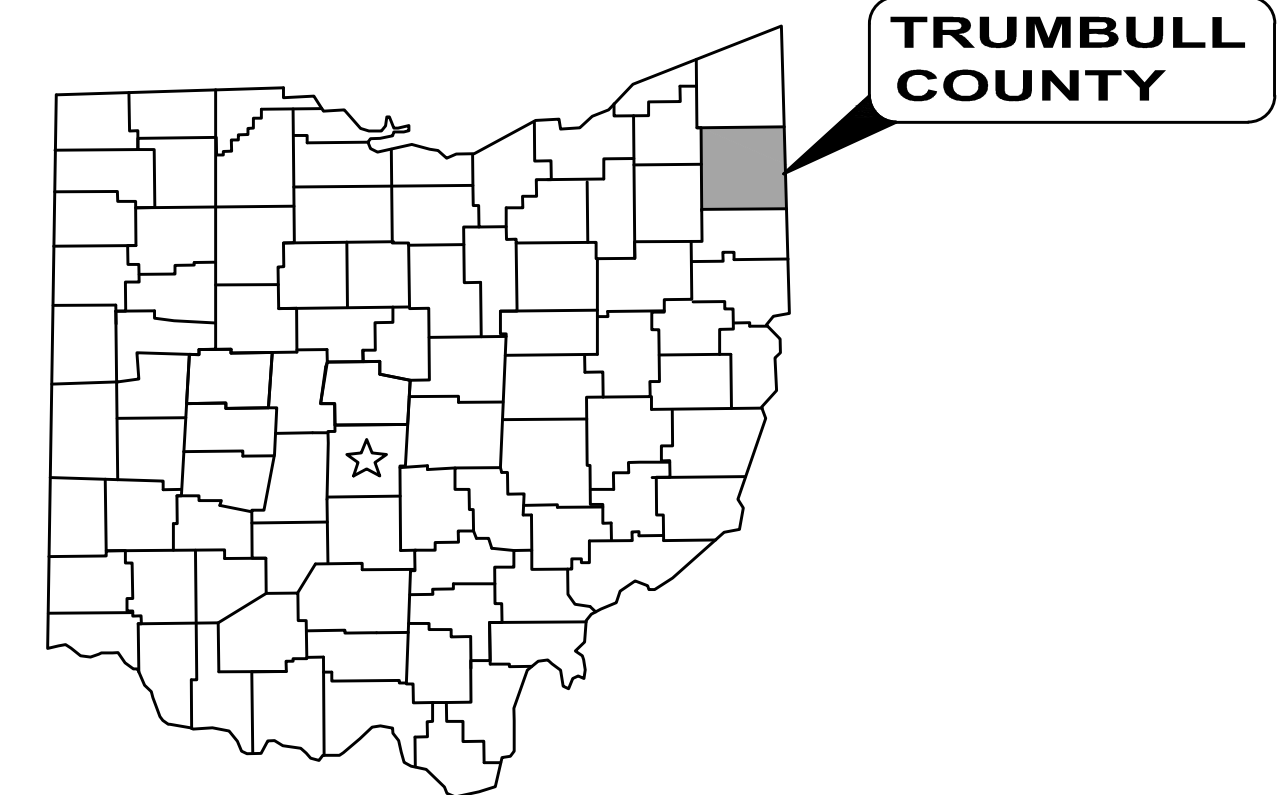


THE VILLAGE OF LORDSTOWN SALT SPRINGS ROAD/ S.R. 45 WATER BOOSTER STATION UPGRADE AND RELOCATION



VILLAGE OF LORDSTOWN, OHIO

OCTOBER 2025



APPROVALS:

Jackie Woodward
JACKIE WOODWARD, MAYOR

William Blank
WILLIAM BLANK, VILLAGE CLERK

Darren Biggs
DARREN BIGGS, UTILITIES SUPERINTENDENT

Ernie Bowen
ERNIE BOWEN, UTILITIES CHAIRMAN

Chris Peterson
CHRIS PETERSON, BOARD OF PUBLIC AFFAIRS, PRESIDENT

Cynthia Slusarczyk
CINTHIA SLUSARCZYK, WATER CLERK

10-7-25
DATE

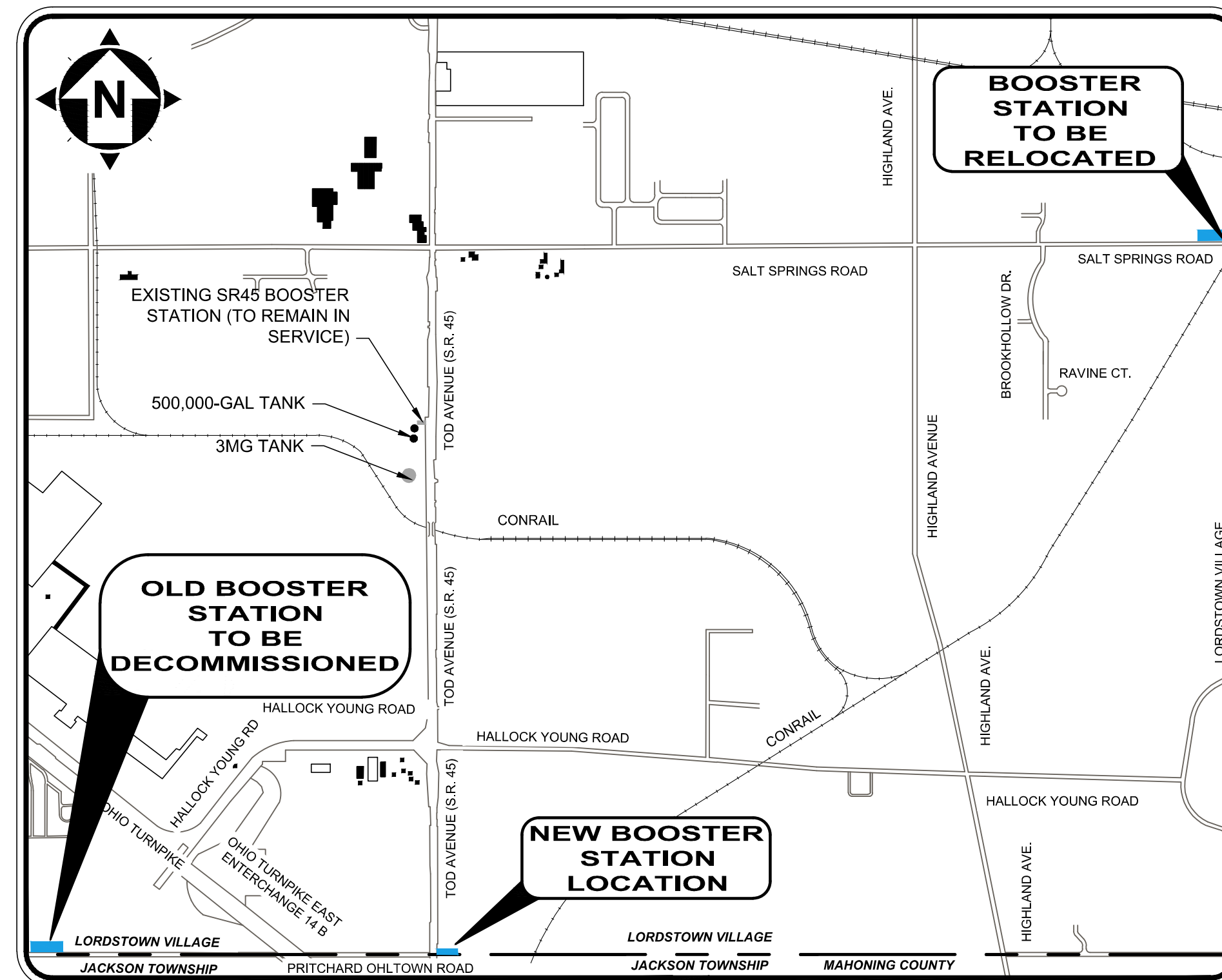
10-7-25
DATE

7 Oct 25
DATE

7 Oct 25
DATE

10-7-2025
DATE

10-7-2025
DATE



VICINITY MAP
1"=2000'

VILLAGE COUNCIL:

ROBERT BOND PRESIDENT
LAMAR LIMING COUNCIL MEMBER
JAMIE MOSELEY COUNCIL MEMBER
ERNEST BOWEN COUNCIL MEMBER
HOWARD SHEELY III COUNCIL MEMBER
JESSICA BLANK COUNCIL MEMBER

BOARD OF PUBLIC AFFAIRS:

CHRISTOPHER PETERSON PRESIDENT
MICHAEL SULLIVAN VICE PRESIDENT
DARREN BIGGS SUPERINTENDENT OF UTILITIES
CINTHIA SLUSARCZYK WATER AND SEWER CLERK
MATT RIES SOLICITOR
STANLEY CZECK MEMBER

OFFICE:

THE VILLAGE OF LORDSTOWN
1455 SALT SPRINGS ROAD
LORDSTOWN, OHIO 44481

(330) 824-2507 PHONE

ROAD & STREET DEPARTMENT
STREET COMMISSIONER

(330) 824-2045 PHONE

DEPARTMENTS:

WATER & SEWER DEPARTMENT
CINTHIA SLUSARCZYK

UTILITIES SUPERINTENDENT
DARREN BIGGS

(330) 824-2481 PHONE

ENGINEER:

VERDANTAS, LLC.
904-2 SAHARA TRAIL
YOUNGSTOWN, OHIO 44514
(330) 272-0288 PHONE

PROJECT SITE:

THE PROJECT SCOPE INCLUDES THE RELOCATION OF AN EXISTING WATER BOOSTER PUMP STATION LOCATED AT SALT SPRINGS ROAD TO A NEW SITE LOCATION AT THE NORTH EAST CORNER OF STATE ROUTE 45 AND EXISTING CORRIDOR OF PRITCHARD OHLTOWN ROAD PROVIDING ALL NECESSARY PIPING AND APPURTENANCES TO CONNECT TO THE EXISTING WATERLINE AT THE NEW SITE LOCATION. SCOPE INCLUDES DECOMMISSIONING AN EXISTING BOOSTER STATION LOCATED 6500-LF WEST ALONG PRITCHARD OHLTOWN ROAD FROM SR-45



OHIO 811 DESIGN UTILITY LIST:

FIRST ENERGY: (ELECTRIC)
730 SOUTH AVENUE
YOUNGSTOWN, OHIO 44502
SUZANNE JULIAN
(330) 740-7635 PHONE
suzanne.julian@firstenergycorp.com

CITY OF WARREN WATER DEPT.:
(WATER)
580 LAIRD AVE SE
WARREN, OHIO 44483
CHRIS ULRICH
(330) 841-2531 PHONE

CENTURY LINK: (FIBER OPTICS)
1 WEST FEDERAL STREET
YOUNGSTOWN, OHIO 44503
JERRY HOLKO
(330) 747-4266

DOMINION EAST OHIO: (GAS)
320 SPRINGSIDE DRIVE, STE. 320
AKRON, OHIO 44333
ADAM J. KEARNS
(330) 620-9127 PHONE
relocation@dominionenergy.com

WINDSTREAM:
(COMMUNICATION)
1450 NORTH CENTER POINT ROAD
HIAWATHA, IOWA, 52233
MORGAN MURPHY
1-800-289-1901 PHONE
Morgan.Murphy@windstream.com

TRUMBULL COUNTY SANITARY
ENGINEERS: (WATER & SEWER)
842 YOUNGSTOWN KINGSVILLE ROAD
VIENNA CENTER, OHIO 44473
BRANDON RAY
(330) 675-7775 PHONE
SERAY@CO.TRUMBULL.OH.US

- 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.
- THE CONTRACTOR IS RESPONSIBLE TO CALL OHIO UTILITIES PROTECTION SERVICE @ 1-800-362-2764, THREE WORKING DAYS PRIOR TO CONSTRUCTION.



904-2 SAHARA TRAIL
YOUNGSTOWN, OHIO 44514

ENGINEER'S PROJECT No. 231265

Patrick Blake



PATRICK A. BLAKE, P.E.

Cover Sheet Revised per OEPA Review
Comments Dated 2/12/2026

P.E. No. 88436

2025

DATE

INDEX EXPLANATION:

INDEX OF SHEETS		
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2	SHEET INDEX	G-02
3	GENERAL NOTES	G-03

SHEET NUMBER → SHEET TITLE → SHEET NAME

DISCIPLINE INFORMATION:

IDENTIFIER:	DISCIPLINE:
G	GENERAL
C	CIVIL
S	STRUCTURAL
A	ARCHITECTURAL
D	PROCESS
M	MECHANICAL (PLUMBING & HVAC)
E	ELECTRICAL
Y	INSTRUMENTATION
TK	TANK DRAWINGS
SWPPP	STORM WATER POLLUTION PREVENTION PLAN

GENERAL ABBREVIATIONS:

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

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GENERAL SYMBOLOGY NOTES:

- THIS IS A STANDARD SHEET SHOWING COMMONLY USED SYMBOLOGY.
- ALL SYMBOLS ARE NOT NECESSARILY USED ON THIS PROJECT.
- 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.
- SYMBOLOGY OR DIAGRAMMATICAL LEGENDS MAY BE SHOWN ON INDIVIDUAL SHEETS FOR SCHEDULES, DIAGRAMS, DETAILS, SCHEMATICS OR EQUIPMENT.

DRAWING CODED NOTE TYPES:

- 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.

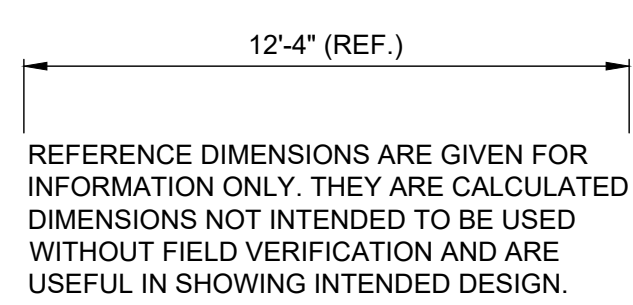
PLAN REVISIONS:

- △ A REVISION DESCRIPTION
△ B REVISION DESCRIPTION

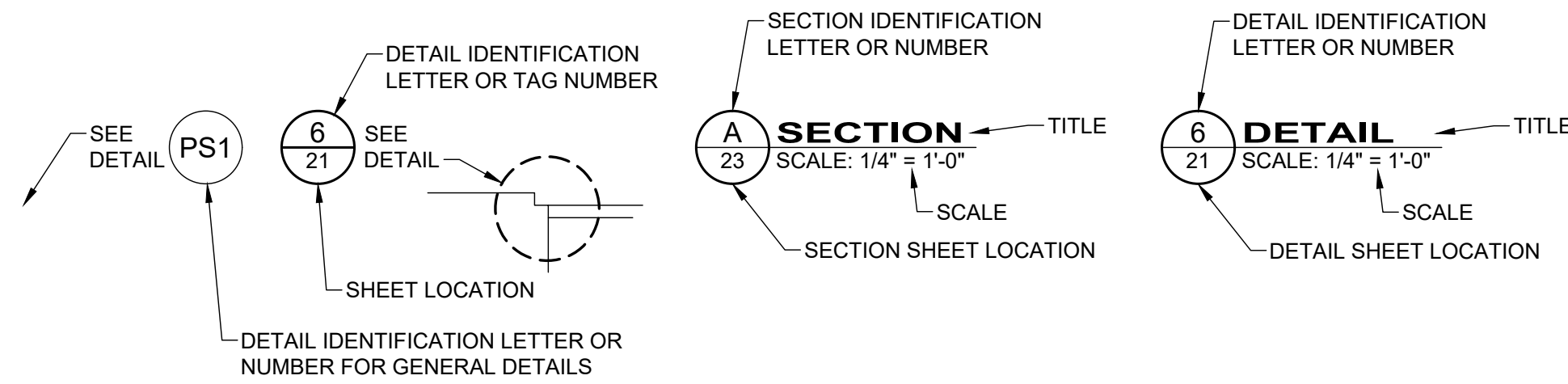
DEMOLITION CODED NOTES:

- 1 DEMOLITION DESCRIPTION
2 DEMOLITION DESCRIPTION

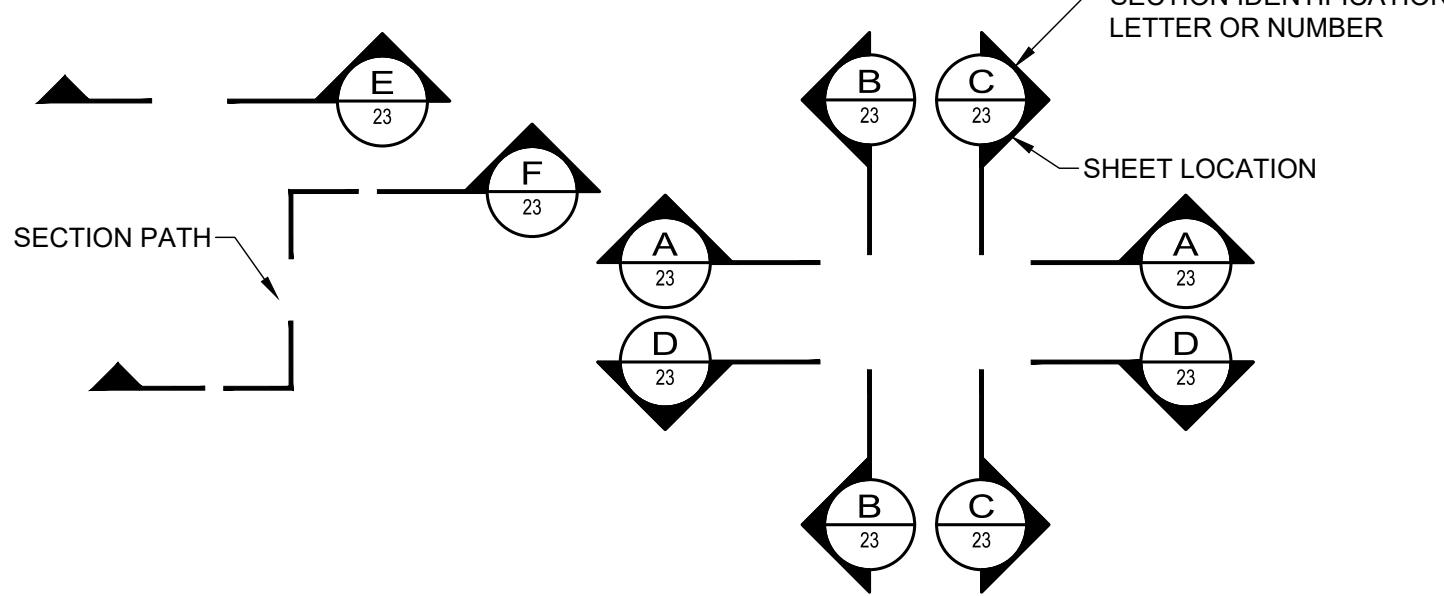
REFERENCE DIMENSION:



DETAIL REFERENCES:



MAJOR SECTION CUT CONVENTIONS:



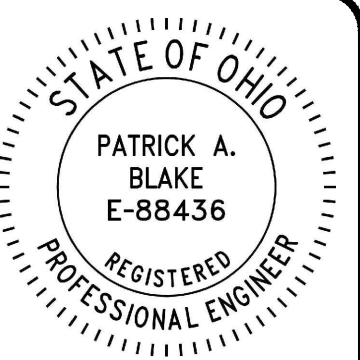
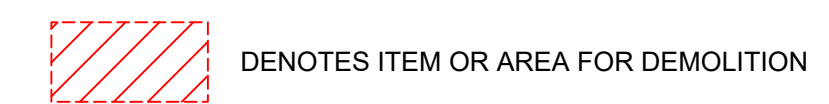
SITE SYMBOL LEGEND:

EX:	PR:	
MB	MB	POST, MAILBOX
POST	POST	POST, SIGN
POST-D	POST-D	POST, SIGN - DOUBLE
POST-DU	POST-DU	POST, SIGN - DUAL
GEOTECH	GEOTECH	GEOTECH - SOIL BORING
BUSH	BUSH	BUSH
TREE-DEC	TREE-DEC	TREE, DECIDUOUS
TREE-EG	TREE-EG	TREE, EVERGREEN
TREE-ST	TREE-ST	TREE, STUMP
NAIL-MAG	NAIL-MAG	NAIL - MAG
PIN-IRON	PIN-IRON	PIN - IRON
PIPE-IRON	PIPE-IRON	PIPE - IRON
SPIKE	SPIKE	SPIKE
GM	GM	GAS METER
GV	GV	GAS VALVE
GVENT	GVENT	GAS VENT
POLE-ELEC	POLE-ELEC	POLE - ELECTRIC (POWER)
POLE-GEN	POLE-GEN	POLE - GENERAL
POLE-GUY	POLE-GUY	POLE - GUY
POLE-GUY-ANCH	POLE-GUY-ANCH	POLE - GUY ANCHOR
POLE-LIGHT	POLE-LIGHT	POLE - LIGHT
SANITARY-CO	SANITARY-CO	SANITARY CLEAN-OUT
SANITARY-MH-48	SANITARY-MH-48	SANITARY MANHOLE - 48"
SANITARY-VENT	SANITARY-VENT	SANITARY VENT
CATCH-BASIN-2X2	CATCH-BASIN-2X2	CATCH BASIN - 2X2
CURB-INLET-2X3	CURB-INLET-2X3	CURB INLET - 2X3
STORM-CO	STORM-CO	STORM CLEAN-OUT
STORM-DRAIN	STORM-DRAIN	STORM DRAIN
STORM-MH-48	STORM-MH-48	STORM MANHOLE - 48"
WATER-HYDRANT-FDC	WATER-HYDRANT-FDC	WATER HYDRANT, FDC
WATER-HYDRANT-FIRE	WATER-HYDRANT-FIRE	WATER HYDRANT, FIRE
WATER-VALVE-W/TEXT	WATER-VALVE-W/TEXT	WATER VALVE W/TEXT

SITE LINE LEGEND:

EX: RW	RIGHT-OF-WAY (APPROXIMATE NOT SURVEYED)	
PROPERTY LINE	PROPERTY LINE (APPROXIMATE NOT SURVEYED)	
BUILDING OUTLINES	BUILDING OUTLINES	
CONTOURS - MAJOR	CONTOURS - MAJOR	
CONTOURS - MINOR	CONTOURS - MINOR	
SLOPE LINE	SLOPE LINE	
SLOPE - BREAKLINE	SLOPE - BREAKLINE	
SLOPE - TOP	SLOPE - TOP	
SLOPE - TOE	SLOPE - TOE	
WATER CENTERLINE	WATER CENTERLINE	
WATER EDGE	WATER EDGE	
EDGE OF ROAD	EDGE OF ROAD	
FENCE - GENERAL	FENCE - GENERAL	
FENCE - CHAIN LINK	FENCE - CHAIN LINK	
GUIDE RAIL	GUIDE RAIL	
TREE LINE	TREE LINE	
ELEC	ELEC	ELECTRIC LINE
ELEC-OH	ELEC-OH	ELECTRIC LINE - OH
ELEC-UG	ELEC-UG	ELECTRIC LINE - UG
GAS	GAS	GAS LINE
GS	GS	GAS SERVICE
SAN	SAN	SANITARY LINE
STM	STM	STORM LINE
WAT	WAT	WATER LINE
WS	WS	WATER SERVICE
PR:	PR:	
GUIDE RAIL	GUIDE RAIL	
STORM LINE	STORM LINE	
WATER LINE	WATER LINE	
EDGE OF PAVEMENT	EDGE OF PAVEMENT	
CENTERLINE	CENTERLINE	
PERMANENT CONSTRUCTION EASEMENT LINE (PCE)	PERMANENT CONSTRUCTION EASEMENT LINE (PCE)	
TEMPORARY CONSTRUCTION EASEMENT LINE (TCE)	TEMPORARY CONSTRUCTION EASEMENT LINE (TCE)	
WORK LIMITS	WORK LIMITS	
DEMO - HASH	DEMO - HASH	
DEMO - "X"	DEMO - "X"	

GENERAL MATERIAL HATCHES:



DATE	REVISION	NO	BID	ISSUED FOR:	SCALE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:
			10/14/2025	AS SHOWN	PAB	PAB	PAB	PAB

THE VILLAGE OF LORDSTOWN
SALT SPRINGS ROAD WATER BOOSTER STATION UPGRADE AND RELOCATION
 TRUMBULL COUNTY LORDSTOWN, OH
LEGENDS SYMBOLS & SHEET INDEX

PROJECT NO.	231265
DISCIPLINE	
SHEET NAME	G-01
SHEET	2
OF	19

GENERAL:

- ANY REVISIONS TO THE ACCEPTED CONSTRUCTION DOCUMENTS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION IN THE FIELD.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKEOUT/LAYOUT AND SHALL NOTIFY THE ENGINEER, IN WRITING, OF ANY DISCREPANCIES.
- NO WORK SHALL COMMENCE WITHOUT AN EXECUTED NOTICE TO PROCEED.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH OSHA SAFETY REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL VISITORS, EMPLOYEES AND WORKERS ON THE CONSTRUCTION SITE.
- THE CONTRACTOR SHALL CONSTRUCT THIS PROJECT IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL BUILDING CODES.
- ALL EXCAVATIONS ARE TO BE SECURED AND PROTECTED AT ALL TIMES.
- ALL SEDIMENT AND EROSION CONTROL PRACTICES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AS PER ODOT ITEM 832.
- ANY DISTURBED AREAS NOT SCHEDULED FOR CONSTRUCTION ACTIVITIES WITHIN SIXTY DAYS OF DISTURBANCE SHALL BE TEMPORARILY STABILIZED.
- ALL POLLUTANTS OTHER THAN SEDIMENT THAT OCCUR ON-SITE DURING CONSTRUCTION SHALL BE HANDLED AND LEGALLY DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORM OR SURFACE WATERS. POLLUTANTS OF CONCERN INCLUDE, BUT ARE NOT LIMITED TO, FUELS, LUBRICANTS, SOLVENTS, CONCRETE BI-PRODUCTS AND CONSTRUCTION MATERIALS.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SECURITY OF ALL STORED MATERIALS.
- AS BUILT RECORDS - THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A SET OF PROJECT RECORD DOCUMENTS. THESE DOCUMENTS SHALL INCLUDE REVIEWED SHOP DRAWINGS, CHANGE ORDERS, EQUIPMENT OPERATING INSTRUCTIONS, FIELD TEST RECORDS, AND AS BUILT DRAWINGS. THE AS BUILT DRAWINGS SHALL BE MARKED LEGIBLY IN RED WITH THE ACTUAL LOCATION OF EQUIPMENT AND CONDUITS AS CONSTRUCTED. ALL EQUIPMENT AND UNDERGROUND CONDUITS INSTALLED SHALL HAVE LOCATIONS MARKED IN DISTANCE OFF A LANDMARK AT LEAST EVERY 25 FEET AND AS NECESSARY AT BENDS FOR LOCATION OF A LATER DATE. FINAL DOCUMENTS AND PLANS SHALL BE DELIVERED TO THE OWNER.

STANDARD SPECIFICATIONS:

- THE "CONSTRUCTION AND MATERIAL SPECIFICATIONS" OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION (ODOT), MOST CURRENT EDITION, CURRENT ODOT SUPPLEMENTAL SPECIFICATIONS, AND CURRENT ODOT STANDARD DRAWINGS SHALL GOVERN WORK AND MATERIALS WHICH ARE NOT SPECIFIED OR MODIFIED HEREIN OR ON THE PROJECT CONTACT DRAWINGS. ALL REFERENCES TO "THE DEPARTMENT" SHALL BE CHANGED TO "THE OWNER OF THEIR REPRESENTATIVE." THE PROJECT CONTACT DRAWINGS AND SPECIFICATIONS, IN THE EVENT OF A DISCREPANCY, SHALL SUPERSEDE TO ODOT SPECIFICATIONS.

UNDERGROUND UTILITIES:

- THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN IN THE PLANS HAVE BEEN OBTAINED BY FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. NEITHER THE OWNER NOR THE ENGINEER ENSURES THEIR ACCURACY OR COMPLETENESS.
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL PUBLIC AND PRIVATE UTILITIES WHICH MAY BE AFFECTED BY THE CONSTRUCTION. THE LOCATION OF UTILITIES AND STRUCTURES, BOTH SURFACE AND SUBSURFACE, ARE SHOWN ON THE DRAWINGS FROM DATA AVAILABLE AT THE TIME OF SURVEY AND ARE NOT NECESSARILY COMPLETE OR CORRECT. THE EXACT LOCATION AND PROTECTION OF UTILITIES AND STRUCTURE ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES AT LEAST THREE DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, PRIOR TO CONSTRUCTION TO HAVE UTILITIES STAKED, MARKED OR OTHERWISE DESIGNATED IN THE CONSTRUCTION AREA IN SUCH A MANNER, OR LOCATION SHALL BE COORDINATED TO STAY 48 HOURS AHEAD OF THE PLANNED CONSTRUCTION.
- THE CONTRACTOR SHALL EXPOSE ALL UTILITIES OR STRUCTURES PRIOR TO CONSTRUCTION TO VERIFY THE VERTICAL AND HORIZONTAL LOCATION OF THE UTILITY OR STRUCTURE AND ITS EFFECTS ON THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE THEIR WORK WITH THE UTILITY OWNER.
- OSHA STANDARDS PROHIBIT CRANE OR BACKHOE OPERATIONS WITHIN TEN (10) FEET OF ENERGIZED PRIMARY CONDUCTORS. TEMPORARY RELOCATION OF ELECTRICAL UTILITIES, INCLUDING RESTRAINT POLES, RELOCATION OF POLES AND RUBBER COVERING OF ENERGIZED CONDUCTORS MAY BE REQUIRED. THE COORDINATION AND COST OF THESE SERVICES IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY RESTRAIN POLES IF THE METHOD OF SUPPORT HAS BEEN SUBMITTED TO AND APPROVED BY THE UTILITY OWNER.
- PIPELINE UTILITY MARKERS SHALL BE FLEXIBLE FIBERGLASS POSTS AS APPROVED BY THE ENGINEER.

EXISTING UTILITIES:

- THE LOCATIONS OF THE UNDERGROUND UTILITIES ARE PLOTTED ACCORDING TO THE INFORMATION FURNISHED BY THE UTILITIES CONCERNED AND THE OWNER DOES NOT GUARANTEE THE ACCURACY THEREOF. THE CONTRACTOR TO CALL OUPS (1-800-362-2764) "48 HOURS BEFORE YOU DIG" AND CALL OIL & GAS PRODUCERS (1-800-925-0988). CONTRACTOR ALSO TO COORDINATE THEIR WORK WITH THE UTILITIES LISTED ON THIS SHEET.
- IN THE EVENT OF DAMAGE TO EXISTING PUBLIC AND/OR PRIVATE UTILITIES, THE AGENCY CONCERNED SHALL BE NOTIFIED IMMEDIATELY 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. CABLE RELOCATION AND SUPPORT COST SHALL BE INCLUDED IN OTHER BID ITEMS.
- WHERE EXISTING POWER OR TELEPHONE POLES ARE IN CLOSE PROXIMITY TO WORK, THE CONTRACTOR SHALL COORDINATE THEIR WORK EFFORTS WITH THOSE OF THE UTILITY COMPANIES SUCH THAT THEIR EXISTING FACILITIES CAN BE MAINTAINED AND PROTECTED DURING THE TIME WORK IS GOING ON ADJACENT TO THE POLE. THE COST FOR ANY REQUIRED PROTECTION OR RELOCATION OF EXISTING POWER OR TELEPHONE POLES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NOT BE THE RESPONSIBILITY OF THE OWNER.
- DELAYS TO THE CONTRACTOR AS RESULT OF TIMING OF UTILITY RELOCATIONS OR PROTECTION SHALL NOT BE CONSIDERED COMPENSABLE DELAYS, AS IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THEIR WORK WITH THE UTILITY COMPANY'S SCHEDULE.
- CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL THE EXISTING UNDERGROUND UTILITIES PRIOR TO THE INSTALLATION OF ANY PROPOSED IMPROVEMENT INDICATED ON THE PLANS. SHOULD A CONFLICT EXIST AT A UTILITY CROSSING, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY.

PROTECTION OF EXISTING UTILITIES AND PIPES:

- SHOULD IT BECOME NECESSARY TO CHANGE THE POSITION OR TEMPORARILY REMOVE ANY STORM DRAIN, SANITARY SEWER, ELECTRIC CONDUITS, WATER PIPES, GAS PIPES, PROCESS OR OTHER PIPES OR WIRES IN ORDER TO PERMIT THE CONTRACTOR TO USE A PARTICULAR METHOD OF CONSTRUCTION OR IN ORDER TO CLEAR THE STRUCTURES BEING BUILT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE LOCATION AND CIRCUMSTANCES AND SHALL CEASE WORK, IF NECESSARY, UNTIL SATISFACTORY ARRANGEMENTS HAVE BEEN MADE BY THE OWNERS OF SAID PIPES OR WIRES TO PROPERLY CARE FOR THE SAME. NO CLAIMS FOR DAMAGES WILL BE ALLOWED ON ACCOUNT OF ANY DELAY OCCASIONED THEREBY. THE ENTIRE COST OF THE CHANGES OR TEMPORARY REMOVAL MUST BE INCLUDED IN THE PRICES STIPULATED FOR THE VARIOUS ITEMS OF WORK TO BE DONE UNDER THIS CONTRACT.
- NO SURFACE, GROUND OR TRENCH WATER SHALL BE ALLOWED TO FLOW INTO EXISTING SANITARY SEWERS.
- CONTRACTOR SHALL MAINTAIN FLOW THROUGH THE EXISTING BYPASS AS IS PRACTICAL. WHERE WORK IS PARTIALLY COMPLETE NECESSITATING TRENCH ABANDONMENT IN THE EVENT OF STORM EVENT CONTRACTOR SHALL STABILIZE EXCAVATION AND PROTECT THE UNFINISHED WORK. CONTRACTOR SHALL SUBMIT SUCH A PLAN FOR ENGINEER REVIEW.
- CONTRACTOR IS RESPONSIBLE FOR THE PRESERVATION OF ALL FENCES, RETAINING WALLS, STEPS, UTILITY POLES, MONUMENTS, UTILITY APPURTENANCES, SIGNAGE AND LANDSCAPE BEDS. IF DAMAGED, THE CONTRACTOR IS RESPONSIBLE FOR THE REPLACEMENT OF THESE ITEMS AT NO ADDITIONAL COST TO THE OWNER.

MATERIAL DISPOSAL AND TEMPORARY SURFACES:

- THE REMOVAL AND DISPOSAL OF ALL SURPLUS EXCAVATED MATERIAL AND CONSTRUCTION DEBRIS 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" WASTE MATERIAL SHALL BE AT APPROVED LANDFILLS, AND/OR OTHER SITES APPROVED BY THE OWNER AND ENGINEER. THE DISPOSAL OF EXISTING PIPELINE AND TANK SEDIMENTS AND WASTEWATER SLUDGE SHALL BE AT AN APPROVED LOCATION. THE CONTRACTOR SHALL OBTAIN ALL APPROVALS, PERMITS, LICENSES, ETC. FROM LOCAL, STATE AND FEDERAL AGENCIES AND/OR PRIVATE LANDOWNERS. THE CONTRACTOR SHALL FURNISH THE ENGINEER A COPY OF ALL APPROVALS OR WRITTEN PERMISSION PRIOR TO DISPOSING OF ANY WASTE AT SAID SITE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE RESTORATION OF ALL MATERIAL WASTE AREAS USED IN THE COURSE OF THIS CONTRACT. THE RESTORATION WORK SHALL INCLUDE CLEANUP, SHAPING AND GRADING AND ESTABLISHMENT OF VEGETATIVE COVER BY SEEDING AND MULCHING IN ACCORDANCE WITH ODOT SPECIFICATION NO. 659. THE FINAL GRADING OF WASTE AREAS SHALL BE PROPERLY SLOPED TO PROVIDE DRAINAGE RUNOFF. ALL ROCKS, BOULDERS AND CONCRETE CHUNKS SHALL BE BURIED WITHIN THE WASTE AREA TO A DEPTH OF AT LEAST TWO (2) FEET AND SHALL NOT BE VISIBLE AT COMPLETION.
- THE COST OF HEREIN DESCRIBED WORK, INCLUDING SEEDING AND MULCHING NECESSARY TO SECURE THESE RESULTS, SHALL BE CONSIDERED INCIDENTAL TO THE OTHER VARIOUS ITEMS OF WORK IN THIS CONTRACT AND INCLUDED IN THE RESPECTIVE PAY ITEMS. NO SEPARATE PAYMENT SHALL BE MADE.
- TEMPORARY SURFACES WHERE EXCAVATION ARE LOCATED IN STREETS, DRIVES AND PARKING AREAS SHALL BE FURNISHED AND PLACED BY THE CONTRACTOR AND SHALL BE FULLY MAINTAINED TO MINIMIZE INCONVENIENCE TO THE PUBLIC AT NO ADDITIONAL COST TO THE OWNER.
- THE ABOVE DESCRIBED WORK SHALL BE CONSIDERED INCIDENTAL TO THE COMPLETION OF ALL WORK AND INCLUDED IN THE RESPECTIVE PAY ITEMS AND SHALL NOT BE A SEPARATE PAY ITEM.
- DUMP SITES MUST BE APPROVED BY THE OWNER.

CLEARING AND GRUBBING:

- THE CONTRACTOR SHALL INCLUDE ALL NECESSARY PRECAUTIONS TO PROTECT AND SAVE ALL TREES WHICH ARE ADJACENT TO THE LINE OF WORK AND SHALL REMOVE ONLY THOSE TREES WHICH ARE DESIGNATED FOR REMOVAL ON THE PLANS OR DIRECTED BY THE ENGINEER. TREE ROOTS AND OVERHANGING BRANCHES SHALL BE CUT AND REMOVED FROM THE SITE, EXCEPT WITH SPECIAL PERMISSION OF THE ENGINEER. WHEN REQUIRED, THE CUTTING OF ROOTS AND BRANCHES SHALL BE DONE IN A MANNER TO LEAVE A SMOOTH END WITHOUT SPLITTING OR CRUSHING. THE CUT END SHALL BE NEATLY TRIMMED. ALL DAMAGES SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR OWN EXPENSE TO THE SATISFACTION OF THE ENGINEER. WHERE MISCELLANEOUS SMALL TREES AND SHRUBS ARE NOTED TO BE REMOVED AND RESET, THE COST OF SUCH WORK SHALL BE CONSIDERED INCIDENTAL TO THE COMPLETION OF THE PROJECT.

RESTORATION:

- THE CONTRACTOR SHALL NOT BE RESPONSIBLE FOR REPLACEMENT OF TREES TO REMOVED AS CALLED OUT PER PLAN.
- CONTRACTOR SHALL RESTORE ANY DISTURBED AREAS CAUSED FROM CONSTRUCTION TO PRE-CONSTRUCTION CONDITIONS OR BETTER OR AS PER PLAN. FOR DISTURBED LAWN AREAS, THE CONTRACTOR SHALL INSTALL COMPACTED, SCREENED, IMPORTED TOPSOIL TO PROVIDE A SMOOTH TRANSITION FROM NEW OR EXISTING CURB OR SIDEWALK SURFACES TO THE NON-PAVED SPACE.
- THE COMPOSITION OF SEED MIXTURE SHALL CONFORM TO THE PROJECT SPECIFICATIONS FOR SEEDING.

TRAFFIC MAINTENANCE:

- MAINTAINING TRAFFIC SHALL BE IN ACCORDANCE WITH ODOT ITEM 614 AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD).
- THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN FOR REVIEW AND ACCEPTANCE BY THE ENGINEER PRIOR TO BEGINNING WORK.
- IT WILL 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 INSURE THE SAFETY OF PERSONS AND VEHICLES DURING CONSTRUCTION WITHIN THE PROJECT LIMITS.
- 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 MUTCD. SUCH TIME AS THE AREA IS COMPLETELY BACKFILLED.
- 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.
- WATER IS TO BE PROVIDED BY THE CONTRACTOR FOR USE AS DUST CONTROL, AS DIRECTED BY THE ENGINEER. NO SEPARATE PAYMENT WILL BE MADE.

PROHIBITED CONSTRUCTION ACTIVITIES:

- THE USE OF EXPLOSIVES, UNLESS A PERMIT IS ISSUED BY THE OWNER.
- 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.
- 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.
- OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT.
- 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.
- 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.
- 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.
- 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:
 - BY FIRE PROTECTION EQUIPMENT AND EMERGENCY VEHICLES;
 - BY THE PUBLIC TO ANY COMMERCIAL OR PROFESSIONAL PLACE OF BUSINESS, QUASI-PUBLIC OR PUBLIC ESTABLISHMENT, OR PLACE OF RESIDENCE; OR
 - BY VEHICLES TO DRIVEWAYS WITHOUT THE PROVISION OF ALTERNATIVE MEANS OF BUILDING INGRESS AND EGRESS.

DUST CONTROL:

- WATER IS TO BE PROVIDED BY THE CONTRACTOR FOR USE AS DUST CONTROL, AS DIRECTED BY THE ENGINEER. NO SEPARATE PAYMENT WILL BE MADE.

PIPE CROSSING:

- UNLESS OTHERWISE DIRECTED BY THE ENGINEER, WHERE A PROPOSED PIPE CROSSES WITHIN 18 INCHES OF ANOTHER PROPOSED OR EXISTING PIPE, A CONCRETE PAD AND CRADLE SEPARATOR SHALL BE PLACED BETWEEN THEM AS DETAILED. WHERE PERMISSION IS GRANTED TO OMIT THE CONCRETE PADS, GRANULAR BACKFILL SHALL BE TAMPED IN 6 INCH LAYERS AROUND BOTH PIPES. SUCH TAMPED BACKFILL SHALL BE CONTINUOUS FROM THE GRADE 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.
- PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PERTINENT WATERLINE ITEMS.

MONUMENTS, PROPERTY CORNERS AND BENCHMARKS:

- MONUMENTS, PROPERTY CORNER MARKERS AND BENCHMARKS SHALL NOT BE DISTURBED BY THE CONTRACTOR. IN THE EVENT THAT IT IS NECESSARY TO REMOVE MONUMENTS, PROPERTY CORNER MARKERS OR BENCHMARKS FOR THE CONSTRUCTION OF THE WORK, THE CONTRACTOR SHALL HAVE A REGISTERED LAND SURVEYOR PROPERLY REFERENCE THE POINTS AND SHALL HAVE SAME RESET AFTER THE CONSTRUCTION HAS PASSED THE AREA, AT NO ADDITIONAL COST TO THE OWNER.

WATER MAIN:

- DESCRIPTION. THIS WORK CONSISTS OF CONSTRUCTING WATER MAINS, VALVES, FITTINGS AND BOXES. THE WORK ALSO INCLUDES FURNISHING ALL MATERIALS, EXCAVATION, BEDDING, LAYING PIPE, JOINTING, HYDROSTATIC TESTING, STERILIZING, BACKFILLING, RESTORATION OF DISTURBED FACILITIES AND SURFACES. DISPOSAL OF ALL SURPLUS EXCAVATION AND DISCARDED MATERIALS, AND OTHER ITEMS NECESSARY TO COMPLETE THE WORK.
- CONSTRUCTION AND MATERIAL SPECIFICATIONS. ALL WATER MAINS AND APPURTENANCES SHALL BE IN ACCORDANCE WITH "VILLAGE OF LORDSTOWN, BOARD OF PUBLIC AFFAIRS WATER DEPARTMENT, WATER , RULES AND REGULATIONS GOVERNING WATER USE AND SERVICE, REVISE FEBRUARY 2019 AND AS MODIFIED HEREIN. A COPY OF THE SPECIFICATIONS IS ON FILE IN THE VILLAGE OFFICE AND ONLINE @ <https://www.lordstown.com/documents/2019WaterRegulations.pdf>
- OWNERSHIP: ALL WATER MAINS AND APPURTENANCES WITHIN THE DEDICATED RIGHT-OF-WAY ARE OWNED, OPERATED AND MAINTAINED BY THE VILLAGE OF LORDSTOWN AND WARREN CITY WATER DEPARTMENT.
- INSPECTION. ALL WORK ON WATER MAINS AND APPURTENANCES SHALL BE INSPECTED BY, APPROVED BY, AND COORDINATED WITH THE VILLAGE OF LORDSTOWN PRIOR TO BEING PLACED IN SERVICE. THE CONTRACTOR SHALL NOTIFY THE WATER DEPARTMENT AT LEAST THREE WORKING DAYS PRIOR TO INITIATING ANY WORK ON THE WATER MAINS AND APPURTENANCES.
- BACTERIOLOGICAL TESTING AND STERILIZATION. THE CONTRACTOR SHALL SUPPLY ALL EQUIPMENT, MATERIALS AND LABOR NECESSARY TO STERILIZE THE PROPOSED WATER MAINS AND APPURTENANCES FOR SAMPLE COLLECTION IN ACCORDANCE WITH THE WATER MAIN CONSTRUCTION AND MATERIAL SPECIFICATIONS AND AWWA STANDARD C650 SECTION 7.3. BACTERIOLOGICAL SAMPLES SHALL BE COLLECTED BY THE VILLAGE OF LORDSTOWN WATER DEPARTMENT IN AN APPROVED CONTAINER. WATER IN THE MAIN TO BE DISINFECTED SHOULD HAVE A TURBIDITY ACCEPTABLE TO THE VILLAGE OF LORDSTOWN WATER DEPARTMENT. ALL TESTS ARE TO BE PERFORMED BY A VILLAGE OF LORDSTOWN - APPROVED LABORATORY.
- SEQUENCE OF CONSTRUCTION. THE CONTRACTOR SHALL SCHEDULE THE WORK ON THE WATER MAINS AND APPURTENANCES TO MINIMIZE THE NUMBER AND DURATION OF INTERRUPTIONS TO WATER SERVICE. ALL WATER SERVICE INTERRUPTIONS SHALL BE SCHEDULED WITH THE WATER DEPARTMENT DURING OFF PEAK WATER DEMAND PERIODS AND SHALL NOT EXCEED A PERIOD OF FOUR HOURS. THE CONTRACTOR SHALL SUBMIT A SEQUENCE OF CONSTRUCTION PLAN TO THE WATER DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO ANY WORK ON THE WATER MAINS. THE CONTRACTOR SHALL NOTIFY ALL CUSTOMERS AFFECTED BY THE WATER MAIN SHUT DOWN TWO (2) WORKING DAYS PRIOR TO THE PROPOSED SHUT DOWN.
- WATER MAIN MUST BE STAKED OUT BY A PROFESSIONAL SURVEYOR AND CUT SHEETS UTILIZED. NEW WATER MAINS MUST PROVIDE MINIMUM 18" VERTICAL SEPARATION FROM ALL STORM/SANITARY SEWERS, GAS LINES AND OTHER WATERLINES.
- LOCATION OF STERILIZATION AND TESTING CONNECTIONS SHALL BE AS DIRECTED BY THE VILLAGE OF LORDSTOWN WATER DEPARTMENT AND ALL COSTS ASSOCIATED WITH PLACING AND UTILIZING SAID STERILIZATION AND TESTING CONNECTIONS SHALL BE INCLUDED IN THE PRICE BID PER LINEAL FOOT OF THE WATER MAINS. NO BACTERIA SAMPLES ARE TO BE TAKEN FROM FIRE HYDRANTS.
- NO WATER SERVICE CONNECTIONS TO ANY BUILDING SHALL BE PERMITTED PRIOR TO FINAL ACCEPTANCE BY THE VILLAGE OF LORDSTOWN WATER DEPARTMENT INCLUDING RECTIFICATION OF ALL PUNCH LIST ITEMS.
- ALL CURB STOP BOXES, VALVE BOXES, ETC. TO BE SET AS SHOWN ON THE PLANS. RIMS WILL BE RAISED OR LOWERED AND BOXES PLUMBED BY THE CONTRACTOR AT TIME OF GRADING IS COMPLETED.
- ALL PROJECT HYDRANTS SHALL HAVE A FIELD COAT OF APPROVED PAINT APPLIED BY THE CONTRACTOR WITH THE EXCEPTION OF HYDRANTS THAT ARE FACTORY PAINTED WITH A ONE COAT UV RESISTANT HIGH GLOSS 2-PART POLYURETHANE ENAMEL, COLOR AS SPECIFIED. IF THE COATING ON THE HYDRANT IS DAMAGED BEFORE INSTALLATION THE HYDRANT MUST BE PAINTED.
- THE CONTRACTOR SHALL NOTIFY THE FIRE DEPARTMENT PRIOR TO ANY PRESSURE TESTING. FIRE DEPARTMENT SHALL WITNESS ANY PRESSURE TESTING.
- THE CONTRACTOR SHALL FIELD EXCAVATE ALL CONNECTION POINTS AND LOCATE ALL NECESSARY UTILITIES 5 DAYS IN ADVANCE OF MAKING CONNECTIONS, IN ORDER TO VERIFY LOCATIONS AND CLEARANCES.
- ALTHOUGH SPECIFIC VERTICAL BEND SIZES ARE IDENTIFIED IN THE PLAN, THE CONTRACTOR SHALL UTILIZE THE MOST EFFICIENT MEANS TO ACCOMPLISH THE WATER LINE CONSTRUCTION WHILE MAINTAINING VERTICAL PIPE ELEVATIONS INDICATED IN THE PLAN. OVERPASSES ARE NOT PREFERRED AND IF THE POSSIBILITY EXISTS DUE TO ACTUAL FIELD LOCATIONS, CLEARANCES AND PHASED CONSTRUCTION, THE BENDS SHOULD BE OMITTED.
- ALL EXISTING UTILITY SERVICE CONNECTIONS (SANITARY, STORM, WATER, GAS, ELECTRIC, TELEPHONE, ETC.) WHICH ARE DAMAGED DURING THE INSTALLATION OF PIPE SHALL BE REPAIRED WITH LIKE MATERIALS OR REPLACED, AS REQUIRED. THE COST OF UTILITY SERVICE CONNECTION REPAIR/REPLACEMENT SHALL BE INCLUDED IN THE UNIT PRICES FOR ALL ITEMS IN THE PROPOSAL.
- ALL UTILITY LINES CROSSING THE NEW TRENCH SHALL BE PROTECTED AND SUPPORTED WITH HARDWOOD PLANKS; OR REMOVED, REPLACED, RECONNECTED AND SUPPORTED ACROSS THE ENTIRE WIDTH OF THE TRENCH. IF ANY OF THESE LINES ARE DAMAGED DURING CONSTRUCTION, THEY SHALL BE REPLACED IN-KIND.
- THE CONTRACTOR SHALL SUPPLY ALL PIPE AND ADAPTERS TO CONNECT TO EXISTING PIPING. THE ADAPTERS MUST BE SUBMITTED TO AND APPROVED BY VILLAGE OF LORDSTOWN PRIOR TO CONSTRUCTION.
- THE COST OF UTILITY RELOCATION, REPLACEMENT, AND/OR SUPPORT SHALL BE INCLUDED IN THE COST PER LINEAL FOOT OF PROPOSED WATERLINE.
- ABANDONED PIPELINE ENDS SHALL BE FILLED WITH LSM CONCRETE AND CAPPED UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL VALVE BOXES AND COVERS REMOVED DURING THIS PROJECT SHALL BE RETURNED TO THE OWNER.
- ALL NEW CAPS ON ABANDONED LINES SHALL BE SECURE AND WATER TIGHT.
- ALL NEWLY INSTALLED HYDRANTS SHALL BE FLOW TESTED AT THE COMPLETION OF THE PROJECT.
- ALL WATER FOR FLUSHING OPERATIONS SHALL BE PAID FOR BY THE CONTRACTOR AT CURRENT RATES AS ESTABLISHED BY THE VILLAGE OF LORDSTOWN.



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DATE	REVISION	NO	BID	ISSUED FOR:	CHECKED BY:
			10/14/2025	AS SHOWN	RLM/GMK
				PAB	
				PAB	

THE VILLAGE OF LORDSTOWN
SALT SPRINGS ROAD WATER BOOSTER
STATION UPGRADE AND RELOCATION
TRUMBULL COUNTY
LORDSTOWN, OH

GENERAL NOTES (1 OF 2)

PROJECT NO.	231265
DISCIPLINE	
SHEET NAME	G-02
SHEET	3
OF	19

PROPERTY OWNER NOTIFICATIONS:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL OF THE HOMES AND BUSINESSES THAT WILL BE AFFECTED BY THE INTERRUPTION OF WATER SERVICE WHEN THE NEW WATERLINE IS CONNECTED TO THE EXISTING WATERLINE ON ELLSWORTH BAILEY ROAD.

- VILLAGE OF LORDSTOWN WILL SUPPLY THE CONTRACTOR WITH A COMPLETE LIST OF HOMES AND BUSINESSES THAT WILL BE IMPACTED BY SHUTDOWN OF WATER SERVICES.
- THE CONTRACTOR WILL BE GIVEN A MAXIMUM OF 8 HOURS TO MAKE THE CONNECTION TO THE EXISTING MAIN. COORDINATION OF ALLOWABLE TIME FRAME WITH VILLAGE OF LORDSTOWN IS REQUIRED.

EXCAVATION, BACKFILL AND COMPACTION:

- ALL EXCAVATION WILL BE CONSIDERED UNCLASSIFIED, NO COMPENSATION WILL BE ALLOWED THE CONTRACTOR FOR ROCK OR SHALE EXCAVATION.
- THE OWNER AND THE ENGINEER DO NOT GUARANTEE NOR SUGGEST THE IN-SITU MATERIAL TO BE EXCAVATED WILL BE SUITABLE OR IN ITS PRESENT STATE WILL CONSIST OF THE PROPER MOISTURE CONTENT TO ACHIEVE THE COMPACTION REQUIREMENTS. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION AS TO THE BACKFILL MATERIAL THEY WILL USE. UPON REQUEST, THE OWNER WILL PROVIDE ACCESS TO THE SITE FOR THE CONTRACTOR TO CONDUCT SUCH INVESTIGATION AND TESTS DEEMED NECESSARY TO MAKE THEIR DETERMINATION. NO EXTRA PAYMENT WILL BE MADE TO DISPOSE OF UNSUITABLE MATERIAL OR FURNISH AND PLACE SUITABLE MATERIAL MEETING THE REQUIREMENTS OF DIVISION 31 - EARTHWORK SPECIFICATIONS.
- BACKFILLING OF ANY TRENCHES OR EXCAVATIONS WILL NOT BE PERMITTED WITHOUT MACHINE MOUNTED COMPACTION EQUIPMENT BEING USED.
- SLAG PRODUCTS WILL NOT BE PERMITTED FOR BEDDING, BACKFILL, OR TRAFFIC COMPACTED SURFACE.
- NO BACKFILL SHALL BE PLACED AGAINST ANY STRUCTURAL ELEMENT UNTIL THE STRENGTH LEVEL OF THE IN-PLACE CONCRETE HAS ATTAINED THE SPECIFIED DESIGN STRENGTH.
- EXISTING ON-SITE SOILS WHICH ARE FREE OF ORGANIC CONTAMINATION AND OTHER OBJECTIONABLE MATERIALS MAY BE UTILIZED AS SITE FILL MATERIAL. COMPACT MAXIMUM EIGHT (8") INCH LOOSE LAYERS UNIFORMLY TO NOT LESS THAN 90% STANDARD PROCTOR UNLESS OTHERWISE SPECIFIED. REFER TO THE DIVISION 31 -EARTHWORK SPECIFICATIONS FOR BACKFILLING. SHALE AND/OR SLAG MAY NOT BE USED AS A BACKFILL OR FILL MATERIAL.
- STRUCTURES WITH INTERMEDIATE FLOORS OR TOP SLABS, WHICH GIVE LATERAL SUPPORT TO THE WALLS, SHALL HAVE THESE ELEMENTS IN PLACE AND SHALL HAVE OBTAINED THE SPECIFIED DESIGN STRENGTH PRIOR TO BACKFILLING.
- ALL SHALE EXCAVATIONS SHALL BE REMOVED FROM THE SITE AND NOT USED AS BACKFILL.

SUBSURFACE INVESTIGATIONS:

- IT IS THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO MAKE THEIR OWN INVESTIGATION OF SUBSURFACE CONDITIONS PRIOR TO SUBMITTING THEIR PROPOSAL. SUBSURFACE SOIL INVESTIGATIONS WERE PERFORMED FOR THIS PROJECT AND WILL PROVIDED IN THE BID DOCUMENT PACKAGE AS A REFERENCE.



NO	REVISION	DATE

ISSUED FOR:	BID
ISSUE DATE:	10/14/2025
SCALE:	AS SHOWN
DESIGNED BY:	PAB
DRAWN BY:	PAB
CHECKED BY:	RLM/CNK

**THE VILLAGE OF LORDSTOWN
SALT SPRINGS ROAD WATER BOOSTER
STATION UPGRADE AND RELOCATION
TRUMBULL COUNTY
LORDSTOWN, OH**

GENERAL NOTES (2 OF 2)

PROJECT NO.	231265
DISCIPLINE	
SHEET NAME	G-03
SHEET	4
OF	19



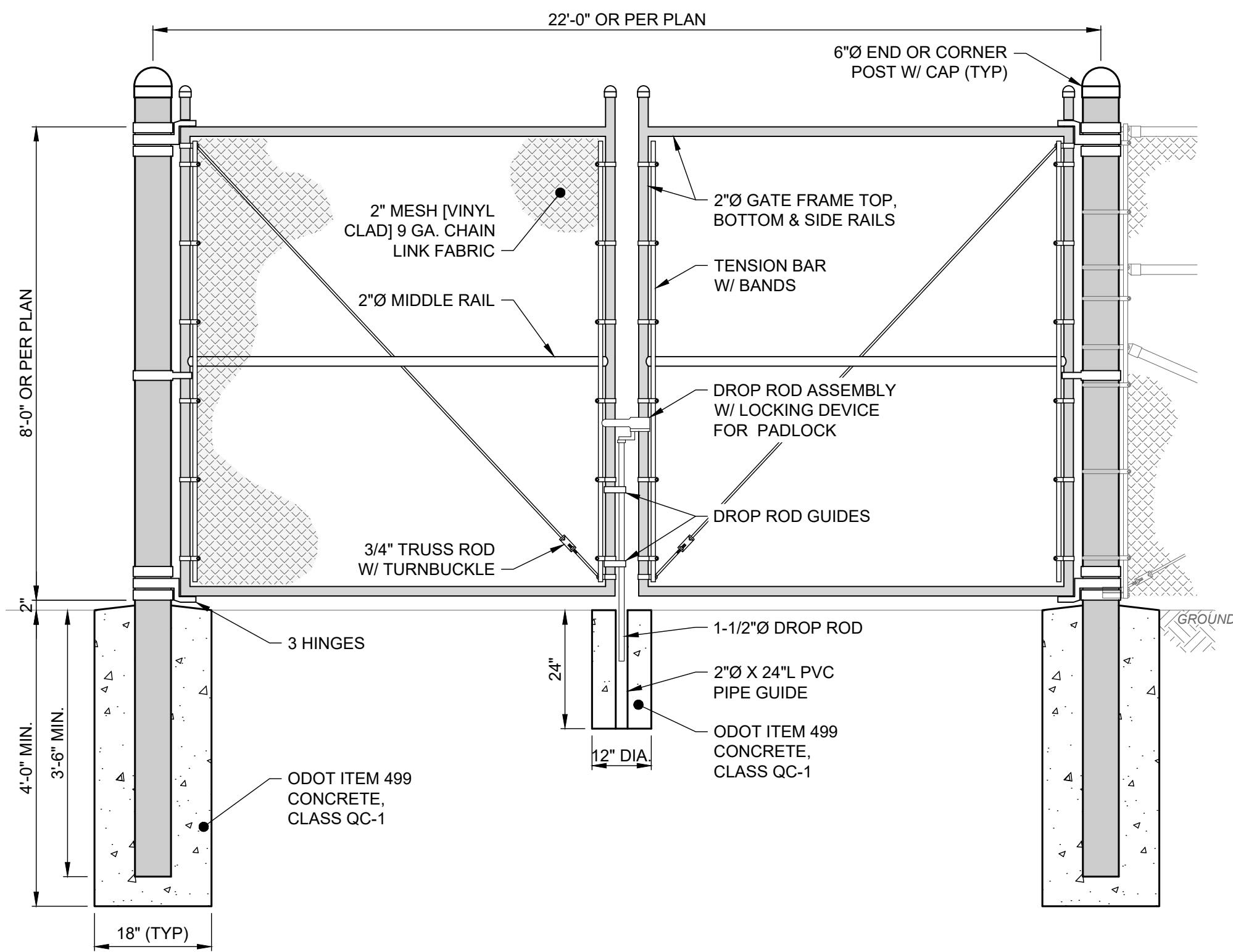
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 904-2 SAHARA TRAIL
 YOUNGSTOWN, OHIO 44514

ISSUED FOR	BID NO	REVISION	DATE
ISSUE DATE: 10/14/2025			
SCALE: AS SHOWN			
DESIGNED BY: XXX			
DRAWN BY: XXX			
CHECKED BY: XXX			

THE VILLAGE OF LORDSTOWN
SALT SPRINGS ROAD WATER BOOSTER
STATION UPGRADE AND RELOCATION
 TRUMBULL COUNTY LORDSTOWN, OH

OVERALL SITE MAP

PROJECT NO.	231265
DISCIPLINE	
SHEET NAME	G-04
SHEET	5
OF	19

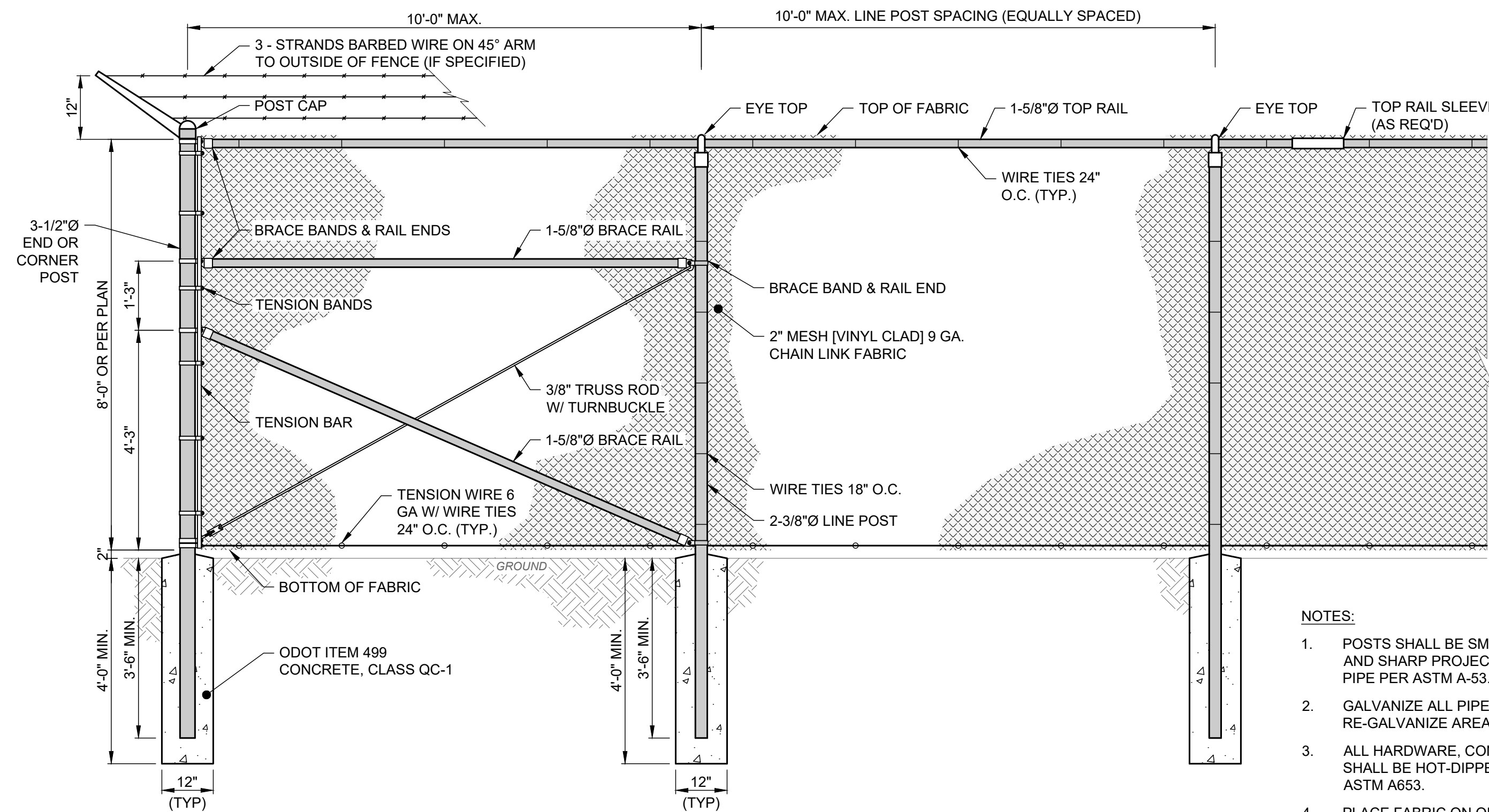


NOTES:

- POSTS SHALL BE SMOOTH, WATER TIGHT, AND FREE OF BURRS AND SHARP PROJECTIONS FABRICATED FROM SCH. 40 STEEL PIPE PER ASTM A-53.
- GALVANIZE ALL PIPES AFTER FABRICATION PER ASTM A-123. RE-GALVANIZE AREAS WHERE COATING IS DAMAGED.
- ALL HARDWARE, CONNECTORS, BOLTS, NUTS, WASHERS, ETC. SHALL BE HOT-DIPPED ZINC COATED GALVANIZED STEEL PER ASTM A653.
- PLACE FABRIC ON OUTSIDE OF SERVICE AREA [OR INSIDE OF PLAY AREA].
- CONTRACTOR SHALL SUPPLY LOCK AND LOCK HASP (COORDINATE WITH OWNER THE TYPE).
- 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



TYPICAL CORNER / END SECTION

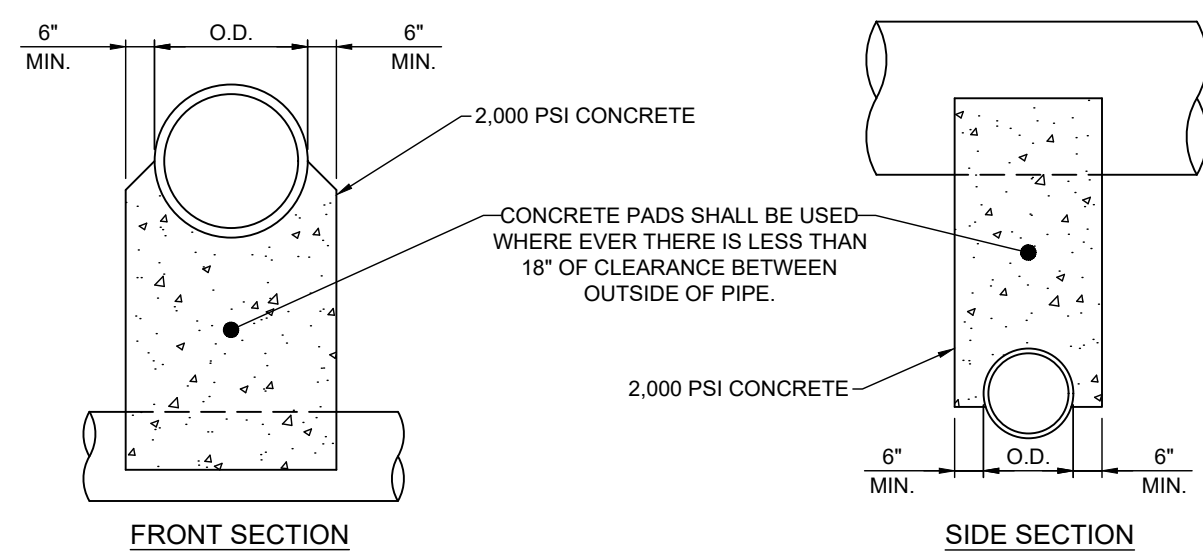
TYPICAL SECTION

8' CHAIN LINK FENCE DETAIL

SCALE: NONE

NOTES:

- POSTS SHALL BE SMOOTH, WATER TIGHT, AND FREE OF BURRS AND SHARP PROJECTIONS FABRICATED FROM SCH. 40 STEEL PIPE PER ASTM A-53.
- GALVANIZE ALL PIPES AFTER FABRICATION PER ASTM A-123. RE-GALVANIZE AREAS WHERE COATING IS DAMAGED.
- ALL HARDWARE, CONNECTORS, BOLTS, NUTS, WASHERS, ETC. SHALL BE HOT-DIPPED ZINC COATED GALVANIZED STEEL PER ASTM A653.
- PLACE FABRIC ON OUTSIDE OF SERVICE AREA.
- 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.]

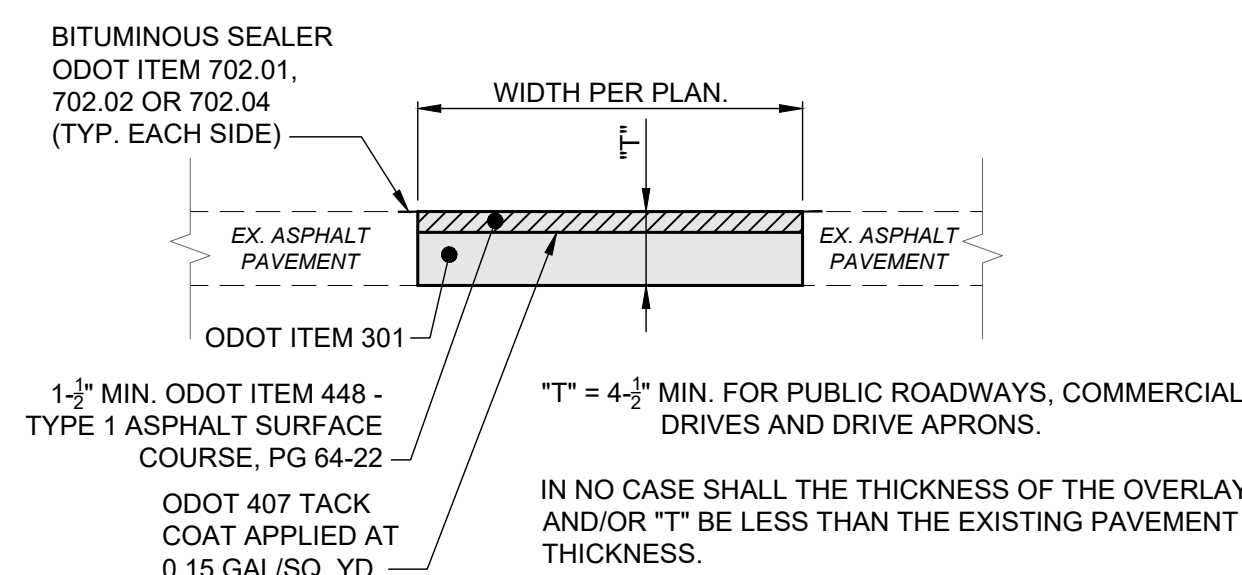


NOTE:

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

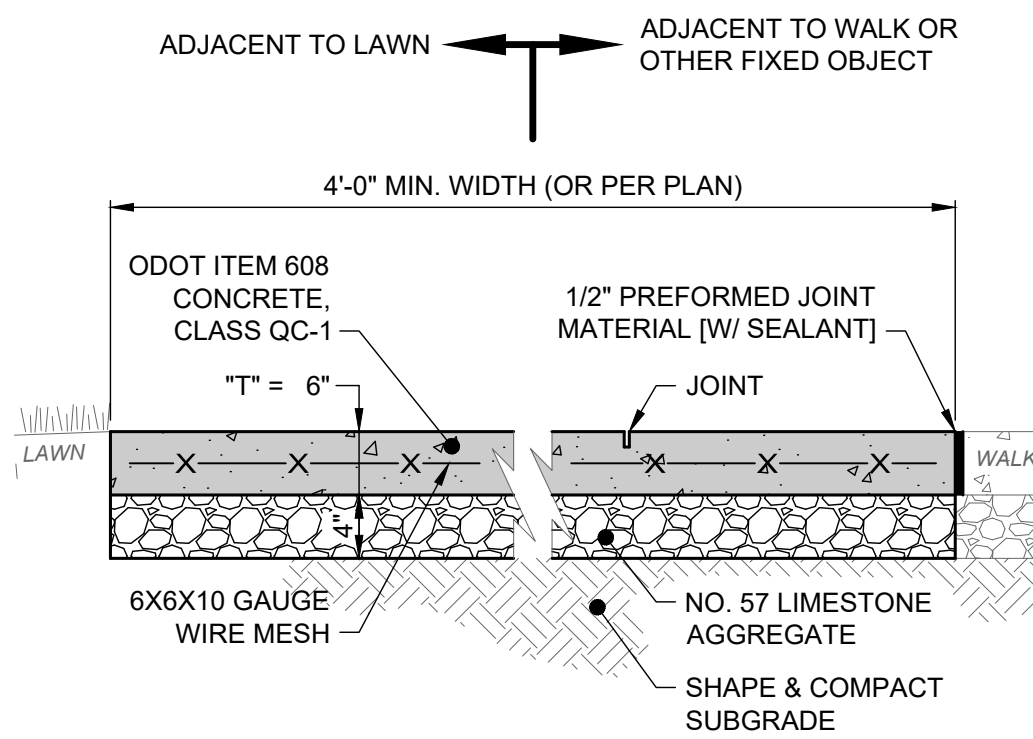
PIPE CROSSING DETAIL

NOT TO SCALE



TYPE C PAVEMENT REPLACEMENT DETAIL

NOT TO SCALE

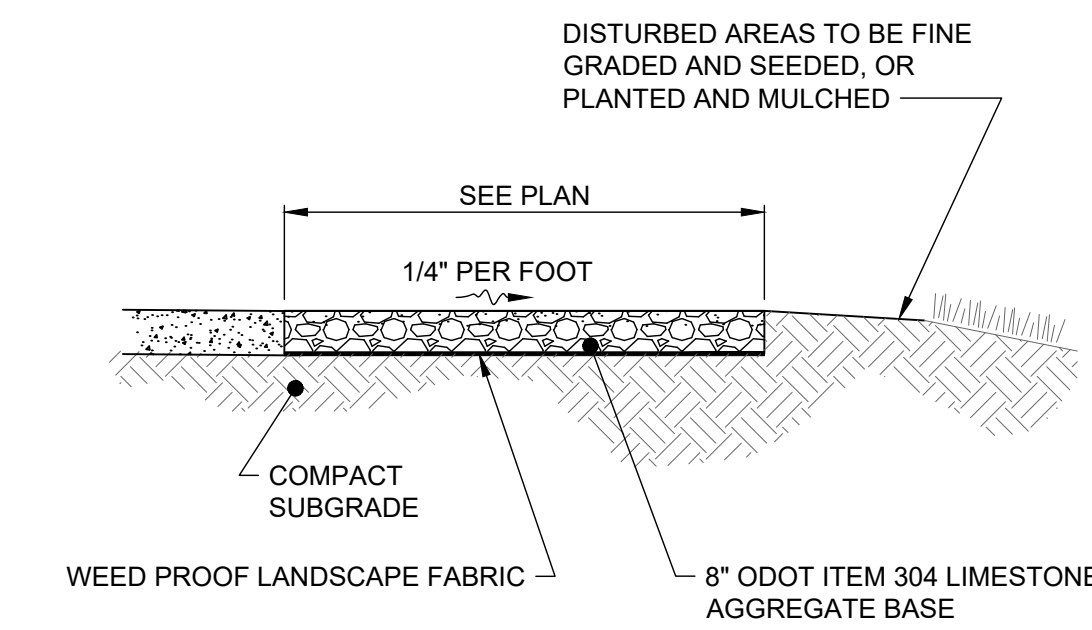


CONCRETE WALK DETAIL

SCALE: NONE

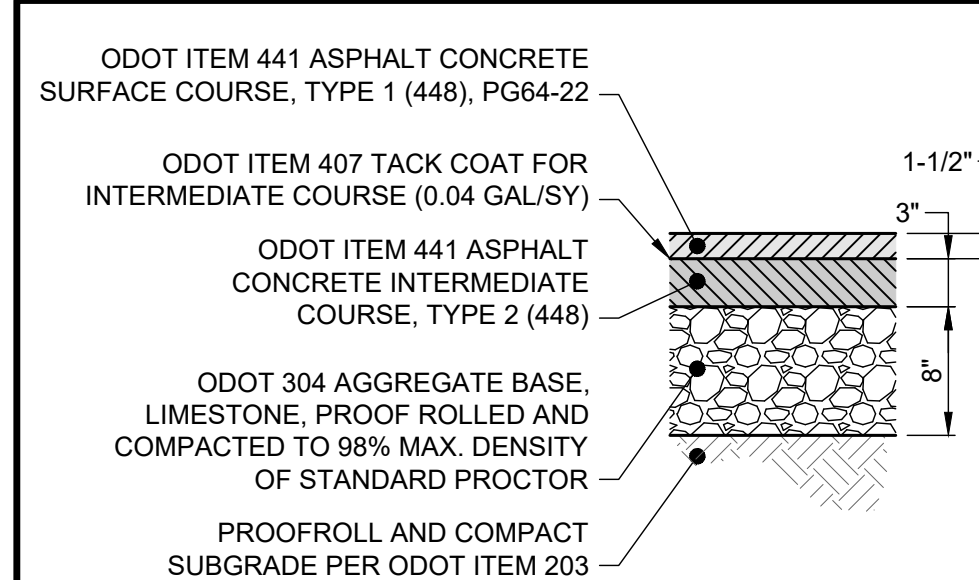
NOTES:

- SEE LAYOUT PLAN FOR JOINT LOCATIONS. IF JOINTS NOT SHOWN, CONTRACTOR SHALL DETERMINE LOCATION OF ALL JOINTS. DIVIDE JOINTS INTO EQUALLY SPACED RECTANGULAR BLOCKS (4" MIN.).
- SAW CUT OR HAND TOOL JOINT 1/8" WIDE BY 1/4 OF "T" DEEP.
- ROUND ALL EDGES AND JOINTS WITH A 1/4" RADIUS.
- INSTALL PREFORMED JOINT MATERIAL EVERY 30', OR BETWEEN SIDEWALK AND FIXED OBJECT (I.E. MANHOLE, WALK, BUILDING).
- [SEE SEPARATE "EXPANSION JOINT W/ SEALANT" DETAIL.]
- LIGHTLY BROOM THE FINISH PERPENDICULAR TO THE WALKING PATH OR PER PLAN. IF HAND TOOLED JOINTS AND EDGES ARE SPECIFIED, FINISH AFTER PANEL INTERIOR TEXTURE HAS BEEN APPLIED (I.E. WINDOW PANE EFFECT).
- APPLY LIQUID-MEMBRANE CURING COMPOUND (200 S.F./GAL.).



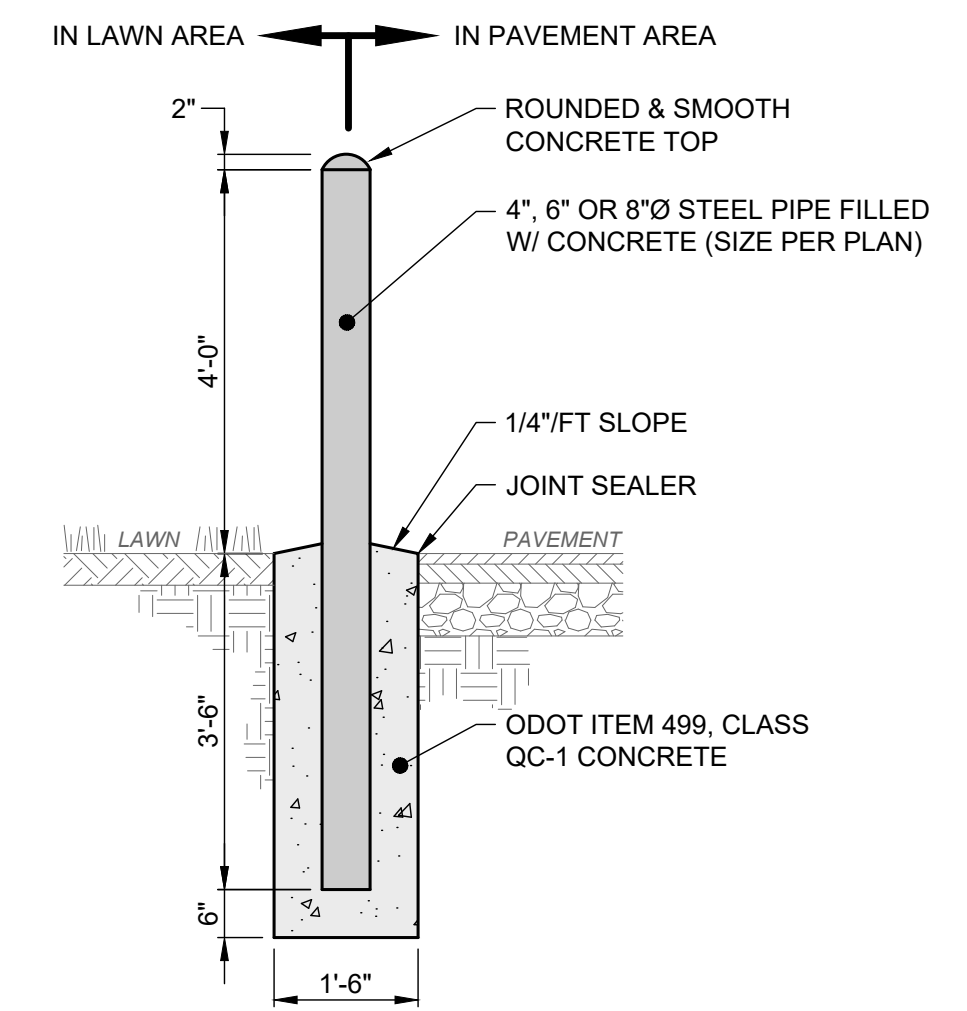
SURFACE AGGREGATE DETAIL

SCALE: NONE



STANDARD DUTY ASPHALT PAVEMENT DETAIL

SCALE: NONE



NOTES:

- PIPE SHALL BE SMOOTH AND FREE OF BURRS AND SHARP PROJECTIONS FABRICATED FROM SCH. 40 STEEL PIPE PER ASTM A-53.
- ENTIRE STEEL PIPE AND CONCRETE TOP SHALL BE PAINTED WITH 1 COAT OF EXTERIOR METAL PRIMER FOLLOWED BY 2 COATS OF EXTERIOR METAL HIGH GLOSS ENAMEL. COLOR SHALL BE TRAFFIC YELLOW OR COLOR CHOSEN BY OWNER OR ARCHITECT.

STEEL BOLLARD DETAIL

SCALE: NONE



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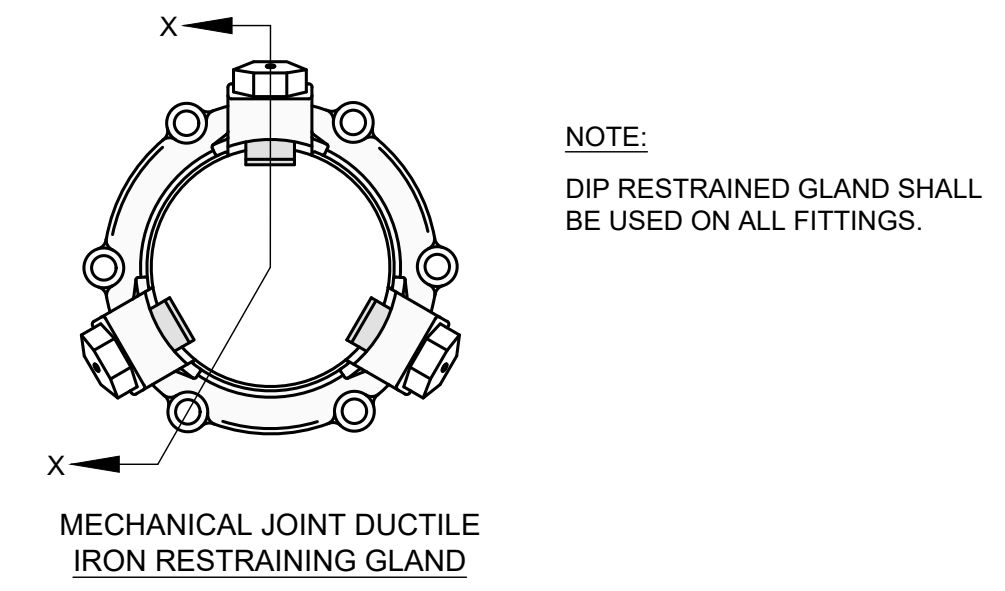
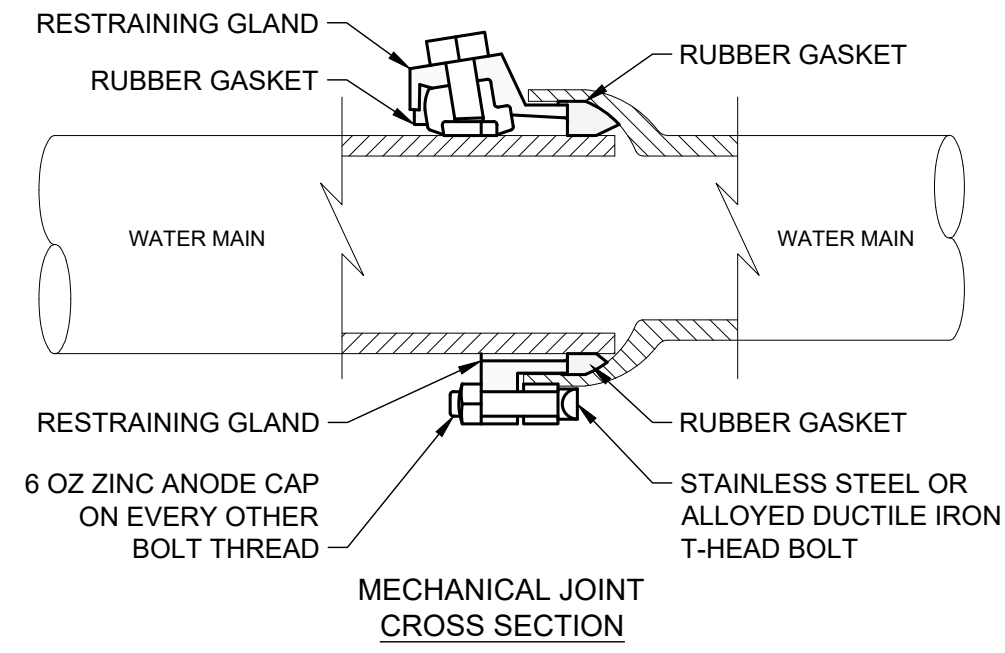
NO.	REVISION	DATE

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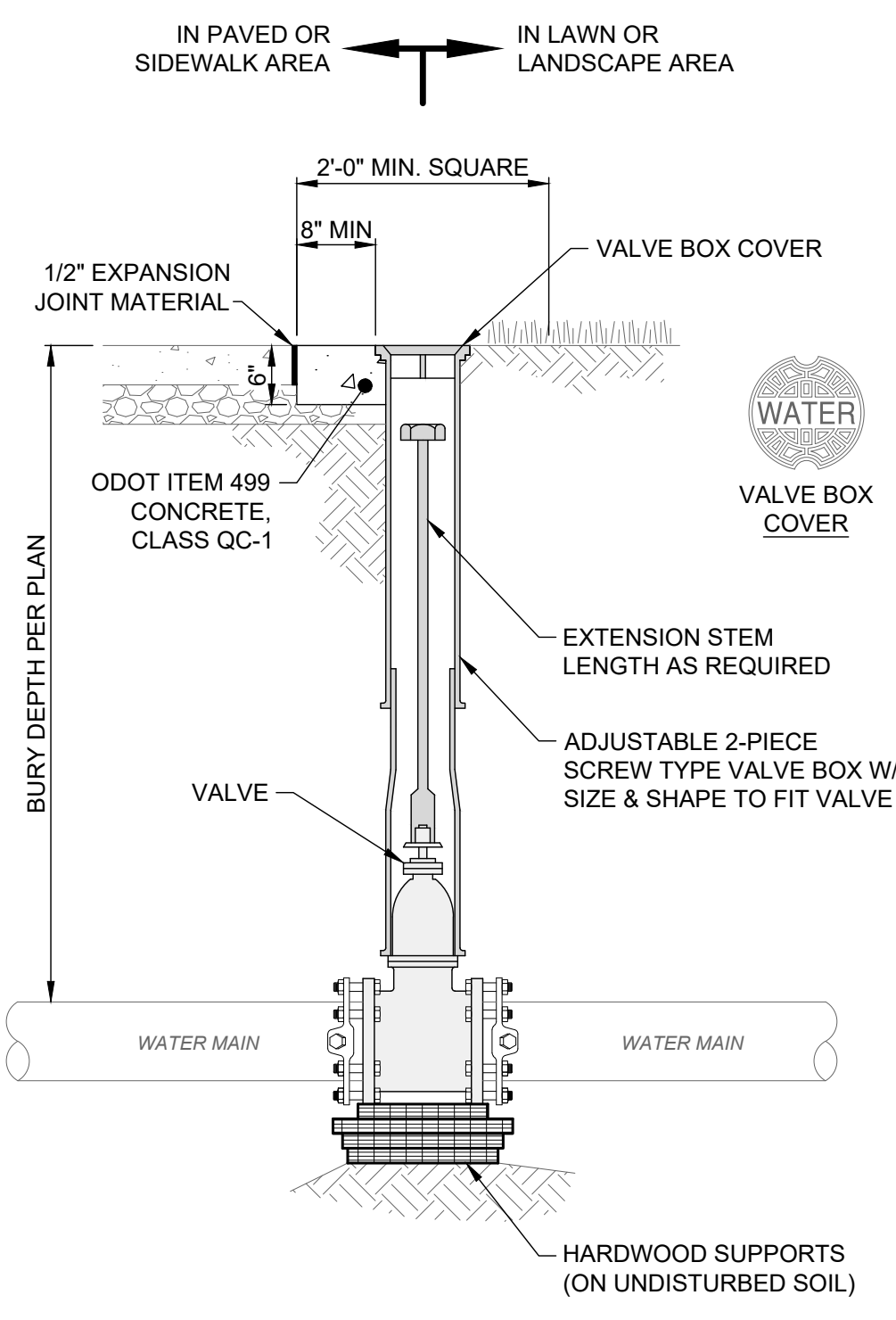
THE VILLAGE OF LORDSTOWN
SALT SPRINGS ROAD WATER BOOSTER
STATION UPGRADE AND RELOCATION
 LORDSTOWN, OH
 TRUMBULL COUNTY

CONSTRUCTION DETAILS (1 OF 2)

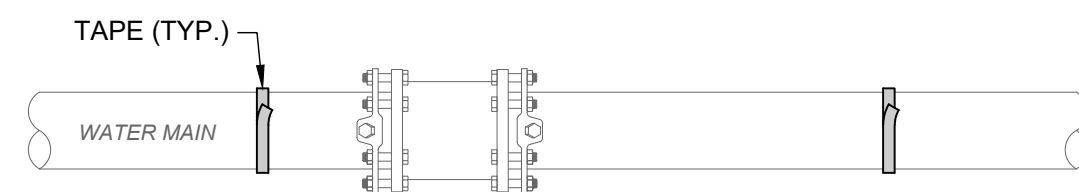
PROJECT NO.	231265
DISCIPLINE	
SHEET NAME	CD-01
SHEET	6
OF	19



MECHANICAL JOINT DUCTILE IRON RESTRAINING GLANDS DETAIL
SCALE: NONE



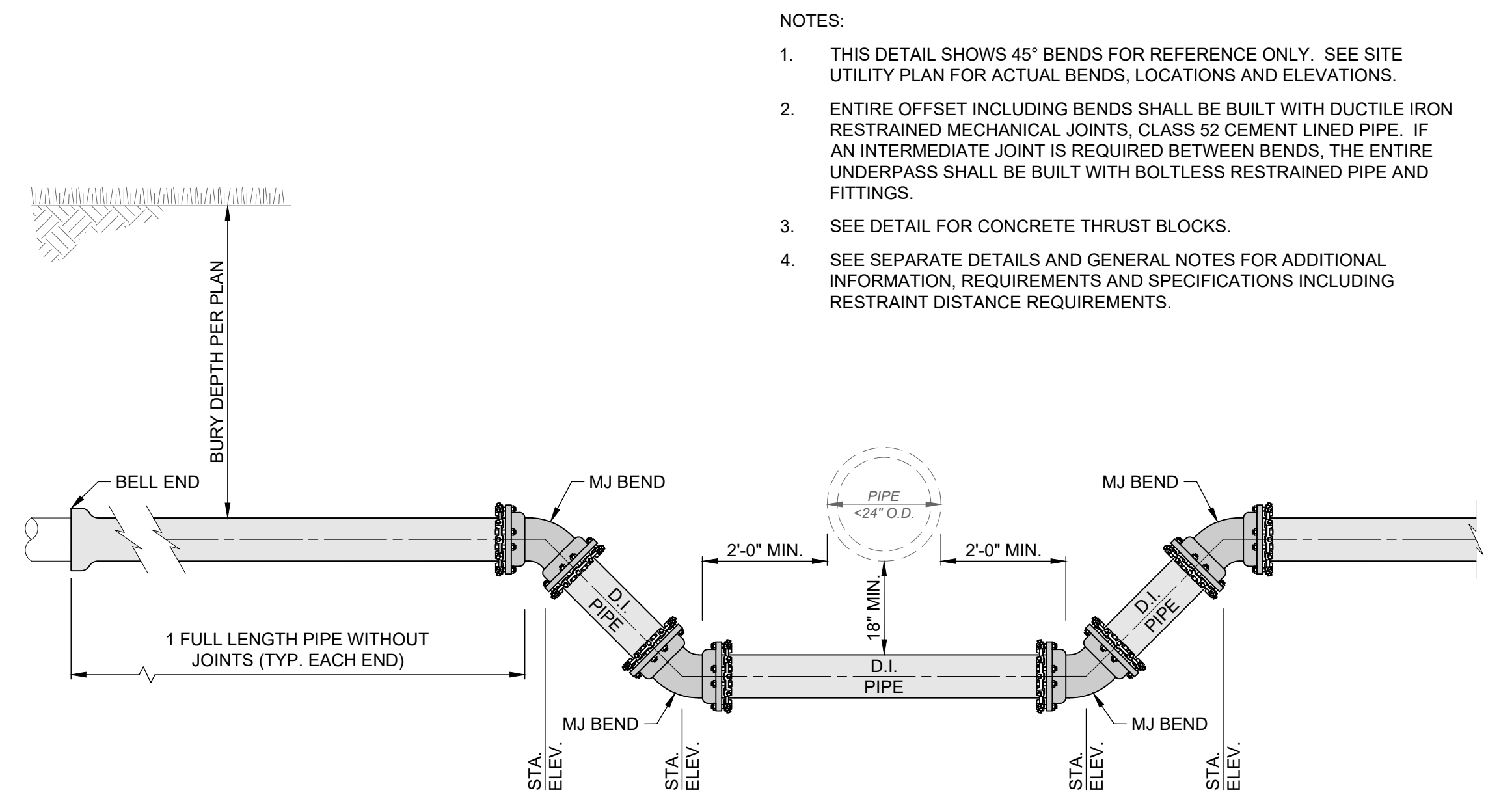
WATER VALVE & VALVE BOX SETTING DETAIL
SCALE: NONE



POLYWRAP FLAT TUBE WIDTHS		
PIPE DIA.	DIP W/ PUSH ON JOINT	DIP W/ MECHANICAL JOINT
4"	14"	16"
6"	17"	20"
8"	21"	24"
10"	25"	27"
12"	29"	30"

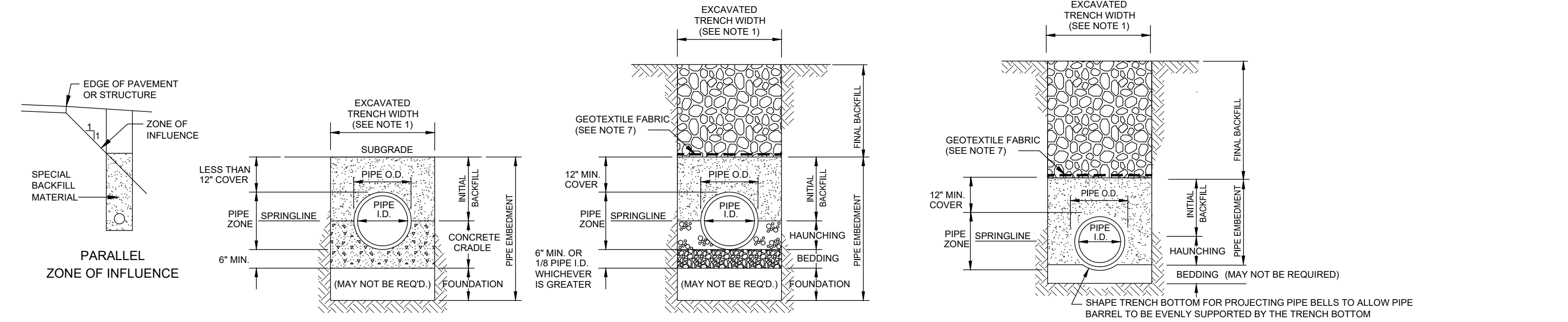
- NOTES:**
- USE ONE LENGTH OF POLYETHYLENE TUBE WRAP FOR EACH LENGTH OF DUCTILE IRON PIPE. OVERLAP AT PIPE JOINTS AND FOLD EXCESS OVER TOP OF TUBE FOR SLACK REDUCTION.
 - USE CHART TO SELECT SIZE OF WRAP.
 - TAPE SHALL BE INSTALLED ALONG THE TOP OF ALL PIPE AND SECURED EVERY 6" WITH TAPE.

WATER MAIN POLYETHYLENE WRAP DETAIL
SCALE: NONE



- NOTES:**
- THIS DETAIL SHOWS 45° BENDS FOR REFERENCE ONLY. SEE SITE UTILITY PLAN FOR ACTUAL BENDS, LOCATIONS AND ELEVATIONS.
 - 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.
 - SEE DETAIL FOR CONCRETE THRUST BLOCKS.
 - SEE SEPARATE DETAILS AND GENERAL NOTES FOR ADDITIONAL INFORMATION, REQUIREMENTS AND SPECIFICATIONS INCLUDING RESTRAINT DISTANCE REQUIREMENTS.

WATER MAIN UNDERPASS DETAIL
SCALE: NONE



- CLASS 'A' PIPE EMBEDMENT**
- NOTES:**
- MAXIMUM EXCAVATED TRENCH WIDTH: THE MAXIMUM EXCAVATED TRENCH WIDTH FROM THE BOTTOM OF THE TRENCH TO 12" OVER THE TOP OF THE PIPE (WITHIN PIPE EMBEDMENT) SHALL BE O.D. + 24" FOR ALL PIPES UP TO AND INCLUDING 24" I.D. + 30" FOR PIPE FROM 24" I.D. TO 54" I.D. AND O.D. + 48" FOR PIPES SIZES 60" I.D. AND OVER.
 - FOUNDATION: WHERE AN UNSTABLE TRENCH BOTTOM CONDITION IS ENCOUNTERED, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH MATERIAL AS DIRECTED BY THE ENGINEER.
 - PIPE EMBEDMENT:
CLASS A: CLASS A PIPE EMBEDMENT SHALL BE USED FOR ALL PIPING UNDER PAVEMENT OR STRUCTURES WITH LESS THAN 12 INCHES OF PIPE COVER TO THE SUBGRADE. THE CONCRETE CRADLE SHALL BE IN ACCORDANCE WITH ODOT ITEM 499, CLASS "C". THE INITIAL BACKFILL SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.
CLASS B: CLASS B PIPE EMBEDMENT SHALL BE USED FOR ALL PIPING UNLESS OTHERWISE NOTED ON THE PLANS OR AUTHORIZED BY THE ENGINEER. THE BEDDING AND HAUNCHING SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT. IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE AASHTO NO. 57 OR NO. 67 STONE GRANULAR PIPE EMBEDMENT. IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER FOR ONLY REINFORCED CONCRETE PIPE AND DUCTILE IRON PIPE. THE INITIAL BACKFILL FOR ALL OTHER PIPES SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.
CLASS C: CLASS C PIPE EMBEDMENT SHALL ONLY BE USED FOR DUCTILE IRON WATER MAIN, DUCTILE IRON FORCE MAINS OR AS AUTHORIZED BY THE ENGINEER. THE PIPE EMBEDMENT SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE. THE PIPE EMBEDMENT SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE. WHERE ROCK OR SHALE IS ENCOUNTERED, A MINIMUM 6-INCHES OF AASHTO NO. 57 OR NO. 67 GRANULAR PIPE BEDDING OR SAND BEDDING SHALL BE PLACED AS DIRECTED BY THE ENGINEER.
 - FINAL BACKFILL: IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE THE FINAL BACKFILL SHALL BE SPECIAL BACKFILL MATERIAL. IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE, THE FINAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER.
 - SPECIFICATIONS: ALL TRENCHING, PIPE EMBEDMENT AND BACKFILL MATERIALS SHALL BE IN ACCORDANCE WITH SPECIFICATION 02300CT - EARTHWORK.
 - CLAY TRENCH DAMS: CLAY TRENCH DAMS SHALL BE REQUIRED AS SHOWN ON PLANS OR WHEN AND WHERE NECESSARY AS DIRECTED BY THE ENGINEER.
 - GEOTEXTILE FABRIC: INSTALL A GEOTEXTILE FABRIC IN ACCORDANCE WITH ODOT 712.09, TYPE A, AFTER ALL INITIAL BACKFILL CONSISTING OF AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.

TRENCHING, EMBEDMENT, AND BACKFILL DETAIL
NOT TO SCALE



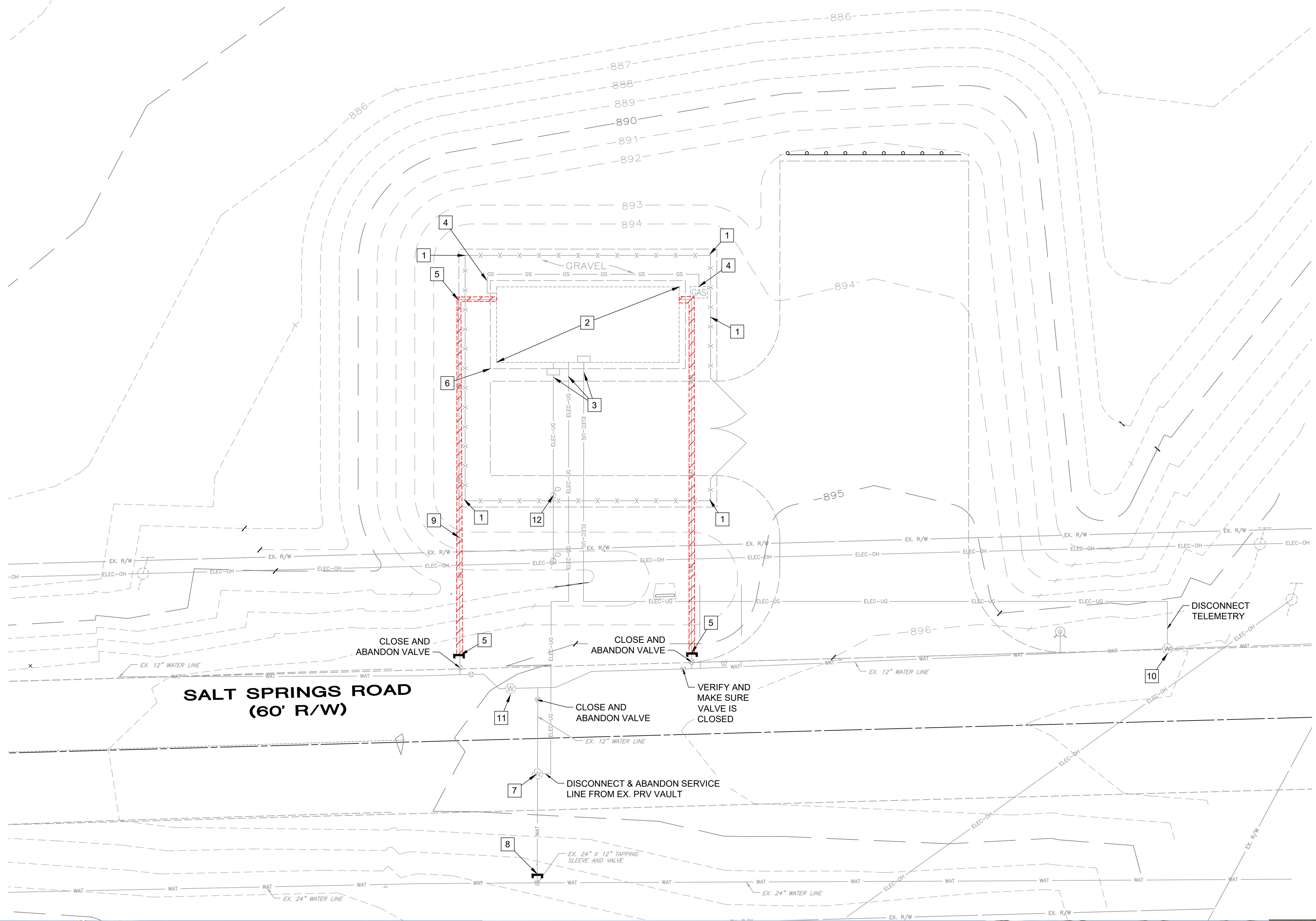
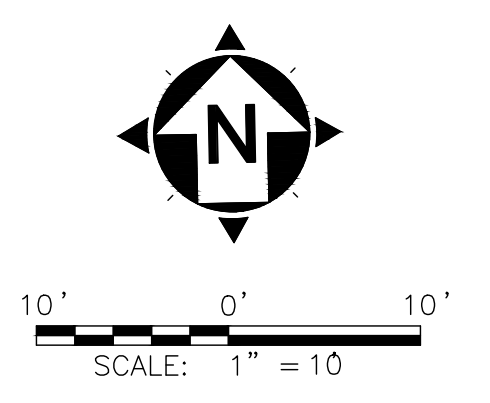
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ISSUE DATE:	10/14/2025			
SCALE:	AS SHOWN			
DESIGNED BY:	PAB			
DRAWN BY:	PAB			
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THE VILLAGE OF LORDSTOWN
SALT SPRINGS ROAD WATER BOOSTER
STATION UPGRADE AND RELOCATION
TRUMBULL COUNTY LORDSTOWN, OH

CONSTRUCTION DETAILS (2 OF 2)

PROJECT NO.	231265
DISCIPLINE	
SHEET NAME	CD-02
SHEET	7
OF	19



GENERAL NOTES:

1. ALL DEMOLITION WORK ON THIS SHEET IS TO BE PERFORMED OR COORDINATED BY THE GENERAL CONTRACTOR.
2. CONTRACTOR SHALL PROVIDE SEEDING AND RESTORATION OF ALL GRASSED AREAS DISTURBED BY THE DEMOLITION WORK.
3. EXISTING SITE PLAN IS ILLUSTRATED BASED ON BEST AVAILABLE RECORDS AND DRAWINGS PREPARED BY CT CONSULTANTS, INC. IN 2017.
4. EXISTING UTILITIES SHOWN HEREIN ARE PER BEST AVAILABLE RECORDS AND MAY NOT REFLECT EXACT LOCATIONS IN THE FIELD. THE CONTRACTOR SHALL PERFORM A FIELD INVESTIGATION OF THE SURROUNDING WORK AREA TO IDENTIFY AND DETERMINE LOCATIONS AND DEPTHS OF EXISTING BELOW GROUND UTILITY SERVICES WITHIN THE WORK AREA PRIOR TO THE START OF CONSTRUCTION.

CODED NOTES:

- 1 CONTRACTOR SHALL REMOVE EXISTING FENCE ENCLOSURE AND GATES.
- 2 CONTRACTOR SHALL REMOVE EXISTING WATER BOOSTER STATION ENCLOSURE, INTEGRAL GENERATOR, AND EQUIPMENT SKID, TRANSPORT AND RELOCATE TO NEW SITE LOCATION ON SR-45. THE CONTRACTOR SHALL COORDINATE WITH THE VILLAGE OF LORDSTOWN FOR A HAULING PERMIT. A MAP OF THE INTENDED HAUL ROUTE SHALL BE PROVIDED FOR VILLAGE REVIEW DURING THE PRE-CONSTRUCTION MEETING.
- 3 CONTRACTOR SHALL DISCONNECT ALL ELECTRICAL SERVICES TO THE WATER BOOSTER STATION BEFORE RELOCATING. COORDINATE WITH UTILITY PROVIDER TO MAINTAIN EXISTING METERS AND PANELS FOR TRANSPORTATION TO NEW LOCATION.
- 4 CONTRACTOR SHALL COORDINATE REMOVAL OF THE EXISTING GAS METER AND DISCONNECTION OF SERVICE LINE TO THE WATER BOOSTER STATION WITH THE NATURAL GAS UTILITY PROVIDER. CONTRACTOR SHALL REMOVE ALL ABOVE-GROUND GAS PIPING, FITTINGS, ETC.
- 5 CONTRACTOR SHALL CLOSE AND ABANDON VALVES ON SUCTION AND DISCHARGE LINES INTO THE WATER BOOSTER STATION. CONTRACTOR SHALL DISCONNECT SUCTION AND DISCHARGE LINES INTO THE BOOSTER STATION. INSTALL MECHANICAL JOINT PLUGS ON THE EXISTING SUCTION AND DISCHARGE LINES INTO THE STATION AND ABANDON LINES IN PLACE. ENSURE VALVES ON THE MAINLINE BETWEEN THE SUCTION AND DISCHARGE LINES INTO THE STATION ARE OPENED.
- 6 CONTRACTOR SHALL REMOVE THE EXISTING CONCRETE FOUNDATION PAD AND REPLACE WITH GRAVEL SURFACE OVER THE PAD FOOTPRINT.
- 7 CONTRACTOR SHALL REMOVE EXISTING PRESSURE REDUCING VALVE FROM BELOW GRADE VALVE VAULT. PLUG WATERLINE AT ENTRANCE AND EXIT OF VAULT. REMOVE VAULT TO 3 FEET BELOW GRADE AND ABANDON VAULT IN PLACE.
- 8 CONTRACTOR SHALL CLOSE AND ABANDON EXISTING GATE VALVE ON TAPPING SLEEVE.
- 9 CONTRACTOR SHALL ABANDON IN PLACE EXISTING FLUSHING STATION ON DISCHARGE LINE.
- 10 CONTRACTOR SHALL REMOVE EXISTING TELEMETRY FEED FROM MAG METER AND DISCONNECT TELEMETRY SERVICE TO THE EXISTING WATER BOOSTER STATION.
- 11 CHECK VALVE TO BE REMOVED. REPLACE WITH SPOOL PIECE TO REPAIR WATERLINE.
- 12 EXISTING OVERHEAD POLE TO BE REMOVED. DISCONNECT EXISTING SITE AREA LIGHT TO BE REINSTALLED ON A NEW POLE AT THE NEW SITE LOCATION FOR THE BOOSTER STATION.

NO	REVISION	DATE

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CHECKED BY:	RLM/CNK		

THE VILLAGE OF LORDSTOWN
SALT SPRINGS ROAD WATER BOOSTER
STATION UPGRADE AND RELOCATION
 TRUMBULL COUNTY
 LORDSTOWN, OH
EXISTING SALT SPRINGS ROAD
DEMOLITION PLAN

PROJECT NO.	231265
DISCIPLINE	
SHEET NAME	C-01
SHEET	8
OF	19



EXISTING SALT SPRINGS ROAD WBS DETAIL (FACING NORTH)



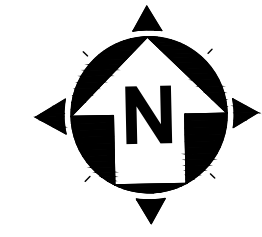
EXISTING SALT SPRINGS ROAD WBS DETAIL (FACING WEST)



EXISTING SALT SPRINGS ROAD WBS DETAIL (PANEL)



EXISTING SALT SPRINGS ROAD WBS GAS METER DETAIL



GENERAL NOTES:

- EXISTING AERIAL PHOTOGRAPHY PER NEARMAP IMAGERY DATED 2023. IMAGERY IS NOT TO SCALE AND THE INTENDED PURPOSE OF THIS SHEET IS TO SHOW LOCATION OF DECOMMISSIONED BOOSTER PUMP STATION.
- THE CONTRACTOR SHALL PERFORM A FIELD INVESTIGATION OF THE SURROUNDING WORK AREA TO IDENTIFY AND DETERMINE LOCATIONS AND DEPTHS OF EXISTING BELOW GROUND UTILITY SERVICES WITHIN THE WORK AREA PRIOR TO THE START OF CONSTRUCTION.

CODED NOTES:

- CONTRACTOR SHALL DISCONNECT ELECTRICAL SERVICE TO THE BOOSTER STATION.
- CONTRACTOR SHALL CLOSE VALVES ON SUCTION AND DISCHARGE LINES INTO THE WATER BOOSTER STATION. ENSURE VALVES ON THE MAINLINE BETWEEN THE SUCTION AND DISCHARGE LINES INTO THE STATION ARE OPENED.
- EXISTING DIESEL EMERGENCY GENERATOR, SKID, AND CONTROLS SHALL BE DISCONNECTED FROM THIS BOOSTER STATION AND TRANSPORTED TO A STORAGE LOCATION APPROVED BY THE VILLAGE OF LORDSTOWN.

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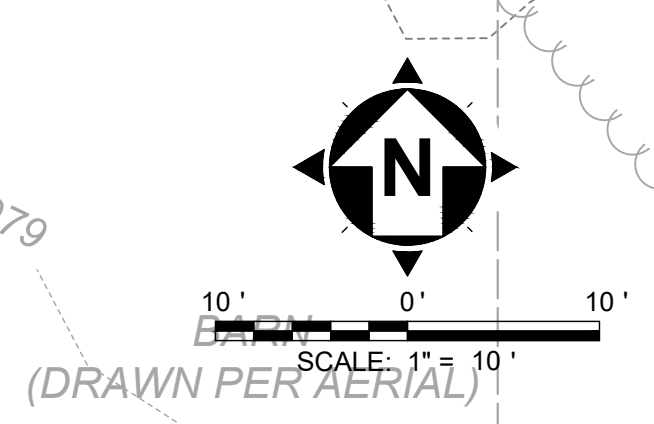
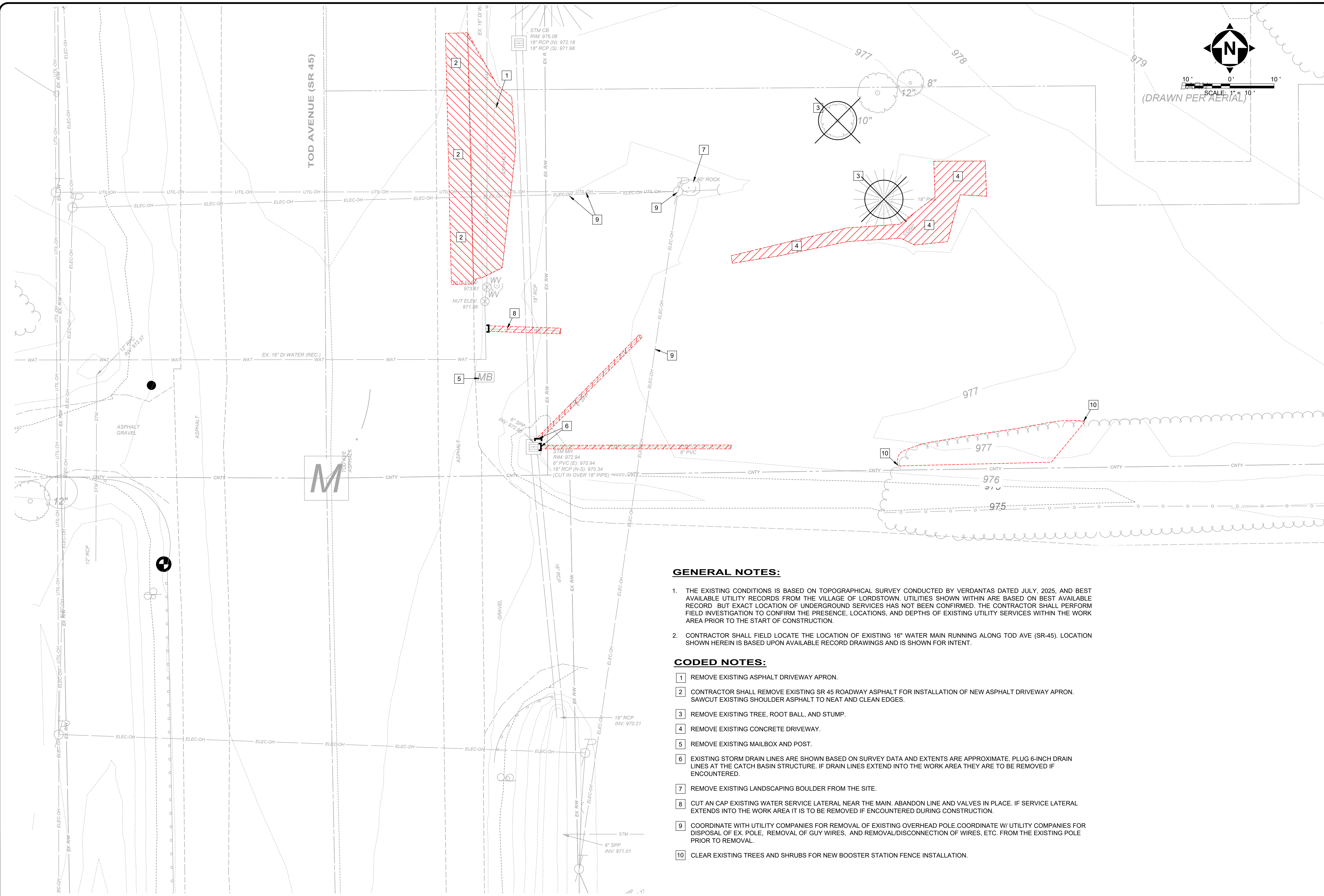
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THE VILLAGE OF LORDSTOWN
SALT SPRINGS ROAD WATER BOOSTER
STATION UPGRADE AND RELOCATION
TRUMBULL COUNTY LORDSTOWN, OH

PRITCHARD OHLTOWN BOOSTER
STATION DEMO PLAN

PROJECT NO.	231265
DISCIPLINE	
SHEET NAME	C-02
SHEET	9
OF	19



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THE VILLAGE OF LORDSTOWN
SALT SPRINGS ROAD WATER BOOSTER
STATION UPGRADE AND RELOCATION
 TRUMBULL COUNTY LORDSTOWN, OH
NEW WBS SITE DEMOLITION PLAN

PROJECT NO.	231265
DISCIPLINE	
SHEET NAME	C-03
SHEET	OF
10	19

GENERAL NOTES:

1. THE EXISTING CONDITIONS IS BASED ON TOPOGRAPHICAL SURVEY CONDUCTED BY VERDANTAS DATED JULY, 2025, AND BEST AVAILABLE UTILITY RECORDS FROM THE VILLAGE OF LORDSTOWN. UTILITIES SHOWN WITHIN ARE BASED ON BEST AVAILABLE RECORD BUT EXACT LOCATION OF UNDERGROUND SERVICES HAS NOT BEEN CONFIRMED. THE CONTRACTOR SHALL PERFORM FIELD INVESTIGATION TO CONFIRM THE PRESENCE, LOCATIONS, AND DEPTHS OF EXISTING UTILITY SERVICES WITHIN THE WORK AREA PRIOR TO THE START OF CONSTRUCTION.
2. CONTRACTOR SHALL FIELD LOCATE THE LOCATION OF EXISTING 16" WATER MAIN RUNNING ALONG TOD AVE (SR-45). LOCATION SHOWN HEREIN IS BASED UPON AVAILABLE RECORD DRAWINGS AND IS SHOWN FOR INTENT.

CODED NOTES:

- 1 REMOVE EXISTING ASPHALT DRIVEWAY APRON.
- 2 CONTRACTOR SHALL REMOVE EXISTING SR 45 ROADWAY ASPHALT FOR INSTALLATION OF NEW ASPHALT DRIVEWAY APRON. SAWCUT EXISTING SHOULDER ASPHALT TO NEAT AND CLEAN EDGES.
- 3 REMOVE EXISTING TREE, ROOT BALL, AND STUMP.
- 4 REMOVE EXISTING CONCRETE DRIVEWAY.
- 5 REMOVE EXISTING MAILBOX AND POST.
- 6 EXISTING STORM DRAIN LINES ARE SHOWN BASED ON SURVEY DATA AND EXTENTS ARE APPROXIMATE. PLUG 6-INCH DRAIN LINES AT THE CATCH BASIN STRUCTURE. IF DRAIN LINES EXTEND INTO THE WORK AREA THEY ARE TO BE REMOVED IF ENCOUNTERED.
- 7 REMOVE EXISTING LANDSCAPING BOULDER FROM THE SITE.
- 8 CUT AN CAP EXISTING WATER SERVICE LATERAL NEAR THE MAIN. ABANDON LINE AND VALVES IN PLACE. IF SERVICE LATERAL EXTENDS INTO THE WORK AREA IT IS TO BE REMOVED IF ENCOUNTERED DURING CONSTRUCTION.
- 9 COORDINATE WITH UTILITY COMPANIES FOR REMOVAL OF EXISTING OVERHEAD POLE. COORDINATE W/ UTILITY COMPANIES FOR DISPOSAL OF EX. POLE, REMOVAL OF GUY WIRES, AND REMOVAL/DISCONNECTION OF WIRES, ETC. FROM THE EXISTING POLE PRIOR TO REMOVAL.
- 10 CLEAR EXISTING TREES AND SHRUBS FOR NEW BOOSTER STATION FENCE INSTALLATION.

DATE	REVISION	NO	BID	ISSUED FOR	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
			10/14/2025	AS SHOWN	PAB	PAB		RLM/CWK

THE VILLAGE OF LORDSTOWN
SALT SPRINGS ROAD WATER BOOSTER
STATION UPGRADE AND RELOCATION
TRUMBULL COUNTY LORDSTOWN, OH
RELOCATED WATER BOOSTER
STATION SITE PLAN

PROJECT NO.	231265
DISCIPLINE	
SHEET NAME	C-04
SHEET	11
OF	19

SHEET LEGEND

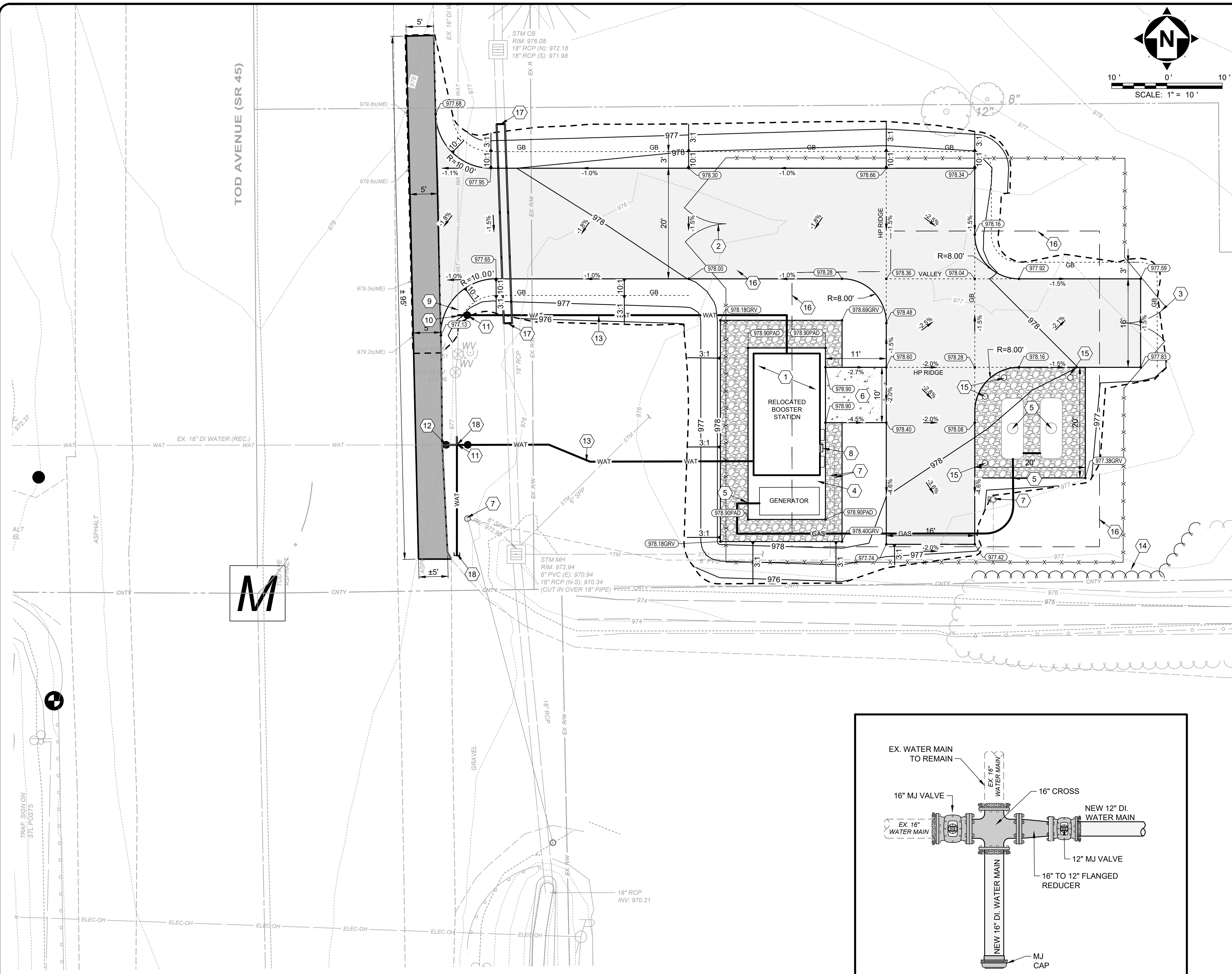
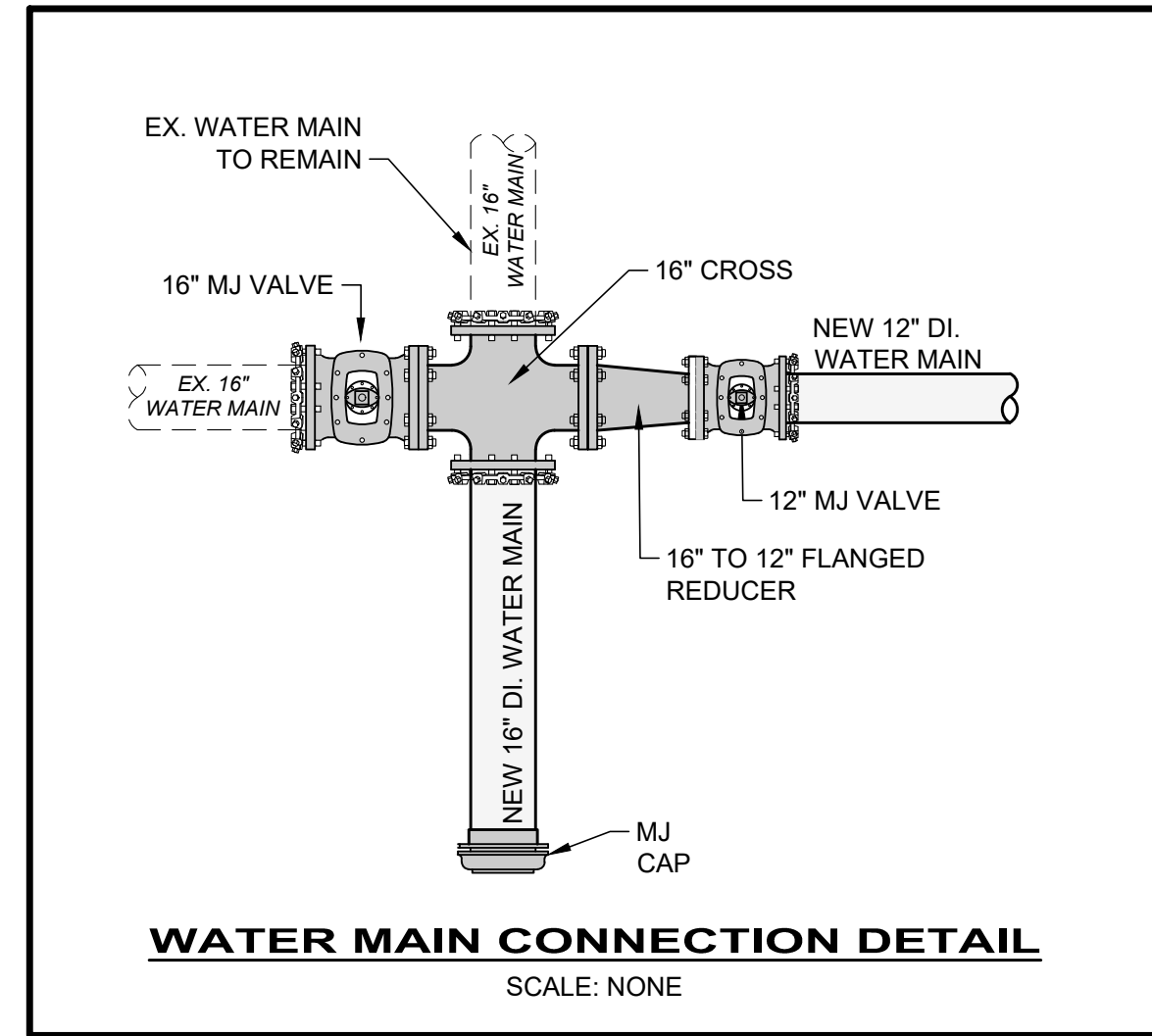
- XXXXX PROPOSED SPOT ELEVATION
- ABBREVIATIONS AS FOLLOWS:
 - TAGLESS - PROPOSED PAVEMENT GRADE
 - PAD - CORNER OF CONCRETE PAD
 - WK - SIDEWALK GRADE
 - GRV - CORNER OF GRAVEL
 - RIM - RIM ELEVATION OF STRUCTURE
- MEET EX. PAVEMENT ELEVATION
- 2.00% PAVEMENT SLOPE
- 2:1 GROUND SURFACE GRADE
- GB GRADE BREAK
- VALLEY VALLEY IN PAVEMENT
- HP RIDGE HIGH POINT RIDGE IN PAVEMENT
- PROPOSED STANDARD DUTY DRIVEWAY PER DETAIL
- PROPOSED ROADWAY ASPHALT PAVEMENT REPLACEMENT PER DETAIL
- WORK LIMITS
- PROPOSED GRAVEL SURFACE PER DETAIL
- PROPOSED CONCRETE SIDEWALK PER DETAIL
- CHAINLINK FENCE SURROUND PER DETAIL

GENERAL NOTES:

- THE EXISTING CONDITIONS ARE BASED ON TOPOGRAPHICAL SURVEY CONDUCTED BY VERDANTAS DATED JULY, 2025, AND BEST AVAILABLE UTILITY RECORDS FROM THE VILLAGE OF LORDSTOWN. UTILITIES SHOWN WITHIN ARE BASED ON BEST AVAILABLE RECORD. BUT EXACT LOCATION OF UNDERGROUND SERVICES HAS NOT BEEN CONFIRMED. THE CONTRACTOR SHALL PERFORM FIELD INVESTIGATION TO CONFIRM THE PRESENCE, LOCATIONS, AND DEPTHS OF EXISTING UTILITY SERVICES WITHIN THE WORK AREA PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR SHALL FIELD LOCATE THE LOCATION OF EXISTING 16" WATER MAIN RUNNING ALONG TOD AVE (SR-45). LOCATION SHOWN HEREIN IS BASED UPON AVAILABLE RECORD DRAWINGS AND IS SHOWN FOR INTENT.
- ALL NEW CLASS 52 DUCTILE IRON WATERLINE TO BE INSTALLED SHALL INCLUDE RESTRAINED JOINTS.
- ALL BURIED PIPING SHALL BE MECHANICAL JOINT PIPE.
- CONTRACTOR SHALL PROVIDE SEEDING AND MULCHING OVER NON-PAVED GRADED AREAS, SLOPES, AND GRASSED AREAS IMPACTED BY THE SITE WORK.

CODED NOTES:

- RELOCATED PACKAGE WATER BOOSTER STATION FROM SALT SPRINGS ROAD LOCATION.
- CONTRACTOR SHALL INSTALL NEW 24" DOUBLE SWING GATE WITH (2) 12" LEAFS CENTERED ON THE ACCESS DRIVEWAY AND CHAINLINK FENCING WITH BARBED WIRE TOP PER DETAILS ON SHEET 5.
- CONTRACTOR SHALL INSTALL NEW 18" DOUBLE SWING GATE WITH (2) 9" LEAFS CENTERED ON THE ACCESS DRIVEWAY AND CHAINLINK FENCING WITH BARBED WIRE TOP PER DETAILS ON SHEET 5.
- STRUCTURAL CONCRETE FOUNDATION SLAB BENEATH RELOCATED WATER BOOSTER STATION SHALL BE INSTALLED PER DETAIL.
- NEW GAS SERVICE CONNECTION TO THE MODIFIED GENERATOR FOR THE WATER BOOSTER STATION AND HOOKUP FOR PROPANE TANK HOLDING AREA. COORDINATE WITH THE GENERATOR MANUFACTURER FOR NATURAL GAS TO PROPANE MODIFICATIONS TO THE GEN SET. COORDINATE WITH THE PROPANE PROVIDER (YOUNGSTOWN PROPANE, OR APPROVED EQUIVALENT) FOR (2) 500 GALLON TANKS, TANK SUPPORT STRUTS, AND CONNECTION TO THE GENERATOR. OPERATIONAL PRESSURE TO BE 11-INCH. CUMMINS GENERATOR PROPANE OPERATIONAL PRESSURE IS 7-INCH MINIMUM, 13.6-INCH MAXIMUM. PROVIDE 1.5-INCH PIPING FROM TO GENERATOR AND PEDESTAL HOOKUP. INCLUDE SHUTOFF VALVE, UNION, AND FLEXIBLE CONNECTION TO GENERATOR
- PROPOSED CONCRETE SIDEWALK TO THE BOOSTER STATION SHALL BE A MINIMUM OF 6 INCHES THICK AND REINFORCED WITH 6X6X10 WELDED WIRE FABRIC. CONCRETE SHALL HAVE 28-DAY STRENGTH OF 4,000 PSI. CONCRETE SIDEWALK SHALL HAVE A SUBBASE CONSISTING OF 6 INCHES OF NO. 57 LIMESTONE.
- NEW UNDERGROUND ELECTRICAL SERVICE CONNECTION DROP AND OVERHEAD POLE. NEW SITE LIGHTING POLE WITH MOUNTED AREA LIGHT. VERIFY CLASS/HEIGHT AND INSTALLATION REQUIREMENTS WITH THE UTILITY COMPANY. REFER TO ELECTRICAL PLANS AND DETAILS FOR
- CONDUIT UNDERGROUND TO FUSED SERVICE DISCONNECT. EXTEND SERVICE TO THE ATS WITHIN THE BOOSTER STATION. REFER TO THE BOOSTER STATION ELECTRICAL SPECIFICATION, ELECTRICAL SITE PLAN, LINE DIAGRAM AND DETAILS.
- 16" CUT IN SLEEVE TO BE INSTALLED ON EXISTING 16" WATER MAIN.
- 16"x12"x16" MJ TEE.
- 12" MJ GATE VALVE AND VALVE BOX PER DETAIL.
- 16" MJ GATE VALVE AND VALVE BOX PER DETAIL.
- 12" CLASS 52 DUCTILE IRON WATERLINE.
- CONTRACTOR SHALL CLEAR EXISTING VEGETATION FOR PLACEMENT OF WATER BOOSTER STATION AND FENCE SURROUND.
- PROPOSED BOLLARD (TYP. OF 4) PER DETAIL.
- AREA OF PREVIOUSLY EXISTING RAZED HOME. REMOVE AND EXCAVATE EXISTING SOILS IN THIS AREA TO A DEPTH OF 10'. THE BASE OF THE OVER-EXCAVATION SHALL BE WIDENED ONE FOOT FOR EVERY ONE FOOT OF DEPTH BELOW THE PLANNED BEARING ELEVATION. WITH THE OVER-EXCAVATION CENTERED ALONG THE FOOTING. EXISTING MATERIAL TO BE DISPOSED OFFSITE AT A LANDFILL LICENSED TO ACCEPT SOILS AND CONSTRUCTION MATERIALS. OVER-EXCAVATED AREAS SHOULD BE BACKFILLED WITH ENGINEERED FILL CONSISTING OF NON-ORGANIC SOILS WITH A MAXIMUM DRY DENSITY >90 PCF (ASTM D698). ON-SITE SOILS MAY BE USED IF FREE OF ORGANICS AND DEBRIS; OTHERWISE, IMPORTED GRANULAR FILL MAY BE REQUIRED. ENGINEERED FILL SHOULD BE PLACED IN CONTROLLED LIFTS AND COMPACTED TO NOT LESS THAN 100% OF THE MAXIMUM DRY DENSITY PER ASTM D698 (STANDARD PROCTOR). REFER TO EARTHWORK SPECIFICATIONS FOR ADDITIONAL DETAIL ON MATERIAL AND COMPACTION OF FILL MATERIAL.
- PROPOSED 36-LF OF 18" RCP STORM SEWER TO BE REPLACED. IT IS ANTICIPATED THE EXISTING SEWER MAY BE SUBJECT TO DAMAGE DURING THE HAULING AND PLACEMENT WORK FOR THE BOOSTER STATION AT THE SITE. MEET EXISTING INVERTS TO PROVIDE CONTINUOUS SLOPE THROUGH THE SEWER.
- REMOVE EXISTING 90° BEND TO INSTALL NEW 16" CROSS FITTING AND 20-LF OF 16" DI WATER MAIN TO THE SOUTH. PROVIDE MJ PLUG AT END OF NEW SOUTHERN STUB. REFER TO WATER MAIN CONNECTION DETAIL A.



STRUCTURAL NOTES

GENERAL:

- THESE NOTES ARE GENERAL REQUIREMENTS. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREINAFTER FOR USE ON THIS PROJECT. COORDINATE ALL DIMENSIONS AND HOLDOWN LOCATIONS WITH PUMPSTATION PRIOR TO THE START OF CONSTRUCTION.
- IF MATERIALS, QUANTITIES, STRENGTHS OR SIZES INDICATED BY THE DRAWINGS OR SPECIFICATIONS ARE NOT IN AGREEMENT WITH THESE NOTES, THE CONTRACTOR SHALL CONTACT THE ARCHITECT/ENGINEER FOR CLARIFICATION.
- TYPICAL DETAILS MAY NOT NECESSARILY BE CUT ON THE PLANS, BUT APPLY UNLESS NOTED OTHERWISE.
- SHOP DRAWINGS PREPARED BY SUPPLIERS AND SUBCONTRACTORS SHALL BE REVIEWED AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO SUBMISSION TO THE ENGINEER/ARCHITECT.
- SHOP DRAWINGS PREPARED BY THE CONTRACTORS, SUPPLIERS, ETC., WILL BE REVIEWED BY THE ENGINEER/ARCHITECT ONLY FOR CONFORMANCE WITH DESIGN CONCEPT. NO WORK AFFECTED BY THE SHOP DRAWINGS SHALL BE STARTED WITHOUT SUCH REVIEW.
- THE GENERAL CONTRACTOR SHALL COORDINATE ALL REVISIONS, CORRECTIONS, AND COMMENTS INDICATED ON THE SHOP DRAWINGS BY THE ARCHITECT/ENGINEER.
- ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR AND SHALL CONFORM TO THOSE SHOWN ON THE PROCESS AND ARCHITECTURAL DRAWINGS.
- ALL MATERIALS AND EQUIPMENT FURNISHED WILL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
- COORDINATE WITH CIVIL, PROCESS, MECHANICAL AND ELECTRICAL DRAWINGS FOR PIPE SLEEVES, INSERTS, SLAB OPENINGS, CONDUIT RUNS IN SLABS, AND ANCHOR BOLTS, ETC.
- EARTHWORK, FOUNDATION DRAINS, AND OTHER REQUIRED NON-STRUCTURAL ITEMS ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS. COORDINATE WITH CIVIL/SITE AND ARCHITECTURAL DRAWINGS.

GOVERNING CODES AND STANDARDS:

OBC	- OHIO BUILDING CODE, 2017 EDITION
ASCE 7	- MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, 2010 EDITION
ACI 318	- BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 2014 EDITION
ACI 301	- SPECIFICATIONS FOR STRUCTURAL CONCRETE, 2010 EDITION
ACI 305R	- HOT WEATHER CONCRETING, 2010 EDITION
ACI 306R	- COLD WEATHER CONCRETING, 2010 EDITION
ACI SP-66	- ACI DETAILING MANUAL, 2004
AISC 360	- STEEL CONSTRUCTION MANUAL, 14TH EDITION
AISC 341	- SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS, 2nd EDITION
AWS D1.1	- STRUCTURAL WELDING CODE - STEEL, 2010 EDITION
AWS D1.8	- STRUCTURAL WELDING CODE - SEISMIC SUPPLEMENT, 2009 EDITION

FOUNDATIONS:

- FOUNDATION DESIGN FOR SITE AT 8933 TOD AVENUE SOUTHWEST, WARREN, OHIO 44481. CONCRETE SLAB-ON-GRADE AND SHOW FOUNDATIONS SHALL BEARING ON STABILIZED SOIL AND HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING PRESSURE OF 1,500 PSF. CONTRACTOR SHALL EMPLOY GEOTECHNICAL ENGINEER TO VERIFY THE ALLOWABLE BEARING CAPACITY AND OTHER SOIL LOADING AND BEARING CHARACTERISTICS THAT ARE DESCRIBED IN THE CONSTRUCTION DOCUMENTS.
- ALL EXTERIOR FOOTINGS SHALL BEAR ON FIRM AND STABLE NATURAL SOILS OR COMPACTED FILL AT PER THE GEOTECHNICAL ENGINEERS RECOMMENDATIONS. EXTERIOR FOOTINGS SHALL BEAR AT A DEPTH BELOW THE FROST DEPTH. BEARING DEPTH SHALL BE LOWERED DOWN TO ACCEPTABLE SOILS OR OVER EXCAVATE AND REPLACE WITH GEOTECHNICAL ENGINEER APPROVED FILL AND BACKFILLING TECHNIQUES.
 - REMOVE ALL EXISTING PAVEMENT, STRUCTURES, FOUNDATIONS, UNSUITABLE FILLS, ORGANIC SOILS AND/OR OTHER DELETERIOUS MATERIALS DURING SITE PREPARATION AND/OR ENCOUNTERED WITHIN OR BELOW THE AREA TO BE OCCUPIED BY SLABS ON GRADE, EQUIPMENT PADS, AND FOUNDATIONS. THESE MATERIALS SHALL NOT BE USED FOR FILL WITHIN OR ADJACENT TO THE BUILDING. AFTER EXCAVATING THE EXPOSED NATURAL SOIL SHALL BE THOROUGHLY COMPACTED PRIOR TO PLACEMENT OF FILL OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
 - BACKFILL SHALL BE CLEAN, CRUSHED STONE (#57 STONE) OR SELECT ENGINEERED FILL APPROVED BY THE GEOTECHNICAL ENGINEER. ALL BACKFILL SHALL BE PLACED IN MAXIMUM 8" LIFTS AND COMPACT AS PER THE GEOTECHNICAL.
 - EXCAVATIONS FOR FOUNDATIONS SHOULD BE OBSERVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF REINFORCING STEEL AND CONCRETE. UNDERCUT UNSUITABLE SOILS AND BACKFILL AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
 - CONTRACTOR SHALL KEEP ALL FREE-STANDING WATER OUT OF EXCAVATIONS. CONTRACTOR SHALL PROVIDE DEWATERING MEASURES AS NECESSARY PRIOR TO PLACING CONCRETE. WATER SHOULD BE REMOVED FROM THE FOUNDATION BOTTOMS BEFORE CONCRETE OR REINFORCING STEEL IS PLACED.
 - OWNER SHALL EMPLOY A SOILS TESTING LABORATORY APPROVED BY THE ENGINEER TO PERFORM TESTING SERVICES AS REQUIRED BY THE SPECIFICATIONS AND TO INSPECT ALL BEARING SURFACES OF SLABS AND FOUNDATIONS.
- CONTRACTOR SHALL EMPLOY A SOILS TESTING LABORATORY APPROVED BY THE ENGINEER TO PERFORM TESTING SERVICES AS REQUIRED BY THE SPECIFICATIONS AND TO INSPECT ALL BEARING SURFACES OF SLABS AND FOUNDATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR AND SHALL PROVIDE TEMPORARY SHORING, BRACING, UNDERPINNING, AND OTHER MEASURES NECESSARY TO ENSURE STABILITY AND SAFETY DURING ERECTION AND CONSTRUCTION AND TO PREVENT MOVEMENT OF SOIL THAT COULD DAMAGE EXISTING STRUCTURES, PAVEMENT, UTILITIES, ETC.
- UNLESS NOTED OTHERWISE ON THE CIVIL/SITE DRAWINGS, PROVIDE A MINIMUM 2% GRADE WITHIN 10-FEET OF THE PERIMETER OF THE FOUNDATION SYSTEM TO ALLOW SURFACE WATER TO DRAIN AWAY.
- DO NOT PLACE FILL OR CONCRETE ON FROZEN GROUND.
- BUILDING SLABS, SUMP BASE SLAB AND EQUIP BASE SLAB SHALL BEAR ON 4, MIN COMPACTED GRANULAR FILL.
- MINIMUM FROST DEPTH SHALL BE 3'-6".

CAST-IN-PLACE CONCRETE AND REINFORCEMENT:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 318.
- CONCRETE SHALL HAVE THE FOLLOWING 28-DAY COMPRESSIVE STRENGTHS:
CAST-IN-PLACE CONCRETE: 5,000 PSI
FILL CONCRETE: 1,500 PSI
- USE 6% ±1.5% ENTRAINED AIR PER ASTM C260 FOR ALL CONCRETE EXPOSED TO WEATHER.
- ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60. ALL REINFORCING TO BE WELDED SHALL CONFORM TO ASTM A706.
- ADMIXTURES SHALL CONTAIN NO MORE THAN 0.05% CHLORIDE IONS BY WEIGHT OF CEMENT WHEN TESTED IN ACCORDANCE WITH AASHTO T260.
- CONTRACTOR SHALL KEEP A COPY OF "FIELD REFERENCE MANUAL: STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE ACI 301 WITH SELECTED ACI REFERENCES", (ACI PUBLICATION SP-15) AT THE PROJECT FIELD OFFICE.
- ALL REINFORCING DETAILS SHALL CONFORM TO THE ACI DETAILING MANUAL, SP-66, UNLESS DETAILED OTHERWISE ON THE STRUCTURAL DRAWINGS.

- SUBMIT FOR APPROVAL CONCRETE MIX DESIGN AND CERTIFICATION OF CONCRETE MATERIALS CONFORMING TO THE FOLLOWING EXPOSURE CATEGORIES:
CATEGORY: FREEZE AND THAWING CLASS: FT
- SUBMIT SHOP DRAWINGS FOR REVIEW. THESE DRAWINGS SHALL SHOW ALL CONCRETE MEMBER DIMENSIONS.
- PROVIDE CLASS "B" TENSION LAP SPLICE OR FULL MECHANICAL SPLICE (ACI 318, SECT. 12.14.3) FOR ALL VERTICAL STEEL IN WALLS, COLUMNS, AND SLABS.
- PROVIDE ADEQUATE BOLSTERS, HI-CHAIRS, SUPPORT BARS, ETC., TO MAINTAIN SPECIFIED CLEARANCES FOR THE ENTIRE LENGTH OF ALL REINFORCING BARS. SUPPORTS THAT BEAR DIRECTLY ON EXPOSED SURFACES SHALL BE STAINLESS STEEL.
- ALL SLABS SHALL BE POURED MONOLITHICALLY, EXCEPT FOR THE REQUIRED CONSTRUCTION JOINTS.
- PROVIDE 3/4 INCH CHAMFER ON ALL EXPOSED CORNERS OF SLABS, COLUMNS, BEAMS AND WALLS UNLESS OTHERWISE INDICATED ON THE ARCHITECTURAL DRAWINGS. MINIMUM CLEARANCES FOR REINFORCING STEEL SHALL BE MAINTAINED.
- CURE ALL CONCRETE FOR A MINIMUM 7-DAYS. APPLY CURING COMPOUND AT THE MAXIMUM COVERAGE RATE OF 300 SQUARE FEET PER GALLON. USE PRODUCT IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SEE SPECIFICATIONS.
- CONTRACTOR SHALL SUBMIT PROPOSED LOCATIONS OF CONSTRUCTION JOINTS NOT INDICATED ON THE DRAWINGS FOR REVIEW BY THE ENGINEER/ARCHITECT.
- ALL ALUMINUM IN CONTACT WITH CONCRETE OR DISSIMILAR METALS SHALL BE COATED WITH GRAY EPOXY PRIMER, APPROVED BY THE ENGINEER.
- FORMWORK, FOR ALL CONCRETE THAT WILL BE EXPOSED IN THE COMPLETED STRUCTURE, SHALL BE CONSTRUCTED FROM A METAL OR SUITABLE SURFACE PLYWOOD THAT WILL PRODUCE AN ACCEPTABLY SMOOTH SURFACE. SEE SPECIFICATIONS.
- CONCRETE PROTECTION (CLEAR COVER) FOR REINFORCEMENT BARS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:
 - 3 INCHES, BOTTOM AND UNFORMED EDGES
 - 2 INCHES, FORMED EDGES
 - 2 INCHES, EXPOSED TO EARTH, WATER OR WEATHER
 - 2 INCHES, BOTTOM, ON CONCRETE MUDMAT
- ALL HOOKS SHALL BE ACI STANDARD HOOKS UNLESS DIMENSIONED OTHERWISE.

STRUCTURAL STEEL:

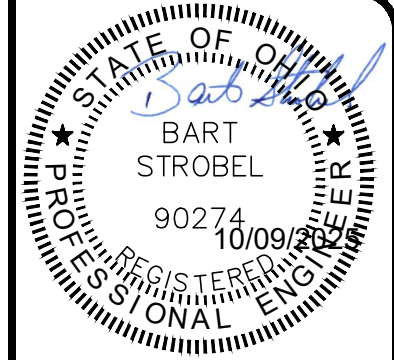
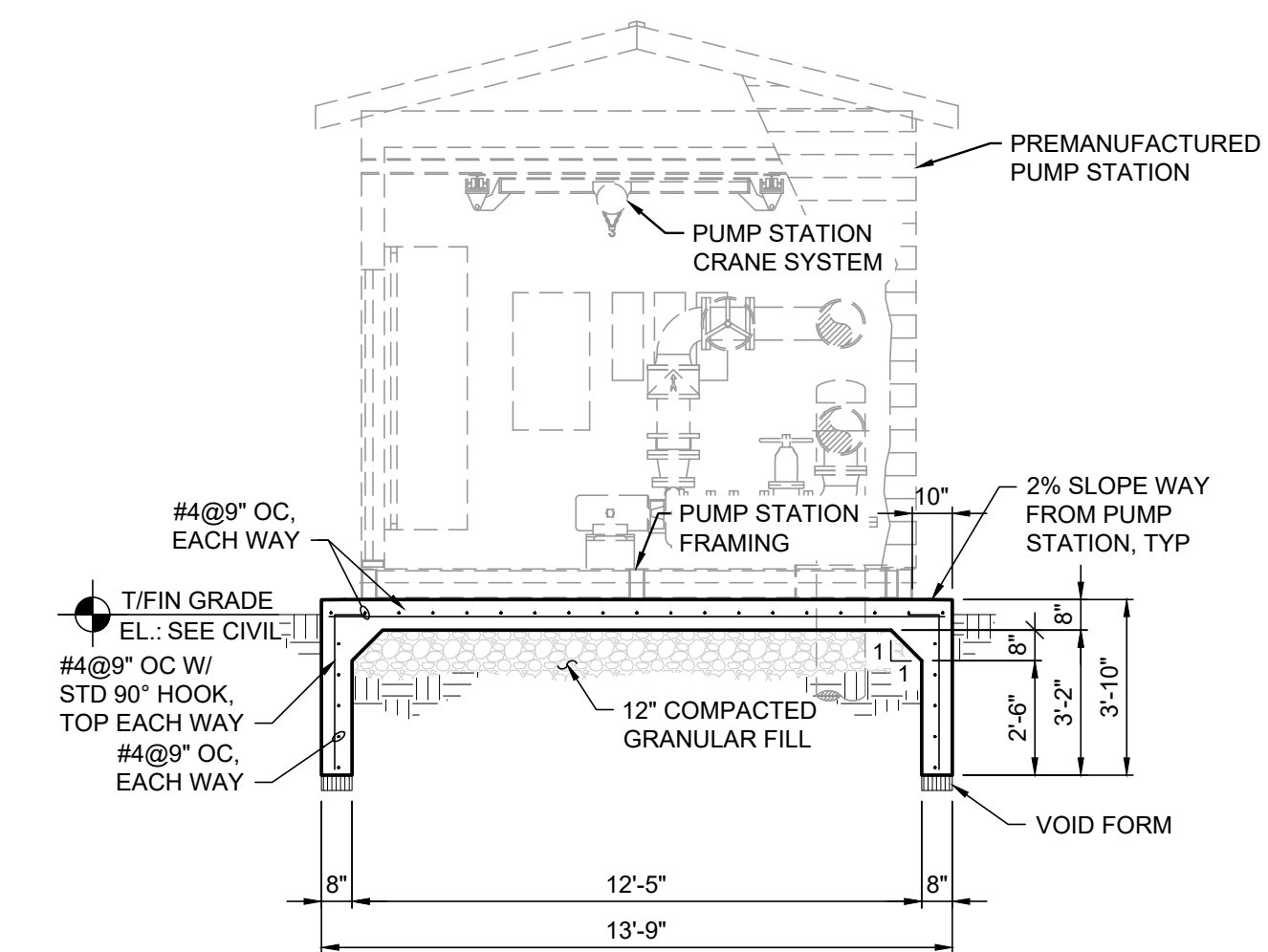
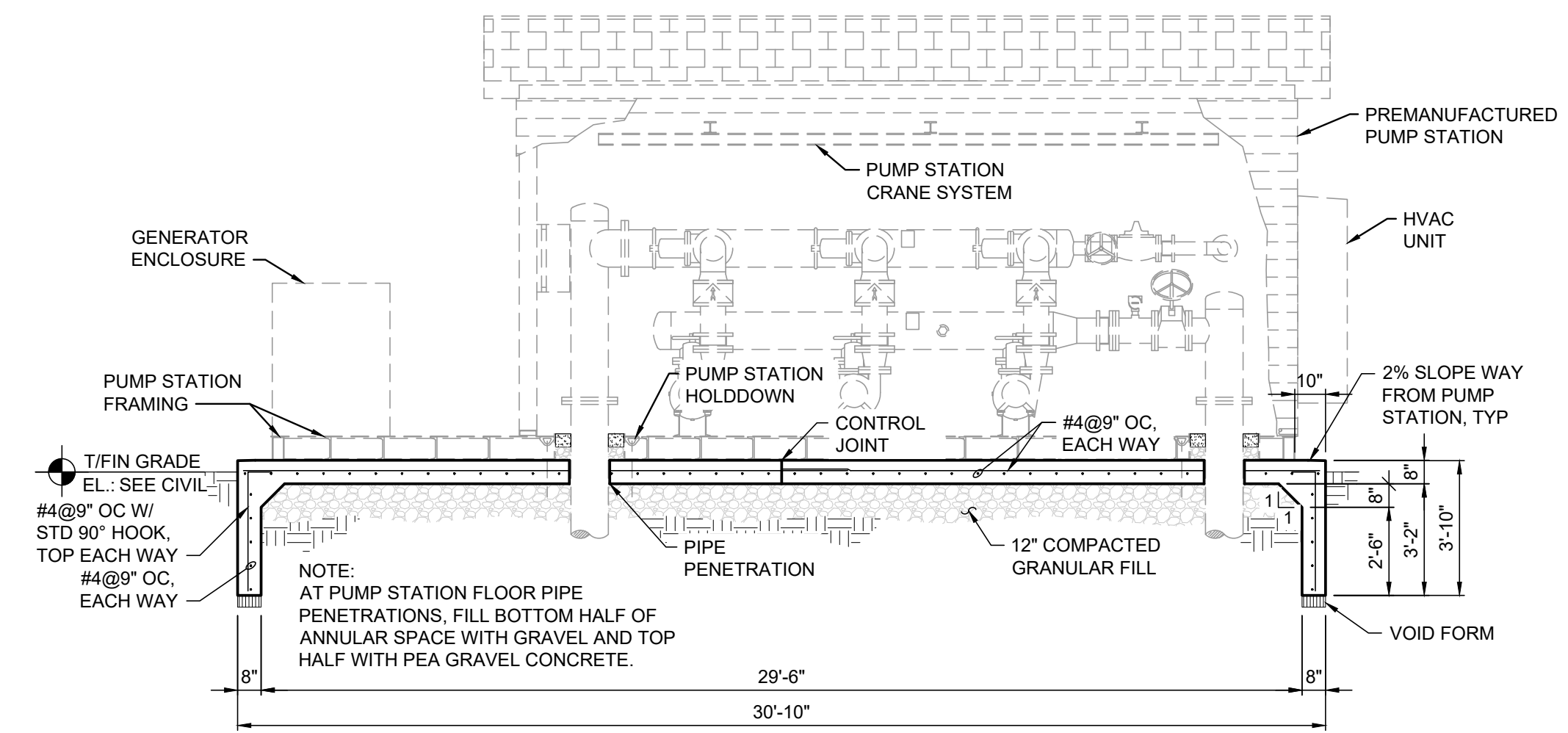
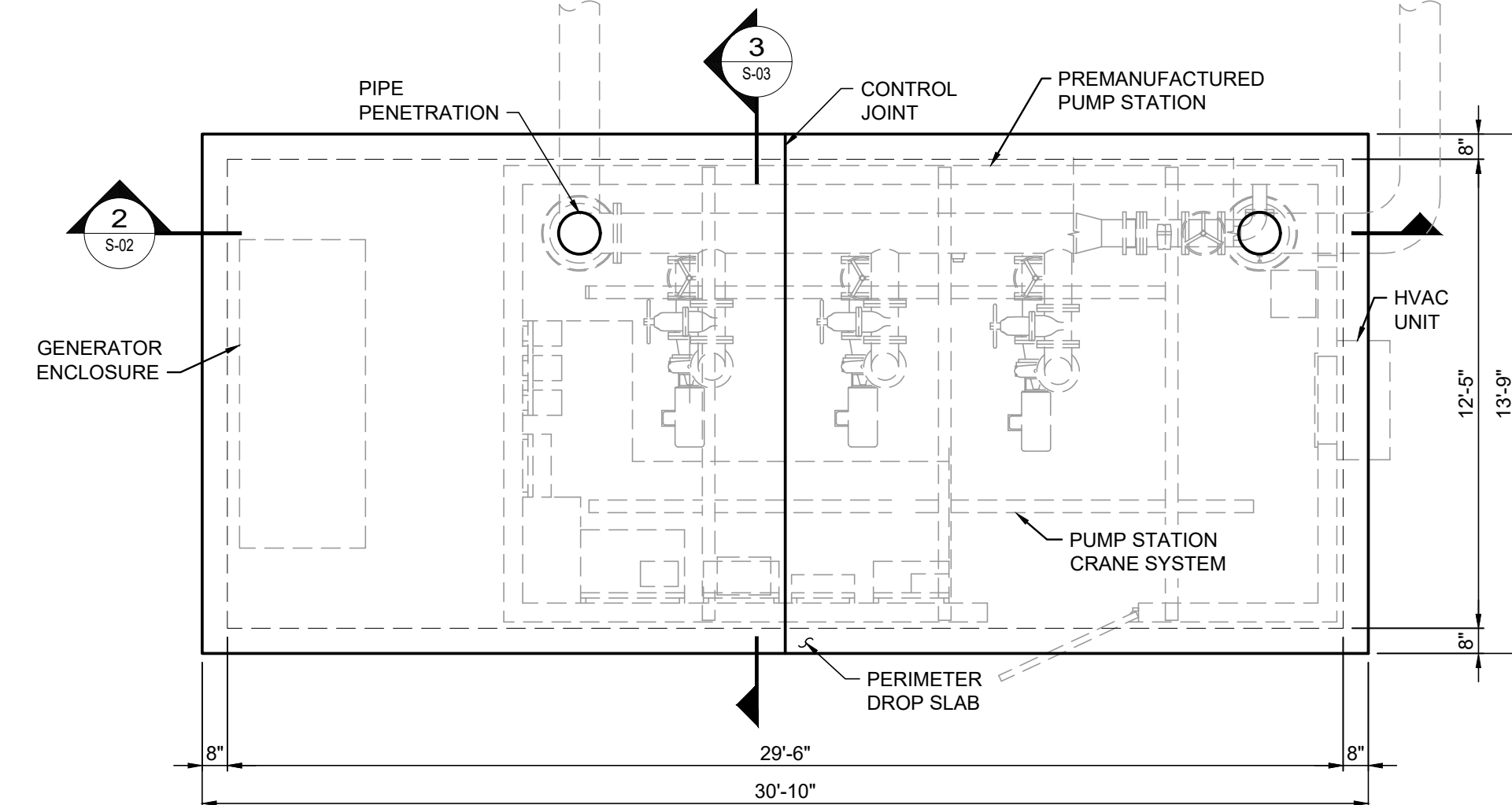
- STRUCTURAL STEEL WORK SHALL CONFORM TO THE "STEEL CONSTRUCTION MANUAL, AISC 360."
- STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE NOTED:
a. ANGLES, PLATES, RODS, ETC.: ASTM A36
b. ANCHOR RODS: ASTM F1554, GRADE 36
- WELDED CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN WELDING SOCIETY, AWS D1.1. WELDING ELECTRODE MATERIAL SHALL BE E70XX.
- MINIMUM WELDS, WHERE NOT SHOWN ON DRAWINGS, SHALL BE 3/16 INCH FILLET WELD, ALL AROUND.
- ALL STEEL AND CORRESPONDING CONNECTIONS EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123 AND A153, RESPECTIVELY.
- ALL STEEL, AND ANCHOR RODS THAT WILL BE GALVANIZED, ENCASED IN CONCRETE, OR RECEIVE SPRAYED ON FIREPROOFING SHALL NOT BE PAINTED.
- GROUT SHALL BE NON-METALLIC, SHRINK RESISTANT GROUT CONFORMING TO ASTM C1107.
- PROVIDE HARDENED STEEL WASHERS CONFORMING TO ASTM F436 AND HEAVY HEX NUTS ON ANCHOR RODS.

PRE-ENGINEERED METAL BUILDING DESIGNS:

- PRE-ENGINEERED BUILDING IS AN EXISTING STRUCTURE THAT IS BEING RELOCATED TO A NEW SITE. THE STRUCTURAL DRAWING ARE LIMITED TO THE NEW FOUNDATION AND SLAB. HOLDOWN DETAIL ARE BASED ON THE ORIGINAL CONSTRUCTION DOCUMENTS.

POST-INSTALLED FASTENERS:

- POST-INSTALLED ANCHORS SHALL BE USED ONLY WHERE SPECIFIED ON THE STRUCTURAL DRAWINGS.
- ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION IS REQUIRED FOR ALL INSTALLERS OF ADHESIVE ANCHORS IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATION. THIS CERTIFICATION CAN BE OBTAINED THROUGH ACI OR APPROVED EQUIVALENT.
- FASTENERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING IN COORDINATION WITH INFORMATION HEREIN. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED IF CONFLICTS EXIST BETWEEN THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS AND THE REQUIREMENTS HEREIN.
- REINFORCEMENT STEEL SHALL NOT BE CUT. PRIOR TO DRILLING THE CONCRETE, THE REINFORCEMENT SHALL BE LOCATED WITH A MAGNETIC BAR LOCATOR. POST-INSTALLED BOLTS AND FASTENERS SHALL BE INSTALLED TO MISS REINFORCEMENT STEEL IN CONCRETE. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS.
- DRILL HOLES USING ROTARY PERCUSSION DRILL WITH A DEPTH GAGE. DO NOT DRILL THROUGH FULL THICKNESS OF CONCRETE. USE OF A DIAMOND CORE BIT WITH ROUGHENING TOOL FOR ANCHOR HOLES MUST BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO DRILLING. UNLESS OTHERWISE SHOWN IN THE DRAWINGS, ALL HOLES SHALL BE DRILLED PERPENDICULAR TO THE CONCRETE SURFACE. CLEAN HOLES IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. IF CONCRETE IS DAMP, BLOW DRY HOLE WITH OIL-FREE COMPRESSED AIR. CLEAN HOLE WITH WATER ONLY IF RECOMMENDED BY MANUFACTURER. ADHESIVE ANCHORS MAY NOT BE SET IF WATER IS SEEPING INTO HOLE AND THE STRUCTURAL ENGINEER, OF RECORD SHALL BE NOTIFIED.
- ANCHOR SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE SUBMITTED AND APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE DOCUMENTATION DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF MEETING THE PERFORMANCE OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR ITS USE, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE, INSTALLATION TEMPERATURE, MOISTURE CONDITION OF CONCRETE, AND DRILLING METHODS.
- THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL ANCHOR PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF ANCHOR INSTALLATION.
- ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS. CONTRACTOR SHALL CONTACT STRUCTURAL ENGINEER SHOULD THE LAYOUT OF THE ANCHOR, EMBEDMENT, SPACING OR EDGE DISTANCES, IS MODIFIED.
- EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES:
 - ANCHORAGE TO CONCRETE:
 - ADHESIVE ANCHORS:
 - HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HIT-Z ROD
 - HILTI HIT-HY 200 SAFE SET SYSTEM INSTALLED USING HILTI HOLLOW DRILL BIT AND VACUUM WITH HAS-V-36 GRADE 36 THREADED ROD
 - HILTI HIT-RE 500/3 SAFE SET SYSTEM INSTALLED USING HILTI HOLLOW DRILL BIT AND VACUUM WITH HAS THREADED ROD
 - SIMPSON SET-XP WITH ASTM A36 THREADED ROD



verdantas

904-2 SAHARA TRAIL
YOUNGSTOWN, OHIO 44514

DATE	REVISION	NO	REVIEW	ISSUED FOR
			10/09/2025	
			AS SHOWN	
			BAS	
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THE VILLAGE OF LORDSTOWN
SALT SPRINGS ROAD WATER BOOSTER
STATION UPGRADE AND RELOCATION
TRUMBULL COUNTY LORDSTOWN, OH

BOOSTER STATION FOUNDATION
NOTES AND SECTIONS

PROJECT NO.	231265
DISCIPLINE	STRUCTURAL
SHEET NAME	S-01
SHEET	OF
12	19

STRUCTURAL NOTES (CONT.)

- E. SIMPSON SET-XP INSTALLED USING SIMPSON SPEED CLEAN DXS SYSTEM WITH ASTM A36 THREADED ROD
- F. APPROVED EQUAL

SPECIAL INSPECTIONS:

PER THE OBC SECTION 1705, SPECIAL INSPECTIONS ARE REQUIRED FOR THE FOLLOWING ITEMS:

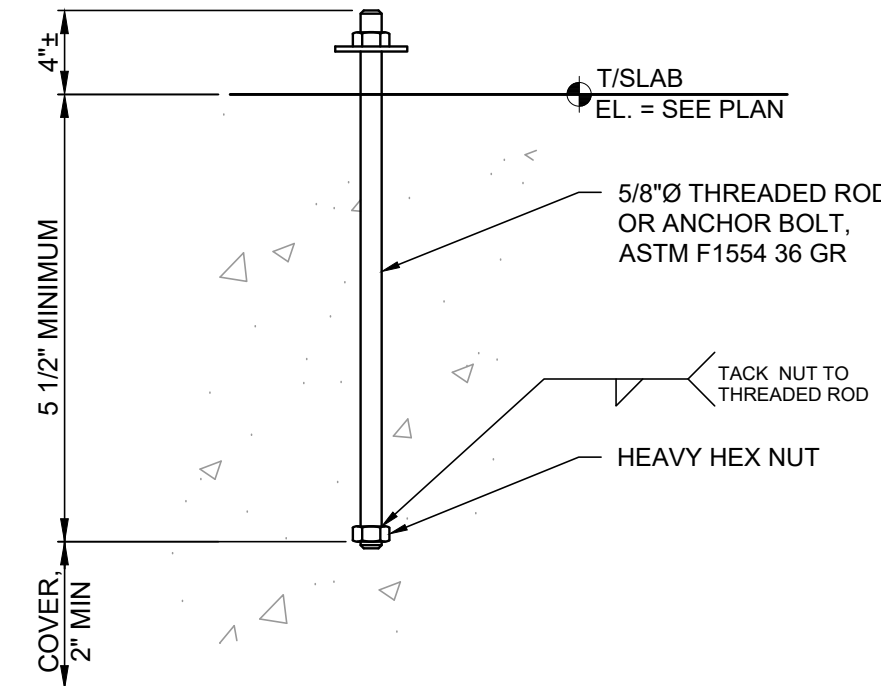
1. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:
 - a. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK DESIGNATED TO ASSURE IT IS CONSTRUCTED IN CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS.
 - b. THE SPECIAL INSPECTOR SHALL SUBMIT INSPECTION REPORTS AND TESTS TO THE BUILDING OFFICIAL AND REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
 - c. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.
 - d. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND TESTS, AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS OR TESTS, SHALL BE SUBMITTED WITHIN THE AGREED UPON TIME TO THE BUILDING OFFICIAL PRIOR TO THE START ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
 - e. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A STATEMENT OF RESPONSIBILITY ACKNOWLEDGING THE AWARENESS OF THE SPECIAL INSPECTION REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS.

2. STRUCTURAL STEEL:

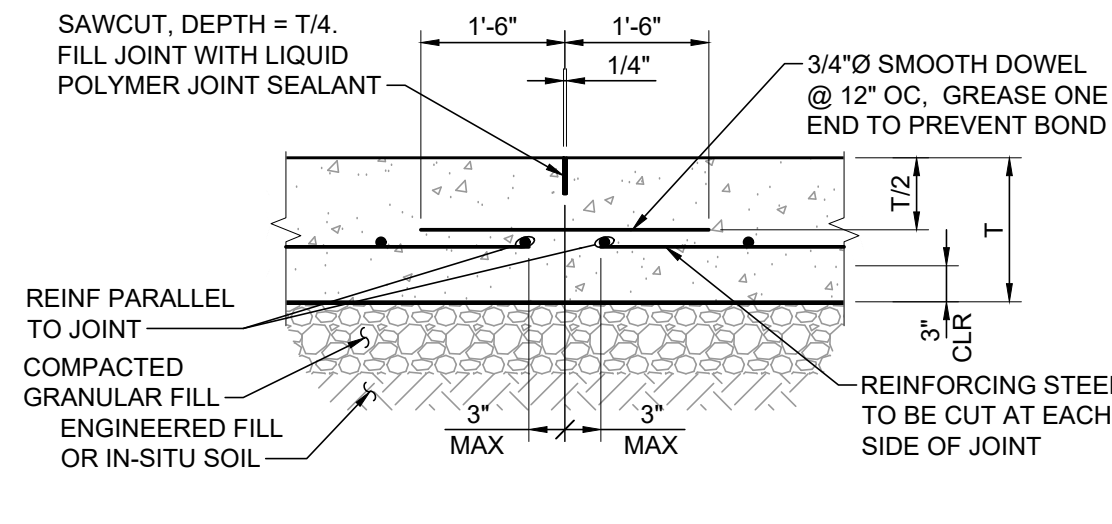
- a. PRIOR TO WELDING:
 - WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS. (PERIODIC)
 - WELDING PROCEDURE SPECIFICATION (WPS) AVAILABLE. (CONTINUOUS)
 - MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE. (CONTINUOUS)
 - MATERIAL IDENTIFICATION -TYPE/GRADE (PERIODIC)
 - WELDER IDENTIFICATION SYSTEM MAINTAINED BY FABRICATOR OR ERECTOR TO IDENTIFY WHICH WELDER HAS WELDED A JOINT OR MEMBER. (PERIODIC)
 - CONFIGURATION AND FINISH OF ACCESS HOLES (PERIODIC)
 - FIT UP OF FILLET WELDS (PERIODIC)
 - A. DIMENSIONS (ALIGNMENT, GAPS AT ROOT)
 - B. CLEANLINESS (CONDITION OF STEEL SURFACES)
 - C. TACKING (TACK WELD QUALITY AND LOCATION)
 - CHECK WELDING EQUIPMENT
- b. DURING WELDING
 - CONTROL AND HANDLING OF WELDING CONSUMABLES (PERIODIC)
 - A. PACKAGING
 - B. EXPOSURE CONTROL
 - NO WELDING OVER CRACKED TACK WELDS (PERIODIC)
 - ENVIRONMENTAL CONDITIONS (PERIODIC)
 - A. WIND SPEED WITHIN LIMITS
 - B. PRECIPITATION AND TEMPERATURE
 - WPS FOLLOWED (PERIODIC)
 - A. SETTINGS ON WELDING EQUIPMENT
 - B. TRAVEL SPEED
 - C. SELECTED WELDING MATERIALS
 - D. SHIELDING GAS TYPE/FLOW RATE
 - E. PREHEAT APPLIED
 - F. INTERPASS TEMPERATURE MAINTAINED (MIN/MAX)
 - G. PROPER POSITION (F, V, H, OH)
 - WELDING TECHNIQUES (PERIODIC)
 - A. INTERPASS AND FINAL CLEANING
 - B. EACH PASS WITHIN PROFILE LIMITATIONS
 - C. EACH PASS MEETS QUALITY REQUIREMENTS
 - PLACEMENT AND INSTALLATION OF STEEL HEADED STUDS. (CONTINUOUS)
- c. AFTER WELDING:
 - WELDS CLEANED (PERIODIC)
 - SIZE, LENGTH AND LOCATION OF WELDS (CONTINUOUS)
 - WELDS MEET VISUAL ACCEPTANCE CRITERIA (CONTINUOUS)
 - A. CRACK PROHIBITION
 - B. WELD/BASE-METAL FUSION
 - C. CRATER CROSS-SECTION
 - D. WELD PROFILES
 - E. WELD SIZE
 - F. UNDERCUT POROSITY
 - ARC STRIKES (CONTINUOUS)
 - k-AREA (CONTINUOUS)
 - WELD ACCESS HOLES IN ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES (CONTINUOUS)
 - BACKING REMOVED AND WELD TABS REMOVED, IF REQUIRED (CONTINUOUS)
 - REPAIR ACTIVITIES (CONTINUOUS)
 - DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER (CONTINUOUS)
 - NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD (PERIODIC)
- d. PRIOR TO BOLTING:
 - MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS (CONTINUOUS)
 - FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS (PERIODIC)
 - CORRECT FASTENER SELECTED FOR THE JOINT DETAIL INCLUDING GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE (PERIODIC)
 - CORRECT BOLTING PROCEDURE SELECTED FOR JOINT DETAIL. (PERIODIC)
 - CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS (PERIODIC)
 - PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED. (PERIODIC)
 - PROTECTED STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS (PERIODIC)
- e. DURING BOLTING:
 - FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS AND NUTS ARE POSITIONED AS REQUIRED. (PERIODIC)
 - JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRE-TENSIONING OPERATION (PERIODIC)
 - FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING. (PERIODIC)
 - FASTENERS ARE PRE-TENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES. (PERIODIC)
- f. AFTER BOLTING:
 - DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS. (CONTINUOUS)
- g. INSPECTION OF GALVANIZED STRUCTURAL STEEL MAIN MEMBERS AND EXPOSED CORNERS OF RECTANGULAR HSS FOR CRACKS SUBSEQUENT TO GALVANIZING (PERIODIC)
- h. SPECIAL INSPECTIONS ARE NOT REQUIRED FOR WORK DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTIONS. APPROVAL SHALL BE BASED UPON REVIEW OF THE FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATOR PRACTICES BY A BOARD RECOGNIZED INDUSTRY TRADE ASSOCIATION CERTIFICATION PROGRAM OR A BOARD RECOGNIZED FABRICATOR INSPECTION AGENCY.

7. SOILS:

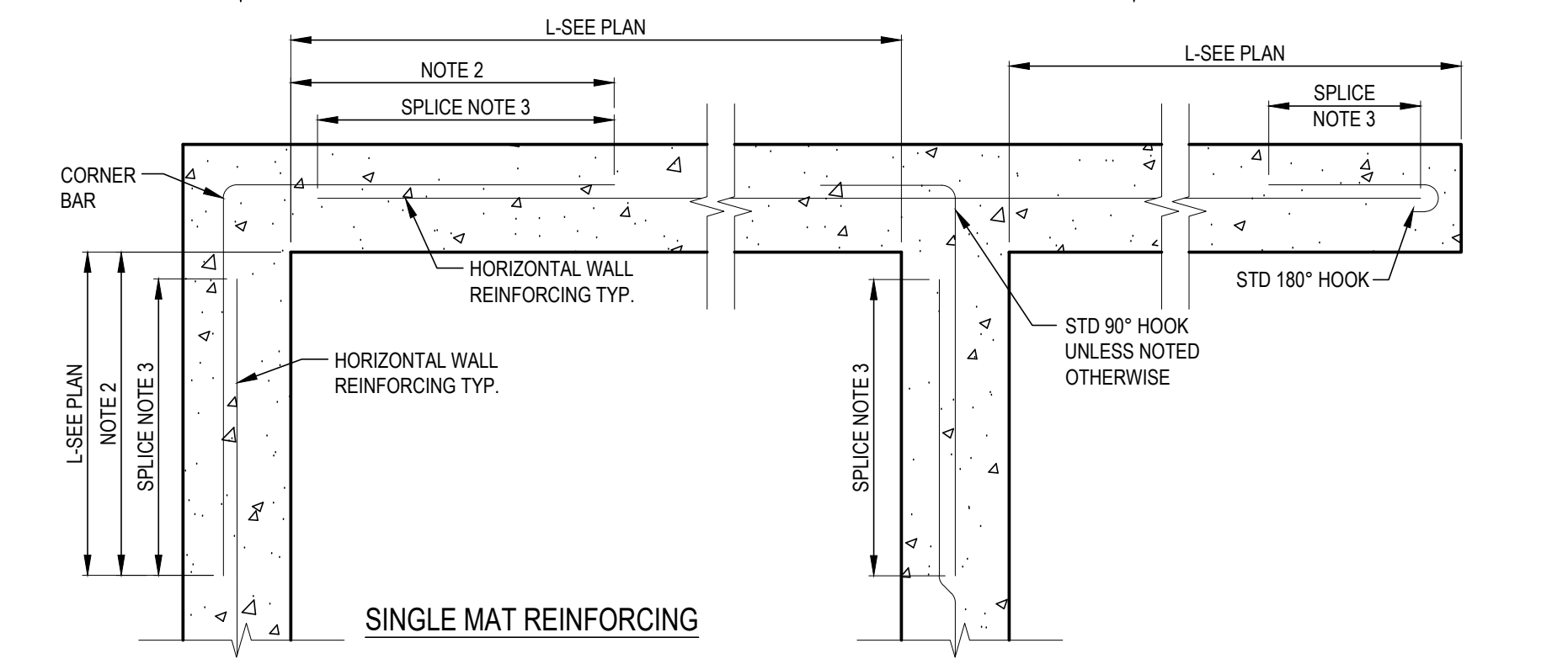
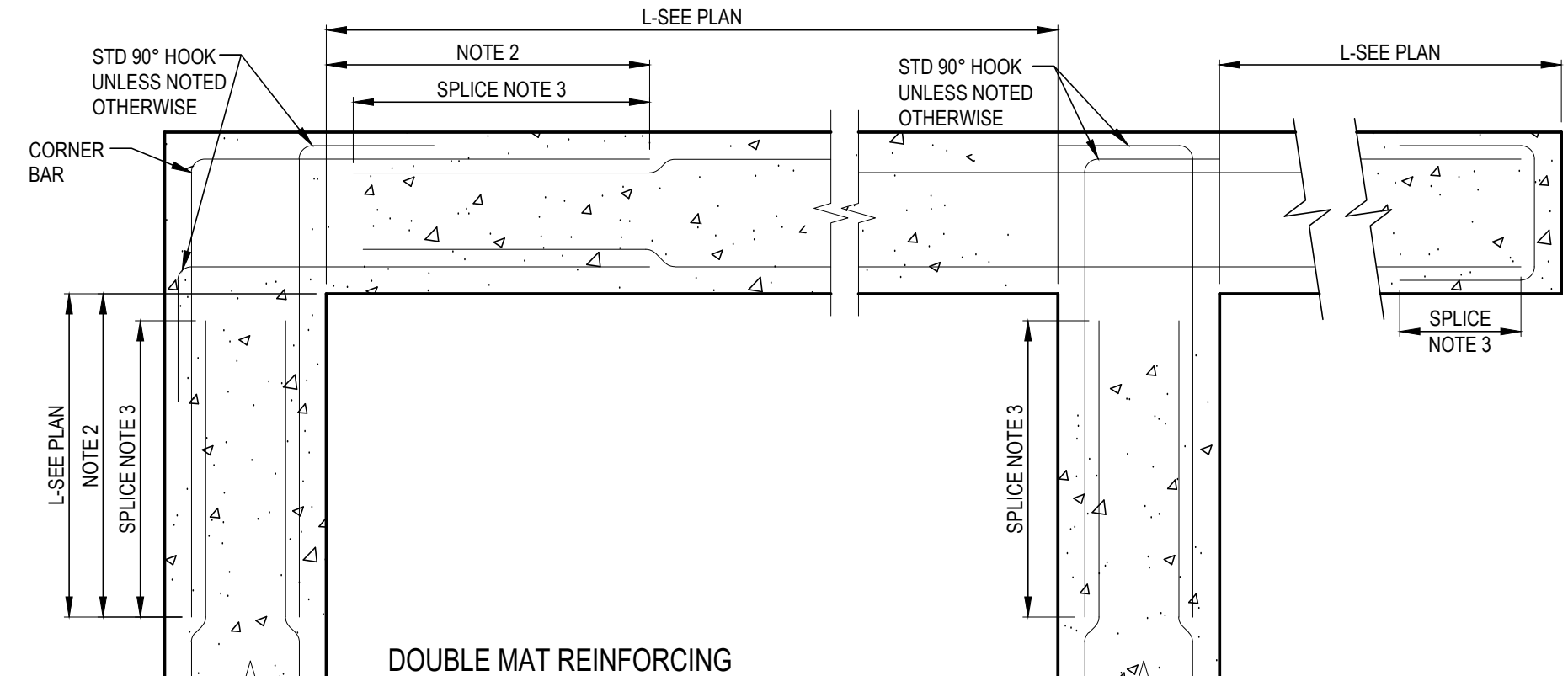
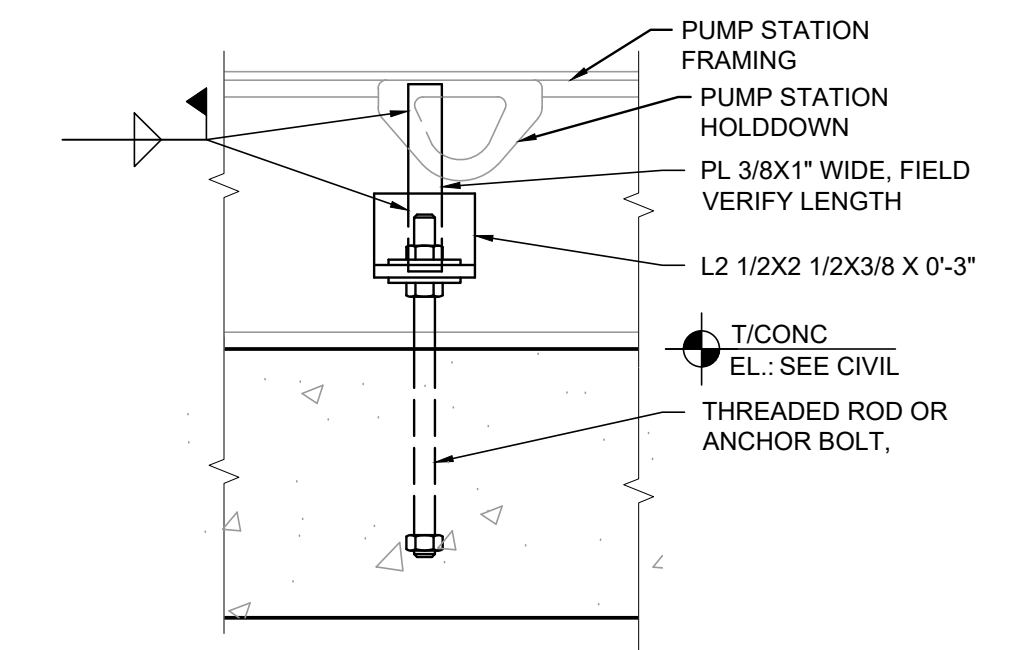
- a. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY. (PERIODIC)
- b. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL. (PERIODIC)
- c. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS. (PERIODIC)
- d. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL. (CONTINUOUS)
- e. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT THE SITE HAS BEEN PROPERLY PREPARED. (PERIODIC)



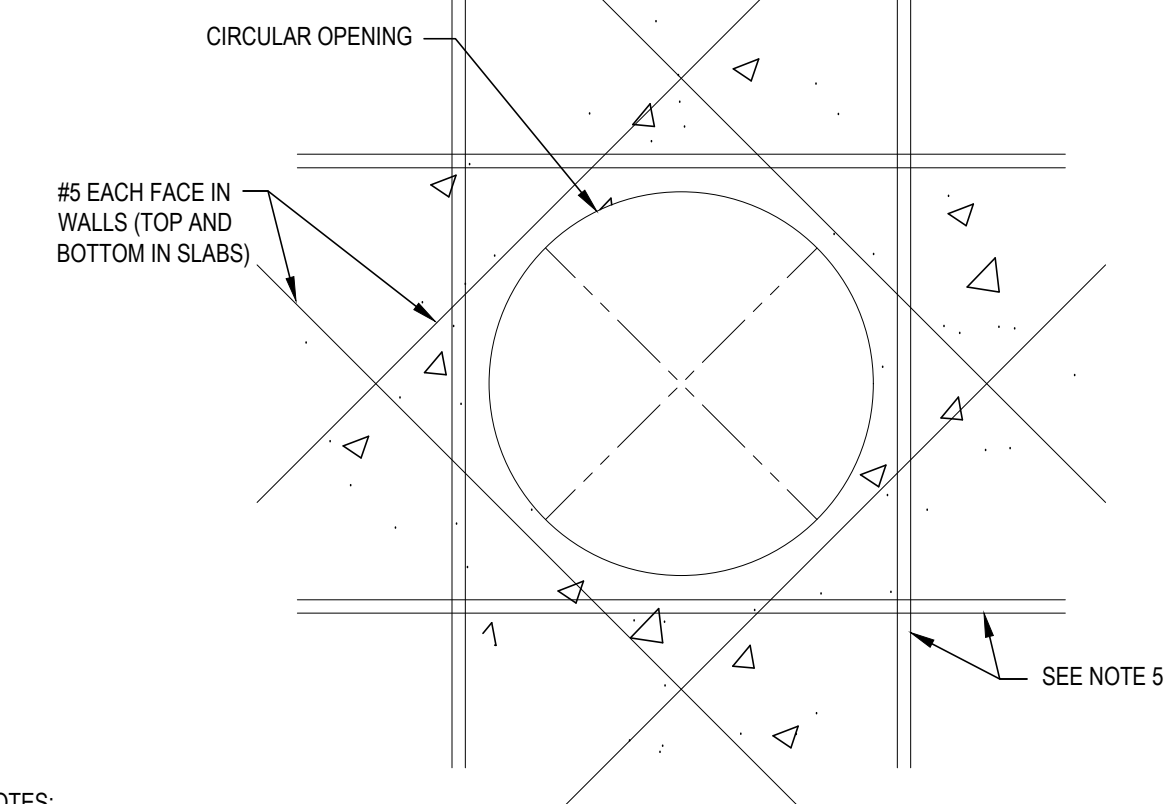
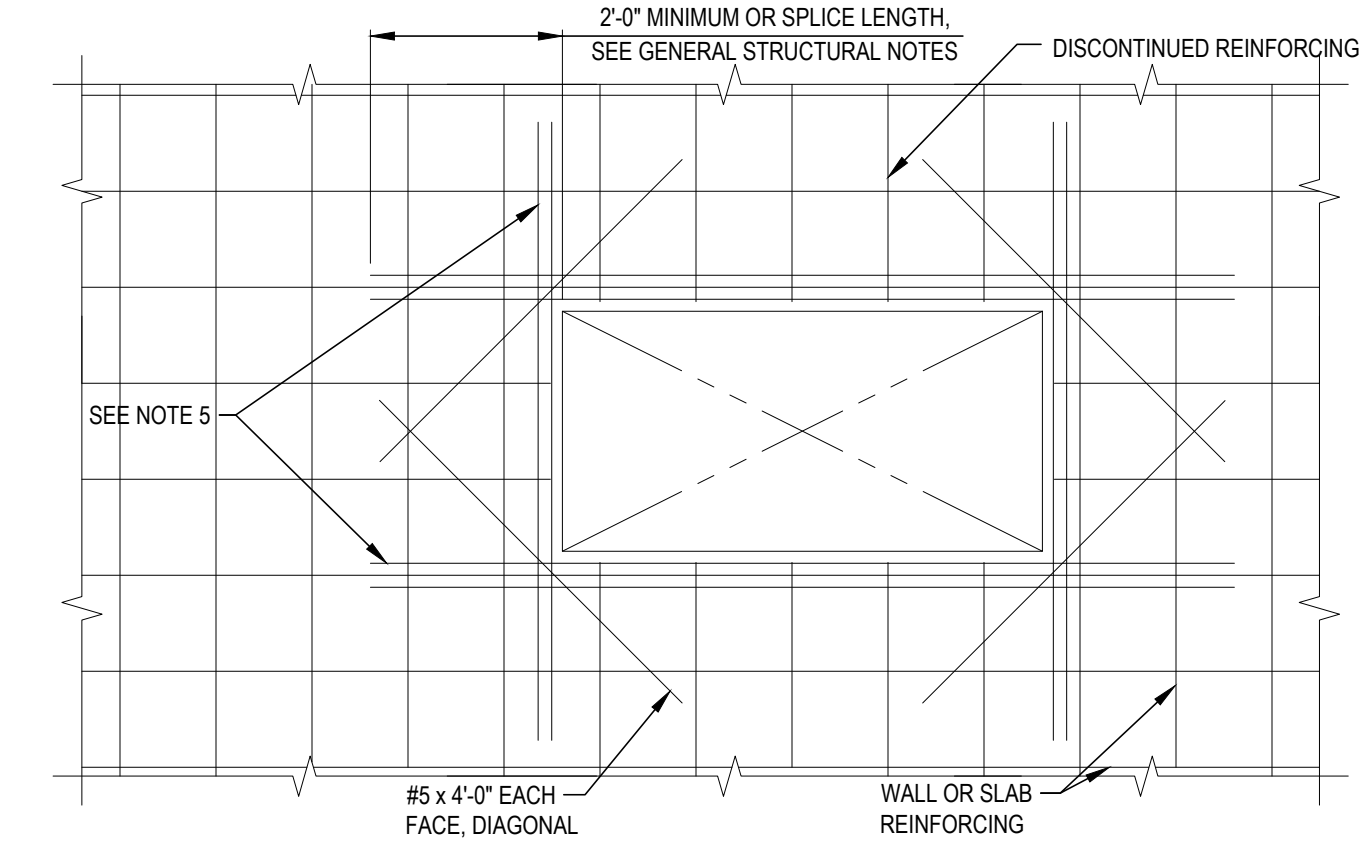
- NOTES:
1. FIELD VERIFY LOCATION OF ALL PUMP STATION HOLDDOWN AND ANCHOR POINTS. LOCATE CONCRETE ANCHORS AT HOLDDOWN AND ANCHOR POINTS.
 2. USE HEAD BOLTS OR TACK WELD NUT.
 3. AT OVERSIZED BASE PLATE HOLES, USE PLATE WASHERS. AFTER INSTALLATION, WELD PLATE WASHERS TO NUTS.
 4. DO NOT USE 'J' BOLTS. 'J' BOLTS ARE NOT ACCEPTABLE



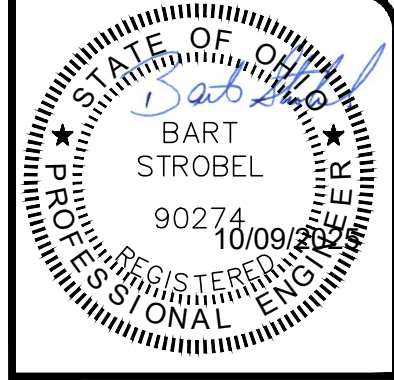
- NOTES:
1. REINFORCING STEEL SHALL BE SUPPORTED INDEPENDENTLY FROM DOWELS.
 2. SAW CUT JOINT INTO SLAB AS SOON AS CONCRETE IS FIRM ENOUGH THAT THE CUTTING ACTION WILL NOT TEAR, ABRASE, OR OTHERWISE DAMAGE SURFACE AND BEFORE CONCRETE DEVELOPS RANDOM CONTRACTION CRACKS.
 3. AS A CONTRACTOR'S OPTION, A DOWEL BASKET ASSEMBLY WITH LOAD PLATE MAY BE USED IN LIEU OF A GREASED DOWEL.



- NOTES:
1. UNLESS NOTED OTHERWISE, SIZE AND SPACING OF CORNER OR INTERSECTION REINFORCING SHALL MATCH HORIZONTAL REINFORCING SHOWN IN SPECIFIC SECTIONS OR DETAILS. VERTICAL REINFORCING NOT SHOWN FOR CLARITY.
 2. UNLESS NOTED OTHERWISE, BAR SPLICE SHALL BE LOCATED OUTSIDE OF CORNER OR INTERSECTION AREA TO AVOID CONGESTION. CONTRACTORS OPTION TO PROVIDE SINGLE BENT BAR IN LIEU OF SPLICE CONFIGURATION AT ONE END ONLY.
 3. SEE GENERAL STRUCTURAL NOTES FOR SPLICE LENGTH.



- NOTES:
1. THIS DETAIL APPLIES TO UP TO 3'-0\"/>
 2. AT OPENINGS 12\"/>
 3. OPENINGS ARE NOT ALL SHOWN ON STRUCTURAL DRAWINGS. PROVIDE OPENINGS IN ACCORDANCE WITH ARCHITECTURAL, MECHANICAL AND OTHER CONTRACT DRAWINGS.
 4. ADDITIONAL REINFORCEMENT MAY BE OMITTED ONLY WHERE OPENING IS FRAMED BY BEAMS OR WALLS.
 5. ADDITIONAL REINFORCING (4) SIDES OF OPENING EQUAL TO NUMBER AND SIZE OF DISCONTINUOUS REINFORCING. WHERE AN ODD NUMBER OF REBAR ARE DISCONTINUOUS, PROVIDE (ODD NO. +1)/2 EACH SIDE OF OPENING.



NO	REVISION	DATE

ISSUED FOR:	REVIEW:	NO
ISSUE DATE: 10/09/2025	10/09/2025	
SCALE: AS SHOWN	AS SHOWN	
DESIGNED BY: BAS	BAS	
DRAWN BY: BAS	BAS	
CHECKED BY: BAS	BAS	

THE VILLAGE OF LORDSTOWN
SALT SPRINGS ROAD WATER BOOSTER
STATION UPGRADE AND RELOCATION
 TRUMBULL COUNTY
BOOSTER STATION FOUNDATION
DETAILS

PROJECT NO.	231265
DISCIPLINE	STRUCTURAL
SHEET NAME	S-02
SHEET	13
OF	19

1. SCOPE OF WORK

1.1 THE WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THESE GENERAL NOTES, CONSTRUCTION DRAWINGS AND CONTRACT DOCUMENTS. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, TOOLS, LABOR, SUPERVISION AND ANY OTHER MISCELLANEOUS ITEMS REQUIRED TO INSTALL THE EQUIPMENT AND/OR DEVICES AS SPECIFIED HEREIN AND SHOWN ON THE DRAWINGS, UNLESS SPECIFICALLY EXCLUDED. THE EQUIPMENT OR DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE NEC, THE MFR'S INSTRUCTIONS AND ACCORDING TO PLANS AND DRAWINGS PROVIDED. WRITTEN APPROVAL FROM THE AUTHORIZED COMPANY REPRESENTATIVE SHALL BE OBTAINED PRIOR TO MAKING ANY DEVIATION FROM THE DRAWINGS OR ANY SUBSTITUTION OF MATERIALS. IF SUCH PRIOR APPROVAL HAS NOT BEEN OBTAINED, IT WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CHANGE, WITHOUT ADDITIONAL COMPENSATION, ANY ITEMS SUBSEQUENTLY DISCOVERED TO BE UNACCEPTABLE.

1.2 THE CONTRACTOR SHALL PROVIDE THE INSTALLATION, INTERCONNECTION AND TESTING OF COMPLETE AND OPERABLE SYSTEMS.

1.3 INCLUDED IN THIS WORK IS THE FURNISHING, BY THE CONTRACTOR, OF OFFICE MATERIAL, EQUIPMENT STORAGE AND SHOP FACILITIES FOR THE CONSTRUCTION WORK DURING THE ENTIRE CONSTRUCTION PERIOD. CAPACITY, ARRANGEMENTS AND LOCATION OF THESE FACILITIES ARE SUBJECT TO APPROVAL BY THE CONSTRUCTION MANAGER AND SHALL COMPLY WITH APPLICABLE CODES AND REGULATIONS.

1.4 TO ENABLE ORDERLY REVIEW DURING PROGRESS OF THE WORK, AND TO PROVIDE FOR SYSTEMATIC DISCUSSION OF PROBLEMS, THE CONSTRUCTION MANAGER WILL CONDUCT PROJECT MEETINGS THROUGHOUT THE CONSTRUCTION PERIOD. THE CONTRACTOR WILL BE EXPECTED TO ATTEND THESE MEETINGS.

1.5 THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ON THE PROJECT REQUIRED TO BE PERFORMED BY ELECTRICIANS, INCLUDING THAT DUE TO JURISDICTION AND/OR LOCAL PRACTICES.

1.6 THE CONTRACTOR SHALL EMPLOY QUALIFIED ELECTRICAL WORKERS, AND LABORERS TO PERFORM THE WORK TO BE DONE.

1.7 THE CONTRACTOR SHALL PROVIDE ALL TOOLS, CONSTRUCTION EQUIPMENT, TEST EQUIPMENT, AND TESTING FACILITIES AND SHALL MAKE TESTS AND KEEP RECORDS AS SPECIFIED HEREIN.

1.8 THE CONTRACTOR SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES, PERMANENT FACILITY PERSONNEL, AND THE CONSTRUCTION MANAGER. COORDINATION SHALL ALLOW WORK TO BE INSTALLED IN THE MOST DIRECT MANNER AND SO INTERFERENCE BETWEEN CONDUITS, PIPING, DUCTS, EQUIPMENT, AND STRUCTURAL FEATURES WILL BE AVOIDED.

1.9 CABLE TRAY AND RACEWAY ROUTING.

1.9.a EQUIPMENT, INSTRUMENTS, DEVICES, PANELS AND JUNCTION BOXES LOCATIONS ARE SHOWN ON THE ELECTRICAL LAYOUT DRAWINGS.

1.9.b ONLY THE GENERAL CABLE OR RACEWAY TRAY ROUTING PLANS ARE SHOWN ON THE ELECTRICAL LAYOUT DRAWINGS. THE ROUTING FROM INDIVIDUAL ITEMS IS NOT DEPICTED ON THE DRAWINGS.

1.9.c THE DIFFERENT WIRING CLASSES AND WIRE ASSIGNED TO THEM (MEDIUM VOLTAGE POWER, LOW VOLTAGE POWER, CONTROL, INSTRUMENTATION) ARE ALL INDICATED ON THE DRAWING OR IN THE CABLE, CONDUIT AND WIRE SCHEDULE.

1.9.d IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE BEST CABLE TRAY OR RACEWAY ROUTING FOR ALL WIRES NOT SPECIFICALLY ROUTED, WHILE MAINTAINING THE WIRE CLASS SEGREGATION REQUIREMENTS OF THE NEC.

1.9.e THE CONTRACTOR SHALL PRESENT THE ROUTING PLAN TO THE CONSTRUCTION MANAGER FOR APPROVAL BEFORE PROCEEDING.

1.10 RUNS FROM OUTLETS REFERRED TO AS "HOME RUNS" MAY BE USED ON CONTRACTOR'S CONSTRUCTION DRAWINGS. THEY ARE INDICATED BY POINTING IN THE GENERAL DIRECTION OF PANELS. CONTRACTOR SHALL BE RESPONSIBLE TO CONTINUE SUCH CIRCUITS TO THE PANELS AS THOUGH THE ROUTES WERE COMPLETELY INDICATED. HOME RUNS SHALL BE INSTALLED FROM OUTLETS AS SHOWN ON CONTRACTOR'S DRAWINGS.

1.11 THE CONTRACTOR SHALL BECOME FAMILIAR WITH ALL DETAILS OF THE WORK AND VERIFY ALL DIMENSIONS IN THE FIELD SO THAT THE OUTLETS AND EQUIPMENT WILL BE PROPERLY LOCATED AND READILY ACCESSIBLE. LIGHTING FIXTURES, OUTLETS, AND OTHER EQUIPMENT AND MATERIALS SHALL BE LOCATED TO AVOID INTERFERENCE WITH CABINETS, MECHANICAL OR STRUCTURAL FEATURES. DEVIATIONS FROM DRAWINGS REQUIRED TO MAKE WORK OF THIS CONTRACT CONFORM TO BUILDING AS CONSTRUCTED, OR AS TO WORK OF OTHER CONTRACTORS, SHALL BE MADE BY THE CONTRACTOR AT HIS EXPENSE. THE ENGINEER RESERVES THE RIGHT TO MAKE MINOR CHANGES IN THE LOCATION OF EQUIPMENT AND OUTLETS PRIOR TO INSTALLATION WITHOUT ADDITIONAL CHARGES.

2. CONTRACT DOCUMENTS

2.1 THE CONTRACT DOCUMENTS SHALL CONSIST OF DRAWINGS, SPECIFICATIONS, AND OTHER DOCUMENTS ISSUED BY THE ENGINEER. EACH DOCUMENT IS COMPLEMENTARY, AND THE REQUIREMENTS SHOWN, WRITTEN OR REASONABLY INFERRABLE THERE FROM ONE DOCUMENT IS CONSIDERED AS WRITTEN, SHOWN OR IMPLIED IN ALL.

2.2 THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH ALL OF THE PLANS INCLUDING ARCHITECTURAL, LAYOUT, PIPING AND MECHANICAL PLANS. HE SHALL PERFORM ALL WORK AND PROVIDE ALL MATERIAL REQUIRED BY THE ELECTRICAL CONTRACTOR SHOWN UNDER THESE AND ALL OTHER SECTIONS OF THE PLANS AND SPECIFICATIONS.

2.3 THE CONTRACTOR SHALL MAINTAIN AN UP TO DATE SET OF AS-BUILT DRAWINGS NEATLY MARKED WITH ALL CHANGES (RED LINED) FROM THE ORIGINAL DESIGN. THESE DRAWINGS SHALL BE DELIVERED TO THE CONSTRUCTION MANAGER AT THE COMPLETION OF THE PROJECT PRIOR TO RECEIVING FINAL PAYMENT.

3. CODES AND STANDARDS

3.1 THE ELECTRICAL EQUIPMENT, MATERIALS AND INSTALLATION PROVIDED FOR THIS PROJECT SHALL CONFORM IN DESIGN, FABRICATION, TESTING AND PERFORMANCE, TO THE LATEST EDITION OF STANDARDS AND GUIDELINES PUBLISHED BY THE FOLLOWING ORGANIZATIONS WHERE APPLICABLE. THE LATEST EDITION OF THE STANDARDS, DOCUMENTS, AND PUBLICATIONS, REFERENCED HEREIN BY BASIC DESIGNATION SHALL BECOME PART OF THESE SPECIFICATIONS TO THE EXTENT REFERENCED.

- ANSI AMERICAN NATIONAL STANDARDS INSTITUTE
- FM FACTORY MUTUAL FM STANDARDS
- IEEE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
- NEC NATIONAL ELECTRICAL CODE
- NFPA NATIONAL FIRE PROTECTION ASSOCIATION STANDARDS
- NFPA 70 NATIONAL ELECTRIC CODE
- NFPA 70E STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE
- NFPA 72 NATIONAL FIRE ALARM CODE
- NEMA NATIONAL ELECTRICAL MFR'S ASSOCIATION
- UL UNDERWRITERS' LABORATORIES, INC.
- ICEA INSULATED CABLE ENGINEERS ASSOCIATION
- IPCEA INSULATED POWER CABLE ENGINEERS ASSOCIATION STANDARDS
- ISA INSTRUMENT SOCIETY OF AMERICA STANDARDS

3.2 ALL LOCAL, STATE AND FEDERAL CODES, STANDARDS AND REGULATIONS IN EFFECT HAVING JURISDICTION IN THE AREA WHERE THE EQUIPMENT WILL BE INSTALLED. ANY CONFLICT BETWEEN THE ABOVE MENTIONED DOCUMENTS AND THIS SPECIFICATION SHALL BE REFERRED TO THE ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH THE FABRICATION OF THE AFFECTED PARTS.

4. CODES AND PERMITS

4.1 THE INSTALLATION AND MATERIALS SHALL COMPLY WITH ALL LAWS APPLYING TO ELECTRICAL INSTALLATION IN EFFECT, WITH THE REGULATIONS OF THE NEC WHERE SUCH REGULATIONS DO NOT CONFLICT WITH LAWS IN EFFECT, AND WITH THE REGULATIONS OF THE PUBLIC UTILITY COMPANY FURNISHING THE SERVICE.

5. GUARANTEE

5.1 THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS, WORKMANSHIP AND THE SUCCESSFUL OPERATION OF ALL EQUIPMENT AND APPARATUS UNDER THIS CONTRACT FOR A PERIOD OF (18) EIGHTEEN MONTHS FROM THE DATE OF FINAL ACCEPTANCE OF THE WHOLE WORK. CONTRACTOR SHALL GUARANTEE TO REPAIR OR REPLACE AT HIS OWN EXPENSE ANY PART OF THE APPARATUS WHICH MAY SHOW DEFECT DURING THAT TIME PROVIDED SUCH DEFECT IS DUE TO IMPROPER MATERIALS OR WORKMANSHIP AND NOT TO CARELESSNESS OR IMPROPER USE BY THE OWNER. BY DEFAULT, OWNER MAY HAVE SUCH WORK DONE AND CHARGED TO THE CONTRACTOR.

6. CONSTRUCTION, SHOP DRAWINGS AND MATERIALS

6.1 CONTRACTOR SHALL SUBMIT AN ELECTRONIC SET OF SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCING ELECTRICAL CONSTRUCTION AND/OR PURCHASE OF EQUIPMENT INCLUDED THEREIN.

6.1.a THE FOLLOWING IS THE MINIMUM EXPECTATION OF SHOP DRAWINGS THAT WILL BE REQUIRED FOR THE PROJECT:

- A. TRANSFORMERS
- B. SWITCHGEAR, SWITCHBOARDS, PANELBOARDS, MOTOR CONTROLLERS
- C. DISCONNECT SWITCHES AND ASSOCIATED FUSES
- D. RACEWAYS: CONDUIT, CABLE TRAY AND WIREWAY
- E. WIRE, CABLE INCLUDING GROUND SYSTEM
- F. LIGHTING FIXTURES
- G. CONTROL PANELS
- H. ALL PREFABRICATED CONCRETE: MANHOLES, VAULTS, POLE BASES

6.2 RECEIPT OR APPROVAL OF SHOP DRAWINGS BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF COMPLYING WITH CONTRACT DOCUMENTS.

6.3 ALL MATERIAL SHALL BE UL LISTED UNLESS OTHERWISE REQUIRED.

6.4 CONTRACTOR SHALL MAKE PROVISIONS FOR TIMELY AND SAFE DELIVERY AND SAFE STORAGE OF MATERIALS.

6.5 MFR'S NAMES ARE LISTED TO ESTABLISH FUNCTION AND QUALITY OF MATERIAL OR EQUIPMENT. MATERIALS SO LISTED SHALL BE BID AS SPECIFIED UNLESS WRITTEN APPROVAL IS OBTAINED TO SUBSTITUTE MATERIALS OF EQUAL QUALITY BY OTHER MFRS. LETTERS REQUESTING APPROVAL AND INCLUDING COMPLETE ENGINEERING INFORMATION DESCRIBING PERFORMANCE AND SHOWING DIMENSIONS SHALL BE SUBMITTED TO THE ENGINEER AT LEAST 5 WORKING DAYS PRIOR TO BID OPENING.

7. FIELD DEVICES & WIRING:

7.1 ALL MOTORS AND INSTRUMENTS SHALL BE HAVE AN EQUIPMENT IDENTIFYING TAG AS INDICED HEREIN, ON PLANS OR IN SPECIFICATIONS SECTION 26.

7.2 TERMINAL BLOCKS SHALL BE LABELED AS INDICED HEREIN, ON PLANS OR IN SPECIFICATIONS SECTION 26.

7.3 POWER CABLES ARE TO BE COLOR CODED BY PHASE AS INDICATED HEREIN.

8. EXCAVATION AND BACKFILLING:

8.1 THE CONTRACTOR SHALL PERFORM ALL EXCAVATION, TRENCHING AND BACKFILLING WORK, AND REMOVE ALL DEBRIS IN CONNECTION WITH HIS WORK. BACKFILLING SHALL BE DONE WITH MATERIALS ACCEPTABLE TO THE CONSTRUCTION MANAGER AND THOROUGHLY COMPACTED. ALL DISTURBED SURFACES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND PROPERLY INSTALLED TO ELIMINATE ANY SETTLEMENT.

9. WORKMANSHIP

9.1 THE CONTRACTOR SHALL BE HELD SOLELY RESPONSIBLE FOR THE PROPER INSTALLATION OF HIS WORK. HE SHALL ARRANGE WITH THE PROPER CONTRACTORS FOR THE BUILDING IN OF ANCHORS, ETC., AND FOR THE LEAVING OF REQUIRED CHASES, OPENINGS, ETC., AND SHALL DO ALL CUTTING AND PATCHING MADE NECESSARY BY HIS FAILURE OR NEGLECT TO MAKE SUCH ARRANGEMENTS WITH OTHERS. ANY CUTTING OR PATCHING DONE BY THIS CONTRACTOR SHALL BE SUBJECT TO THE DIRECTIONS OF THE CONSTRUCTION MANAGER AND SHALL NOT BE STARTED UNTIL APPROVAL HAS BEEN OBTAINED.

9.2 ALL CUTTING, WELDING OR DRILLING OF CONCRETE OR STRUCTURAL MEMBERS SHALL BE PROPERLY REINFORCED AND PATCHED TO MATCH AS NEARLY AS POSSIBLE THE SURROUNDING WORK. BEFORE CUTTING, WELDING OR DRILLING ANY CONCRETE OR STRUCTURAL MEMBER, THE CONTRACTOR SHALL SECURE THE APPROVAL OF THE CONSTRUCTION MANAGER.

9.3 THE CONTRACTOR SHALL ASSIGN PERSONS IN DIRECT CHARGE OF WORK WHO ARE THOROUGHLY EXPERIENCED IN THE CLASS OF CONSTRUCTION WORK SPECIFIED HEREIN. ALL LABOR SHALL BE PERFORMED IN A WORKMANLIKE MANNER BY SKILLED WORKMEN UNDER THE SUPERVISION OF COMPETENT SUPERVISORS.

9.4 THE CONTRACTOR SHALL PERIODICALLY REMOVE ALL DEBRIS AND WASTE IN ORDER TO MAINTAIN SAFE WORKING AND OPERATING CONDITIONS, AND SHALL DISPOSE OF THE SAME IN AN APPROVED MANNER. AT THE COMPLETION OF WORK, HE SHALL REMOVE ALL HIS RUBBISH, TOOLS, SCAFFOLDS AND SURPLUS MATERIALS FROM AND ABOUT THE SITE, LEAVING HIS WORK CLEAN AND THE AREAS READY FOR OCCUPANCY.

10. PERFORMANCE AND QUALITY ASSURANCE TESTING

10.1 UPON COMPLETION, THE COMPANY SHALL REVIEW AND APPROVE THE INSTALLATION TO ENSURE THAT THE WORK WAS DONE IN ACCORDANCE WITH THE DESIGN DRAWINGS AND CODE REQUIREMENTS, WITH ANY REQUIRED CORRECTIVE ACTIONS AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CERTIFICATES, PERMITS OR INSPECTIONS BY THE AUTHORITIES HAVING JURISDICTION.

10.2 THE INSTALLATION SHALL BE TESTED FREE FROM ALL GROUNDS AND SHORT CIRCUITS. ALL EQUIPMENT FURNISHED SHALL BE DEMONSTRATED TO OPERATE IN ACCORDANCE WITH THE REQUIREMENTS OF THESE SPECIFICATIONS AND PLANS. CONSULT WITH THE OWNER'S REPRESENTATIVE PRIOR TO TESTING AND ADJUSTING TO DETERMINE INTENDED FUNCTION. PERFORM SUCH TESTS AND MAKE NECESSARY ADJUSTMENTS TO ENSURE THAT DESIGN FUNCTION IS OBTAINED. THESE TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE CONSTRUCTION MANAGER OR HIS AUTHORIZED REPRESENTATIVE. THE CONTRACTOR SHALL NOTIFY ALL THOSE WHO ARE REQUIRED TO BE PRESENT DURING THE TESTS (SUCH AS THE FIRE MARSHAL FOR THE TESTING OF THE FIRE ALARM SYSTEM AND EMERGENCY EXIT LIGHTING SYSTEM). NOTIFICATION OF A TEST SHALL BE MADE TO PERSONS THAT ARE TO ATTEND AS REQUIRED BY THEIR DEPARTMENT AT LEAST 7 DAYS IN ADVANCE.

10.3 NORMAL FEEDERS, CIRCUITS, AND SERVICE ENTRANCE CONDUCTORS WITH WIRE SIZE #2 AND LARGER SHALL BE TESTED FOR LEAKAGE PHASE-TO-GROUND AND PHASE-TO-PHASE PRIOR TO ENERGIZATION OF THE ELECTRICAL SYSTEM. THE CONTRACTOR SHALL SUBMIT A WRITTEN REPORT TO THE CONSTRUCTION MANAGER SHOWING METHODS AND READINGS TAKEN.

11. MATERIALS AND INSTALLATION

11.1 CONDUIT

11.1.a MATERIALS: EXTERIOR - ALL CONDUITS SHALL BE PVC (BELOW GRADE) AND RIGID ALUMINUM ABOVE GRADE (UON ON PLANS). TRANSITION FROM PVC TO ALUMINUM CONDUIT BELOW GRADE WITH PVC COATED RIGID SWEEPS. INTERIOR - ALL CONDUITS SHALL BE ALUMINUM PER PLANS. ANY INTERIOR AREAS SUBJECT TO POTENTIAL IMPACT WITH CONDUIT (IE STORAGE AREAS, FORKLIFT PATHWAYS) SHALL BE PROTECTED.

11.1.b CONDUITS MUST USE EXPANSION JOINTS AS PER NEC.

11.1.c BEFORE INSTALLATION, THE INTERIOR AND EXTERIOR OF ALL CONDUIT AND FITTINGS SHALL BE INSPECTED AND CLEANED OF ALL DIRT, CUTTINGS AND OTHER FOREIGN MATERIALS.

11.1.d WHEN CONDUIT IS INSTALLED WHERE NO LOCATION DIMENSIONS ARE GIVEN ON THE DRAWINGS, APPROVAL OF THE LOCATIONS OF THESE

CONDUITS SHALL BE OBTAINED FROM THE COMPANY REPRESENTATIVE PRIOR TO INSTALLATION.

11.1.e CONDUITS SHALL NOT BE FASTENED TO REMOVABLE MEMBERS SUCH AS PIPING. CONDUIT HANGERS SHALL BE SUPPORTED FROM BUILDINGS AND STRUCTURES, NOT FROM EQUIPMENT.

11.1.f CONNECTIONS TO INTERIOR BOXES, PANELS, EQUIPMENT AND RELATED ITEMS SHALL BE MADE WITH DOUBLE LOCKNUTS, ONE INSIDE AND ONE OUTSIDE, WITH AN INSULATING BUSHING ON EACH END OF THE CONDUIT IN ADDITION TO LOCKNUTS. OUTDOOR CONNECTIONS SHALL BE MADE WITH "MYERS" HUBS OR APPROVED EQUAL.

11.1.g ALL CONDUITS SHALL HAVE THEIR ENDS PLUGGED BY CAPS, COUPLINGS W/ PLUGS OR OTHER APPROVED MEANS DURING CONSTRUCTION WORK.

11.1.h ALL CONDUIT SUPPORTS SHALL BE ALUMINUM. THE USE OF PERFORATED STRAP OR PLUMBERS STRAP IS NOT PERMITTED.

11.1.i IN CROSSING OF PIPING, THE CONDUIT SHOULD CLEAR THE PIPE BY A MINIMUM OF 6 INCHES.

11.1.j EXPOSED CONDUITS IN BUILDINGS, UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS, SHALL BE SUBJECT TO THE FOLLOWING REQUIREMENTS:

- A. ALL CONDUITS SHOULD RUN PARALLEL OR PERPENDICULAR TO WALLS, CEILINGS, BEAMS AND COLUMNS.
- B. ALL CONDUIT RUNS SHALL CLEAR ALL CRANE SYSTEMS, DOORS, WINDOWS, ACCESS WALLS AND OPENINGS.
- C. PARALLEL RUNS SHOULD BE GROUPED IN NEATLY ALIGNED BANKS WHERE POSSIBLE WITH MINIMUM 1" CLEARANCE BETWEEN CONDUITS.
- D. CONDUITS TERMINATING AT CABLE TRAYS SHALL ATTACH TO TRAY AND SHALL BE ELECTRICALLY BONDED TO EDGE OF TRAY OR TO THE GND WIRE IN CABLE TRAY.

11.1.k CONDUITS SHALL BE INSTALLED, WHEREVER POSSIBLE, IN SUCH MANNER AS TO AVOID THE COLLECTION OF CONDENSED MOISTURE IN THE CONDUIT. DRAINS SHALL BE INSTALLED AT LOW POINTS IN EXPOSED CONDUIT RUNS.

11.1.l PULL POINTS SHALL BE PROVIDED IN EACH CONDUIT RUN TO CONFORM WITH THE REQUIREMENTS OF THE NEC OR CABLE MFR'S RECOMMENDATION.

11.1.m CONDUIT RUNS SHALL BE IDENTIFIED AT TERMINATIONS AND PULL POINTS WITH STAMPED ALUMINUM BANDS.

11.1.n EACH CONDUIT SHALL BE CLEANED OF ALL OBSTRUCTION BY PULLING A MANDREL THROUGH THE ENTIRE LENGTH OF RUN PRIOR TO PULLING WIRE OR CABLE IN CONDUIT.

11.1.o CONDUIT SEALING AND DRAINING SHALL BE INSTALLED IN ACCORDANCE WITH THE NEC. SEALING METHODS SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE SEAL MFR.

11.1.p CONDUIT UNIONS SHALL BE INSTALLED IN ALL CONDUITS CONNECTED TO TAPPED EQUIPMENT SO THAT THE EQUIPMENT CAN BE REMOVED WITHOUT DISTURBING THE CONDUIT (OR SEAL).

11.1.q ALL BOLTS, NUTS & WASHERS SHALL BE CADMIUM PLATED.

11.1.r ALL CONDUITS ROUTED TO EXTERIOR CABLE TRAYS SHALL ENTER THROUGH THE BOTTOM OF THE CABLE TRAY UON.

11.2 CONDUIT BENDS

11.2.a ALL BENDS SHALL HAVE RADIUS NOT LESS THAN SHOWN IN THE NEC OR SHALL BE MADE UP OF SCREW-JOINTED CONDUIT FITTINGS. NOT MORE THAN THE EQUIVALENT OF FOUR (4) 90° BENDS SHALL BE USED IN ANY RUN BETWEEN TERMINALS AND CABINETS, OR BETWEEN OUTLETS AND JUNCTION OR PULL BOXES.

11.2.b A GROUP OF EXPOSED CONDUITS THAT CHANGE DIRECTION UTILIZING BENDS SHALL HAVE THE MINIMUM BENDING RADIUS OF THE LARGEST CONDUIT IN THE GROUP FOR VERTICAL CHANGES AND SHALL HAVE THE SAME BEND RADIUS POINT FOR A HORIZONTAL CHANGE.

11.2.c BENDS SHALL BE FREE FROM CRACKS, CRIMPS OR OTHER DAMAGE TO THE CONDUIT OR ITS COATING. THE CONDUIT AFTER BENDING SHALL BE TRUE AND ROUND WITH FULL INSIDE AREAS FOR THE LENGTH OF THE BEND. CONDUIT BENDS SHALL COMPLY WITH NEC.

11.3 CONDUIT JOINTS

11.3.a ALL JOINTS IN ALUMINUM SHALL BE THREADED OR ALUMINUM PUSH FITTINGS. ALL CUT THREADS AND ANY WRENCH MARKS SHALL BE COATED WITH COLD SEALING COMPOUND. ALL THREADED JOINTS SHALL BE MADE UP TIGHT WITH A MINIMUM OF FIVE (5) FULL THREADS.

11.4 CABLE TRAY

11.4.a MATERIALS: TRAYS SHALL BE THE BRAND/MODEL INDICATED ON PLANS OR AS DESCRIBED IF NO SPECIFIC BRAND/MODEL IS GIVEN. SUBSTITUTIONS MUST BE APPROVED BY ENGINEER.

11.4.b CABLE TRAY AND TRAY SUPPORT MATERIALS, WHEN ASSEMBLED AND MOUNTED SHALL SUPPORT THE FULL CABLE LOAD WITH A MAXIMUM OF 2" DEFLECTION WITHOUT PERMANENT DEFORMATION.

11.4.c TRAY FITTINGS, SUCH AS BRANCHES, REDUCERS, FLAT ELBOWS, TEES AND CROSSES, SHALL BE USED FOR CHANGES IN DIRECTION. THE DIMENSIONS OF TRAY FITTINGS SHALL PROVIDE AMPLE BENDING RADIUS FOR THE CABLES CONTAINED IN THE TRAY. THE TERMINATION SHALL BE PROVIDED WITH A PROTECTOR GUARD TO PREVENT DAMAGE TO THE CABLES. AS REQUIRED, PROVIDE ADDITIONAL SUPPORTS FOR INDIVIDUAL CABLES WHERE THE CABLE LEAVES THE CABLE TRAY FOR FINAL TERMINATION.

11.4.d TRAYS SHALL BE CAREFULLY ALIGNED, LEVELLED AND PLUMBED. TRAY SECTIONS AND FITTINGS SHALL BE ASSEMBLED ON THEIR SUPPORTS AND JOINED TOGETHER, USING MFR'S STANDARD CONNECTOR UNITS.

11.4.e POWDER COATED STEEL ANGLES, TRAPEZE HANGERS, CHANNELS, BOLTING, AND MISCELLANEOUS MATERIALS REQUIRED FOR THE SUPPORT OF TRAYS FROM THE BUILDING STRUCTURE, SHALL BE ALUMINUM AND SUPPLIED AND INSTALLED BY THE CONTRACTOR.

11.4.f ALL EXTERIOR CABLE TRAYS TO BE SUPPLIED WITH COVERS, INSTALLED BY THE CONTRACTOR AFTER ALL CABLES ARE INSTALLED.

11.5 JUNCTION AND PULL BOXES

11.5.a MATERIALS: BOXES SHALL BE THE BRAND/MODEL INDICATED ON PLANS OR AS DESCRIBED IF NO SPECIFIC BRAND/MODEL IS GIVEN. ALL BOXES SHALL BE UL/FM RATED FOR LOCATION. SUBSTITUTIONS MUST BE APPROVED BY ENGINEER.

11.5.b BOXES FOR INDOOR INSTALLATION SHALL CONFORM TO THE FOLLOWING:

- A. BE HEAVY DUTY POWDER COATED METAL OR ALUMINUM, WITH ALUMINUM COVERS AND BRONZE OR CADMIUM PLATED SCREWS OR BOLTS UNLESS OTHERWISE PERMITTED OR SPECIFIED.
- B. BE NEMA 12 IN NON-HAZARDOUS AREAS OR AS SHOWN ON DRAWINGS AND HAVE GASKETED COVERS ON BOXES CONTAINING TERMINAL BLOCKS.
- C. HAVE PIANO HINGED COVER AND INTERIOR MOUNTING PANEL WHERE USED FOR ENCLOSING TERMINAL BLOCKS AND CONTROL RELAYS.

11.5.c BOXES FOR OUTDOOR INSTALLATION SHALL CONFORM TO THE FOLLOWING:

- A. BE HEAVY DUTY STAINLESS STEEL WITH STAINLESS STEEL COVERS. SCREWS OR BOLTS UNLESS OTHERWISE NOTED.
- B. HAVE THREADED CONDUIT ENTRANCES SUCH AS "MYERS" HUBS, OR APPROVED EQUAL AND HAVE RUBBER OR NEOPRENE COVER GASKETS.
- C. BE NEMA 4 WATERTIGHT IN OUTDOOR NON-HAZARDOUS AREAS AND HAVE A DRIP LIP AND OTHER FEATURES REQUIRED FOR RAIN TIGHT CONSTRUCTION, UNLESS OTHERWISE NOTED.
- D. HAVE PIANO HINGED COVER AND INTERIOR MOUNTING PANELS WHEN USED FOR ENCLOSING TERMINAL BLOCKS, CONTROL RELAYS, ETC AND HAVE A DRAIN FITTING INSTALLED IN THE BOTTOM OF THE BOX.

11.5.d IDENTIFICATION: NAMEPLATES, WITH TITLE AND TAG NO., FABRICATED FROM PLASTIC WITH BLACK LETTERS ON WHITE BACKGROUND SHALL BE PERMANENTLY AFFIXED TO ALL JUNCTION BOXES.



verdantas

904-2 SAHARA TRAIL
YOUNGSTOWN, OHIO 44614

NO	REVISION	DATE

ISSUED FOR:	BID	NO	REVISION	DATE

THE VILLAGE OF LORDSTOWN
SALT SPRINGS ROAD WATER BOOSTER
STATION UPGRADE AND RELOCATION
TRUMBULL COUNTY LORDSTOWN, OH

LIFT STATION - 20 SERIES
ELECTRICAL SPECIFICATIONS

PROJECT NO.	
231265	
DISCIPLINE	
SHEET NAME	
E-01	
SHEET	OF
14	19

11.6 WIRE AND CABLE

11.6.a MATERIALS: ALL WIRE / CABLE SHALL BE COPPER (I/O) AND ACCORDING TO THE CABLE SCHEDULES AND/OR CONSTRUCTION DRAWINGS. ANY DEVIATION MUST BE APPROVED BY ENGINEER & OWNER'S REPRESENTATIVE.

11.6.b ALL WIRE AND CABLE WILL BE EITHER INSTALLED IN RACEWAY OR CABLE TRAY PROVIDED.

11.6.c CABLE ON REELS AND WIRE IN COILS SHALL BE PROTECTED DURING SHIPMENT, STORAGE AND HANDLING. THE ENDS OF CABLES SHALL BE TAPED WHILE ON REELS AND AFTER INSTALLATION. TAPE WILL BE REMOVED ONLY WHEN READY TO TERMINATE WIRE.

11.6.d CONDUCTORS SHALL BE CONTINUOUS FROM TERMINATION TO TERMINATION. CABLES SHALL NOT BE SPLICED TO MAKE USE OF SHORT LENGTHS AND SHALL NOT BE CUT FOR CONVENIENCE OF PULLING. MFR'S INSTRUCTIONS OR RECOMMENDATIONS FOR INSTALLATION, WIRING ACCESSORIES OR OTHER WIRING MATERIALS SHALL BE FOLLOWED.

11.6.e WHERE MULTI-CONDUCTOR CABLES ENTER CONTROL PANELS AND CABINETS, THE OUTER JACKET SHALL NOT BE STRIPPED BEYOND THE POINT WHERE THE FIRST CONDUCTOR LEAVES THE CABLE TO CONNECT TO THE TERMINAL STRIP. IF JACKET IS STRIPPED IN EXCESS OF THE ABOVE FROM ANY CABLE, THE CABLE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

11.6.f THE PULLING OF WIRING INTO CONDUIT OR OTHER RACEWAYS SHALL BE DONE WITH ALL POSSIBLE CARE. THE CABLE REELS OR COILS SHALL BE SET UP IN SUCH A WAY THAT THE CONDUCTOR MAY BE TRANCED INTO THE RACEWAY AS DIRECTLY AS POSSIBLE WITH A MINIMUM NUMBER OF CHANGES OF DIRECTION AND BENDING. WHERE SEVERAL CABLES ARE CONTAINED IN ONE CONDUIT, ALL SUCH CABLES SHALL BE PULLED IN TOGETHER. PULLING COMPOUND OR POWDERED SOAPSTONE SHALL BE COMPATIBLE WITH THE CABLE INSULATION AND APPROVED FOR USE BY THE CABLE MFR. CABLE PULLING TENSIONS SHALL NOT EXCEED VALUES SPECIFIED BY THE CABLE MFR.

11.6.g ALL CONDUCTORS SHALL BE TERMINATED IN STRICT ACCORDANCE WITH THE MFR'S RECOMMENDED METHODS. PARTICULAR CARE AND COMPLIANCE WITH MFR'S INSTRUCTIONS SHALL BE UTILIZED IN CONNECTION WITH TERMINATING HIGH VOLTAGE CABLES. ALL CONDUCTORS SHALL BE CLEAN WHEN CONNECTIONS ARE MADE. WIRES, BUS BARS, AND POINTS OF CONTACT SHALL BE CLEANED WITH STEEL WOOL OR SAND PAPER TO REMOVE OXIDES AND DIRT.

11.6.h ALL CONNECTIONS SHALL BE MADE WITH PRESSURE TYPE CONNECTORS INSTALLED WITH THE TOOL RECOMMENDED BY THE MFR. ALL CONNECTORS SHALL BE RING TYPE. THE RING SHALL NOT BE CUT TO FACILITATE INSTALLATION. TAPED CONNECTIONS SHALL HAVE LAYERS OF INSULATING TAPE BUILT UP TO A THICKNESS NOT LESS THAN THE THICKNESS OF THE INSULATION ON THE CABLES BEING CONNECTED.

11.6.i LUGS SHALL BE USED FOR THE CONNECTION OF CABLES TO EQUIPMENT AND BUSES. PRESSED LUGS SHALL BE USED ON WIRES SIZED #8 AWG AND SMALLER, CAST LUGS SHALL BE USED ON WIRES LARGER THAN #8 AWG.

11.6.j POWER CABLE FOR ALL CIRCUITS 400 VOLTS AND ABOVE SHALL BE IDENTIFIED AT TERMINATIONS AND BOXES WITH HEAVY GAUGE STAMPED ALUMINUM BANDS. HEAT SHRINK WIRE MARKERS SHALL BE INSTALLED ON MOTOR, CONTROL AND INSTRUMENT LEADS AND THERMOCOUPLES AT ALL TERMINAL POINTS. IDENTIFICATION SHALL BE IN ACCORDANCE WITH THE DRAWINGS. COLORED WIRE MARKERS SHALL BE INSTALLED ON ALL FEEDERS AND INSULATED GROUNDLEADS AT ALL TERMINAL POINTS WHERE COLOR CODED WIRE IS NOT USED. COLOR CODE AS FOLLOWS:

	208/120VAC	480/277VAC	415/240VAC
PHASE A	BLACK	BROWN	BROWN
PHASE B	RED	ORANGE	ORANGE
PHASE C	BLUE	YELLOW	YELLOW
NEUTRAL	WHITE	GREY	GREY

11.6.k CONTROL WIRING COLOR CODES SHALL BE IN ACCORDANCE WITH SPECIFIC WIRING DRAWINGS.

11.6.l CONTROL WIRING IDENTIFICATION SHALL BE IN ACCORDANCE WITH SPECIFIC WIRING DIAGRAMS AND SCHEMATICS.

11.6.m AFTER INSTALLATION OF WIRING AND ASSOCIATED DEVICES HAS BEEN COMPLETED, ELECTRICAL CONDUCTORS SHALL BE TESTED TO ENSURE CONTINUITY, PROPER SPLICING AND FREEDOM FROM GROUND (EXCEPT "MADE GROUND" AND THOSE REQUIRED FOR PROTECTION). ALL 480VAC CIRCUITS AND ABOVE SHALL HAVE INSULATION RESISTANCE TEST COMPLETED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS AND UL REQUIREMENTS UTILIZING A MEGGER. DO NOT HI-POT THE CABLES AS THIS SHALL BE CONSIDERED DESTRUCTIVE.

11.7 ELECTRICAL EQUIPMENT AND DEVICES

11.7.a MATERIALS: EQUIPMENT/DEVICES SHALL BE THE BRAND/MODEL INDICATED ON PLANS OR AS DESCRIBED IF NO SPECIFIC BRAND/MODEL IS GIVEN. ALL EQUIPMENT/DEVICES SHALL BE UL/FM RATED FOR LOCATION. SUBSTITUTIONS MUST BE APPROVED BY ENGINEER.

11.7.b ALL EQUIPMENT SHALL BE COMPLETELY ASSEMBLED, INSTALLED AND CONNECTED AS SHOWN ON THE COMPANY OR MFR'S DRAWINGS AND SHALL BE FULLY PREPARED AND MADE READY FOR OPERATION AS NECESSARY BY THE CONTRACTOR. THE CONTRACTOR MAY HAVE THE USE OF ANY SPECIAL TOOLS FURNISHED WITH THE EQUIPMENT SPECIFICALLY FOR INSTALLATION PURPOSES. THE CONTRACTOR SHALL BECOME KNOWLEDGEABLE WITH AND FOLLOW SPECIAL INSTRUCTIONS OF THE MFR FOR THE HANDLING AND INSTALLATION OF THE EQUIPMENT.

11.7.c WHERE EQUIPMENT IS MOUNTED ON WALLS AND/OR COLUMNS CONTRACTOR SHALL PROVIDE STRUCTURAL STEEL SUPPORTS AND SUITABLE ANCHORS.

11.7.d AFTER INSTALLATION, ALL EQUIPMENT SHALL BE LEFT IN A CLEAN CONDITION. ALL INSULATORS, BUSHINGS, INSULATING MATERIALS AND OTHER PARTS WHICH ARE DEPENDENT UPON FOR THEIR INSULATING QUALITIES SHALL BE THOROUGHLY CLEANED. NO OVERALL PAINTING OF EQUIPMENT WILL BE REQUIRED, BUT HOUSING SURFACES WHICH HAVE BEEN SOILED OR MARRED SHALL BE TOUCHED UP OR REFINISHED WITH PRIMER AND TOP COAT PAINT TO MATCH THE EQUIPMENT. DURING INSTALLATION, THE CONTRACTOR SHALL TAKE ALL POSSIBLE CARE TO KEEP THE DOORS OF SWITCHGEAR ASSEMBLIES, MOTOR CONTROL CENTERS AND PANELBOARDS CLOSED IN ORDER TO PREVENT THE ENTRANCE OF DUST AND OTHER FOREIGN MATTER.

11.7.e CONTRACTOR SHALL PROPERLY GROUND ALL EQUIPMENT, RACEWAYS, AND ANY SERVICE CONDUCTOR THAT IS TO BE GROUNDED IN ACCORDANCE WITH THE NEC AND ELECTRIC UTILITY COMPANY REQUIREMENTS.

11.7.f ANY POWERHOUSE, MOTOR CONTROL CENTER OR SWITCHGEAR SHALL BE SET AND SECURED ON ITS SUPPORTS. THE NECESSARY CONNECTIONS BETWEEN SECTIONS TO FORM A COMPLETELY ASSEMBLED AND INTERCONNECTED GROUP SHALL BE MADE INCLUDING INSTALLATION OF REMOVABLE CIRCUIT BREAKERS, POTENTIAL TRANSFORMERS, AND COMPLETING ALL EXTERNAL CONNECTIONS. THE RAIS ADJUSTED TO ENSURE SMOOTH BREAKER TRAVEL AND CONTACTS ON THE HOUSING SHALL BE INSPECTED AND TIGHTENED IF FOUND LOOSE.

11.7.g ARC FLASH HAZARD WARNINGS SHALL BE ATTACHED TO ALL APPLICABLE EQUIPMENT PER NEC 2014, SECTION 110.16.

11.7.h ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES, AND EQUIPMENT SHALL BE LABELED AND LISTED BY CERTIFIED TESTING LABORATORY OR AGENCY.

11.8.i ALL INTERIOR DISTRIBUTION EQUIPMENT WITH TERMINATIONS (IE PANELBOARDS, SWITCHBOARDS, DISCONNECT/STARTERS, CONTROL PANELS, TRANSFORMERS, VFDs, MCCs) SHALL BE NEMA TYPE 12 WITH RATING OF BEING DUST TIGHT.

11.8 CONDUIT CONCRETE DUCT BANKS

11.8.a MATERIALS: ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED. ALL CONCRETE SHALL BE 3000PSI MINIMUM AND DIED RED THROUGHOUT.

11.8.b ALL UNDERGROUND UTILITY CONDUITS SHALL HAVE 3000PSI CONCRETE ENCASEMENT DIED RED THROUGHOUT. 6" MINIMUM CONCRETE COVER AND 24" BELOW FINISHED GRADE WITH EXCEPTIONS AS ALLOWED BY THE NEC. CONDUIT SHALL BE FIRMLY FIXED IN PLACE BY BEING WIRED TO REINFORCING STEEL OR BY OTHER APPROVED MEANS TO AVOID BEING DISTURBED DURING BACKFILLING OR POURING OF CONCRETE. SEE DETAILS ON PLANS.

11.8.c INSTALL #20 HMWPE GROUND CABLE IN CONCRETE.

11.8.d CONTRACTOR TO USE SPACERS EVERY 60" MAXIMUM. (CARLON SNAP-N-STAC OR EQUAL)

11.9 GROUNDING

11.9.a MATERIALS:

- GROUND RODS: COPPER-CLAD STEEL
- GROUND BUS: RECTANGULAR BARS OF ANNEALED COPPER, 1/4 X 2 INCHES IN CROSS SECTION WITH INSULATORS
- GROUNDING ELECTRODE CONDUCTORS: BARE COPPER
- BONDING JUMPERS: BARE COPPER
- EQUIPMENT GROUNDING CONDUCTORS: COPPER WITH GREEN-COLORED INSULATION
- UNDERGROUND GROUNDING CONDUCTORS: SOFT DRAWN BARE COPPER
- GROUNDING CONNECTORS: BRONZE SUITABLE FOR GROUNDING AND BONDING APPLICATIONS, IN CONFIGURATIONS REQUIRED FOR PARTICULAR INSTALLATION.

11.9.b GROUNDING SHALL BE IN ACCORDANCE WITH NFPA 70 AND DETAILS/NOTES HEREIN PLAN SET.

11.9.c NON-CURRENT CARRYING PARTS OF ALL ELECTRICAL EQUIPMENT SHALL BE BONDED TO THE EQUIPMENT GROUND SERVING THIS EQUIPMENT.

11.9.d INSTALL SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN CONDUITS WITH ALL BRANCH CIRCUITS AND FEEDERS, SIZE EQUIPMENT GROUNDING CONDUCTORS IN ACCORDANCE WITH NFPA 70. TERMINATE EACH END ON SUITABLE LUG, BUS, OR BUSHING.

11.9.e INSTALL SOLID CONDUCTORS FOR NO. 10 AWG AND SMALLER, AND STRANDED FOR NO. 8 AND LARGER.

11.9.f BURY UNDERGROUND GROUNDING CONDUCTORS AT LEAST 30 INCHES BELOW GRADE.

11.9.f ISOLATED GROUNDING CONDUCTORS: GREEN-COLORED WITH CONTINUOUS YELLOW STRIPE. ON FEEDERS WITH ISOLATED GROUND, IDENTIFY GROUNDING CONDUCTOR WHERE VISIBLE TO NORMAL INSPECTION, WITH ALTERNATING BANDS OF GREEN AND YELLOW TAPE, WITH AT LEAST THREE BANDS OF GREEN AND TWO BANDS OF YELLOW.

11.9.g ISOLATED GROUNDING RECEPTACLE CIRCUITS: INSTALL AN ISOLATED EQUIPMENT GROUNDING CONDUCTOR CONNECTED TO THE RECEPTACLE GROUNDING TERMINAL. ISOLATE CONDUCTOR FROM RACEWAY AND FROM PANELBOARD GROUNDING TERMINALS. TERMINATE AT EQUIPMENT GROUNDING TERMINAL OF THE APPLICABLE DERIVED SYSTEM OR SERVICE, UNLESS OTHERWISE INDICATED.

11.9.h PERFORM TESTS AND INSPECTIONS.

- INSPECT PHYSICAL AND MECHANICAL CONDITION. VERIFY TIGHTNESS OF ALL BOLTED CONNECTIONS WITH CALIBRATED TORQUE WRENCH ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
- TEST GROUND RESISTANCE AT SERVICE DISCONNECT ENCLOSURE GROUNDING TERMINAL, AT GROUND TEST WELLS, AND AT INDIVIDUAL GROUND RODS. MAXIMUM MEASURED GROUND RESISTANCE SHALL NOT EXCEED 5 OHMS.
- MEASURE GROUND RESISTANCE NO FEWER THAN TWO FULL DAYS AFTER LAST TRACE OF PRECIPITATION AND WITHOUT SOIL BEING MOISTENED BY ANY MEANS.

PREPARE AND SUBMIT TEST AND INSPECTION REPORTS. TURNOVER REPORTS TO COMMISSIONING AGENT.

11.10 LIGHTNING PROTECTION

11.10.a DESIGN & MATERIALS: THE DESIGN AND ALL MATERIALS SHALL CONFORM TO THE CODE REQUIREMENTS OF THE NFPA 780, LIGHTNING PROTECTION INSTITUTE 175 AND UL 96 AND 96A.

- AIR TERMINALS SHALL BE UTILIZED.
- COPPER MATERIALS SHALL BE USED FOR CONTACT WITH COPPER SURFACES, THE EARTH, ALKALINE-BASE PAINT, CONCRETE OR MASONRY, OR EXCESSIVE MOISTURE SUCH AS FLAT ROOFS, IN ACCORDANCE WITH NFPA 780 4.2, UL 96A 7, AND LPI 175 18-23.
- ALUMINUM MATERIALS SHALL BE USED ON ALUMINUM, GALVANIZED STEEL, OR PAINTED METAL SURFACES, IN ACCORDANCE WITH NFPA 780 4.2, UL 96A 7, AND LPI 175 18-23.
- ALL CONDUCTORS SHALL BE COPPER.

11.10.b ONLY APPROVED ADHESIVE SHALL BE USED ON MEMBRANE ROOF AREAS TO SECURE THE CABLES AND BASES IN POSITION. NO MECHANICAL FASTENERS SHALL BE DRIVEN INTO THE MEMBRANE ROOFING.

11.10.c CABLE FASTENERS SHALL BE SPACED NO MORE THAN 36" ON CENTER USING SOLID COPPER OR ALUMINUM CLIPS WITH STAINLESS STEEL PINS ON MASONRY SURFACES AND STAINLESS STEEL NAILS ON NAILING SURFACES.

11.10.d AIR TERMINALS SHALL BE APPLIED TO ALL BUILDINGS WITH SHEET METAL ROOFS OR BUILDINGS NOT OF STEEL MEMBER CONSTRUCTION. EXCEPTIONS TO THIS REQUIREMENT SHALL BE GIVEN TO BUILDINGS ADEQUATELY PROTECTED BY HIGHER LOCATED SYSTEMS, PER NFPA 780.

11.10.e METAL BODIES WITHIN 72" OF LPS CONDUCTORS SHALL BE BONDED AS REQUIRED BY NFPA 780 4.19, UL 96A 11, AND LPI 175 110.

12. IDENTIFICATION NAMEPLATES AND LABELS

12.1 IDENTIFICATION NAMEPLATES:

- INDOOR CLEAN, DRY LOCATIONS: USE PLASTIC NAMEPLATES.
- OUTDOOR LOCATIONS: USE PLASTIC SUITABLE FOR EXTERIOR USE.
- MOTORS AND INSTRUMENT CONNECTION - STAINLESS STEEL IDENTIFICATION TAG.

12.1.b PLASTIC NAMEPLATES: TWO-LAYER OR THREE-LAYER LAMINATED ACRYLIC OR ELECTRICALLY NON-CONDUCTIVE PHENOLIC WITH BEVELED EDGES; MINIMUM THICKNESS OF 1/16 INCH (1.6 MM); ENGRAVED TEXT.

12.1.c MOUNTING HOLES FOR MECHANICAL FASTENERS: TWO, CENTERED ON SIDES FOR SIZES UP TO 1 INCH (25 MM) HIGH, FOUR, LOCATED AT CORNERS FOR LARGER SIZES.

12.2 IDENTIFICATION LABELS:

12.2.a MATERIALS: USE SELF-ADHESIVE LAMINATED PLASTIC LABELS, UV, CHEMICAL, WATER, HEAT, AND ABRASION RESISTANT.

- USE ONLY FOR INDOOR LOCATIONS ON ALL NON-EQUIPMENT UNLESS OTHERWISE NOTED. 12.2.b TEXT: USE FACTORY PRE-PRINTED OR MACHINE-PRINTED TEXT. DO NOT USE HANDWRITTEN TEXT UNLESS OTHERWISE INDICATED.

12.3 FORMAT FOR EQUIPMENT IDENTIFICATION:

12.3.a MINIMUM SIZE: 1 INCH (25 MM) BY 2.5 INCHES (64 MM).

12.3.b LEGEND:

- EQUIPMENT DESIGNATION OR OTHER APPROVED DESCRIPTION.
- OTHER INFORMATION AS INDICATED.

12.3.c TEXT: ALL CAPITALIZED UNLESS OTHERWISE INDICATED.

12.3.d MINIMUM TEXT HEIGHT:

- SYSTEM DESIGNATION: 1 INCH (25 MM).
- EQUIPMENT DESIGNATION: 1/2 INCH (13 MM).
- OTHER INFORMATION: 1/4 INCH (6 MM).
- EXCEPTION: PROVIDE MINIMUM TEXT HEIGHT OF 1 INCH (25 MM) FOR EQUIPMENT LOCATED MORE THAN 10 FEET (3.0 M) ABOVE FLOOR OR WORKING PLATFORM.

12.3.e COLOR:

- NORMAL POWER SYSTEM: WHITE TEXT ON BLACK BACKGROUND.

12.4 FINAL CONNECTIONS TO ALL MOTORS AND INSTRUMENTS WILL BE SUPPLIED WITH A STAINLESS STEEL TAG IDENTIFYING THE EQUIPMENT. THE IDENTIFICATION TAG WILL BE SUPPLIED ON THE CONNECTION POINT, NOT THE EQUIPMENT, TO FACILITATE FUTURE REPLACEMENT.

12.5 TERMINAL BLOCKS WILL BE CLEARLY LABELED AT EACH TERMINATION POINT. THE LABELING SYSTEM WILL BE TYPED, NOT WRITTEN AND WILL PROTECT THE LETTERING.

13. WIRE AND CABLE MARKERS

13.1 MARKERS FOR CONDUCTORS AND CABLES: USE WRAP-AROUND SELF-ADHESIVE VINYL CLOTH, WRAP-AROUND SELF-ADHESIVE VINYL, SELF-LAMINATING, HEAT-SHRINK SLEEVE, OR PLASTIC SLEEVE.

13.2 MARKERS FOR CONDUCTOR AND CABLE BUNDLES: USE PLASTIC MARKER TAGS SECURED BY NYLON CABLE TIES.

13.3 LEGEND: POWER SOURCE AND CIRCUIT NUMBER OR OTHER DESIGNATION INDICATED.

13.4 TEXT: USE FACTORY PRE-PRINTED OR MACHINE-PRINTED TEXT, ALL CAPITALIZED UNLESS OTHERWISE INDICATED.

13.4.a DO NOT USE HANDWRITTEN TEXT.

13.5 MINIMUM TEXT HEIGHT: 1/8 INCH (3 MM)

13.6 COLOR: BLACK TEXT ON WHITE BACKGROUND UNLESS OTHERWISE INDICATED.

14. GENERAL MOUNTING HEIGHTS

14.1 MOUNT DEVICES AT HEIGHTS INDICATED BELOW UNLESS OTHERWISE NOTED ON PLANS. HEIGHTS ARE TO CENTER OF DEVICE (I/O), WHERE A DEVICE NOT LISTED BELOW IS BEING INSTALLED. MOUNTING HEIGHT SHALL FOLLOW ANY REGULATION REQUIREMENTS, TYPICAL INDUSTRY STANDARDS AND/OR MANUFACTURER'S REQUIREMENTS.

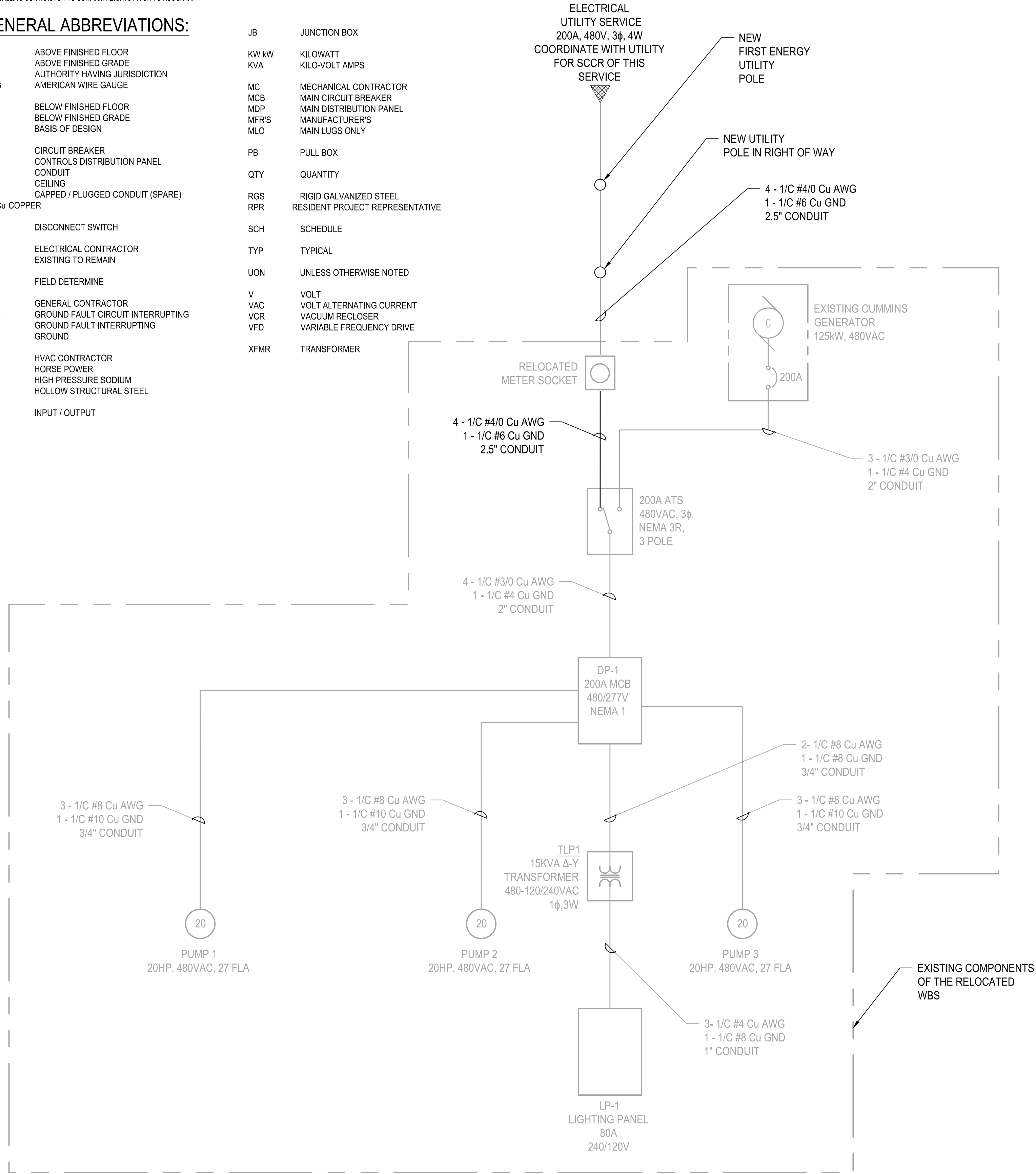
LIGHT SWITCHES	48"
RECEPTACLE, GENERAL	18"
RECEPTACLE, COUNTER	6" ABOVE COUNTERTOP
SPECIAL PURPOSE OUTLET	AS NOTED OR APPROPRIATE FOR USE
TELEPHONE/DATA	18", 60" FOR STANDING LOCATIONS
THERMOSTAT	60"
PUSHBUTTONS	48"
INTERCOMS	54" INTERIOR, 48" EXTERIOR
CARD READERS	48"
FIRE ALARM HORN/STROBE	80"-66" WALL MOUNTED, 30" MAXIMUM CEILING MOUNTED
FIRE ALARM PULL STATION	48"
LIGHTING FIXTURES	AS INDICATED ON SCHEDULE
PANELBOARDS	TOP AT 78"
SAFETY SWITCHES	60" OR ADJACENT DEVICE SERVED AS ALLOWED PER CODE
HMI SCREENED DEVICE	60" AT SCREEN (WALL MOUNTED)

14.2 HEIGHTS ARE FOR REFERENCE AND ALL NATIONAL OR LOCAL CODES SHALL TAKE PRECEDENCE. IT IS THE RESPONSIBILITY OF

THE INSTALLING CONTRACTOR TO CONFIRM HEIGHTS PRIOR TO ROUGH-IN.

GENERAL ABBREVIATIONS:

AFF	ABOVE FINISHED FLOOR	JB	JUNCTION BOX
AFG	ABOVE FINISHED GRADE	KW	KILOWATT
AHJ	AUTHORITY HAVING JURISDICTION	KVA	KILO-VOLT AMPS
AWG	AMERICAN WIRE GAUGE	MC	MECHANICAL CONTRACTOR
BFF	BELOW FINISHED FLOOR	MCB	MAIN CIRCUIT BREAKER
BFG	BELOW FINISHED GRADE	MDP	MAIN DISTRIBUTION PANEL
BOD	BASIS OF DESIGN	MFR'S	MANUFACTURER'S
		MLO	MAIN LUGS ONLY
CB	CIRCUIT BREAKER	PB	PULL BOX
CDP	CONTROLS DISTRIBUTION PANEL	QTY	QUANTITY
C	CONDUIT	RGS	RIGID GALVANIZED STEEL
CLG	CEILING	RPR	RESIDENT PROJECT REPRESENTATIVE
CP	CAPPED / PLUGGED CONDUIT (SPARE)	SCH	SCHEDULE
CU CU COPPER		TYP	TYPICAL
DS	DISCONNECT SWITCH	UN	UNLESS OTHERWISE NOTED
EC	ELECTRICAL CONTRACTOR	V	VOLT
ETR	EXISTING TO REMAIN	VAC	VOLT ALTERNATING CURRENT
FD	FIELD DETERMINE	VCR	VACUUM RECLOSER
GC	GENERAL CONTRACTOR	VFD	VARIABLE FREQUENCY DRIVE
GFCI	GROUND FAULT CIRCUIT INTERRUPTING	XFMR	TRANSFORMER
GFI	GROUND FAULT INTERRUPTING		
GND	GROUND		
HC	HVAC CONTRACTOR		
HP	HORSE POWER		
HPS	HIGH PRESSURE SODIUM		
HSS	HOLLOW STRUCTURAL STEEL		
I/O	INPUT / OUTPUT		

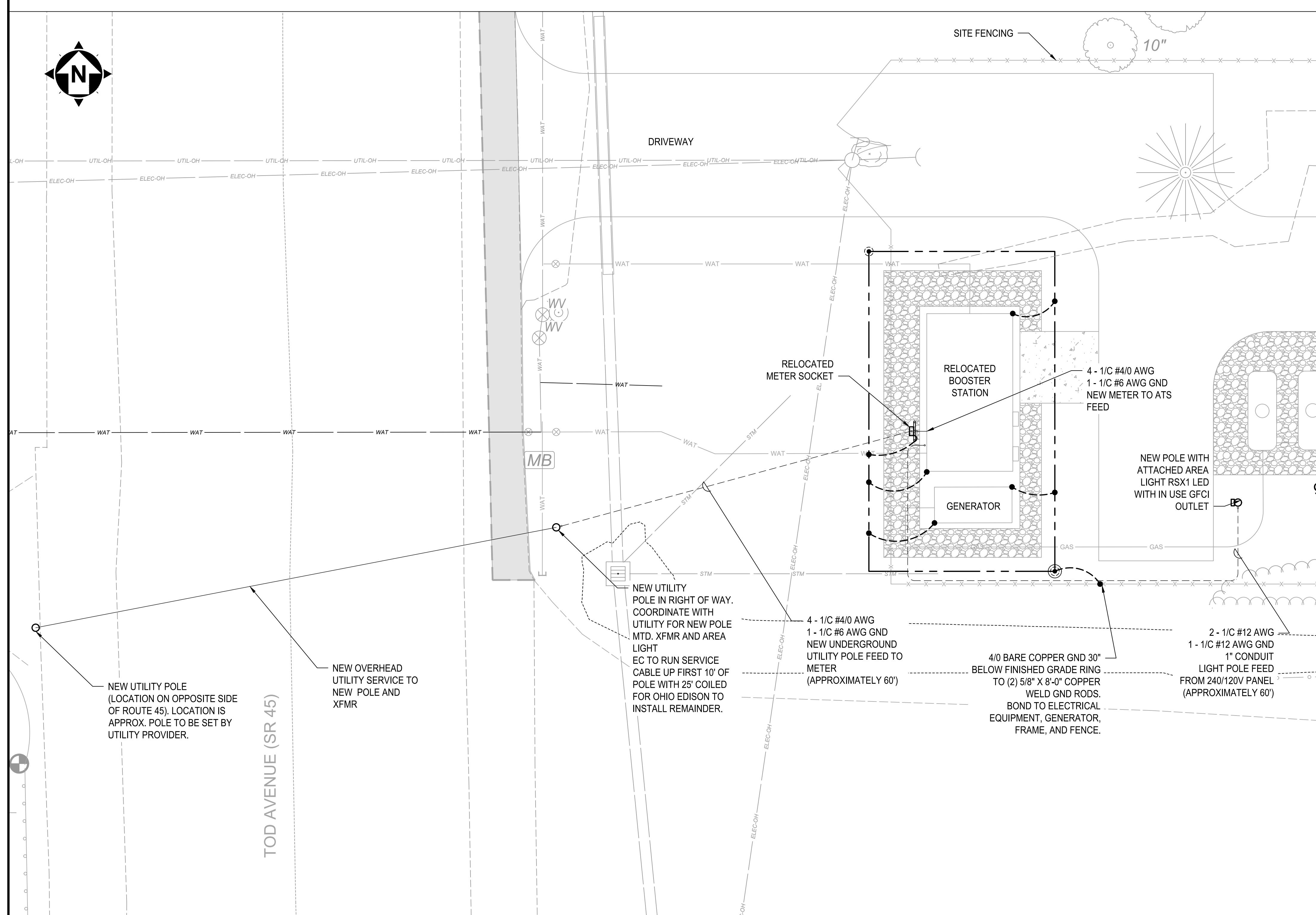
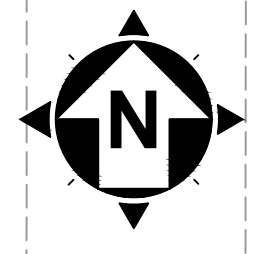


verdantas
 904-2 SAHARA TRAIL
 YOUNGSTOWN, OHIO 44614

DATE	REVISION	NO	BID	ISSUED FOR	ISSUE DATE	SCALE	DESIGNED BY:	DRAWN BY:	CHECKED BY:
			10/14/2025	AS SHOWN	SM / CZ	SM			

THE VILLAGE OF LORDSTOWN
SALT SPRINGS ROAD WATER BOOSTER
STATION UPGRADE AND RELOCATION
 LORDSTOWN, OH
 TRUMBULL COUNTY
ELECTRICAL SINGLE LINE

PROJECT NO.	231265
DISCIPLINE	
SHEET NAME	E-02
SHEET	OF
15	19



ELECTRICAL SITE PLAN

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

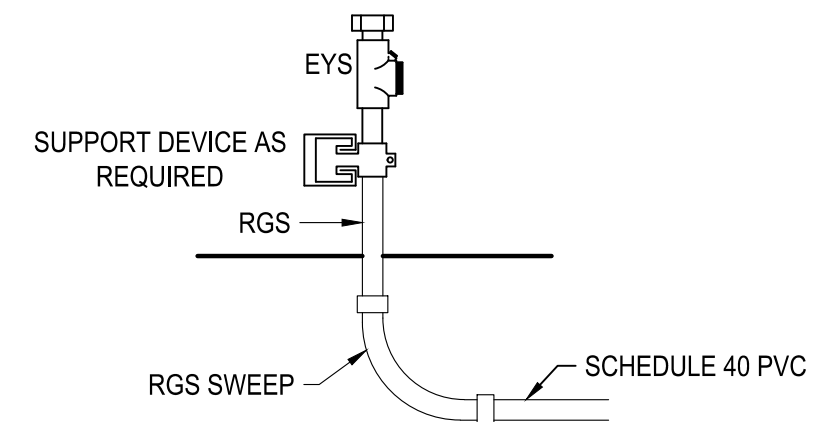


SYMBOL LEGEND

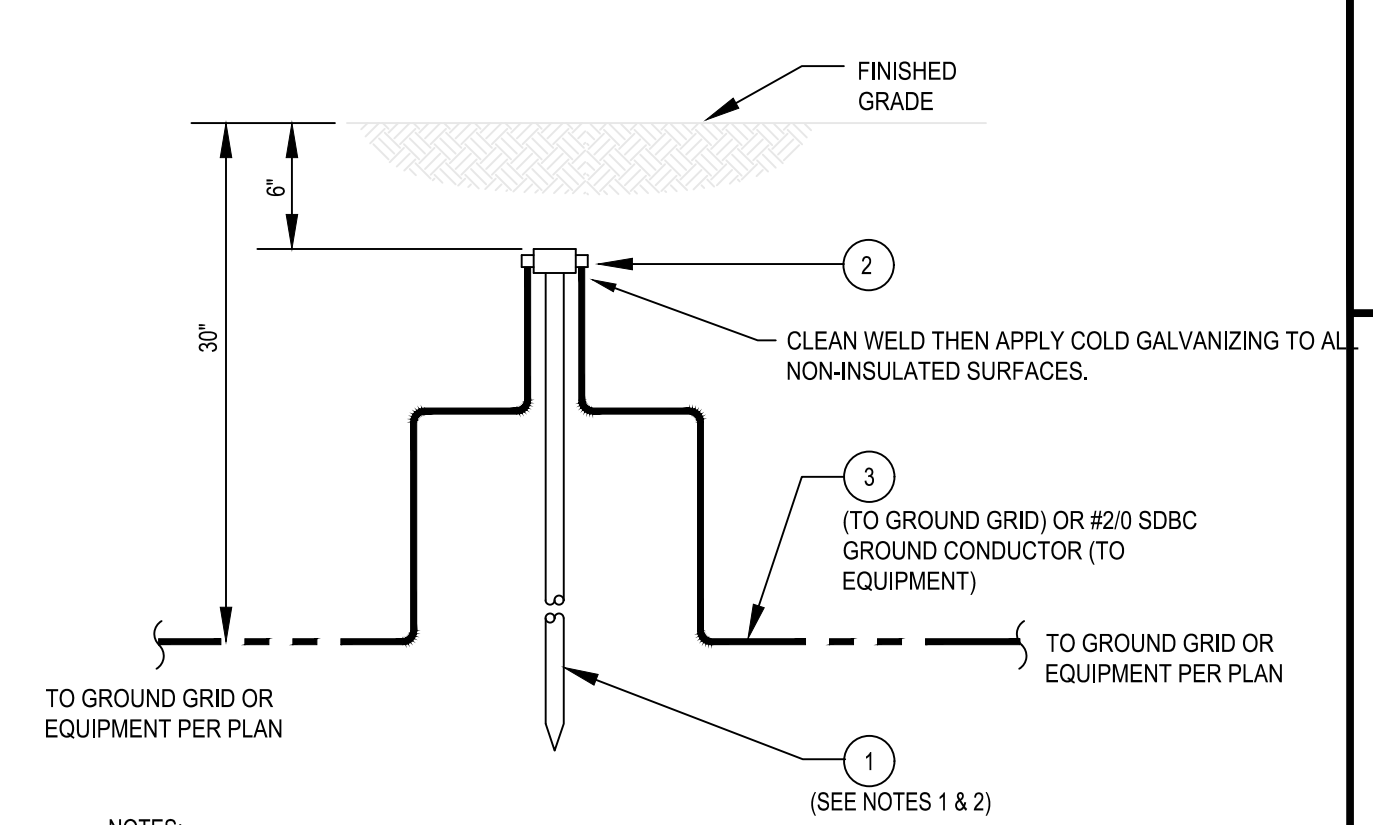
- BONDING POINT - EXOTHERMIC WELD UNLESS OTHERWISE NOTED
- ⊙ 5/8" x 8' STEEL GROUND ROD WITH HOT-DIP ZINC GALVANIZATION
- ⊙ GROUND ROD WITH ACCESS - INSPECTION WELL AND MECHANICAL CABLE ROD CONNECTOR. SEE ACCESS WELL DETAIL ON SHEET E-104.
- MAIN GROUNDING LOOP - 2/0 Cu INSULATED GROUND WIRE RATED FOR DIRECT BURY
- BRANCH GROUNDING - #2 Cu INSULATED GROUND WIRE RATED FOR DIRECT BURY (UNLESS NOTED OTHERWISE)
- A.F.F. ABOVE FINISHED FLOOR
- A.F.G. ABOVE FINISHED GRADE
- B.F.G. BELOW FINISHED GRADE

NOTES:

1. CONTRACTOR TO UTILIZE 25% OR 40% FILL SEAL-OFF FITTINGS WHERE SEAL-OFFS ARE NEEDED IN CLASSIFIED AREAS.



TYPICAL CONDUIT TRANSITION DETAIL
SCALE: NONE"

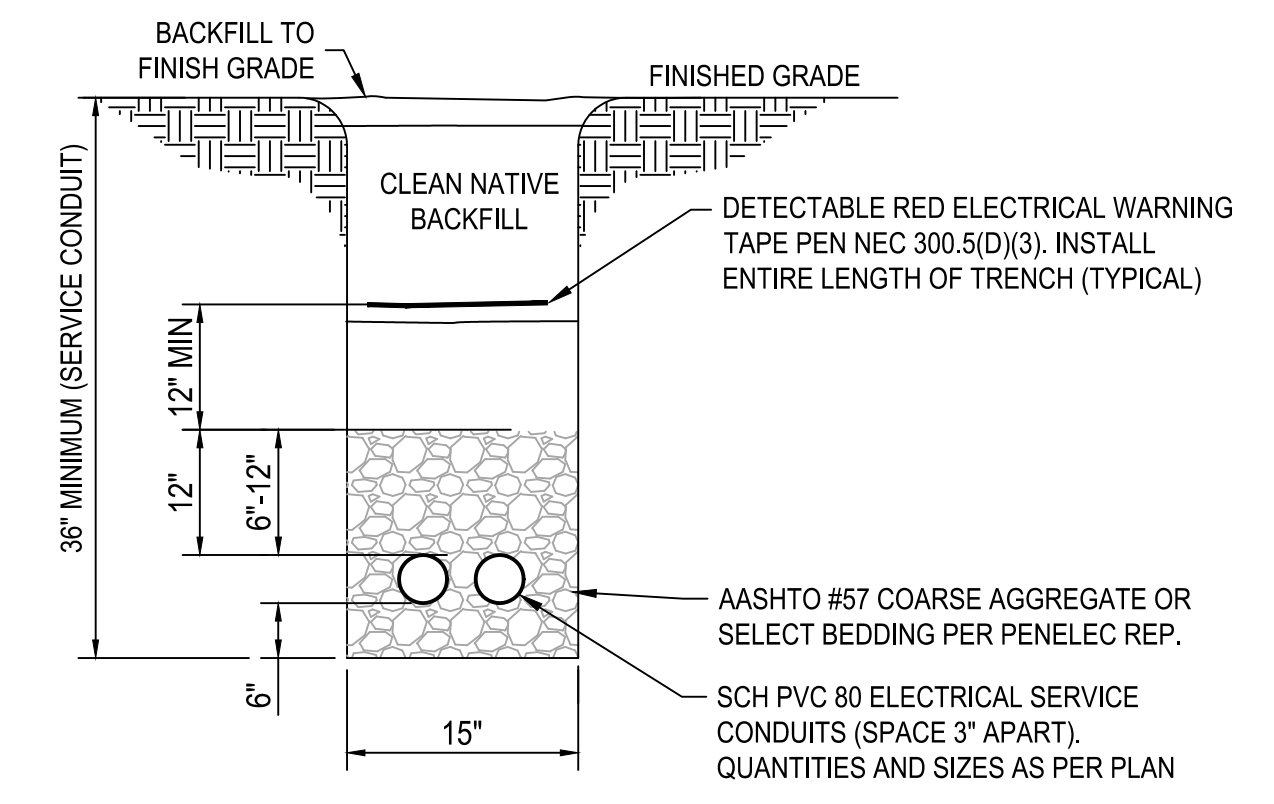


NOTES:

1. CADWELD GROUND ROD SPLICE CONNECTIONS ARE TO BE USED IN THE EVENT WHERE ADDITIONAL GROUND RODS ARE REQUIRED TO EXTEND ROD LENGTH BEYOND 10'. ELECTRICAL CONTRACTOR SHALL USE CADWELD CAT. NO. HDGBD-18 MOLD WITH CAT. NO. 2-200 WELD METAL (OR EQUAL).
2. REMOVE ROD GALVANIZING TO BARE STEEL BEFORE MAKING CONNECTIONS. THEN APPLY COATING OF COLD GALVANIZING TO ALL BARE METAL NON-GALVANIZED SURFACES.

BILL OF MATERIAL		
ITEM	QTY.	DESCRIPTION
1	1	GROUND ROD, 3/4" DIA. X 8' LONG HOT DIPPED GALV. STEEL, GALVAN GR7510 OR EQUAL
2	1	CONNECTOR, CABLE TO GND. ROD, CADWELL OR EQUAL
3	AR	GROUND WIRE, MAIN GRID AS INDICATED ON PLANS

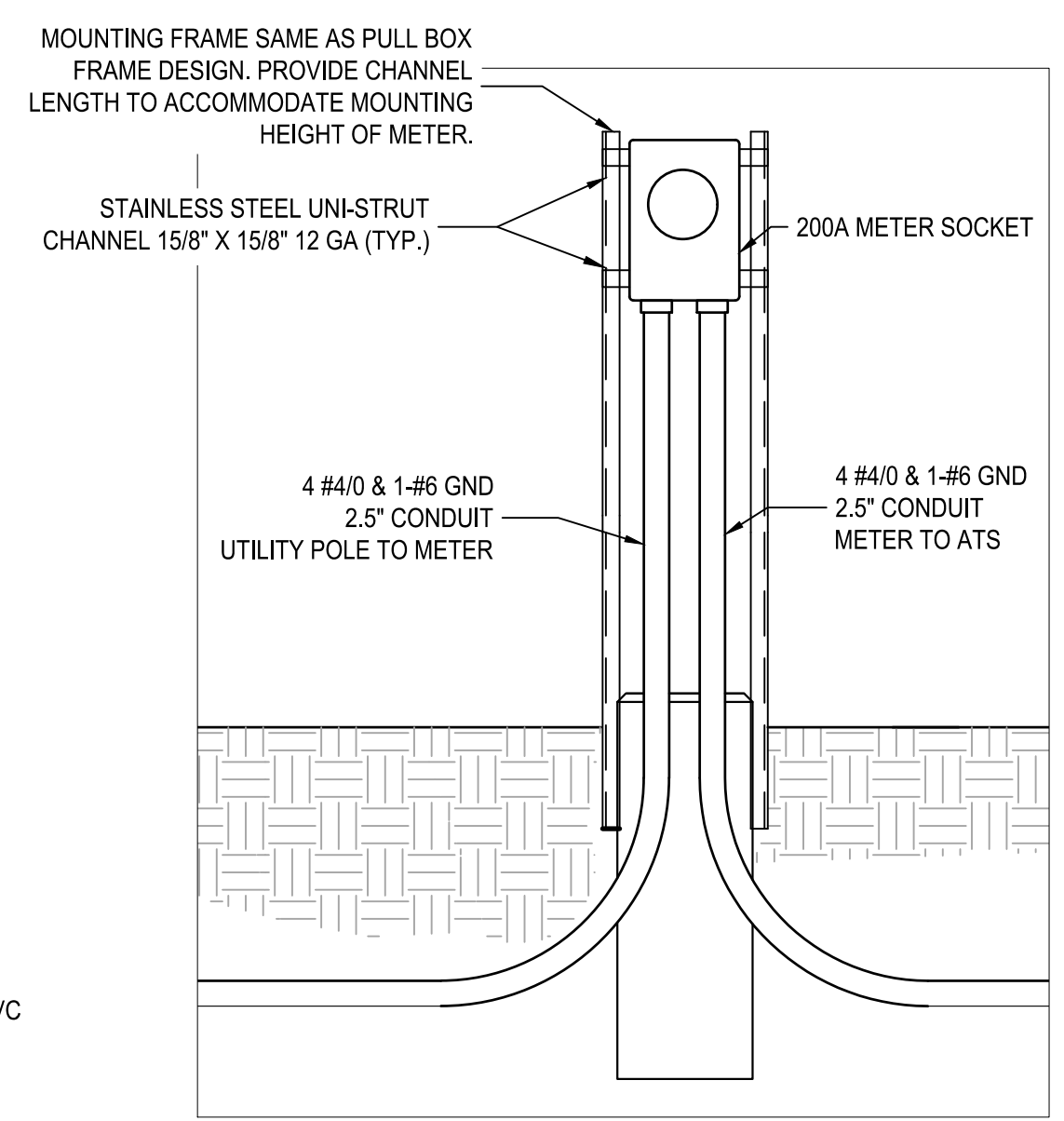
GROUND ROD INSTALLATION



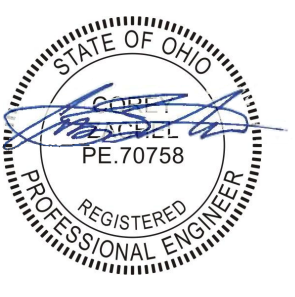
NOTES:

1. COMPACTION OF MATERIALS SHALL BE TO UTILITY REQUIREMENTS.

UNDERGROUND CONDUIT DETAIL
SCALE: NONE"



METER RACK DETAIL
SCALE: NO SCALE



verdantas
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YOUNGSTOWN, OHIO 44414

DATE	REVISION	NO	BID	ISSUED FOR:	ISSUE DATE:	SCALE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:
			10/14/2025	AS SHOWN	10/14/2025	SM / CZ	SM	SM	CZ

THE VILLAGE OF LORDSTOWN
SALT SPRINGS ROAD WATER BOOSTER
STATION UPGRADE AND RELOCATION
LORDSTOWN, OH
TRUMBULL COUNTY

PROJECT NO.	
231265	
DISCIPLINE	
ELECTRICAL	
SHEET NAME	
E-03	
SHEET	OF
16	19

DELEGATION OF AUTHORITY FOR EROSION AND SEDIMENT CONTROL

PROJECT NAME: _____
PROJECT ADDRESS: _____

I, _____, HEREBY DESIGNATE THE PERSON OR DESCRIBED POSITION BELOW TO BE A DULY AUTHORIZED REPRESENTATIVE FOR THE PURPOSE OF OVERSEEING COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS, INCLUDING THE OHIO EPA NPDES CONSTRUCTION GENERAL PERMIT, AT THE DESIGNATED PROJECT. THE DESIGNEE IS AUTHORIZED TO SIGN REPORTS, STORM WATER POLLUTION PREVENTION PLANS (SWP3) AND OTHER DOCUMENTS AS REQUIRED BY THE NPDES PERMIT.

NAME OF QUALIFIED PERSON AND/OR POSITION _____

COMPANY NAME _____ PHONE NO. _____

STREET ADDRESS _____

BY SIGNING THIS AUTHORIZATION, I CERTIFY UNDER THE PENALTY OF LAW THAT ALL REQUIRED DOCUMENTS WILL BE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON(S) WHO MANAGES THE SYSTEM OR IS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION TO BE SUBMITTED WILL BE, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE AND COMPLETE. I AM AWARE THERE ARE SUBSTANTIAL PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

COMPANY NAME _____ PHONE NO. _____

STREET ADDRESS _____

PRINT NAME AND TITLE _____

SIGNATURE _____ DATE _____

SUBCONTRACTOR AGREEMENT FOR EROSION AND SEDIMENT CONTROL

PROJECT NAME: _____
PROJECT ADDRESS: _____

BY SIGNING THIS AGREEMENT, I CERTIFY UNDER THE PENALTY OF LAW THAT I HAVE READ AND UNDERSTAND THE TERMS AND CONDITIONS OF THE STORM WATER POLLUTION PREVENTION PLAN (SWP3) FOR THE DESIGNATED PROJECT AND AGREE TO FOLLOW THE PRACTICES DESCRIBED. AS A SUBCONTRACTOR, I AM REQUIRED TO COMPLY WITH THE SWP3 FOR ANY WORK I PERFORM AT THE PROJECT. IT IS MY RESPONSIBILITY TO OBTAIN A COPY OF THE SWP3 FROM THE CONTRACTOR AND TO ADVISE MY EMPLOYEES WORKING ON THIS PROJECT OF THE REQUIREMENTS. I AM AWARE THERE ARE SUBSTANTIAL PENALTIES OR LOSS OF CONTRACT FOR VIOLATING ANY CONDITION OF THE SWP3, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

COMPANY NAME _____ PHONE NO. _____

STREET ADDRESS _____

PRINT NAME AND TITLE _____

SIGNATURE _____ DATE _____

DESCRIPTION OF CONSTRUCTION SERVICE(S) I AM TO PROVIDE:

FINAL CERTIFICATION AND NOTIFICATION FOR EROSION AND SEDIMENT CONTROL

PROJECT NAME: _____
PROJECT ADDRESS: _____

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED FOR THE DESIGNATED PROJECT. BASED ON MY INQUIRY OF THE PERSON(S) WHO MANAGED THE SYSTEM OR DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE AND COMPLETE. I AM AWARE THERE ARE SUBSTANTIAL PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

COMPANY NAME _____ PHONE NO. _____

STREET ADDRESS _____

PRINT NAME AND TITLE _____

SIGNATURE _____ DATE _____



ISSUED FOR:	BID	NO	REVISION	DATE
ISSUE DATE:	10/14/2025			
SCALE:	AS SHOWN			
DESIGNED BY:				
DRAWN BY:				
CHECKED BY:				

GRADING AND STABILIZATION ACTIVITY LOG

PROJECT NAME: _____ SHEET NO.: _____
PROJECT ADDRESS: _____

DATE GRADING ACTIVITY INITIATED	DESCRIPTION OF GRADING ACTIVITY	DATE GRADING ACTIVITY CEASED	STABILIZATION MEASURE INITIATED		DESCRIPTION OF STABILIZATION MEASURE AND LOCATION (ATTACH SKETCH IF NECESSARY)
			DATE	TYPE	
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EROSION AND SEDIMENT CONTROL AMENDMENT LOG

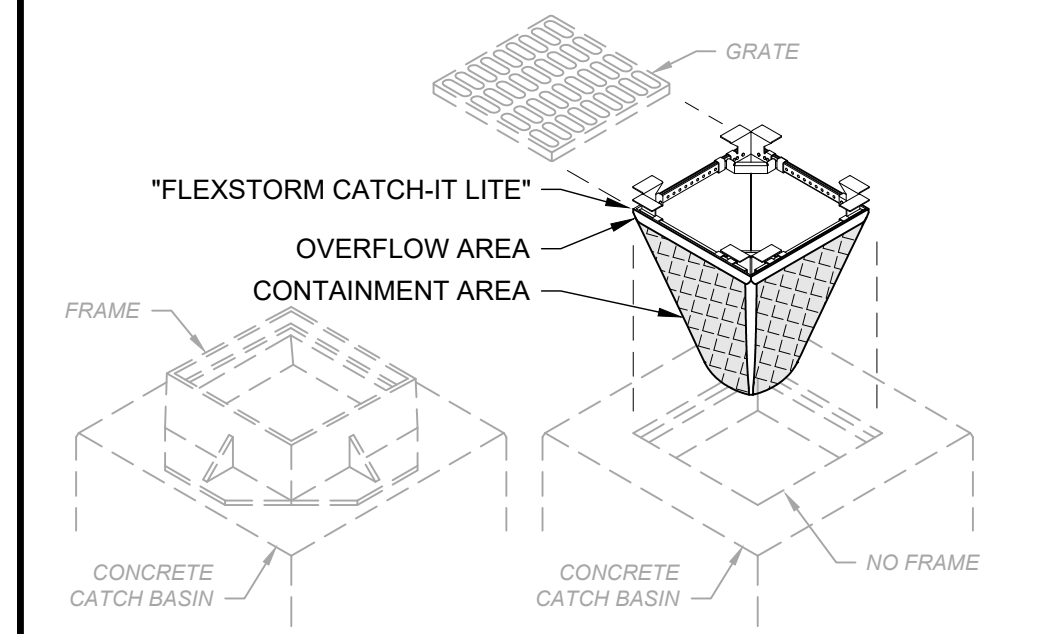
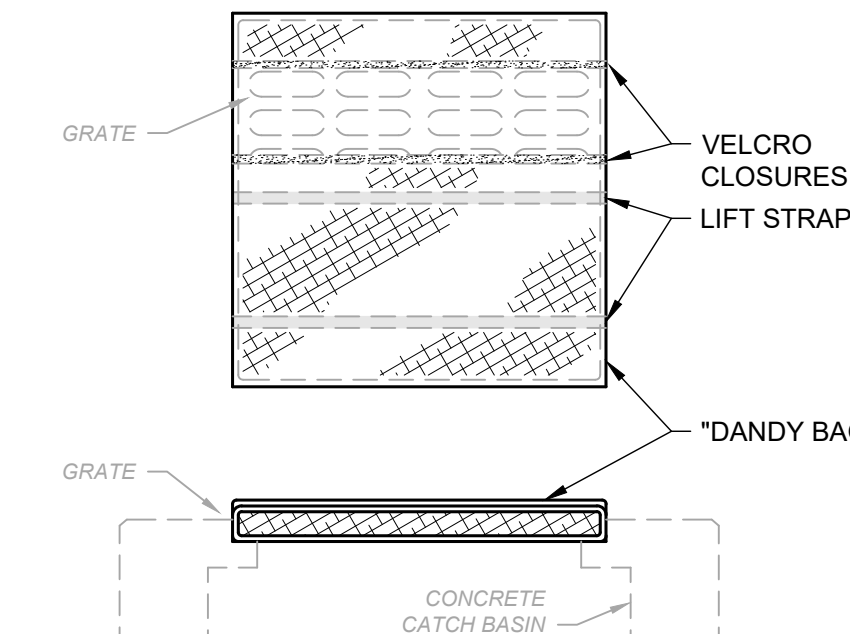
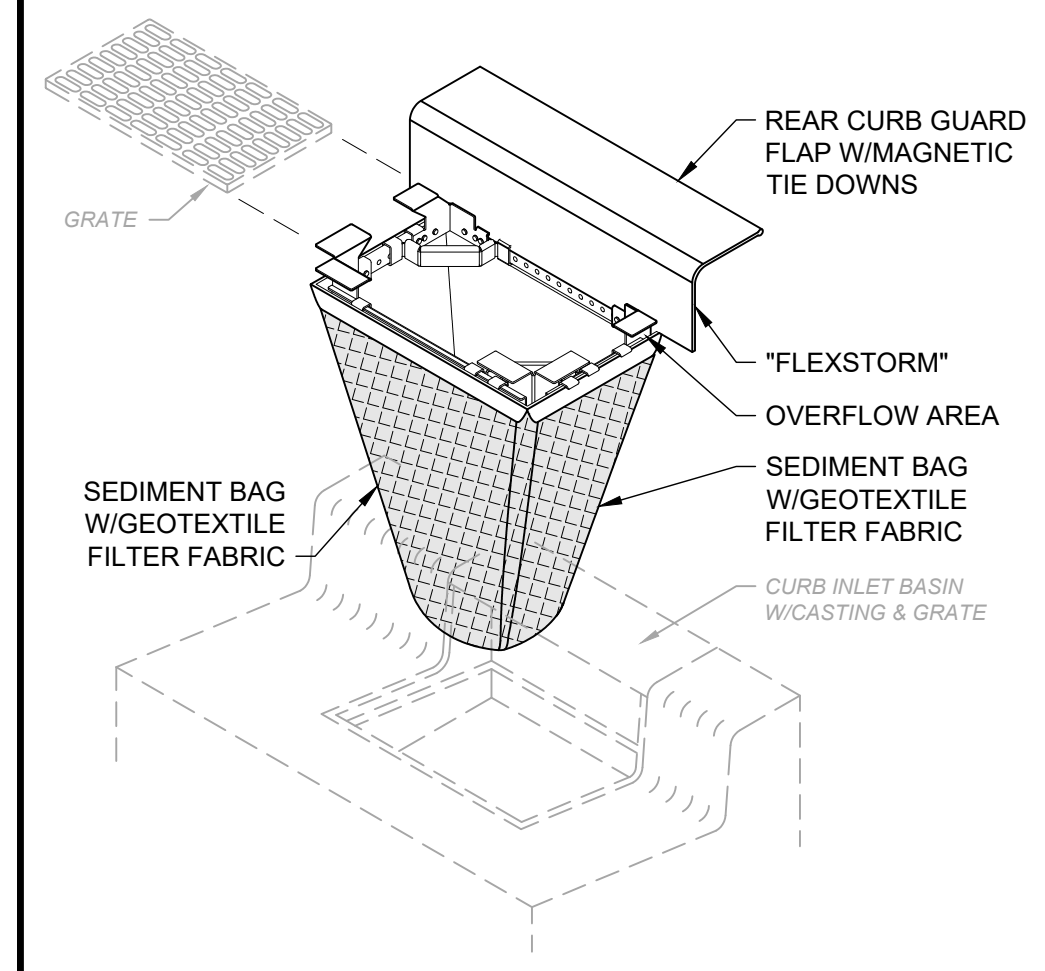
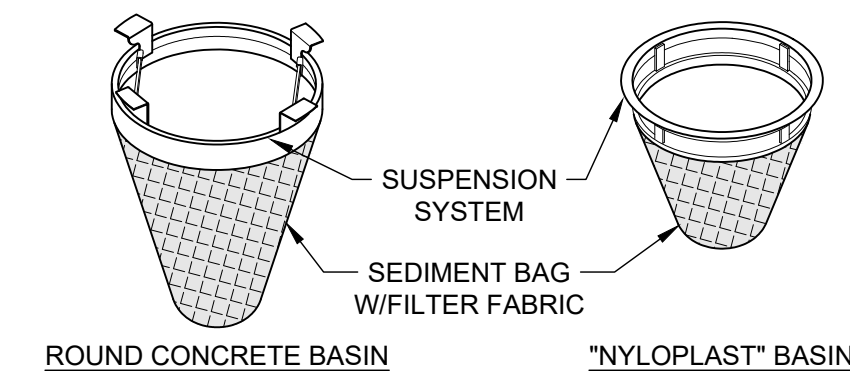
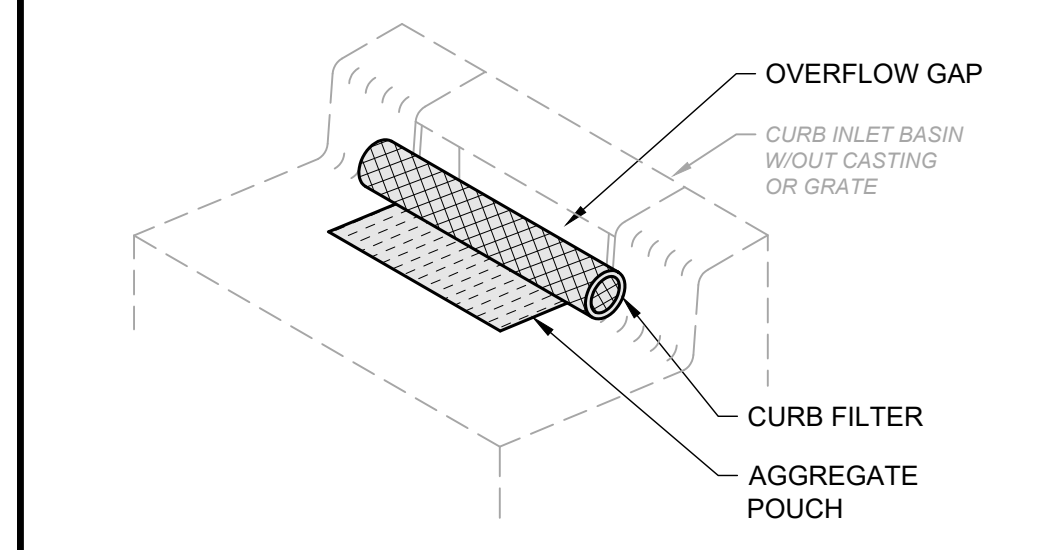
PROJECT NAME: _____ SHEET NO.: _____
PROJECT ADDRESS: _____

AMENDMENT NO.	DATE OF AMENDMENT	DESCRIPTION OF AMENDMENT	DESCRIPTION OF STABILIZATION MEASURE AND LOCATION (ATTACH SKETCH IF NECESSARY)

**THE VILLAGE OF LORDSTOWN
SALT SPRINGS ROAD WATER BOOSTER
STATION UPGRADE AND RELOCATION
TRUMBULL COUNTY LORDSTOWN, OH**

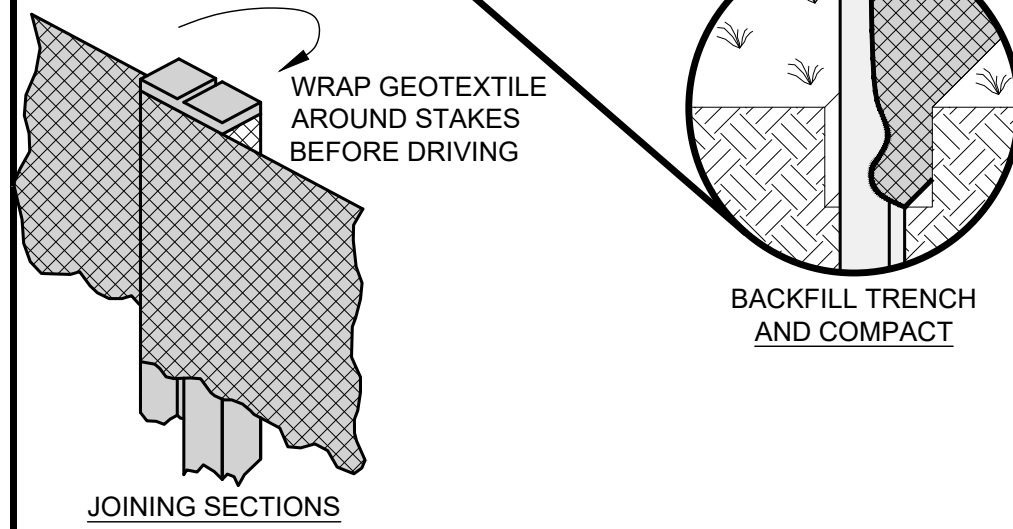
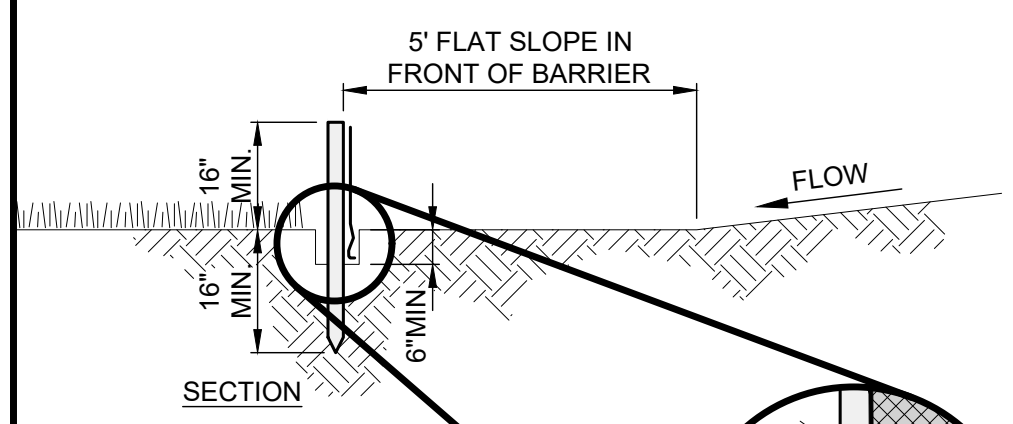
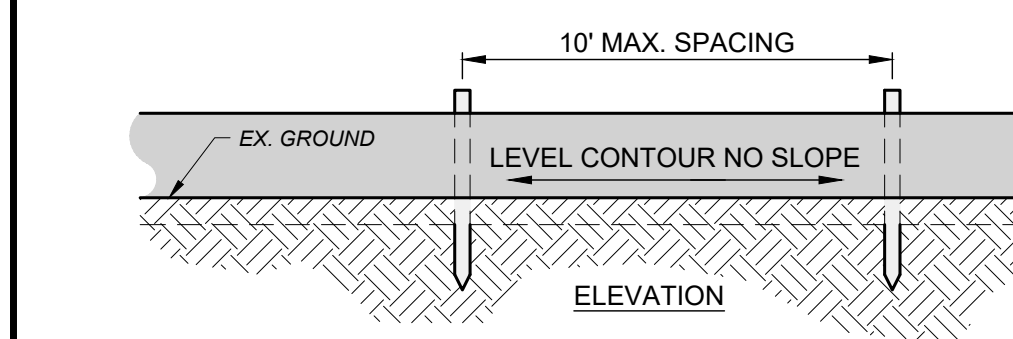
SWPPP NOTES (2 OF 2)

PROJECT NO.	231265
DISCIPLINE	
SHEET NAME	SWP-02
SHEET	OF
18	19



INLET PROTECTION DETAIL
SCALE: NONE

- NOTES:
- ALL NEW AND EXISTING STORM INLET BASINS WITHIN THE WORK LIMITS SHALL HAVE INLET PROTECTION INSTALLED.
 - INLET PROTECTION SHALL BE INSTALLED AS EACH STORM INLET IS CONSTRUCTED.
 - 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.



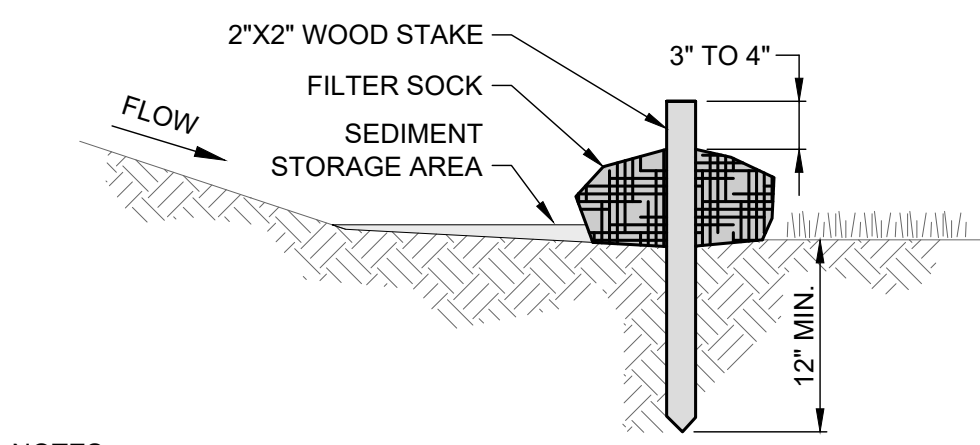
- NOTES:
- PRESERVE VEGETATION FOR 5 FEET OR AS MUCH AS POSSIBLE UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE RE-ESTABLISHED WITHIN 7 DAYS FROM SILT FENCE INSTALLATION.
 - THE MAXIMUM DRAINAGE AREA PER 100 FEET OF SILT FENCE IS DEPENDENT ON THE SLOPE, BUT NO MORE THAN 1/2 ACRE. SILT FENCE CANNOT BE USED FOR DRAINAGE AREAS WITH SLOPES GREATER THAN 50%.
 - 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.
 - 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 DETAIL
SCALE: NONE

- NOTES:
- THE SEED BED SHALL BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION.
 - 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.
 - APPLY SEED UNIFORMLY. COVER BROADCASTED SEED BY RAKING OR DRAGGING, AND LIGHTLY TAMPING INTO PLACE.
 - MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING.
 - 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	3	128
	TALL FESCUE	1	40
	PERENNIAL RYEGRASS	1	40
AUGUST 16 - OCTOBER 31	PERENNIAL RYEGRASS	2	40
	TALL FESCUE	1	40
	RYE	3	112
NOVEMBER 1 - FEBRUARY 28	TALL FESCUE	1	40
	PERENNIAL RYEGRASS	1	40
	PERENNIAL RYEGRASS	2	40
	TALL FESCUE	1	40

TEMPORARY SEEDING DETAIL



- NOTES:
- FILTER SOCKS SHALL BE 3 OR 5 MIL CONTINUOUS, TUBULAR, HDPE 3/8\"/>
 - 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\"/>
 - 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.
 - FILTER SOCKS SHALL BE PLACED AT LEAST 5' FROM THE TOE OF SLOPE FOR SEDIMENT DEPOSIT.
 - BUILT UP SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED 1/3 THE FILTER SOCK HEIGHT.
 - WHEN A FILTER SOCK IS NO LONGER REQUIRED, IT SHALL BE DISPERSED ON-SITE.
 - 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'
≥ 50%	≥ 2:1	N/A	25'	50'	75'

FILTER SOCK DETAIL
SCALE: NONE

- NOTES:
- 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.
 - 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".
 - 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.
 - MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING.
 - SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY OR HOT WEATHER OR ON ADVERSE SITE CONDITIONS.
 - 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.
 - 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	10-10-10	500	FALL, YEARLY, OR AS NEEDED	≥3"
DOMESTIC RYEGRASS				
KENTUCKY BLUEGRASS				
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	20 - 40	FOR CLOSE MOWING AND WATERWAYS WITH <2.0 FT./SEC. VELOCITY
DOMESTIC RYEGRASS	10 - 20	
KENTUCKY BLUEGRASS	20 - 40	
TALL FESCUE	40 - 50	
TURF-TYPE FESCUE	90	
STEEP BANKS OR CUT SLOPES		
TALL FESCUE	40 - 50	
CROWN VETCH	10 - 20	DO NOT SEED LATER THAN AUGUST
TALL FESCUE	20 - 30	
FLAT PEA	20 - 25	DO NOT SEED LATER THAN AUGUST
TALL FESCUE	20 - 30	
ROAD DITCHES AND SWALES		
TALL FESCUE	40 - 50	
TURF-TYPE FESCUE	90	
KENTUCKY BLUEGRASS	5	
LAWN		
KENTUCKY BLUEGRASS	100 - 120	
PERENNIAL RYEGRASS	100 - 120	
KENTUCKY BLUEGRASS	100 - 120	FOR SHADED AREAS
CREEPING RED FESCUE	100 - 120	

PERMANENT SEEDING DETAIL



DATE	REVISION	NO	BID	ISSUED FOR:	ISSUE DATE:	SCALE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:
			10/14/2025		10/14/2025	AS SHOWN			

THE VILLAGE OF LORDSTOWN
SALT SPRINGS ROAD WATER BOOSTER
STATION UPGRADE AND RELOCATION
 TRUMBULL COUNTY LORDSTOWN, OH

SWPPP DETAILS

PROJECT NO.	231265
DISCIPLINE	
SHEET NAME	SWP-03
SHEET	OF
19	19