CAJUN INDUSTRIES, LLC

[ ] Industries [ ] Constructors [ ] Deep Foundations [ ] Equipment Services [ ] Maritime [ ] IDC

TRAINING DOCUMENTATION FORM

Course Name: *(please print neatly)*	Course Description: *(please print neatly)*
	PROBING HATBOX - HATBOX
Instructor Name: *(please print neatly)*	Instructor Signature:
Date: *(please print neatly)*	
	☐ New Training ☐ Refresher Training

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CAJUN INDUSTRIES, LLC

PROBING PROCEDURE

Purpose:

The purpose of this procedure is to educate and provide information on proper use of probing as an effective method to locate both known and unknown underground utilities and obstructions in a planned excavation area. The correct use of probing will reduce or eliminate the potential for a line strike which could result in damage, serious injury, or even death.

Probing Equipment Definitions:

Metal Hand Probe: Typically 4' long. Shaft is 3/8" in diameter. Handle is 1" to 1- ½" in diameter. Made of stock grade steel. Typically used for most probing operations except in situations where live electrical lines may be encountered.

Fiberglass Hand Probe: Typically 4' long. Shaft is 3/8" in diameter. Handle is 1" to 1- ½" in diameter. Made of fiberglass. Used for most probing operations where live electrical may be encountered.

Low Pressure Water Probe: Typically made of ½" or ¾" diameter pipe of varying lengths secured to a common water outlet at normal pressures. Control valve to be installed in such a manner as to allow shut off as needed.

High Pressure Water Probe: Typically made of 3/8" diameter pipe of varying lengths secured to a gas powered pressure washer. Control valve to be installed in such a manner as to allow shut off as needed.

Hammer Probe: A metal probe rod with an integrated slide hammer which is used to drive the probe rod into hard ground. Not allowed for use on Cajun jobsites.

Hydro Excavation: A non-destructive process that uses pressurized water and industrial strength vacuum to simultaneously excavate and evacuate soil.

Procedure for Probing:

Prior to beginning, a probing grid shall be established using a fixed reference point provided by a survey layout or pre-determined plot location.

The probing grid should extend a minimum of 24'' past the proposed excavation or drill shaft to allow for a "***safety/buffer zone***".

When probing to locate a known obstruction, the grid spacing shall be no greater than 2/3 of the target size.

Example:

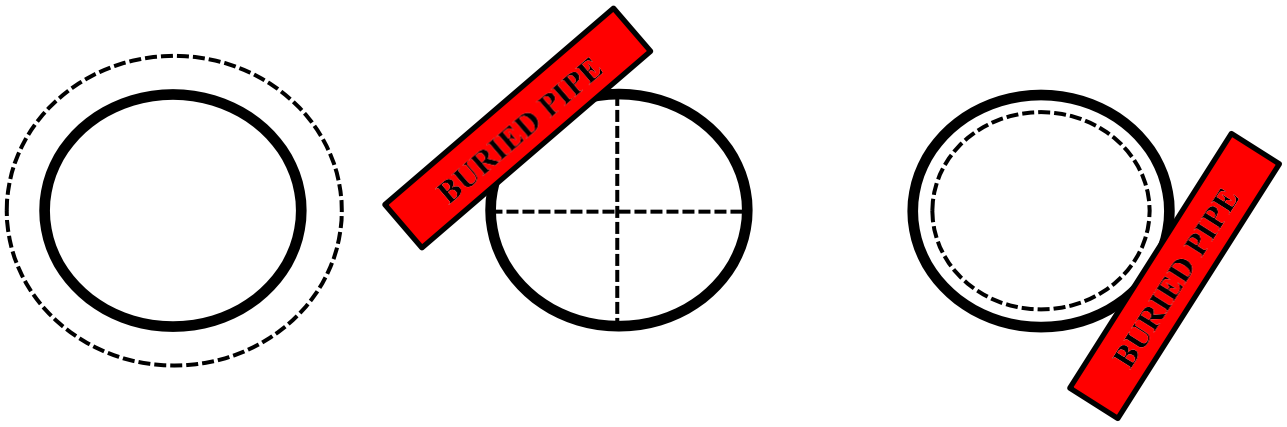
1. A known 3' pipe shall be probed with a maximum of 2' intervals.
2. A known 6" pipe shall be probed with a maximum of 4" intervals.

If the size or location of an obstruction is unknown, probing must be completed at a maximum of 2" intervals.

Approved Probing Patterns:

Probing for Drilled Shafts

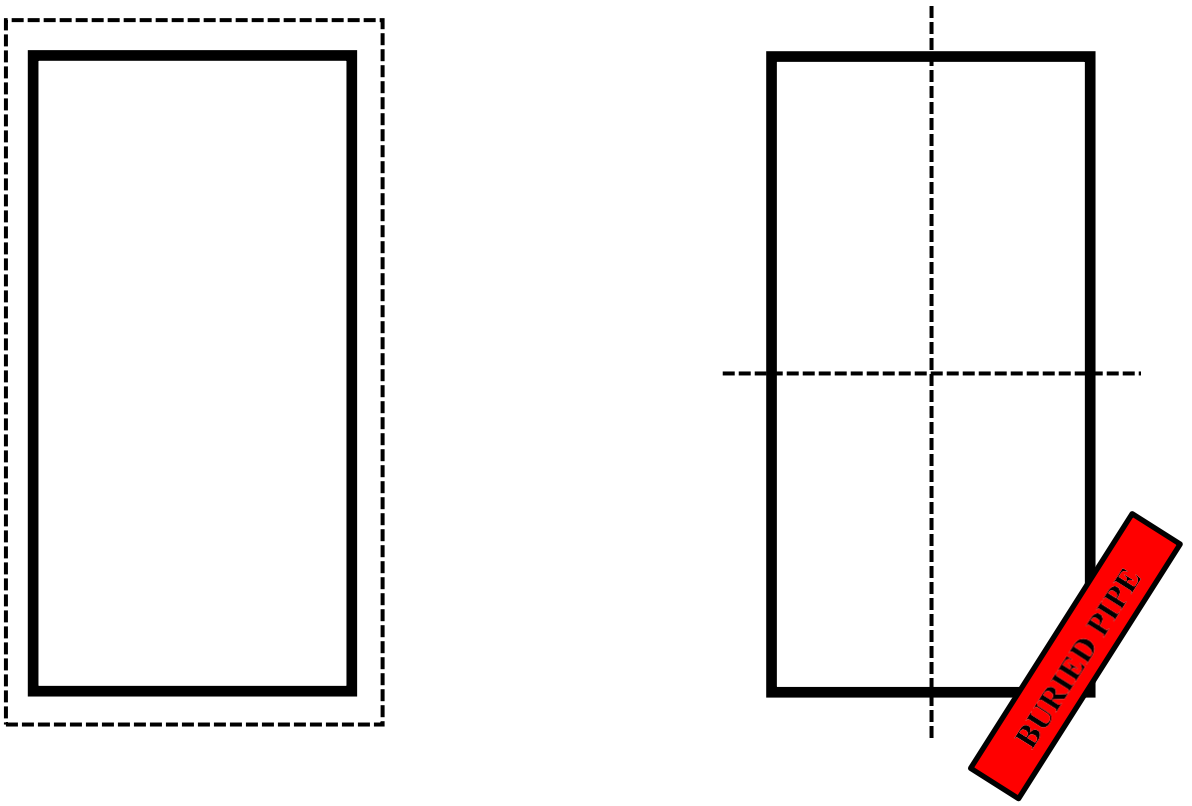
* Black dots represent probe holes



CORRECT	INCORRECT	INCORRECT

Probing for Excavations and Trenches

* Black dots represent probe holes



CORRECT	INCORRECT

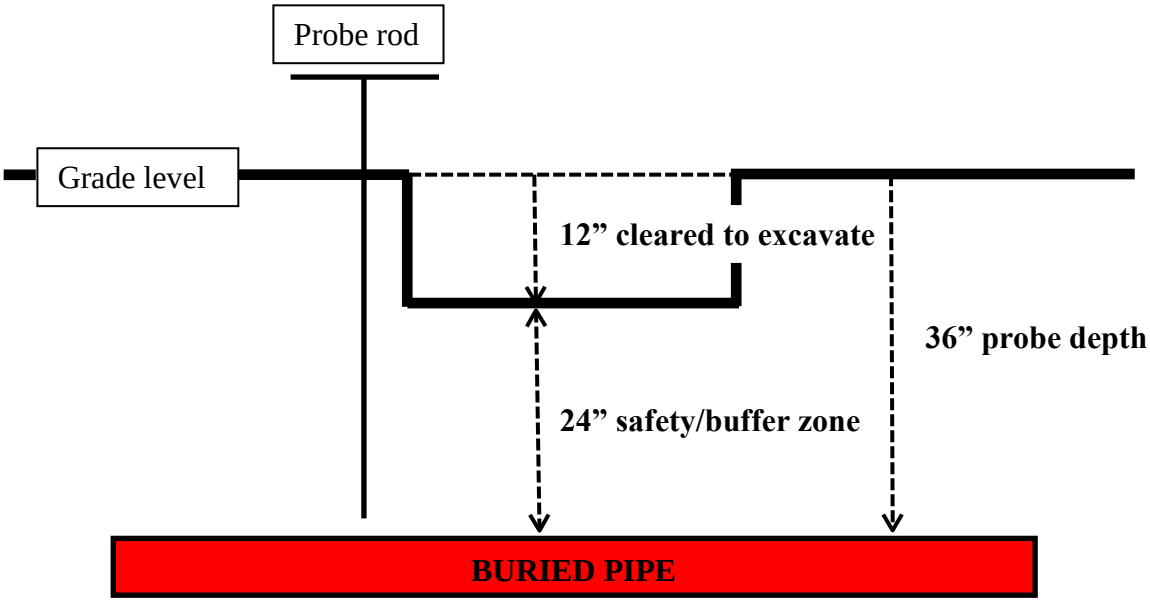
Obstructions:

If an obstruction is identified while probing, hand digging shall be done during the last 2 feet (24 inches). A shovel must be used to carefully expose the obstruction.

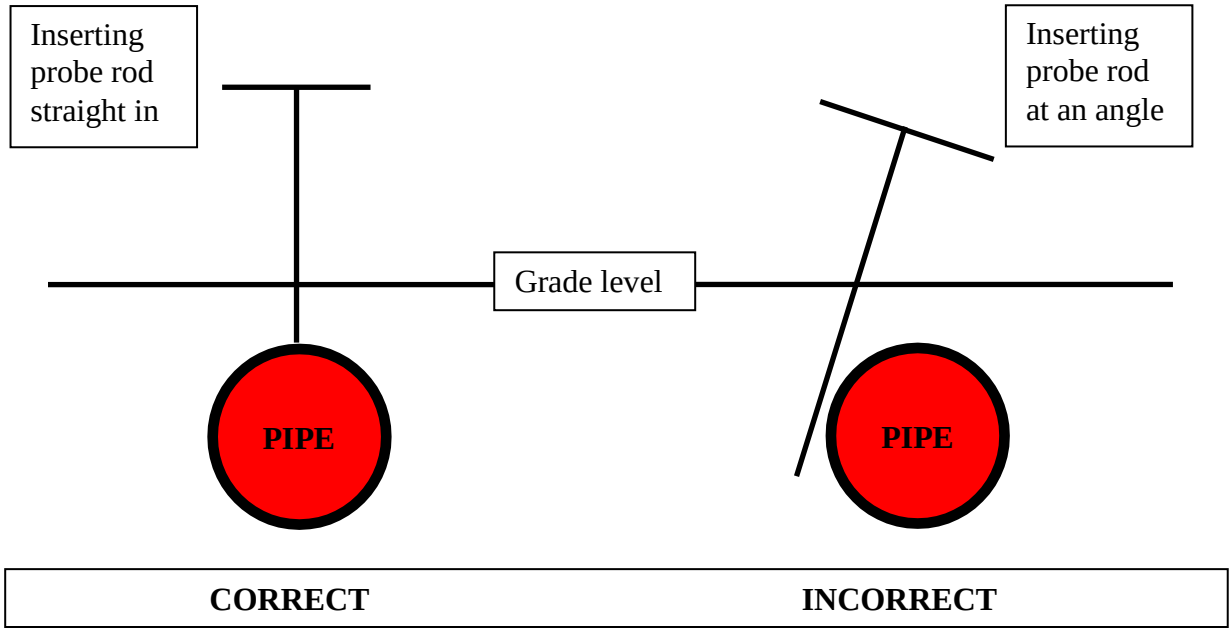
Example:

If the probe rod contacts an obstruction at 36" then excavating equipment can remove 12". This will allow for the 24” safety/buffer zone. The remaining 24” must be hand dug with a shovel.

Pick axes, rock bars and other impact type tools are not acceptable means of exposing obstructions.



When probing, the rod shall be plumb and level (straight into the ground) to accurately locate buried obstructions. Failure to do so will significantly decrease the ability to identify the specific depth and or location of the obstruction and raises the potential of contacting the obstruction.



Probe Rod Restrictions/Limitations/Special Considerations:

Always inspect the probe rod for cracks, splinters, or other damage prior to use. If damage is found immediately remove from service.

Fiberglass, insulated, or other non-conductive rods shall be used when/when electrical lines may be encountered.

Hammer probes or other impact type probing tools shall not be used under any circumstances. They offer no feeling to the prober and they will damage wires, PVC and other fragile objects.

Probe rods are typically ineffective for small diameter utilities and lines which are less than or equal to 2 inches in diameter (example: PVC pipe, compressed air line, etc.).

Where the presence of such obstructions is known in the general area but exact location cannot be determined, care must be taken to assess the risk potential.

Depending on the service that the line is in, an assessment should be conducted to determine the potential for damage, injury, environmental impact, etc. Division Management should be consulted with to provide direction on a path forward.

In instances where the risk is deemed to be unacceptable, hydro excavation should be considered as an alternative to locate and expose underground utilities or obstructions. If electing to use this method to locate obstructions, consideration must be given to the fact that while exposing a line in one area, the line could very well change direction or elevation at other places in the planned excavation area.

A face shield is required whenever using a water probe.

Ergonomics:

- Always use both hands and keep a firm grip on the probe rod.
- Keep your feet squared and bend at the knee to extract the rod.

- Never lift with your back – keep your back straight and use your legs.
- Ensure that you are on stable ground to minimize slipping.
- Use water to soften/lubricate hard soils when inserting and extracting the probe rod.
- Always work as a team and utilize work/rest cycles to reduce fatigue.

Remember:

Proper planning and training for probing as a crew will not only reduce the potential for accidents and incidents but it can and will save lives. Always ensure that a proper plan has been developed and communicated within the crew. Verify that the probing grid has been correctly placed and probe the grid accordingly. Any deviation from the original plan shall be reviewed by the crew before work continues.

Probing	Training – Small Tools
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Instructor Name: (please print neatly)	Instructor Signature:
Employee Name: (please print neatly)	Employee/Student Signature:
S.S. or Employee #: (please print neatly)	Job #: Score: Date:

Probe Rod

KNOWLEDGE ASSESSMENT

Circle the appropriate letter having the best answer.

1. Probe rods should be inserted into the ground at a 45 degree angle.

A. T
B. F

2). Probing is an effective method of locating lines less than or equal to 2" diameter.

A. T
B. F

3). Proper layout of a probe grid is essential in reducing the risk of line strike while excavating.

A. T
B. F

4). A faceshield and safety glasses are required when using a water probe.

A. T
B. F

5). A hammer probe is an acceptable tool to use under certain circumstance.

A. T
B. F

6). Using your back to extract the probe rod would be considered safe.

A. T
B. F

7). What method(s) should be used to prevent injury/strains while probing?

A. Work as a team, using proper ergonomics.
B. Lift with your legs and not your back.
C. Use water to soften the ground if needed
D. All of the above.

8). **Wires and PVC are not considered fragile and no extra caution should be used**.

A. T
B. F

9). If probing to locate a buried electrical cable in the ground, a steel probe rod is acceptable.

A. T
B. F

10). A probe rod should be immediately taken out of service if cracks or splinters are found during the initial inspection or use of the probe.

A. T
B. F

ANSWER KEY:

1. F
2. F
3. T
4. T
5. F
6. F
7. D
8. F
9. F
10. T