RESOLUTION AMENDING RESOLUTION 2022-521 APPROVING PLANS FOR THE HARPERSFIELD WATER TANK AND WATERLINE IMPROVEMENT PROJECT, HARPERSFIELD TOWNSHIP

WHEREAS, Doug Starkey, Director of the Ashtabula County Department of Environmental Services (ACDES), has presented an amendment to the detailed construction plans approved in 2022 by Resolution 2022-521 pertaining to the Harpersfield Water Tank and Waterline Improvement Project in Harpersfield Township, and

WHEREAS, The project is located at 1904 State Route 534 (South Broadway Drive) on the east side of the road in Harpersfield Township, and

WHEREAS, Timothy McLaughlin, PE # 83985 with Verdantas LLC has reviewed and amended the plans, as noted, and recommend that the Board of Commissioners approve such plans; now

THEREFORE, BE IT RESOLVED, by the Board of Commissioners of the County of Ashtabula, Ohio, that:

Section 1. The Amendment to the detailed construction plans for the Harpersfield Water Tank and Waterline Improvements Project, Harpersfield Township, is hereby approved.

Section 2. Those amended detailed plans shall be filed in the office of the Ashtabula County Sanitary Engineer, in the Department of Environmental Services and kept continuously on file there for inspection by all persons interested therein.

Section 3. This Board finds and determines that all formal actions of this Board concerning and relating to the adoption of this resolution were taken in an open meeting of the Board and all deliberations of this Board and of any of its committees that resulted in those formal actions were in meetings open to the public.

ASHTABULA COUNTY COMMISSIONERS

CERTIFICATION PAGE

Resolution No. 2025-373 **August 28, 2025**

RESOLUTION AMENDING RESOLUTION 2022-521 APPROVING PLANS FOR THE HARPERSFIELD WATER TANK AND WATERLINE IMPROVEMENT PROJECT, HARPERSFIELD TOWNSHIP

Upon the motion of Kathryn L. Whittington, seconded by Casey R. Kozlowski.

VOTE:

J.P. Ducro IV	**Aye**
Casey R. Kozlowski	**Aye**
Kathryn L. Whittington	**Aye**

CERTIFICATE OF CLERK

IT IS HEREBY CERTIFIED that the foregoing is a true and correct transcript of a resolution acted upon and duly passed by the Board of County Commissioners of Ashtabula County, Ohio, on the date noted above.

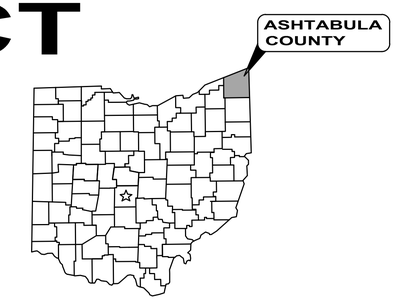
Crystal Sturgill

Crystal Sturgill, Clerk of the Board / Acting
Board of County Commissioners
Ashtabula County, Ohio

ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES

HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT

HARPERSFIELD TOWNSHIP, OHIO



AUGUST 2025

LOCATION MAP

NOT TO SCALE

verdantas

ENGINEER'S PROJECT No. 200426

ASHTABULA COUNTY APPROVALS:

KATHRYN L. WHITTINGTON, COUNTY COMMISSIONER — DATE

CASEY R. KOZLOWSKI, COUNTY COMMISSIONER — DATE

J.P. DUCRO IV, COUNTY COMMISSIONER — DATE

OHIO 811 DESIGN SERIAL NUMBER & UTILITY LIST:

XX - STATE ROUTE 534

OHIO UTILITY PROTECTION SERVICE:
106 WEST RYEN, ROOM 427
YOUNGSTOWN, 44051
(800) 362-2764

CLEVELAND ELECTRIC ILLUMINATING CO:
2210 SOUTH RIDGE ROAD
ASHTABULA, OHIO 44004

THE EAST OHIO GAS COMPANY:
1010 WEST 30TH STREET
ASHTABULA, OHIO 44004
(440) 992-5100

ALL-TEL:
360 HIGHLAND ROAD
MACEDONIA, OHIO 44067
(800) 782-6206

SPRINT:
PO BOX 3555
MANSFIELD, OHIO 44907
(800) 786-6272

ENVIRONMENTAL SERVICES:
36 W. WALNUT STREET
JEFFERSON, OHIO 44047
(440) 576-3722 PHONE
(440) 576-3781 FAX

TCI:
2904 STATE ROAD
ASHTABULA, OHIO 44004
(440) 998-2148

OHIO811.org Before You Dig

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.

COUNTY:

DOUGLAS G. STARKEY, DIRECTOR - ASHTABULA COUNTY DEPT. OF ENVIRONMENTAL SERVICES — DATE

CITY OF GENEVA:

JOE VARCKETTE, CITY MANAGER — DATE

OFFICE:

ENVIRONMENTAL SERVICES
36 W. WALNUT STREET
JEFFERSON, OHIO 44047

ED SPOOR
DIRECTOR OF FIELD OPERATIONS
(440) 576-3722 PHONE
(440) 576-3781 FAX

DEPARTMENTS:

WATER & SEWER DEPARTMENT
(440) 576-3722 PHONE
(440) 576-3781 FAX

ENGINEER:

VERDANTAS, LLC
8150 STERLING COURT
MENTOR, OH 44060

(440) 951-9000 PHONE
(440) 951-7487 FAX

TIMOTHY MCLAUGHLIN — P.E. No. 83985 — 8/5/2025 DATE

PROJECT SITE:

THE PROJECT IS LOCATED OFF OF STATE ROUTE 534 (SOUTH BROADWAY DRIVE) ON THE EAST SIDE OF THE ROAD. THE PROPERTY IS 100 LF NORTH OF ALEX COURT ON THE EAST SIDE. THE SITE IS BETWEEN ADDRESSES 1878 AND 1920 OH-534, HARPERSFIELD TOWNSHIP, OHIO 44041.

verdantas

STATE OF OHIO — TIMOTHY MCLAUGHLIN E-83985 — REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE

ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES
HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT
ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

SCALE:	AS SHOWN
DATE:	08/01/2025
DESIGNED BY:	TJM
DRAWN BY:	PAB
CHECKED BY:	TJM

GENERAL - 00 SERIES

COVER SHEET

PROJECT NO:	
200426	
DRAWING NAME	
00G-01	
SHEET	OF
1	22

H:\2020\200426\DWG\SHEETS\G_200426 - COVER SHEET_RECOVER.DWG - 1 COVER SHEET - 8/5/2025 9:28:41 AM - PATRICK BLAKE

SERIES INFORMATION:

SERIES No:	DESCRIPTION:
00	GENERAL
01	WATER TANK SITE
02	WATER LINE SITE IMPROVEMENTS
10	WATER TANK FACILITY
20	CONSTRUCTION DETAILS
E	ELECTRICAL
SWP3	STORM WATER POLLUTION PREVENTION PLAN - SWP3 SERIES

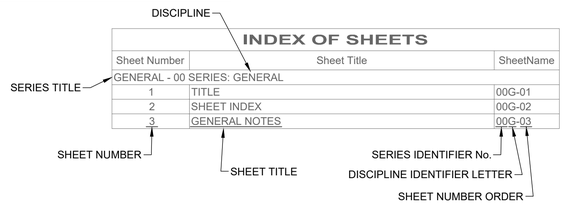
DISCIPLINE INFORMATION:

IDENTIFIER:	DISCIPLINE:
G	GENERAL
C	CIVIL
S	STRUCTURAL
A	ARCHITECTURAL
D	PROCESS
M	MECHANICAL (PLUMBING & HVAC)
E	ELECTRICAL
Y	INSTRUMENTATION

GENERAL ABBREVIATIONS:

AR	AIR RELEASE VALVE	FRP	FIBERGLASS REINFORCED PLASTIC	PT	PRESSURE TEMPERATURE RELIEF
AV	AIR & VACUUM VALVE	FTG	FITTING	PV	PLUG VALVE
BA	BALL VALVE	GL	GLOBE VALVE	PVC	POLYVINYL CHLORIDE PIPE
BFV	BUTTERFLY VALVE	GS	GALVANIZED STEEL	R/W	RIGHT OF WAY
BK	BACKPRESSURE VALVE	GV	GATE VALVE	RJ	RESTRAINED JOINT
BM	BENCH MARK	HDPE	HIGH-DENSITY POLYETHYLENE PIPE	SAN	SANITARY
BP	BACKFLOW PREVENTER	KG	KNIFE GATE VALVE	SCH	SCHEDULE
CB	CATCH BASIN	KN	KNIFE VALVE	SB	SOIL BORING
CL	CENTER LINE	MH	MANHOLE	SDR	STANDARD DIAMETER RATIO
CO	CONE VALVE	MIN	MINIMUM	SS	STAINLESS STEEL
CPP	CORRUGATED PLASTIC PIPE	MJ	MECHANICAL JOINT	STA	STATION
CV	CHECK VALVE	MV	MUD VALVE	STL	STEEL PIPE
DIP	DUCTILE IRON PIPE	N	NORTHING	STM	STORM
E	EASTING	OH	OVERHEAD	SU	SURGE VALVE
EG	EXISTING GRADE	PD	PLUG DRAIN VALVE	SV	SOLENOID VALVE
EL	ELEVATION	PF	PRESSURE RELIEF	TYP	TYPCIAL
EX	EXISTING	PG	PRESSURE REGULATOR	UG	UNDERGROUND
FG	FINISHED GRADE	PI	PINCH VALVE	VB	VALVE BOX
FH	FIRE HYDRANT	PR	PROPOSED	WAT	WATER
FL	FLANGED	PRV	PRESSURE REDUCING VALVE	WV	WATER VALVE

INDEX EXPLAINATION:



GENERAL SYMBOLOGY NOTES:

1. THIS IS A STANDARD SHEET SHOWING COMMONLY USED SYMBOLOGY.
2. ALL SYMBOLS ARE NOT NECESSARILY USED ON THIS PROJECT.
3. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE NEW IMPROVEMENTS SO AS TO HIGHLIGHT SPECIFIC TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.
4. SYMBOLOGY OR DIAGRAMMATICAL LEGENDS MAY BE SHOWN ON INDIVIDUAL SHEETS FOR SCHEDULES, DIAGRAMS, DETAILS, SCHEMATICS OR EQUIPMENT.

DRAWING CODED NOTE TYPES:

1. CT CONTRACTUAL NOTES ARE DEPICTED WITH A HEXAGON, SQUARE, CIRCLE OR TRIANGLE. ALL OTHER EXISTING WRITTEN CALLOUTS SHOWN ON THE REUSED SCANNED PLANS, SECTIONS & DETAILS ARE FOR EXISTING CONDITIONS AND REFERENCE ONLY, MANY OF THOSE NOTES FROM THE SCANNED DRAWINGS PERTAIN TO PREVIOUS WORK DONE.

PLAN REVISIONS:

A REVISION DESCRIPTION

B REVISION DESCRIPTION

DEMOLITION CODED NOTES:

1 DEMOLITION DESCRIPTION

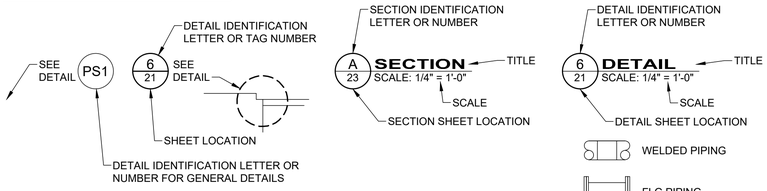
2 DEMOLITION DESCRIPTION

REFERENCE DIMENSION:

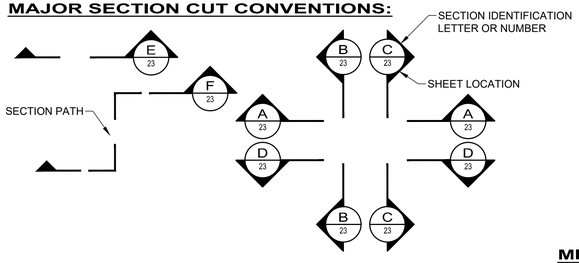
12'-4" (REF.)

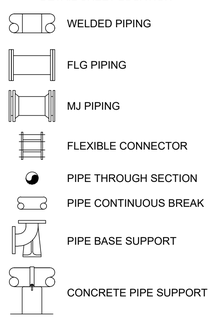
REFERENCE DIMENSIONS ARE GIVEN FOR INFORMATION ONLY. THEY ARE CALCULATED DIMENSIONS NOT INTENDED TO BE USED WITHOUT FIELD VERIFICATION AND ARE USEFUL IN SHOWING INTENDED DESIGN.

DETAIL REFERENCES:

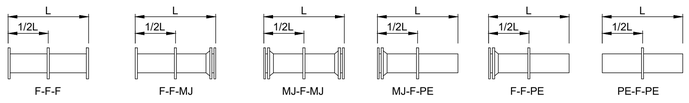


MAJOR SECTION CUT CONVENTIONS:





MISC PIPE SYMBOLOGY



NOTE:

WALL CASTINGS REQUIRING BELL ENDS IN LIEU OF MJ SHALL BE NOTED AS "B", ALL FLANGED (F) AND MECHANICAL JOINT (MJ) FLUSH WITH WALL ARE TO BE DRILLED, AND TAPPED FOR STUDS.

CAST IRON WALL CASTING ABBREVIATIONS

SITE SYMBOL LEGEND:

EX: PR:

POST, MAILBOX
POST, SIGN
POST, SIGN - DOUBLE
POST, SIGN - DUAL
GEOTECH - SOIL BORING
BUSH
TREE, DECIDUOUS
TREE, EVERGREEN
TREE, STUMP
NAIL - MAG
PIN - IRON
PIPE - IRON
SPIKE
GAS METER
GAS VALVE
GAS VENT
POLE - ELECTRIC (POWER)
POLE - GENERAL
POLE - GUY
POLE - GUY ANCHOR
POLE - LIGHT
SANITARY CLEAN-OUT
SANITARY MANHOLE - 48"
SANITARY VENT
CATCH BASIN - 2X2
CURB INLET - 2X3
STORM CLEAN-OUT
STORM DRAIN
STORM MANHOLE - 48"
WATER HYDRANT, FDC
WATER HYDRANT, FIRE
WATER VALVE W/TEXT
WATER METER
WATER METER PIT

SITE LINE LEGEND:

EX:

EX. R/W — RIGHT-OF-WAY (APPROXIMATE NOT SURVEYED)
PROPERTY LINE (APPROXIMATE NOT SURVEYED)
BUILDING OUTLINES
650 — CONTOURS - MAJOR
648 — CONTOURS - MINOR
DITCH CENTERLINE
SLOPE LINE
SLOPE - BREAKLINE
SLOPE - TOP
SLOPE - TOE
WATER CENTERLINE
WATER EDGE
EDGE OF ROAD
FENCE - GENERAL
FENCE - CHAIN LINK
GUIDE RAIL
TREE LINE
ELEC — ELECTRIC LINE
ELEC-OH — ELECTRIC LINE - OH
ELEC-UG — ELECTRIC LINE - UG
GAS — GAS LINE
GS — GAS SERVICE
SAN — SANITARY LINE
STM — STORM LINE
WAT — WATER LINE
WS — WATER SERVICE
CENTERLINE

PR:

CENTERLINE
DRIVE CENTERLINE
PAVEMENT SAWCUT
GUIDE RAIL
DITCH CENTERLINE
STORM CULVERT LINE
EDGE OF PAVEMENT
CENTERLINE
PERMANENT CONSTRUCTION EASEMENT LINE (PCE)
TEMPORARY CONSTRUCTION EASEMENT LINE (TCE)
WORK LIMITS
DEMO - HASH
DEMO - "X"

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4	GENERAL NOTES (2 OF 3)	00G-04
5	GENERAL NOTES (3 OF 3)	00G-05
WATER TANK SITE - 01 SERIES: CIVIL		
6	PROPOSED WATER TANK SITE PLAN	01C-01
WATER LINE SITE IMPROVEMENTS - 02 SERIES: CIVIL		
7	WATER LINE PLAN & PROFILE	02C-01
WATER TANK FACILITY - 10 SERIES: PROCESS		
8	WATER TANK & CONTROL BUILDING PLAN VIEWS	10D-01
9	WATER TANK & CONTROL BUILDING SECTION VIEWS	10D-02
10	WATER TANK & CONTROL BUILDING ELEVATION VIEWS	10D-03
11	WATER TANK & CONTROL BUILDING DETAILS	10D-04
CONSTRUCTION DETAILS - 20 SERIES: GENERAL		
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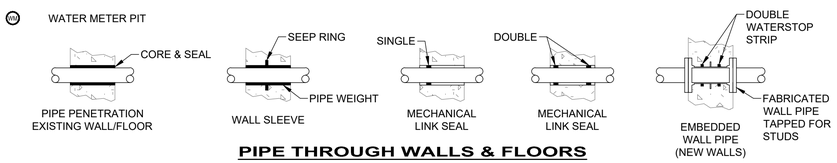
13	CONSTRUCTION DETAILS 2	20G-02
14	CONSTRUCTION DETAILS 3	20G-03
15	CONSTRUCTION DETAILS 4	20G-04
16	CONSTRUCTION DETAILS 5	20G-05
ELECTRICAL - E SERIES: ELECTRICAL		
17	LEGEND & GENERAL NOTES	E-01
18	WATER TANK PLANS	E-02
19	PANEL SCHEDULE & DETAILS	E-03
SWPPP SERIES: SWP3		
20	SWPPP NOTES	SWP3-1
21	SWPPP DETAILS 1	SWP3-2
22	SWPPP DETAILS 2	SWP3-3

GENERAL MATERIAL HATCHES:

EXISTING ROADWAY (PLAN)
PROPOSED ROADWAY (PLAN)
EXISTING BUILDING (PLAN)
SURFACE AGGREGATE
PROPOSED RIP RAP AREA (PLAN / SECTION)
PROPOSED CONCRETE DRIVE AREA (PLAN)
DENOTES ITEM OR AREA FOR DEMOLITION
WETLAND AND/OR STREAM DELINEATION



PIPE THROUGH WALLS & FLOORS

verdantas

STATE OF OHIO — TIMOTHY MCLAUGHLIN E-83985 — REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE

ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES
HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT
ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

SCALE:	AS SHOWN
DATE:	08/01/2025
DESIGNED BY:	TJM
DRAWN BY:	PAB
CHECKED BY:	TJM

GENERAL - 00 SERIES

LEGENDS SYMBOLOGY & SHEET INDEX

PROJECT NO:	
200426	
DRAWING NAME	
00G-02	
SHEET	OF
2	22

GENERAL:

1. THE CONTRACTOR SHALL PERFORM ALL OF THE WORK AND FURNISH ALL OF THE LABOR AND MATERIALS NECESSARY FOR THE FINAL COMPLETION OF THIS CONTRACT IN THE MANNER AND UNDER THE CONDITIONS HEREIN SPECIFIED AND PROVIDED AND IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

2. A PRE-CONSTRUCTION VIDEO TAPE OF THE PROJECT AREA WILL BE REQUIRED AND SUBMITTED TO THE ENGINEER BEFORE CONSTRUCTION BEGINS.

3. THE CONTRACTOR SHALL NOT COMMENCE ANY FORM OF CONSTRUCTION WITHOUT CONTACTING THE ENGINEER, AS APPROPRIATE, A MINIMUM OF 48 HOURS IN ADVANCE OF CONSTRUCTION ACTIVITY TO ARRANGE FOR OBSERVATION. IF ANY CHANGE IN THE WORK SCHEDULE BECOMES NECESSARY, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE ENGINEER TO AVOID UNNECESSARY OBSERVATION COSTS. IF NO NOTIFICATION IS MADE IN REGARDS TO CANCELLATION OF WORK, THE CONTRACTOR WILL BE CHARGED FOR THE TIME INCURRED.

4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN SAFE LOCAL ACCESS, VEHICULAR AND PEDESTRIAN, TO ALL PROPERTIES WITHIN THE PROJECT LIMITS. THE CONTRACTOR WILL FURNISH, MAINTAIN AND SUBSEQUENTLY REMOVE ALL NECESSARY SAFEGUARDS SUCH AS BARRICADES, BARRIERS, TEMPORARY PAVEMENT, LIGHTING, FLAGGERS, SIGNING AND OTHER TRAFFIC CONTROLS TO INSURE THE SAFETY OF PERSONS AND VEHICLES DURING CONSTRUCTION WITHIN THE PROJECT LIMITS.

5. ACCESS TO ALL DRIVEWAYS WILL BE MAINTAINED AT ALL TIMES EXCEPT THE TIME WHEN SEWER INSTALLATION AND PAVEMENT REPLACEMENT WILL NOT PERMIT.

6. ALL SHOP DRAWINGS WILL BE SUBMITTED TO THE ENGINEER FOR PRELIMINARY CHECKING. THE ENGINEER SHALL FORWARD THE CHECKED SHOP DRAWINGS TO THE OWNER FOR FINAL CHECKING AND APPROVAL. SHOP DRAWINGS MUST BE APPROVED PRIOR TO ORDERING ANY MATERIALS.

7. BEFORE THE OWNER WILL APPROVE AND ACCEPT THE WORK AND RELEASE THE GUARANTEE RETAINER, THE CONTRACTOR WILL FURNISH THE OWNER A WRITTEN REPORT INDICATING THE RESOLUTION OF ANY AND ALL PROPERTY DAMAGE CLAIMS FILED WITH THE CONTRACTOR BY ANY PARTY DURING THE CONSTRUCTION PERIOD. THE INFORMATION TO BE SUPPLIED SHALL INCLUDE, BUT NOT BE LIMITED TO, NAME OF CLAIMANT, DATE FILED WITH CONTRACTOR, NAME OF INSURANCE COMPANY AND/OR ADJUSTER HANDLING CLAIM, HOW CLAIM WAS RESOLVED AND IF CLAIM WAS NOT RESOLVED FOR THE FULL AMOUNT, A STATEMENT INDICATING THE REASON FOR SUCH ACTION.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ALL MATERIAL AND EQUIPMENT TESTING. THE OWNER MAY REQUIRE SUBGRADE COMPACTION TESTING, ASPHALT AND CONCRETE QUALITY CONTROL TESTING WHICH WILL BE PAID FOR BY THE OWNER.

9. WHEN MAILBOXES, FENCES, NEWSPAPER BOXES OR STREET SIGNS AND SUPPORTS INTERFERE WITH CONSTRUCTION, THE CONTRACTOR SHALL REMOVE AND ERECT THEM IN A TEMPORARY LOCATION DURING CONSTRUCTION (EXCEPT FENCES). AFTER COMPLETION OF THE CONSTRUCTION AND BEFORE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL ERECT THE MAILBOXES, FENCES, NEWSPAPER BOXES OR STREET SIGNS AND SUPPORTS IN A PERMANENT LOCATION IN ACCORDANCE WITH THE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE WORK SHALL BE INCLUDED IN THE UNIT PRICES BID FOR OTHER ITEMS.

10. PROPERTY PINS AND MONUMENTS ALONG THE ROUTE OF THE IMPROVEMENT, WHICH MAY BE DISTURBED BY THE CONTRACTOR, SHALL BE REFERENCED BY A PROFESSIONAL SURVEYOR, SO THEY CAN BE REPLACED IN THE EVENT THAT THEY ARE DISTURBED DURING CONSTRUCTION. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT ALL PINS, MONUMENTS AND REFERENCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF LOCATING AND REFERENCING AND REPLACING THE PROPERTY PINS AND MONUMENTS.

PROHIBITED CONSTRUCTION ACTIVITIES

1. ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED
.
2. THE USE OF EXPLOSIVES, UNLESS A PERMIT IS ISSUED BY THE OWNER.

3. PUMPING OF SEDIMENT-LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS DIRECTLY INTO ANY SURFACE WATERS, STREAM CORRIDORS, OR STORM SEWERS; ALL SUCH WATER WILL BE PROPERLY FILTERED OR SETTLED TO REMOVE SILT PRIOR TO RELEASE.

4. DISCHARGING POLLUTANTS SUCH AS CHEMICALS, FUELS, LUBRICANTS, BITUMINOUS MATERIALS, RAW SEWAGE, OR ANY OTHER HARMFUL WASTE INTO OR ALONGSIDE OF RIVERS, STREAMS, IMPOUNDMENTS OR INTO NATURAL OR MAN-MADE CHANNELS LEADING THERETO.

5. OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT. HE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AN OEPA OPEN BUILDING AIR PERMIT OR DISPOSING OF THE TREES AND STUMPS

6. STORING CONSTRUCTION EQUIPMENT AND VEHICLES AND/OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY, PUBLIC OR PRIVATE, NOT PREVIOUSLY SPECIFIED ON THE PLANS BY THE ENGINEER FOR SUCH PURPOSES.

7. RUNNING WELL POINT OR PUMP DISCHARGE LINES THROUGH PRIVATE OR PUBLIC PROPERTY AND RIGHTS-OF-WAY WITHOUT PERMISSION OF THE PROPERTY OWNER AND THE CONSENT OF THE ENGINEER.

8. OPERATION ENTAILING THE USE OF VIBRATORY HAMMERS OR COMPACTORS OUTSIDE THE HOURS OF 8:00 AM AND 5:00 PM OR OUTSIDE THE HOURS ALLOWED BY LOCAL ORDINANCES OR REGULATIONS.

9. CLOSING OFF CLEAR ACCESS TO ANY PUBLIC ALLEY, STREET, ROAD, AVENUE OR BOULEVARD WITHOUT THE PRIOR CONSENT OF MUNICIPAL OFFICIALS AND THE ENGINEER AND CLOSING CLEAR ACCESS:
   a. BY FIRE PROTECTION EQUIPMENT AND EMERGENCY VEHICLES;
   b. BY THE PUBLIC TO ANY COMMERCIAL OR PROFESSIONAL PLACE OF BUSINESS, QUASI-PUBLIC OR PUBLIC ESTABLISHMENT, OR PLACE OF RESIDENCE; OR
   c. BY VEHICLES TO DRIVEWAYS WITHOUT THE PROVISION OF ALTERNATIVE MEANS OF BUILDING INGRESS AND EGRESS.

10. DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIAL IN WETLANDS OR FLOODPLAINS, EVEN WITH THE PERMISSION OF THE PROPERTY OWNER.

11. LOCATING STOCKPILE STORAGE AREAS IN ENVIRONMENTALLY SENSITIVE AREAS.

12. INDISCRIMINATE, ARBITRARY, OR CAPRICIOUS OPERATION OF EQUIPMENT IN AND STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS, OR OUTSIDE THE EASEMENT LIMITS.

13. PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOW LINE OF ANY STREAM.

14. DAMAGING VEGETATION OUTSIDE OF THE CONSTRUCTION AREA.

15. DISPOSAL OF TREES, BRUSH, AND OTHER DEBRIS IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS, OR AT UNSPECIFIED LOCATIONS.

16. DISCHARGING INJURIOUS SILICA DUST CONCENTRATIONS INTO THE ATMOSPHERE RESULTING FROM BREAKING, CUTTING, CHIPPING, RILLING, BUFFING, GRINDING, POLISHING, SHAPING OR SURFACING CLOSER THAN 200 FEET TO PLACES OF RESIDENCES OR COMMERCIAL, PROFESSIONAL, QUASI-PUBLIC OR PUBLIC PLACES OF HUMAN OCCUPATION.

17. NO USING ANY SUBSTANCE OTHER THAN WATER TO CONTROL DUST

EXISTING UTILITIES:

1. THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE OWNER DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS. THE CONTRACTOR IS RESPONSIBLE TO VERIFY AND IDENTIFY ALL UTILITIES ILLUSTRATED ON THE PLANS OR NOT IDENTIFIED.

2. BEFORE ANY WORK IS STARTED, THE CONTRACTOR SHALL CALL THE "OHIO UTILITIES PROTECTION SERVICE", OUPS, AT 1-800-362-2764, A MINIMUM OF SEVENTY-TWO (72) HOURS IN ADVANCE OF THE WORK. NON-MEMBER UTILITIES MUST BE CONTACTED DIRECTLY. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS, AT NO ADDITIONAL EXPENSE TO THE OWNER, TO AVOID DAMAGE TO EXISTING UNDERGROUND AND OVERHEAD UTILITY LINES DURING THE ENTIRE PROJECT. IN THE EVENT OF DAMAGE TO EXISTING PUBLIC AND/OR PRIVATE UTILITIES, THE AGENCY CONCERNED SHALL BE NOTIFIED IMMEDIATELY BY THE CONTRACTOR AND ALL REPAIR WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE RESPECTIVE AGENCY AT NO ADDITIONAL EXPENSE TO THE OWNER, INCLUDING ANY INSPECTION FEES OR MAINTENANCE CREWS.

3. DELAYS TO THE CONTRACTOR AS A RESULT OF TIMING OF POLE RELOCATION OR PROTECTION SHALL NOT BE CONSIDERED COMPENSABLE DELAYS, AS IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE HIS WORK IN CONFORMANCE TO THE UTILITY COMPANY'S SCHEDULE.

4. NO SEPARATE PAYMENT WILL BE MADE FOR UTILITY SUPPORT, POLE SUPPORT OR POLE RELOCATION. THE CONTRACTOR SHALL INCLUDE THE COST OF UTILITY SUPPORT, POLE SUPPORT AND POLE RELOCATION IN THE UNIT PRICE(S) BID FOR OTHER RELATED ITEMS OF WORK.

5. CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL THE EXISTING GAS, WATER, ELECTRIC, CABLE, FIBER, TELEPHONE, SANITARY OR OTHER UNDERGROUND UTILITIES PRIOR TO THE INSTALLATION OF ANY PROPOSED IMPROVEMENT INDICATED ON THE PLANS. SHOULD A CONFLICT EXIST AT A UTILITY CROSSING, THE PROJECT ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

6. THE CONTRACTOR SHALL ANTICIPATE AT A MINIMUM ONE SERVICE CONNECTION FOR EACH UTILITY (GAS, WATER, STORM SEWER, FIBER OPTIC OR POWER) SHOWN TO EACH PROPERTY, EVEN IF NOT SHOWN ON PLAN.

7. SERVICE CONNECTIONS ON THE PLANS THAT HAVE BEEN IDENTIFIED ARE BASED ON AS BUILTS PROVIDED BY THE RESPECTIVE UTILITY COMPANY ARE APPROXIMATE. THE OWNER DOES NOT GUARANTEE THEIR LOCATION AND THE CONTRACTOR IS RESPONSIBLE AND SHALL FIELD VERIFY THE LOCATION AND DEPTH PRIOR TO COMMENCEMENT OF ANY WORK IN THE AREA.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION OF THE EXISTING UTILITY OWNERS AND THE UTILITY PROTECTION SERVICE IN THE LIST FEATURED ON THE COVER OF THE PLANS IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE

9. IN THE EVENT THAT ANY LEAD SERVICE CONNECTION IS ENCOUNTERED DURING THIS PROJECT BY THE CONTRACTOR, AQUA OHIO SHALL BE IMMEDIATELY NOTIFIED AND WORK AT THAT LOCATION SHALL CEASE UNTIL DIRECTION ON HOW TO PROCEED IS MADE BY LCDU. CONTRACTOR SHALL CONTINUE WITH WORK ONCE LCDU GIVES NOTICE TO PROCEED WITHOUT ADDITIONAL PAYMENT FOR REMOBILIZATION.

TRAFFIC CONTROL

1. MAINTAINING TRAFFIC SHALL BE IN ACCORDANCE WITH ODOT ITEM 614 AND THE MOST RECENT VERSION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD).

2. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN FOR REVIEW AND ACCEPTANCE BY THE ENGINEER PRIOR TO BEGINNING WORK.

3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN SAFE LOCAL ACCESS, VEHICULAR AND PEDESTRIAN INCLUDING PERSONS WITH DISABILITIES, TO ALL PROPERTIES WITHIN THE PROJECT LIMITS. THE CONTRACTOR WILL FURNISH, MAINTAIN AND SUBSEQUENTLY REMOVE ALL NECESSARY SAFEGUARDS SUCH AS BARRICADES, BARRIERS, TEMPORARY PAVEMENT, LIGHTING, FLAGGERS, SIGNING, PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROLS TO ENSURE THE SAFETY OF PERSONS AND VEHICLES DURING CONSTRUCTION WITHIN THE PROJECT LIMITS.

4. AT ALL EXCAVATION LOCATIONS THE CONTRACTOR SHALL PROVIDE SUITABLE FLASHERS, BARRICADES, AND TRAFFIC CONTROL DEVICES AS DEEMED NECESSARY BY THE ENGINEER AND IN ACCORDANCE WITH THE OMUTCD FOR SUCH TIME UNTIL THE AREA IS COMPLETELY BACKFILLED.

5. ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ITEM 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MUTCD. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN OR INCLUDED IN OTHER PAY ITEMS.

6. ACCESS MUST BE MAINTAINED FOR EMERGENCY VEHICLES AT ALL TIMES.

7. NO TRENCH WILL BE LEFT OPEN AT THE END OF A WORK DAY. WHERE PRACTICAL; ANY OPEN TRENCH WILL BE PROPERLY IDENTIFIED AND BARRICADED FOR SAFETY PURPOSES.

8. PRIOR TO CLOSING OFF CLEAR ACCESS TO ANY PUBLIC ALLEY, STREET, ROAD, AVENUE, OR BOULEVARD, THE CONTRACTOR MUST HAVE CONSENT FROM LOCAL OFFICIALS AND THE ENGINEER.

9. PRIOR TO CLOSING OFF ACCESS TO ANY PORTION OF PRIVATE PROPERTY WHERE SEWER WORK MAY BE LOCATED, THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM THE PROPERTY OWNER TO IMPLEMENT PROPOSED TRAFFIC CONTROL DEVICES WHICH SHALL ALSO REQUIRE FINAL APPROVAL BY THE ENGINEER.

ENVIRONMENTAL PROTECTION

1. ALL MATERIALS TO BE DISPOSED OF OFF-SITE MUST BE DISPOSED OF IN AN ENVIRONMENTALLY SOUND MANNER IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS AT A SITE APPROVED BY THE ENGINEER. NO EXCESS MATERIALS ARE TO BE DISPOSED OF IN ANY WETLAND, FLOODPLAIN, SURFACE WATER, OR OTHER ENVIRONMENTALLY SENSITIVE AREAS. EROSION CONTROL MEASURES AT THE DISPOSAL SITE MUST BE INSTALLED AND MAINTAINED UNTIL DISPOSAL IS COMPLETE AND THE DISPOSAL SITE IS PERMANENTLY STABILIZED. GIVING EXCAVATED SOIL AWAY DOES NOT RELIEVE THE CONTRACTOR OR ENGINEER OF THIS RESPONSIBILITY.

TREE/VEGETATION PROTECTION

1. TREE REMOVAL WILL BE LIMITED TO THE TIME PERIOD BETWEEN OCTOBER 1 AND MARCH 31.

2. TREE REMOVAL WILL BE LIMITED TO THAT NECESSARY FOR CONSTRUCTION AND WILL BE LIMITED FURTHER TO THE PERMANENT EASEMENT WHEREVER POSSIBLE.

3. NO TREE REMOVAL WILL BE PERMITTED OUTSIDE THE TEMPORARY OR PERMANENT EASEMENT WITHOUT PERMISSION OF THE ENGINEER.

4. TREES WHICH ARE NOT REMOVED WILL BE PROTECTED BY ENSURING THAT TREES TO BE REMOVED ARE FELLED SO AS NOT TO INJURE THE REMAINING TREES.

5. PRIOR TO CLEARING, THE CONTRACTOR AND ENGINEER, SHALL WALK THE ACQUIRED EASEMENTS IN AN EFFORT TO DESIGNATE THE TREES THAT ARE TO BE SAVED. TREES TO BE SAVED WILL BE CLEARLY MARKED BY PAINT WITH THE LETTER "S". TREES TO BE PROTECTED BY AN APPROPRIATE BARRIER SHALL BE MARKED WITH AN "S" ENCLOSED IN A CIRCLE. TREES MARKED FOR REMOVAL IN THE PLANS WILL BE INSPECTED BY THE OWNER AND THE ENGINEER BEFORE REMOVAL & WILL BE SAVED WHERE POSSIBLE.

6. SOIL AND OTHER MATERIAL WILL NOT BE STORED NEXT TO OR WITHIN THE DRIP-LINEOF TREES.

7. PRESERVATION OF LANDSCAPING SHOULD TAKE PRECEDENCE OVER REMOVAL. IF REMOVAL OR DAMAGE IS UNAVOIDABLE, EXISTING VEGETATION SHOULD BE REPAIRED OR REPLACED "IN-KIND" UNLESS THE HOMEOWNER SPECIFIES OTHERWISE.

8. IF TREES/SHRUBS CANNOT BE REPLACED IN THE SAME LOCATION DUE TO INSTALLATION OF THE SEWER SYSTEM, RELOCATION SHOULD BE CONSIDERED.

9. THE CONTRACTOR'S ARBORIST SHALL REPAIR ALL INJURIES TO BARK, TRUNKS, LIMBS, AND ROOTS OF REMAINING VEGETATION BY PROPERLY DRESSING, CUTTING, BRACING AND PAINTING, USING ONLY APPROVED TREE SURGERY METHODS, TOOLS, AND MATERIALS.

10. SELECTIVE PRUNING OF TREE LIMBS PRIOR TO INITIATION OF CONSTRUCTION SHOULD ONLY BE USED WITHIN ESTABLISHED EASEMENTS WHERE REMOVAL IS NECESSARY FOR OPERATION OF EQUIPMENT.

11. LIMIT THE USE OF RIP-RAP TO AREAS WHERE STREAM FLOW CONDITIONS PREEMPT VEGETATIVE STABILIZATION.

12. TREE REMOVAL WILL BE LIMITED TO THAT NECESSARY FOR CONSTRUCTION AND WILL BE LIMITED FURTHER TO THE PERMANENT EASEMENT WHENEVER POSSIBLE. IF THE PROJECT IS LOCATED WITHIN THE RANGE OF THE FEDERALLY-ENDANGERED INDIANA BAT (MYOTIS SODALIS) AND TREES MUST BE CUT, THIS MUST OCCUR BETWEEN SEPTEMBER 30 AND APRIL 1. INDIANA BATS ARE HIGHLY-DEPENDENT UPON TREES INCLUDING DEAD AND DYING TREES OF SPECIES WITH EXFOLIATING BARK, CREVICES, OR CAVITIES IN UPLAND AREAS OR RIPARIAN CORRIDORS AND LIVING TREES OF THE SPECIES LISTED ABOVE WITH EXFOLIATING BARK, CAVITIES, OR HOLLOW AREAS FORMED FROM BROKEN BRANCHES OR TOPS. IF SUITABLE TREES MUST BE CUT DURING THE PROHIBITED TIME PERIOD, A NET SURVEY MUST BE CONDUCTED TO DETERMINE THE PRESENCE OR ABSENCE OF INDIANA BATS PRIOR TO CUTTING.

EXCAVATION AND TRENCHING

1. TRENCHING, HAUNCHING, BEDDING, AND ALL EARTHWORK SHALL BE IN ACCORDANCE WITH DETAILS WITHIN THE PLANS AND SPECIFICATION SECTIONS 310000 AND 333100.

2. A GEOTECHNICAL ENGINEERING REPORT WITH SOIL BORINGS IS INCLUDED IN THE BID DOCUMENTS FOR REFERENCE.

3. SLAG PRODUCTS OR CRUSHED CONCRETE WILL NOT BE PERMITTED FOR BEDDING, BACKFILL, OR TRAFFIC COMPACTED SURFACE.

4. ALL UTILITY LINES CROSSING THE NEW SEWER TRENCH, (I.E. STORM SEWERS, STORM LATERALS, WATERLINES, WATERLINE CONNECTIONS, SANITARY SEWERS, SANITARY LATERALS, GAS MAINS, GAS SERVICE CONNECTIONS, UNDERGROUND OCT CONDUITS, CABLE TV LINES) SHALL BE PROTECTED AND SUPPORTED WITH HARDWOOD PLANKS OR REMOVED AND REPLACED, RECONNECTED AND SUPPORTED ACROSS THE ENTIRE WIDTH OF THE TRENCH. NO ADDITIONAL COMPENSATION WILL BE PAID FOR THE ABOVE WORK UNLESS ANY OF THE ABOVE UTILITIES ARE ENCOUNTERED AND NOT SHOWN ON THE DRAWINGS.

5. ANY COMPACTION TESTING REQUIRED AT THE SOLE DISCRETION OF THE ENGINEER SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

DEWATERING PROCEDURES

1. THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING A DEWATERING SYSTEM IN ACCORDANCE WITH SPECIFICATION SECTION 312000. CONTRACTOR SHALL DEVELOP A SYSTEM THAT WILL ENSURE WELL WATER SERVICE IS MAINTAINED FOR ALL PROPERTIES WITHIN THE PROJECT LIMITS FOR THE DURATION OF CONSTRUCTION

2. ALL DEWATERING FLOWS FROM EXCAVATION AND TRENCHING OPERATIONS SHALL BE SETTLED INTO INSTALLATION BASINS OR DIRECTED THROUGH APPROVED FILTERING DEVICES PRIOR TO BEING DISCHARGED TO STABILIZED SITES, SUCH AS STREAMS OR STORM SEWER; NOT ONTO EXPOSED SOILS, STREAM BANKS, OR ANY EITHER SITE WHERE THE FLOW COULD CAUSE OR INCREASE THE RATE OF EROSION.

3. SILT FROM CONSTRUCTION OPERATIONS SHALL NOT BE PERMITTED TO ENTER INTO THE STORM SEWER SYSTEM. FOR THE ENTIRE COURSE OF CONSTRUCTION, EROSION CONTROL (FILTERS OR OTHER APPROVED BMPS) MEASURES SHALL BE IMPLEMENTED AT ALL NEARBY INLETS TO PREVENT SILT FROM ENTERING INTO THE SYSTEM. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THESE DEVICES FOR THE ENTIRE DURATION OF CONSTRUCTION AND SHALL ONLY REMOVED BY ORDER OF THE ENGINEER.

4. CONVEY WATER FROM THE CONSTRUCTION SITE IN A CLOSED CONDUIT. TRENCH EXCAVATIONS SHALL NOT BE PERMITTED AS TEMPORARY DRAINAGE DITCHES.

MATERIAL DISPOSAL AND TEMPORARY SURFACES

1. THE REMOVAL AND DISPOSAL OF ALL SURPLUS EXCAVATED MATERIAL AND CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR FOR ULTIMATE DISPOSAL. THE DISPOSAL OF ALL CONSTRUCTION DEBRIS SHALL BE AT AN APPROVED LOCATION BY THE OWNER AND THE ENGINEER. THE DISPOSAL OF ALL "CLEAN" MATERIAL SHALL BE AT APPROVED LANDFILLS, AND/OR OTHER SITES APPROVED BY THE OWNER AND THE DISPOSAL OF EXISTING PIPELINE AND WASTEWATER SLUDGE SHALL BE AN APPROVED LOCATION. THE CONTRACTOR SHALL OBTAIN ALL APPROVALS, PERMITS, LICENSES, ETC. STATE AND FEDERAL AGENCIES AND OR PRIVATE LANDOWNERS. THE CONTRACTOR SHALL FURNISH ENGINEER A COPY OF ALL APPROVALS OR WRITTEN PERMISSION PRIOR TO DISPOSING OF ANY WASTE SITE.

2. THE COST OF HEREIN DESCRIBED WORK, INCLUDING SEEDING AND MULCHING NECESSARY TO SECURE RESULTS, SHALL BE CONSIDERED INCIDENTAL TO THE OTHER VARIOUS ITEMS OF WORK IN THIS CONTRACT INCLUDED IN THE RESPECTIVE PAY ITEMS. NO SEPARATE PAYMENT SHALL BE MADE.

3. TEMPORARY SURFACES WHERE EXCAVATION ARE LOCATED IN STREETS, DRIVES AND PARKING AREAS FURNISHED AND PLACED BY THE CONTRACTOR AND SHALL BE FULLY MAINTAINED TO MINIMIZE INCONVENIENCE TO THE PUBLIC AT NO ADDITIONAL COST TO THE OWNER.

4. THE ABOVE-DESCRIBED WORK SHALL BE CONSIDERED INCIDENTAL TO THE COMPLETION OF ALL WORK INCLUDED IN THE RESPECTIVE PAY ITEMS AND SHALL NOT BE A SEPARATE PAY ITEM.

verdantas

STATE OF OHIO
TIMOTHY MCLAUGHLIN
E-83985
REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE
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ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES
HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT
ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

SCALE: AS SHOWN
DATE: 08/01/2025
DESIGNED BY: TM
DRAWN BY: SAS
CHECKED BY: TM

GENERAL - 00 SERIES

GENERAL NOTES (1 OF 3)

PROJECT NO: 200426
DRAWING NAME: 00G-03
SHEET 3 OF 22

MITIGATIVE MEASURES

AIR POLLUTION / NOISE CONTROL

1. CONSTRUCTION ACTIVITIES WILL BE LIMITED TO DAYTIME HOURS UNLESS APPROVED 48 HOURS IN ADVANCE BY HARPERSFIELD TOWNSHIP AND ACDES.
2. CONSTRUCTION EQUIPMENT WILL BE PROVIDED WITH INTAKE SILENCERS AND MUFFLERS, AS REQUIRED BY SAFETY STANDARDS.
3. ALL CONSTRUCTION VEHICLES SHOULD BE EQUIPPED WITH PROPER EMISSIONS CONTROL EQUIPMENT.
4. PERIODICALLY CHECK EQUIPMENT AND MACHINERY FOR PROPER TUNING TO MINIMIZE EXHAUST EMISSIONS AND NOISE.
5. UNPAVED AREAS WILL BE WET DOWN (AS NECESSARY) DURING CONSTRUCTION TO MINIMIZE DUST GENERATION.

TREE / VEGETATION PROTECTION

6. TREE REMOVAL WILL BE LIMITED TO THAT NECESSARY FOR CONSTRUCTION AND WILL BE LIMITED FURTHER TO THE PERMANENT EASEMENT WHEREVER POSSIBLE.
7. NO TREE REMOVAL WILL BE PERMITTED OUTSIDE THE TEMPORARY EASEMENT WITHOUT PERMISSION OF THE ENGINEER.
8. TREES WHICH ARE NOT REMOVED WILL BE PROTECTED BY ENSURING THAT TREES TO BE REMOVED ARE FELLED SO AS NOT TO INJURE THE REMAINING TREES.
9. PRIOR TO CLEARING, THE CONTRACTOR AND ENGINEER, SHALL WALK THE ACQUIRED EASEMENTS IN AN EFFORT TO DESIGNATE THE TREES THAT ARE TO BE SAVED. TREES TO BE SAVED WILL BE CLEARLY MARKED BY PAINT WITH THE LETTER "S". TREES TO BE PROTECTED BY AN APPROPRIATE BARRIER SHALL BE MARKED WITH AN "S" ENCLOSED IN A CIRCLE.
10. SOIL AND OTHER MATERIAL WILL NOT BE STORED NEXT TO OR WITHIN THE DRIP-LINE OF TREES.
11. PRESERVATION OF LANDSCAPING SHOULD TAKE PRECEDENCE OVER REMOVAL. IF REMOVAL OR DAMAGE IS UNAVOIDABLE, EXISTING VEGETATION SHOULD BE REPAIRED OR REPLACED "IN-KIND" UNLESS THE HOMEOWNER SPECIFIES OTHERWISE.
12. IF TREES/SHRUBS CANNOT BE REPLACED IN THE SAME LOCATION DUE TO INSTALLATION OF THE SEWER SYSTEM, RELOCATION SHOULD BE CONSIDERED.
13. THE CONTRACTOR'S ARBORIST SHALL REPAIR ALL INJURIES TO BARK, TRUNKS, LIMBS, AND ROOTS OF REMAINING VEGETATION BY PROPERLY DRESSING, CUTTING, BRACING AND PAINTING, USING ONLY APPROVED TREE SURGERY METHODS, TOOLS, AND MATERIALS.
14. SELECTIVE PRUNING OF TREE LIMBS PRIOR TO INITIATION OF CONSTRUCTION SHOULD ONLY BE USED WITHIN ESTABLISHED EASEMENTS WHERE REMOVAL IS NECESSARY FOR OPERATION OF EQUIPMENT.
15. LIMIT THE USE OF RIP-RAP TO AREAS WHERE STREAM FLOW CONDITIONS PREEMPT VEGETATIVE STABILIZATION.

DEWATERING

16. ALL DEWATERING FLOWS ARE TO BE SETTLED IN SILTATION BASINS OR DIRECTED THROUGH FILTERING DEVICES BEFORE DISCHARGE TO STABILIZED SITES, SUCH AS STREAMS OR STORM SEWERS; NOT ONTO EXPOSED SOILS, STREAM BANKS, OR ANY OTHER SITE WHERE THE FLOW COULD CAUSE EROSION.
17. SILT FROM CONSTRUCTION OPERATIONS SHALL NOT BE PERMITTED TO ENTER THE STORM SEWER SYSTEM. WHEN CONSTRUCTION OCCURS NEAR STORM SEWER INLETS, EROSION CONTROL MEASURES SUCH AS INLET FILTERS AND HAY BALES SHALL BE USED TO PREVENT SILT FROM ENTERING THE STORM SEWERS.
18. CONVEY WATER FROM THE CONSTRUCTION SITE IN A CLOSED CONDUIT. DO NOT USE TRENCH EXCAVATIONS AS TEMPORARY DRAINAGE DITCHES.
19. CONTRACTORS AND SUBCONTRACTORS ARE REQUIRED UNDER OHIO REVISED CODE SECTION 149.53 TO NOTIFY THE OHIO HISTORICAL SOCIETY AND THE OHIO HISTORIC SITE PRESERVATION BOARD OF ARCHAEOLOGICAL DISCOVERIES LOCATED IN THE PROJECT AREA, AND TO COOPERATE WITH THOSE ENTITIES IN ARCHAEOLOGICAL AND HISTORIC SURVEYS AND SALVAGE EFFORTS IF SUCH DISCOVERIES ARE UNCOVERED WITHIN THE PROJECT AREA.

    CONTACT: STATE HISTORIC PRESERVATION OFFICE
    PHONE: 1-614-298-2000

SALVAGED ITEMS:

1. THE HARPERSFIELD TOWNSHIP SHALL RECEIVE ALL SALVAGED ITEMS SUCH AS MANHOLE CASTINGS, FIRE HYDRANTS, VALVE CAPS, ETC. THE HARPERSFIELD TOWNSHIP HAS THE RIGHT OF FIRST REFUSAL FOR ALL STEEL REMOVED FROM THE PROJECT.

DEMOLITION:

1. THE CONTRACTOR SHALL REFER TO THE PROJECT SPECIFICATIONS AND CONSTRUCTION DRAWINGS.

STATIONING AND LOCATIONS:

1. ALL LOCATIONS AND ITEMS CALLED OUT BY STATION ARE SUBJECT TO ADJUSTMENT IN THE FIELD AS APPROVED BY THE ENGINEER.

PROTECTION AGAINST VANDALISM:

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE SUFFICIENT SITE SECURITY MEASURES AND / OR PERSONNEL TO PROTECT ALL NEW CONCRETE WORK FROM VANDALISM UNTIL THE CONCRETE IS SUFFICIENTLY CURED AT NO ADDITIONAL COST.

EROSION AND SEDIMENT CONTROL

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY SOIL EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH ODOT ITEM 207 AND AS REQUIRED BY THE ASHTABULA COUNTY SOIL AND WATER CONSERVATION DISTRICT.

2. SITE CLEARING AND GRUBBING SHALL NOT COMMENCE UNTIL SUCH TIME THAT THE CONTRACTOR IS PREPARED TO START CONSTRUCTION. REMOVE ONLY THOSE TREES, SHRUBS, AND GRASSES THAT MUST BE REMOVED FOR CONSTRUCTION OF ACTUAL FACILITIES; PROTECT THE REST TO PRESERVE THEIR AESTHETIC, HABITAT, AND EROSION CONTROL VALUES.

3. IMMEDIATELY FOLLOWING SITE AND ACCESS CLEARING, TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED. THEY WILL BE MAINTAINED IN EFFECTIVE OPERATING CONDITION DURING CONSTRUCTION UNTIL FINAL SEEDING AND SITE RESTORATION OCCURS.

4. AT THE LIFT STATION CONSTRUCTION SITES INSTALL SEDIMENT BASINS AND DIVERSION DIKES BEFORE DISTURBING THE LAND THAT DRAINS INTO THEM.

5. DIVERSION CHANNELS WILL BE CONSTRUCTED AROUND THE LIFT STATION SITE TO COLLECT RUNOFF AND PREVENT SILT AND OTHER ERODIBLE MATERIALS FROM ENTERING LOCAL DRAINAGE COURSES. DIVERSION CHANNELS WILL FLOW TO TEMPORARY SEDIMENT BASINS, AND ARE TO BE STABILIZED THROUGH SEEDING, RIP-RAPPING, OR LINING THEM WITH PLASTIC.

6. EXISTING TOPSOIL WILL BE STOCKPILED AND REPLACED UPON FINAL GRADING OF THE CONSTRUCTION SITE.

7. EXTENSIVE AREAS OF STOCKPILED TOPSOIL AT THE CONSTRUCTION SITE ARE TO BE PROTECTED THROUGH THE USE OF TEMPORARY SEEDING AND MULCHING OR COVERING SUCH AS WITH ANCHORED STRAW MULCH. SILT BARRIERS WILL BE INSTALLED DOWN GRADIENT OF THESE AREAS ON CONTOUR AND WITH THEIR ENDS UP SLOPE OF THE CONTOUR TO PREVENT SILT LADEN RUNOFF FROM ENTERING WATERWAYS OR STORM SEWERS. WITHIN 15 DAYS OF COMPLETION OF CONSTRUCTION, ANY REMAINING SOIL MUST EITHER BE REMOVED OR PERMANENTLY STABILIZED.

8. SILT FENCES SHOULD BE TRENCHED SIX TO TWELVE INCHES DEEP, THE FABRIC LAID IN THE TRENCH, AND THE SOIL PROPERLY BACKFILLED INTO THE TRENCH TO PREVENT UNDERCUTTING.
9. WHERE TRENCH EXCAVATION OCCURS PARALLEL TO ANY WATERWAY, A VEGETATED BARRIER SHOULD BE MAINTAINED BETWEEN THE STREAM AND THE CONSTRUCTION SITE. ALL TRENCH SPOILS WILL BE STOCKPILED ON THE SIDE OF THE TRENCH AWAY FROM THE WATERWAY, AND A LINE OF SILT BARRIERS WILL BE ESTABLISHED ALONG THE EDGE OF CONSTRUCTION ON THE CONTOUR BETWEEN THE TRENCH AND THE WATERWAY.

10. NO MORE THAN 200 FEET OF TRENCH SHALL BE OPEN AT ANY GIVEN TIME. TRENCH OPENING AND LAYING OF PIPE SHOULD OCCUR SO AS TO MINIMIZE THE AMOUNT OF DISTURBED AREA. ALL TRENCHES ARE TO BE BACKFILLED AND COMPACTED IMMEDIATELY AFTER PIPE INSTALLATION. IMMEDIATELY FOLLOWING THE BACKFILLING OF THE TRENCH, THE GROUND SURFACE WILL BE ROUGH GRADED TO THE EXISTING CONTOURS TO ALLOW FOR PROPER DRAINAGE, AND WILL BE SEEDED AND/OR MULCHED IN STAGES TO PREVENT EROSION.

11. ANY DISTURBED AREA THAT WILL NOT BE ACTIVELY UNDER CONSTRUCTION FOR A PERIOD OF 15 DAYS OR MORE WILL BE TEMPORARILY STABILIZED IMMEDIATELY BY SEEDING AND MULCHING OR BY ANCHORED STRAW MULCH.

12. AS CONSTRUCTION IS COMPLETED, PERMANENTLY STABILIZE EACH DISTURBED AREA IN STAGES WITH PERENNIAL VEGETATION INSTALLED ACCORDING TO OHIO EPA (OR EQUIVALENT) STANDARDS AND SPECIFICATIONS. AFTER FINAL SOIL SETTLING OVER THE SANITARY SEWER, OUTFALL SEWER, AND FORCE MAIN ALIGNMENTS, THE CONTRACTOR SHALL BRING THE TRENCH BACK TO GRADE IF NECESSARY, PLACE TOPSOIL, AND FINE GRADE, SEED, FERTILIZE, AND MULCH ALL AREAS DISTURBED BY ACTIVITIES ASSOCIATED WITH THE CONSTRUCTION OF THAT SECTION OF PIPE. FINAL GRADING WILL BE CONSISTENT WITH PRE-CONSTRUCTION TOPOGRAPHY FOR DRAINAGE AND AESTHETIC REASONS.

13. BORING PITS (FOR JACK AND BORE LOCATIONS) SHALL BE SURROUNDED WITH SILT BARRIERS TO PREVENT EROSION OF THE EXCAVATED PIT MATERIAL. STORM SEWER INLETS WILL BE SURROUNDED WITH SILT BARRIERS TO PREVENT SILTATION.

14. SLOPES EXCEEDING 15 PERCENT OR THAT TEND TO BE UNSTABLE REQUIRE SPECIAL TREATMENT SUCH AS WATER DIVERSION BERMS, SODDING, OR THE USE OF JUTE OR EXCELSIOR BLANKETS.

15. WHEN BORROW MATERIAL IS OBTAINED FROM OTHER THAN COMMERCIALLY OPERATED SOURCES, EROSION OF THE BORROW SITE WILL BE SO CONTROLLED BOTH DURING AND AFTER COMPLETION OF THE WORK THAT EROSION WILL BE MINIMIZED AND SEDIMENT WILL NOT ENTER STREAMS OR OTHER BODIES OF WATER. WASTE OR DISPOSAL AREAS AND CONSTRUCTION ROADS SHALL BE LOCATED AND CONSTRUCTED IN A MANNER THAT WILL KEEP SEDIMENT FROM ENTERING STREAMS. TEMPORARY EROSION CONTROL BARRIERS AND LIMITED SITE CLEARING WILL BE USED AS NEEDED.

16. IF WORK IS SUSPENDED FOR ANY REASON, THE CONTRACTOR SHALL MAINTAIN THE SOIL EROSION AND SEDIMENTATION CONTROLS IN GOOD OPERATING CONDITION DURING THE SUSPENSION OF THE WORK. ALSO, WHEN SEASONAL CONDITIONS PERMIT AND THE SUSPENSION OF WORK IS EXPECTED TO EXCEED A PERIOD OF ONE MONTH, THE CONTRACTOR SHALL SEED, FERTILIZE, AND MULCH ALL DISTURBED AREAS LEFT EXPOSED WHEN THE WORK IS STOPPED.

GRASS RESTORATION

1. GRASS AREAS TO BE RESTORED SHALL BE SEEDED UNLESS OTHERWISE SHOWN ON THE CONTRACT DRAWINGS.

2. SEEDING AND/OR SODDING SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 329200.19 OF THE DETAILED SPECIFICATIONS.

3. ALL GRASSED AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED BY SEEDING AND MULCHING RATHER THAN SODDING UNLESS OTHERWISE SHOWN ON PLANS, DETAILS, OR SPECIFICATIONS.

4. SEEDING AND MULCHING OF ALL DISTURBED AREAS SHALL IMMEDIATELY FOLLOW EXCAVATION AND SEWER INSTALLATION OPERATIONS.

5. ALL EXPOSED SLOPES ARE TO BE SEEDED AND MULCHED IMMEDIATELY AFTER GRADING WORK IS COMPLETED. IF, IN THE OPINION OF THE ENGINEER, ADDITIONAL EROSION AND SEDIMENTATION CONTROLS ARE REQUIRED, THEY SHALL BE INSTALLED UNDER HIS DIRECTION IN ACCORDANCE WITH APPLICABLE SECTIONS OF ODOT ITEM 207 AND STANDARD CONSTRUCTION DRAWING NO. MC-11.

WATER MAIN SPECIFICATIONS & NOTES:

1. WATER MAINS (3" THROUGH 36") SHALL BE DUCTILE IRON PIPE, CEMENT LINED, AND MANUFACTURED IN ACCORDANCE WITH ANSI/AWWA C151/A21.51 WITH A THICKNESS CLASS OF 52. ALL PIPES, UNLESS OTHERWISE SPECIFIED, SHALL BE FURNISHED WITH PUSH-ON TYPE JOINTS, SUCH AS TYTON OR FASTITE WITH RESTRAINED TYPE JOINTS PROVIDED WITHIN THE LENGTHS NOTED ON THE DRAWING, AND BE IN ACCORDANCE WITH ANSI/AWWA C111/A21.11.

2. RESTRAINED PUSH-ON JOINTS SHALL BE COMPLETELY BOLTLESS; MCWANE SUPER-LOCK, AMERICAN FLEX-RING, U.S. PIPE TR FLEX, OR AS APPROVED. RESTRAINED MECHANICAL JOINTS SHALL BE MEGALUG AS MANUFACTURED BY EBAA IRON, INC., OR AS APPROVED, OF DUCTILE IRON AND WITH A WORKING PRESSURE OF AT LEAST 250 PSI AND A MINIMUM SAFETY FACTOR OF 2:1. MINIMUM LENGTH OF CUT PIECES OF WATER MAIN THAT MAY BE REUSED IS 5 LF.

3. FITTINGS SHALL BE DUCTILE IRON AND MANUFACTURED IN ACCORDANCE WITH ANSI/AWWA C110/A21.10 OR ANSI/AWWA C153/A21.53 (FOR COMPACT FITTINGS). ALL FITTINGS AND ACCESSORIES SHALL BE FURNISHED WITH MECHANICAL TYPE JOINTS IN ACCORDANCE WITH ANSI/AWWA C111/A21.11.

4. ALL FITTINGS, BENDS, TEES, PLUGS, ETC. SHALL BE TIED TO THE WATER MAIN WITH EITHER M.J. TYPE CONNECTIONS, TIE RODS OR MEGA-LUGS. TIE RODS SHALL BE 3/4" DIAMETER STAINLESS STEEL. FOR 24" DIAMETER PIPE USE FOUR RODS.

5. POLYETHYLENE ENCASEMENT SHALL BE AN 8 MIL. V-BIO POLYETHYLNE MANUFACTURED IN ACCORDANCE WITH ANSI/AWWA C105/A21.5. POLYETHYLENE ADHESIVE TAPE, 2" WIDE, SHALL BE USED TO SEAL ALL JOINTS.

6. FIRE HYDRANTS SHALL BE POST TYPE WITH A BREAKABLE FLANGE DESIGN. THE MAIN VALVE SHALL BE 5¼", OPENING LEFT WITH ONE 4½" STEAMER/PUMPER NOZZLE AND TWO 2½" HOSE NOZZLES, ALL WITH NATIONAL STANDARD THREADS UNLESS OTHERWISE SPECIFIED. THE OPENING NUT SHALL BE PENTAGONAL IN SHAPE. HYDRANTS SHALL HAVE A 6" MECHANICAL JOINT TYPE SHOE WITH A 5'-0" BURY DEPTH.
HYDRANTS SHALL BE SHIPPED AND PAINTED AS DIRECTED BY THE VILLAGE.

   NOTE - FIRE HYDRANT ASSEMBLIES SHALL CONSIST OF:

   A. MECHANICAL JOINT ANCHOR TEE
   B. 6" M.J. x M.J. GATE VALVE AND BOX
   C. 6" DUCTILE IRON PIPE (LENGTH VARIES)
   D. FIRE HYDRANT (SEE ABOVE)
   E. ALL NECESSARY APPURTENANCES
   F. 5¼" EXTENSION KIT (IF REQUIRED)

7. GATE VALVES SHALL BE RESILIENT SEAT, NON-RISING STEM WITH MECHANICAL JOINT TYPE ENDS WHICH MEET THE REQUIREMENTS OF AWWA C509. MECHANICAL JOINT ENDS SHALL COMPLY WITH AWWA C111; EXCEPT FOR TAPPING VALVES. THE OPERATING NUT SHALL BE 2" SQUARE, WHICH OPENS TO THE LEFT. VALVES SHALL COME EQUIPPED WITH A DOUBLE O-RING SEAL STUFFING BOX AND HAVE AN EPOXY COATING ON ALL EXTERIOR SURFACES WHICH COMPLIES WITH AWWA C550.

8. BUTTERFLY VALVES SHALL BE OF THE SIZE SHOWN ON THE PLANS AND MEET OR EXCEED ALL APPLICABLE REQUIREMENTS OF ANSI/AWWA C-504 WITH A MAXIMUM WORKING PRESSURE OF 250 PSIG. THE VALVE SHALL HAVE A DUCTILE IRON BODY CONFORMING TO ASTM A-536 WITH MECHANICAL JOINT ENDS. ALL EXTERIOR SURFACES SHALL HAVE AN EPOXY COATING WHICH COMPLIES WITH AWWA C-550. THE ACTUATOR SHALL BE MANUALLY OPERATED WITH A 2" SQUARE NUT, WHICH OPENS COUNTER CLOCKWISE (LEFT).

9. VALVE BOXES SHALL BE CAST IRON, TWO PIECE SCREW TYPE, 5¼" DIA. CONFORMING TO ASTM A-126. EACH PIECE SHALL BE COATED, INSIDE AND OUTSIDE WITH A COAL-TAR PITCH VARNISH, SIMILAR TO THAT USED FOR COATING CAST IRON PIPE. HEIGHT RANGE OF BOX ASSEMBLED SHALL BE 36" TO 60". EACH BOX SHALL INCLUDE A CAST IRON LID WITH THE WORD "WATER" CAST INTO THE TOP. ALL VALVE BOXES SHALL INCLUDE ONE 1½" VALVE BOX RISER.

10. WATER MAINS SHALL TYPICALLY HAVE 4'-6" OF COVER, MEASURED FROM THE TOP OF PIPE VERTICALLY TO THE FINAL FINISH GROUND GRADE OR AS SHOWN SPECIFICALLY ON THE PLANS OR AS DIRECTED BY THE OWNER.

11. TAPPING SLEEVES SHALL HAVE A STAINLESS STEEL BODY WITH A DUCTILE IRON FLANGED OUTLET WHICH COMPLIES WITH ANSI B16.1, CLASS 125 AND WITH MSS SP-60. THE GASKET SHALL COMPLETELY SURROUND THE INSIDE OF THE STAINLESS STEEL BODY. THE SLEEVE SHALL COME EQUIPPED WITH A ¾" NPT BRASS TEST PLUG. MAXIMUM WORKING PRESSURE FOR 4" - 12" SIZES (250 psig) AND FOR 14" - 24" SIZES (200 psig).

    TAPPING VALVES SHALL MEET OR EXCEED ALL APPLICABLE REQUIREMENTS OF ANSI/AWWA C509. THE INLET FLANGE SHALL COMPLY WITH ANSI B16.1, CLASS 125 DRILLING. THE MECHANICAL JOINT OUTLET SHALL COMPLY WITH ANSI/AWWA C111. THE VALVE SHALL HAVE A NON-RISING STEM (NRS). THE OPERATING NUT SHALL BE 2" SQUARE, WHICH OPENS TO THE LEFT. VALVES SHALL COME EQUIPPED WITH A DOUBLE O-RING SEAL STUFFING BOX AND HAVE AN EPOXY COATING ON ALL EXTERIOR SURFACES WHICH COMPLIES WITH AWWA C550.

12. BLOW-OFF HYDRANT ASSEMBLIES SHALL BE ECLIPSE MODEL NO. 85, AS MANUFACTURED BY THE KUPFERLE FOUNDRY COMPANY (1-800-231-3990), OR APPROVED EQUAL. ASSEMBLIES SHALL BE SELF-DRAINING, NON-FREEZING, COMPRESSION TYPE WITH 2-3/16" MAIN VALVE OPENING. THE INLET CONNECTION SHALL BE 2"IP. THE OUTLET SIZE SHALL BE 2-1/2" NST. HYDRANT SHALL HAVE A CAST IRON BOX, LOCKING LID, AND 3" DUCTILE IRON RISER PIPE. THE INTERIOR OPERATING PARTS SHALL BE BRASS AND BE REMOVABLE FROM THE HYDRANT FOR SERVICING WITHOUT EXCAVATING THE HYDRANT. THE ASSEMBLY SHALL BE SET IN A MINIMUM FOUR (4) CUBIC FEET OF #57 WASHED STONE. THE DEPTH OF BURY SHALL BE 5'-6". THE TOP OF THE ASSEMBLY SHALL BE FLUSH WITH THE FINAL GRADE OF THE ADJACENT GROUND.

13. WATER SERVICE PIPE, 2" OR LESS, SHALL BE AS NOTED ON PLANS AND SPECIFICATIONS. SIZE SHALL BE AS NOTED ON THE PLANS (1" MINIMUM). ALL PIPES SHALL HAVE COMPRESSION ENDS. MINIMUM COVER OVER THE PIPE SHALL BE FOUR (4) FEET - SIX (6) INCHES UNLESS OTHERWISE NOTED ON THE DRAWINGS.

14. CORPORATION STOPS SHALL BE A GROUND KEY DESIGN, CAST FROM BRASS ALLOY, CONFORMING TO ANSI/AWWA C800. INLET END SHALL HAVE AWWA TAPER THREADS; OUTLET END SHALL HAVE A COPPER COMPRESSION QUARTER BEND CONNECTION.

    ALL WATER SERVICE TAPS, 2" OR LESS SHALL BE TAPPED ON TOP OF THE WATER MAIN. THE CORPORATION STOPS AND QUARTER BEND SHALL BE BLOCKED.

15. CURB VALVES (STOPS) SHALL BE A ONE PIECE DESIGN, CAST FROM A BRASS ALLOY, CONFORMING TO ANSI/AWWA C800, HAVE A MAXIMUM WORKING PRESSURE OF 175 PSIG, AND HAVE A QUARTER TURN CHECK. BOTH ENDS SHALL HAVE COPPER COMPRESSION FITTINGS. CURB VALVES SHALL BE BURIED TO A MINIMUM DEPTH OF 4 FEET AND A MAXIMUM DEPTH OF 5 FEET.

16. CURB BOXES SHALL BE CAST IRON, TWO PIECE SCREW TYPE, ADJUSTABLE TO A TOTAL HEIGHT BETWEEN 48 INCHES TO 60 INCHES. LIDS SHALL BE CAST IRON WITH THE WORD "WATER" CAST INTO THE TOP. LIDS SHALL BE SECURED WITH ONE BRASS PENTAGONAL HEAD SCREW. ALL BOXES SHALL BE LOCATED WHERE SHOWN ON THE PLANS OR AS DIRECTED BY THE OWNER.

17. SERVICE FITTINGS TO CONNECT TO EXISTING WATER SERVICES WHICH ARE NOT 1" DIAMETER COPPER SHALL BE A MUELLER H-15425, SMITHBLAIR 525, OR EQUAL.

    BEFORE TESTING THE WATER MAIN, THE SYSTEM SHALL BE FLUSHED ACCORDING TO THE MOST CURRENT PROCEDURES SET FORTH BY THE OWNER WATER DEPT. CALL THE OWNER FOR THE MOST RECENT PROCEDURES. ALL LEAKS SHALL BE LOCATED AND REPAIRED BY THE CONTRACTOR. ALL WATER SAMPLES SHALL BE OBTAINED AND TESTED BY THE OWNER.

18. WATER MAINS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH AWWA C600. ALL TEST RESULTS MUST BE APPROVED BY THE OWNER BEFORE INSTALLATION OF WATER SERVICES. COST SHALL BE SUBSIDIARY TO THE INSTALLATION OF WATER MAIN. TEST PRESSURE SHALL BE 150 PSI.

19. WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651. COST SHALL BE SUBSIDIARY TO THE INSTALLATION OF WATER MAIN.

20. THE PROPOSED WATER SYSTEM SHALL MAINTAIN A MINIMUM STATIC PRESSURE OF 35psi DELIVERED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.

21. BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS. THE TOWNSHIP MAY GRANT SPECIAL PERMISSION FOR BUILDINGS SIX STORIES AND HIGHER.

22. THE CONTRACTOR SHALL MAINTAIN A MINIMUM 10 FOOT HORIZONTAL SEPARATION AND 18 INCH VERTICAL SEPARATION BETWEEN THE PROPOSED WATER MAIN AND EXISTING STORM SEWERS AS MEASURED FROM OUTSIDE EDGE TO OUTSIDE EDGE UNLESS NOTED ON THE PLAN AND PROFILE SHEETS.

23. THE CONTRACTOR SHALL MAINTAIN A MINIMUM 10 FOOT HORIZONTAL SEPARATION AND 18 INCH VERTICAL SEPARATION BETWEEN THE PROPOSED WATER MAIN AND EXISTING SANITARY SEWERS FROM OUTSIDE EDGE TO OUTSIDE EDGE.

24. THE CONTRACTOR SHALL NOT OPERATE OR TURN ANY EXISTING WATER VALVE. IF VALVES NEED TO BE OPENED OR CLOSED HE SHALL NOTIFY THE OWNER.

25. ALL ROUGH GRADING TO WITHIN SIX (6) INCHES OF FINISH GRADE SHALL BE COMPLETED OVER THE PROPOSED WATER MAIN PRIOR TO IT'S INSTALLATION.

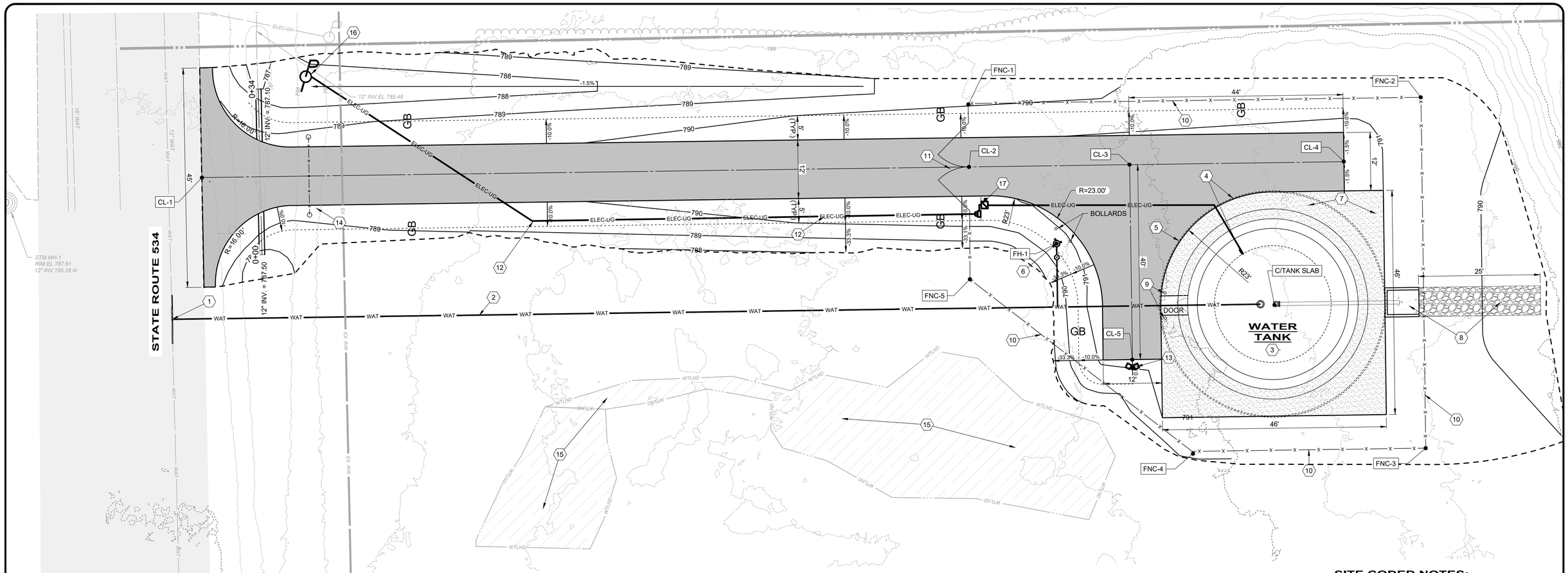
26. THE LOCATION OF EXISTING WATER UTILITIES AS SHOWN ON THESE PLANS WERE DETERMINED FROM AVAILABLE DATA AT THE TIME OF FIELD SURVEYING IN ACCORDANCE WITH SECTION 153.63 OF THE OHIO REVISED CODE.

27. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS, PAYING ALL FEES, AND FOLLOWING ALL REQUIREMENTS ASSOCIATED WITH THE PERMITS. THE OWNER ASSUMES NO LIABILITY FOR NOT FOLLOWING THE ABOVE.

28. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OHIO UTILITY PROTECTION SERVICE (OUPS) AS REQUIRED BY LAW.

29. NO WATERLINE TIE-INS SHALL BE DONE ON FRIDAYS OR THE DAY BEFORE A VILLAGE HOLIDAY.

30. DEFLECT WATER MAIN AS REQUIRED TO MAINTAIN ALIGNMENT AS SHOWN ON PLANS. MAXIMUM DEFLECTION IS 15 DEGREES PER JOINT.



SCALE: 1" = 10'

PROFILE BAR SCALE

HORIZ: 10' 5' 0' 10'

VERT: 5' 2.5' 0' 5'

PROPOSED WATER TANK SITE PLAN

SCALE: 1" = 10'

SITE STAKEOUT POINT TABLE

POINT TAG	POINT #	NORTHING	EASTING	ELEVATION
CL-1	101	772166.30	2392211.31	789.18
CL-2	102	772168.47	2392368.85	790.99
CL-3	103	772168.93	2392401.87	791.16
CL-4	104	772169.54	2392445.86	791.38
CL-5	105	772128.94	2392402.42	791.18
CL-6	106	772139.93	2392402.27	791.41
C/TANK SLAB	120	772140.34	2392431.26	791.50
FNC-1	301	772181.47	2392368.69	788.94
FNC-2	302	772182.76	2392461.68	790.75
FNC-3	303	772110.77	2392462.68	790.50
FNC-4	304	772145.43	2392369.06	788.47
FNC-5	305	772110.10	2392414.68	789.84
FH-1	401	772152.76	2392386.84	788.91

LEGEND:

- CODED NOTE
- EOP-6 — DENOTES COORDINATE DESCRIPTION TAG
- APPROXIMATE EARTH WORK LIMITS
- x — CHANLINK FENCE
- ELEC-UG — PROPOSED UNDERGROUND ELEC SERVICE TO CONTROL PANEL
- PROPOSED STORM DRIVEWAY 12" HDPE
- PROPOSED GRADE BREAK
- WAT — PROPOSED WATER LINE

SITE CODED NOTES:

1. PROPOSED 12" WATER CONNECTION TO EX WATER LINE PER DETAIL ON WATER LINE PLAN & PROFILE SHEET.
2. PROPOSED 12" WATER LINE - PER DETAIL
3. PROPOSED WATER TANK - PER DETAIL
4. PROPOSED WATER TANK FOUNDATION - PER DETAIL
5. WATER TOWER BULB OUTLINE
6. PROPOSED FIRE HYDRANT - PER DETAIL
7. ODOT 57 LIMESTONE AGGREGATE ON WEED PROOF LANDSCAPE FABRIC
8. EMERGENCY OVERFLOW SPLASH PAD AND RIP RAP, SEE DETAIL
9. PROPOSED 6" BOLLARD
10. PROPOSED CHAIN LINK FENCE W/ BARBED WIRE SURROUND, SEE DETAIL
11. PROPOSED DOUBLE FENCE GATE (2 GATES @ 6 LF = 12') WITH SECURITY LOCK SYSTEM PER OWNER
12. PROPOSED UNDERGROUND ELECTRIC SERVICE LINE
13. PROPOSED UTILITY & SITE LIGHTING POLE
14. PROPOSED 16-FT WIDE SINGLE SWING STEEL TUBULAR ACCESS GATE
15. PRIOR TO ANY LAND CLEARING, GRADING OR GRUBBING, THE CONTRACTOR SHALL MARK THE SITE BY INSTALLING ORANGE CONSTRUCTION FENCING AND SIGNS AS SHOWN ON THE CONSTRUCTION PLANS TO INDICATE BOUNDARIES OF WETLANDS AND STREAMS TO BE PROTECTED.
16. APPROXIMATE LOCATION OF NEW ELECTRICAL SERVICE POLE TO BE SET WITHIN THE RIGHT OF WAY BY FIRST ENERGY. CONTRACTOR SHALL COORDINATE WITH FIRST ENERGY REGARDING POLE PLACEMENT SCHEDULE TO COINCIDE WITH UNDERGROUND CONDUIT INSTALLATION.
17. PROPOSED METER AND SERVICE RACK. REFER TO ELECTRICAL SERIES DRAWINGS FOR ADDITIONAL DETAILS.

verdantas

STATE OF OHIO
TIMOTHY MCLAUGHLIN
E-83985
REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE
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ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES

HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT

ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

SCALE:	AS SHOWN
DATE:	08/01/2025
DESIGNED BY:	PAB
DRAWN BY:	PAB
CHECKED BY:	TJM

WATER TANK SITE - 01 SERIES

PROPOSED WATER TANK SITE PLAN

PROJECT NO:	
200426	
DRAWING NAME	
01C-01	
SHEET	OF
6	22

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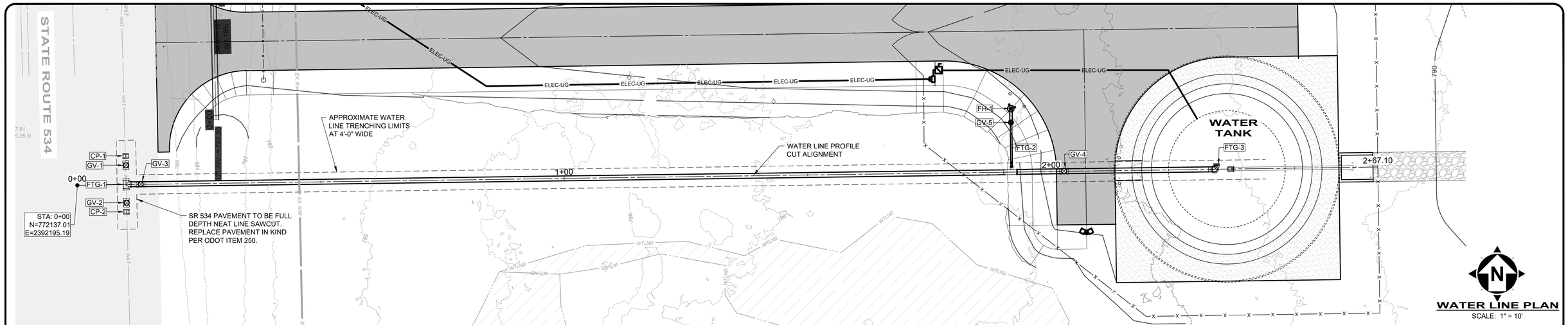


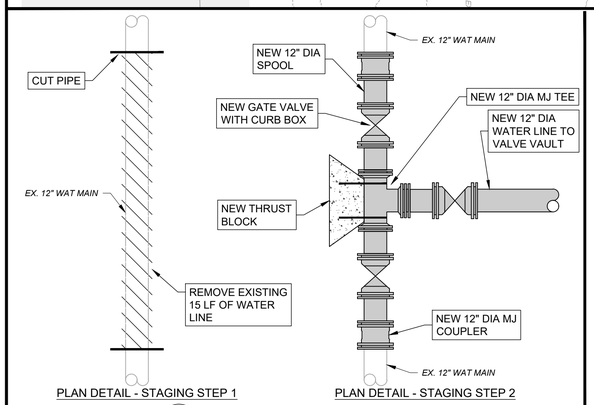
WATER LINE PLAN

SCALE: 1" = 10'

PROFILE BAR SCALE

HORIZ: 10' 5' 0' 10'

VERT: 5' 2.5' 0' 5'



1 **CONNECTION DETAIL**

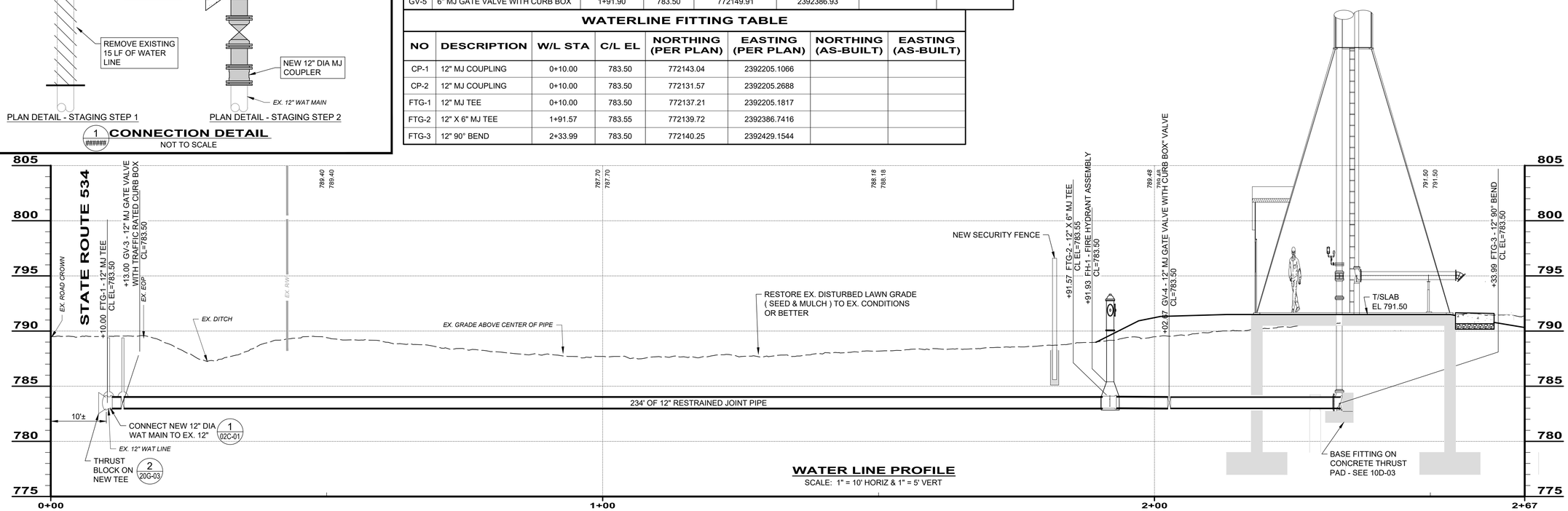
NOT TO SCALE

WATERLINE VALVE TABLE

NO	DESCRIPTION	W/L STA	C/L EL	NORTHING (PER PLAN)	EASTING (PER PLAN)	NORTHING (AS-BUILT)	EASTING (AS BUILT)
FH-1	FIRE HYDRANT ASSEMBLY	1+91.93	783.50	772152.77	2392386.91		
GV-1	12" MJ GATE VALVE WITH CURB BOX	0+10.00	783.50	772141.12	2392205.13		
GV-2	12" MJ GATE VALVE WITH CURB BOX	0+10.00	783.50	772133.44	2392205.24		
GV-3	12" MJ GATE VALVE	0+13.00	783.50	772137.24	2392208.19		
GV-4	12" MJ GATE VALVE WITH CURB BOX	2+02.67	783.50	772139.91	2392397.84		
GV-5	6" MJ GATE VALVE WITH CURB BOX	1+91.90	783.50	772149.91	2392386.93		

WATERLINE FITTING TABLE

NO	DESCRIPTION	W/L STA	C/L EL	NORTHING (PER PLAN)	EASTING (PER PLAN)	NORTHING (AS-BUILT)	EASTING (AS-BUILT)
CP-1	12" MJ COUPLING	0+10.00	783.50	772143.04	2392205.1066		
CP-2	12" MJ COUPLING	0+10.00	783.50	772131.57	2392205.2688		
FTG-1	12" MJ TEE	0+10.00	783.50	772137.21	2392205.1817		
FTG-2	12" X 6" MJ TEE	1+91.57	783.55	772139.72	2392386.7416		
FTG-3	12" 90° BEND	2+33.99	783.50	772140.25	2392429.1544		



WATER LINE PROFILE

SCALE: 1" = 10' HORIZ & 1" = 5' VERT

verdantas

STATE OF OHIO TIMOTHY MCLAUGHLIN E-83985 REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE

ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES

HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT

ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

SCALE:	AS SHOWN
DATE:	08/01/2025
DESIGNED BY:	PAB
DRAWN BY:	PAB
CHECKED BY:	TJM

WATER LINE SITE IMPROVEMENTS - 02 SERIES

WATER LINE PLAN & PROFILE

PROJECT NO:	
200426	
DRAWING NAME	
02C-01	
SHEET	OF
7	22

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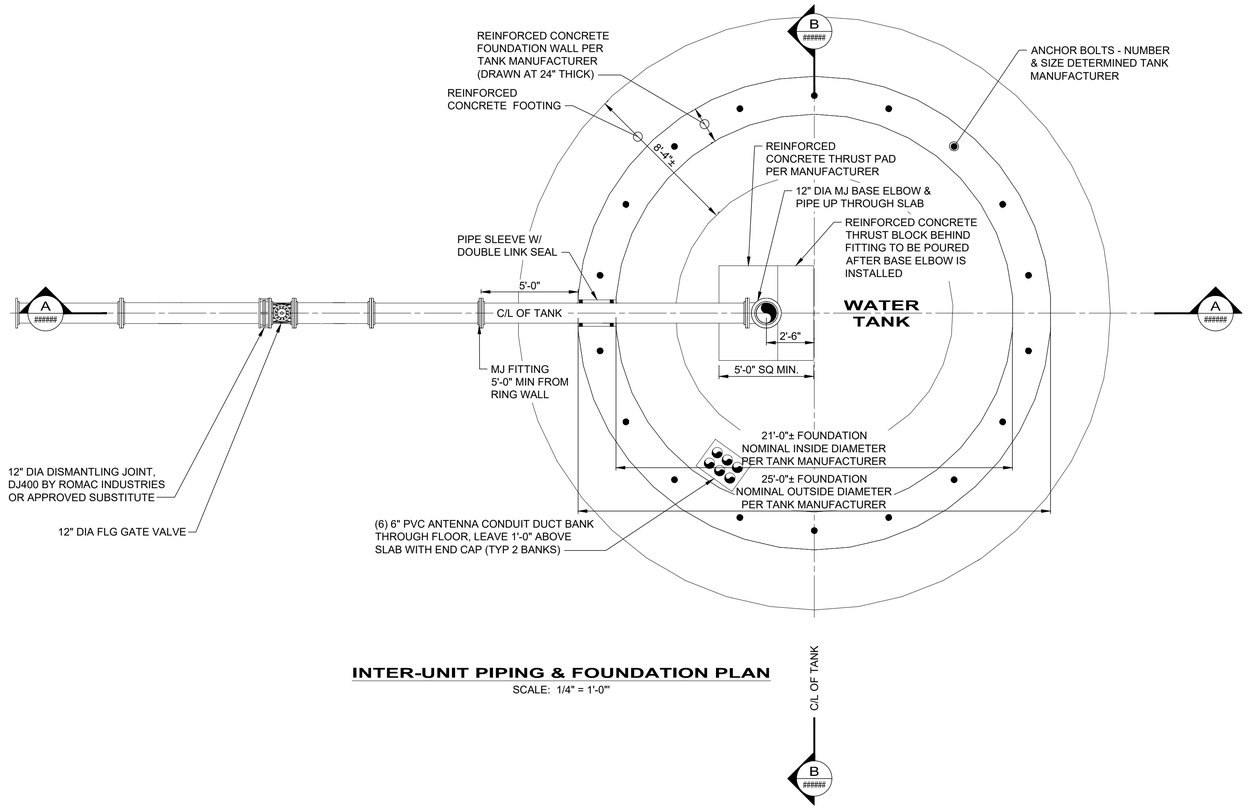
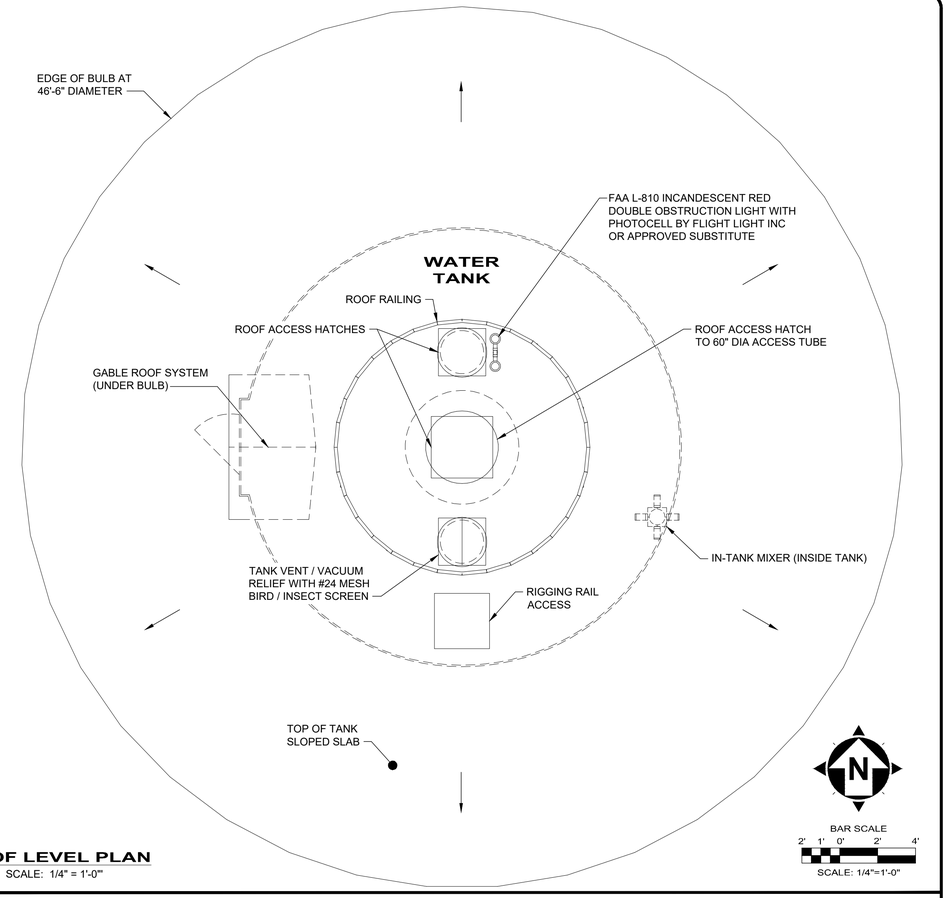


INTER-UNIT PIPING & FOUNDATION PLAN

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



ROOF LEVEL PLAN

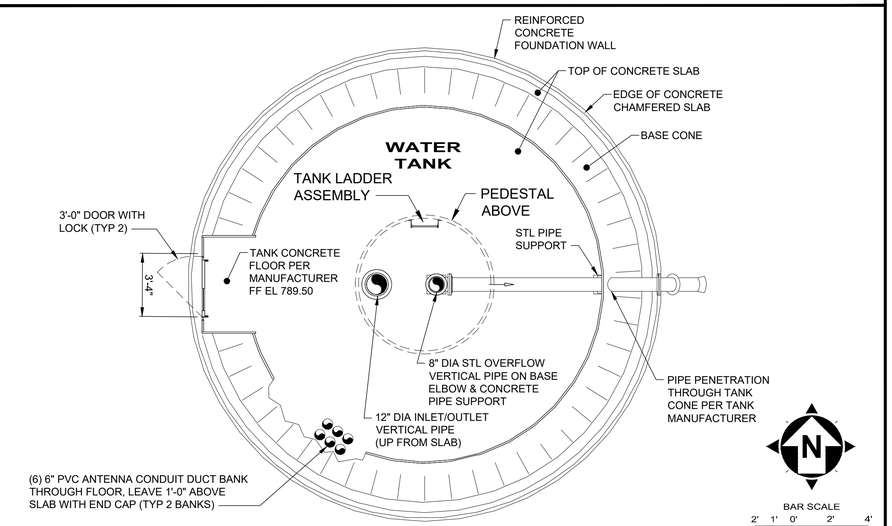
SCALE: 1/4" = 1'-0"'

WATER TOWER DESIGN NOTES:

1. THE WATER TANK DRAWINGS ARE DESIGNED BASED ON PEDESPHERE ELEVATED STORAGE TANK WITH A CONE BASE, 300,000 GALLON CAPACITY, 46'-6" BULB DIAMETER, HEAD RANGE OF 33'-0" WITH A MINIMUM 5'-0" FREEBOARD FROM THE OVERFLOW WEIR.
2. THE WATER TANK & TANK FOUNDATION DESIGN IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL SUBMIT DESIGN CALCULATIONS & DRAWINGS SEALED BY A REGISTER PROFESSIONAL ENGINEER IN THE STATE OF OHIO.
3. ALL WATER TANK APPURTENANCES (LADDER CAGE, LADDER, RAILINGS, PIPE SUPPORTS, VENTILATOR, ACCESS HATCHES, PIPE PENETRATIONS, PIPE SUPPORTS, LANDINGS, PLATFORMS, WALKWAYS AND ALL OTHER STRUCTURAL CONNECTIONS, ETC. MUST BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF OHIO UNDER CONTRACT WITH THE SUPPLIED TANK MANUFACTURER) AND SHALL BE FABRICATED BY THE SUPPLIED TANK MANUFACTURER. CONTRACTOR SHALL COORDINATE WITH THE TANK MANUFACTURER & ENGINEER FOR ANY ADDITIONAL APPURTENANCES. THE ELEVATED WALKWAYS MUST BE DESIGNED FOR A LIVE LOAD OF 40 PSF. ALL STRUCTURAL DESIGNS MUST BE IN ACCORDANCE WITH PERTINENT BUILDING AND STRUCTURAL DESIGN CODES.
4. WATER TANK CONCRETE FLOOR SHALL HAVE XYPEX CRACK / SEEPAGE CONTROL ADMIXTURE OR APPROVED SUBSTITUTE PER MANUFACTURER RECOMMENDATIONS.
5. ALL HANDRAILS, PLATFORM LANDINGS, WALKWAYS, LADDERS, AND SAFETY CLIMB DEVICES SHALL CONFORM WITH CURRENT OSHA STANDARDS.
6. RISER PIPES SHALL HAVE PROTECTIVE BARS OVER THE RISER OPENINGS INSIDE TANK IN ACCORDANCE WITH RECOMMENDED STANDARDS FOR WATER WORKS 2012 SECTION 7.0.12(B).
7. SEE PROJECT SPECIFICATIONS FOR SHOP AND FIELD PAINT REQUIREMENTS.
8. DISINFECT TANK IN ACCORDANCE WITH AWWA C652-19 AND PROJECT SPECIFICATIONS.
9. DISINFECT WATERLINE IN ACCORDANCE WITH AWWA C651-19 AND PROJECT SPECIFICATIONS.

FOUNDATION NOTES:

1. FOUNDATION CONSTRUCTION SHALL COMPLY WITH A.C.I. 318-14, A.C.I. 301-16, AWWA D100-11, AND APPLICABLE SECTIONS OF THE PROJECT SPECIFICATIONS AND THE PROJECT SOILS REPORT.
2. FOUNDATION DESIGN WILL BE THE RESPONSIBILITY OF THE TANK MANUFACTURER.
3. PEDESTAL AND FOOTING DIMENSIONS AND CONCRETE REINFORCEMENT SHALL BE DETERMINED BY THE TANK MANUFACTURER.
4. MINIMUM FOUNDATION CONCRETE COMPRESSIVE STRENGTH SHALL BE 4,000 P.S.I. AT 28 DAYS. REINFORCEMENT SHALL CONFORM TO ASTM A615 GR. 60.
5. CONSTRUCTION JOINTS SHALL BE ROUGHENED ACROSS ENTIRE FACE WITH 1/4" MINIMUM DEPTH INDENTATIONS.
6. THE TOP OF THE RINGWALL SHALL BE LEVEL WITHIN (±) 1/8" IN 30 FEET WITH A MAXIMUM DIFFERENTIAL OF (±) 1/4" BETWEEN ANY TWO POINTS ON THE CIRCUMFERENCE.
7. PROVIDE 1/2" THICK EXPANSION JOINT MATERIAL BETWEEN FLOOR AND WALL AND AT ALL PIPING PENETRATIONS.
8. REFER TO SUBSURFACE EXPLORATION REPORT PROVIDED BY WERTZ GEOTECHNICAL ENGINEERING, INC. (WGE PROJECT No. 20221035). FOR THE FOUNDATION DESIGN GUIDELINES.



GRADE LEVEL PLAN

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

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STATE OF OHIO
TIMOTHY MCLAUGHLIN
E-83985
REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE
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ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES

HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT

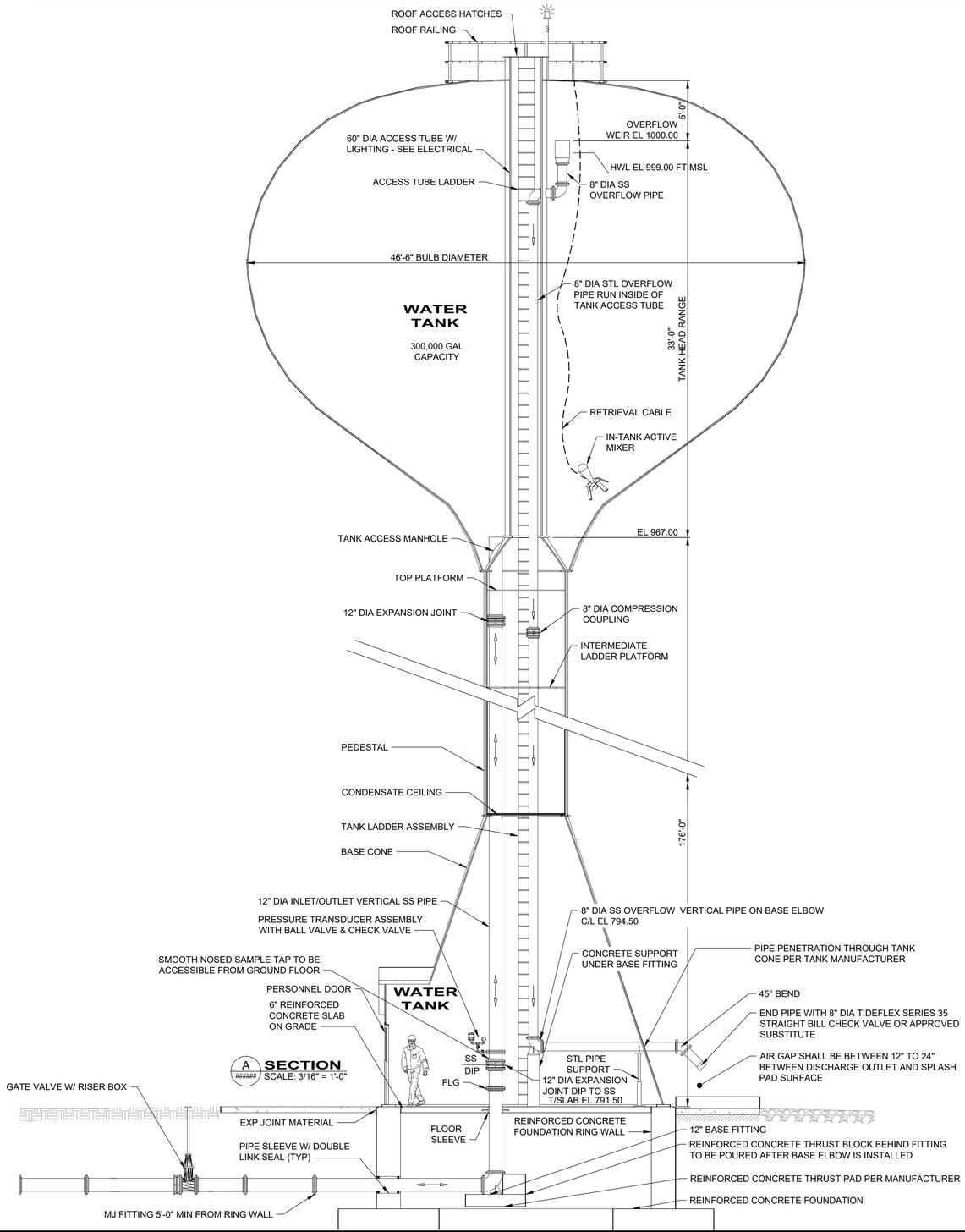
ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

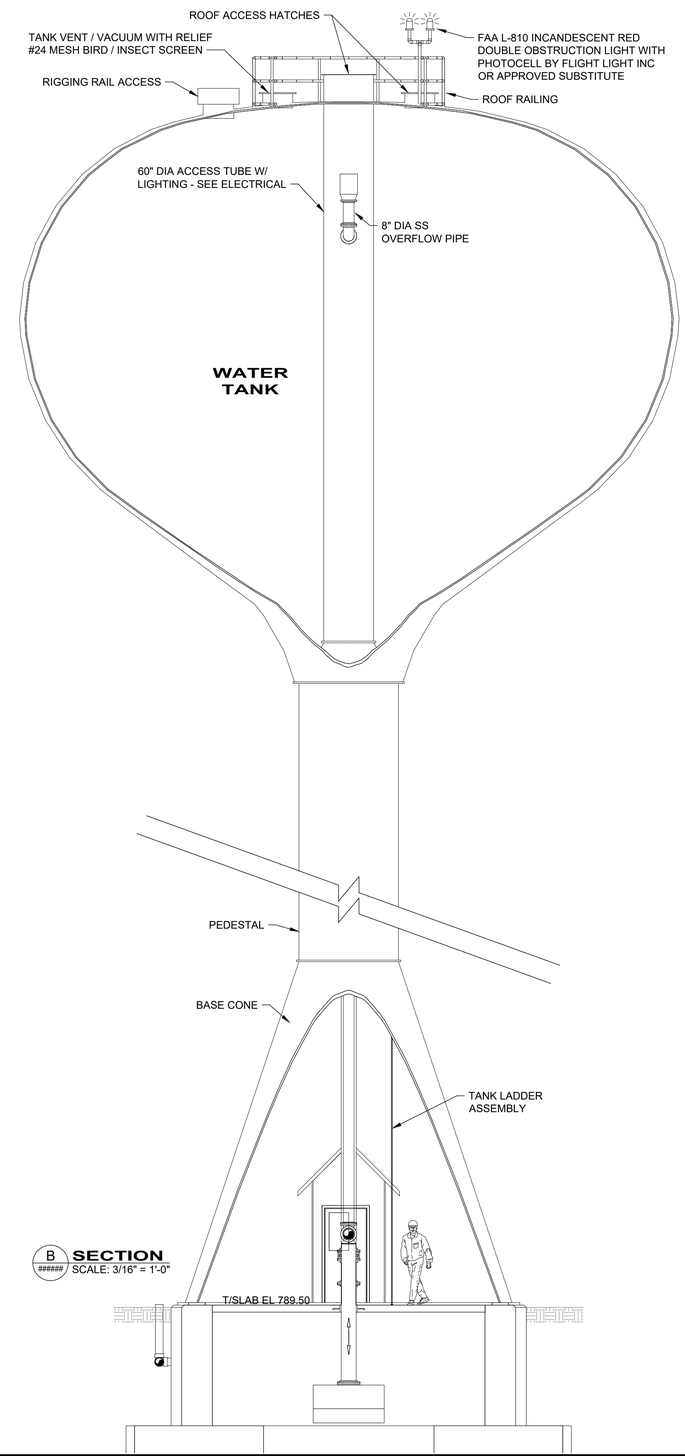
SCALE:	AS SHOWN
DATE:	08/01/2025
DESIGNED BY:	TJM
DRAWN BY:	PAB
CHECKED BY:	TJM

WATER TANK FACILITY - 10 SERIES

WATER TANK & CONTROL BUILDING PLAN VIEWS

PROJECT NO:	
200426	
DRAWING NAME	
10D-01	
SHEET	OF
8	22





BAR SCALE
2' 1' 0' 2' 4' 6'
SCALE: 3/16"=1'-0"

verdantas

STATE OF OHIO
TIMOTHY MCLAUGHLIN
E-83985
REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE
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ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES
HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT
ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

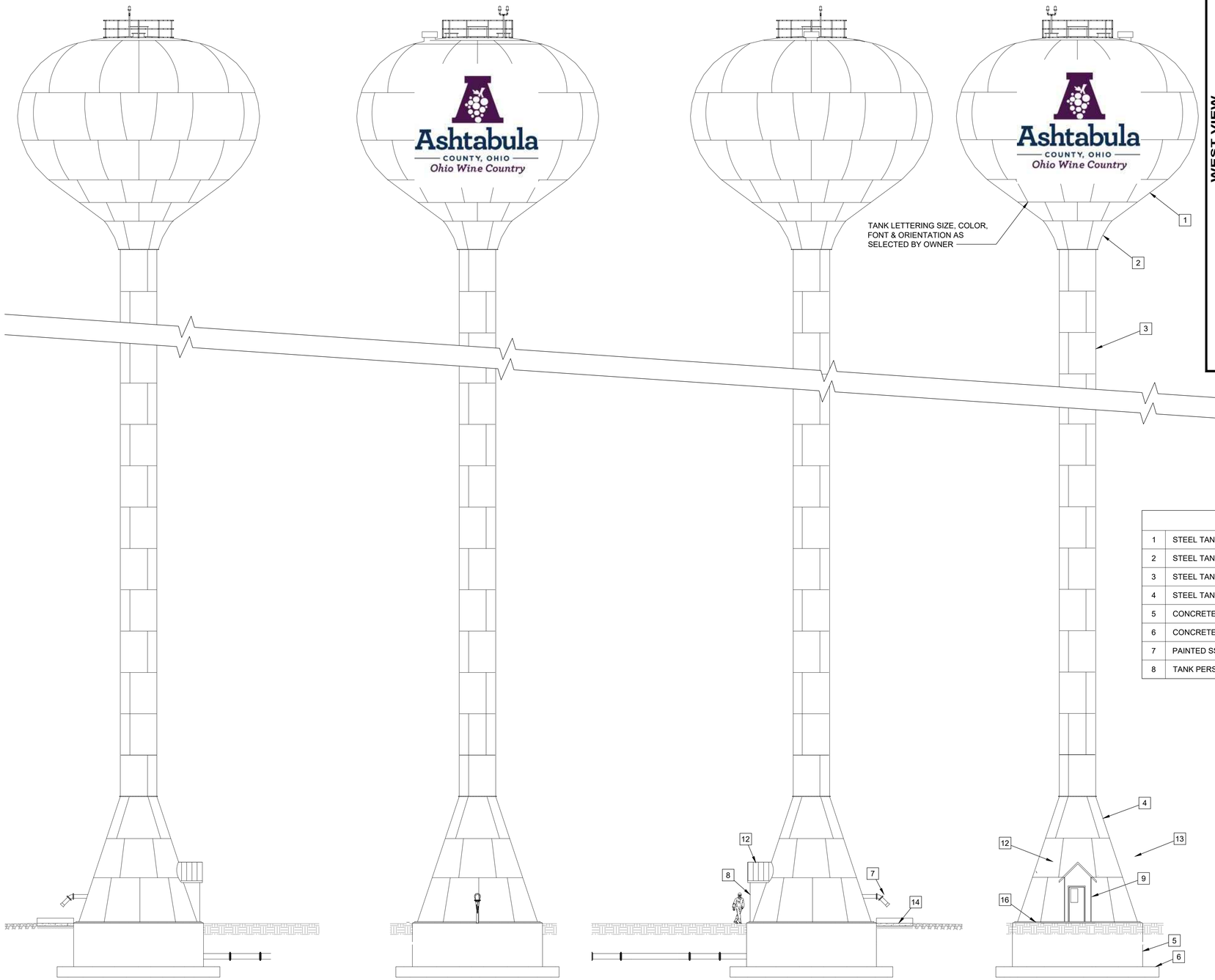
SCALE:	AS SHOWN
DATE:	08/01/2025
DESIGNED BY:	TJM
DRAWN BY:	PAB
CHECKED BY:	TJM

WATER TANK FACILITY - 10 SERIES

WATER TANK & CONTROL BUILDING SECTION VIEWS

PROJECT NO:	
200426	
DRAWING NAME	
10D-02	
SHEET	OF
9	22

H:\2020\200426\DWG\SHEETS\D_200426 - PROPOSED WATER TANK PLANS.DWG - 9 WATER TANK & CONTROL BUILDING SECTION VIEWS - 7/24/2025 4:22:53 PM - BOB MARANO

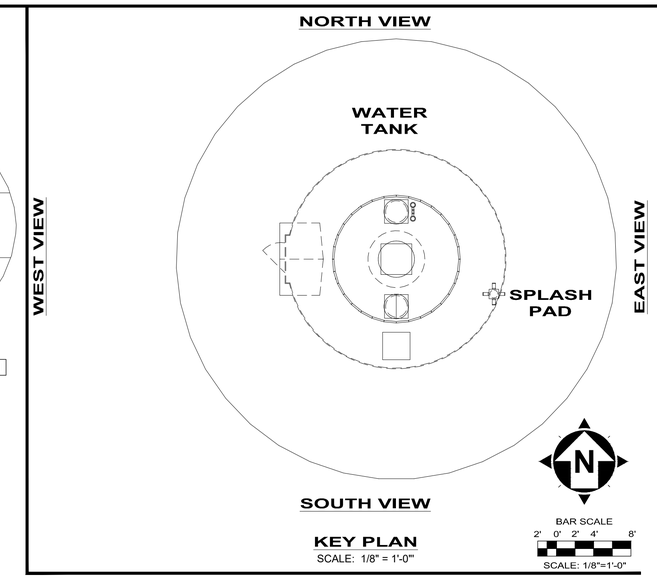


NORTH ELEVATION VIEW
SCALE: 3/32" = 1'-0"'

EAST ELEVATION VIEW
SCALE: 3/32" = 1'-0"'

SOUTH ELEVATION VIEW
SCALE: 3/32" = 1'-0"'

WEST ELEVATION VIEW
SCALE: 3/32" = 1'-0"'



KEY PLAN
SCALE: 1/8" = 1'-0"'

ELEVATION SCHEDULE			
1	STEEL TANK BOWL		
2	STEEL TANK SMOOTH TRANSITION SECTION		
3	STEEL TANK PEDESTAL	11	PRE-FINISHED LOUVER
4	STEEL TANK BASE CONE	12	STANDING SEAM METAL ROOFING SYSTEM
5	CONCRETE FOUNDATION RING WALL	13	PAINTED PVC VENT PIPE
6	CONCRETE FOUNDATION SLAB	14	SPLASH PAD
7	PAINTED SS OVERFLOW PIPE		
8	TANK PERSONAL DOOR	16	CLEAN OUT

BAR SCALE
2' 0' 4' 8' 12'
SCALE: 3/32"=1'-0"

verdantas

STATE OF OHIO
TIMOTHY MCLAUGHLIN
E-83985
REGISTERED
PROFESSIONAL ENGINEER

NO	REVISION	DATE
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ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES
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WATER TANK FACILITY - 10 SERIES
WATER TANK & CONTROL BUILDING ELEVATION VIEWS

PROJECT NO:	
200426	
DRAWING NAME	
10D-03	
SHEET	OF
10	22

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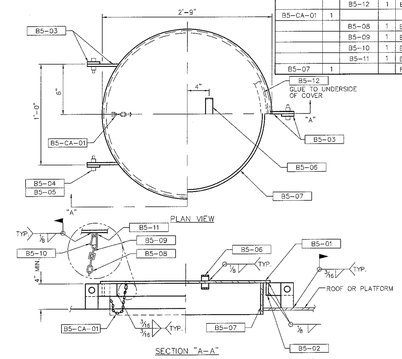
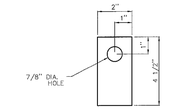
NOTE:
FIELD ADJUST CHAIN SUCH THAT MANHOLE COVER OPENS PAST VERTICAL BUT DOES NOT LAND ON ROOF OR ROOF ACCESSORY.

SHIPPING ITEM	QTY.	PC. MK.	QTY.	MATERIAL REQ'D	DESCRIPTION	UNIT WT.
B5-MR-30	1			30" DIA. ROOF MANHOLE		45
		B5-01	1	PL 11 GA. x 33" DIA.	COVER	
		B5-02	1	FB 1/8" x 2" x 8'-5 9/16" (ROLL TO 32 1/2" O.D.)	OVERLAPPING RING	
		B5-03	6	FB 3/8" x 2" x 4 1/2"	HINGE/ LATCH BAR	
		B5-04	3	BY 3/4" DIA. x 1 1/2" (ZINC PL.)	M. BOLT w/ NUT	
		B5-05	3	BY 3/4" DIA. BOLT ISOLATORS		
		B5-06	2	FB 1/8" x 2" x 12" (BENT)	HANDLE	
		B5-12	1	BY 1/8" X 31" OD X 29" ID	GASKET	
B5-CA-01	1			CHAIN ASSEMBLY		
		B5-08	1	BY 1/4" ELECTROGALVANIZED CHAIN 3'-0" LG	CHAIN	
		B5-09	1	BY 1/4" QUICK LINK		
		B5-10	1	BY SWIVEL HOOK		
		B5-11	1	BY 1/4" HALF CHAIN LINK		
B5-07	1			PI 30" O.D. x 1/4" x 6" LG.	NECK	40



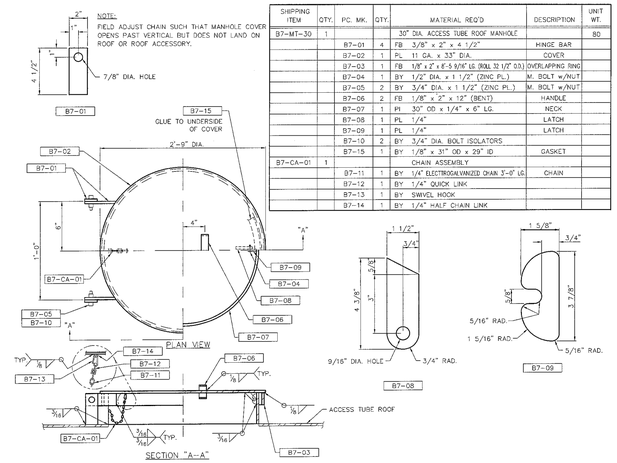


HINGE/ LATCH BAR DETAIL
B5-03

5 30" DIA ROOF MANHOLE DETAIL
NOT TO SCALE

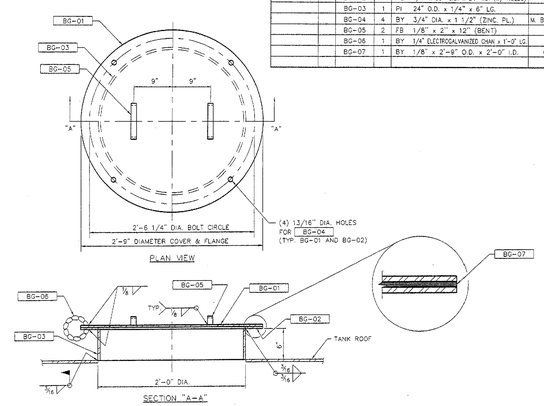
NOTE:
FIELD ADJUST CHAIN SUCH THAT MANHOLE COVER OPENS PAST VERTICAL BUT DOES NOT LAND ON ROOF OR ROOF ACCESSORY.

SHIPPING ITEM	QTY.	PC. MK.	QTY.	MATERIAL REQ'D	DESCRIPTION	UNIT WT.
B7-MT-30	1			30" DIA. ACCESS TUBE ROOF MANHOLE		80
		B7-01	4	FB 3/8" x 2" x 4 1/2"	HINGE BAR	
		B7-02	1	PL 11 GA. x 33" DIA.	COVER	
		B7-03	1	FB 1/8" x 2" x 8'-5 9/16" LG (ROLL TO 32 1/2" O.D.)	OVERLAPPING RING	
		B7-04	1	BY 1/2" DIA. x 1 1/2" (ZINC PL.)	M. BOLT w/NUT	
		B7-05	2	BY 3/4" DIA. x 1 1/2" (ZINC PL.)	M. BOLT w/NUT	
		B7-06	2	FB 1/8" x 2" x 12" (BENT)	HANDLE	
		B7-07	1	PI 30" OD x 1/4" x 6" LG.	NECK	
		B7-08	1	PL 1/4"	LATCH	
		B7-09	1	PL 1/4"	LATCH	
		B7-10	2	BY 3/4" DIA. BOLT ISOLATORS		
		B7-15	1	BY 1/8" x 31" OD x 29" ID	GASKET	
B7-CA-01	1			CHAIN ASSEMBLY		
		B7-11	1	BY 1/4" ELECTROGALVANIZED CHAIN 3'-0" LG.	CHAIN	
		B7-12	1	BY 1/4" QUICK LINK		
		B7-13	1	BY SWIVEL HOOK		
		B7-14	1	BY 1/4" HALF CHAIN LINK		

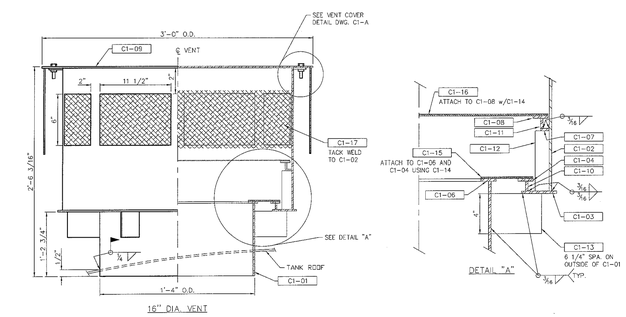


7 30" DIA ACCESS TUBE ROOF MANHOLE DETAIL
NOT TO SCALE

SHIPPING ITEM	QTY.	PC. MK.	QTY.	MATERIAL REQ'D	DESCRIPTION	UNIT WT.
BG-MF-24	1			24" DIA. EXHAUST FAN MANHOLE		115
		BG-01	1	PL 11 GA. x 33" DIA. (w/ HOLES)	COVER	
		BG-02	1	PL 1/4" x 33" O.D. x 24" I.D. (w/ HOLES)	FLANGE	
		BG-03	1	PI 24" O.D. x 1/4" x 6" LG.	NECK	
		BG-04	4	BY 3/4" DIA. x 1 1/2" (ZINC PL.)	M. BOLT w/ NUT	
		BG-05	2	FB 1/8" x 2" x 12" (BENT)	HANDLE	
		BG-06	1	BY 1/4" ELECTROGALVANIZED CHAIN x 1'-0" LG.	CHAIN	
		BG-07	1	BY 1/8" x 2'-9" O.D. x 2'-0" I.D.	GASKET	

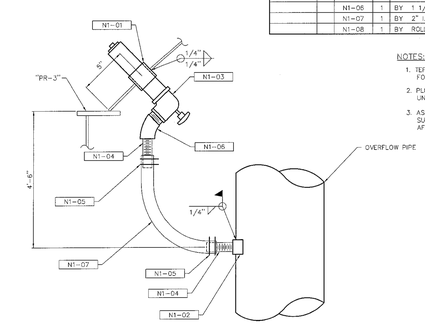


6 24" DIA EXHAUST FAN MANHOLE DETAIL
NOT TO SCALE



8 16" DIA VENT DETAIL
NOT TO SCALE

	SHIPPING ITEM	QTY.	PC. MK.	QTY.	MATERIAL REQ'D	DESCRIPTION	UNIT WT.
SHOP INSTALL	N1-01			1	BY 2"-3000# THREADED w/ PLUG	COUPLING	
FIELD INSTALL	N1-02			1	BY 1 1/2" - STD. WT. STEEL	COUPLING	
	N1-DV-02	1			2" DIA. NON-FREEZE DRAIN FOR PEDESPHERE		
			N1-03	1	BY 2" NON-FREEZING WATER DRAIN VALVE	S&J - 9618T	
			N1-04	2	BY 1 1/2"x 6" LG. (GALVANIZED)	PIPE NIPPLE	
			N1-05	4	BY HOSE CLAMPS FOR 2" I.D. HOSING	STAINLESS STEEL	
			N1-06	1	BY 1 1/2"-45° STREET ELL. (GALV.)	ELBOW	
			N1-07	1	BY 2" I.D. x 4'-0" LG.	RUBBER HOSE	
			N1-08	1	BY ROLL TAPE FOR THREADS	TEFLON TAPE	



NOTES:

1. TEFLON TAPE TO BE USED FOR ALL THREADED CONNECTIONS.
2. PLUG SHALL REMAIN INSTALLED IN COUPLING UNTIL PAINTING OPERATIONS ARE COMPLETE.
3. ASSEMBLY N1-DV-02 SHALL BE SHIPPED TO PAINT SUBCONTRACTOR FOR INSTALLATION AS SHOWN AFTER PAINTING OPERATIONS ARE COMPLETE.

9 2" DIA NON-FREEZE DRAIN FOR PEDESPHER DETAIL
NOT TO SCALE

WATER TANK CONSTRUCTION DETAILS NOTE:

1. THE WATER TANK DETAILS SHOWN ON THIS SHEET ARE GENERAL DETAILS & WILL VARY PER TANK SUPPLIER. THE CONTRACTOR SHALL COORDINATE WITH THE TANK MANUFACTURER & ENGINEER AND PROVIDE THE TANK SUPPLIERS CONSTRUCTION DETAILS TO THE ENGINEER FOR REVIEW DURING THE SHOP DRAWING PROCESS.

verdantas

STATE OF OHIO
TIMOTHY MCLAUGHLIN
E-83985
REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE
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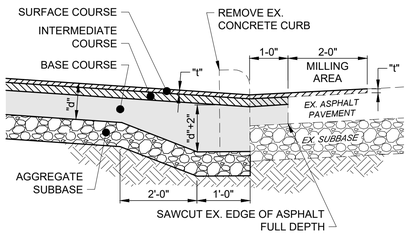
WATER TANK FACILITY - 10 SERIES

WATER TANK & CONTROL BUILDING DETAILS

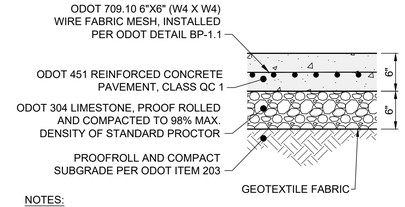
PROJECT NO:	
200426	
DRAWING NAME	
10D-04	
SHEET	OF
11	22



NOTES:

1) "t" IS THE THICKNESS OF THE NEW ASPHALT SURFACE COURSE. SEE THE SEPARATE ASPHALT PAVEMENT DETAIL.
2) TACK COAT SHALL BE APPLIED TO THE EXPOSED EX. ASPHALT BASE COURSE AND ALL SIDES OF EACH PATCH.
3) A SEALANT SHALL BE APPLIED AROUND THE EDGE OF EACH PATCH.

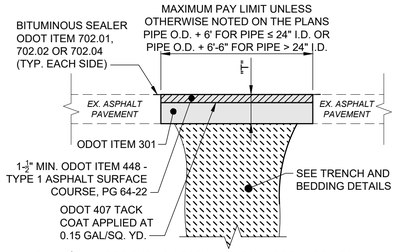
1 / 20G-01 BUTT JOINT DETAIL
NOT TO SCALE



NOTES:

1. SEE LAYOUT PLAN FOR JOINT LOCATIONS. IF JOINTS ARE NOT SHOWN, THEN THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL JOINTS. DIVIDE JOINTS INTO EQUALLY SPACED RECTANGULAR BLOCKS.
2. IF UNSUITABLE SOILS EXISTS, UNDERCUT SUBGRADE AND REPLACE WITH #1 AND #2 LIMESTONE, 12" MIN.
3. APPLY LIQUID-MEMBRANE CURING COMPOUND PER ODOT ITEM 451.

2 / 20G-01 REINFORECED CONCRETE DRIVEWAY DETAIL
NOT TO SCALE

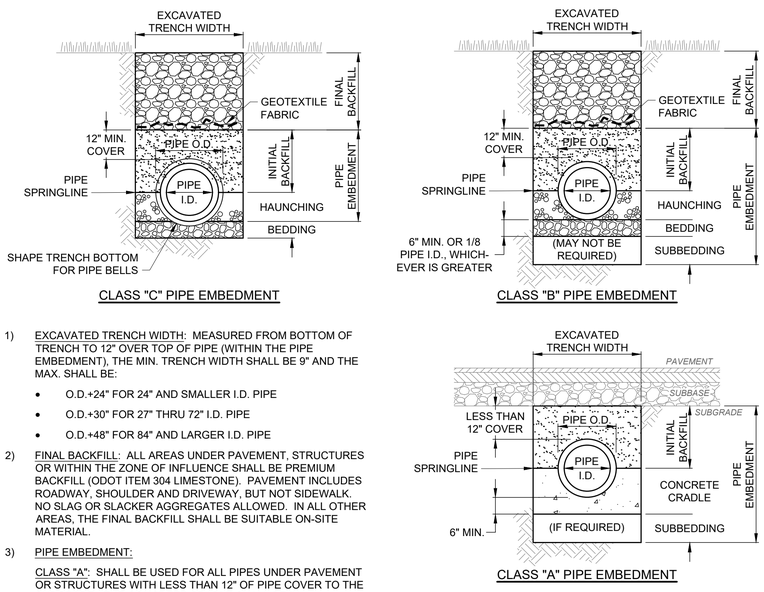


"T" = 4-½" MIN. FOR PUBLIC ROADWAYS, COMMERCIAL DRIVES AND DRIVE APRONS.

"T" = 2-½" MIN. FOR RESIDENTIAL DRIVEWAYS AND DRIVE APRONS ONLY (DRIVEWAY).

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

3 / 20G-01 TYPE C PAVEMENT REPLACEMENT DETAIL
NOT TO SCALE

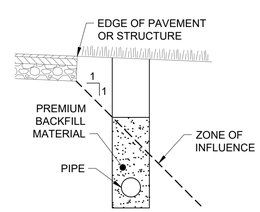


1) EXCAVATED TRENCH WIDTH: MEASURED FROM BOTTOM OF TRENCH TO 12" OVER TOP OF PIPE (WITHIN THE PIPE EMBEDMENT). THE MIN. TRENCH WIDTH SHALL BE 9" AND THE MAX. SHALL BE:
   - O.D.+24" FOR 24" AND SMALLER I.D. PIPE
   - O.D.+30" FOR 27" THRU 72" I.D. PIPE
   - O.D.+48" FOR 84" AND LARGER I.D. PIPE
2) FINAL BACKFILL: ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE SHALL BE PREMIUM BACKFILL (ODOT ITEM 304 LIMESTONE). PAVEMENT INCLUDES ROADWAY, SHOULDER AND DRIVEWAY, BUT NOT SIDEWALK. NO SLAG OR SLACKER AGGREGATES ALLOWED. IN ALL OTHER AREAS, THE FINAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL.
3) PIPE EMBEDMENT:

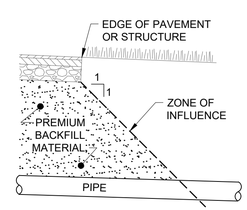
   CLASS "A": SHALL BE USED FOR ALL PIPES UNDER PAVEMENT OR STRUCTURES WITH LESS THAN 12" OF PIPE COVER TO THE SUBGRADE. THE CONCRETE CRADLE SHALL BE IN ACCORDANCE WITH ODOT ITEM 499, CLASS QC-1. THE INITIAL BACKFILL SHALL BE NO. 57 COURSE INTERLOCKING LIMESTONE AGGREGATE.

   CLASS "B": SHALL BE USED FOR ALL PIPES UNLESS OTHERWISE NOTED ON THE PLANS. BEDDING AND HAUNCHING SHALL BE NO. 8 OR 57 COURSE INTERLOCKING LIMESTONE AGGREGATE. IN AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE NO. 8 OR 57 COURSE INTERLOCKING LIMESTONE AGGREGATE. IN ALL OTHER AREAS, THE INITIAL BACKFILL MAY BE SUITABLE ON-SITE MATERIAL FOR RIGID PIPE, AND SHALL BE NO. 8 OR 57 COURSE INTERLOCKING LIMESTONE AGGREGATE FOR FLEXIBLE PIPE.

   CLASS "C": SHALL BE USED ONLY FOR DUCTILE IRON WATER MAIN OR FORCE MAIN. THE PIPE EMBEDMENT SHALL BE NO. 8 OR 57 COURSE INTERLOCKING LIMESTONE AGGREGATE IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE. IN ALL OTHER AREAS, THE PIPE EMBEDMENT SHALL BE SUITABLE ON-SITE MATERIAL. BEDDING IS NOT REQUIRED. WHERE ROCK OR SHALE IS ENCOUNTERED, BEDDING SHALL BE 6" MIN. OF NO. 8 OR 57 COURSE INTERLOCKING LIMESTONE AGGREGATE OR SAND.
4) SUBBEDDING: WHERE AN UNSTABLE TRENCH BOTTOM CONDITION IS ENCOUNTERED, EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH MATERIAL AS DIRECTED BY THE ENGINEER.
5) GEOTEXTILE FABRIC SHALL BE PER ODOT 712.09, TYPE A, AND INSTALLED AFTER ALL INITIAL BACKFILL.
6) CLAY TRENCH DAMS SHALL BE REQUIRED AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

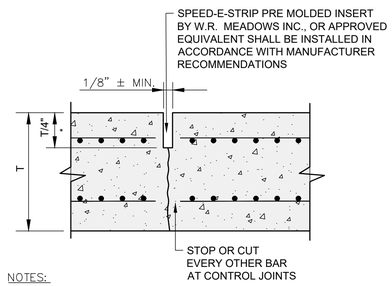


PARALLEL ZONE OF INFLUENCE



TRANSVERSE ZONE OF INFLUENCE

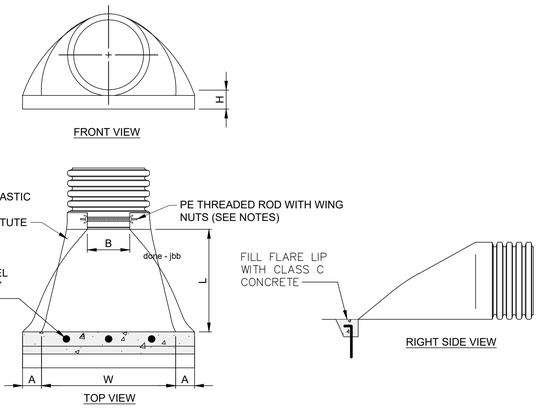
4 / 20G-01 TRENCHING, EMBEDMENT AND BACKFILL DETAIL
NOT TO SCALE



NOTES:

1. THE "SOFF-CUT" MACHINE BY SOFF-CUT INTERNATIONAL MAY BE USED TO CUT CONTROL JOINTS WITHIN APPROXIMATELY 2 HOURS AFTER FINAL FINISHING. THE DEPTH OF CUT SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
2. IF CONTROL JOINTS ARE SAW CUT PER NOTE #1 THEY SHALL BE FLUSHED WITH CLEAN WATER, ALLOWED TO DRY AND THEN FILLED WITH A JOINT SEALANT. * T/4 FOR PRE MOLDED INSERTS ONLY

5 / 20G-01 CONTROL JOINT TYPE "C"
NOT TO SCALE

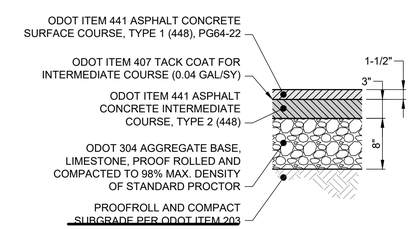


ADS PART NO.	PIPE SIZE	A	B (MAX.)	H	L	W
1210NP	12"	6.5"	10"	6.5"	25"	29"
1510NP	15"	6.5"	10"	6.5"	25"	29"
1810NP	18"	7.5"	15"	6.5"	32"	35"
2410NP	24"	7.5"	18"	6.5"	36"	45"
3012NP	30"	10.5"	N/A	7.0"	53"	68"
3612NP	36"	10.5"	N/A	7.0"	53"	68"

NOTES:

1. PE THREADED ROD WITH WING NUTS PROVIDED FOR END SECTIONS 12"-24". 30" & 36" END SECTIONS TO BE WELDED TO PIPE PER MANUFACTURER'S RECOMMENDATIONS.
2. ALL DIMENSIONS ARE NOMINAL.

8 / 20G-01 STORM PIPE FLARED END SECTION DETAIL
NOT TO SCALE



6 / 20G-01 STANDARD DUTY ASPHALT PAVEMENT DETAIL
NOT TO SCALE

verdantas

STATE OF OHIO — TIMOTHY MCLAUGHLIN E-83985 — REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE
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ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

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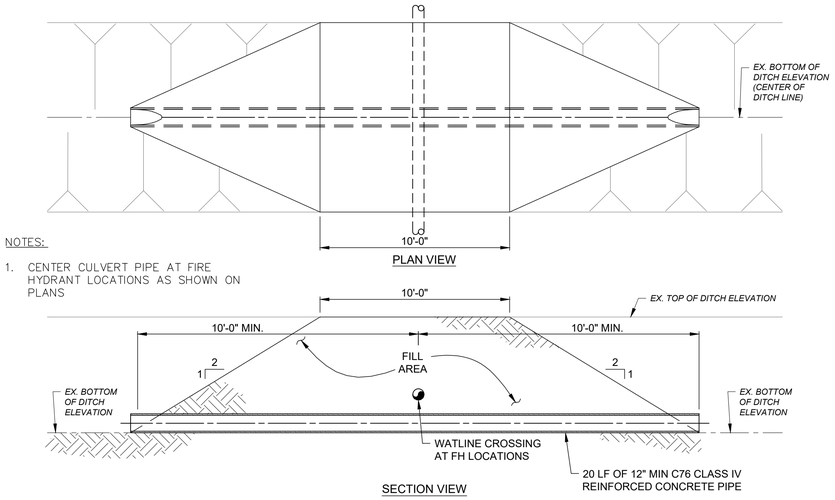
DRAWN BY:	PAB
CHECKED BY:	TJM

CONSTRUCTION DETAILS - 20 SERIES

CONSTRUCTION DETAILS 1

PROJECT NO:	
200426	
DRAWING NAME	
20G-01	
SHEET	OF
12	22

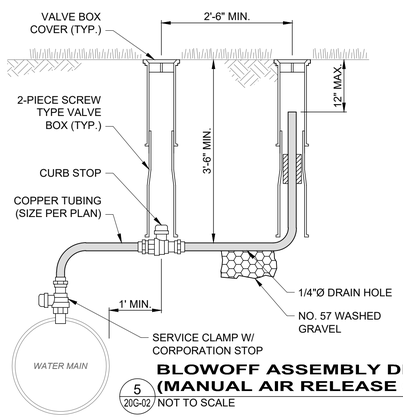


NOTES:

1. CENTER CULVERT PIPE AT FIRE HYDRANT LOCATIONS AS SHOWN ON PLANS

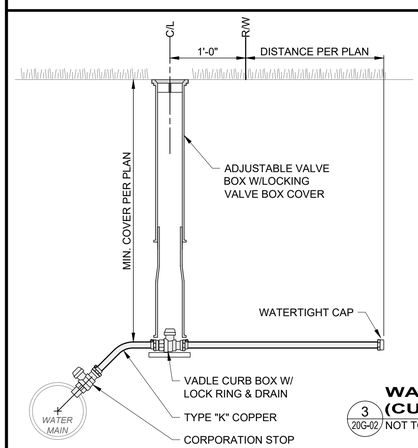
1 / 20G-02 HYDRANT APPROACH DETAIL

NOT TO SCALE



5 / 20G-02 BLOWOFF ASSEMBLY DETAIL (MANUAL AIR RELEASE OUTLET)

NOT TO SCALE

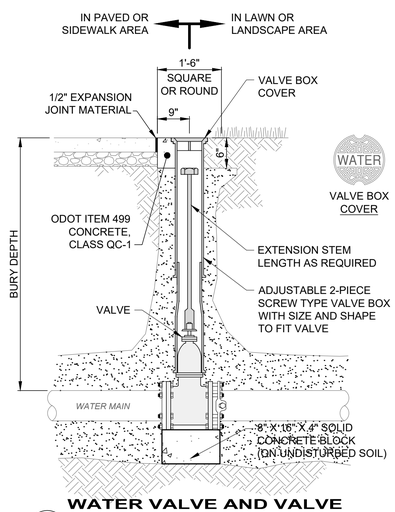


NOTES:

1. SEE UTILITY PLAN TABLES FOR CURB STOP SIZE.

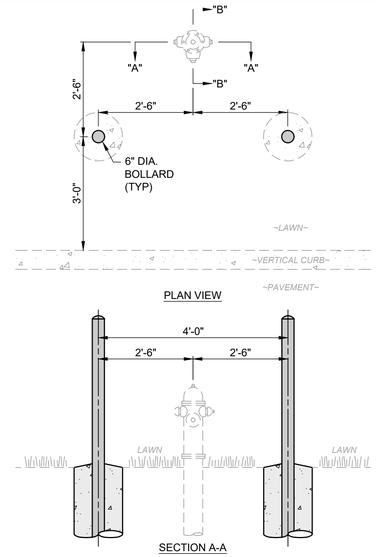
3 / 20G-02 WATER SERVICE (CURB STOP) DETAIL

NOT TO SCALE



4 / 20G-02 WATER VALVE AND VALVE BOX SETTING DETAIL

NOT TO SCALE

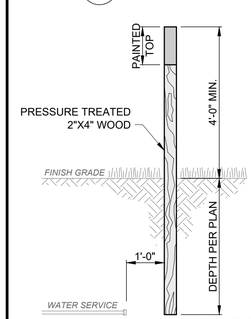


NOTES:

1. THIS DETAIL SHOWS THE LOCATION OF BOLLARDS IN RELATION TO HYDRANT FOR REFERENCE ONLY; SEE LAYOUT PLAN FOR ACTUAL CONFIGURATION
2. SEE SEPARATE DETAILS FOR BOLLARD AND HYDRANT.

6 / 20G-02 HYDRANT BOLLARDS DETAIL

NOT TO SCALE

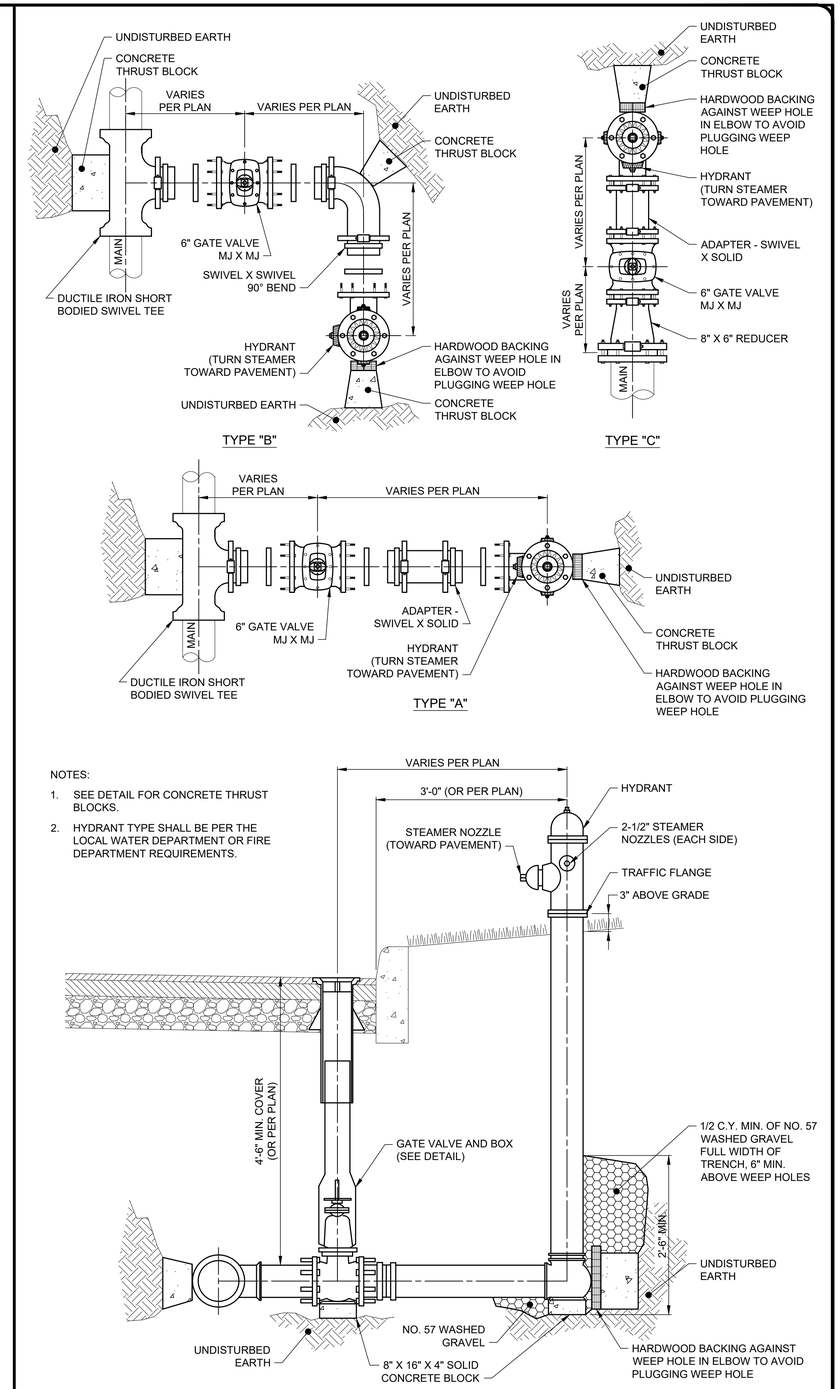


NOTES:

1. IF THE SERVICE HOOK UP IS NOT TAKING PLACE IMMEDIATELY, A MARKER SHALL BE PLACED AT THE END OF EACH SERVICE CONNECTION WITH THE SUBLOT NUMBER WRITTEN ON THE FRONT.
2. THE TOP 12" OF EACH MARKER SHALL BE PAINTED TO DISTINGUISH THE TYPE OF SERVICE LATERAL; BLUE FOR DOMESTIC WATER AND WHITE FOR FIRE.

2 / 20G-02 WATER SERVICE CONNECTION LOCATION MARKER DETAIL

NOT TO SCALE



NOTES:

1. SEE DETAIL FOR CONCRETE THRUST BLOCKS.
2. HYDRANT TYPE SHALL BE PER THE LOCAL WATER DEPARTMENT OR FIRE DEPARTMENT REQUIREMENTS.

7 / 20G-02 HYDRANT ASSEMBLY DETAIL

NOT TO SCALE

verdantas

STATE OF OHIO — TIMOTHY MCLAUGHLIN E-83985 — REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE
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ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES

HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT

ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

SCALE:	AS SHOWN
DATE:	08/01/2025
DESIGNED BY:	TJM
DRAWN BY:	PAB
CHECKED BY:	TJM

CONSTRUCTION DETAILS - 20 SERIES

CONSTRUCTION DETAILS 2

PROJECT NO:	
200426	
DRAWING NAME	
20G-02	
SHEET	OF
13	22

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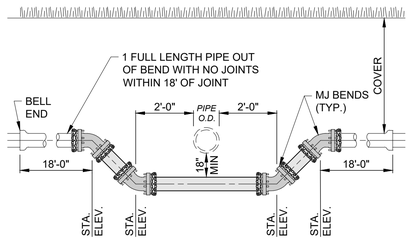
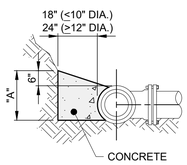


NOTES:

1. ENTIRE OFFSET INCLUDING BENDS SHALL BE BUILT WITH DUCTILE IRON RESTRAINED MECHANICAL JOINTS, CLASS 52 CEMENT LINED PIPE. IF AN INTERMEDIATE JOINT IS REQUIRED BETWEEN BENDS, THE ENTIRE UNDERPASS SHALL BE BUILT WITH BOLTLESS RESTRAINED PIPE AND FITTINGS.

1 / 20G-03 WATER MAIN UNDERPASS FOR OBSTRUCTION LESS THAN 24" DIAMETER OR WIDTH DETAIL

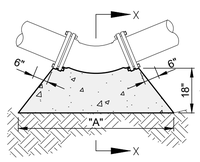
NOT TO SCALE



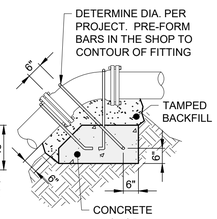
SECTION VIEW X-X

NOTES:

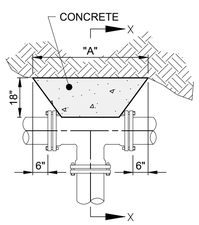
1. ALL CONCRETE SHALL BE ODOT ITEM 499, CLASS QC-1.
2. ALL DIMENSIONS SHOWN ARE MINIMUMS.
3. THRUST BLOCKS SHALL BE POURED TO UNDISTURBED EARTH.



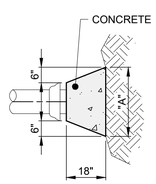
HORIZONTAL BEND OR VERTICAL BEND (UPWARD)



VERTICAL BEND (DOWNWARD)



PLAN VIEW OF TEE



PLUG OR CAP

MIN. CONCRETE VOLUME FOR VERTICAL BENDS

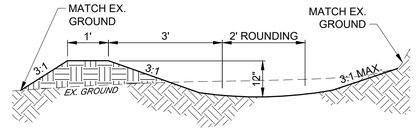
DIA.	VOLUME
6"	4 C.F.
8"	11 C.F.
10"	22 C.F.
12"	37 C.F.
16"	71 C.F.

"A" DIMENSIONS

HORIZONTAL BENDS					
DIA.	90°	45°	22.5°	TEE	PLUG
6"	17"	13"	9"	13"	14"
8"	23"	17"	12"	17"	19"
10"	28"	21"	15"	21"	24"
12"	34"	25"	18"	25"	29"
16"	45"	33"	24"	28"	38"

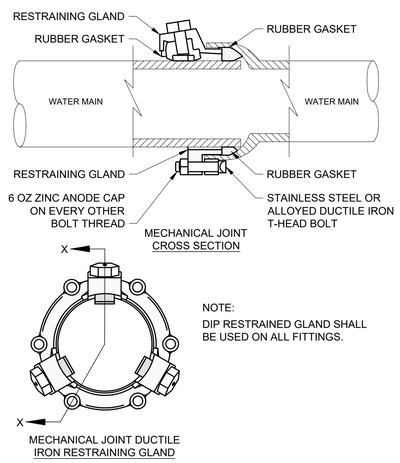
2 / 20G-03 CONCRETE THRUST BLOCK DETAIL

NOT TO SCALE



3 / 20G-03 SWALE DETAIL

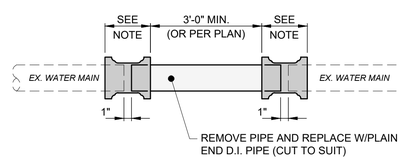
NOT TO SCALE



NOTE:
DIP RESTRAINED GLAND SHALL BE USED ON ALL FITTINGS.

4 / 20G-03 MECHANICAL JOINT DUCTILE IRON RESTRAINING GLANDS DETAIL

NOT TO SCALE

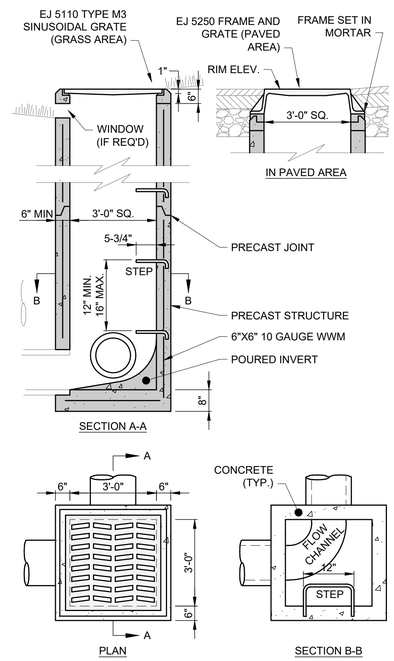


NOTES:

1. CONNECTION SHALL BE MADE WITH RESTRAINED MECHANICAL JOINT SOLID SLEEVES OF D.I. CLASS 350 OR COMPRESSION COUPLINGS. COMPRESSION COUPLINGS SHALL BE GASKET, SLEEVE TYPE.
2. EACH COUPLING SHALL CONSIST OF (1) MIDDLE RING WITHOUT STOPS; (2) FOLLOWER GLANDS; (2) RUBBER COMPOUND WEDGE SECTION GASKETS; AND STAINLESS STEEL BOLTS AND NUTS (ASTM A276/A193/194, TYPE 304). THE MIDDLE RING AND FOLLOWER GLANDS SHALL BE EITHER STEEL OR DUCTILE IRON (ASTM-A536).

5 / 20G-03 SPOOL PIECE DETAIL

NOT TO SCALE

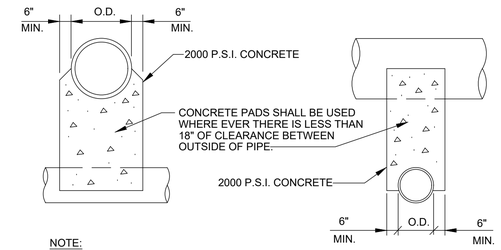


NOTES:

1. ALL CONCRETE SHALL BE ODOT ITEM 499, CLASS QC-1.
2. STRUCTURE SHALL MEET H-20 LOADING.
3. INSTALL STEPS IF STRUCTURE IS MORE THAN 4' DEEP.
4. PRECAST KNOCKOUT SIDES FOR CURB DRAIN, PIPE CONNECTION HOLES AND WINDOWS, AS REQUIRED. PIPE OPENINGS SHALL BE O.D. OF PIPE PLUS 2", AND INTERSTITIAL SPACE FILLED WITH GROUT.
5. GRADE ADJUSTMENT BY PRE-CAST CONCRETE ADJUSTING COLLAR OR MAX. 2 COURSES ASTM C-32 BRICK MASONRY SET IN MORTAR.
6. GRATE MUST INCLUDE LETTERING "DUMP NO WASTE" AND FISH IMAGE.
7. BASIN SHALL INCLUDE SUMP IF REQUIRED PER PLAN.
8. THIS DETAIL IS FOR REFERENCE AND DIMENSION CONTROL ONLY; SEE UTILITY PLAN FOR ACTUAL SIZES.

9 / 20G-03 (CONCRETE 2'X2') INLET BASIN DETAIL

NOT TO SCALE

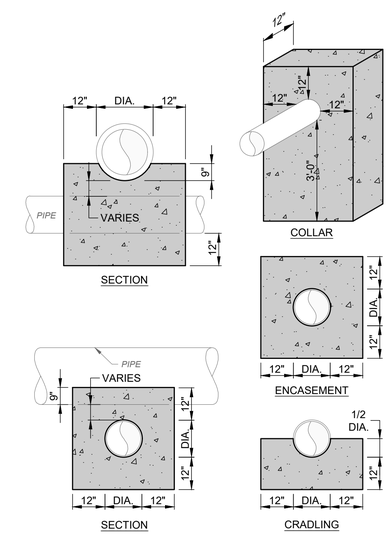


NOTE:

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.

8 / 20G-03 PIPE CROSSING DETAIL

NOT TO SCALE



NOTES:

1) ALL CONCRETE SHALL BE ODOT ITEM 499 CONCRETE, CLASS QC-1.

10 / 20G-03 CONCRETE PIPE CRADLE DETAIL

NOT TO SCALE

verdantas

STATE OF OHIO
TIMOTHY MCLAUGHLIN
E-83985
REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE

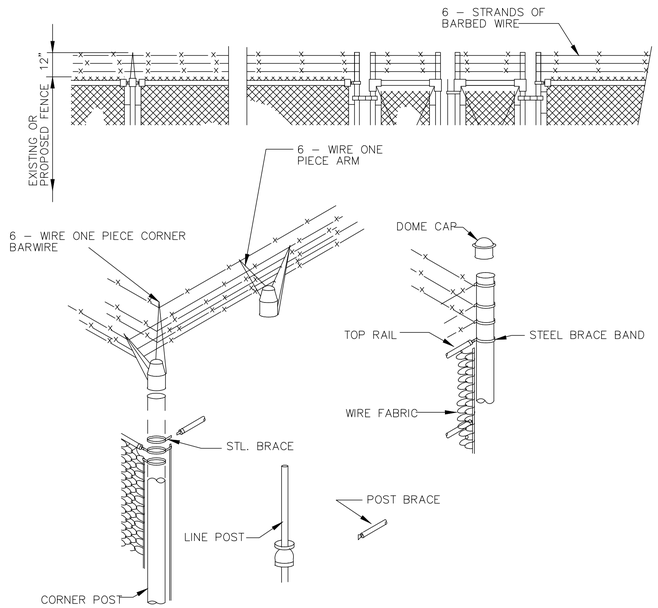
ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES
HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT
ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

SCALE:	AS SHOWN
DATE:	08/01/2025
DESIGNED BY:	TJM
DRAWN BY:	PAB
CHECKED BY:	TJM

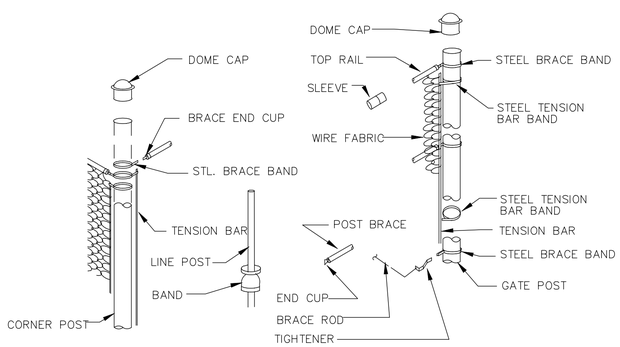
CONSTRUCTION DETAILS - 20 SERIES

CONSTRUCTION DETAILS 3

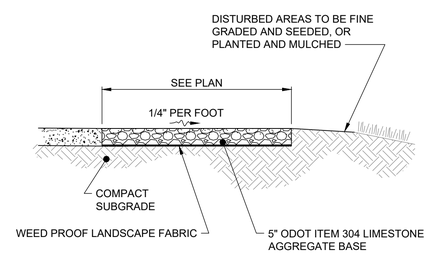
PROJECT NO:	
200426	
DRAWING NAME	
20G-03	
SHEET	OF
14	22



6 / 20G-03 **TYPCIAL BARBED WIRE DETAIL**
NOT TO SCALE



7 / 20G-03 **TYPICAL FENCE ASSEMBLY DETAIL**
NOT TO SCALE



SURFACE AGGREGATE DETAIL
SCALE: NONE

verdantas

STATE OF OHIO
TIMOTHY MCLAUGHLIN
E-83985
REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE
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ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES
HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT
ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

SCALE:	AS SHOWN
DATE:	08/01/2025
DESIGNED BY:	TJM
DRAWN BY:	RLM
CHECKED BY:	TJM

CONSTRUCTION DETAILS - 20 SERIES

CONSTRUCTION DETAILS 4

PROJECT NO:	
200426	
DRAWING NAME	
20G-04	
SHEET	OF
15	22

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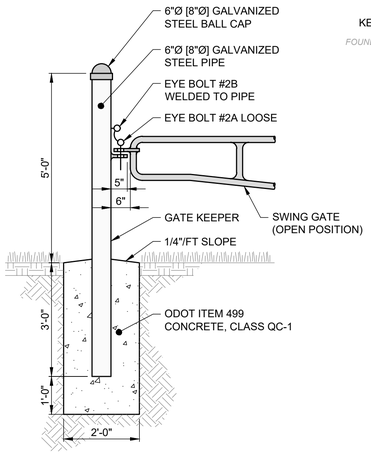
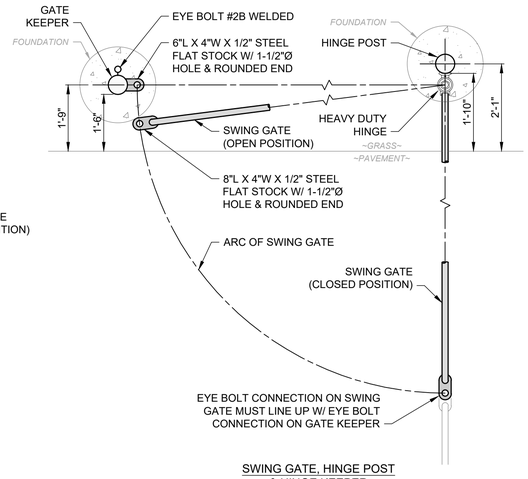
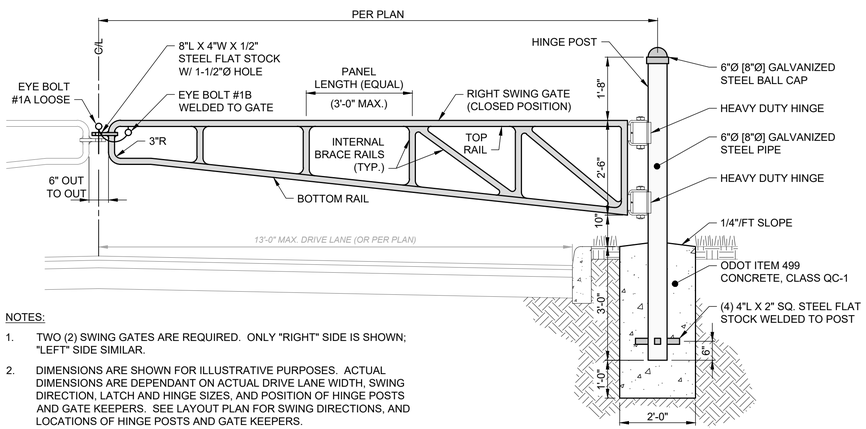


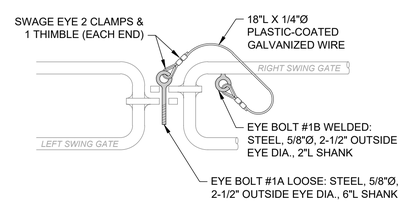
GATE KEEPER ELEVATION VIEW



SWING GATE, HINGE POST & HINGE KEEPER PLAN VIEW



SWING GATE & HINGE POST ELEVATION VIEW



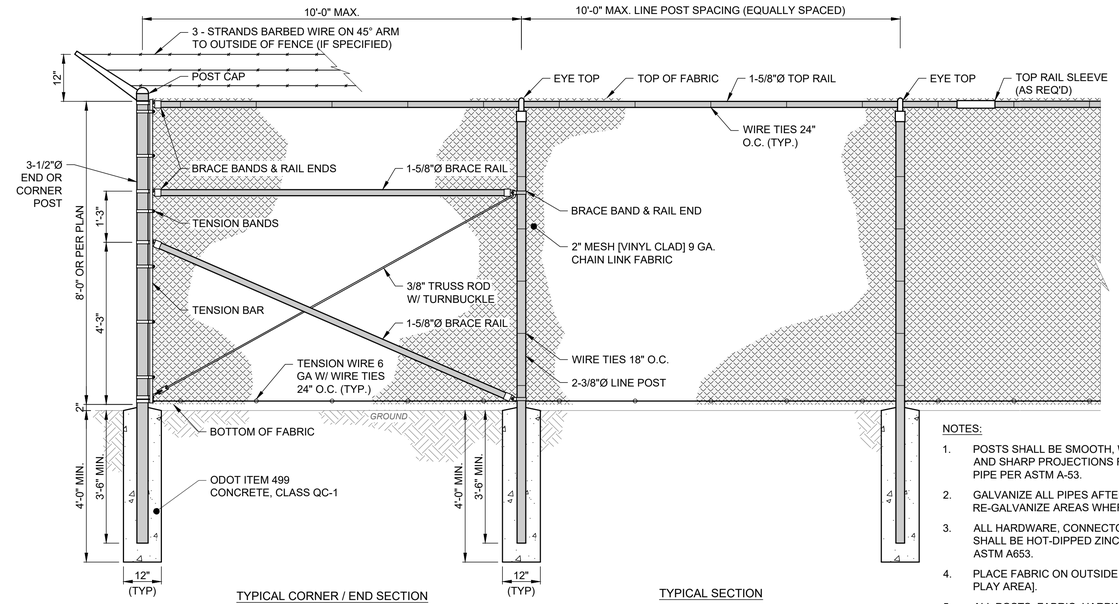
EYE BOLT CONNECTION

NOTES:

1. TWO (2) SWING GATES ARE REQUIRED. ONLY "RIGHT" SIDE IS SHOWN; "LEFT" SIDE SIMILAR.
2. DIMENSIONS ARE SHOWN FOR ILLUSTRATIVE PURPOSES. ACTUAL DIMENSIONS ARE DEPENDANT ON ACTUAL DRIVE LANE WIDTH, SWING DIRECTION, LATCH AND HINGE SIZES, AND POSITION OF HINGE POSTS AND GATE KEEPERS. SEE LAYOUT PLAN FOR SWING DIRECTIONS, AND LOCATIONS OF HINGE POSTS AND GATE KEEPERS.
3. GATES SHALL BE SMOOTH, WATER TIGHT, AND FREE OF BURRS AND SHARP PROJECTIONS FABRICATED FROM NOMINAL SIZE 2"Ø SCH. 80 GALVANIZED STEEL PIPE PER ASTM A-53.
4. GALVANIZE GATE, HINGE POST AND GATE KEEPER AFTER FABRICATION PER ASTM A-123. RE-GALVANIZE AREAS WHERE COATING IS DAMAGED.
5. ALL HARDWARE, CONNECTORS, BOLTS, NUTS, WASHERS, ETC. SHALL BE HOT-DIPPED ZINC COATED GALVANIZED STEEL PER ASTM A653.
6. HEAVY DUTY HINGES SHALL BE MADE FROM STEEL AND PRIME COATED, DESIGNED TO WELD ON OR BOLT TO ROUND PIPE SURFACES, HAVE A MINIMUM WEIGHT RATING OF 1,500 LBS PER PAIR, AND INCLUDE GREASE FITTINGS.
7. WELD EYE BOLT #1B TO THE RIGHT SWING GATE AND EYE BOLT #2B TO THE LEFT GATE KEEPER.
8. THE ENTIRE GATE SYSTEM SHALL BE PAINTED FOLLOWING THE AMERICAN GALVANIZERS ASSOCIATION (AGA) SPECIFICATIONS. FINAL COLOR SHALL BE CHOSEN BY OWNER OR ARCHITECT.
9. PLACE HIGH INTENSITY REFLECTIVE TAPE ON BOTH SIDES OF ALL VERTICAL INTERNAL BRACE RAILS AND ALONG BOTH SIDES OF TOP AND BOTTOM RAILS. TAPE SHALL BE 2" WIDE CONTINUOUS, FLEXIBLE AND USE A HONEYCOMB PATTERN WITH GLASS BEADS. TAPE COLOR SHALL BE SIMILAR TO GATE COLOR (I.E. BLACK FOR BLACK GATE, BLUE FOR BLUE GATE).

STEEL PIPE DOUBLE SWING GATE DETAIL

SCALE: NONE



TYPICAL CORNER / END SECTION

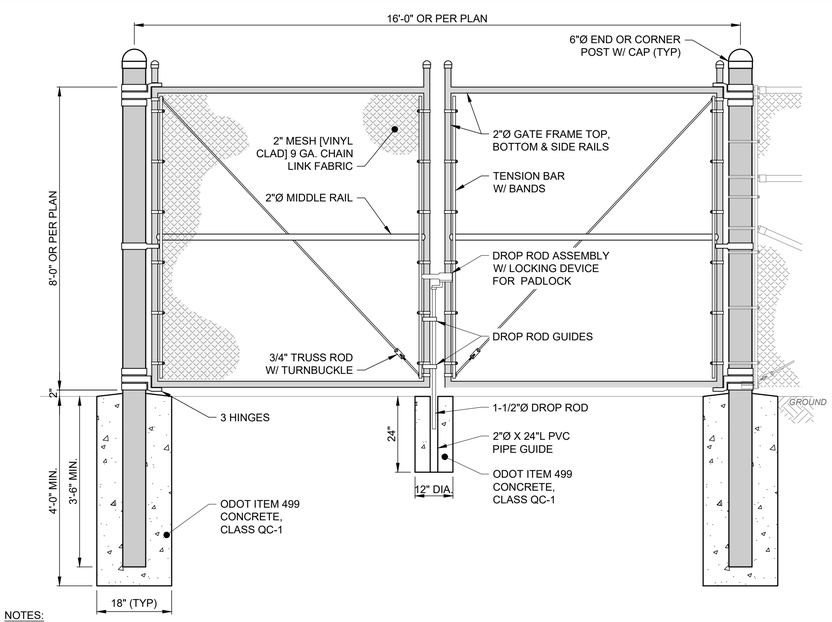
TYPICAL SECTION

NOTES:

1. POSTS SHALL BE SMOOTH, WATER TIGHT, AND FREE OF BURRS AND SHARP PROJECTIONS FABRICATED FROM SCH. 40 STEEL PIPE PER ASTM A-53.
2. GALVANIZE ALL PIPES AFTER FABRICATION PER ASTM A-123. RE-GALVANIZE AREAS WHERE COATING IS DAMAGED.
3. ALL HARDWARE, CONNECTORS, BOLTS, NUTS, WASHERS, ETC. SHALL BE HOT-DIPPED ZINC COATED GALVANIZED STEEL PER ASTM A653.
4. PLACE FABRIC ON OUTSIDE OF SERVICE AREA [OR INSIDE OF PLAY AREA].
5. ALL POSTS, FABRIC, HARDWARE, CONNECTORS, ETC. SHALL BE PAINTED [BLACK] FOLLOWING THE AMERICAN GALVANIZERS ASSOCIATION (AGA) SPECIFICATIONS. [FINAL COLOR SHALL BE CHOSEN BY OWNER OR ARCHITECT.]

8' CHAIN LINK FENCE DETAIL

SCALE: NONE



NOTES:

1. POSTS SHALL BE SMOOTH, WATER TIGHT, AND FREE OF BURRS AND SHARP PROJECTIONS FABRICATED FROM SCH. 40 STEEL PIPE PER ASTM A-53.
2. GALVANIZE ALL PIPES AFTER FABRICATION PER ASTM A-123. RE-GALVANIZE AREAS WHERE COATING IS DAMAGED.
3. ALL HARDWARE, CONNECTORS, BOLTS, NUTS, WASHERS, ETC. SHALL BE HOT-DIPPED ZINC COATED GALVANIZED STEEL PER ASTM A653.
4. PLACE FABRIC ON OUTSIDE OF SERVICE AREA [OR INSIDE OF PLAY AREA].
5. CONTRACTOR SHALL SUPPLY LOCK AND LOCK HASP (COORDINATE WITH OWNER THE TYPE).
6. THIS DETAIL IS FOR REFERENCE AND GENERAL DIMENSION CONTROL ONLY; SEE MANUFACTURER'S SPECIFICATIONS FOR ACTUAL DIMENSIONS, CONFIGURATION, PARTS LIST, ETC.

CHAIN LINK FENCE DOUBLE GATE DETAIL

SCALE: NONE

verdantas

STATE OF OHIO — TIMOTHY MCLAUGHLIN E-83985 — REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE

ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES
HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT
ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

SCALE:	AS SHOWN
DATE:	08/01/2025
DESIGNED BY:	TJM
DRAWN BY:	RLM
CHECKED BY:	TJM

CONSTRUCTION DETAILS - 20 SERIES

CONSTRUCTION DETAILS 5

PROJECT NO:	
200426	
DRAWING NAME	
20G-05	
SHEET	OF
16	22

ELECTRICAL SYMBOLS - PLAN:

- HOME RUN TO PANEL
- MOTOR
- MOTOR CONTROLLER
- FUSIBLE SAFETY SWITCH
- NON-FUSIBLE DISCONNECT SWITCH
- DUPLEX RECEPTACLE
- SPECIAL RECEPTACLE, NEMA TYPE NOTED
- $ — SINGLE-POLE SWITCH, 3 INDICATES 3-WAY, OS INDICATES OCCUPANCY SENSING
- DRY-TYPE TRANSFORMER
- PUSHBUTTON STATION
- LOUVER OPERATOR
- JB — JUNCTION BOX
- SV — SOLENOID VALVE
- ZS — LIMIT SWITCH
- FE FIT — FLOW SENSOR, FLOW INDICATING TRANSMITTER
- LE LIT — LEVEL SENSOR, LEVEL INDICATING TRANSMITTER
- PE PIT — PRESSURE SENSOR, PRESSURE INDICATING TRANSMITTER
- AE AIT — OTHER SENSOR / INDICATING TRANSMITTER AS NOTED
- A — HAZARDOUS AREA LIGHT FIXTURE
- B — OUTDOOR CANOPY LIGHT FIXTURE
- C — EXTERIOR WALL-PACK LIGHT FIXTURE
- D — HIGH BAY LIGHT FIXTURE
- E — LINEAR LED LIGHT FIXTURE
- EXIT SIGN
- EMERGENCY WALL-PACK
- EMERGENCY REMOTE HEAD
- F F F — FIRE ALARM PULL STATION, STROBE, HORN-STROBE
- SD — 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
E	E	ELECTRIC MARKER POST
EM	EM	ELECTRIC METER
		ELECTRIC MANHOLE - 48"
		ELECTRIC MANHOLE - 48" - ADJUST
E	E	ELECTRIC MANHOLE - LID
X		ELECTRIC PAINT MARK
EP	EP	ELECTRIC PEDESTAL
TR	TR	ELECTRIC TRANSFORMER

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

- 30 — DISCONNECT SWITCH -AMP RATING
- 20 — FUSE -AMP RATING
- 30 S — SHUNT TRIP
- 30 — CIRCUIT BREAKER -AMP RATING
- 40 — MOTOR W/ HORSEPOWER INDICATED
- AM — AMMETER
- VM — VOLT METER
- PF — POWER FACTOR METER
- GF — GROUND FAULT RELAY
- TRANSFORMER
- R — RELAY COIL
- TR — TIMING RELAY COIL
- M — MOTOR STARTER COIL
- ETT — 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
- PILOT LIGHT - PUSH TO TEST
- GROUND
- CAPACITOR
- X0 / 0X — 2 POSITION SELECTOR SWITCH
- X00 / 00X — 3 POSITION SELECTOR SWITCH
- EQUIPMENT FIELD TERMINAL

ELECTRICAL LINE SYMBOLOGY:

PROPOSED:

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

EXISTING:

- *ELEC — ELECTRIC LINE*
- *ELEC-ABAN — ELECTRIC LINE - ABAN.*
- *ELEC-OH — ELECTRIC LINE - OH*
- *ELEC-UG — ELECTRIC LINE - UG*
- *ELEC — ELECTRIC SERVICE*
- *ELEC-OH — ELECTRIC SERVICE - OH*
- *ELEC-UG — ELECTRIC SERVICE - UG*
- *LIGHT-OH — ELECTRIC LIGHTING - OH*
- *LIGHT-UG — ELECTRIC LIGHTING - UG*
- *ELECTRIC DUCT*

ELECTRICAL CODED NOTES:

- 1 NEW WORK - NOTE 1
- 2 NEW WORK - NOTE 1
- 3 NEW WORK - NOTE 1
- 1 DEMOLITION - NOTE 1
- 2 DEMOLITION - NOTE 2
- 3 DEMOLITION - NOTE 3
- 1 REVISION - NOTE 1
- 2 REVISION - NOTE 2
- 3 REVISION - NOTE 3

ELECTRICAL DETAIL REFERENCE:

DETAIL IDENTIFICATION LETTER OR TAG NUMBER

SEE DETAIL E1 — DETAIL IDENTIFICATION LETTER OR NUMBER FOR GENERAL DETAILS

SEE DETAIL A / 27

A / 27 **DETAIL** SCALE: 1/4" = 1'-0" — SHEET LOCATION

ELECTRICAL ABBREVIATIONS:

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

ELECTRICAL GENERAL NOTES:

1. THE ELECTRICAL CONTRACTOR SHALL APPLY FOR AND SECURE ALL COSTS AND CHARGES FOR PERMITS, CONSTRUCTION, AND MISCELLANEOUS WORK ASSOCIATED WITH AND REQUIRED FOR THE COMPLETION OF THE PROJECT ELECTRICAL WORK.
2. THE ELECTRICAL CONTRACTOR SHALL ARRANGE FOR ALL INSPECTIONS OF ELECTRICAL WORK BY ALL INSPECTION AUTHORITIES HAVING JURISDICTION. COPIES OF INSPECTION REPORTS SHALL BE MADE AVAILABLE TO THE OWNER UPON REQUEST, AND THREE (3) COPIES OF THE APPROVED FINAL INSPECTION REPORT SHALL ACCOMPANY THE REQUEST FOR FINAL PAYMENT.
3. ALL WORK SHALL BE IN STRICT ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, OHIO BUILDING CODE, LOCAL CODES AND ORDINANCES WHERE APPLICABLE, AND REQUIREMENTS OF O.S.H.A.
4. ALL MATERIALS AND EQUIPMENT FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR SHALL BE NEW, U.L. LISTED OR LABELED, AND CONFORM TO NEMA AND ANSI STANDARD WHERE APPLICABLE.
5. THE CONTRACTOR SHALL VISIT THE SITE AND FULLY FAMILIARIZE HIMSELF WITH ALL CONDITIONS WHICH AFFECT HIS WORK PRIOR TO BID. COORDINATE AND SCHEDULE WORK WITH OTHER TRADES TO ENSURE SATISFACTORY PERFORMANCE, AVOID DELAYS AND DUPLICATIONS AND MEET THE OWNER'S COMPLETION SCHEDULE FOR THE USE OF THE SITE.
6. ALL WORK SHALL BE INSTALLED BY WORKMEN FULLY SKILLED IN THE WORK TO BE PERFORMED. REPAIR OR REPLACE EXISTING EQUIPMENT OR PROPERTY OF THE OWNER DAMAGED BY ELECTRICAL TRADES WORKMEN.
7. THE ELECTRICAL CONTRACTOR SHALL GUARANTEE MATERIALS AND WORKMANSHIP PROVIDED BY HIM FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF OWNER'S FINAL ACCEPTANCE. REPAIR OR REPLACE ANY DEFECTIVE MATERIALS OR EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER WITHIN THE GUARANTEE PERIOD.
8. ALL ELECTRICAL WIRING SHALL BE INSTALLED IN CONDUIT. CONDUIT SHALL BE EMT, INTERMEDIATE, OR RIGID GALVANIZED IN ACCORDANCE WITH AND AS PERMITTED BY THE NATIONAL ELECTRICAL CODE OR LOCAL/STATE CODES AS APPLICABLE. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC, 1" MINIMUM.
9. FURNISH AND INSTALL PULL BOXES, JUNCTION, AND DEVICE BOXES OF SUITABLE CODE GAUGE AND SIZE. ALL TERMINATIONS IN IN-GROUND PULL BOXES SHALL BE LIQUID-TIGHT.
10. 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".
11. FLEXIBLE METAL CONDUIT INCLUDING LIQUIDTIGHT SHALL BE PERMITTED WHERE IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE AND LOCAL CODE PROVISIONS. FLEXIBLE METAL CONDUIT SHALL CONTAIN A SEPARATE GROUNDING CONDUCTOR AND BE TERMINATED WITH APPROPRIATE FITTINGS.
12. THE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO DESCRIBE THE WORK REQUIRED. THE ELECTRICAL CONTRACTOR SHALL ACCURATELY FIELD MEASURE AND LAY OUT HIS WORK TO EFFECTIVELY ACHIEVE A STRUCTURALLY COORDINATED INSTALLATION WITH THE SITE LAYOUT AND OTHER TRADES.
13. COORDINATE ALL SERVICE ENTRANCE REQUIREMENTS WITH THE LOCAL ELECTRIC UTILITY COMPANY TO ENSURE COMPLIANCE TO UTILITY COMPANY REQUIREMENTS. PROVIDE A COMPLETE GROUNDING SYSTEM.
14. RECEPTACLES SHALL BE 20 A, 125 V AC RATED WITH WATERPROOF IN USE COVERS AND GFCI PROTECTION WHERE INSTALLED OUTDOORS OR IN VAULTS.
15. ELECTRICAL DISTRIBUTION PANEL SHALL BE SURFACE MOUNTED DEAD FRONT, WITH A 100A BUS RATING AND A 100A MAIN CIRCUIT BREAKER, NEMA 3R ENCLOSURE, WITH CODE GAUGE BACKBOX, LOCKABLE HINGED DOOR, 120/240 V, 1Ø, 3 WIRE WITH SOLID NEUTRAL AND GROUND BARS, U.L. LISTED AND CONFORMING TO NEMA STANDARDS, SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT. PANEL SHALL BE EQUIPPED WITH CIRCUIT BREAKERS PER PANEL SCHEDULE. CIRCUIT BREAKERS SHALL BE RATED 10,000 A.I.C. SYMMETRICAL. MULTI-POLE CIRCUIT BREAKERS SHALL BE COMMON TRIP.
16. PROVIDE TYPEWRITTEN PANELBOARD CIRCUIT DIRECTORY IN PANELBOARD DOOR IDENTIFYING ALL ACTIVE CIRCUITS AND SPARES. ACTIVE CIRCUITS SHALL DESIGNATE EQUIPMENT SERVED.
17. IDENTIFY PANELBOARDS AND USAGE OF PANELBOARD CIRCUIT BREAKERS WITH PLASTIC LAMINOID NAMEPLATES. NAMEPLATES SHALL INDICATE PANEL DESIGNATION, VOLTAGE, AND USE.
18. BALANCE ALL LOADS IN PANELBOARDS.
19. E.C. SHALL PROVIDE TEMPORARY POWER FOR THE DURATION OF CONSTRUCTION. COORDINATE TEMPORARY POWER REQUIREMENTS WITH THE UTILITY COMPANY.

verdantas

STATE OF OHIO — TIMOTHY MCLAUGHLIN E-83985 — REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE
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ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES
HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT
ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

SCALE:	AS SHOWN
DATE:	08/01/2025
DESIGNED BY:	----
DRAWN BY:	PAB
CHECKED BY:	TJM

ELECTRICAL - E SERIES

LEGEND & GENERAL NOTES

PROJECT NO:	
200426	
DRAWING NAME	
E-01	
SHEET	OF
17	22

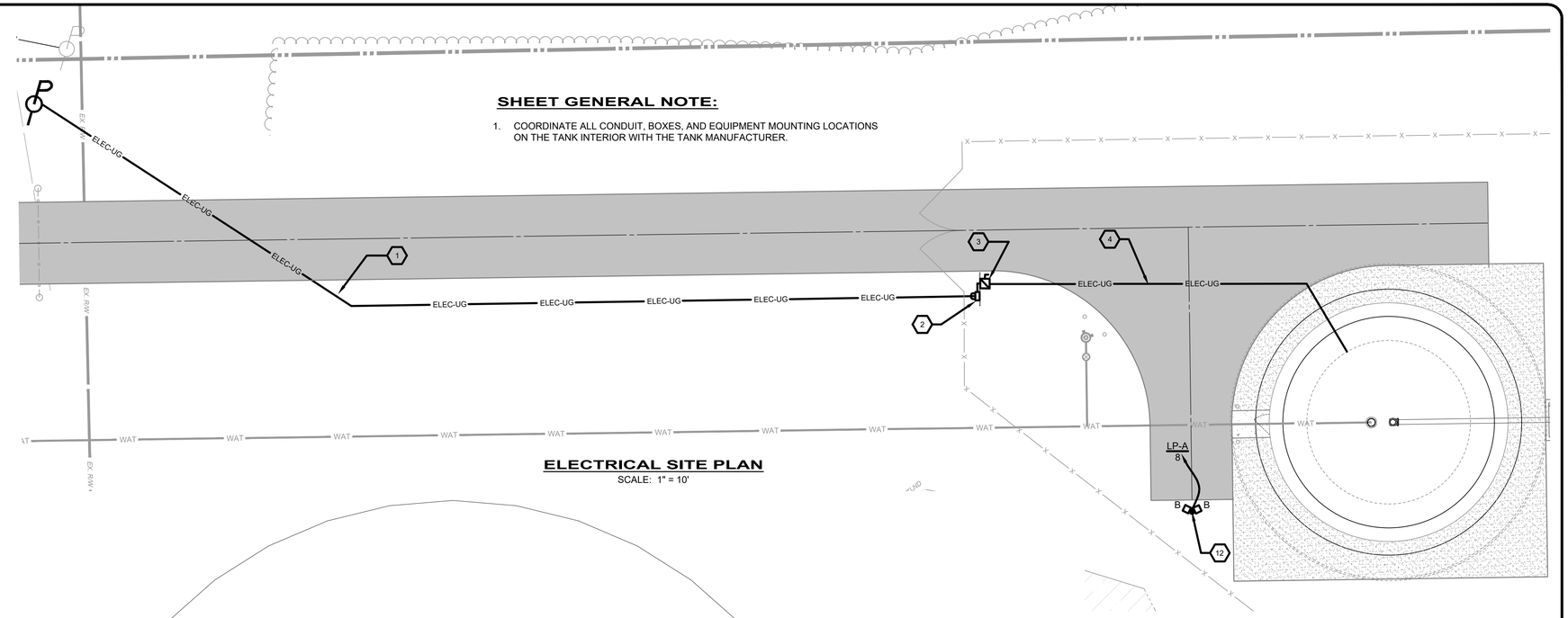
CODED NOTES:

1. NEW UG 120/240V, 1Ø, 3W SERVICE FROM POLE MOUNTED TRANSFORMER TO NEW SERVICE RACK PER DETAIL. COORDINATE TRANSFORMER INSTALLATION AND POLE LOCATION WITH THE UTILITY. EXTEND THE SERVICE IN CONDUIT 20' UP THE POLE AND PROVIDE WEATHERHEAD. FINAL CONNECTIONS BY UTILITY. SEE CIVIL SITE PLAN FOR THE RECOMMENDED TRANSFORMER POLE LOCATION.
2. NEW METER AND METER SOCKET PER UTILITY COMPANY REQUIREMENTS. BOND TO THE GROUND ELECTRODE SYSTEM.
3. 100A-2P FUSIBLE SERVICE ENTRANCE RATED DISCONNECT SWITCH WITH SOLID NEUTRAL AND NEMA 3R ENCLOSURE.
4. NEW DUCTBANK FROM THE ELECTRICAL SERVICE RACK TO THE BUILDING INTERIOR. (4) 1-1/2" CONDUITS (1 SPARE).
5. NEW NEMA 12 DISTRIBUTION PANEL "LP-A". WHERE NOTED WITH 'G' FOLLOWING BREAKER SIZE ON SCHEDULE PROVIDE GFCI CIRCUIT BREAKERS ON CIRCUITS FROM PANEL.
6. TELEMETRY PANEL PROVIDED BY THE SYSTEM INTEGRATOR, INSTALLED BY THE CONTRACTOR.
7. TANK MIXER CONTROL PANEL, FURNISHED WITH THE MIXER. INTERFACE TO TELEMETRY RTU FOR MONITORING AND CONTROL. PROVIDE LOCKOUT PROVISION @ PANEL OR
8. CATHODIC PROTECTION PANEL. INSTALL AND CONNECT TO THE TANK AND PIPING PER MANUFACTURER'S INSTRUCTIONS.
9. INSTALL (6) TYPE A LIGHTS VERTICALLY SPACED AT 15' O.C. FOR ILLUMINATION OF THE ROOF ACCESS LADDER, CONNECT THROUGH A COMMON TOGGLE SWITCH. PROVIDE LABEL FOR THE SWITCH.
10. NEMA 4X S.S. LOCAL DISCONNECT SWITCH FOR TANK MIXER CABLE. ROUTE 3/4" RGS CONDUIT WITH (2) #12 & (1) #12 GND ALONG THE TANK WALL AND ROOF TO THE JUNCTION BOX. PENETRATE SIDE OF TANK HATCH, INSTALL CONDUIT ELBOW, CONDUIT SEAL-OFF FITTING AND CORD STRAIN RELIEF, PER MIXER SUPPLIER INSTRUCTIONS.
11. N / A
12. PROVIDE A 12' STANCHION MOUNTED AREA LIGHT WITH ADJUSTABLE DUAL HEADS AND MOTION DETECTOR FOR CONTROL (RAB STL360 OR EQUAL). AIM HEADS AT TANK ENTRANCE AND HYDRANT. LOCATE MOTION DETECTOR ABOVE FENCE LINE, AND ADJUST FOR OPTIMAL OPERATION.
13. PRESSURE TRANSDUCER FOR TANK LEVEL MEASUREMENT.
14. #2 BARE COPPER GROUND RING 1'-6" BELOW GRADE.
15. (3) EQUALLY SPACED 3/4" 10' COPPER GLAD GROUND RODS, DRIVEN TO AT LEAST 1' BELOW GRADE. EXOTHERMICALLY WELDED TO THE GROUND RING
16. EXTEND #2 CONDUCTOR FROM THE RING TO TANK STEEL AND CADWELD. BOND GROUND THROUGH THE GROUND PLATE INSTALLED BELOW PANEL LP-A TO THE ELECTRICAL SERVICE. COORDINATE CONNECTION POINTS WITH THE TANK SUPPLIER.
17. REFER TO THE INSTRUMENT LIST IN SPECIFICATION SECTION 269001 FOR THE INSTRUMENTATION TO BE PROVIDED BY THE SYSTEM INTEGRATOR AND INSTALLED BY THIS CONTRACTOR. INCLUDE IN BID THE PRICE TO INSTALL AND WIRE INSTRUMENTS TO THE RTU PER PROVISIONS OF THAT SECTION. THE INSTRUMENTS INCLUDE:
   - THE GAUGE PRESSURE TRANSMITTER
   - DOOR CONTACTOR
   - SECURITY KEYPAD
   - AMBIENT TEMPERATURE TRANSMITTER

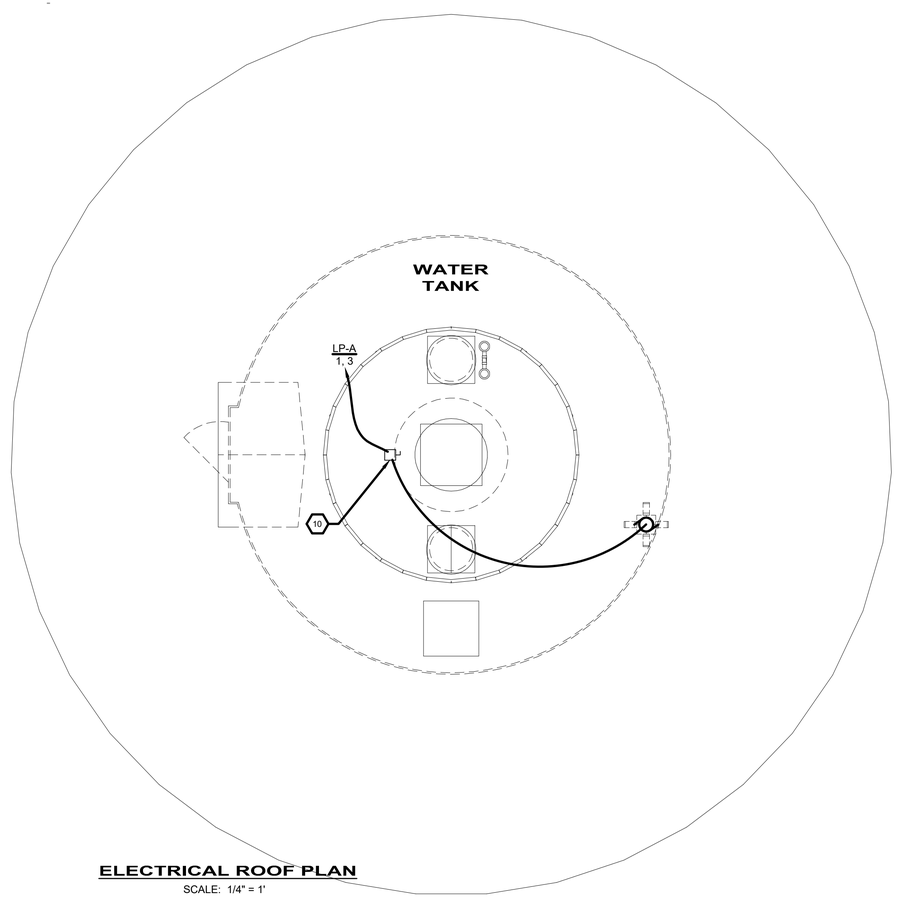
LIGHT FIXTURE SCHEDULE			
DESIGNATION	DESCRIPTION	MANUFACTURER/MODEL	NOTES
A	WALL MOUNTED LED LIGHT, CAST ALUMINUM HOUSING	LITHONIA OLVTWM OR EQUAL	3500K COLOR, 600 LUMENS
B	LED FLOOD FLIGHT - TWO HEADS ON COMMON BULLHORN ARM	HOLOPHANE PSLED-PK1-MVOLT-FL-40K-1 WITH FULL VISOR	PROVIDE EACH WITH VISOR

SHEET GENERAL NOTE:

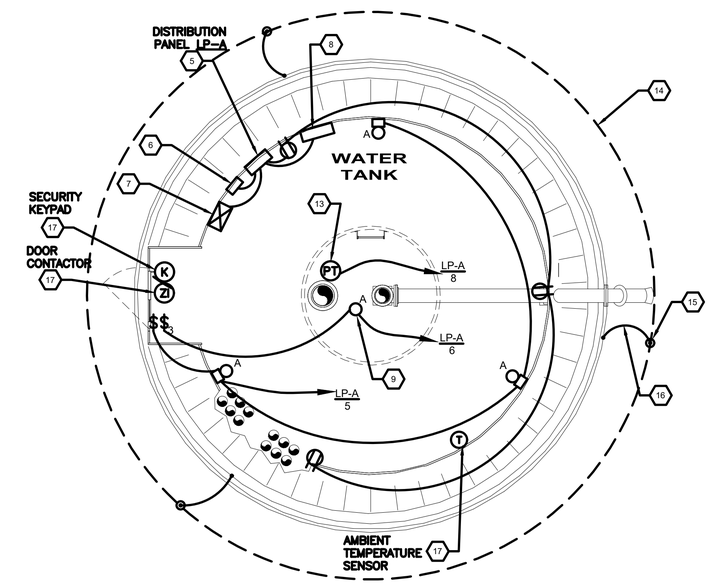
1. COORDINATE ALL CONDUIT, BOXES, AND EQUIPMENT MOUNTING LOCATIONS ON THE TANK INTERIOR WITH THE TANK MANUFACTURER.



ELECTRICAL SITE PLAN
SCALE: 1" = 10'



ELECTRICAL ROOF PLAN
SCALE: 1/4" = 1'



ELECTRICAL PLAN @ BASE CONE LEVEL
SCALE: 1/4" =1'-0"

verdantas

STATE OF OHIO
TIMOTHY MCLAUGHLIN
E-83985
REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE
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ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES
HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT
ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

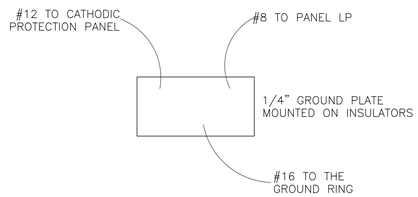
SCALE: AS SHOWN
DATE: 08/01/2025
DESIGNED BY: ELE
DRAWN BY: PAB/ELE
CHECKED BY: TJM

ELECTRICAL - E SERIES

WATER TANK PLANS

PROJECT NO: 200426
DRAWING NAME: E-02
SHEET 18 OF 22

H:\2020\200426\DWG\SHEETS\E_200426 - PROPOSED WATER TANK PLANS.DWG - 17 WATER TANK PLANS - 7/24/2025 4:29:44 PM - BOB MARANO

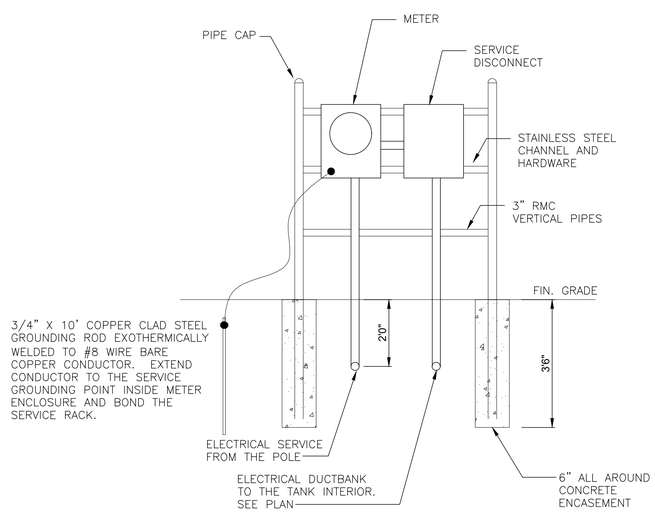


GROUND PLATE DIAGRAM

N.T.S.

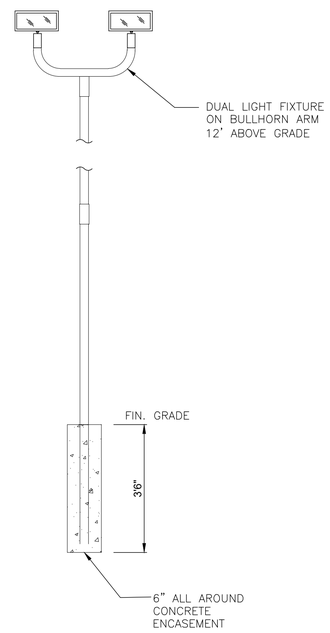
PANELBOARD	LP-A		
PANEL TYPE	NQ OR EQUAL		
NEMA TYPE	NEMA 12		
VOLTAGE	120/240V	PHASE	1
OCPD	100A	WIRE	3
MOUNTING	SURFACE	BUSS	125A

LOAD DESCRIPTION	LOAD	BKR.	CKT. NO.	PHASE	CKT. NO.	BKR.	LOAD	LOAD DESCRIPTION
TANK MIXER CONTROL PANEL	800	20/2 G	1	A	2	20/1	420	TELEMETRY PANEL
			3	B	4	20/1 G	540	BASE RECEPTS, CIRCUIT
BASE LIGHTS, CIRCUIT	222	20/1	5	A	6	20/1	504	PEDESTAL& ACCESS WAY LIGHTS
TRANSDUCER HEATER	800	20/1 G	7	B	8	20/1	216	EXTERIOR LIGHTS
SPARE		20/1	9	A	10	20/1		SPARE
SPARE		20/1	11	B	12	20/1		SPARE
SPARE			13	A	14			SPACE
SPARE			15	B	16			SPACE
SPARE			17	A	18			SPACE
SPACE			19	B	20			SPACE
						3502 VA		CONNECTED
						3702 VA		DEMAND
						15.43 A @ 240/120V, 1P, 3W		



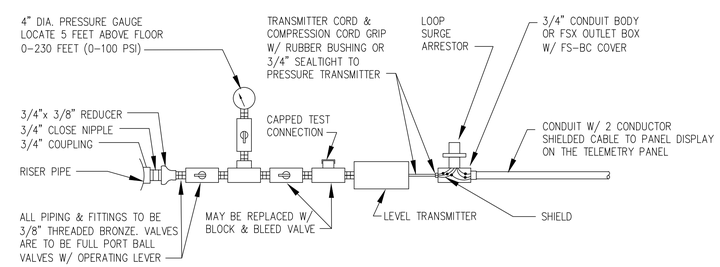
SERVICE RACK DETAIL

N.T.S.



12' STANCHION MOUNTED AREA LIGHT DETAIL

N.T.S.



PRESSURE GAUGE AND LEVEL TRANSMITTER DIAGRAM

N.T.S.

INSTRUMENTATION AND CONTROL NOTES:

1. PROVIDE PHYSICAL SUPPORT TO TRANSMITTER AND PIPING AS REQ'D TO MINIMIZE STRAIN ON RISER CONNECTION.
2. HEAT TAPE/INSULATE SENSING LINES
3. COORDINATE INSTALLATION WITH THE SYSTEM INTEGRATOR.
4. SYSTEM INTEGRATOR TO PROVIDE THE TELEMETRY PANEL WITH LEVEL CONTROLLER AND DISPLAY AND TO CONFIGURE INTERFACE TO THE REMOTE PUMPING STATION AND REMOTE SYSTEM MONITORING LOCATION. AT MINIMUM THE FOLLOWING SIGNALS WILL BE TRANSMITTED FROM THE LEVEL CONTROLLER:
   - OVERFLOW
   - PUMP OFF
   - PUMP ON
   - ALARM
   - LOW WATER
   - TANK FLOOR

verdantas

STATE OF OHIO
TIMOTHY MCLAUGHLIN
E-83985
REGISTERED
PROFESSIONAL ENGINEER

NO	REVISION	DATE
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ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES

HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT

ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

SCALE:	AS SHOWN
DATE:	08/01/2025
DESIGNED BY:	ELE
DRAWN BY:	PAB
CHECKED BY:	TJM

ELECTRICAL - E SERIES

PANEL SCHEDULE & DETAILS

PROJECT NO:	
200426	
DRAWING NAME	
E-03	
SHEET	OF
19	22

ADMINISTRATIVE NOTES

1. AN OHIO EPA NPDES PERMIT IS REQUIRED WHERE CONSTRUCTION ACTIVITIES DISTURB 1 OR MORE ACRES OF LAND, OR SMALLER SITES LESS THAN 1 ACRE THAT ARE PART OF A LARGER COMMON DEVELOPMENT. DISTURBED LAND IS LAND IN WHICH VEGETATION HAS BEEN CLEARED AND SOILS ARE EXPOSED TO STORM WATER.
2. THE CONTRACTOR SHALL FOLLOW THE PRACTICES AND REQUIREMENTS PROVIDED IN THE OHIO EPA NPDES CONSTRUCTION SITE STORM WATER GENERAL PERMIT OHC000006 AND THE ODNR RAINWATER AND LAND DEVELOPMENT MANUAL, AND BE RESPONSIBLE FOR ALL NPDES TERMS AND CONDITIONS UNTIL A NOT IS FILED.
3. NO CONSTRUCTION ACTIVITIES MAY BEGIN UNTIL ALL OF THE FOLLOWING OCCUR:
   - OHIO EPA NPDES AUTHORIZATION LETTER RECEIVED
   - THE CONTRACTOR FILES A CO-PERMITTEE APPLICATION TO THE OHIO EPA
   - THE CONTRACTOR ATTENDS A PRE-CONSTRUCTION MEETING WITH THE SWCD TO DISCUSS OHIO EPA NPDES PERMIT REQUIREMENTS
4. ELECTRONIC VERSIONS OF OHIO EPA FORMS INCLUDING NOI, NOT, CO-PERMITTEE NOI/NOT, INDIVIDUAL LOT NOI/NOT AND TRANSFER ARE AVAILABLE THROUGH THE OHIO EPA AND CAN BE SUBMITTED ELECTRONICALLY. VISIT THE OHIO EPA ELECTRONIC BUSINESS SERVICES WEBSITE AT WWW.EPA.OHIO.GOV/DSW/STORM/INDEX FOR MORE INFORMATION AND GUIDANCE.
5. THE CONTRACTOR SHALL SELECT INDIVIDUALS TO BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND COMPLETING INSPECTION AND MAINTENANCE REPORTS. THE CONTRACTOR SHALL COMPLETE A "DELEGATION OF AUTHORITY FOR STORM WATER POLLUTION PREVENTION PLAN" AND PROVIDE A COPY TO THE OWNER AND SWCD.
6. ALL PROCEDURES AND REQUIREMENTS CONTAINED IN THIS SWP3 APPLY TO ALL GENERAL AND SUBCONTRACTORS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IMPLEMENT, INFORM, REQUIRE AND ENFORCE ALL ASPECTS AND PROCEDURES OF THE SWP3. THE CONTRACTOR SHALL HAVE ALL SUBCONTRACTORS THAT ARE OR MAY BE ENGAGED IN ACTIVITIES THAT COULD IMPACT STORM WATER COMPLETE A "SUBCONTRACTOR AGREEMENT FOR EROSION AND SEDIMENT CONTROL", AND PROVIDE A COPY TO THE OWNER AND SWCD.
7. THE CONTRACTOR SHALL KEEP ON-SITE COPIES OF THE NOI, NPDES, SWP3 AND INSPECTION LOGS/REPORTS.
8. ALL EROSION AND SEDIMENT CONTROL WORK SHALL BE SUBJECT TO INSPECTION BY THE SWCD AND OHIO EPA.

GENERAL NOTES

1. THE CONTRACTOR IS REQUIRED TO DEVELOP THE SWP3 FOR THIS PROJECT AND SUBMIT FOR APPROVAL TO THE SWCD SHOWING THE ITEMS LISTED BELOW. SOME ITEMS MAY ALREADY BE SHOWN ON THE SWP3, BUT MOVED TO BETTER SUIT THE CONTRACTOR'S MEANS AND METHODS.
   - LIMITS OF EARTH DISTURBING ACTIVITY
   - CONSTRUCTION ENTRANCE(S)
   - EROSION AND SEDIMENT CONTROL MEASURES
   - INLET PROTECTIONS
   - CONCRETE WASHOUT PIT(S)
   - EQUIPMENT STAGING
   - FUEL STORAGE AND VEHICLE FUELING AREA
   - CONSTRUCTION TRAILER(S)
   - SANITATION FACILITY
   - MATERIAL STOCKPILE LOCATION(S)
   - CHEMICAL COMPOUND MIXING AND STORAGE AREA
   - ANY OTHER EROSION CONTROL REQUIRED
2. ALL WORK REQUIRED TO IMPLEMENT THE SWP3 INCLUDING INSPECTION FEES, MAINTENANCE AND REPAIRS SHALL BE DONE BY AND AT THE EXPENSE OF THE CONTRACTOR.
3. THE CONTRACTOR SHALL AMEND THE SWP3 WHEN THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION OR MAINTENANCE THAT REQUIRES INSTALLATION OF BMPS OR MODIFICATION TO EXISTING BMPS.
4. ADDITIONAL OR DIFFERENT BMPS MAY BE NEEDED AS CONSTRUCTION PROGRESSES OR AS REQUIRED BY THE OWNER, SWCD OR OHIO EPA.
5. PHASE CONSTRUCTION ACTIVITIES TO MINIMIZE LAND DISTURBED AT ANY ONE TIME AND LEAVE EXISTING VEGETATION IN PLACE AS LONG AS POSSIBLE.

OTHER WASTE CONTROL NOTES

1. SOIL STOCKPILES SHALL BE RINGED WITH SILT FENCE ALONG THE BOTTOM FOOTPRINT. IF THE STOCKPILE WILL BE INACTIVE FOR 14 DAYS OR MORE, THE SURFACE SHALL BE SEEDED OR STABILIZED WITHIN 7 DAYS OF LAST DISTURBANCE.
2. CONCRETE TRUCKS ARE NOT PERMITTED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONTO THE GROUND OR INTO STORM INLETS, DITCHES, STREAMS, WETLANDS OR ANY OTHER SURFACE WATERS. ALL EXCESS CONCRETE AND CONCRETE WASHOUT, INCLUDING FROM HAND MIXERS AND LIGHT EQUIPMENT, MUST BE DISPOSED OF IN A CONCRETE WASHOUT AREA TO COLLECT AND HARDEN.
3. OFF-SITE TRACKING OF SEDIMENT BY CONSTRUCTION VEHICLES MUST BE MINIMIZED. THE CONTRACTOR SHALL SWEEP ALL ADJACENT ROADS TO REMOVE MUD, DIRT OR ROCK TRACKED FROM THE SITE AT THE END OF EACH WORK DAY OR AS REQUIRED DURING THE DAY. DUMP TRUCKS HAULING MATERIAL FROM THE SITE SHALL BE COVERED WITH A TARPAULIN.
4. IT IS PROHIBITED TO BURN, BURY OR POUR ONTO THE GROUND OR INTO STORM INLETS, DITCHES, STREAMS, WETLANDS OR ANY OTHER SURFACE WATERS SOLID OR LIQUID WASTE INCLUDING TRASH, CONSTRUCTION DEBRIS, SOLVENTS, PAINT, DIESEL FUEL, GASOLINE, MOTOR OIL, HYDRAULIC FLUID, CEMENT CURING COMPOUND, ANTIFREEZE OR OTHER TOXIC OR HAZARDOUS WASTE. WASTE MATERIALS SHALL BE COLLECTED IN A SECURELY LIDDED DUMPSTER, DISPOSED OF IN AN APPROVED LANDFILL AND EMPTIED AS NECESSARY.
5. FUEL TANKS, DRUMS AND OTHER CONTAINERS HOLDING CHEMICALS MUST BE STORED WITHIN A DIKED AREA WITH A VOLUME OF AT LEAST 110% OF THE LARGEST TANK. A DIKED AREA IS NOT NECESSARY IF A SELF-CONTAINED SPILL PROOF TANK IS USED.
6. THE CONTRACTOR SHALL PROVIDE TEMPORARY SANITARY FACILITIES AT THE SITE. SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS 1 TIME PER WEEK, OR MORE OFTEN IF NECESSARY.
7. ANY TOXIC OR HAZARDOUS MATERIAL SPILL, REGARDLESS OF SIZE, MUST BE REPORTED WITHIN 30 MINUTES TO THE LOCAL FIRE DEPARTMENT AND OHIO EPA.
8. CONTAMINATED SOIL, SOIL WHERE CONSTRUCTION CHEMICALS HAVE BEEN SPILLED OR HAZARDOUS WASTE MATERIALS MUST BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
9. STORM WATER THAT COMES IN CONTACT WITH CONTAMINATED SOIL OR HAS A VISIBLE SHEEN MUST BE COLLECTED BY A VACUUM TRUCK AND DISPOSED OF AS A WASTE WATER.

EROSION CONTROL NOTES

1. SPECIAL MEASURES SHALL BE TAKEN TO STABILIZE DRAINAGE CHANNELS AND STORM WATER OUTFALLS.
2. DIVERT SURFACE RUNOFF AWAY FROM DISTURBED AREAS AND STEEP SLOPES WHEREVER PRACTICABLE.
3. STABILIZATION OF DISTURBED AREAS SHALL BE INITIATED WITHIN THE TIME FRAMES IN THE FOLLOWING TABLES:

AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY CONTROLS
AREA WITHIN 50 FEET OF A SURFACE WATER, NOT AT FINAL GRADE AND TO REMAIN IDLE MORE THAN 14 DAYS	WITHIN 2 DAYS OF MOST RECENT DISTURBANCE
ANY OTHER AREA TO BE DORMANT MORE THAN 14 DAYS, BUT LESS THAN 1 YEAR	WITHIN 7 DAYS OF MOST RECENT DISTURBANCE
AREA TO REMAIN IDLE OVER WINTER	PRIOR TO ONSET OF WINTER WEATHER
AREA TO BE PAVED	STABILIZE WITH STONE SUBBASE UNTIL PAVED

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY CONTROLS
AREA TO BE DORMANT FOR 1 YEAR OR MORE	WITHIN 7 DAYS OF MOST RECENT DISTURBANCE
AREA WITHIN 50 FEET OF A SURFACE WATER AND AT FINAL GRADE	WITHIN 2 DAYS OF REACHING FINAL GRADE
ANY OTHER AREA AT FINAL GRADE	WITHIN 7 DAYS OF REACHING FINAL GRADE

SEDIMENT CONTROL NOTES

1. INLET PROTECTION AND SEDIMENT BARRIERS MUST BE INSTALLED PRIOR TO CLEARING AND GRUBBING.
2. PERIMETER SEDIMENT BARRIERS SHALL BE INSTALLED AS THE FIRST STEP OF GRADING AND WITHIN 7 DAYS FROM THE START OF CLEARING AND GRUBBING.
3. SEDIMENT PONDS, TEMPORARILY MODIFIED PERMANENT PONDS AND PERIMETER SEDIMENT BARRIERS MUST BE INSTALLED AS THE FIRST STEP OF GRADING AND WITHIN 7 DAYS FROM THE START OF CLEARING AND GRUBBING, AND CONTINUE TO FUNCTION UNTIL ALL DISTURBED UPLAND AREAS ARE STABILIZED.
4. SEDIMENT CONTROLS MUST POND RUNOFF TO BE CONSIDERED FUNCTIONAL.
5. SEDIMENT-LADEN TRENCH OR GROUND WATER MUST PASS THROUGH A SEDIMENT-SETTLING POND OR BE DEWATERED IN-PLACE USING A SUMP PIT, FILTER BAG OR OTHER COMPARABLE METHOD, PRIOR TO DISCHARGE FROM THE SITE.
6. TRENCH AND GROUND WATER FREE FROM SEDIMENT OR OTHER POLLUTANTS MAY BE DISCHARGED WITHOUT TREATMENT, PROVIDED THIS WATER DOES NOT BECOME POLLUTANT-LADEN BY TRAVERSING OVER DISTURBED SOILS OR OTHER POLLUTANT SOURCES.
7. SETTLED MATERIAL SHALL BE DISPOSED OF IN A STABILIZED LOCATION WHERE IT WILL NOT BE CARRIED OFF-SITE OR INTO A STORM SEWER BY RAINFALL.

EROSION CONTROL TIMETABLE

	2025					2026											
STABILIZATION	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
TEMP. SEEDING	⊗	O	O					O	O	⊗	⊗	⊗	⊗	O	O		
PERM. SEEDING	⊗	O	O						O	⊗	⊗	⊗	⊗	O	O		
SODDING	⊗	⊗	⊗					⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗		
MULCHING	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
PAVING	O	O	O	O						O	O	O	O	O	O	O	

⊗ IRRIGATION NEEDED

TMDLS AND BMPS SELECTED

1. APPLICABLE TMDLS FOR THE SITE:
   (X) PHOSPHORUS ( ) AMMONIA (X) HABITAT
   (X) NITROGEN (X) BACTERIA ( ) FLOW
   ( ) SEDIMENT/TOTAL SUSPEND SOLIDS
   (X) DISSOLVED OXYGEN/ORGANIC ENRICHMENT
2. THE FOLLOWING BMPS ARE SELECTED TO ADDRESS APPLICABLE TMDLS FOR THE PROJECT:

CONSTRUCTION SITE:
( ) DEMARCATE PROTECTED AREA BEFORE CONSTRUCTION
(X) MAINTAIN PORTABLE TOILET AND EMPTY W/OUT SPILL
(X) PROPER STORAGE OF LANDSCAPE FERTILIZER
(X) MS4 MONTHLY INSPECTIONS DURING CONSTRUCTION
(X) RESOLVE NON-COMPLIANCE SWP3 INSPECTION ITEMS
( ) FINAL INSPECTION TO ENSURE BMP IMPLEMENTATION

TEMPORARY EROSION CONTROL:
( ) CHECK DAMS ( ) TEMPORARY DIVERSION
( ) SLOPE DRAIN ( ) STREAM UTILITY CROSSING
( ) DEWATERING ( ) STREAM CROSSING

TEMPORARY SEDIMENT CONTROL:
( ) SEDIMENT BASIN ( ) SEDIMENT TRAP
(X) SILT FENCE (X) INLET PROTECTION
(X) FILTER SOCK ( ) FILTER BERM

SOIL STABILIZATION:
(X) DUST CONTROL (X) PHASED DISTURBANCE
(X) MULCHING (X) CLEARING AND GRUBBING
( ) SODDING (X) TEMPORARY SEEDING
(X) TOPSOILING (X) PERMANENT SEEDING
( ) GRADE TREATMENT (X) CONSTRUCTION ENTRANCE
( ) TEMPORARY ROLLED EROSION CONTROL PRODUCTS
( ) TURF REINFORCEMENT MATTING
(X) TREE AND NATURAL AREA PRESERVATION

PERMANENT EROSION CONTROL:
( ) GRASSED SWALE ( ) ROCK LINED CHANNEL
( ) LEVEL SPREADER ( ) ROCK OUTLET PROTECTION
( ) DIVERSION ( ) SUBSURFACE DRAIN

POLLUTION PREVENTION AND GOOD HOUSEKEEPING:
(X) ROUTINE FACILITY INSPECTIONS
(X) VISUAL ASSESSMENT OF STORM WATER DISCHARGE
( ) ANNUAL COMPREHENSIVE SITE INSPECTION
( ) SWEEP PARKING LOT AND DRIVE LANES
(X) CLEAN CATCH BASINS
(X) STORE WASTE IN LIDDED CONTAINERS
(X) LOCATE SNOW DISPOSAL AREAS AWAY FROM BMPS
( ) ESTABLISH "PICK-UP PET WASTE" STATION

POST-CONSTRUCTION:
( ) WETLAND SETBACK ( ) STREAM SETBACK
( ) WATER QUALITY POND ( ) PERMEABLE PAVEMENT
( ) GRASS FILTER STRIP ( ) INFILTRATION TRENCH
( ) TREE BOX FILTER ( ) SAND FILTER
( ) GREEN ROOF ( ) LTMA
( ) BIORETENTION AREA ( ) CISTERN
( ) BIORETENTION WITH INTERNAL WATER STORAGE
( ) OPEN CHANNEL SWALES
( ) WET EXTENDED DETENTION BASIN
( ) DRY EXTENDED DETENTION BASIN WITH FOREBAY
( ) RETROFIT SWMF TO TREAT WQV
( ) RETROFIT SWMF TO INCREASE INFILTRATION
( ) RETROFIT SWMF POND TO FUNCTION AS WETLAND
( ) AS-BUILT POST-BMPS
( ) SUBMIT LTMA ANNUAL MAINTENANCE REPORT TO MS4
(X) REDUCE IMPERVIOUS SURFACES
( ) DECREASE QUANTITY OF PARKING SPACES
( ) LOW IMPACT DEVELOPMENT
( ) CONSERVATION DEVELOPMENT
( ) DISCONNECT DOWNSPOUT AND REDIRECT TO BMP
( ) VEGETATE MAINTENANCE/STORAGE YARD OPEN AREAS
(X) IMPLEMENT LOW-MOW OR NO-MOW PRACTICES
( ) PEST MANAGEMENT PROGRAM

MAINTENANCE REQUIREMENTS

1. BMPS SHALL BE MAINTAINED IN GOOD WORKING ORDER UNTIL UPSLOPE AREAS THEY CONTROL ARE STABILIZED.
2. THE CONTRACTOR SHALL PROVIDE A QUALIFIED PERSON KNOWLEDGEABLE IN THE PRINCIPLES AND PRACTICES OF EROSION AND SEDIMENT CONTROLS, POSSESS THE TECHNICAL SKILLS TO ASSESS SITE CONDITIONS THAT COULD IMPACT STORM WATER QUALITY, AND CAN ASSESS THE EFFECTIVENESS OF ANY BMP SELECTED.
3. A QUALIFIED PERSON MUST INSPECT BMPS AT LEAST ONCE EVERY 7 DAYS AND WITHIN 24 HOURS OF A 0.5" OR GREATER RAINFALL IN A 24-HOUR PERIOD TO DETERMINE IF THE SWP3 WAS PROPERLY IMPLEMENTED.
4. THE QUALIFIED PERSON MUST PREPARE A WRITTEN REPORT AFTER EACH INSPECTION SUMMARIZING INSPECTION RESULTS INCLUDING THE FOLLOWING:
   - DATE OF INSPECTION
   - NAME AND QUALIFICATION OF THE INSPECTOR
   - WEATHER CONDITIONS
   - LOCATIONS WHERE IN-STREAM OR OFF-SITE SEDIMENTATION OR OTHER POLLUTANTS WERE OBSERVED.
   - LOCATIONS OF BMPS NEEDING MAINTENANCE.
   - LOCATIONS OF BMPS FAILING TO OPERATE CORRECTLY OR PROVIDE ADEQUATE PROTECTION.
   - LOCATION OF AREAS IN NEED OF ADDITIONAL BMPS NOT IN PLACE AT THE TIME OF INSPECTION.
   - CORRECTIVE ACTIONS REQUIRED, CHANGES TO THE SWP3 AND IMPLEMENTATION DATES.
   - GRADING AND STABILIZATION ACTIVITY LOG
   - EROSION AND SEDIMENT CONTROL AMENDMENT LOG
5. ALL INCIDENCES OF NON-COMPLIANCE MUST BE IDENTIFIED IN THE REPORT. IF A REPORT DOES NOT IDENTIFY INCIDENCES OF NON-COMPLIANCE, IT MUST CONTAIN A CERTIFICATION THE SITE IS IN COMPLIANCE AT THE TIME OF INSPECTION.
6. BMP MAINTENANCE OR REPAIR MUST BE COMPLETED WITHIN 3 DAYS, AND SEDIMENT POND MAINTENANCE OR REPAIR WITHIN 10 DAYS, OF THE INSPECTION THAT REVEALED A DEFICIENCY.
7. WHEN AN INSPECTION REVEALS A BMP IS NOT EFFECTIVE AND A MORE APPROPRIATE BMP IS REQUIRED, THE SWP3 SHALL BE AMENDED, THE NEW BMP INSTALLED WITHIN 10 DAYS OF THE INSPECTION THAT REVEALED THE DEFICIENCY, AND THE "STORM WATER POLLUTION PREVENTION PLAN AMENDMENT LOG" FORM COMPLETED.
8. WHEN AN INSPECTION REVEALS A BMP HAS NOT BEEN INSTALLED, BUT IS REQUIRED TO PROVIDE ADEQUATE CONTROL, IT MUST BE INSTALLED PRIOR TO THE NEXT STORM EVENT WHICH PRODUCES RUNOFF, BUT IN NO CASE LATER THAN 10 DAYS FROM THE INSPECTION THAT REVEALED THE DEFICIENCY.
9. THE INSPECTION FREQUENCY MAY BE REDUCED TO 1 TIME PER MONTH IF THE ENTIRE SITE IS TEMPORARILY STABILIZED OR RUNOFF IS UNLIKELY DUE TO WINTER WEATHER (I.E. SUSTAINED SNOW COVER OR FROZEN GROUND CONDITIONS). A WAIVER OF INSPECTION REQUIREMENTS IS AVAILABLE UNTIL 1 MONTH BEFORE THAWING CONDITIONS ARE EXPECTED IF ALL THE FOLLOWING CONDITIONS ARE MET:
10. FROZEN CONDITIONS ARE ANTICIPATED TO CONTINUE FOR EXTENDED PERIODS OF TIME (I.E. MORE THAN 1 MONTH).
11. SOIL DISTURBANCE ACTIVITIES HAVE BEEN SUSPENDED.
12. THE BEGINNING AND ENDING DATES OF THE WAIVER PERIOD ARE DOCUMENTED IN THE SWP3.
13. ONCE A DEFINABLE AREA HAS BEEN FULLY STABILIZED, IT MAY BE MARKED ON THE SWP3 AND NO FURTHER INSPECTION REQUIREMENTS ARE REQUIRED FOR THAT AREA OF THE SITE.
14. INSPECTIONS SHALL BE PERFORMED UNTIL A NOT IS FILED WITH THE OHIO EPA.

PERMIT CLOSURE REQUIREMENTS

1. FINAL STABILIZATION REQUIRES THE CONTRACTOR TO REMOVE ALL TEMPORARY SEDIMENT AND EROSION CONTROLS FROM THE SITE AND ALL SEDIMENT TRAPPED BY THOSE CONTROLS BE PERMANENTLY STABILIZED.
2. THE CONTRACTOR SHALL COMPLETE A "FINAL CERTIFICATION AND NOTIFICATION FOR EROSION AND SEDIMENT CONTROL" UPON PROJECT COMPLETION AND PROVIDE A COPY TO THE OWNER AND SWCD.
3. ONCE CONSTRUCTION ACTIVITIES HAVE CEASED AND THE SITE REACHES FINAL STABILIZATION, THE CONTRACTOR MUST TERMINATE THE NPDES PERMIT COVERAGE BY FILING A NOT WITH THE OHIO EPA WITHIN 45 DAYS OF FINAL STABILIZATION. FINAL STABILIZATION IS DEFINED AS AN ESTABLISHED VEGETATIVE GROUND COVER OF AT LEAST 70% GROWTH DENSITY, OR OTHER MEANS OF PERMANENT STABILIZATION, OVER ALL AREAS DISTURBED DURING CONSTRUCTION.
4. THE CONTRACTOR MUST MAINTAIN ALL REPORTS FOR 3 YEARS AFTER THE NOT IS FILED, AND PROVIDE DIGITAL COPIES TO THE OWNER AND SWCD.

SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES

1. HOLD A PRE-CONSTRUCTION MEETING TO DISCUSS OHIO EPA NPDES PERMIT REQUIREMENTS.
2. CONTRACTOR SUBMITS CONSTRUCTION SCHEDULE FOR CONSTRUCTION ACTIVITIES.
3. BEGIN INSPECTION, MAINTENANCE, RECORD KEEPING AND SITE POSTING OF BMPS.
4. ESTABLISH STAGING AREA AND NON-SEDIMENT BMPS.
5. INSTALL SILT FENCE, INLET PROTECTION AND CONSTRUCTION ENTRANCE.
6. INSTALL OTHER TEMPORARY EROSION AND SEDIMENT CONTROL ITEMS AS SOON AS POSSIBLE, BUT NO LATER THAN 7 DAYS AFTER FIRST SOIL DISTURBANCE. INSPECT AND MAINTAIN BMPS FOR THE PROJECT DURATION UNTIL UPSLOPE AREAS ARE PERMANENTLY STABILIZED.
7. BEGIN SITE DEMOLITION AND CONSTRUCTION.
8. INSTALL DEWATERING MEASURES.
9. BEGIN EARTHWORK OPERATIONS.
10. APPLY TEMPORARY SEED.
11. INSTALL WATER LINES STORM SEWERS AND INLETS.
12. INSTALL WATER TOWER & CONTROL BUILDING.
13. CONSTRUCT REMAINING UTILITIES INCLUDING SANITARY, WATER, ELECTRIC, GAS AND PHONE.
14. INSTALL PAVING.
15. INSPECT AND CLEAN EXISTING AND NEW STORM SEWERS AND INLETS.
16. APPLY PERMANENT SEED.
17. INSTALL LANDSCAPING.
18. CONTINUE INSPECTIONS, MAINTENANCE, RECORD KEEPING, AND SITE POSTING UNTIL FINAL STABILIZATION ACHIEVED.
19. REMOVE TEMPORARY BMPS FROM STORM SEWER AND INLETS, AND OPEN GUTTERS AND DITCHES TO OBTAIN FREE DRAINAGE.
20. DISPOSE OF ALL DEBRIS AND WASTE MATERIAL.

verdantas

STATE OF OHIO
TIMOTHY MCLAUGHLIN
E-83985
REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE
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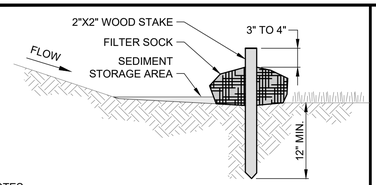
ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES
HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT
ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

SCALE:	AS SHOWN
DATE:	08/01/2025
DESIGNED BY:	TM
DRAWN BY:	SAS
CHECKED BY:	TM

SWPPP SERIES

SWPPP NOTES

PROJECT NO:	
200426	
DRAWING NAME	
SWP3-1	
SHEET	OF
20	22



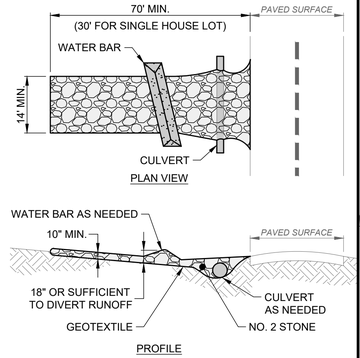
NOTES:

1. FILTER SOCKS SHALL BE 3 OR 5 MIL CONTINUOUS, TUBULAR, HDPE 3/8" KNITTED MESH NETTING MATERIAL, FILLED WITH COMPOST.
2. COMPOST SHALL BE WEED, PATHOGEN AND INSECT FREE, FREE OF ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH, BE DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER, AND CONSIST OF PARTICLES RANGING FROM 3/8" TO 2".
3. FILTER SOCKS SHALL BE PLACED ON A LEVEL LINE ACROSS SLOPES PARALLEL TO THE BASE OF THE SLOPE. ON SLOPES APPROACHING 2:1, ADDITIONAL SOCKS SHALL BE PROVIDED AT THE TOP AND MID-SLOPE.
4. FILTER SOCKS SHALL BE PLACED AT LEAST 5' FROM THE TOE OF SLOPE FOR SEDIMENT DEPOSIT.
5. BUILT UP SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED 1/3 THE FILTER SOCK HEIGHT.
6. WHEN A FILTER SOCK IS NO LONGER REQUIRED, IT SHALL BE DISPERSED ON-SITE.
7. THE MAXIMUM DRAINAGE AREA PER 100 FEET OF FILTER SOCK IS 1/2 ACRE AND IS DEPENDENT ON THE SLOPE FOLLOWING THE GUIDANCE CHART BELOW:

MAX. SLOPE LENGTH ABOVE FILTER SOCK					
SLOPE	RATIO (H:V)	8"	12"	18"	24"
0% - 2%	0 - 50:1	125'	250'	300'	350'
2% - 10%	50:1 - 10:1	100'	125'	200'	250'
10% - 20%	10:1 - 5:1	75'	100'	150'	200'
20% - 50%	5:1 - 2:1	N/A	50'	75'	100'
$\geq$ 50%	$\geq$ 2:1	N/A	25'	50'	75'

FILTER SOCK DETAIL

SCALE: NONE



NOTES:

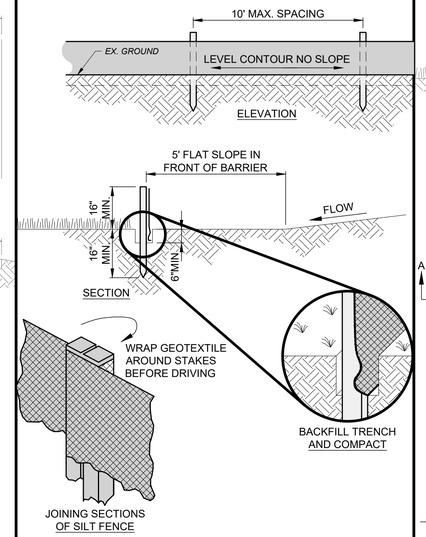
1. GEOTEXTILE SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS MEETING THE FOLLOWING:

TENSILE STRENGTH	200 LB
PUNCTURE STRENGTH	80 PSI
TEAR STRENGTH	50 LB
BURST STRENGTH	320 PSI
ELONGATION	20%
EQUIVALENT OPENING SIZE	< 0.6 MM
PERMITTIVITY	0.001 CM/SEC.

2. INSTALL WATER BAR, AS NEEDED, TO PREVENT SURFACE RUNOFF FROM FLOWING OUT ONTO PAVEMENT.
3. APPLY ADDITIONAL STONE AS CONDITIONS DEMAND, REPLENISH STONE WHEN THE DEPTH IS LESS THAN 6", AND REPLACE IF STONES BECOMES MUD-LADEN.
4. IMMEDIATELY REMOVE MUD DROPPED, WASHED OR TRACKED ONTO ROADS OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS BY SCRAPING OR SWEEPING.
5. CONSTRUCTION ENTRANCE SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES OR PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE SITE SHALL BE RESTRICTED FROM MUDDY AREAS.
6. CONSTRUCTION ENTRANCE SHALL REMAIN UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY.

CONSTRUCTION ENTRANCE

SCALE: NONE



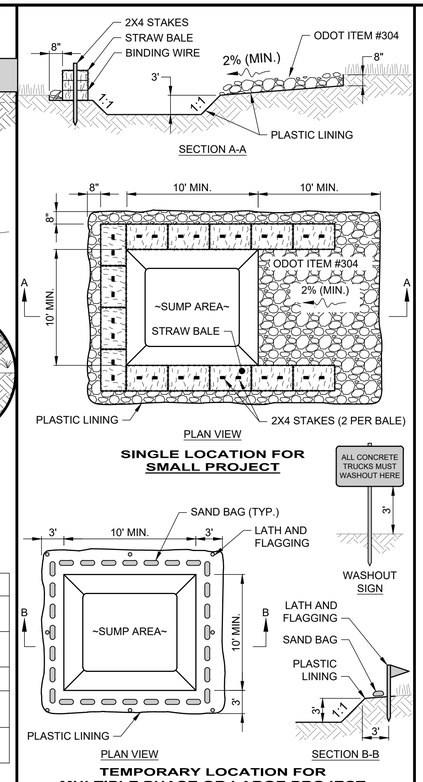
FABRIC PROPERTIES	VALUES	TEST METHOD
GRAB TENSILE STRENGTH	90 LB. MIN	ASTM D-1682
MULLEN BURST STRENGTH	190 PSI MIN	ASTM D-3786
SLURRY FLOW RATE	0.3 GAL./MIN./S.F. MAX.	
EQUIVALENT OPENING SIZE	40-80	US STD. SIEVE CW-02215
ULTRAVIOLET RADIATION STABILITY	90% MIN	ASTM-G-26

NOTES:

1. PRESERVE VEGETATION FOR 5 FEET OR AS MUCH AS POSSIBLE UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE RE-ESTABLISHED WITHIN 7 DAYS FROM SILT FENCE INSTALLATION.
2. THE MAXIMUM DRAINAGE AREA PER 100 FEET OF SILT FENCE IS DEPENDENT ON THE SLOPE, BUT NO MORE THAN 1/2 ACRE. SILT FENCE CANNOT BE USED FOR DRAINAGE AREAS WITH SLOPES GREATER THAN 50%.
3. SILT FENCE MAY ONLY PASS RUNOFF AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW, THEN CHANGE THE LAYOUT OF THE SILT FENCE, REMOVE ACCUMULATED SEDIMENT OR INSTALL OTHER PRACTICES.
4. SILT FENCE SHALL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, VERIFICATION FABRIC IS SECURELY ATTACHED TO FENCE POSTS, AND VERIFICATION FENCE POSTS ARE FIRMLY IN THE GROUND. BUILT UP SEDIMENT SHALL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED 1/3 THE FENCE HEIGHT.

SILT FENCE

SCALE: NONE



SINGLE LOCATION FOR SMALL PROJECT

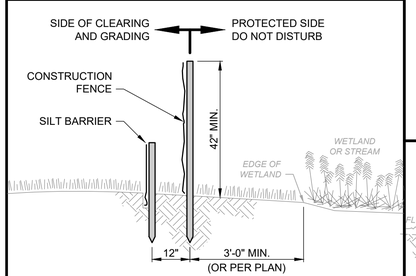
TEMPORARY LOCATION FOR MULTIPLE PHASE OR LARGE PROJECT

NOTES:

1. CONCRETE WASHOUT AREA SHALL BE LOCATED A MINIMUM OF 100' FROM STORM SEWER INLETS, STREAMS, WETLANDS OR ANY OTHER SURFACE WATERS.
2. IF CONCRETE WASHOUT AREA IS LOCATED AWAY FROM A PAVED SURFACE, CONSTRUCT A GRAVEL ACCESS ROUTE EQUAL IN COMPOSITION TO A CONSTRUCTION ENTRANCE.
3. CONCRETE WASHOUT AREA SHALL BE SUFFICIENT SIZE TO CONTAIN CONCRETE WASTE GENERATED. LARGE SITES MAY REQUIRE MULTIPLE CONCRETE WASHOUT AREAS.
4. PLASTIC LINING SHALL BE DOUBLE-LINED, CONTINUOUS 10-ML POLYETHYLENE SHEETING FREE OF HOLES, TEARS OR OTHER DEFECTS INSTALLED ON A SMOOTH, LEVEL SURFACE, FREE OF LARGE ROCKS AND DEBRIS.
5. CONCRETE WASHOUT SIGNAGE SHALL BE CLEARLY VISIBLE AND LOCATED WITHIN 30 FEET OF EACH WASHOUT AREA.
6. CONCRETE WASHOUT AREA SHALL BE COVERED DURING INCLEMENT WEATHER TO PREVENT OVERFLOW.
7. PREFABRICATED, PORTABLE AND RE-USABLE CONCRETE WASHOUT CONTAINERS ARE ACCEPTABLE.
8. CONCRETE WASHOUT AREA SHALL BE INSPECTED DAILY TO CHECK FOR DAMAGE AND DETERMINE IF IT NEEDS CLEANED OR REPLACED. ANY DAMAGE TO THE SIDEWALLS OR PLASTIC LINING SHALL BE REPAIRED IMMEDIATELY. REPLACE THE ENTIRE CONCRETE WASHOUT AREA WHEN IT IS 75% FULL.

CONCRETE WASHOUT AREA DETAIL

SCALE: NONE

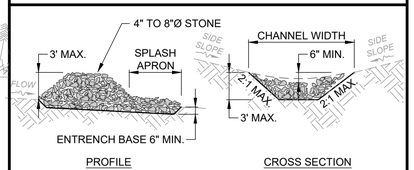


NOTES:

1. THE CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY BARRIERS AROUND NON-IMPACTED WETLANDS AND STREAMS TO PREVENT DISTURBANCE OR CONSTRUCTION ACTIVITIES WITHIN THE PROTECTED AREAS AND, UPON COMPLETION OF THE PROJECT, BE REMOVED.
2. CONSTRUCTION FENCE SHALL BE HIGH VISIBILITY, ORANGE COLOR, HIGH DENSITY POLYETHYLENE GRID SECURED TO STEEL POSTS LOCATED ON MAXIMUM 10' CENTERS.
3. THE FOLLOWING ACTIVITIES ARE PROHIBITED WITHIN OR THROUGH NON-IMPACTED WETLANDS AND STREAMS:
   - A. EXCAVATION OR OTHER DIGGING
   - B. IMPOUNDMENT OF WATER
   - C. STORAGE OF CONSTRUCTION MATERIALS, DEBRIS OR EXCAVATED MATERIAL
   - D. OPERATING OR PARKING VEHICLES OR EQUIPMENT
   - E. FOOT TRAFFIC
   - F. ATTACHMENT OF SIGNS TO OR WRAPPING MATERIALS AROUND TREES
   - G. ANYTHING THAT WOULD DISTURB THE GROUND

WETLAND BARRIER DETAIL

SCALE: NONE



NOTES:

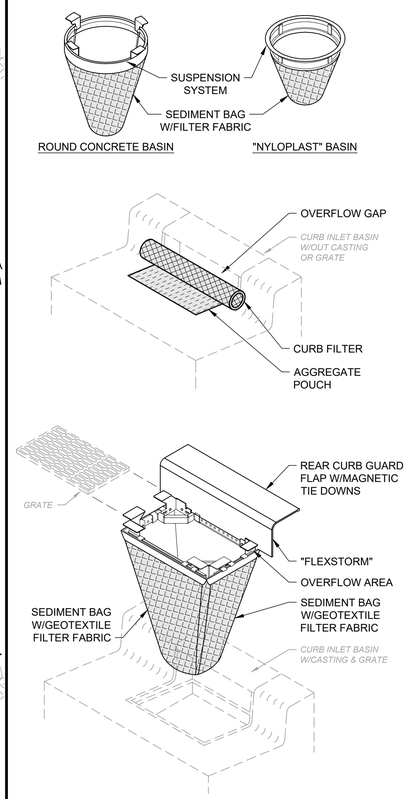
1. STONE MUST COVER THE FULL CHANNEL WIDTH.
2. ODOT TYPE 'D' STONE IS ACCEPTABLE, BUT MUST BE UNDERLAIN WITH NO. 3 OR 4 STONE OR FILTER FABRIC.
3. THE MIDPOINT OF THE CHECK DAM SHALL BE A MINIMUM OF 6" LOWER THAN THE SIDES TO DIRECT WATER ACROSS THE CENTER AND AWAY FROM CHANNEL SIDES.
4. SPACE CHECK DAMS SO TOE OF UPSTREAM DAM IS AT SAME ELEVATION AS TOP OF DOWNSTREAM DAM, OR AS FOLLOWS:

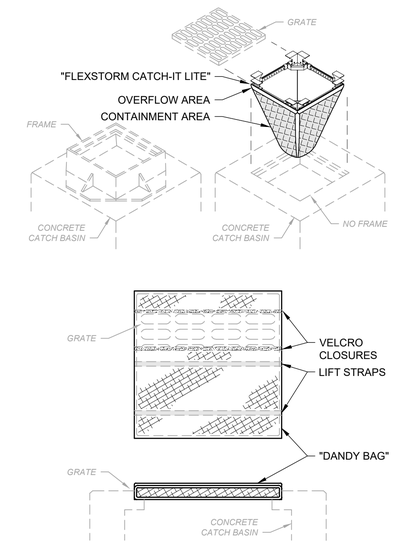
CHECK DAM HEIGHT	CHANNEL SLOPE			
	< 5%	5% - 10%	10% - 15%	15% - 20%
1 FT.	65 FT.	30 FT.	20 FT.	15 FT.
2 FT.	130 FT.	65 FT.	40 FT.	30 FT.
3 FT.	200 FT.	100 FT.	65 FT.	50 FT.

5. IF CHECK DAMS TO REMAIN IN USE FOR EXTENDED PERIOD OF TIME, INSTALL SPLASH APRON 6" MINIMUM THICK WITH LENGTH 2 TIMES CHECK DAM HEIGHT.

CHECK DAM DETAIL

SCALE: NONE





NOTES:

1. ALL NEW AND EXISTING STORM INLET BASINS WITHIN THE WORK LIMITS SHALL HAVE INLET PROTECTION INSTALLED.
2. INLET PROTECTION SHALL BE INSTALLED AS EACH STORM INLET IS CONSTRUCTED.
3. NOT ALL ITEMS SHOWN MAY APPLY OR DIFFERENT TYPES OR CONFIGURATIONS MAY BE REQUIRED. THE CONTRACTOR SHALL MEASURE EACH INLET TO CONFIGURE AND ASSEMBLE CUSTOMIZED INLET FILTERS.

INLET PROTECTION DETAIL

SCALE: NONE

verdantas

STATE OF OHIO
TIMOTHY
MCLAUGHLIN
E-83985
REGISTERED
PROFESSIONAL ENGINEER

NO	REVISION	DATE
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ASHTABULA COUNTY DEPARTMENT
OF ENVIRONMENTAL SERVICES
HARPERSFIELD WATER TANK &
WATER LINE IMPROVEMENTS PROJECT
ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

SCALE:	AS SHOWN
DATE:	08/01/2025
DESIGNED BY:	TM
DRAWN BY:	SAS
CHECKED BY:	TM

SWPPP SERIES

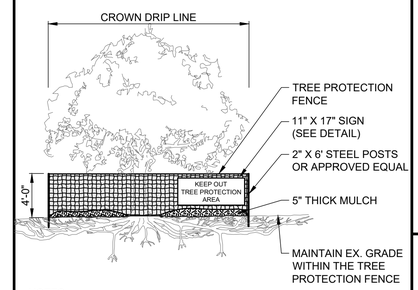
SWPPP DETAILS 1

PROJECT NO:	
200426	
DRAWING NAME	
SWP3-2	
SHEET	OF
21	22

NOTES:

1. MULCH SHALL CONSIST OF ONE OF THE FOLLOWING:
   - UNROTTED SMALL GRAIN STRAW SPREAD UNIFORMLY AT 2 TONS/AC. (2 TO 3 BALES).
   - WOOD-CELLULOSE FIBER (I.E. HYDROSEEDING) APPLIED AT 1 TON/AC.
   - ROLLED EROSION CONTROL PRODUCT OR MULCH MATTING APPLIED PER MANUFACTURER RECOMMENDATION.
   - WOOD MULCH OR CHIPS APPLIED AT 6 TONS/AC.
2. MULCH SHALL BE ANCHORED IMMEDIATELY BY ONE OF THE FOLLOWING METHODS:
   - PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL USING A DISK, CRIMPER OR SIMILAR TOOL. DO NOT FINELY CHOP STRAW TO BE MECHANICALLY ANCHORED, BUT LEAVE LONGER THAN 6".
   - NETTING PER MANUFACTURER RECOMMENDATION IN AREAS OF CONCENTRATED RUNOFF OR ON CRITICAL SLOPES.
   - SYNTHETIC BINDERS AT MANUFACTURER RATE.
   - WOOD-CELLULOSE FIBER BINDER AT A NET DRY WEIGHT OF 750 LB/AC., MIXED WITH WATER, AND CONTAIN 50 LB/100 GAL. MAX. OF WOOD CELLULOSE FIBER.

MULCHING DETAIL



NOTES:

1. TREE PROTECTION FENCE MUST BE INSTALLED PRIOR TO BEGINNING CLEARING OPERATIONS AND REMAIN UNTIL FINAL GRADING HAS BEEN COMPLETED.
2. FENCE MUST BE PLACED BEYOND THE DRIP LINE OR CANOPY OF TREES (SEE PLANS FOR GENERAL FENCE ALIGNMENT).
3. FENCE SHALL BE ORANGE COLOR, HIGH DENSITY POLYETHYLENE FENCING WITH 3.5" X 1.5" OPENINGS.
4. STEEL POSTS SHALL BE INSTALLED AT 8' O.C. MIN.
5. SIGN SHALL BE LAMINATED IN PLASTIC AND SPACED EVERY 50' ALONG THE FENCE.
6. NO EQUIPMENT SHALL OPERATE INSIDE THE PROTECTIVE FENCING, INCLUDING FENCE INSTALLATION AND REMOVAL.

TREE PROTECTION DETAIL

SCALE: NONE

NOTES:

1. SOD SHALL BE HARVESTED, DELIVERED AND INSTALLED WITHIN 48 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD SHALL BE INSPECTED AND APPROVED PRIOR TO INSTALLATION.
2. SOD SHALL BE KEPT MOIST AND COVERED DURING HAULING AND PREPARATION FOR PLACEMENT.
3. SOD SHALL BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" ±1/4", EXCLUDING TOP GROWTH AND THATCH.
4. AREAS SHALL BE GRADED AND TOPSOIL SPREAD AS NEEDED.
5. THE SEEDBED SHALL BE PREPARED BY APPLYING AGRICULTURAL GROUND LIMESTONE OR FERTILIZER AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, APPLY LIME AT 100 LB/1,000 S.F. OR FERTILIZER AT 12 LB/1,000 S.F. OF 10-10-10 OR 12-12-12 ANALYSIS. LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL TO A DEPTH OF 3".
6. BEFORE LAYING SOD, THE SURFACE SHALL BE FINE GRADED AND CLEARED OF DEBRIS, STONES AND CLODS LARGER THAN 3" DIAMETER. KNOCK DOWN HIGH SPOTS AND FILL IN LOW SPOTS SO SOIL IS LEVEL AND 1" BELOW THE GRADE OF ANY PAVED SURFACE, SUCH AS CURBS, WALKS AND PAVEMENT.
7. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURES, THE SOIL SHALL BE LIGHTLY IRRIGATED PRIOR TO LAYING SOD.
8. DO NOT PLACE SOD ON FROZEN SOIL.
9. THE FIRST ROW OF SOD SHALL BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND TIGHTLY WEDGED AGAINST EACH OTHER. LATERAL JOINTS SHALL BE STAGGERED IN A BRICK-LIKE PATTERN. ENSURE SOD IS NOT STRETCHED OR OVERLAPPED, AND JOINTS ARE BUTTED TIGHT.
10. ON SLOPING AREAS WHERE EROSION MAY BE A PROBLEM, SOD SHALL BE LAID WITH THE LONG EDGE PARALLEL TO THE CONTOUR, WITH STAGGERED JOINTS AND BE SECURED WITH PEGS OR STAPLES.
11. AS SODDING IS COMPLETED IN ANY ONE SECTION, ROLL OR TAMP THE SOD TO ENSURE SOLID CONTACT OF ROOTS WITH THE SOIL. WATER IMMEDIATELY AFTER ROLLING OR TAMPING UNTIL THE SOD AND SURFACE BELOW ARE THOROUGHLY WET. THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD SHALL BE COMPLETED WITHIN 8 HOURS.
12. IN THE ABSENCE OF ADEQUATE RAINFALL DURING THE FIRST WEEK, WATER DAILY OR AS NECESSARY TO MAINTAIN MOIST SOIL. AFTER THE FIRST WEEK, WATER SOD AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE AND ENSURE ESTABLISHMENT.
13. DO NOT MOW UNTIL SOD IS FIRMLY ROOTED.

SODDING DETAIL

NOTES:

1. THE SEED BED SHALL BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION.
2. SOIL AMENDMENTS MAY BE REQUIRED TO ESTABLISH VEGETATION. PERFORM SOIL TESTS TO PREDICT THE NEED FOR LIME OR FERTILIZER. IN LIEU OF A SOIL TEST, APPLY LIME AT 2 TONS/AC. OR FERTILIZER AT 500 LB/AC. OF 10-10-10 OR 12-12-12 ANALYSIS
3. APPLY SEED UNIFORMLY. COVER BROADCASTED SEED BY RAKING OR DRAGGING, AND LIGHTLY TAMPING INTO PLACE.
4. MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING.
5. INSPECT FOR SOIL EROSION OR VEGETATION LOSS AND REPAIR BARE OR SPARSE AREAS, FILL GULLIES, RE-FERTILIZE, RE-SEED AND RE-MULCH AS NEEDED.

TEMPORARY SEEDING SPECIES SELECTION

DATES	SPECIES	LB/1,000 SF	LB/AC.
MARCH 1 - AUGUST 15	OATS TALL FESCUE PERENNIAL RYEGRASS	3 1 1	128 40 40
	PERENNIAL RYEGRASS TALL FESCUE	2 1	40 40
AUGUST 16 - OCTOBER 31	RYE TALL FESCUE PERENNIAL RYEGRASS	3 1 1	112 40 40
	WHEAT TALL FESCUE PERENNIAL RYEGRASS	3 1 1	120 40 40
	PERENNIAL RYEGRASS TALL FESCUE	2 1	40 40
NOVEMBER 1 - FEBRUARY 28	ONLY MULCH OR DORMANT SEEDING.		

TEMPORARY SEEDING DETAIL

NOTES:

1. SUBSOILING SHALL OCCUR WHEN SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING IS NOT PERMITTED ON SLIP-PRONE AREAS.
2. DISTURBED AREAS SHALL BE GRADED AND TOPSOIL SPREAD.
3. THE SEED BED SHALL BE PREPARED BY APPLYING AGRICULTURAL GROUND LIMESTONE OR FERTILIZER AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, APPLY LIME AT 2 TONS/AC. OR FERTILIZER AT 500 LB/AC. OF 10-10-10 OR 12-12-12 ANALYSIS. LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL TO A DEPTH OF 3".
4. APPLY SEED UNIFORMLY ON FIRM, MOIST SEED BED BETWEEN MARCH 1 AND MAY 31 OR AUGUST 1 AND SEPTEMBER 30. TILLAGE FOR SEEDBED PREPARATION SHALL OCCUR WHEN THE SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND. SEEDING SHOULD NOT BE APPLIED BETWEEN OCTOBER 1 AND NOVEMBER 20 BECAUSE SEEDS MAY GERMINATE, BUT WILL NOT SURVIVE THE WINTER. IF SEEDING MUST OCCUR, INCREASE THE SEEDING RATE BY 50% AND ANCHOR. APPLY ADDITIONAL MULCH AND IRRIGATION AS REQUIRED TO ENSURE GERMINATION.
5. MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING.
6. SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY OR HOT WEATHER OR ON ADVERSE SITE CONDITIONS. AVOID EXCESSIVE IRRIGATION TO PREVENT EROSION AND DAMAGE FROM RUNOFF.
7. SEEDING SHALL NOT BE CONSIDERED ESTABLISHED FOR AT LEAST 1 FULL YEAR FROM THE TIME OF SEEDING. DURING THIS PERIOD INSPECT FOR SOIL EROSION OR VEGETATION LOSS AND REPAIR BARE OR SPARSE AREAS, FILL GULLIES, RE-FERTILIZE, RE-SEED AND RE-MULCH AS NEEDED.
8. ADEQUATE PERMANENT VEGETATION SHALL BE GROUND COVER DENSE ENOUGH TO COVER 80% OF THE SOIL SURFACE BASED ON VISUAL INSPECTION.

PERMANENT SEEDING FERTILIZATION AND MOWING CHART

MIXTURE	FORMULA	LB/ AC.	TIME	MOW
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	10-10-10	500	FALL, YEARLY, OR AS NEEDED	≥3"
TALL FESCUE	10-10-10	500		≥4"
TURF-TYPE FESCUE	10-10-10	500		
CROWN VETCH FESCUE	0-20-20	400	SPRING, AND YEARLY AFTER ESTABLISHED	DO NOT MOW
FLAT PEA FESCUE	0-20-20	400		

PERMANENT SEEDING SPECIES SELECTION

SEED MIX	SEED RATE LB/AC.	NOTES:
GENERAL USE		
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	20 - 40 10 - 20 20 - 40	FOR CLOSE MOWING AND WATERWAYS WITH ≤2.0 FT./SEC. VELOCITY
TALL FESCUE	40 - 50	
TURF-TYPE FESCUE	90	
STEEP BANKS OR CUT SLOPES		
TALL FESCUE	40 - 50	
CROWN VETCH TALL FESCUE	10 - 20 20 - 30	DO NOT SEED LATER THAN AUGUST
FLAT PEA TALL FESCUE	20 - 25 20 - 30	DO NOT SEED LATER THAN AUGUST
ROAD DITCHES AND SWALES		
TALL FESCUE	40 - 50	
TURF-TYPE FESCUE KENTUCKY BLUEGRASS	90 5	
LAWN		
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	100 - 120 100 - 120	
KENTUCKY BLUEGRASS CREEPING RED FESCUE	100 - 120 100 - 120	FOR SHADED AREAS

PERMANENT SEEDING DETAIL

verdantas

STATE OF OHIO
TIMOTHY MCLAUGHLIN
E-83985
REGISTERED PROFESSIONAL ENGINEER

NO	REVISION	DATE
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ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES

HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT

ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

SCALE: AS SHOWN
DATE: 08/01/2025
DESIGNED BY: TM
DRAWN BY: SAS
CHECKED BY: TM

SWPPP SERIES

SWPPP DETAILS 2

PROJECT NO: 200426
DRAWING NAME: SWP3-3
SHEET 22 OF 22

ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES

HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT

HARPERSFIELD TOWNSHIP, OHIO

AUGUST 2025

LOCATION MAP
NOT TO SCALE

ASHTABULA COUNTY APPROVALS:

KATHRYN L. WHITTINGTON, COUNTY COMMISSIONER — DATE

CASEY R. KOZLOWSKI, COUNTY COMMISSIONER — DATE

J.P. DUCRO IV, COUNTY COMMISSIONER — DATE

COUNTY:

DOUGLAS G. STARKEY, DIRECTOR - ASHTABULA COUNTY DEPT. OF ENVIRONMENTAL SERVICES — 8-27-25 DATE

CITY OF GENEVA:

JOE VARCKETTE, CITY MANAGER — 8/27/25 DATE

OHIO 811 DESIGN SERIAL NUMBER & UTILITY LIST:

XX - STATE ROUTE 534

OHIO UTILITY PROTECTION SERVICE:
106 WEST RYEN, ROOM 427
YOUNGSTOWN, 44051
(800) 362-2764

CLEVELAND ELECTRIC ILLUMINATING CO.
2210 SOUTH RIDGE ROAD
ASHTABULA, OHIO 44004

THE EAST OHIO GAS COMPANY:
1010 WEST 30TH STREET
ASHTABULA, OHIO 44004
(440) 992-5100

ALL-TEL:
360 HIGHLAND ROAD
MACEDONIA, OHIO 44067
(800) 782-6206

SPRINT:
PO BOX 3555
MANSFIELD, OHIO 44907
(800) 786-6272

ENVIRONMENTAL SERVICES
36 W. WALNUT STREET
JEFFERSON, OHIO 44047
(440) 576-3722 PHONE
(440) 576-3781 FAX

TCI:
2904 STATE ROAD
ASHTABULA, OHIO 44004
(440) 998-2148

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.

OFFICE:

ENVIRONMENTAL SERVICES
36 W. WALNUT STREET
JEFFERSON, OHIO 44047

BOB CHURCH
WATER SUPERINTENDENT
(440) 576-1536 (OFFICE)
(440) 576-3781 (FAX)

DEPARTMENTS:

WATER & SEWER DEPARTMENT
(440) 576-3722 PHONE
(440) 576-3781 FAX

ENGINEER:

VERDANTAS, LLC
8150 STERLING COURT
MENTOR, OH 44060

(440) 951-9000 PHONE
(440) 951-7487 FAX

PROJECT SITE:

THE PROJECT IS LOCATED OFF OF STATE ROUTE 534 (SOUTH BROADWAY DRIVE) ON THE EAST SIDE OF THE ROAD. THE PROPERTY IS 100 LF NORTH OF ALEX COURT ON THE EAST SIDE. THE SITE IS BETWEEN ADDRESSES 1878 AND 1920 OH-534, HARPERSFIELD TOWNSHIP, OHIO 44041.

verdantas

ENGINEER'S PROJECT No. 200426

TIMOTHY MCLAUGHLIN — P.E. No. 83985 — 8/26/2025 DATE

STATE OF OHIO — TIMOTHY MCLAUGHLIN — E-83985 — PROFESSIONAL ENGINEER

NO	REVISION	DATE

ASHTABULA COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES
HARPERSFIELD WATER TANK & WATER LINE IMPROVEMENTS PROJECT
ASHTABULA COUNTY HARPERSFIELD TOWNSHIP, OHIO

SCALE: AS SHOWN
DATE: 08/01/2025
DESIGNED BY: TJM
DRAWN BY: PAB
CHECKED BY: TJM

GENERAL - 00 SERIES

COVER SHEET

PROJECT NO: 200426
DRAWING NAME: 00G-01
SHEET 1 OF 22