



A Touchstone Energy® Cooperative   
*The power of human connections®*

## **ELECTRICAL SERVICE REQUIREMENTS**

Applicable for Midstate Service Area in  
Deschutes, Klamath and Lake Counties

EFFECTIVE SEPTEMBER 1, 1993  
REVISED SEPTEMBER, 1997  
REVISED SEPTEMBER, 2000  
REVISED JUNE, 2015

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# **SECTION I**

## **RESIDENTIAL UNDERGROUND SERVICE**

### **1. PURPOSE**

This section describes the installation of underground electrical service to a residence, with the meter installed either on the house or on a consumer supplied post. The secondary service wires from the street to your house are installed underground regardless of whether the high voltage facilities on the street are overhead or underground. This underground service is installed in buried conduit from the nearest appropriate Midstate device to your house. Service will be provided in accordance with Midstate's Line Extension Policy.

### **2. LIMITS**

The typical single family residential service of this type, consists of less than 200 feet of conduit and wire buried from a Midstate Facility to a 200-amp meter base installed on your house. The following limits apply to this type of service.

The maximum size self-contained meter base that can be installed on a single or multiple residence is limited to 400 amps. Residences with extensive electrical requirements, or services that include additional buildings may require a 400-amp meterbase.

The length of the standard electrical service is limited to no more than 200 feet for a 200 amp service and no more than 250 feet for a 400 amp service due to voltage drop. Should you require a service longer than these standard lengths additional engineering and fees may be required. The length of the service is measured from the Midstate facility to your meter base. The 200 foot standard service limit includes road crossings or other distances not on your property. (See drawing G)

### **3. YOUR RESPONSIBILITY**

You are responsible for furnishing and installing the following equipment (see drawings A thru L) and maintaining the meter base.

- A. Furnish the trench excavation and backfill in accordance with Midstate's specifications as shown on drawing J. Midstate will do any trenching that is required in the public right of way. You will only be required to provide the trench on your property.
- B. Install conduit in the trench from the meter base to a point designated by Midstate's engineering map. You will normally only install conduit on your own property. Typically 3 or 4 inch conduit is required the size will depend upon the length of your service or subdivision. The conduit must be Schedule 40 gray PVC electrical conduit. A pull rope is required in the conduit system for use by Midstate. The typical pull rope is a 1/4 inch polypropylene rope, although any rope with a breaking strength greater than 600 pounds may be used.

- C. The conduit run will not exceed 270 degrees of turn. (90 degrees is required at the meter base and 90 degrees is required at the pedestal)
- D. Midstate must inspect the trench, conduit, and pull rope installation before you backfill the ditch. Midstate requires this inspection as we maintain the conduit and wire after initial installation. Please provide 24 to 48 hours notice before you need the inspection.
- E. The meterbase shall be installed either;
  - On the front or side of the residence (See drawings A & H)
  - On a meter post installed by the consumer. (See drawings I or IA)
- F. Grounding of the meter base must be in accordance with National Electrical Code and county codes.
- G. You must arrange for the county to inspect and approve the installation of the meter base before Midstate is allowed to provide electric service.
- H. This service equipment must be installed in accordance with local, state and national electrical codes. The county inspection verifies compliance with these codes.

#### **4. MIDSTATE'S RESPONSIBILITY**

Midstate will furnish and install the service wires in the conduit that you installed, the meter, and any other facilities that may be required beyond your property line.

#### **5. SERVICE LOCATION AND CONDUIT ROUTE**

Midstate will help determine a route for the trench and conduit that you install. This route must be relatively straight, no more than three (3) 90-degree 3 foot radius bends (270 degrees total). The preferred meter location should be on the side of the house facing the appropriate Midstate facilities. The length of the route also influences the cost you will pay for your electrical service.

Please contact Midstate early in the process of planning and designing your residence. This allows us to agree on a meter location, which meets both our needs before construction has started. A change in the meter location after construction could require you to relocate some of your equipment or accept a longer more expensive route for the installation of electrical service.

A working space of 3 feet square and 6 feet 6 inches high is required in front of the meter base. This permits a safe working environment for the Midstate personnel who read and maintain the meter. (See drawing A)

# SECTION II

## TEMPORARY SERVICE

### 1. PURPOSE

This section describes the installation of temporary electrical service. This type of service is typically used during the construction of a new home or other construction activities. Service will be provided in accordance with Midstate's Line Extension Policy.

### 2. LIMITS

A temporary service is typically limited to no more than a 200-amp meter base.

The maximum length of a temporary service is 8 feet. The post for this type of service must be located adjacent to the appropriate Midstate facilities and on your property.

A temporary service can ONLY BE USED FOR ONE YEAR, as the materials allowed are not suitable for permanent installations.

### 3. YOUR RESPONSIBILITY

You are responsible for furnishing, installing, and maintaining the following equipment (See drawing L);

- A. You must provide and install a temporary service post complete with meter base and approved disconnects. You must also provide enough wire, suitable for direct burial 24in. deep, to allow Midstate personnel to connect the service in a Midstate supplied pedestal or transformer.
- B. Grounding of the meter base must be in accordance with National Electrical Code and county codes.
- C. You must arrange for the county to inspect and approve the installation of this temporary service equipment before Midstate is allowed to provide electric service.

This service equipment must be installed in accordance with local, state and national electrical codes. The county inspection verifies compliance with these codes.

#### **4. MIDSTATE'S RESPONSIBILITY**

Midstate will connect the service wires you supplied to our pedestal or transformer and install the meter. If any other facilities are required to provide the temporary service Midstate will install them in accordance with the current line extension policies. There may be additional charges involved if the existing facilities will not support a temporary service installation.

#### **5. SERVICE LOCATION AND CONDUIT ROUTE**

The meter post location must be approved by Midstate. It will be located within 8 feet of Midstate supplied pedestals or transformers. Sufficient wire must also be provided to allow Midstate to connect the wire to the pedestal or transformer.

Please contact Midstate early in the process of planning and designing your residence. This allows us to agree on a meter location for both the temporary and permanent services, which meet both our needs before construction has started. A change in the meter location after construction may require you to relocate some of your equipment or accept a longer more expensive route for the installation of electrical service.

A working space of 3 feet square and 6 feet 6 inches high is required in front of the meter base. This permits a safe working environment for the Midstate Personnel who read and maintain the meter. (See drawing A)

# SECTION III

## GENERAL TERMS AND DEFINITIONS

### **METER BASE**

The meter base is the socket for the Midstate electric meter and also contains all or part of the individual circuit breakers for your house and property. You need to select a meter base that is appropriate for your choice of service and location. You must also pick the size of the meter base in amps (for example 200 amps) that is appropriate for your electrical load. Midstate recommends no less than a 200-amp meter base as this allows the most flexibility in the future. If you elect to install a smaller meter base you may need to upgrade both it and the conduit system should your electrical requirements increase in the future, for example converting from an RV type service to a permanent residence. Your electrician, contractor, or a manufactured home dealer is also able to make recommendations on the size and type of meter base.

The meter base installed requires a disconnect/main breaker or a disconnect switch located within 10 feet of the meter base. The disconnect/main breaker must be accessible by a Midstate Serviceman from the outside of the residence.

### **SERVICE WIRE**

This is the wire supplied and installed by Midstate that delivers electricity to your house.

### **METER POST**

For underground services, the customer owned meter post must be four (4) inches by (6) inch by ten (10) foot fully pressure treated post or a (10) foot fully treated pole with a 16 inch minimum circumference.

### **GROUND ROD AND GROUND WIRE**

Typically two 8-foot ground rods and a ground wire are installed at each meter base as required by the National Electrical Code and county codes. The ground wire is typically a #4 solid copper wire. A connector is required to connect the ground wire to each ground rod. The county inspectors may also approve other methods. In any case, it is a good idea to consult the county inspectors regarding your specific installation before you start construction.

### **METER LOCATIONS**

Midstate will help determine the meter location. Midstate prefers the meter be located on the side of the house facing the Midstate equipment to which the service will be connected. This location keeps the service length to a minimum providing the lowest cost and best possible service quality. The meter location must also consider the route the service must take between the meter and Midstate equipment. If other properties must be crossed to bring service to your house, a right of way must be obtained for the electric facilities.

## SECTION IV

### RIGHTS-OF-WAY AND RIGHTS-OF-ACCESS

Midstate Electric shall be granted, at no cost and in writing suitable for recording, all rights-of-way and easements necessary to serve the customer, overhead or underground, for the installation, maintenance, repair, replacement, removal, or use of all wire, poles, machinery, fixtures, or equipment needed to supply and deliver electric service to the customer.

Midstate Electric, through its authorized employees and contractors, shall have access to its equipment at all times for the purpose of reading meters, (this includes the removal of all obstacles, including pets, that may constitute a hazard), and testing, repairing, or replacing any equipment which is the property of Midstate Electric. If such equipment is so located that locks or security devices must be operated to reach it, Midstate Electric shall be provided appropriate access. This may require the use of a Midstate Electric lock in conjunction with the customer's security. If, in the opinion of Midstate Electric, a meter is made inaccessible, such as by the installation of a fence or enclosure, the customer shall, at his expense, move the meter base to an accessible and Midstate approved location.

Midstate Electric does not allow any customer equipment or material to be attached to its property, except where said equipment and/or material is required to provide electrical service and said equipment and/or material has been authorized by Midstate Electric.

Width of right-of-way and easement shall not be less than fifteen (15) feet on either side of an overhead primary (high voltage) line, see drawing O, from the ground to sky unless otherwise specified by Midstate Electric. Wider easements mean greater system reliability (i.e. fewer trees fall into the line causing outages).

All brush in excess of two (2) feet in height shall be removed. No brush pile shall be left within the right-of-way. The maximum allowable stump height is three (3) inches. Trees or brush, which prevent access by Midstate Electric crews to install facilities, may require removal as specified by Midstate Electric.

Trees outside the right-of-way or easement that pose a danger to power lines, as identified by Midstate, will be removed only if prior arrangements have been made with the property owner. Property owners that will not allow necessary removal or trimming will be notified, in writing, of the danger and that Midstate will hold the property owner liable should any damage occur in the future.

# SECTION V

## DISCLAIMERS

### **1. CHANGE IN MIDSTATE'S REQUIREMENTS**

The information contained in these requirements is subject to change if the governmental codes and ordinances or Midstate's standards change. Midstate does not assume responsibility for keeping these requirements current. A Midstate representative should be consulted if you question the applicability of any item.

### **2. CHANGE IN YOUR REQUIREMENTS**

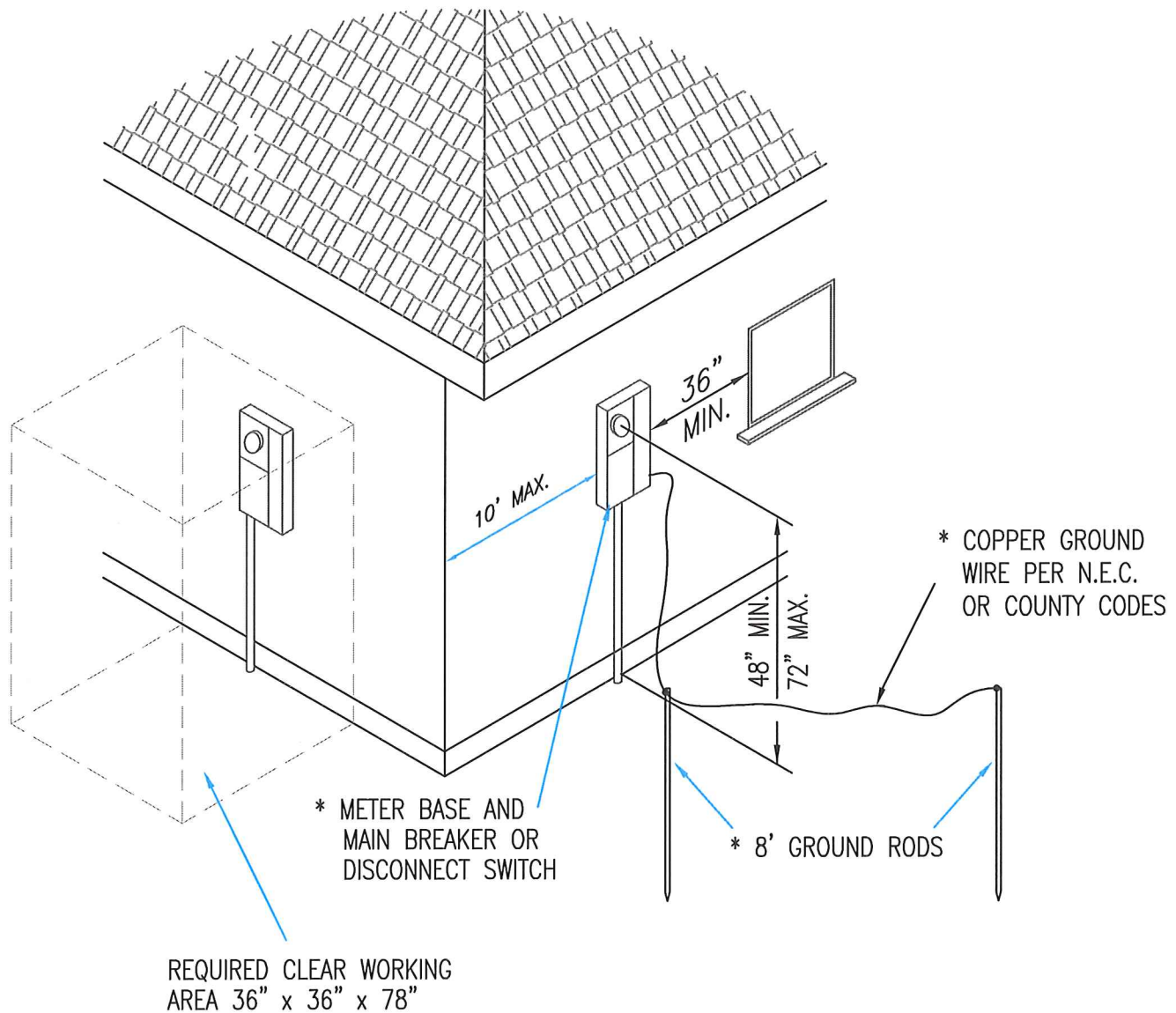
When conditions are encountered during construction that require changes in the service arrangements, Midstate is to be consulted so that satisfactory alternative arrangements may be made.

### **3. INSPECTION REQUIRED BEFORE SERVICE**

Electric service will be established only after electric service entrance facilities are satisfactorily installed. Local ordinances or state laws require that a permit procedure be followed before Midstate Electric can establish service. In addition, Oregon State law requires that an electrical installation must be approved by the electrical inspection authority having jurisdiction, before it can be energized by Midstate. The equipment must be installed in accordance with local, state and national electrical codes. The county verifies compliance with these codes when the meter base is inspected.



# DRAWING "A" TYPICAL RESIDENTIAL SERVICE



**\* EQUIPMENT INSTALLED  
BY MEMBER**

REMEMBER ... CALL 1-800-332-2344 FOR A LOCATE BEFORE YOU DIG

TYPICAL RESIDENTIAL SERVICE

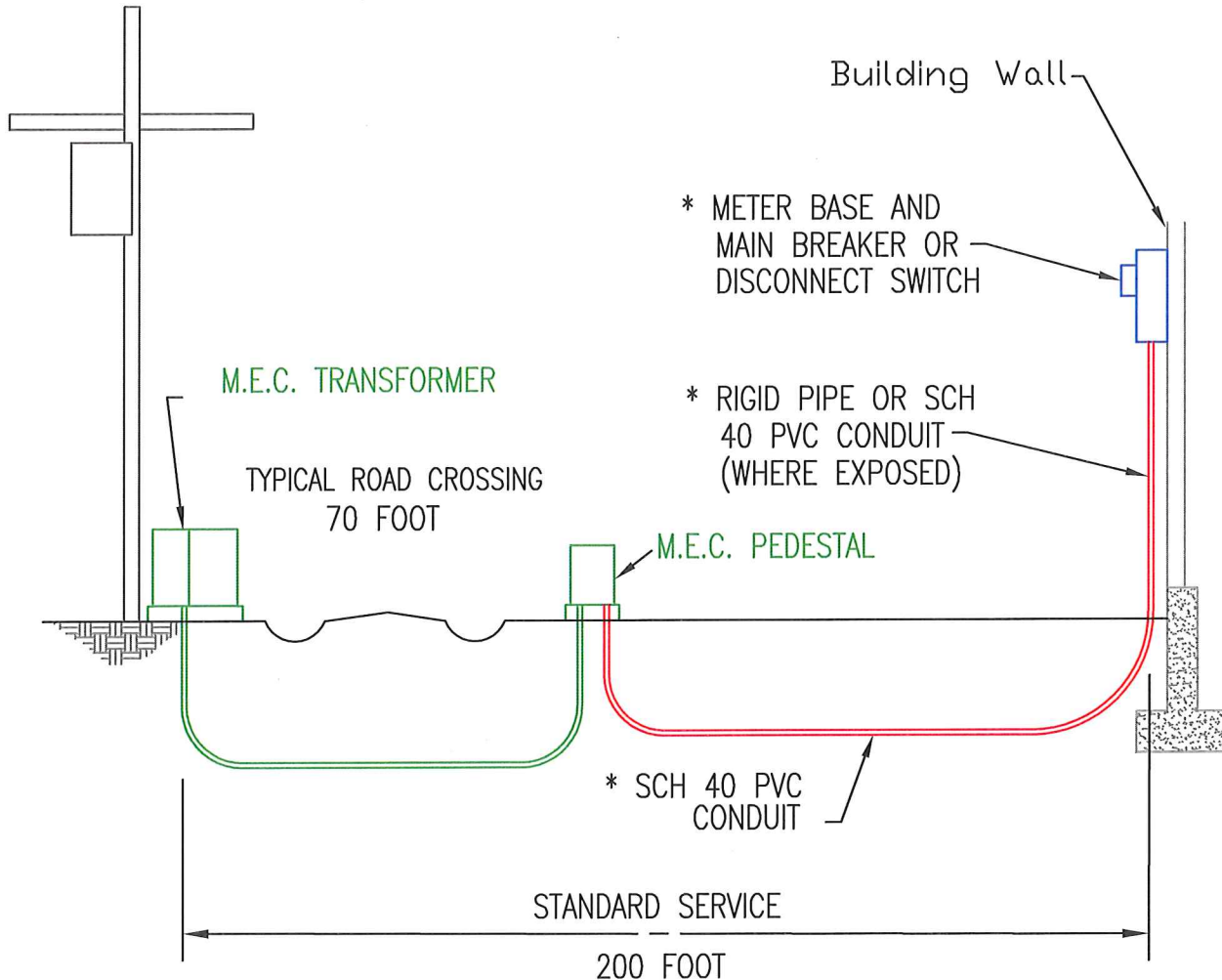


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		APPROVED	7/9/2015		

# DRAWING G

## UNDERGROUND ELECTRICAL SERVICE

Note: For a standard 200 amp service under 200 feet. If an adapter from 3" to 2" conduit is necessary, the adapter must be at the meter base. However, services over 200' must have a 3" min. adapter.



( INCLUDES ROAD CROSSINGS OR OTHER DISTANCES NOT ON YOUR PROPERTY )

**\* EQUIPMENT INSTALLED  
BY MEMBER**

REMEMBER ... CALL 1-800-332-2344 FOR A LOCATE BEFORE YOU DIG

METER BASE DETAIL  
200A SERVICE

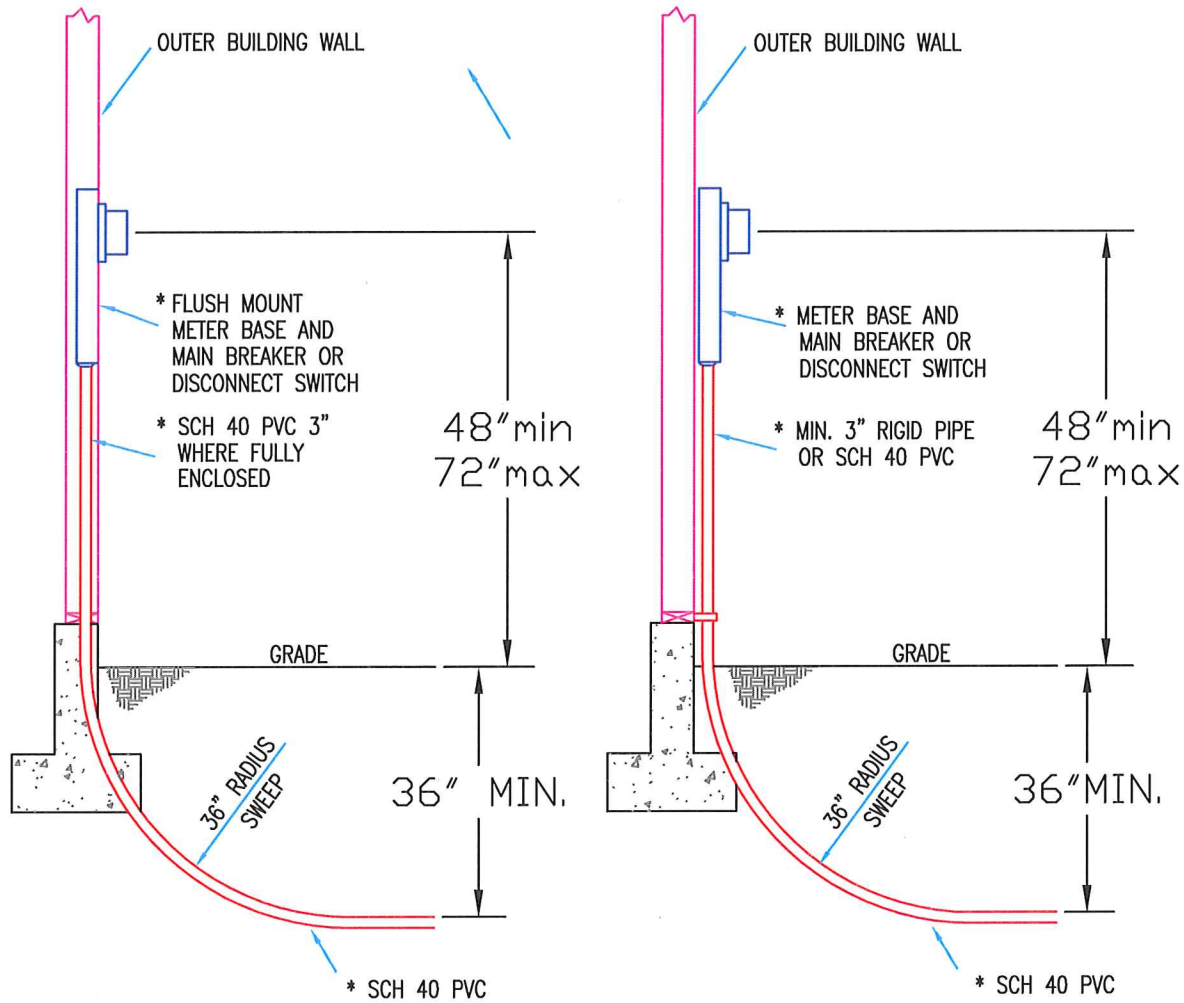


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REV				
	APPROVED	7/9/2015		

# DRAWING H

## METER BASE DETAIL

Note: For a standard 200 amp service under 200 feet. If an adapter from 3" to 2" conduit is necessary, the adapter must be at the meter base. However, services over 200' must have a 3" min. adapter.



**\* EQUIPMENT INSTALLED  
BY MEMBER**

REMEMBER ... CALL 1-800-332-2344 FOR A LOCATE BEFORE YOU DIG

METER BASE DETAIL  
200A SERVICE

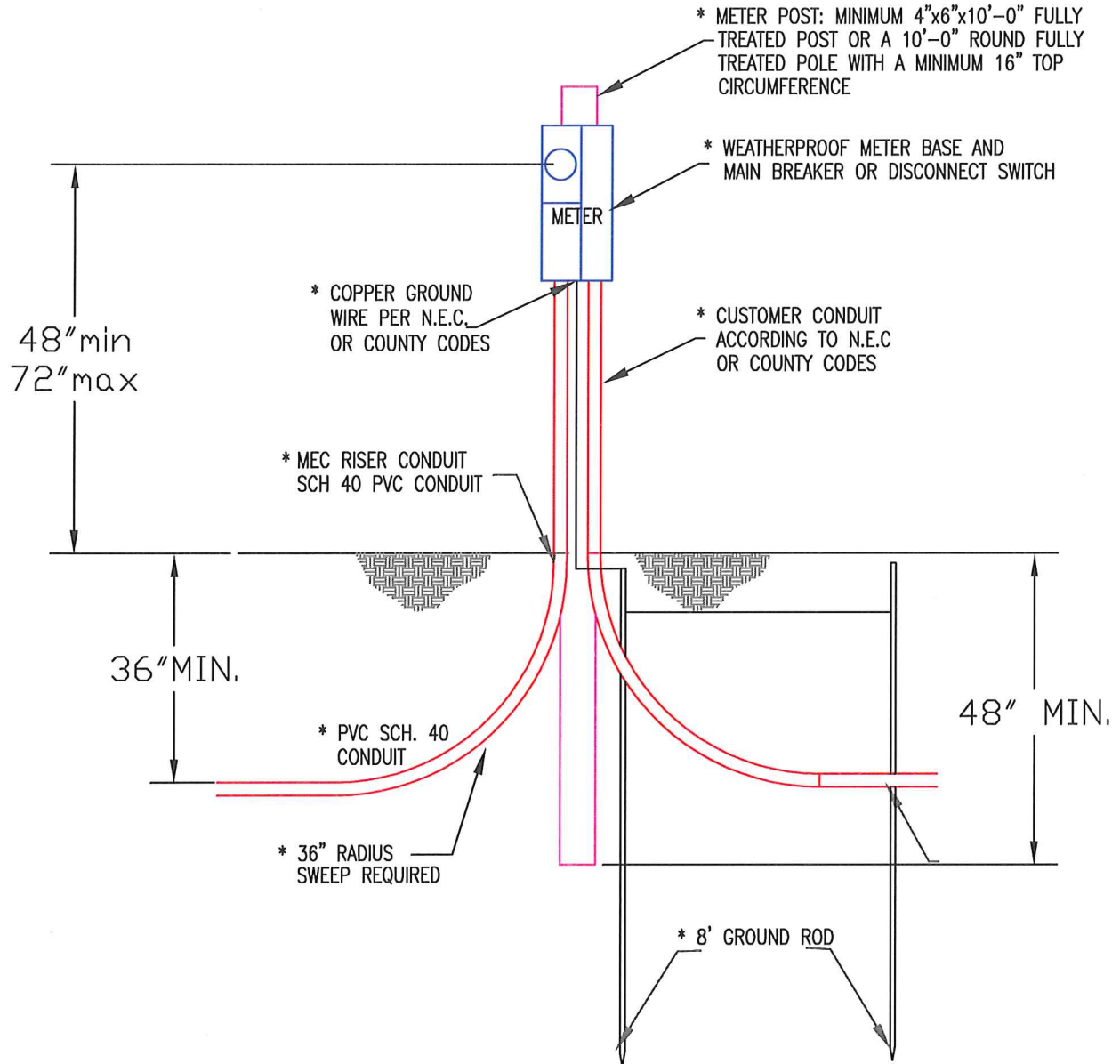


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REV				
APPROVED		7/9/2015		

# DRAWING I

## 100/200 AMP METERBASE ON POST

Note: For a standard 200 amp service under 200 feet. If an adapter from 3" to 2" conduit is necessary, the adapter must be at the meter base. However, services over 200' must have a 3" min. adapter.



**\* EQUIPMENT INSTALLED  
BY MEMBER**

REMEMBER ... CALL 1-800-332-2344 FOR A LOCATE BEFORE YOU DIG

100/200 AMP METERBASE ON POST  
MANUFACTURED HOME/RV SERVICE



0 REV	DESCRIPTION	DATE	DWG-I	MB on Post
	APPROVED	7/29/2015		

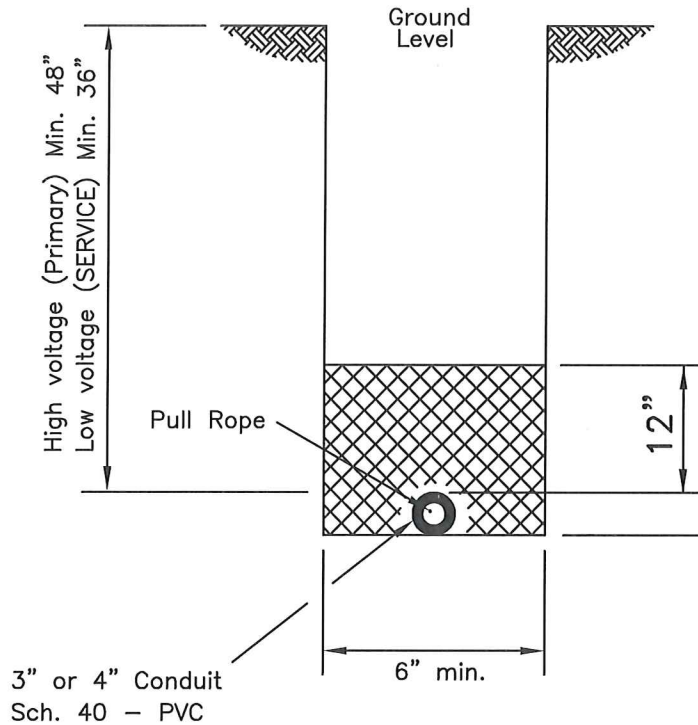


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APPROVED					

# DRAWING J

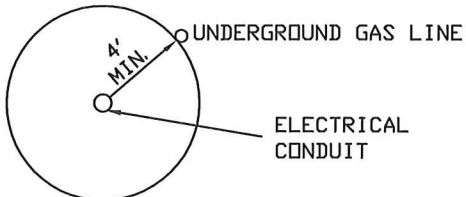
## TRENCHING DETAIL



LOW VOLTAGE (SECONDARY/SERVICE)  
2' MINIMUM SEPARATION



HIGH VOLTAGE (PRIMARY)  
4' MINIMUM SEPARATION



Any TRENCHING or DIGGING done in public rights-of-way must be permitted by the county prior to construction

### GENERAL SPECIFICATIONS

- Trench depth as follows:  
Low Voltage (Service) Min. 36"  
High Voltage (Primary) Min. 48"
- Trench width is typically the width of the trencher or backhoe bucket.  
\*UNUSUAL conditions requiring personnel to work in trenches, width will be specified by Midstate Electric.
- Use of UL approved schedule 40 conduit requires backfill that shall pass through a 3/4" sieve frame and contain less than 30% rock solids by volume.
- There must be 12" of back fill or a 12" separation if you are planning to place other utilities in the same trench. Midstate's cable MUST be placed in the trench first.
- At least 12" of backfill over cable or conduit must be present before we will energize the service.
- GAS LINES MUST HAVE THE FOLLOWING MINIMUM SEPARATION FROM THE ELECTRICAL CONDUIT:

REMEMBER ... CALL 1-800-332-2344 FOR A LOCATE BEFORE YOU DIG!!!

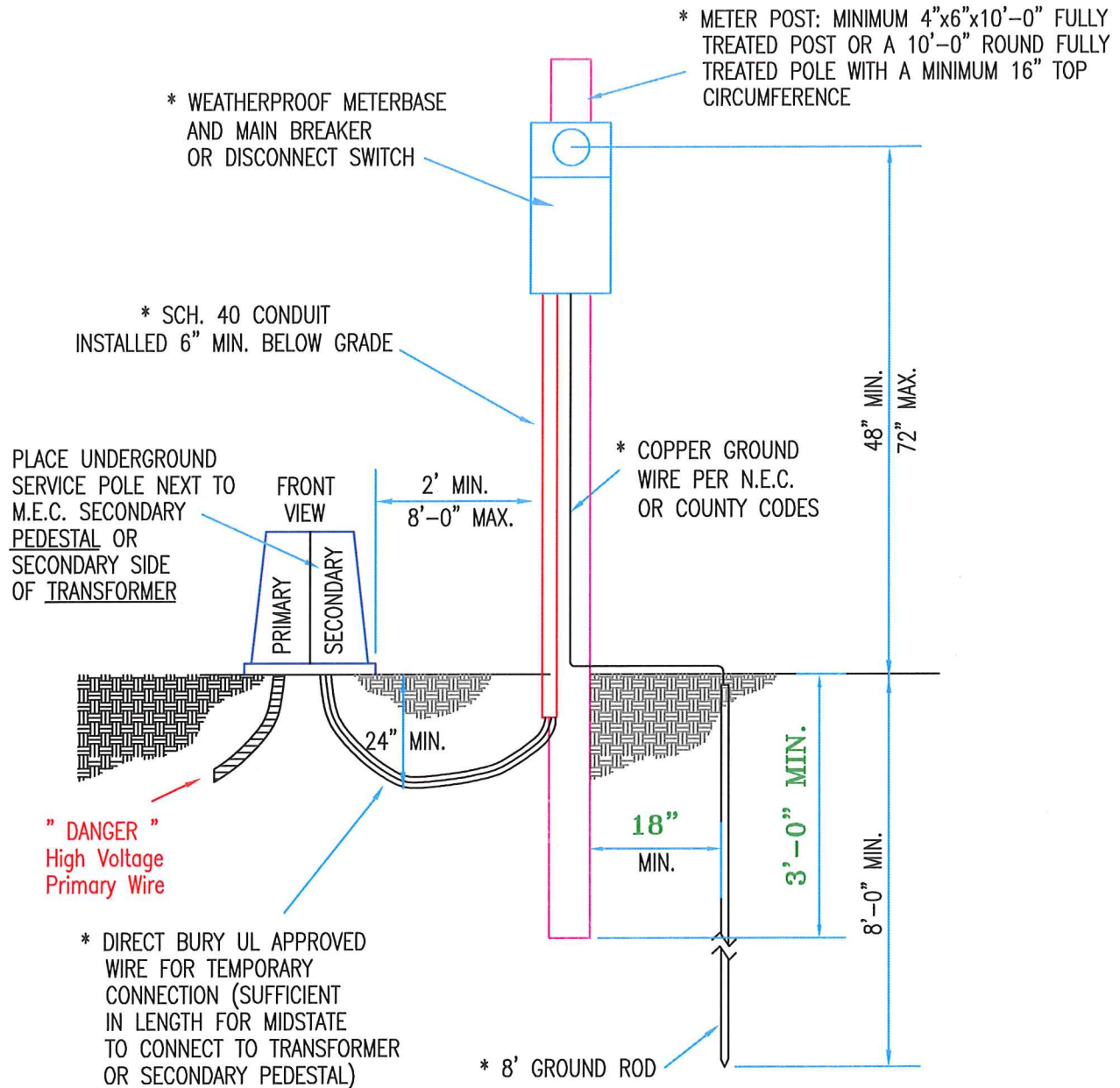
TRENCHING DETAIL



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APPROVED					

# DRAWING "L"

## TEMPORARY UNDERGROUND SERVICE



**\* EQUIPMENT INSTALLED  
BY MEMBER**

REMEMBER ... CALL 1-800-332-2344 FOR A LOCATE BEFORE YOU DIG

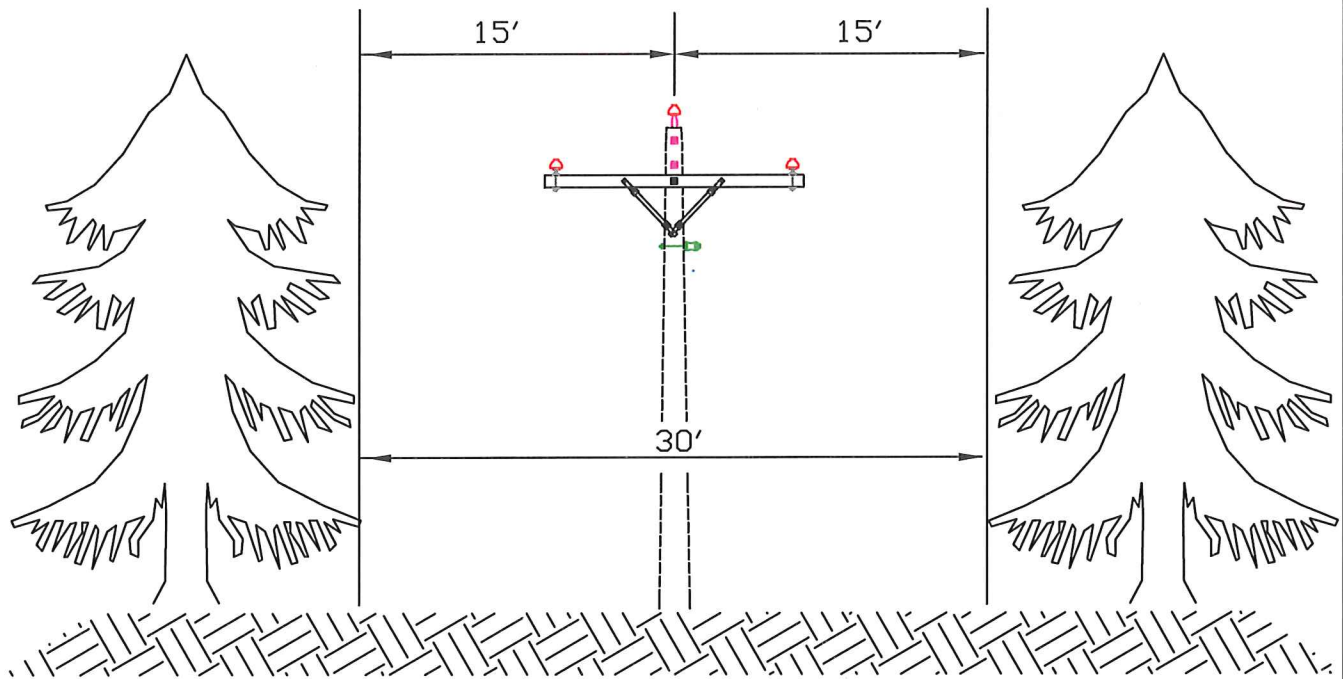
TEMPORARY UNDERGROUND SERVICE POLE



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APPROVED					

# DRAWING "O"

## RIGHT OF WAY PRIMARY LINE



REMEMBER ... CALL 1-800-332-2344 FOR A LOCATE BEFORE YOU DIG

RIGHT OF WAY  
HIGH VOLTAGE PRIMARY LINE



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APPROVED					