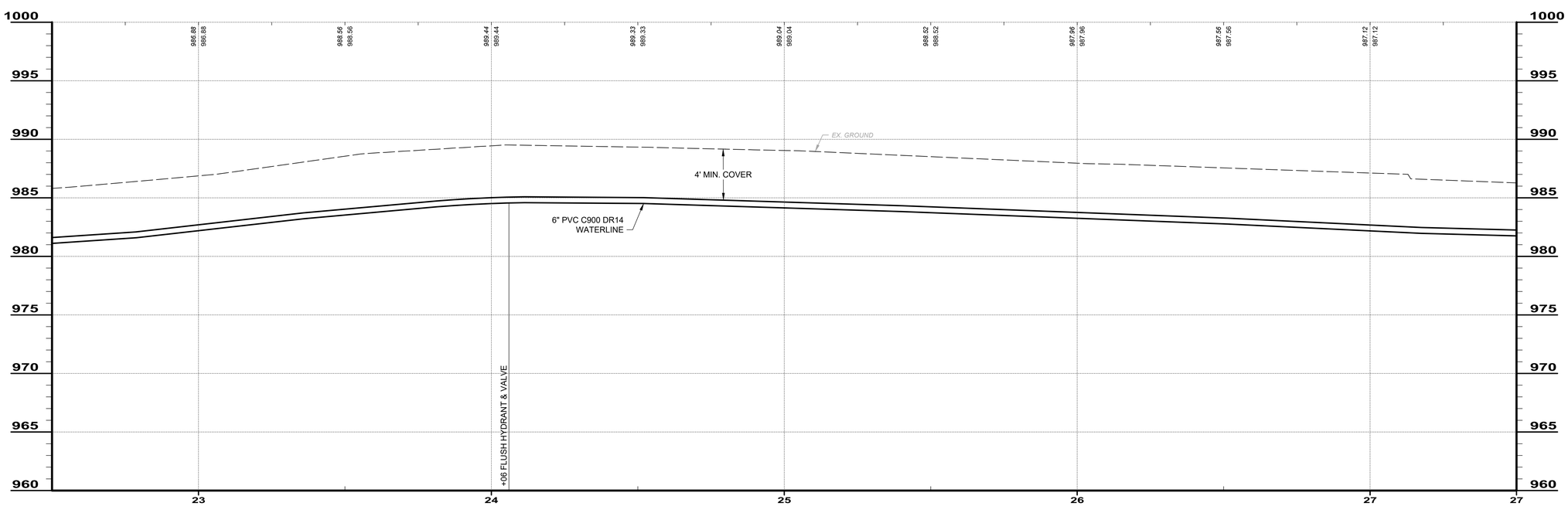



## NOTES:

1. WATERLINE SHOWN SHALL BE INSTALLED VIA OPEN CUT METHODS UNLESS OTHERWISE SHOWN. RESTORATION SHALL BE IN ACCORDANCE WITH CLASS B PIPE EMBEDMENT DETAILS.
2. CONTRACTOR TO COORDINATE WATERLINE ALIGNMENT STAKING WITH OWNER IN ADVANCE OF CONSTRUCTION.




BID SET

verdantas

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|---|---|---|
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| | |
|---|---|
| ISSUED FOR: | BIDDING |
| ISSUE DATE: | 9/3/25 |
| SCALE: | AS NOTED |
| DESIGNED BY: | BRA |
| DRAWN BY: | AGD |
| CHECKED BY: | BRA |

# JACKSON LAKE CAMPGROUND
## WATER MAIN INTERCONNECT
### - VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

## WATERLINE PLAN & PROFILE - 22+50 - 27+50

| PROJECT NO. | |
|---|---|
| 241569 | |
| DISCIPLINE | |
| CIVIL | |
| SHEET NAME | |
| WAT-P&P6 | |
| SHEET | OF |
| 9 | 12 |

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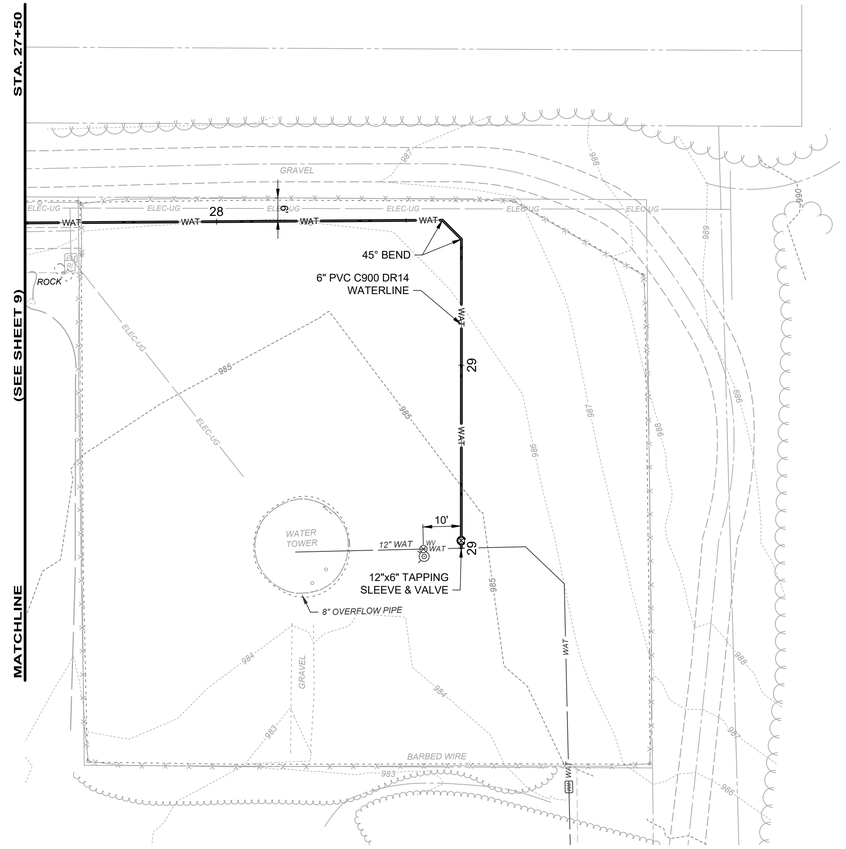
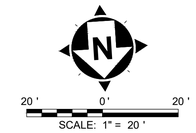
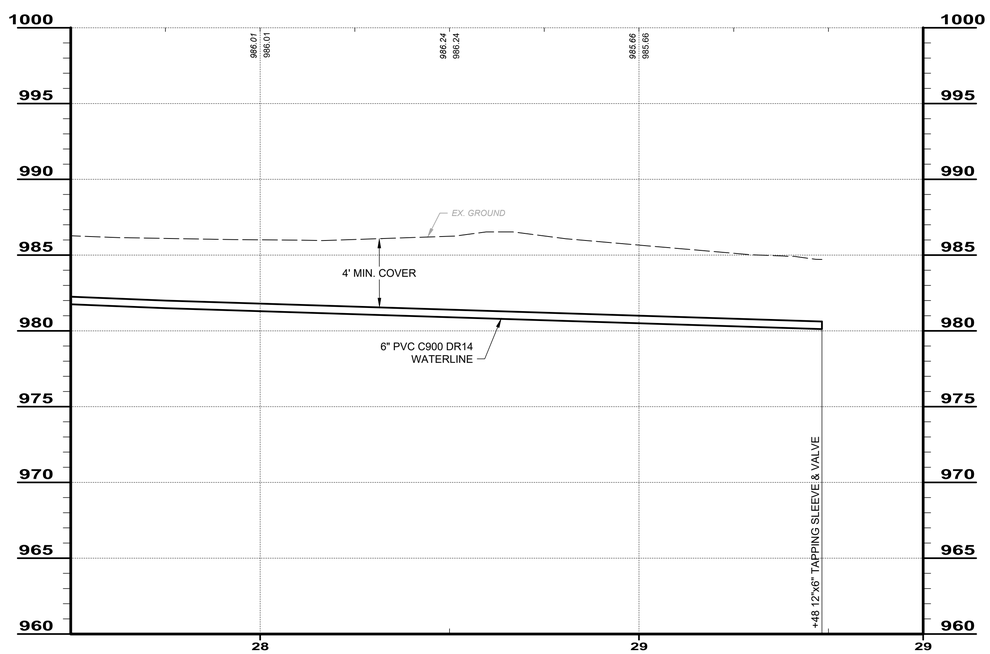



## NOTES:

1. WATERLINE SHOWN SHALL BE INSTALLED VIA OPEN CUT METHODS UNLESS OTHERWISE SHOWN. RESTORATION SHALL BE IN ACCORDANCE WITH CLASS B PIPE EMBEDMENT DETAILS.
2. CONTRACTOR TO COORDINATE WATERLINE ALIGNMENT STAKING WITH OWNER IN ADVANCE OF CONSTRUCTION.

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| DRAWN BY: | AGD |
| CHECKED BY: | BRA |

# JACKSON LAKE CAMPGROUND
## WATER MAIN INTERCONNECT
### - VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

## WATERLINE PLAN & PROFILE - 27+50 - 29+52

PROJECT NO.
241569

DISCIPLINE
CIVIL

SHEET NAME
WAT-P&P7

SHEET 10 OF 12

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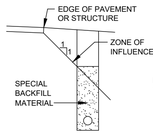
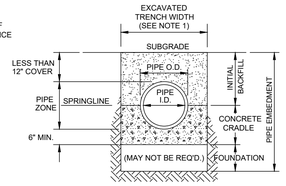
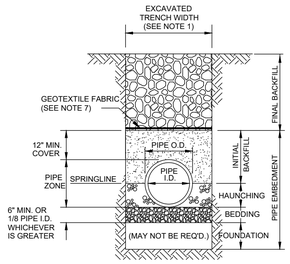


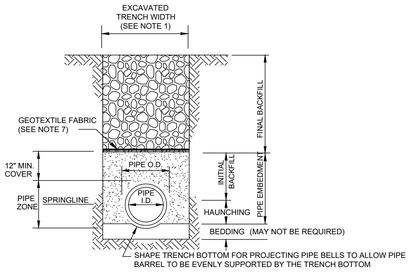

PARALLEL
ZONE OF INFLUENCE



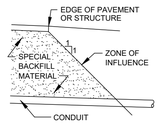

CLASS `A` PIPE EMBEDMENT




CLASS `B` PIPE EMBEDMENT




CLASS `C` PIPE EMBEDMENT




TRANSVERSE
ZONE OF INFLUENCE

NOTES:

1. MAXIMUM EXCAVATED TRENCH WIDTH: THE MAXIMUM EXCAVATED TRENCH WIDTH FROM THE BOTTOM OF THE TRENCH TO 12" OVER THE TOP OF THE PIPE (WITHIN PIPE EMBEDMENT) SHALL BE O.D. + 24" FOR ALL PIPES UP TO AND INCLUDING 24" I.D. + 30" FOR PIPE FROM 24" I.D. TO 54" I.D. AND O.D. + 48" FOR PIPES SIZES 60" I.D. AND OVER.

2. FOUNDATION: WHERE AN UNSTABLE TRENCH BOTTOM CONDITION IS ENCOUNTERED, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH MATERIAL AS DIRECTED BY THE ENGINEER.

3. PIPE EMBEDMENT:
CLASS A: CLASS A PIPE EMBEDMENT SHALL BE USED FOR ALL PIPING UNDER PAVEMENT OR STRUCTURES WITH LESS THAN 12 INCHES OF PIPE COVER TO THE SUBGRADE. THE CONCRETE CRADLE SHALL BE IN ACCORDANCE WITH ODOT ITEM 499, CLASS "C". THE INITIAL BACKFILL SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.

CLASS B: CLASS B PIPE EMBEDMENT SHALL BE USED FOR ALL PIPING UNLESS OTHERWISE NOTED ON THE PLANS OR AUTHORIZED BY THE ENGINEER. THE BEDDING AND HAUNCHING SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT. IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE AASHTO NO. 57 OR NO. 67 STONE GRANULAR PIPE EMBEDMENT. IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER FOR ONLY REINFORCED CONCRETE PIPE AND DUCTILE IRON PIPE. THE INITIAL BACKFILL FOR ALL OTHER PIPES SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.

CLASS C: CLASS C PIPE EMBEDMENT SHALL ONLY BE USED FOR DUCTILE IRON WATER MAIN, DUCTILE IRON FORCE MAINS OR AS AUTHORIZED BY THE ENGINEER. THE PIPE EMBEDMENT SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE. THE PIPE EMBEDMENT SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE. WHERE ROCK OR SHALE IS ENCOUNTERED, A MINIMUM 6-INCHES OF AASHTO NO. 57 OR NO. 67 GRANULAR PIPE BEDDING OR SAND BEDDING SHALL BE PLACED AS DIRECTED BY THE ENGINEER.

4. FINAL BACKFILL: IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE THE FINAL BACKFILL SHALL BE SPECIAL BACKFILL MATERIAL. IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE, THE FINAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER.

5. SPECIFICATIONS: ALL TRENCHING, PIPE EMBEDMENT AND BACKFILL MATERIALS SHALL BE IN ACCORDANCE WITH SPECIFICATION 310000CT - EARTHWORK.

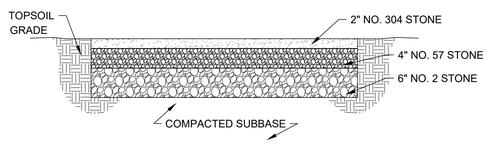
6. CLAY TRENCH DAMS: CLAY TRENCH DAMS SHALL BE REQUIRED AS SHOWN ON PLANS OR WHEN AND WHERE NECESSARY AS DIRECTED BY THE ENGINEER.

7. GEOTEXTILE FABRIC: INSTALL A GEOTEXTILE FABRIC IN ACCORDANCE WITH ODOT 712.09, TYPE A, AFTER ALL INITIAL BACKFILL CONSISTING OF AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.

8. DETECTOR TAPE: IF REQUIRED IN THE SPECIFICATIONS, INSTALL DETECTABLE WARNING TAPE ABOVE UTILITIES, 12" BELOW FINISHED GRADE, EXCEPT 6 INCHES BELOW SUBGRADE UNDER PAVEMENT AND SLABS.

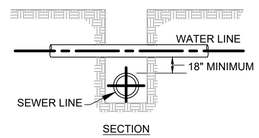
## TRENCHING, EMBEDMENT AND BACKFILL DETAIL

SCALE: NONE




## GRAVEL PAVEMENT DETAIL

SCALE: NONE

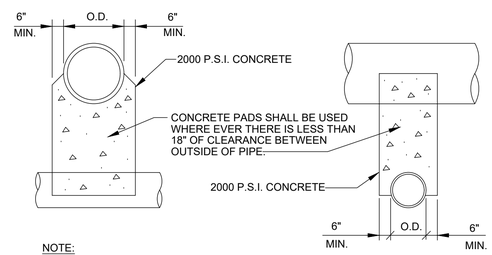



SECTION

NOTES:
1. IF JOINT ON WATER MAIN IS WITHIN LIMITS OF SEWER TRENCH, INSTALL MECHANICAL BELL JOINT CLAMP
2. IF CLEARANCE IS LESS THAN 18", ENCASE SEWER PIPE 6 FT. EACH SIDE OF WATER MAIN. COST SHALL BE INCLUDED IN THE UNIT PRICES BID FOR ALL ITEMS IN THE PROPOSAL.
3. IN NO CASE SHALL THE SEWER PIPE CONTACT ANY WATER MAIN, SERVICE LINE OR APPURTENANCE.

## VERTICAL WATER MAIN CLEARANCE

SCALE: NONE



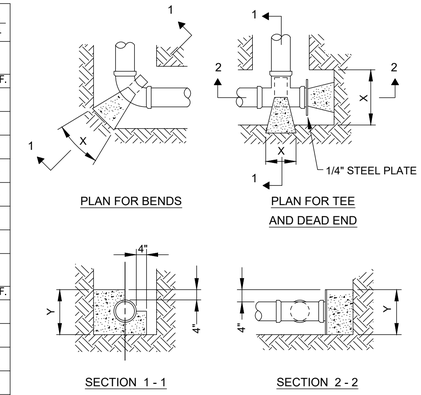

NOTE:

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, WHERE TWO PIPES (SEWER & WATER) CROSS EACH OTHER, A CONCRETE PAD AND CRADLE SEPERATOR SHALL BE PLACED BETWEEN THEM AS INDICATED ABOVE. WHERE PERMISSION IS GRANTED TO OMIT THE CONCRETE PADS, GRANULAR BACKFILL SHALL BE TAMPED IN 6" LAYERS AROUND BOTH PIPES. SUCH TAMPED BACKFILL SHALL BE CONTINUOUS FROM THE CRADLE OF THE LOWER PIPE TO THE TOP OF THE UPPER PIPE AND AT THE BOTTOM SHALL EXTEND IN BOTH DIRECTIONS, FOR THE FULL WIDTH OF THE TRENCH.

## PIPE CROSSING DETAIL

SCALE: NONE

| SIZING SCHEDULE | BEARING FACE (X Y) IN SQ. FT. / CONCRETE VOLUME IN CU. YD. | | | | | |
|---|---|---|---|---|---|---|
| PIPE SIZE | 22 1/2° BEND SOIL BEARING CAPACITY | | | 45° BEND SOIL BEARING CAPACITY | | |
| | 1000 P.S.F. | 3000 P.S.F. | 5000 P.S.F. | 1000 P.S.F. | 3000 P.S.F. | 5000 P.S.F. |
| 4 | 1.40 / 0.14 | 0.46 / 0.09 | 0.26 / 0.06 | 2.70 / 0.12 | 0.90 / 0.06 | 0.54 / 0.06 |
| 6 | 2.80 / 1.15 | 0.93 / 0.10 | 0.56 / 0.07 | 5.50 / 0.15 | 1.83 / 0.10 | 1.10 / 0.07 |
| 8 | 4.80 / 0.20 | 1.60 / 0.13 | 0.96 / 0.09 | 9.60 / 0.23 | 3.20 / 0.15 | 1.92 / 0.09 |
| 10 | 7.90 / 0.53 | 2.63 / 0.34 | 1.96 / 0.22 | 15.70 / 0.34 | 5.23 / 0.20 | 3.14 / 0.13 |
| 12 | 11.30 / 0.62 | 3.76 / 0.40 | 2.26 / 0.26 | 22.30 / 0.75 | 7.43 / 0.49 | 4.46 / 0.32 |
| 14 | 15.30 / 0.74 | 5.10 / 0.48 | 3.06 / 0.31 | 30.20 / 0.98 | 10.06 / 0.64 | 6.04 / 0.42 |
| 16 | 19.80 / 1.17 | 6.60 / 0.76 | 3.96 / 0.49 | 39.10 / 1.21 | 13.03 / 0.79 | 7.82 / 0.51 |
| | 90° BEND SOIL BEARING CAPACITY | | | TEE OR DEAD END SOIL BEARING CAPACITY | | |
| | 1000 P.S.F. | 3000 P.S.F. | 5000 P.S.F. | 1000 P.S.F. | 3000 P.S.F. | 5000 P.S.F. |
| 4 | 4.90 / 0.14 | 1.63 / 0.09 | 0.96 / 0.06 | 3.50 / 0.12 | 1.16 / 0.06 | 0.70 / 0.06 |
| 6 | 10.20 / 0.22 | 3.40 / 0.14 | 2.04 / 0.09 | 7.20 / 0.17 | 2.40 / 0.11 | 1.44 / 0.07 |
| 8 | 17.70 / 0.35 | 5.54 / 0.23 | 3.54 / 0.15 | 12.50 / 0.25 | 4.16 / 0.16 | 2.50 / 0.14 |
| 10 | 28.90 / 0.54 | 9.60 / 0.35 | 5.76 / 0.23 | 20.40 / 0.38 | 6.80 / 0.25 | 4.06 / 0.16 |
| 12 | 41.10 / 1.31 | 13.70 / 0.85 | 8.22 / 0.55 | 29.10 / 0.97 | 9.70 / 0.63 | 5.82 / 0.42 |
| 14 | 55.80 / 1.70 | 18.60 / 1.11 | 11.16 / 0.72 | 39.50 / 1.22 | 13.16 / 0.79 | 7.90 / 0.51 |
| 16 | 72.20 / 2.14 | 24.06 / 1.39 | 14.44 / 0.90 | 51.10 / 1.54 | 17.03 / 1.00 | 10.22 / 0.65 |




ALL CONCRETE BLOCKING MUST HAVE ITS ENTIRE FACE (X & Y) BEARING SURFACE AGAINST UNDISTURBED SOIL AND ALL VERTICAL NON-BEARING SURFACES SHALL BE FORMED SO AS TO KEEP CONCRETE FROM JOINTS. BLOCKING DESIGN BASED ON COMBINED WORKING PRESSURE PLUS WATER HAMMER OF 240 PSI AND FOR BEARING CAPACITY FOR SAND - 1000 PSF, SAND AND GRAVEL - 3000 PSF, SHALE - 5000 PSF.

## THRUST BLOCKING DETAIL

SCALE: NONE

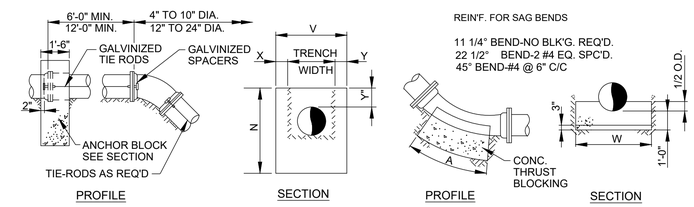



TABLE OF DIMENSINS - OVER BENDS

| PIPE SIZE | 11 1/4°, 22 1/2°, & 45° BENDS | | | | | TIE RODS |
|---|---|---|---|---|---|---|
| | X | V | Y | N | C.Y. | NO. & SIZE |
| 4" | 1'-0" | 4'-3" | 1'-0" | 2'-4" | .55 | 2-3/4" DIA. |
| 6" | 1'-0" | 4'-6" | 1'-0" | 2'-6" | .61 | 2-3/4" DIA. |
| 8" | 1'-0" | 4'-8" | 1'-0" | 2'-8" | .67 | 2-3/4" DIA. |
| 10" | 1'-0" | 4'-10" | 1'-0" | 2'-10" | .72 | 4-3/4" DIA. |
| 12" | 1'-0" | 5'-0" | 1'-0" | 3'-0" | .78 | 4-3/4" DIA. |
| 14" | 1'-0" | 5'-2" | 1'-0" | 3'-3" | .87 | 6-3/4" DIA. |
| 16" | 1'-0" | 5'-4" | 1'-0" | 4'-4" | 1.09 | 8-3/4" DIA. |
| 18" | 1'-0" | 5'-6" | 1'-0" | 4'-7" | 1.34 | 8-3/4" DIA. |

TABEL OF DIMENSIONS - SAG BENDS

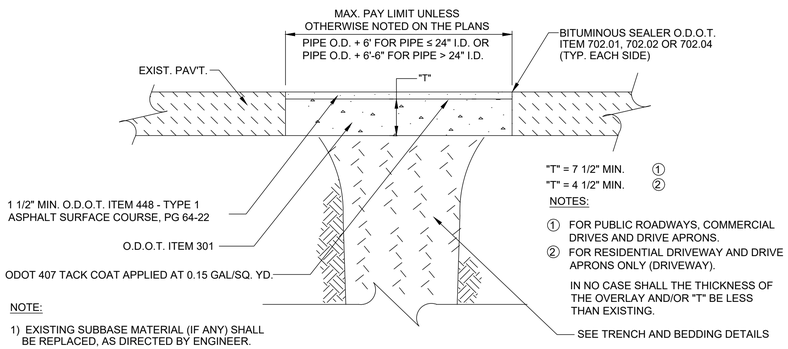
| PIPE SIZE | 22 1/2° BEND | | | 45° BEND | | |
|---|---|---|---|---|---|---|
| | A | W | C.Y. | A | W | C.Y. |
| 4" | — | — | — | — | — | — |
| 6" | — | — | — | O'-8" | 1'-8" | 0.05 |
| 8" | 0'-8" | 1'-4" | 0.04 | 0'-9" | 2'-8" | 0.10 |
| 10" | 0'-8" | 2'-0" | 0.06 | 1'-2" | 2'-10" | 0.16 |
| 12" | 0'-8" | 2'-4" | 0.08 | 1'-7" | 3'-0" | 0.24 |
| 14" | 0'-8" | 2'-9" | 0.09 | 1'-8" | 3'-2" | 0.28 |
| 16" | 0'-9" | 3'-4" | 0.14 | 2'-3" | 3'-4" | 0.41 |
| 18" | 1'-0" | 3'-6" | 0.20 | 2'-9" | 3'-6" | 0.54 |

NOTES:

1. TABLE PORTION FOR NO. AND SIZE OF TIE RODS IS APPLICABLE TO ALL TIE-IN PIPING REQUIRING SUCH REINFORCEMENT.
2. USE OF ANCHOR BLOCKS AND OR THRUST BLOCKS NEEDED ONLY IF A TIE-RODDED EXTENSION PIECE EQUALS OR EXCEEDS A STANDARD PIPE LENGTH.
3. BLOCKING DESIGN BASED ON COMBINED WORKING PRESSURE OF WATER HAMMER AND SOIL BEARING AT 3000 P.S.I.

## OVER & SAG BEND THRUST BLOCKING DETAILS

SCALE: NONE




NOTES:

① FOR PUBLIC ROADWAYS, COMMERCIAL DRIVES AND DRIVE APRONS.

② FOR RESIDENTIAL DRIVEWAY AND DRIVE APRONS ONLY (DRIVEWAY).

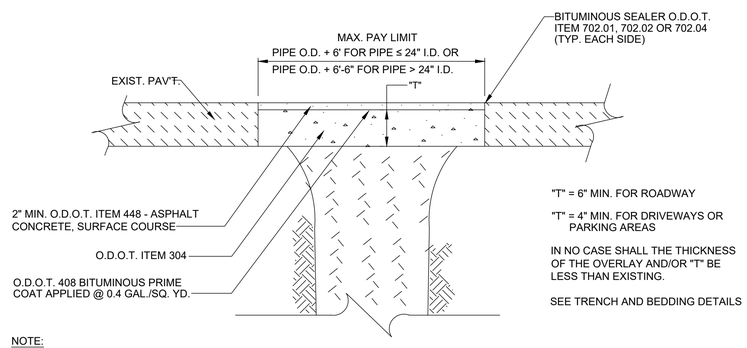
IN NO CASE SHALL THE THICKNESS OF THE OVERLAY AND/OR "T" BE LESS THAN EXISTING.

NOTE:

1) EXISTING SUBBASE MATERIAL (IF ANY) SHALL BE REPLACED, AS DIRECTED BY ENGINEER.

## TYPE C PAVEMENT REPLACEMENT (ASPHALT)

SCALE: NONE

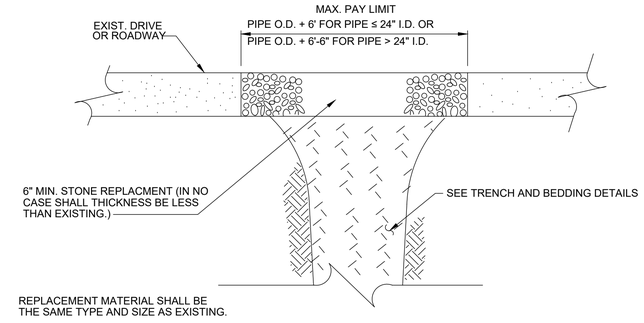



NOTE:

1) EXISTING SUBBASE MATERIAL (IF ANY) SHALL BE REPLACED, AS DIRECTED BY ENGINEER.

## TYPE D PAVEMENT REPLACEMENT (ASPHALT OVER STONE BASE)

SCALE: NONE




## TYPE F PAVEMENT REPLACEMENT (STONE)

SCALE: NONE

BID SET

verdantas

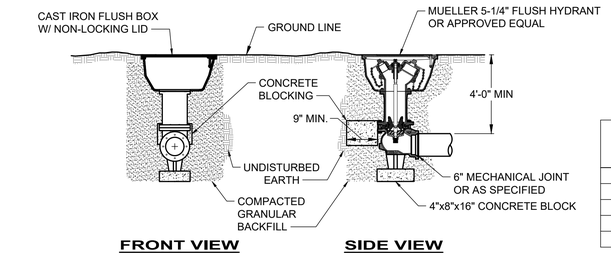
| NO | REVISION | DATE |
|---|---|---|
| 1 | REVISED FOR OEPA RE-SUBMISSION | 8/8/2025 |
| 2 | REVISED FOR OEPA RE-SUBMISSION | 9/3/2025 |

| | |
|---|---|
| ISSUED FOR: | BIDDING |
| ISSUE DATE: | 9/3/25 |
| SCALE: | AS NOTED |
| DESIGNED BY: | BRA |
| DRAWN BY: | AGD |
| CHECKED BY: | BRA |

JACKSON LAKE CAMPGROUND
WATER MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

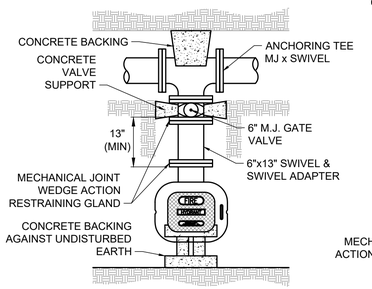
CONSTRUCTION DETAILS

| PROJECT NO. | |
|---|---|
| 241569 | |
| DISCIPLINE | |
| CIVIL | |
| SHEET NAME | |
| DETS1 | |
| SHEET | OF |
| 11 | 12 |

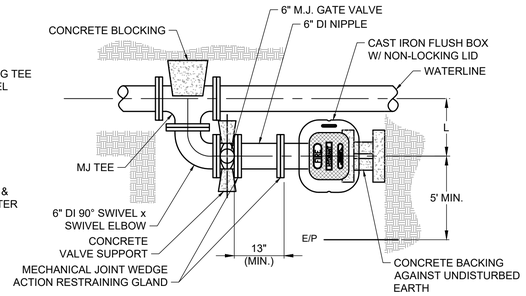



**FRONT VIEW** **SIDE VIEW**

| MAIN LINE | MINIMUM L | |
|---|---|---|
| | TYPE B | TYPE B MODIFIED |
| 6" | 24" | 19" |
| 8" | 25" | 20" |
| 10" | 26" | 21" |
| 12" | 28" | 23" |
| 16" | 31" | 26" |




**TYPE A - PLAN VIEW**



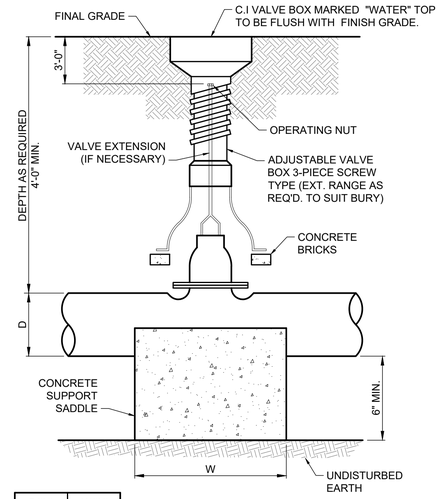

**TYPE B - PLAN VIEW**

## TYPICAL 6" FLUSH HYDRANT SETTING

SCALE: NONE

### 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. TYPE B: LONG SIDE OF BEND TO TEE.
   TYPE B MODIFIED: SHORT SIDE OF BEND TO TEE.
5. HYDRANTS SHALL HAVE A MAXIMUM BURY OF 7'-0". MODIFICATION OF THE HYDRANT LEAD TO MEET THIS REQUIREMENT SHALL BE IN THE SECTION FROM THE VALVE TO THE HYDRANT.
6. TYPE B OR TYPE B MODIFIED SETTING SHALL ONLY BE UTILIZED WHEN TYPICAL 6" HYDRANT SETTING IS NOT APPLICABLE.



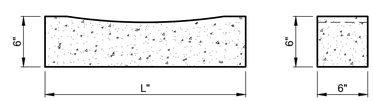

| D(IN) | W(IN) |
|---|---|
| 3 | 4 |
| 4 | 5 |
| 6 | 5 |
| 8 | 6 |
| 10 | 6 |
| 12 | 7 |

### NOTES:

1. VISQUEEN SHALL BE PLACED IN A MANNER SUCH THAT CONCRETE BLOCKING DOES NOT HAVE DIRECT CONTACT WITH VALVE, TEE, AND/OR FITTINGS.

## STANDARD VALVE BOX

SCALE: NONE




| | 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 |

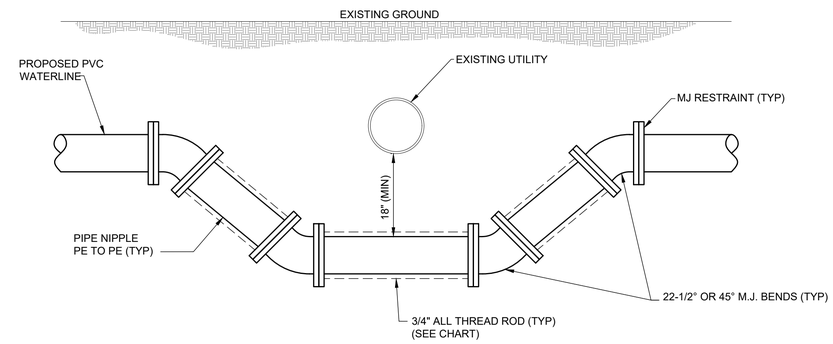
V = VOLUME OF CONCRETE IN CUBIC FEET

### NOTES:

1. CONCRETE FOR SUPPORTS SHALL BE CLASS C.
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

SCALE: NONE



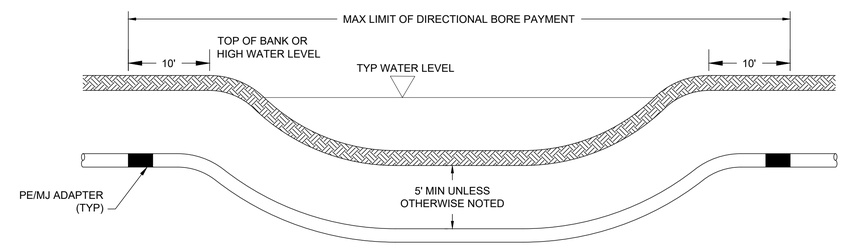

### NOTES:

1. WHERE EXISTING UTILITY GRADE CONFLICTS WITH GRADE OF PROPOSED WATERLINE, PROPOSED WATERLINE SHALL BE ADJUSTED IN GRADE TO PROVIDE A MINIMUM SEPARATION DISTANCE OF 18" BETWEEN UTILITIES.
2. ALL JOISCALE: NONE INVOLVED IN GRADE ADJUSTMENT SHALL INCORPORATE MECHANICAL JOISCALE: NONE AND SHALL BE RESTRAINED.

| PIPE DIAMETER | NO OF RODS |
|---|---|
| 4" & 6" | 2 |
| 8" | 3 |
| 10" & UP | 4 |

## TYP. WATERLINE GRADE ADJUSTMENT

SCALE: NONE




NOTES:

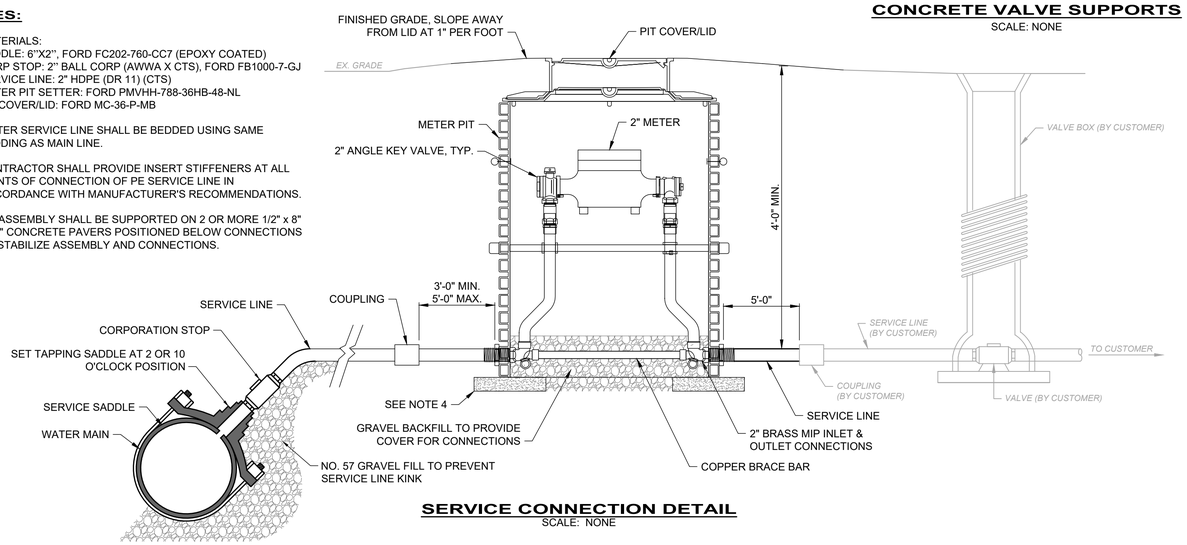
1. WHERE DIRECTIONAL BORE INCORPORATES RESTRAINED JOINT PVC PIPE, OMIT PE/MJ ADAPTER.
2. DIRECTIONAL BORE SHALL INCORPORATE TWO INSULATED NO 12 GAUGE, SOLID, COPPER WIRES INSTALLED WITH THE PIPE FOR LOCATING PURPOSES. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

## HORIZONTAL DIRECTIONAL DRILLING @ STREAM/CREEK CROSSING

SCALE: NONE

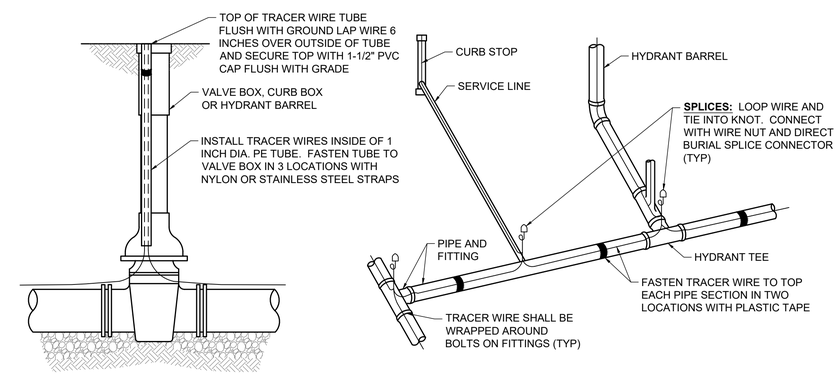
### NOTES:

1. MATERIALS:
   SADDLE: 6"X2", FORD FC202-760-CC7 (EPOXY COATED)
   CORP STOP: 2" BALL CORP (AWWA X CTS), FORD FB1000-7-GJ
   SERVICE LINE: 2" HDPE (DR 11) (CTS)
   METER PIT SETTER: FORD PMVHH-788-36HB-48-NL
   PIT COVER/LID: FORD MC-36-P-MB
2. WATER SERVICE LINE SHALL BE BEDDED USING SAME BEDDING AS MAIN LINE.
3. CONTRACTOR SHALL PROVIDE INSERT STIFFENERS AT ALL POINTS OF CONNECTION OF PE SERVICE LINE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
4. PIT ASSEMBLY SHALL BE SUPPORTED ON 2 OR MORE 1/2" x 8" x 16" CONCRETE PAVERS POSITIONED BELOW CONNECTIONS TO STABILIZE ASSEMBLY AND CONNECTIONS.




## SERVICE CONNECTION DETAIL

SCALE: NONE




## TRACER WIRE DETAIL

SCALE: NONE

### 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.

BID SET

verdantas

| NO | REVISION | DATE |
|---|---|---|
| 1 | REVISED FOR OEPA RE-SUBMISSION | 8/8/2025 |
| 2 | REVISED FOR OEPA RE-SUBMISSION | 9/3/2025 |

| | |
|---|---|
| ISSUED FOR: | BIDDING |
| ISSUE DATE: | 9/3/25 |
| SCALE: | AS NOTED |
| DESIGNED BY: | BRA |
| DRAWN BY: | AGD |
| CHECKED BY: | BRA |

JACKSON LAKE CAMPGROUND
WATER MAIN INTERCONNECT
- VILLAGE OF LITHOPOLIS, FAIRFIELD COUNTY, OHIO -

CONSTRUCTION DETAILS

PROJECT NO. 241569
DISCIPLINE CIVIL
SHEET NAME DETS2
SHEET 12 OF 12

C:\CTICAD_DRIVE9_H2024\241569\DWG\SHEETS - WATIC_241569 - CONSTRUCTION DETAILS.DWG - DETS2 - 8/11/2025 8:54:38 AM - ADAM DAWSON