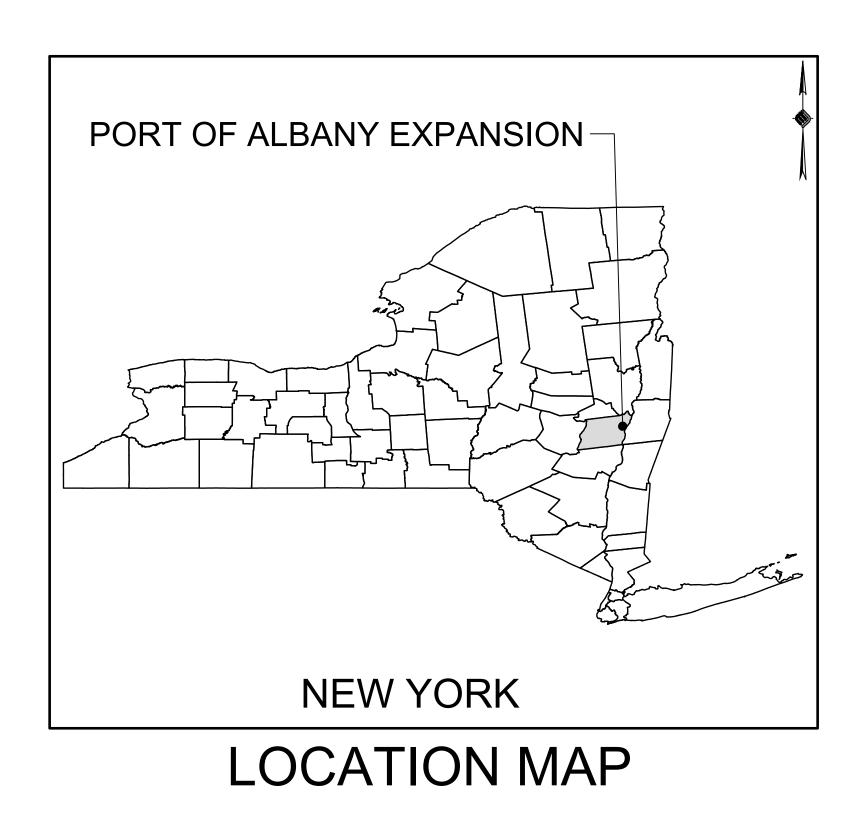
ALBANY PORT DISTRICT COMMISSION OFF-SITE INFRASTRUCTURE IMPROVEMENTS



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GRADING & DRAINAGE PLAN

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WORK ZONE TRAFFIC CONTROL GENERAL NOTES

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PAVEMENT MARKING DETAILS (SHEET 1)

WORK ZONE TRAFFIC CONTROL LEGEND AND NOTES

MISCELLANEOUS DETAILS (2 OF 2)

NUMBER

619-10

619-11

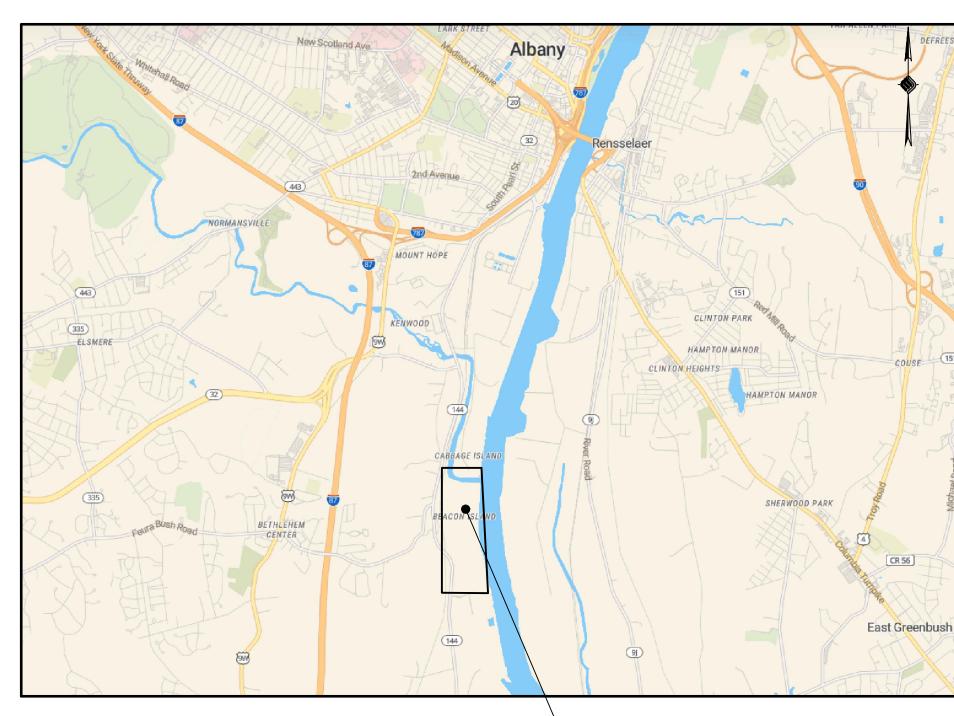
619-12

619-20

SHEET TITLE

FINAL DESIGN PLANS OCTOBER 22, 2021

TOWN OF BETHLEHEM
ALBANY COUNTY
NEW YORK



PORT OF ALBANY EXPANSION-

VICINITY MAP





ALBANY PORT DISTRICT COMMISSION
106 SMITH BOULEVARD
ALBANY, NEW YORK
(518) 463-8763
WWW.ALBANY.GOV

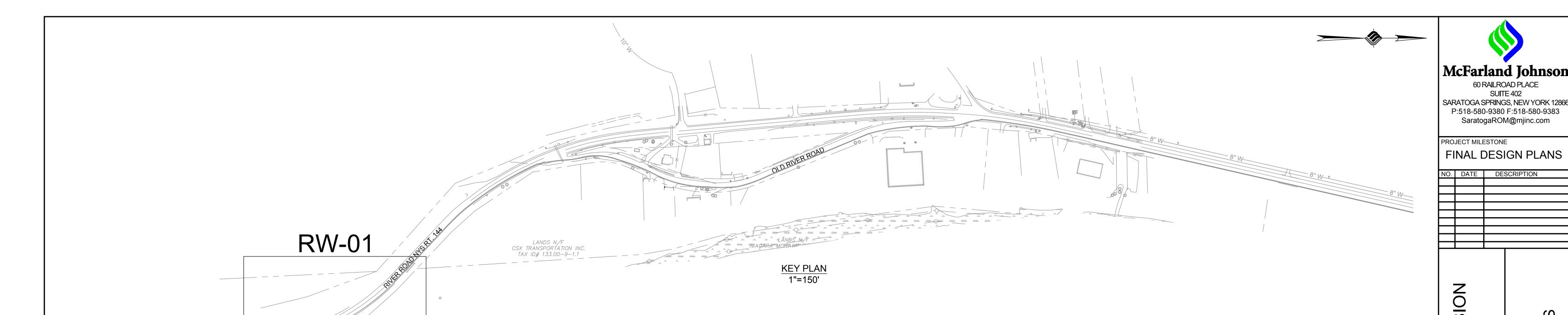
PREPARED BY:



MCFARLAND JOHNSON PROJECT # 18641.00

SEALED	ADAM J. FROSINO	
PE_NO	088870	
PE_DATE	OCTOBER 22, 2021	
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IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION. AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



GENERAL NOTES:

- THE UNDERGROUND STRUCTURES AND UTILITIES SHOWN ON THESE PLANS HAVE BEEN PLOTTED FROM A SURVEY PREPARED BY MASER CONSULTING P.A. 18 COMPUTER DRIVE EAST SUITE 203, ALBANY, NY 12205, DATED JULY 10, 2018 AND AVAILABLE SURVEYS AND RECORD MAPS BY OTHERS. MCFARLAND JOHNSON DOES NOT CERTIFY TO THE ACCURACY OF THEIR LOCATION AND/OR COMPLETENESS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND EXTENT OF ALL UNDERGROUND STRUCTURES AND UTILITIES PRIOR TO ANY DIGGING OR CONSTRUCTION ACTIVITIES IN THEIR VICINITY. THE CONTRACTOR SHALL HAVE ALL EXISTING UTILITIES FIELD STAKED BEFORE STARTING WORK BY CALLING 1-800-962-7962.
- 2. THE CONTRACTOR SHALL PERFORM ALL WORK IN COMPLIANCE WITH TITLE 29 OF FEDERAL REGULATIONS, PART 1926, SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION (OSHA).
- B. HIGHWAY DRAINAGE ALONG ALL ROADS AND PRIVATE DRIVES SHALL BE KEPT CLEAN OF MUD, DEBRIS ETC. AT ALL TIMES. ALL CATCH BASINS AND STORM SEWER MANHOLES SHALL BE CLEANED PRIOR TO ACCEPTANCE BY THE TOWN.
- 4. THE CONTRACTOR SHALL CONSULT THE DESIGN ENGINEER BEFORE DEVIATING FROM THESE PLANS.
- 5. IN ALL TRENCH EXCAVATIONS, CONTRACTOR MUST LAY THE TRENCH SIDE SLOPES BACK TO A SAFE SLOPE, USE A TRENCH SHIELD OR PROVIDE SHEETING AND BRACING. THE MEANS AND METHODS SHALL BE CERTIFIED BY A PROFESSIONAL ENGINEER.
- 6. EXCAVATED WASTE MATERIAL REMOVED FROM THE SITE SHALL BE PLACED AT A LOCATION ACCEPTABLE TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
- 7. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO MAINTAIN A MINIMUM OF 2' OF COVER OVER ALL EXISTING AND NEW STORM SEWER PIPES AND 4' OF COVER OVER ALL SANITARY PIPES DURING CONSTRUCTION.
- . ALL EXISTING SURFACE APPURTENANCES (I.E. WATER VALVES, CATCH BASIN FRAMES AND GRATES, MANHOLE COVERS) WITHIN THE PROJECT LIMITS SHALL BE ADJUSTED TO FINISHED GRADE. (NO SEPARATE PAYMENT).
- AREAS DISTURBED OR DAMAGED AS PART OF THIS PROJECT'S CONSTRUCTION THAT ARE OUTSIDE OF THE PRIMARY WORK AREA SHALL BE RESTORED, AT THE CONTRACTORS EXPENSE, TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
- 10. UNLESS COVERED BY THE CONTRACT SPECIFICATIONS OR AS NOTED ON THE PLANS, ALL WORK SHALL CONFORM TO THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS DATED JANUARY 8, 2015 AND ANY SUBSEQUENT REVISIONS.
- 11. THE CONTRACTOR SHALL BE RESPONSIBLE TO SECURE ALL PERMITS AND PROVIDE ALL BONDS REQUIRED FOR THIS WORK, INCLUDING BUT NOT LIMITED TO UTILITY CONNECTIONS, BUILDING AND SITE CONSTRUCTION.
- 12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODE AND/OR UTILITY SERVICE COMPANIES. THIS SHALL BE COMPLETED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICES.
- 13. MAINTENANCE AND PROTECTION OF TRAFFIC ALONG WITH SECURING THE WORK AREA SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 14. THE CONTRACTOR SHALL LOCATE, MAKE, SAFEGUARD AND PRESERVE ALL SURVEY CONTROL MONUMENTS AND ROW MONUMENTS IN THE AREAS OF CONSTRUCTION.
- 15. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND SAFETY PROCEDURES. THE OWNER AND/OR ARCHITECT/ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUB CONTRACTOR OR THEIR AGENTS, EMPLOYEES OR ANY OTHER PERSON PERFORMING ANY OF THE WORK.
- 16. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATION ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATION OR APPLICABLE CODES, IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE OWNERS REP. IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE OWNERS REP. SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

SEQUENCE OF CONSTRUCTION

- . HOLD A PRE-CONSTRUCTION MEETING WITH PROJECT MANAGER, OPERATOR'S ENGINEER, CONTRACTORS & SUB-CONTRACTORS, AND REPRESENTATIVES OF THE TOWN OF BETHLEHEM (MS4) PRIOR TO LAND DISTURBING ACTIVITIES.
- 2. HAVE A QUALIFIED PROFESSIONAL CONDUCT AN ASSESSMENT OF THE SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND CERTIFY IN AN INSPECTION REPORT THAT THE APPROPRIATE EROSION AND SEDIMENT CONTROLS DESCRIBED IN THE SWPPP AS REQUIRED BY THE SPDES GP-0-15-002 HAVE BEEN ADEQUATELY INSTALLED OR IMPLEMENTED TO ENSURE OVERALL PREPAREDNESS OF THE SITE FOR THE COMMENCEMENT OF CONSTRUCTION.
- 3. CONSTRUCT TEMPORARY STABILIZED CONSTRUCTION ENTRANCE AT LOCATION SHOWN ON THE DRAWINGS.
- 4. INSTALL PERIMETER CONTROLS AND INLET PROTECTION AT THE LOCATIONS SHOWN ON THE DRAWINGS.
- 5. CONSULT A QUALIFIED PROFESSIONAL TO PERFORM A SITE INSPECTION AND VERIFY THAT THE INITIAL PHASE OF EROSION CONTROL DEVICES HAVE BEEN INSTALLED PER THE DRAWINGS PRIOR TO COMMENCEMENT OF GROUND DISTURBANCE
- 6. BEGIN CLEARING AND GRUBBING OPERATIONS. CLEARING AND GRUBBING SHALL ONLY BE DONE IN AREAS WHERE EARTHWORK WILL BE PERFORMED.
- 7. STRIP AND STOCKPILE TOPSOIL, INSTALL PERIMETER EROSION CONTROL AROUND STOCKPILES, SEED AND MULCH PER PLANS.
- 8. COMMENCE EARTHWORK CUTS AND FILLS. WORK SHALL BE PROGRESSED TO ALLOW A REASONABLE TRANSFER OF CUT AND FILL FOR ROUGH GRADING AND EARTH MOVING FOR BULK SITE GRADING.
- 9. STABILIZE ALL AREAS IDLE IN EXCESS OF 7 DAYS IN WHICH CONSTRUCTION WILL NOT COMMENCE WITHIN 7 DAYS.
- 10. ADJUST THE EROSION AND SEDIMENT CONTROL PRACTICES AS REQUIRED FOR CONTINUING CONSTRUCTION AS SHOWN ON THE EROSION & SEDIMENT CONTROL PLAN. THIS SHALL BE A PHASED ADJUSTMENT IN ORDER TO ENSURE THAT RUNOFF FROM ALL DISTURBED AREAS IS TREATED BY APPROPRIATE EROSION AND SEDIMENT CONTROL DEVICES.
- 11. BEGIN UTILITY INSTALLATION AND BACKFILL. UTILITY INSTALLATION AREA SHALL BE STABILIZED WITH SEED AND MULCH PROGRESSIVELY AT THE END OF EACH WORK DAY
- 12. CONSTRUCT CATCH BASINS, AREA INLETS AND STORM SEWER MANHOLES, AS SHOWN ON THE PLANS.
- 13. INSTALL INLET/OUTLET PROTECTION PROGRESSIVELY AS THE STORM SEWER IS INSTALLED
- 14. AS LAWN/LANDSCAPED AREAS ARE BROUGHT TO GRADE, STABILIZE WITH TOPSOIL, SEED AND MULCH PER SPECIFICATIONS.
- 15. FINALIZE PAVEMENT SUB-GRADE PREPARATION.
- 16. INSTALL ASPHALT SUB-BASE MATERIAL AS REQUIRED FOR PAVEMENT.
- 17. CARRY OUT ALL FINAL GRADING, STABILIZE SLOPES GREATER THAN 3H:1V WITH HEIGHTS EXCEEDING 5 FEET WITH EROSION CONTROL MATTING/BLANKETS, AND SEED AND MULCH ALL DISTURBED AREAS.
- 18. A QUALIFIED PROFESSIONAL SHALL PERFORM A SITE ASSESSMENT TO CONFIRM THAT ALL PERMANENT STORMWATER DEVICES HAVE BEEN INSTALLED PER PLANS AND 80% UNIFORM GERMINATION/STABILIZATION HAS BEEN ACHIEVED PRIOR TO THE REMOVAL OF ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROLS.

WATER MAIN INSTALLATION:

- 1. WATER SERVICE LINE (LATERALS) SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REGULATIONS AND SPECIFICATIONS OF THE ALBANY COUNTY HEALTH DEPARTMENT, AND THE LOCAL WATER AUTHORITY.
- 2. ALL EROSION CONTROL MEASURES SHALL BE EMPLOYED DURING ALL PHASES OF CONSTRUCTION IN ACCORDANCE WITH ALL APPROPRIATE STANDARDS AND REQUIREMENTS. BEST MANAGEMENT PRACTICES ARE TO BE FOLLOWED.
- 3. WATER MAINS AND ALL WATER SERVICE LINES SHALL HAVE A MINIMUM OF 5 FEET OF COVER FROM FINISH GRADE TO TOP OF PIPE.
- 4. THE MINIMUM VERTICAL SEPARATION BETWEEN WATER MAINS AND SEWER MAINS SHALL BE 18" MEASURED FROM THE OUTSIDE OF THE PIPES AT THE POINT OF CROSSING. THE MINIMUM HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SEWER MAINS SHALL BE 10 FEET MEASURED FROM THE OUTSIDE OF THE PIPES. ONE FULL LENGTH OF WATER MAIN SHALL BE CENTERED UNDER OR OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE, WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT (COMPACTED SELECT FILL) SHALL BE PROVIDED FOR THE SEWERS TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING ON AND BREAKING THE WATER MAINS.
- 5. HYDRANT TYPE SHALL BE AS NOTED ON THE PLANS OR AS REQUIRED BY THE TOWN OF BETHLEHEM. GUARD VALVES SHALL BE USED AND ALL HYDRANT STUB PIPING SHALL BE MECHANICAL JOINT. FIRE HYDRANT WEEP HOLES (DRAINS) SHALL BE PLUGGED WHEN GROUND WATER IS ENCOUNTERED WITHIN 7 FEET OF THE FINISHED GRADE. ALL PLUGS SHALL BE MECHANICAL METAL PLUGS. ALL HYDRANTS WITH PLUGGED WEEP HOLES SHALL BE APPROPRIATELY TAGGED.
- 6. ALL MECHANICAL JOINTS, FITTINGS (TEES, BENDS, PLUGS), ETC. SHALL BE BACKED WITH 3,000 P.S.I. CONCRETE THRUST BLOCKS OR APPROVED MECHANICAL RESTRAINTS
- 7. WHERE PIPING IS TO BE PLACED WITHIN FILL AREAS, THE FILL SHALL BE PLACED AND COMPACTED TO AT LEAST 95% MODIFIED PROCTOR PRIOR TO TRENCH EXCAVATION
- 8. SHUTDOWN OF EXISTING WATER MAINS SHALL BE IN ACCORDANCE WITH THE LOCAL WATER AUTHORITY. THE TOWN OF BETHLEHEM WATER AND SEWER MANAGER MUST BE NOTIFIED IN ADVANCE OF ALL PROPOSED SHUTDOWNS IN ACCORDANCE WITH THEIR DIRECTION. WATER MUST BE TURNED BACK ON AS SOON AS POSSIBLE. ALL ENDS OF WATER MAINS MUST BE PROVIDED WITH ADEQUATE PLUG, BLOCK, AND BLOW-OFF AS INDICATED ON THE PLANS.
- 5. WATER SERVICE LINES SHALL BE SEPARATED AT LEAST 10 FEET, MEASURED FROM OUTSIDE OF THE PIPES, FROM SEWER MAINS AND SEPTIC SYSTEMS.
- 6. BACKFLOW PREVENTION SHALL BE PROVIDED IN BUILDING.
- 7. BACKFLOW PREVENTION APPLICATION MUST BE SUBMITTED TO AND APPROVED BY THE SUPPLIER WHO WILL FORWARD THE PLANS TO THE NYS DEPARTMENT OF HEALTH FOR THEIR APPROVAL. THE APPROVAL PROCESS MUST BE COMPLETED PRIOR TO INSTALLATION. THE APPROVAL PROCESS SHOULD BE STARTED EARLY TO AVOID UNNECESSARY DELAYS OR CONFLICTS WITH OTHER HEALTH DEPARTMENT APPROVALS.

WATER MAIN MATERIALS:

- 1. ALL WATER MAINS AND SERVICE MATERIALS SHALL BE IN CONFORMANCE WITH THE TOWN OF BETHLEHEM STANDARD SPECIFICATION MANUAL.
- 2. CEMENT-LINED DUCTILE-IRON (DI) PIPE OF 12" DIAM. MUST BE CLASS 52 MINIMUM CONFORMING WITH THE LATEST REVISION OF ANSI/AWWA C151/A21.51 STANDARD WITH UNDERWRITERS LABORATORIES, FACTORY MUTUAL AND NSF 61 APPROVALS. THE PIPE JOINTS SHALL USA A SINGLE, ELONGATED GASKET TO AFFECT THE JOINT SEAL. THE PIPE SHALL BE PAINT SEAL COATED IN CONFORMANCE WITH ANSI/AWWA C104/A21.4. ALL BURIED DI PIPE, FITTINGS, AND APPURTANCES SHALL WRAPPED WITH A MINIMUM 8 MIL. POLYETHYLENE WRAP AS PER LATEST REVISION OF ANSI/AWWA C105 STANDARD.
- 3. HIGH DENSITY POLYETHYLENE (HDPE) PRESSURE PIPE SHALL BE DUCTILE IRON PIPE SIZES DR-17 OR DR-11, JOINED BY MEANS OF ZERO LEAK-RATE HEAT FUSION OF ELECTRO FUSION, MEETING REQUIREMENTS OF AWWA C906. #10 HDPE HIGH-FLEX STAINLESS STEEL TRACER CABLE IS REQUIRED TO BE INSTALLED ALONG CENTERLINE OF MAINLINE.

WATER <u>SYSTEM TESTS:</u>

- 1. SOIL TEST. THE CONTRACTOR SHALL PROVIDE A SOIL TEST EVALUATION TO DETERMINE THE NEED FOR POLYETHYLENE ENCASEMENT PER ANSI/AWWS C105/AZ1.5-82 PRIOR TO WATER MAIN INSTALLATION. SOIL TESTING SHALL BE CONDUCTED BY AN APPROVED SOIL TESTING LABORATORY IN ACCORDANCE WITH LOCAL WATER AUTHORITY STANDARDS.
- 2. WATER PIPING SHALL BE FLUSHED AND TESTED IN CONFORMANCE WITH THE LATEST REVISION OF ANSI/AWWA C600 STANDARD FOR DUCTILE IRON PIPE, C605 FOR PVC PIPE, OR EQUIVALENT OF C600 AND/OR C605 FOR PE PIPE.
- 3. THE PROPOSED WORKS MUST CONFORM TO THE LATEST REVISION OF ANSI/AWWA C651 STANDARD, TABLET METHOD EXCEPTED. FOLLOWING FLUSHING AND TESTING, THE ENGINEER SHALL OVERSEE COLLECTION OF AN APPROPRIATE NUMBER OF BACTERIOLOGICAL SAMPLES FOR THE TOTAL AND FECAL COLIFORM AND FOR STANDARD BACTERIAL PLATE COUNT AFTER THE FIELD FREE CHLORINE RESIDUAL IS LESS THAN 1.5 PPM AND THE SAMPLING POINTS HAVE BEEN DECONTAMINATED. PRIOR TO SAMPLING, THE ENGINEER SHALL COORDINATE THE APPROPRIATE NUMBER AND LOCATION OF SAMPLES TO BE COLLECTED WITH THE ALBANY COUNTY HEALTH DEPARTMENT.
- 4. THE COMPLETED WORKS SHALL BE VERIFIED WITH ALBANY COUNTY HEALTH DEPARTMENT. PRIOR TO ISSUANCE, A NYS-LICENCED PROFESSIONAL ENGINEER MUST SUBMIT CERTIFICATION TO THE HEALTH DEPARTMENT THAT: THEY OR THEIR DESIGNATED REPRESENTATIVE WITNESSED THAT CONSTRUCTION WAS IN CONFORMANCE WITH THE PLANS AS APPROVED; FLUSHING, TESTING, AND DISINFECTION PROCEDURES NOTED HEREIN HAD BEEN PROPERLY PERFORMED; AND, MICROBACTERIAL SAMPLE RESULTS FROM THE COMPLETED WORKS WERE ACCEPTABLE. COPIES OF THE OFFICIAL LABORATORY RESULTS ARE TO BE INCLUDED WITH THE CERTIFICATION.
- 5. FIRE HYDRANTS ARE NOT ACCEPTABLE TESTING/SAMPLING POINTS.
- 6. WATER SERVICE LINES SIZED 4-INCHES OR GREATER SHALL BE:

- PRESSURE TESTED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS OF THE LOCAL WATER AUTHORITY. THE PRESSURE TEST SHALL BE WITNESSED BY A REPRESENTATIVE FROM THE LOCAL WATER AUTHORITY.

- DISINFECTION BY USING THE CONTINUOUS FEED METHOD ACCORDING TO AWWA STANDARD SPECIFICATIONS. AFTER FLUSHING AND DISINFECTING THE SERVICE LINE, WATER SAMPLES SHALL BE COLLECTED BY THE ALBANY COUNTY HEALTH DEPARTMENT. APPROVAL AND NOTIFICATION BY THE HEALTH DEPARTMENT MUST BE RECEIVED BEFORE THE LATERAL IS PLACED IN SERVICE.

DIRECTIONAL BORING/DRILLING NOTES:

- CONTRACTOR SHALL OBTAIN HIGHWAY WORK PERMIT FROM NYSDOT PRIOR TO COMMENCING UTILITY WORK. REFER TO NYSDOT "BLUE BOOK" FOR GUIDANCE, SUBMITTAL INFORMATION AND DETAILS. GUIDANCE WITHIN "BLUE BOOK" SUPERCEDES NOTES 2-7 BELOW.
- 2. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A WORK PLAN OUTLINING THE PROCEDURE AND SCHEDULE TO BE USED TO EXECUTE THE DIRECTIONAL BORING.
- CONTRACTOR SHALL SUBMIT SPECIFICATIONS ON DIRECTIONAL BORING EQUIPMENT TO BE USED AND ENSURE THAT THE EQUIPMENT WILL BE ADEQUATE TO COMPLETE THE PROJECT.
- 4. THE DIRECTIONAL BORING EQUIPMENT SHALL CONSIST OF A DIRECTIONAL BORING RIG OF SUFFICIENT CAPACITY TO PERFORM THE BORE AND PULLBACK THE PIPE, A BORING FLUID MIXING & DELIVERY SYSTEM OF SUFFICIENT CAPACITY TO SUCCESSFULLY COMPLETE THE RUNS, A GUIDANCE SYSTEM TO ACCURATELY GUIDE BORING OPERATIONS AND TRAINED AND COMPETENT PERSONNEL TO OPERATE THE SYSTEM. ALL EQUIPMENT SHALL BE IN GOOD, SAFE OPERATING CONDITION WITH SUFFICIENT SUPPLIES, MATERIALS AND SPARE PARTS ON HAND TO MAINTAIN THE SYSTEM IN GOOD WORKING ORDER FOR THE DURATION OF THIS PROJECT.
- 5. THE ENGINEER MUST BE NOTIFIED 48 HOURS IN ADVANCE OF STARTING A BORE. THE DIRECTIONAL BORE SHALL NOT BEGIN UNTIL THE ENGINEER IS PRESENT AT THE SITE. THE ENGINEER'S APPROVAL FOR BEGINNING THE INSTALLATION SHALL IN NO WAY RELIEVE THE CONTRACTOR OF THE ULTIMATE RESPONSIBILITY FOR THE SATISFACTORY COMPLETION OF THE WORK.
- CONTRACTOR SHALL NOT COMMENCE BORING OPERATIONS UNTIL THE LOCATION OF ALL UNDERGROUND UTILITIES WITHIN THE WORK AREA HAVE BEEN VERIFIED AND MARKED OUT.
- VERIFIED AND MARKED OUT.

 7. FOLLOWING BORING OPERATIONS, CONTRACTOR WILL DE-MOBILIZE EQUIPMENT

AND RESTORE THE WORK-SITE TO ITS ORIGINAL CONDITION. ALL EXCAVATIONS

WILL BE BACKFILLED AND COMPACTED TO 95% OF ORIGINAL DENSITY.

8. CONTRACTOR SHALL PROVIDE SUBMITTAL DESCRIBING IN DETAIL PROPOSED

METHOD AND ENTIRE OPERATION INCLUDING, BUT NOT LIMITED TO:

- A. SIZE, CAPACITY AND ARRANGEMENT OF EQUIPMENT.
- B. LOCATION AND SIZE OF DRILLING AND RECEIVING PITS AS REQUIRED.C. DEWATERING AND METHODS OF REMOVING SPOILS MATERIAL.
- D. METHOD OF INSTALLING DETECTION WIRE AND PIPE.E. TYPE, LOCATION AND METHOD OF INSTALLING LOCATOR STATION.
- F. METHOD OF FUSION PIPE SEGMENT AND TYPE OF EQUIPMENT.
 G. TYPE OF CUTTING HEAD.
- H. METHOD OF MONITORING AND CONTROLLING LINE AND GRADE.I. DETECTION OF SURFACE MOVEMENT.
- J. BENTONITE DRILLING MUD FOR INFORMATION ONLY:i. PRODUCTS INFORMATION, MATERIAL SPECIFICATIONS, AND HANDLING
- PROCEDURES.
- ii. MATERIAL SAFETY DATA SHEET AND SPECIAL PRECAUTIONS REQUIRED.iii. METHOD OF MIXING AND APPLICATION.
- K. DETECTABLE WARNING TAPE.
- L. PROPERTIES OF BENTONITE-CEMENT ANNULAR SPACE FILL MATERIAL

PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSEL PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOF SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF

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JES

NSO

AJF

1"=150'

OCTOBER 22, 2021

18641.00

DRAWN

DESIGNED

CHECKED

PROJECT

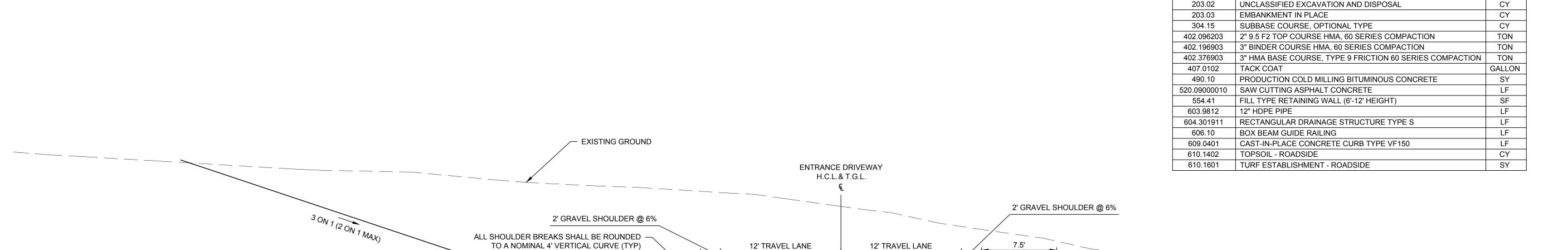
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GENERAL NOTES

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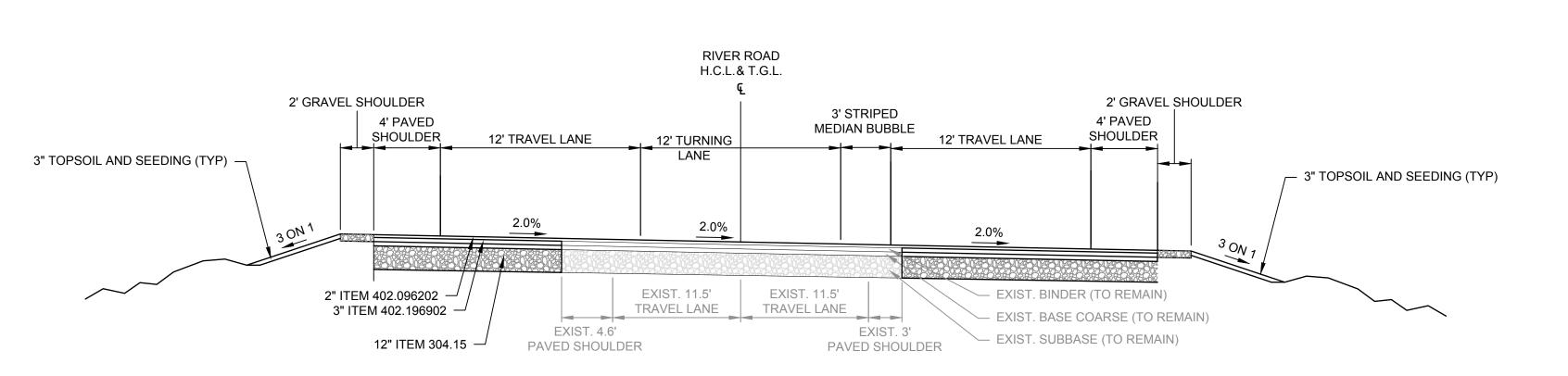
GN-01





2" ITEM 402.096202 - 3" ITEM 402.196902

12" ITEM 304.15 -



PROPOSED DRIVEWAY
STA. 0+00 TO 1+75

PAVEMENT CONSTRUCTION NOTES

- 1. HMA ITEMS ARE BASED ON PG 64-22 BINDER, ESALS LESS THAT 30,000,000. TACK COAT IS REQUIRED BETWEEN ALL LIFTS OF ASPHALT. TACK COAT IS REQUIRED BETWEEN ALL LIFTS OF ASPHALT. USE OF POLYPHOSPHORIC ACID (PPA) TO MODIFY THE PG BINDER PROPERTIES IS PROHIBITED. THIS PROHIBITION ALSO APPLIES TO THE USE OF PPA AS A CROSS-LINKING AGENT FOR POLYMER MODIFICATION.
- 2. BUTT JOINTS, CREATED BY A FULL-DEPTH SAW-CUT ITEM #627.50140008, SHALL BE USED BETWEEN NEW AND EXISTING PAVEMENTS. THE ASPHALT TOP COURSE SHALL BE LAID SUCH THAT IT UNIFORMLY OVERLAPS THE ADJACENT COLD MAT BY 2"-3". THE THICKNESS OF THE OVERLAP MATERIAL SHALL BE 1/4 THE COMPACTED THICKNESS OF THE COURSE, SO AS TO RESULT IN A SMOOTH AND WELL COMPACTED JOINT AFTER ROLLING. BROADCASTING OF THE OVERLAP MATERIAL ONTO THE LANE IS NOT ALLOWED. IF THE OVERLAP IS EXCESSIVE, THE EXCESS MATERIAL SHALL BE TRIMMED OFF SO THAT THE MATERIAL ALONG THE JOINT IS UNIFORM. THE COARSE PARTICLES OF AGGREGATE IN THE OVERLAP MATERIAL SHALL BE REMOVED AND WASTED IF DEEMED NECESSARY BY THE INSPECTOR. ASPHALT PAVEMENT JOINT ADHESIVE SHALL BE USED ON VERTICAL FACES FOR ALL OF THE JOINTS ON THE SURFACE COURSE SUCH AS LONGITUDINAL, TRANSVERSE AND OTHER JOINTS BUTTING AGAINST THE NEW ASPHALT PAVEMENT.
- 3. <u>DESIGN PGB CONTENT SELECTION</u>
- THE PRODUCER SELECTS THE DESIGN PGB CONTENT AT THE BINDER CONTENT THAT RESULTS IN COMPACTED DENSITY OF 96.5% GMM AT THE DESIGN NUMBER OF GYRATIONS (NDESIGN). UNDER NO CIRCUMSTANCES SHALL THE PERFORMANCE GRADED BINDER CONTENT IN THE HMA MIXTURE BE LESS THAN 5.8% FOR A 9.5 DESIGN, 5.2% FOR A 12.5 DESIGN, 4.5 FOR A 19.0 DESIGN, 4.2% FOR A 25.0 DESIGN, OR 3.7% FOR A 37.5 DESIGN. ALL VOLUMETRIC AND MECHANICAL PROPERTIES ARE CHECKED AT THIS PGB CONTENT TO ENSURE THAT ALL REQUIREMENTS ARE MET.
- 4. PERFORM ALL WARRANTY WORK IN ACCORDANCE WITH MATERIALS PROCEDURE (MP) 402-01, WARRANTY REQUIREMENTS FOR HOT MIX ASPHALT (HMA) TOP COURSE.
- 5. AS PER STANDARD SPECIFICATION SECTION 401-4.01 CERTIFIED PRODUCTION, PRODUCTION LESS THAN 500 TONS, AND HIGHWAY PERMIT PRODUCTION, PRODUCTION MEETING THE SPECIFICATION REQUIREMENTS WILL BE ASSIGNED A QAF OF 1.00. PRODUCTION FAILING TO MEET THE SPECIFICATION REQUIREMENTS WILL BE SUBJECT TO EVALUATION ACCORDING TO SECTION 401-4.03, EVALUATION OF SUB-LOTS REPRESENTED BY 0.85 QAF.

RIVER ROAD (NYS RT 144) STA. 3+26 TO 9+24

McFarland Johnson

60 RAILROAD PLACE
SUITE 402
SARATOGA SPRINGS, NEW YORK 12866
P:518-580-9380 F:518-580-9383
SaratogaROM@mjinc.com

UNIT

DESCRIPTION

─ 3" TOPSOIL AND SEEDING (TYP)

PROJECT MILESTONE
FINAL DESIGN PLANS

NO. DATE DESCRIPTION

COMMISSION
-P-SITE

ALBANY, NEW YORK

PROJECT:

DRAWN JES

DESIGNED NSO

CHECKED AJF

SCALE N.T.S.

DATE OCTOBER 22, 2021

PROJECT 18641.00

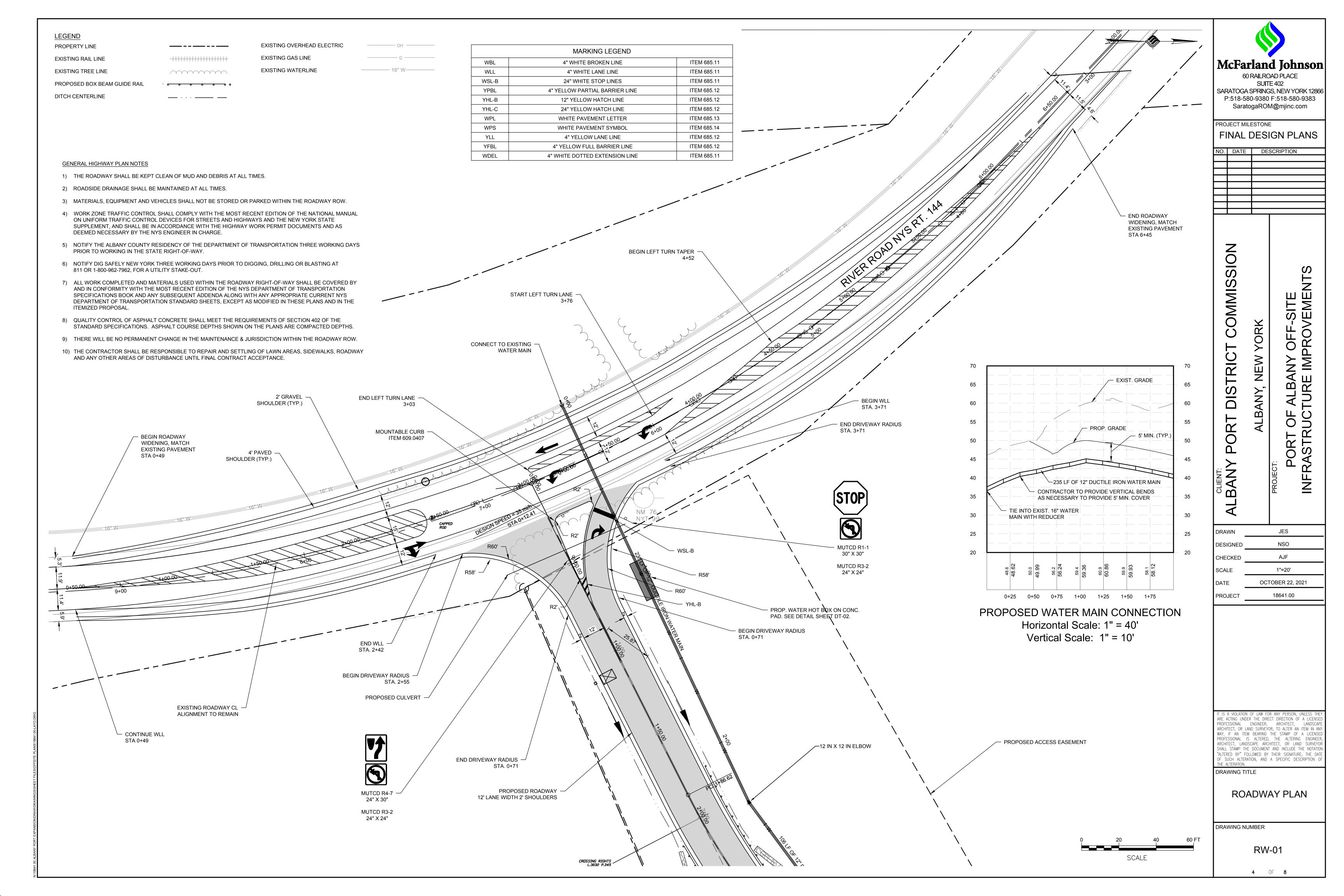
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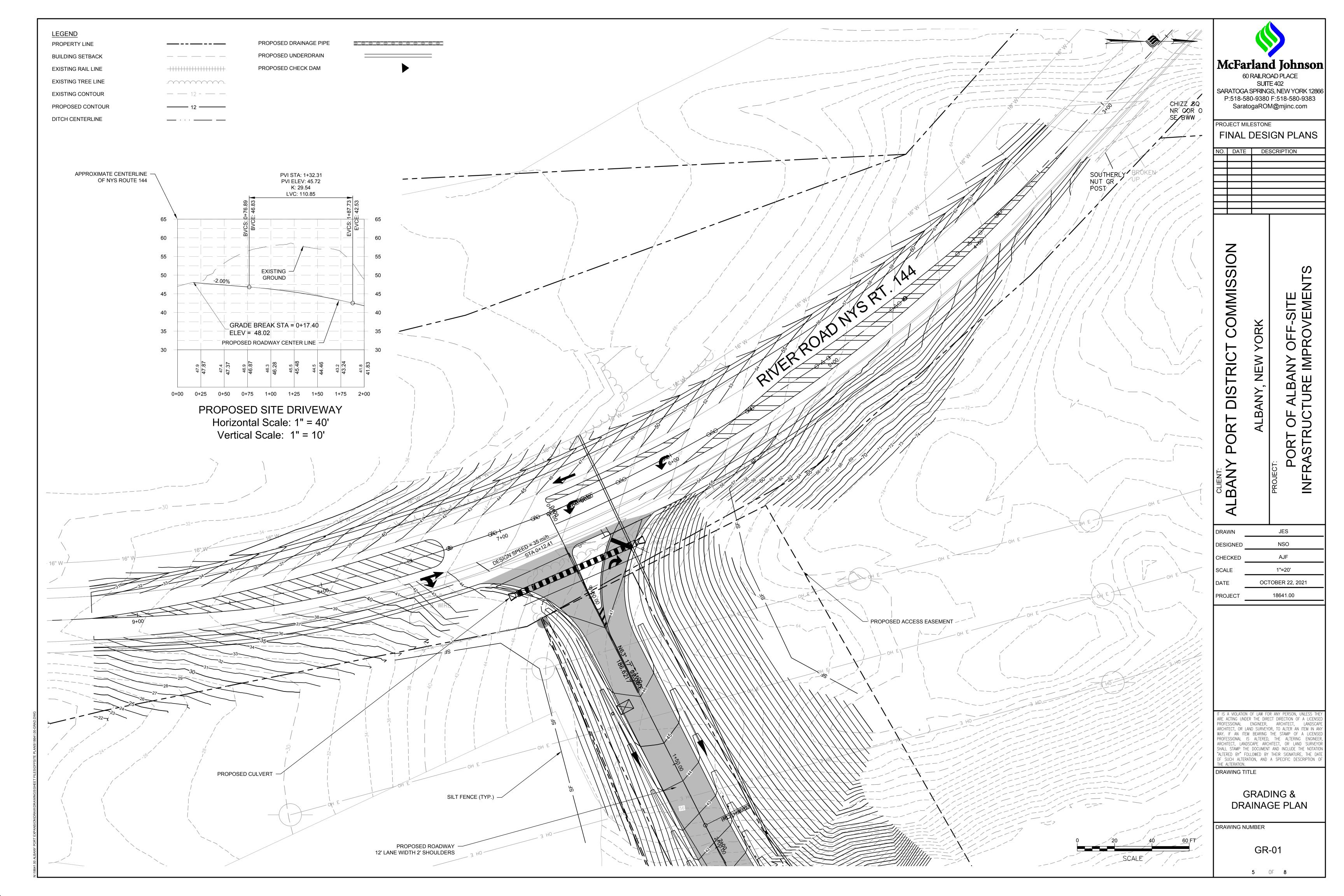
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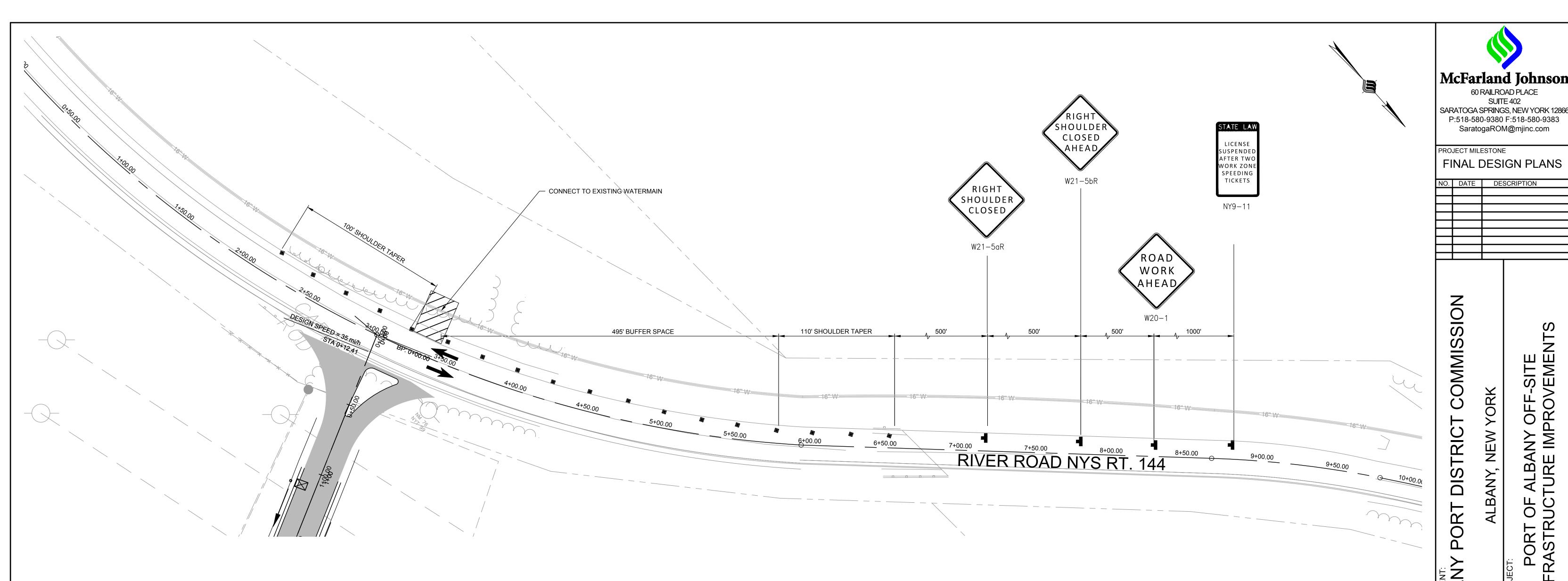
TYPICAL SECTIONS

DRAWING NUMBER

TP-01







WORK ZONE TRAFFIC CONTROL

GENERAL

- 1. THE TYPICAL DETAILS DEPICTED ON THE STANDARD SHEETS AND IN THE MUTCD, REFLECT THE MINIMUM REQUIREMENTS.
- 2. THE CONTRACTOR MUST SUBMIT TO THE ENGINEER, IN WRITING, PROPOSED REVISIONS TO THE TRAFFIC CONTROL PLAN FOR REVIEW AND APPROVAL BY THE REGIONAL DIRECTOR OR HIS/HER DESIGNEE FIVE (5) WORK DAYS PRIOR TO THE PLANNED IMPLEMENTATION OF SUCH PROPOSED REVISIONS, EXCEPT FOR CHANGES THAT ALTER THE SCOPE OF THE TRAFFIC CONTROL PLAN. SUCH

CHANGES IN SCOPE MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL BY THE REGIONAL DIRECTOR OR HIS/HER DESIGNEE THIRTY (30) WORKING DAYS PRIOR TO IMPLEMENTATION OF SUCH REVISIONS.

3. THE CONTRACTOR SHALL PROVIDE THE ENGINEER, IN WRITING, WITH THE NAMES, ADDRESSES, AND TELEPHONE NUMBERS OF STAFF WHO ARE AUTHORIZED TO SECURE LABOR, MATERIALS, AND EQUIPMENT FOR EMERGENCY REPAIRS OUTSIDE NORMAL WORKING HOURS, THE ENGINEER WILL PROVIDE THE SUBMITTED INFORMATION TO REGIONAL MANAGEMENT, THE NEW YORK STATE POLICE, THE RESIDENT ENGINEER, AND THE LOCAL POLICE.

ACTIVITY AREA

- 1. THE CONTRACTOR SHALL MAINTAIN A MINIMUM 500' LONGITUDINAL DISTANCE BETWEEN CONSTRUCTION OPERATIONS ON ALTERNATE SIDES OF THE ROADWAY, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- 2. WHEN TWO OR MORE AREAS ARE ADJACENT, OVERLAP, OR ARE IN CLOSE PROXIMITY, THE CONTRACTOR SHALL ENSURE THERE ARE NO CONFLICTING SIGNS AND THAT LANE CONTINUITY IS MAINTAINED THROUGHOUT ALL WORK AREAS.

LANE WIDTHS

- 1. UNLESS AUTHORIZED BY THE ENGINEER, THE MINIMUM LANE WIDTHS FOR WORK ZONE TRAVEL LANES SHALL BE AS FOLLOWS: FREEWAYS AND/OR EXPRESSWAYS IS 11'. THE MINIMUM LANE WIDTH FOR ALL OTHER TYPES OF ROADWAYS IS 10'.
- 2. THE CONTRACTOR SHALL PROVIDE A WRITTEN NOTICE TO THE ENGINEER, A MINIMUM OF 21 CALENDAR DAYS IN ADVANCE OF PERFORMING ANY WORK THAT RESULTS IN THE REDUCED WIDTH OF AN EXISTING ROADWAY, SO THAT THE ENGINEER MAY NOTIFY THE REGIONAL PERMIT ENGINEER IN A TIMELY MANNER.

SIGNS

- 1. THE LOCATIONS OF THE SIGNS SHOWN ON THE WORK ZONE TRAFFIC CONTROL PLANS AND DETAILS MAY BE ADJUSTED BASED ON SIGHT DISTANCE AND OTHER CONSIDERATIONS. THE FINAL LOCATIONS OF SIGNS ARE SUBJECT TO APPROVAL OF THE ENGINEER.
- 2. ANY EXISTING SIGNS, INCLUDING OVERHEAD SIGNS, WHICH CONFLICT WITH THE TEMPORARY TRAFFIC CONTROL SIGN LAYOUT SHALL BE COVERED, REMOVED, STORED OR RESET. AS APPROVED BY THE ENGINEER. ALL APPROPRIATE EXISTING SIGNS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND/OR LOCATION UNLESS OTHERWISE REPLACED IN THIS CONTRACT.
- 3. SIGNS AT OR NEAR INTERSECTIONS SHALL BE PLACED SO THAT THEY DO NOT
- OBSTRUCT A MOTORIST'S LINE OF SIGHT. 4. ALL WARNING AND REGULATORY SIGNS SHALL BE POSTED ON BOTH SIDES OF MULTI-LANE RAMPS, AND ONE-WAY STREETS. IN CASES WHERE LANE RESTRICTIONS REDUCE THE TRAVEL LANE TO ONE LANE, SIGNS SHALL BE POSTED ON THE RIGHT
- ENGINEER. 5. THE DIMENSIONS OF WORK ZONE TRAFFIC CONTROL SIGNS ARE DESCRIBED IN THE MUTCD. ANY CHANGES TO THE DIMENSIONS SHALL BE APPROVED BY THE REGIONAL DIRECTOR OR BY HIS/HER DESIGNEE

SIDE OF THE ACTIVE TRAVEL LANE, UNLESS OTHERWISE AUTHORIZED BY THE

- 6. NYR9-12 MAY BE USED IN PLACE OF NYR9-11.
- 7. W3-3 AND FLASHING BEACON SHALL BE PLACED AT THE LOCATIONS SHOWN AFTER SIGNAL IS OPERATIONAL. FLASHING BEACON WILL BE LEFT IN PLACE FOR 30 (THIRTY) DAYS AFTER SIGNAL BECOMES OPERATIONAL.

BARRIER/SHADOW VEHICLES

- 1. BARRIER AND SHADOW VEHICLES SHALL BE REQUIRED AS PER STANDARD SHEET TITLED "WORK ZONE TRAFFIC CONTROL LEGENDS AND NOTES".
- 2. NO WORK ACTIVITY, EQUIPMENT, VEHICLES AND/OR MATERIALS SHALL BE LOCATED BETWEEN THE BARRIER OR SHADOW VEHICLE AND THE ACTIVE WORK AREA (ROLL AHEAD DISTANCE).
- 3. THE CONTRACTOR MAY BE REQUIRED TO PROVIDE A BARRIER VEHICLE IN CONJUNCTION WITH POLICE PRESENCE IN THE WORK ZONE, TO BE INCLUDED IN THE UNIT BID PRICE FOR BASIC WORK ZONE TRAFFIC CONTROL.

CHANNELIZING DEVICES

1. WHERE POSSIBLE ALL CHANNELIZING AND GUIDING DEVICES ARE TO BE PLACED SO AS TO PROVIDE A MINIMUM 2' LATERAL CLEARANCE TO THE TRAVELED WAY.

LANE CLOSURES

- 1. THE DEPARTMENT RETAINS THE RIGHT TO CANCEL ANY WORK OPERATIONS INCLUDING LANE CLOSURE AND/OR TOTAL ROAD CLOSURES THAT WOULD BE AFFECTED BY UNFORESEEN MAJOR EVENTS THAT MAY CREATE TRAFFIC DELAYS SEVEN (7) CALENDAR DAYS PRIOR TO THE PROPOSED WORK. SPECIFIC DATES ARE YET TO BE DETERMINED.
- 2. PEDESTRIAN ACCOMODATIONS MUST BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.

DAILY CLOSURE RESTRICTIONS

THERE SHALL BE NO TEMPORARY LANE CLOSURES ON STATE HIGHWAYS DURING THE FOLLOWING DAYS AND TIMES: MONDAY - FRIDAY: 6:00 A.M. THROUGH 9:00 A.M. 3:00 P.M. THROUGH 6:00 P.M.

HOLIDAY CLOSURE RESTRICTIONS

THERE SHALL NOT BE TEMPORARY LANE CLOSURES ON (RTE 9) DURING THE FOLLOWING DATES:

6:00 AM, TUESDAY, DECEMBER 31, 2019 THRU 6:00 AM, THURSDAY JANUARY 2, 2020 - (NEW YEAR'S DAY) 6:00 AM, FRIDAY, MAY 22, 2020 THRU 6:00 AM TUESDAY, MAY 26, 2020 - (MEMORIAL DAY HOLIDAY) 6:00 AM, THURSDAY, JULY 2, 2020 THRU 6:00 AM, MONDAY, JULY 6, 2020 - (INDEPENDENCE DAY HOLIDAY) 6:00 AM, FRIDAY, SEPTEMBER 4, 2020 THRU 6:00 AM, TUESDAY, SEPTEMBER 8, 2020 - (LABOR DAY HOLIDAY) 6:00 AM WEDNESDAY, NOVEMBER 25, 2020 THRU 6:00 AM MONDAY, NOVEMBER 30, 2020 - (THANKSGIVING DAY HOLIDAY) 6:00 AM THURSDAY, DECEMBER 24, 2020 THRU 6:00 AM MONDAY, DECEMBER 28, 2020 - (CHRISTMAS DAY HOLIDAY)

<u>LEGEND</u>

WORK ZONE CHANNELIZING DEVICE WORK ZONE SIGN DIRECTIONAL ARROWS RIGHT OF WAY

PUBLIC ACCESS

- 1. PROPERTY OWNERS WHOSE DRIVEWAYS WILL BE MADE INACCESSIBLE SHALL BE NOTIFIED BY THE CONTRACTOR AT LEAST 24 HOURS PRIOR TO RESTRICTING USE OF THE DRIVEWAY. FOR MULTIPLE ACCESS PROPERTIES, AT LEAST ONE DRIVEWAY SHALL BE OPEN AT ALL TIMES. ACCESS SHALL BE RESTORED TO ALL DRIVEWAYS AS SOON AS POSSIBLE.
- 2. SUITABLE RAMPS SHALL BE INSTALLED TO MAINTAIN SMOOTH TRANSITIONS FROM RESIDENTIAL AND COMMERCIAL DRIVEWAYS TO AND FROM THE WORK AREA.

- 1. LEFT LANE CLOSURES ARE SYMMETRICAL TO RIGHT LANE CLOSURES. SUBSTITUTE LEFT LANE CLOSED SIGN (W20-5) AND THE CORRESPONDING LANE ENDS SIGN
- 2. NO WORK ACTIVITY, EQUIPMENT, OR STORAGE OF VEHICLES, OR MATERIAL SHALL OCCUR WITHIN THE BUFFER SPACE AT ANY TIME.
- 3. CHANNELIZING DEVICE SPACING (CENTER TO CENTER) SHALL NOT EXCEED 40' IN
- THE ACTIVE WORK SPACE. 4. TRANSVERSE DEVICES SHALL BE REQUIRED (AS PER 619 STANDARD SPECIFICATIONS) WHEN A PAVED SHOULDER HAVING A WIDTH OF 8' OR GREATER IS CLOSED FOR A DISTANCE GREATER THAN 1500'.
- 5. FOR BARRIER VEHICLE USE REQUIREMENTS SEE TABLES NY1-A AND NY2-A ON THE STANDARD SHEET TITLED "WORK ZONE TRAFFIC CONTROL LEGENDS AND NOTES".
- 6. WHEN PAVED SHOULDERS HAVING A WIDTH OF 8' OR MORE ARE CLOSED. CHANNELIZING DEVICES SHALL BE USED TO CLOSE THE SHOULDER IN ADVANCE TO DELINEATE THE BEGINNING OF THE WORK SPACE AND TO DIRECT VEHICULAR
- TRAFFIC TO REMAIN IN THE TRAVELED WAY. 7. WHEN WORKS AND EQUIPMENT ARE NOT ENCROACHING INTO THE TRAVEL LANE A SHOULDER CLOSURE MAY BE USED.

60 RAILROAD PLACE SUITE 402

SaratogaROM@mjinc.com

COMMIS

JES DRAWN NSO DESIGNED AJF CHECKED SCALE 1"=20'

OCTOBER 22, 2021

18641.00

ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSE PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAP ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSI PROFESSIONAL IS ALTERED, THE ALTERING ENGINEEF ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYO SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION (

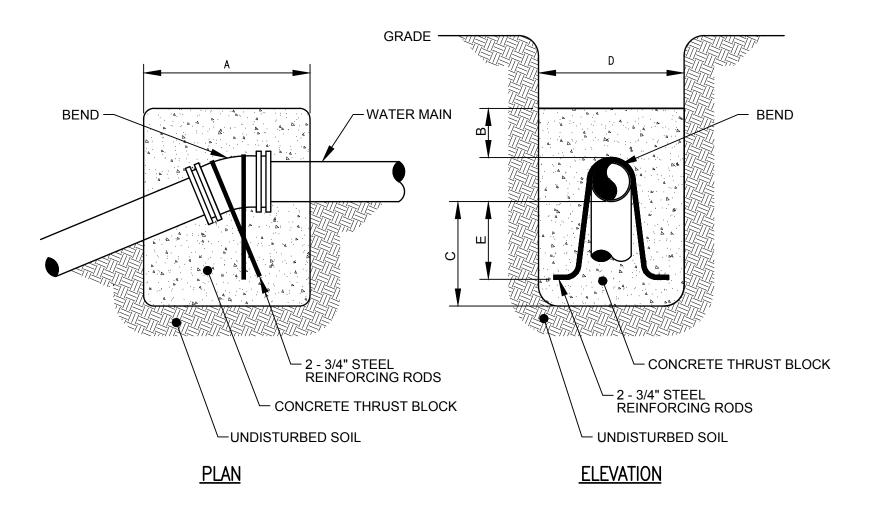
DRAWING TITLE

PROJECT

WORK ZONE TRAFFIC CONTROL PLAN

DRAWING NUMBER

WZ-01

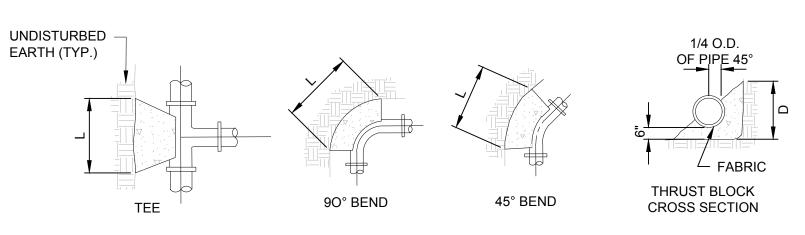


BEND	MINIMUM VOLUME OF CONCRETE	MINIMUM ALLOWABLE DIMENSIONS FOR VERTICAL THRUST BLOCKS (IN FEET)				
	DIMENSIONS	Α	В	С	D	Е
6" x 11-1/4°	1.00 CY	3.0	1.0	1.3	3.0	1.0
6" x 22-1/2°	1.50 CY	4.0	1.0	1.8	3.0	1.5
6" x 45°	2.00 CY	6.0	1.5	2.0	3.0	1.7
8" x 11-1/4°	1.00 CY	3.0	1.0	1.3	3.0	1.0
8" x 22-1/2°	1.50 CY	4.0	1.0	1.8	3.0	1.5
8" x 45°	2.50 CY	6.0	1.5	2.0	3.0	1.7

NOTES:

- 1. CONCRETE FOR THRUST BLOCKS SHALL BE CONCRETE CLASS A (OR CLASS G IF UNDERWATER) IN ACCORDANCE WITH NYSDOT SECTION 501.
- 2. CONCRETE NOT TO OVERLAP ANY JOINT.

VERTICAL THRUST BLOCK DETAILS



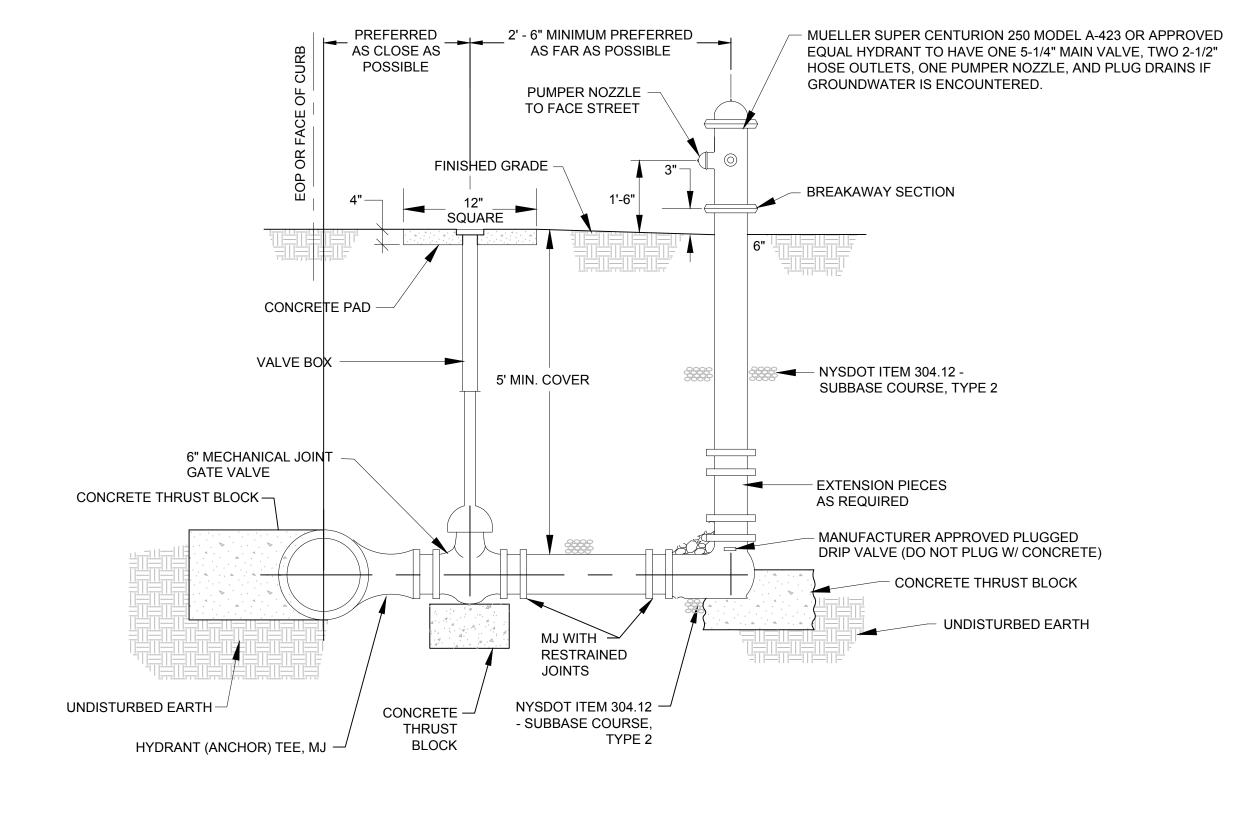
REQUIRED BEARING AREAS & DIMENSIONS										
FOR CONCRETE THRUST BLOCKS										
(DIMENSIONS SHOWN IN FT)										
	TE	TEE 90° BEND 45° BEND		22-1/2° BEND		11-1/4° BEND				
PIPE	AREA	DIM	AREA	DIM	AREA	DIM	AREA	DIM	AREA	DIM
SIZE (IN)	(SQFT)	DXL	(SQFT)	DXL	(SQFT)	DXL	(SQFT)	DXL	(SQFT)	DXL
6	3.2	1.5 X 2.5	4.5	2.0 X 2.5	2.4	1.5 X 2.0	1.2	1.0 X 1.5	0.6	0.5 X 1.5
8	5.7	2.0 X 3.0	8	2.0 X 4.0	4.3	2.0 X 2.5	2.2	1.5 X 1.5	1.1	1.0 X 1.5
12	12.7	3.5 X 3.5	18.0	4.0 X 4.5	9.7	2.5 X 4.0	5.0	2.0 X 2.5	2.5	1.5 X 2.0

- 1. CONCRETE FOR THRUST BLOCKS SHALL BE CONCRETE CLASS A (OR CLASS G IF UNDERWATER) IN ACCORDANCE WITH NYSDOT SECTION 501.
- 2. CONCRETE NOT TO OVERLAP ANY JOINT.
- VALUES FOR TEE ALSO APPLY TO END PLUGS, CAPS, AND TAPPING SLEEVES.
- 4. REQUIRED BEARING AREAS ARE DUE TO THRUSTS CAUSED BY 150 PSI WORKING PRESSURE PLUS 50% (75 PSI) SURGE ALLOWANCE RESULTING IN 225 PSI TOTAL INTERNAL PRESSURE.
- 5. REQUIRED BEARING AREAS ARE BASED ON ALLOWABLE SOIL BEARING CAPACITY OF 2000 POUNDS PER SQUARE FOOT FOR SAND. DUE TO OTHER SOIL CONDITIONS ENCOUNTERED, BEARING AREAS MAY BE MODIFIED BY THE ENGINEER BY MULTIPLYING THE AREA GIVEN IN THE TABLE FOR THE APPROPRIATE PIPE SIZE AND FITTING BY THE CORRECTION FACTORS LISTED BELOW.

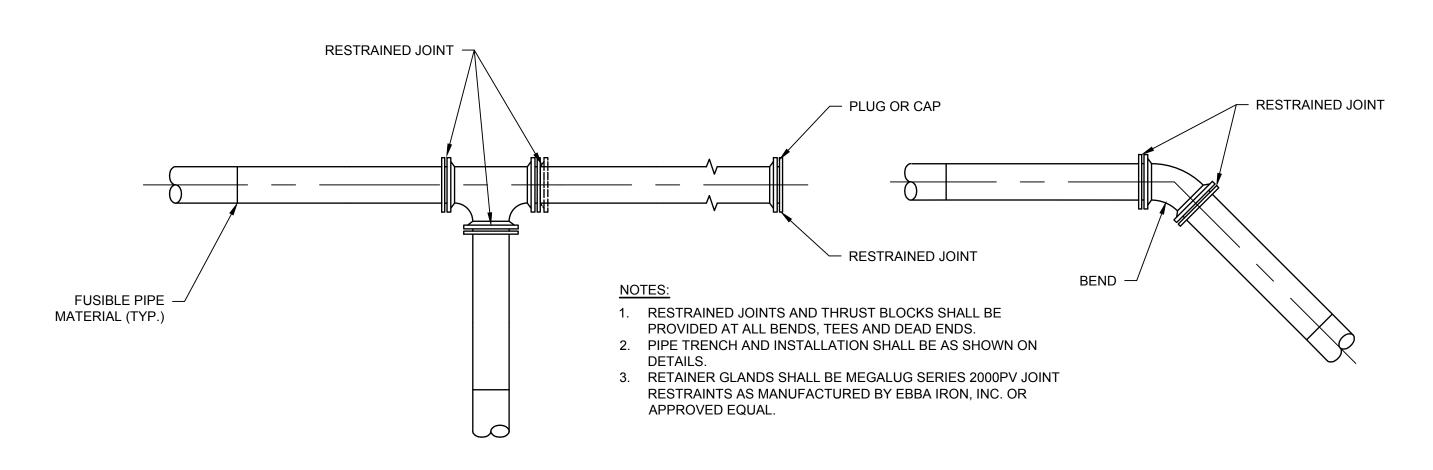
SOIL	ALLOWABLE SOIL PRESSURE (LBS/SQFT)	CORRECTION FACTOR		
SOFT CLAY	1,000	2.00		
SAND	2,000	1.00		
SAND & GRAVEL	3,000	0.67		
SAND AND GRAVEL CEMENTED WITH CLAY	4,000	0.50		
HARD SHALE	10,000	0.20		

6. IN MUCK, PEAT, OR RECENTLY PLACED FILL ALL THRUST BLOCKS SHALL BE RESISTED BY PILES OF TIE RODS TO SOLID FOUNDATIONS, OR BY REMOVAL OF SUCH UNSTABLE MATERIAL AND REPLACEMENT WITH BALLAST OF SUFFICIENT STABILITY TO RESIST THE THRUSTS, ALL AS REQUIRED BY THE ENGINEER.

HORIZONTAL THRUST BLOCK DETAILS



- 1. THE VALVE BOX SHALL BE INSTALLED PLUMB IN RELATION TO VALVE IN WHICH IT CONTROLS.
- 2. SIMILAR INSTALLATION FOR WATER AND FIRE PROTECTION MAINS.
- 3. VALVE COVER FOR FIRE PROTECTION MAINS SHALL READ "FIRE".
- 4. HYDRANT SHALL BE PAINTED RED FOR FIRE PROTECTION AND POTABLE USE AND BLACK FOR RAW WATER AND MAINTENANCE.
- 4. MATCH NOZZLE THREADS AND OPERATING DIRECTION TO EXISTING HYDRANTS.
- 5. CONTRACTOR SHALL PROVIDE CHAIN WITH I.D. TAG ON ALL NEW HYDRANTS (BLACK HYDRANTS LABELED AS NON-POTABLE). CHAIN AND TAG SHALL BE APPROVED BY OWNER PRIOR TO INSTALLATION. ALL EXISTING HYDRANTS SHALL BE REMOVED OR REPLACED AS SHOWN ON PLANS. SEE PLANS FOR NUMBERING SEQUENCE.
- 6. HYDRANT THRUST BLOCKS SHALL BE PROVIDED AS FOR A DEAD END AT LOCATIONS SHOWN ON THE DETAIL AND/OR AS REQUIRED BY THE OWNER. THRUST BLOCKS AT HYDRANTS SHALL BE USED TO COINCIDE WITH RESTRAINED JOINTS (NOT AS A REPLACEMENT).
- 7. STAINLESS STEEL, THREADED ROD JOINT RESTRAINTS SHALL BE INSTALLED BETWEEN THE TEE FITTING AND VALVE, AS WELL AS THE VALVE AND HYDRANT ASSEMBLY.
- 8. THE HYDRANT DRAIN HOLE SHALL BE KEPT UNOBSTRUCTED, CARE SHALL BE USED TO KEEP THRUST RESTRAINTS FROM BLOCKING DRAIN HOLE. IF THE HYDRANT DRAIN IS LOCATED WITHIN 10'-0" OF A SANITARY SEWER OR STORM DRAIN, OR IF GROUNDWATER IS FOUND WITHIN 6'-6" OF FINISHED GRADE, THE HYDRANT



DRAINS SHALL BE PLUGGED.

EACH LIFT TO 85% STANDARD PROCTOR DENSITY. 4. TRENCH BACKFILL - APPROVED ON SITE OR IMPORTED MATERIAL. RESTRAINED JOINT DETAIL PLACE IN 8" LIFTS AND COMPACT

OF PIPE TO BE PIPE

TRENCH WIDTH AT TOP OF

OUTSIDE DIAMETER + 36"

- FINISHED SURFACE TREATMENT AS REQUIRED OR TO MATCH EXISTING

- UNDISTURBED

MATERIAL

1. ALL TRENCHING TO BE IN ACCORDANCE WITH OSHA

STANDARDS AND NYS DEPT. OF

WASHED SAND, SEA GRAVEL OR

LABOR INDUSTRIAL CODE 23

2. BEDDING - CLASS I OR II MATERIAL;

CRUSHED STONE. COMPACT

STANDARD PROCTOR DENSITY.

3. HAUNCHING AND INITIAL BACKFILL

TO 95% STANDARD PROCTOR

DENSITY.

- CLASS II MATERIAL; COARSE

SAND OR SELECT GRAVEL. PLACE IN LIFTS; TO PIPE SPRING LINE, TO

TOP OF PIPE AND TO 12" MINIMUM OVER TOP OF PIPE. COMPACT

CLASS II MATERIAL TO 85%

MISCELLANEOUS DETAILS (1 OF 2)

DT-01

7 OF 8

ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSI

PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAP

WAY. IF AN ITEM BEARING THE STAMP OF A LICENSI

PROFESSIONAL IS ALTERED, THE ALTERING ENGINEE

ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYO

SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION

"ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE

OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION (

ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY

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NSO

AJF

1"=40'

OCTOBER 22, 2021

18641.00

| McFarland Johnson

60 RAILROAD PLACE

SUITE 402

SARATOGA SPRINGS, NEW YORK 12866

P:518-580-9380 F:518-580-9383

SaratogaROM@mjinc.com

FINAL DESIGN PLANS

NO. DATE DESCRIPTION

PROJECT MILESTONE

OMMIS

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DRAWN

DESIGNED

CHECKED

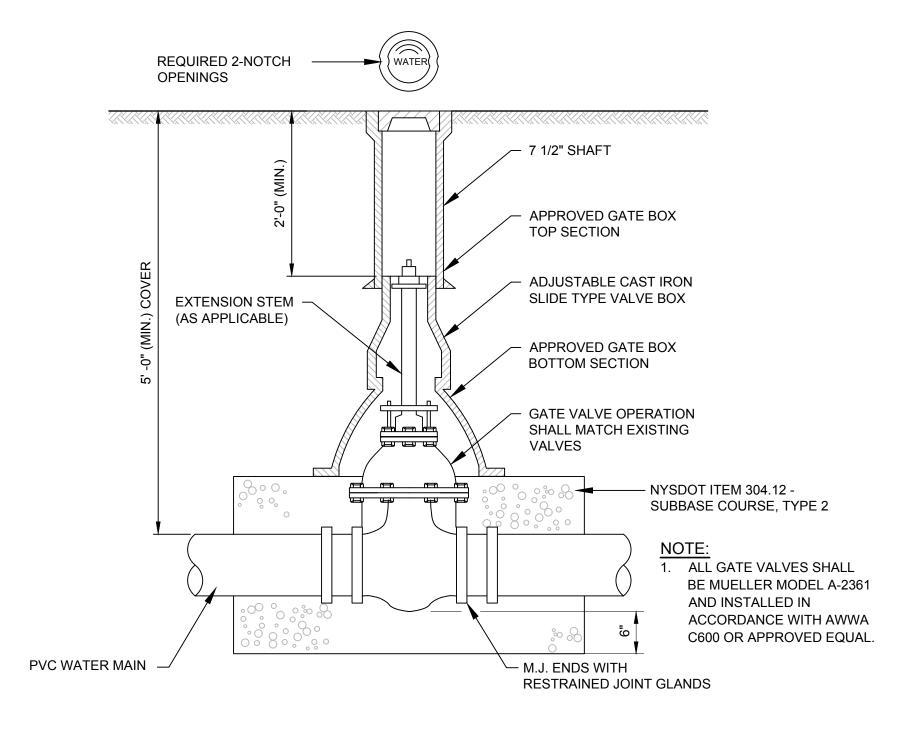
PROJECT

SCALE

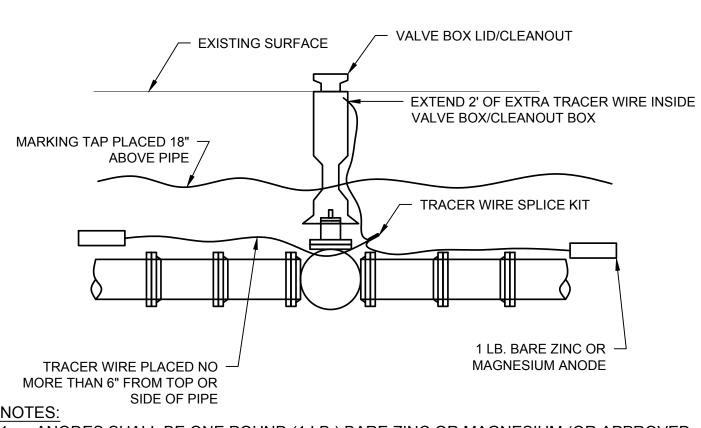
DRAWING NUMBER

DRAWING TITLE

WATER MAIN TRENCH



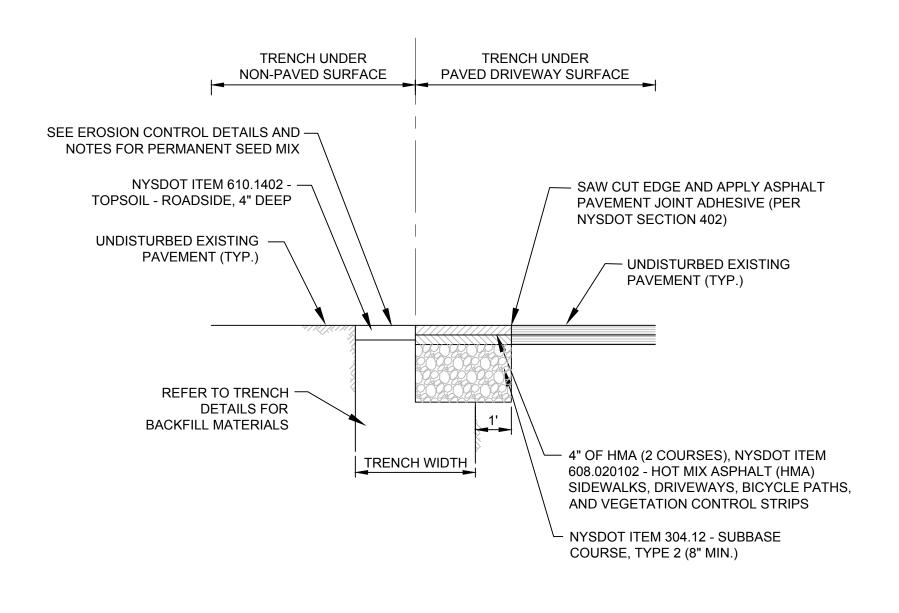
GATE VALVE DETAIL



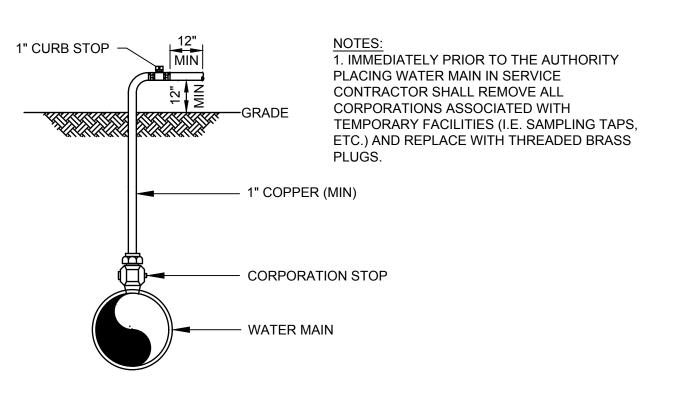
ANODES SHALL BE ONE POUND (1 LB.) BARE ZINC OR MAGNESIUM (OR APPROVED EQUAL) PLACED AT THE BEGINNING AND THE END OF THE WATERLINE/SEWER AND AT EVERY VALVE BOX/MANHOLE AND/OR AT LEAST EVERY FIVE HUNDRED FEET (500') WITHIN.

- 2. TRACER WIRE SHALL BE 12AWG ANNEALED SOFT COPPER (SOLID) WITH COLOR CODED 30MIL HDPE JACKET PER SERVICE. TRACER WIRE SHALL BE PLACED NO FURTHER THAN 6" TO THE SIDE OR ABOVE THE PIPE. TRACER WIRE SHALL BE ACCESSIBLE AT EVERY VALVE BOX/MANHOLE OR TEST STATIONS AS LEAST EVERY
- 3. MARKING TAPE SHALL BE INSTALLED 18" ABOVE PVC PIPE. MARKER TAPE SHALL BE AT LEAST 3" IN WIDTH AND COLOR CODED PER SERVICE.

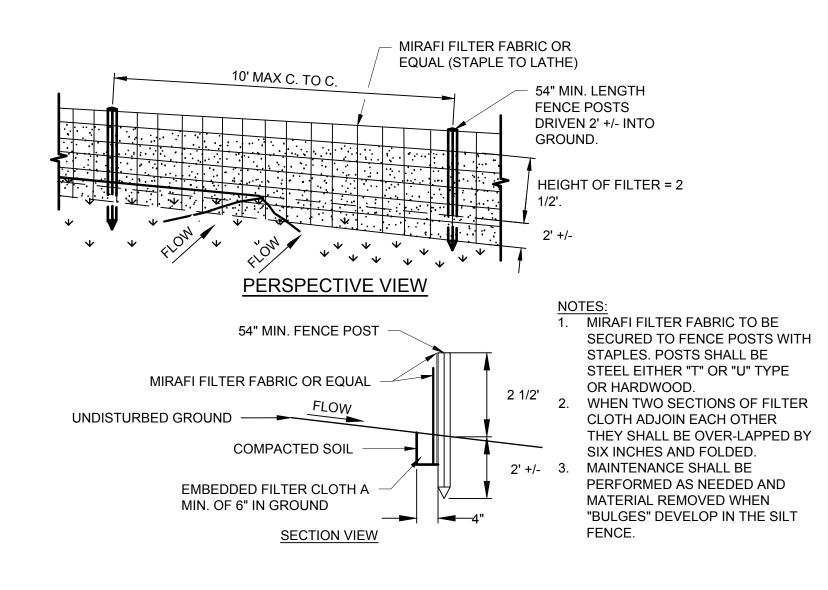
WATERMAIN/SANITARY SEWER FORCE MAIN TRACER WIRE/MARKER TAPE DETAIL



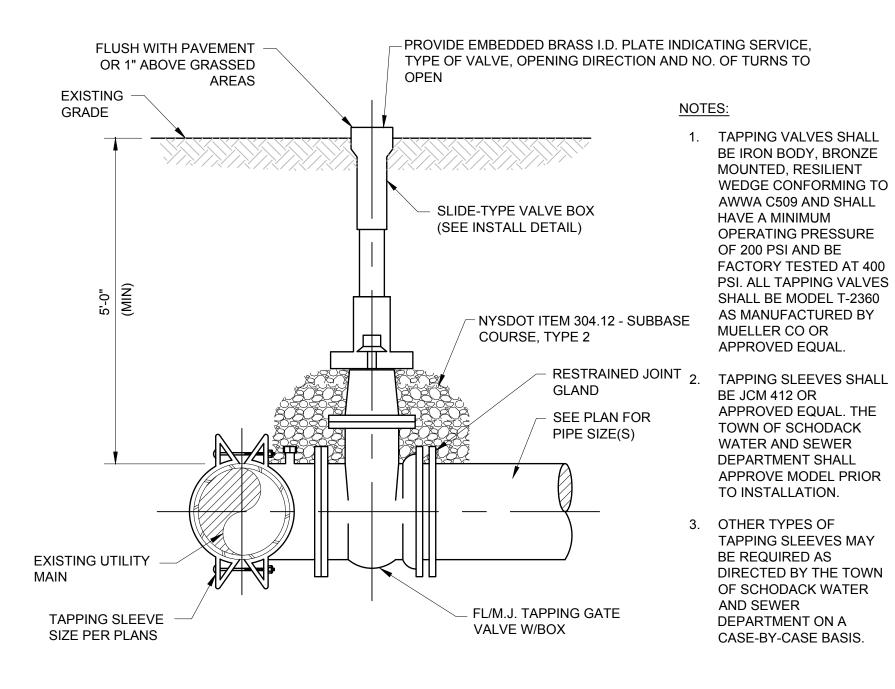
TRENCH UNDER GRASS AND DRIVEWAY DETAIL



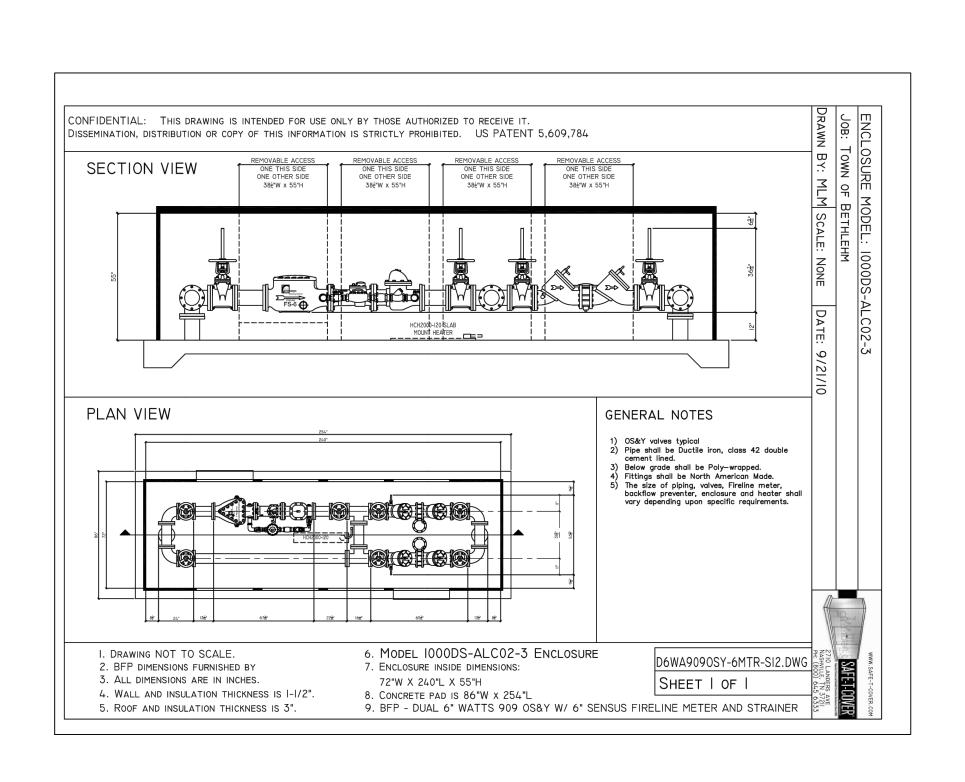
DISINFECTION/BLOW-OFF/SAMPLING TAP



SILT FENCE



WET TAP DETAIL



WATER HOT BOX (TOWN OF BETHLEHEM)



60 RAILROAD PLACE

SUITE 402 SARATOGA SPRINGS, NEW YORK 12866 P:518-580-9380 F:518-580-9383 SaratogaROM@mjinc.com

PROJECT MILESTONE

OF 200 PSI AND BE FINAL DESIGN PLANS FACTORY TESTED AT 400 PSI. ALL TAPPING VALVES SHALL BE MODEL T-2360 NO. DATE DESCRIPTION AS MANUFACTURED BY MUELLER CO OR

APPROVED EQUAL. TAPPING SLEEVES SHALL BE JCM 412 OR APPROVED EQUAL. THE TOWN OF SCHODACK WATER AND SEWER DEPARTMENT SHALL APPROVE MODEL PRIOR

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BAN JES DRAWN NSO DESIGNED AJF CHECKED SCALE 1"=30' OCTOBER 22, 2021

18641.00

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DRAWING TITLE

PROJECT

MISCELLANEOUS DETAILS (2 OF 2)

DRAWING NUMBER

DT-02