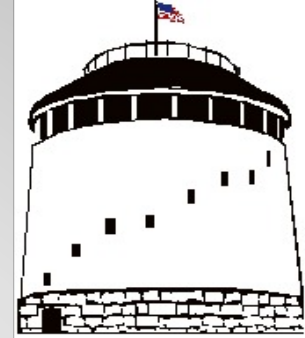


BANGOR WATER DISTRICT

Bangor Water District's Experience With Gas

Bangor **Natural Gas**

The logo for Bangor Natural Gas. The word "Bangor" is in a white, italicized font with a drop shadow. "Natural Gas" is in a green, italicized font. A green leaf is positioned above the letter "N" in "Natural". Below the word "Gas" is a yellow sun with rays.



BANGOR WATER DISTRICT

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- Bangor Gas Came to Bangor in 1997.
- They started installing distribution main in Bangor in 2001.
- Initially they estimated 75% open cut, 25% boring. Lately it seems like they are doing more boring.
- About a 3 foot bury depth
- Tracer wire
- Yellow PE pipe.
- Minimal Valving



Brief History

- Initially, it appears that BWD review process was sporadic.
- This led to a few instances where gas main was installed almost directly above water main.
- On July 1st, 2010, BWD crew hit a 2" gas main on Mt. Hope Avenue.

Brief History



- The gas line was clearly marked and we hand dug to locate gas main. When the excavator was used to scrape “a little more off the top”, we hit the gas.
- 3 homes were evacuated and the gas leak was contained after about an hour.
- Follow up: ER training for natural gas, hand dig all excavations within the safety zone.

Brief History

49 C.F.R. § 192.325 Underground clearance.
Title 49 = Transportation

PART 192—TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE:
MINIMUM FEDERAL SAFETY STANDARDS
Subpart G—General Construction Requirements for Transmission Lines
and Mains

§ 192.325 Underground clearance.

- (a) Each transmission line must be installed with at least **12 inches of clearance** from any other underground structure not associated with the transmission line. If this clearance cannot be attained, the transmission line must be protected from damage that might result from the proximity of the other structure.
- (b) Each main must be installed with **enough clearance from any other underground structure to allow proper maintenance** and to protect against damage that might result from proximity to other structures.



PUC/Federal Regulations

Minimum Cover and Separation Standards for Mains and Service Lines

a. Mains in Public Right-of-Ways.

New or replaced mains located in public rights-of-way shall be installed with at least thirty-six (36) inches of cover, except where an obstruction prevents that installation depth or when pipe is inserted into existing pipe.

b. Separation from Subsurface Structures

Where there is interference with other subsurface structures, including other utilities, the pipe shall be laid at a **clearance distance of not less than twelve (12) inches away from such structures** unless adequate shielding is provided to protect the gas pipeline and the other utility.

PUC/Federal Regulations

Safety zone.

An excavator may not use mechanical means of excavation when excavating **within 18 inches in any direction of any marked underground facilities until the underground facilities have been exposed**, except that mechanical means may be used, as necessary, for initial penetration and removal of pavement, rock or other materials requiring use of mechanical means of excavation. Once underground facilities have been exposed, further excavation must be performed employing reasonable precautions to avoid damage to the underground facilities ...

PUC Dig Safe Regulations.

- **Separation Distance!!**
- 12" minimum separation distance
- 18" exclusion zone
- This means that the gas company could install gas main directly on top of our water main and be in compliance with regulations – **We would need to hand dig in all of these areas!**
- In the spring of 2011, we started getting requests from surveyors to mark out over 18 miles of roads for Bangor Gas
- We realized the existing regulations did not protect us and that these issues were not going away
- We needed to coordinate directly with Bangor Gas and the City of Bangor

The Major Issue

Street opening permit.

It shall be unlawful for any person, firm or corporation to tunnel under or to make any excavation in any street, alley or other public place in the city without first having obtained a street opening permit from the City Engineering Department. All permits will be issued in accordance with the provisions of Title 23, Chapter 307, Subchapter II of the Maine Revised Statutes Annotated.

City of Bangor Regulations

BANGOR WATER DISTRICT

P.O. BOX 1129 · BANGOR, ME 04402-1129
TEL: (207) 947-4516 · FAX: (207) 947-5707
www.bangorwater.org



Water Construction Specifications and Procedures

Revised: January 8, 2013

Bangor Water District Regulations

Minimum Separation from Water Mains

The following minimum separations from water mains shall be observed at all times unless otherwise directed by BWD personnel:

Horizontal Separation

- Sanitary Sewers – refer to requirements in this section noted above
- Storm drains – 3 feet, face to face for mains, catch basins and drain manholes
- Gas mains – 6 feet, face to face**
- Underground electric and telephone – 6 feet, face to face
- Utility Poles – 6 feet, face to face

Vertical Separation

- 18 inches for sewer
- 12 inches minimum, all crossings

Bangor Water District Regulations

Minimum Separation from Water Services

The following minimum separations from water services shall be observed at all times unless otherwise directed by BWD personnel:

Horizontal Separation

- Storm drains – 3 feet, face to face for mains, catch basins and drain manholes
- **Gas mains – 6 feet, face to face**
- Underground electric and telephone – 6 feet, face to face
- Property lines – 10 feet,
- Sanitary sewer – 5 feet; if sanitary sewer service is laid 18 inches below water service, then an 18-inch horizontal separation is allowable
- Curb stops for multiple services – 18 inches
- Utility Poles – 6 feet

Minimum Separation from Hydrants

The following minimum separations from hydrants shall be observed at all times unless otherwise directed by BWD personnel:

Horizontal Separation

- **Gas mains – 3 feet behind hydrant (not allowed over hydrant branch)**
- Underground electric and telephone – 3 feet behind hydrant (not allowed over hydrant branch)

Bangor Water District Regulations

- We requested a meeting with Bangor Gas and the City of Bangor
- We discussed our concerns – **Setback Distances**
- We all agreed that Bangor Water District would have a chance to review the City Road Opening Permits.
- We agreed that we would turn all reviews around in one week.
- A weekly construction meeting was also set up with the City where all upcoming utility work is discussed.

How We Solved It

Review & Approval Process



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Kathy Morarty
General Manager

Bangor Gas

Plan Review



BWD Project #:	<u>3-13-189</u>	B. Gas Job #:	<u>13021166</u>
Date Received:	<u>9/26/13</u>	Date Reviewed:	<u>9/26/13</u>
Distribution:	<u>BWD</u>	<u>City of Bangor</u>	
	<u>Bangor Gas</u>		
Location:	<u>690 Odlin Road</u>		
Description:	<u>Install 1" PE Service Line</u>		

- Location accepted.
- Accepted with corrections shown in notes and plans.
- Rejected.

Comments: No Issues.

Review & Approval Process

Name	Date modified	Type	Size	Date created
3-13-1 High and North High Streets	4/12/2013 2:28 PM	File folder		4/11/2013 1:33 PM
3-13-2 199-201 Center St	4/12/2013 2:28 PM	File folder		4/12/2013 2:26 PM
3-13-3 281 Ohio St	4/12/2013 2:31 PM	File folder		4/12/2013 2:29 PM
3-13-4 267 Essex St	4/12/2013 2:33 PM	File folder		4/12/2013 2:31 PM
3-13-5 204 Grove St	4/12/2013 2:36 PM	File folder		4/12/2013 2:34 PM
3-13-6 195 Grove St	4/12/2013 2:39 PM	File folder		4/12/2013 2:36 PM
3-13-7 253 Howard St	4/12/2013 2:41 PM	File folder		4/12/2013 2:39 PM
3-13-8 676 Broadway	4/12/2013 2:45 PM	File folder		4/12/2013 2:43 PM
3-13-9 758 Kenduskeag Ave	4/12/2013 2:48 PM	File folder		4/12/2013 2:46 PM
3-13-10 193 West Broadway	4/12/2013 2:54 PM	File folder		4/12/2013 2:50 PM
3-13-11 267 Ohio St	4/12/2013 2:58 PM	File folder		4/12/2013 2:54 PM
3-13-12 136-138 Maine Ave	4/12/2013 3:01 PM	File folder		4/12/2013 2:59 PM
3-13-13 953 Odlin Rd	4/12/2013 3:04 PM	File folder		4/12/2013 3:01 PM
3-13-14 517 Hammond St	4/12/2013 3:09 PM	File folder		4/12/2013 3:05 PM
3-13-15 527 Hammond St	4/12/2013 3:12 PM	File folder		4/12/2013 3:10 PM
3-13-16 216 Third St	4/12/2013 3:14 PM	File folder		4/12/2013 3:13 PM
3-13-17 201 Buck St	4/12/2013 3:16 PM	File folder		4/12/2013 3:15 PM
3-13-18 163 Hildreth St	4/12/2013 3:20 PM	File folder		4/12/2013 3:17 PM
3-13-19 88 Fourth St	4/12/2013 3:22 PM	File folder		4/12/2013 3:21 PM
3-13-20 62 Fifth St	4/12/2013 3:24 PM	File folder		4/12/2013 3:23 PM
3-13-21 12 Norfolk St	4/12/2013 3:27 PM	File folder		4/12/2013 3:25 PM
3-13-22 Longrale Park	4/19/2013 2:02 PM	File folder		4/19/2013 1:12 PM
3-13-23 80 FarmRd	4/26/2013 2:09 PM	File folder		4/26/2013 1:57 PM
3-13-24 34 Ohio St	4/26/2013 2:11 PM	File folder		4/26/2013 2:09 PM
3-13-25 192 Ohio St	4/26/2013 2:13 PM	File folder		4/26/2013 2:11 PM
3-13-26 510 Union St	4/26/2013 2:16 PM	File folder		4/26/2013 2:14 PM
3-13-27 366 Griffin Rd	4/26/2013 2:18 PM	File folder		4/26/2013 2:16 PM
3-13-28 150 State St	4/26/2013 2:20 PM	File folder		4/26/2013 2:19 PM
3-13-29 416 Hancock St	4/26/2013 2:23 PM	File folder		4/26/2013 2:21 PM
3-13-30 43-45 East Summer St	4/26/2013 2:25 PM	File folder		4/26/2013 2:23 PM
3-13-31 352 Mt.Hope Ave	4/26/2013 2:27 PM	File folder		4/26/2013 2:26 PM
3-13-32 80 Howard St	4/26/2013 3:05 PM	File folder		4/26/2013 2:27 PM
3-13-33 235 Grove St	4/26/2013 2:37 PM	File folder		4/26/2013 2:35 PM

Page 1 of 7 for 2013 so far!

- The process has been in place for over two years now.
- Bangor Gas has been extremely cooperative and a pleasure to work with.
- Bangor Gas knows what we need and why we need it and they avoid conflict with our mains and customer services wherever possible.
- At the same time, Bangor Gas is a utility also, just like us. We need to understand their needs and work with them.
- We rarely need to kick back a plan with recommended changes.

Summary