Excavator’s Manual

A Guide To Safe Excavation Practices in Massachusetts, Maine, New Hampshire, Rhode Island and Vermont

Dig Safe System, Inc.
It’s Smart. It’s Easy. It’s the Law.

1-888-DIG-SAFE
digsafe.com

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Preface

The purpose of this document is to provide you with a basic understanding of your responsibilities as set forth in the “Dig Safe” law of your state concerning safe excavation practices and the protection of underground facilities.

This document is not intended as a legal reference. It does not contain the complete text of the “Dig Safe Law,” and is not intended to be a guide for dealing with specific utility companies or products.

You may download copies of this manual at digsafe.com, as well as complete copies of the state laws and rules for MA, ME, NH, RI and VT.

State Regulatory Agencies

The following state agencies regulate and enforce the “Dig Safe Law.”

- Massachusetts Department of Telecommunications & Energy
  One South Station, Boston, MA 02201
  617-305-3500, www.magnet.state.ma.us/dpu

- Maine Public Utilities Commission
  242 State Street - 18 State House Station
  Augusta, Maine 04333-0018
  207-287-3831, www.maine.gov/mpuc

- New Hampshire Public Utilities Commission
  21 South Fruit St, Suite 10, Concord, NH 03301-2429
  603-271-2431, www.puc.state.nh.us

- Rhode Island Public Utilities Commission
  89 Jefferson Blvd, Warwick, RI 02885
  401-941-4500, www.ripuc.org

- Vermont Department of Public Service
  112 State St. - Drawer 20, Montpelier, VT 05620-2601
  802-828-2811, www.state.vt.us/psd

What is Dig Safe®?

Dig Safe® is a call center, serving as a link between you – the excavator, and member utility companies. We are a private, not-for-profit organization established to collect information about your upcoming excavation project and notify the appropriate member utilities in the area of excavation. The utilities mark the location of their lines, or use sub contracted private locating companies to mark their lines. This is a free service for anyone to use.

Note: Dig Safe is a call center and does not mark lines!

Hours of Operation

Dig Safe is open from Monday through Friday from 6:00am to 6:00pm for both regular and emergency locate requests. During off hours, weekends and holidays, Dig Safe’s off hours call center processes only emergency locate requests. See page 7 for a list of observed holidays.

Call Center Operation

After you have given all of the appropriate information to a Dig Safe Customer Service Representative (CSR), he or she will repeat the information back to you. Please listen carefully to verify its accuracy.

Write down the list of member utilities notified for the mark-out request so you may verify their response on the job site.

You will be given an eleven digit Dig Safe confirmation number, or “ticket” number. Please keep this number for your records.

Remember, not all utilities and municipalities are required by law to participate in the Dig Safe system. It is your responsibility to notify any non-member facility owners directly.
**Call Before You Dig**

1. It is the law!
2. You must call for a utility mark-out request at least 48 business hours in advance in Rhode Island and Vermont, and at least 72 business hours in Massachusetts, Maine and New Hampshire. (Excluding weekends and holidays.)
3. In Massachusetts and Maine, you must call regardless of where the excavation is. In New Hampshire, Rhode Island and Vermont, you must call when working within 100 feet of underground utility facilities, including private property.
4. You must call for most earth penetrating activities, even small jobs. See the definition of “Excavation” on page 5.
5. Don’t rely on old marks or faulty information... call.
6. Mark out the area that you plan to excavate with white paint, flags or stakes. Include the name or initials of your company.
7. When state regulators inspect an excavation site or investigate a damage prevention incident, they will check to see if you have a valid Dig Safe permit.
8. Review the Locate Request Form so that you will know what information you need when calling Dig Safe. (See page 18.)
9. In an emergency, notify Dig Safe at 888-DIG-SAFE with the location of the emergency excavation as soon as possible.

An emergency is a sudden or unexpected occurrence which poses a threat to public safety, life, health, property or essential utility service.

**What is “Excavation?”**

**Massachusetts:** “Excavation” means an operation for the purpose of movement or removal of earth, rock or the materials in the ground including, but not limited to, digging, blasting, auguring, backfilling, test boring, drilling, pile driving, grading, plowing in, hammering, pulling in, jacking in, trenching, tunneling and demolition of structures, excluding excavation by tools manipulated only by human power for gardening purposes and use of blasting for quarrying purposes. (Chapter 82, Section 20)

**Maine:** “Excavation” means any operation in which earth, rock or other material below the ground is moved or otherwise displaced, by means of power tools, power equipment or explosives and including grading, trenching, digging, ditching, drilling, auguring, tunneling, scraping and cable or pipe driving, except tilling of soil and gardening or displacement of earth, rock or other material for agricultural purposes. (Title 23, MRSA 3360-A)

**New Hampshire:** “Excavate”, “excavating”, or “excavation” means any operation conducted on private property or in a public way, right-of-way, easement, public street, or other public place, in which earth, rock, or other material in the ground is moved, removed, or otherwise displaced by means of any tools, equipment, or explosive, and includes but is not limited to drilling, grading, boring, milling, trenching, tunneling, scraping, tree and root removal, cable or pipe plowing, fence or sign post installation, pile driving, wrecking, razing, rendering or moving any structure or mass material but does not include the tilling of soil for agricultural purposes, landscaping and

*Continued on the next page.*
What is “Excavation?” - Continued

maintenance or residential property performed with non-mechanized equipment, landscaping activities performed with mechanized equipment that are intended to cut vegetation, including lawn edging, aeration and de-thatching, excavations permitted or grandfathered under RSA 155-E, or replacement of department-of-transportation-installed delineator posts in the same location. (RSA 374, Section 48)

**Rhode Island:** “Excavation” means an operation for the purpose of movement or removal of earth, rock or other materials in or on the ground, or otherwise disturbing the subsurface of the earth, by the use of powered or mechanized equipment, including but not limited to digging, blasting, auguring, back filling, test boring, drilling, pile driving, grading, plowing in, hammering, pulling in, trenching, and tunneling; excluding the movement of earth by tools manipulated only by human or animal power and the tilling of soil for agricultural purposes. (Chapter 1.2, Section 39-1)

**Vermont:** “Excavation activities” means activities involving the removal of earth, rock or other materials in the ground, disturbing the subsurface of the earth, or the demolition of any structure, by the discharge or explosives or the use of powered or mechanized equipment, including but not limited to digging, trenching, blasting, boring, drilling, hammering, post driving, wrecking, razing or tunneling, within 100 feet of an underground utility facility. Excavation activities shall not include the tilling of the soil for agricultural purposes or activities relating to routine public highway maintenance. (VSA Title 30, Chapter 86)

Wait the Required Time

1. Before you begin any non-emergency excavation, you must call Dig Safe at least 48 business hours in advance in Rhode Island and Vermont, and at least 72 business hours in advance in Massachusetts, Maine and New Hampshire. (Excluding weekends and holidays, see the observed holidays list below).

2. Do not start excavating before your legal start date and time!

3. If your excavation has not started within 30 days from the date the Dig Safe permit was obtained, the Dig Safe permit expires and must be renewed. Renewals require the same advance notice as new permits.

4. In New Hampshire and Rhode Island *, Dig Safe permits expire every 30 days from the date of issue. In Massachusetts, Maine and Vermont, if the excavation has started within 30 days from the date of issue, the Dig Safe permit is valid for the life of the excavation, provided that the excavator maintains the marks.

5. Excavation work that is completely cancelled must be reported to Dig Safe.

* For exceptions, refer to the Rhode Island “Dig Safe” Law, which is available at digsafe.com.

Observed Holidays

New Year’s Day • M.L.K. Day • President’s Day • Patriot’s Day (MA,ME only) • Memorial Day • Independence Day • Victory Day (RI only) • Labor Day • Columbus Day • Veteran’s Day, Thanksgiving Day • Day After Thanksgiving • Christmas Day
**Respect The Marks**

1. You are responsible for maintaining the marks placed by member utility companies at your site.

2. Before you begin your excavation, walk through the site to familiarize yourself with the markings and the locations of buried utilities.

3. Pay special attention to any changes in direction that the underground facilities take.

4. If your excavation causes the removal or disturbance of the markings, establish offset marks in order to maintain a reference point for those underground facilities.

5. Make sure that everyone involved in your excavation is aware of any offsets that have been established, any marks that have been compromised, or any other information regarding facility locations.

6. Don’t put spoil piles over markings. Avoid driving machinery over stakes and flags. Paved areas should be swept periodically so that painted marks remain visible.

7. If marks have faded or been compromised to the point where proper and safe excavation is no longer possible, contact Dig Safe to request a re-mark. Refer to the “Laws at a Glance” section on page 17 for advance notice requirements for re-mark requests.

8. If you refresh the markings at the site, make sure that you use the uniform color code and identification letters to avoid any confusion. (See the Color Coding System on the back of this manual).

9. Once the project is complete, it is recommended that you remove any marks as best you can. This will reduce the likelihood that future excavators will mistake them for marks provided in response to their own excavation notice, or assume that they do not need to provide notice of intent to excavate.

**Dig With Care**

1. Before you use powered equipment within the Tolerance Zone (See page 10), you must:

   Verify the location, type, size, direction-of-run and the depth of the facility.

   For gas and liquid petroleum lines, verification must be by means of hand-dug test holes or vacuum excavation.

   The location of other utilities must also be verified by means of hand-dug test holes or vacuum excavation unless otherwise agreed upon with the facility operator.

2. Do not assume that buried facilities will be at a certain depth.

   Facilities may have been originally installed at a prescribed depth, but later erosion or grade changes cause them to now have a shallow or deep cover.

3. Verification by a hand-dug test hole or vacuum excavation requires the facility to be exposed to view.

   If after a diligent search the facility cannot be verified in this manner, notify the facility operator.

4. Vacuum excavation is an accepted means of verifying the location of marked facilities.

5. Powered Equipment may be used for removing pavement, but only to the depth of the pavement.

6. If the excavation is going to cross a Tolerance Zone, dig a test hole to expose the facility at the point of crossing.

7. If the excavation is going to parallel a utility, you should dig test holes at any marked change of direction, elevation and at tee’s.

8. For relatively straight excavations parallel to a utility, a test-hole should be dug approximately every 20 to 25 feet.

9. If you find an unmarked or unknown facility, notify the facility owners or contact Dig Safe.
Excavation After Verification

1. When excavating close to an underground facility, it is a good practice to have a spotter assist and guide the machine operator.

2. After you have verified the location of a facility by hand digging test holes, or by vacuum excavation, you must use due care when excavating around a facility with any type of equipment.

3. If the excavation work requires significant spans of the facility to be exposed, support them to prevent sagging or collapse.

4. Take care not to damage the protective coating or tracer wire of a facility. If you do, leave the damaged facility exposed and immediately call the facility operator.

Reporting Emergencies

In the event to an emergency involving danger to life, health or property as a result of damage to an underground facility, the excavator shall:

Immediately notify the local police and fire departments, the operator of the affected facility, and the appropriate state regulatory agency (See page 2) of the exact location and nature of the emergency.

If a Facility Is Contacted or Damaged

1. If you damage a facility, you must immediately call the operator whose facilities have been damaged, even if you only scrape the protective coating. Left untreated, this type of damage can lead to a catastrophic failure.

2. You should keep the emergency number of your local facility operators at hand.

3. If you are in doubt about whose facility it is, call Dig Safe to send a message to all member facility owners in the area.

Tolerance Zone

The Tolerance Zone (in most states) is a zone designated on the surface by the use of standard color-coded markings, which contains the width of the facility plus 18 inches on each side of the facility.

For exceptions, refer to your state’s “Dig Safe” law which may be downloaded at digsafe.com.

Measuring the Tolerance Zone
Steps To Take If You Break….

A Natural Gas, Petroleum or Propane Line:
1. Stop work and evacuate the site.
2. Call 911.
3. Call the appropriate facility operator.
4. Don’t do anything that could cause a spark.
5. Alert everyone on the premises.
6. Keep the public and traffic away.
7. Tape, rope or place cones around the area.
8. Stay upwind of blowing gas.
9. Do not try to fix a gas pipe.
10. Do not try to extinguish a gas burning fire, unless there is a threat to life.

An Electric Line:
1. Stop work immediately and warn all persons in the vicinity, including emergency and rescue personnel, that the ground and objects near the excavator, and equipment around the point of contact, may be energized.
2. Contact the electrical utility operator and fire department immediately if a radio or phone is at hand. Otherwise, remain still and signal for help to relay a call for utility and emergency assistance.
3. The operator should remain on the excavator.
4. Personnel on the ground near the excavator or point of contact should remain still with both feet together. Don’t touch the excavator, nearby equipment, structures or material.

Continued on the next page.

Steps To Take If You Break - Continued

5. Evacuate the excavator and the area near the point of contact only after an official of the electric utility deems it is safe to do.
6. If immediate evacuation is required due to threat of serious injury from fire, explosion or other hazard:
   - Jump – not step – clear of the equipment and land with both feet together
   - Move a safe distance away (at least 25 to 30 feet) using short hops or shuffling steps to keep both feet together at all times.
   - Do not take normal, walking steps
7. Do not resume work until an electric utility official confirms the site is safe.

A Telephone or Fiber Optic Line:
1. Stop excavation and secure the area for public safety.
2. Notify facility owner of the potential damage to copper/fiber cable.
3. Do not examine or stare into broken/severed/disconnected fibers/fiber cable.
4. Move a safe distance away from a damaged fiber system (always assume that a laser signal is present).
5. Place warning or barricades around the fiber damage location to protect the public and other workers from exposure.
6. Do not view broken fiber cables with any optical instruments.
The Perfect Excavation

Does it exist? We think it does. In fact, it happens all the time! Here are some simple steps to the perfect excavation:

1. The excavator visits the site, and marks out every place he may be excavating with white paint, flags, or stakes.
2. The excavator fills out all the information about the excavation on a Locate Request Form (See page 18), then calls in the stake-out request to Dig Safe.
3. The Dig Safe Customer Service Representative takes the information, and gives the excavator a Dig Safe Permit Number and a list of member facility owners notified.
4. The excavator then notifies any nonmember facility operators if known. Non-member companies are not notified by Dig Safe.
5. Each member facility company, or its private locating company, marks out the facilities it owns or maintains in the area of excavation. (See the Color Coding System on the back of this manual).
6. While working, the excavator takes care to find and maintain any markings that have been placed.
7. When digging near a buried facility, the excavator observes the tolerance zone around that facility.
8. If exposing a facility, the excavator provides proper support and protection for it so that the facility will not be damaged.
9. When the excavation is complete, the excavator provides proper backfill for any facilities that have been exposed, and removes all utility markings.

Suggestions & Reminders

Do report immediately to 911 and the facility operator any damage that poses a risk to public safety.

Do follow the special instructions regarding their lines.

Do keep a minimum of an 18-inch Tolerance Zone between any underground facility and the cutting edge of any powered equipment.

Do protect and preserve the color-coded markings until those markings are no longer needed for a proper and safe excavation.

Do call for a re-mark if the markings are destroyed, or removed before excavation is complete.

Do be sure that someone other than the equipment operator (i.e. the spotter), is there to look for any sign of an underground facility.

Do conduct the excavation near the underground facility carefully. Excavate by hand to be able to tell the exact location of the line and to prevent damage.

Do report any damage to the facility operator. For example, cracked conduit, gouges, dents or breaks to the coatings, cable sheathes and cathodic protection anodes or wiring that may pose problems now or in the future. Allow the underground facility operators time to make repairs.

Don’t notify Dig Safe unless you plan to start the excavation within 30 days.

Don’t assume that a pipeline or cable runs straight, or is centered between permanent marker posts.

Don’t assume the depth of a utility. Never assume that an underground facility is at the same depth throughout the entire route of an excavation.

Don’t excavate within the Tolerance Zone with mechanized equipment prior to verification.

Don’t phone in emergency locates that are not really emergencies.

Don’t work under anyone else’s Dig Safe request unless you are listed as a sub contractor on another party’s permit.
### Get Dig Safe® Permits Online!

**Haven't tried Quick-Ticket?**

**Enjoy the benefits of applying online:**

- Notify Dig Safe member utilities directly from your own PC.
- Spend less time on the phone.
- Apply at your own convenience…Quick-Ticket is available 24/7!
- A printed confirmation makes record keeping easy. It lists the Dig Safe permit number, excavation location, legal start date/time, and the member utilities notified.
- Quick-Ticket makes multiple entries easy. After completing the first ticket, most of the significant information you entered is carried over to each subsequent ticket, saving time.
- Renew existing Dig Safe permit numbers using Quick-Ticket.
- On-site tutorials are available upon request, and Dig Safe’s staff is happy to help over the phone if you have trouble using Quick-Ticket.
- Dig Safe’s Quick-Ticket online service is free.
- Apply for a Quick-Ticket password now! Go to digsafe.com, click on “Online Options”, and then choose New User Registration.

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### Laws at a Glance

This guide is designed for quick view only and is not all-inclusive. To download a complete copy of Dig Safe state laws and rules, please go to digsafe.com – “Laws & Enforcement.”

<table>
<thead>
<tr>
<th>State</th>
<th>Reference</th>
<th>Who is required to provide notification</th>
<th>What excavation areas require notification</th>
<th>Who is required to participate in the system</th>
<th>Notification time requirements</th>
<th>Maximum Response time by utilities</th>
<th>Maximum Emergencies</th>
<th>Maximum Penalties for Violation</th>
<th>Premarking requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Massachusetts</td>
<td>Statute Chapter 82, Section 40</td>
<td>All excavators</td>
<td>Public ways and private property</td>
<td>Who is required to participate in the system?</td>
<td>Minimum 48 Hours</td>
<td>30 Days</td>
<td>ASAP</td>
<td>$200</td>
<td>No</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>Statute RSA 374, Chapter 47-56</td>
<td>All excavators</td>
<td>Public ways and private property</td>
<td>Gas, Electric, Telephone, Cable Television and Private Water Companies</td>
<td>Minimum 72 Hours</td>
<td>30 Days</td>
<td>ASAP</td>
<td>$500</td>
<td>Yes</td>
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<tr>
<td>Rhode Island</td>
<td>Statute Chapter 39-1.2, Section 1</td>
<td>All excavators</td>
<td>Public ways and private property</td>
<td>Gas, Electric, Telephone, Telephone, Cable Television and Public Water Companies</td>
<td>Minimum 48 Hours</td>
<td>30 Days</td>
<td>ASAP</td>
<td>$500 to $10,000</td>
<td>Yes</td>
</tr>
<tr>
<td>Vermont</td>
<td>VSA Title 30, Chapter 86</td>
<td>All excavators</td>
<td>Public ways and private property</td>
<td>Gas, Electric, Telephone, Telephone, Cable Television and Public Water Companies</td>
<td>Minimum 48 Hours</td>
<td>30 Days</td>
<td>ASAP</td>
<td>$500 to $10,000</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**LAST UPDATE: 12/7/04**
**Locate Request Form**

Today’s Date _____/_____/_____

Dig Safe Number ____________________________________________

**Caller Details**

Contr I.D. ____________________________________________________

Caller Name ________________________________________________

Title _______________________________________________________

Phone # ____________________________________________________

Fax # _______________________________________________________

Email address _______________________________________________

Business Hours _______ to _________

Company Name ______________________________________________

Address ____________________________________________________

City __________________________ State __________ Zip ___________

**Location Details**

State: (check one) □ MA □ ME □ NH □ RI □ VT

City/Town __________________________________________________

(optional) Latitude __________________ Longitude_________________

Address/Intersection _________________________________________

Nearest Cross Street _________________________________________

Additional Information _______________________________________

Type of Work ________________________________________________

Depth (feet) ________________________________________________

Area (i.e. St to house, in the st, sidewalk area, right side of house on private property) ___________________________________________

Premarked? (check one) □ YES □ NO

Start Month _______Day _________Year __________

Time (military) _______ : _______

Excavator Doing Work (if not same as above) ______________________

Members Notified: ____________________________________________

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**Color Coding System**

Color coding is used to identify the type of underground facilities.

- **RED** Electric Power Lines, Cables, Conduit and Lighting Cables
- **YELLOW** Gas, Oil, Steam, Petroleum or Gaseous Materials
- **ORANGE** Communication, Alarm or Signal Lines, Cables or Conduit
- **BLUE** Potable Water
- **GREEN** Sewers and Drain Lines
- **PURPLE** Reclaimed Water, Irrigation and Slurry Lines
- **PINK** Temporary Survey Markings
- **WHITE** Proposed Excavation

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1-888-DIG-SAFE
(888-344-7233)
digsafe.com

DATE OF LAST REVISION 01/05