
DAMAGE PREVENTION SEMINAR

MAY 23, 2024



- INTRODUCTION
- SPEAKERS
- FOCUS OF SEMINAR
- Q & A



Department of
Design and
Construction



Know what's below.
Call **811** before you dig.

national**grid**





CHALLENGES



TRENDS



PREVENTION



CHALLENGES



URBAN
ENVIRONMENT



LOCATING UTILITIES



MAPPING OF
UTILITIES

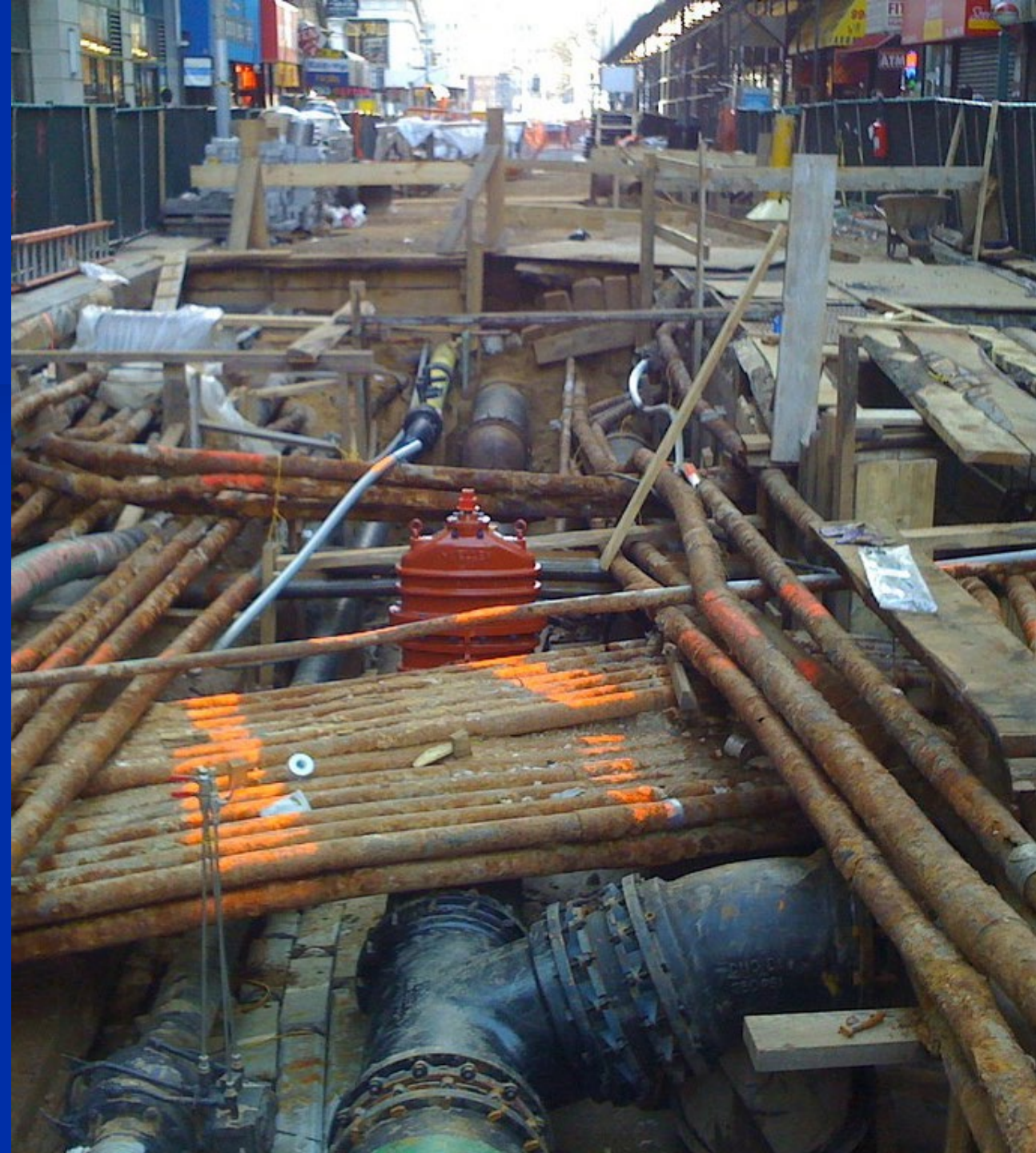


CAUTION
BURIED GAS LINE
DAMAGE PROMPTLY
24-3341

EXCAVATING IN A URBAN ENVIRONMENT

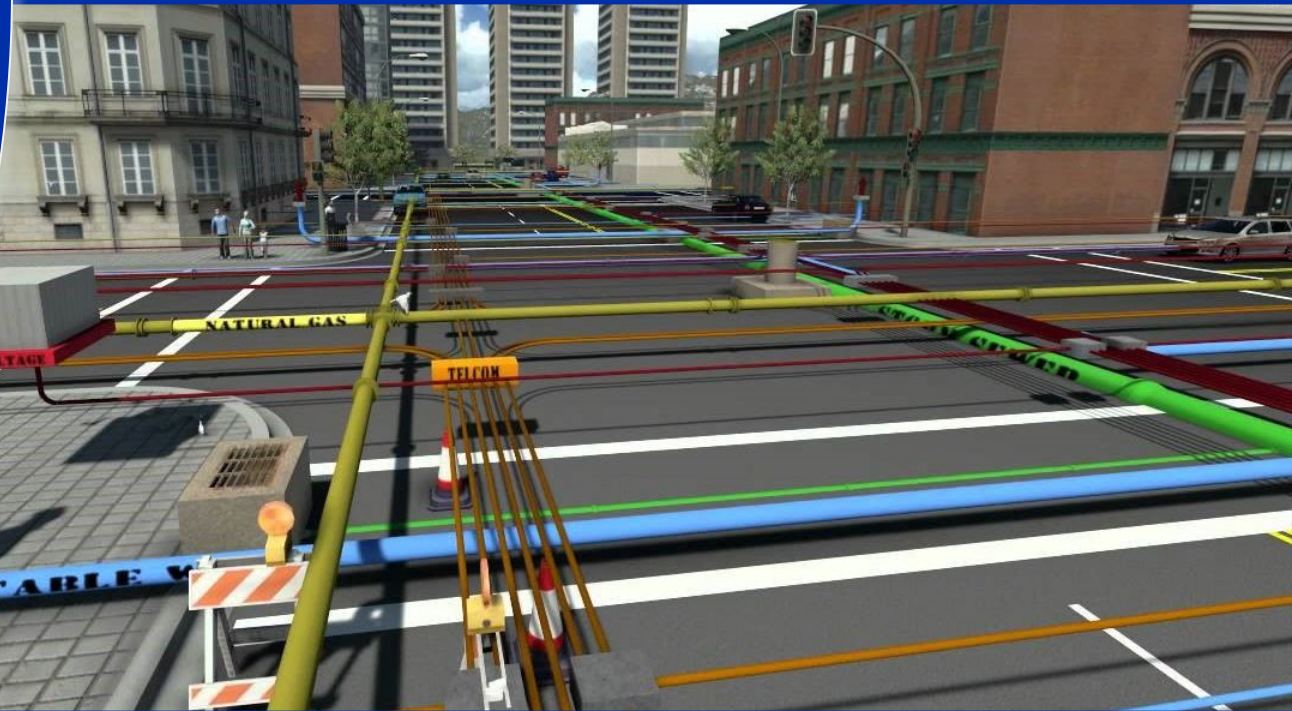
Excavating in urban environments presents a myriad of challenges that contractors must navigate with precision and foresight.

- An abundance of subsurface utilities
- Difficulty in finding a clear lane
- Sites with overhead utilities
- Availability of alternative techniques for excavation



LOCATING UTILITIES

- Locating, as advanced as the instruments are, not an exact science
- Multiple subsurface utilities within the designated site
- Loss of locating signal due to damaged tracer wire or no tracer device
- Utility material (i.e. cast iron) may not be conducive to signal – nonconductive material





- Updating of maps on a frequent basis
- Provide locating contractors with accurate, detailed and current maps
- Provide necessary assistance at “difficult” to locate sites
- Personnel knowledgeable and trained on interpreting various utility maps

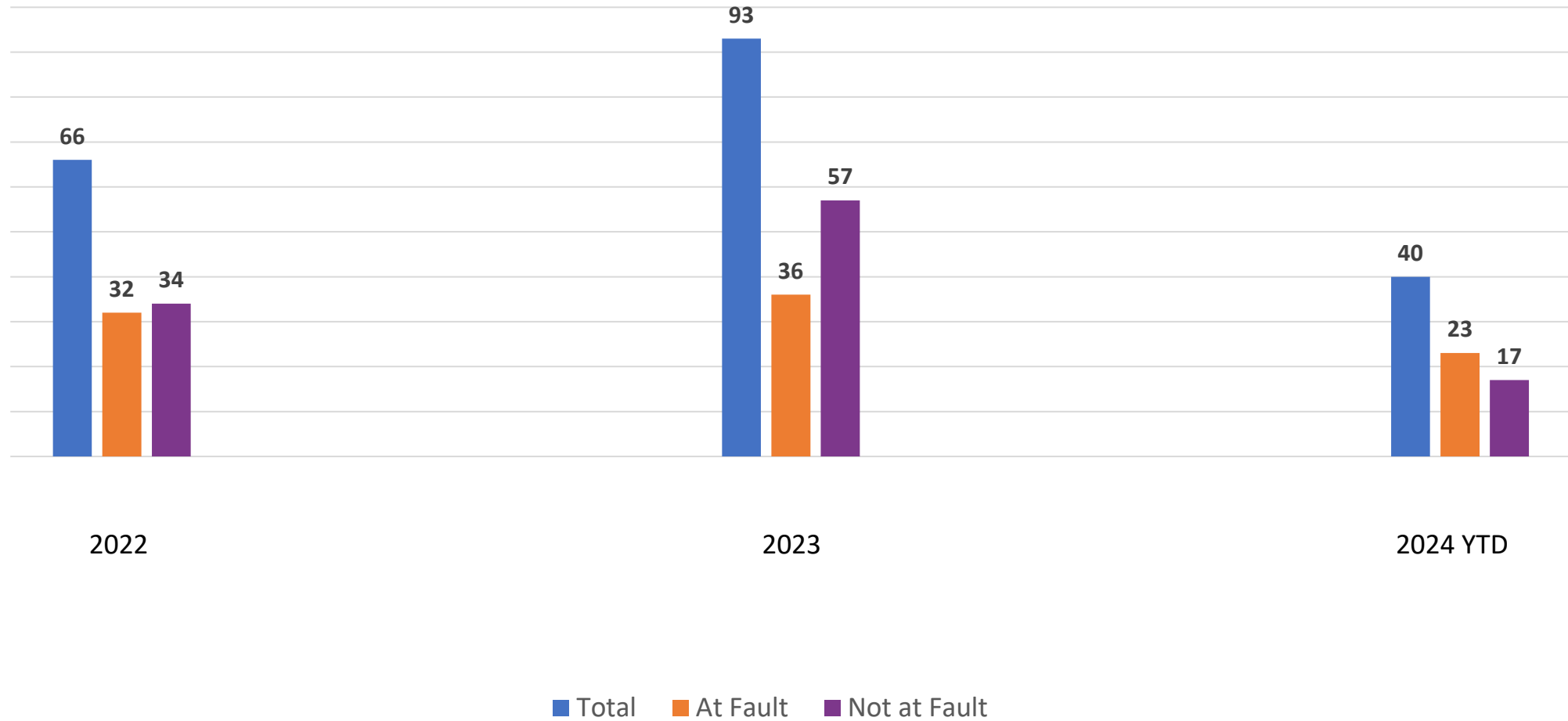
TRENDS



Total Damages

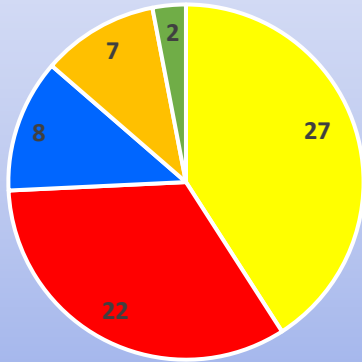
Affected Utilities

Total Damages



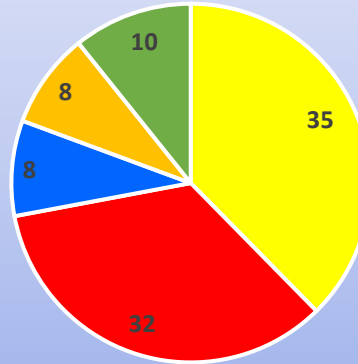
DAMAGED UTILITIES

2022



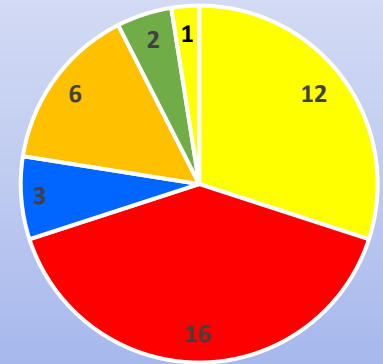
Gas Electric Water Cat DOT

2023



Gas Electric Water Cat DOT

2024 YTD



Gas Electric Water Cat DOT Steam



PREVENTIVE MEASURES

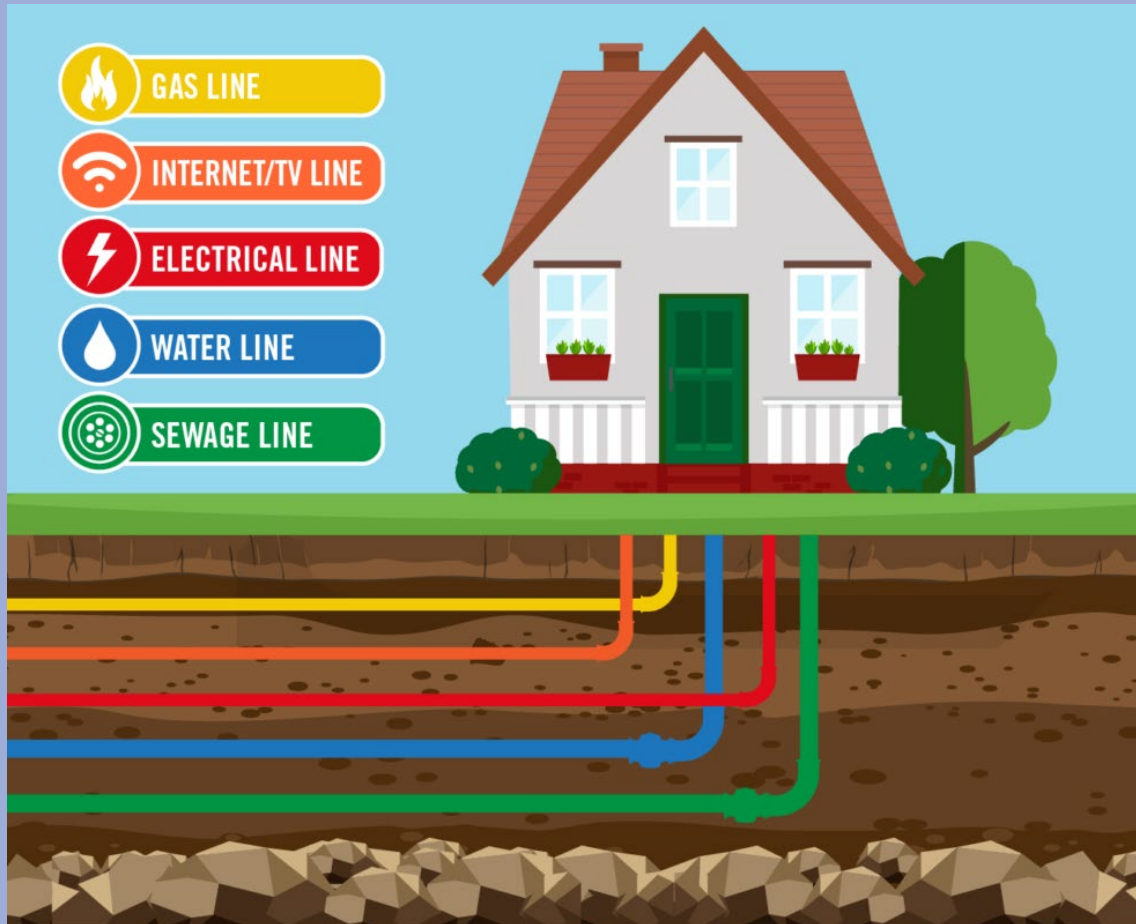


PROJECT STAFF
AND CONTRACTOR



UTILITY



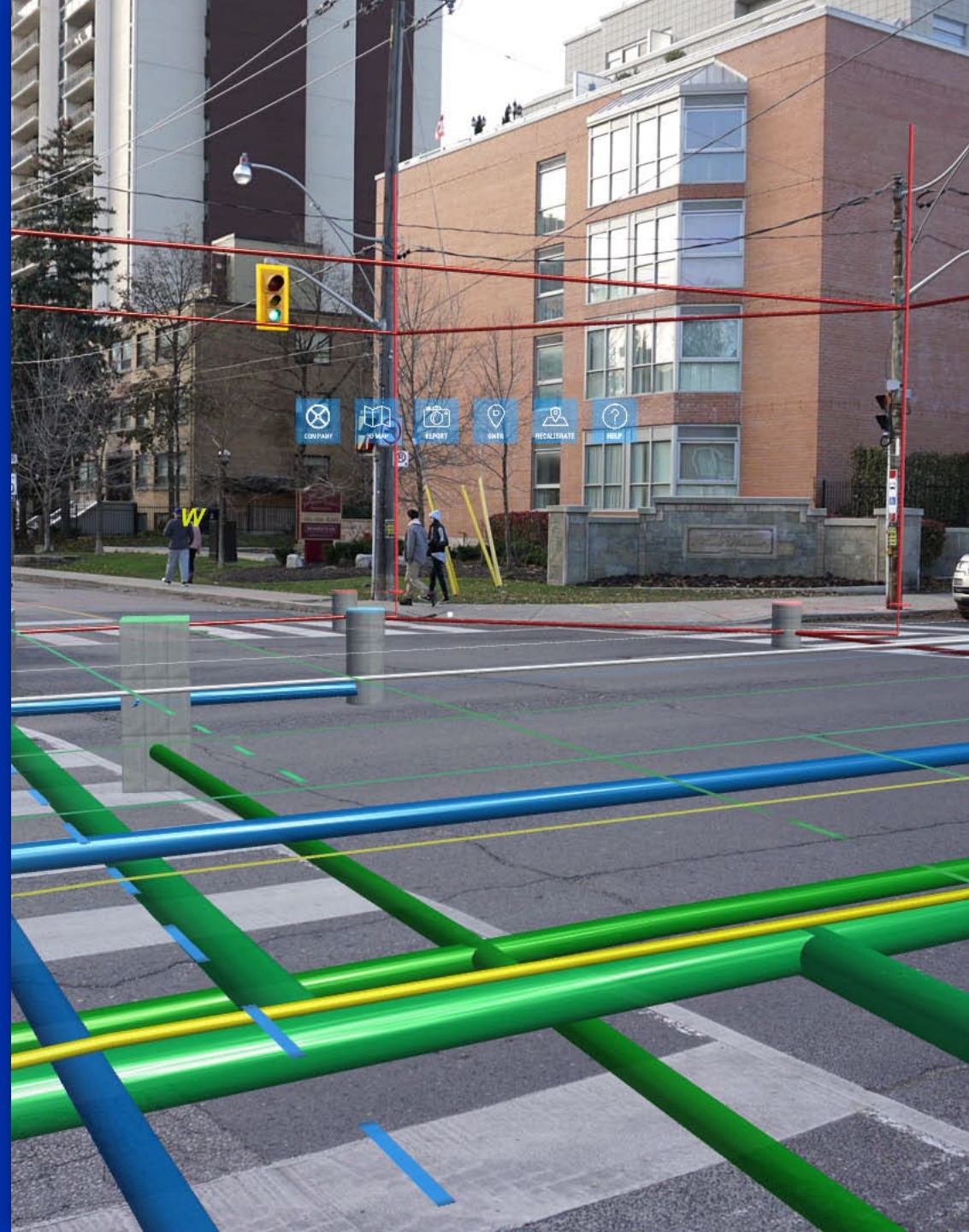


STEPS IN PREVENTING UTILITY DAMAGES

- Notify 811 – NYC One Call
- Wait the required time and positive response from affected utilities
- Respect and maintain the marks – NO powered or mechanized equipment within the Tolerance Zone
- Conduct a walk through prior to excavation activities – Daily Job Briefing
- Provide a spotter for subsurface and overhead utilities
- Support and protect exposed utilities
- Consider alternate means of excavation (vacuum, air lance, etc.)
- NY 811 Excavator Training & Education Program
- Well developed JHA – lessons learned to prevent recurrence

UTILITY RESPONSIBILITIES

- Accurate locating and marking of utility
- Ensure locating contractors and in-house locators are well trained and have the relevant experience
- Provide locating contractors and in-house locators with current, detailed and accurate maps of the utility systems
- Have the appropriate and calibrated locate equipment
- Ensure locating contractor is well versed in the interpretation of utility maps
- Provide assistance in the field when difficult locate areas are encountered



New York 811 Excavation Safety

Kelly Restivo
Damage Prevention Liaison
New York 811



Know what's below. Call 811 before you dig.

New York 811 Excavation Safety Presentation Agenda

- HISTORY
- NEW YORK 811 – WHO WE ARE & WHAT WE DO
- LAWS, PROCEDURES & BEST PRACTICES
- SAFETY OF WORKERS & THE COMMUNITY



Know what's **below**. Call **811** before you dig.

HISTORICAL BACKGROUND – THE LAW

16 NYS PART 753



Department
of Public Service

Rules that establish procedure for the protection of underground facilities in order to assure public safety and to prevent damage to public and private property as required by general business law article 36 and public service law section 119-b.



All owners and operators of underground facilities are required to be part of the One Call Notification system.



Rules apply to One Call Centers, all operators of underground facilities, and all excavators.



Know what's **below**. Call **811** before you dig.



National Underground Damage Prevention Picture



Common Ground Alliance (CGA)

Established in 2000, a 1,700-member driven association with 240 organizations and companies representing every facet of the underground utility industry in an effort to reduce damages to North America's underground infrastructure through shared responsibility among all stakeholders.



811

Established by the Federal Communications Commission as the mandated three-digit number to be called prior to excavation anywhere in the country.



Know what's **below**. Call **811** before you dig.



NEW YORK 811

WHO WE ARE & WHAT WE DO



Know what's below. Call **811** before you dig.

NEW YORK 811 – WHO WE ARE & WHAT WE DO

NEW YORK 811

Roger Sampson, Executive Director

DAMAGE PREVENTION CALL CENTER SERVICING

The 5 Boroughs of New York City, Nassau & Suffolk Counties

ONE CALL CONCEPTS (OCC):

Responsible for the day-to-day, one call operations of New York 811

GOVERNED BY OPERATOR MEMBER BOARD OF DIRECTORS:



BUCKEYE PARTNERS, L.P.

nationalgrid

CABLEVISION

**EMPIRE
CITY**



Iroquois

verizon

OYSTER BAY WATER DISTRICT



Know what's below. Call **811** before you dig.

Goals & Objectives

- Achieve and realize a “Zero” damage ratio and injuries as a result of underground excavation activity
- Achieve “Total Participation” of all owners of underground facilities throughout all of NYC and Long Island in the One Call Notification System
- Public safety
- Have New York 811 readily and widely recognized as the leader in damage prevention and 811 as the go to number before starting any excavation.



Know what's below. Call **811** before you dig.

____ LAWS, PROCEDURES ____
& BEST PRACTICES



Know what's below. Call 811 before you dig.

The code includes detailed information on fines, the tolerance zone, personal property and line marking color codes. Professional excavators are expected to know and obey this code.

Here's what you need to know:



Excavators and contractors **MUST** call 811 at **least two business days but not more than 10 business days** and wait for the positive responses before beginning any excavation project.



Know what's **below**. Call **811** before you dig.

Who Should Call 811?

Everyone planning to dig.

EXAMPLES OF WHEN TO CALL BEFORE YOU DIG:

- ✓ Planting a Tree
- ✓ Mailbox
- ✓ Fencing & Dog Fence
- ✓ Sidewalks, Curbs
- ✓ Moving Dirt
- ✓ Pest Control
- ✓ Sprinkler
- ✓ Stump Removal
- ✓ Saw Cutting
- ✓ Demolition
- ✓ Grading
- ✓ Digging
- ✓ Auguring
- ✓ Backfilling
- ✓ Drilling
- ✓ Pile Driving
- ✓ Jack Hammering
- ✓ Trenching



Know what's **below**. Call **811** before you dig.

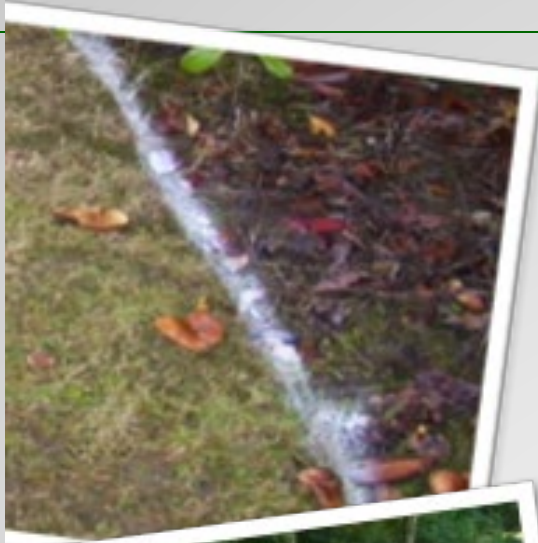


IMPORTANT THINGS TO KNOW:

- ✓ All excavators must have their own mark out request
- ✓ Must provide physical location of dig site
- ✓ Call 2 business days ahead, but not more than 10 business days
- ✓ Excavators must verify their location, dig date and should have a copy of request (ticket) on site
- ✓ Commence excavation within 10 business days or request (ticket) is no longer valid
- ✓ Excavator must protect and preserve marks until no longer necessary or call One Call Center to refresh the marks



Know what's below. Call **811** before you dig.



WHITE PAINT AREA

Marking Suggestions:

- If possible, mark the area that will be excavated in **WHITE** before calling the center
- Advise the operator of the location of the white marks. If multiple areas are marked, each site should be numbered; the site numbers should be provided to the call center



Know what's **below**. Call **811** before you dig.

PLAN AHEAD

- Contractors Option to Dig on Saturday or Sunday
- Any request received at One Call Center Holidays & Saturdays/Sundays **do NOT count in two business days** allowed for mark out
- Any request received at One Call Center on a Holiday/Weekend or **after 5pm on a business day, is considered requested the next business day**



Know what's **below**. Call **811** before you dig.

APR Responses

- **Code 1: Clear/No Conflict**
Facilities are not in conflict with the excavation site.
- **Code 2: Marked**
Facilities have been marked according to the excavation location.
- **Code 3: Marked – Critical Facilities in Area**
Critical Facilities are in the area of your excavation site.
- **Code 4: 48-Hour Delay**
Member is requesting a 48 hour locate extension.
- **Code 5: Not Complete/In Progress**
Facility Owner has spoken with the Excavator and has agreed to this message.
- **Code 9: Marked Up To Privately Owned Utility**
Facility has been marked up to the privately owned property or utility.
- **Code 10: Incorrect Address Information**
Address information provided is not correct, call the center to reschedule.
- **Code 11: Installation, Maps or Other Documentation Has Been Provided.**
Maps or other documentation has been provided to the excavator.
- **Code 12: Locator Could Not Gain Access to Property.**
Arrange with Locator/Utility Owner to provide access to excavation site.
- **Code 13: No Locate – Contractor Work Completed.**
Contractor work was complete before the mark out was completed.
- **Code 14: No Locate – Locator/Utility Owner Requests Meeting with Excavator.**
Contractor work was complete before the mark out was completed.



Know what's below. Call **811** before you dig.

Who marks the lines ???

- The utility companies are responsible to mark out their facilities or lines
- Often, they hire a third party to do their mark outs
- Privately owned facilities are the responsibility of the property owner
- Lines are typically marked with paint or flags/stakes



Know what's below. Call **811** before you dig.

COLOR CODE GUIDE

Underground facilities must be marked in accordance with the designated color code:

PROPOSED EXCAVATION
EXCAVACIÓN PROPUESTA

TEMPORARY SURVEY MARKING
MARCACIÓN DE INSPECCIÓN TEMPORAL

ELECTRIC, POWER LINES
LÍNEAS DE TRANSMISIÓN ELÉCTRICAS

GAS, OIL, STEAM, CHEMICAL
GAS, PETROLEO, VAPOR, QUÍMICOS

CABLE, COMMUNICATION
CABLE, COMUNICACIONES

SEWER, STORM DRAIN
CLOACA, DRENAJE DE TORMENTA

RECLAIMED WATER
AGUA REGENERADA

POTABLE WATER
AGUA POTABLE

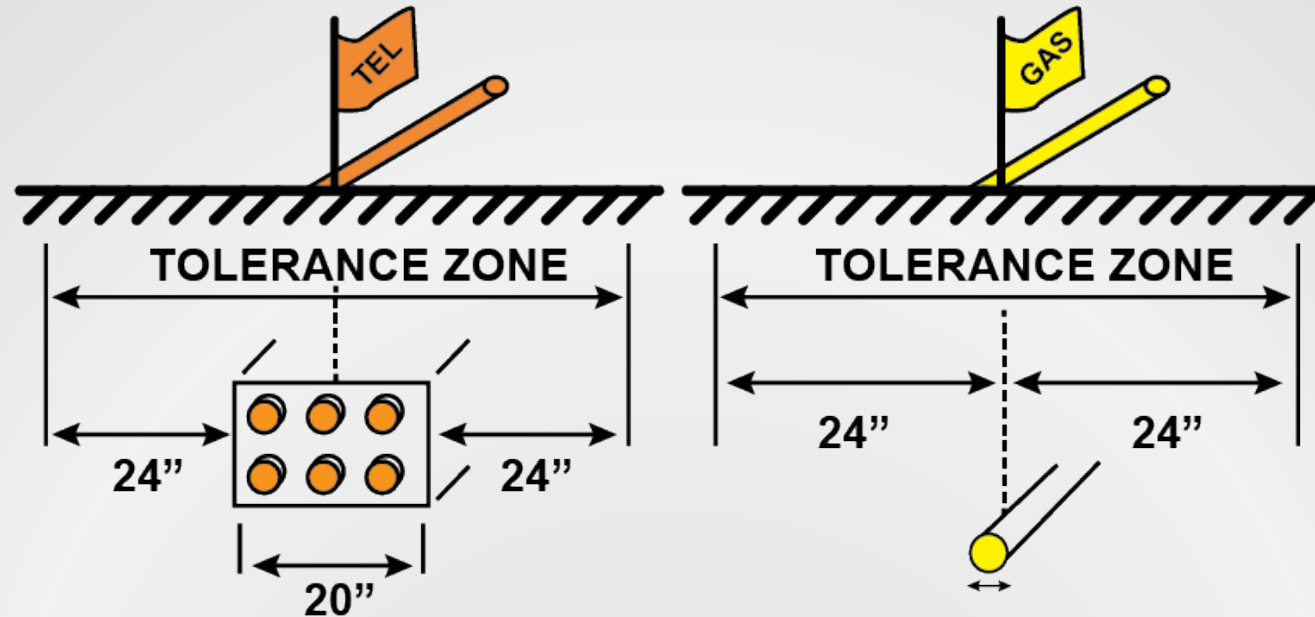
Call **811** Before You Dig
It's **FREE** & It's **THE LAW**



Know what's **below**. Call **811** before you dig.

TOLERANCE ZONE IS DEFINED AS:

- 2 feet on either side of the designated center line of facility if the diameter is not provided
- Or, 2 feet from each outside edge if the diameter is provided




Know what's below. Call **811** before you dig.

SAFETY OF WORKERS & THE COMMUNITY



Know what's below. Call 811 before you dig.

What should I do if there are visible signs that a utility is in my work area, and it was not marked?

Call  with your original ticket number and advise the customer service representative of the company that did not mark out.



Know what's below. Call  before you dig.

#1 PRIORITY - SAFETY OF WORKERS & THE COMMUNITY



**CALL 911
REPORT THE
EMERGENCY**

If you break a natural gas, petroleum or propane line **follow these steps...**

- **CALL 911**
- **STOP WORK AND EVACUATE THE SITE**
- **CALL THE APPROPRIATE FACILITY OPERATOR**
- **DON'T DO ANYTHING THAT CAN CAUSE A SPARK**
- **ALERT EVERYONE ON THE PREMISES**
- **KEEP THE PUBLIC AND THE TRAFFIC AWAY**
- **TAPE, ROPE, OR PLACE CONES AROUND THE AREA**
- **STAY UPWIND OF THE BLOWING WIND**
- **DO NOT TRY TO FIX A DAMAGED PIPE**
- **DO NOT TRY TO EXTINGUISH A BURNING FIRE UNLESS THERE IS A THREAT TO LIFE**

Immediately notify the local police and fire department and the operator of the affected facility, the exact location, nature of the emergency and the underground facility that has been affected.



Know what's below. Call  811 before you dig.

#1 PRIORITY - SAFETY OF WORKERS & THE COMMUNITY

By not calling, **you risk:**

- Costly property and environmental damage
- Explosion or fire
- Power or utilities services interruptions
- Legal problems
- Job delays
- Injury or even death

Call **811** Before You Dig. It's FREE & **It's THE LAW**



Know what's below. Call **811** before you dig.

- Call Before You Dig
- Wait The Required Time
- Confirm Utility Response
- Respect The Marks
- Dig With Care



Know what's below. Call **811** before you dig.

National Grid Damage Prevention



nationalgrid



nationalgrid

Excavator safety near underground natural gas pipelines

Use this poster for employee training.



Smell Gas. Act Fast. Be the one to call 911.

In a gas emergency, call 911 and National Grid
24 hours a day, 7 days a week.

Brooklyn, Queens and Staten Island: 911 and 1-718-643-4050
Nassau, Suffolk and the Rockaways: 911 and 1-800-490-0045



Always **call 911** if you
suspect a gas leak!

Have you notified 811 yet?

nationalgrid

Call 811 or make an online request before you start digging.
It's the law!

Five steps for safe excavation

1. **Plan your job and pre-mark your dig area** with white paint, flags and/or stakes.
2. **Call 811 or make an online dig ticket request before any excavation starts:** 811 or 1-800-272-4480 | NewYork-811.com.
3. **Wait the required time** for utilities to locate and mark their lines: In New York, **at least two full working days**, excluding the date of your request, weekends and legal holidays.
4. **Respect the marks** and maintain them while digging.
5. **Dig with care** and follow hand-excavating rules.

Always contact your state 811 center before digging and for the most current requirements.



Smell Gas. Act Fast. Be the one to call 911.

In a gas emergency, call 911 and National Grid

24 hours a day, 7 days a week.

Brooklyn, Queens and Staten Island: 911 and 1-718-643-4050

Nassau, Suffolk and the Rockaways: 911 and 1-800-490-0045



Always **call 911** if you
suspect a gas leak!

Produced by Culver Media, LLC for National Grid | © 2023 Culver Media, LLC #13722 97687 DNY


American Public Works Association color code for locator marks




 Electric power lines

 Gas, oil or steam

 Communications lines, cables or conduit

 Temporary survey markings

 Potable water

 Reclaimed water, irrigation and slurry lines

 Proposed excavation

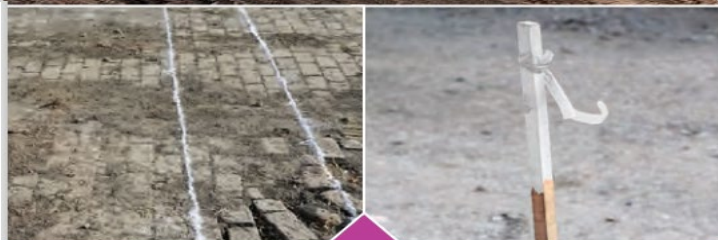
 Sewers and drain lines

If you find an unmarked utility line, stop digging and call 811 immediately.



**Know what's below.
811 before you dig.**

For excavator safety tips, tools and videos, visit nagridsafety.com. ➔



Before you notify New York 811, pre-mark your proposed dig area with white paint, flags and/or stakes.



Help protect natural gas pipelines.

- **National Grid pipelines deliver natural gas safely and reliably** to homes and businesses across New York and Massachusetts. We regularly inspect these pipelines for corrosion and defects, monitor for leaks and conduct routine maintenance.
- **Hitting a natural gas pipeline has serious consequences.** Even a tiny gouge, scrape, dent or crease to a gas pipe or its coating may cause a leak that could lead to a catastrophic fire or explosion.
- **The greatest risk to gas pipelines is accidental damage during excavation.** We need your help to prevent pipeline damage and reduce the risk of dangerous natural gas leaks.

Notify 811, and dig with care.

- State law requires you to call **New York 811** or make an online request at least **two full working days** before any excavation starts, excluding the date of your request, weekends and legal holidays.
 - This FREE service will arrange for marking of buried natural gas lines and other utilities so that you can work a safe distance away from them.
 - Call **811** or **1-800-272-4480** | **NewYork-811.com**.
- **Do not use mechanical excavation equipment within the “tolerance zone,”** which spans the width of a marked utility plus **24 inches** from each indicated outside edge. **Use ONLY hand tools or vacuum technology within this safety zone.**
- **If your excavation will cross a cast iron gas main or run parallel nearby, notify the 811 service and National Grid well in advance.** Cast iron gas mains in our Northeast communities may be damaged when the earth near them is moved in any way.
- **Wait the required time** for utilities to locate and mark their lines before you dig.
- **Physically locate marked natural gas pipelines by hand digging.** If you cannot locate marked pipelines, **STOP** digging and contact National Grid immediately.



Always contact your state 811 center before digging and for the most current requirements.



A gas leak may have a distinctive, sulfur-like odor (but not always).^{*} So be alert for other warning signs as well:

- a hissing, whistling or roaring sound
- dirt blowing into the air from a hole in the ground
- continuous bubbling in water
- dead or dying vegetation (in an otherwise moist area) over or near a pipeline
- an exposed pipeline after a fire, flood or other disaster
- a damaged connection to a gas appliance

^{}The odor of natural gas comes from a chemical additive called mercaptan. Be aware that some natural gas is not odorized, so some leaks may not be detectable by smell alone. Additionally, chemical or physical processes may strip the odorant from natural gas so that the gas no longer smells. This is known as "odor fade."*



Dirt blowing



Dead or dying vegetation



Signs of a gas leak



Water bubbling



Exposed pipeline

Leaking natural gas may throw dirt up into the air, kill grass or plants, or make bubbles in water. Gas pipelines exposed by fires or floods may be a source of leaks.

If you contact a natural gas pipeline and/or suspect a gas leak:

- **Do NOT turn off engines or generators**, as a spark from the ignition could ignite leaking gas. Warn others and leave the area quickly.
- **Do NOT use matches, lighters, cigarettes (including e-cigarettes or vape pens), light switches or anything electrical** – not even a phone or garage door opener.
- **Do NOT crimp or tape a broken pipe**, or otherwise attempt to stop the flow of gas. Leave the excavation open.
- **Do NOT operate underground pipeline valves.**
- **From a safe location, call 911 and National Grid immediately.** Call even if there is no visible damage to the pipeline. (Excavators are required by law to call 911 if gas is escaping.) In the New York Metro area, also call 811.
- **Report the incident to your supervisor.**
- **Stay away from the area** until National Grid personnel say it is safe to return.



In addition to buried pipelines, our natural gas distribution system includes aboveground pipelines that run under bridges built over roads and waterways, other aboveground gas facilities and liquefied natural gas (LNG) transport trailers. These trailers carry LNG over roads and interstate highways to deliver LNG to acceptance sites, where we re-gasify and deliver it through our pipelines during periods of high demand.



Watch out around pipeline markers.

- **High-visibility yellow markers with National Grid's 24-hour emergency phone number** indicate the general location of our high-pressure natural gas pipelines.
- **If you notice any type of suspicious activity or excavation occurring near a pipeline marker** or you see a damaged marker, call the National Grid emergency number immediately.
- **For security purposes, these markers do not show the exact location, path, depth or number of gas pipelines in the area.** In addition, pipelines may not follow a straight course between markers.
- **You can also find the general location of high-pressure natural gas transmission pipelines near you** through the National Pipeline Mapping System (NPMS) at <https://www.npms.phmsa.dot.gov>.
- **Never use pipeline markers or maps as a substitute for contacting 811.** Always notify the 811 service before digging to have all utility lines in your dig area located and marked. If you will be digging within **15 feet** of a high-pressure natural gas transmission pipeline, National Grid **MUST** be on-site during the excavation.

Respond safely to natural gas emergencies.

nationalgrid

Keep this card handy in your vehicle visor or glove box.

Gas leak signs: A gas leak may have a distinctive, sulfur-like odor (but not always). Other signs may include a hissing, whistling or roaring sound; dirt blowing into the air from a hole in the ground; continuous bubbling in water; dead or dying vegetation (in an otherwise moist area) over or near a pipeline; an exposed pipeline after a fire, flood or other disaster; or a damaged connection to a gas appliance.

1. **Leave equipment; do NOT turn off engines or generators.** Warn others and leave the area quickly.
2. **Do NOT use matches, lighters, cigarettes (including e-cigarettes or vape pens), light switches or anything electrical** – not even a phone or garage door opener.
3. **Do not operate underground pipeline valves or stop the flow of gas.** Leave the excavation open.
4. **From a safe location, call 911 and National Grid immediately.** (Excavators are required by law to call 911 if gas is escaping.) In the New York Metro area, also call 811.
5. **Report the incident to your supervisor.**
6. **Stay away from the area** until National Grid personnel say it is safe to return.

Call 911 and National Grid if you suspect a gas leak or if you make ANY contact with a natural gas line, even if you just nick the pipeline or damage its coating.

Backfill for pipeline safety

- Remove sharp objects, trash, debris, wire and rocks from the trench.
- Backfill a 6-inch radius of padding sand around natural gas pipelines.
- Remove rocks more than 3 inches in diameter from the padding sand level to grade.
- Use only clean backfill materials – no paving materials, cinders, ash or flowable fill.
- Compact soil in 12-inch lifts up to 6 inches above the pipe to a density comparable to the surrounding soil.
- Hand tamp around fittings where mechanical compaction cannot be used.
- Do not damage the copper wire that may be running near a plastic natural gas pipeline.



Plan ahead to protect cast iron gas mains



Cast iron gas mains are supported by the soil around them. **They can be damaged when the earth near them is moved in any way.** When possible, work with National Grid to plan your excavation to avoid damage to cast iron mains.



national**grid**

Excavator Safety

Employee training
materials on natural gas
pipeline safety enclosed.

Protect yourself, your crew and the public. Urge your employees to follow the enclosed safety tips when they work around underground natural gas lines.



nationalgrid

Safely exposing buried utilities



You've notified the 811 service, and you've waited the required time – at least 72 hours in Massachusetts (excluding weekends and legal holidays) and at least two full working days in New York (excluding the date of your request, weekends and legal holidays). You're sure all buried utility lines on your job site have been located and marked. Now you can use your mechanized equipment to begin excavating, right? Not so fast.

Buried power lines and natural gas pipelines can be easily damaged and are dangerous to contact. **Before you can safely work close to an underground utility line with mechanized digging equipment, you must see the line with your own eyes:**

- First, use only hand tools like shovels or other nonintrusive methods to expose the line. You must hand expose within the “tolerance zone,” a safety area that spans the width of a marked utility, plus a specified distance from each indicated outside edge: 18 inches in Massachusetts and 24 inches in New York.
- Then, and only then, can you begin power digging. Be sure to work with a spotter whose only job is to keep mechanized digging equipment away from buried facilities.



Always contact your state 811 center before digging and for the most current requirements.

- Massachusetts: digsafe.com
- Upstate New York: udigny.org
- Downstate New York: newyork-811.com


Hand dig with care

Take care to prevent damage by using a rounded or blunt-edged shovel – and be sure you use a fiberglass shovel when digging around buried power lines. Never use sharp tools like pickaxes, mattocks, pry bars or pointed spades, which may gouge or puncture utilities.

Begin digging off to the side of the marked utility line. Use a gentle, prying motion to break away soil as you approach the line laterally. **Never pry against a utility line to remove soil, stab at the soil or stomp on the shovel with both feet.**

Report ALL damage

Even a slight gouge, scrape or dent to a gas pipeline or its coating may lead to a leak, fire or explosion. Any damage to an electric power line may interrupt service or cause a shock hazard. Protect all exposed utility lines and check them regularly for damage. Before you backfill, check them again. **If you contact a utility line, report it to National Grid or the appropriate local utility company immediately, so that our crews can inspect the line and make the necessary repairs. (If gas is escaping, the law requires that you call 911.)**



Photocopy this master for your supervisor and crews.

nationalgrid

New York Safe Excavation Checklist

Use this checklist as your step-by-step guide to help prevent dangerous and costly damage to underground natural gas pipelines and other utilities.

Always contact your state 811 center before digging and for the most current requirements.

Supervisor: _____

811 ticket number: _____

Job number: _____

NYC Dept. of Buildings permit number: _____
(For Metro New York only)

Site location: _____

- ☐ **1. State law requires you to call 811 or make an online request** for utility locates *at least two full working days* before any excavation starts, excluding the date of your call, weekends and legal holidays. At no cost to you, the 811 center will notify member underground facility owners in the immediate area, so the location of pipelines and other facilities can be marked prior to excavation. Allow more time for long, involved projects.
 - Upstate New York: **Call 811 or 1-800-962-7962 | UDigNY.org**
 - Downstate New York – Brooklyn, Queens, Staten Island, Long Island and the Rockaways:
Call 811 or 1-800-272-4480 | newyork-811.com

- ☐ **2. Notify facility owners** who are not members of your local 811 center about your excavation and request locates directly from them. (Oil and gas production and gathering pipeline systems used primarily to collect oil or gas from wells are not required to join the New York 811 centers.)

- ☐ 3. **Before notifying 811, pre-mark your dig area** with white paint, flags or stakes, so locators can more easily identify and mark affected utilities. Document your markings with photos or video.
- ☐ 4. **Retain your ticket number** and related documentation. Keep this proof of compliance handy at the job site in case of emergency.
- ☐ 5. **If digging in New York City and its five boroughs: The NYC Department of Buildings (DOB) requires you to provide your 811 ticket number when making normal notification of the commencement of earthwork.** The ticket must address all street frontages associated with the excavation, and all documents related to the notification must be kept on-site and available upon request. To complete the DOB earthwork notification, call 1-212-393-2550.
- ☐ 6. **If your 811 locate indicates you will be working within 15 feet of a high-pressure natural gas transmission pipeline or other critical utility:** Prior to digging, you are required to attend an on-site meeting and/or have contact with qualified National Grid representatives to help reduce the risk of excavation-related damage. National Grid MUST be on-site during the excavation.
- ☐ 7. **Expect a response from every facility operator** confirming the absence or presence of utility lines in your work area. Document the responses. If you do not get a response, do not dig; call 811.
- ☐ 8. **Check the site on your planned excavation date** to confirm that your entire requested dig area has been located and marked. Look for aboveground signs of utilities that have not been marked, such as meters, pipeline markers, valves, etc. Also check for signs of something buried after the locate was completed, such as a fresh trench. If you find unmarked facilities, stop digging and notify 811 and the facility operator. Never assume an unmarked utility line is abandoned. Always assume lines are in use and present a potential danger.
- ☐ 9. **Begin excavation within 10 full working days of your locate request.**
If your excavation will be delayed, contact 811 to request a re-mark.

Smell Gas. Act Fast. Be the one to call 911.



**Know what's below.
811 before you dig.**

- ☐ **10. Maintain the marks.** You are responsible for maintaining locate marks until your excavation is complete. Document marks with photos or video before you dig. If marks fade or are destroyed, call 811 to request a new ticket so the area can be located and marked again. Stop work until the relocates are done.
- ☐ **11. Respect the tolerance zone.** Do not use mechanical excavation equipment within the “tolerance zone,” which spans the width of a marked utility plus 24 inches from each indicated outside edge. For your safety, use ONLY hand tools or vacuum technology within this zone.
- ☐ **12. Visually verify the location and depth of a marked utility line** by carefully digging test holes with a blunt hand tool. When hand digging, approach from the side rather than the top, and do not use sharp probes. Be sure to find the actual facility, not just the tracer wire or warning tape.
- ☐ **13. Locate marks may not be accurate.** If you cannot visually verify the indicated line within the tolerance zone, stop work and notify the facility operator.
- ☐ **14. After visual verification,** you may not power dig closer than 4 inches in any direction from the designated or known outside diameter of the line unless the utility operator agrees to this in writing.
- ☐ **15. If you scrape the coating on a gas pipe or cut a tracer wire,** call National Grid and 811 immediately. Even apparently minor damage can cause the line to fail in the future or become unlocatable.
- ☐ **16. Once a natural gas pipeline has been exposed,** excavate around it with caution. Add support if necessary, using materials that will not damage the pipe or its coating. Backfill with care. Consult National Grid for specific backfill rules.
- ☐ **17. Use special care to protect cast iron pipelines** from damage. Notify National Grid whenever cast iron gas pipe is exposed or falls within an excavation trench’s angle of repose.
- ☐ **18. If you contact a natural gas pipeline and/or suspect a gas leak, assume there’s a danger – even if the damage appears minor.** Warn others, leave the area quickly and stay away until utility personnel say it is safe to return. Do NOT use matches, lighters, cigarettes (including e-cigarettes or vape pens) or anything electrical – not even a light switch, phone or garage door opener. A spark from any of these items could ignite leaking gas, causing a fire or explosion. Leave the excavation open and do not attempt to stop the flow of gas. From a safe location, call 911 and National Grid immediately. (Excavators are required by law to call 911 if gas is escaping.) In Downstate New York, also call **811** or **1-800-272-4480**. Report the incident to your supervisor.

Thank You for Attending !

nationalgrid





Electric, Gas and Steam Overview Damage Prevention

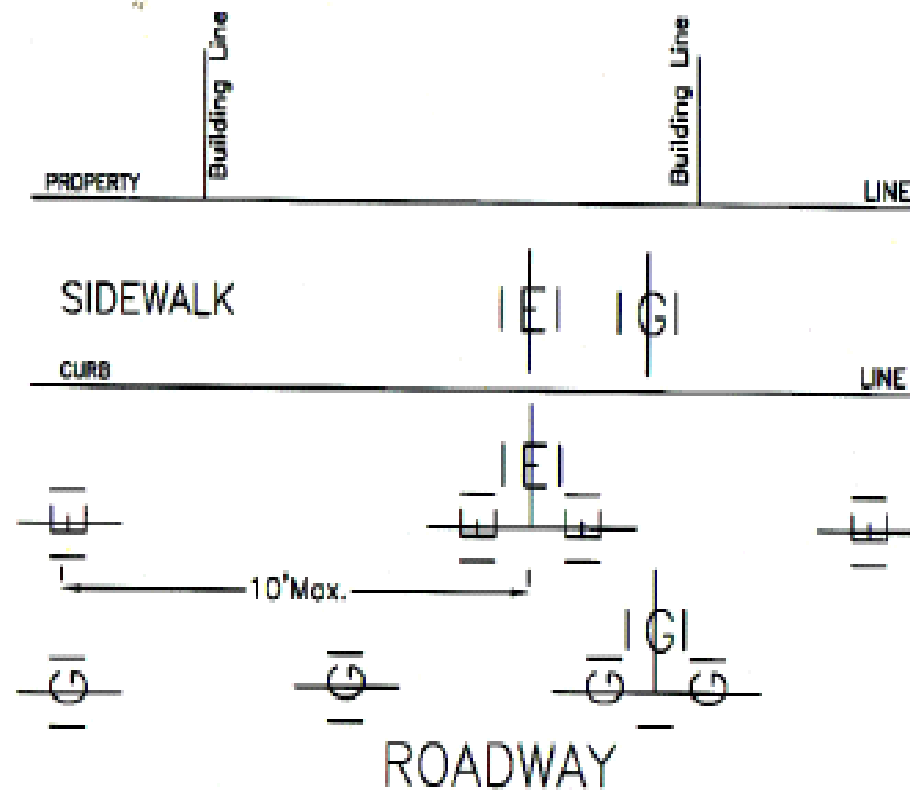
Pete Corredor

John Minucci

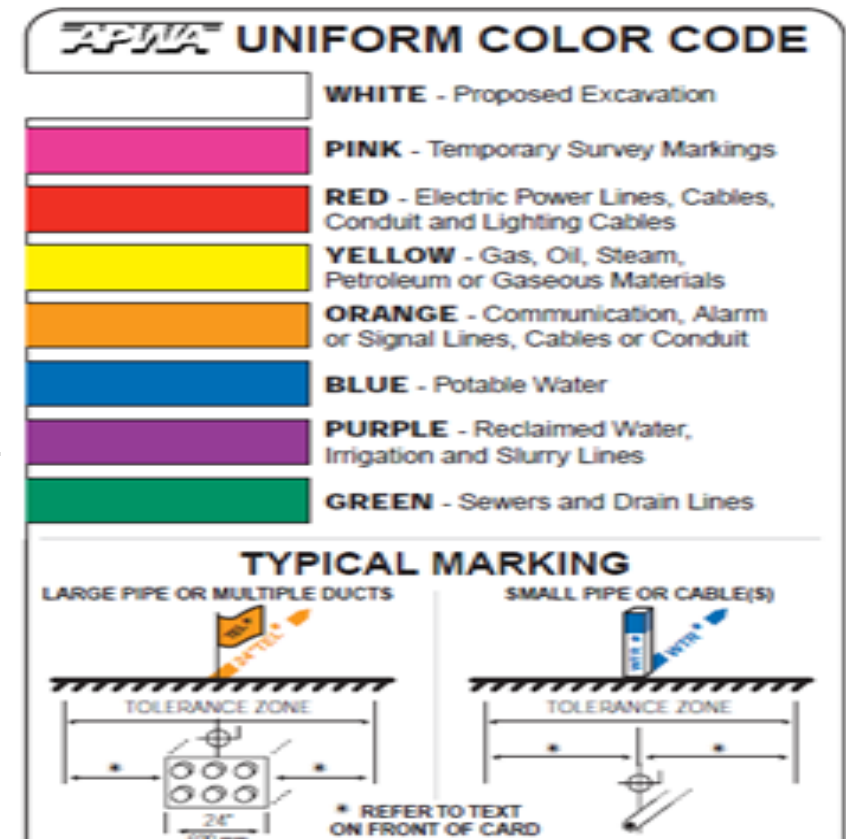
16NYCRR Part 753 – “The Law”

- Call 811 Before You Dig (753-3.1)
 - Before commencing or engaging in any non-emergency excavation or demolition, **each excavator shall provide notice** of the location and date of the planned excavation
 - 2 to 10 working days before excavation begins.
 - Any operation for the purpose of movement or removal of earth, rock, pavement or other materials in or on the ground by use of mechanized or powered equipment
- Wait The Required Time (753-3.1(a)(2))
 - Operator has two business days to identify facilities.
- Confirm Utility Response via Automated Positive Response System (753-3.3(d))
 - When in doubt, inquire about the mark out. (753-3.4(b))
- Maintain The Marks (753-3.5) and Dig With Care(753-3.6(b))
 - Maintain/refresh mark outs so they remain visible even during digging.
- Dig With Care(753-3.6(b))
 - Hand dig to expose the lines and see it with your own eyes

Utility Marks



Standard Mid-Block Markout



DO NOT SAW CUT OVER THESE MARKS !!



Gas Drip



Electric Transmission



Gas Transmission

Electric Utility Marks



E - Trans FRE – Mark out for Fiber Reinforced pipe with Solid Dielectric

E - Trans STL – Mark out for Steel Pipe with Solid Dielectric

Electric Conduit – Electric Transmission



- Oil filled feeder (250 PSI dielectric fluid in pipe)
- Coated Steel pipe
- 5" (Return Line)
- 6" (69KV)
- 8" (138KV)
- 10" (345KV)

- Solid Dielectric – Nitrogen cooled - Steel or Fiber pipe
- 138KV

Types of Electric Conduits



Other Types

- Transite Ducts
- Wooden Ducts
- Cement Lined

Ducts contain Primary, Secondary or Services

Pipeline Marker and Gas Transmission



- Gas Pipeline Marker
- Gas Transmission – 350PSI Or higher



- Gas Transmission Mark Out
- Con Edison Representative will be on site

* **GERC must be called for contingency purposes**

Types of Gas Facilities

System Pressures

Distribution Pressure Main/Service		A gas main or service operating at less than ($<$) 125 psig
Low Pressure	(LP)	Pressure up to and including (\leq) 12" water column (WC)
Intermediate Pressure /Ossining System	(IP)	Pressure greater than ($>$) 1 psig and up to and including (\leq) 5 psig
Medium Pressure	(MP)	Pressure greater than ($>$) 2 psig and up to and including (\leq) 15 psig
High Pressure	(HP)	Pressure greater than ($>$) 15 psig and up to but less than ($<$) 125 psig
Transmission Pressure Main/Service		A gas main or service operating at or more than (\geq) 125 psig

Types of Main/Service Material

Letter Designation	Materials
CI	Cast Iron
PT	Plastic Tubing
PE	Polyethylene
ST	Steel
WI	Wrought Iron
CT	Copper Tubing

Types of Gas Mains and Services



Other Types

- Wrought Iron
- Uncoated Steel

Gas Regulator Station



- Pressure of gas moving through the pipe reduced prior to moving into smaller lines and distribution systems.
- Regulator stations are placed along the pipeline to reduce the pressure of the gas to the appropriate operating pressure for each system.

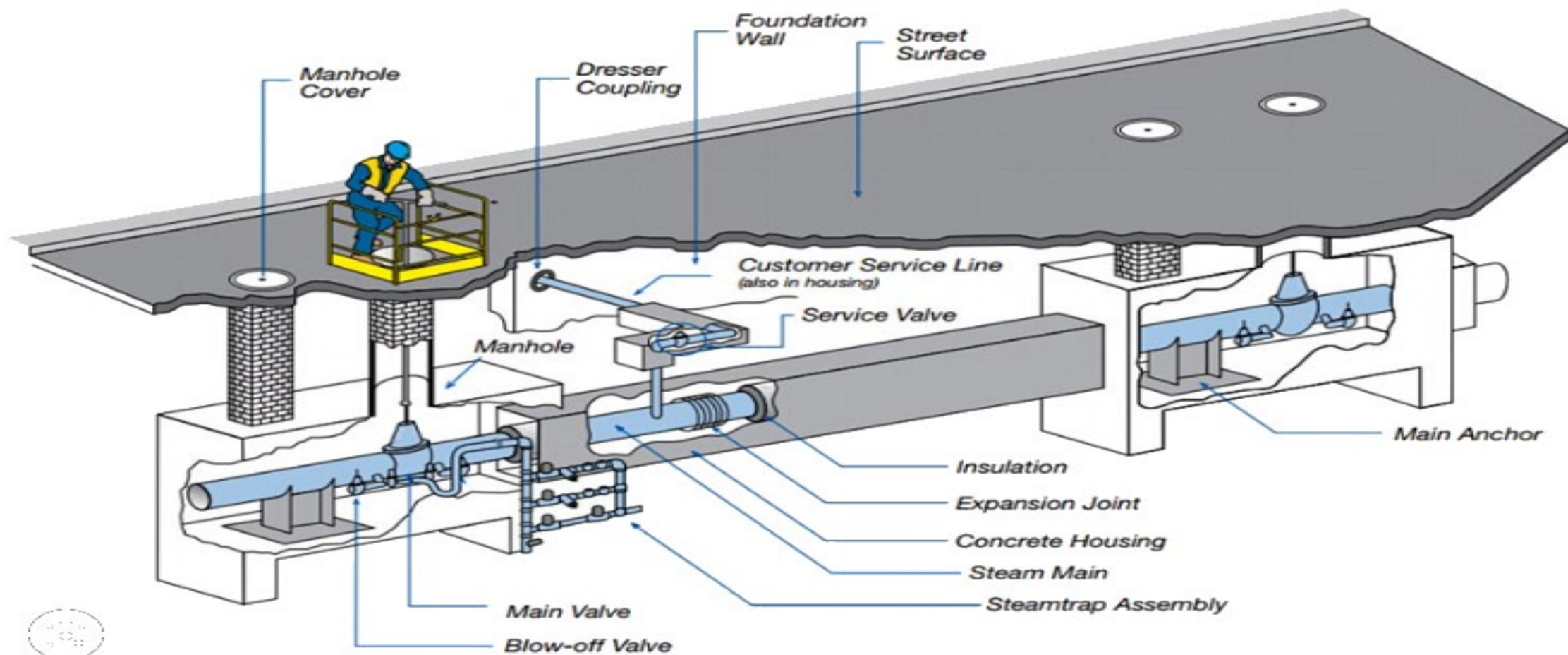
Steam



Steam

- Transmission – 400 PSI – 475 degrees F
- Distribution – 200 PSI – 413 degrees F
- Pipe size – 1” to 30”
- Caution around Steam Traps – High Pressure
- Water Hammer, Burns and Property damage

Steam Distribution System



Con Edison Field Oversight

- Ensure our facilities are protected. Con Edison is a partner in safety and the project.
- Provides Con Ed Inspector coverage.
 - Point of contact for the project
 - Daily Job Briefings
 - Review marks / validate one call tickets.
 - Review of company facility plates
 - Located, supported, protected, or relocated.
 - Three-way communication with work scope, location review and expectation
 - Any changes must be immediately communicated to the CE rep.
 - Provide guidance for how to safely excavate, work around and support facilities.
- If facilities are not found where marked or differ from the marks you must wait immediately notify the CE rep.
- Understand the risks and what is the **“Stuff That Can Kill You” (STKY)**
- Provide updates and milestones.
- Must obtain permission before moving or cutting into facilities or entering structures.



- In the event of a damage or incident, please notify Inspector immediately and call:
 - 1-800-75CONED (26633)