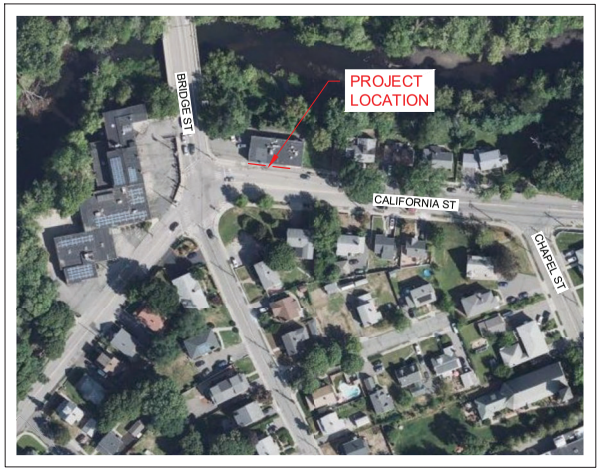
6" PREFABRICATED REGULATOR STATION INSTALLATION & EXISTING STATION ABANDONMENT STATION #123 - 22 PSIG TO L.P. CALIFORNIA ST @ BRIDGE ST, NEWTON, MA W.O. NO.: 90000228066



LOCATION MAP

LAT/LON: 42°21'55.2"N, 71°12'14.2"W
NEWTON, MA
SCALE: 1:100

INDEX OF SHEETS		
SHEET	NAME	TITLE
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3	SR-123-90000228066 G-003	CONSTRUCTION NOTES
4	SR-123-90000228066 G-004	LEGEND & BILL OF MATERIALS
5	SR-123-90000228066 C-001	EXISTING CONDITIONS
6	SR-123-90000228066 C-002	EXISTING CONDITIONS
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9	SR-123-90000228066 C-101	TIE-IN DETAILS
10	SR-123-90000228066 C-005	RESTORATION PLAN
11	SR-123-90000228066 C-201	STANDARD DETAILS
12	SR-123-90000228066 C-202	STANDARD DETAILS

811 DigSafe MA·ME·NH·RI·VT

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IFC

RE-STAMP: 10/20/22

NO.	DESCRIPTION	DATE	DR.BY	CK.BY	APP.BY
0	ISSUED FOR CONSTRUCTION	10/25/2022	DMJ	JDL	MEP

CALIFORNIA ST @ BRIDGE ST
REGULATOR STATION REPLACEMENT
CALIFORNIA ST & BRIDGE ST
NEWTON, MA

COVER - LOCATION MAP

DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	J. LAMBERT	10/25/2022	XXXXXXX	90000228066

DRAWING NO.	SHEET NO.
SR-123-90000228066 G-001	01

78-23

SCOPE OF WORK:

NATIONAL GRID WORK ORDER NUMBER 90000228066

CALIFORNIA ST @ BRIDGE ST, NEWTON

REPLACE THE EXISTING REGUALTOR STATION WITH A NEW PREFABRICATED DISTRICT REGULATOR STATION.

NATIONAL GRID CONTACT INFORMATION:

I&R SUPERVISOR:	SCOTT HITCHCOCK
CELL NUMBER:	(617) 719-2925
EMAIL:	SCOTT.HITCHCOCK@NATIONALGRID.COM
ENGINEER:	JEREMY BUTLER
CELL NUMBER:	(774) 245-9134
EMAIL:	JEREMY.BUTLER@NATIONALGRID.COM

GENERAL:

1. NO FIELD CHANGES SHALL BE MADE TO THIS PLAN WITHOUT APPROVAL OF ASSIGNED NATIONAL GRID PROJECT ENGINEER AND THE CONSTRUCTION SUPERVISOR.
2. NEW MAINS SHALL BE INSTALLED IN ACCORDANCE WITH THE TYPICAL TRENCH DETAIL INCLUDED IN THESE DRAWINGS, UNLESS NOTED OTHERWISE.
   A. 36 INCHES OF COVER FROM FINAL GRADE WHERE PRACTICAL
   B. STATE HIGHWAY MINIMUM COVER: 36 INCHES (IRRESPECTIVE OF MAIN TYPE)
   C. DISTRIBUTION MAIN MINIMUM COVER: 24 INCHES
   D. SERVICES MINIMUM COVER:
      1. SHOULD BE 24 INCHES
      2. MINIMUM IN PUBLIC ROW 18 INCHES
      3. MINIMUM IN PRIVATE PROPERTY: 12 INCHES
3. SAND PADDING IN ALL DIRECTIONS, 6 INCHES MINIMUM.
4. FOR DISTRIBUTION MAINS AND TRANSMISSION MAINS OPERATING UP TO 200 PSIG, CAUTION TAPE (MIN. 6 INCHES WIDE) SHALL BE INCLUDED ONE FOOT BELOW GRADE.
5. REFER TO CNST-6030 FOR SHALLOW MAINS. PRIOR TO INSTALLING GAS MAINS WITH LESS THAN 24 INCHES OF COVER, COMPLETE REQUEST FOR WAIVER FORM AND CONTACT GAS PIPELINE SAFETY & COMPLIANCE FOR APPROVAL:
   A. LIEN GAUTHIER – (617) 438-9069 (MA EXCLUDING CAPE AND WEBSTER)
   B. JENNIFER CILLIS – (617) 594-5157 (MA EXCLUDING CAPE AND WEBSTER)
   C. IF A PROPOSED TOP TEE CONNECTION RESULTS IN A SHALLOW MAIN THAT CANNOT MEET THE WAIVER CRITERIA, A FULL TEE CONNECTION IS AN ACCEPTABLE ALTERNATIVE. A SPHERICAL TEE IS ACCEPTABLE WITH APPROVAL FROM NATIONAL GRID STRATEGIC ASSET AND SYSTEM PLANNING.
6. ALL MAINS SHOULD BE INSTALLED WITH A CLEARANCE OF 12 INCHES FROM OTHER FACILITIES.
   A. DISTRIBUTION MINIMUM CLEARANCE: 6 INCHES
   B. APPROPRIATE PROTECTIVE MEASURES SHALL BE USED TO PROTECT THE GAS FACILITY IF MINIMUMS CANNOT BE ATTAINED. APPROVAL IS REQUIRED BY GAS SYSTEMS ENGINEERING.
7. THE ACTUAL ROUTE AND ALL VERTICAL AND HORIZONTAL OFFSETS ARE TO BE FIELD ROUTED WITHIN THE PUBLIC RIGHT-OF-WAY BASED ON THE ACTUAL LOCATION OF EXISTING UTILITIES. ADDITIONAL FITTINGS NOT SHOWN WILL BE REQUIRED.
8. ELBOWS SHOWN ARE ASSUMED TO BE 45 DEGREES IN MOST APPLICATIONS. 22.5 AND/OR 90 DEGREE ELBOWS MAY BE NEEDED BASED ON FIELD CONDITIONS.
9. VALVES DEPICTED IN THE DESIGN ARE THE MINIMUM REQUIRED FOR SECTIONALIZING, ISOLATION, CRITICAL VALVES, AND/OR TO ACCOMMODATE TIE-INS. ADDITIONAL FULL PORT VALVES MAY BE ADDED TO ACCOMMODATE CONSTRUCTION.
10. VALVES FOR BRANCHES AT INTERSECTIONS SHOULD BE FIELD LOCATED JUST OUTSIDE OF THE INTERSECTION WHERE EASILY ACCESSIBLE, PRIOR TO THE FIRST SERVICE.
11. TIE-IN LOCATIONS MAY VARY UP TO 100 FEET OF THE PROPOSED LOCATION TO ACCOMMODATE CONSTRUCTION, EXCEPT FOR WHEN THE FOLLOWING CONDITIONS APPLY:
    A. REGULATOR STATION WITHIN THE SCOPE OF THE JOB OR WITHIN 200 FEET OF THE TIE IN LOCATION.
    B. CHANGE TO THE NUMBER OF CONNECTIONS (ADDITIONAL ADDED FROM AN INTERSECTION OR OTHERWISE).
    C. MATERIAL/SIZE CHANGE AT NEW LOCATION.
12. NOT ALL BYPASSES, GAUGES, PURGES AND OTHER MISCELLANEOUS FITTINGS ARE SHOWN. CONSTRUCTION SHALL INSTALL THESE FITTINGS AS NEEDED IN ACCORDANCE WITH THE APPROVED SOP.
13. WHEN RELAYING A LOWER PRESSURE MAIN WITH A HIGHER-PRESSURE MAIN, ALL SERVICES SHALL BE RELAYED OR INSERTED.

PROJECT SPECIFIC NOTES

1. FOR INSTALLATION OF "DEAD" PIPE, PLASTIC INLINE TEES AND BRANCH SADDLES ARE INTERCHANGEABLE PROVIDED THE SADDLE IS TAPPED OUT TO THE MAXIMUM SIZE ALLOWED BY THE MANUFACTURER.
2. EVEN IF NOT FIELD MARKED BY DIGSAFE, CONTRACTOR SHALL VERIFY THE LOCATION OF ALL REGULATOR VAULT SENSE AND CONTROL PRIOR TO CONSTRUCTION. THIS SHALL BE DONE IN CO-ORDINATION WITH NATIONAL GRID DAMAGE PREVENTION AND I&R.
3. CONTRACTOR SHALL COMPLETE SUBSURFACE UTILITY ENGINEERING QUALITY LEVEL A – TEST HOLES, TEST PITS OR OTHER PHYSICAL VERIFICTION OF REQUIRED EXISTING GAS MAIN AND OTHER UTILITY LOCATIONS AND DEPTHS PRIOR TO CONSTRUCTION.
4. THE PIPE ALIGNMENT IS SHOWN FOR REFERENCE ONLY AS APPROXIMATELY 3 FEET FROM THE EXISTING MAIN (BASE) ON AVAILABLE RECORD INFORMATION). THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIELD LAYOUT AND ACTUAL PIPE ALIGNMENT AND FACILITY LOCATION
5. ALL DRAWING DIMENSIONS SHOWN ARE ESTIMATED AND ARE FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING FINAL DIMENSIONS PRIOR TO FABRICATION BASED ON ACTUAL FIELD CONDITIONS, AND FOR ALLOWING SUFFICIENT FIELD WELDS TO ACHIEVE THE COMPLETED ASSEMBLY.
6. THE PLANS SHOW SUBSURFACE STRUCTURES, ABOVE GROUND STRUCTURES AND/OR UTILITIES FROM FIELD LOCATION AND RECORD MAPPING, EXACT LOCATION OF WHICH MAY VARY FROM THE LOCATIONS INDICATED. IN PARTICULAR, THE CONTRACTOR IS WARNED THAT THE EXACT OR EVEN APPROXIMATE LOCATION OF SUCH PIPELINES, SUBSURFACE STRUCTURES AND/OR UTILITIES IN THE AREA MAY BE DIFFERENT FROM THAT SHOWN OR MAY NOT BE SHOWN, AND IT SHALL BE THEIR RESPONSIBILITY TO PROCEED WITH GREAT CARE IN EXECUTING ANY WORK.
7. THE CONTRACTOR SHALL PROTECT AND MAINTAIN DIG SAFE FIELD MARKS, ANY EXISTING PROPERTY LINE MONUMENTATION OR OTHER EXISTING SURVEY STAKES OR FIELD MARKS. THE CONTRACTOR SHALL REPLACE AT THEIR EXPENSE ANYTHING DISTURBED OR DESTROYED.
8. ALL CUSTOMER SERVICES WITHIN THE SCOPE OF MAIN TO BE ABANDONED SHALL BE TRANSFERRED OR RELAYED BY THE CONTRACTOR TO THE NEW MAIN PRIOR TO ABANDONMENT.
9. WHEN RELAYING A LOWER PRESSURE MAIN WITH A HIGHER-PRESSURE MAIN, ALL SERVICES SHALL BE RELAYED OR INSERTED.
10. STANDARD REGULATOR VAULT FABRICATED BY OTHER. DELIVERY OF VAULT SHALL BE COORDINATED WITH BAY STATE PIPING. CONTRACTOR SHALL UNLOAD AND SET THE VAULT IN THE LOCATION SPECIFIED IN THESE DRAWINGS.
11. PROPERTY LINES SHALL BE MARKED OUT ON SITE BY CONTRACTOR PRIOR TO EXCAVATION TO CONFIRM PLACEMENT OF FACILITIES IN THE PUBLIC RIGHT-OF-WAY.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUAINTING THEMSELVES WITH THE CONDITIONS ON THE SITE AND FOR ESTIMATING PROPERLY THE DIFFICULTY AND COST TO SUCCESSFULLY PERFORM THE WORK.
13. THE CONTRACTOR IS INSTRUCTED TO COOPERATE WITH ANY AND ALL OTHER CONTRACTORS PERFORMING WORK ON THIS JOB SITE DURING THE PERFORMANCE OF THIS CONTRACT.
14. THE CONTRACTOR SHALL RESTORE PAVEMENT, LAWNS, DRIVEWAYS, CULVERTS, SIGNS AND OTHER PUBLIC OR PRIVATE PROPERTY AS INDICATED IN THIS DRAWING SETOR IMPACTED BY THEIR CONSTRUCTION WORK.
15. THE CONTRACTOR SHALL COMPLETE MISCELLANEOUS WORK NOT SPECIFICALLY SHOWN ON THE CONTRACT DRAWINGS SUCH AS PAVEMENT PATCHING, TRENCH & EQUIPMENT BLOCKING, TREE TRIMMING, ETC.
16. ALL PAVEMENT PATCHING SHALL CONFORM TO RESTORATION PLANS AND DETAILS AS AGREED WITH EACH TOWN PERMIT OR TRENCH RIDER AND/OR APPLICABLE STATE OR AGNECY PERMITS.
17. PROPERTY DAMAGED OR REMOVED SHALL BE RESTORED TO AT LEAST AS GOOD A CONDITION AS BEFORE BEING DISTURBED AS DETERMINED BY NATIONAL GRID. ANY DAMAGED TREES, SHRUBS, AND/OR HEDGES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ALL GRASS AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED WITH LOAM AND SEED.
18. NATIONAL GRID RESERVES THE RIHT TO EXAMINE ANY WORK DONE ON THIS PROJECT AT ANY TIME TO DETERMINE THE CONFORMANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS OF THIS PROJECT, AS INTENDED AND INTERPRETED BY NATIONAL GRID.
19. ALL TRENCH EXCAVATION AND ANY REQUIRED SHEETING AND SHORING SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISIONS NATIONAL GRID STANDARDS AND POLICIES AND ALSO ANY APPLICABLE STATE DOT STANDARDS.
20. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AND THE MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF WORK. CONTRACTOR SHALL MAINTAIN EXISTING SITE DRAINAGE PATTERNS THROUGHOUT CONSTRUCTION UNLESS OTHERWISE SHOWN ON THE PLANS.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTAINERIZATION OF ALL DEWATERING FLUIDS INTO FRAC TANKS FOR OFF-SITE DISPOSAL. DEWATERING FLUIDS / GROUNDWATER SHALL NOT BE DISCHARGED DIRECTLY TO THE GROUND SURFACE, COLLECTION UTILITIES OR NEIGHBORING WATER BODIES. OPEN EXCAVATIONS SHALL BE PROTECTED WHEN FEASIBLE TO PREVENT INTRODUCTION OF STORMWATER RUNOFF AND/OR PRECIPITATION INTO THE EXCAVATION (IE. STAKED HAYBALES TO BERM THE EDGE OF EXCAVATIONS, ETC.) THE CONTRACTOR SHOULD MAKE AN EFFORT TO DEWATER EFFICIENTLY DURING THE WORK.
22. ALL FRAMES/COVERS WITHIN PAVED AREAS SHALL HAVE THE TOPS SET FLUSH WITH THE EXISTING PAVEMENT GRADE. IN LANDSCAPED AREAS, ALL FRAMES SHALL BE 0.1" ABOVE GRADE.
23. CONTRACTOR SHALL MAINTAIN ALL TRAFFIC IN ALL AREAS IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
24. ALL NECESSARY PRECAUTION FOR THE SAFETY OF THE PUBLIC SHALL BE TAKEN. ALL BARRIERS, WARNING LIGHTS AND OTHER DEVICES AND EQUIPMENT REQUIRED BY FEDERAL, STATE AND LOCAL AUTHORITIES SHALL BE MAINTAINED.
25. CONTRACTOR SHALL TAKE CARE TO PREVENT DAMAGE TO ALL OTHER EXISTING UTILITIES. DAMAGED UTILITIES SHALL BE IMMEDIATELY REPAIRED BY CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
26. NATIONAL GRID TO PROVIDE PROCEDURE FOR INSTALLATION AND TIE-IN SEWUENCE.

CODES

1. WORK SHALL CONFORM TO ALL LOCAL, STATE, AND FEDERAL CODES. WHERE ANY CONFLICTS OF CODES, STANDARDS AND REGULATIONS MAY EXIST, THE MORE STRINGENT CODE, STANDARD, OR REGULATION SHALL APPLY.
2. ALL REFERENCED CODES SHALL BE IN ACCORDANCE WITH THE VERSION APPROVED BY PHMSA AT THE TIME OF CONSTRUCTION.
3. FEDERAL & STATE:
   A. TITLE 49: PART 192 TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE: MINIMUM FEDERAL SAFETY STANDARDS
   B. AMERICAN SOCIETY OF MECHANICAL ENGINEERS
      ASME B31.8: GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS
   C. 220 CMR: DEPARTMENT OF PUBLIC UTILITIES
      100.00 – 113.00: MASSACHUSETTS GAS DISTRIBUTION CODE
   D. NFPA 70: NATIONAL ELECTRIC CODE

NATIONAL GRID STANDARDS & POLICY

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST VERSION OF NATIONAL GRID STANDARDS & POLICY, MATERIAL STANDARDS AND SPECIFICATIONS AND TECHNICAL COMMUNICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACCESS NATIONAL GRID DATA
2. WORK SHALL BE PERFORMED IN ACCORDANCE WITH NATIONAL GRID GAS POLICIES AND WORK METHODS, INCLUDING BUT NOT LIMITED TO:
   A. CNST01003: BACKFILL AND RESTORATION
   B. CNST01005: PREPARATION OF GAS FACILITY HISTORICAL RECORDS
   C. CNST01006: COMMERCIALLY AVAILABLE SHORING SYSTEMS
   D. CNST02014: ENCAPSULATING CAST IRON JOINTS
   E. CNST03001: SQUEEZE-OFF OPERATIONS
   F. CNST03002: STOP-OFF OPERATIONS ON LOW PRESSURE MAINS
   G. CNST03005: PURGING REQUIREMENTS FOR GAS PIPELINES
   H. CNST03006: PURGING OPERATIONS – DIRECT DISPLACEMENT
   I. CNST03007: PURGING OPERATIONS – COMPLETE INERT FILL
   J. CNST03008: PURGING OPERATIONS – SLUG METHOD
   K. CNST03011: NO-INTERUPT SERVICE TRANSFER
   L. CNST03014: STOP OFF OPERATIONS FOR KLEISS EQUIPMENT
   M. CNST04005: INSTALLING STEEL DISTRIBUTION MAINS
   N. CNST04007: FIELD COLD BENDING OF LINE PIPE
   O. CNST04008: INSTALLING PLASTIC MAINS
   P. CNST04011: ABANDONMENT OF MAINS
   Q. CNST04012: GROUTING ABANDONED PIPELINES
   R. CNST05001: JOINING OF PLASTIC PIPE
   S. CNST05011: INSTALLATION OF DRESSER 700 COUPLINGS
   T. CNST5010: GENERAL CONSTRUCTION REQUIREMENTS AND PIPE HANDLING
   U. DAM01011: EXCAVATION AND EXCAVATION NOTIFICATION REQUIREMENTS FOR UNDERGROUND FACILITIES FOR MASSACHUSETTS AND RHODE ISLAND
   V. DAM01015: LOCATE AND MARK-OUT REQUIREMENTS FOR UNDERGROUND GAS FACILITIES
   W. DAM01016: LOCATE AND MARK-OUT OF UNDERGROUND FACILITIES
   X. DAM01020: PIPELINE MARKERS FOR MAIN AND TRANSMISSION LINES
   Y. DAMG5020: PROCEDURE FOR LOCATING AND MARKING OUT SUB-SURFACE FACILITIES
   Z. GCON02001: SYSTEM OPERATING PROCEDURE (SOF)
   AA. GEN01100: GEN01100: OPERATOR QUALIFICATION PLAN
   BB. GEN03002: PROCESSING GAS MAIN AND NEW SERVICE WORK PACKAGES
   CC. GEN03003: CHANGE CONTROL PROCEDURE FOR COMPLEX CONSTRUCTION PROJECTS.
   DD. GEN03004: CHANGE CONTROL PROCEDURE FOR STANDARD CONSTRUCTION PROJECTS
   EE. INR06002: SUPPLEMENTAL ODORIZATION FOR NEW PIPING
   FF. MAIN5030: INSTALLATION OF POLYETHYLENE PIPE
   GG. MECH5010: JOINTS OTHER THAN WELDED
   HH. 030018-CS: SPECIFICATION AND HANDLING OF TRAFFIC PLATES
3. SERVICE SPECIFIC CONSTRUCTION STANDARDS, GAS POLICIES AND WORK METHODS:
   A. CMS03002: CUSTOMER METER AND SERVICE REGULATOR DESIGN AND INSTALLATION POLICY
   B. CMS04002: PURGING PROCEDURES FOR CUSTOMER METER SERVICES
   C. CNST03011: NO-INTERRUPT SERVICE TRANSFER
   D. CNST06002: INSTALLING DISTRIBUTION SERVICES
   E. CNST06003: INSTALLATION & MAINTENANCE POLICY FOR CURB VALVES ON SERVICE LINES WITH INSTALLED METER CAPACITIES OVER 1,000 SCFH THAT DON'T HAVE EXCESS FLOW VALVES
   F. CNST06009: METER/SERVICE RELOCATION GUIDELINE
   G. CNST06020: COMPLETION AND PROCESSING OF GAS SERVICE RECORD CARDS
   H. CNST06030: NOTIFICATION OF CUSTOMERS INVOLVED IN THE INTERRUPTION OF GAS SERVICE
   I. CS-SERV001: TYPICAL 1/2" SERVICE OUTSIDE SETS
   J. CS-SERV002: TYPICAL 1" SERVICE OUTSIDE SETS
   K. CS-SERV003: TYPICAL 1-1/4" SERVICE OUTSIDE SETS
   L. CS-SERV004: TYPICAL 2" SERVICE
   M. CS-SERV005: EXCESS FLOW VALVE REQUIREMENTS ON HP SERVICES
   N. CS-SERV009: TYPICAL 1/2" SERVICE INSIDE SETS
   O. CS-SERV010: TYPICAL 1" SERVICE INSIDE SETS
   P. HTAP-6010: NO-INTERRUPT 1 INCH CTS AND 1-1/4 INCH CTS SERVICE TRANSFER (NIST) UP TO 60 PSIG MAINS
   Q. SERV-5075: RELOCATION OF METER SET ASSEMBLIES INSIDE TO OUTSIDE
   R. SERV-6185: HOT TAPPING MD BRANCH SADDLES OFF 4IN – 12IN 60 PSIG MAOP LIVE PLASTIC GAS MAIN USING MCELROY HOT TAPPING TOOL
   S. VALV6110: 1/2 INCH – 3 INCH POLYETHYLENE GAS SERVICE VALVE INSTALLATION
4. SEE FINAL PAGE(S) FOR APPLICABLE STANDARD DESIGN DRAWING:
   A. 030018-CS: TRAFFIC PLATE SPECIFICATION AND HANDLING OF TRAFFIC PLATES
   B. 030024-CS: INSTALLATION OF MAGNESIUM ANODES
   C. 030026-CS: INSTALLATION OF TEST STATIONS FOR CATHODIC PROTECTION
   D. 030028-CS: INSTALLATION OF INSULATING JOINTS FOR CATHODIC PROTECTION
   E. 030036-CS: INSTALLING WIRE CONNECTIONS
   F. 060021-CS: INSTALLATION OF SUBMERSIBLE CATHODIC PROTECTION RECTIFIER
   G. 060022-CS: INSTALLATION OF POLE MOUNTED CATHODIC PROTECTION RECTIFIER
   H. 060023-CS: INSTALLATION OF IMPRESSED CURRENT ANODE
   I. CNST6030: PROTECTIVE STEEL PLATING FOR GAS MAINS AND SERVICES
   J. CNST6045: SUPPORT REQUIREMENTS FOR EXPOSED AND UNDERMINED STEEL OR PLASTIC GAS FACILITIES
   K. CNST6046: TEMPORARY SUPPORTS SPACING GUIDELINES FOR CAST IRON MAINS
   L. CNST6060: INSTALLATION OF MARKER TAPES AND EMS PIPELINE LOCATIONS FOR MAINS AND SERVICES
   M. CNST6061: TRACER WIRE INSTALLATIONS FOR PLASTIC MAINS AND SERVICES
   N. CNST6086: ALUMINUM HYDRAULIC SHORING – VERTICAL SHORES FOR SOIL TYPE A
   O. CNST6087: ALUMINUM HYDRAULIC SHORING – VERTICAL SHORES FOR SOIL TYPE B
   P. CNST6088: ALUMINUM HYDRAULIC SHORING – WALER SHORES FOR SOIL TYPE B
   Q. CNST6089: ALUMINUM HYDRAULIC SHORING – WALER SHORES FOR SOIL TYPE C
   R. CS-CNST002: TYPICAL UTILITY CROSSING AND TRENCH GUIDELINES
   S. CS-LIVE001: ACCEPTABLE METHODS OF ISOLATION FOR PERFORMING HOT WORK
   T. CS-MAIN004: PRESSURE TESTING OF NEW MAINS MAOP OF 124 PSIG OR LESS
   U. MAIN6010: STANDARD FLOW TEST PROCEDURE FOR MAIN BAG-OFF LOW PRESSURE MAINS
   V. MAIN6100: VENT INSTALLATION FOR GAS MAIN CASINGS
   W. MAIN6190: ANCHORAGE FOR CI TO STEEL NON-RESTRAINING INSULATING COUPLING, LP AND HP.

78-23

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CALIFORNIA ST @ BRIDGE ST
REGULATOR STATION REPLACEMENT
CALIFORNIA ST & BRIDGE ST
NEWTON, MA

CONSTRUCTION NOTES

DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	J. LAMBERT	10/25/2022	XXXXXXX	90000228066

DRAWING NO.	SHEET NO.
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X. MAIN6220: STEEL RODS AND LUGS FOR RESTRAINING OF NON-RESTRAINING MECHANICAL COMPRESSIONS COUPLINGS AND CAPS FOR PRESSURIZED INLINE STEEL PIPE AND DROP IN PIECES

Y. MAIN6230: ANCHORAGE LUGS FOR COMPRESSION COUPLING ON STEEL MAINS

Z. MAIN6330: PIPE SUPPORT ON BRIDGES

AA. MECH6010: CONNECTION OF DISSIMILAR POLYETHYLENE PLASTIC PIPE WITH ELECTROFUSION OR MECHANICAL COUPLING

BB. MECH6020: CONNECTION OF DISSIMILAR POLYETHYLENE PLASTIC PIPE WITH ELECTROFUSION OR MECHANICAL SADDLE TEE

CC. MECH6030: CONNECTION OF DISSIMILAR POLYETHYLENE PLASTIC PIPE WITH MECHANICAL COUPLING – ALTERNATE

DD. PURG6040: TYPICAL NITROGEN PURGE ARRANGEMENT

EE. REGL6056: 1-1/4 IN. STEEL REGULATOR STATION CONTROL LINES

FF. VALV6010: STEEL VALVE INSTALLATIONS 2 IN. – 12 IN. FOR DISTRIBUTION SYSTEM OPERATING UP TO 124 PSI

GG. VALV6020: 2 IN. – 12 IN. POLYETHYLENE VALVE INSTALLATION ON GAS MAIN

HH. DAMG6010: GAS PIPELINE MARKER

5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCESS NATIONAL GRID STANDARDS AND WORK METHODS TO ENSURE THAT THE METHODOLOGY USED CONFIRMS WITH THE LATEST PROCEDURES.

6. LATEST POLICIES AND PROCEDURES MAY BE OBTAINED FROM: HTTPS://SNP-NATIONALGRIDPLC.MSAPPPROXY.NET/CODESNSTDS/SP3INDEXB.ASP, CONTRACTORS SHALL BE PROVIDED THEIR OWN USERNAME AND PASSWORD BY NATIONAL GRID GAS WORK METHODS

7. SEE BILL OF MATERIAL FOR MATERIAL SPECIFICATION, STANDARD AND/OR APPLICABLE NATIONAL GRID "FITS" REFERENCE. NOTE THAT THE BOM GENERALLY DEPICTS MATERIAL TO BE PROVIDED BY NATIONAL GRID. ADDITIONAL MATERIALS NOT DEPICTED ON THE BOM MAY BE REQUIRED AND IS THE RESPONSIBITY OF THE CONTRACTOR.

8. SEE TIE IN DETAILS FOR APPLICABLE MAIN CONNECTION REFERENCES.

DESIGN CRITERIA:

1. DESIGN IN ACCORDANCE WITH THE FOLLOWING:
   - A. ENG01002: DESIGN OF GAS REGULATOR STATIONS
   - B. ENG02001: DESIGN OF GAS SERVICES

2. INLET PIPING:
   - A. DESIGN CLASS LOCATION: 4
   - B. NOMINAL SIZE & WALL THICKNESS (WT): 8 INCH / 0.322 WT
   - C. MATERIAL & GRADE (WEAKEST GRADE SHOWN): B
   - D. MAOP / MINIMUM OPERATING PRESURE: 22 PSIG / 10.4 PSIG
   - E. HOOP STRESS AT MAOP: 0.84%
   - F. GAS VELOCITY (AT MINIMUM OPERATING PRESSURE): 35.5 FEET /SECOND

3. OUTLET PIPING:
   - A. DESIGN CLASS LOCATION: 4
   - B. NOMINAL SIZE & WALL THICKNESS (WT): 12 INCH / 0.375 WT
   - C. MATERIAL & GRADE (WEAKEST GRADE SHOWN): B
   - D. MAOP / MINIMUM OPERATING PRESURE: 14" WC
   - E. HOOP STRESS AT MAOP: 0.02%
   - F. GAS VELOCITY (AT MINIMUM OPERATING PRESSURE): 29.0 FEET /SECOND

4. REGULATOR SIZING PARAMETERS
   - A. MIN INLET PRESSURE: 10.4 PSIG
   - B. MAX INLET PRESSURE: 22 PSIG
   - C. MAX OUTLET PRESSURE: 14" WC
   - D. EXISTING MIN FLOW: 22.8 MSCFH
   - E. EXISTING MAX FLOW: 83.4 MSCFH
   - F. 5 YEAR MIN INLET PRESSURE: 10.37 PSIG
   - G. 5 YEAR MAX INLET PRESSURE: 22 PSIG
   - H. 5 YEAR PROPOSED FLOW: 111.3 MSCFH

SEQUENCE OF CONSTRUCTION

1. CONTRACTOR SHALL CALL DIGSAFE (DIAL 811 OR 888-344-7233) AT LEAST 72 HOURS PRIOR TO CONSTRUCTION. SATURDAYS, SUNDAYS, AND HOLIDAYS ARE EXCLUDED.
2. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES AND STRUCTURES DEPICTED OR NOT DEPICTED ON THIS DESIGN PRIOR TO CONSTRUCTION.
3. CLOSE STATION INLET AND OUTLET VALVES TO ISOLATE STATION
4. PERFORM CUT OFF IN DETAIL A.
5. PERFORM STOP OFFS IN DETAIL B. CUT AND CAP EXISTING SENSE LINES. EXISTING REGULATOR VAULT TO BE DECOMMISIONED AND ABANDONED. CONFIRM ALL EXISTING REGULATOR VAULT SENSELINES ARE ABANDONED.
6. COMPLETE CUT AND CAP IN DETAIL B.
7. EXCAVATE AND INSTALL NEW PREFABRICATED VAULT PER PLAN DETAILS.
8. EXCAVATE AND INSTALL NEW INLET/OUTLET PIPING.
9. PRESSURE TEST ALL NEW INLET AND OUTLET PIPING.
10. CONFIRM THAT NEW PIPING INSTALLED UNDER WO#1438876 IS GASSED UP AND ACTIVE.
11. PERFORM TIE-IN IN DETAIL C. PURGE NEW VAULT INTO SERVICE.
12. PERFORM TIE-IN IN DETAIL D.
13. INSTALL ALL SCADA EQUIPMENT PER I&R REQUIREMENTS.
14. I&R TO FINALIZE AND ACTIVATE NEW REGULATOR STATION AND SCADA EQUIPMENT.
15. PERFORM RESTORATION

PRESSURE TEST REQUIREMENTS:

1. PRESSURE TEST ALL DISTIRBUTION PIPING IN ACCORDANCE WITH:
   - A. CNST04003: PRESSURE TESTING MAINS OPERATING BELOW 125 PSIG
   - B. CS-MAIN004: PRESSURE TESTING OF NEW MAINS MAOP OF 124 PSIG OR LESS
   - C. TEST PRESSURE (MINIMUM): 90 PSIG
   - D. TEST DURATION (MINIMUM): 2 HOUR(S)
   - E. TEST MEDIUM: AIR AND/OR NITROGEN
2. PRESSURE TEST SERVICES IN ACCORDANCE WITH:
   - A. CNST0600B: PRESSURE TESTING SERVICE LINES

WELDING:

1. NATIONAL GRID WELDING POLICIES AND PROCEDURES INCLUDE:
   - A. CNST05002: WELDING POLICY
   - B. CNST05003: PIPE WELDING SAFETY
   - C. CNST05004: AUTOMATICALLY CONTROLLED HEATING FOR WELD PRE-HEAT, INTERPASS TEMPERATURE CONTROL, AND POST-WELD BAKE
   - D. CNST05005: WELDING PROCEDURE SPECIFICATIONS
   - E. MS-030: WELDING FILLER MATERIALS
2. PRIOR TO THE START OF ANY WORK THE CONTRACTOR SHALL SUBMIT WELDER CERTIFICATION DOCUMENTS FOR EACH OF THE WELDERS EMPLOYED ON THIS PROJECT.
3. WELDING PROCEDURE SPECIFICATIONS REQUIRED:
   - A. BUTT WELDS (GROOVE): WPS-SMAW-E6010/7010 (LATEST REVISION)
   - B. FILLET WELDS (BRANCH): WPS-SMAW-E6010/7010 (LATEST REVISION)
   - C. IN-SERVICE WELDS: WPS-SMAW-E7016/E7018 (LATEST REVSION)
4. *FOR DISTRIBUTION 10% (AT LEAST 1) OF WELDS SHALL BE SUBJECT* TO NON-DESTRUCTIVE EXAMINATION (NDE):
   - A. BUTT WELDS 2-INCH AND GREATER: 10% RADIOGRAPH
   - B. BUTT WELDS < 2-INCHES: 10% MAGNETIC PARTICLE
   - C. FILLET WELDS: 10% MAGNETIC PARTICLE
5. FOR DISTRIBUTION, NDE IS NOT REQUIRED IF THERE ARE LESS THAN 20 WELDS.
6. CONTACT ALEX DEVINE FOR SCHEDULING OF PROJECT CWI AND NDE:

   NAME: ALEX DEVINE
   CELL: (603) 440-5329
   EMAIL: ALEXANDER.DEVINE@NATIONALGRID.COM

CATHODIC PROTECTION:

1. CORROSION PERSONNEL SHALL BE CONTACTED DURING THE PROJECT:

   DESIGN REVIEW: ALANNA GRONDINE (339) 225-5378
   CONSTRUCTION: DAVE HALNEN (781) 379-7831

2. IF EXISTING TEST STATIONS, WIRES, AND/OR MAGNESIUM ANODES ARE DISTURBED OR DAMAGED, NOTIFY THE NATIONAL GRID CORROSION DEPARTMENT
3. 24 HOUR NOTICE IS REQUIRED PRIOR TO INSTALLATION OF INSULATED FITTINGS TO ALLOW FOR ACCEPTANCE TESTING.
4. STEEL PIPE, FITTINGS, VALVES AND OTHER CARBON STEEL COMPONENTS TO BE BURIED WHICH ARE NOT FACTORY COATED FOR BURIED SERVICE SHALL BE FIELD COATED.
5. NATIONAL GRID CORROSION POLICIES AND PROCEDURES INCLUDE:
   - A. 030031-CS: FACILITY COATING GUIDE
   - B. CORO1100: CORROSION DESIGN CRITERIA
   - C. CORO2001: APPLICATION OF COATING SYSTEMS
   - D. CORO2020: INSPECTING EXPOSED STEEL PIPE FOR CORROSION
   - E. CORO3001: TESTING OF PIPE COATING (JEEP TESTING)
   - F. CORO4001: INSTALLATION OF MAGNESIUM ANODES
   - G. CORO4002: INSTALLATION OF IMPRESSED CURRENT ANODES AND RECTIFIERS
   - H. CORO4003: INSTALLATION OF TEST STATIONS FOR CATHODIC PROTECTION
   - I. CORO4004: INSTALLATION OF WIRE CONNECTIONS
   - J. CORO4005: INSTALLATION OF INSULATING JOINTS FOR CATHODIC PROTECTION
   - K. CORO4007: INSTALLATION OF POTENTIAL EQUALIZING GRID
   - L. 030024-CS: INSTALLATION OF MAGNESIUM ANODES
   - M. 030026-CS: INSTALLATION OF TEST STATIONS FOR CATHODIC PROTECTION
   - N. 030028-CS: INSTALLATION OF INSULATING JOINTS FOR CATHODIC PROTECTION
   - O. 030036-CS: INSTALLING WIRE CONNECTIONS
   - P. 060021-CS: INSTALLATION OF SUBMERSIBLE CATHODIC PROTECTION RECTIFIER
   - Q. 060022-CS: INSTALLATION OF POLE MOUNTED CATHODIC PROTECTION RECTIFIER
   - R. 060023-CS: INSTALLATION OF IMPRESSED CURRENT ANODE

SAFETY:

1. WORK SHALL CONFORM TO THE NATIONAL GRID EMPLOYEES SAFETY HANDBOOK, OSHA REQUIREMENTS, AND ALL LOCAL, STATE AND FEDERAL CODES (INCLUDING OSHA STANDARD 29 CFR 1910-120). WHERE ANY CONFLICTS OF CODES, STANDARDS AND REGULATIONS MAY EXIST, THE MORE STRINGENT CODE, STANDARD OR REGULATION SHALL APPLY.
2. REQUIRED PERSONAL PROTECTIVE EQUIPMENT (PPE) SHALL BE WORN AND UTILIZED IN ACCORDANCE WITH THE CURRENT NATIONAL GRID SAFETY POLICY.
3. A NATIONAL GRID APPROVED CONTRACTOR HEALTH AND SAFETY PLAN (HASP) IS REQUIRED PRIOR TO CONSTRUCTION.
4. JOB BRIEFINGS, AT A MINIMUM, SHALL BE CONDUCTED BEFORE THE START OF THE FIRST JOB ON EACH DAY OR SHIFT. ADDITIONAL BRIEFINGS MAY BE REQUIRED AFTER EXTENDED WORK BREAKS.
5. CONSTRUCTION SIGNING, DRUMS, BARRICADES, AND OTHER DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) PART VI AND SHALL BE MAINTAINED BY THE CONTRACTOR.
6. NATIONAL GRID SAFETY PROCEDURES COVER THE FOLLOWING CATEGORIES:

   A- ADMINISTRATIVE; B- INSPECTIONS; C- WALKING WORKING SURFACES; D- MEANS OF EGRESS; E- MATERIAL HANDLING AND STORAGE; F- TOXIC AND HAZARDOUS SUBSTANCES; G- HAZARDOUS MATERIALS; H- PERSONAL PROTECTIVE EQUIPMENT; I- GENERAL ENVIRONMENTAL CONTROLS, J- ACCIDENT INVESTIGATION; K- MACHINERY AND GUARDING; L- WELDING/CUTTING/BRAZING; M- EXCAVATIONS; N- CONTRACTORS; FIRE PROTECTION; Q- FLEET AND ROADWAY SAFETY

7. ANY AND ALL WORKERS THAT HAVE ANY POTENTIAL TO COME INTO CONTACT WITH SOIL AND/OR GROUNDWATER MUST HAVE UP-TO-DATE OSHA 40-HOUR HAZWOPER TRAINING. COPIES OF OSHA CERTIFICATES/TRAINING REFRESHERS SHALL BE PROVIDED TO NATIONAL GRID FOR REVIEW PRIOR TO THE START OF WORK.
8. NATIONAL GRID SAFETY POLICIES AND PROCEDURES INCLUDE:
   - A. SHE01001: GENERAL SAFETY REQUIREMENTS
   - B. SHE01002: SUPPLIED-AIR RESPIRATORS
   - C. SHE01003: USING AND MAINTAINING PORTABLE GAS MONITORS
   - D. SHE01004: USING AND MAINTAINING FLAME IONIZATION UNITS
   - E. SHE01005: DISSIPATING STATIC ELECTRICAL CHARGES ON PLASTIC PIPE
   - F. SHE01006: ENTERING GAS UTILITY VAULTS
   - G. SHE01008: USING AND MAINTAINING THE GAS EXPLORER
   - H. SHE01009: DISSIPATING STATIC ELECTRICAL CHARGES ON PLASTIC PIPE
   - I. SHE01010: THE APPLICATION OF FORMAL PROCESS SAFETY ASSESSMENTS TO HIGHER-RISK GAS ACTIVITIES PERFORMED IN THE FIELD
   - J. SHE02002: HANDLING CONTAMINATED MATERIALS AND PIPING
   - K. A-105: JOB BRIEFING
   - L. E-504: MATERIAL HANDLING AND RIGGING EQUIPMENT
   - M. F-617: HANDLING COAL TAR WRAP
   - N. I-903: LOCKOUT - TAGOUT CONTROL OF HAZARDOUS ENERGY SOURCES
   - O. J-1002: INCIDENT REPORTING
   - P. L-1201: HOT WORK PROCEDURE
   - Q. M-1301: STANDARDS FOR WORKING IN EXCAVATIONS
   - R. N-1402: CONTRACTOR SAFETY REQUIREMENTS
   - S. Q-1702: WORK ZONE TRAFFIC CONTROL

ENVIRONMENTAL:

1. WORK SHALL CONFORM TO THE NATIONAL GRID ENVIRONMENTAL POLICY.
2. NATIONAL GRID ENVIRONMENTAL CONTACT:

   NAME: JAMIE WALKER
   CELL: (978) 551 1156
   EMAIL: JAMIE.WALKER@NATIONALGRID.COM

3. CONTRACTOR SHALL REVIEW THE PROJECT WORK ORDER PACKAGE FOR ENVIRONMENTAL GUIDANCE FORMS, FOR EXAMPLE EG-301, FOR THE RESPECTIVE STATE.
4. WHEN SOILS OR LIQUIDS ARE ENCOUNTERED THAT ARE BELIEVED TO BE CONTAMINATED WITH OIL AND/OR HAZARDOUS MATERIAL, EXCAVATION WORK SHALL BE HALTED AND FIELD PERSONNEL SHALL NOTIFY THEIR IMMEDIATE SUPERVISOR.
5. NO EXCAVATED SOIL THAT IS CONTAMINATED SHALL LEAVE THE WORK SITE UNTIL ENVIRONMENTAL HAS MADE A DETERMINATION FOR ITS PROPER DISPOSAL.
6. ALL REASONABLE CARE MUST BE TAKEN BY THE CONTRACTOR TO PREVENT THE GENERATION OF DUST DURING SOIL EXCAVATION, STOCKPILING, LOADING, AND OTHER SOIL HANDLING ACTIVITIES. DUST CONTROL METHODS INCLUDE SPRINKLING WATER OR MULCHING. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING STREET SWEEPING (AS NEEDED) TO LIMIT OFF-SITE TRACKING OF SOILS.
7. CONTRACTOR SHALL REVIEW THE FOLLOWING ENVIRONMENTAL POLICIES AND PROCEDURES:
   - A. SHE02003: ENCOUNTERING SOIL OR LIQUIDS SUSPECTED OF CONTAINING OIL AND/OR HAZARDOUS MATERIALS DURING EXCAVATIONS
   - B. SHE02001: HANDLING CONTAMINATED MATERIALS AND PIPING
   - C. EG303-NE: BEST MANAGEMENT PRACTICES
   - D. EG140: USED GAS PIPE MANAGEMENT
8. THE WORK MAY BE SUBJECT TO OTHER ENVIRONMENTAL REQUIREMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE PROJECT WORK ORDER PACKAGE.
9. CONTACT THE ENVIRONMENTAL DEPT. BEFORE DIGGING IF THIS PROJECT IS LOCATED IN A POTENTIALLY CONTAMINATED AREA; WITHIN 50 FEET OF WETLANDS/ BODIES OF WATER; WITHIN 200 FEET OF RIVERS/STREAMS; AND/OR A FLOODPLAIN AS NOTED ON NATIONAL GRID ARCGIS MAPS.

OTHER PERMITTING REQUIREMENTS:

1. ALL WORK SHALL BE LIMITED TO THE EXISTING RIGHT-OF-WAYS, UNLESS OTHERWISE NOTED.
2. CITY OF NEWTON STREET OPENING PERMIT
3. ELECTRICAL PERMITS FOR SCADA INSTALLATION
4. CITY OF NEWTON GRANT OF LOCATION
5. MWRA SEWER PERMIT

SURVEY/EXISTING UTILITIES:

1. SITE DETAIL SHOWN IS BASED UPON TOPOGRAPHIC DETAIL SURVEY CONDUCTED BY CHA CONSULTING, IN MAY OF 2022.
2. LOCATION OF ANY IDENTIFIED UNDERGROUND UTILITIES IS APPROXIMATE ONLY AND IS NOT WARRANTED TO BE CORRECT. ADDITIONAL UTILITES MAY EXIST WHICH ARE NOT INDICATED ON THESE PLANS. ALL EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR FOR SERVICE, SIZE, INVERT ELEVATIONS, LOCATION, ETC.
3. THE PLAN SET IS REFERENCED TO THE MASSACHSUETTS NAD83 HORIZONTAL COORDINATE SYSTEM. ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), US SURVEY FEET AND REFERENCED TO TEMPORARY BENCHMARKS (TBM'S) NOTED ON THE PLANS HEREIN. IN THE EVENT THAT TBM'S ESTABLISHED FOR THIS PROJECT AND PUBLISHED ON THIS SURVEY ARE DESTROYED, NOT RECOVERABLE, OR A DISCREPANCY IS FOUND, THE USER SHOULD NOTIFY THE SURVEYOR AND NATIONAL GRID IN WRITING PRIOR TO COMMENCING OR CONTINUING ANY WORK.

UTILITY OWNER INFORMATION:

1. JOU TAVERNA, P.E
   CITY ENGINEER
   1000 COMMONWEALTH AVENUE
   NEWTON, MA 02459
   (617) 796 – 1020

2. VERIZON TELECOMMUNICATIONS
   385 MYLES STANDISH BLVD
   TAUNTON, MA 02780
   (774) 409 -3160

3. GAS
   NATIONAL GRID
   40 SYLVAN ROAD
   WALTHAM, MA
   GAS EMERGENCY: (800) 640-1595

78-23

THE DDS COMPANIES
45 HENDRIX ROAD
WEST HENRIETTA, NY 14586
PHONE (585) 359-7540
FAX (585) 359-7541

BOSTON GAS COMPANY
d/b/a
nationalgrid
40 SYLVAN ROAD
WALTHAM, MA 02451

IFC

RE-STAMP: 10/20/22

NO.	DESCRIPTION	DATE	DR.BY	CK.BY	APP.BY
0	ISSUED FOR CONSTRUCTION	10/25/2022	DMJ	JDL	MEP

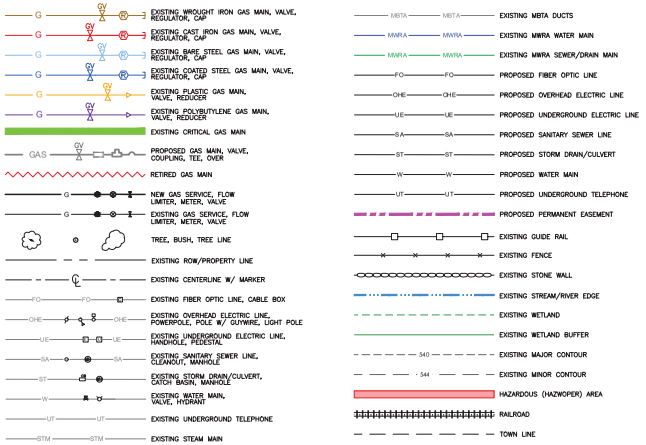
CALIFORNIA ST @ BRIDGE ST
REGULATOR STATION REPLACEMENT
CALIFORNIA ST & BRIDGE ST
NEWTON, MA

CONSTRUCTION NOTES

DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	J. LAMBERT	10/25/2022	XXXXXXX	90000228066

DRAWING NO.	SHEET NO.
SR-123-90000228066 G-003	03

LEGEND



BILL OF MATERIALS

ITEM	QTY	UOM	DESCRIPTION	SIZE (IN.)	THICKNESS (IN.)	MATERIAL SPECIFICATION	GRADE	RATING / CLASS	NATIONAL GRID REFERENCE	MATERIAL PROVIDED BY	PO# / STOCK ID	STOCKROOM
1	1	EA	6" PREFABRICATED REGULATOR STATION VAULT (SR-STD-6TL-3D)	N/A	-	-	-	-	-	NATIONAL GRID	NON STOCK	BAYSTATE
2	20	FT	PIPE, CARBON STEEL, BARE, XH WALL	1-1/4	0.191	API 5L PSL-1	GRADE B	-	120020-MS	NATIONAL GRID	NON STOCK	IRBY
3	30	FT	PIPE, COATED W/ 1040 PRITEC	12	0.375	API 5L PSL-2	GRADE B	-	120020-MS	NATIONAL GRID	9340771	WILMINGTON
4	60	FT	PIPE, COATED W/ 1040 PRITEC	8	0.322	API 5L PSL-2	GRADE B	-	120020-MS	NATIONAL GRID	9340825	WILMINGTON
5	1	EA	ELBOW, 90 DEG, LR, BW, SEGMENTABLE	12	0.375	ASTM A234, ASME B16.9	GRADE WPB	-	MATL-3100	NATIONAL GRID	9315521	WILMINGTON
6	1	EA	ELBOW, 90 DEG, LR, BW, SEGMENTABLE	8	0.322	ASTM A234, ASME B16.9	GRADE WPB	-	MATL-3100	NATIONAL GRID	9315387	WILMINGTON
7	1	EA	VALVE, BALL, DELTA, FIG 55, FULL PORT, WE X WE, W/ VALVE BOX	12	0.375	API 6D, ASME B31.8	LF2	ANSI 150	MATL-3150	NATIONAL GRID	NON STOCK	IRBY
8	1	EA	VALVE, BALL, DELTA, FIG 55, FULL PORT, WE X WE, W/ VALVE BOX	8	0.322	API 6D, ASME B31.8	LF2	ANSI 150	MATL-3150	NATIONAL GRID	NON STOCK	IRBY
9	1	EA	REDUCER, STEEL, CONCENTRIC	8XB	0.322XD.280	ASTM A234	GRADE WPB	-	MATL-3100	NATIONAL GRID	9315715	WILMINGTON
10	1	EA	SLEEVE, STYLE 50A, INSULATED, 100PSIG	16	-	-	-	-	FITS6026	NATIONAL GRID	9342323	WILMINGTON
11	A/R	EA	ELBOW, 90DEG, LR, SW	1-1/4	0.191	ASME B16.11, ASTM A105	GRADE B	-	MATL-3100	NATIONAL GRID	NON STOCK	IRBY
12	A/R	EA	ELBOW, 45DEG, LR, SW	1-1/4	0.191	ASME B16.11, ASTM A105	GRADE B	-	MATL-3100	NATIONAL GRID	NON STOCK	IRBY
13	1	EA	VALVE, BALL, KEROTEST, WELDBALL, WE X WE, W/ VALVE BOX	1-1/4	0.191	API 6D, ASME B31.8	-	ANSI 150	-	NATIONAL GRID	NON STOCK	IRBY
14	1	EA	MUELLER, NO BLO TEE, WELD X WELD, H-17650	1-1/4	-	-	-	-	-	NATIONAL GRID	9323697	WILMINGTON
15	A/R	EA	COUPLING, SW	1-1/4	0.191	ASME B16.11, ASTM A105	GRADE B	-	MATL-3100	NATIONAL GRID	9385335	WILMINGTON
16	1	EA	FITTING, TRANSITON, WELD END STEEL, MDPE	12	SDR 13.5	-	PE 2406	-	120026-MS	NATIONAL GRID	9339397	WILMINGTON
17	1	EA	TEE, 3-WAY, FLANGED, FLAT BOTTOM	8	0.322	-	-	ANSI 150	FITS6055	NATIONAL GRID	9308511	WILMINGTON
18	2	EA	SADDLE, SERVICE, INSULATED	16X1	-	-	-	-	FITS6016	NATIONAL GRID	NON STOCK	IRBY
19	2	EA	PLUG, SQUARE HEAD, THREADED	1	-	-	-	-	-	NATIONAL GRID	9312287	WILMINGTON
20	A/R	EA	4" DIA BOLLARD, 4' HIGH	4	-	-	-	-	REGL6090	CONTRACTOR	-	-
21	3	EA	VENT POST, EXTENDED 4 FT ABOVE GRADE	5	-	-	-	-	-	NATIONAL GRID	NON STOCK	BAYSTATE
22	3	EA	DRYWELL, CONCRETE, PRECAST, MODEL DB-5, ROTUNDO & SONS	-	-	-	-	-	-	CONTRACTOR	-	-
23	A/R	FT	PVC DRAIN PIPE, SCHEDULE 40	1-1/2	-	-	-	-	-	CONTRACTOR	-	-
24	A/R	EA	PVC 90 DEG ELBOW, SCHEDULE 40 FOR DRYWELL DRAIN	1-1/2	-	-	-	-	-	CONTRACTOR	-	-
25	A/R	FT	WIRE, TRACER, DIRECT BURY USE	-	-	-	-	-	CNST6061	NATIONAL GRID	9315005	WILMINGTON
26	A/R	ROLL	YELLOW CAUTION TAPE - GAS MAIN - 6" WIDE	-	-	-	-	-	-	NATIONAL GRID	9341904	WILMINGTON
27	1	EA	COUPLING, ELECTROFUSION	12	-	-	-	-	120025-MS	NATIONAL GRID	9314939	WILMINGTON
28	10	FT	PIPE, PLASTIC, MDPE	12	-	-	-	-	120026-MS	NATIONAL GRID	9340863	WILMINGTON
29	5	FT	PIPE, COATED W/ 1040 PRITEC	6	0.280	API 5L PSL-2	GRADE B	-	120020-MS	NATIONAL GRID	9322684	WILMINGTON
30	1	EA	INSULATING JOINT, WELD END	8	0.322	-	-	-	MS-035	NATIONAL GRID	9308622	WILMINGTON
31	A/R	EA	FRP SHIELDS, FIBERGLASS, REINFORCED	8	-	-	-	-	-	NATIONAL GRID	9340227	WILMINGTON
32	A/R	EA	FRP SHIELDS, FIBERGLASS, REINFORCED	12	-	-	-	-	-	NATIONAL GRID	9340228	WILMINGTON
FOR ELECTRICAL AND SCADA												
S1	1	EA	SCADA BOX, NEMA 3R ENCLOSURE, W/ CONCRETE BASE	36 x 50 x 18	-	-	-	-	-	NATIONAL GRID	NON STOCK	IRBY
S2	1	EA	CONCRETE PAD	40 x 24 x 18	-	-	-	-	-	CONTRACTOR	-	-
S3	A/R	FT	CONDUIT, RIGID METAL, FOR ELECTRICAL/TELECOM	1-1/2	-	-	-	-	-	CONTRACTOR	-	-
S4	A/R	FT	CONDUIT, PVC	4	-	-	-	-	-	CONTRACTOR	-	-
S5	A/R	EA	ELBOW, 90 DEG, RIGID METAL FOR ELECTRICAL/TELECOM CONDUIT	1-1/2	-	-	-	-	-	CONTRACTOR	-	-
S6	A/R	EA	ELBOW, 45 DEG, RIGID METAL FOR ELECTRICAL/TELECOM CONDUIT	1-1/2	-	-	-	-	-	CONTRACTOR	-	-
S7	A/R	EA	ELBOW, 90 DEG, PVC	4	-	-	-	-	-	CONTRACTOR	-	-
S8	A/R	EA	ELBOW, 45 DEG, PVC	4	-	-	-	-	-	CONTRACTOR	-	-
S9	2	EA	SWEEP, 90 DEG, RIGID METAL FOR ELECTRICAL/TELECOM CONDUIT	1-1/2	-	-	-	-	-	CONTRACTOR	-	-
S10	2	EA	SERVICE ENTRANCE HEAD, FOR ELECTRICAL/TELECOM CONDUIT	1-1/2	-	-	-	-	-	CONTRACTOR	-	-
S11	2	EA	GROUND ROD, 1/2" DIA. X 10'-0" LONG, COPPER CLAD STEEL	1/2" X 10'-0"	-	-	-	-	-	CONTRACTOR	-	-
S12	A/R	EA	THERMOWELD, CR-2 TYPE MOLD, #M-5786	1/2	-	-	-	-	-	CONTRACTOR	-	-
S13	A/R	FT	COPPER WIRE, STRANDED COPPER, BARE	#6 AWG	-	-	-	-	-	CONTRACTOR	-	-
S14	1	EA	ROXTEC TYPE RS SEALS, RS150 FOR 4x6 HOLES	4	-	-	-	-	-	CONTRACTOR	-	-
FOR CATHODIC PROTECTION & COATING INSTALLATION												
C1	3	EA	CP TEST BOX WITH COVER HEAVY DUTY	-	-	-	-	-	FITS-6350	NATIONAL GRID	9339892	WILMINGTON
C2	12	EA	17# MAGNESIUM ANODE	-	-	-	-	-	-	NATIONAL GRID	9311183	WILMINGTON
C3	A/R	FT	WIRE #8 AWG - FOR TEST WIRE	-	-	-	-	-	-	NATIONAL GRID	9307539	WILMINGTON
C4	A/R	FT	WIRE #6 AWG - FOR BONDING WIRE							NATIONAL GRID	9311795	WILMINGTON
C5	A/R	EA	THERMOWELD CARTRIDGE KIT	-	-	-	-	-	-	NATIONAL GRID	9331417 / 9352728	WILMINGTON
C6	A/R	ROLL	PIPE WRAP - TAPECOAT H35G	-	-	-	-	-	-	NATIONAL GRID	9314898 (4" WIDTH) 9384293 (6" WIDTH)	WILMINGTON
C7	A/R	ROLL	PIPE WRAP - TAPECOAT T-TAPE, 4"X25' ROLL	-	-	-	-	-	-	NATIONAL GRID	NON STOCK	IRBY
FOR ABANDONMENT												
A1	1	EA	CAP, STEEL, WELDING	6	0.280	ASTM A234, ASME B16.9	GRADE WPB	-	MATL-3100	NATIONAL GRID	9312094	WILMINGTON
A2	1	EA	TEE, SERVICE, WELD INLET & OUTLET, SELF TAPPING	3/4	-	-	-	-	FITS6055	NATIONAL GRID	9383994	WILMINGTON
A3	1	EA	CAP, VENTED, SELF RESTRAINING, COMPRESSION, CONDUCTIVE	6	-	-	-	-	FITS6024	NATIONAL GRID	9314880	WILMINGTON
A4	1	EA	FITTING, LINESTOPPER, WELDING	6	-	-	-	-	FITS6055	NATIONAL GRID	9384896	WILMINGTON
A5	4	EA	BAG, GAS, CANVAS, 8 INCH TYPE	8	N/A	N/A	N/A	N/A	N/A	NATIONAL GRID	N/A	WILMINGTON
A6	4	EA	FITTING, SHORTSTOPP, WELD	2	-	-	-	-	FITS6055	NATIONAL GRID	9341087	WILMINGTON
A7	3	EA	TEE, SERVICE, WELD INLET & OUTLET, SELF TAPPING	3/4	-	-	-	-	FITS6055	NATIONAL GRID	9383994	WILMINGTON
A8	1	EA	CAP, VENTED, SELF RESTRAINING, COMPRESSION, CONDUCTIVE	8	-	-	-	-	FITS6024	NATIONAL GRID	9315210	WILMINGTON
A9	2	EA	COUPLING, SELF RESTRAINING, NON-INSULATED	12X12	-	-	-	-	FITS6025	NATIONAL GRID	9339730	WILMINGTON
A10	3	EA	TEE, SERVICE, WELD INLET & OUTLET, SELF TAPPING	1	-	-	-	-	FITS6055	NATIONAL GRID	9323065	WILMINGTON
FOR PRESSURE TESTING												
P1	1	EA	CAP, STEEL, WELDING	8	0.322	ASTM A234, ASME B16.9	GRADE WPB	-	MATL-3100	NATIONAL GRID	9312093	WILMINGTON
P2	2	EA	CAP, MDPE, BUTT FUSE	12	SDR 13.5	-	PE 2406	-	120026-MS	NATIONAL GRID	9339560	WILMINGTON
P3	1	EA	CAP, STEEL, WELDING	6	0.280	ASTM A234, ASME B16.9	GRADE WPB	-	MATL-3100	NATIONAL GRID	9312094	WILMINGTON
P4	2	EA	CAP, STEEL, WELDING	12	0.375	ASTM A234, ASME B16.9	GRADE WPB	-	MATL-3100	NATIONAL GRID	9312092	WILMINGTON

78-23

THE DDS COMPANIES
45 HENDRIX ROAD
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BOSTON GAS COMPANY
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nationalgrid
40 SYLVAN ROAD
WALTHAM, MA 02451

IFC

RE-STAMP: 10/20/22

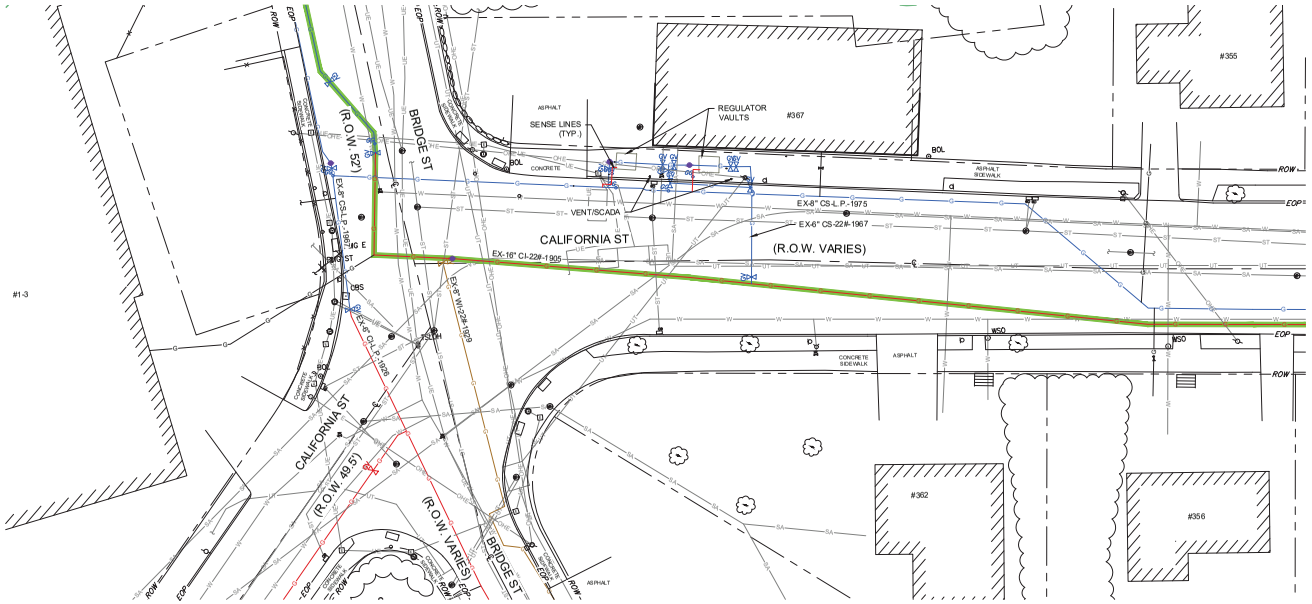
NO.	DESCRIPTION	DATE	DR.BY	CK.BY	APP.BY
0	ISSUED FOR CONSTRUCTION	10/25/2022	DMJ	JDL	MEP

CALIFORNIA ST @ BRIDGE ST
REGULATOR STATION REPLACEMENT
CALIFORNIA ST & BRIDGE ST
NEWTON, MA

LEGEND & BILL OF MATERIALS

DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	J. LAMBERT	10/25/2022	XXXXXXX	90000228066

DRAWING NO.	SHEET NO.
SR-123-90000228066 G-004	04



78-23

20'	0'	20'	40'	1"=20'							

THE DDS COMPANIES
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RE-STAMP: 10/20/22

NO.	DESCRIPTION	DATE	DR.BY	CK.BY	APP.BY
0	ISSUED FOR CONSTRUCTION	10/25/2022	DMJ	JDL	MEP

CALIFORNIA ST @ BRIDGE ST
REGULATOR STATION REPLACEMENT
CALIFORNIA ST & BRIDGE ST
NEWTON, MA

EXISTING CONDITIONS

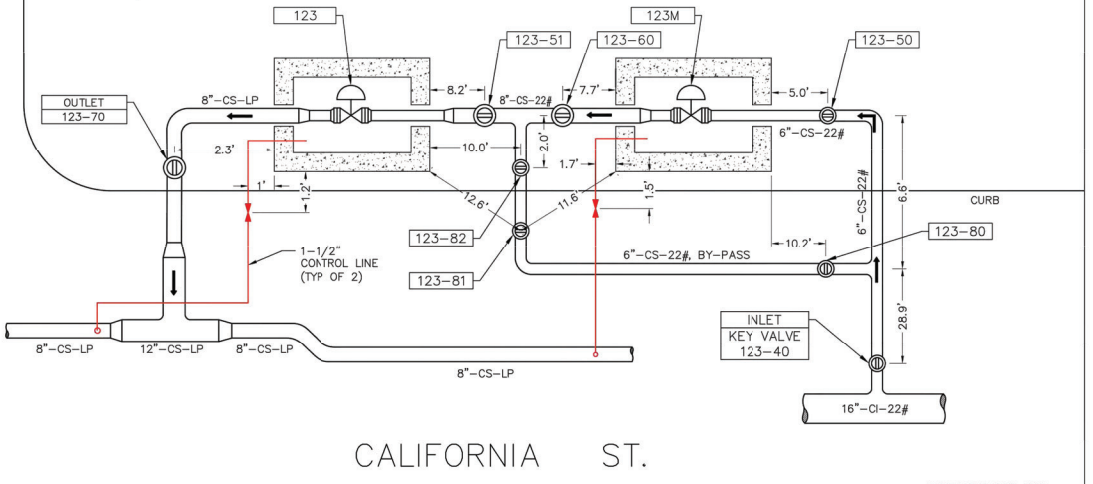
DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	J. LAMBERT	10/25/2022	XXXXXXX	90000228066

DRAWING NO.	SHEET NO.
SR-123-90000228066 C-001	05

NOTE:
EXISTING CONDITIONS FLOW DIAGRAM

N

STATION #123 REGULATOR INFORMATION			
ID	TYPE	MAKE & MODEL	SET PRESSURE
123	PRIMARY CONTROL	4" FISHER 1098 EGR	6"-14"W.C.
123M	PRIMARY MONITOR	4" FISHER 1098 EGR	8"-14"W.C.



INSTALLATION DATE: 1967

REGULATOR STATION FLOW DIAGRAM
CALIFORNIA ST. @ BRIDGE ST., NEWTON, MA
INLET MAOP: 22 PSIG, OUTLET MAOP: 14" W.C.
NOT TO SCALE

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nationalgrid
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WALTHAM, MA 02451

NO	DESCRIPTION	DATE	DFT	APP
5	ADD REG. IIFO. & BAY-PASS VALVE	03/05/2021	LZ	TRB
4	UPDATE TAG INFORMATION	01/24/2014	OW	TM

REVISIONS

DWG. NO.
FD-123
ASSET ID: 123

78-23

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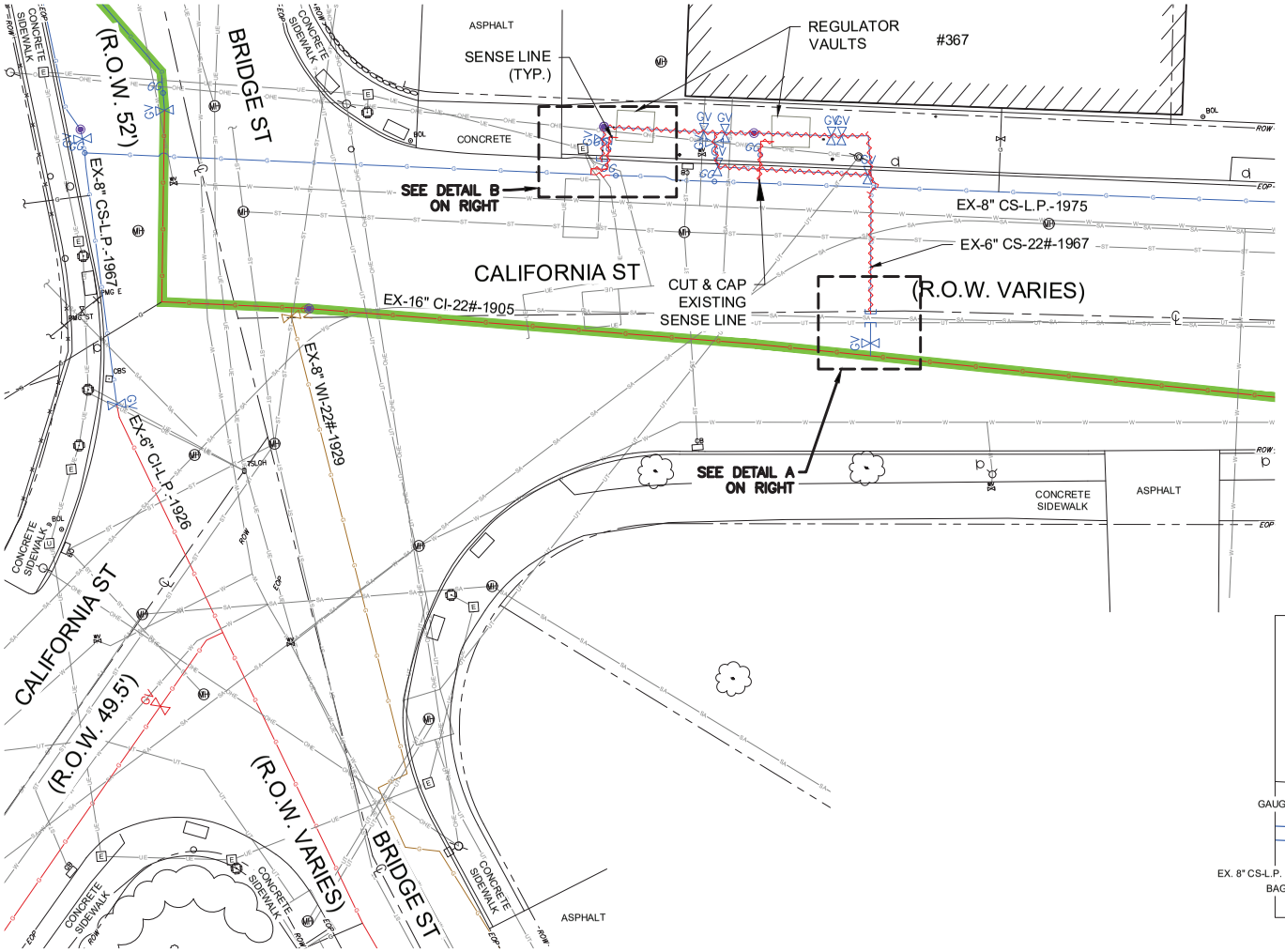
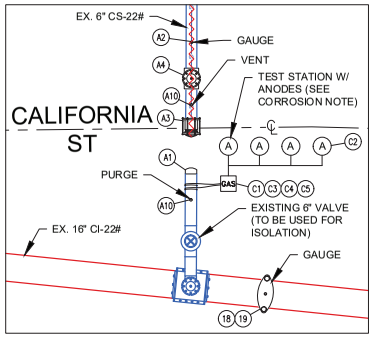
CALIFORNIA ST @ BRIDGE ST
REGULATOR STATION REPLACEMENT
CALIFORNIA ST & BRIDGE ST
NEWTON, MA

EXISTING CONDITIONS

DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	J. LAMBERT	10/25/2022	XXXXXXX	90000228066

DRAWING NO.	SHEET NO.
SR-123-90000228066 C-002	06



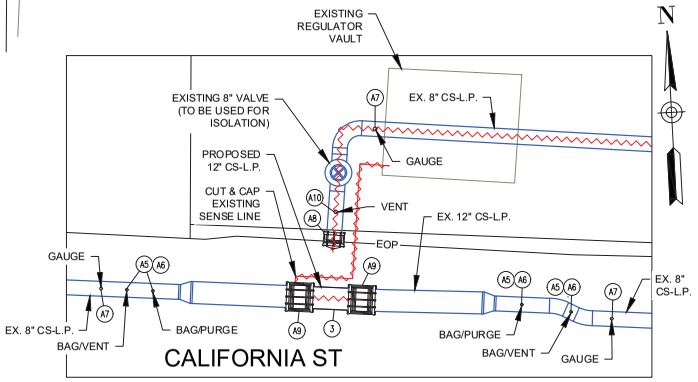


DETAIL A: CUT-OFF

SCALE - 1:3

CORROSION NOTE:

INSTALL A (2)-WIRE TEST STATION TO THE EXISTING COATED STEEL MAIN TO REMAIN ACTIVE. INCLUDE (4)-17 LB ANODES SPACED AT LEAST 8 FT APART AND 1 FT BELOW THE MAIN USING A SINGLE HEADER CABLE. INSTALL THE 9X9 TEST STATION IN AN ACCESSIBLE LOCATION. DWAT0028



DETAIL B: CUT-OFF

SCALE - 1:3

78-23

20' 0' 20' 40'

1"=20'

THE DDS COMPANIES
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RE-STAMP: 10/20/22

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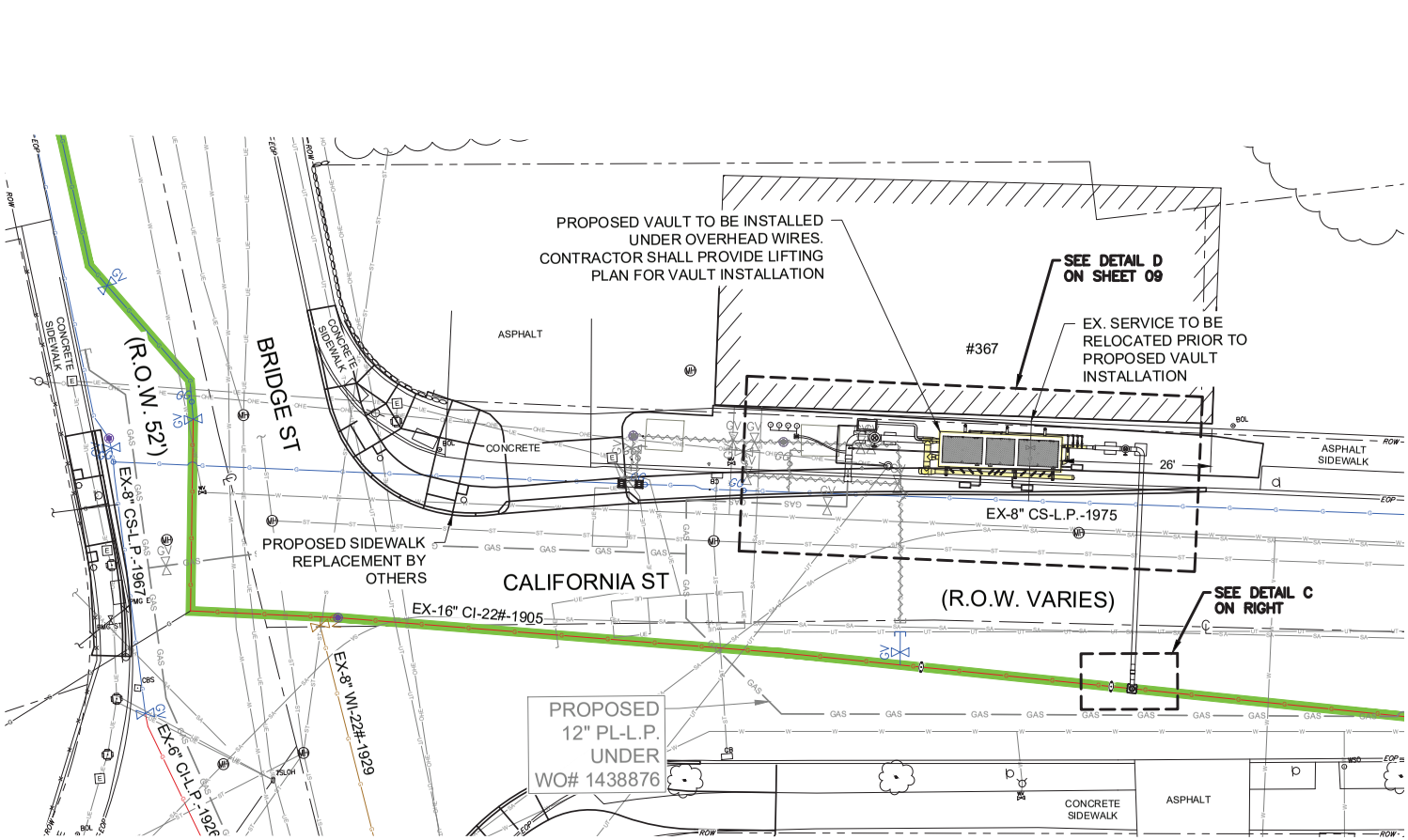
0	ISSUED FOR CONSTRUCTION	10/25/2022	DMJ	JDL	MEP

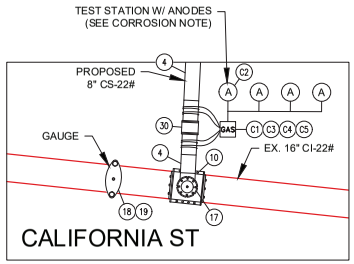
CALIFORNIA ST @ BRIDGE ST
REGULATOR STATION REPLACEMENT
CALIFORNIA ST & BRIDGE ST
NEWTON, MA

ABANDONMENT

DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	J. LAMBERT	10/25/2022	XXXXXXXX	90000228066

DRAWING NO.	SHEET NO.
SR-123-90000228066 C-003	07





DETAIL C: TIE-IN

SCALE - 1:3

SEE NOTE 1

CORROSION NOTE:

INSTALL A WELD-END INSULATOR ON THE PROPOSED COATED STEEL MAIN. INSTALL A (4)-WIRE TEST STATION ACROSS THE INSULATOR. INCLUDE (4)-17 LB ANODES SPACED AT LEAST 8 FT APART AND 1 FT BELOW THE MAIN USING A SINGLE HEADER CABLE. INSTALL THE 9X9 TEST STATION IN AN ACCESSIBLE LOCATION.

NOTE:

1. **ADDITIONAL VERTICAL BENDS NOT SHOWN SHALL BE INSTALLED AS NECESSARY TO FACILITATE THE CONNECTION TO THE MAIN UNDER WO# 1438876.**

78-23

10' 0' 10' 20'

1"=10'

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WALTHAM, MA 02451

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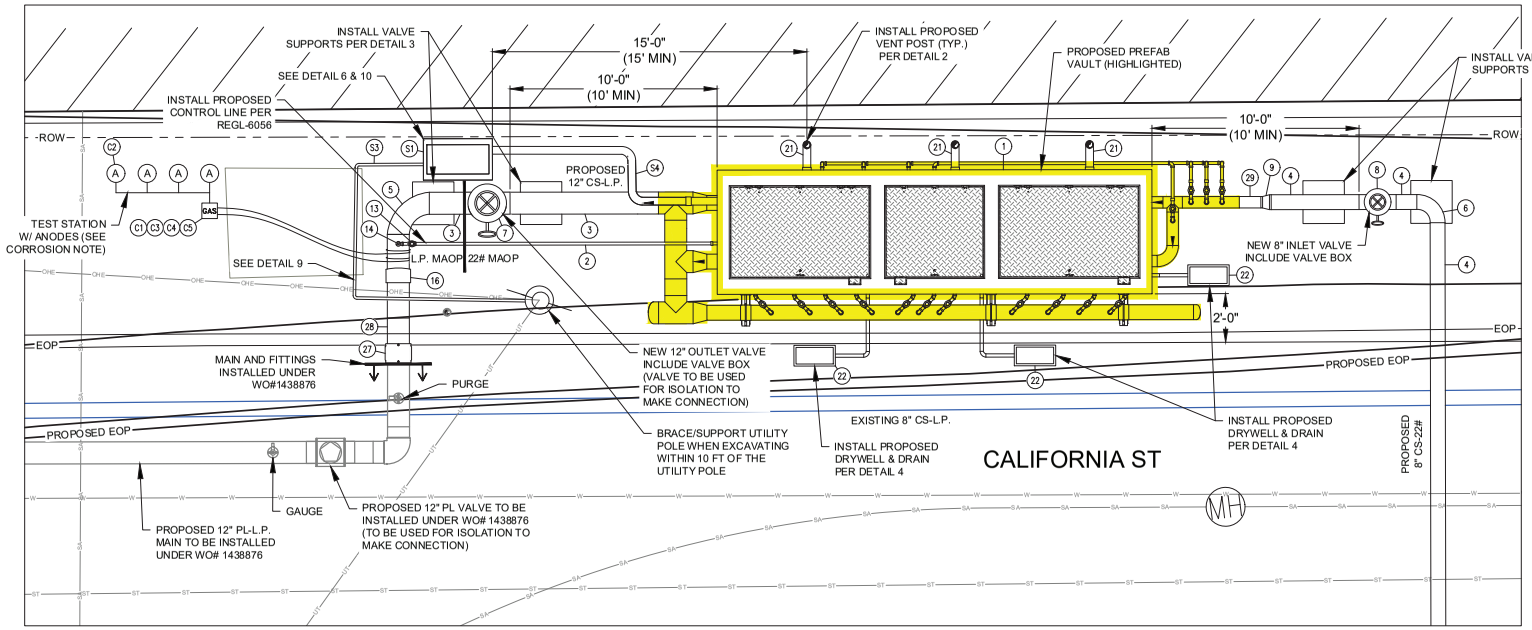
CALIFORNIA ST @ BRIDGE ST
REGULATOR STATION REPLACEMENT
CALIFORNIA ST & BRIDGE ST
NEWTON, MA

PROPOSED CONDITIONS

DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	J. LAMBERT	10/25/2022	XXXXXXXX	90000228066

DRAWING NO.	SHEET NO.
SR-123-90000228066 C-004	08



DETAIL D: TIE-IN

SCALE - 1:3

SEE NOTE 1

CORROSION NOTE:

INSTALL A (2)-WIRE TEST STATION TO THE PROPOSED COATED STEEL MAIN AT THE COATED STEEL/ PLASTIC INTERFACE. INCLUDE (4)-17 LB ANODES SPACED AT LEAST 8 FT APART AND 1 FT BELOW THE MAIN USING A SINGLE HEADER CABLE. INSTALL THE 9X9 TEST STATION IN AN ACCESSIBLE LOCATION.

NOTE:

1. **ADDITIONAL VERTICAL BENDS NOT SHOWN SHALL BE INSTALLED AS NECESSARY TO FACILITATE THE CONNECTION TO THE MAIN UNDER WO# 1438876.**

78-23

3' 0' 3' 6'

1"=3'

THE DDS COMPANIES

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WALTHAM, MA 02451

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RE-STAMP: 10/20/22

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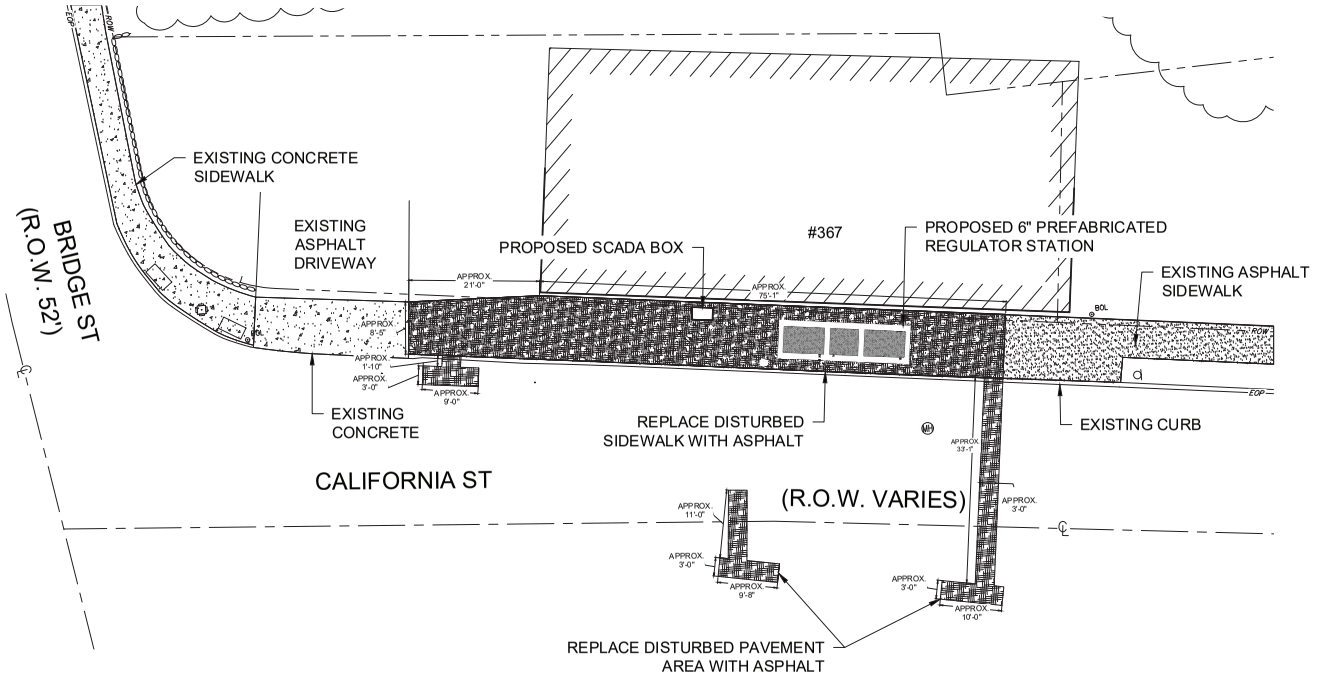
0	ISSUED FOR CONSTRUCTION	10/25/2022	DMJ	JDL	MEP

CALIFORNIA ST @ BRIDGE ST
REGULATOR STATION REPLACEMENT
CALIFORNIA ST & BRIDGE ST
NEWTON, MA

TIE-IN DETAILS

DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	J. LAMBERT	10/25/2022	XXXXXXX	90000228066

DRAWING NO.	SHEET NO.
SR-123-90000228066 C-101	09



10' 0' 10' 20'
1"=10'

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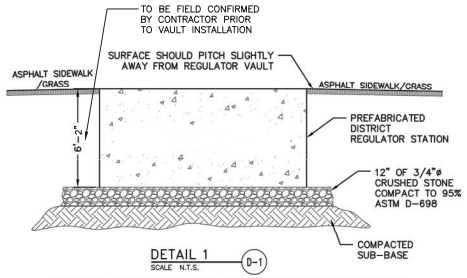
CALIFORNIA ST @ BRIDGE ST
REGULATOR STATION REPLACEMENT
CALIFORNIA ST & BRIDGE ST
NEWTON, MA

RESTORATION PLAN

DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	J. LAMBERT	10/25/2022	XXXXXXX	90000228066

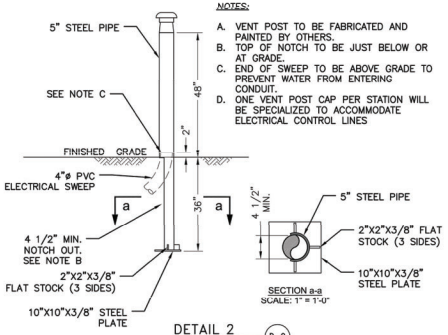
DRAWING NO.	SHEET NO.
SR-123-90000228066 C-005	10

78-23



DETAIL 1 (D-1)
SCALE N.T.S.

PROFILE OF COMPACTED SUB-BASE FOR PREFABRICATED REGULATOR VAULT
NOTE: APPROXIMATE WEIGHT OF VAULT = 23,000 – 64,000 LBS.

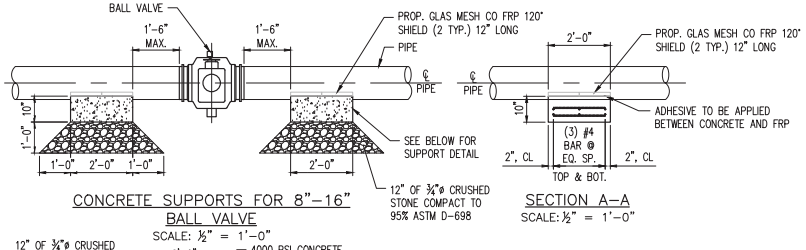


DETAIL 2 (D-2)
SCALE 1/2" = 1'-0"

VENT POST INSTALLATION

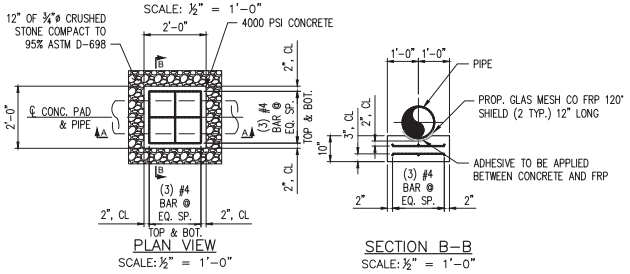
CONCRETE NOTES:

1. SOIL CONDITIONS SHOULD BE VERIFIED SUITABLE BY QUALIFIED INDIVIDUAL. SHOULD POOR SOIL CONDITIONS EXIST CONTACT PE&D FOR ALTERNATE VALVE SUPPORT DESIGN.
2. CONCRETE SHALL BE CURED IN ACCORDANCE WITH ACI 308. COLD WEATHER CURING PROVISIONS SHALL BE PROVIDED AS REQUIRED IN ACCORDANCE WITH ACI 306R.
3. MIX DESIGNS TO BE SUBMITTED FOR REVIEW & APPROVAL.
4. SIDES OF SUPPORTS SHALL BE FORMED.
5. REINFORCING - ALL REBAR SHALL BE EPOXY COATED GRADE 60 BILLET STEEL IN ACCORDANCE WITH ASTM A-615.
6. ALL FORM WORK AND PLACEMENT OF CONCRETE SHALL COMPLY WITH GOOD CONSTRUCTION PRACTICES AND BE IN ACCORDANCE WITH ALL LOCAL GOVERNING CODES AND REGULATIONS AS WELL AS THE ACI 301.
7. TOP OF CONCRETE SHALL BE SCREEDED LEVEL AND TRUE TO FINISH ELEVATION AND SHALL BE GIVEN A WOOD FLOAT FINISH WITH STEEL TOOLED EDGES.
8. ALL REINFORCING SHALL BE NEW BILLET STEEL GRADE 60 IN ACCORDANCE WITH ASTM A-615 WITH DEFORMATION CONFORMING TO ASTM A-305. 3" CLEAR COVER TO TOP AND BOTTOM BARS.
9. ALL BARS SHALL BE SECURELY HELD IN PROPER POSITION WHILE PLACING CONCRETE, ADDITIONAL BARS OR STIRRUPS SHALL BE PROVIDED TO THAT EFFECT.
10. CONCRETE FINISH SHALL BE FREE OF HONEYCOMB, ROCK POCKETS AND UNEVEN SURFACES.
11. IF CONCRETE IS PLACED IN FIELD PIPE SHALL BE TEMPORARILY SUPPORTED BY WOOD CRIBBING OR A SUITABLE PIPE SUPPORT FOR 3 DAYS, MIN. TO ALLOW ENOUGH TIME FOR CONCRETE TO CURE.



CONCRETE SUPPORTS FOR 8"–16" BALL VALVE
SCALE: ½" = 1'–0"

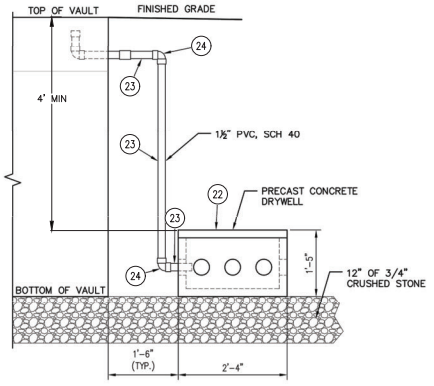
SECTION A–A
SCALE: ½" = 1'–0"



PLAN VIEW
SCALE: ½" = 1'–0"

SECTION B–B
SCALE: ½" = 1'–0"

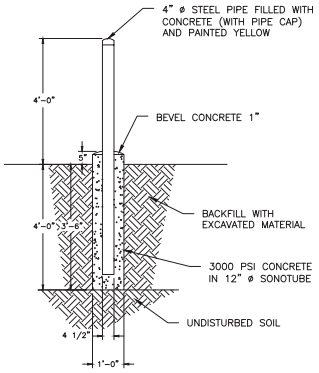
DETAIL 3 (D-3)
SCALE 1/2" = 1'-0"



NOTES:
1. DRAIN PIPING SHALL BE FIELD ROUTED BY CONTRACTOR.
2. DRAIN PIPING AND DRYWELL SHALL BE PROVIDED BY CONTRACTOR.
3. ALL JOINTS ARE TO BE MADE WITH PVC CEMENT.

DETAIL 4 (D-4)
SCALE 3/4" = 1'-0"

DRYWELL & DRAIN PIPE INSTALLATION



DETAIL 5 (D-5)
SCALE 1/2" = 1'-0"

BOLLARD

78-23

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40 SYLVAN ROAD
WALTHAM, MA 02451

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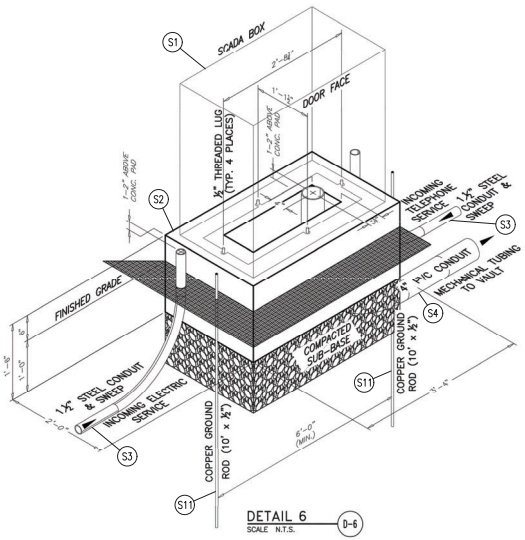
CALIFORNIA ST @ BRIDGE ST
REGULATOR STATION REPLACEMENT
CALIFORNIA ST & BRIDGE ST
NEWTON, MA

STANDARD DETAILS

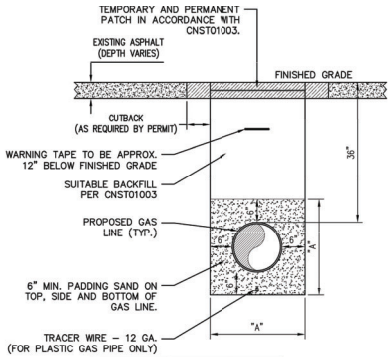
DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	J. LAMBERT	10/25/2022	XXXXXXX	90000228066

DRAWING NO.	SHEET NO.
SR-123-90000228066 C-201	11



DETAIL 6 (D-6)
SCALE N.T.S.

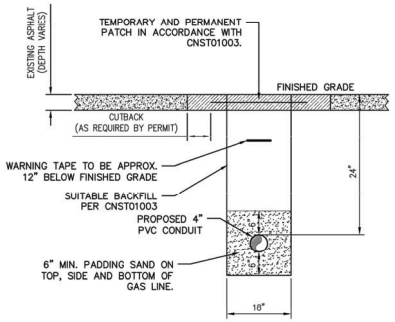
SCADA BOX ARRANGEMENT



PIPE SIZE	"A" (MIN. TRENCH DIMENSION)
6" OR LESS	18"
8" – 12"	24"
14"	26"
16"	28"
18"	30"
20"	32"
24"	35"
36"	48"

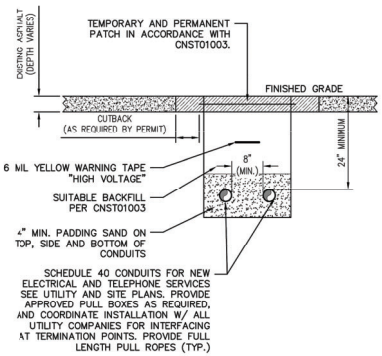
DETAIL 7 (D-7)
SCALE 3/4" = 1'-0"

TRENCH GUIDELINES



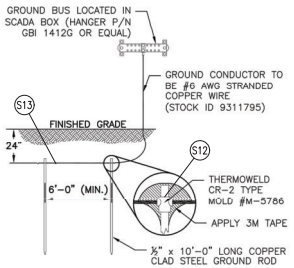
DETAIL 8 (D-8)
SCALE 3/8" = 1'-0"

TRENCH GUIDELINES



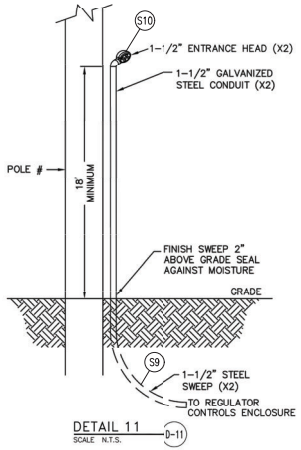
DETAIL 9 (D-9)
SCALE 3/8" = 1'-0"

ELECTRICAL TRENCH GUIDELINES



DETAIL 10 (D-10)
SCALE N.T.S.

GROUNDING DETAIL



DETAIL 11 (D-11)
SCALE N.T.S.

ELECTRIC & TELEPHONE SERVICE ENTRANCE DETAIL

78-23

THE DDS COMPANIES
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WALTHAM, MA 02451

IFC

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CALIFORNIA ST & BRIDGE ST
NEWTON, MA

STANDARD DETAILS

DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	J. LAMBERT	10/25/2022	XXXXXXX	90000228066

DRAWING NO.	SHEET NO.
SR-123-90000228066 C-202	12