

SECTION 01540**SAFETY AND PROTECTION OF PROPERTY****PART 1 GENERAL****1.01 SUMMARY**

- A. This Section includes performing work within rights-of-way and easements in a systematic manner that minimizes inconvenience to property owners and the public.
- B. Provide labor, materials and equipment to maintain in continuous service existing oil and gas pipelines, underground power, telephone and communication cable, water lines, drains, sewers, irrigation lines, poles and overhead power, telephone and communication cable, and other utilities encountered along the line of work, unless other arrangements satisfactory to owners of said utilities have been made.
 - 1. Perform work in the vicinity of existing National Grid gas infrastructure and support existing National Grid gas pipelines in accordance with the requirements of Attachment A.
 - 2. Plan for and perform work near or adjacent to overhead power lines and perform work in compliance with applicable OSHA power-line safety regulations (29 CFR 1926), including maintaining required clearances and implementing any protective measures. Coordinate with Eversource to provide power pole support when any part of open trench is within five (5) feet of power pole, guy wires, or as conditions warrant.
- C. Keep fire hydrants and water control valves free from obstruction and available for use at all times. If not feasible coordinate with the utility owner.
- D. Notify property owners and utility offices which may be affected by the construction operation at least three (3) working days in advance.
- E. Before exposing a utility, obtain utility owner's permission. Should service of utility be interrupted due to work, notify proper authority immediately. Cooperate with said authority in restoring service as promptly as possible.
- F. Do not impair operation of existing utilities. If not feasible coordinate with the utility owner. Prevent construction material, pavement, concrete, earth, volatile and corrosive wastes, and other debris from entering sewers, pump stations, or other sewer structures. Maintain original site drainage wherever possible.
- G. Provide barricades and lights in work areas to:
 - 1. Prevent unauthorized entry to construction areas;

2. Provide for public safety and the safety of Contractor's employees, other employer's employees, and others who may be affected by the work;
3. Protect existing facilities and adjacent properties from potential damage; and
4. Enable access by facility operators and property owners.

1.02 RELATED SECTIONS (NOT USED)

1.03 CODES AND STANDARDS (NOT USED)

1.04 SUBMITTALS (NOT USED)

1.05 QUALITY ASSURANCE (NOT USED)

1.06 QUALIFICATIONS (NOT USED)

1.07 DELIVERY, STORAGE, AND HANDLING (NOT USED)

1.08 PROJECT/SITE CONDITIONS (NOT USED)

1.09 DEFINITIONS (NOT USED)

1.10 TOLERANCE (NOT USED)

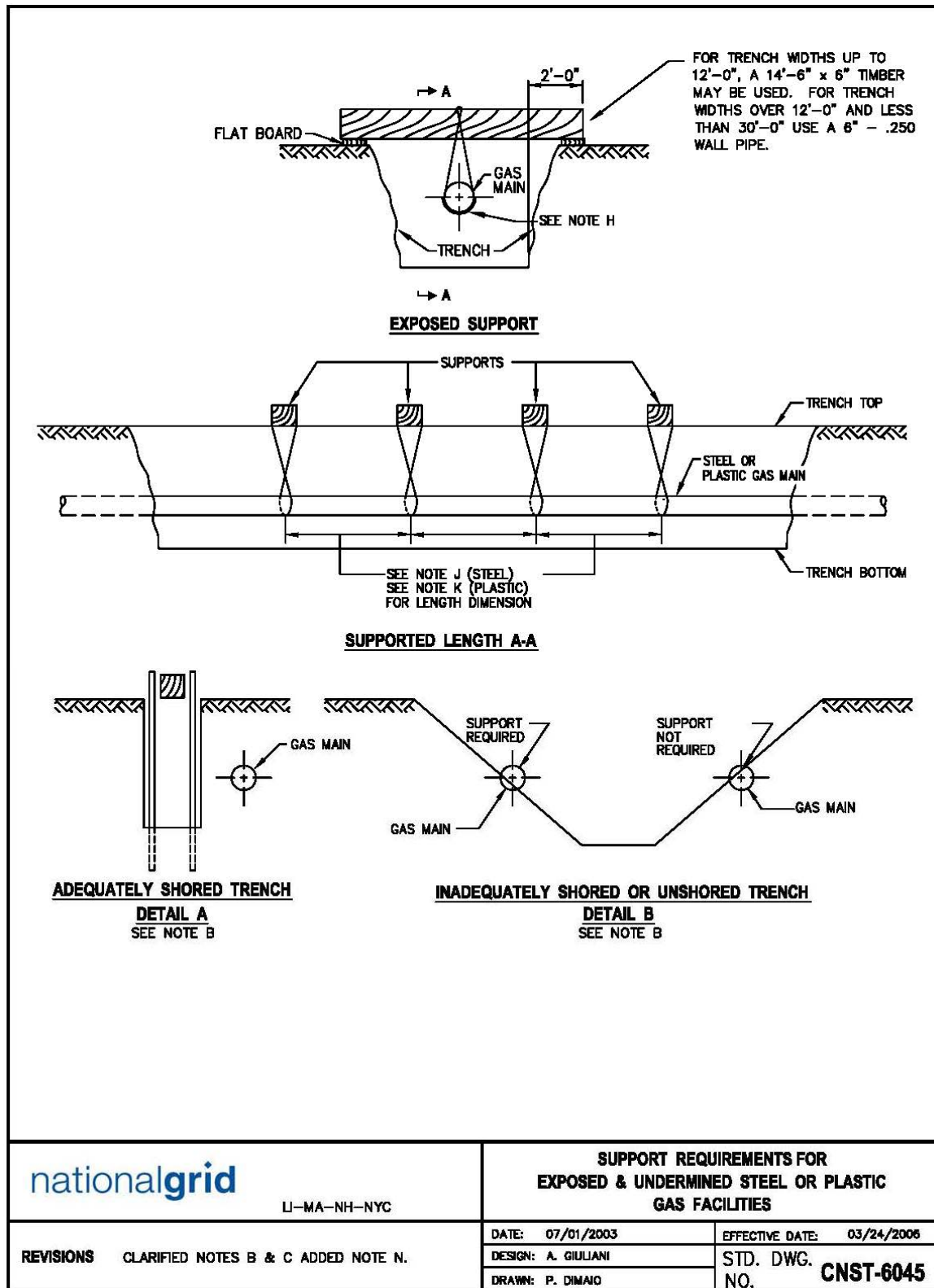
PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

PART 4 ATTACHMENTS

4.01 ATTACHMENT 01540 – A – NATIONAL GRID SUPPORT REQUIREMENTS AND GUIDELINES

ATTACHMENT 01540 – A – NATIONAL GRID SUPPORT REQUIREMENTS AND GUIDELINES



NOTES:

- A. THIS CONSTRUCTION STANDARD SHALL BE USED TO SUPPORT PLASTIC OR STEEL GAS FACILITIES WHICH ARE UNDERMINED AND EXPOSED BY CONSTRUCTION ACTIVITY.
- B. IF AN EXCAVATION IS MADE AT ANY DISTANCE PARALLEL TO THE GAS FACILITY WITH ADEQUATE OSHA STRUCTURAL SHORING, AS SHOWN IN DETAIL "A", OR IF A STABLE SOIL CONDITION WITH SUFFICIENT COVER ABOVE THE PIPE'S CENTERLINE EXISTS, AS SHOWN IN DETAIL "B", THEN SUPPORTS ARE NOT REQUIRED. UNSTABLE SOIL IS DEFINED AS A SOIL WHICH CAN CAUSE "SOIL RUN OUT" FROM BENEATH THE PIPE (e.g., WASHOUT, SOFT CLAY, etc.) OR CAN SHIFT DUE TO CONSTRUCTION ACTIVITY, VIBRATIONS, etc.; AND CAUSE A SOIL SCENARIO TO OCCUR AS SHOWN IN DETAIL "B" TO REQUIRE PIPE SUPPORT.
- C. IF AN EXCAVATION CROSSES OR RUNS PARALLEL TO A GAS FACILITY, SUPPORTS MAY NOT BE REQUIRED IF THE EXPOSED SECTION OF PLASTIC PIPES IS 3' OR LESS AND STEEL PIPES 7' OR LESS.
- D. ALL EXCAVATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ONE CALL DIG SAFE PROGRAM USING THE APPROPRIATE MARK OUT, TEST HOLES AND EXCAVATION TO AVOID DAMAGE TO PIPE OR PIPE COATINGS:
 - NEW YORK STATE CODE RULE 753
 - MA CHAPTER 82 - SECTION 40, GENERAL LAWS, REGULATING NOTICE REQUIREMENTS FOR EXCAVATION IN PUBLIC WAYS
 - NH DIG SAFE LAW, RSA 374 – REGULATING UNDERGROUND UTILITY DAMAGE PREVENTION SYSTEM
- E. USE OF THIS CONSTRUCTION STANDARD DOES NOT RELIEVE THE CONSTRUCTION AGENCY OR AUTHORITY OR THEIR RESPECTIVE CONTRACTORS OF RESPONSIBILITY FOR DAMAGES. ALL DAMAGES WILL BE REPAIRED IN ACCORDANCE WITH EXISTING STANDARDS AND THE APPROPRIATE PARTY SHALL BE BILLED FOR ALL EXPENSES.
- F. GAS FACILITIES SHOULD NOT BE UNDERMINED WITHOUT ADEQUATE SUPPORT (DETAIL A). ALL SUPPORT LINES SHALL BE TENSIONED SO THAT NO DEFLECTION WILL OCCUR WHEN THE FACILITY IS UNDERMINED. THIS TENSION SHALL BE CHECKED AT THE START AND END OF EACH DAY AND ADJUSTED AS NECESSARY.
- G. WHERE A COUPLING, GAS SERVICE, CLAMP, VALVE, DRIP LINE OR OTHER APPURTENANCE EXISTS ON THE EXPOSED SECTION OF MAIN, AN ADDITIONAL SUPPORT SHALL BE INSTALLED AT THE LOCATION.
- H. WHEN SUPPORTING AN EXPOSED FACILITY, THE PIPE COATING SHALL BE PROTECTED WITH ROCK SHIELD (ITEM ID 00301097), OR OTHER LIKE MATERIAL CUT TO A MINIMUM WIDTH OF 1/2 THE SUPPORTED PIPE DIAMETER. SUPPORT LINES SHALL BE A MINIMUM OF 3/4" POLYPROPYLENE OR BETTER.
- I. SUPPORTS FOR GAS TRANSMISSION FACILITIES SHALL BE REVIEWED WITH GAS ENGINEERING PRIOR TO INSTALLATION.
- J. THE MAXIMUM SPACING BETWEEN SUPPORTS FOR STEEL FACILITIES SHALL BE AS FOLLOWS:
 7' SPACING FOR 3/4" AND 1 1/4" STEEL
 10' SPACING FOR 2" STEEL
 15' SPACING FOR 3" AND 4" STEEL
 20' SPACING FOR 6" AND LARGER STEEL
- K. THE MAXIMUM SPACING BETWEEN SUPPORTS FOR PLASTIC FACILITIES SHALL BE AS FOLLOWS :
 3' SPACING FOR 2" AND SMALLER PLASTIC
 6' SPACING FOR 4" AND LARGER PLASTIC
- L. VIBRATING MACHINES ARE ALLOWED OVER STEEL OR PLASTIC FACILITIES WITH 24" OR GREATER COVER. HAND HELD MECHANICAL TAMPERS ARE ACCEPTABLE OVER ANY FACILITY WITH 12" OR GREATER COVER.
- M. WHEN CONSTRUCTION ACTIVITY IS COMPLETED, CLEAN FILL SHALL BE COMPACTED AROUND AND UNDER THE GAS FACILITY BEFORE REMOVING SUPPORTS.
- N. SEE REGIONAL PBWK5010 PROCEDURES FOR REPLACEMENT REQUIREMENTS OF CAST IRON PIPE.

No.	ITEM	CODE No.
BILL OF MATERIAL		



10/01/12

Guidelines for Working Around Gas Utilities**Notification of Construction**

National Grid requests at least six week advanced notification prior to the start of construction to perform scheduled work in the proposed project area. Be aware that some gas work cannot be performed during the normal heating season.

Support and Protect

Contractor must call Dig Safe to have the gas mains and services marked out before construction. Care must be exercised when saw cutting over any gas infrastructure, especially services, which are more shallow than the main. Depth of gas mains vary. Contractor shall dig test pits in order to ascertain exact locations, cover and invert elevations, clearances, alignment and operating status of existing gas facilities. Contractor shall exercise extreme caution when excavating in the vicinity of any gas facility. Hand excavation shall be performed to locate all gas facilities and whenever digging within 24" of gas facilities. If cover over gas piping is removed the required cover must be replaced, or if not feasible, National Grid must be notified for review of the issue. Undermined gas pipe must be adequately supported and protected from damage. Contact National Grid engineer for guidelines regarding proper pipe support. Significant vibration from pile driving and such may negatively impact gas facilities, particularly cast iron mains and regulator station vaults. Contact National Grid engineer prior to performing such activities as well as operations which may undermine gas facilities such as micro-tunneling, jacking, directional drilling, etc.

Gas Leaks

For any gas leak please call the appropriate number immediately.

Greater Boston - 800-233-5325

Other Massachusetts – 800-548-8000

Rhode Island – 800-640-1595

Types of Gas Facilities

Gas mains and services are made of several different materials and contain a wide range of pressures. Typical materials used for buried gas pipe includes bare steel, coated steel, plastic, cast iron, wrought iron, ductile iron, and copper. Never assume that a pipe is not gas. At times gas lines are inserted into older lines to save excavation cost.

Exposure of Gas Facilities

If any gas mains or services become exposed, National Grid must be notified to inspect the line before backfilling. Also any damage that may have been made to the pipe or pipe coating will need to be repaired by National Grid before backfilling. Contact our Dispatch office at (877) 304-1203 for inspection. It is important that even minor damage or scrapes be reported to National Grid. Backfill shall be 6" of sand around the gas line and clean compacted fill above.

National Grid 40 Sylvan Rd., Waltham, MA 02451

**Regulator Stations**

Gas regulator stations are particularly critical facilities and National Grid must be notified whenever work is to take place within 200 feet of a station. Regulator stations are typically in buried vaults accessed through either manhole covers or aluminum doors. **ONLY AUTHORIZED NATIONAL GRID EMPLOYEES SHALL OPEN A REGULATOR STATION VAULT.** Be aware that a complex nest of piping and valves often exists in the vicinity outside the vaults.

Blasting

National Grid must be notified of any blasting that will take place within 200 feet of a gas utility. National Grid must be supplied with a detailed blast plan for blasting in the vicinity of gas facilities. The evaluation of the blast plan by a National Grid engineer may take some time, therefore, blast plan data should be submitted at least two weeks prior to the planned blasting. As a general rule blasting will not be permitted within 10 feet of a gas line and PPV at the nearest gas pipe shall not exceed 5 in/sec. PPV at the nearest gas main shall be monitored.

Valves

Access to gas valves must be maintained throughout construction and left at grade at the end of construction. Should valve boxes be damaged and need to be replaced National Grid will supply replacements upon request. **NEVER OPERATE A GAS VALVE. ONLY NATIONAL GRID SHALL OPERATE GAS VALVES.**

Clearance

Adequate clearance must be provided when installing other utilities, foundations, structures, etc. Contact National Grid engineer for guidance.

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**** END OF SECTION ****