

SECTION C

UNDERGROUND SERVICE



GENERAL REQUIREMENTS

If permanent underground service will be used to your non-residential structure, the information in this section will assist you.

For non-residential underground services, the customer will supply the trench, secondary service wire and conduit from Central Lincoln's transformer or hand hole to your service entrance equipment.

The following checklist will help you prepare your project for the installation of an underground service. After you complete these items, Central Lincoln will connect your service and install the metering equipment.

- Check for any local ordinances/covenants that may prevent you from obtaining an underground service.
- Supply site drawings to our engineering department.
- Supply completed Load Data Sheet to our engineering department. (See page 22.)
- Provide an easement for any permanent equipment installed on your property and owned by Central Lincoln.
- Ask our engineering department where your underground service will originate. (See page 21 for your nearest service office.)
- Determine an approved meter location (see page 12).
- Install required service equipment.
- Connect and label conductors at meter location.
- Provide trench, conduit and service conductors.
- Provide all excavation and backfill between your equipment and Central Lincoln's.
- Obtain an electrical inspection from the electrical inspection agency (see Page 4).
- Call our service office to order your service connection.

GETTING STARTED

After you have started your Customer Request For Service and returned the plan information to our engineering technician, they will inform you where your service will originate.

Next determine the location of the meter base. See page 12 for further assistance.

You are responsible for all trenching and materials from your meter location on the site to Central Lincoln's point of delivery (transformer, pole or hand hole).

If there is not a point of delivery readily available, your engineering technician will inform you of the additional trenching and materials that you need to install.

The local electrical inspector must approve your installation before Central Lincoln can schedule your connection.

CABLE LIMITS

You are responsible for furnishing, installing, and maintaining all required service entrance equipment, including the service conductors from the meter base or instrument transformer enclosure to Central Lincoln's designated point of delivery. For services where instrument transformers (CT's and PT's) are required, you will also need to run conduit from the instrument transformer enclosure to the meter base. Central Lincoln will supply the instrument transformers and meter wiring.

The number and size of secondary conductors must be approved by Central Lincoln.

UNDERGROUND LOCATES

If you are doing any trenching or excavation work, you are required to call for underground utility locates two working days before you do any digging.

You must get underground utility locates by calling the "One Call" system at **1-800-332-2344**. Once you have called and requested a locate, the one call system will notify the utilities, or a locating service, that locates are required.

There is no charge for this service. Utilities are required by state law to belong to this service.

The state has established a color code system to identify each utility so everyone can see what has been located. The color codes are:

COLOR	UTILITY
Red	Electric
Yellow	Gas/Oil
Orange	Telephone/Cable TV
Blue	Water
Green	Sewer
White	Area to be located

The state requires that any digging within 24 inches of either side of the location markings be done by hand.

TRANSFORMER LOCATIONS

Central Lincoln will install transformers, using the clearances listed below.

Clearances between padmounted transformers and structures must be measured from the metal portion of the transformer closest to the building or structure. This includes any overhangs within the following clearances:

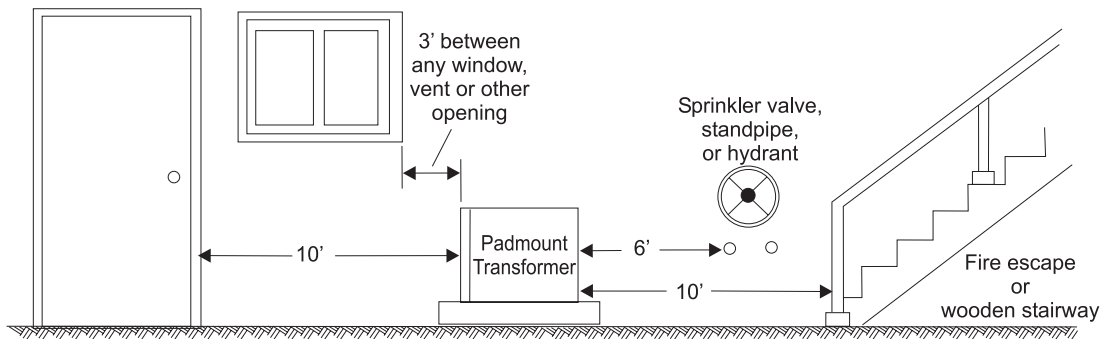
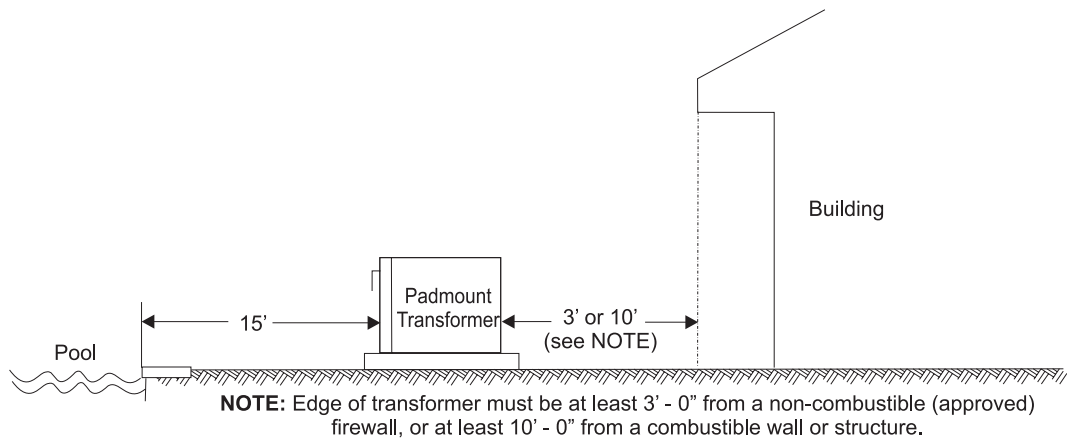


Figure C-1.
Clearances for padmount transformer.

- 3 ft.** from non-combustible walls (including brick, concrete, steel and stone), provided the side of the transformer facing the wall does not have doors.
- 6 ft.** from sprinkler valves, standpipes, and fire hydrants.
- 10 ft.** from combustible walls (including stucco), doors, windows, vents, fire escapes, wooden stairways, and other building openings.
- 15 ft.** from the water's edge of a swimming pool or any body of water.
- 20 ft.** from facilities used to dispense or store hazardous liquids or gases (e.g., service station gas pumps and tanks, propane bulk dispensing tanks, and emergency generator fueling points).

Note: Additional clearances may be required. You will need to check with your local authority (see Figure C-1).

WORKING SPACE

A clear and level working area equal to the full width of the padmount operating compartments shall extend 10 feet minimum from the compartment opening. A minimum of 5 feet of clear working area shall be provided on all sides of padmount equipment without operating compartments, including sides with cooling fins (see Figure C-2).

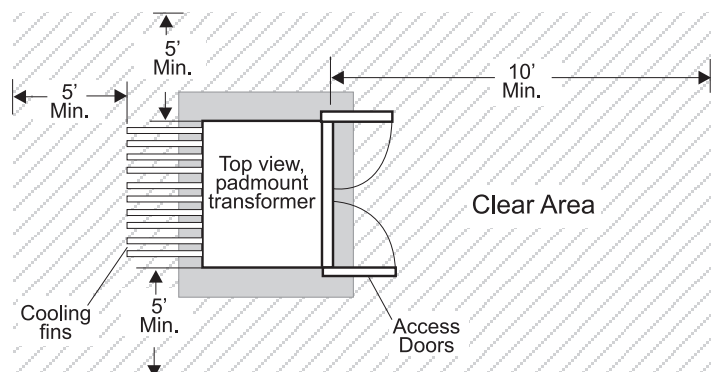


Figure C-2.
Clear working space for padmount equipment.

PROTECTION FOR PADMOUNTED EQUIPMENT

The following minimum clearances are required to protect equipment from vehicular traffic (see Figure C-3):

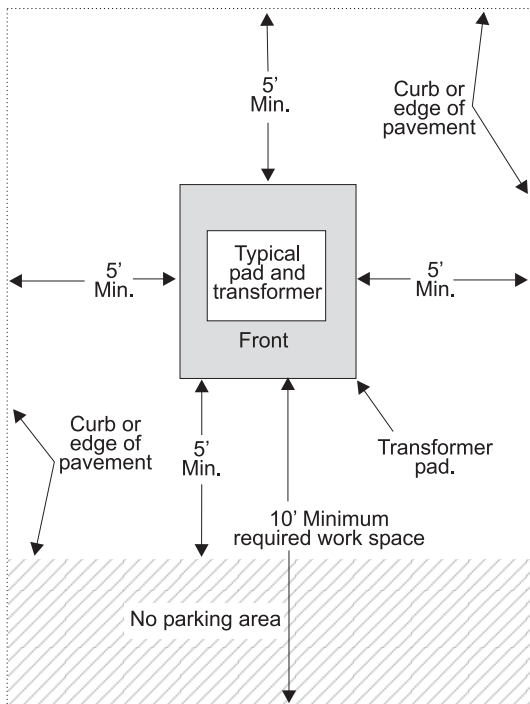


Figure C-3.
Transformer protection.

- 5 feet from the back and sides of the device.
- 10 feet from the front of the transformer.

Guard posts are required when these minimum clearances cannot be met. The customer is required to provide room for these guard posts, and Central Lincoln will install them.

SERVICE EQUIPMENT INSTALLATION REQUIREMENTS

You are responsible for installing:

- Meter base and instrument transformer enclosure, if required.
- Service entrance conductor.
- Grounding (UFER or ground rods. Check with NEC and your local electrical inspection agency).

Central Lincoln will install the meter (also instrument transformers, if required).

Central Lincoln will install the meter and connect your equipment at Central Lincoln's transformer or hand hole. Underground service wires will be the customers responsibility to the transformer, vault or hand hole.

MANUFACTURED BUILDINGS

If you are installing an underground service to a manufactured building, our service equipment can be installed one of two ways:

1. On a customer-owned meter post; or
2. On the manufactured building, if the following conditions are met.
 - The manufacturer installed the service equipment at the time your building was built.
 - Or, the service equipment meets the meter base requirements listed below.

Meter bases installed on manufactured buildings must:

- Be located on an outside wall of your building and accessible for reading and testing.
- Be between 5 and 6 feet above finished grade.
- Not be in a walkway, breezeway or carport.
- Not be in an area that is being fenced, or where decking or foliage will block easy access to it.

LANDSCAPING AND OTHER OBSTACLES

Landscaping and other obstructions shall not encroach on the clearances specified in Figure C-3.

TRENCHING

The customer's service trench must meet state and local regulatory requirements. Trenches supplied for primary 7,200-volt systems owned by Central Lincoln shall have a minimum of 48 inches cover from the top of the conductor or conduit to the point of final grade.

Note: You are responsible for all trenching unless otherwise notified by Central Lincoln personnel.

Contact your engineering technician before entering or installing any Central Lincoln vaults or hand holes.

TRENCH INSPECTION

All Central Lincoln underground box and duct systems done by customers, contractors or builders will require a final inspection and approval by a Central Lincoln Operations Department inspector. The Central Lincoln inspector must approve all jobs requiring trenching before the Central Lincoln service or line crew can be dispatched to do the electrical installation.