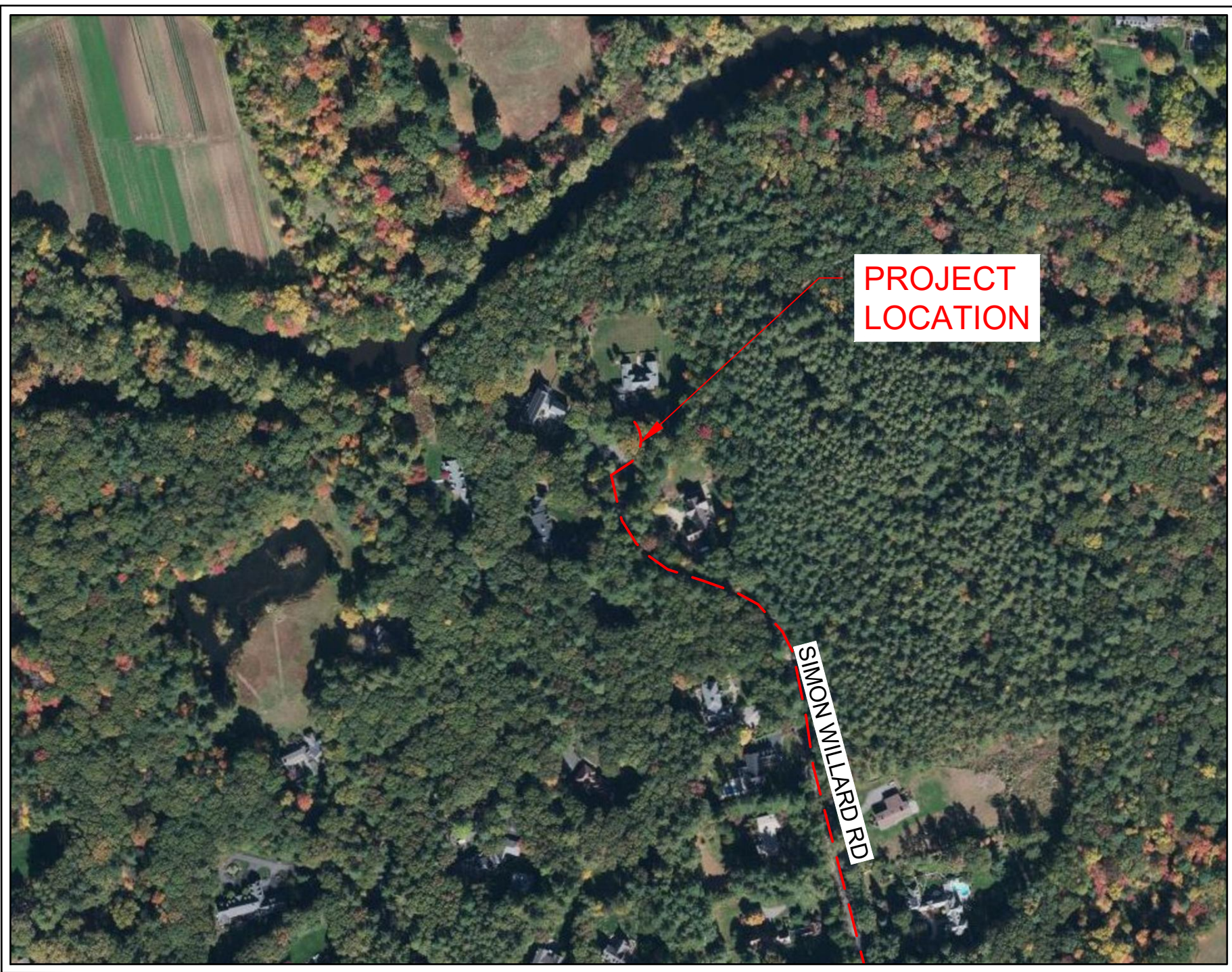


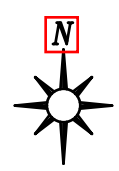
nationalgrid

398 SIMON WILLARD ROAD GAS MAIN INSTALLATION 2" PL TO 2" PL (60 PSIG) (398) SIMON WILLARD, CONCORD, MA W.O. NO.: 1435311

PIPE TOTALS			
DIAMETER	MATERIAL	ABANDONED	INSTALLED
2"	PL/60#	--	480 LF



INDEX OF SHEETS		
SHEET	NAME	TITLE
1	DDS-CON-71210337 G-001	COVER - LOCATION MAP
2	DDS-CON-71210337 G-002	CONSTRUCTION NOTES
3	DDS-CON-71210337 G-003	CONSTRUCTION NOTES & BILL OF MATERIALS
4	DDS-CON-71210337 C-101	LAYOUT & TIE-IN DETAILS
5	DDS-CON-71210337 C-201	STANDARD DETAILS
6	DDS-CON-71210337 C-202	STANDARD DETAILS



LOCATION MAP

LAT/LON: 42°28'13.64"N, 71°22'17.58"W
CONCORD, MA
SCALE: 1:300



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

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



NO.	DESCRIPTION	DATE	DR. BY	CK. BY	APP. BY
D	ADDED PROFILE AND CROSSING DETAILS	4/05/2022	HTS	JDL	MEP
C	ADDED UTILITIES	2/22/2022	HTS	JDL	MEP
B	REVISION	12/30/2021	HTS	JDL	MEP
A	ISSUED FOR CONSTRUCTION	12/21/2021	HTS	JDL	MEP

SIMON WILLARD RD GAS MAIN INSTALLATION
398 SIMON WILLARD RD
SIMON WILLARD ROAD
CONCORD, MA
COVER - LOCATION MAP

DWG SIZE	DESIGNER	ENGINEER	DATE	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	HSTAHL	12/21/2021	XXXXXXXX	1435311

PAGE 01 OF 06	
DRAWING NO.	SHEET NO.
G-001	01

SCOPE OF WORK:

NATIONAL GRID WORK ORDER NUMBER: 1435311
 PROJECT NAME AND LOCATION: 398 SIMON WILLARD RD, CONCORD, MA.
 PROJECT SCOPE: EXTEND EXISTING MAIN 2" PL/ 60# 480 FEET W/ 2" PL/ 60# TO SERVE 398 SIMON WILLARD RD
 1 MAIN CONNECTION

PRESSURE TESTING REQUIREMENTS:

- PRESSURE TEST ALL DISTRIBUTION PIPING IN ACCORDANCE WITH:
 - CNST04003: PRESSURE TESTING MAINS OPERATING BELOW 125 PSIG
 - CS-MAIN004: PRESSURE TESTING OF NEW MAINS MAOP OF 124 PSIG OR LESS
 - TEST PRESSURE (MINIMUM): 90 PSIG
 - TEST DURATION (MINIMUM): 1 HOUR(S)
 - TEST MEDIUM: AIR AND/OR NITROGEN
- PRESSURE TEST SERVICES IN ACCORDANCE WITH:
 - CNST06008: PRESSURE TESTING SERVICE LINES

DESIGN CRITERIA:

- DESIGN IN ACCORDANCE WITH THE FOLLOWING:
 - ENGO2001: DESIGN OF GAS SERVICES
 - ENGO4001: DESIGN OF DISTRIBUTION MAINS
- PROPOSED PIPING:
 - DESIGN CLASS LOCATION: 4
 - NOMINAL SIZE: 2 INCH
 - MATERIAL: MDPE
 - MAOP: 60 PSIG
- PIPE SIZE DETERMINED BY NATIONAL GRID STRATEGIC ASSET AND SYSTEM PLANNING

GENERAL CONSTRUCTION:

- NO SIGNIFICANT FIELD CHANGES SHALL BE MADE TO THIS PLAN WITHOUT APPROVAL OF ASSIGNED NATIONAL GRID PROJECT ENGINEER AND THE CONSTRUCTION SUPERVISOR.
 ENGINEER: BRENDAN GALLAGHER
 PHONE: (774) 813-7488
 EMAIL: BRENDAN.GALLAGHER@NATIONALGRID.COM
- THE CONTRACTOR SHALL CALL DIG-SAFE (DIAL 811) OR 888-344-7233 AT LEAST 72 HOURS PRIOR TO CONSTRUCTION. SATURDAYS, SUNDAYS AND HOLIDAYS ARE EXCLUDED.
- CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES AND STRUCTURES DEPICTED OR NOT DEPICTED ON THIS PLAN PRIOR TO COMMENCEMENT OF CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PHYSICALLY LOCATE ON-SITE UTILITIES THROUGH TEST PIT EXCAVATION OF SAID UTILITIES W/ PRIOR AUTHORIZATION FROM UTILITY OWNER.
- NOTIFY NATIONAL GRID I&R IF THE PROJECT IS WITHIN 200 FEET OF A REGULATOR STATION.
- NEW MAINS SHALL BE INSTALLED IN ACCORDANCE WITH THE TYPICAL TRENCH DETAIL (CS-CNST002-MA), UNLESS NOTED OTHERWISE.
 - 36 INCHES OF COVER FROM FINAL GRADE WHERE PRACTICAL
 - STATE HIGHWAY MINIMUM COVER: 36 INCHES (IRRESPECTIVE OF MAIN TYPE)
 - DISTRIBUTION MAIN MINIMUM COVER: 24 INCHES
 - SERVICES MINIMUM COVER:
 - SHOULD BE 24 INCHES
 - MINIMUM IN PUBLIC ROW 18 INCHES
 - MINIMUM IN PRIVATE PROPERTY: 12 INCHES
- SAND PADDING IN ALL DIRECTIONS, 6 INCHES MINIMUM.
- CAUTION TAPE SHALL BE INCLUDED ONE FOOT BELOW GRADE.
- 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:
 - LIEN GAUTHIER - (617) 438-9069 (MA EXCLUDING CAPE AND WEBSTER)
 - JENNIFER GILLIS - (617) 594-5157 (MA EXCLUDING CAPE AND WEBSTER)
 - JIM FITZPATRICK - (617) 212-6315 (CAPE ONLY)
 - JACEN FERNANDES - 617-908-0938 (CAPE ONLY)
 - ERIC KOHBERGER - (617) 719-2060 (WEBSTER ONLY)
 - 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.
- ALL MAINS SHOULD BE INSTALLED WITH A CLEARANCE OF 12 INCHES FROM OTHER FACILITIES.
 - DISTRIBUTION MINIMUM CLEARANCE: 6 INCHES
 - APPROPRIATE PROTECTIVE MEASURES SHALL BE USED TO PROTECT THE GAS FACILITY IF MINIMUMS CANNOT BE ATTAINED. APPROVAL IS REQUIRED BY GAS SYSTEMS ENGINEERING.
- THE PIPE ALIGNMENT IS SHOWN FOR REFERENCE ONLY (BASED ON AVAILABLE RECORD INFORMATION). THE ACTUAL ROUTE AND ALL VERTICAL AND HORIZONTAL OFFSETS ARE TO BE FIELD ROUNDED WITHIN THE PUBLIC RIGHT-OF-WAY BASED ON THE ACTUAL LOCATION OF EXISTING UTILITIES. ADDITIONAL FITTINGS NOT SHOWN WILL BE REQUIRED.


- 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.
- 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.
- VALVES FOR BRANCHES AT INTERSECTIONS SHOULD BE FIELD LOCATED JUST OUTSIDE OF THE INTERSECTION WHERE EASILY ACCESSIBLE, PRIOR TO THE FIRST SERVICE.
- ELECTROFUSION COUPLINGS MAY BE INTERCHANGED WITH BUTT FUSION WHERE APPLICABLE.
- TIE-IN LOCATIONS MAY VARY UP TO 100 FEET OF THE PROPOSED LOCATION TO ACCOMMODATE CONSTRUCTION, EXCEPT FOR WHEN THE FOLLOWING CONDITIONS APPLY:
 - REGULATOR STATION WITHIN THE SCOPE OF THE JOB OR WITHIN 200 FEET OF THE TIE-IN LOCATION.
 - CHANGE TO THE NUMBER OF CONNECTIONS (ADDITIONAL ADDED FROM AN INTERSECTION OR OTHERWISE).
 - MATERIAL/SIZE CHANGE AT NEW LOCATION.
 - NOT ALL BYPASSES, GAUGES, PURGES AND OTHER MISCELLANEOUS FITTINGS ARE SHOWN. CONSTRUCTION SHALL INSTALL THESE FITTINGS AS NEEDED IN ACCORDANCE WITH THE APPROVED SOP.
 - 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. WHEN RELAYING A LOWER PRESSURE MAIN WITH A HIGHER-PRESSURE MAIN, ALL SERVICES SHALL BE RELAYED OR INSERTED.
 - THE LIVE MAIN CONNECTION DETAIL SHOWN IN THE DRAWINGS SHALL BE FOLLOWED. ANY CHANGES TO THE TIE IN CONNECTION TYPE SHALL BE APPROVED BY THE NATIONAL GRID ENGINEER PRIOR TO CONSTRUCTION.
 - WHEN CONNECTING NEW 'DEAD' MAIN TO NEW 'DEAD' MAIN: AS LONG AS THE CONNECTION BRANCH SIZE SHOWN IN THE DRAWINGS CAN BE ACHIEVED, THE FOLLOWING CONNECTION TYPES ARE ACCEPTED AND INTERCHANGEABLE:
 - INLINE TEE
 - PLASTIC HIGH VOLUME TAPPING TEE (2" BRANCH SIZE OR LESS)
 - PLASTIC BRANCH SADDLE (WITH MAIN CUTTER SIZE SHOWN IN NATIONAL GRID POLICIES)
 - STEEL THREE-WAY TEE (WITH MAIN CUTTER SIZE SHOWN IN NATIONAL GRID POLICIES)
 - DRAWING PACKAGE SHOWS PIPELINES, ABOVE/BELOW GRADE FEATURE AND/OR UTILITIES FROM FIELD SURVEY LOCATION AND DOCUMENTED MAPPING. EXACT LOCATION OF ANY MAY VARY FROM THE LOCATIONS INDICATED. CONTRACTOR IS WARNED THAT EXACT OR APPROXIMATE PIPELINES, ABOVE/BELOW GRADE STRUCTURES AND/OR UTILITIES IN THE PROJECT AREA MAY DIFFER FROM THAT SHOWN OR MAY NOT BE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PERFORM FIELD VERIFICATION PRIOR TO EXECUTING ANY WORK.
 - CONTRACTOR MAY INSTALL ADDITIONAL VALVES NOT SHOWN IN THE PLANS IF DEEMED NECESSARY IN THE FIELD. NEW VALVES ASSOCIATED WITH TIE INS (SEE DETAILS ON SHEET 4) MUST BE INSTALLED PER THE DETAIL. FINAL LOCATION OF THE NEW VALVES IS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR. ANY SIGNIFICANT CHANGE MUST BE BROUGHT TO THE OWNERS (NATIONAL GRID) ATTENTION PRIOR TO INSTALLATION.
 - DIMENSIONS SHOWN ILLUSTRATE THE INTENT OF MAIN PLACEMENT. SLIGHT VARIATIONS ARE EXPECTED. ANY SIGNIFICANT CHANGE NEEDS TO BE BROUGHT TO THE OWNERS (NATIONAL GRID) ATTENTION PRIOR TO PLACEMENT.
 - CONTRACTOR TO VERIFY PRESSURE AND GAS FEED DIRECTION OF EXISTING MAINS, NEW MAINS, AND MAINS TO BE ABANDONED PRIOR TO ANY AND ALL TIE INS BEING PERFORMED.
 - NATIONAL GRID TO PROVIDE PROCEDURE FOR INSTALLATION AND TIE IN SEQUENCE.
 - LOCATION OF ANY IDENTIFIED UNDERGROUND UTILITIES IS APPROXIMATE ONLY, AND IS NOT WARRANTED TO BE CORRECT. ADDITIONAL UTILITIES 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.
 - 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 HIS RESPONSIBILITY TO PROCEED WITH GREAT CARE IN EXECUTING ANY WORK.
 - 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.
 - 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.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUAINTING WITH THE CONDITIONS FOR THE SITE AND FOR ESTIMATING PROPERLY THE DIFFICULTY AND COST TO SUCCESSFULLY PERFORM THE WORK.
 - THE CONTRACTOR SHALL COMPLETE MISCELLANEOUS WORK NOT SPECIFICALLY SHOWN ON THE CONTRACT DRAWINGS SUCH AS PAVEMENT PATCHING, TRENCH & BLOCKING, TREE TRIMMING, ETC.
 - PROPERTY DAMAGED OR REMOVED 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.
 - NATIONAL GRID RESERVES THE RIGHT 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.
 - ALL TRENCH EXCAVATION AND ANY REQUIRED SHEETING AND SHORING SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISIONS NATIONAL GRID AND ALSO ANY APPLICABLE STATE DOT STANDARDS.
 - CONTRACTOR SHALL MAINTAIN ALL TRAFFIC IN ALL AREAS IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
 - 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.
 - 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.
 - PIPE AND FITTING QUANTITY DESCRIBED IN SCOPE MAY VARY FROM AMOUNTS SHOWN ON THE BILL OF MATERIALS TO ACCOMMODATE FIELD CONDITIONS AND CONSTRUCTION.
 - CONTRACTOR TO REFER TO NATIONAL GRID SERVICE RECORD INFORMATION, ASSOCIATED CONSTRUCTION STANDARDS AND NATIONAL GRID INSTRUCTION FOR ALL SERVICE WORK WITHIN THE SCOPE OF LIMITS OF THIS PROJECT.
 - ANY FITTINGS (SUCH AS BUT NOT LIMITED TO, PURGES, VENTS & GAUGES) WHICH ARE REPRESENTED ON THESE PLANS AND DETAILS WITHOUT AN ASSOCIATED PART ON THE BILL OF MATERIALS ARE TO BE SIZED AND SELECTED PER CURRENT NATIONAL GRID STANDARDS BY THE CONTRACTOR.

SEQUENCE OF CONSTRUCTION:

- CONTRACTOR SHALL CALL DIGSAFE (DIAL 811 OR 888-344-7233) AT LEAST 72 HOURS PRIOR TO CONSTRUCTION. SATURDAYS, SUNDAYS, AND HOLIDAYS ARE EXCLUDED.
- CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES AND STRUCTURES DEPICTED OR NOT DEPICTED ON THIS DESIGN PRIOR TO CONSTRUCTION.
- INSTALL MAIN AS INDICATED IN SCOPE OF WORK.
- PRESSURE TEST (SEE PRESSURE TESTING SECTION).
- PERFORM TIE IN DETAIL #1. GAS UP NEW MAIN PER NATIONAL GRID STANDARDS.
- PERFORM ALL SERVICE WORK.
- PERFORM RESTORATION.

CODES & STANDARDS

- WORK SHALL CONFORM TO ALL LOCAL, STATE, AND FEDERAL CODES IN ADDITION TO NATIONAL GRID GAS POLICIES AND WORK METHODS. WHERE ANY CONFLICTS OF CODES, STANDARDS AND REGULATIONS MAY EXIST, THE MORE STRINGENT CODE, STANDARD, OR REGULATION SHALL APPLY.
- ALL REFERENCED CODES SHALL BE IN ACCORDANCE WITH THE VERSION APPROVED BY PHMSA AT THE TIME OF CONSTRUCTION.
- FEDERAL & STATE:
 - TITLE 49: PART 192 TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE: MINIMUM FEDERAL SAFETY STANDARDS
 - AMERICAN SOCIETY OF MECHANICAL ENGINEERS
 ASME B31.8: GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS
 - 220 CMR: DEPARTMENT OF PUBLIC UTILITIES
 100.00 - 113.00: MASSACHUSETTS GAS DISTRIBUTION CODE
 D. 248 CMR 4-7: MA FUEL GAS CODE
- WORK SHALL BE PERFORMED IN ACCORDANCE WITH NATIONAL GRID GAS POLICIES AND WORK METHODS, INCLUDING BUT NOT LIMITED TO:
 - CNST01001: HORIZONTAL DIRECTIONAL DRILLING
 - CNST01003: BACKFILL AND RESTORATION
 - CNST01005: PREPARATION OF GAS FACILITY HISTORICAL RECORDS
 - CNST01006: COMMERCIALLY AVAILABLE SHORING SYSTEMS
 - CNST03001: SQUEEZE-OFF OPERATIONS
 - CNST03002: STOP-OFF OPERATIONS ON LOW PRESSURE MAINS
 - CNST03005: PURGING REQUIREMENTS FOR GAS PIPELINES
 - CNST03006: PURGING OPERATIONS - DIRECT DISPLACEMENT
 - CNST03007: PURGING OPERATIONS - COMPLETE INERT FILL
 - CNST03008: PURGING OPERATIONS - SLUG METHOD
 - CNST03011: NO-INTERRUPT SERVICE TRANSFER
 - CNST04008: INSTALLING PLASTIC MAINS
 - CNST04011: ABANDONMENT OF MAINS
 - CNST04012: GROUTING ABANDONED PIPELINES
 - CNST04030: RAISING MAIN AND SERVICE GATE BOXES
 - CNST05001: JOINING OF PLASTIC PIPE
 - CNST5010: GENERAL CONSTRUCTION REQUIREMENTS AND PIPE HANDLING
 - CNST6061: TRACER WIRE INSTALLATIONS FOR PLASTIC MAINS AND SERVICES
 - CS-CNST002: TYPICAL UTILITY CROSSING AND TRENCH GUIDELINES
 - DAM01011: EXCAVATION AND EXCAVATION NOTIFICATION REQUIREMENTS FOR UNDERGROUND FACILITIES FOR MASSACHUSETTS AND RHODE ISLAND
 - DAM01015: LOCATE AND MARK-OUT REQUIREMENTS FOR UNDERGROUND GAS FACILITIES
 - DAM01016: LOCATE AND MARK-OUT OF UNDERGROUND FACILITIES
 - DAM01020: PIPELINE MARKERS FOR MAIN AND TRANSMISSION LINES
 - GCON02001: SYSTEM OPERATING PROCEDURE (SOP)
 - GEN01100: OPERATOR QUALIFICATION PLAN
 - GEN03002: PROCESSING GAS MAIN AND NEW SERVICE WORK PACKAGES
 - GEN03003: CHANGE CONTROL PROCEDURE FOR CONSTRUCTION PROJECTS.
 - GEN03004: CHANGE CONTROL PROCEDURE FOR STANDARD CONSTRUCTION PROJECTS
 - MAINS030: INSTALLATION OF POLYETHYLENE PIPE
 - AA.MAIN6010: STANDARD FLOW TEST PROCEDURE FOR MAIN BAG-OFF LOW PRESSURE MAINS
 - AB.MECH5010: JOINTS OTHER THAN WELDED
 - AC.MECH6010: CONNECTION OF DISSIMILAR POLYETHYLENE PLASTIC PIPE WITH ELECTROFUSION OR MECHANICAL COUPLING
 - AD.030018-CS: SPECIFICATION AND HANDLING OF TRAFFIC PLATES
 - AE.VALV6020: 2 IN - 12 IN POLYETHYLENE VALVE INSTALLATION ON GAS MAIN
- SERVICE SPECIFIC CONSTRUCTION STANDARDS, GAS POLICIES AND WORK METHODS:
 - CMS03002: CUSTOMER METER AND SERVICE REGULATOR DESIGN AND INSTALLATION POLICY
 - CMS04002: PURGING PROCEDURES FOR CUSTOMER METER SERVICES
 - CNST03011: NO-INTERRUPT SERVICE TRANSFER
 - CNST06002: INSTALLING DISTRIBUTION SERVICES
 - 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
 - CNST06009: METER/SERVICE RELOCATION GUIDELINE
 - CNST06020: COMPLETION AND PROCESSING OF GAS SERVICE RECORD CARDS
 - CNST06030: NOTIFICATION OF CUSTOMERS INVOLVED IN THE INTERRUPTION OF GAS SERVICE
 - CS-SERV001: TYPICAL 1/2" SERVICE OUTSIDE SETS
 - CS-SERV002: TYPICAL 1" SERVICE OUTSIDE SETS
 - CS-SERV003: TYPICAL 1-1/4" SERVICE OUTSIDE SETS
 - CS-SERV004: TYPICAL 2" SERVICE
 - CS-SERV009: TYPICAL 1/2" SERVICE INSIDE SETS
 - CS-SERV010: TYPICAL 1" SERVICE INSIDE SETS
 - HTAP-6010: NO-INTERRUPT 1 INCH CTS AND 1-1/4 INCH CTS SERVICE TRANSFER (NIST) LP TO 60 PSIG MAINS
 - SERV-5075: RELOCATION OF METER SET ASSEMBLIES INSIDE TO OUTSIDE
 - SERV6076: 1-1/4" LP PLASTIC SERVICE WITH 1 AL-250 TC METER
 - SERV6077: 1-1/4" CTS LP PLASTIC INSERT WITH 1 AL-250 TC EQUIV. METER INSIDE
 - SERV-6185: HOT TAPPING MD BRANCH SADDLES OFF 4IN - 12IN 60 PSIG MAOP LIVE PLASTIC GAS MAIN USING MCELROY HOT TAPPING TOOL
 - VALV6110: 1/2 INCH - 3 INCH POLYETHYLENE GAS SERVICE VALVE INSTALLATION
- SEE BILL OF MATERIALS ON SHEET 3 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 RESPONSIBILITY OF THE CONTRACTOR.
- SEE TIE IN DETAILS ON SHEET 4 FOR APPLICABLE MAIN CONNECTION REFERENCES.

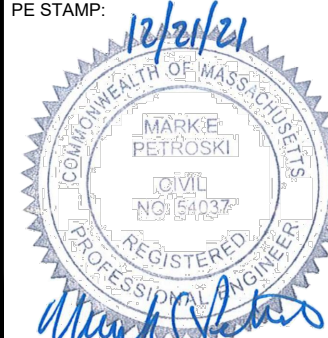


45 HENDRIX ROAD
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 40 SYLVAN ROAD
 WALTHAM, MA 02451

IFC

PE STAMP



NO.	DESCRIPTION	DATE	DR BY	CK BY	APP BY
D	ADDED PROFILE AND CROSSING DETAILS	4/05/2022	HTS	JDL	MEP
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SIMON WILLARD RD GAS MAIN INSTALLATION					
398 SIMON WILLARD RD SIMON WILLARD ROAD CONCORD, MA					
CONSTRUCTION NOTES					
DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"x34"	DDS COMPANIES	HSTAHL	12/21/2021	XXXXXXXX	1435311

PAGE 02 OF 06	
DRAWING NO.	SHEET NO.
G-002	02

SAFETY:

1. WORK SHALL CONFORM TO THE NATIONAL GRID EMPLOYEE SAFETY HANDBOOK AND OSHA REQUIREMENTS.
2. REQUIRED 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 TRAFFIC CONTROL 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. 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
8. 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.

ENVIRONMENTAL:

1. WORK SHALL CONFORM TO THE NATIONAL GRID ENVIRONMENTAL POLICY.
2. NATIONAL GRID ENVIRONMENTAL CONTACT:
 NAME: ANDREW SHELBY (MA AND RI DISTRIBUTION)
 WORK: (781) 907-1867
 CELL: (508) 243-3962
 EMAIL: ANDREW.SHELBY@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. NATIONAL GRID ENVIRONMENT POLICIES AND PROCEDURES INCLUDE:
 A. SHE02001: HANDLING CONTAMINATED MATERIALS AND PIPING
 B. SHE02002: REMOVING MERCURY REGULATORS AND DEVICES
 C. SHE02003: ENCOUNTERING CONTAMINATION WHILE EXCAVATING
 D. EG303-NE: BEST MANAGEMENT PRACTICES
 E. EG140: USED GAS PIPE MANAGEMENT
7. ENVIRONMENTAL REQUIREMENTS: N/A

OTHER PERMITTING REQUIREMENTS:

1. ALL WORK SHALL BE LIMITED TO THE EXISTING RIGHT-OF-WAYS, UNLESS OTHERWISE NOTED.
2. GRANT OF LOCATION

UTILITY OWNER INFORMATION:

DRAIN: CONCORD DPW
 #135 KEYES RD.
 ACTON, MA 01742

SEWER: CONCORD DPW
 #135 KEYES RD.
 ACTON, MA 01742

WATER: CONCORD DPW
 #135 KEYES RD.
 ACTON, MA 01742

ELECTRIC: CONCORD MUNICIPAL LIGHT PLANT
 P.O BOX 1029
 CONCORD, MA 01742

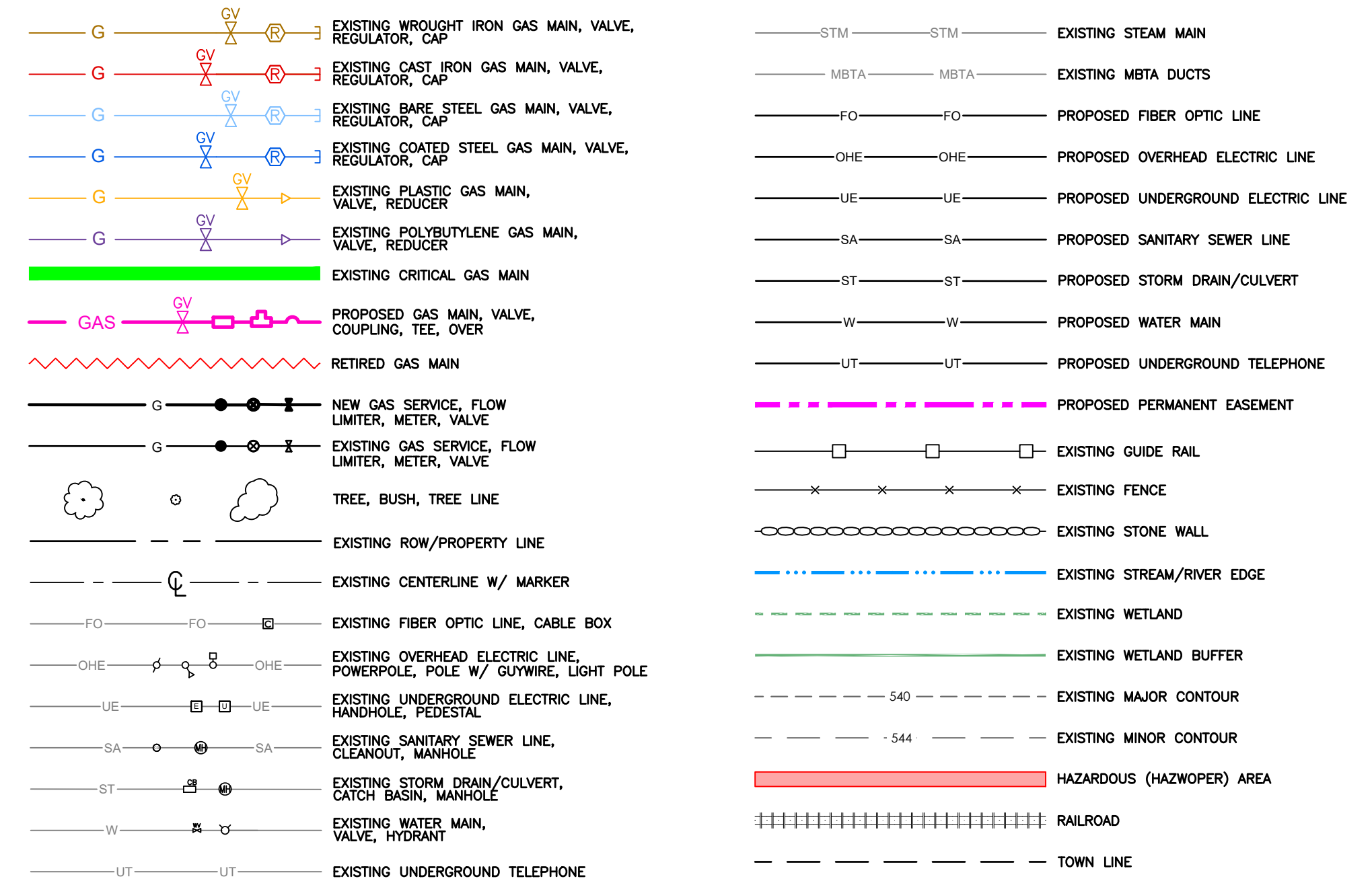
GAS: NATIONAL GRID GAS
 #40 SYLVAN RD.
 WALTHAM, MA 02451

TELEPHONE: VERIZON
 #385 MYLES STANDISH BLVD.
 TAUNTON, MA 02780

CABLE: CHARTER COMMUNICATIONS
 #301 BARBER AVE.
 WORCHESTER, MA 01606

BILL OF MATERIALS							
ITEM	QTY	UOM	DESCRIPTION	SIZE (IN.)	GRADE	NATIONAL GRID REFERENCE	STOCK or NON-STOCK ID NUMBER
1"	500	FT	PIPE, MDPE, SDR 11, 250' COILS	2	PE 2406	120026-MS	9340876
2	2	EA	COUPLING, ELECTROFUSION	2	PE 4710	CS-FIT015	9314594
3	1	EA	VALVE, MDPE, FULL BORE	2	PE 2406	VALV6020	9341784
4	1	EA	BOX, VALVE	2		FITS-6370	9339889
5	500	FT	WIRE, TRACER, COPPER			N/A	9315005
6	1	EA	1000' CAUTION TAPE			N/A	9381819
7"	1	EA	CAP, BUTT FUSE	2	PE 2406	CS-FIT010	9339540
8"	1	EA	ELBOW, 90, MDPE, SDR 11	2	PE 2406	CS-FIT010	9341385

* SOME QUANTITIES LABELED ON LAYOUT SHEETS



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

PE STAMP

NO.	DESCRIPTION	DATE	DR.	BY	APP.
D	ADDED PROFILE AND CROSSING DETAILS	4/05/2022	HTS	JDL	MEP
C	ADDED UTILITIES	2/22/2022	HTS	JDL	MEP
B	REVISION	12/30/2021	HTS	JDL	MEP
A	ISSUED FOR CONSTRUCTION	12/21/2021	HTS	JDL	MEP

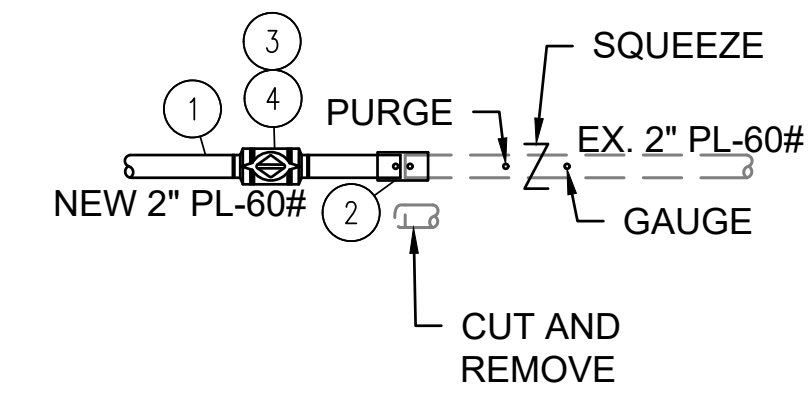
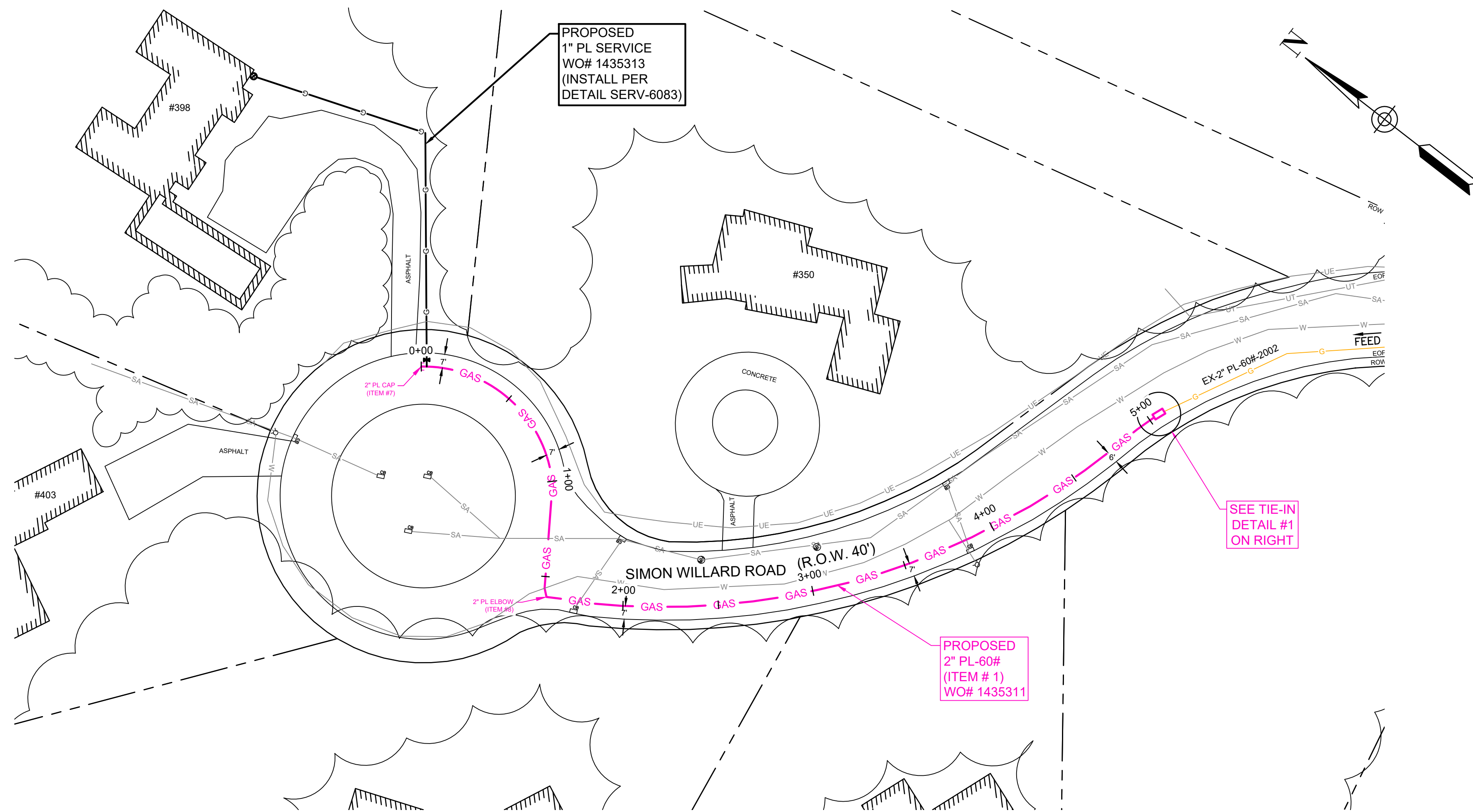
SIMON WILLARD RD GAS MAIN INSTALLATION
 398 SIMON WILLARD RD
 SIMON WILLARD ROAD
 CONCORD, MA

CONSTRUCTION NOTES & BILL OF MATERIALS

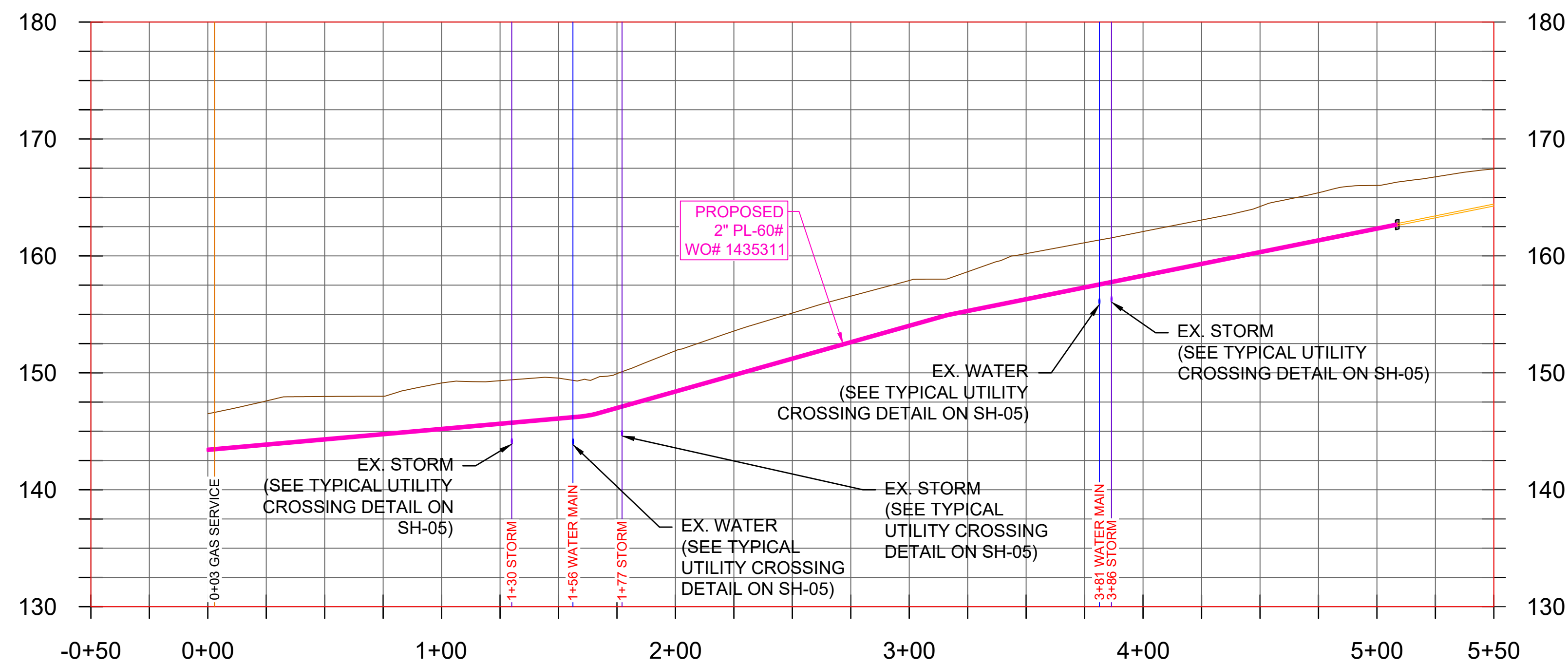
DWG SIZE: 22"X34" DESIGNER: DDS COMPANIES ENGINEER: HSTAHL DATE: 12/21/2021 ASSET I.D.: XXXXXXXX W.O. NO.: 1435311

PAGE 03 OF 06

DRAWING NO.	SHEET NO.
G-003	03



DETAIL #1: TIE-IN
(SIMON-WILLARD RD)
NTS



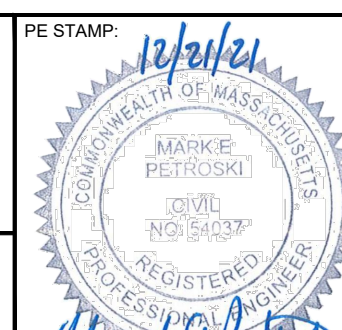
UTILITY CROSSING PROFILE
HORIZONTAL: 1" = 40'
VERTICAL: 1" = 4'

- NOTE:**
1. PER CS-CN2002-MA (SEE SH 05), PROPOSED GAS MAIN TO MAINTAIN A MINIMUM OF 12" PERPENDICULAR CLEARANCE BETWEEN OTHER UTILITIES.
 2. EXISTING FOREIGN UTILITIES CAN BE SUPPORTED PER SUPPORT DETAILS PROVIDED ON SH 05 WHEN PROPOSED MAIN CROSSES UNDER OTHER UTILITY.
 3. ALL EXISTING UTILITIES ARE SHOWN AT ASSUMED DEPTH



THE DDS COMPANIES
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nationalgrid
40 SYLVAN ROAD
WALTHAM, MA 02451
IFC



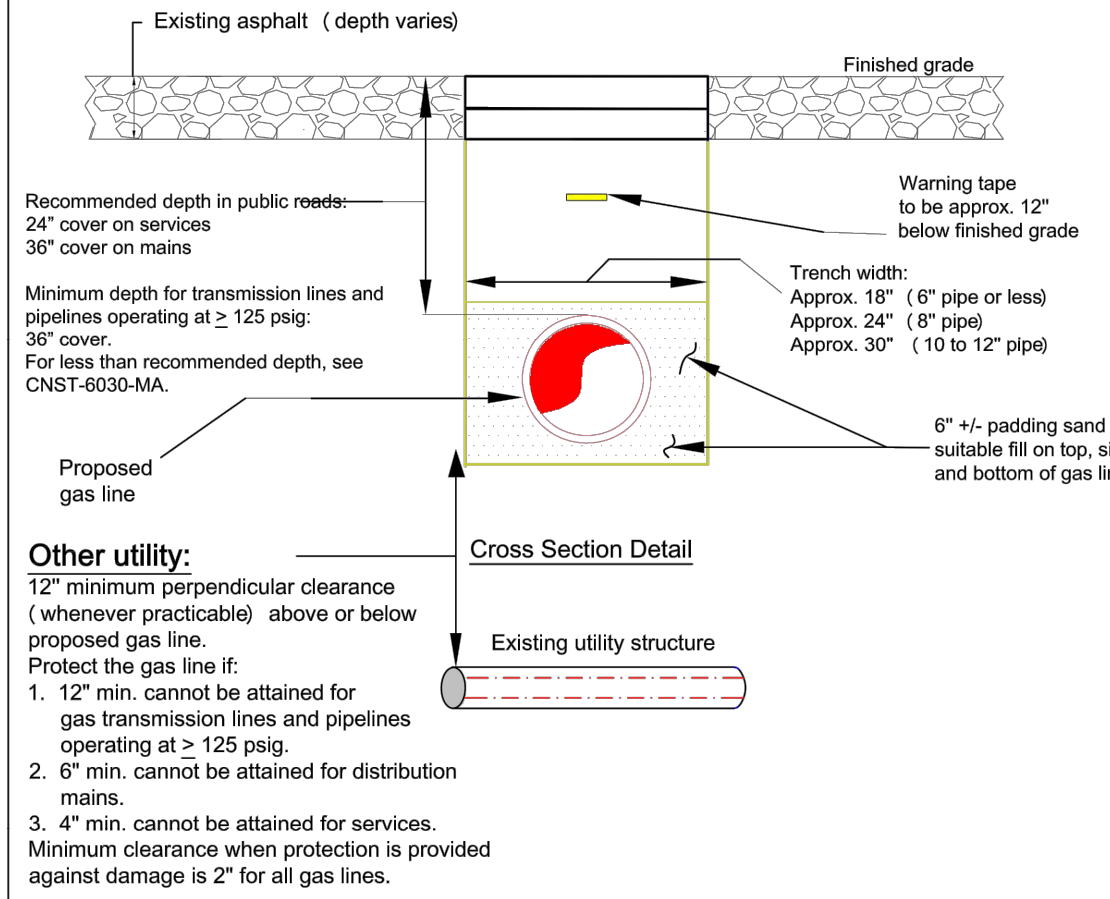
NO.	DESCRIPTION	DATE	DR. BY	CK. BY	APP. BY
D	ADDED PROFILE AND CROSSING DETAILS	4/05/2022	HTS	JDL	MEP
C	ADDED UTILITIES	2/22/2022	HTS	JDL	MEP
B	REVISION	12/30/2021	HTS	JDL	MEP
A	ISSUED FOR CONSTRUCTION	12/21/2021	HTS	JDL	MEP

SIMON WILLARD RD GAS MAIN INSTALLATION 398 SIMON WILLARD RD SIMON WILLARD ROAD CONCORD, MA					
LAYOUT & TIE-IN DETAILS					
DWG SIZE	DESIGNER	ENGINEER	DATE:	ASSET I.D.	W.O. NO.:
22"X34"	DDS COMPANIES	HSTAHL	12/21/2021	XXXXXXXX	1435311

PAGE 04 OF 06	
DRAWING NO.	SHEET NO.
C-101	04

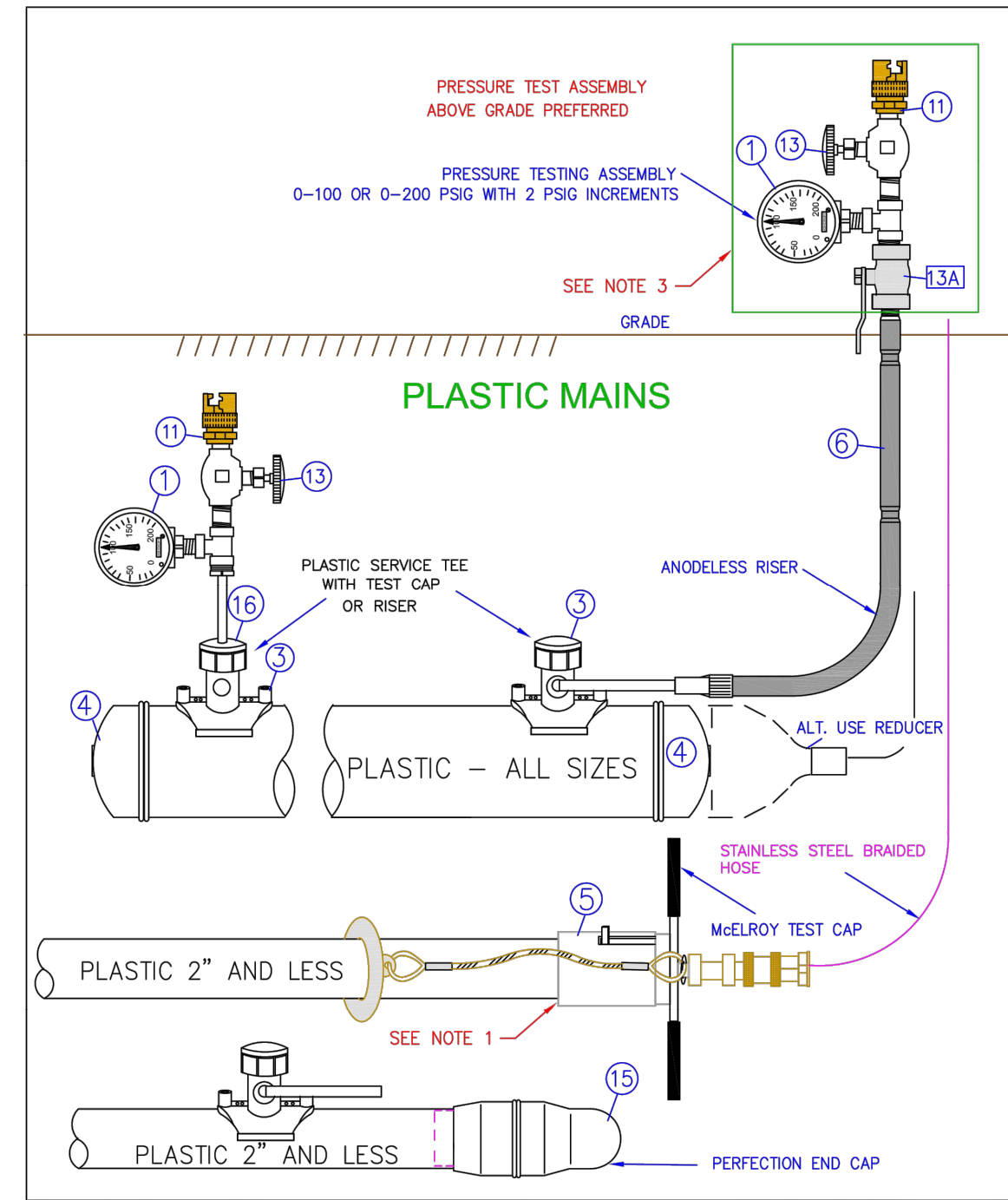
Typical Utility Crossing and Trench Guidelines

See CNST01003 for Backfill & Restoration Standards



For Backfill and Restoration details, refer to CNST01003 - Backfill and Restoration

nationalgrid	TYPICAL UTILITY CROSSING AND TRENCH GUIDELINES	
	MASS.	NO. CS-CNST002-MA
Key Changes: REV 0	DATE: 09/15/2014	EFFECTIVE DATE: 04/15/2019
NEW STANDARD FOR MASS.	DESIGN: PAUL GUGLIOTTA	STD. DWG.
UNCONTROLLED WHEN PRINTED	DRAWN: N. COSTANZO	NO. CS-CNST002-MA



nationalgrid	PRESSURE TESTING OF NEW MAINS MAOP OF 124 PSIG OR LESS	
	ALL REGIONS	NO. CS-MAIN004
Key Changes: UPDATED ITEM ID'S	DATE: 7/15/2013	EFFECTIVE DATE: 02/10/2021
UNCONTROLLED WHEN PRINTED	DESIGN: PAUL GUGLIOTTA	STD. DWG.
	DRAWN: P.G.	NO. CS-MAIN004

NOTES:

- INSTALL PER MCELROY MANUFACTURER'S INSTRUCTIONS.
- WHEN USING MECHANICAL COUPLINGS (AS SHOWN IN DETAIL A), NON-RESTRAINING COUPLING SHALL BE STRAPPED AND THE ENDS SHALL BE BLOCKED PER APPROVED STANDARD DRAWINGS. RESTRAINING COUPLINGS NEED TO BE EITHER STRAPPED OR BLOCKED. WHEN USING RESTRAINING COUPLINGS, STRAPPING NUTS SHOULD BE HAND TIGHT.
- ON EXISTING STEEL SYSTEMS, REFER TO THE TABLE BELOW FOR THE MINIMUM SAFE DISTANCE FROM THE EXCAVATION WALL. IF A BURIED, UNSTRAPPED COUPLING EXISTS AT A DISTANCE LESS THAN THE MINIMUM SAFE EMBEDMENT DISTANCE FROM THE WALL, THEN BLOCKING IS REQUIRED FOR THE PRESSURE TEST. IF ALL WELDED SYSTEM CAN NOT BE CONFIRMED, THE WELDED OR FLANGED ENDS SHALL BE BLOCKED.

PIPE SIZE (INCHES)	MINIMUM SAFE DISTANCE FROM THE EXCAVATION WALL (FEET)
2	10
3	8
4	12
6	24
8	41
10	70

REFER TO CONSTRUCTION STANDARD FITS-6025 AND FITS-6015 FOR LIST OF COUPLINGS.

IT IS RECOMMENDED THAT THE GAUGE BE ABOVE GRADE TO PREVENT PERSONNEL FROM ENTERING THE TRENCH WHILE THE PRESSURE TEST IS UNDERWAY.

ONE PRESSURE TEST GAUGE AT EACH PIPE END IS RECOMMENDED TO VERIFY THE PRESSURE. ALL GAUGES SHALL BE 0-100 OR 0-200 PSIG RANGE (2 PSIG INCREMENTS RECD IN NY STATE ONLY).

REFER TO CNST04003 "PRESSURE TESTING OF MAINS OPERATING BELOW 125 PSIG" FOR TESTING AND DESIGN REQUIREMENTS.

ITEM	DESCRIPTION	TEST ITEM ID LI/MA/NYC	SAP ITEM ID RI AND UNY
1	PRESSURE GAUGE 0-100 OR 0-200 PSIG - 2 PSI INCREMENTS	9345865	TOOL ITEM
	0-200 PSIG STAINLESS STEEL 1/2" NPT 3-1/2" DIA	9338390	TOOL ITEM
	0-100 PSIG STAINLESS STEEL 1/2" NPT	NON STOCK	TOOL ITEM
2	SHIELD - WARNING PRESSURE TEST (AS REQUIRED IN FIELD)	9332240	NON STOCK
3	TEE SERVICE - ELECTROFUSION YELLOW MD 1/2" CTS BUTT FUSE OUTLET	9342517 2X1/2	NON STOCK
	1-1/4" MAIN X 1/2" OUTLET LI	9342518 4X1/2	NON STOCK
	2" MAIN X 1/2" OUTLET LI	9342519 2X1	NON STOCK
	4" MAIN X 1/2" OUTLET LI	9342521 4X1	NON STOCK
	6" MAIN X 1/2" OUTLET LI	9342528 6X1	NON STOCK
	8" MAIN X 1/2" OUTLET LI	9342571 8X1/2	NON STOCK
	12" MAIN X 1/2" OUTLET LI	9342332 1-1/4 X 1	NON STOCK
	2" MAIN X 1" OUTLET LI	9342519 2X1	NON STOCK
	4" MAIN X 1" OUTLET LI	9342521 4X1	NON STOCK
	6" MAIN X 1" OUTLET LI	9342528 6X1	NON STOCK
	8" MAIN X 1" OUTLET LI	9342372 8X1	NON STOCK
	12" MAIN X 1" OUTLET LI	9342332 1-1/4 X 1	NON STOCK
	2" MAIN X 1" IPS OUTLET MASS	9322653 2X1	NON STOCK
	3" MAIN X 1" IPS OUTLET MASS	9322628 3X1	NON STOCK
	4" MAIN X 1" IPS OUTLET MASS	9322620 4X1	NON STOCK
	6" MAIN X 1" IPS OUTLET MASS	9322626 6X1	NON STOCK
	8" MAIN X 1" IPS OUTLET MASS	9323497 8X1	NON STOCK
	12" MAIN X 1" IPS OUTLET LI, NYC, MA	9351631 12X1	NON STOCK
	TEE SERVICE - SADDLE FUSION HIGH DENSITY BLACK 1/2" CTS BUTT FUSE	9342405 2X1/2	NON STOCK
	2" MAIN X 1/2" OUTLET LI	9342406 4X1/2	NON STOCK
	4" MAIN X 1/2" OUTLET LI	9342408 8X1/2	NON STOCK
	6" MAIN X 1/2" OUTLET LI	9342408 8X1/2	NON STOCK
	8" MAIN X 1/2" OUTLET LI	9342408 8X1/2	NON STOCK
	12" MAIN X 1/2" OUTLET LI	9342408 8X1/2	NON STOCK
	TEE SERVICE - SADDLE FUSION HIGH DENSITY BLACK 1" CTS BUTT FUSE	9342409 2X1 SDR 9	9315907 2X1
	2" MAIN X 1" OUTLET LI	9342409 4X1 SDR 9	9315908 4X1
	4" MAIN X 1" OUTLET LI	9342430 6X1 SDR 9	9315963 6X1
	6" MAIN X 1" OUTLET LI	9342431 8X1 SDR 9	9315962 8X1
	8" MAIN X 1" OUTLET LI	9342431 8X1 SDR 9	9315962 8X1
	12" MAIN X 1" OUTLET LI	9314629 12X1	9314629 12X1
	TEE SERVICE MECHANICAL X PERFECTION OUTLET	NON STOCK	9308864 2X1/2
	2" MAIN X 1/2" OUTLET	NON STOCK	9308865 4X1/2
	4" MAIN X 1/2" OUTLET	NON STOCK	9308872 6X1/2
	6" MAIN X 1/2" OUTLET	NON STOCK	9308871 8X1/2
	8" MAIN X 1/2" OUTLET	NON STOCK	9315492 2X1
	12" MAIN X 1/2" OUTLET	NON STOCK	9315490 4X1
	2" MAIN X 1" OUTLET	NON STOCK	9308873 6X1
	4" MAIN X 1" OUTLET	NON STOCK	9306178 8X1
	6" MAIN X 1" OUTLET	NON STOCK	9306178 8X1

UNCONTROLLED WHEN PRINTED Effective Date 7/15/2013 4 OF 8

ITEM	DESCRIPTION	ORACLE ITEM ID LI/MA/NYC	PEOPLESOFT ITEM RI AND UNY
4	CAP END PLASTIC MEDIUM DENSITY YELLOW BUTT FUSE	2" SDR11 9339540	NON STOCK
	3" SDR 11 9339541	NON STOCK	
	4" SDR 11 9339544	NON STOCK	
	6" SDR 11 9339733	NON STOCK	
	8" SDR 13.5 9339559	NON STOCK	
	12" SDR 11.5 9339560	NON STOCK	
	CAP END PLASTIC HIGH DENSITY BLACK BUTT FUSION	2" SDR 9 9339538	NON STOCK
	4" SDR 9 9339536	NON STOCK	
	6" SDR 9 9339538	NON STOCK	
	8" SDR 9 9339537	NON STOCK	
	12" SDR 13.5 RI 9312986	2" 9312986	
	3" SDR 11 MASS RI & UNY 9310276	3" 9310276	
	4" SDR 11 MASS RI & UNY 9312685	4" 9312685	
	6" SDR 11 MASS RI & UNY 9312694	6" 9312694	
	8" SDR 11 MASS RI & UNY 9310272	8" 9310272	
	12" SDR 11 RI UNY 9309729	12" 9309729	
	8" SDR 13.5 RI 9312983	8" 9312983	
	12" SDR 13.5 RI 9314655	12" 9314655	
5	MCELROY TEST CAP (165 PSIG MAX)	NON STOCK	NON STOCK
	1-1/4" MODEL TP 9340874	TP-308	TP-310
	2" MODEL TP-310 9340874	TP-308	TP-310
6	RISE	9340386	NON STOCK
	1" CTS MEDIUM DENSITY X 1/2" NPT OUTLET 9340874	NON STOCK	NON STOCK
	1" CTS MEDIUM DENSITY X 1-1/4" IPS OUTLET 9340883	NON STOCK	NON STOCK
	1" HIGH DENSITY X 1-1/4" OUTLET 9322627	NON STOCK	NON STOCK
	1" CTS SERVAISET X 1" OUTLET 9316405	NON STOCK	NON STOCK
	1" CTS HIGH DENSITY 090" WALL X 1" IPS STEEL OUTLET 9310295	NON STOCK	NON STOCK
	1/2" CTS 090" WALL PERFECTION END X 1/2" NPT STEEL 9306180	NON STOCK	NON STOCK
	1-1/4" CTS 090" WALL PERFECTION END X 1-1/4" NPT STEEL 9306180	NON STOCK	NON STOCK
	OR TEST CAPS WITH STEEL OR PLASTIC PIPE TO TEST TREE TEST CAP FOR CENTRAL PLASTIC ELECTROFUSION TAPPING TEE 0031110 OR TOOL ROOM ITEM	TOOL ROOM ITEM	TOOL ROOM ITEM
7	FLANGE 150W WELD END FLAT FACE	2" 9314322	2" 9314322
	3" 9314431	3" 9314431	
	4" 9314430	4" 9314430	
	6" 9308659	6" 9308659	
	8" 9308748	8" 9308748	
	12" 9308660	12" 9308660	
	16" 9322363 MA	16" 9322363 MA	
	20" 9322362 MA	20" 9322362 MA	
8	BLIND FLANGE CLASS 150W ASTM A-105	2" 9341434	2" 9341434
	3" 9341014	3" 9341014	
	4" 9341430	4" 9341430	
	6" 9340942	6" 9340942	
	8" 9307174	8" 9307174	
	12" 9307751	12" 9307751	
	16" 9306552	16" 9306552	
	20" 9307750	20" 9307750	
	24" 9307749	24" 9307749	
9	GASKETS	2" FULL FACE 150W 9333167	2" 9315688
	3" FULL FACE 150W 9341158	3" 9312067	
	4" FULL FACE 150W 9341159	4" 9312569	
	6" FULL FACE 150W 9325259	6" 9312568	
	8" FULL FACE 150W 9341158	8" 9315689	
	12" RING TYPE 150W 9341155	12" 9315689	

UNCONTROLLED WHEN PRINTED Effective Date 7/15/2013 CS-MAIN004 5 OF 6

ITEM	DESCRIPTION	ORACLE ITEM ID LI/MA/NYC	PEOPLESOFT ITEM RI AND UNY
10	END CAPS - STEEL WELD END STANDARD WALL - GRADE B	9312095	2" 9312095
	3" 9308719	3" 9308719	
	4" 9312096	4" 9312096	
	6" 9312094	6" 9312094	
	8" 9312093	8" 9312093	
	10" 9315182	10" 9315182	
	12" 9312092	12" 9312092	
	16" 9314824	16" 9314824	
	20" 9339897	20" 9339897	
11	THOR FITTING	1/2" MALE NPT X HOSE CONNECTION 00504089	NON STOCK
	1/2" FEMALE X HOSE CONNECTION 00504301	NON STOCK	
12	THIRD-D-LET	12" - 6" X 1/2" 3000# PER ASTM A-105 GRADE B 9341652	12-6X3/4 NON STOCK
	10" - 6" X 1/2" 3000# PER ASTM A-105 GRADE B 9341656	10-6X1 NON STOCK	
	8" - 6" X 1/2" 3000# PER ASTM A-105 GRADE B 9342052	8-12X1 NON STOCK	
	6" - 6" X 1/2" 3000# PER ASTM A-105 GRADE B 9307678	6-12X1 NON STOCK	
	4" - 6" X 1/2" 3000# PER ASTM A-105 GRADE B 9307695	4-12X1 NON STOCK	
	36"-14" X 1/2" 3000# PER ASTM A-105 GRADE B 9307677	36-14X1 NON STOCK	
13	VALVE		
13A	VALVE (OPTIONAL - TO SHUT OFF TEST ASSEMBLY)		
14	LUG ASSEMBLY	7/8" X 24" LONG (LI ONLY - SEE MAIN-6210) 9342211	NON STOCK
	7/8" X 44" LONG (LI ONLY - SEE MAIN-6210) 9342212	NON STOCK	
	LUG GREEN 3" - 8" MAIN 7/8" DIAM. (NYC ONLY - SEE MAIN-6230 & MAIN-6230) 9357904	NON STOCK	
	LUG YELLOW 10" - 30" MAIN 1-1/8" DIAM. (NYC ONLY - SEE MAIN-6230 & MAIN-6230) 9357905	NON STOCK	
	ROD 1/2" X 12" LONG (NYC ONLY) 9328152	NON STOCK	
	ROD 1" X 12" LONG (NYC ONLY) 9328150	NON STOCK	
	LUG ASSEMBLY 1/2" X 30" LONG 9315741	NON STOCK	
15	COUPLING - END 2" PERFECTION	NON STOCK	TOOL ROOM ITEM
16	TEST CAP	FOR SADDLE FUSION TEE - CENTRAL PLASTICS 9325109	
	FOR SADDLE FUSION TEE - JM EAGLE / POK'Y UPONOR 9325917		
	FOR SADDLE FUSION TEE - PERFORMANCE PIPE TEES 9341388		
	FOR HVTT (HIGH VOLUME TAPPING TEE) SADDLE FUSION CENTRAL PLASTICS 9348268		
	FOR HVTT (HIGH VOLUME TAPPING TEE) SADDLE FUSION - JM EAGLE / POK'Y UPONOR 9341174		
	FOR HVTT (HIGH VOLUME TAPPING TEE) SADDLE FUSION PERFORMANCE PIPE TEES 9327175		
	FOR HVTT ELECTROFUSION TEE 9326494		
	FOR ELECTROFUSION TEE 9318466		
	FOR PERFECTION PMTT MECHANICAL TEE (CAP FITS ALL MAIN SIZE & OUTLET SIZES OF PMTT) 9339661		

UNCONTROLLED WHEN PRINTED Effective Date 2/15/2021 6 OF 6

PIPE SIZE (INCHES)	MAX SUPPORT SPACING "L" (FT)	MAX TRENCH WIDTH "W" (FT)
3	4	8
4	4	8
6	4	8
8	4	8
12	6	4
16	6	4
20	4	4
24	3	4

NOTES:

- IF THE LENGTH OF THE EXPOSED UTILITY (L_u) IS SHORTER THAN THE REQUIRED SUPPORT SPACING (L) FOR THE CORRESPONDING PIPE SIZE, THEN A SUPPORT WILL NOT BE REQUIRED.
- WHERE A COMPRESSION COUPLING, UTILITY SERVICE, REPAIR CLAMP, VALVE, BELL JOINT, OR ANY OTHER APPURTENANCE IS FOUND INSTALLED ON THE MAIN, ADDITIONAL SUPPORT SHALL BE INSTALLED TO REINFORCE THE PIPING AT THIS LOCATION, REGARDLESS OF EXPOSED/UNSUPPORTED PIPE LENGTH.
- CONTACT ENGINEERING FOR ALTERNATE OR ADDITIONAL SUPPORT REQUIREMENTS, AND IF TRENCH WIDTH EXCEEDS 8" WIDE.
- ONLY ONE UTILITY ALLOWED PER SUPPORT BEAM.
- WHEN SUPPORTING AN EXPOSED FACILITY, THE PIPE COATING SHALL BE PROTECTED WITH ROCK SHIELD OR OTHER LINE MATERIAL CUT TO A MINIMUM WIDTH OF 1/2 THE SUPPORTED PIPE DIAMETER. FRP SHIELDS MAY ALSO BE USED FOR THIS PURPOSE PROVIDED THEY EXTEND A MINIMUM OF 3 WAY UP THE PIPE TO PROTECT FROM SIDE LOADING.

TEMPORARY SUPPORT SPACING GUIDELINES FOR FOREIGN CAST IRON MAINS NTS

PIPE SIZE (INCHES)	MAX SUPPORT SPACING "L" (FT)	MAX TRENCH WIDTH "W" (FT)
3	4	8
4	4	8
5	4	8
6	4	8
8	4	8
10	6	8
12	6	8
16	8	8
18	10	8
20	12	4
24	8	4

NOTES:

- IF THE LENGTH OF THE EXPOSED UTILITY (L_u) IS SHORTER THAN THE REQUIRED SUPPORT SPACING (L) FOR THE CORRESPONDING PIPE SIZE, THEN A SUPPORT WILL NOT BE REQUIRED.
- WHERE A COMPRESSION COUPLING, UTILITY SERVICE, REPAIR CLAMP, VALVE, BELL JOINT, OR ANY OTHER APPURTENANCE IS FOUND INSTALLED ON THE MAIN, ADDITIONAL SUPPORT SHALL BE INSTALLED TO REINFORCE THE PIPING AT THIS LOCATION, REGARDLESS OF EXPOSED/UNSUPPORTED PIPE LENGTH.
- CONTACT ENGINEERING FOR ALTERNATE OR ADDITIONAL SUPPORT REQUIREMENTS, AND IF TRENCH WIDTH EXCEEDS 8" WIDE.
- ONLY ONE UTILITY ALLOWED PER SUPPORT BEAM.
- WHEN SUPPORTING AN EXPOSED FACILITY, THE PIPE COATING SHALL BE PROTECTED WITH ROCK SHIELD OR OTHER LINE MATERIAL CUT TO A MINIMUM WIDTH OF 1/2 THE SUPPORTED PIPE DIAMETER. FRP SHIELDS MAY ALSO BE USED FOR THIS PURPOSE PROVIDED THEY EXTEND A MINIMUM OF 3 WAY UP THE PIPE TO PROTECT FROM SIDE LOADING.

TEMPORARY SUPPORT SPACING GUIDELINES FOR FOREIGN STEEL MAINS NTS

PIPE SIZE (INCHES)	MAX SUPPORT SPACING "L" (FT)	MAX TRENCH WIDTH "W" (FT)
4	8	8
6	8	8
8	10	8
12	11	8
16	11	4
20	7	4
24	5	4

NOTES:

- IF THE LENGTH OF THE EXPOSED UTILITY (L_u) IS SHORTER THAN THE REQUIRED SUPPORT SPACING (L) FOR THE CORRESPONDING PIPE SIZE, THEN A SUPPORT WILL NOT BE REQUIRED.
- WHERE A COMPRESSION COUPLING, UTILITY SERVICE, REPAIR CLAMP, VALVE, BELL JOINT, OR ANY OTHER APPURTENANCE IS FOUND INSTALLED ON THE MAIN, ADDITIONAL SUPPORT SHALL BE INSTALLED TO REINFORCE THE PIPING AT THIS LOCATION, REGARDLESS OF EXPOSED/UNSUPPORTED PIPE LENGTH.
- CONTACT ENGINEERING FOR ALTERNATE OR ADDITIONAL SUPPORT REQUIREMENTS, AND IF TRENCH WIDTH EXCEEDS 8" WIDE.
- ONLY ONE UTILITY ALLOWED PER SUPPORT BEAM.
- WHEN SUPPORTING AN EXPOSED FACILITY, THE PIPE COATING SHALL BE PROTECTED WITH ROCK SHIELD OR OTHER LINE MATERIAL CUT TO A MINIMUM WIDTH OF 1/2 THE SUPPORTED PIPE DIAMETER. FRP SHIELDS MAY ALSO BE USED FOR THIS PURPOSE PROVIDED THEY EXTEND A MINIMUM OF 3 WAY UP THE PIPE TO PROTECT FROM SIDE LOADING.

TEMPORARY SUPPORT SPACING GUIDELINES FOR FOREIGN DUCTILE IRON MAINS NTS

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

PE STAMP

MARKIE PETROSKI
REGISTERED PROFESSIONAL ENGINEER
NO. 24-037

NO.	DESCRIPTION	DATE	DR BY	CK BY	APP BY
D	ADDED PROFILE AND CROSSING DETAILS	4/05/2022	HTS	JDL	MEP
C	ADDED UTILITIES	2/22/2022	HTS	JDL	MEP
B	REVISION	12/30/2021	HTS	JDL	MEP
A	ISSUED FOR CONSTRUCTION	12/21/2021	HTS	JDL	MEP

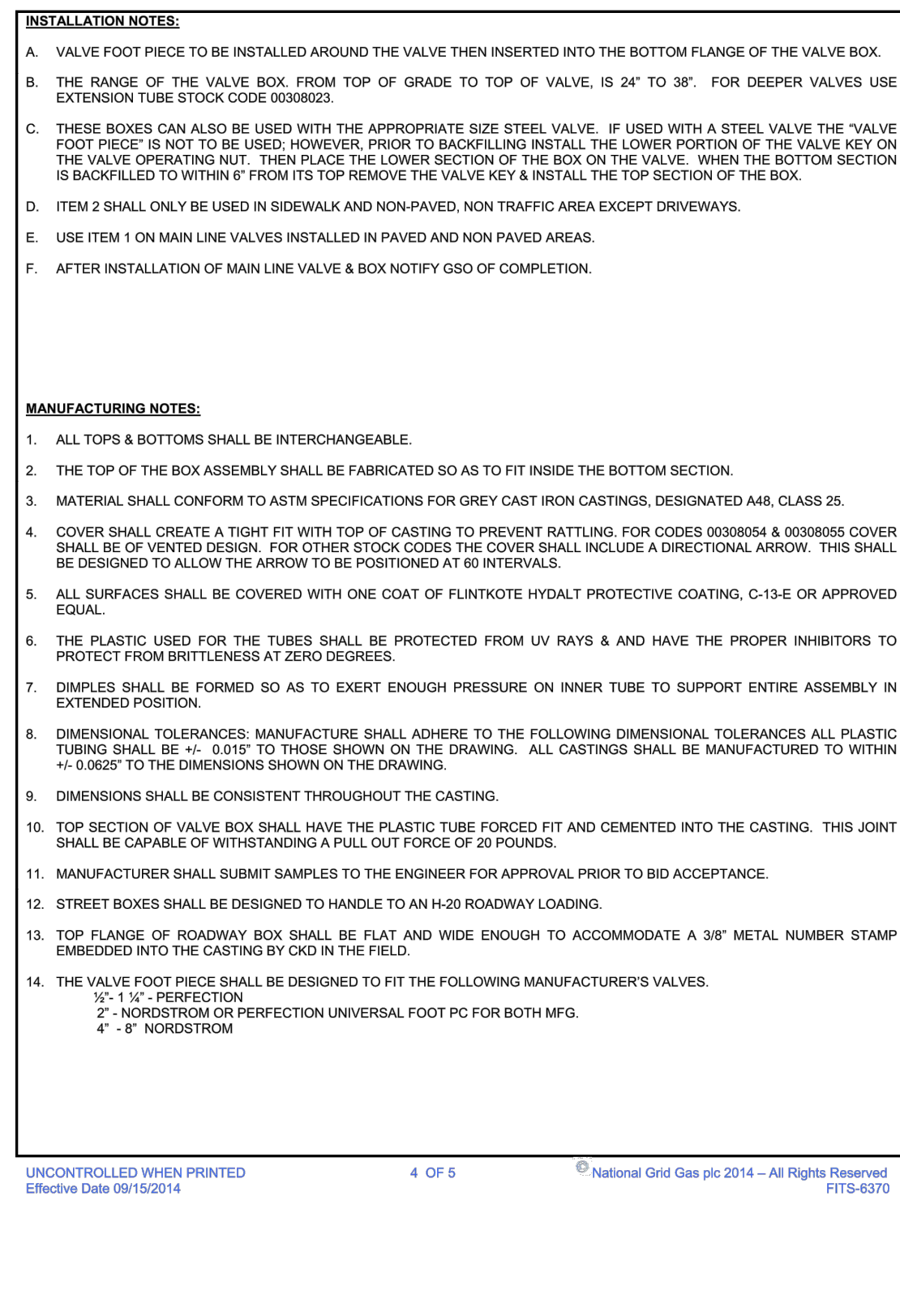
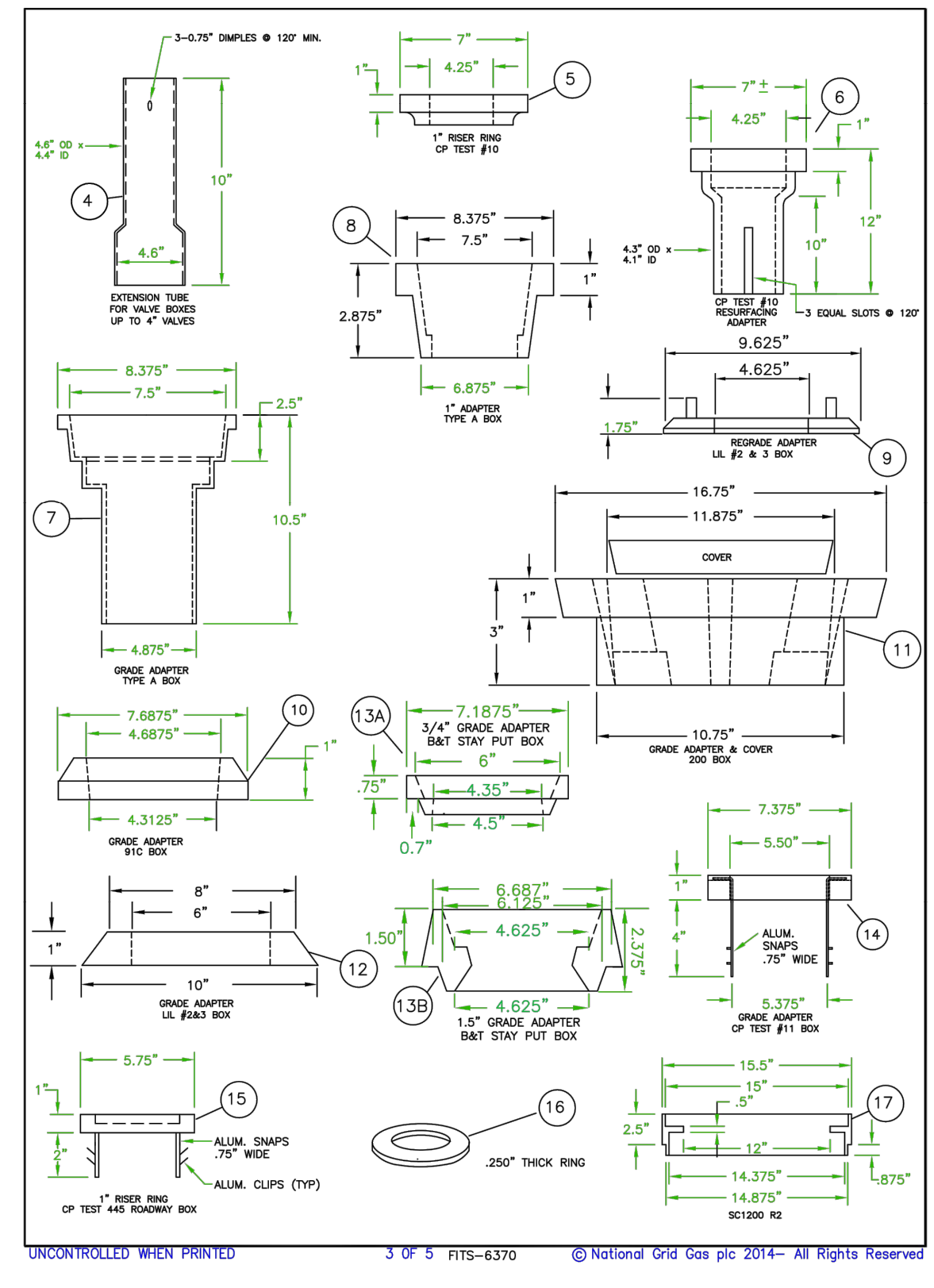
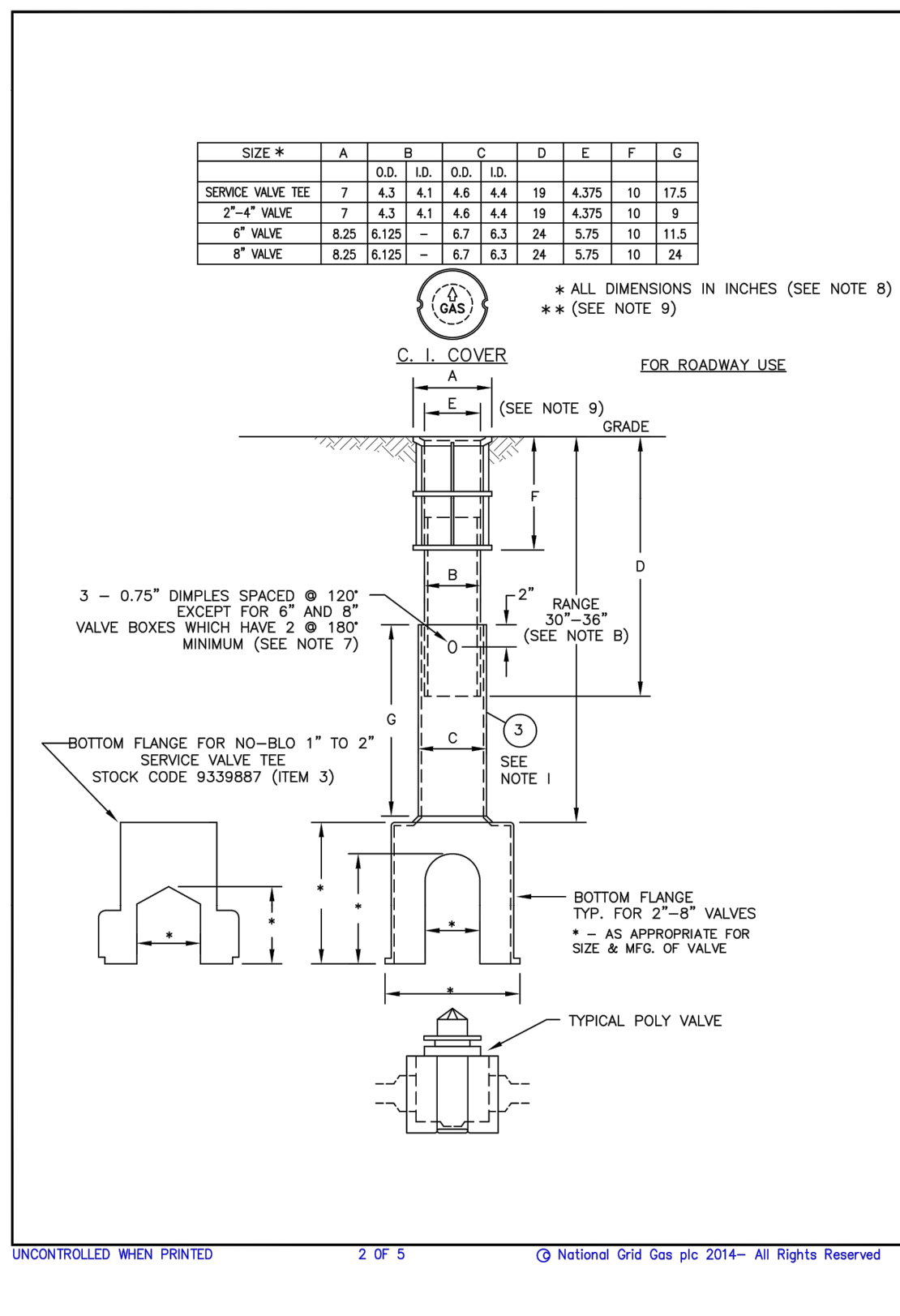
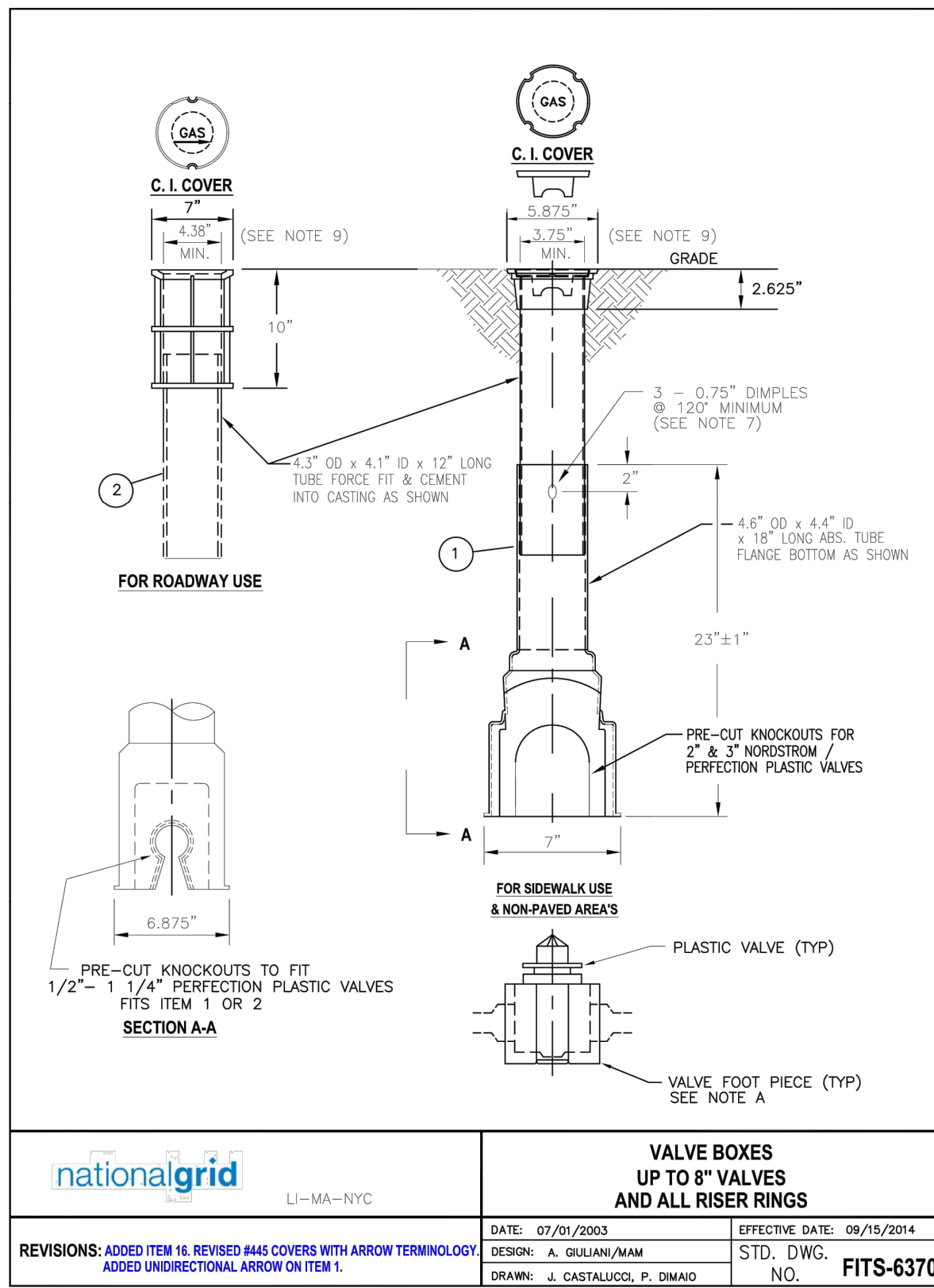
SIMON WILLARD RD GAS MAIN INSTALLATION
398 SIMON WILLARD RD
SIMON WILLARD ROAD
CONCORD, MA

STANDARD DETAILS

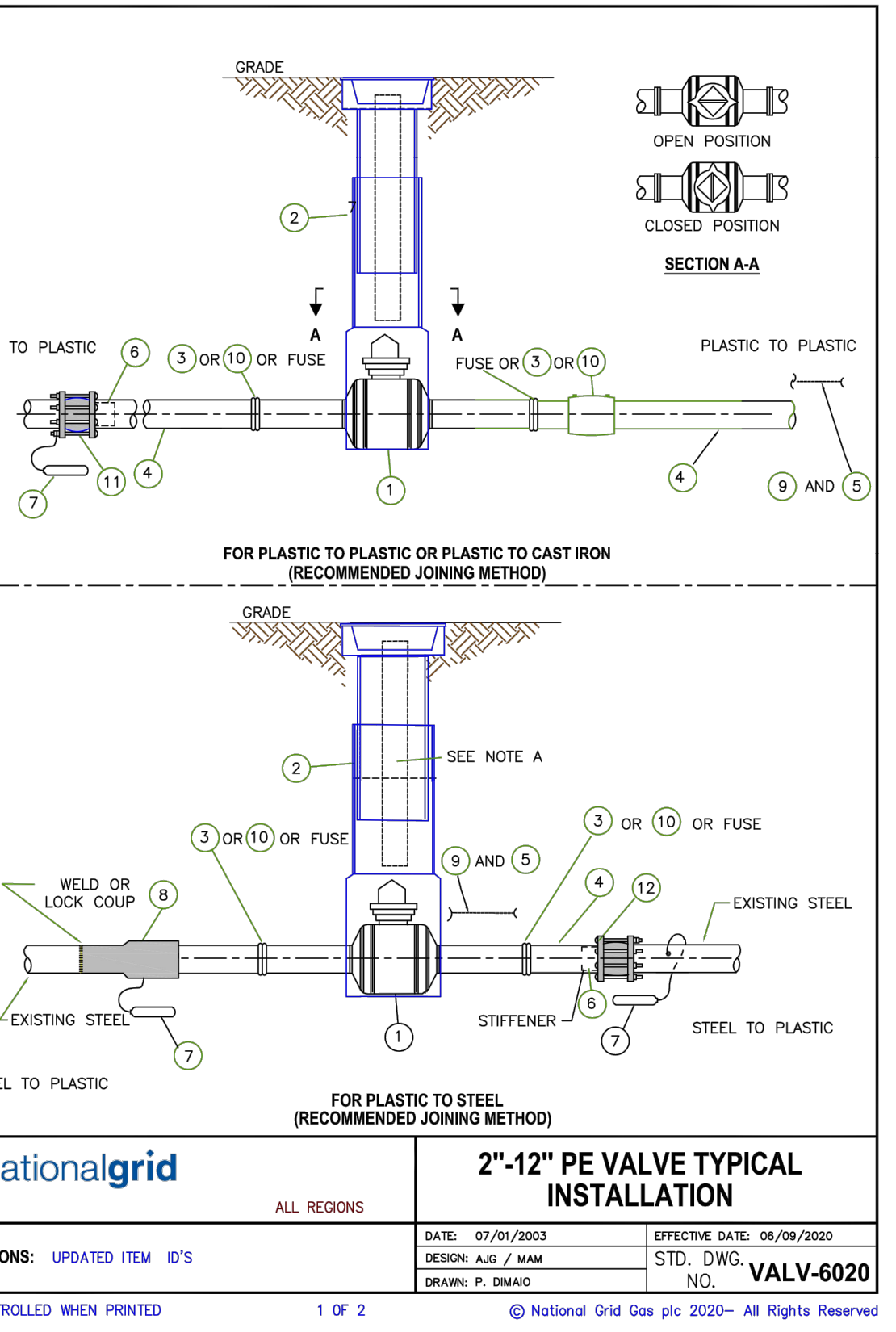
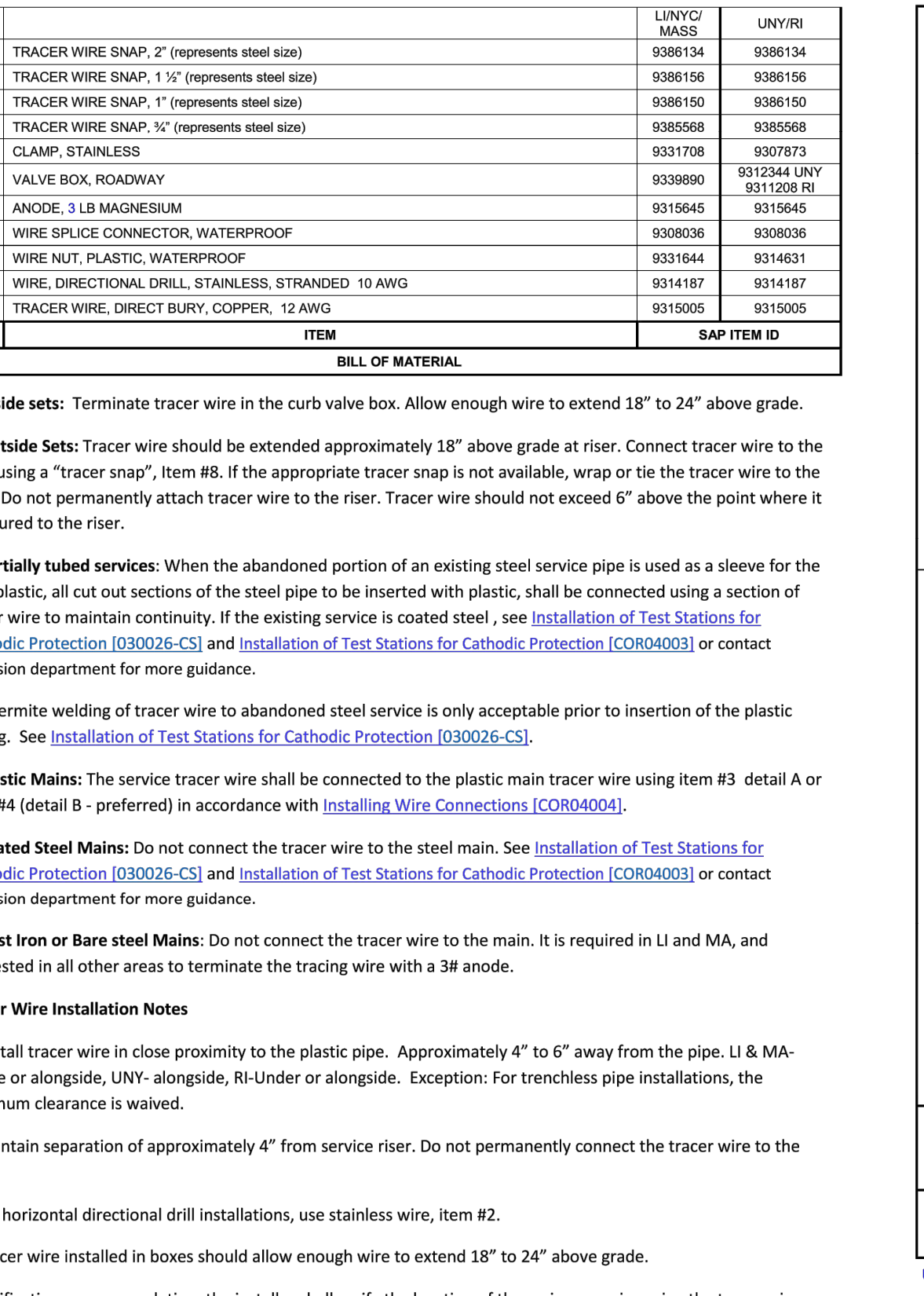
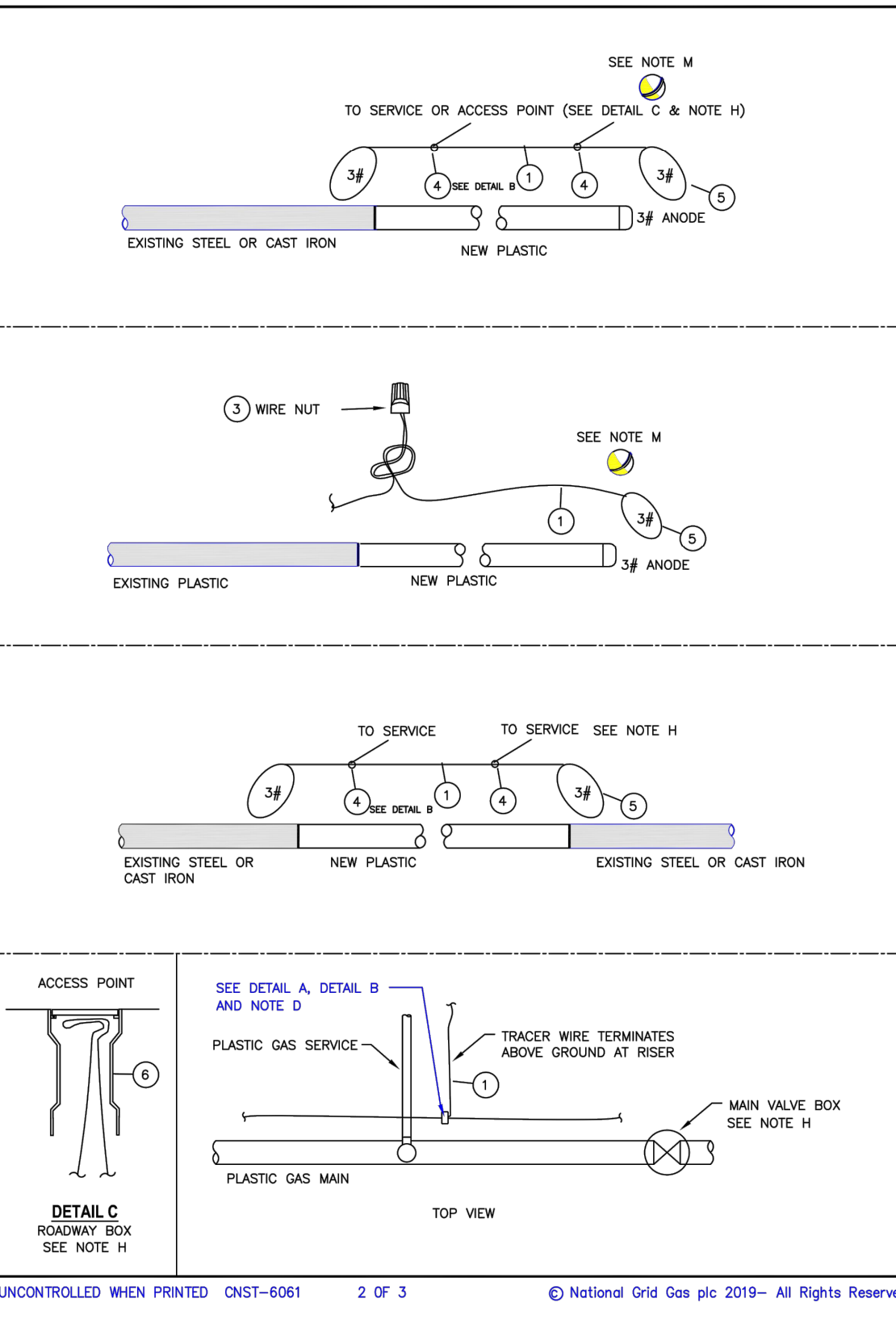
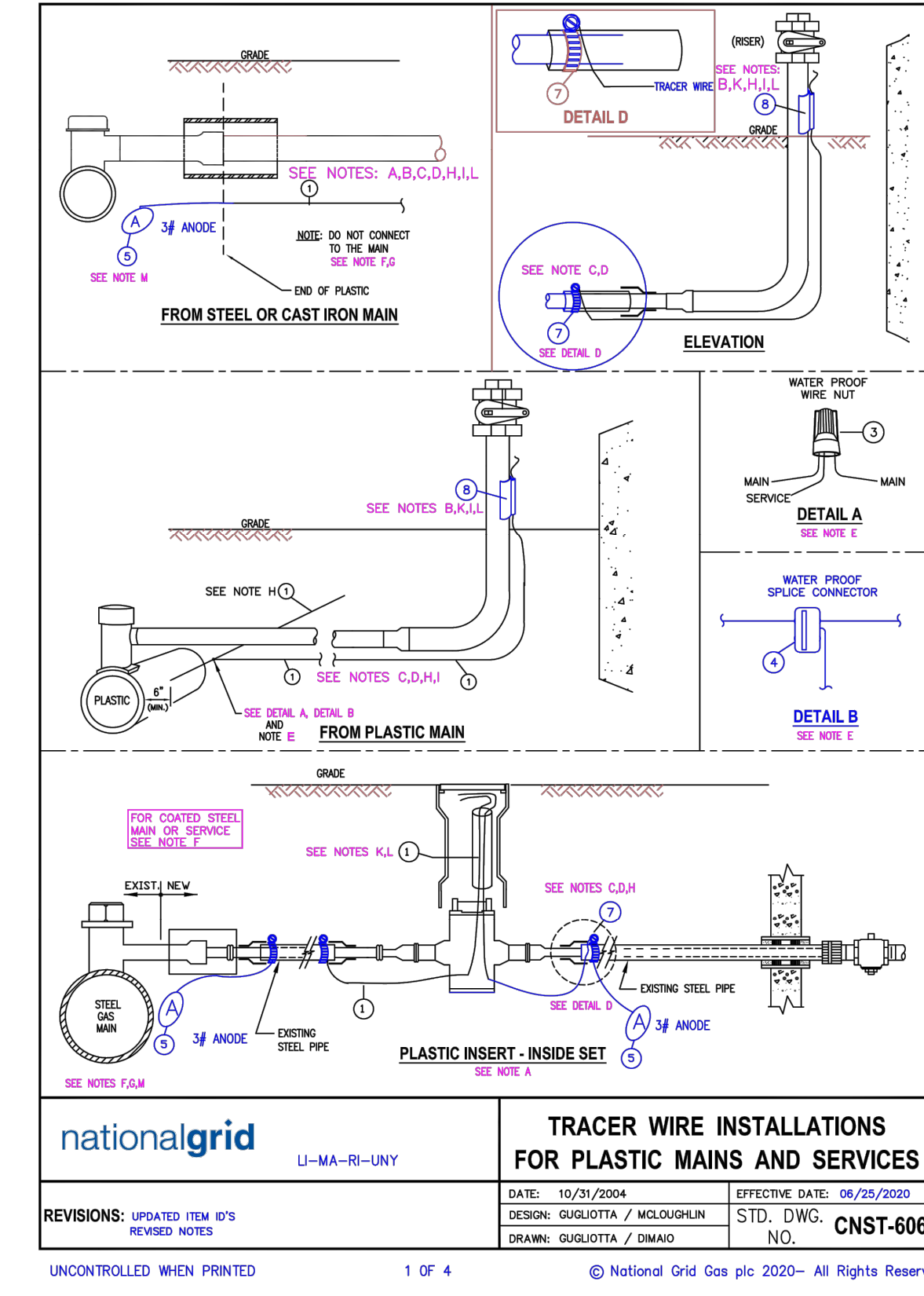
DWG SIZE: 22"X34"
DESIGNER: DDS COMPANIES
ENGINEER: HSTAHL
DATE: 12/21/2021
ASSET I.D.: XXXXXXXX
W.O. NO.: 1435311

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DRAWING NO. C-201
SHEET NO. 05



No.	ITEM	N.G. CODE NO.
18	PENTAGON KEY FOR ITEMS 8 AND 11 (NOT SHOWN)	9354644
17	2" REGRADE ADAPTER FOR 12" LOCKING BOX SC1200 R2	9384175
16	VALVE BOX ADAPTER RING, 1/4" INCH THICK X 7-5/8 INCH I.D. X 10-1/2 IN O.D. FLAT RING TO RAISE OLD LEGACY OBTUSE LALCO ROUND CASTINGS	9353359
15	ONE INCH GRADE ADAPTER & COVER FOR CP TEST#445 ROADWAY BOX - NH ONLY	9383913
	REPLACEMENT COVER FOR LIL #2 BOX - LI ONLY	9339829
	COVER MARKED "GAS" FOR 445 BOX (WITH UNIDIRECTIONAL ARROW)	9339828
	COVER MARKED "GAS" FOR 445 BOX (WITHOUT UNIDIRECTIONAL ARROW)	9339829
	COVER MARKED "GAS" FOR 4" STAY PUT BOX - NYC ONLY	9339759
	COVER MARKED "GAS" FOR 1"18 BOX	9339864
	COVER MARKED "GAS" FOR #10 BOX RESURFACE REPAIR SLEEVE RING	9339762
14	1" REGRADE ADAPTER WITH COVER FOR CP TEST #118 BOX - SEE NOTE B	9382611
13A	1" REGRADE ADAPTER FOR 84T STAY PUT SERVICE BOX WITH SLOTS NYC ONLY	9339600
13B	1 1/2" REGRADE ADAPTER FOR 84T STAY PUT SERVICE BOX WITH SLOTS NYC ONLY	9339725
12	1" REGRADE ADAPTER FRAME FOR THE LIL #2 & 3 VALVE BOX COVER FOR ABOVE (NOT SHOWN) - LI ONLY	9339859
*	COVER, REPLACEMENT, LOCKING, MARKED "GAS" FOR EXISTING LOCK TYPE 200 BOX, WITH PENTHEAD BOLT - LI ONLY (NOT SHOWN)	9339860
11B	COVER, REPLACEMENT, MARKED "GAS" FOR EXISTING LOCK TYPE 200 BOX, WITH PENTHEAD BOLT - LI ONLY (NOT SHOWN)	9384338
11A	COVER, REPLACEMENT, NON-LOCK, MARKED "GAS" FOR EXISTING NON-LOCK TYPE 200 BOX - LI ONLY (NOT SHOWN)	9339798
11	1" REGRADE ADAPTER FRAME & COVER FOR 200 VALVE BOX - LI ONLY	9339826
*	2-1/2" REGRADE ADAPTER FOR 200 VALVE BOX, FITS EXISTING COVER, (NOT SHOWN) - LI ONLY	9339799
10	1" REGRADE ADAPTER & COVER FOR 91C BOX - LI ONLY	9339761
9	1 1/2" REGRADE ADAPTER FOR LIL 2&3 BOX - LI ONLY	9339758
8B	COVER, REPLACEMENT, LOCKING, MARKED "GAS" FOR 7-1/2" EXISTING TYPE "A" LOCK VALVE BOXES, WITH PENTHEAD BOLT - LI ONLY (NOT SHOWN)	9339760
8A	COVER, REPLACEMENT, MARKED "GAS" FOR 7-1/2" EXISTING TYPE "A" NON-LOCK VALVE BOXES AND ALL TYPE "A" ADAPTER RINGS - LI ONLY (NOT SHOWN)	9384430
8	1" REGRADE ADAPTER FOR TYPE "A" VALVE BOX, FITS EXISTING COVER - LI ONLY	9339827
7	2" 3/4" REGRADE ADAPTER FOR TYPE "A" VALVE BOX, 2-1/2" IN MIN TO 3" IN MAX RISE, FITS EXISTING COVER - LI ONLY	9339763
6	1" REGRADE ADAPTER RING EXTENSION WITH 10" PLASTIC SKIRT TO REPAIR TOPS OF CP TEST #10 BOX	9381407
5	1" REGRADE ADAPTER FOR CP TEST #10 BOX	9339823
4	EXTENSION TUBE - FOR CP TEST #11 BOX	9382919
	EXTENSION TUBE - FOR CP TEST #10 BOX	9339860
	EXTENSION TUBE, FOR CP TEST #558 BOX, 18" LONG - (NOT SHOWN) - NE ONLY	9383199
	EXTENSION TUBE, FOR CP TEST #534 BOX, 24" LONG - (NOT SHOWN) - NE ONLY	9383198
	ROADWAY BOX ASSEMBLY AND COVER FOR 8" POLYVALVE CP TEST #118 OR APP'D EQUAL	9339893
	ROADWAY BOX ASSEMBLY AND COVER FOR 6" POLYVALVE CP TEST #118 OR APP'D EQUAL	9339892
3	ROADWAY BOX ASSEMBLY AND COVER FOR 4" AND 3" POLYVALVES CP TEST #10 OR APP'D EQUAL	9339891
	ROADWAY BOX ASSEMBLY AND COVER FOR 1-2" MUELLER SERVICE VALVE TEE CP TEST #10 OR APP'D EQUAL	9339887
2	ROADWAY SERVICE BOX AND COVER FOR 1/2" TO 1" PLASTIC VALVE NE ONLY CP TEST #10 OR APP'D EQUAL	9382767
	SIDEWALK VALVE BOX ASSEMBLY AND UNIDIRECTIONAL ARROW COVER FOR 1/2" TO 1" PLASTIC VALVES CP TEST #445 OR APP'D EQUAL	9339888
1	SIDEWALK VALVE BOX ASSEMBLY AND UNIDIRECTIONAL ARROW COVER FOR 2" TO 3" PLASTIC VALVES CP TEST #445 OR APPROVED EQUAL	9339889



UNY AND RI	LI ONLY	LI NYC AND NE
LP TO 160 PSIG HD	99 AND 124 PSIG HD	LP TO 60 PSIG MEDIUM DENSITY
9311203 12" DR 11 FULL PORT W/ GEAR OPERATOR RI ONLY	9341706 8" RED PORT DR 9	9341704 12" FULL PORT DR 13.5
9307909 12" DR 13.5 FULL PORT W/ GEAR OPER UNY ONLY	9341705 6" RED PORT DR 9	9385594 6" FULL PORT DR 13.5
9311173 8" DR 11 FULL PORT RI ONLY	9341700 4" RED PORT DR 9	9323032 6" FULL PORT DR 11.5
9315169 8" DR 13.5 FULL PORT UNY ONLY	9341699 2" FULL PORT DR 9	9341702 4" FULL PORT DR 11.5
9312116 6" DR 11 FULL PORT		9323299 3" FULL PORT DR 11
9312058 4" DR 11 FULL PORT		9341784 2" FULL PORT DR 11
9308561 3" DR 11 FULL PORT		
9312050 2" DR 11 FULL PORT WITH PERMASERT ENDS		
		100 PSIG HIGH DENSITY (NE ONLY)
		9323610 4" RED PORT DR 11
		9323611 6" RED PORT DR 11
		9323612 8" RED PORT DR 11
		9312050 2" FULL PORT DR 11
		9312050 4" FULL PORT DR 11
		9312116 6" FULL PORT DR 11
		9326266 FOR 12" FULL PORT
		9385626 FOR 8" FULL PORT
		9339893 FOR 6" FULL PORT
		9339892 FOR 4" FULL PORT
		9339890 FOR 3" FULL PORT
		9339890 FOR 2" FULL PORT
		9339893 FOR 8" RED PORT
		9339892 FOR 6" RED PORT
		9339891 FOR 4" RED PORT
		9339891 FOR 3" RED PORT

nationalgrid LI-MA-RI-UNY

TRACER WIRE INSTALLATIONS FOR PLASTIC MAINS AND SERVICES

DATE: 10/21/2004 EFFECTIVE DATE: 06/25/2020
 DESIGN: GUGLIOTTA / MCLAUGHNIN STD. DWG. NO. CNST-6061
 DRAWN: GUGLIOTTA / DIMAIO

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TRACER WIRE INSTALLATIONS FOR STEEL MAINS AND SERVICES

DATE: 10/21/2004 EFFECTIVE DATE: 06/25/2020
 DESIGN: GUGLIOTTA / MCLAUGHNIN STD. DWG. NO. CNST-6061
 DRAWN: GUGLIOTTA / DIMAIO

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2"-12" PE VALVE TYPICAL INSTALLATION

DATE: 07/09/2003 EFFECTIVE DATE: 06/09/2020
 DESIGN: J. J. MAH STD. DWG. NO. VALV-6020
 DRAWN: P. DIMAIO

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BOSTON GAS COMPANY
 d/b/a
nationalgrid

40 SYLVAN ROAD
 WALTHAM, MA 02451

IFC

PE STAMP: *Markie Petroski*

REGISTERED PROFESSIONAL ENGINEER

NO.	DESCRIPTION	DATE	DR BY	CK BY	APP BY
D	ADDED PROFILE AND CROSSING DETAILS	4/05/2022	HTS	JDL	MEP
C	ADDED UTILITIES	2/22/2022	HTS	JDL	MEP
B	REVISION	12/30/2021	HTS	JDL	MEP
A	ISSUED FOR CONSTRUCTION	12/21/2021	HTS	JDL	MEP

SIMON WILLARD RD GAS MAIN INSTALLATION
 398 SIMON WILLARD RD
 SIMON WILLARD ROAD
 CONCORD, MA

STANDARD DETAILS

DWG SIZE: 22"x34" DESIGNER: DDS COMPANIES ENGINEER: HSTAHL DATE: 12/21/2021 ASSET I.D.: XXXXXXXX W.O. NO.: 1435311

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DRAWING NO. C-202 SHEET NO. 06