

***Specifications  
and  
Requirements  
for  
Electric Installations***



***Effective January 2024***

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Lake Katrine, NY 12449

### Mid-Hudson Division

#### Poughkeepsie Office

284 South Avenue  
Poughkeepsie, NY 12601

### Lower Hudson Division

#### Fishkill Office

25 Central Hudson Way  
Fishkill, NY 12524

#### Newburgh Office

610 Little Britain Road  
New Windsor, NY 12553

### Customer Service

(845) 452-2700  
(800) 527-2714

### Natural Gas Odor Hotline

(800) 942-8274

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# 1. INTRODUCTION

## 1.1 Purpose

The purpose of this book is to present information, specifications, and requirements pertaining to the delivery of electricity by Central Hudson Gas & Electric Corporation (the Company). Adherence to the specifications and requirements set forth herein will protect the interests of the Customer and the Company and will result in installations that comply with codes and regulations necessary for safe, adequate and satisfactory service.

## 1.2 Scope

The information, specifications and requirements compiled in this book pertain to the equipment connecting the Customer's and the Company's electric systems and to other subjects associated with the delivery of electricity that are of mutual interest to the Customer and the Company. It should be noted that this is not a complete set of specifications governing the installation of electrical wiring and equipment. It is the Customer's responsibility to research and comply with any other applicable code or standard pertaining to the installation of electrical wiring and equipment.

## 1.3 Rate Schedules

Electric tariffs and the rules and regulations pertaining thereto are on file with the New York State Public Service Commission (PSC) and are available for download from the Company's website at [www.CentralHudson.com/rates/](http://www.CentralHudson.com/rates/).

## 1.4 Cooperation

It is the desire of the Company to provide and maintain safe and reliable electric service in a courteous and efficient manner. The submittal of preliminary information to the Company early in the development of plans leading to new or increased electric service will aid in optimum scheduling of the work of both the Company and the Customer. Strict and complete adherence to the specifications and requirements in this book will expedite the delivery of the electric service.

## 1.5 Codes

These specifications supplement the National Electrical Code (NEC) and the National Electrical Safety Code (NESC). They are not a substitute for these codes or for any other applicable codes. To provide for safe installations, the Company requires that the Customer's wiring installations comply with these specifications and all other applicable codes. Service may be denied if these specifications and all other applicable codes are not met. The Company accepts no liability for direct or indirect damages resulting from the Company's refusal to energize a service or from the Company terminating a service that does not meet these specifications and all other applicable codes.

## 1.6 Responsibility

The Customer has the responsibility for maintaining customer wiring and equipment in a safe operating condition. Any significant changes in connected loads shall be reported to the Company immediately. The Company does not accept any responsibility for the Customer's wiring and equipment.

## 1.7 Electrical Inspections

### 1.7.1 Requirement

To protect the Customer's interests, as well as its own, the Company requires the applicant to furnish evidence of the safe condition of the wiring after the work is completed and before energizing the service. This applies to new installations or modifications to existing services. Any installation which has been de-energized for more than two (2) years or has been subject to fire damage will also require a new inspection prior to being reenergized. In addition, fire damaged structures will also require a letter from the local fire department or building inspector.

A service inspection completed for a multi-meter installation shall be acceptable for up to two (2) years when they meet all the following requirements:

- Service has been continuously energized
- No new equipment, other than a meter, is required.

All other inspections shall be good for 90 days or as set by the inspector, assuming no modifications have been made to the service after the inspection. Where changes have been made to a service, under any circumstances, a new inspection is required.

In cases where work is performed by a contractor on the Company's disconnect/reconnect program, an adequate pre-approval shall be submitted to the Company in advance of the day the work is to be performed. Inspections are not required when the only work performed is replacing the main disconnect or main load side breaker for both single phase and three phase self-contained services.

Only inspections done by approved inspectors will be accepted by the Company for energizing services. The current list of Central Hudson-approved inspectors can be viewed on our website using the link provided:

<https://www.cenhud.com/globalassets/pdf/Electrical-Inspection-Agencies>

Check with your municipality's approved list to verify the inspector is approved by your local building department as well if a building permit has been issued.

### 1.7.2 Certificate of Compliance (Permit)

Evidence shall be in the form of a certificate of compliance from the authority having jurisdiction (see Section 2 - Definitions). Also, when a service modification is made or wiring is altered or extended, an approval or certificate of compliance is required. Application with the authority having jurisdiction should be made as far as possible in advance. Unsafe wiring will be refused service.

### 1.7.3 Company Specifications and Other Applicable Codes

Inspections shall confirm compliance with the NEC, any applicable building codes, and any Company specification that may supersede portions of the aforementioned codes. The Company reserves the right to challenge the inspection when Company personnel observe deficiencies in the installation at any time prior to energizing the installation.

## 1.8 Wiring Adequacy

Compliance with the NEC and proper operation and maintenance procedures will result in an installation essentially free from hazard. However, the planning and design of the initial installation should also provide for the desired level of performance (i.e., reliability, efficiency, and convenience) and for future expansion/alteration of electricity use.

## 1.9 Building Insulation Requirements

All new dwellings in New York State for which an application for a building permit was made and plans were filed on or after January 1, 1979, and all new dwellings within the State for which construction was begun on or after January 1, 1979, will not be eligible for electric service unless these dwellings comply with the New York State Energy Conservation Construction Code. Compliance details may be obtained from Company tariffs.

## 1.10 Power Quality

The Company endeavors to provide continuous electric service within the following voltage limits (American National Standards Institute 84.1-2020):

Under normal conditions and for 120 V – 600 V services, the targeted regulation is  $\pm 5\%$  at the service entrance.

Under normal conditions and for services greater than 600 V, the targeted regulation is  $- 2.5\%$  to  $+ 5\%$  at the service entrance.

However, voltages outside of these limits may occur, although infrequently, and from time to time service may be interrupted due to circumstances beyond the Company's control. This service interruption may include full or partial loss of voltage or phases. The planning and design of the Customer's installations should recognize the possibility of such interruptions. The Company shall not be liable for any damages arising from these voltage irregularities, momentary interruptions, or de-energizing and re-energizing of electric service.

## 1.11 Revisions

These specifications will be revised or amended as necessary to protect the mutual interests of the Customer and the Company.

The latest edition of this book shall be used.

## 2. DEFINITIONS

**ANSI** - American National Standards Institute.

**approved** - Acceptable to the authority having jurisdiction.

**authority having jurisdiction** - The organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

**bonding (bonded)** - Connected to establish electrical continuity and conductivity.

**bypass** - A device that shunts current around the meter, so the meter can be removed without interrupting service.

**building** - A structure which stands alone or which is separated from adjoining structures by approved fire walls with all openings therein protected by approved fire doors.

**cold sequence** – A meter sequence where a disconnecting device is located on the line side (before) the metering equipment

**Company** - Central Hudson Gas & Electric Corporation.

**cost or expense** - Shall include all labor, material and other applicable charges, including overheads required for specified work to be performed by Company personnel.

**current transformer** - A transformer whose secondary current is a precise fraction of its primary current. Using current transformers, high-current circuits can be measured with conventional meters. Abbreviation: CT.

**Customer** - A present or prospective user of the Company's electric service or agent thereof.

**demand** - The average rate at which energy (measured in kilowatt-hours) is consumed during a specified interval of time. Demand is measured in kilowatts.

**disconnecting means** – A device, or group of devices, or other means by which the conductors of a circuit can be disconnected from their source of supply.

**ground** - The earth.

**grounded (grounding)** – Connected (connecting) to ground or to a conductive body that extends to the ground connection.

**grounding conductor** - A system or circuit conductor that is intentionally grounded.

**guy** - A cable or brace that supports a mast or pole.

**high leg** - In a four-wire delta service, the phase with a voltage higher than the other two phases.

**hot sequence** – A meter sequence where no disconnecting device is located on the line side (before) the metering equipment

**listed** - Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that the equipment, material, or services either meets appropriate designated standards or has been tested and found suitable for a specified purpose.

**manufactured home** - A factory assembled structure or structures transportable and designed to be used as a dwelling unit with a permanent foundation acceptable to the local authority having jurisdiction.

**meter socket** - The mounting device consisting of meter jaws, connectors, and enclosure for receiving a socket-type meter.

**mobile home** - A factory-assembled structure equipped with the necessary service connections and made so as to be readily movable as a unit or units on its own running gear and designed to be used as a dwelling unit without a permanent foundation. The phrase "without a permanent foundation" indicates that the support system is constructed with the intent that the mobile home placed thereon will be moved from time to time.

**NEC** - National Electrical Code. National regulations for the installation of electrical equipment inside buildings. Published by the National Fire Protection Association (NFPA). Current edition of the NEC adopted by the company is NFPA 70-2020. NEC rules apply to equipment on the Customer's side of the point of delivery.

**NEMA** - National Electrical Manufacturers Association.

**NESC** - National Electrical Safety Code. National regulations for the installation, operation, and maintenance of electric supply and communication lines. Published by the Institute of Electrical and Electronics Engineers (IEEE). Current edition of the NEC adopted by the company is IEEE C2-2017. NESC rules apply to equipment on the Company's side of the point of delivery.

**OSHA** – Occupational Safety and Health Administration. Part of the United States Department of Labor.

**photovoltaic (PV) system** – The total components, circuits, and equipment up to and including the PV system disconnecting means that, in combination, convert solar energy into electric energy.

**point of attachment** - The point at which the Company's service conductors are mechanically attached to the Customer's premises.

**point of delivery (service point)** - The point of connection between the Company's facilities and the premises wiring (see Figure 2).

**premise** – Discrete, contiguous, real property under the Customer's control through ownership or lease.

**primary voltage** - The voltage at which electricity is delivered from substations to distribution transformers. Primary voltage is typically greater than 600 volts.

**recreational vehicle** - A vehicular-type unit primarily designed for temporary living quarters for recreational, camping, or travel use, which either has its own motive power or is mounted on or drawn by another vehicle. These include: travel trailer, camping trailer, truck camper, and motor home.

**RMC** – Rigid metal conduit

**secondary voltage** - The voltage at which electricity is delivered from distribution transformer to the Customer. Secondary voltage is typically less than 600 volts.

**separately derived system** – An electrical source, other than a service, having no direct connection(s) to circuit conductors of any other electrical source other than those established by grounding and bonding connections.

**service** - The conductors and equipment connecting the Company’s system to the Customer’s wiring system (see Figure 1).

**service conductors** – The conductors from the service point to the service disconnecting means (see Figure 1).

**service conductors, overhead** – The overhead conductors between the service point and the first point of connection to the service-entrance conductors at the building or other structure (see Figure 1).

**service conductors, underground** – The underground conductors between the service point and the first point of connection to the service-entrance conductors in a terminal box, meter, or other enclosure, inside or outside the building wall (see Figure 1).

**service drop** - The overhead conductors between the Company’s system and the service point (see Figures 1 and 2).

**service-entrance conductors, overhead system** - The service conductors between the terminals of the service equipment and a point usually outside the building, clear of building walls, where joined by tap or splice to the service drop or overhead service conductors (see Figures 1 and 2).

**service-entrance conductors, underground system** - The service conductors between the terminals of the service equipment and the point of connection to the service lateral or underground service conductors (see Figures 1 and 2).

**service equipment** - The necessary equipment, consisting of a circuit breaker(s) or switch(es) and fuse(s), and their accessories, connected to the load end of service conductors to a building, or other structure, or an otherwise designated area, and are intended to constitute the main control and disconnect of the supply.

**service lateral** – The underground conductors between the Company’s system and service point (see Figures 1 and 2).

**service point (point of delivery)** - The point of connection between the Company’s facilities and the premises wiring (see Figures 1 and 2).

**temporary service** - Service to be used for a limited time (not to exceed 90 days, except for construction projects) for construction, exhibits, decorative lighting or similar purposes, or service to non-permanent structures (see Section 3.8 and Figures 3 and 4).

**UL** - Underwriters Laboratories. An independent product-testing and certification organization.

**URD** - Underground Residential Distribution. Describes placement below ground of the electric distribution system in residential developments.

**vault** - An equipment enclosure installed below grade or within a building.

### 3. GENERAL INFORMATION

#### 3.1 Application for New Service or Service Upgrade

##### 3.1.1 Accepted Format

Service request forms must be filed with the Company regarding proposed electrical installations. Applications for service can be found on the Company's web site at <https://www.cenhud.com/contractors/new-service-requests/>. Application for new service or service upgrade shall be made by one of the following methods:

Email: [newbusinessdesk@cenhud.com](mailto:newbusinessdesk@cenhud.com)

Online applications:

Residential: <https://forms.cenhud.com/ResidentialDataForm/CustomerInformation>

Commercial: <https://forms.cenhud.com/CommercialDataForm/CustomerInformation>

Fax: (845) 486-5657

Mail:

Central Hudson Gas & Electric  
Attn: New Business Desk  
284 South Avenue  
Poughkeepsie, NY 12601

##### 3.1.2 Required Lead-Time

Application for new service or service upgrade should be made as far as possible in advance of the date service is required. Additional lead-time may be necessary to gain additional third-party approvals such as permits or rights-of-way.

The Company will not schedule a job to be energized until all customer requirements (application, account setup, deposit, etc.) are met, a passing electrical service inspection has been submitted, and any necessary easements are received and filed with the appropriate authority.

#### 3.2 Payment of Fees and/or Deposits

If the Company has been contracted to perform work on Customer property or if previously billed amounts are outstanding, a security deposit or payment arrangements may be required as a condition for service.

#### 3.3 Access

In accepting service, the Customer grants to identified Company employees and agents the right of access to Customer's premises at all reasonable times for such purposes as the reading of meters, inspection of meters, or installing, operating, maintaining, disconnecting and removing any and all property belonging to the Company. Company employees authorized to visit Customer premises are furnished with an identification card, which they will show upon request.

### 3.4 Character of Electric Service

#### 3.4.1 Responsibility

The Company will designate the character of service, meter location and the point of attachment. The service voltage and the number of phases and wires will depend upon available lines, the Customer's location, and the size and nature of the proposed service. All types of systems are not available at all locations. Available voltages and characteristics of service are normally considered to be those voltages and types of service that are located near the Customer's premises. Generally, only one service voltage will be available to a particular location.

#### 3.4.2 Customer Requirement

The Customer shall inquire of the Company as to the type of service to be supplied prior to the purchase of electrical equipment or before proceeding with any wiring installation.

### 3.5 Secondary Voltages Available

All new services will be 60 Hertz, single-phase or three-phase alternating current designated by the Company. To serve loads, regardless of application (i.e., residential, commercial, and industrial), one of the secondary voltage services listed in Table 3.5 will be delivered as designated solely by the Company. For higher voltage service, the Company will solely designate the type of service based on the location of the Customer and the size and character of the proposed load.

<b>Types of Secondary Voltage Service, 60 Hertz Alternating Current</b>			
<u>Phase(s)</u>	<u>No. of Wires</u>	<u>Nominal Voltage</u>	<u>Notes</u>
1	3	120/240V	1
1	3	120/208V	2
3	4	120/208V	3
3	4	120/240V	3,4
3	4	277/480V	3,5

\* Notes:

1. Normally will not be supplied for demand loads exceeding 100 kW (400A service).
2. Normally for demand loads not exceeding 50 kW (200A service).
3. Normally will not be made available for residential service. Services with demand loads exceeding 300 kW (800A at 120/208V or 120/240V, 400A at 277/480V) will require additional Company review.
4. Normally will not be supplied where 120/208V service can be made available or for demand loads exceeding 75 kW (200A service).
5. Normally will be supplied only for demand loads in excess of 75 kW.

### 3.6 Service Above 600 Volts

Service voltages above 600 volts will be supplied where conditions warrant. It is particularly important that the Company be consulted in these cases. The Company will designate the type of service based on the location, size and nature of the proposed load, and its relation to the Company's facilities.



### **3.7 Voltages No Longer Standard**

Customers who take service at a non-standard voltage are requested to consult with the Company whenever increased usage is planned.

### **3.8 Temporary Service**

#### **3.8.1 General**

The Company provides temporary electric service for construction purposes, non-permanent usage, or other non-recurring uses.

#### **3.8.2 Installation Requirements**

The Customer shall provide substantial and adequate support for temporary service (see Figures 3 and 4). The temporary service equipment and wiring shall be installed and inspected in the same manner as required for permanent installations. Lever bypass meters are not required for temporary services but may be used.

#### **3.8.3 Cost**

The entire cost of installing and removing the temporary service facilities is the responsibility of the Customer. These temporary service facilities may include a line extension, a service lateral, the installation of transformers and meter facilities, and other work by the Company.

#### **3.8.4 Emergencies and Inspection Requirement**

When permanent electric service is reconnected due to an emergency repair, the permanent service shall be re-certified according to these specifications by the authority having jurisdiction within ten (10) calendar days. A ten (10) calendar day waiver can be obtained for emergency reconnections at the discretion of the Company. The service must be re-certified with a new electrical inspection by a certified agency while the waiver is in effect and the Customer holds the Company harmless of any liability while the waiver is active.

#### **3.8.5 Connections to Movable Structures**

No direct connection shall be made between the Company's system and movable structures (construction trailers, mobile homes, etc.). All movable structures shall have a service pedestal or Customer owned pole installed for the metering and service equipment (see Figures 4 and 36).

### **3.9 Increase in Service**

The Customer shall provide the Company reasonably advanced, written notice of any proposed increase in service required. This notice shall indicate the size and character of service and the expected duration of time the increased service will be required.

### **3.10 Load Balancing**

The Customer shall balance the load so as to maintain, as nearly as is reasonably possible, equal current in each of the line conductors at the point of delivery. The current in any line conductor shall not exceed the average of the currents in all line conductors by more than five percent.

### **3.11 Relocations and Rebuilds**

When Company equipment and/or a service connection must be relocated or rebuilt by Order of a Public Authority, the Company will relocate or rebuild that portion of the service connection, which is owned by the Company. The Customer is responsible for relocating or rebuilding that portion of the service connection owned by the Customer. When Company equipment and/or a service connection is relocated or rebuilt at the Customer's request, including infrastructure development for Customer needs, the Customer shall pay the cost of the relocation or rebuild.

### **3.12 Unauthorized Attachments**

The Company prohibits all unauthorized attachments to its poles, equipment, or property. Examples of unauthorized attachments include but are not limited to: flags, banners, signs, clotheslines, antennas, sports equipment, lighting fixtures, etc. The Company also forbids the use of its poles for placards, political posters or any advertising matter. The Company removes all such unauthorized attachments or installations without notice and may prosecute any such trespass.

### **3.13 Objectionable Equipment**

The Company reserves the right to discontinue service where the Customer's equipment or its operation is deemed to be unsafe or results in objectionable effects upon, or interference with the operation of facilities of the Company or its Customers, or of another public service company. Reconnection of service will occur after the Customer has made the required corrections. The cost of these corrections shall be the responsibility of the Customer (see also Section 10).

### **3.14 Work Authorization**

The Company prohibits any work by unauthorized personnel on its facilities.

### **3.15 Safety near Company Equipment**

#### **3.15.1 General**

The Company's electrical equipment operates at voltages up to 345kV. Customers must be aware of Company equipment and keep safe distances from them at all times.

#### **3.15.2 Underground Company Electrical Facilities**

Prior to the start of any excavation, boring, blasting, or drilling in the ground, the Customer must call for a mark out. To request a mark out, call 811 at least 2 working days (not including the day the call is made) but no more than 10 working days before the scheduled work. Under no

circumstances shall work start before the Company marks out the proper location of equipment. More information can be found on the Dig Safely New York website: <https://www.digsafelynewyork.com/>

### 3.15.3 Overhead Company Electrical Facilities

Unqualified personnel must keep safe distances from all overhead electrical equipment to prevent serious injury or death. New York Labor Law 202-h and New York State Industrial Code (12 NYCRR Part 57), also known as the High- Voltage Proximity Act, provide requirements for any company or individual working near overhead electric facilities who are not Qualified Line Workers.

The High-Voltage Proximity Act requires adherence to a minimum clearance of 10 feet (remain outside of “dangerous proximity”) at voltages greater than 600V between any pair of conductors or between a conductor and ground. Greater distances set forth in current editions of United States Occupational Safety and Health Administration (OSHA) parts 1910 and 1926, New York State Industrial Code (12 NYCRR Part 23) and the National Electric Safety Code shall also apply. **The Company requests that Customers notify the Company whenever they suspect they will be working within 20 feet of any overhead electric lines. This includes excavation operations near overhead line’s supporting structures.** The “Overhead Electric Protection Notification Form” is available at <https://www.cenhud.com/forms/overhead-electric-protection-notification-form/>

Whenever activity being performed is suspected to be within these clearances, the Customer must contact the Company at least 5 working days in advance of the planned work. When written notice is provided via U.S. Mail, an additional three (3) days is required. Only Company personnel shall measure the clearances from Company electric facilities. Under no circumstances shall work start before the Company gives the Customer permission to proceed. **All electric lines are to be considered energized unless explicit assurances are given by qualified representatives of the Company.**

More information on the High-Voltage Proximity Act, including enforcement and penalties for failure to comply, are available on New York State’s Department of Labor website: <https://labor.ny.gov/workerprotection/safetyhealth/sh57.shtm>

## **4. SERVICES**

### **4.1 General**

#### **4.1.1 Number of Services**

Normally, only one (1) service will be made available to a Customer's building. Exceptions require Company approval prior to design and installation and must be in accordance with the NEC section 230.2 and applicable municipal codes.

#### **4.1.2 Route of Service**

The route of the service and the type of construction will be determined by the Company after taking into consideration the location, size and nature of the proposed load and its relation to Company facilities. Services will not be run from building to building, over buildings, or over public swimming pools.

#### **4.1.3 Easements and Rights-of-Way**

Easements or rights-of-way may be required, at Customer expense, to give the Company access to the metering/service installation and equipment for the purpose of connecting/energizing the service and for other purposes necessary for the delivery of service.

### **4.2 Overhead Service from Overhead Lines**

#### **4.2.1 Responsibility**

The Company will install, own, and maintain all overhead service drops to the Customer's point of attachment (see Figure 2). When the line on private property exceeds the allowance as provided in the Company's filed tariff, the Customer will be required to install, own, and maintain additional service poles, wires, cable, and equipment as applicable. Also, if necessary and subject to the Company's discretion and availability, the Company will provide and install all Customer required equipment at the Customer's expense.

Any poles required for clearance over a highway will be provided by the Customer if such poles are required due to either a Customer's request for a particular routing of service, or where the service drop exceeds the allowance as provided in the Company's filed tariff. In the event an overhead service connection, located with 100' of a Company owned pole, cannot be completed due to road clearance, the Company may elect to install a road crossing pole. Such an installation is at the discretion of the Company and shall require Company approval. All wires and cables from the point of attachment on the first Customer pole to the Customer's premises will be installed, owned, and maintained by the Customer.

Any portion of the service to be provided by the Customer shall be installed in accordance with these specifications.

### 4.2.2 Minimum Size

The minimum overhead service entrance and service equipment shall be single-phase, three-wire, 100 amperes, except where specifically approved by the Company for special conditions/purposes.

### 4.2.3 Service Attachment

The Customer shall furnish and install a suitable attachment for the service drop to be securely bolted at the point designated by the Company. Thru-bolt (one point racks) are required. Screw-in porcelain insulators are not allowed. The point of attachment will usually be located at the section of the building closest to the pole from which the service is installed (see Figure 5).

### 4.2.4 Clearances

The vertical clearances of all service drop conductors, measured at the point and condition of maximum conductor sag, shall meet the requirements of the NEC, including clearance above roofs, from ground, from building openings (see Figure 6), and from private swimming pools (see Figure 7). No overhead lines are allowed within twenty (20) feet horizontally of public swimming pools. The Company recommends that no overhead lines are installed within twenty (20) feet horizontally of private swimming pools as well. Normally, ground clearance can be attained with a point of attachment of not less than 18 feet and not more than 25 feet above grade.

Conductors feeding traffic signals shall be in compliance with the National Electrical Safety Code regarding clearance from Company conductors.

### 4.2.5 Service or Riser Masts

Where the building is too low to obtain proper clearances, the Customer shall install an appropriate service or riser mast (see Figure 8). Where a service mast is used for the support of service-drop conductors, it shall be of adequate strength to withstand safely the strain imposed by the service drop. The service mast shall be galvanized rigid steel conduit and comply with the following bracing requirements:

Table 4.2.5*					
Rigid Galvanized Steel Conduit Riser Mast Bracing Requirements					
Service Rating	Maximum Unbraced Height from Roof to Attachment Bracket				
	Rigid Galvanized Steel Riser Mast Nominal Diameter Size				
	<u>2 inch</u>	<u>2-1/2 inch</u>	<u>3 inch</u>	<u>3-1/2 inch</u>	<u>4 inch</u>
<200A	24 inches	36 inches	48 inches	48 inches	48 inches
200A	24 inches	24 inches	36 inches	48 inches	48 inches
400A			36 inches	48 inches	48 inches

\*Notes:

1. The service entrance conductors shall be secured to the building or structure just above the top of the service bracket in an approved weatherhead.

2. No additional attachments are permitted on the service riser.
3. The Company will not attach to a wood mast.
4. Service conductors' drip loop shall be in accordance with NEC section 230.24(A) (see Figure 8).
5. Guy wire shall be galvanized steel and have a minimum strength of 1,000 lbs.

Alternatively, where the building is too low to obtain proper clearances, it is recommended that the Customer install an underground service connection, either to a Company-owned pole, or to a Customer-owned pole, the location and type approved by the Company, and owned and maintained by the Customer.

#### **4.2.6 Weatherhead**

The weatherhead shall be located above and within twelve (12) inches of the point of attachment of the Company's service drop. The installation shall conform to the requirements of the NEC. In addition, a minimum length of thirty-six (36) inches shall be provided in each service entrance conductor at the weatherhead for connection to the service drop.

#### **4.2.7 Load Center Metering**

On farms or other premises where buildings under a single occupancy or management will be supplied through one meter, it is recommended to install the meter (and a main disconnect) on a pole and distribute to several buildings directly from this meter pole. In such cases, the meter pole with necessary guys shall be installed, owned and maintained by the Customer. The Company shall be consulted in all cases for its requirements regarding the poles and guys (see Figures 9 and 10).

#### **4.2.8 Contractor Disconnect/Reconnect (Tap-On) Program**

##### **4.2.8.1 General**

The Company may allow approved electrical contractors to disconnect and reconnect residential and commercial, single-phase, 120/240V overhead services with a single, self-contained meter, rated 200A or less. All three phase services, services on the Company underground networks (Kingston, Poughkeepsie, or Newburgh), and single phase services over 200A, including 320A self-contained meters, require Company personnel to disconnect and reconnect the service.

The Company reserves the right to discontinue the program, all or in part, based on contractor performance and compliance with the rules and specifications contained herein.

Failure to comply with program rules and specifications on the part of an electrical contractor will result in revoking the contractor's privilege to participate in the program.

Additional information may be obtained by contacting the Company.

##### **4.2.8.2 Application Requirements**

Participating electrical contractors shall attend Company training sessions as required.

Contractors shall follow the application for service requirements as outlined in Section 3.1. More information on upcoming classes and program requirements can be found at the following link: <https://www.cenhud.com/contractors/contractor-tap-on-program/>

#### **4.2.8.3 Installation Requirements**

Installations shall be completed in accordance with the NEC, applicable building codes, and the specifications contained herein.

Installations shall be inspected in accordance with Section 1.7.

Only Company-approved connectors shall be used. Connector specifications may be obtained by contacting the Company.

### **4.3 Underground Service below 600 Volts from Overhead Lines**

#### **4.3.1 Responsibility**

##### **4.3.1.1 Adequate Notice**

The Customer shall consult with the Company before work is initiated so that the Company can designate the pole at which the underground service will originate and the location of the conduit on the pole. Natural gas piping, telephone and/or CATV lines may be installed in the same trench with the service lateral conductors if proper separation is maintained (see Figure 11 for cables in conduit and Figure 20 for direct buried cables).

##### **4.3.1.2 Customer Request**

When an underground service lateral is requested by the Customer, it shall be installed, owned and maintained by the Customer. The Company will reimburse the Customer in the amount of the cost of the overhead service drop (for new services only), which the Company would otherwise provide at its expense, based on the actual cost of similar service laterals recently installed by the Company. Any portion of the service to be provided by the Customer shall be installed in accordance with these specifications.

When a Company pole is on the opposite side of the highway from the Customer's premises, the Customer shall install all cable under the highway in approved conduit and in accordance with the requirements of the authorities having jurisdiction. Such cable shall run to the service point on the Customer's side of the highway. The Customer shall install, own, and maintain the portion of cable installed under the highway to the service point.

As an alternative to installing the service lateral under the highway, a highway crossing pole, appropriate guy wire and anchor may be installed on the Customer's side of the highway, preferably on the Customer's property. The Customer will be responsible for the cost, ownership and maintenance of all highway-crossing poles required to provide underground service. The Company will provide an overhead service lateral to all highway-crossing poles, with the Customer's overhead service allowance measured from the Company's existing facilities.

For commercial services with a load of 400A or more, the Company may provide the highway crossing pole. This decision is at the discretion of the Company's New Business Group and will be reviewed on a case-by-case basis.

### 4.3.2 Minimum Size

The minimum size of a residential underground service lateral shall be single-phase, three-wire, 200 amperes, except where specifically approved by the Company for special conditions/purposes.

Commercial underground service sizes shall be based on the demand load. All demand load information shall be submitted to the Company for review. See section 3.1 for application information.

### 4.3.3 Cable & Cover Requirements

Cable specifications for a 200A service lateral are shown in Figure 12. Specifications for other cable sizes are available upon request.

The use of double secondary service runs is strongly discouraged.

The single secondary service lateral cable, if approved for that purpose, may be buried directly in the ground. Where double sets are used, they must be installed in conduit from service pole to utility meter enclosure. Conduit must be used for all services at the service pole and at the building wall. Cover requirements for direct buried cable, conduit and other raceways shall be in accordance with the NEC.

### 4.3.4 Backfill

Backfill that contains large rocks, paving or other construction materials, large or sharply angular substances, or corrosive material shall not be placed in an excavation where material may damage raceways, cables, or other substructures or prevent adequate compaction of fill or contribute to corrosion of raceways, cables, or other substructures. See Figure 11 for backfill requirements. Services will not be energized unless the service lateral conductors are backfilled with proper sand padding for the entire length of the trench.

### 4.3.5 Riser Pole

#### 4.3.5.1 Requirements and Specifications

The Company determines the exact location of the pole. All risers shall be on the non-traffic side(s) of the pole and allow for conductor installation to Company space on pole without conflict from other utilities equipment/cables. Where the riser must be installed facing traffic due to existing obstacles, contact the Company prior to installation.

All primary risers shall be galvanized steel RMC. The Company will install cutouts, lightning arresters, and terminate the cable conductors to its distribution system on Company owned poles. The Customer shall make terminations using Company approved equipment on de-energized Customer poles. The Customer is allowed to install equipment on energized Customer poles only where the work is performed by qualified worker(s), according to OSHA Standard 1910.269. If necessary and at their discretion, the Company will provide and install all Customer required equipment at the Customer's expense. For additional details on primary riser installations, see Figure 45 for 7.6kV single phase, Figure 46 for 13.2kV three phase, Figure 47 for 19.9kV single phase, and Figure 48 for 34.5kV three phase.



All secondary riser systems shall be installed by the Customer in accordance with the specifications contained in Figure 12. Secondary riser systems must be installed with RMC for a minimum of 10 feet above grade, unless specifically approved by the Company. In such cases when schedule 80 PVC is used as conduit, it shall meet the specifications as listed in UL-651 and NEMA TC-2.

No more than two (2) electric risers per pole shall be installed.

See Figure 21 for more information on riser installation.

#### **4.3.5.2 Grounding**

When galvanized steel RMC is utilized, it shall be grounded by the Customer in one of the following three ways:

- Achieving electric continuity of metallic conduit to the meter socket or service equipment.
- Bonding to the grounding stud in the meter socket or service equipment using a conductor run together with the service lateral cable.
- Bonding to a driven ground and the neutral of the service lateral cable at the riser pole (see Figure 12).

#### **4.3.5.3 Additional Installation Requirements**

The Customer shall arrange to install cable long enough to extend from the top of the riser conduit to the Company's lowest secondary conductor plus four (4) feet (see Figure 12). The Company will provide and install the additional protective covering, cable supports and conductor fittings (standard size only) without cost to the Customer, and will connect the service lateral to its distribution system. Pending this connection, the cable shall be capped, carefully coiled, and tied to the pole at the top of the conduit.

#### **4.3.6 Conduit to Outdoor Meter**

Where an underground service lateral terminates in a meter socket installed on the outside of a building, the cable shall be protected by, at a minimum, a 2" galvanized steel RMC or rigid non-metallic Schedule 80 PVC conduit up the wall and to the meter socket in accordance with Figures 12 and 13. All conduits and feeders shall be installed to prevent damage due to frost.

#### **4.3.7 Conduit into Building**

When an underground service lateral terminates within a building, the cable shall be protected by a galvanized rigid steel conduit or rigid non-metallic Schedule 80 PVC or ABS conduit through the wall and for five (5) feet outside the wall. This conduit shall terminate in service entrance disconnect provided by the Customer inside the building wall.

All conduits entering a building underground shall be sealed at their indoor ends with suitable compound. It shall be the responsibility of the Customer to install and maintain these seals to prevent the entrance of moisture and gases.

## **4.4 Underground Service above 600 Volts from Overhead Lines**

### **4.4.1 Responsibility**

Primary underground service laterals installed at the Customer's request or by Order of a Public Authority shall be installed, owned and maintained by the Customer. Financial responsibility shall be in accordance with filed Company tariffs. All installations shall be in accordance with these specifications.

### **4.4.2 Required Notice**

The Customer shall consult with the Company in each case before work is started so the Company can designate the character of service and the pole from which the underground service lateral will originate.

## **4.5 Underground Service from Underground Lines**

### **4.5.1 City Networks**

#### **4.5.1.1 Point of Termination**

The service lateral in an underground city network area (where the Company's lines are located in a street or public way) shall terminate in the Customer's service equipment inside the building wall.

#### **4.5.1.2 Conduit and Duct**

The Company will install, own, and maintain the conduit(s) or duct(s) from the underground network to the boundary line of the street or highway, or to a point just inside the Customer's basement wall if this wall is within ten (10) feet of the boundary line of the street or highway. The Customer shall provide the opening through the building wall to accommodate the conduit(s) or duct(s). All conduits or ducts entering a building shall be sealed by the Customer at the indoor ends with suitable compound. The Customer shall maintain these seals to prevent the entrance of moisture and gases. All conduits and feeders shall be installed to prevent damage due to frost.

#### **4.5.1.3 Cable**

If the building is within ten (10) feet of the boundary line of the roadway on which the underground line is located, the Company will furnish, install and maintain the service cable from its distribution line to the Customer's receiving bus or to the Customer's first disconnect device just inside the building wall. The Customer shall pay the Company for the installed cost of that portion of the cable, which is on private property. If the building is more than ten (10) feet from the street, the Company will install a splice box at the property line and make connections to the Customer's service lateral in the splice box. The cable and conduit system from the splice box shall terminate in the service entrance equipment and shall be installed, owned, and maintained by the Customer. Alternatively, the Company may, at its discretion, connect to the Customer's conduit and install continuous conductors to the service equipment. The Customer shall reimburse the Company for the cost to provide the portion of service beyond the property line.

## 4.5.2 URD Subdivisions

### 4.5.2.1 General

New York State Public Service Codes, Rules and Regulations require underground residential distribution (URD) in all new subdivisions, or in a new section of an existing subdivision, consisting of five (5) or more single-family homes or one or more multiple occupancy dwellings (including four (4) or more dwelling units). All mobile home developments, or extensions of an existing development, with five (5) or more permanent sites shall also be provided with a URD system. Information on URD and related costs can be obtained by contacting the Company.

### 4.5.2.2 Application Requirements

Prior to construction by the Company, the applicant for construction of underground electric lines in a residential subdivision shall:

- Submit an application to the Company with sufficient lead-time for design of the facilities within the development.
- Provide the Company with a site map approved by the local authority. The map shall show the location of all lot lines, roads, sidewalks, curbs, water lines, sewer lines, storm drains grades, and landscaping features (trees, shrubs, light fixtures, etc.).
- Electrical conductors and cable shall not be installed under areas not readily accessible (such as under sidewalks and along paved roadways) unless in conduit.
- Install all other proposed underground facilities including water mains, sewer lines, and drainage facilities.
- Establish final roadway and parking area grades within six (6) inches of final grade; place and maintain construction survey stakes indicating grades, property lines and the location of other utilities. Curbs shall be installed before the underground facilities are installed.
- Make such contribution and/or deposit as may be required in accordance with Company tariffs.

### 4.5.2.3 Responsibility and Installation Requirements

In subdivisions of five (5) lots or more, the Company shall own, operate and maintain all portions of the URD system, including the service lateral, based on the builder/developer agreement with the Company, see Figure 14. The Customer shall provide and install equipment from the service lateral termination point to the residential structure.

In underground installations with less than five (5) lots, the Company shall own, operate and maintain all portions of the URD system servicing two (2) or more lots (see Figure

14). The Customer shall install, own, and maintain the service lateral to each lot and any primary cables that serve only one (1) lot as illustrated in Figures 14 & 15.

In mobile home developments where the land is not subdivided into separate lots, the Customer shall own, operate, and maintain all portions of the URD system. See Figure 40.

#### **4.5.2.4 Additional Requirements**

The use of double secondary service runs is strongly discouraged and must be approved by the Company prior to installation. Where double sets are used, they must be installed in conduit from service pole, padmount transformer, or junction box to utility meter enclosure.

Services shall not be energized unless the following requirements are met:

- The installation is made in accordance with the requirements as contained herein.
- The installation meets all applicable codes and standards, including the NEC.
- The service lateral conductors shall be backfilled with proper sand padding for the entire length of the trench. The trench must be open for inspection by the authority having jurisdiction before backfilling. If the service fails to meet approval, the service must be corrected and inspected by the authority having jurisdiction.
- After approval by the authority having jurisdiction, the service lateral conductors shall be backfilled prior to the Company energizing service.
- Backfill shall be free of large rocks, paving or other construction materials, large or sharply angular substances, or corrosive materials.

### **4.5.3 Non-Residential Complexes**

#### **4.5.3.1 General**

The Company will install, own, and maintain the primary distribution system whenever underground service is requested by the Customer, or required by an Order of a Public Authority within a large commercial complex such as a shopping center or industrial park. Information on the requirements and related costs to the Customer can be obtained by contacting the Company.

#### **4.5.3.2 Application Requirements**

Prior to construction by the Company, the applicant for construction of underground electric lines in a commercial development shall:

- Provide the Company with sufficient lead-time to design the underground distribution system within the development, designating the metering locations and the locations from which services will be taken.

- Provide the Company with a site map approved by the local authority. The map shall show the location of all lot lines, roads, sidewalks, curbs, water lines, sewer lines, storm drains, grades, and landscaping features (trees, shrubs, light fixtures, etc.).
- Electrical conductors and cable shall not be installed under areas not readily accessible (such as under sidewalks and along paved roadways) unless in conduit.
- Rough grade the area over and adjacent to the proposed electric facilities to within six (6) inches of final grade.
- Establish and maintain construction survey stakes to readily determine grades, property lines and the location of other underground facilities.

## 4.6 Customer-Owned Overhead Service Connections

### 4.6.1 General

These specifications comprise the design and construction of Customer-owned electric overhead service connections. Adherence to these specifications will provide for standardized installations, which result in safe, reliable, and economic service.

These specifications are intended for primary extensions from the Company's 2.5kV to 15kV overhead lines and also secondary extensions.

The Customer shall consult with the Company regarding the character and point of service before plans are completed, equipment purchased or any construction started. Failure to do so may result in delays and may require changes in the Customer's electric system design and installation.

Customer-owned electric pole lines may also be used to support communication equipment (i.e., telephone and CATV). The Customer should consult the respective communication company for its requirements.

All customer-owned installations shall be designed, constructed, and maintained in conformance with the NEC, the NESC, the Company's standards, and all other applicable local, state, and federal codes and regulations. If conflicts exist between requirements, the more stringent code shall take preference. The specifications set forth in this Section are general in scope. In the event that there are items not specifically covered herein or other questions arise, the Customer should contact the Company for further information.

### 4.6.2 Location

Pole lines should be straight and as free as possible from corners, which require guying. Adequate clearances should be maintained from buildings, trees, TV and cell towers, and other obstacles. Span lengths shall not exceed 200 feet. The proposed location of the first Customer pole shall be approved by the Company before construction is started. Any transformer pole shall be accessible by a 37,000 pound material handling line truck.

### 4.6.3 Tree Trimming

The Customer is responsible for providing adequate tree trimming on all private electric lines. Satisfactory operation of primary lines requires a clearance of not less than ten (10) feet horizontally, and fifteen (15) feet vertically from all conductors. This usually means that a 20-foot right-of-way for single-phase and a 28-foot right-of-way for three-phase, clear of all trees and other interferences, shall be required.

### 4.6.4 Pole Specifications

Typically, a 45-foot Class 2 or Class 4 pole is used for the service point. For single phase Customer owned overhead lines, a Class 4, treated Southern yellow pine pole is adequate in strength for most circumstances. Three-phase lines and poles supporting transformers may require a stronger Class of pole. Consult with the Company to ensure proper support of Customer-owned facilities. Poles shall be of sufficient height to accommodate the required electric and communication facilities and necessary clearances between the two facilities, while maintaining proper ground clearances (see Figures 6, 7 and 16). Three-phase construction will require, at a minimum, a 45-foot pole. Table 4.6.4 shows recommended setting depths for different lengths of poles.

<b>Pole Setting Depths</b>			
<u>Pole Length</u>	<u>Setting Depth</u>		<u>Typical Use</u>
	<u>In Earth</u>	<u>In Rock</u>	
40'	6'-0"	5'-0"	Single-Phase Secondary Construction
45'	6'-6"	5'-6"	Single-Phase Primary & All Three-Phase Construction
50'	7'-0"	5'-6"	All Three-Phase Construction

### 4.6.5 Clearances

The vertical clearances of all conductors shall meet the requirements of the NEC, NESC, and the Company's standards.

### 4.6.6 Anchors and Guys

Guying is required on all corner and dead-end poles. Where possible, anchors should be installed at a distance away from the pole equal to the height of the pole above ground. The anchor shall have adequate holding power (see Figure 17). Different types of soil require different anchors. For general electric line construction, a minimum of 1" by 7' anchor rod and 3/8" galvanized guy strand are recommended. All guys on primary poles shall be bonded to the neutral or down ground and have a guy strain insulator installed at a suitable location. All guys shall be suitably marked at the ground level with a yellow guy guard. Consult the Company for information on the recommended type of anchor for unusual situations.

### 4.6.7 Type of Construction

All lines shall be built to 7.6/13.2 kV specifications using 10 kV pin insulators or 15kV dead end insulators. For construction in the towns of Hunter, Jewett, Lexington, Ancram and Gallatin, contact the Company for appropriate specifications (34.5 kV construction).

Most Customer-owned lines are single-phase. In areas where a neutral is available, the use of pole-top pin, phase and neutral construction is required. If a neutral is not available in the area, cross-arm construction is required. Cross-arms should be of fir or spruce, eight (8) feet in length and treated. Steel braces and 10 kV pin insulators on steel pins in the outside pin positions should be used (see Figure 18). Consult the Company for three-phase construction specifications.

#### **4.6.8 Conductors and Accessories**

In most instances, #2 ACSR (aluminum-steel reinforced) wire will be the most economical conductor. However, #4 hard drawn copper wire may be used.

All neutral conductors shall be bare (not covered).

Tie wires at insulators should be bare, solid wire of the same material as the conductor (#4 aluminum or #6 soft drawn copper).

Special attention should be given to electrical connections and connectors. At all electrical connections, regardless of conductor material, the conductors to be joined shall be wire brushed and an oxide-inhibiting compound immediately applied. Connectors used for aluminum-to-aluminum, aluminum-to-copper, or copper-to-copper shall be listed for such use.

#### **4.6.9 Transformers**

Where service is to be at secondary voltage, the Company will furnish and install the required transformer. A 45' Class 4 pole (minimum), accessible by a 37,000 pound material handling line truck, is required at the transformer location. Three-phase installations will require a higher Class pole because of the weight of the transformer, and special construction may be necessary.

#### **4.6.10 Lightning Arresters and Grounding**

The protection and grounding installed for a transformer will usually be sufficient to adequately protect and ground the Customer's line.

For long lines, additional protection may be needed (see Figure 19). All metal components shall be connected to the ground system by standard means.

#### **4.6.11 Secondary Voltage Construction**

See Figure 18 for typical secondary construction.

#### **4.6.12 Excavation and Blasting**

Attention is called to the provisions of New York State Law, Rule 753, subpart 3.1, which requires that public utilities be notified two (2), but not more than ten (10) days, in advance of excavation work or blasting in an area in which gas mains are located, not including the day of the call. Blasting may require additional time for the utility to assess conditions.

## **4.7 Customer-Owned Underground Primary Service Connections**

### **4.7.1 General**

These specifications comprise the design and construction of Customer-owned electric underground service connections. Adherence to these specifications will provide for standardized installations, which result in safe, reliable, and economic service.

These specifications are intended for primary extensions from the Company's 2.5kV to 34.5kV distribution lines and also secondary extensions.

The Customer shall consult with the Company regarding the character and point of service before plans are completed, equipment purchased or any construction started. Failure to do so may result in delays and may require changes in the Customer's electric system design and installation.

Natural gas piping, telephone and/or CATV lines may be installed in the same trench with the electric service lateral conductors (see Figure 11 for cables in conduit and Figures 20.0 through 20.3 for direct buried cables).

All Customer-owned installations shall be designed, constructed, and maintained in conformance with the NEC, the NESC, the Company's standards, and all other applicable local, state, and federal codes and regulations. If conflicts exist between requirements, the more stringent code shall take preference.

The specifications set forth in this Section are general in scope. In the event that there are issues not specifically covered herein or other questions arise, the Customer should contact the Company for further information.

### **4.7.2 Location**

The route of the underground primary line should be planned to be as straight as possible from the riser pole to the transformer location. The right-of-way should be cleared of stumps, brush and any other above and below grade obstructions. Grade should be within six (6) inches of final grade before trenching.

### **4.7.3 Excavation and Backfill**

The Customer shall excavate and backfill all trenches in accordance with the NEC. See also Figure 11 in this book for cables in conduit and Figures 20.0 through 20.3 for direct buried cables.

### **4.7.4 Primary Cable Installations**

Primary cable shall conform to the following specifications. The Company maintains 34.5KV distribution systems in the towns of Hunter, Jewett, Lexington. See below for cable specifications in those areas. Primary cables must meet ANSI/ICEA S-94-649 with insulation rated for 90°C continuous duty. Deviation from these specifications without prior approval from the Company may result in complete removal and replacement of cable before final connection to grid is performed. Any 15kV equipment in the above listed towns require company approval prior to installation.



For primary cable installations of 4kV to 15 kV, the Customer shall use either 15kV, #2 AWG aluminum or 4/0 AWG conductors. 4/0 AWG shall be used where #2 cannot adequately serve the customer's load. Cable specifications for both are:

- #2 AWG aluminum: 7-wire compressed or concentric round stranding, with 15 mils conductor shield, 220 mils cross linked polyethylene insulation, 30 mils insulation shield and 10 #14 AWG copper concentric neutral applied spirally around the cable with a 55 mils jacket applied over the neutral conductor.
- 4/0 AWG aluminum: 19-wire compressed round stranding, with 15 mils conductor shield, 220 mils cross linked polyethylene insulation, 30 mils insulation shield and 20 #12 AWG copper concentric neutral applied spirally around the cable with a 55 mils jacket applied over the neutral conductor.

For primary cable installations of 34.5 kV the Customer shall use 35 kV, #1/0 AWG, 19-wire compressed aluminum conductors with an average conductor shield of 15 mils of semi-conducting thermosetting material. Insulation shall be cross-linked polyethylene (XLP) 345 mils thick, suitable for use in wet locations. Insulation shield shall be semi-conducting thermosetting material with an average thickness of 50 mils. Concentric neutral conductor shall be 16 #14 AWG copper evenly spaced over the insulation shield. The Customer shall use a cable with a 70 mils jacket covering of the concentric neutral.

Cable jacket shall be black, marked with three red stripes spaced 120 degrees apart, extruded 25 mils deep into the jacket for identification purposes. Direct buried cables shall have a semi-conducting jacket with a radial resistivity of not more than 100 ohm-meter. Cables in conduit shall have a non-conducting jacket. This will distinguish it from a polyethylene gas pipe and other cables, which may be in the same area.

All primary cables shall be field tested in accordance with the manufacturer's recommendation for testing the electrical integrity of the insulation. The field test shall be made after the installation is complete.

Customers installing conduit shall provide a minimum of 2" diameter PVC, electrical grade conduit, with a spare, for single phase services. For 3 phase services the minimum conduit diameter shall be increased to 4". Provide all conduits with pull string (mule tape or equivalent).

#### **4.7.5 Riser Pole and Associated Terminations**

The Company shall designate the riser pole, transformer or other point of termination from which the Customer's electric service lateral will originate. No more than two (2) electrical riser conduits are permitted per pole. All risers shall be on the non-traffic side(s) of the pole and allow for conductor installation to Company space on pole without conflict from other utilities equipment/cables. Where the riser must be installed facing traffic due to existing obstacles, contact the Company prior to installation. When an underground service lateral is required by the authorities having jurisdiction and the Company's pole is on the opposite side of the public highway from the Customer's premises, the Customer will install, own and maintain a highway crossing pole and appropriate guy on the Customer's side of the highway, preferably on the Customer's property. The Company will, at no expense to the Customer, install one (1) overhead primary extension to this pole. When an underground service lateral is requested by the Customer, all required highway crossing poles, and necessary appurtenances, shall be installed in accordance with Section 4.3.1.2.

At the riser pole, where a single-phase, underground service connection originates, the Customer shall install a 2", 90 degree galvanized steel RMC bend at the base of the pole and a galvanized 2" rigid steel conduit up the pole, not less than 8' nor more than 11' above the final grade. Schedule 80 PVC is allowed in some cases for secondary riser systems only where damage risk is low. The use of schedule 80 PVC in such cases must have approval by the Company before installation. For three-phase service all primary risers shall be at least 4" diameter. Customer should obtain conduit size information from the Company for special cables. The conduit shall extend outward five (5) feet from the lower end of the bend and shall be grounded by the customer in accordance with Figure 21.

The Customer shall arrange to install cable long enough to extend from the top of the riser conduit to the top of the riser pole. Should the Customer elect to install a continuous conduit system, schedule 40 PVC may be used for the below grade portion of the conduit system.

All primary risers shall be galvanized steel RMC. The Company will install cutouts, lightning arresters, and terminate the cable conductors to its distribution system on Company owned poles. The Customer shall make terminations using Company approved equipment on de-energized Customer poles. The Customer is allowed to install equipment on energized Customer poles only where the work is performed by qualified worker(s), according to OSHA Standard 1910.269. If necessary and at their discretion, the Company will provide and install all Customer required equipment at the Customer's expense. For additional details on primary riser installations, see Figure 45 for 7.6kV single phase, Figure 46 for 13.2kV three phase, Figure 47 for 19.9kV single phase, and Figure 47 for 34.5kV three phase.

#### **4.7.6 Transformers**

For single-phase transformers up to 167 kVA, the Customer shall install a fiberglass box pad within ten (10) feet of driveway or roadway, unless a farther location is approved by the Company. For three-phase transformers, refer to pad specifications in Figure 22. The Customer shall provide and install all ground rods and grounding conductors for pad-mount transformers (see Figures 22 & 23). The Company will furnish and install a pad-mounted transformer, terminate and connect the Customer's primary and secondary cables in the pad-mounted transformer. Customer shall provide sufficient slack cable, at least ten (10) feet, at the transformer for the Company to make these connections. Multi-transformer installations and transformers in vaults require special consideration. The Company shall be consulted prior to the design and installation of these facilities.

##### **4.7.6.1 Secondary Cable Terminations**

The Company's transformers are limited in the number of secondary conductor sets they can accept, see Table 4.7.6.1. The Company's single phase transformers use either an aluminum multi-tap stud connector that accepts stripped/bare conductors or NEMA pads that accept two-hole NEMA lugs. The Company's three phase transformers are only provided with NEMA pads that accept two-hole NEMA lugs. The aluminum multi-tap stud connectors will accept conductors 750 MCM and smaller. For the NEMA pads, the Company carries a limited range of stackable 2-hole lug sizes, able to maximize the amount of conductor sets, as shown in Table 4.7.6.1. These sizes are 2/0, 4/0, 350MCM, 500MCM, & 750MCM. Both connector types can take aluminum or copper conductors. Other lug sizes are available in non-stackable types for the most common conductor sizes.

The Customer shall coordinate with the Company on amount and size of conductor sets during the early stages of the project. Customers installing conductor quantities that exceed the transformer capacity will need to revise the service entrance conductor design or be responsible for all charges required by the Company to install a secondary enclosure capable of terminating the conductor sets.

When the Company's standard stock of lugs doesn't match the Customer's conductor and quantity request, the Customer shall provide the correct terminations for the conductors installed.

<b>Table 4.7.6.1</b>				
<b>Pad Mount Transformer Maximum Conductor Sets</b>				
Transformer Size	Phases	Maximum Conductor Sets		Notes
		Strip Cond.	NEMA Lugs	
10 – 75 kVA	1 $\phi$	6	4	1,2,4,5
100 – 167 kVA	1 $\phi$	6	6	1,2,4,5
75 – 500 kVA	3 $\phi$	NA	6	1,3,4,5
750 – 2000 kVA	3 $\phi$	NA	6	1,3,4,5

Notes:

1. Number of sets shown for NEMA lugs assumes two-hole lugs are used. Other connectors will reduce these values.
2. Remove two sets from value shown for single phase transformers when using transformer mounted CTs with NEMA Lugs.
3. Remove two sets from value shown for three phase transformers when using transformer mounted CTs.
4. Transformer mounted CTs shall be used only when transformer serves a single meter.
5. Seek company approval if additional conductor sets are needed.

#### 4.7.7 Trenching

Trenching and burial of direct burial primary cable shall be installed in accordance with Figures 11 & 20. Minimum cover for underground primary installations shall conform to NEC Table 300.50. An abbreviated version of this table is shown on Fig. 11 for reference only.

## 5. SERVICE EQUIPMENT

### 5.1 General

All service equipment shall be furnished, installed and maintained by the Customer.

All service equipment shall meet the requirements of the NEC and all other applicable codes.

The equipment shall have a minimum rating of 100 amperes, single-phase, three-wire, 120/240 volts, unless granted an exception by the Company. See Section 4.3.2 for underground residential services.

In multi-meter installations, all service equipment shall be permanently marked to indicate the load served.

The Company requires treating aluminum conductors with an antioxidant compound prior to terminating or joining conductors to electrical equipment. The compound used shall be listed for such purposes.

### 5.2 Additional Requirements

#### 5.2.1 General

All service equipment shall also meet the following requirements:

- A voltage rating suitable to the service.
- An ampere rating which is adequate for the initial and anticipated future load current requirements. The device shall be capable of interrupting load current equal to its ampere rating.
- A fault current interruption capability sufficient to meet initial and anticipated needs.
- Any connection made ahead of the main service equipment (i.e., fire pumps, exit signs, alarm circuits, control power for circuit breaker) shall be provided with disconnecting means and overcurrent protection adequate for the duty. Such connections shall be made only where specifically approved by the Company and shall be metered either separately or through the main metering equipment.

#### 5.2.2 Other than Dwelling Units

All service equipment, except for dwelling units, shall have the maximum calculated available fault current displayed on it, in accordance with NEC section 110.24. The Company will supply the transformer's maximum available secondary fault current upon completion of transformer selection. To complete the transformer selection, the Customer must supply a service application and a load letter. It is the Customer's responsibility to calculate and field mark the available fault current at the service equipment.

### 5.3 Location of Service Equipment and Working Space

The service equipment shall be located in a clean, dry, weatherproof (IE doors, windows, and roof must be installed), readily accessible location as near as is practicable to the entrance of the service conductors. When located in a location that doesn't meet the above requirements, provide service equipment with appropriate NEMA rated enclosure.

Sufficient access and working space shall be provided and maintained about all electrical equipment to permit ready and safe operation and maintenance of such equipment.

Working space for equipment likely to require examination, adjustment, servicing, or maintenance while energized, shall comply with Article 110 of the NEC.

### 5.4 Location of Main Disconnect

All service equipment shall be located on the load side of the meter with the following exceptions:

- Service from city network areas.
- Service at 277/480 volts with self-contained metering.
- Those multi-meter installations that require a main disconnect by NEC 230.71.

For the above exceptions, a main disconnect switch shall be provided by the Customer on the line side of the meter. The disconnect switch shall have a short-circuit current rating that is not less than the available short-circuit current at the line terminals of the switch.

### 5.5 Service below 600 Volts

#### 5.5.1 Equipment Rated below 400 Amperes

The Customer shall terminate the service entrance conductors in a metering device or in service equipment furnished by the Customer. Equipment must be service entrance rated. If fuses are used, they shall meet the following requirements:

- The fuse shall conform to the latest NEMA standard for power fuses.
- The Customer shall have responsibility for spare fuses.

If a thermal magnetic circuit breaker is used, it shall meet the following requirements:

- An operating mechanism that trips all phases simultaneously.
- An overcurrent-tripping device on each pole, providing time delay overcurrent protection and instantaneous tripping for currents of available fault magnitude.
- Conformance with latest NEMA and ANSI standards for power circuit breakers. UL listed.

### **5.5.2 Equipment Rated at or above 400 Amperes**

The Customer shall furnish and install all service equipment, including instrument transformer cabinets and metering cable conduit. Equipment must be service entrance rated.

The Customer shall review with the Company the service equipment specifications prior to the purchase of such equipment.

If the Customer chooses to incorporate the metering instrument transformer cabinet within the switchgear, specifications for such cabinet shall be submitted to the Company for approval prior to purchase.

Service equipment rated above 400 amperes shall also meet the latest ANSI and NEMA standards and be UL listed.

### **5.5.3 Network Areas or Service at 277/480 Volts or 480 Volt Delta with Self-Contained Metering**

The Customer shall provide a single, service entrance rated, main disconnect on the line side of the Company's metering equipment.

In network areas and certain special underground applications, the Company's service entrance conductors may be connected directly to the terminals of the main service switch. In these situations, only a fused disconnect switch will suffice for the main service switch. Circuit breakers are not acceptable.

Where the Company's service conductors are of such a size or number that they cannot be connected to the terminals, a suitable service bus capable of withstanding the mechanical stresses developed by the fault current shall be provided by the Customer immediately inside of the building.

## **5.6 Service above 600 Volts**

### **5.6.1 Location**

The location of the service equipment and the electrical system configuration shall be determined upon mutual consideration of all factors by the Customer and the Company. Based on the configuration selected, the Company will advise the Customer concerning specific requirements for basic insulation level (BIL), protective equipment, and metering.

### **5.6.2 Application Requirements**

The Customer shall submit detailed plans for approval by the Company prior to the purchase of equipment or proceeding with the installation. Where service will be supplied from a 13.2kV or 34.5kV grounded wye feeder and the Customer requires a three-phase wye secondary service, the Customer shall supply 95kV (13.2kV), or 150kV (34.5kV) BIL, grounded wye-grounded wye connected transformers with a "five-legged" core.

## 6. GROUNDING

### 6.1 General

The grounding conductor and the service entrance equipment shall be effectively and permanently grounded in accordance with Article 250 of the NEC.

The frames and secondary neutral of all instrument transformers and Customer-owned transformers shall be grounded. See section 7.5 of this specification for information on grounding metering equipment.

### 6.2 Grounding Electrode Conductor

The size of the grounding electrode conductor shall be in compliance with Article 250 of the NEC. In addition, the Company requires a copper (stranded or solid) grounding conductor for all service grounds.

### 6.3 Grounding Electrodes

All grounding electrodes shall be a minimum 5/8" x 8' copperweld or galvanized rod. Rod electrodes shall be free from nonconductive coatings such as paint and enamel.

A single grounding electrode, which has a resistance to ground greater than 25 ohms, shall be augmented by one additional electrode. A supplementary grounding electrode shall be spaced no less than six (6) feet from any other grounding electrode. When two or more grounding electrodes are used, they are to be effectively bonded together in accordance with Article 250 of the NEC.

Where available, a continuous metallic underground water piping in direct contact with earth for a minimum of ten (10) feet may be used as the ground. However, the water piping shall be supplemented by an additional grounding electrode in accordance with Article 250 of the NEC.

When new, metallic reinforcing bars or rods are embedded in at least 2 inches of concrete that make direct contact with earth, are at least ½ inch diameter, and installed in a single 20 foot continuous length or connected with metal ties or welding to produce at least 20 feet of length, the reinforcing bars or rods shall be used as a ground. Supplemental grounds may be required if resistance to ground exceeds 25 ohms as discussed in this section.

Under no circumstances shall aluminum, gas, or fuel oil piping system be used as a grounding electrode, nor should any CATV, phone, electric or other bonding conductors be placed in contact with gas mains or service piping, gas meters and regulators, or any other gas equipment.

### 6.4 Communications Equipment

All communications equipment (CATV, satellite, telephone, etc.) shall be grounded in accordance with Articles 250, 800, 810, 820, 830, and 840 of the NEC.

### 6.5 Grounding of Standby AC Generating Sources

#### 6.5.1 Separately Derived Systems

Where a standby AC generator is used as a separately derived system, it shall be grounded to a grounding electrode in accordance with Article 250.30 of the NEC.

### **6.5.2 Non-Separately Derived Systems**

Where a standby generator is used as a non-separately derived system, the equipment grounding conductor shall be bonded to the system grounding electrode.

## **6.6 Grounding of Interconnected Electric Power Production Sources**

### **6.6.1 General**

Electrical energy systems that may be interactive with other electrical power production sources, with or without electrical energy storage such as batteries, shall be grounded in accordance with the NEC.

### **6.6.2 Generators**

Interconnected generators, including wind-driven generators, shall be grounded in accordance with Articles 250 and 705 of the NEC.

### **6.6.3 Solar Photovoltaic Systems**

Solar photovoltaic systems shall be grounded in accordance with Articles 250, 690 and 705 of the NEC.

### **6.6.4 Fuel Cell Systems**

Fuel cell systems shall be grounded in accordance with Articles 250, 692 and 705 of the NEC.



## **7. METERING**

### **7.1 General**

#### **7.1.1 Responsibility**

The Customer provides and installs all equipment beyond the point of delivery: meter sockets, cabinets and enclosures, connection lugs, conduit, means for grounding, protection devices, and associated wiring from the socket to the load.

The Company will furnish, install and connect all meters, meter instrument transformers, test switches, and meter cable. All meters, meter facilities and all points of access to unmetered wiring on the Customer's premises will be sealed by the Company. All cabinets and equipment enclosures containing unmetered conductors shall be made sealable before the service is energized.

#### **7.1.2 Meter Service Provider**

Customers with demands of 50 kW or greater for two (2) consecutive months during the most recent twelve (12) consecutive months may obtain competitively-provided billing meters and associated metering data services from an approved meter service provider. Additional information on this matter may be found in Company tariffs or by contacting the Company.

#### **7.1.3 Meter Type**

For single socket meter installations, the Customer shall furnish and install a meter socket or metering enclosure if the service connection is less than 600 volts and the conductor size does not exceed 400A rating (see Figures 24, 25, 26, and 27). If the service exceeds the above limitations the Customer shall furnish, install and maintain a metering transformer mounting enclosure with mountings approved by the Company and necessary metering conduit and meter socket (see Figures 28, 29, and 30).

#### **7.1.4 Restrictions**

The Company's metering equipment shall not be used to operate any Customer devices, except in those cases where prior approval has been granted.

Normally, direct metering is required for all new services. Master metering and submetering are allowed in certain instances with specific approval from the New York State Public Service Commission.

### **7.2 Meter Location**

#### **7.2.1 Responsibility**

The Company will designate the meter location.

#### **7.2.2 Working Space Requirement**

A clear working space of four feet square shall be provided and maintained in front of the meter by the Customer. This space shall be permanently free of all obstructions, including landscaping.

### **7.2.3 Outdoor Meters**

Meters and current transformer enclosures (as required) normally will be located outdoors. All outdoor meter sockets shall be installed vertically such that the center of the face of the meter is between four (4) feet and five (5) feet above final grade (except meter pedestals). Current transformer enclosures shall be NEMA type 3R construction.

### **7.2.4 Indoor Meters**

Where a meter is installed indoors, it should be located as close as practical to the point where the service enters the building. Meters shall not be installed where subject to vibration or mechanical damage, or in stairways, coal bins, bathrooms, toilets, bedrooms, attics, store windows, behind shelves, in transformer vaults, near moving machinery, or similar inconvenient or dangerous locations.

### **7.2.5 Electric and Gas Meter Separation**

The separation between a gas meter, regulator, and all gas piping shall be at least three (3) feet from an electric meter, disconnect switch, panelboard, or other electrical equipment. (see Figure 31).

### **7.2.6 Restriction**

Metering shall not be installed on a Company pole or equipment unless such metering is for the purpose of measuring electrical consumption of communication equipment located on the same pole.

## **7.3 Meter Installations**

All metering equipment including service pedestals shall be adequately supported, securely fastened, and in a level and plumb position.

On Customer meter poles, the meter shall be installed so as to have reasonable protection from damage.

All unused openings in the enclosure shall be closed with suitable plugs.

All wireways and troughs located on the line side of the meter must be of a tamper resistant design or shall have pad-locking provisions.

## **7.4 Multiple Meter Installations**

### **7.4.1 General**

Where two or more meters are to be installed, they shall be grouped at one location.

### **7.4.2 Company Approval**

The Customer shall provide and install a multi-socket panel base assembly of two or more positions of a type that is approved by the Company.

### 7.4.3 Installation Requirements

Grouped metering equipment shall be installed in accordance with Figures 32 and 33.

### 7.4.4 Identification Requirement

Each meter shall have a permanently engraved metal or hard plastic label that is suitable for outdoor use and which clearly identifies the load served.

## 7.5 Grounding and Bonding Metering Equipment

### 7.5.1 General

All services shall be effectively and permanently grounded in accordance with Article 250 of the NEC (see Figure 34). Load center, temporary metering poles with no disconnect, CT cabinets, and three-phase metering shall be effectively grounded.

### 7.5.2 Remote Metering Equipment

All equipment containing service conductors shall be grounded and bonded. This includes meter enclosures, metal raceways and metal weatherheads that are installed remote from service equipment or where service disconnects are not used (see Figure 34).

The grounded service (neutral) conductor shall be connected to the neutral terminal of the remote meter enclosure. A copper grounding electrode conductor, sized per NEC Article 250, shall be used to connect the neutral terminal to a grounding electrode.

A single grounding electrode, which has a resistance to ground greater than 25 ohms, shall be augmented by one additional electrode. A supplementary grounding electrode shall be spaced no less than six (6) feet from any other grounding electrode. When two (2) or more grounding electrodes are used, they are to be effectively bonded together in accordance with Article 250 of the NEC.

## 7.6 Meter Boards and Panels

The meter board shall be made of 3/4 inch exterior grade plywood and painted with a good quality flat paint. The meter board shall be large enough to accommodate all metering equipment (connection boxes, switches, meters, etc.) necessary for each particular type of installation.

The Customer may incorporate the meter panel within a service equipment switchgear assembly. The Company shall be consulted concerning approval for the panel, space requirements and the arrangement for meter instrument transformer mounting.

## 7.7 Meter Socket Requirements

### 7.7.1 General

Ringless meter sockets shall be used for all installations with standard line and load-side lugs sized to accept appropriate sized conductor. Ring-type will not be allowed on new installations or service upgrades.

Spade lugs and crimp-on connectors are not permitted.

All lugs shall be capable of accepting aluminum and copper wires.

All meter positions shall have individual, removable and sealable covers.

Meter requirements are also summarized in Table 7.7.6.

### 7.7.2 UL Listing

All meter sockets shall be UL listed and possess the UL label clearly on the enclosure.

### 7.7.3 Meter By-pass

A manual lever by-pass shall be installed by the Customer for all non-residential applications, except temporary services and licensed attachments (less than 200A with UPS backup) to Company poles by communication companies. A manual lever by-pass is also required for all applications with 320A self-contained meters, CT Meters without test switch provisions, traffic signal meters, and the landlord meter in multi-tenant residential buildings with four or more units. Residential services 200A and lower shall not have manual lever by-pass meters unless it's requested for life-supporting medical equipment. Manual lever by-pass is optional for life-supporting medical equipment though if it is used it must be marked with special LSA seal. Horn by-pass meters are not acceptable where a lever by-pass is required. Manual lever by-pass is also optional for CT metering applications with test switch provisions.

### 7.7.4 120/208V Network Service

Fifth terminals shall be installed by the Customer for 120/208V supply voltage. The fifth jaw shall be manufacturer-approved for the meter socket in which it is installed, and shall be installed per manufacturer's specifications at the 9 o'clock position.

### 7.7.5 320A Self-Contained Metering

#### 7.7.5.1 General

The meter socket required for a 400A service is a "Class 320" meter socket. It is larger than the 200 A meter socket, but it is still a self-contained meter socket (*it doesn't require instrument transformers*). It can be installed where the continuous current rating is 320 amps or less. Continuous current rating is the amount of current seen continuously for 3 hours or more. If your service will require more than 320 amps continuous, you are required to install a current transformer (CT) service.

#### 7.7.5.2 Additional Requirements

Applications requiring 320A self-contained metering shall be installed in accordance with Figure 35.

320 A self-contained meter sockets shall not be used for 100 A and 200 A services, including temporary services.

Conductors feeding services with 320 A self-contained meters shall be rated for the size of the service as determined by Article 220 of the NEC. Service entrance conductors shall be sized for the overcurrent protection provided and certified by the electrical inspector.

The use of double secondary service runs is strongly discouraged. Where double sets are used, they must be installed in conduit from service pole to building wall.

**7.7.6 Poly-phase Metering**

Specifications on poly-phase group metering above 277/480V shall be submitted to the Company for approval prior to purchase.

Table 7.7.6							
Service				Meter Socket Requirements			
Application	Size	Phases	Voltage	# of Terminals	Manual Lever Bypass	Additional Requirements	Reference Milbank Meter Socket Catalog Numbers
Residential	100A	1	120/240V	4	No		U7487-RL-TG-KK
			120/208V	5	No	Fifth Jaw @ 9 o'clock position	U1770-RL-TG-BLG
	200A	1	120/240V	4	No		U7040-RL-TG-KK
			120/208V	5	No	Fifth Jaw @ 9 o'clock position	U9101-RL-TG-KK
	400A (320A Cont.)	1	120/240V	4	Yes	Anti-inversion feature (200A rejection)	U2448-X
			120/208V	5	Yes	Fifth Jaw @ 9 o'clock position, Anti-inversion feature (200A rejection)	U2448-X-5T9
	Over 400A (CT Metering)	1	120/240V	6	Yes		U4490-XL
	Commercial	200A	1	120/240V	4	Yes	
120/208V				5	Yes	Fifth Jaw @ 9 o'clock position	U9551-RXL
3			120/208V 120/240V 277/480V	7	Yes		U9701-R
400A (320A Cont.)		1	120/240V	4	Yes	Anti-inversion feature (200A rejection)	U2448-X
			120/208V	5	Yes	Fifth Jaw @ 9 o'clock position, Anti-inversion feature (200A rejection)	U2448-X-5T9

		3	120/208V 120/240V 277/480V	7	Yes	Anti-inversion feature (200A rejection)	U2594-X
Over 400A (CT Metering )	1		120/240V	6	Yes		U4490-XL
		Primary		6	Opt	Test Switch Provision	U4494-XL (Bypass) UC3426-XL (No bypass)
	3		120/208V 120/240V	13	Yes		U4493-XL
		277/480V Primary		13	Opt	Test Switch Provision	U4497-XL (Bypass) UC3423-XL (No bypass)

Notes:

1. Milbank model numbers are shown for reference only. Other approved manufacturers are acceptable.

### 7.7.7 CT Metering

Secondary services 400A (continuous load > 320A) and larger as well as all primary voltage services require CT metering.

Secondary CTs shall be installed in a separate, Customer supplied cabinet (see Figure 30), outdoor wall or pole mounted rack (see Figure 29), or inside a pad mounted transformer. Primary CTs shall be installed on Customer owned poles or in primary meter enclosure. The customer supplied meter pan must be located within 50' of the CT's whether they are installed in a cabinet, padmounted transformer, or on a pole mounted rack.

#### 7.7.7.1 Test Switch Provisions

Test switch provisions are required for all primary metered services and CT metered secondary services at 277/480V. Meter pans with test switch provisions shall be designed to allow a Company test switch 4 inches tall to be installed with all covers fully sealed. Test switch access shall be via its own cover, independent of the meter pan or the meter pan's cover. Pre-wired test switches are not acceptable. Manual lever by-pass is not required when provided with test switch provisions.

## 7.8 Underground Residential Service Meter Requirements

Where a residential single phase meter, 200A or less, is supplied underground it must have frost loops. The frost loops shall be installed as shown on Fig. 13 and the meter pan's UL listed design shall not be modified to accept the frost loops.

## 7.9 Meter Relocation

Whenever it is necessary to relocate an existing service entrance, service equipment, meter or meter board, the new installation shall be made by the Customer at his or her expense in accordance with these specifications.

## 7.10 Shared Meter Law

New York State has enacted a revised shared meter law. This law may be found in Section 52 of the Public Service Law of New York State.

The overall purpose of the law is to eliminate, to the extent practicable, the use of shared utility meters.

A shared meter is a utility meter that measures gas or electric service to a tenant's dwelling and also measures such service to areas outside the tenant's dwelling with the result that the tenant is paying for service provided to the tenant's dwelling and for service provided to areas outside that dwelling that are not under the exclusive use and control of the tenant.

Under the law, each owner is responsible for eliminating any shared meter condition that exists on the owner's property. Alternatively, an owner may establish an account with the Company in the owner's name for the shared meter.

An owner is not required to eliminate a shared meter if there is a legal impediment to eliminating the condition, or if the cost of eliminating the condition would be extraordinary, or if the amount of service measured through the shared meter is minimal. Additional information on these conditions and on the Shared Meter Law in general can be obtained by contacting the Company.

## 7.11 Load Control Pulses

At the Customer's request, the Company will furnish demand pulse signals at the metering location, representing the kW demand for operating Customer-owned load control equipment. Time pulses will not be supplied. The Customer shall provide payment, in advance, covering the initial cost and installation expense for this equipment.

## 7.12 Unauthorized Use

The breaking of seals, tampering with meters or unmetered wiring is strictly prohibited (New York State Penal Law, Section 165.15). Violators will be prosecuted.

## **8. COMPANY TRANSFORMER INSTALLATIONS ON CUSTOMER PREMISES**

### **8.1 General**

The type of transformer installation (pole-mounted, pad-mounted, transformer vaults, etc.) will depend upon specific conditions. The Customer shall, in all cases, consult the Company regarding the location, selection and details of the transformer prior to finalizing plans.

### **8.2 Responsibility**

Primary and secondary terminations for conductors not standard with Company specifications shall be supplied by the Customer.

The Customer shall install any required transformer pads, poles or vaults in accordance with Company specifications.

The Company will make the primary and secondary terminations and the final transition connections.

### **8.3 Suitable Location Requirement**

When the Customer requests to have the Company install its transformers and/or other equipment on the Customer's property, the Customer shall provide a suitable location with satisfactory access for the installation, operation, and maintenance of Company equipment within ten (10) feet of roadway, driveway or parking lot, unless otherwise approved by the Company. If a location isn't within (10) feet of a roadway, driveway or parking lot and wasn't accepted by the Company prior to installation, the Company reserves the right to deny service.

### **8.4 Transformer Vaults**

#### **8.4.1 General**

The Customer shall provide, own and maintain a suitable vault for transformers with proper ventilation, together with the underground conduit and cable as required for the primary supply cable from the line pole to the vault.

It is recommended that a spare underground conduit be included with the initial installation.

#### **8.4.2 Responsibility**

The Customer shall furnish detailed plans for approval by the Company prior to construction of the vault. The vault shall comply with all provisions for transformer vaults in accordance with the NEC and all applicable local ordinances and building codes.

The Customer shall install, own and maintain the complete low voltage service from the transformer low voltage terminals to the service equipment.

Upon consultation with the Customer, the Company will furnish recommendations for each transformer vault.



### **8.4.3 Restrictions**

Neither service equipment nor meters shall be located in the transformer vault.

### **8.4.4 Access**

Access to the vault shall be restricted to authorized personnel only. All vaults containing Company equipment shall have provisions for double locks to allow Company personnel access to the vault.

## **8.5 Pole Mounted Transformers**

### **8.5.1 General**

The Customer shall be responsible to provide, own, and maintain the pole when a transformer is installed on a Customer pole. See section 4.6.4 for pole specifications. Pole maintenance shall include the Customer's responsibility to maintain any vegetation near their overhead lines. The Customer shall be liable for damages to Company equipment on Customer poles. Liability shall also extend to any environmental cleanup, collateral damage to property, or injuries caused by pole failure.

## **8.6 Pad Mounted Transformers**

### **8.6.1 General**

The Customer is required by tariff to provide, own, and maintain an approved box pad for installing pad mounted transformer. See section 4.7.6, Figure 22, and Figure 23 for box pad requirements depending on service size/type.

### **8.6.2 Restrictions**

Neither service equipment nor meters shall be located on the transformer or the box pad.

## **9. MANUFACTURED HOMES, MOBILE HOMES AND RECREATIONAL VEHICLES**

### **9.1 General**

The requirements for electric service and meters for mobile homes, mobile home parks and recreational vehicles differ from the requirements for other types of service and, therefore, must be given special consideration.

#### **9.1.1 Advanced Notice Requirement**

The Company shall be consulted in advance regarding each specific installation.

#### **9.1.2 Character of Service**

Each mobile home shall be supplied with an individual service connection. The NEC and clearance requirements generally preclude the attachment of a service connection directly to a mobile home. It is therefore necessary for the Customer to provide a point of attachment that is separate and removed from the mobile home.

The Customer's service equipment shall be suitable for connection to a supply system nominally rated at 120/240V, 3-wire AC, single-phase with a grounded neutral.

#### **9.1.3 Installation Requirements**

All mobile home installations shall be in accordance with Article 550 of the NEC and with the specifications contained herein.

The grounding of the electric service shall be in accordance with the NEC.

The Customer shall be required to provide adequate support for attachment of the service lateral.

For service laterals, a combination service meter pedestal shall be used (see Figure 36). The Company shall be consulted as to acceptable types of this equipment.

#### **9.1.4 Manufactured Homes**

A manufactured home with prior written approval from the local authority having jurisdiction may be permitted to have service connected as described outside this section.

### **9.2 Individual Mobile Homes**

#### **9.2.1 General**

Mobile homes not located in a development or park can be supplied with an overhead or underground service connection.

### **9.2.2 Overhead Service Connection**

An overhead service connection shall terminate on a suitable Customer pole in accordance with the applicable service requirements of Section 4 (see also Figures 37 and 38).

The service entrance conductors and equipment shall have a minimum current rating of 100 amperes for a single-phase meter.

### **9.2.3 Underground Service Connection**

An underground service connection shall be in accordance with the applicable requirements of Section 4 (see also Figures 37 and 38).

The service shall have a minimum rating of 200 amperes for a single-phase meter.

## **9.3 Mobile Homes in Parks Served from Overhead Lines**

### **9.3.1 Responsibility**

The Company will install, own and maintain the overhead primary and secondary distribution lines required to deliver permanent electric service to parks that contain at least two (2) but less than five (5) adjacent mobile home sites.

The service connection shall be installed, owned and maintained by the Customer.

All meter board applications shall be installed in accordance with Figure 39.

### **9.3.2 Character of Service**

Each new mobile home in parks which are served from overhead lines, shall be supplied with an underground service lateral and a minimum capacity of 200 amperes for a single-phase meter connection.

## **9.4 Mobile Homes in Parks Served from Underground Lines**

All meter board applications shall be installed in accordance with Figure 40.

Each mobile home in parks that contain five (5) or more dwelling units designed for permanent residential occupancy shall be connected in accordance with the provisions of Section 4.5.2.

## **9.5 Recreational Vehicles**

The service to a recreational vehicle park or campground will be provided through one service to one location in the name of the operator of the park. Individual vehicle sites in a park or in campsites will not be metered by the Company.

All installations must be in accordance with Article 551 of the NEC.

## **10. DISTURBANCES**

### **10.1 General**

The operation of large flashing signs (over 10kVA), welders, arc furnaces, dielectric and induction heaters, X-ray equipment, radio and television transmitters, variable voltage and frequency devices, reciprocating compressors, rock crushers, and similar apparatus having intermittent flow of large currents interferes at times with other users of the electric system.

The Customer shall consult the Company in each case so that the type of electric service that will be supplied, the corrective equipment needed, and other special precautions that must be taken will be mutually known factors before planning to use such apparatus.

Customers with equipment that causes interference on the electric system affecting other users shall, upon notice from the Company, take immediate remedial measures to eliminate such interference. The Company reserves the right to discontinue service where equipment used by the Customer results in objectionable effects currently or in the future.

### **10.2 Motors**

All motors connected to the Company's system shall be of a type with operating characteristics deemed acceptable by the Company (see Section 11 for specific requirements).

### **10.3 Harmonics**

Certain devices installed by the customer such as large rectifiers, variable voltage and frequency devices, electronic ballasts, etc. may cause harmonic waveform distortion. Harmonic voltage distortion generated by the Customer shall not cause any applicable ANSI standard to be exceeded for Company equipment connected to the system and shall not adversely affect Company equipment or its service to others.

The current distortion levels associated with the Customer's loads or generation shall be in compliance with the limits specified in IEEE Standard 519.

In the event these standards are not complied with, the Customer shall take immediate, corrective action.

## 11. MOTORS AND CONTROLLERS

### 11.1 General

The Company shall be consulted concerning the type of service available to insure correct application (phase and voltage) of the motor to be used.

For any single-phase motor rated 10 HP (equivalent 10 Tons or 120,000 BTUH air conditioner or heat pump) or larger or any three-phase motor rated 25 HP (equivalent 60 Tons or 720,000 BTUH air conditioner or heat pump) or larger, the Customer shall review with the Company the operating characteristics of the proposed installation, such as how frequently the motor will be started and if the load fluctuates rapidly as, for example, in a sawmill, stone crusher, elevator, etc.

Alternating current motors that are connected directly to the Company's system shall be designed for operation at a frequency of 60 Hertz.

### 11.2 Single-Phase Motors

Single-phase motors larger than 1/2 HP, or with running current exceeding 10 amperes, should normally be arranged for operation at 208 or 240 volts. Generally, motors larger than 5 HP should be three-phase, but the Company may require that single-phase motors be used where three-phase service is not readily available.

### 11.3 Protection

All equipment (i.e., motors, computers, and microprocessor controlled equipment) should be properly protected against overload. It is the Customer's responsibility to protect three-phase equipment and appliances against the possibility of single-phase or partial power operation. Reverse-phase relays, together with circuit breakers or equivalent devices, should be used on all three-phase installations for elevators, cranes and similar applications to protect the installation from phase reversal.

The Company will not be responsible in any way for damage to Customer's equipment due to failure of the Customer to provide adequate protection.

### 11.4 Zero Voltage Release

It is recommended that motor controllers be so arranged that, in the event of a sustained interruption, the motor will be disconnected from the line, unless it is equipped for automatic re-starting.

### 11.5 Motor Starting Requirements

Momentary fluctuation of the circuit voltage occurs each time a motor is started on the circuit. Where this effect is pronounced, a visual disturbance or light flicker may be observed by the Customer or by other Customers served from the same system. In extreme cases, the motor itself may have difficulty in starting.

To avoid objectionable voltage variations and maintain proper service to the Customer and neighbors, it is necessary to set a maximum permissible limit to the current drawn from the service during each step of a motor-starting operation, based upon frequency of starts. Motor starters are recommended for larger motors to reduce the voltage dip caused by starting a motor. Analysis for Customers with large motor loads described in 11.1 will take place during the application process. If motors are potentially started in a group instead of

individually, the Customer shall provide this information so the Company's analysis shall apply to the group and not to the individual motor. When the Company receives complaints of voltage flicker, the Company will investigate and if caused by the Customer's equipment will require remediation; otherwise, further starting operation of the Customer's equipment will not be permitted.

## 12. SPECIAL EQUIPMENT

### 12.1 Computers, Solid-State Devices or Other Voltage-Sensitive Equipment

The Company will endeavor to deliver voltage within an approximate 5% tolerance (see also Section 1.10), but shall not be responsible for damage to equipment or loss of data due to outages or voltage transients that exceed these limits.

It is the responsibility of the Customer to provide and maintain protective interface equipment.

### 12.2 Automatic Reclosing

The Company generally installs on its system equipment for automatic reclosing after an interruption. The Customer shall provide at his or her expense:

- Adequate safeguards for all equipment that might be adversely affected by automatic reclosing.
- Such equipment as may be required to prevent his or her equipment from interfering with the proper functioning of the Company's automatic reclosing equipment.

Certain motor applications may require disconnection from the power system upon initial loss of power to prevent hammering and back generation. Manual restart may be necessary for such equipment.

### 12.3 Electric Fences

The Company urges extreme care in selecting an electric fence system and close adherence to the manufacturer's instructions for installation and operation. A controller, commonly called a fence charger, is required to regulate the amount and timing of the current through the wire.

The fence charger and associated equipment used shall be UL listed.

For guidance in methods, materials and equipment to construct electric fences, those interested are referred to the U.S. Department of Agriculture, Farmers Bulletin No. 1832 or to qualified experts such as the Department of Agricultural Engineering, Cornell University, Ithaca, New York.

### 12.4 Swimming Pools

All swimming pool installations must be in accordance with Article 680 of the NEC.

The NEC and the NESC provide guidelines for clearance of conductors passing over private swimming pools or surrounding land (see Figure 7). New York State Sanitary Code Part 6, Subpart 6-1.17(i) requires all overhead conductors are at least twenty (20) feet from public swimming pools. The Company also recommends this distance for private swimming pools. If there are any questions regarding the clearance at a specific site, the Company shall be contacted to determine available clearance before work is started.

Under no circumstances, shall anyone, other than qualified Company personnel, attempt to measure clearances to the Company's electric system.

Customers shall be requested to relocate any swimming pool to correct code violations by the improper placement with respect to the Company's overhead lines.

When electric lines require relocation, the Customer shall contact the Company in advance to schedule work activities. The cost of this work shall be borne by the Customer.

## **12.5 Lightning Protection**

Secondary surge arresters are recommended for protection of Customer equipment where such additional protection is desired. Arresters shall be connected on the load side of the main disconnect, not at the weatherhead.

Lightning rod systems, if desired, shall be installed in accordance with NFPA 780 "Lightning Protection Code". Grounding of a lightning protection system shall be in accordance with Article 250 of the NEC. A bond between the lightning rod system down ground and the service neutral shall not be installed nor shall the meter enclosure be bonded to the down ground.

## **12.6 Customer-Installed Capacitors**

The Company shall be consulted prior to procuring and installing power factor correction equipment for Company evaluation and acceptance.

A Customer installing capacitors to improve the power factor shall obtain from the Company supply system characteristics so that the capacitors can be properly applied.

## **12.7 Carrier Current Systems**

If a Customer uses building wiring as a carrier current system for communication, signaling or other purposes, the Customer shall install suitable filter equipment or make other provisions approved by the Company to keep the Company's distribution facilities free from carrier currents.

The Company shall be consulted prior to procuring and installing carrier system equipment for Company evaluation and acceptance.

## **12.8 Radio, Television and Cellular Transmitting Equipment**

Before a Customer installs and operates radio, television or cellular transmitters, the company shall be consulted for information on the type of electric service that is available and the special precautions that must be observed so that the operation of this equipment will not interfere with electric service to other customers.

Outdoor antennas and satellite receivers for radio or television sets shall not be erected over, under or in close proximity to the Company's wires or any other wires carrying electric current, and shall not be attached to Company poles or Customer riser masts.

## **12.9 Electric Vehicle Charging Stations**

### **12.9.1 Residential Use**

Where Level 2 or greater charging stations are installed in residential environments, such as single family homes and apartment complexes, the Customer must alert the Company prior to



installation. The Customer will provide the Company with equipment information and quantities so the Company can upgrade any Company owned equipment as required. The Customer is responsible for upgrading all Customer owned equipment.

### **12.9.2 Commercial Use**

Any time electric vehicle charging stations are being installed for public or private use, the Customer must submit to the Company the following:

- A detailed site plan showing, at a minimum, the proposed electric vehicle charging stations, any nearby structures, roads, drives, and landmarks.
- Equipment loading and charging information for each type of electric vehicle charging station. Provide approximate utilization values for the proposed equipment.
- Quantity of proposed and future electric charging equipment as well as any ancillary equipment.

The Company will review the application and provide the Customer with a cost estimate for infrastructure upgrades the Customer is responsible for, if applicable. If Company upgrades are required, they shall be completed prior to energizing the Customer's equipment.

Large charging stations demand a significant amount of electricity and the customer may be required to take primary service based on given and anticipated loads. The Customer will work closely with Company representative as the Company determines metering and transformer configuration, responsibilities, and timelines.

## **13. CUSTOMER-OWNED ELECTRIC SOURCES INCLUDING GENERATORS**

### **13.1 General**

All installations of Customer's generating equipment (or other electric sources) require adherence to fundamental rules for the safeguard of all personnel and the Company's equipment. The Company shall be consulted before any generating equipment is connected to any circuit which is, or can be, supplied from the Company's distribution system. This is to assure against any unanticipated back-feed of electricity into the Company system.

### **13.2 Customer-Owned Standby Generators**

A standby generator is intended for operation only when the normal power supply from the Company is not available.

The installation of a standby generator shall be such so as to preclude any possible feed-back of power into the Company system. This requirement is mandatory in order to provide personnel safety and to prevent equipment damage.

Standby generators producing (or being "stepped-up" to) primary voltage levels require preapproval from the Company prior to design, purchase or beginning construction. Contact the Company for required information.

### **13.3 Portable Standby Generators**

Portable standby generators shall not be connected to building wiring without an isolating double-pole, double-throw open-transition (break-before-make) switch.

### **13.4 Transfer Systems**

Transfer switches listed and labeled "suitable for use as service equipment" are permitted for use as main service equipment upon prior approval by the Company. All other transfer switches shall be connected on the load side of the main service equipment.

A double throw switch or contactor using an open-transition (break-before-make) sequence shall normally be provided to transfer all ungrounded conductors of an emergency lighting or power load to either the standby generator (or other electric source) or the normal supply (see Figure 41).

Closed-transition (make-before-break) and automatic transfer systems require specification submittal and shall be approved by the Company before installation.

### **13.5 Customer-Owned Interconnected Generators**

### 13.5.1 General

An interconnected generator is intended for operation in parallel (i.e., simultaneous) with the normal power supply from the Company. This includes photovoltaic, wind, hydroelectric, fuel cell, cogeneration (CHP), and farm waste systems as well as traditional fossil fuel fired generators.

Direct current electric sources may be operated in parallel with the Company's system through a synchronous inverter. Inverter installations shall comply with the requirements of Sections 13.5.2.1 and 13.5.2.2 as applicable.

All interconnected systems shall be installed and maintained in accordance with NEC Article 705 as well as these specifications, and all other Company requirements. In particular, the point of connection for the output of an interconnected electric power source shall meet NEC sections 705.11 (supply-side source connections) or 705.12 (load-side source connections). Photovoltaic, fuel cell, and wind systems must meet NEC Articles 690, 692, and 694 respectively as well. No interconnected system may connect directly to the utility meter or Company equipment. Customer meter socket shall meet Company specifications described in Section 7.7, ring type meter sockets will not be allowed. For additional Company specific requirements, review and approval procedures can be obtained by contacting the Company or visiting the website <https://www.cenhud.com/dg>

### 13.5.2 Approval Procedures

#### 13.5.2.1 Generators of Five (5) MW or Less

Generating equipment with a nameplate rating of five (5) MW or less and that operates in parallel with the Company's electric system shall comply with the New York State Standardized Interconnection Requirements and Application Process for New Distributed Generators. Further details may be found on Company tariffs or by contacting the Company or visiting the website <https://www.cenhud.com/dg>

#### 13.5.2.2 Generators Greater Than Five (5) MW

Any generation equipment greater than five (5) MW shall comply with the Company's Interconnection Requirements. A copy of the Interconnection Requirements may be obtained by contacting the Company or online at the following address:- <https://www.cenhud.com/my-energy/distributed-generation/technical-requirements/>

#### 13.5.2.3 Net Metering

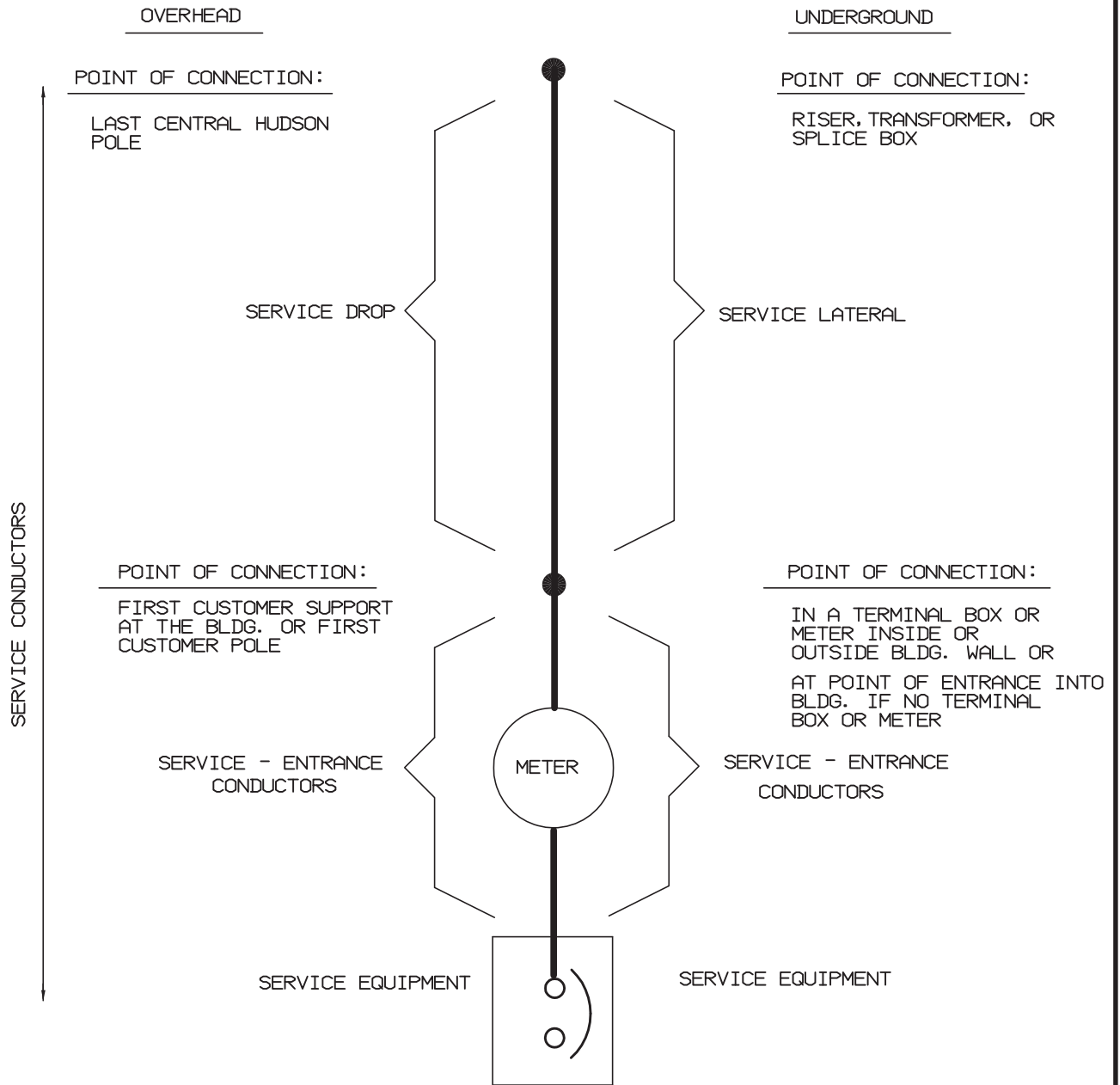
Net metering is achieved by allowing a customer's meter to register in the reverse and forward directions. When the Customer's interconnected generator is producing less energy than the customer is using, the electric meter will measure the energy passing from the Company to the Customer and spin in the forward direction. When the Customer's interconnected generator is producing more energy than the Customer is using, the electric meter will measure the excess energy passing from the Customer to the Company and spin in the backward direction. The surplus energy is subtracted, or "netted," from the energy supplied by the Company to the Customer, thus "net metered." Interconnected generation systems may be eligible based on Public Service Law (PSL) 66-J for net metering. Contact the Company or visit the website <https://www.cenhud.com/dg> for more information on net metering.

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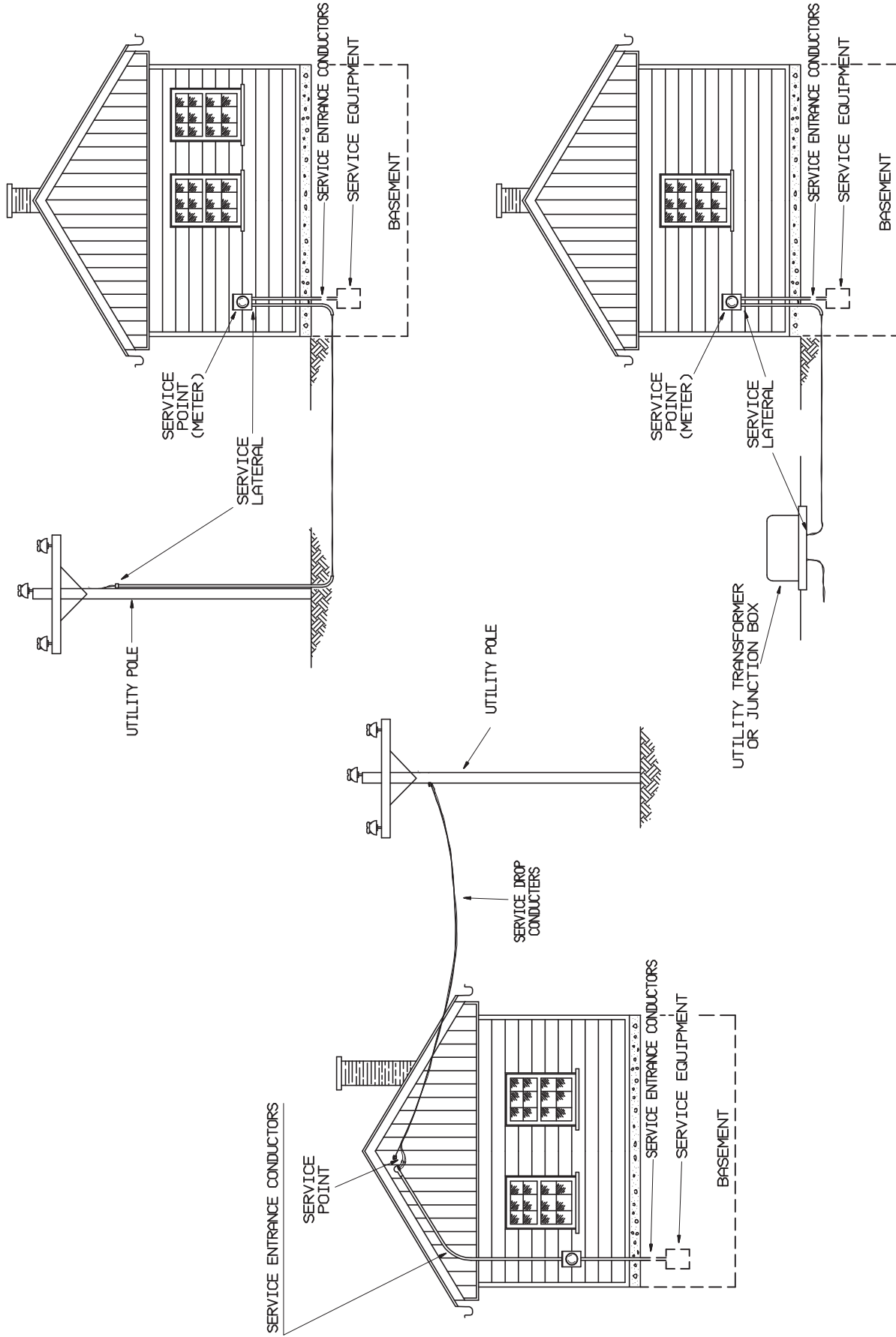
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CENTRAL HUDSON SYSTEM



ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 7-1-02
DRWN. _____ DSGN. _____ APPD. _____	SERVICE DEFINITIONS	ISSUE
		APP.
		APP.



OVERHEAD

UNDERGROUND

ELECTRIC STANDARDS

DRWN. \_\_\_\_\_  
 DSGN. \_\_\_\_\_  
 APPD. \_\_\_\_\_

CENTRAL HUDSON GAS & ELECTRIC CORP.

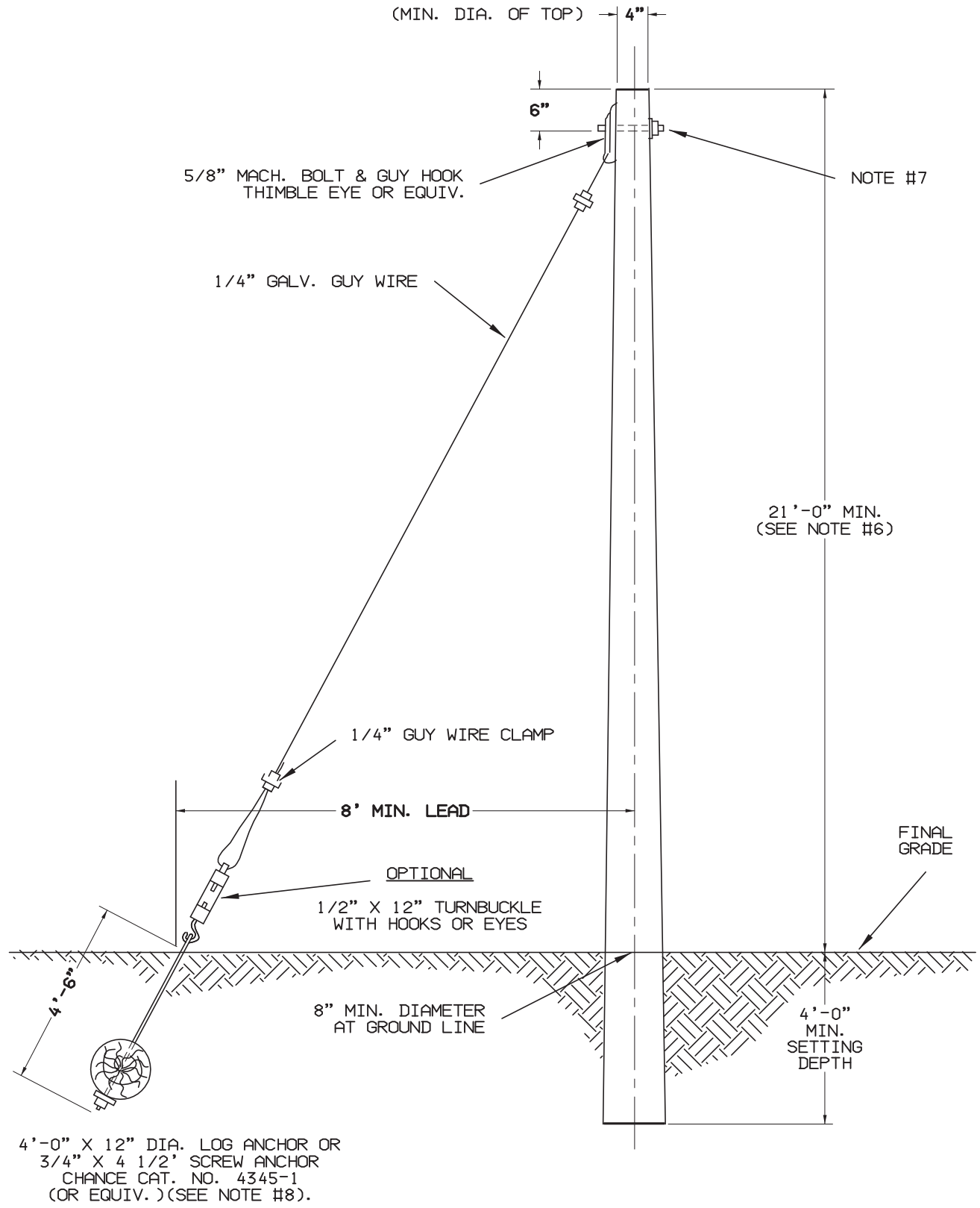
SERVICE DEFINITIONS - CONTINUED

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ISSUE

APP.

APP.



ELECTRIC STANDARDS
DRWN. _____
DSGN. _____
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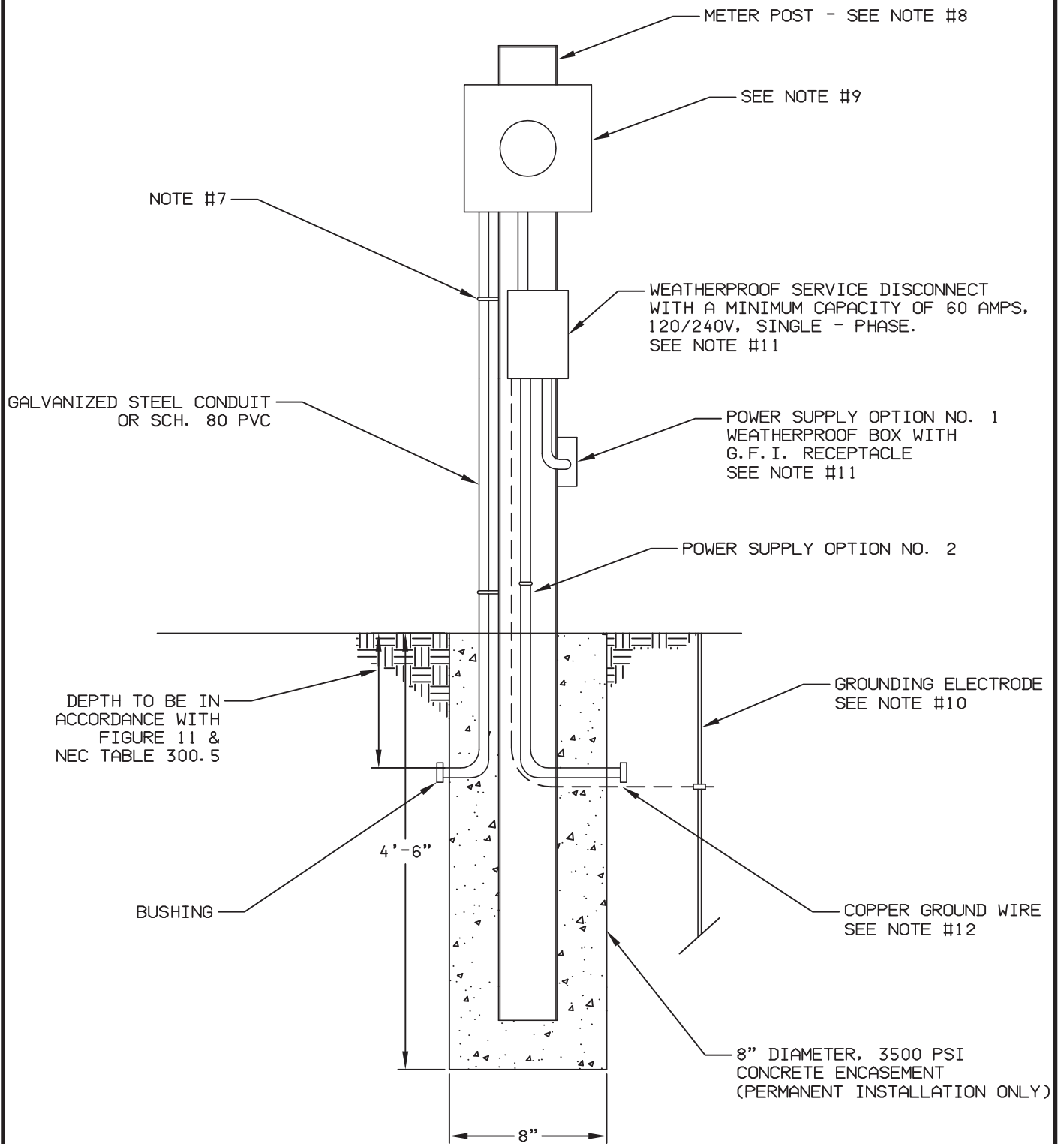
<b>CENTRAL HUDSON GAS &amp; ELECTRIC CORP.</b>
TEMPORARY SERVICE - CUSTOMER POLE (SINGLE - PHASE, 200A, 120/240V MAXIMUM)

DATE 7-1-02
ISSUE
APP.
APP.



1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. RECTANGULAR TIMBERS SHALL NOT BE USED IN PLACE OF A WOOD POLE.
4. WOOD BRACES OF ANY TYPE WILL NOT BE CONSIDERED AN ADEQUATE GUY.
5. PRESERVATIVE TREATED WOOD SHALL BE REQUIRED.
6. A 25 FOOT CLASS 6 POLE WILL USUALLY PROVIDE ADEQUATE CLEARANCE FROM VEHICLES UNLESS TERRAIN CAUSES A REDUCTION, IN WHICH CASE THE POLE SHOULD BE SIZED TO PROVIDE A GROUND CLEARANCE OF 15' MINIMUM FOR PEDESTRIAN TRAFFIC AND 18' FOR ROAD CROSSINGS. IN ANY CASE, LINE CLEARANCES SHALL BE IN ACCORDANCE WITH THE NEC.
7. POLE AND ANCHOR MUST BE ADEQUATE TO WITHSTAND 1000 LBS. PULL AT THIS POINT.
8. ANCHORS SHALL BE REQUIRED FOR ALL ROAD CROSSINGS, ALL RUNS IN EXCESS OF 50', AND ALL PERMANENT INSTALLATIONS REGARDLESS OF LENGTH OF RUN HOWEVER, WHEN TEMPORARY POLE IS LOCATED ON THE SAME SIDE OF THE ROAD AS THE TAKEOFF POLE, NO ANCHOR WILL BE REQUIRED.
9. SEE ALSO SECTION 3.8 FOR TEMPORARY SERVICE REQUIREMENTS.

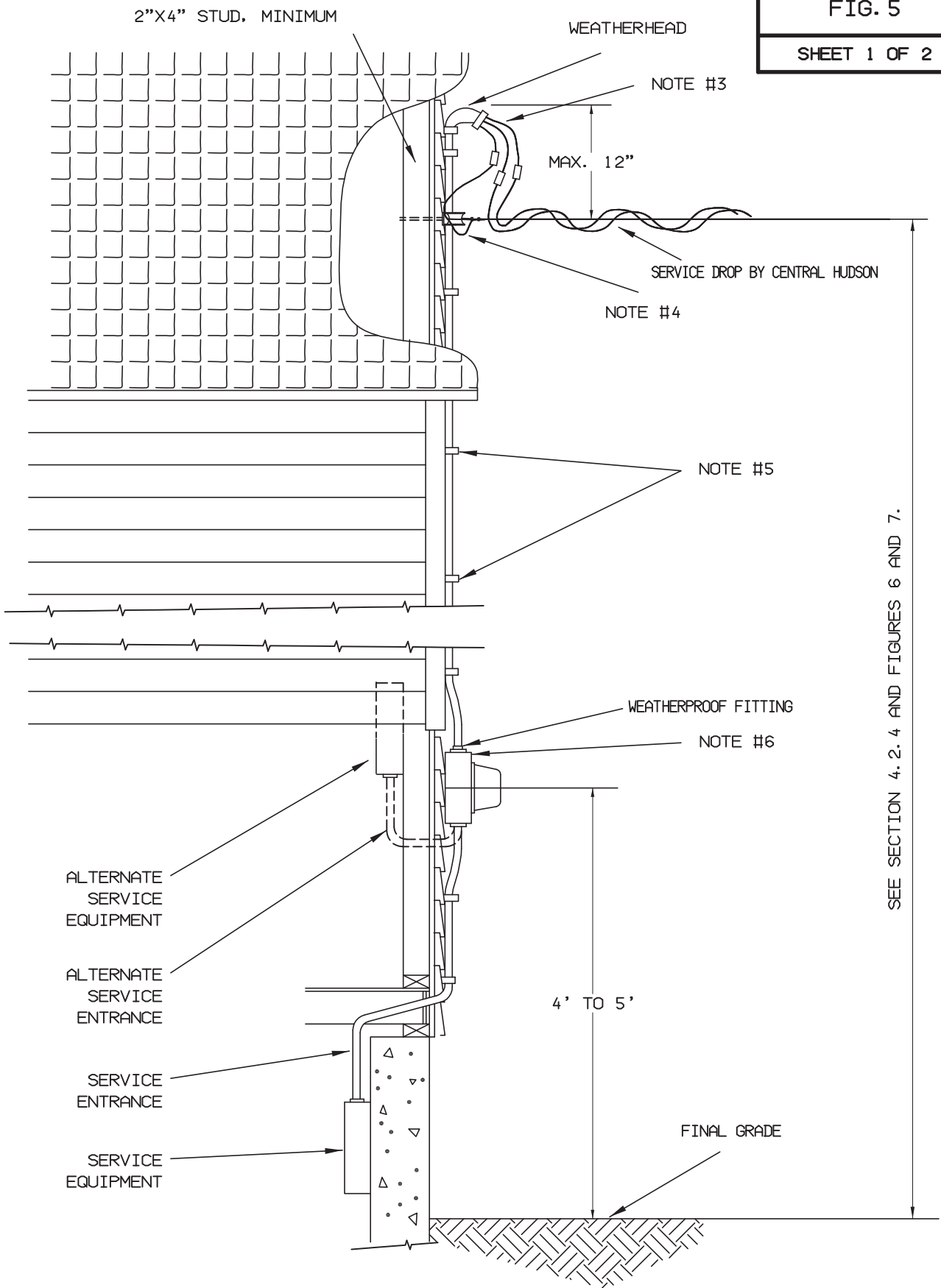
ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	TEMPORARY SERVICE - CUSTOMER POLE (SINGLE - PHASE, 200A, 120/240 VOLT MAXIMUM)	ISSUE APP. APP.



ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	PERMANENT/TEMPORARY SERVICE - UNDERGROUND RISER (SINGLE PHASE SERVICE, 100 TO 400 AMPS, 300 VOLTS OR LESS)	ISSUE _____ APP. _____ APP. _____

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. THE CUSTOMER MAY SUBSTITUTE A PRE-ASSEMBLED COMBINATION METER SOCKET THAT IS APPROVED BY THE COMPANY, WITH A MINIMUM 60 AMP DISCONNECT AND WEATHERPROOF RECEPTACLES AS REQUIRED.
4. PERMANENT INSTALLATIONS SHALL BE RATED FOR 200A. A SERVICE DISCONNECT IS RECOMMENDED ON PERMANENT INSTALLATIONS BUT IS NOT REQUIRED. LINE CONDUCTORS SHALL BE LOOPED ON PERMANENT INSTALLATIONS IN ACCORDANCE WITH FIGURE 13.
5. FOR MOBILE HOMES SEE FIGURE 36.
6. METER POST SHALL BE LOCATED ALONG OR ADJACENT TO ENTRANCE DRIVE. LOCATION TO BE VERIFIED BY CENTRAL HUDSON REPRESENTATIVE. METER SHALL FACE ENTRANCE DRIVEWAY.
7. SECURE CONDUIT TO POST AS NEEDED.
8. METER POST SHALL BE, AT A MINIMUM, 4"X4" PRESSURE TREATED WOOD. ONE PIECE 10' LONG, SET MINIMUM 4' IN GROUND AND IN TRUE VERTICAL POSITION.
9. THE CUSTOMER SHALL PROVIDE AND INSTALL AN APPROVED METER SOCKET (SEE SECTION 7 FOR METER SOCKET REQUIREMENTS) WITH SUITABLE BACKING BOARD. THE DISTANCE FROM CENTER OF METER TO FINISHED GRADE SHALL BE 4' TO 5'.
10. SUPPLEMENTAL GROUNDING ELECTRODE IS REQUIRED IF GROUND RESISTANCE IS GREATER THAN 25 OHMS. SEE NEC SECTION 250.53.
11. DISCONNECTING MEANS AND RECEPTACLE REQUIRED FOR TEMPORARY SERVICES ONLY.
12. GROUNDING CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH NEC ARTICLE 250.

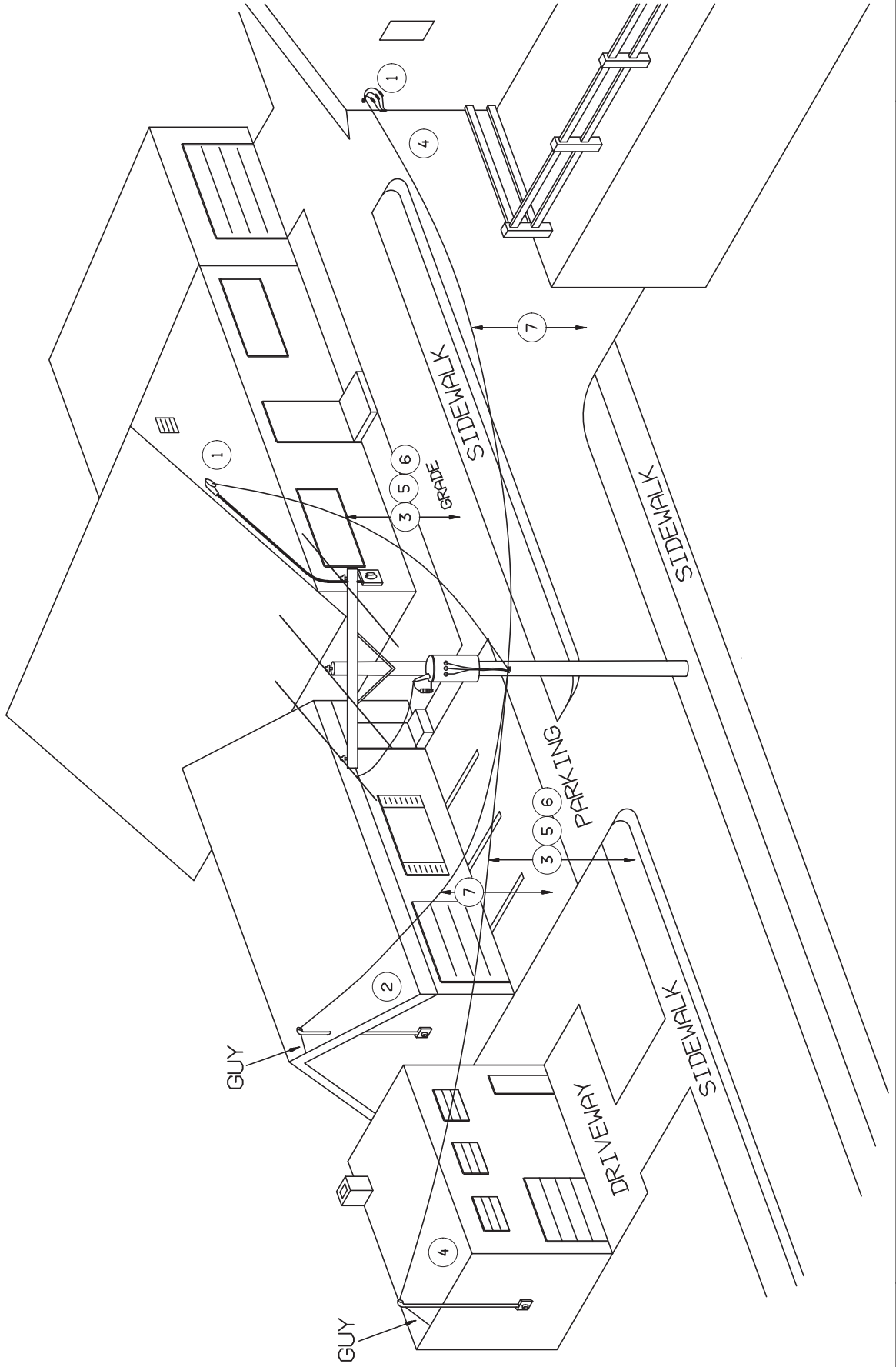
ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	PERMANENT/TEMPORARY SERVICE - UNDERGROUND RISER (SINGLE - PHASE SERVICE, 100 TO 400 AMPS, 300 VOLTS OR LESS)	ISSUE APP. APP.



ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 7-1-02
DRWN. _____ DSGN. _____ APPD. _____	TYPICAL OVERHEAD SERVICE CONNECTION	ISSUE
		APP.
		APP.

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. LEAVE 36" OF SERVICE CONDUCTORS FOR SERVICE DROP CONNECTION.
4. THE SERVICE BRACKET AND MOUNTING THROUGH-BOLT SHALL BE PROVIDED AND INSTALLED BY THE CUSTOMER, AND SHALL WITHSTAND 1000 LBS. OF HORIZONTAL PULL.
5. STRAPS SHALL BE SECURELY FASTENED AT NOT MORE THAN 30" INTERVALS.
6. METER SOCKET PROVIDED AND INSTALLED BY CUSTOMER IN A TRUE VERTICAL POSITION. FASTEN SUPPORT TO A STRUCTURAL MEMBER.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	TYPICAL OVERHEAD SERVICE CONNECTION	ISSUE
		APP.
		APP.



ELECTRIC STANDARDS

DRWN. \_\_\_\_\_  
DSGN. \_\_\_\_\_  
APPD. \_\_\_\_\_

CENTRAL HUDSON GAS & ELECTRIC CORP.  
COMMON MINIMUM CLEARANCES  
OVERHEAD CONDUCTORS 1000V OR LESS

DATE 8-7-18

ISSUE \_\_\_\_\_

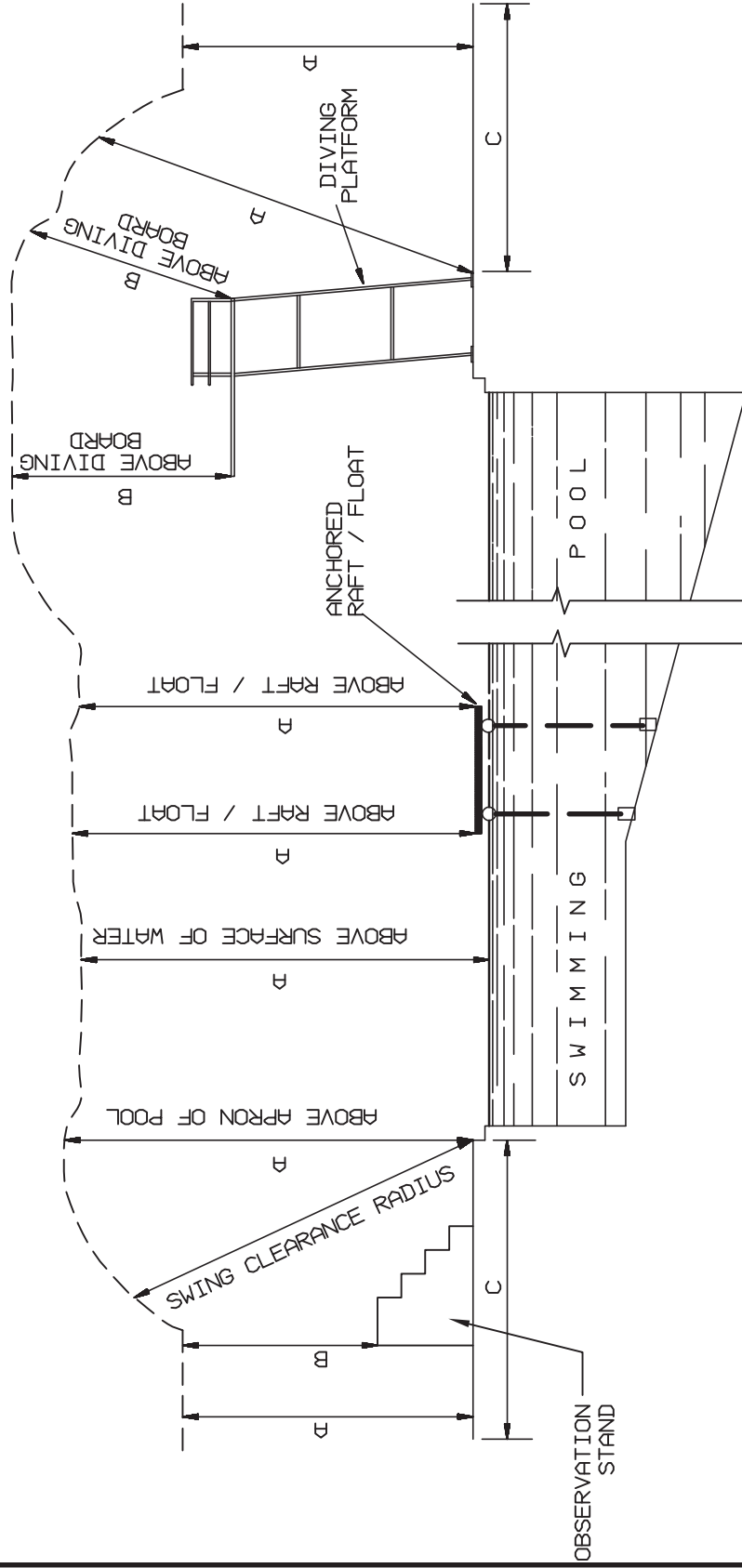
APP. \_\_\_\_\_

APP. \_\_\_\_\_

MINIMUM CLEARANCES

1. 3' FROM OPERABLE WINDOWS, DOORS, PORCHES, FIRE ESCAPES, BALCONIES, LADDERS, STAIRS, OR SIMILAR LOCATIONS.
2. CLEARANCES ABOVE INACCESSIBLE ROOFS OF 8' VERTICALLY SHALL BE MAINTAINED FOR A DISTANCE OF NOT LESS THAN 3' IN ALL DIRECTIONS FROM THE ROOF EDGE EXCEPT FOR THE FINAL SPAN WHERE THE SERVICE DROP IS ATTACHED TO THE SIDE OF THE BUILDING OR AS LISTED BELOW:
  - a. 3' WHERE ROOF HAS A SLOPE OF 4" IN 12" OR GREATER AND VOLTAGE BETWEEN CONDUCTORS IS 300V OR LESS.
  - b. 3' WHERE THE ROOF IS GUARDED AND VOLTAGE BETWEEN CONDUCTORS IS 300V OR LESS.
  - c. WHERE ALL THE FOLLOWING CONDITIONS EXIST THE CONDUCTORS ARE ALLOWED TO BE AT LEAST 18" ABOVE ROOF OVERHANG ONLY:
    - i. VOLTAGE BETWEEN CONDUCTORS IS 300V OR LESS.
    - ii. OVERHEAD SERVICE CONDUCTORS OVER ROOF OVERHANG ARE NOT MORE THAN 6' OF TOTAL LENGTH, 4' HORIZONTALLY.
    - iii. THE CONDUCTORS ARE TERMINATED AT A THROUGH-ROOF RISER OR APPROVED SUPPORT.
3. 10' ABOVE FINAL GRADE FOR PEDESTRIAN ONLY AREAS AND SIDEWALKS FOR CONDUCTORS NOT EXCEEDING 150V TO GROUND AND SUPPORTED ON AND CABLED TOGETHER WITH A GROUNDED BARE MESSENGER.
4. ABOVE OR WITHIN 3 FT. OF DECKS, PLATFORMS OR OTHER PROJECTIONS AS WELL AS ABOVE ACCESSIBLE ROOFS, THE FOLLOWING CLEARANCES MUST BE MAINTAINED:
  - a. 10 FT. VERTICAL CLEARANCE FOR CONDUCTORS NOT EXCEEDING 150V TO GROUND AND SUPPORTED ON AND CABLED TOGETHER WITH A GROUNDED BARE MESSENGER.
  - b. 12 FT. VERTICAL CLEARANCE FOR CONDUCTORS THAT DO NOT EXCEED 300V TO GROUND.
  - c. 15 FT. VERTICAL CLEARANCE FOR CONDUCTORS THAT EXCEED 300V TO GROUND.
5. 12' ABOVE FINAL GRADE, SIDEWALKS, AND RESIDENTIAL DRIVEWAYS, AND THOSE COMMERCIAL AREAS NOT SUBJECT TO TRUCK TRAFFIC WHERE VOLTAGE DOES NOT EXCEED 300V TO GROUND.
6. 15' ABOVE THOSE AREAS LISTED IN NOTE #5 WHERE VOLTAGE EXCEEDS 300V TO GROUND.
7. 18' ABOVE PUBLIC STREETS, PARKING AREAS, ALLEYS, ROADS, AND DRIVEWAYS OTHER THAN RESIDENTIAL PROPERTY, LAND, ORCHARD, GRAZING, OR FOREST.
8. CLEARANCES GIVEN ARE FROM NEC ARTICLE 230 FOR CUSTOMER INSTALLED OVERHEAD CONDUCTORS.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 9-6-18
DRWN. _____ DSGN. _____ APPD. _____	COMMON MINIMUM CLEARANCES OVERHEAD CONDUCTORS 100V OR LESS	ISSUE APP. APP.



CLEARANCES SHOWN ARE FOR USE UP TO 50 KV TO GROUND

ELECTRIC STANDARDS

DRWN. \_\_\_\_\_  
DSGN. \_\_\_\_\_  
APPD. \_\_\_\_\_

CENTRAL HUDSON GAS & ELECTRIC CORP.

OVERHEAD CONSTRUCTION  
CLEARANCES FROM PRIVATE SWIMMING POOLS NEC 680.8

DATE 5-1-15

ISSUE

APP.

APP.



CLEARANCES SHOWN ARE FOR VOLTAGE TO GROUND

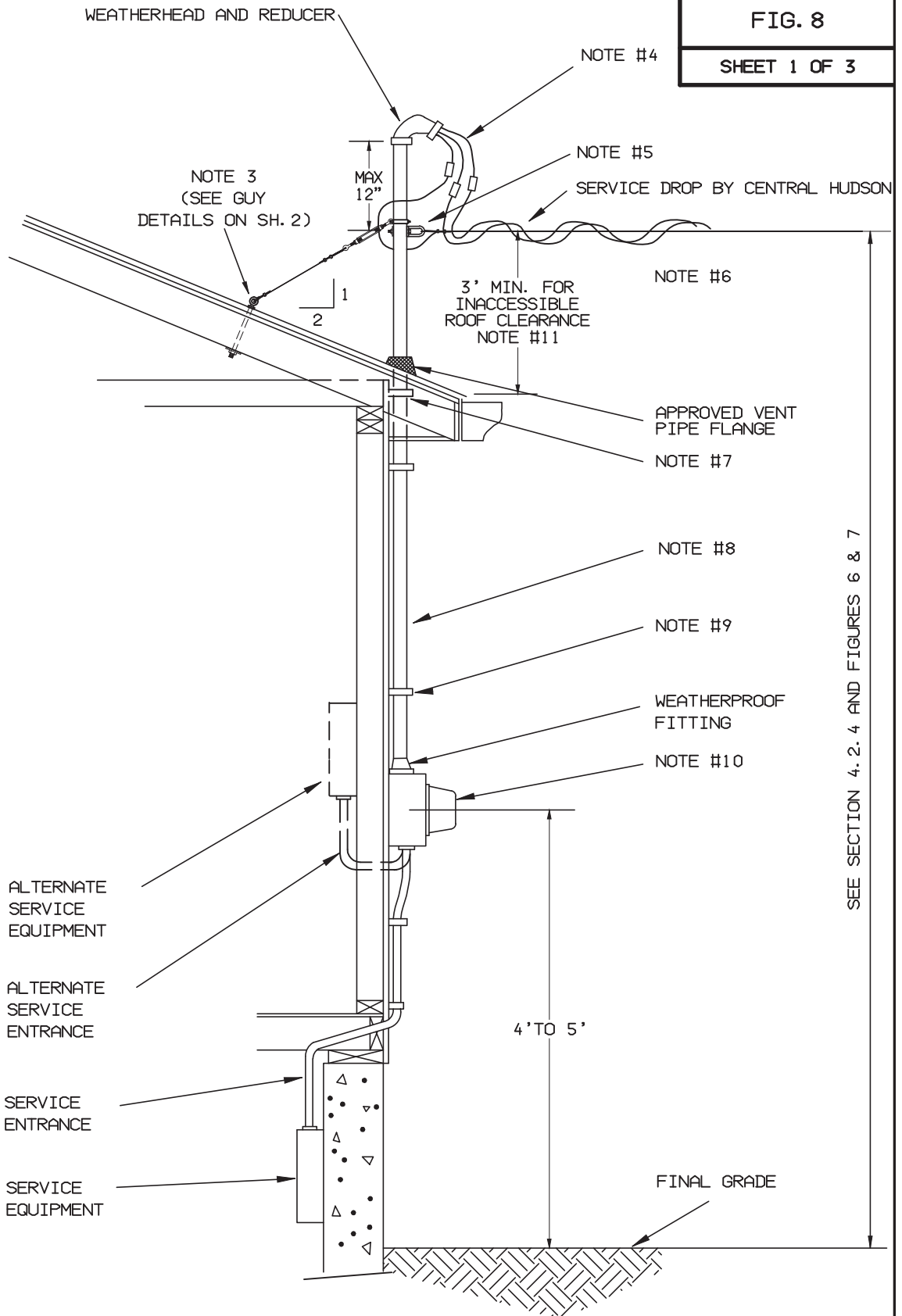
	INSULATED CABLES, 0-750 VOLTS TO GROUND, SUPPORTED ON AND CABLED TOGETHER WITH A SOLIDLY GROUNDED BARE MESSENGER OR SOLIDLY GROUNDED NEUTRAL CONDUCTOR	ALL OTHER CONDUCTORS	
		0 THRU 15Kv	OVER 15Kv THROUGH 50 Kv
	(FT)	(FT)	(FT)
A. CLEARANCE IN ANY DIRECTION FROM THE WATER LEVEL, EDGE OF POOL, BASE OF DIVING PLATFORM, OR ANCHORED RAFT.	22.5	25.0	27.0
B. CLEARANCE IN ANY DIRECTION TO THE DIVING PLATFORM, TOWER OR OBSERVATION STAND.	14.5	17.0	18.0
C. HORIZONTAL LIMIT OF CLEARANCE MEASURED FROM INSIDE WALL OF THE POOL.	THIS LIMIT SHALL EXTEND TO THE OUTER EDGE OF THE STRUCTURES LISTED IN A AND B OF THIS TABLE BUT NOT LESS THAN 10 FEET		

NOTES:

- FOR CONDUCTORS OPERATING AT VOLTAGES IN EXCESS OF 50kV PHASE TO GROUND, CONTACT ENGINEERING FOR CLEARANCE REQUIREMENTS.
- NO OVERHEAD CONDUCTORS ARE ALLOWED WITHIN 20 FEET HORIZONTALLY OF PUBLIC SWIMMING POOLS AS REQUIRED BY NEW YORK STATE SANITARY CODE PART 6, SUBPART 6-1.17(i).

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____	OVERHEAD CONSTRUCTION CLEARANCES FROM PRIVATE SWIMMING POOLS NEC SECTION 680.8	ISSUE
DSGN. _____		APP.
APPD. _____		APP.

FIG. 8



ELECTRIC STANDARDS

CENTRAL HUDSON GAS & ELECTRIC CORP.

DATE 10-1-18

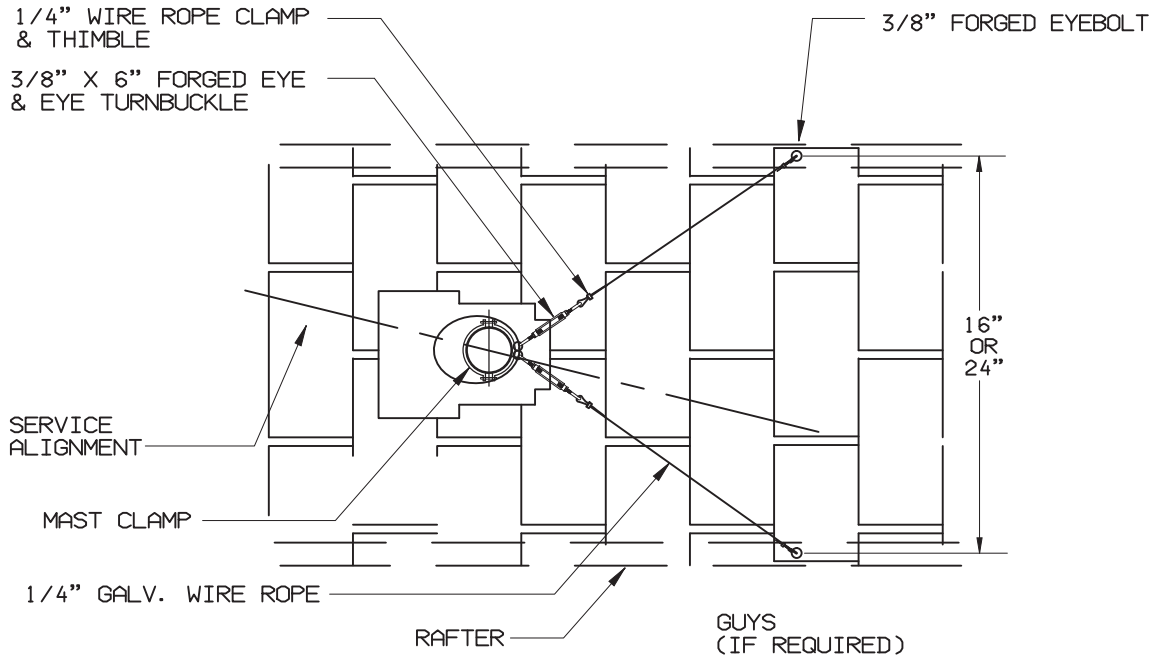
DRWN. \_\_\_\_\_  
DSGN. \_\_\_\_\_  
APPD. \_\_\_\_\_

TYPICAL OVERHEAD SERVICE CONNECTION - LOW BUILDING  
300V AND LESS

ISSUE

APP.

APP.



DETAIL  
GUY CONFIGURATION

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 10-1-18
DRWN. _____ DSGN. _____ APPD. _____	TYPICAL OVERHEAD SERVICE CONNECTION - LOW BUILDING 300V AND LESS	ISSUE
		APP.
		APP.

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. 3/8" EYEBOLT REQUIRED FASTENED TO STRUCTURAL MEMBER AND SHALL WITHSTAND 1000 LBS. GUYS MUST BE INSTALLED SO THAT SERVICE ALIGNMENT EXTENSION FALLS WITHIN ANGLE OF GUYS. SEE SECTION 4.2.5 FOR APPLICATION REQUIREMENTS AND FURTHER DETAILS.
4. LEAVE 36" OF SERVICE CONDUCTORS FOR SERVICE DROP CONNECTION.
5. THE SERVICE BRACKET AND MOUNTING THROUGH-BOLT SHALL BE PROVIDED AND INSTALLED BY THE CUSTOMER, AND SHALL WITHSTAND 1000 LBS. OF HORIZONTAL PULL.
6. THE RISER SHALL BE BONDED TO THE SERVICE NEUTRAL.
7. THE RISER SUPPORT SHALL BE AS CLOSE TO THE ROOF AS POSSIBLE.
8. THE SERVICE ENTRANCE CABLE OR SERVICE ENTRANCE CONDUCTORS SHALL BE IN GALVANIZED STEEL CONDUIT OR SCHEDULE 80 PVC (2" MIN. ).
9. STRAPS SHALL BE SECURELY FASTENED AT NOT MORE THAN 30" INTERVALS.
10. METER SOCKET PROVIDED AND INSTALLED BY CUSTOMER IN A TRUE VERTICAL POSITION. FASTEN SUPPORT TO A STRUCTURAL MEMBER.
11. WHERE ALL THE FOLLOWING CONDITIONS EXIST THE CONDUCTORS ARE ALLOWED TO BE AT LEAST 18" ABOVE ROOF OVERHANG ONLY:
  - a. VOLTAGE BETWEEN CONDUCTORS IS 300V OR LESS
  - b. OVERHEAD SERVICE CONDUCTORS ARE NOT MORE THAN 6' LONG, 4' HORIZONTALLY, OVER ROOF OVER HANG.
  - c. THE CONDUCTORS ARE TERMINATED AT A THROUGH-ROOF RISER OR APPROVED SUPPORT.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 10-1-18
DRWN. _____ DSGN. _____ APPD. _____	TYPICAL OVERHEAD SERVICE CONNECTION - LOW BUILDING 300V AND LESS	ISSUE APP. APP.

DIVISION OF OWNERSHIP

FIG. 9

SHEET 1 OF 2

CENTRAL HUDSON

CUSTOMER FURNISHES AND INSTALLS

METERED LINES TO CUSTOMER'S SERVICE EQUIPMENT AT EACH BUILDING

COMPANY'S SERVICE LATERAL

NOTE #9

CUSTOMER'S METER POLE SEE NOTE #10

NOTE #3

NOTE #4

NOTE #5

NOTE #6

NOTE #11

WEATHERTIGHT FITTING

NOTE #12

NOTE #7

GROUNDING CONDUCTOR SEE NOTE #8

4' TO 5'

FINAL GRADE

5/16" GALV. GUY WIRE

20' MIN.

3' MIN.

5/8" X 8' GROUND ROD

6'-0" MIN.

130 SQ. INCH ANCHOR

ELECTRIC STANDARDS

CENTRAL HUDSON GAS & ELECTRIC CORP.

DATE 8-7-18

DRWN. \_\_\_\_\_  
DSGN. \_\_\_\_\_  
APPD. \_\_\_\_\_

LOAD CENTER METER POLE  
(MAXIMUM 200A, SINGLE - PHASE,  
3 - WIRE, 120/240V)

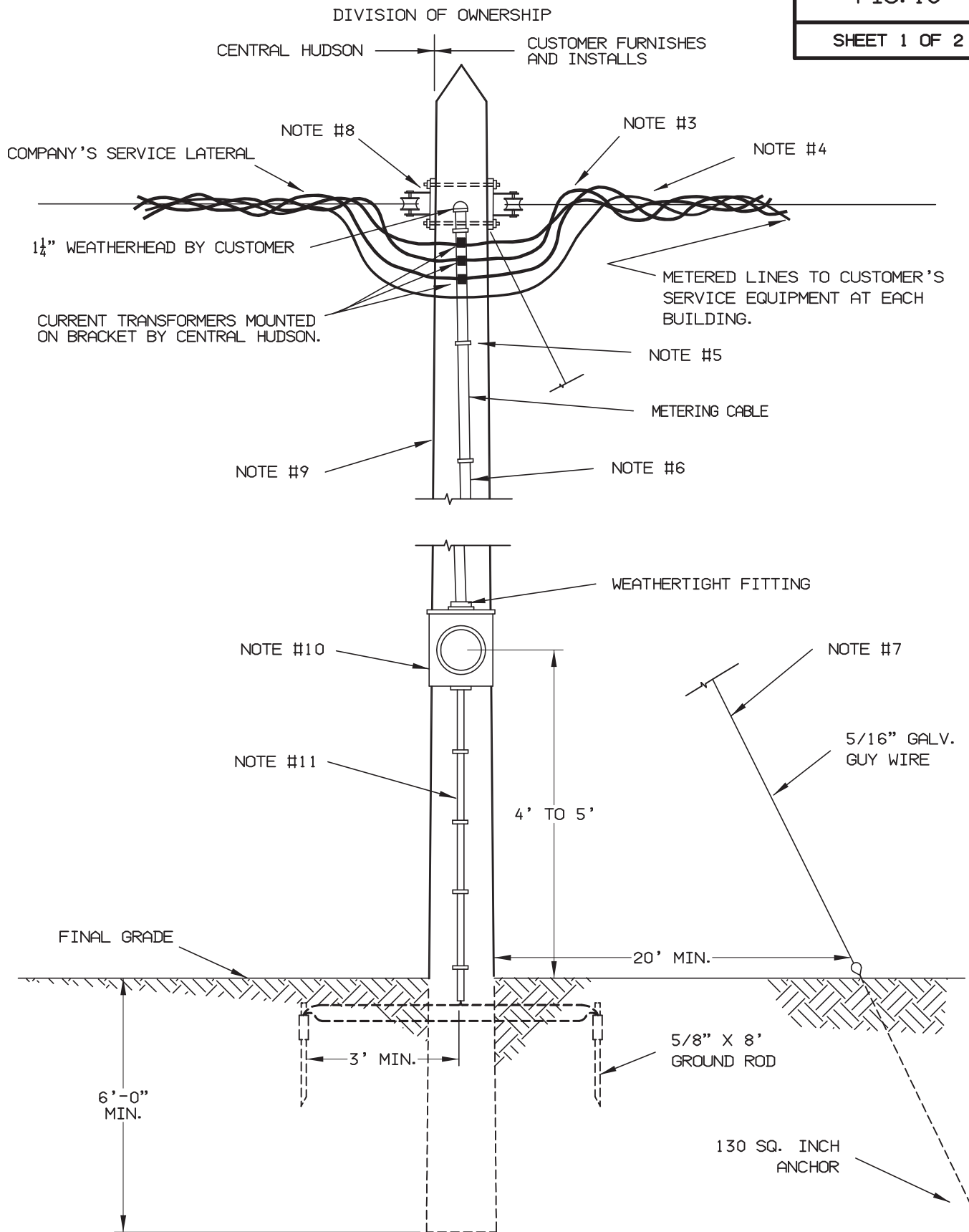
ISSUE

APP.

APP.

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. LEAVE THESE LEADS 36" MINIMUM LENGTH.
4. SERVICE BRACKET SHALL BE FURNISHED AND INSTALLED BY CUSTOMERS.
5. CONDUIT STRAPS AT NOT MORE THAN 4' INTERVALS; SERVICE ENTRANCE (TYPE SE) CABLE STRAPS AT NOT MORE THAN 30" INTERVALS.
6. POLE SHALL BE GUYED FOR MINIMUM 1000 LBS. STRAIN.
7. OUTDOOR SERVICE EQUIPMENT INSTALLED BY CUSTOMER IN ACCORDANCE WITH THE NEC.
8. GROUNDING CONDUCTOR SHALL BE PROTECTED WITH PLASTIC MOLDING FOR ITS FULL LENGTH ON POLE. INSTALL SERVICE GROUND IN ACCORDANCE WITH THE NEC ARTICLE 250.
9. BOND STEEL CONDUIT TO NEUTRAL.
10. CUSTOMER FURNISHES AND INSTALLS METER POLE. CONSULT CENTRAL HUDSON FOR POLE AND GUY REQUIREMENTS. POLE TO BE 5" MINIMUM DIAMETER AT TOP, 8" MINIMUM AT 6' FROM BUTT. NORMALLY 35 FOOT POLE EXCEPT AS OTHERWISE NEEDED FOR SERVICE DROP HEIGHT REQUIRED. POLE TO BE FULLY PRESSURE TREATED WITH PENTACHLOROPHENAL.
11. SERVICE ENTRANCE CABLE OR ENTRANCE CONDUCTORS IN 2" GALVANIZED STEEL, SCH. 40 PVC, OR ALUMINUM CONDUIT. MAXIMUM CONDUIT SIZE 3". MAXIMUM CONDUCTORS 4/0 COPPER OR EQUIVALENT.
12. METER SOCKET SHALL BE FURNISHED AND INSTALLED BY CUSTOMER, AND MOUNTED PLUMB WITH SUITABLE BACKING BOARD.
13. ALTERNATIVELY, CUSTOMER'S SERVICE CONDUCTORS MAY BE PLACED UNDERGROUND FROM THE METER TO THE SERVICE EQUIPMENT.
14. SUPPLEMENTAL GROUNDS ARE REQUIRED IF GROUND RESISTANCE IS GREATER THAN 25 OHMS. SEE NEC SECTION 250.53.
15. ALL RISERS SHALL BE ON THE NON-TRAFFIC SIDE(S) OF THE POLE AND ALLOW FOR CONDUCTOR INSTALLATION TO COMPANY SPACE ON POLE WITHOUT CONFLICT FROM OTHER UTILITIES EQUIPMENT/CABLES. WHERE THE RISER MUST BE INSTALLED FACING TRAFFIC DUE TO EXISTING OBSTACLES, CONTACT CHG&E PRIOR TO INSTALLATION.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 8-7-18
DRWN. _____ DSGN. _____ APPD. _____	LOAD CENTER METER POLE (MAXIMUM 200A, SINGLE - PHASE, 3 - WIRE, 120/240V)	ISSUE APP. APP.

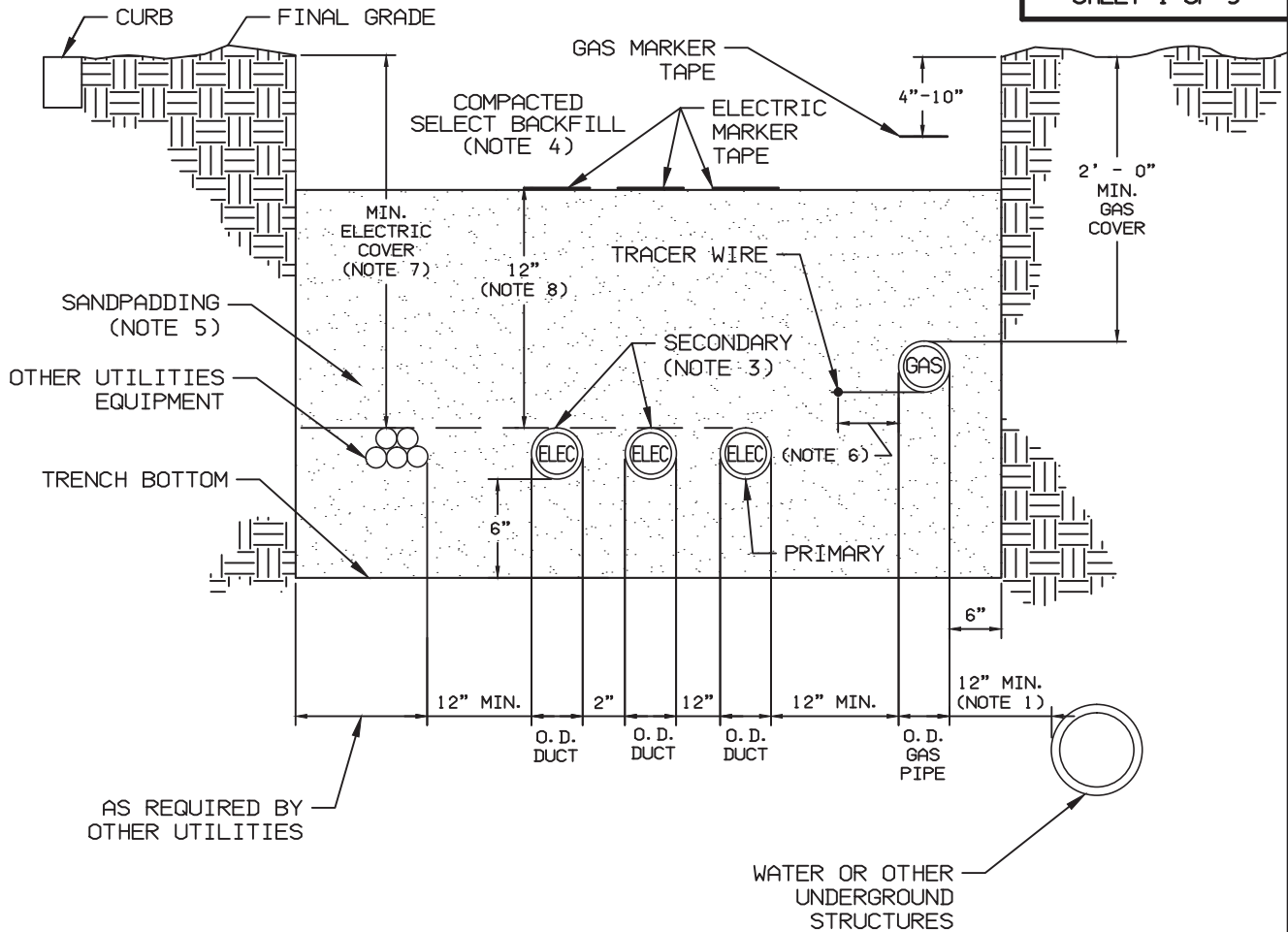


ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 7-1-02
DRWN. _____ DSGN. _____ APPD. _____	LOAD CENTER METER POLE USING CURRENT TRANSFORMERS (THREE - WIRE, SINGLE - PHASE ABOVE 200A) (FOUR - WIRE, THREE - PHASE, ABOVE 200A)	ISSUE _____ APP. _____ APP. _____

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. LEAVE THESE LEADS 36" MINIMUM LENGTH.
4. BOND STEEL CONDUIT TO NEUTRAL.
5. STRAPS AT NOT MORE THAN 4' INTERVALS.
6. 1 ¼" GALVANIZED STEEL CONDUIT, SCH. 40 PVC, OR ALUMINUM CONDUIT FURNISHED AND INSTALLED BY CUSTOMER.
7. POLE SHALL BE GUYED FOR MINIMUM 1000 LBS. STRAIN.
8. SERVICE BRACKET SHALL BE FURNISHED AND INSTALLED BY CUSTOMER.
9. CUSTOMER FURNISHES AND INSTALLS METER POLE. CONSULT CENTRAL HUDSON FOR POLE TO BE 5" MINIMUM DIAMETER AT TOP, 8" MINIMUM AT 6' FROM BUTT. NORMALLY 35 FOOT POLE EXCEPT AS OTHERWISE NEEDED. FOR SERVICE DROP HEIGHT REQUIRED. POLE TO BE FULLY PRESSURED TREATED WITH PENTACHLOROPHENOL IN OIL.
10. METER SOCKET SHALL BE FURNISHED AND INSTALLED BY CUSTOMER, AND MOUNTED PLUMB WITH SUITABLE BACKING BOARD.
11. GROUNDING CONDUCTOR UNDER PROTECTIVE COVER AND SIZED IN ACCORDANCE WITH NEC ARTICLE 250.
12. SUPPLEMENTAL GROUNDS ARE REQUIRED IF GROUND RESISTANCE IS GREATER THAN 25 OHMS. SEE NEC SECTION 250.53.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	LOAD CENTER METER POLE USING CURRENT TRANSFORMERS (THREE - WIRE, SINGLE - PHASE ABOVE 200A) (FOUR - WIRE, THREE - PHASE, ABOVE 200A)	ISSUE APP. APP.





**NOTES:**

1. THE MINIMUM CLEARANCE FROM GAS TO OTHER UTILITIES SUCH AS WATER & SEWER SHALL BE 12". CONSULT WITH OTHER UTILITIES OR REVIEW LOCAL ORDINANCES FOR ADDITIONAL CLEARANCE REQUIREMENTS. IF 12" CLEARANCE IS NOT POSSIBLE, REFER TO FIGURE 20 OF THE SPECIFICATIONS AND REQUIREMENTS OF GAS INSTALLATIONS.
2. GAS SHALL BE INSTALLED ON THE FIELD SIDE OF THE ELECTRIC.
3. SPACING SHALL BE MAINTAINED FOR CONCRETE ENCASED DUCTS.
4. COMPACTED SELECT BACKFILL MAY BE ON-SITE MATERIAL PROVIDED IT CONTAINS NO ROCKS OR STONES OVER 6" IN DIAMETER, ROOTS, STUMPS OR CONSTRUCTION DEBRIS.
5. REFER TO FIGURE 20 FOR DEFINITION OF SANDPADDING.
6. LOCATE TRACER WIRE A SUFFICIENT DISTANCE FROM PLASTIC PIPE TO MINIMIZE TRACER WIRE TO PIPE CONTACT.
7. FOR BURIAL DEPTH OF CONDUCTORS 1000 VOLTS AND UNDER SEE TABLE ON SHEET 2. FOR CONDUCTORS OVER 1000 VOLTS SEE TABLE ON SHEET 3.
8. FOR DIRECT BURIED CABLES NOT ENCASED IN CONCRETE PROVIDE AND INSTALL MARKER TAPE.
9. CONTACT "CALL BEFORE YOU DIG" AT 811 AND OBTAIN A MARKOUT PRIOR TO BREAKING GROUND.

ELECTRIC STANDARDS	<b>CENTRAL HUDSON GAS &amp; ELECTRIC CORP.</b>	DATE 9-7-18
DRWN. _____	TYPICAL COMMON TRENCH CONFIGURATION ELECTRIC DUCTS W/GAS AND OTHER UTILITIES	ISSUE
DSGN. _____		APP.
APPD. _____		APP.

MINIMUM COVER REQUIREMENTS, 0 TO 1000 VOLTS, NOMINAL, BURIAL IN INCHES (IN.)

TYPE OF WIRING METHOD OR CIRCUIT

TYPE OF WIRING METHOD OR CIRCUIT	DIRECT BURIAL CABLES OR CONDUCTORS	RIGID METAL CONDUIT	NONMETALLIC RACEWAYS LISTED FOR DIRECT BURIAL WITHOUT CONCRETE ENCASEMENT OR OTHER APPROVED RACEWAYS
	IN.	IN.	IN.
ALL LOCATIONS NOT SPECIFIED BELOW	24	6	18
IN TRENCH BELOW 2-IN. THICK CONCRETE OR EQUIVALENT	18	6	12
UNDER A BUILDING	0 (NOTE 4)	0	0
UNDER MINIMUM OF 4-IN. THICK CONCRETE EXTERIOR SLAB WITH NO VEHICULAR TRAFFIC AND THE SLAB EXTENDING NOT LESS THAN 6 IN. BEYOND THE UNDERGROUND INSTALLATION	18 (NOTE 6)	4	4
UNDER STREETS, HIGHWAYS, ROADS, ALLEYS, DRIVEWAYS, AND PARKING LOTS	24 (NOTE 6)	24	24
ONE AND TWO-FAMILY DWELLING DRIVEWAYS AND OUTDOOR PARKING AREAS, AND USED ONLY FOR DWELLING-RELATED PURPOSES	18	18	18
IN OR UNDER AIRPORT RUNWAYS, INCLUDING ADJACENT AREAS WHERE TRESPASSING PROHIBITED	18	18	18

NOTES:

- COVER IS DEFINED AS THE SHORTEST DISTANCE IN INCHES MEASURED BETWEEN A POINT ON THE TOP SURFACE OF ANY DIRECT-BURIED CONDUCTOR, CABLE, CONDUIT, OR OTHER RACEWAY AND THE TOP SURFACE OF FINISHED GRADE, CONCRETE, OR SIMILAR COVER.
- RACEWAYS APPROVED FOR BURIAL ONLY WHERE CONCRETE ENCASED SHALL REQUIRE CONCRETE ENVELOPE NOT LESS THAN 2 IN. THICK.
- LESSER DEPTHS SHALL BE PERMITTED WHERE CABLES AND CONDUCTORS RISE FOR TERMINATIONS OR SPLICES OR WHERE ACCESS IS OTHERWISE REQUIRED.
- DEPTH INDICATED ALLOWED WHEN CABLES OR CONDUCTORS ARE IN A RACEWAY OR TYPE MC OR MI CABLE IDENTIFIED FOR DIRECT BURIAL. SEE NEC ARTICLES 330 AND 332 FOR DEFINITIONS OF MC AND MI CABLE RESPECTIVELY.
- WHERE SOLID ROCK PREVENTS COMPLIANCE WITH THE COVER DEPTHS SPECIFIED IN THIS TABLE, THE WIRING SHALL BE INSTALLED IN METAL OR NONMETALLIC RACEWAY PERMITTED FOR DIRECT BURIAL. THE RACEWAYS SHALL BE COVERED BY A MINIMUM OF 50 MM (2 IN.) OF CONCRETE EXTENDING DOWN TO ROCK.
- IN URDS, SECONDARY CONDUCTORS AND CABLES SHALL BE INSTALLED IN CONDUIT FROM POINT OF ORIGIN TO POINT OF TERMINATION WHEN INSTALLED UNDER PAVED OR CONCRETE SURFACES (ROADS, DRIVEWAYS, SIDEWALKS, ETC.). SEE SECTION 4.5.2 AND FIG. 14 FOR MORE INFORMATION ON URDS.
- TABLE IS DERIVED FROM NEC 300.5 FOR REFERENCE ONLY. WHERE THIS TABLE AND NEC TABLE 300.5 DIFFER, THE NEC SHALL TAKE PRECEDENCE.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.
DATE 4-13-20	
ISSUE	
APP.	
APP.	
DRWN.	TYPICAL COMMON TRENCH CONFIGURATION
DSGN.	ELECTRIC DUCTS W/GAS MAIN AND OTHER UTILITIES
APPD.	

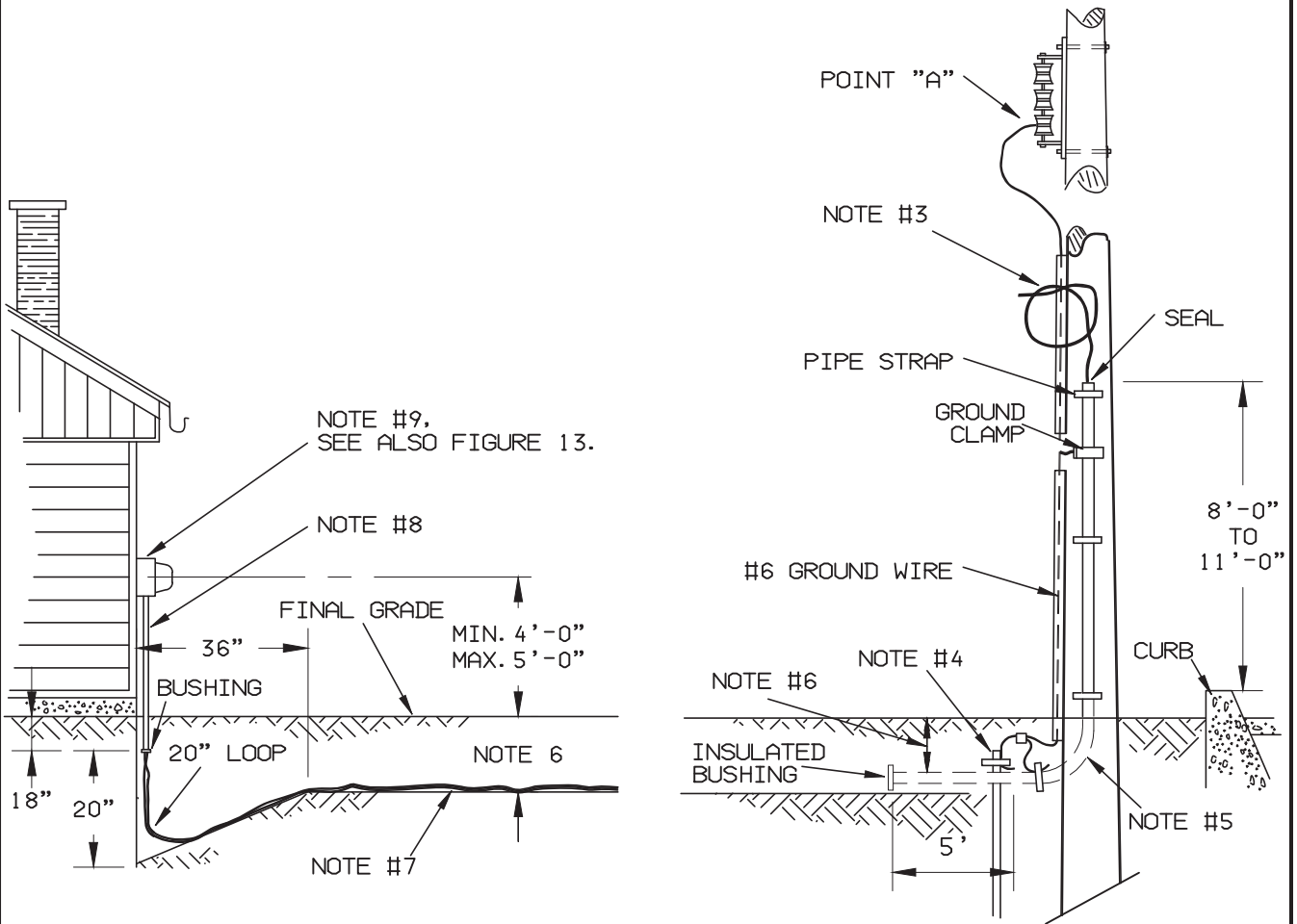
Minimum Cover Requirements, 1kV to 40kV, Nominal, Burial in Inches (in.) (Note 1)

Circuit Voltage	General Conditions (not otherwise specified)				Special Conditions (use if applicable)		
	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	
Over 1 kV through 22 kV	Direct-Buried Cables (Notes 4 & 8)	PVC Conduit (Note 2)	Rigid Metal Conduit	Raceways Under Buildings or Exterior Concrete Slabs, 4 in. Minimum Thickness (Note 3)	Cables in Airport Runways or Adjacent Areas Where Trespass Is Prohibited		Areas Subject to Vehicular Traffic, Such as Thoroughfares and Commercial Parking Areas
	in.	in.	in.	in.	in.	in.	in.
Over 22 kV through 40 kV	30	18	6	4	18		24
	36	24	6	4	18		24

**NOTES:**

- COVER IS DEFINED AS THE SHORTEST DISTANCE IN INCHES MEASURED BETWEEN A POINT ON THE TOP SURFACE OF ANY DIRECT-BURIED CONDUCTOR, CABLE, CONDUIT, OR OTHER RACEWAY AND THE TOP SURFACE OF FINISHED GRADE, CONCRETE, OR SIMILAR COVER.
- LISTED BY A QUALIFIED TESTING AGENCY AS SUITABLE FOR DIRECT BURIAL WITHOUT ENCASEMENT. ALL OTHER NONMETALLIC SYSTEMS SHALL REQUIRE 2 IN. OF CONCRETE OR EQUIVALENT ABOVE CONDUIT IN ADDITION TO THE TABLE DEPTH.
- THE SLAB SHALL EXTEND A MINIMUM OF 6 IN. BEYOND THE UNDERGROUND INSTALLATION, AND A WARNING RIBBON OR OTHER EFFECTIVE MEANS SUITABLE FOR THE CONDITIONS SHALL BE PLACED ABOVE THE UNDERGROUND INSTALLATION.
- UNDERGROUND DIRECT-BURIED CABLES THAT ARE NOT ENCASED OR PROTECTED BY CONCRETE AND ARE BURIED 30 IN. OR MORE BELOW GRADE SHALL HAVE THEIR LOCATION IDENTIFIED BY A WARNING RIBBON THAT IS PLACED IN THE TRENCH AT LEAST 12 IN. ABOVE THE CABLES.
- LESSER DEPTHS SHALL BE PERMITTED WHERE CABLES AND CONDUCTORS RISE FOR TERMINATIONS OR SPLICES OR WHERE ACCESS IS OTHERWISE REQUIRED.
- WHERE SOLID ROCK PREVENTS COMPLIANCE WITH THE COVER DEPTHS SPECIFIED IN THIS TABLE, THE WIRING SHALL BE INSTALLED IN METAL OR NONMETALLIC RACEWAY PERMITTED FOR DIRECT BURIAL. THE RACEWAYS SHALL BE COVERED BY A MINIMUM OF 2 IN. OF CONCRETE EXTENDING DOWN TO ROCK.
- IN INDUSTRIAL ESTABLISHMENTS, WHERE CONDITIONS OF MAINTENANCE AND SUPERVISION ENSURE THAT QUALIFIED PERSONS WILL SERVICE THE INSTALLATION, THE MINIMUM COVER REQUIREMENTS, FOR OTHER THAN RIGID METAL CONDUIT AND INTERMEDIATE METAL CONDUIT, SHALL BE PERMITTED TO BE REDUCED 6 IN. FOR EACH 2 IN. OF CONCRETE OR EQUIVALENT PLACED ENTIRELY WITHIN THE TRENCH OVER THE UNDERGROUND INSTALLATION.
- IN URDs, PRIMARY CONDUCTORS SHALL BE INSTALLED IN CONDUIT. DIRECT-BURIED CABLES ARE NOT ACCEPTABLE. SEE SECTION 4.5.2 AND FIGURE 14 FOR MORE INFORMATION ON URDs.
- TABLE IS DERIVED FROM NEC 300.50 FOR REFERENCE ONLY. WHERE THIS TABLE AND NEC TABLE 300.50 DIFFER, THE NEC SHALL TAKE PRECEDENCE.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 4-13-20
DRN. _____	TYPICAL COMMON TRENCH CONFIGURATION	ISSUE _____
DSGN. _____	ELECTRIC DUCTS W/GAS MAIN AND OTHER UTILITIES	APP. _____
APPD. _____		APP. _____



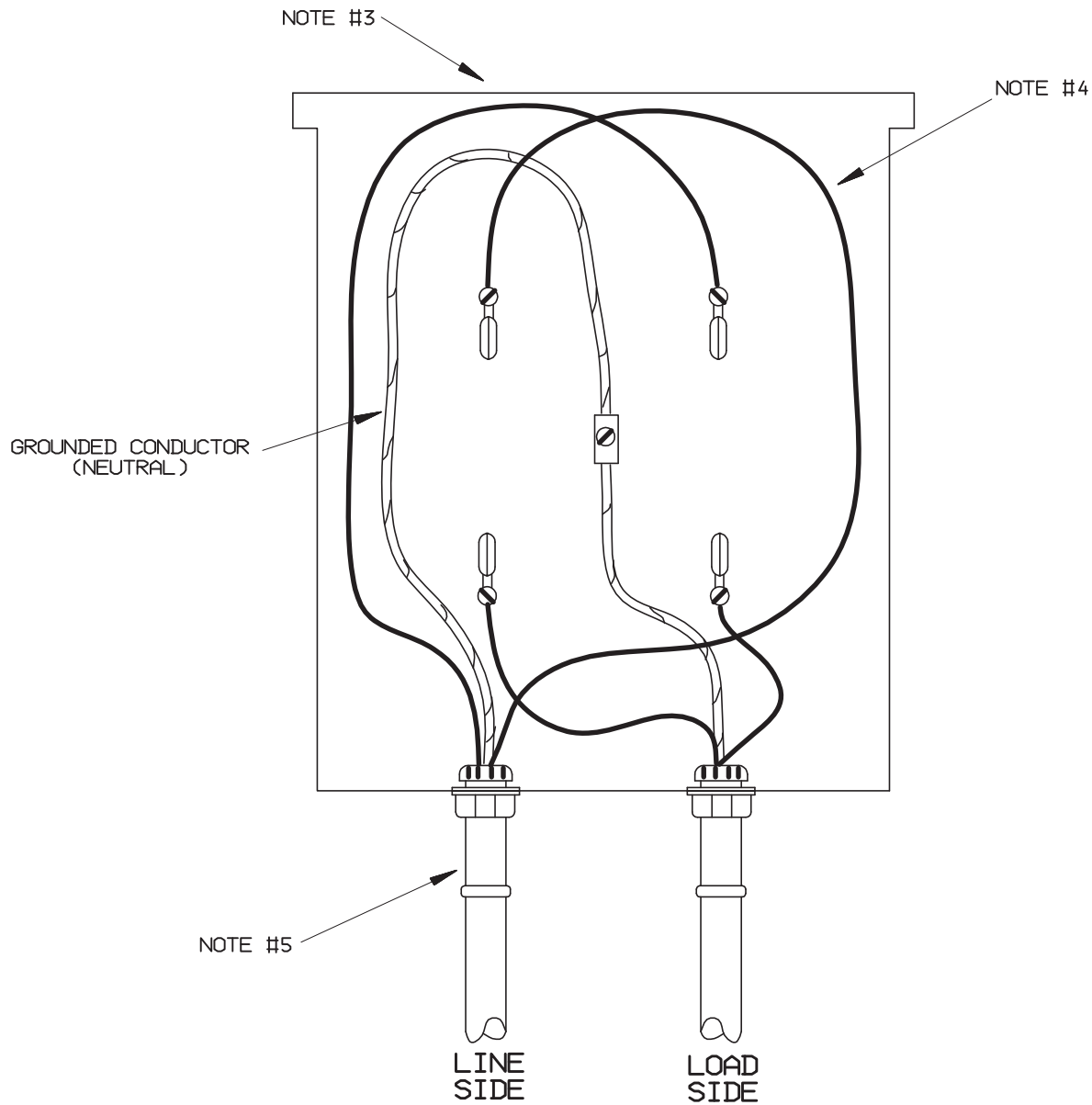
ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 10/16/23
DRWN. GC	UNDERGROUND SERVICE FROM OVERHEAD LINE (SINGLE PHASE RESIDENTIAL SERVICE, 200 AMPS, 300 VOLTS OR LESS)	ISSUE 1
CLEAR		APP.
ENGR.		APP.
APPD.		

**NOTES:**

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. CUSTOMER TO PROVIDE 600V TRIPLEXED (2-4/0 AWG & 1-2/0 AWG.) CABLE TYPE USE. CONSTRUCTION AS FOLLOWS: STRANDED, CONCENTRIC ROUND, CLASS B "EC" GRADE ALUMINUM CONDUCTOR INSULATED WITH 5/64" (.080") HEAT AND WEATHER RESISTANT CROSSLINKED POLYETHYLENE (XLP) OR ETHYLENE-PROPYLENE RUBBER (EPR). CABLE TO MEET THE REQUIREMENTS AS SET FORTH IN THE LATEST REVISION OF IPCEA PUBLICATIONS S-66-524 (XLP) OR S-19-81 (EPR). CABLE TO BE FURNISHED BY CUSTOMER MUST BE LONG ENOUGH TO EXTEND 4 FT. ABOVE POINT "A" WITHOUT A SPLICE. CONSULT CENTRAL HUDSON FOR LOCATION OF SERVICE BRACKET (POINT "A").
4. IF GALVANIZED STEEL IS USED, THE CUSTOMER SHALL PROVIDE AND INSTALL A GROUND ROD AND GROUND WIRE OF SUFFICIENT LENGTH TO EXTEND 4' ABOVE POINT "A". CUSTOMER TO INSTALL GROUND CLAMPS, (1) BELOW GRADE, (1) ABOVE GRADE, AS SHOWN. GROUND WIRE TO BE INSTALLED IN SERVICE CONDUIT OR SHALL BE PROTECTED BY PLASTIC MOLDING, COMPANY TO MAKE GROUND CONNECTION AT POINT "A". ADDITIONAL GROUND ROD (REQUIRED FOR PRIMARY RISERS) TO BE CONNECTED WITH CONTINUOUS WIRE LOOPED THROUGH ROD CONNECTORS AT A MINIMUM DISTANCE OF 6 FEET FROM FIRST GROUND ROD.
5. MIN. 2" GALV. STEEL OR SCH. 80 PVC CONDUIT WITH 90° LONG RADIUS BEND, TO BE FURNISHED AND INSTALLED BY CUSTOMER. ADEQUATE DRAINAGE SHALL BE PROVIDED AT BOTTOM OF THE BEND. SECONDARY RISERS MUST BE GALVANIZED STEEL FOR AT LEAST 10' ABOVE GRADE. ALL RISERS INSTALLED ON POLES LESS THAN 12' FROM ROADWAYS SHALL HAVE STAND-OFF BRACKETS SUITED TO THE PIPE SIZE AND TYPE AND FIRMLY LAG-BOLTED TO THE POLE. STAND-OFF BRACKETS TO BE INSTALLED AT INTERVALS OF 8' MINIMUM. RISERS ON POLES ALONG ROADWAYS MUST BE INSTALLED BY THE CUSTOMER ON THE FIELD SIDE OF THE POLE AWAY FROM APPROACHING TRAFFIC.
6. ALL UNDERGROUND CABLE INSTALLATION REQUIREMENTS, INCLUDING COVER REQUIREMENTS, GROUNDING, AND PROTECTION FROM DAMAGE SHALL BE IN ACCORDANCE WITH ARTICLE 300 OF THE NEC.
7. DIRECT BURIED SERVICE LATERALS CROSSING UNDER PAVED AREAS SHALL BE IN PVC OR ABS SCH. 40 CONDUIT. SEAL ALL CONDUIT ENDS WITH SEALING COMPOUND. IF ENTIRE RUN IS IN CONDUIT, AN APPROVED SLIP JOINT CONNECTOR SHALL BE REQUIRED.
8. USE GALVANIZED STEEL CONDUIT (2" MIN.) OR SCH. 80 PVC FOR ABOVE GROUND PORTION.
9. METER SOCKET SHALL BE FURNISHED AND INSTALLED BY CUSTOMER AND MOUNTED IN TRUE VERTICAL POSITION. SEE FIGURE 13 FOR ADDITIONAL REQUIREMENTS.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 10/16/23
DRWN. <u>GC</u>	UNDERGROUND SERVICE FROM OVERHEAD LINE (SINGLE PHASE RESIDENTIAL SERVICE, 200 AMPS, 300 VOLTS OR LESS)	ISSUE 1
CLEAR _____		APP. _____
ENGR. _____		APP. _____
APPD. _____		

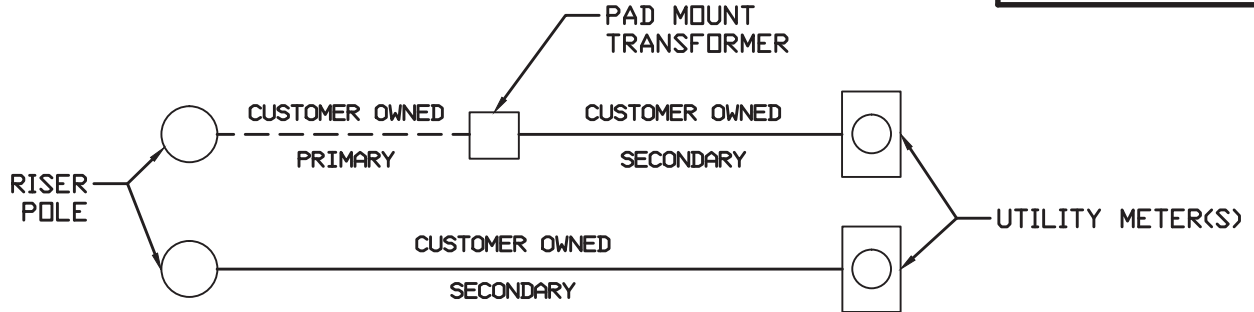
DETAIL OF METER SOCKET  
IN FIGURE 25



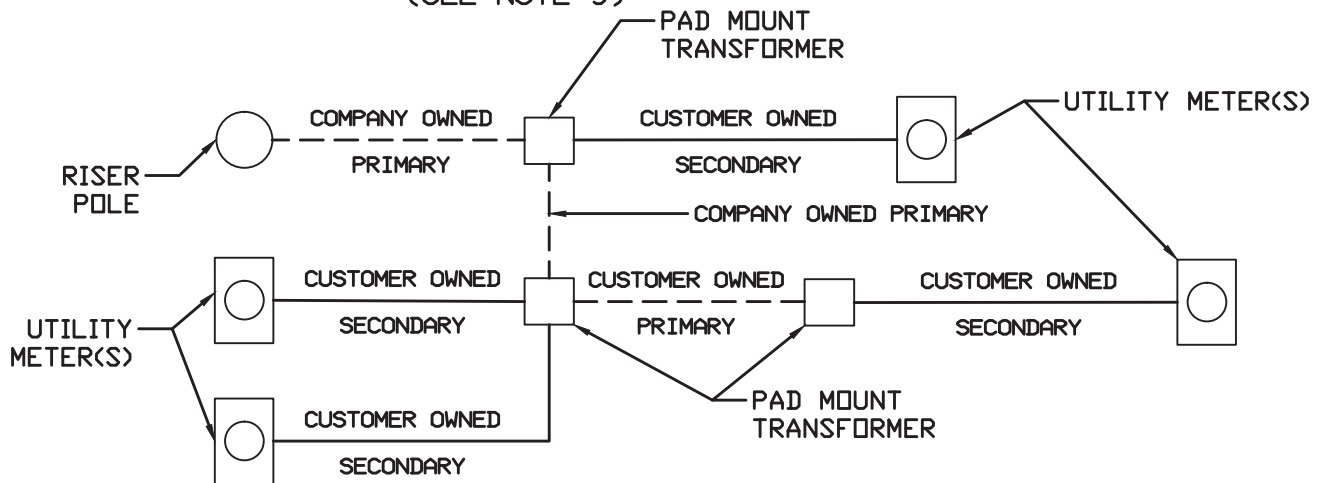
1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. METER SOCKET SHALL BE FURNISHED AND INSTALLED BY CUSTOMER AND MOUNTED IN TRUE VERTICAL POSITION.
4. LOOP LIVE CONDUCTORS ON ALL UNDERGROUND SERVICES 1 $\phi$  AND 3 $\phi$  (SINGLE PHASE SHOWN).
5. USE GALVANIZED STEEL CONDUIT (2"MIN) OR SCH. 80 PVC FOR ABOVE GROUND PORTION.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	<p style="text-align: center;"><u>UNDERGROUND SERVICE FROM OVERHEAD LINE (METER SOCKET)</u> (SINGLE PHASE RESIDENTIAL SERVICE, 200 AMPS, 300 VOLTS OR LESS)</p>	ISSUE
		APP.
		APP.

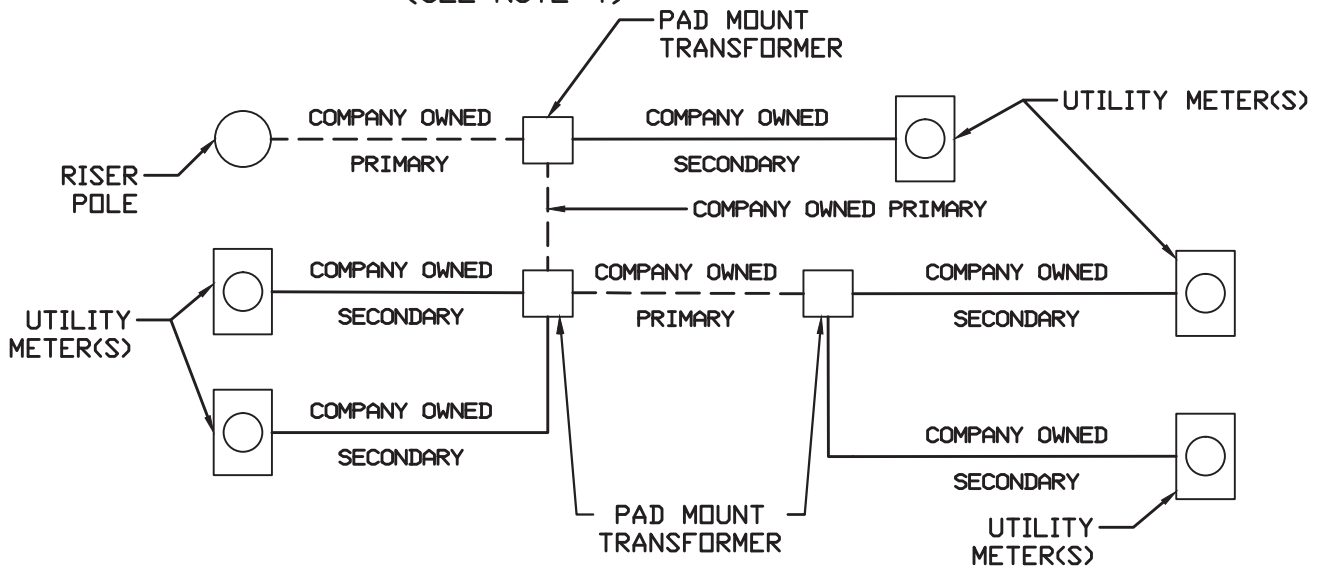
SINGLE CUSTOMER  
(SEE NOTE 2)



TWO TO FOUR CUSTOMERS  
(SEE NOTE 3)



FIVE OR MORE CUSTOMERS  
(SEE NOTE 4)



ELECTRIC  
STANDARDS

**CENTRAL HUDSON GAS & ELECTRIC CORP.**

DATE 8-7-18

DRWN. \_\_\_\_\_  
DSGN. \_\_\_\_\_  
APPD. \_\_\_\_\_

CUSTOMER AND COMPANY OWNERSHIP DEMARCATIONS FOR  
RESIDENTIAL UNDERGROUND ELECTRICAL FACILITIES

ISSUE

APP.

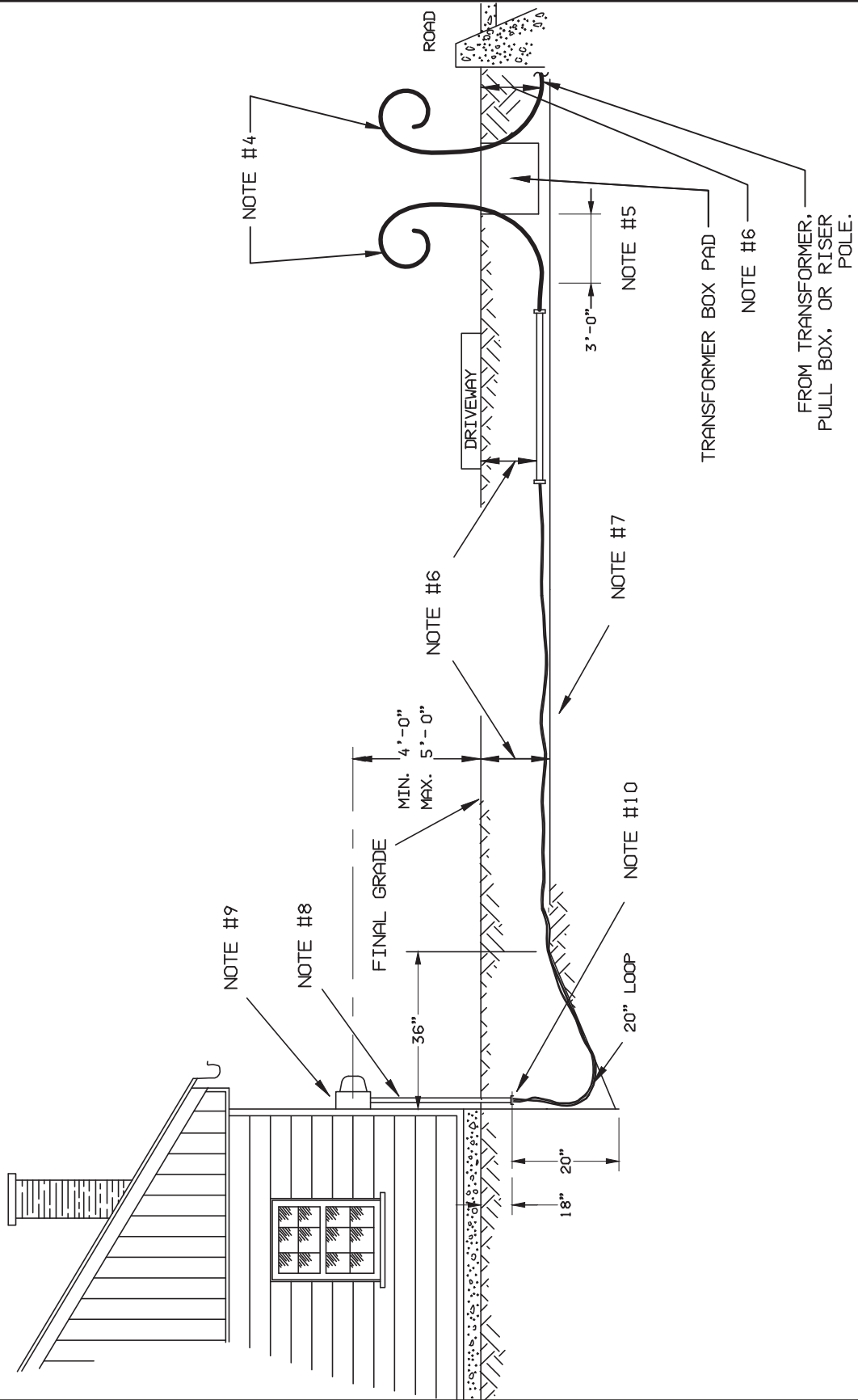
APP.

NOTES:

1. PRIMARY CONDUCTORS ARE CONDUCTORS ON THE PRIMARY (HIGH) SIDE OF A TRANSFORMER, TYPICALLY 15kV OR 35kV CONCENTRIC NEUTRAL CABLES WITH 125% RATED INSULATION. SECONDARY CONDUCTORS ARE CONDUCTORS ON THE SECONDARY (LOW) SIDE OF THE TRANSFORMER, TYPICALLY 600V MULTIPLEXED CABLE.
2. IN ADDITION TO SINGLE FAMILY HOMES ON THEIR OWN LOT, LOCATIONS WITH MULTIPLE CUSTOMERS ON A SINGLE LOT SUCH AS, BUT NOT LIMITED TO, APARTMENT BUILDINGS AND TRAILER PARKS ARE TREATED AS A SINGLE CUSTOMER. THE CUSTOMER IS RESPONSIBLE FOR ALL UNDERGROUND PRIMARY AND SECONDARY ELECTRIC CONDUCTORS.
3. WHEN A RISER FEEDS 2-4 RESIDENTIAL LOTS, THE COMPANY SHALL OWN AND MAINTAIN THE UNDERGROUND PRIMARY CONDUCTORS THAT SERVE AT LEAST TWO CUSTOMER LOTS, THE CUSTOMER SHALL OWN AND MAINTAIN ALL UNDERGROUND SECONDARY BETWEEN THE TRANSFORMER AND THEIR HOME. ANY UNDERGROUND PRIMARY CONDUCTORS THAT ONLY SERVE A SINGLE CUSTOMER SHALL BE OWNED AND MAINTAINED BY THAT CUSTOMER.
4. WHERE A RISER SERVES FIVE OR MORE RESIDENTIAL CUSTOMERS, THE COMPANY SHALL OWN AND MAINTAIN ALL UNDERGROUND PRIMARY AND SECONDARY CONDUCTORS. WHEN REPAIRS ARE NECESSARY, THE COMPANY SHALL MAKE ALL REPAIRS ON THE CONDUCTOR AND BACKFILL ANY TRENCHING REQUIRED. THE CUSTOMER IS RESPONSIBLE FOR ANY REPAIRS TO THE SURFACE NEEDED, SUCH AS, BUT LIMITED TO, PATCHING LAWNS, DRIVEWAYS, OR SIDEWALKS.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 8-7-18
DRWN. _____ DSGN. _____ APPD. _____	CUSTOMER AND COMPANY OWNERSHIP DEMARCATIONS FOR RESIDENTIAL UNDERGROUND ELECTRICAL FACILITIES	ISSUE
		APP.
		APP.





ELECTRIC STANDARDS

DRWN. \_\_\_\_\_  
DSGN. \_\_\_\_\_  
APPD. \_\_\_\_\_

CENTRAL HUDSON GAS & ELECTRIC CORP.

UNDERGROUND SERVICE LATERAL

DATE 8-7-18

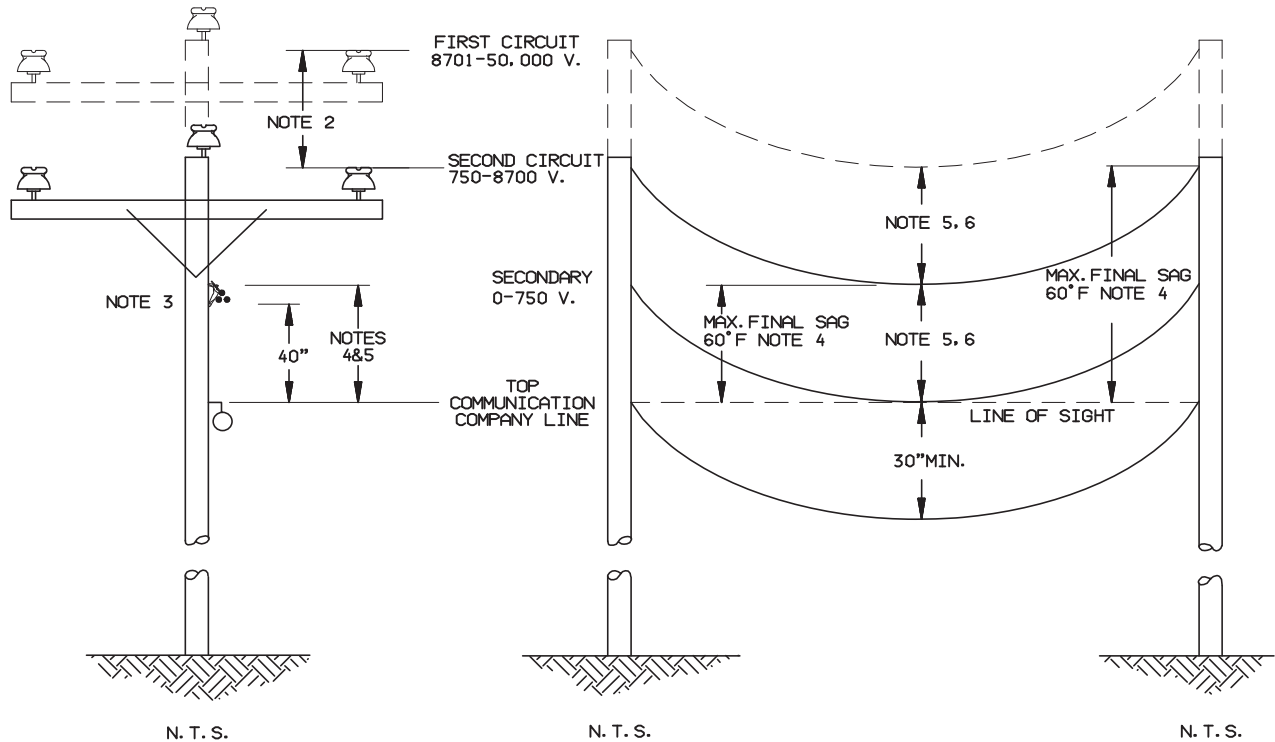
ISSUE

APP.

APP.

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. THE SPECIFICATIONS CONTAINED IN THIS FIGURE REFER TO SINGLE - PHASE RESIDENTIAL SERVICE, 200 TO 400 AMPS, 300 VOLTS OR LESS, AND TO URD CONTRACTS.
4. THE CUSTOMER SHALL LEAVE A MINIMUM 10 FT. HAND COIL AT GRADE LEVEL ADJACENT TO POINT OF TERMINATION. THE CABLE END SHALL BE PROTECTED WITH WEATHER RESISTANT TAPE OR END CAP. IF THE TRANSFORMER SERVES ONLY ONE LOT/UNIT, THE CUSTOMER SHALL PROVIDE AND INSTALL ALL PRIMARY CABLES FROM COMPANY'S EQUIPMENT TO THE TRANSFORMER PAD. THE COMPANY WILL PROVIDE THE TRANSFORMER AND MAKE ALL CONNECTIONS AT IT.
5. HAND DIGGING SHALL BE REQUIRED WITHIN 3 FT. OF COMPANY TRANSFORMER PAD.
6. ALL UNDERGROUND CABLE INSTALLATION REQUIREMENTS, INCLUDING COVER REQUIREMENTS, GROUNDING, AND PROTECTION FROM DAMAGE SHALL BE IN ACCORDANCE WITH FIGURE 11 AND ARTICLE 300 OF THE NEC.
7. DIRECT BURIED SERVICE LATERALS CROSSING UNDER PAVED AREAS SHALL BE IN PVC OR ABS SCHEDULE 40 CONDUIT FOR THE ENTIRE RUN. SEAL ALL CONDUIT ENDS WITH SEALING COMPOUND AND PROVIDE WITH AN APPROVED SLIP JOINT CONNECTOR.
8. USE GALVANIZED STEEL CONDUIT (2" MIN. ) OR SCH. 80 PVC FOR ABOVE GROUND PORTION.
9. METER SOCKET SHALL BE FURNISHED AND INSTALLED BY CUSTOMER AND MOUNTED IN TRUE VERTICAL POSITION. SEE FIGURE 13 FOR ADDITIONAL REQUIREMENTS.
10. PROTECTIVE BUSHING TO BE INSTALLED BY CUSTOMER.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 4-13-20
DRWN. _____ DSGN. _____ APPD. _____	UNDERGROUND SERVICE LATERAL	ISSUE
		APP.
		APP.



NOTES:

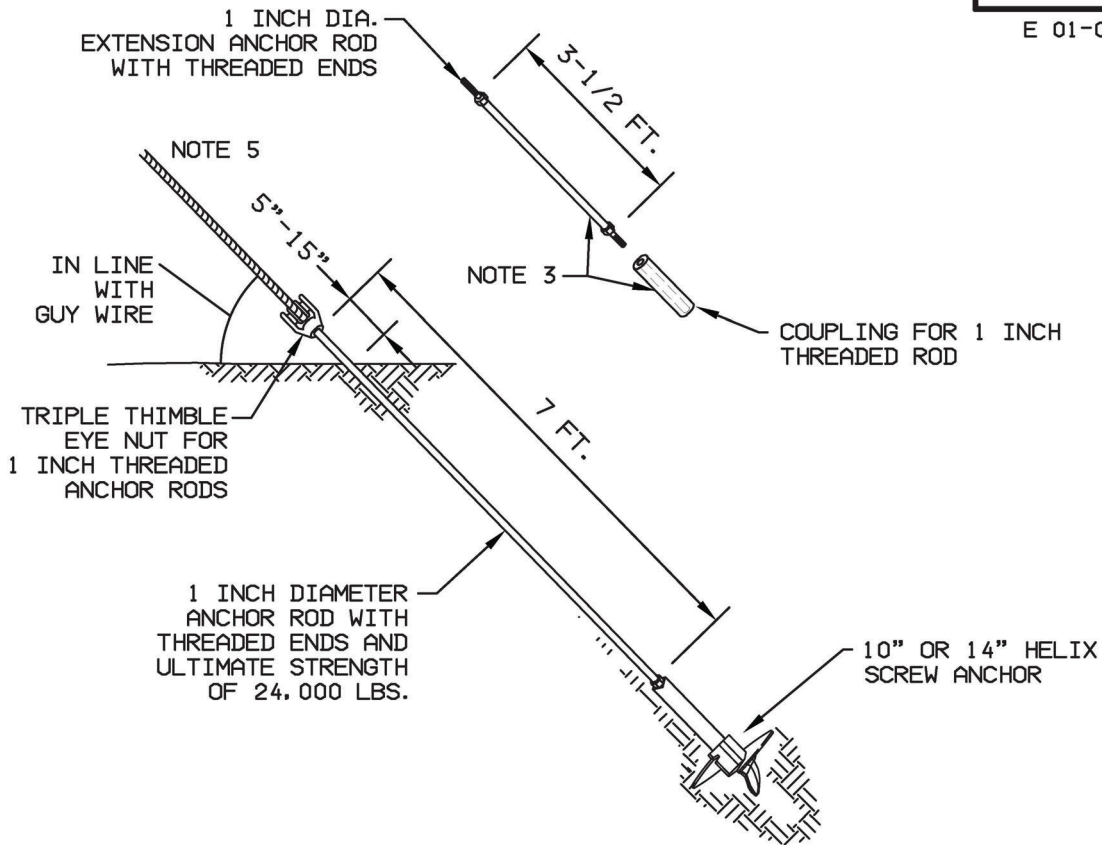
1. THE REQUIRED MINIMUM CLEARANCES ON THIS STANDARD ARE TAKEN FROM PART TWO OF THE 2017 EDITION OF THE NATIONAL ELECTRIC SAFETY CODE (N.E.S.C.). THERE ARE THREE BASIC REQUIREMENTS, CLEARANCE AT POLE, CLEARANCE BETWEEN CONDUCTORS IN MID-SPAN, AND CLEARANCE TO OR ABOVE THE LINE OF SIGHT OF THE TOP COMMUNICATION CIRCUIT. ALL THREE MUST BE SATISFIED.
2. MINIMUM CLEARANCE BETWEEN FIRST AND SECOND POWER CIRCUIT IS 16" PLUS 0.4 INCHES FOR EACH 1kV IN EXCESS OF 8.7 kV.
3. SECONDARIES, NOT ON A COMMON RACK AT THE POLE, OR CABLES HAVING EFFECTIVELY GROUNDED CONTINUOUS METAL SHEATH HAVE THE FOLLOWING MINIMUM VERTICAL SPACING BETWEEN CONDUCTORS:

SPAN LENGTH	VERTICAL CLEARANCE
0-150	4"
150-200	6"
200-250	8"
250-300	12"

4. THE VERTICAL SEPARATION ON THE POLE SHALL BE INCREASED SO THAT THE LOWEST SUPPLY CONDUCTOR (0.75-50kV) WHEN SAGGED AT 60°F FINAL SHALL NOT SAG LOWER THAN THE STRAIGHT LINE JOINING THE POINTS OF SUPPORT OF THE TOP COMMUNICATION CABLE OR WIRE.
5. VERTICAL CLEARANCE AT THE POLE SHALL BE ADJUSTED SUCH THAT THE CLEARANCE AT ANY POINT IN THE SPAN BETWEEN ANY UPPER CONDUCTOR AND THE CONDUCTOR BELOW IT IS NOT LESS THAN 75% OF THAT REQUIRED AT THE POLE. DETERMINATION OF CLEARANCE IS WITH UPPER CONDUCTOR AT MAXIMUM SAG, EITHER 120°F OR 32°F, 1/2" ICE; AND LOWER CONDUCTOR AT MINIMUM SAG.
6. FOR CLEARANCES BETWEEN CENTRAL HUDSON DISTRIBUTION LINES AND ELECTRIC DISTRIBUTION LINES OWNED BY OTHER UTILITIES OR ANY ELECTRIC TRANSMISSION LINES ATTACHED TO THE SAME POLE, CONTACT ELECTRIC SYSTEM DESIGN PERSONNEL.

ELECTRIC STANDARDS	<b>CENTRAL HUDSON GAS &amp; ELECTRIC CORP.</b>	DATE 8-7-18
DRWN. _____	VERTICAL SEPARATION OF LINES ATTACHED ON THE SAME POLE BASED ON 2017 NESC RULE 235	ISSUE
CLEAR _____		APP.
ENGR. _____		APP.
APPD. _____		

SINGLE HELIX SCREW ANCHORS



INSTALLATION REQUIREMENTS							
SOIL CLASS (SEE ANCHOR MANUFACTURER LITERATURE)		2	3	4	5	6	7
10" HELIX	INSTALL TORQUE (FT/LBS)	6,000	4,000	2,500	1,750	1,250	500
	EXPECTED HOLDING CAPACITY (LBS.)	28,000	24,500	20,500	16,000	14,000	8,500
14" HELIX	INSTALL TORQUE (FT/LBS)	7,000	4,000	3,000	2,000	1,500	750
	EXPECTED HOLDING CAPACITY (LBS.)	32,000	28,000	24,000	20,000	16,000	12,500

NOTES:

1. A TORQUE INDICATOR SHALL BE USED ON EACH INSTALLATION TO INSURE THAT PROPER TORQUE IS OBTAINED.
2. EXCESSIVE DOWNWARD THRUST ON INSTALLATION WILL CLOSE THE HELIX AND MAKE INSTALLATION IMPOSSIBLE.
3. IF SOIL IS NOT FIRM ENOUGH TO PROVIDE PROPER TORQUE, ADD UP TO TWO (2) EXTENSIONS. IF PROPER TORQUE ISN'T MET AFTER ADDING TWO EXTENSIONS, REMOVE ANCHOR AND INSTALL APPROPRIATE ALTERNATE ANCHOR.
4. AFTER ACHIEVING PROPER TORQUE, INSTALL ANCHOR ROD BETWEEN 5" AND 15" ABOVE GROUND.
5. SEE FIG. 18 FOR GUY POLE ATTACHMENT DETAILS.

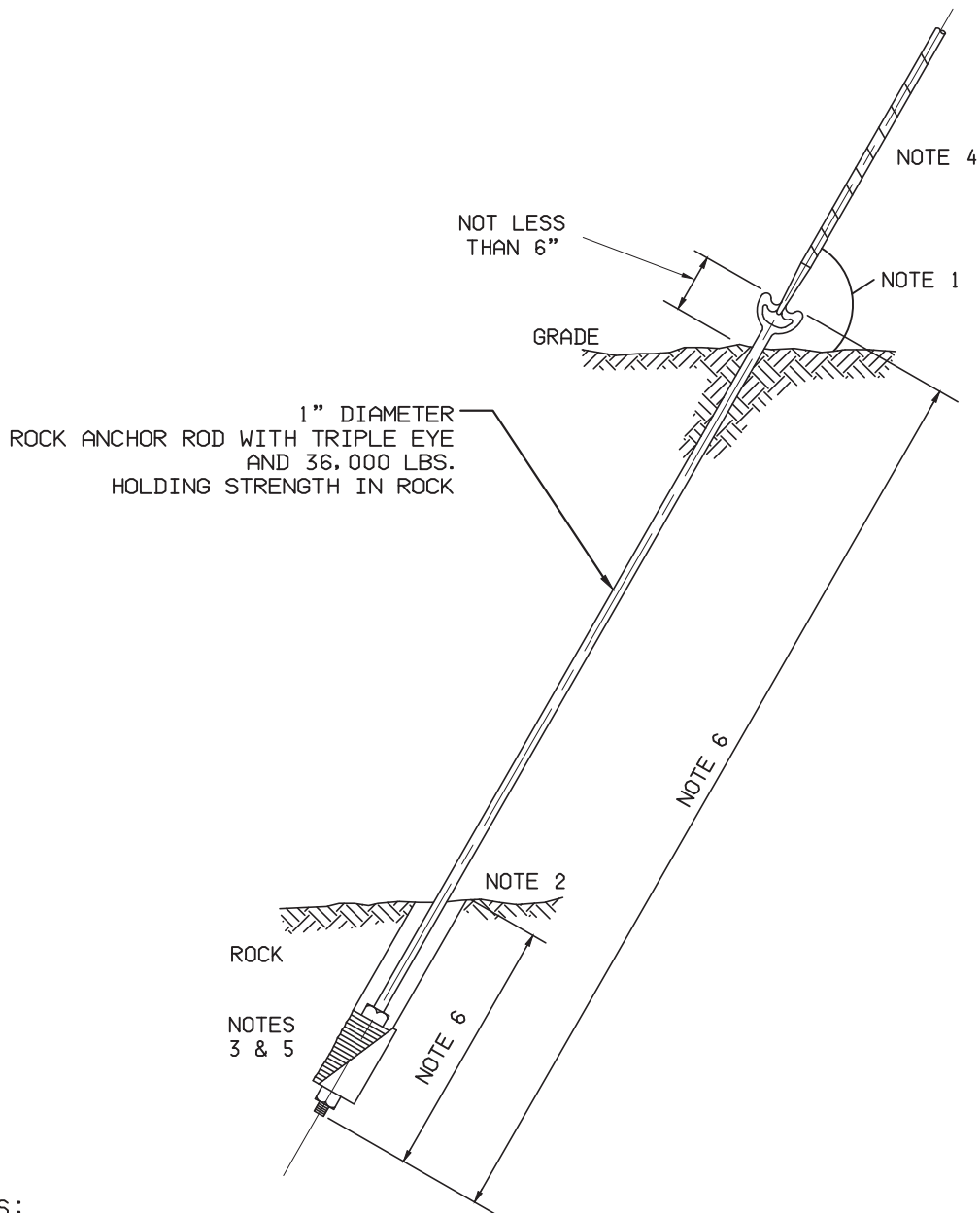
ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 10-1-18
DRWN. _____	ANCHOR INSTALLATIONS	ISSUE
CLEAR _____		APP.
ENGR. _____		APP.
APPD. _____		

ROCK ANCHOR

FIG. 17

SHEET 2 OF 4

E 01-04-002.1



NOTES :

1. ROCK ANCHOR MUST BE INSTALLED IN LINE WITH GUY PULL.
2. ROD TO BE SCREWED TIGHT AND THEN GROUTED IN WITH CEMENT.
3. EXPANSION WEDGE MUST BE AT LEAST 12" IN SOLID ROCK.
4. SEE FIGURE 18 FOR GUY POLE ATTACHMENT DETAILS.
5. DRILL 2 1/2" HOLE FOR 1" ROCK ANCHOR.
6. ANCHOR COMES IN 53 & 96 INCH LENGTHS. SELECT ANCHOR SIZE BASED ON FIELD CONDITIONS.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 10-1-18
DRWN. _____	ANCHOR INSTALLATIONS	ISSUE
DSGN. _____		APP.
APPD. _____		APP.

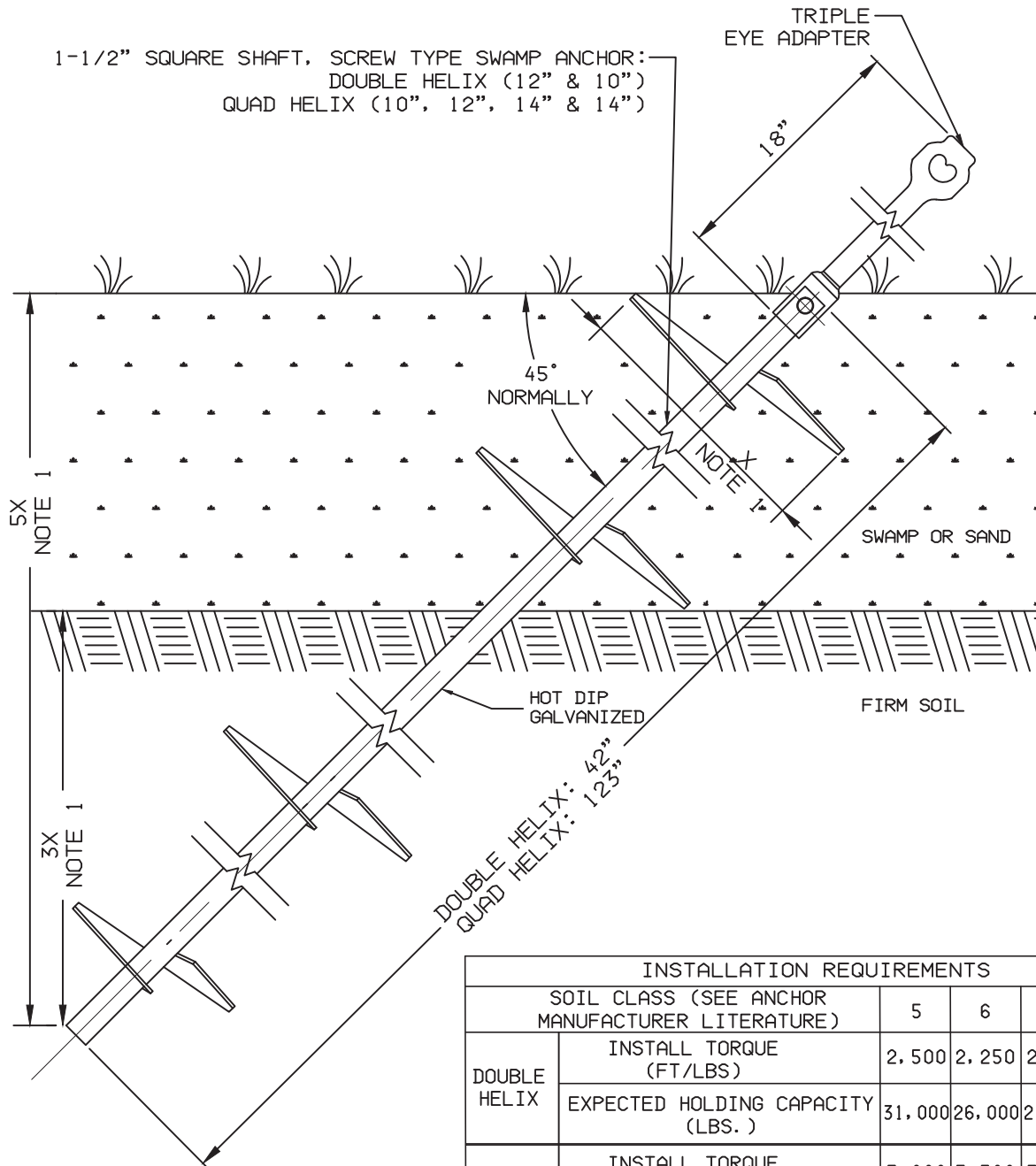
SCREW TYPE SWAMP ANCHOR

FIG. 17

SHEET 3 OF 4

E 01-04-002.5

1-1/2" SQUARE SHAFT, SCREW TYPE SWAMP ANCHOR:  
 DOUBLE HELIX (12" & 10")  
 QUAD HELIX (10", 12", 14" & 14")



INSTALLATION REQUIREMENTS					
SOIL CLASS (SEE ANCHOR MANUFACTURER LITERATURE)		5	6	7	8
DOUBLE HELIX	INSTALL TORQUE (FT/LBS)	2,500	2,250	2,000	NA
	EXPECTED HOLDING CAPACITY (LBS.)	31,000	26,000	21,000	NA
QUAD HELIX	INSTALL TORQUE (FT/LBS)	5,000	3,500	3,000	2,000
	EXPECTED HOLDING CAPACITY (LBS.)	62,000	51,000	40,000	29,000

NOTES :

- SWAMP ANCHORS ARE TO BE USED AND INSTALLED TO PENETRATE FIRM SOIL UNDER SWAMPS AND WETLANDS. ANCHOR SHALL BE INSTALLED TO A MIN. DEPTH OF 3X THE LARGEST HELIX'S DIAMETER AND BE BURIED UNDERGROUND AT LEAST 5X THE DIAMETER OF THE LARGEST HELIX.

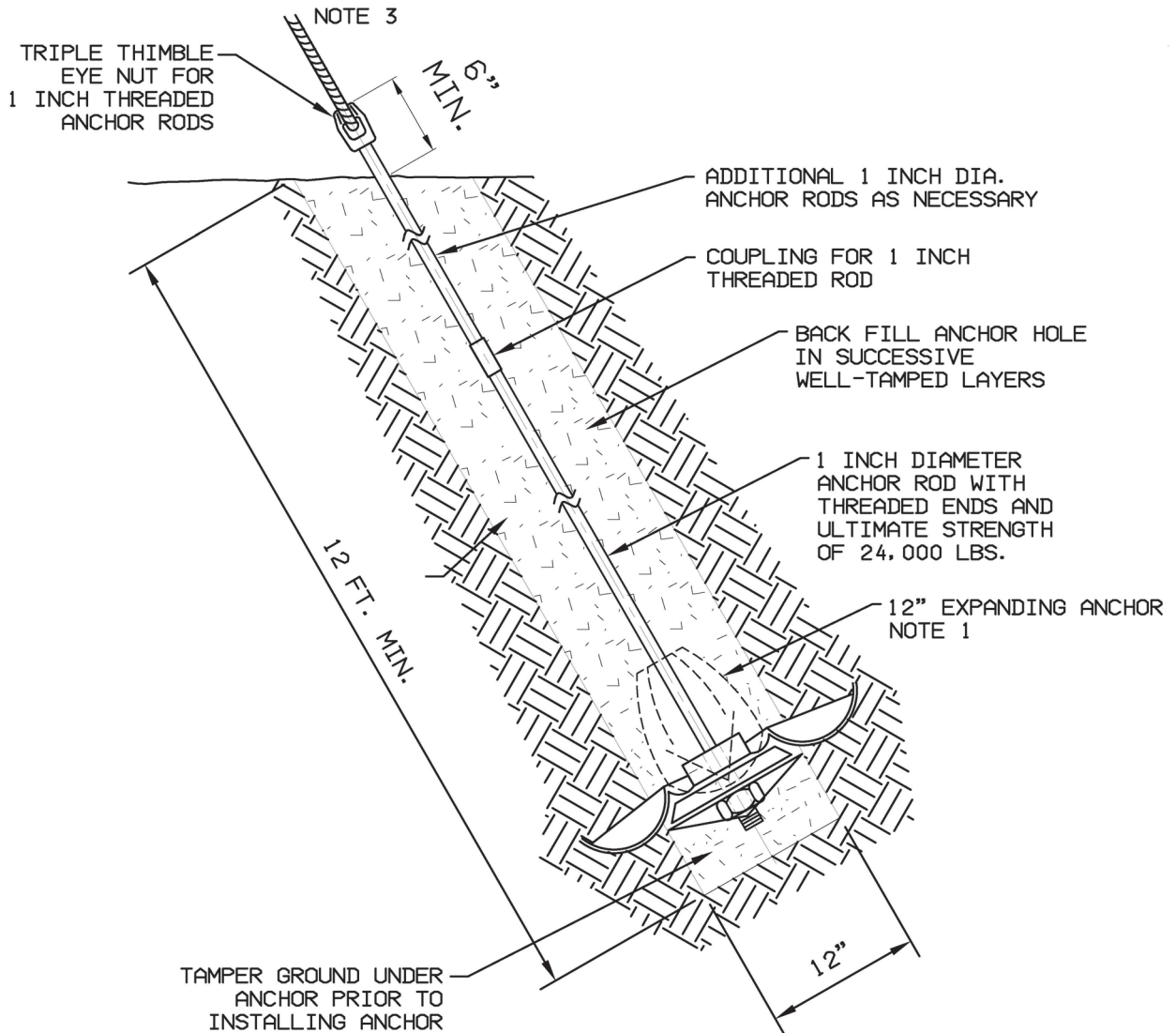
ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 10-1-18
		ISSUE
DRWN. _____	ANCHOR INSTALLATIONS	APP.
CLEAR _____		APP.
ENGR. _____		
APPD. _____		

EXPANDING ANCHOR

FIG. 17

SHEET 4 OF 4

E 01-04-002. 4

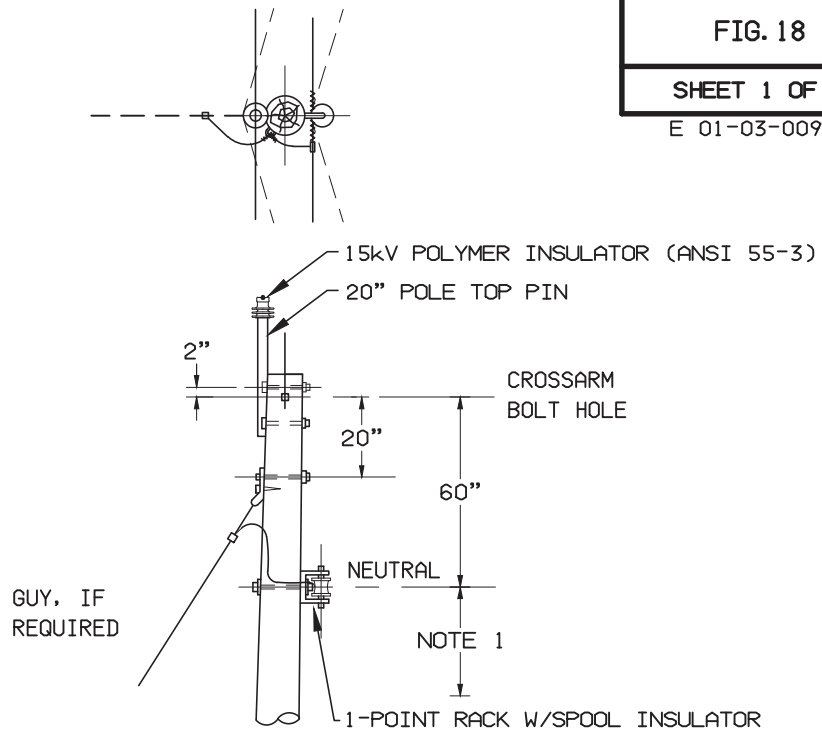


INSTALLATION REQUIREMENTS					
SOIL CLASS (SEE ANCHOR MANUFACTURER LITERATURE)	3	4	5	6	7
EXPECTED HOLDING CAPACITY (LBS.)	40,000	34,000	26,500	21,500	16,000

NOTES:

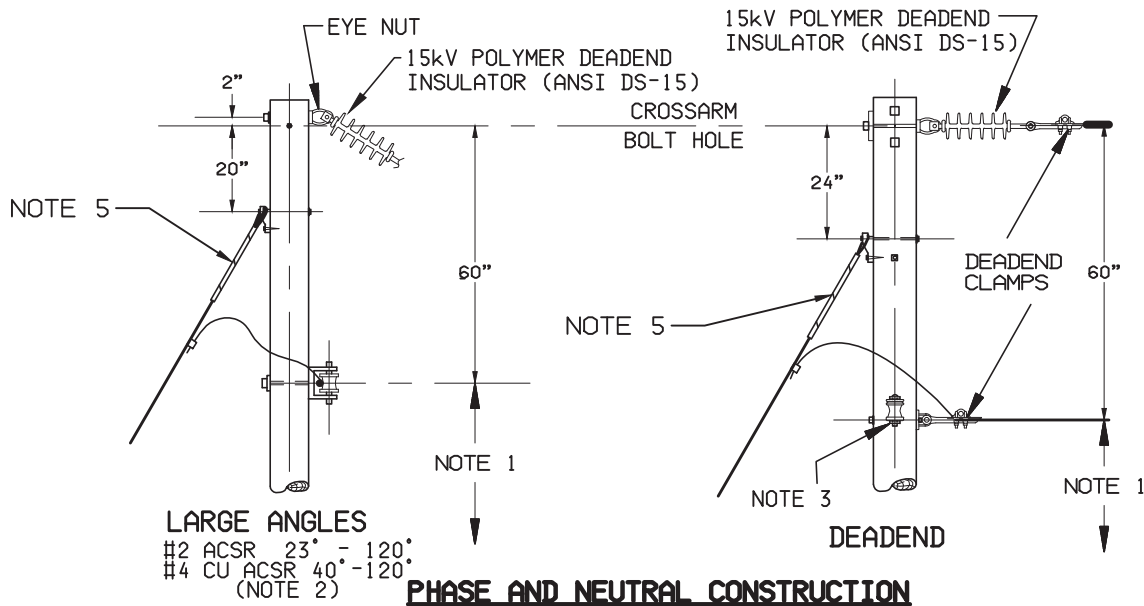
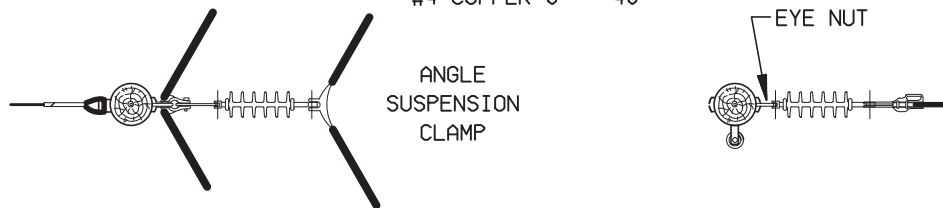
1. SCREW ANCHOR ROD TO RETAINING NUT ON ANCHOR'S BASE PLATE. LOOSEN RETAINING WIRES PRIOR TO INSTALLING ANCHOR IN HOLE.
2. EXPAND ANCHOR BY STRIKING THE ANCHOR TOP PLATE WITH EXPANDING BAR. ROTATING THE EXPANDING BAR AROUND TOP PLATE TO EXPAND EVENLY UNTIL TOP PLATE IS FLAT AGAINST THE BASE PLATE.
3. SEE FIG. 18 FOR DOWN GUY INSTALLATION DETAILS.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 10-1-18
DRWN. _____	ANCHOR INSTALLATIONS	ISSUE
CLEAR _____		APP.
ENGR. _____		APP.
APPD. _____		



**STRAIGHT LINE & SMALL ANGLES**

#2 ACSR 0° - 22° (NOTE 4)  
 #4 COPPER 0° - 40°



**PHASE AND NEUTRAL CONSTRUCTION**

**LARGE ANGLES**  
 #2 ACSR 23° - 120°  
 #4 CU ACSR 40° - 120°  
 (NOTE 2)

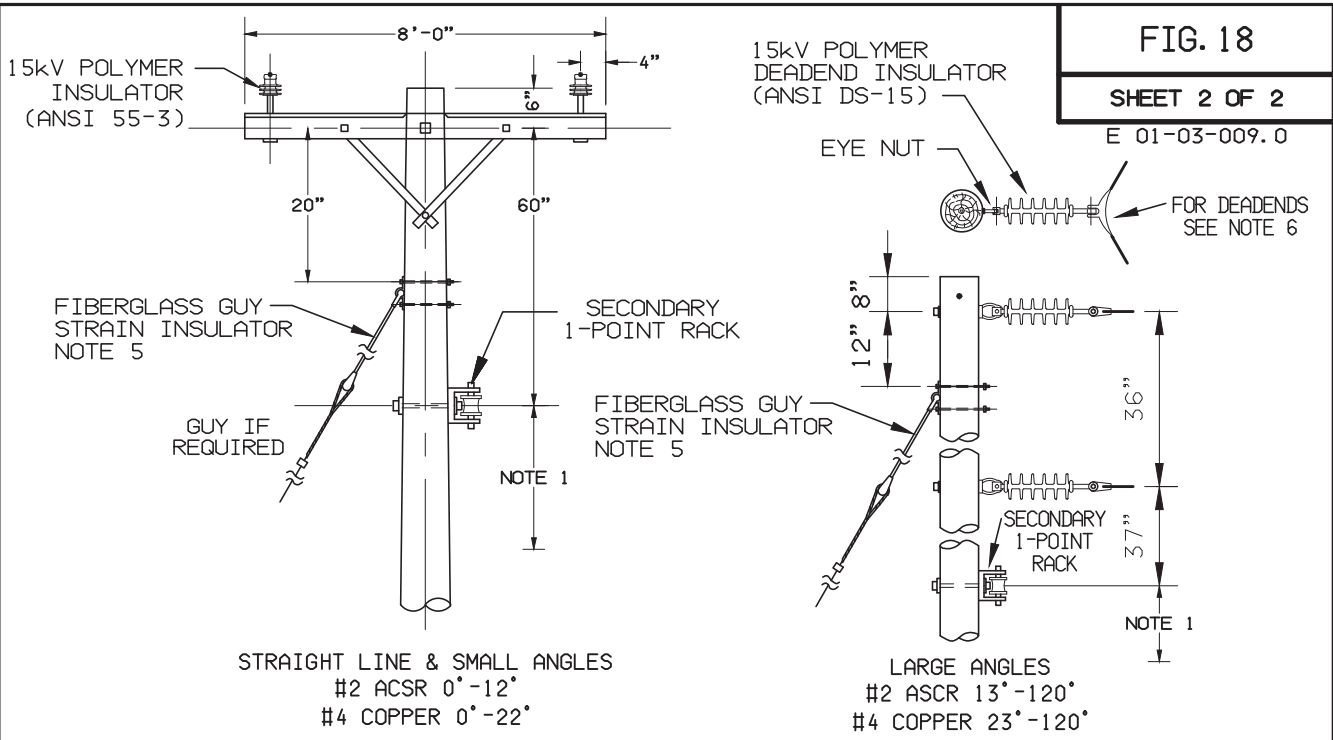
ELECTRIC STANDARDS
DRWN. _____
CLEAR. _____
ENGR. _____
APPD. _____

**CENTRAL HUDSON GAS & ELECTRIC CORP.**

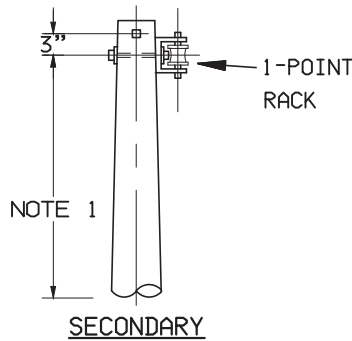
CONSTRUCTIONS DETAILS FOR 4 kV AND 7.6 kV  
 SINGLE PHASE CUSTOMER LINES

DATE 9-6-18
ISSUE
APP.
APP.





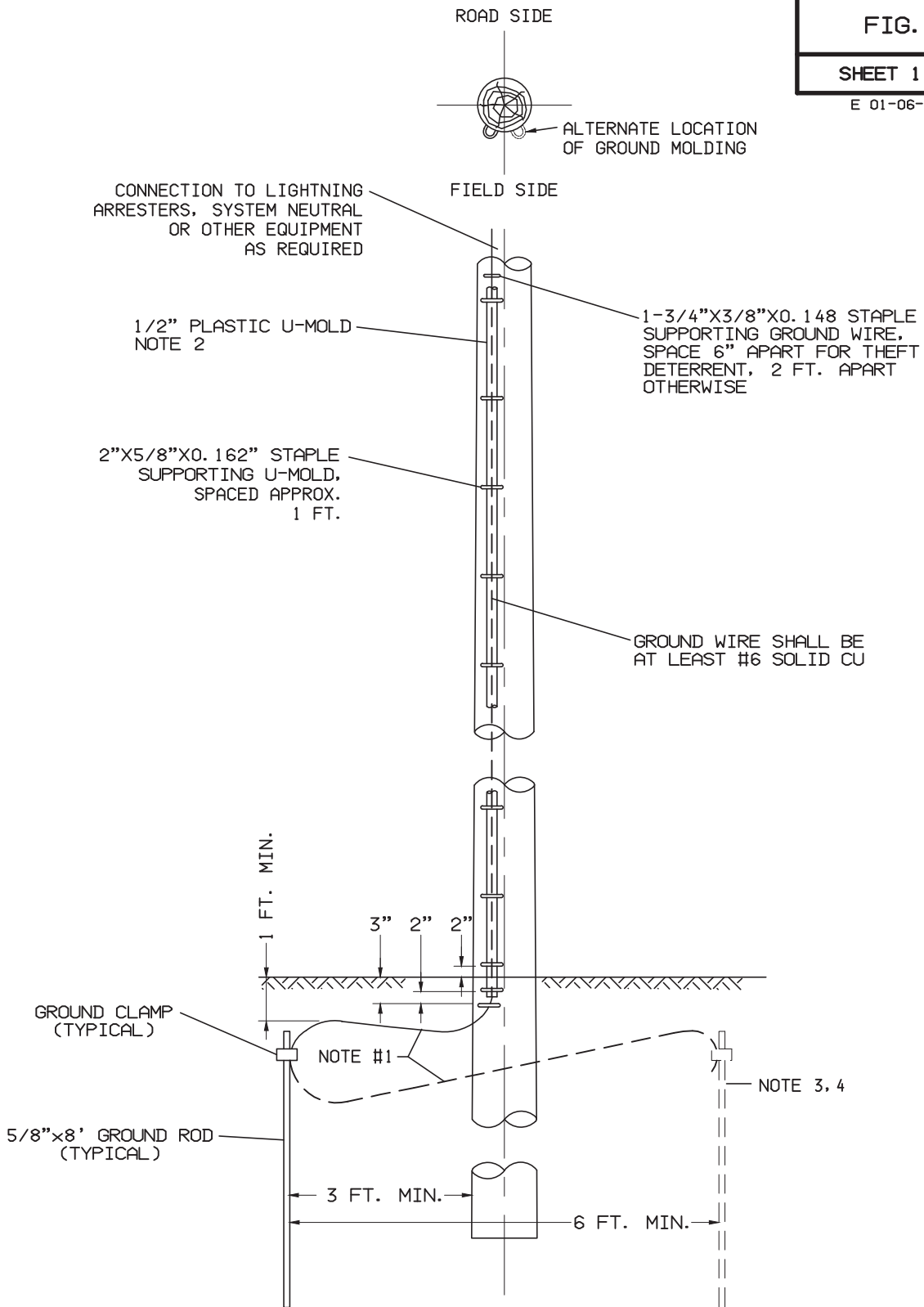
4.8 kV PHASE AND PHASE FOR AREAS WHERE NEUTRAL IS UNAVAILABLE



NOTES:

1. 40" MINIMUM CLEARANCE IS REQUIRED BETWEEN LOWEST POWER FACILITIES AND COMMUNICATIONS FACILITIES.
2. FOR LARGER ANGLES DEADEND EACH WAY.
3. SECONDARY RACK LOCATIONS ON TRANSFORMER POLE.
4. THE ALLOWABLE ANGLES INDICATED ARE ONLY FOR NO. 4 CU. OR NO. 2 ACSR CONDUCTORS WITH 175 FT. AVERAGE ADJACENT SPANS.
5. ALL GUY WIRES MUST BE GROUNDED TO THE NEUTRAL. PROVIDE AND INSTALL FIBERGLASS GUY STRAIN INSULATORS WHEN GUYS ARE WITHIN TWO FEET OF PHASE WIRES OR EQUIPMENT RATED HIGHER THAN 300V. INSULATORS SHALL EXTEND TO AT LEAST ONE FOOT BELOW LOWEST PHASE CONDUCTOR OR EQUIPMENT. INSULATORS SHALL HAVE A RATED DRY FLASHOVER VOLTAGE AT LEAST DOUBLE THE NOMINAL LINE-TO-LINE VOLTAGE AND A WET FLASHOVER VOLTAGE AT LEAST AS HIGH AS THE NOMINAL LINE TO LINE VOLTAGE AVAILABLE ON THE POLE. INSULATOR ULTIMATE STRENGTH MUST BE AT LEAST EQUAL TO THE RATED BREAKING STRENGTH OF THE GUY IN WHICH IT IS INSTALLED.
6. FOR 4.8kV DEADENDS, ALL EQUIPMENT & DIMENSIONS SHOWN FOR LARGE ANGLES SHALL BE USED EXCEPT REPLACE ANGLE SUSPENSION CLAMP WITH DEADEND CLAMP.

ELECTRIC STANDARDS	<b>CENTRAL HUDSON GAS &amp; ELECTRIC CORP.</b>  CONSTRUCTION DETAILS FOR 4 kV AND 7.6 kV SINGLE PHASE CUSTOMER LINES	DATE 9-7-18
DRWN. _____		ISSUE
CLEAR _____		APP.
ENGR. _____		APP.
APPD. _____		



ELECTRIC STANDARDS

CENTRAL HUDSON GAS & ELECTRIC CORP.

DATE 8-7-18

DRWN. \_\_\_\_\_  
 DSGN. \_\_\_\_\_  
 APPD. \_\_\_\_\_

GENERAL - GROUNDS AND GROUND GRIDS  
 GROUND INSTALLATION AT WOOD POLE BASE  
 MULTI - GROUNDED COMMON NEUTRAL SYSTEM

ISSUE

APP.

APP.

**NOTES:**

1. CONNECTING WIRES TO BE SLACK TO AVOID BREAKAGE DUE TO FROST ACTION.
2. PLASTIC MOLDING TO COVER GROUND WIRE ALONG FULL RUN ON POLE.
3. AT THE LAST GROUND INSTALLATION ON PRIMARY LINES, INCLUDING PRIVATE SPURS, DRIVE ONE ADDITIONAL ROD AND CONNECT AS SHOWN.
4. ADDITIONAL ROD TO BE CONNECTED WITH CONTINUOUS WIRE LOOPED THROUGH ROD CONNECTORS.
5. A COMMON NEUTRAL CONDUCTOR REQUIRES A MINIMUM OF FOUR GROUNDS AT SEPARATE LOCATIONS PER MILE EITHER AS EQUIPMENT GROUNDS OR AS SEPARATE INSTALLATIONS.
6. IF NECESSARY TO SPLICE GROUNDING CONDUCTOR ABOVE GROUND, USE COMPRESSION SPLICE.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 8-7-18
DRWN. _____ DSGN. _____ APPD. _____	GENERAL - GROUNDS AND GROUND GRIDS GROUND INSTALLATION AT WOOD POLE BASE MULTI - GROUNDED COMMON NEUTRAL SYSTEM	ISSUE APP. APP.

# UNDERGROUND RESIDENTIAL DISTRIBUTION (URD)

FIG. 20.0

SHEET 1 OF 1

GENERAL

1. COMPANY STANDARD IS TO INSTALL ALL CABLE > 600V IN CONDUIT BELOW GRADE. IF NOT POSSIBLE, COORDINATE WITH COMPANY REPRESENTATIVE.
2. JOINT USE. RANDOM LAY INSTALLATIONS INVOLVING BOTH POWER AND COMMUNICATIONS CABLES ARE LIMITED TO THOSE APPLICATIONS IN WHICH THE POWER CABLES DO NOT EXCEED:
  - A. 5,300 VOLTS PHASE TO PHASE FOR UNGROUNDED (DELTA) OPERATION OR
  - B. 22,000 VOLTS PHASE TO GROUND FOR GROUNDED (WYE) OPERATION
3. WHERE THE POWER CABLE EXCEEDS 300 VOLTS TO GROUND, THE INSTALLATION SHALL INCLUDE A BARE OR SEMICONDUCTING JACKETED GROUNDED CONDUCTOR IN CONTINUOUS CONTACT WITH EARTH (EXCEPT FOR SHORT SECTIONS SUCH AS CONDUIT UNDER A HIGHWAY).
4. MARKER TAPE SHALL BE INSTALLED IN ALL URD INSTALLATIONS.
5. ELECTRIC CABLE AND GAS PIPE SHALL BE LAID IN THE TRENCH WITHOUT TENSION.
6. PRIMARY ELECTRIC CABLES, DIRECT BURIED SECONDARY, AND GAS MAINS/SERVICES SHALL NOT BE PLACED IN LOCATIONS FOR WHICH THE SURFACE IS NOT READILY ACCESSIBLE (SUCH AS UNDER SIDEWALKS AND ALONG PAVED ROADWAYS). DIRECT BURIED SECONDARY CABLES MAY CROSS UNDER PAVED ROADS. HOWEVER, ALL MAIN ROADS SHALL HAVE AT LEAST ONE SPARE DUCT INSTALLED ALONG WITH THE CABLE. SPARE DUCTS ARE OPTIONAL FOR PARKING LOTS AND SIDE ROADS BASED UPON INDIVIDUAL CIRCUMSTANCES.
7. TRACER WIRE SHALL BE INSTALLED FOR ALL JOINT URD'S AS PER FIGURES 17 & 18 OF CENTRAL HUDSON'S SPECIFICATIONS AND REQUIREMENTS FOR GAS INSTALLATIONS.

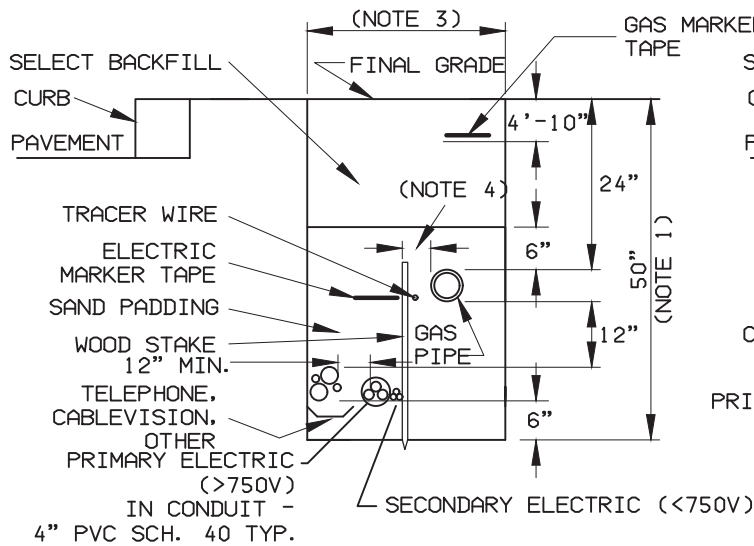
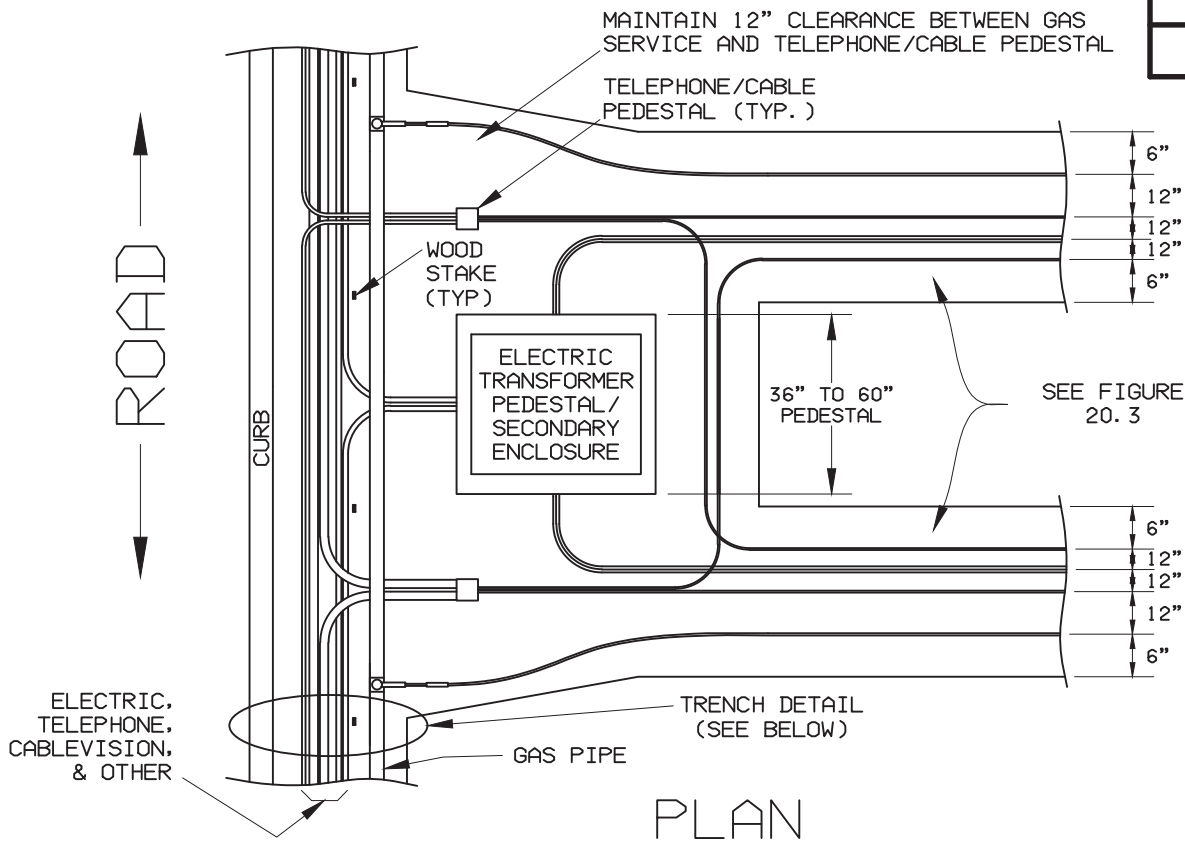
TRENCH INSTALLATIONS

8. GAS AND ELECTRIC FACILITIES SHALL NOT BE INSTALLED UNLESS THE SURFACE IS AT, OR NO MORE THAN 6" BELOW FINAL GRADE. MINIMUM COVER REQUIREMENTS SHALL BE MET BOTH DURING CONSTRUCTION AND AFTER FINAL GRADING.
9. TRENCHES SHALL BE EXCAVATED TO ADEQUATE WIDTH AND DEPTH TO ACCOMMODATE THE FACILITIES TO BE INSTALLED AND TO ASSURE SUFFICIENT COVER AS SPECIFIED.
10. CONSULT CENTRAL HUDSON FOR TRENCHES OVER 5 FEET DEEP, AS THEY REQUIRE SHORING AND, OR SLOPING.
11. FOR THE PURPOSE OF THESE STANDARDS, THE PREFERRED SANDPADDING SHALL BE IMPORTED NATURAL OR MANUFACTURED STONE DUST, CUSHION SAND, SCREENED BANK RUN, CONCRETE SAND, OR FINE AGGREGATE. SANDPADDING SHALL CONSIST OF HARD, STRONG, DURABLE PARTICLES FREE FROM CLAY, LOAM, OR HARMFUL SUBSTANCES. THE MATERIAL SHALL BE SCREENED TO CONTAIN NO SHARP STONES, OR STONES GREATER THAN ¼ INCH IN DIAMETER. THE MATERIAL SHALL BE SIGNIFICANTLY DIFFERENT IN COLOR OR CONSISTENCY TO READILY DISTINGUISH IT FROM SOILS SURROUNDING THE TRENCH. ACCEPTABLE OPTIONS INCLUDE NEW YORK STATE DOT APPROVED SOURCES WITH A GENERAL RANGE OF GRADATION AT 90-100% PASSING ¼", 90-100% PASSING ⅜", 0-80% PASSING #80 SCREEN, AND 0-10% PASSING #200 SCREEN.
12. THE TRENCH BOTTOM SHALL BE SMOOTH AND FREE OF ALL STONE AND SHARP OBJECTS. A 6" LAYER OF SAND PADDING SHALL BE PLACED ON THE BOTTOM OF THE TRENCH PRIOR TO THE INSTALLATION OF ELECTRIC AND/OR GAS UTILITIES.
13. THE ELECTRIC AND COMMUNICATION CABLES SHALL BE COVERED WITH A MINIMUM 12" OF SAND PADDING. THE GAS MAIN AND SERVICES SHALL BE COVERED WITH A MINIMUM OF 6" OF SAND PADDING.
14. PLACE WOODEN STAKES AS OFTEN AS NEEDED TO MAINTAIN REQUIRED SEPARATION. THE TRACER WIRE MAY BE TAPED TO THE STAKES TO MINIMIZE CONTACT WITH THE PLASTIC PIPE.

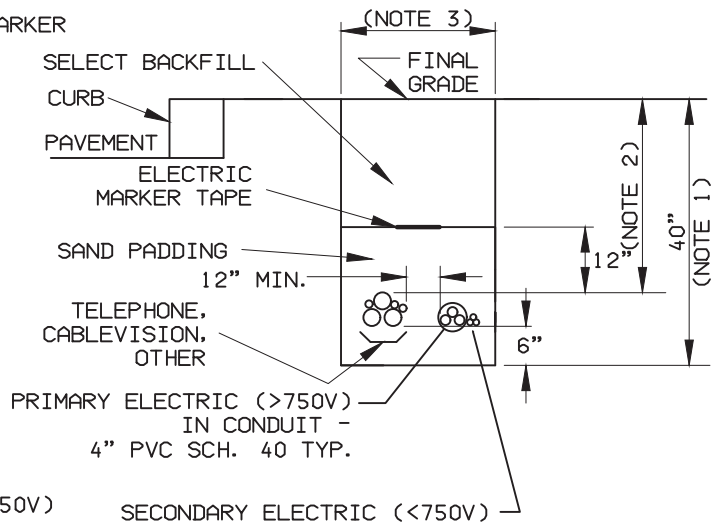
CLEARANCES

15. A MINIMUM CLEARANCE OF 12" SHALL BE MAINTAINED BETWEEN GAS PIPING AND OTHER UNDERGROUND UTILITIES OR STRUCTURES.
16. ELECTRIC CABLES SHALL NOT BE INSTALLED WITH LESS THAN 12" SEPARATION FROM OTHER UNDERGROUND STRUCTURES EXCEPT AS PROVIDED BY THESE STANDARDS.
17. NO NON-POOL RELATED ELECTRIC CABLES SHALL BE LOCATED WITHIN 5 FEET OF SWIMMING POOLS OR THEIR AUXILIARY EQUIPMENT.
18. THE GAS MAIN SHALL BE LAID ON THE HOUSE SIDE OF JOINT URD TRENCHES. FOR GAS MAINS AND SERVICES INSTALLED JOINTLY WITH ANOTHER ELECTRIC UTILITY, THE MAIN SHALL BE INSTALLED AS PER THE CONSTRUCTION STANDARDS OF THE ELECTRIC UTILITY.
19. FOR GAS MAIN/SERVICES AND CABLE (DIRECT BURIED SECONDARY ELECTRIC, COMMUNICATIONS, ETC.) CROSSINGS WITH LESS THAN 12" BUT GREATER THAN OR EQUAL TO 6", THE CABLES SHALL BE PLACED IN A SCHEDULE 40 PLASTIC DUCT WHICH EXTENDS, WHERE POSSIBLE, 2 FEET BEYOND EACH END OF THE SECTION OF GAS MAIN/SERVICE WHERE THE CLEARANCE IS LESS THAN 12". SECONDARY AND/OR SERVICE CABLES SHALL NOT BE PLACED IN THE SAME DUCT AS PRIMARY CABLES. COMMUNICATION CABLES MAY BE PLACED IN A DUCT WITH OTHER 600 VOLT OR LESS CABLES. CLEARANCES BETWEEN GAS MAIN/SERVICES AND CABLE LESS THAN 6" ARE NOT ACCEPTABLE.

<b>ELECTRIC STANDARDS</b>	<b>CENTRAL HUDSON GAS &amp; ELECTRIC CORP.</b>	DATE 4-9-20
DRAWN. _____ CLEAR _____ ENGR. _____ APP. _____	UNDERGROUND RESIDENTIAL DISTRIBUTION (URD) JOINT WITH GAS AND OTHER UTILITIES	ISSUE APP. APP.



TRENCH DETAIL (GAS AND ELECTRIC)



TRENCH DETAIL (ELECTRIC ONLY)

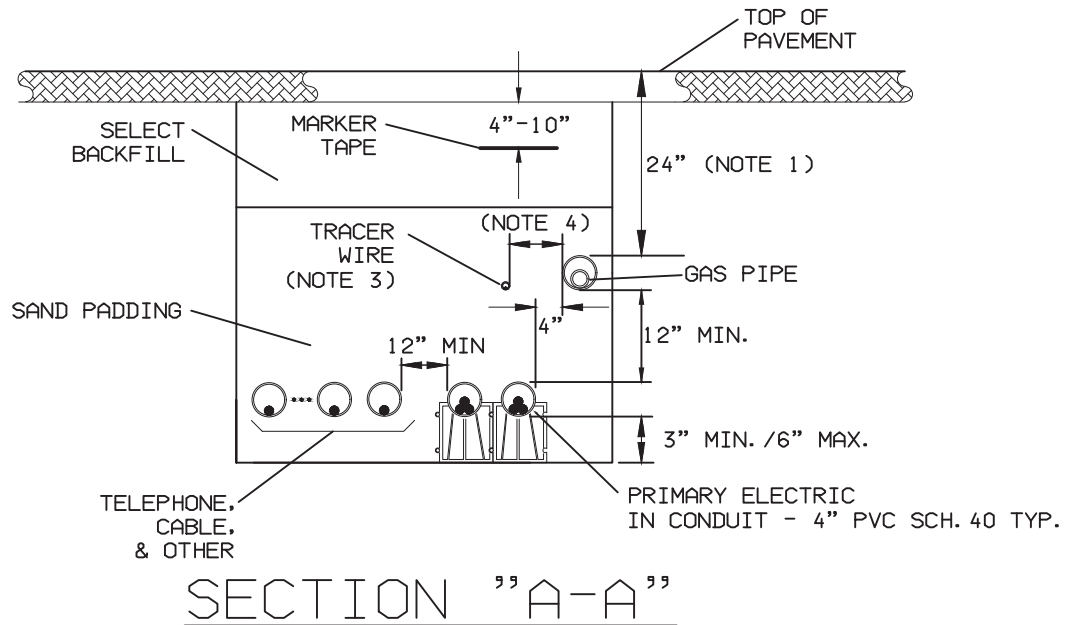
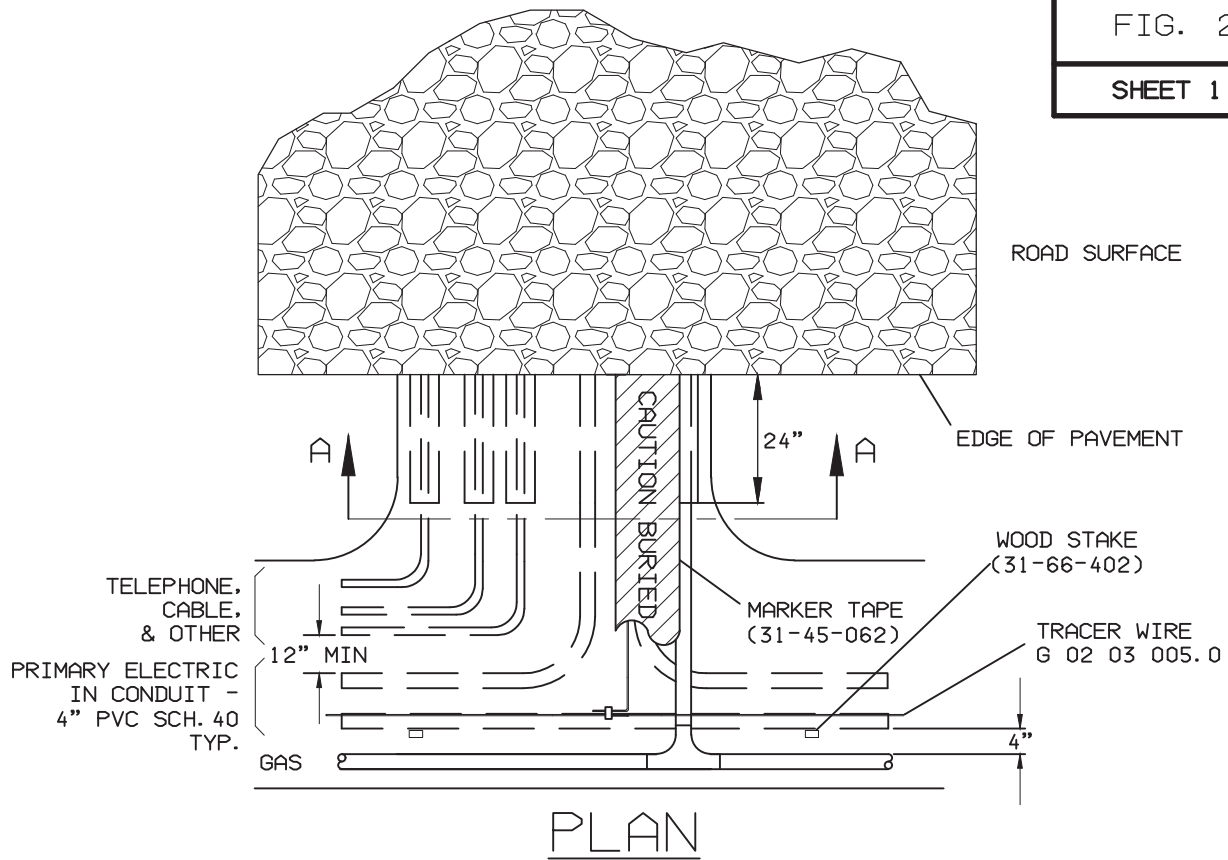
NOTES:

(GAS AND ELECTRIC)

(ELECTRIC ONLY)

1. INDICATED TRENCH DEPTH IS FOR 2" OR 4" GAS MAINS. FOR 6" MAINS THE TRENCH DEPTH SHALL BE 52". FOR ELECTRIC-ONLY INSTALLATIONS, THE DEPTH OF COVER SHALL BE AS DESIGNATED ON FIGURE 11 AND IN NEC SECTION 300.
2. A MINIMUM OF 40" DEPTH-OF-COVER REQUIRED OVER ELECTRIC AND OTHER CABLE UTILITIES FOR CULTIVATED LAND. LAND OWNER MAY REQUIRE ADDITIONAL DEPTH-OF-COVER.
3. TRENCH WIDTH FOR 2" OR 4" GAS MAINS SHALL BE A MINIMUM 28" PLUS WIDTH REQUIRED BY TELEPHONE AND CABLEVISION. FOR 6" MAINS THE MINIMUM WIDTH WILL BE 30" PLUS TELEPHONE AND CABLEVISION REQUIREMENTS. FOR ELECTRIC-ONLY INSTALLATION, THE MINIMUM TRENCH WIDTH SHALL BE 18" PLUS TELEPHONE, CABLEVISION, AND OTHER UTILITY REQUIREMENTS.
4. LOCATE PLASTIC PIPE A SUFFICIENT DISTANCE FROM WOODEN STAKE TO MINIMIZE TRACER WIRE TO PIPE CONTACT.
5. ALL DIMENSIONS ARE MINIMUMS.

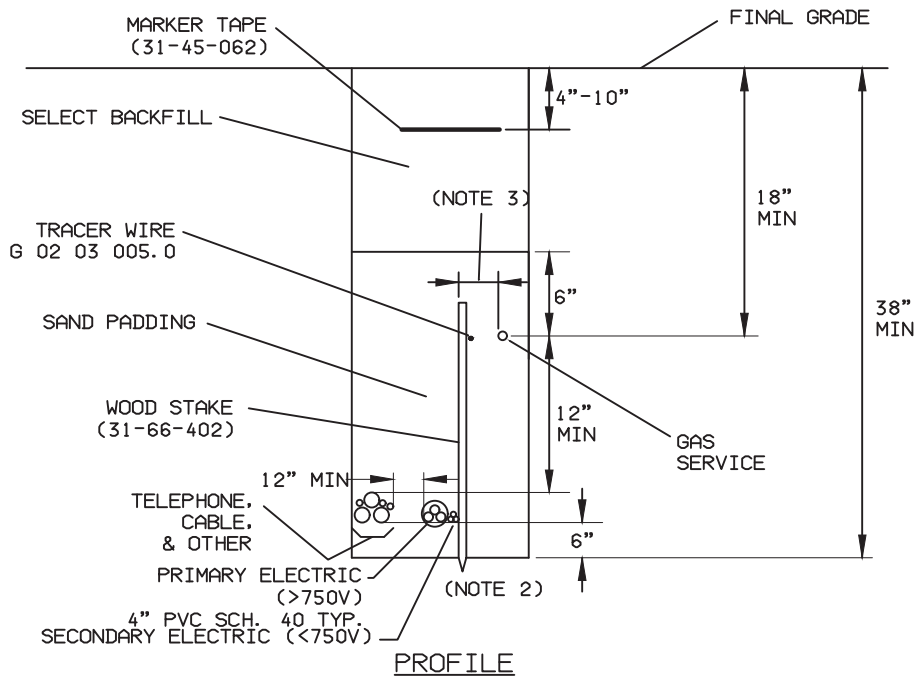
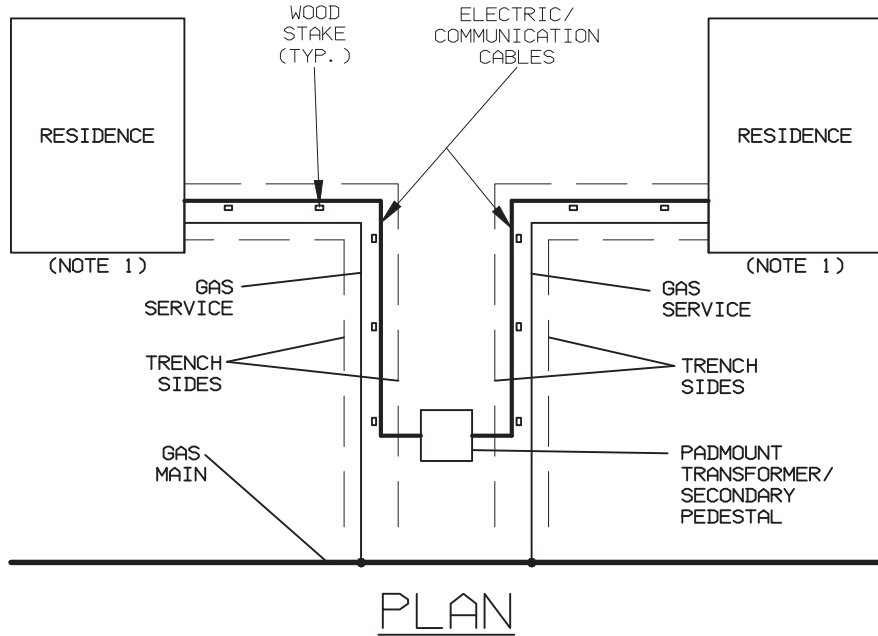
ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 4-9-20
DRAWN. _____ CLEAR _____ ENGR. _____ APP. _____	UNDERGROUND RESIDENTIAL DISTRIBUTION (URD) ELECTRIC & GAS MAIN INSTALLATION WITH OTHER UTILITIES	ISSUE _____ APP. _____ APP. _____



NOTES :

1. MINIMUM PIPE DEPTH SHALL BE 24" OR AS REQUIRED BY LOCAL AUTHORITIES.
2. IF ROAD CROSSING IS OPEN CUT, CONDUITS ARE NOT REQUIRED FOR GAS FACILITIES, HOWEVER, SPECIFIED SPACING SHALL BE MAINTAINED.
3. A SEPARATE 1" OR LARGER IPS SCHEDULE 40 PVC CONDUIT WITH PULL STRING, SHALL BE INSTALLED ALONG WITH OTHER ROAD CROSSING CONDUITS TO ACCOMMODATE TRACER WIRE INSTALLATION.
4. LOCATE TRACER WIRE A SUFFICIENT DISTANCE FROM PLASTIC PIPE TO MINIMIZE TRACER WIRE TO PIPE CONTACT.

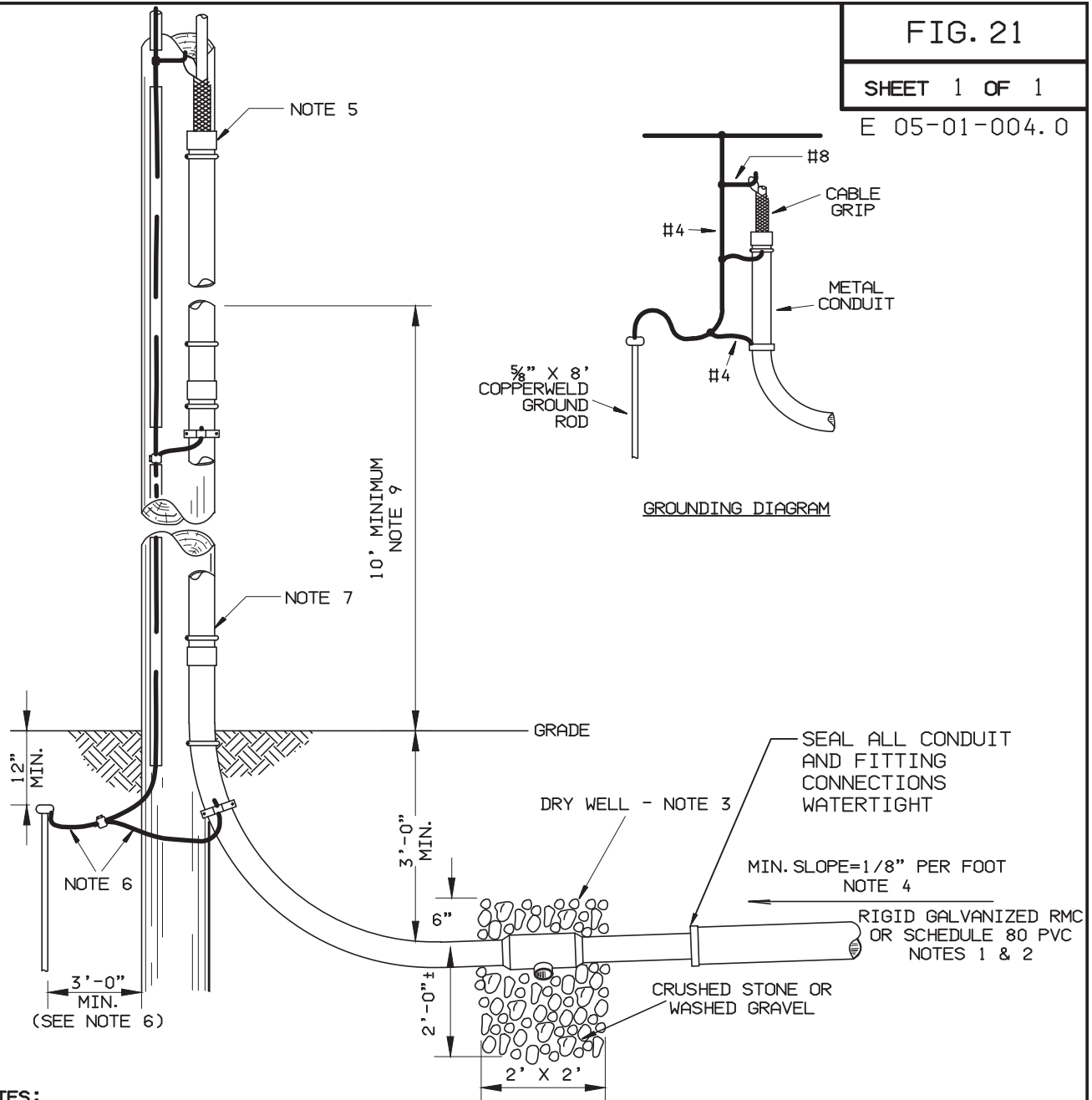
ELECTRIC STANDARDS	<b>CENTRAL HUDSON GAS &amp; ELECTRIC CORP.</b>  UNDERGROUND RESIDENTIAL DISTRIBUTION (URD) ROAD CROSSING INSTALLATION	DATE 4-9-20
DRAWN. _____		ISSUE
CLEAR _____		APP.
ENGR. _____ APP. _____		APP.



**NOTES:**

1. CONSULT CENTRAL HUDSON FOR LOCATION OF THE GAS METER SET.
2. TRENCH WIDTH SHALL BE A MINIMUM 24".
3. LOCATE PLASTIC PIPE A SUFFICIENT DISTANCE FROM WOODEN STAKE TO MINIMIZE TRACER WIRE TO PIPE CONTACT.
4. FOR CABLES NOT ENCASED IN CONCRETE PROVIDED AND INSTALL MARKER TAPE 12" ABOVE CABLE.

<b>ELECTRIC STANDARDS</b>	<b>CENTRAL HUDSON GAS &amp; ELECTRIC CORP.</b>	DATE 4-9-20
DRAWN. _____	UNDERGROUND RESIDENTIAL DISTRIBUTION (URD) ELECTRIC & GAS SERVICE INSTALLATION WITH OTHER UTILITIES	ISSUE
CLEAR _____		APP.
ENGR. _____		APP.
APP. _____		



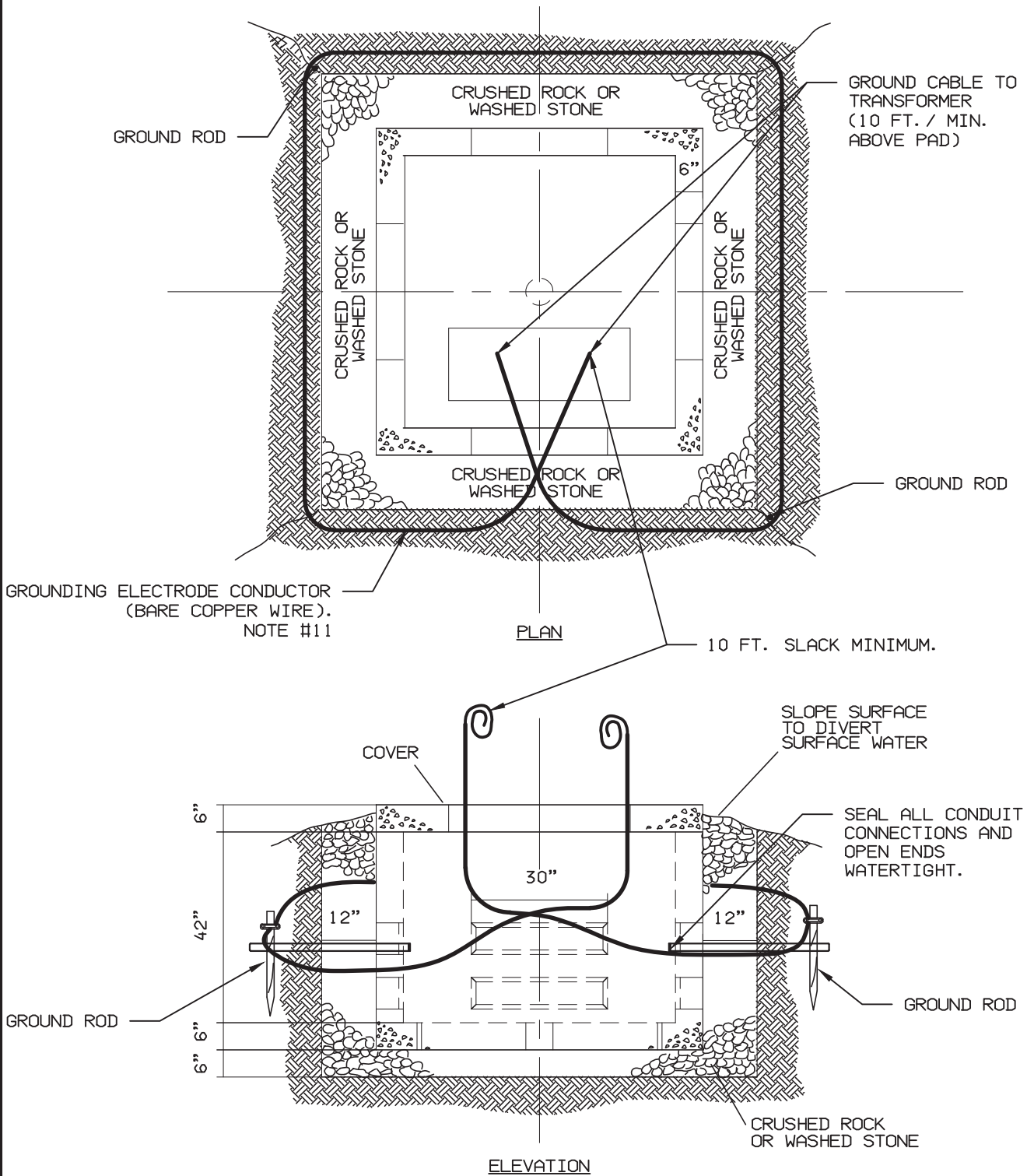
**NOTES:**

1. ALL PVC FITTINGS AND CONDUIT LENGTHS SHALL BE JOINED WITH PVC SOLVENT CEMENT TO FORM WATERTIGHT JOINTS. SCHEDULE 80 PVC SHALL BE USED UNDER AREAS SUBJECT TO VEHICLE TRAFFIC. SCHEDULE 40 PVC IS ACCEPTABLE IN OTHER AREAS.
2. SEAL TERMINAL END OF ACTIVE CONDUITS WITH FOAM OR CAULK DESIGNED TO RESIST WATER PENETRATION. MATCH FOAM OR CAULK WITH CONDUIT MATERIAL.
3. DRY WELL NOT REQUIRED IF DUCTS TERMINATE IN A MANHOLE OR PULLBOX.
4. DUCTS SHOULD SLOPE TOWARDS DRY WELL WHEN DRY WELL IS USED, OTHERWISE SLOPE DUCTS TOWARD MANHOLE OR PULLBOX.
5. SEAL TOP OF DUCT AFTER CABLE IS IN PLACE.
6. CONNECTING WIRES TO BE SLACK TO AVOID BREAKAGE DUE TO FROST ACTION.
7. LOCATE RISER CONDUIT ON SIDE OF POLE OPPOSITE TO TRAFFIC DIRECTION.
8. SUPPLEMENTAL GROUND IS REQUIRED IF GROUND RESISTANCE IS GREATER THAN 25 OHMS. SEE NEC SECTION 250.53.
9. FOR SECONDARY RISER SYSTEMS, RIGID METAL CONDUIT IS REQUIRED FOR THE FIRST 10 FEET ABOVE GRADE. RIGID METAL CONDUIT IS REQUIRED FOR ALL ABOVE GRADE CONDUIT FOR PRIMARY RISER SYSTEMS.

ELECTRIC STANDARDS	<b>CENTRAL HUDSON GAS &amp; ELECTRIC CORP.</b>	DATE 8/29/23
DRWN. <u>GC</u>	UNDERGROUND CONSTRUCTION CONDUIT RISER INSTALLATION NON VENTILATED	ISSUE <u>1</u>
CLEAR _____		APP. _____
ENGR. _____		APP. _____
APPD. _____		



FIGURE 1

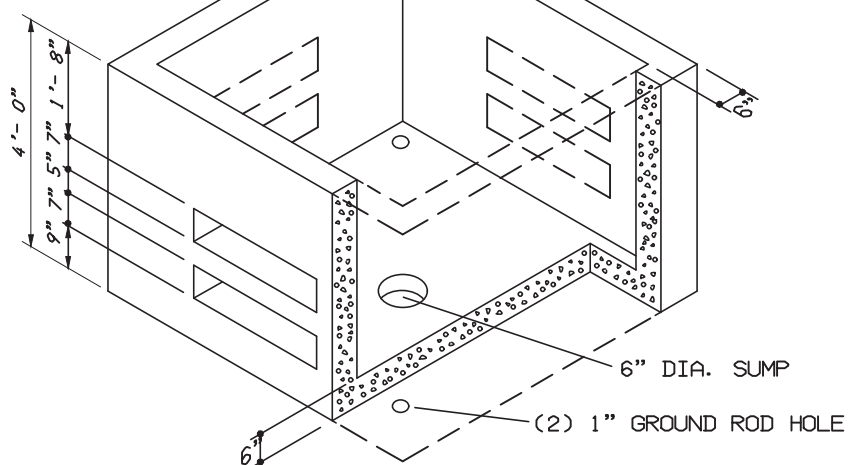


ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 8/29/23
DRWN. GC CLEAR _____ ENGR. _____ APPD. _____	THREE PHASE PAD SPECIFICATIONS 5-34.5 KV 75-2000 KVA	ISSUE 1 APP. _____ APP. _____

6' X 6' X 4' PRECAST MANHOLE  
(CHG&E STANDARD CAT. NO. MC-100)

FIG. 22

SHEET 2 OF 3



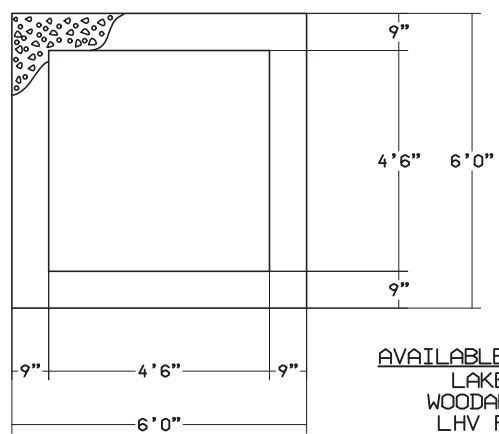
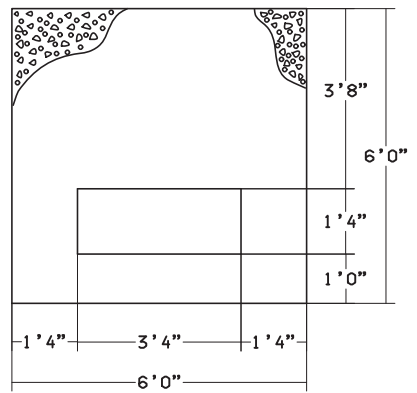
**NOTES:**

- 1. REINFORCED CONCRETE.
- 2. KNOCKOUTS - 7" X 30", 2 PER SIDE, FOUR SIDES.

**WEIGHT:**

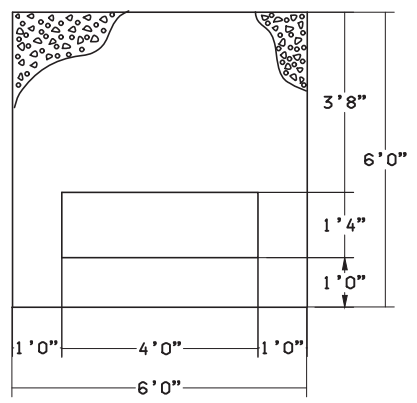
BOX - 7899 LBS.  
COVER - 2370 LBS.

75 - 150 KVA TRANSFORMER COVER  
(CHG&E STANDARD CAT. NO. MC - 101)

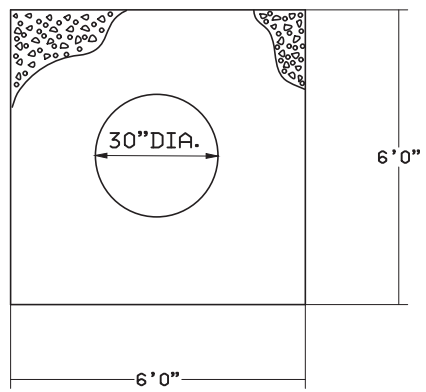


TYPE 2 COVER  
(CHG&E STANDARD CAT. NO. MC - 102)

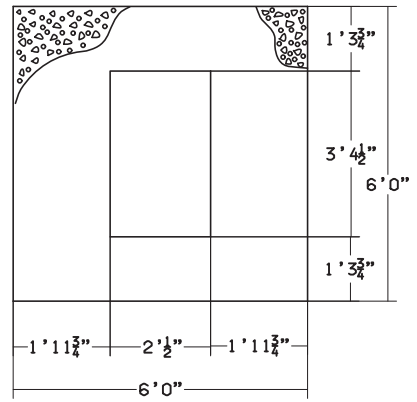
**AVAILABLE MANUFACTURERS:**  
LAKELANDS H. V.  
WOODARDS CONCRETE  
LHV PRECAST INC.  
CRANESVILLE BLOCK CO.



225 - 2000 KVA  
TRANSFORMER COVER  
(CHG&E STANDARD NO. MC - 101 M)



TYPE 1 MANHOLE COVER  
(CHG&E STANDARD CAT. NO. MC - 103)



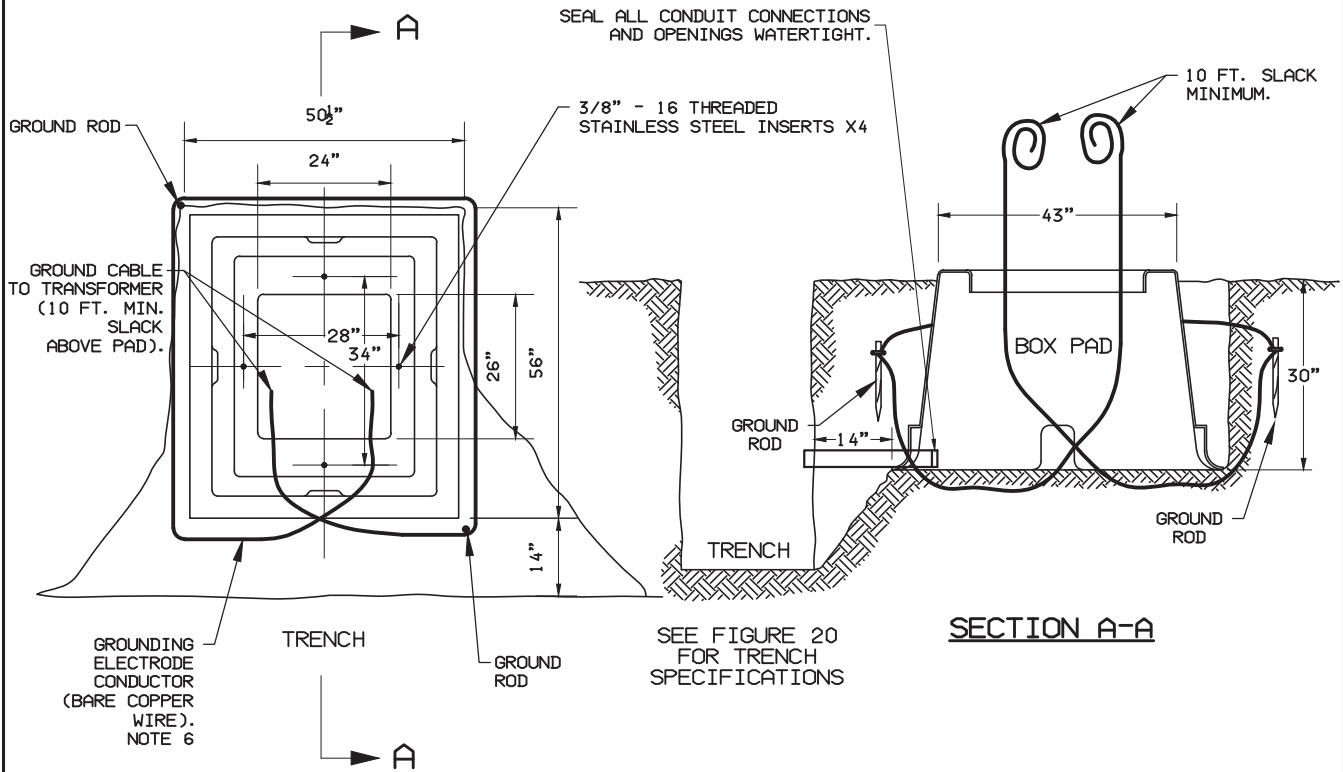
TYPE 4 COVER  
(CHG&E STANDARD CAT. NO. MC - 102 M)

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 8/29/23
DRWN. GC	THREE PHASE PAD SPECIFICATIONS 5-34.5 KV 75-2000 KVA	ISSUE 1
CLEAR		APP.
ENGR.		APP.
APPD.		

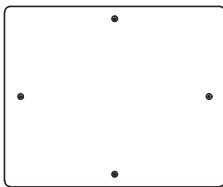
NOTES:

1. THE CUSTOMER WILL NORMALLY PROVIDE THE PAD FOR THREE PHASE PAD-MOUNTED TRANSFORMERS. THE STANDARD IS INTENDED AS A GUIDE FOR PROVIDING THE SPECIFICATIONS FOR PAD INSTALLATIONS APPLICABLE TO PAD-MOUNTED TRANSFORMERS OF VARIOUS KVA SIZE AND DIMENSIONS. THE STANDARD INSTALLATION USES A PRE-CAST CONCRETE BASE AND COVER. THE CONCRETE BASE IS OF UNIFORM SIZE AND UTILIZES COVERS WITH DIFFERENT SIZED WINDOW OPENINGS TO ACCOMMODATE THE KVA SIZE OF THE PAD-MOUNTED TRANSFORMER. DETAILED SPECIFICATIONS AND INSTALLATION REQUIREMENTS ARE PROVIDED IN PAGES 1 TO 3 OF THIS STANDARD.
2. THE SIDES AND REAR OF THE PAD SHALL BE A MINIMUM OF TEN (10) FEET FROM THE WINDOWS AND FIRE ESCAPES AND A MINIMUM OF THREE (3) FEET (TEN (10) FEET PREFERRED) FROM ALL BUILDINGS, FENCES, OR OTHER OBSTRUCTIONS WHICH WILL IMPEDE THE FREE FLOW OF COOLING AIR AROUND THE TRANSFORMER. THE FRONT OF THE PAD (WINDOW SIDE) SHALL HAVE A MINIMUM OF TEN (10) FEET OF UNOBSTRUCTED WORKING SPACE.
3. ACCESS TO PAD AREA BY VEHICLE MUST BE POSSIBLE AT ALL TIMES TO INSURE PROPER OPERATION AND MAINTENANCE FUNCTIONS.
4. STONE FOR BASE AND SIDES OF THE BOX PAD SHALL BE 3/4" MINIMUM TO 1-1/2" MAXIMUM CRUSHED ROCK OR WASHED STONE. 1/2" CRUSHED ROCK OR WASHED STONE MAY BE USED FOR TOP 6" IN LOCATIONS WHERE WINDOW BREAKAGE MAY BE A PROBLEM. FOR THE BASE, STONE SHALL BE PLACED ON UNDISTURBED OR WELL TAMPED EARTH.
5. AREA AROUND THE BOX PAD SHALL BE GRADED SO THAT SURFACE WATER WILL DRAIN AWAY FROM CRUSHED STONE OIL CONTAINMENT.
6. THE BOX PAD SHALL BE INSTALLED SUCH THAT THE TOP SURFACE IS LEVEL TO WITHIN 1/4" HIGH TO LOW.
7. IN GENERAL, 4" OR 6" CONDUIT SHOULD BE USED FOR BOTH PRIMARY AND SECONDARY CONDUCTORS. HOWEVER, THE SECONDARY CONDUIT SHOULD BE SIZED ACCORDING TO THE SECONDARY CONDUCTORS BEING INSTALLED.
8. PERMANENT SUPPORT SHALL BE PROVIDED FOR THE SECONDARY CONDUCTORS SUCH THAT THE TOTAL WEIGHT SUPPORTED BY EACH TRANSFORMER BUSHING SHALL NOT EXCEED TEN POUNDS. THUS SINGLE RUNS OF 500 MCM COPPER AND LARGER, 1000 MCM AL AND LARGER AND PRACTICALLY ALL MULTIPLE CONDUCTOR RUNS NEED TO BE SUPPORTED TO LIMIT THE STRESS ON THE BUSHINGS.
9. CENTRAL HUDSON RESERVES THE RIGHT TO REQUIRE SUITABLE BARRIERS IN TRAFFIC AREAS TO REDUCE THE PROBABILITY OF DAMAGE DUE TO TRUCKS, AUTOMOBILES, CONSTRUCTION EQUIPMENT, AND THE LIKE. SUITABLE BARRIERS MIGHT BE 4" (MINIMUM) STEEL PIPE, FILLED WITH CONCRETE, SET 4 FT. DEEP AND EXTENDING 3 TO 4 FEET ABOVE GROUND. BARRIERS SHOULD BE SET BEYOND THE OIL CONTAINMENT IN LOCATIONS WHICH WILL INTERCEPT VEHICLES YET NOT INTERFERE WITH THE INSTALLATION OR REMOVAL OF THE TRANSFORMER.
10. ALL GROUNDING MUST BE IN ACCORDANCE WITH COMPANY SPECIFICATIONS.
11. SIZE THE GROUNDING ELECTRODE CONDUCTOR AS FOLLOWS:
  - A. 200A AND SMALLER SECONDARY SERVICES: #4 AWG COPPER
  - B. 400A SECONDARY SERVICES: #1/0 AWG COPPER
  - C. LARGER THAN 400A SECONDARY SERVICES: #3/0 AWG COPPER

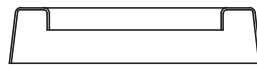
ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 8/29/23
DRWN. <u>GC</u>	THREE PHASE PAD SPECIFICATIONS 5-34.5 KV 75-2000 KVA	ISSUE 1
CLEAR _____		APP. _____
ENGR. _____ APPD. _____		APP. _____



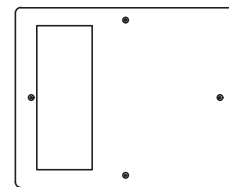
BOX PAD ACCESSORIES



BLANK COVER



10" EXTENSION



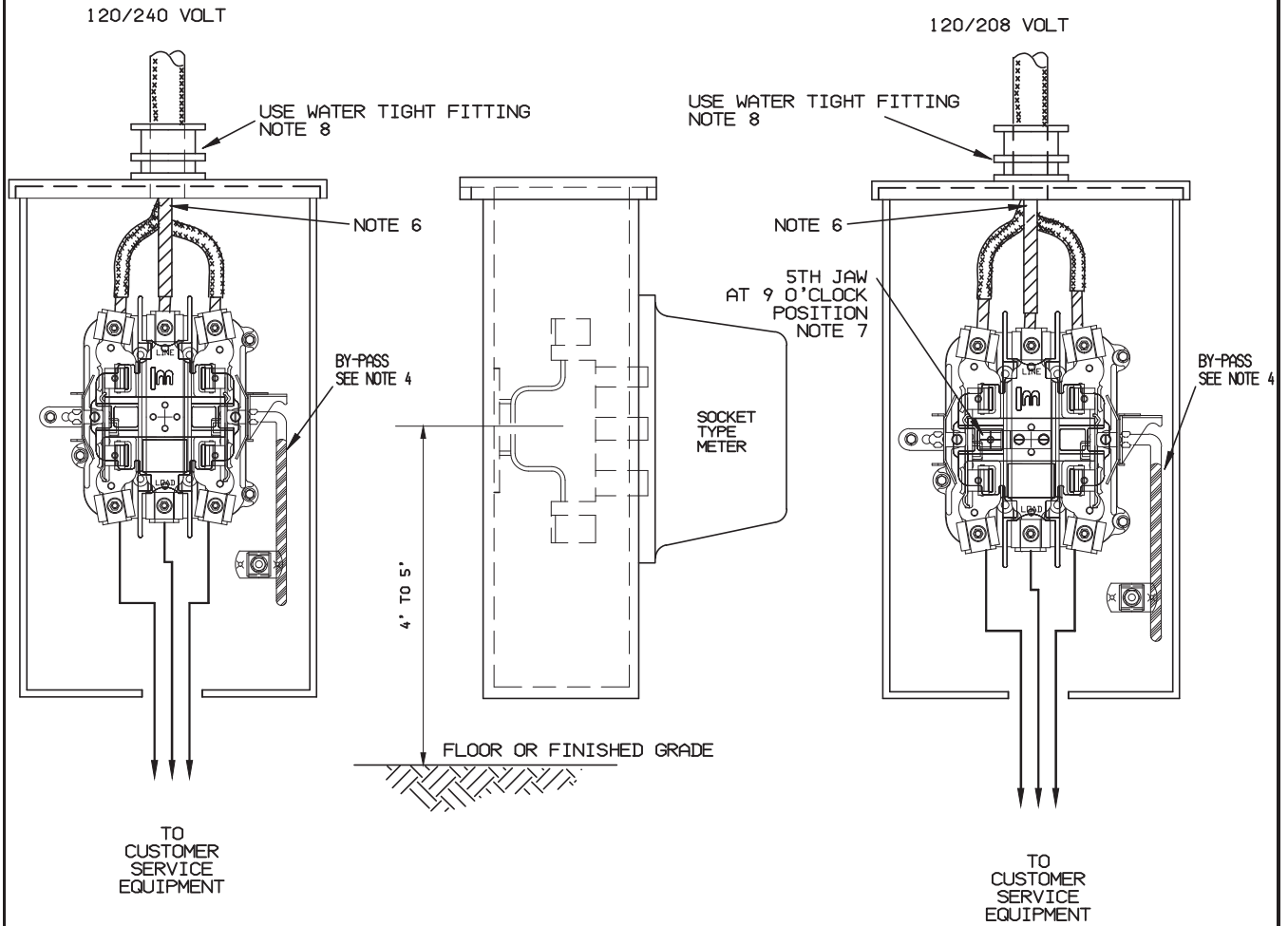
ADAPTER COVER

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 8/29/23
DRWN. GC CLEAR _____ ENGR. _____ APPD. _____	URD TRANSFORMER BOX PAD AND ACCESSORIES	ISSUE 1
		APP. _____
		APP. _____

NOTES:

1. PLACE PAD ON UNDISTURBED EARTH, THE TOP FOUR INCHES OF WHICH MAY BE FILL FOR GRADING AND LEVELING. SUCH FILL MUST BE WELL TAMPED BEFORE INSTALLING THE BOX PAD.
2. SIDES AND REAR OF PAD SHALL BE A MINIMUM OF TEN FEET FROM WINDOWS AND FIRE ESCAPES AND A MINIMUM OF THREE FEET (TEN FEET DESIRED) FROM ALL BUILDINGS, FENCES OR OTHER OBSTRUCTIONS WHICH WILL IMPEDE THE FREE FLOW OF COOLING AIR AROUND THE TRANSFORMER. FRONT OF PAD SHALL HAVE A MINIMUM OF TEN FEET OF UNOBSTRUCTED WORKING SPACE.
3. MAXIMUM PERMISSIBLE TRANSFORMER WEIGHT: 2,760 LBS. FOR PADS WITH A FOUR INCH INSIDE LIP.
4. ADAPTER COVER TO BE USED WHEN TRANSFORMER WILL NOT COMPLETELY COVER OPENING IN BOX PAD.
5. ACCESS TO PAD AREA BY VEHICLE MUST BE POSSIBLE AT ALL TIMES - WITHIN 10 FEET OF ROADWAY OR DRIVEWAY - TO ENSURE PROPER OPERATION AND MAINTENANCE FUNCTIONS.
6. ALL GROUNDING MUST BE IN ACCORDANCE WITH COMPANY SPECIFICATIONS. SIZE THE GROUNDING ELECTRODE CONDUCTOR AS FOLLOWS:
  - A. 200A AND SMALLER SECONDARY SERVICES: #4 AWG COPPER
  - B. 400A SECONDARY SERVICES: #1/0 AWG COPPER
  - C. LARGER THAN 400A SECONDARY SERVICES: #3/0 AWG COPPER

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 8/29/23
DRWN. _____ CLEAR _____ ENGR. _____ APPD. _____	URD TRANSFORMER BOX PAD AND ACCESSORIES	ISSUE 1 APP. _____ APP. _____



ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 9/29/23
DRWN. _____ CLEAR _____ ENGR. _____ APPD. _____	SINGLE PHASE SOCKET METER - ONE POSITION 120/240 VOLT - 3 WIRE 120/208 VOLT - 3 WIRE	ISSUE 1 APP. _____ APP. _____

NOTES :

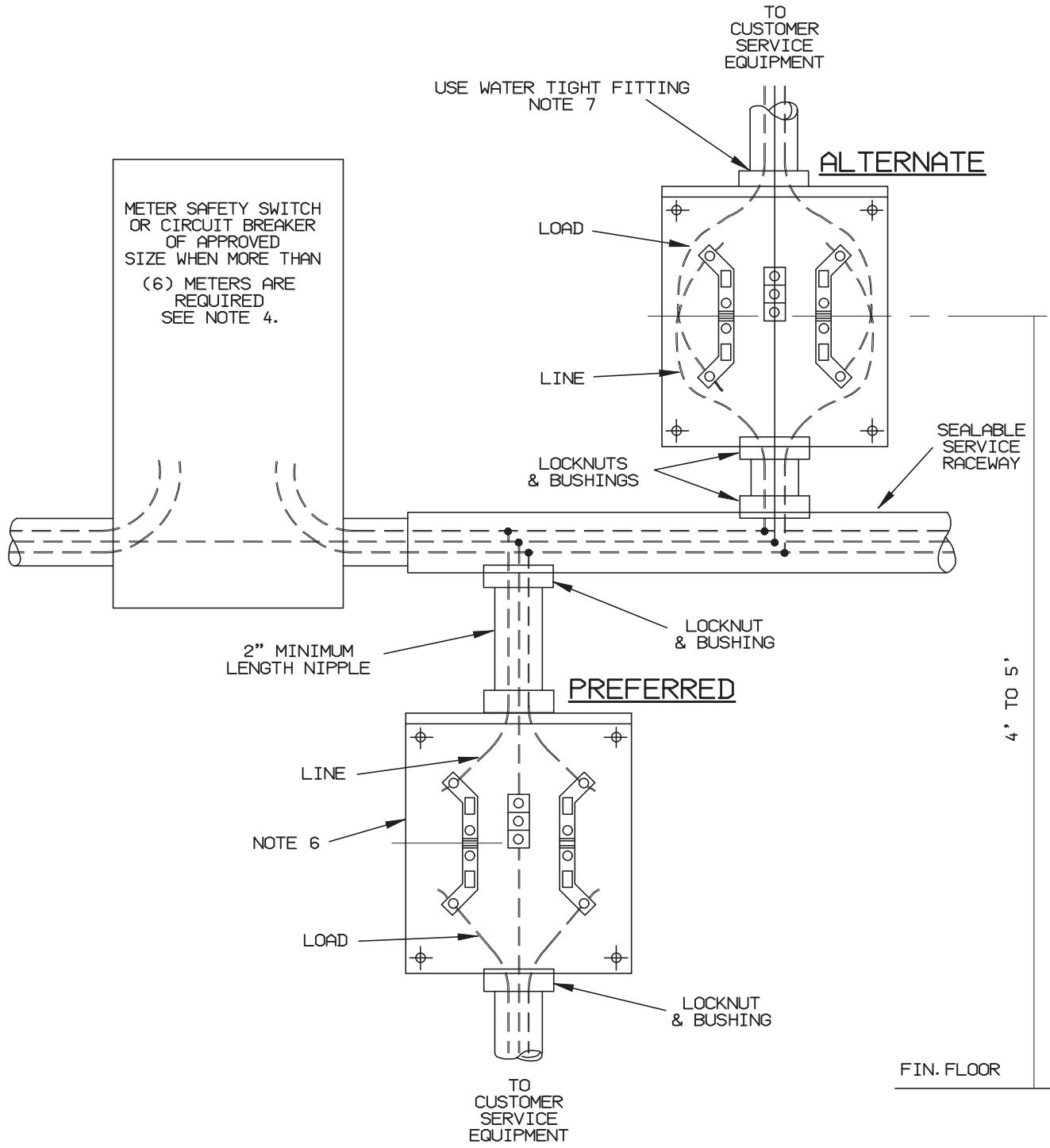
1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. LEAVE WORKING CLEARANCE OF NOT LESS THAN THE WIDTH OF THE EQUIPMENT OR 30" WIDE (CENTERED ON EQUIPMENT) WHICHEVER IS LARGER, 6'-6" MEASURED FROM GRADE (OR TOP OF FINISHED FLOOR), AND 4'-0" IN FRONT OF EQUIPMENT.
4. A LEVER BY-PASS BOX IS REQUIRED FOR: ANY COMMERCIAL INSTALLATION, ANY INDUSTRIAL INSTALLATION, TRAFFIC SIGNALS, LANDLORD METERS IN MULTI-TENANT BUILDINGS WITH FOUR OR MORE UNITS, AND ANY OTHER INSTALLATION WHERE SPACE IS UTILIZED BY MEDICAL PERSONNEL (E.G. DOCTORS, DENTISTS, ETC.) OR BY LIFE-SUPPORTING EQUIPMENT.
5. METER SOCKET TO BE PROVIDED AND INSTALLED BY CUSTOMER IN A TRUE VERTICAL POSITION.
6. GROUNDED CONDUCTOR-CONNECT TO SOCKET THROUGH NEUTRAL STUD ASSUMING SERVICE WITH DISCONNECT MEANS.
7. A COMPATIBLE 5th JAW SHALL BE INSTALLED IN THE METER SOCKET AT THE 9 O'CLOCK POSITION. THE 5th JAW SHALL BE MANUFACTURER APPROVED FOR THE METER SOCKET IN WHICH IT IS INSTALLED AND BE INSTALLED PER MANUFACTURER SPECIFICATIONS.
8. IN ADDITION TO INSTALLING A WATER TIGHT FITTING, THE END OF THE SERVICE ENTRANCE CABLE SHALL BE SECURED WITH DUCT SEAL DESIGNED FOR THE PARTICULAR TYPE OF CABLE USED.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 9/29/23
DRWN. _____	SINGLE PHASE SOCKET METER - ONE POSITION 120/240 VOLT - 3 WIRE, WIRE SIZE UP TO 250 MCM 120/208 VOLT - 3 WIRE, WIRE SIZE UP TO 250 MCM	ISSUE 1
CLEAR _____		APP.
ENGR. _____		APP.
APPD. _____		

120/240 VOLT - 3 WIRE  
 120/208 VOLT - 3 WIRE

FIG. 25

SHEET 1 OF 2



METER SAFETY SWITCH  
 OR CIRCUIT BREAKER  
 OF APPROVED  
 SIZE WHEN MORE THAN  
 (6) METERS ARE  
 REQUIRED  
 SEE NOTE 4.

2" MINIMUM  
 LENGTH NIPPLE

**PREFERRED**

4' TO 5'

FIN. FLOOR

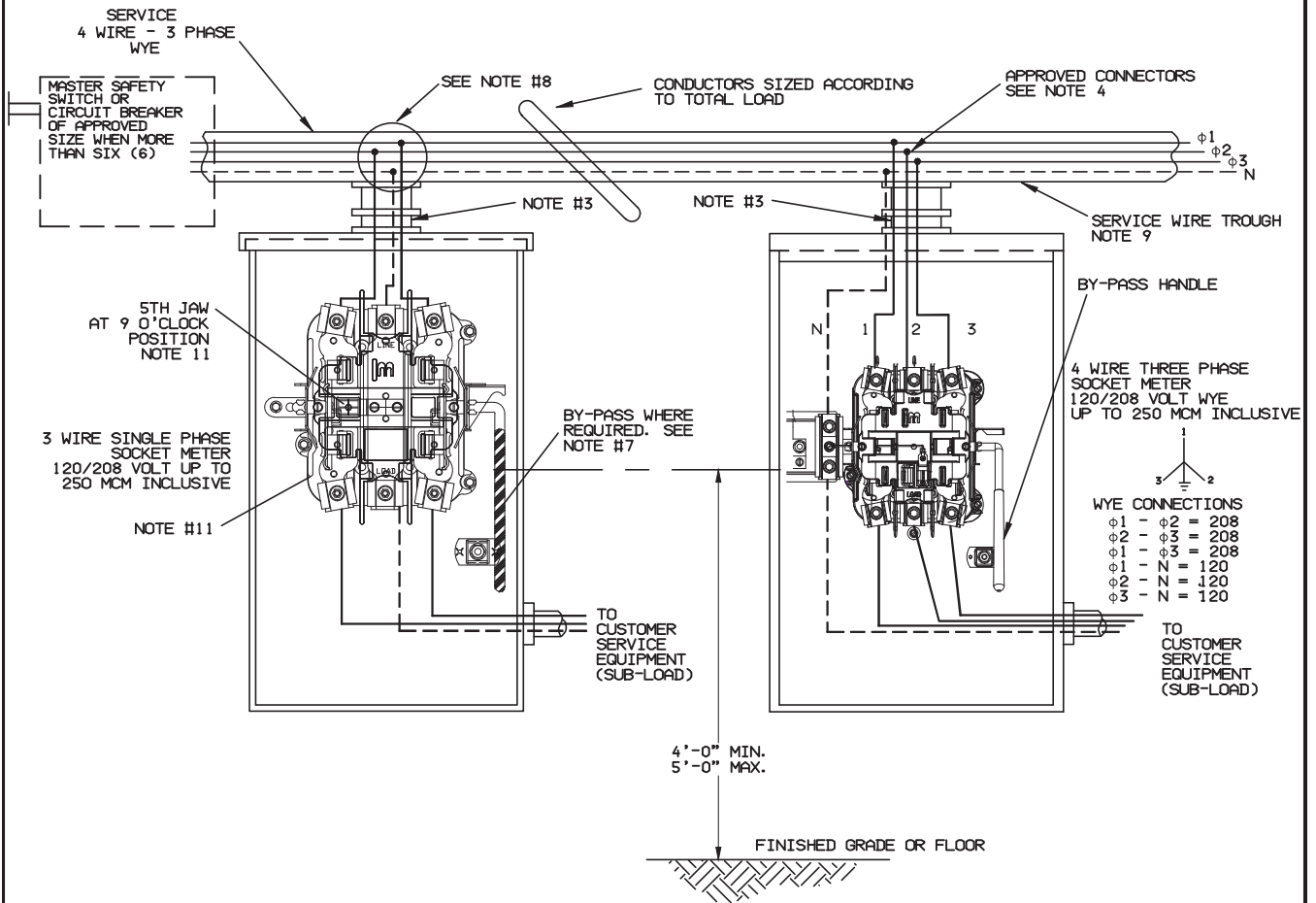
ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 9/29/23
DRWN. _____ CLEAR _____ ENGR. _____ APPD. _____	SINGLE PHASE SOCKET METER - TWO OR MORE POSITIONS	ISSUE 1 APP. _____ APP. _____



NOTES:

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. LEAVE WORKING CLEARANCE OF NOT LESS THAN THE WIDTH OF THE EQUIPMENT OR 30" WIDE (CENTERED ON EQUIPMENT) WHICHEVER IS LARGER, 6'-6" MEASURED FROM GRADE (OR TOP OF FINISHED FLOOR), AND 4'-0" IN FRONT OF EQUIPMENT.
4. WHERE SERVICE IS FROM THE CENTRAL HUDSON UNDERGROUND NETWORK THE CUSTOMER SHALL INSTALL A MAIN DISCONNECT TO TERMINATE THE LATERAL PROVIDED BY THE COMPANY.
5. A LEVER BY-PASS IS REQUIRED FOR: ANY COMMERCIAL INSTALLATION, ANY INDUSTRIAL INSTALLATION, TRAFFIC SIGNALS, LANDLORD METERS IN MULTI-TENANT BUILDINGS WITH FOUR OR MORE UNITS, AND ANY OTHER INSTALLATION WHERE SPACE IS UTILIZED BY MEDICAL PERSONNEL (E.G. DOCTORS, DENTIST, ETC.) OR BY LIFE SUPPORTING EQUIPMENT.
6. METERS MAY BE INSTALLED BELOW TROUGH AS WELL AS ABOVE TROUGH WHEN INDOORS.
7. IN ADDITION TO INSTALLING A WATER TIGHT FITTING, THE END OF THE SERVICE ENTRANCE CABLE SHALL BE SECURED WITH DUCT SEAL DESIGNED FOR THE PARTICULAR TYPE OF CABLE USED.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 9/29/23
DRWN. _____	SINGLE PHASE SOCKET METER - TWO OR MORE POSITIONS	ISSUE 1
CLEAR _____		APP. _____
ENGR. _____		APP. _____
APPD. _____		

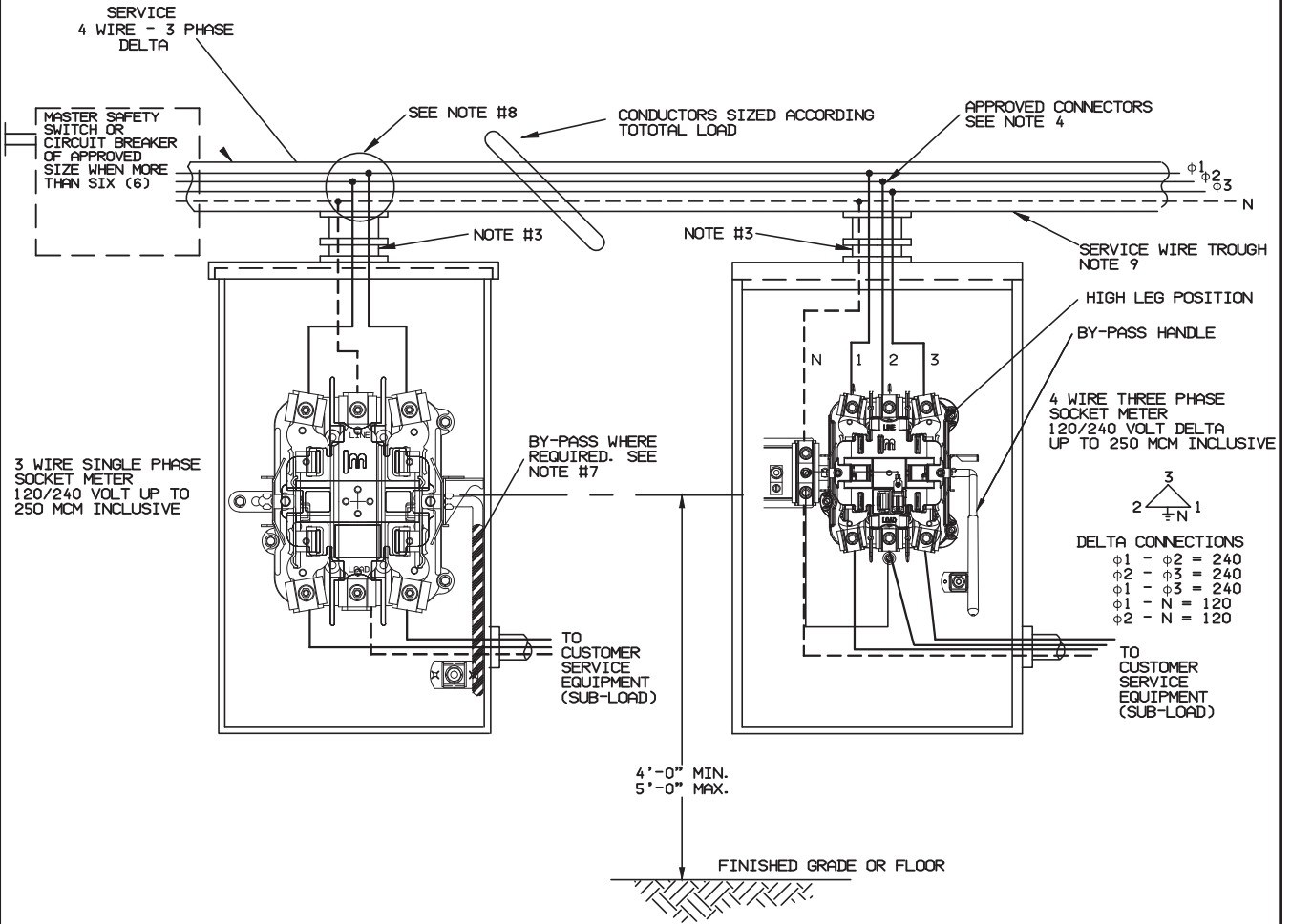


ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 9/29/23
DRWN. _____ CLEAR _____ ENGR. _____ APPD. _____	POLYPHASE WYE METER BANK OF METERS UP TO AND INCLUDING SIX METERS 120/208 VOLT - 3 WIRE SINGLE PHASE AND 120/208 - 4 WIRE 3 PHASE WYE	ISSUE 1 APP. _____ APP. _____

NOTES:

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. CONDUCTORS SIZED ACCORDING TO LOAD. USE WATERTIGHT FITTING IN HUB AND INSTALL DUCT SEAL AT THE END OF SERVICE ENTRANCE CABLE WHEN INSTALLED OUTSIDE. DUCT SEAL MUST BE COMPATIBLE WITH THE TYPE OF CABLE BEING USED.
4. CONNECTORS TO BE SUPPLIED BY CUSTOMER.
5. LEAVE WORKING CLEARANCE OF NOT LESS THAN THE WIDTH OF THE EQUIPMENT OR 30" WIDE (CENTERED ON EQUIPMENT) WHICHEVER IS LARGER, 6'-6" MEASURED FROM TOP OF GRADE (OR TOP OF FINISHED FLOOR), AND 4'-0" IN FRONT OF EQUIPMENT.
6. WHERE SERVICE IS FROM CENTRAL HUDSON'S UNDERGROUND NETWORK THE CUSTOMER SHALL INSTALL A FUSED MAIN DISCONNECT SWITCH TO TERMINATE THE LATERAL PROVIDED BY CENTRAL HUDSON.
7. A LEVER BY-PASS IS REQUIRED FOR: ANY COMMERCIAL INSTALLATION, ANY INDUSTRIAL INSTALLATION, TRAFFIC SIGNALS, LANDLORD METERS IN MULTI-UNIT TENANT BUILDINGS WITH FOUR OR MORE UNITS, AND ANY OTHER INSTALLATION WHERE SPACE IS UTILIZED BY MEDICAL PERSONNEL (E.G. DOCTORS, DENTISTS, ETC.) OR BY LIFE-SUPPORTING EQUIPMENT.
8. SINGLE PHASE METER CONNECTIONS TO BE BALANCED ACROSS PHASES.
9. LINE AND LOAD CONDUCTORS MUST NOT BE INSTALLED IN THE SAME TROUGH OR CONDUIT.
10. METER SOCKETS TO BE PROVIDED AND INSTALLED BY CUSTOMER.
11. A COMPATIBLE 5th JAW SHALL BE INSTALLED IN THE METER SOCKET AT THE 9 O'CLOCK POSITION. THE 5th JAW SHALL BE MANUFACTURER APPROVED FOR THE METER SOCKET IN WHICH IT IS INSTALLED AND BE INSTALLED PER MANUFACTURER SPECIFICATIONS.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 9/29/23
DRWN. _____ CLEAR _____ ENGR. _____ APPD. _____	POLYPHASE WYE METER BANK OF METERS UP TO AND INCLUDING SIX METERS 120/208 - 3 WIRE SINGLE PHASE AND 120/208 - 4 WIRE 3 PHASE WYE	ISSUE 1 APP. APP.



ELECTRIC STANDARDS
DRWN. _____
CLEAR _____
ENGR. _____
APPD. _____

**CENTRAL HUDSON GAS & ELECTRIC CORP.**

POLYPHASE DELTA METER  
 BANK OF METERS UP TO AND INCLUDING SIX METERS  
 120/240 VOLT - WIRE SINGLE PHASE AND  
 120/240 VOLT - 4 WIRE 3 PHASE DELTA

DATE 9/29/23
ISSUE 1
APP. _____
APP. _____

NOTES:

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. CONDUCTORS SIZED ACCORDING TO LOAD. USE WATERTIGHT FITTING IN HUB AND INSTALL DUCT SEAL AT THE END OF THE SERVICE ENTRANCE CABLE WHEN INSTALLED OUTSIDE. DUCT SEAL MUST BE COMPATIBLE WITH THE TYPE OF CABLE BEING USED.
4. CONNECTORS TO BE SUPPLIED BY CUSTOMER.
5. LEAVE WORKING CLEARANCE OF NOT LESS THAN THE WIDTH OF THE EQUIPMENT OR 30" WIDE (CENTERED ON EQUIPMENT) WHICHEVER IS LARGER, 6'-6" MEASURED FROM GRADE (OR TOP OF FINISHED FLOOR), AND 4'-0" IN FROM OF EQUIPMENT.
6. WHERE SERVICE IS FROM CENTRAL HUDSON'S UNDERGROUND NETWORK THE CUSTOMER SHALL INSTALL A FUSED MAIN DISCONNECT SWITCH TO TERMINATE THE LATERAL PROVIDED BY CENTRAL HUDSON.
7. A LEVER BY-PASS IS REQUIRED FOR: ANY COMMERCIAL INSTALLATION, ANY INDUSTRIAL INSTALLATION, TRAFFIC SIGNALS, LANDLORD METERS IN MULTI-TENANT BUILDINGS WITH FOUR OR MORE UNITS, AND ANY OTHER INSTALLATION WHERE SPACE IS UTILIZED BY MEDICAL PERSONNEL (E.G. DOCTORS, DENTISTS, ETC.) OR BY LIFE-SUPPORTING EQUIPMENT.
8. SINGLE PHASE METER CONNECTIONS TO BE BALANCED ACROSS PHASES.
9. LINE AND LOAD CONDUCTORS MUST NOT BE INSTALLED IN THE SAME TROUGH OR CONDUIT.
10. METER SOCKETS TO BE PROVIDED AND INSTALLED BY CUSTOMER.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 9/29/23
DRWN. _____	POLYPHASE DELTA METER	ISSUE 1
CLEAR _____	BANK OF METERS UP TO AND INCLUDING SIX METERS	APP.
ENGR. _____	120/240 VOLT - WIRE SINGLE PHASE AND	APP.
APPD. _____	120/240 VOLT - 4 WIRE 3 PHASE DELTA	

METER MOUNTING BOARD  
3/4" PLYWOOD OR EQUIVALENT

VOLTAGES FOR  
WYE CONNECTIONS

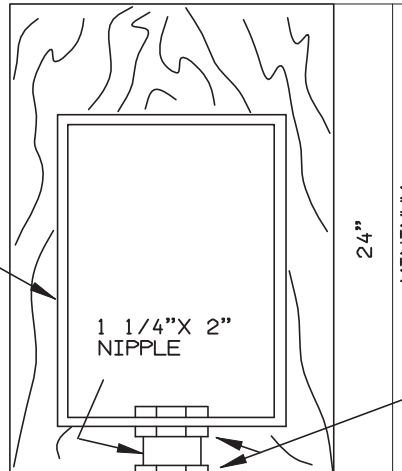
- φ1 - φ2 = 208
- φ2 - φ3 = 208
- φ1 - φ3 = 208
- φ1 - N = 120
- φ2 - N = 120
- φ3 - N = 120

VOLTAGES FOR  
DELTA CONNECTIONS

- φ1 - φ2 = 240
- φ2 - φ3 = 240
- φ2 - φ3 = 240
- φ1 - N = 120
- φ2 - N = 120

POLYPHASE METER MOUNT  
(SEE NOTE 5)

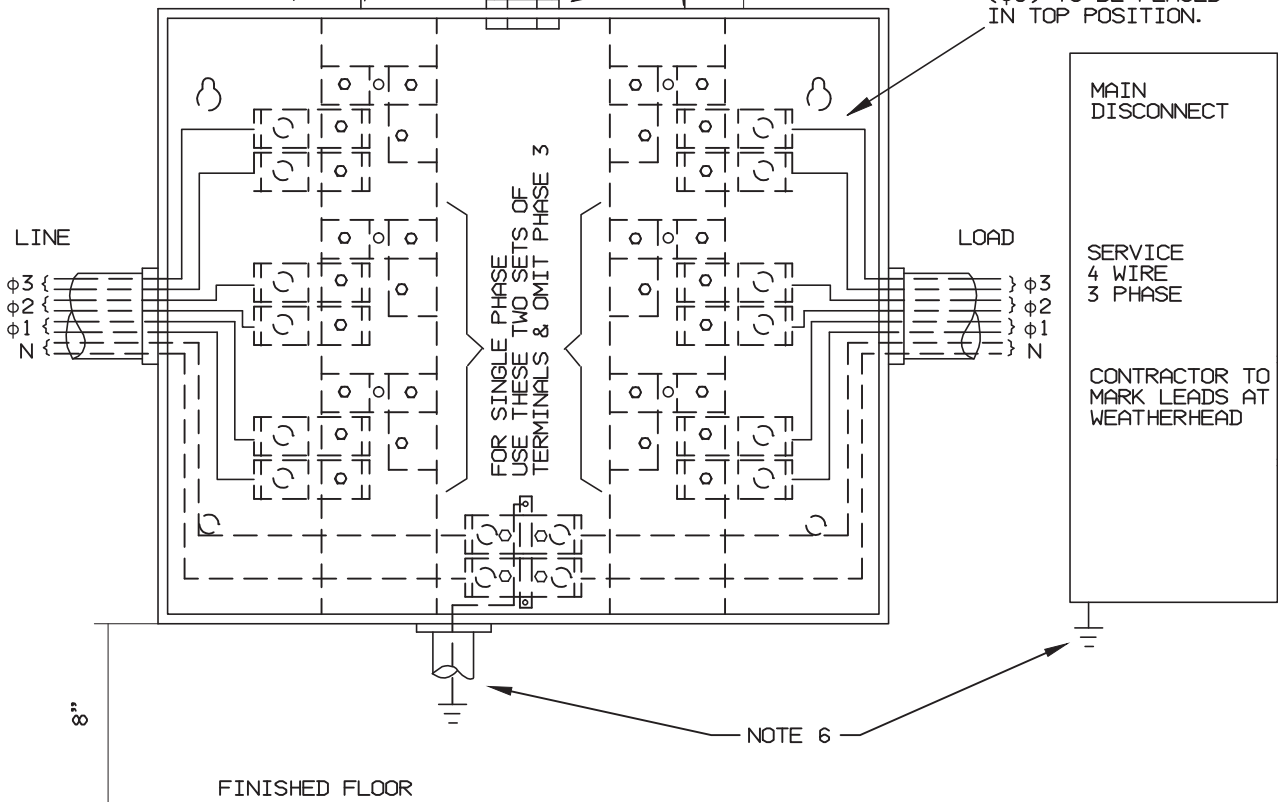
METERING TRANSFORMER  
CABINET BY CUSTOMER  
REFER TO FIG. 30 FOR  
APPROVED MANUFACTURERS.



24" MINIMUM

LOCKNUTS & BUSHINGS

HIGH OR OFF LEG  
(φ3) TO BE PLACED  
IN TOP POSITION.



FOR SINGLE PHASE  
USE THESE TWO SETS OF  
TERMINALS & OMIT PHASE 3

NOTE 6

ELECTRIC  
STANDARDS

CENTRAL HUDSON GAS & ELECTRIC CORP.

DATE 9-6-18

DRWN. \_\_\_\_\_  
DSGN. \_\_\_\_\_  
APPD. \_\_\_\_\_

CURRENT TRANSFORMER CABINET  
(4 WIRE- 3 PHASE OR 3 WIRE SINGLE PHASE METERING)  
(MAXIMUM CAPACITY- 800 AMPERES)

ISSUE

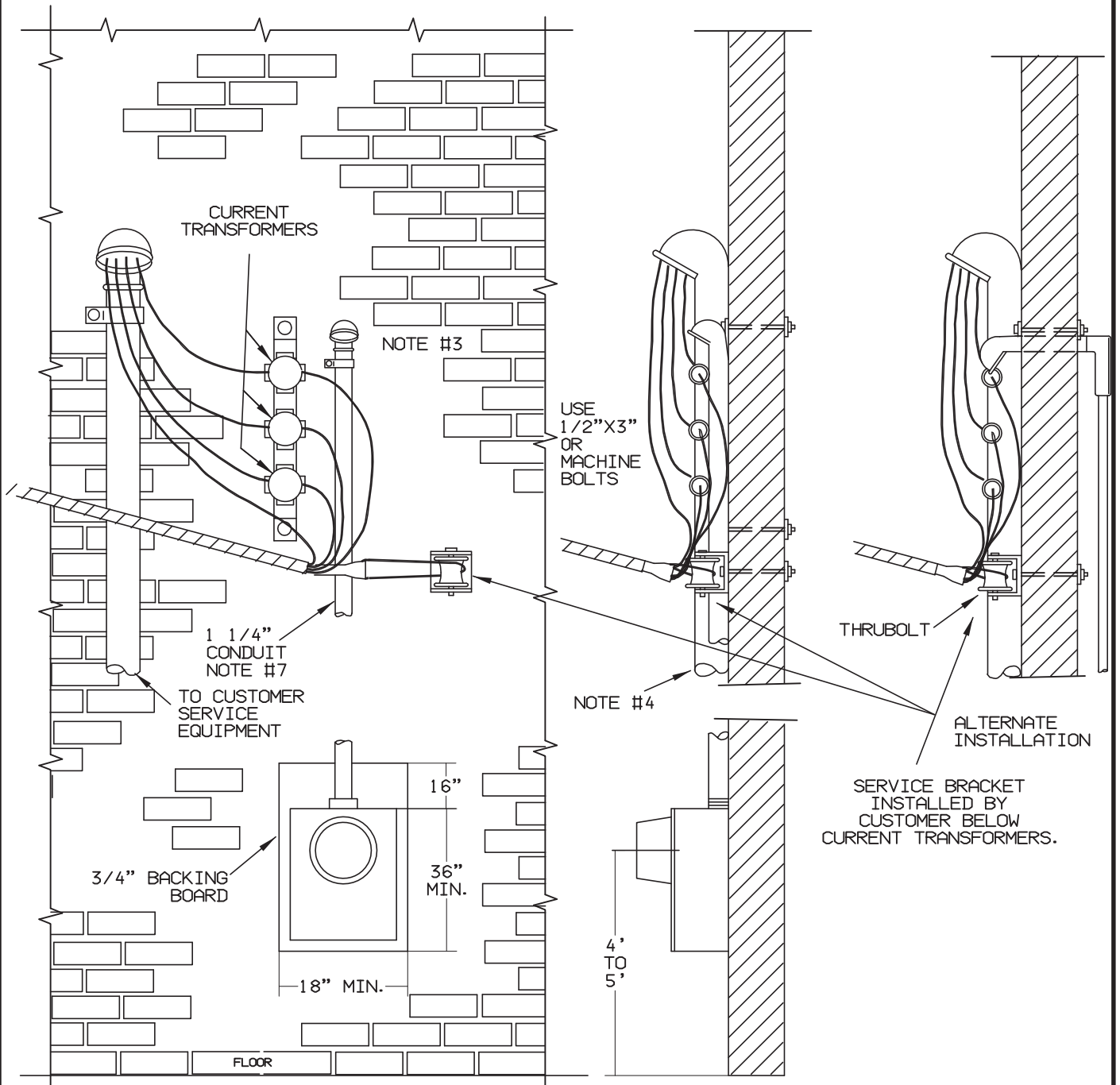
APP.

APP.

**NOTES:**

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. COMPANY MUST BE CONSULTED FOR LOCATION OF METER AND TRANSFORMER CABINET.
4. NOT MORE THAN ONE CONDUCTOR TO BE CONNECTED TO EACH LINE AND LOAD STUD.
5. FOR REMOTE MOUNTING, CONDUCTORS FROM CURRENT TRANSFORMER SHALL NOT EXCEED 90 FEET.
6. GROUND IN MAIN DISCONNECT WHERE DISCONNECT AND CURRENT TRANSFORMER CABINET ARE INSTALLED ON/IN THE BUILDING. GROUND IN CURRENT TRANSFORMER CABINET WHERE CURRENT TRANSFORMER CABINET IS REMOTE FROM BUILDING AND/OR MAIN DISCONNECT SWITCH (i.e. MOUNTED ON A POLE OR STANCHION).

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 9-6-18
DRWN. _____ DSGN. _____ APPD. _____	CURRENT TRANSFORMER CABINET (4 WIRE- 3 PHASE OR 3 WIRE SINGLE PHASE METERING) (MAXIMUM CAPACITY- 800 AMPERES)	ISSUE _____ APP. _____ APP. _____



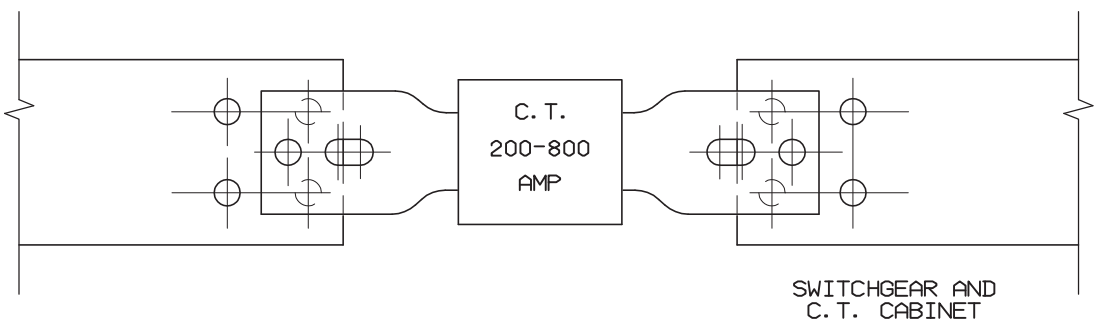
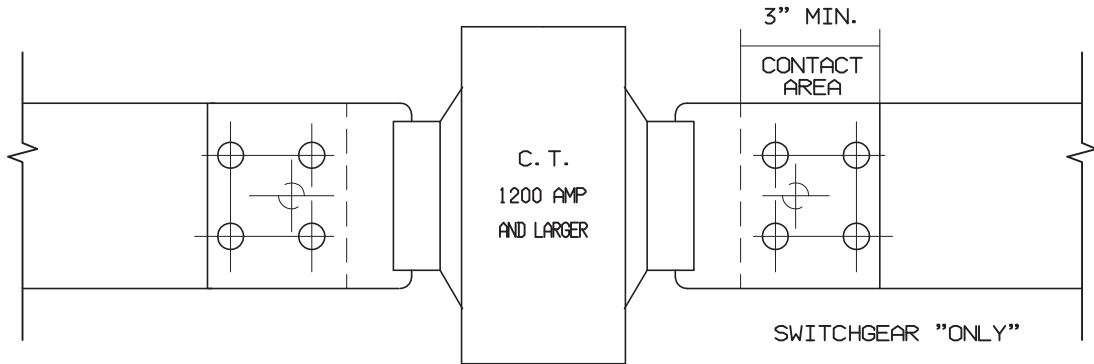
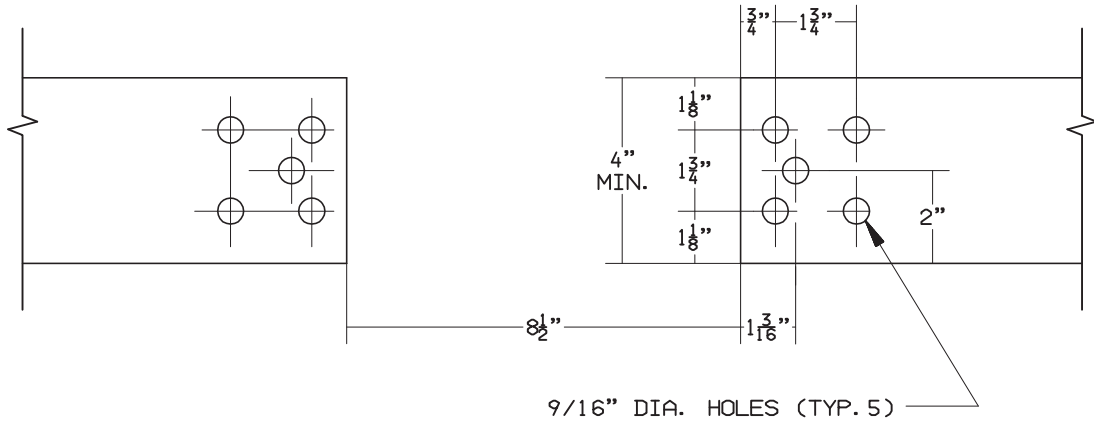
ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	OUTDOOR DONUT TYPE CURRENT TRANSFORMERS	ISSUE APP. APP.



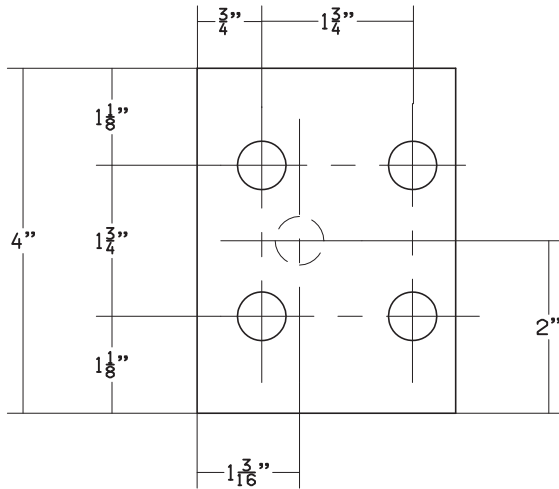
NOTES:

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. CUSTOMER TO LEAVE ENOUGH CABLE TO REACH THIS POINT.
4. CONDUITS MAY BE RUN ON INSIDE WALL SEE ALTERNATE INSTALLATION.
5. WHERE MORE THAN ONE CONDUCTOR PER PHASE IS REQUIRED, CONDUITS MUST BE GROUPED AS CLOSE TOGETHER AS POSSIBLE. ALL CONDUCTORS SHALL HAVE SLACK SUFFICIENT TO PROTRUDE THROUGH INSTRUMENT TRANSFORMER.
6. CONTRACTOR TO TAG ALL CONDUCTORS AT TOP OF RISER.
7. IF MORE THAN TWO (2) BENDS OR GREATER THAN 25' IN LENGTH, USE 1-1/2" CONDUIT.
8. CENTRAL HUDSON SUPPLIES - CURRENT TRANSFORMER BRACKET, CURRENT TRANSFORMERS, AND METER WIRE.  
 CENTRAL HUDSON INSTALLS - METER AND CURRENT TRANSFORMERS.  
 CUSTOMER SUPPLIES - ALL OTHER MATERIALS.  
 CUSTOMER INSTALLS - METER SOCKET, CURRENT TRANSFORMER BRACKET, METER WIRE, AND ALL OTHER MATERIALS.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	OUTDOOR DONUT TYPE CURRENT TRANSFORMERS	ISSUE APP. APP.



ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	APPROVED CURRENT TRANSFORMER ENCLOSURE AND SPECIFICATIONS	ISSUE APP. APP.



SPACER DETAIL

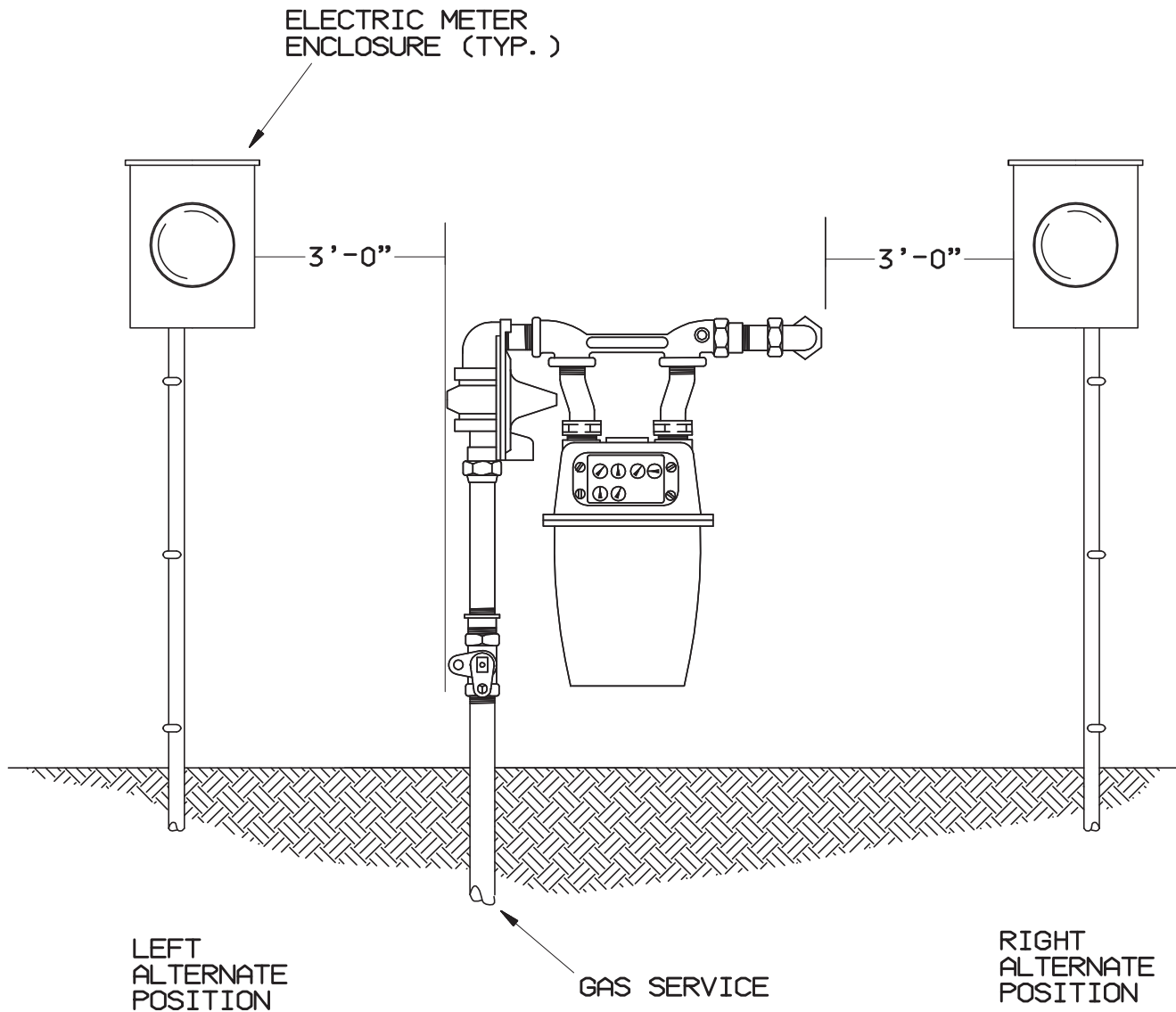
# OF BUSS BARS	# OF SPACERS	BOLT LENGTH
2	2	1 3/4"
3	4	2 1/4"
4	6	3 3/4"
5	8	4 1/4"

BOLTS TO BE SUPPLIED  
WITH A FLAT WASHER,  
LOCK WASHER AND NUT.

NOTES:

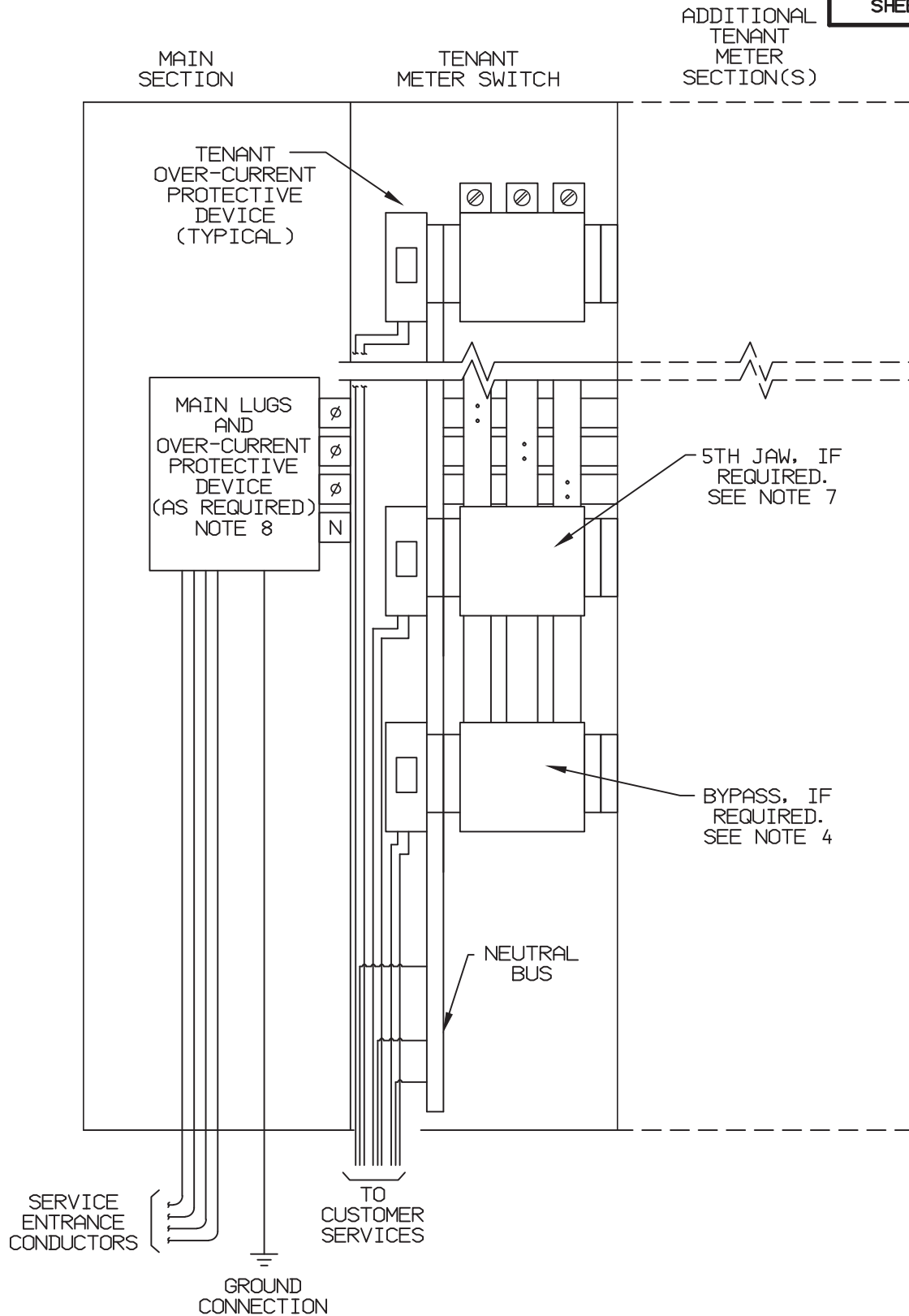
1. EIGHT 1/2" DIA. BOLTS TO BE SUPPLIED FOR EACH C.T. POSITION.
2. SPACER TO BE SUPPLIED PER SPACER DETAIL.
3. CONTRACTOR TO OBTAIN APPROVAL FROM C. H. G. & E. PRIOR TO PURCHASE.
4. LOCATION OF CABINET SHALL BE APPROVED BY C. H. G. & E. PRIOR TO MOUNTING. CABINETS INSTALLED OUTDOORS SHALL BE RATED FOR SUCH.
5. ALL FIGURES NOT DRAWN TO SCALE.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____	APPROVED CURRENT TRANSFORMER ENCLOSURE AND SPECIFICATIONS	ISSUE
DSGN. _____		APP.
APPD. _____		APP.



1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	SEPERATION OF ELECTRIC AND GAS METERS	ISSUE APP. APP.



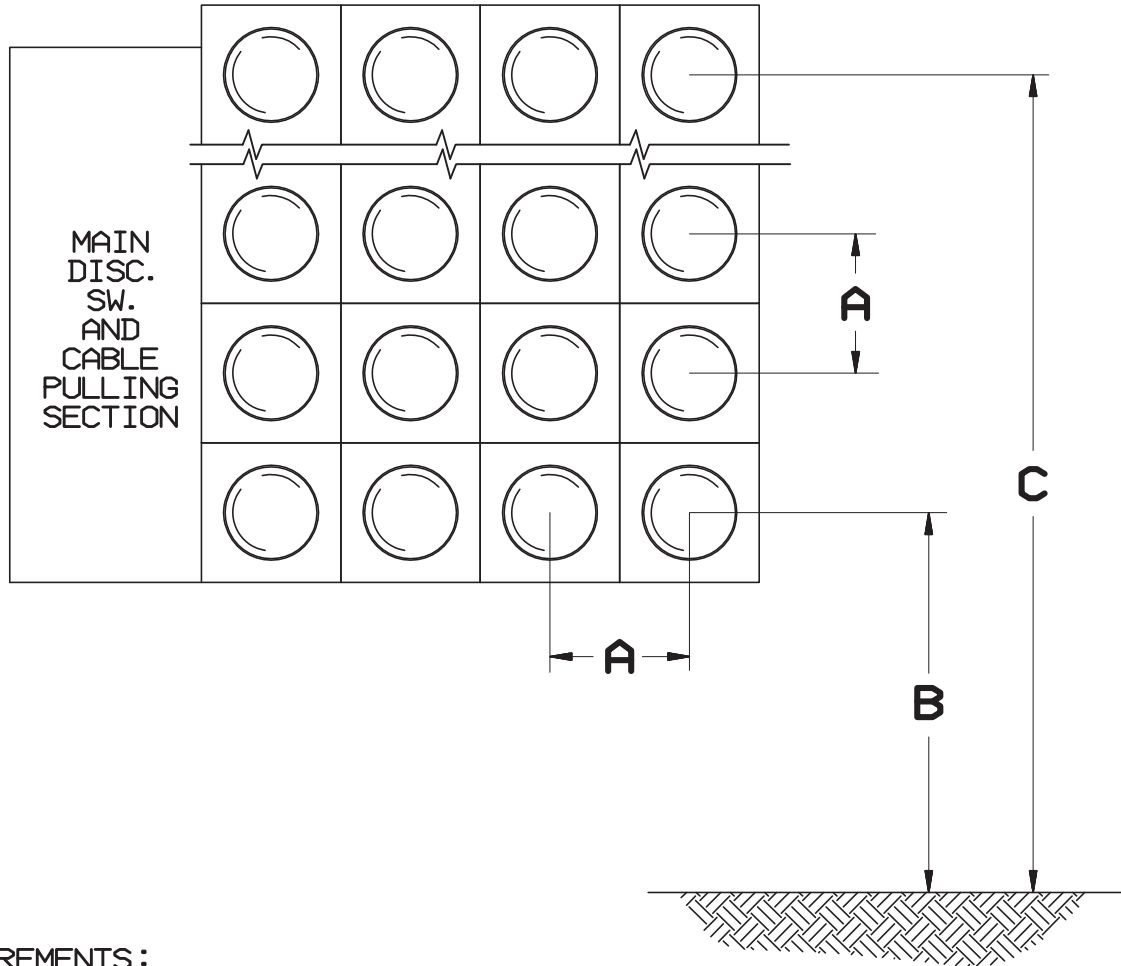
ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 9-6-18
DRWN. _____	SINGLE PHASE MULTIPLE SOCKET METER 120 AND 240 VOLT-3 WIRE 120 AND 208 VOLT-3 WIRE	ISSUE
DSGN. _____		APP.
APPD. _____		APP.

**NOTES:**

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. LEAVE WORKING CLEARANCE OF NOT LESS THAN THE WIDTH OF THE EQUIPMENT OR 30" WIDE (CENTERED ON EQUIPMENT) WHICHEVER IS LARGER, 6'-6" MEASURED FROM GRADE (OR TOP OF FINISHED FLOOR), AND 4'-0" IN FRONT OF EQUIPMENT.
4. A LEVER BY-PASS IS REQUIRED FOR: ANY COMMERCIAL INSTALLATION, ANY INDUSTRIAL INSTALLATION, TRAFFIC SIGNALS, LANDLORD METERS IN MULTI-TENANT BUILDINGS WITH FOUR OR MORE UNITS, AND ANY OTHER INSTALLATION WHERE SPACE IS UTILIZED BY MEDICAL PERSONNEL (E.G. DOCTORS, DENTISTS, ETC.) OR BY LIFE SUPPORTING EQUIPMENT.
5. CUSTOMER TO PROVIDE AND INSTALL METER ENCLOSURE.
6. LINE TERMINALS TO ACCEPT #4 TO 250 MCM, LOAD TERMINALS TO ACCEPT #6 TO 1/0.
7. FIFTH TERMINAL TO BE PROVIDED AND INSTALLED BY CUSTOMER AT NINE O'CLOCK POSITION WHEN SUPPLY VOLTAGE IS 120/208.
8. PROVIDE MAIN OVER-CURRENT PROTECTIVE DEVICE, EITHER CIRCUIT BREAKER OR FUSED SWITCH WHEN MORE THAN 6 METERS ARE INSTALLED.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 8-7-18
DRWN. _____ DSGN. _____ APPD. _____	SINGLE PHASE MULTIPLE SOCKET METER 120 AND 240 VOLT-3 WIRE 120 AND 208 VOLT-3 WIRE	ISSUE _____ APP. _____ APP. _____

DIMENSIONS FOR GROUPED METERING EQUIPMENT



REQUIREMENTS :

- A. MINIMUM HORIZONTAL AND VERTICAL SPACE BETWEEN METER CENTERS 9".
- B. MINIMUM DISTANCE LOWEST METER CENTER FROM: FLOOR 24" (INDOOR) AND GRADE LEVEL 30" (OUTDOOR).
- C. MAXIMUM DISTANCE HIGHEST METER CENTER FROM: FINAL GRADE OR FLOOR LEVEL 72".

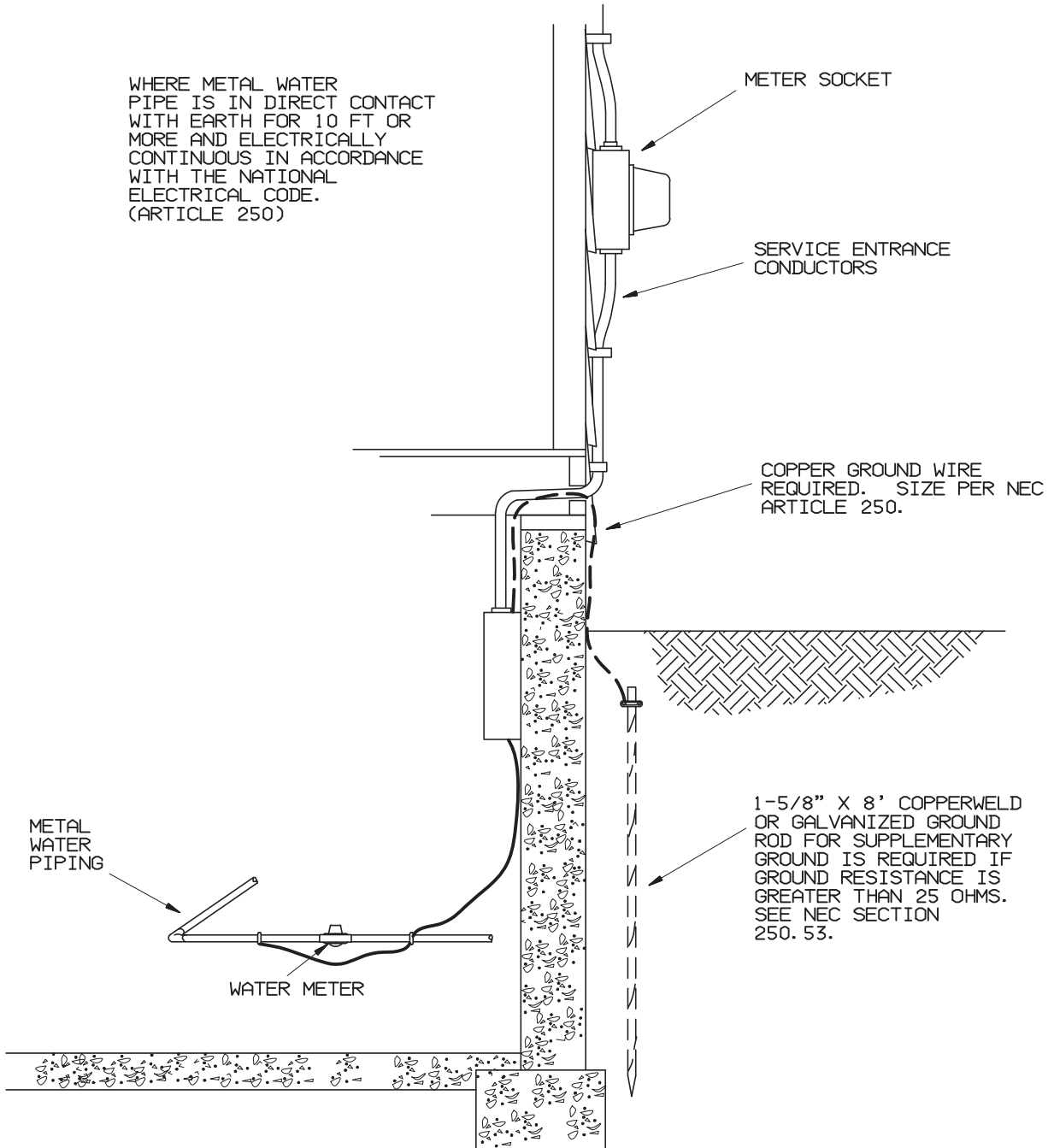
ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	GROUPED METERING EQUIPMENT	ISSUE
		APP.
		APP.

NOTES:

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. CUSTOMER TO SUPPLY ALL EQUIPMENT AND INSTALL, WHERE NECESSARY, PROPER WATERPROOFING ON OR IN THEIR SERVICE EQUIPMENT.
4. INDIVIDUAL COVERS AND LOCKING PROVISIONS FOR EACH METER SOCKET ARE REQUIRED.
5. MORE THAN SIX (6) METER SOCKETS PER SERVICE LOCATION SHALL REQUIRE A SEALABLE MAIN DISCONNECT SWITCH AND CABLE PULLING SECTION.
6. NOT TO BE USED FOR 277/480 V SERVICES.
7. EACH METER SHALL BE PERMANENTLY MARKED AS TO THE SPECIFIC PREMISE SERVED.

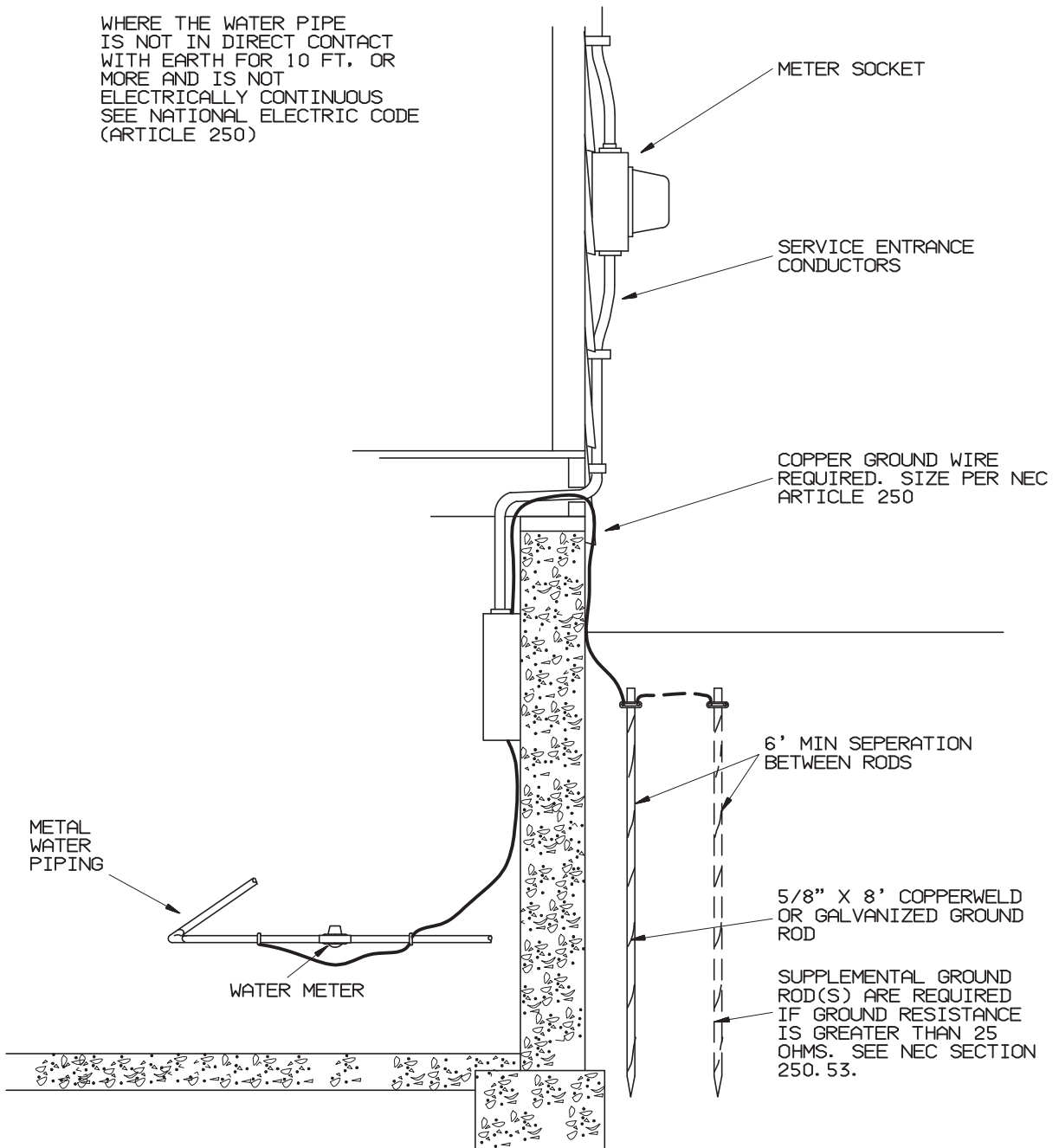
ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	GROUPED METERING EQUIPMENT	ISSUE
		APP.
		APP.





ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 8/30/23
DRWN. GC	GROUNDING AND BONDING METERING EQUIPMENT	ISSUE 1
CLEAR _____		APP. _____
ENGR. _____ APPD. _____		APP. _____

WHERE THE WATER PIPE IS NOT IN DIRECT CONTACT WITH EARTH FOR 10 FT. OR MORE AND IS NOT ELECTRICALLY CONTINUOUS SEE NATIONAL ELECTRIC CODE (ARTICLE 250)



ELECTRIC STANDARDS
DRWN. <u>GC</u>
CLEAR _____
ENGR. _____
APPD. _____

CENTRAL HUDSON GAS & ELECTRIC CORP.

GROUNDING AND BONDING  
METERING EQUIPMENT

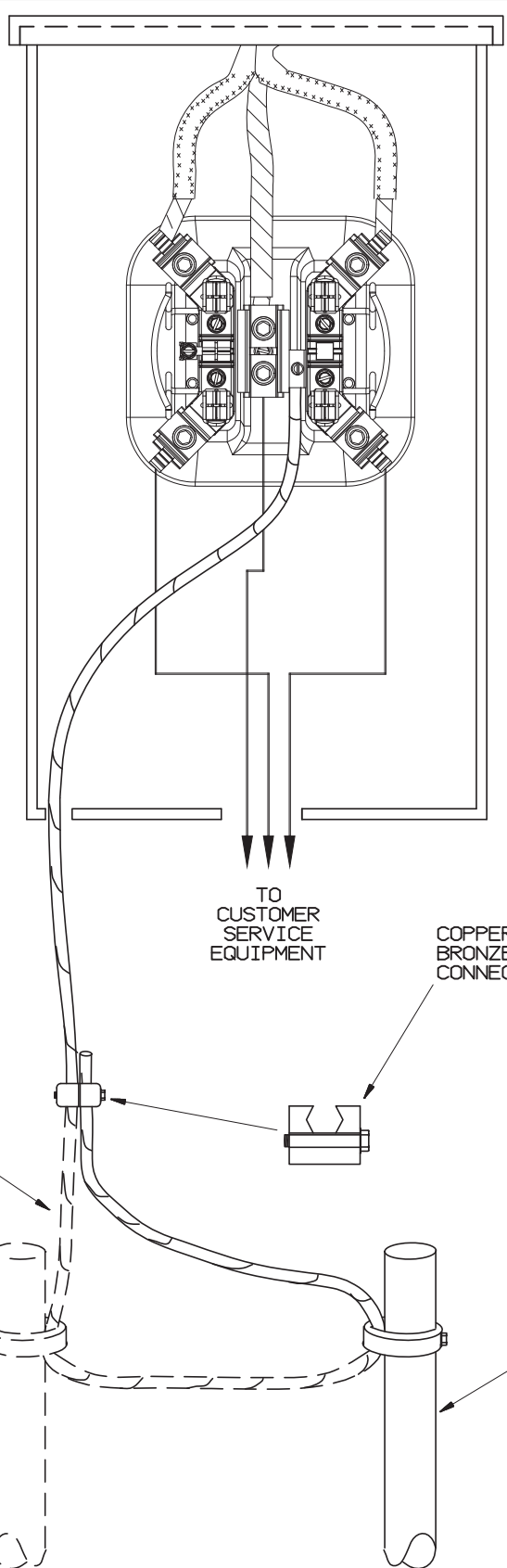
DATE 8/30/23

ISSUE 1

APP.

APP.

METHOD FOR  
TERMINATING  
GROUNDS IN  
A REMOTE  
METER SOCKET



COPPER GROUND  
WIRE REQUIRED. SIZE  
PER NEC ARTICLE 250.

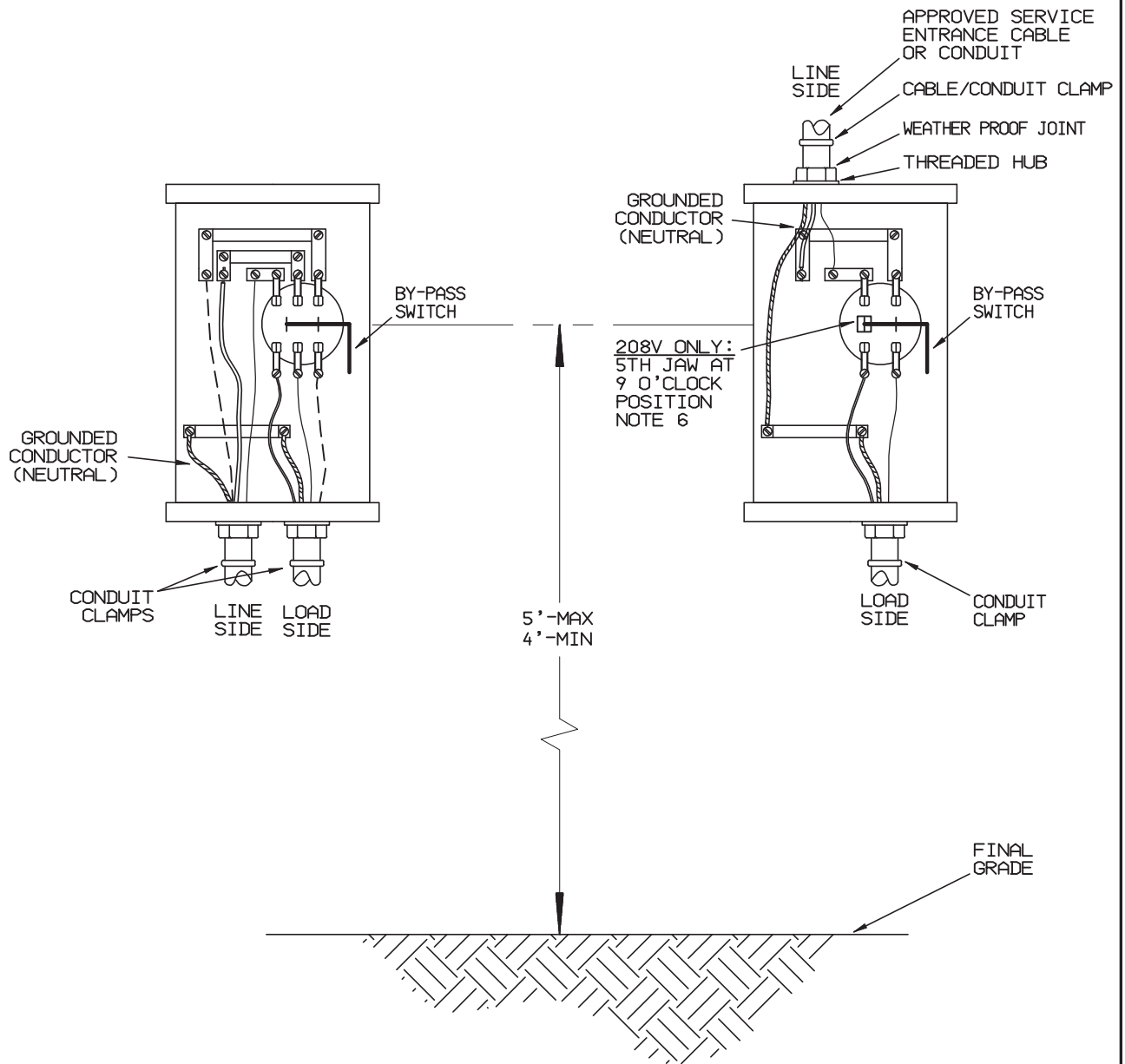
SUPPLEMENTAL GROUND  
ROD(S) ARE REQUIRED IF  
GROUND RESISTANCE IS  
GREATER THAN 25 OHMS.  
SEE NEC SECTION 250. 53.

5/8" COPPERWELD  
OR GALVANIZED  
GROUND RODS

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 8/30/23
DRWN. <u>GC</u> CLEAR _____ ENGR. _____ APPD. _____	GROUNDING AND BONDING METERING EQUIPMENT	ISSUE 1
		APP. _____
		APP. _____

UNDERGROUND SERVICE  
(3φ METER SHOWN)

OVERHEAD SERVICE  
(1φ METER SHOWN)



ELECTRIC STANDARDS
DRWN. _____
DSGN. _____
APPD. _____

<b>CENTRAL HUDSON GAS &amp; ELECTRIC CORP.</b>
OUTDOOR SELF-CONTAINED METERS-320 AMPS

DATE 9-28-18
ISSUE
APP.
APP.

NOTES:

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. THE SOCKET SHALL BE PROVIDED AND INSTALLED BY CUSTOMER. RATED FOR 320 AMPS CONTINUOUS WITH FOUR (4) TERMINALS FOR SINGLE PHASE 240V, (5) TERMINALS FOR SINGLE PHASE 208V, AND SEVEN (7) TERMINALS FOR THREE PHASE. ALL SOCKETS SHALL BE PROVIDED WITH A LOCKING JAW TYPE AND MANUALLY OPERATED BYPASS SWITCH.
4. THE LINE SIDE SERVICE CONDUCTORS SHALL BE CONNECTED TO THE TOP TERMINALS OF THE METER SOCKET.
5. CUSTOMER TO PROVIDE, WHERE NECESSARY, PROPER WATERPROOFING ON OR IN THEIR SERVICE EQUIPMENT.
6. FOR 120/208V, SINGLE PHASE, A COMPATIBLE 5TH JAW SHALL BE INSTALLED IN THE METER SOCKET AT THE 9 O'CLOCK POSITION. THE 5TH JAW SHALL BE MANUFACTURER APPROVED FOR THE METER SOCKET IN WHICH IT IS INSTALLED AND BE INSTALLED PER MANUFACTURER SPECIFICATIONS.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 9-7-18
DRWN. _____ DSGN. _____ APPD. _____	OUTDOOR SELF-CONTAINED METERS-320 AMPS	ISSUE
		APP.
		APP.

METER POST - SEE NOTE #9

30' MAX DISTANCE FROM METER PEDESTAL TO MOBILE HOME

NOTE #10

WEATHERPROOF SERVICE DISCONNECT WITH A MINIMUM CAPACITY OF 200 AMPS, 120/240, SINGLE PHASE.

POWER SUPPLY OPTION NO. #1 WEATHERPROOF BOX WITH G.F.I. RECEPTACLE.

POWER SUPPLY OPTION NO. #2

NOTE #11

CUSTOMER TO PROVIDE GALVANIZED STEEL CONDUIT OR SCH. 80 PVC (2" MIN.) USE BUSHING ON UNDERGROUND END SECURELY FASTEN TO SUPPORT.

SEE NOTES #5 & #6

NOTE #4

BUSHING

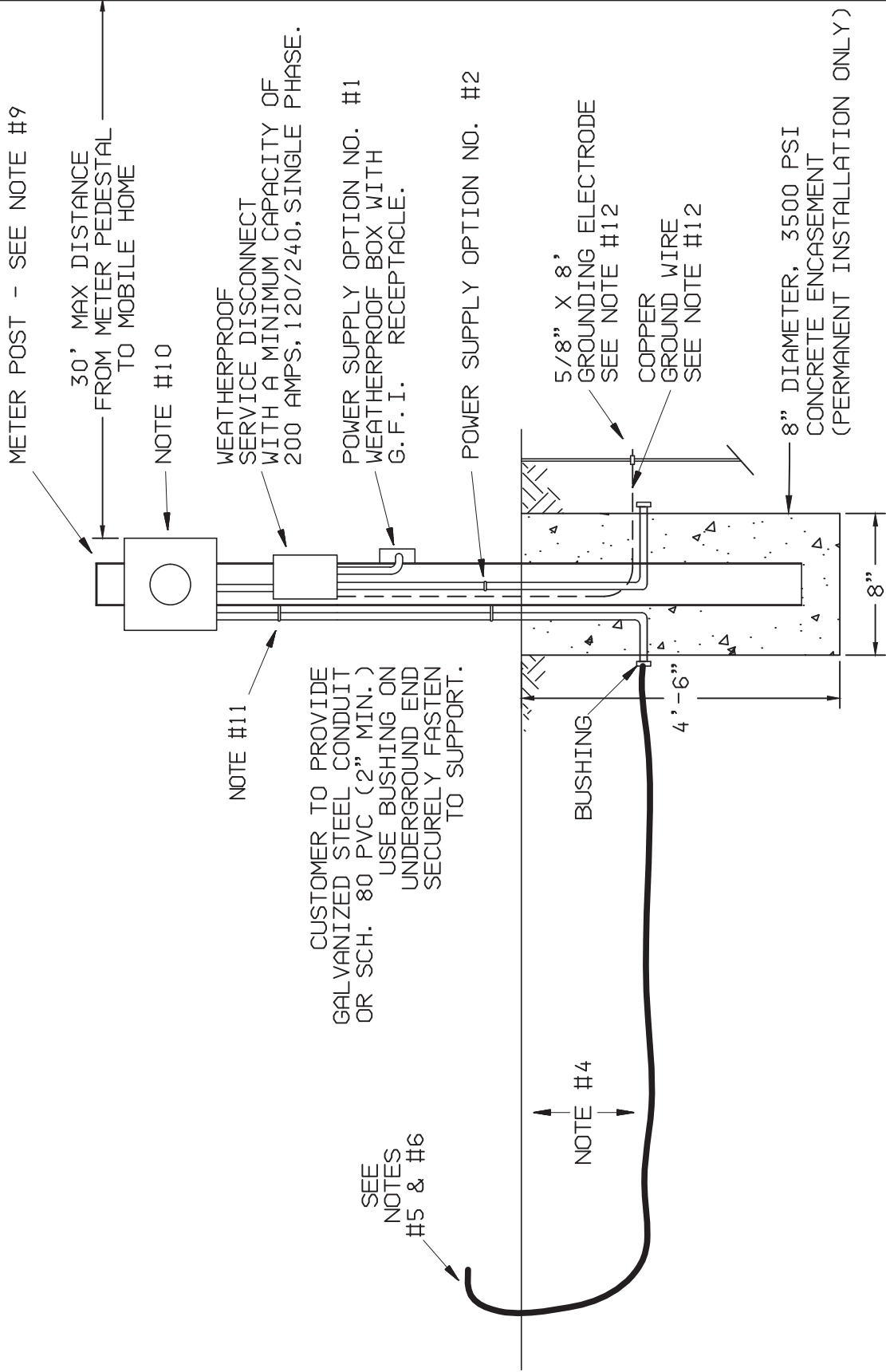
4' - 6"

8"

5/8" X 8' GROUNDING ELECTRODE SEE NOTE #12

COPPER GROUND WIRE SEE NOTE #12

8" DIAMETER, 3500 PSI CONCRETE ENCASUREMENT (PERMANENT INSTALLATION ONLY)



ELECTRIC STANDARDS

DRWN. \_\_\_\_\_  
DSGN. \_\_\_\_\_  
APPD. \_\_\_\_\_

CENTRAL HUDSON GAS & ELECTRIC CORP.

TYPICAL METER PEDESTAL (ALSO FOR MOBILE HOMES)

(SINGLE PHASE SERVICE, 200 TO 400 AMPS, 300 VOLTS OR LESS)

DATE 8-7-18

ISSUE

APP.

APP.

**NOTES:**

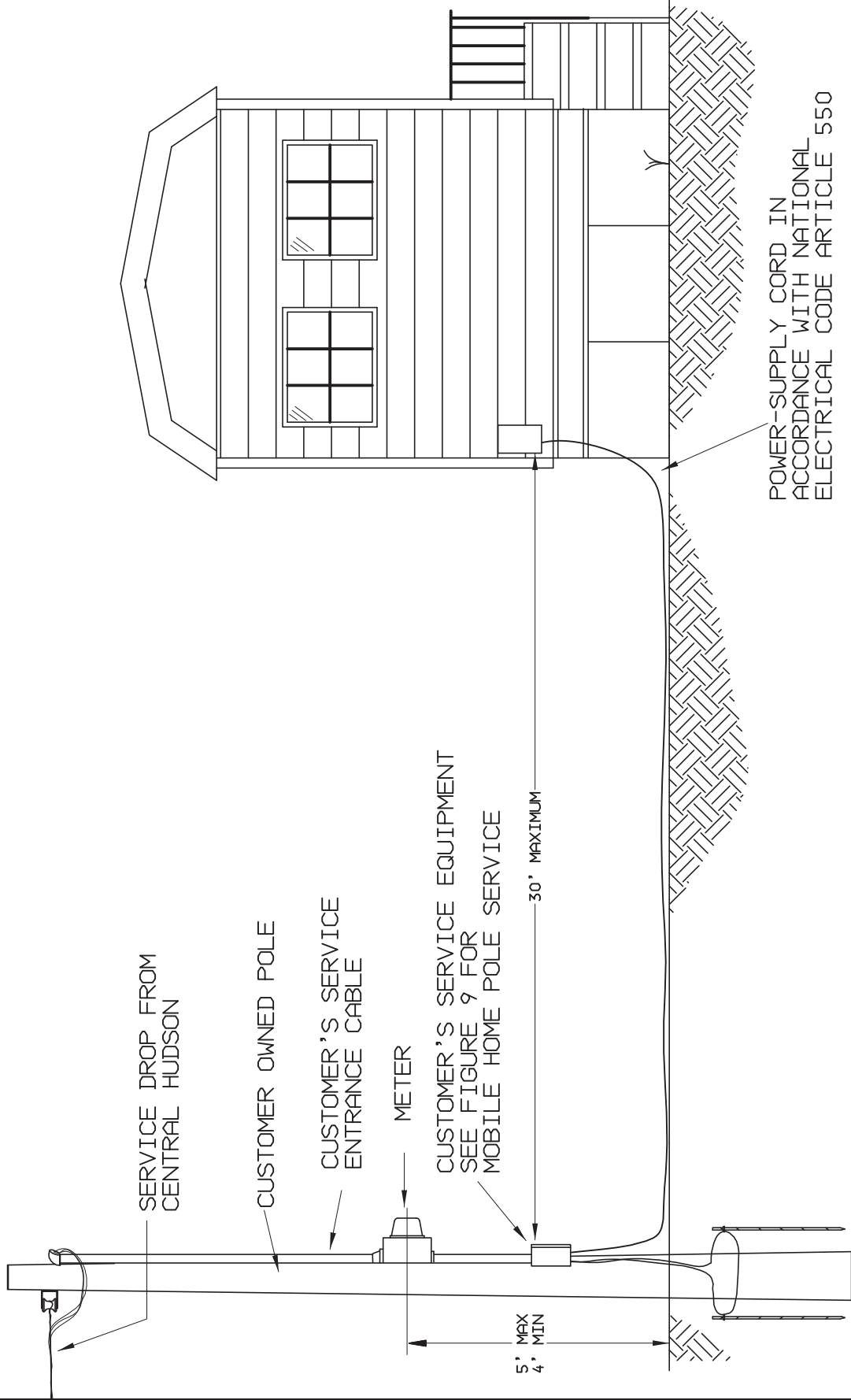
1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. FOR INDIVIDUAL MOBILE HOMES: CUSTOMER TO PROVIDE 3 CONDUCTOR SERVICE CABLE TO POINT OF TERMINATION AT CENTRAL HUDSON'S SPLICE BOX OR TRANSFORMER, SERVICE CABLE TO HAVE A MINIMUM CAPACITY OF 200 AMPS. CABLE TO BE RATED 600V. NATIONAL ELECTRIC CODE (NEC): TYPE U.S.E. AND CONSTRUCTED AS FOLLOWS: STRANDED, CONCENTRIC ROUND, CLASS B ELECTRICAL GRADE (1350) ALUMINUM CONDUCTOR INSULATED WITH 5/64" (.080) HEAT AND WEATHER RESISTANT CROSS-LINKED POLYETHYLENE (XLP) OR ETHYLENE- PROPYLENE RUBBER (EPR). CABLE TO MEET THE REQUIREMENTS AS SET FORTH IN THE LATEST REVISION OF IPCEA PUBLICATIONS S-95-658/ANSI/NEMA WC 70.
4. ALL UNDERGROUND CABLE INSTALLATION REQUIREMENTS, INCLUDING COVER REQUIREMENTS, GROUNDING, AND PROTECTION FROM DAMAGE SHALL BE IN ACCORDANCE WITH FIGURE 11 AND ARTICLE 300 OF THE NEC.
5. INDIVIDUAL MOBILE HOMES: CUSTOMER TO TERMINATE CABLE ON RISER POLE IN ACCORDANCE WITH FIGURE 12.
6. MOBILE HOME PARKS: CUSTOMER TO LEAVE A MIN. 5'-0" HANDCOIL AT GROUND LEVEL AT INDICATED POINT OF TERMINATION. CABLE END TO BE PROTECTED WITH TAPE OR END CAPS.
7. THE CUSTOMER MAY SUBSTITUTE A PRE-ASSEMBLED COMBINATION METER SOCKET THAT IS APPROVED BY THE COMPANY, WITH A MINIMUM 60 AMP DISCONNECT AND WEATHERPROOF RECEPTACLES AS REQUIRED.
8. MOBILE HOME PARKS WITH APPROVED UNDERGROUND ELECTRIC DISTRIBUTION: THE COMPANY WILL PROVIDE AND INSTALL THE UNDERGROUND SERVICE LATERAL.
9. METER POST SHALL BE, AT A MINIMUM, 4"X4" PRESSURE TREATED WOOD. ONE PIECE, 10' LONG, SET MINIMUM 4' IN CONCRETE ENCASEMENT AND IN TRUE VERTICAL POSITION.
10. THE CUSTOMER SHALL PROVIDE AND INSTALL AN APPROVED METER SOCKET (SEE SECTION 7 FOR METER SOCKET REQUIREMENTS) WITH SUITABLE BACKING BOARD (IF NECESSARY). THE DISTANCE FROM CENTER OF METER TO FINISHED GRADE SHALL BE 4' TO 5'.
11. SECURE CONDUIT TO POST AS NEEDED.
12. SUPPLEMENTAL GROUNDS ARE REQUIRED IF GROUND RESISTANCE IS GREATER THAN 25 OHMS. SEE NEC SECTION 250.53. SIZE GROUND WIRE PER NEC ARTICLE 250.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 8-7-18
DRWN. _____ DSGN. _____ APPD. _____	TYPICAL METER PEDESTAL (ALSO FOR MOBILE HOMES) (SINGLE PHASE SERVICE, 200 TO 400 AMPS, 300 VOLTS OR LESS)	ISSUE APP. APP.

CUSTOMER'S SERVICE POLE AND SERVICE EQUIPMENT WITHIN 30' OF MOBILE HOME

FIG. 37

SHEET 1 OF 3



ELECTRIC STANDARDS

DRWN. \_\_\_\_\_  
 DSGN. \_\_\_\_\_  
 APPD. \_\_\_\_\_

CENTRAL HUDSON GAS & ELECTRIC CORP.

TYPICAL METHODS OF SERVING A MOBILE HOME WITH POWER-SUPPLY CORD (PLUG-IN)  
 MOBILE HOMES NOT IN A DEVELOPMENT OR PARK

DATE 5-1-15

ISSUE \_\_\_\_\_

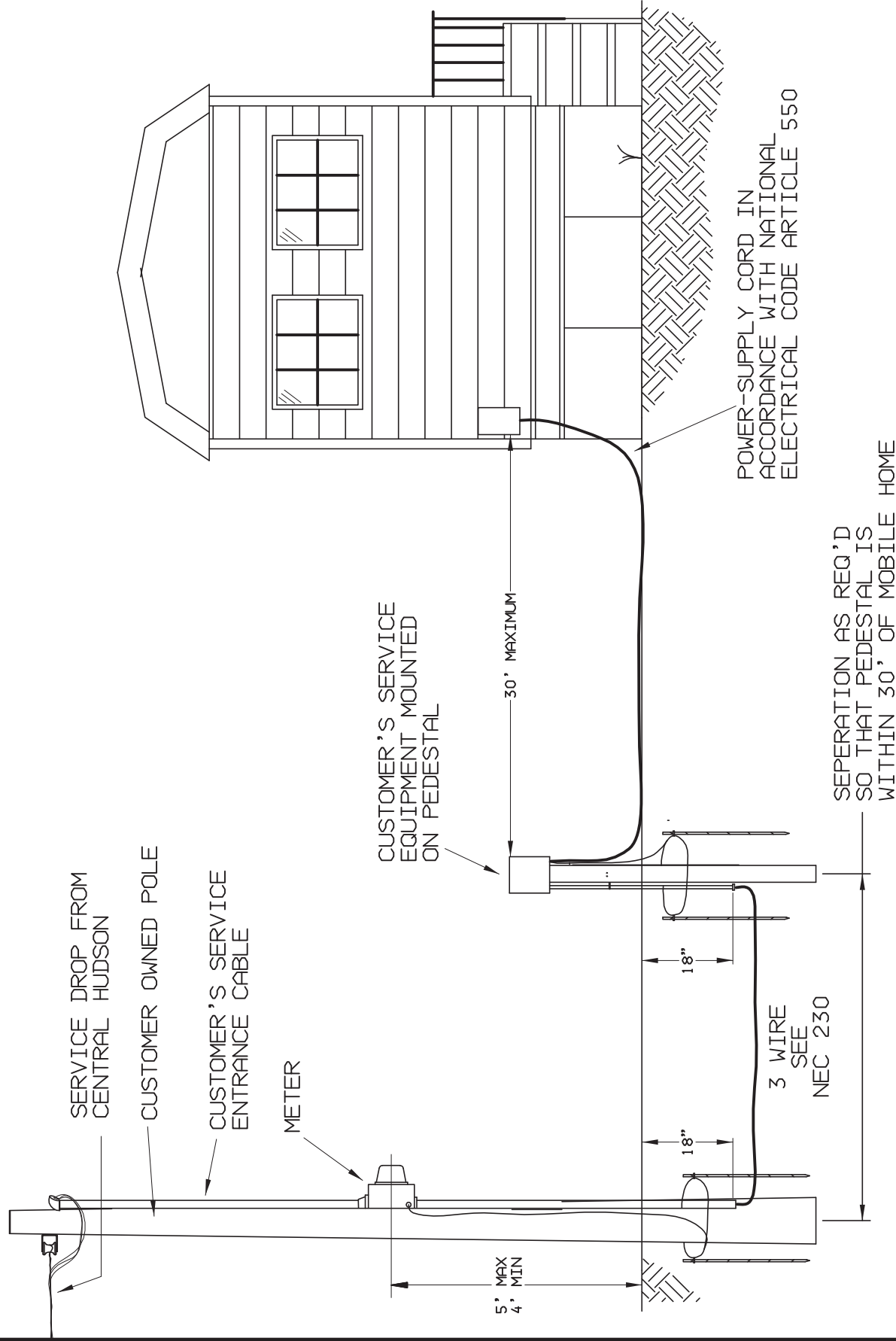
APP. \_\_\_\_\_

APP. \_\_\_\_\_

CAD DRAWING  
 DO NOT REVISE MANUALLY



CUSTOMER'S SERVICE POLE MORE THAN 30' FROM MOBILE HOME WITH CUSTOMER'S SERVICE EQUIPMENT MOUNTED ON A PEDESTAL



ELECTRIC STANDARDS

CENTRAL HUDSON GAS & ELECTRIC CORP.

TYPICAL METHODS OF SERVING A MOBILE HOME WITH POWER-SUPPLY CORD (PLUG-IN) MOBILE HOMES NOT IN A DEVELOPMENT OR PARK

DATE 5-1-15

ISSUE

APP.

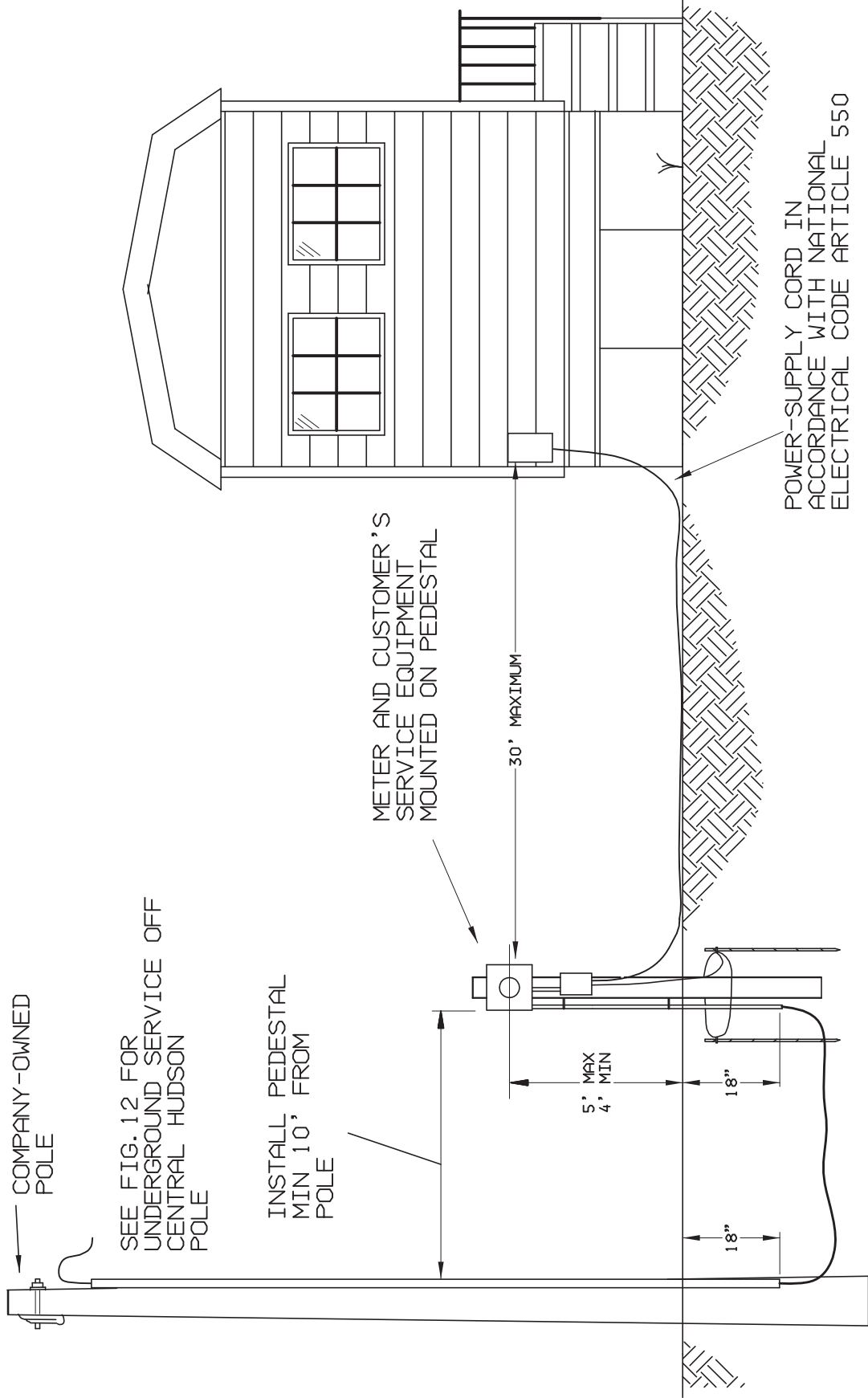
APP.

CAD DRAWING DO NOT REVISE MANUALLY

UNDERGROUND SERVICE FROM ELECTRIC CO. OWNED POLE  
WITH METER AND CUSTOMER'S SERVICE  
EQUIPMENT MOUNTED ON A PEDESTAL

FIG. 37

SHEET 3 OF 3



ELECTRIC STANDARDS

DRWN. \_\_\_\_\_  
DSGN. \_\_\_\_\_  
APPD. \_\_\_\_\_

CENTRAL HUDSON GAS & ELECTRIC CORP.

TYPICAL METHODS OF SERVING A MOBILE HOME WITH POWER-SUPPLY CORD (PLUG-IN)  
MOBILE HOMES NOT IN A DEVELOPMENT OR PARK

DATE 5-1-15

ISSUE

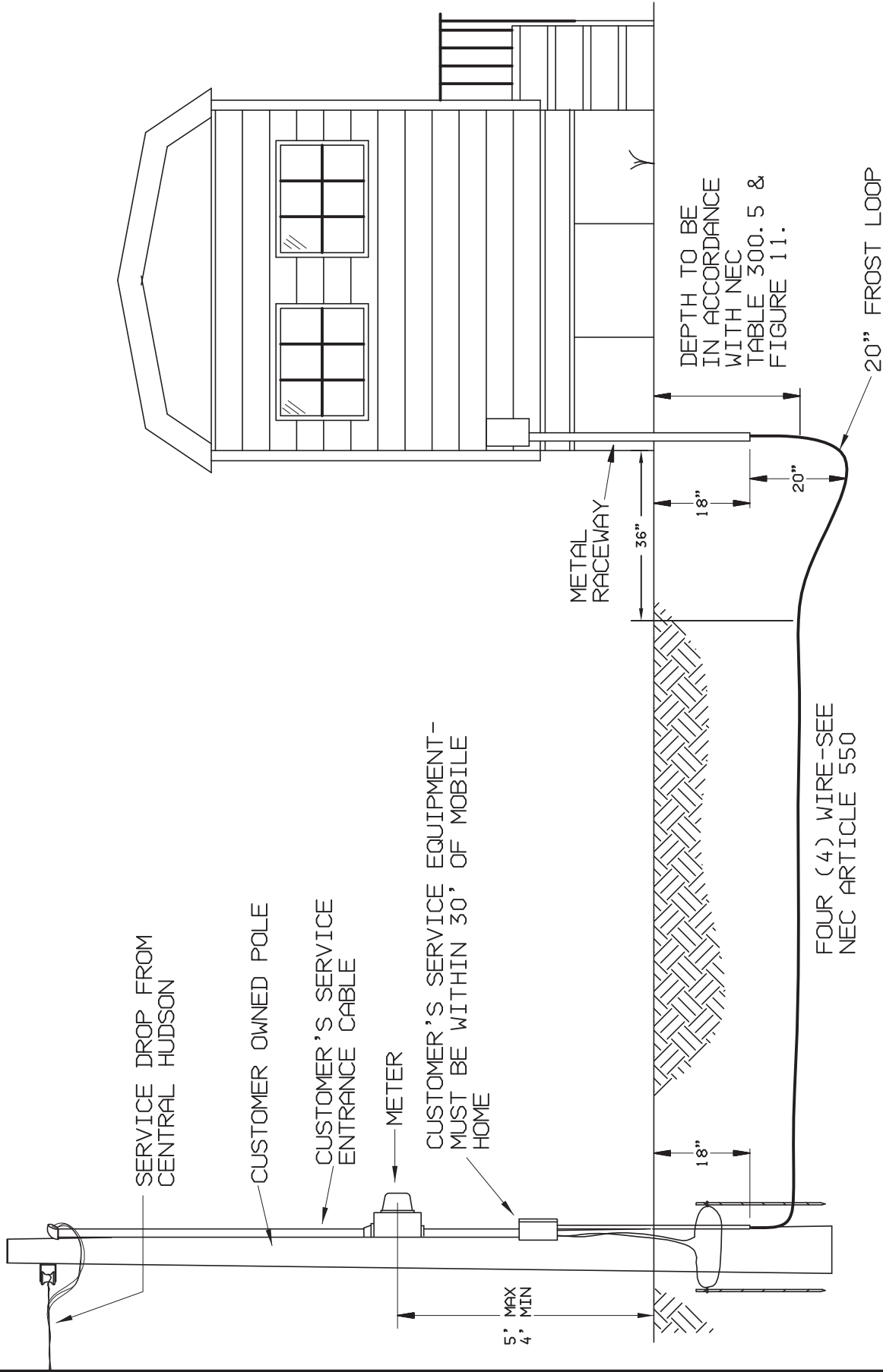
APP.

APP.

CUSTOMER'S SERVICE POLE AND SERVICE EQUIPMENT WITH DIRECT WIRING TO MOBILE HOME

FIG. 38

SHEET 1 OF 3



DATE 5-1-15  
 ISSUE  
 APP.  
 APP.

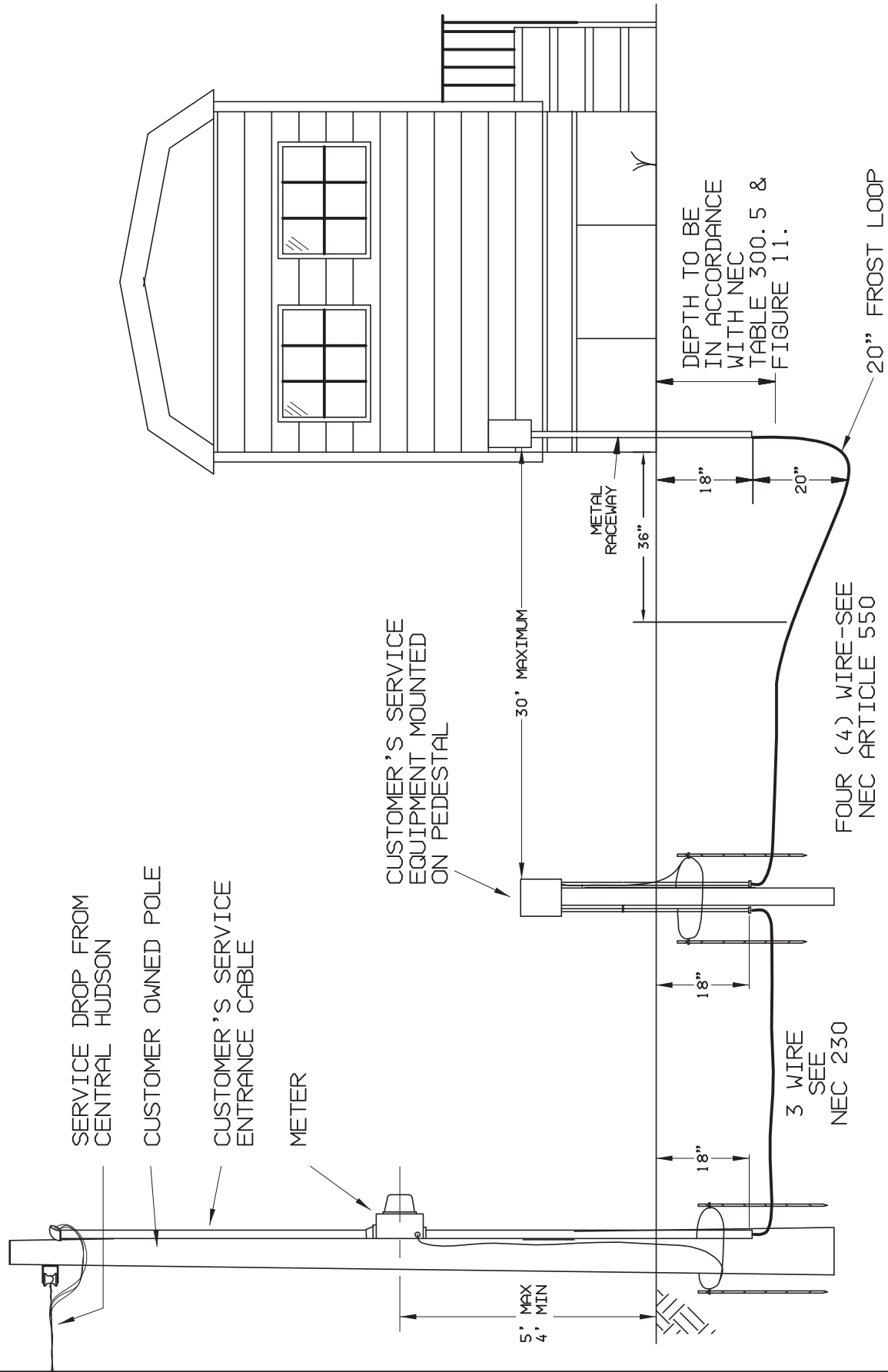
CENTRAL HUDSON GAS & ELECTRIC CORP.  
 TYPICAL METHODS OF SERVING A MOBILE HOME WITH DIRECT WIRING  
 MOBILE HOMES NOT IN A DEVELOPMENT OR PARK

ELECTRIC STANDARDS  
 DRWN.  
 DSGN.  
 APPD.

# CUSTOMER'S SERVICE POLE MORE THAN 30' FROM MOBILE HOME

FIG. 38

SHEET 2 OF 3



ELECTRIC STANDARDS

CENTRAL HUDSON GAS & ELECTRIC CORP.

TYPICAL METHODS OF SERVING A MOBILE HOME WITH DIRECT WIRING  
MOBILE HOMES NOT IN A DEVELOPMENT OR PARK

DATE 5-1-15

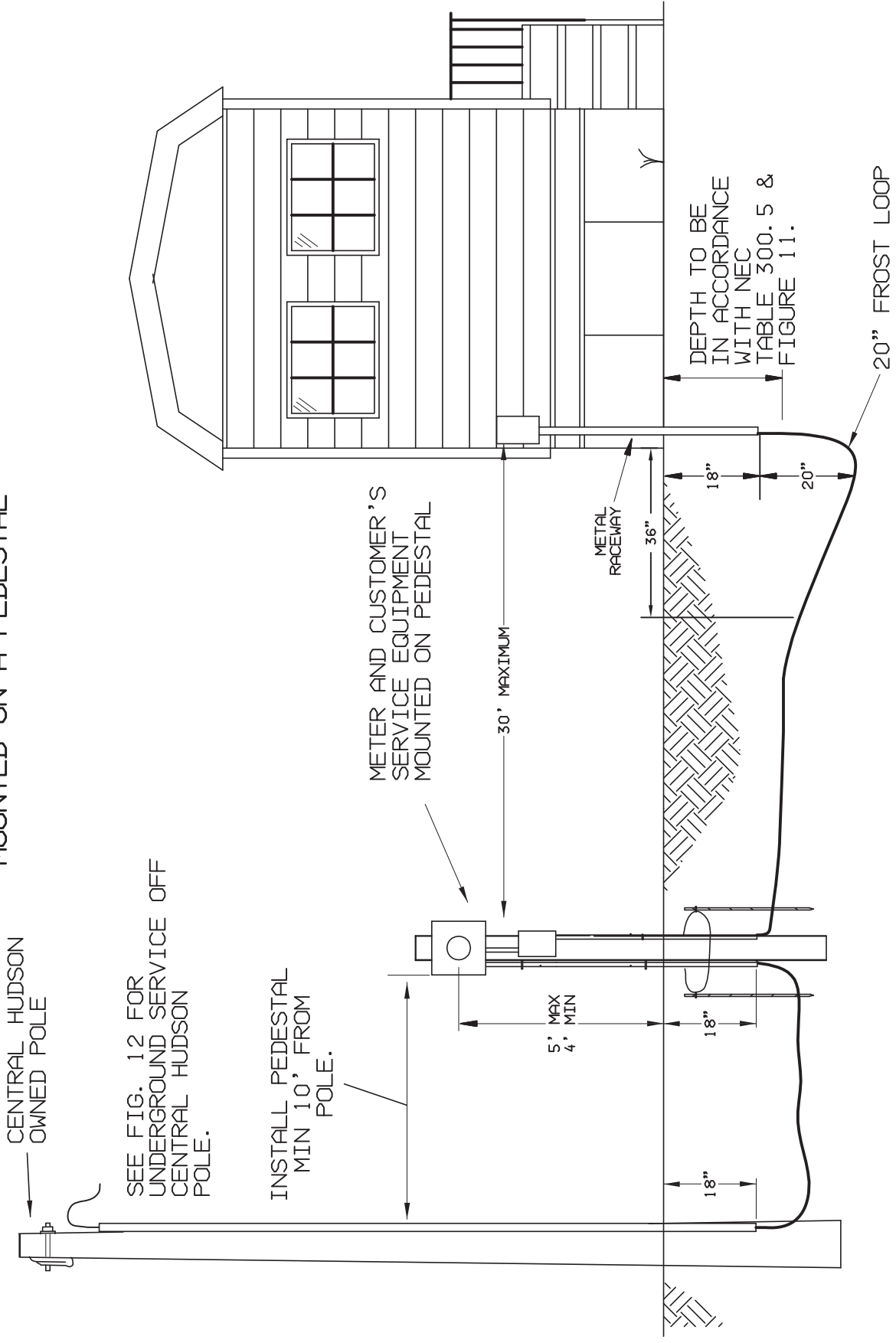
ISSUE

APP.

APP.

GO TO DRAWING DO NOT REVISE MANUALLY

DIRECT WIRED UNDERGROUND SERVICE FROM  
 ELEC. CO. OWNED POLE WITH METER AND  
 CUSTOMER'S SERVICE EQUIP.  
 MOUNTED ON A PEDESTAL



SEE FIG. 12 FOR  
 UNDERGROUND SERVICE OFF  
 CENTRAL HUDSON  
 POLE.

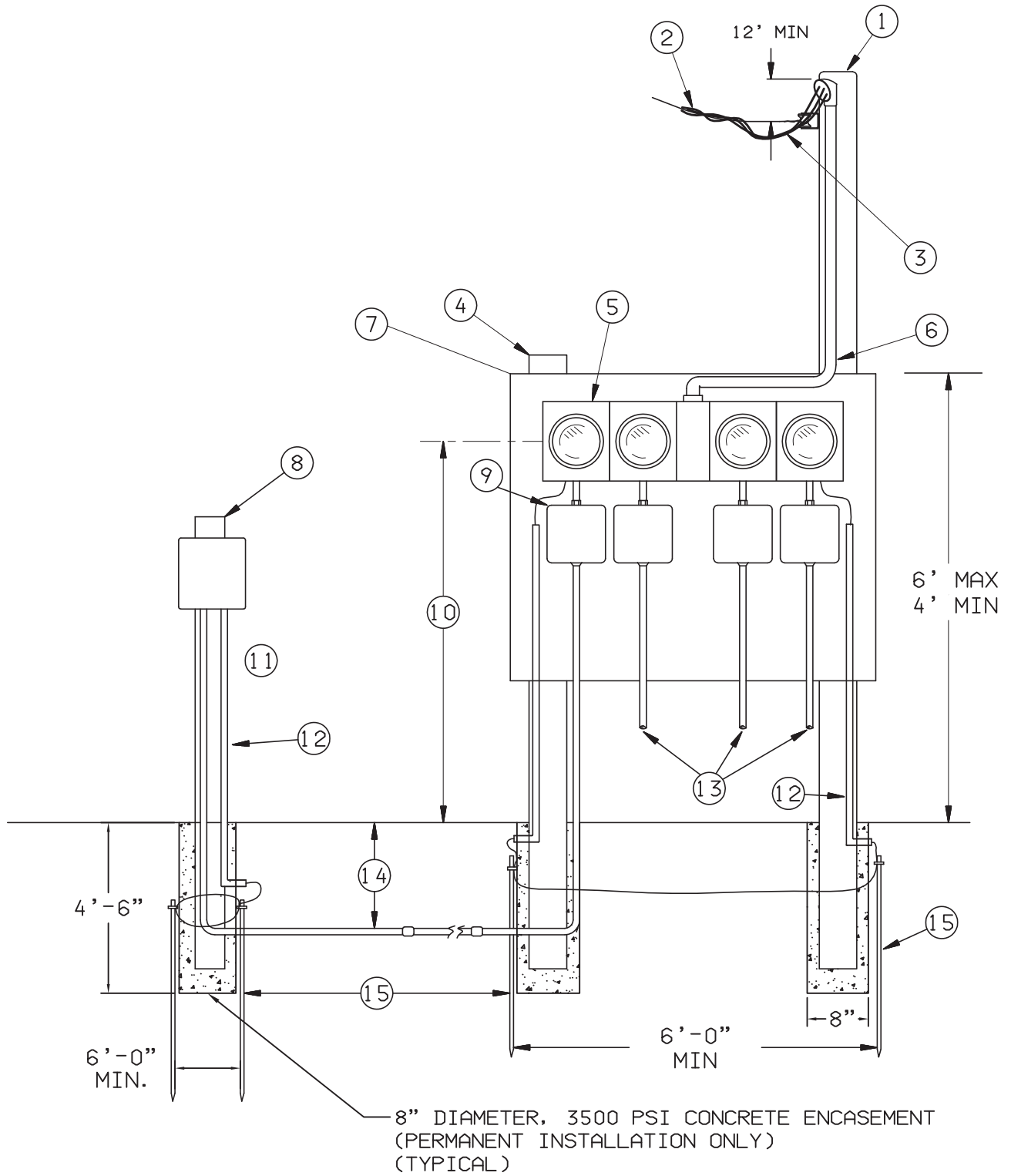
INSTALL PEDESTAL  
 MIN 10' FROM  
 POLE.

METER AND CUSTOMER'S  
 SERVICE EQUIPMENT  
 MOUNTED ON PEDESTAL

DEPTH TO BE  
 IN ACCORDANCE  
 WITH NEC  
 TABLE 300.5 &  
 FIGURE 11.

20" FROST LOOP

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.			DATE 5-1-15
	DRWN. _____	TYPICAL METHODS OF SERVING A MOBILE HOME WITH DIRECT WIRING MOBILE HOMES NOT IN A DEVELOPMENT OR PARK		ISSUE _____
				APP. _____
				APP. _____



<p>ELECTRIC STANDARDS</p>	<p><b>CENTRAL HUDSON GAS &amp; ELECTRIC CORP.</b></p>	<p>DATE 5-1-15</p>
<p>DRWN. _____ DSGN. _____ APPD. _____</p>	<p>MOBILE HOME MULTI-METER INSTALLATION OVERHEAD SERVICE-SINGLE ENTRANCE CABLE</p>	<p>ISSUE APP. APP.</p>

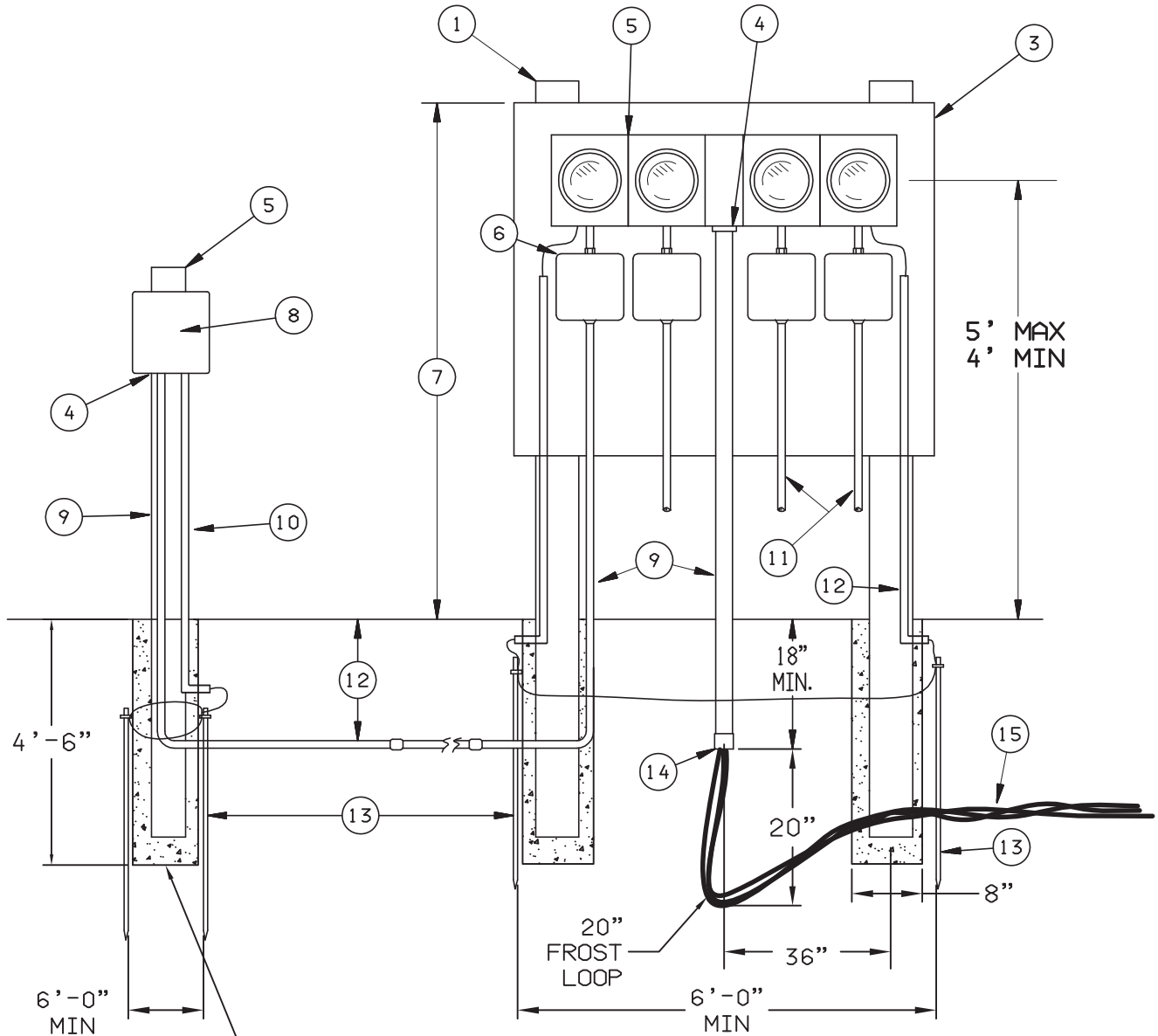
INSTALLATION SPECIFICATIONS

1. PRESERVATIVE PRESSURE TREATED POLE (FURNISHED AND INSTALLED BY CUSTOMER). CONSULT COMPANY FOR POLE SIZE, SETTING, AND GUYING REQUIREMENTS.
2. SERVICE DROP FURNISHED AND INSTALLED BY COMPANY.
3. ELECTRICIAN TO LEAVE LEADS 36 INCHES MINIMUM IN LENGTH.
4. PRESERVATIVE PRESSURE TREATED POLE BUTTS OR PRESERVATIVE PRESSURE TREATED TIMBER.
5. METER SOCKETS FURNISHED AND INSTALLED BY CUSTOMER.
6. CABLE OR CONDUIT IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE.
7. BOARD, 3/4" EXTERIOR GRADE PLYWOOD OR EQUIVALENT PRESSURE TREATED LUMBER IN STRENGTH.
8. CUSTOMER'S PEDESTAL - 4"X4" PRESERVATIVE PRESSURE TREATED POST (TWO 2"X4" NOT ACCEPTABLE) OR EQUAL, SET A MIN. OF 4 FT. DEEP. (NOT REQUIRED FOR MOBILE HOMES IN SITE OF AND WITHIN 30' OF METER SOCKETS).
9. CUSTOMER'S SERVICE EQUIPMENT IN WEATHERPROOF ENCLOSURE - 4'0"MIN., 6'0" MAX.
10. HEIGHT ABOVE GROUND TO TOP OF METER ENCLOSURE - 4'0" MIN., 5'0" MAX. (NOT REQUIRED FOR MOBILE HOMES IN SITE OF AND WITHIN 30' OF METER SOCKETS).
11. CUSTOMER'S SERVICE EQUIPMENT AS REQUIRED BY THE NATIONAL ELECTRICAL CODE.
12. CONTINUOUS SOFT DRAWN BARE COPPER GROUND WIRE UNDER PROTECTIVE COVER TERMINATED AT THE METER GROUND BUS CONNECTION. SIZE GROUND ACCORDING TO NEC ARTICLE 250.
13. ADDITIONAL SERVICE CONNECTIONS AS REQUIRED.
14. DEPTH TO BE IN ACCORDANCE WITH NEC TABLE 300.5 & FIGURE 11.
15. APPROVED DRIVEN GROUND RODS; 2 REQUIRED.

NOTES

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. INSTALLATION AND EQUIPMENT RATINGS MUST BE ADEQUATE FOR THE LOAD TO BE CONNECTED. 200 AMPERE POSITIONS MAY REQUIRE A DIFFERENT ARRANGEMENT.
4. A MAXIMUM OF THREE (3) METERS BUSSED TOGETHER WHERE ALL MOBILE HOMES ARE ELECTRICALLY HEATED.
5. ALL 120 VOLT SINGLE PHASE UTILIZATION RECEPTACLE OUTLETS MUST HAVE APPROVED GROUND FAULT CIRCUIT PROTECTION. EXAMPLE: 15 OR 20 AMP. OUTLETS.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	MOBILE HOME MULTI-METER INSTALLATION OVERHEAD SERVICE-SINGLE ENTRANCE CABLE	ISSUE APP. APP.



8" DIAMETER, 3500 PSI CONCRETE ENCASEMENT  
(PERMANENT INSTALLATION ONLY)  
(TYPICAL)

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	MOBILE HOME MULTI-METER INSTALLATION UNDERGROUND SERVICE	ISSUE _____ APP. _____ APP. _____



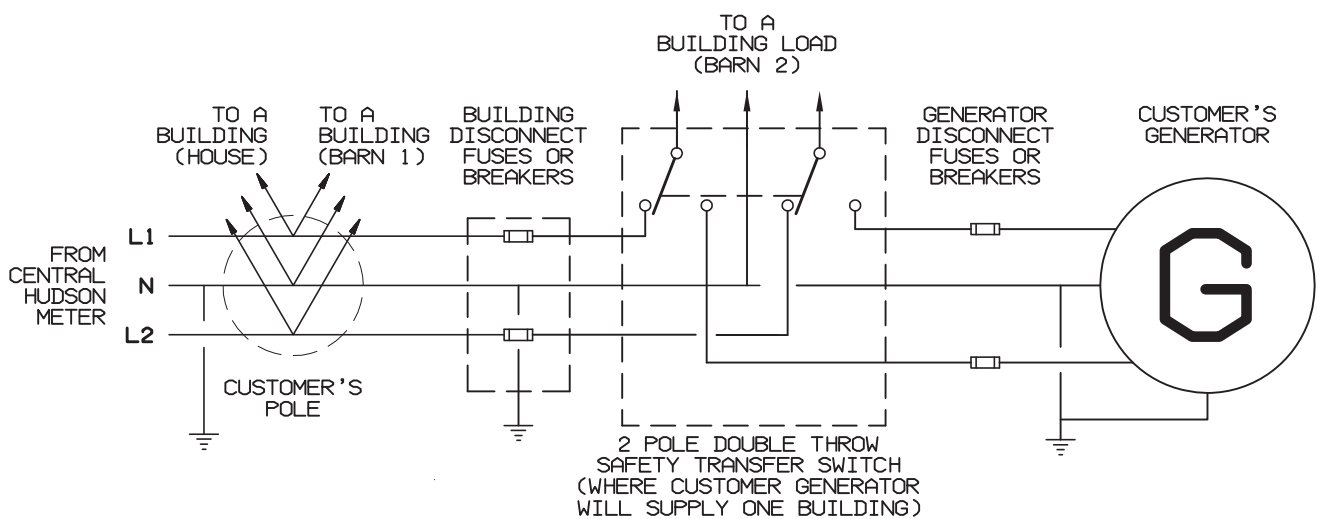
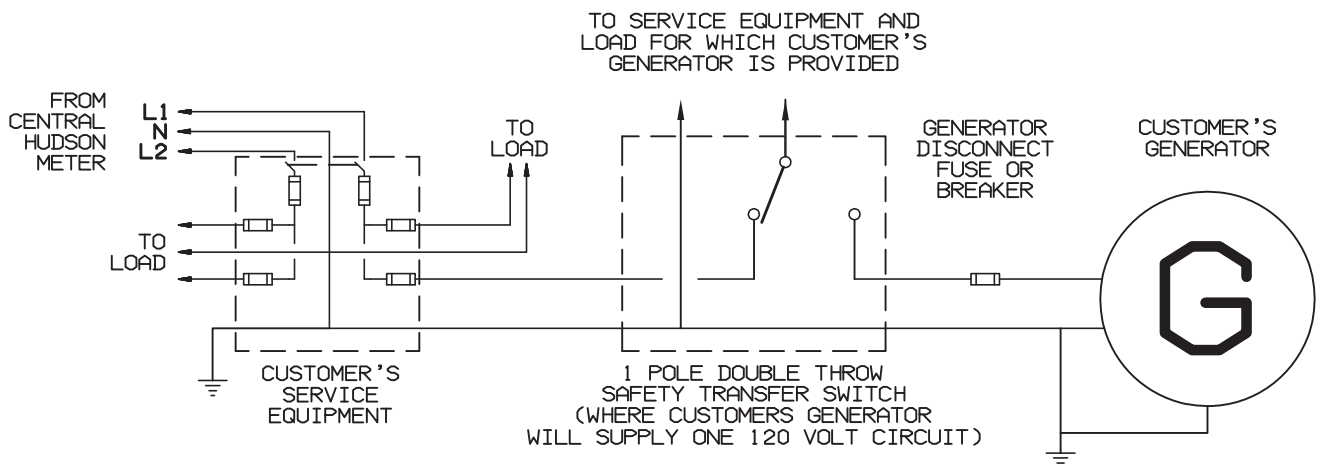
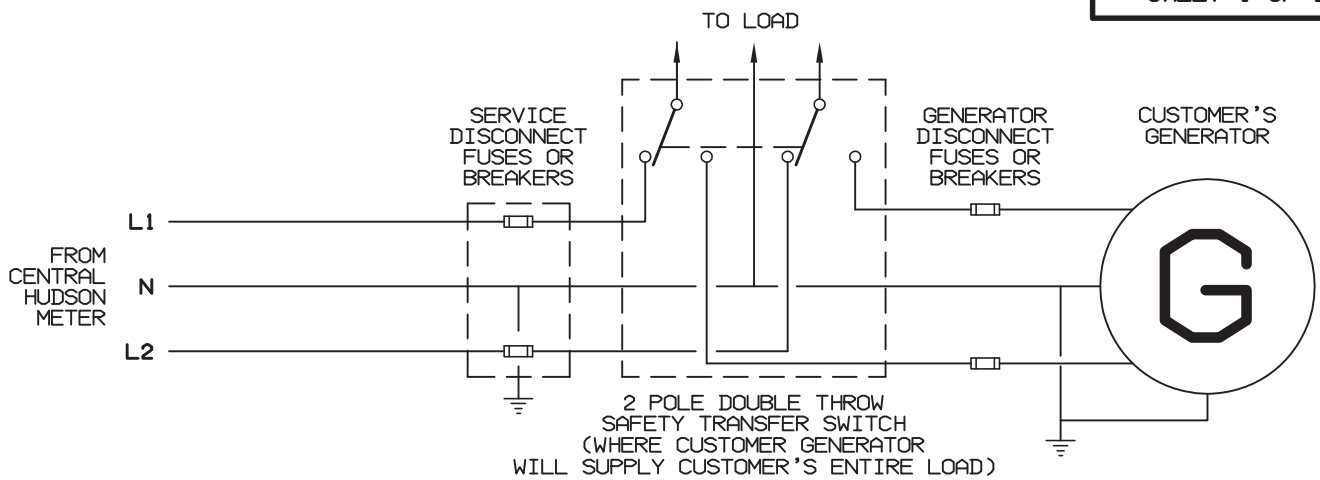
INSTALLATION SPECIFICATIONS

1. PRESERVATIVE PRESSURE TREATED POLE BUTTS OR PRESERVATIVE PRESSURE TREATED TIMBER SET BELOW FROST LEVEL. (4 FT. MINIMUM)
2. METER SOCKETS FURNISHED AND INSTALLED BY CUSTOMER.
3. BOARD - 3/4" EXTERIOR GRADE PLYWOOD OR EQUIVALENT PRESSURE TREATED LUMBER IN STRENGTH.
4. INSULATED GROUNDING BUSHING.
5. CUSTOMER'S PEDESTAL - 4"X4" PRESERVATIVE PRESSURE TREATED POST (TWO 2"X4" NOT ACCEPTABLE) OR EQUAL, SET A MIN. OF 4' DEEP. (NOT REQUIRED FOR MOBILE HOMES IN SITE OF AND WITHIN 30' OF METER SOCKETS)
6. CUSTOMER'S SERVICE EQUIPMENT IN WEATHERPROOF ENCLOSURE (100 AMP. MIN. : 150 AMP. RECOMMENDED).
7. HEIGHT ABOVE GROUND TO TOP OF METER ENCLOSURE - 4'0" MIN., 5'0" MAX.
8. CUSTOMER'S SERVICE EQUIPMENT ENCLOSURE AS REQUIRED BY THE NATIONAL ELECTRICAL CODE. (NOT REQUIRED FOR MOBILE HOMES IN SITE OF AND WITHIN 30' OF METER SOCKETS).
9. SCHEDULE 80 PVC OR GALVANIZED STEEL CONDUIT - FURNISHED AND INSTALLED BY CUSTOMER.
10. CONTINUOUS SOFT DRAWN BARE COPPER UNDER PROTECTIVE COVER TERMINATED AT THE METER GROUND BUS CONNECTION. SIZE GROUND ACCORDING TO NEC ARTICLE 250.
11. ADDITIONAL SERVICE CONNECTIONS AS REQUIRED.
12. DEPTH TO BE IN ACCORDANCE WITH NEC TABLE 300.5 & FIGURE 11.
13. APPROVED DRIVEN GROUND RODS - 2 REQUIRED.
14. INSULATING BUSHING FURNISHED AND INSTALLED BY CUSTOMER.
15. CABLE BY CUSTOMER.

NOTES

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. INSTALLATION AND EQUIPMENT RATINGS MUST BE ADEQUATE FOR THE LOAD TO BE CONNECTED. 200 AMPERE POSITIONS MAY REQUIRE A DIFFERENT ARRANGEMENT.
4. A MAXIMUM OF THREE (3) METERS BUSSED TOGETHER WHERE ALL MOBILE HOMES ARE ELECTRICALLY HEATED.
5. ALL 120 VOLT SINGLE PHASE UTILIZATION RECEPTACLE OUTLETS MUST HAVE APPROVED GROUND FAULT CIRCUIT PROTECTION. EXAMPLE: 15 OR 20 AMP.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	MOBILE HOME MULTI-METER INSTALLATION UNDERGROUND SERVICE	ISSUE
		APP.
		APP.



ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	CUSTOMER-OWNED - STANDBY OPERATION	ISSUE
		APP.
		APP.

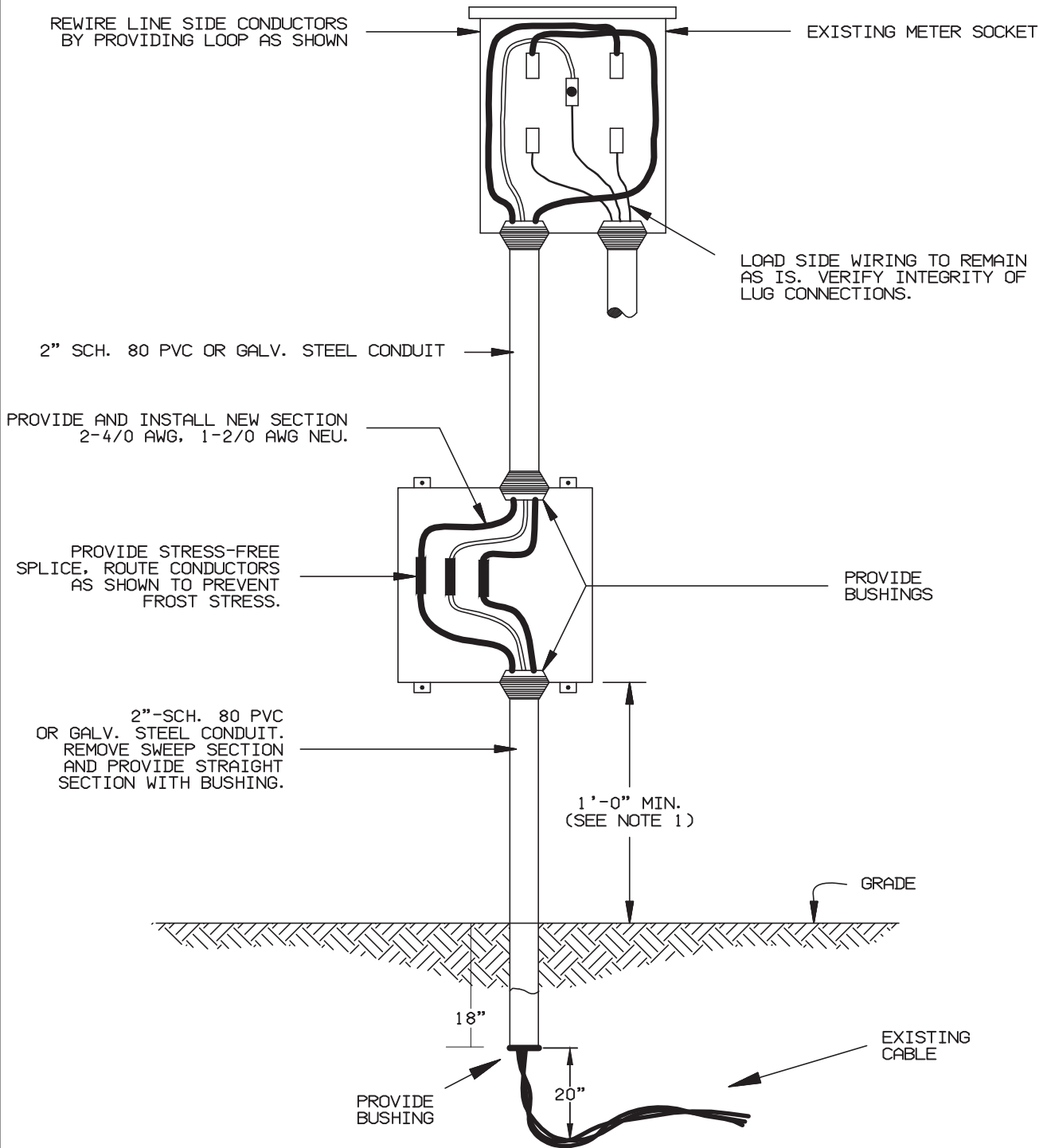
NOTES:

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. CONNECTIONS ARE FOR SINGLE PHASE 3 WIRE 120/240 VOLTS. CONSULT WITH CENTRAL HUDSON FOR CONNECTIONS APPLICABLE TO OTHER SERVICE TYPES.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ DSGN. _____ APPD. _____	CUSTOMER-OWNED - STANDBY OPERATION	ISSUE
		APP.
		APP.

METHOD 1: PREFERRED METHOD

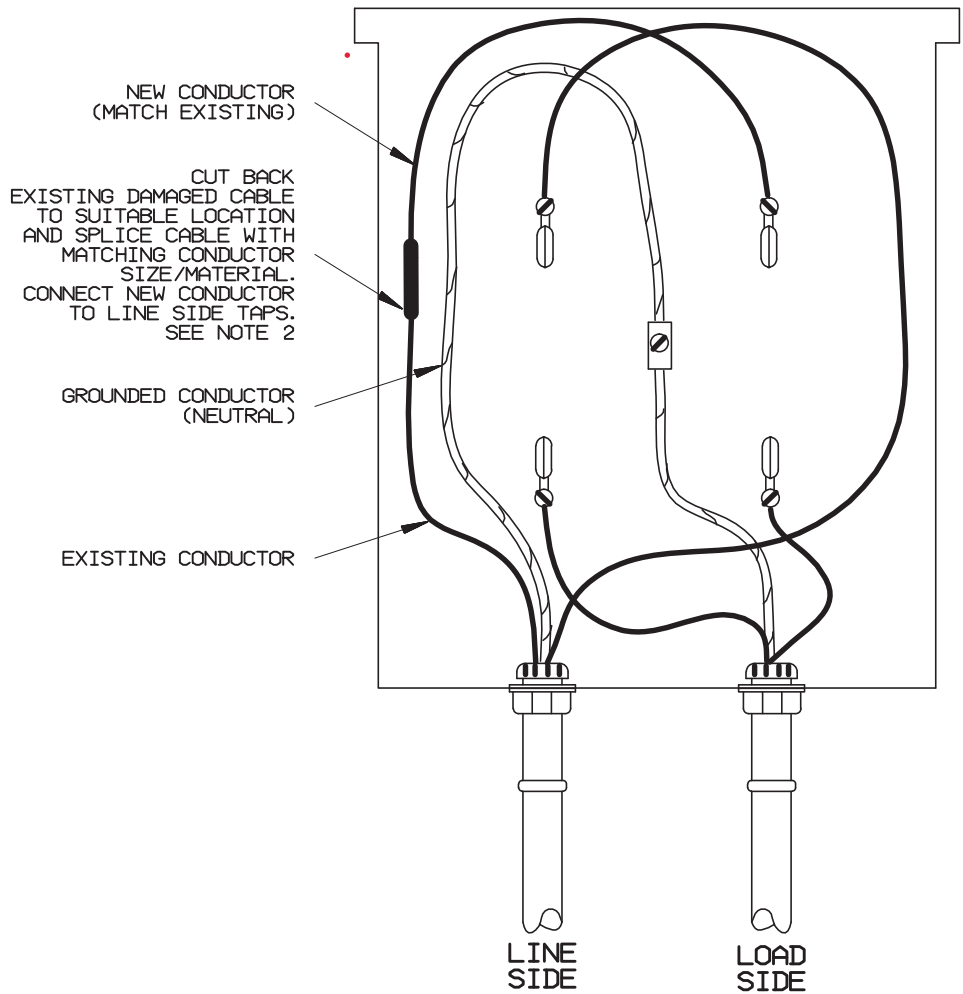
NOTES REFER TO METHOD 1 INSTALLATION NOTES ON SHEET 3



ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 9-20-18
DRWN. _____	UNDERGROUND SERVICE FROST LOOP REPAIR	ISSUE
DSGN. _____		APP.
APPD. _____		APP.

METHOD 2: ALTERNATE METHOD - ONE CONDUCTOR DAMAGED ONLY

NOTES REFER TO METHOD 2 INSTALLATION NOTES OF SHEET 3



ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 9-20-18
DRWN. _____	UNDERGROUND SERVICE FROST LOOP REPAIR	ISSUE
DSGN. _____		APP.
APPD. _____		APP.

GENERAL NOTES (SHEETS 1 AND 2)

1. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED HEREIN, THE NEC, AND ALL APPLICABLE CODES AND STANDARDS.
2. ALL INSTALLATIONS SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
3. THE DRAWINGS ON SHEETS 1 & 2 PROVIDE A METHOD TO CORRECT FROST STRESS PROBLEMS WHICH MAY ARISE DUE TO THE ABSENCE OF A FROST LOOP IN THE UNDERGROUND FEEDER. METER SOCKETS WHICH HAVE BEEN PULLED FREE FROM THE WALL SHOULD BE IMMEDIATELY RETROFITTED.
4. LOOP LINE CONDUCTORS ON ALL UNDERGROUND SERVICES 1 $\phi$  AND 3 $\phi$  (SINGLE PHASE SHOWN).

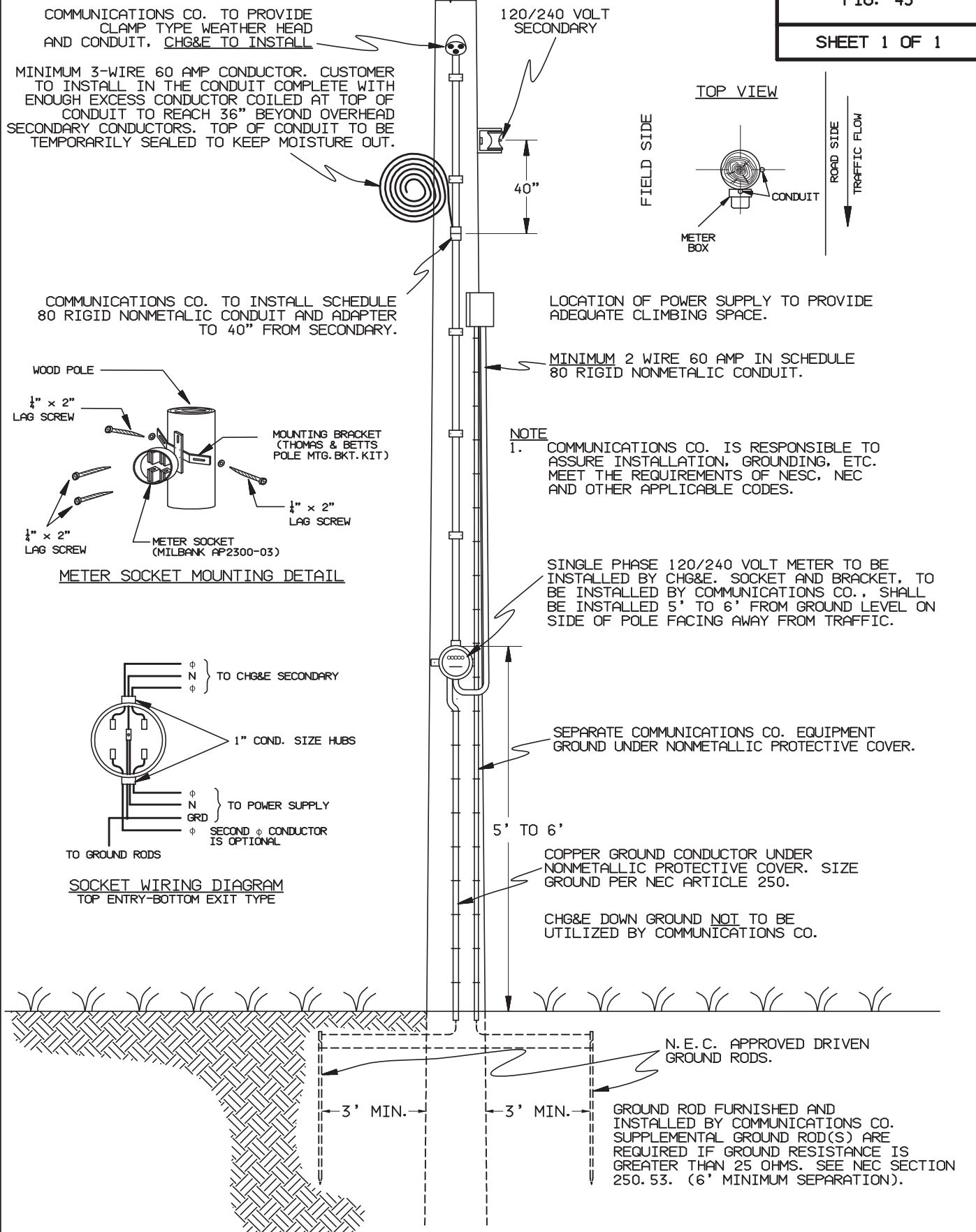
METHOD 1 INSTALLATION NOTES (SHEET 1)

1. PROVIDE A MINIMUM OF A 12"X12"X4" WEATHERPROOF SPLICE BOX (NEMA 3R). MOUNT BOX AS HIGH AS POSSIBLE OFF THE GROUND TO PREVENT EXCESSIVE EXPOSURE TO MOISTURE. IF PHYSICAL RESTRICTIONS PREVENT 1'-0" MOUNTING THEN A REDUCTION IN THIS MOUNTING HEIGHT IS PERMISSIBLE. BOX SHALL BE EQUIPPED WITH THE CAPABILITY OF BEING LOCKED.
2. PROVIDE STRESS BEND IN SPLICE BOX AS SHOWN. MAKE SURE THAT SPLICE IS NOT SUBJECTED TO EXCESSIVE STRESS. THIS WIRE CONFIGURATION IN CONJUNCTION WITH THE METER SOCKET LOOP SHOULD PROVIDE ENOUGH SLACK TO PREVENT STRESS DAMAGE FROM FROST.
3. IF SPLICE BOX IS MANUFACTURED FROM A CONDUCTIVE MATERIAL SUCH AS STEEL OR ALUMINUM THERE SHOULD BE A MINIMUM OF A STRANDED BARE #6 AWG CONDUCTOR CONNECTING THE ENCLOSURE TO THE GROUND POINT IN THE METER SOCKET. ALL NON-CONDUCTIVE ENCLOSURES DO NOT REQUIRE THIS CONNECTION.
4. IF EXISTING INSTALLATION HAS 90 DEGREE BEND IN CONDUIT UNDERGROUND, REMOVE SWEEP AND PROVIDE STRAIGHT SECTION AS SHOWN. FINAL CONFIGURATION TO BE AS SHOWN ON SHEET 1.
5. ALL SPLICES MUST HAVE NON-CONDUCTING COVER OR BE SUFFICIENTLY TAPED TO PREVENT CONTACT OF CONDUCTING PARTS TO SPLICE BOX ENCLOSURE. ALL SPLICES MUST BE SERVICE ENTRANCE RATED (ILSCO PBT-2 SERIES OR EQUIVALENT). NO SPLIT BOLT SPLICES ARE ALLOWED.

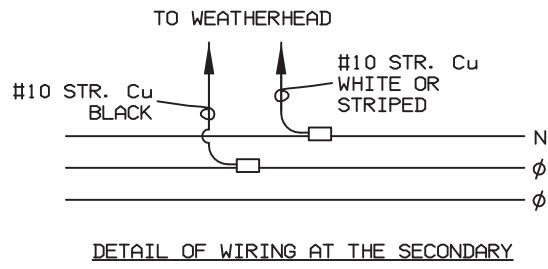
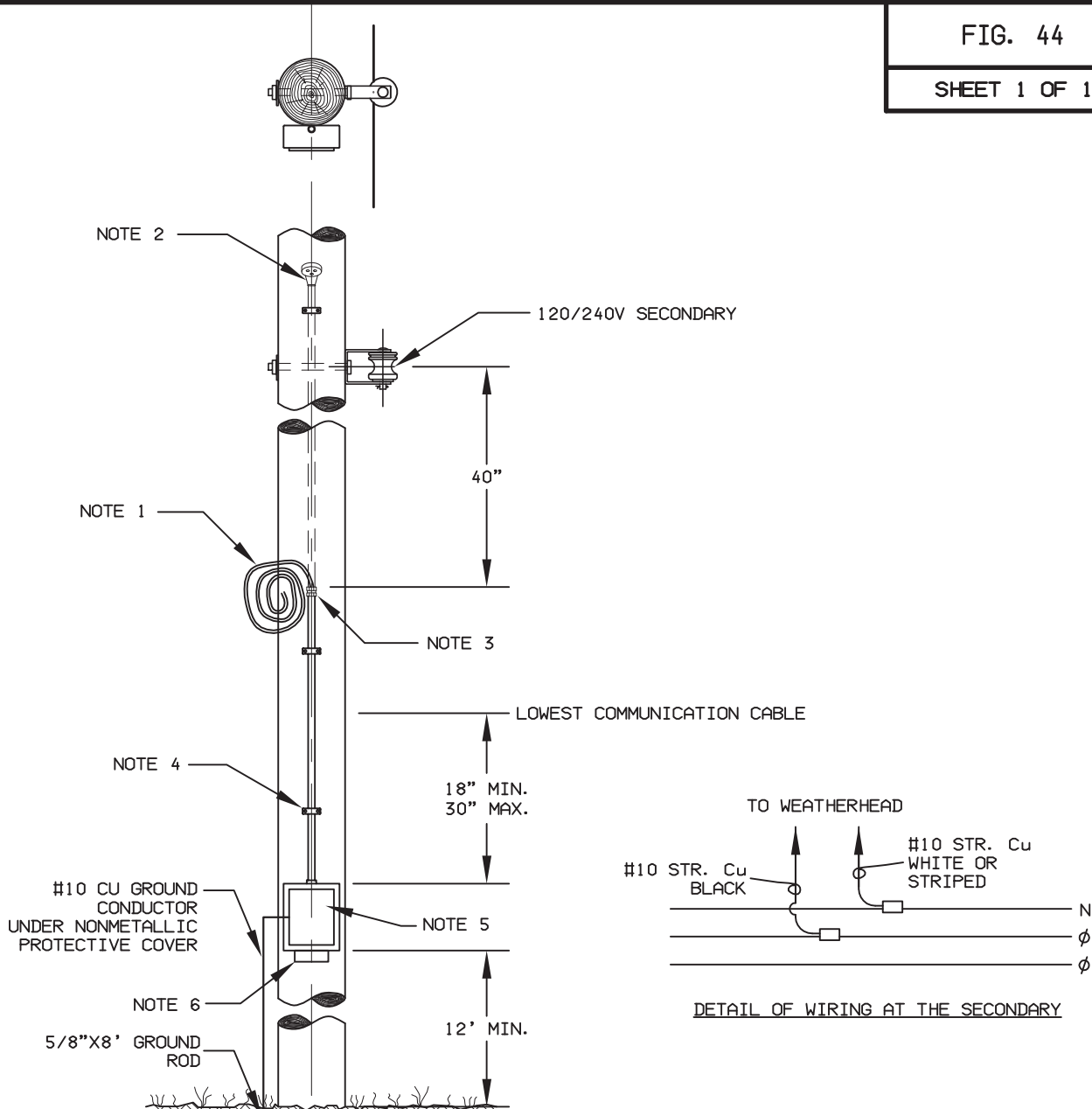
METHOD 2 INSTALLATION NOTES (SHEET 2)

1. THE TOTAL AREA OF ALL CONDUCTORS, SPLICES, AND TAPS INSTALLED SHALL NOT EXCEED 75% OF THE CROSS-SECTIONAL AREA OF THE METER PAN SPACE. IF IT DOES, METHOD 1 MUST BE IMPLEMENTED.
2. ALL SPLICES MUST HAVE NON-CONDUCTING COVER OR BE SUFFICIENTLY TAPED TO PREVENT CONTACT OF CONDUCTING PARTS TO METER SOCKET ENCLOSURE AND ANY COMPONENTS. ALL SPLICES MUST BE SERVICE ENTRANCE RATED IN LINE TYPE (EX. ILSCO PBT SERIES OR EQUIVALENT). NO SPLIT BOLT SPLICES ARE ALLOWED.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 9-20-18
DRWN. _____ DSGN. _____ APPD. _____	UNDERGROUND SERVICE FROST LOOP REPAIR	ISSUE
		APP.
		APP.



ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 5-1-15
DRWN. _____ CLEAR _____ ENGR. _____ APPD. _____	SECONDARY METERING INSTALLATION TO SUPPLY POLE MOUNTED COMMUNICATIONS CO. EQUIPMENT	ISSUE _____ APP. _____ APP. _____

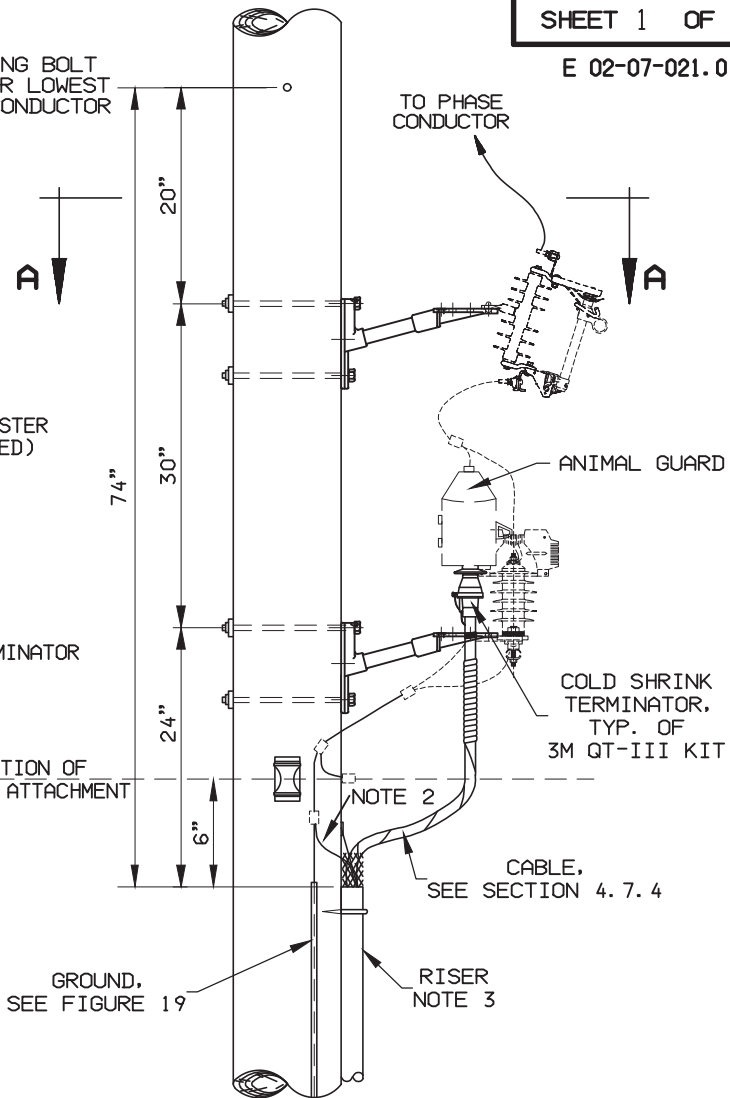
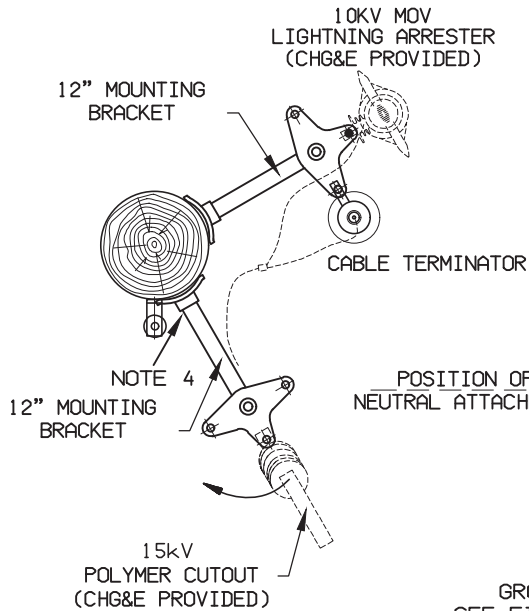
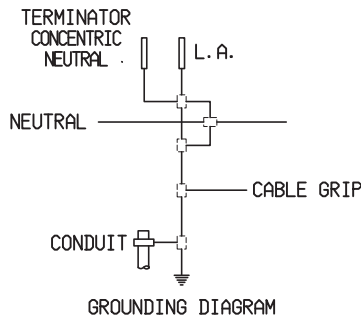


NOTES :

1. TWO #10 OUTDOOR INSULATED STRANDED COPPER LEADS. CUSTOMER TO INSTALL IN CONDUIT COMPLETE WITH SUFFICIENT EXCESS CONDUCTOR COILED AT TOP OF CONDUIT TO REACH SECONDARY. TOP OF CONDUIT TO BE TEMPORARILY SEALED TO KEEP MOISTURE OUT. CONNECTION TO SECONDARY TO BE MADE BY CENTRAL HUDSON ONLY.
2. CUSTOMER TO PROVIDE 1" CLAMP TYPE WEATHER HEAD AND 1" SCHEDULE 40 RIGID NONMETALLIC CONDUIT. CENTRAL HUDSON TO INSTALL.
3. CUSTOMER TO INSTALL 1" SCHEDULE 40 RIGID NONMETALLIC CONDUIT AND ADAPTER TO 40" FROM SECONDARY.
4. CONDUIT STRAPS AT NO MORE THAN 4' INTERVALS.
5. LOCKABLE WEATHERPROOF ENCLOSURE (NEMA 3R) WITH 1-20 AMP SINGLE POLE BREAKER WITH HIGH INTERRUPTING CAPACITY (22K AIC MIN. ). ENCLOSURE SHALL BE BONDED TO POLE DOWN GROUND WHEN AVAILABLE OR GROUNDED PER THE NATIONAL ELECTRICAL CODE. CENTRAL HUDSON CONTROL UNIT (30-15-496) WITH APPROPRIATE TWIST LOCK PHOTOCELL MAY BE USED IN LIEU OF THIS ASSEMBLY FOR DECORATIVE LIGHTING.
6. WEATHERPROOF, GROUND-FAULT CIRCUIT-INTERRUPTER, CONVENIENCE OUTLET 120V-20A SINGLE RECEPTACLE FACING DOWN.
7. ALL INSTALLATIONS SHALL REQUIRE PRIOR APPROVAL FROM CENTRAL HUDSON.

ELECTRIC STANDARDS	<b>CENTRAL HUDSON GAS &amp; ELECTRIC CORP.</b>	DATE 5-1-15
DRWN. _____	INSTALLATION OF CONVENIENCE OUTLET ON DISTRIBUTION POLE WITH SECONDARY FOR DECORATIVE LIGHTING AND OTHER SMALL 120V LOADS	ISSUE
CLEAR _____		APP.
ENGR. _____		APP.
APPD. _____		

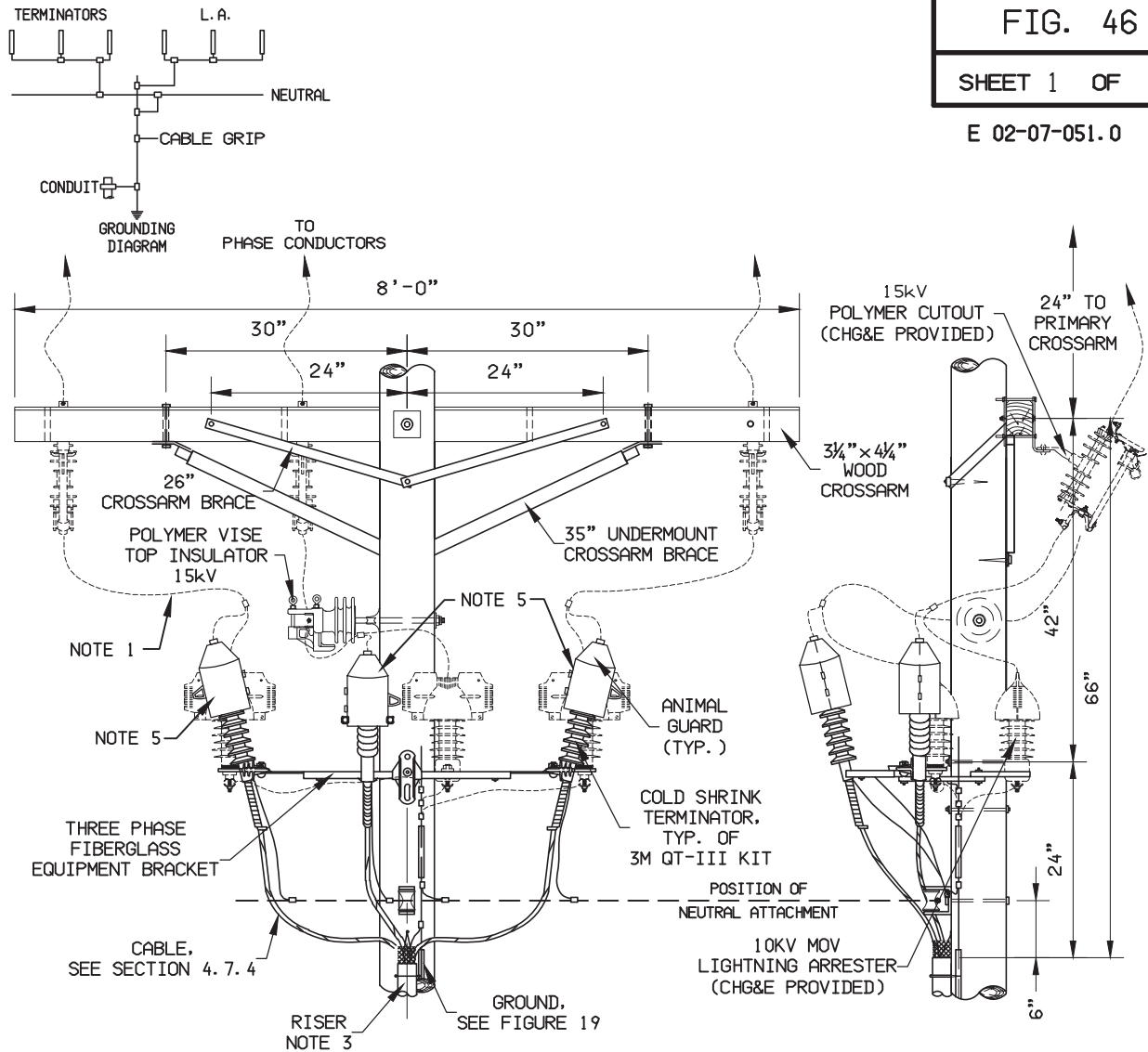




NOTES:

1. COMPANY SHALL ENERGIZE THE TERMINATION. INSTALLATION OF ALL MATERIAL AND ALL OTHER WORK SHALL BE BY CUSTOMER ON CUSTOMER OWNED POLES.
2. LEAD BETWEEN CONCENTRIC NEUTRAL AND SYSTEM NEUTRAL SHALL BE ELECTRICALLY EQUIVALENT (AMPACITY) TO THE CONCENTRIC NEUTRAL:
  - 15kV #2 AL URD CABLE WITH 10-#14 AWG CONCENTRIC NEUTRAL- USE #4 CU. ON SPACER CABLE POLES, CONNECT TO BOTH MESSENGER AND SECONDARY NEUTRAL (IF ANY).
  - 15kV 4/0 AL URD CABLE WITH 20-#12 AWG CONCENTRIC NEUTRAL - USE 1/0 CU. ON SPACER CABLE POLES, CONNECT TO BOTH MESSENGER AND SECONDARY NEUTRAL (IF ANY).
3. MINIMUM RECOMMENDED CONDUIT SIZE: 2 INCH. FIRST 8-10 FT, INCLUDING SWEEP, MUST BE RMC. USE PVC FOR ADDITIONAL SECTIONS. SEE FIG. 21 FOR INSTALLATION DETAILS.
4. RISER MAY BE OFFSET IN A QUARTER IF NECESSARY TO CLEAR OBSTRUCTIONS (SUCH AS A SECONDARY NEUTRAL).
5. HARDWARE TO BE 5/8" AND GALVANIZED. USE DOUBLE COIL SPRING WASHERS ON ALL POLE MOUNTED HARDWARE.
6. THE COMPANY MAINTAINS 34.5kV DISTRIBUTION SYSTEMS IN THE TOWNS OF HUNTER, JEWETT & LEXINGTON. COORDINATE WITH THE COMPANY IF 34.5kV EQUIPMENT IS REQUIRED PRIOR TO INSTALLATION WHERE WORKING IN THESE LOCATIONS. IF 34.5kV EQUIPMENT IS REQUIRED, SEE FIGURE 47.

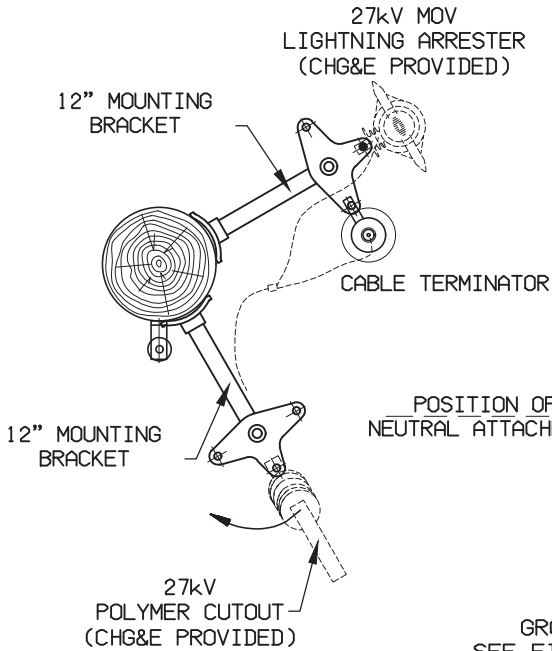
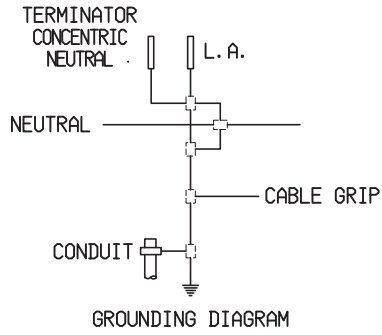
ELECTRIC STANDARDS	<b>CENTRAL HUDSON GAS &amp; ELECTRIC CORP.</b>	DATE 8/30/23
DRWN. GC	CUSTOMER POLE - 7.62kV SINGLE PHASE RISER FOR EXTRUDED CONCENTRIC CABLE	ISSUE 1
CLEAR _____		APP. _____
ENGR. _____		APP. _____
APPD. _____		



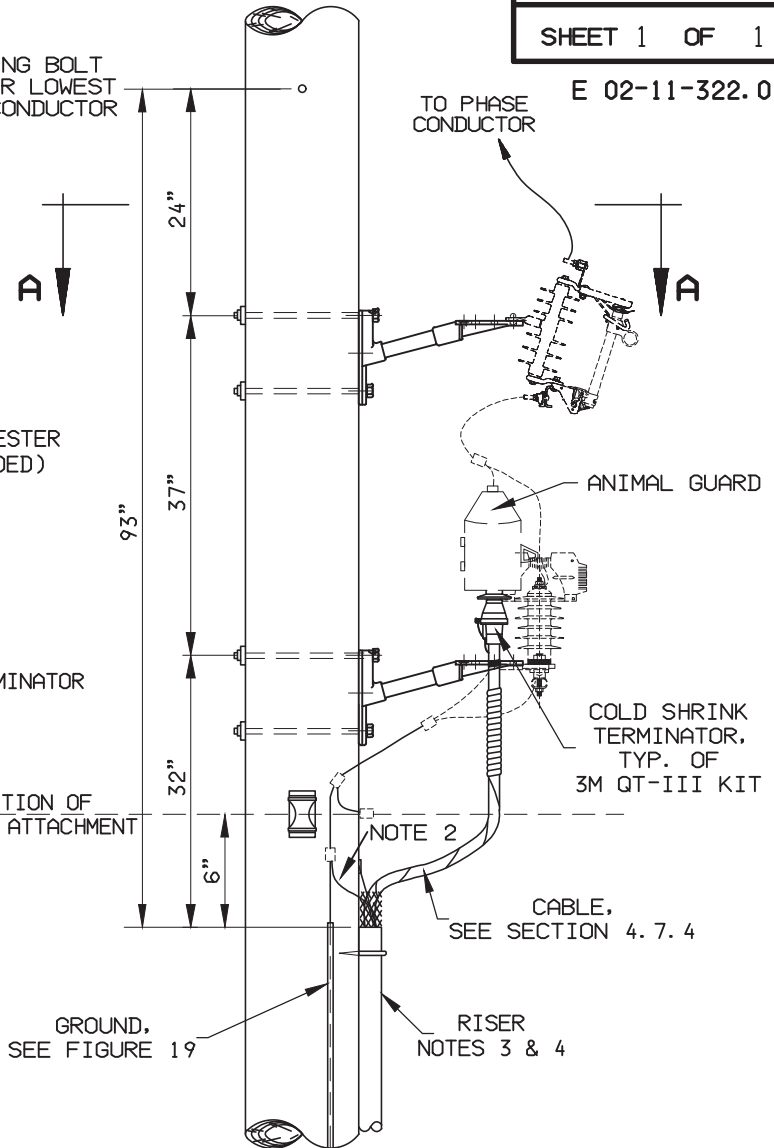
**NOTES**

1. COMPANY SHALL ENERGIZE THE TERMINATION. INSTALLATION OF ALL MATERIAL AND ALL OTHER WORK SHALL BE BY CUSTOMER ON CUSTOMER OWNED POLES.
2. LEAD BETWEEN CONCENTRIC NEUTRAL AND SYSTEM NEUTRAL SHALL BE ELECTRICALLY EQUIVALENT (AMPACITY) TO THE CONCENTRIC NEUTRAL:
  - 15kV #2 AL URD CABLE WITH 10-#14 AWG CONCENTRIC NEUTRAL- USE #4 CU. ON SPACER CABLE POLES, CONNECT TO BOTH MESSENGER AND SECONDARY NEUTRAL (IF ANY).
  - 15kV 4/0 AL URD CABLE WITH 20-#12 AWG CONCENTRIC NEUTRAL- USE 1/0 CU. ON SPACER CABLE POLES, CONNECT TO BOTH MESSENGER AND SECONDARY NEUTRAL (IF ANY).
3. CONDUIT FILL SHALL NOT EXCEED 40%. FIRST 8-10 FT, INCLUDING SWEEP, MUST BE RMC. USE PVC FOR ADDITIONAL SECTIONS. SEE FIG. 21 FOR INSTALLATION DETAILS.
4. HARDWARE TO BE 5/8" AND GALVANIZED. USE DOUBLE COIL SPRING WASHERS ON ALL POLE MOUNTED HARDWARE.
5. ANIMAL GUARDS MUST BE INSTALLED FOLLOWING MANUFACTURER RECOMMENDATIONS ON TERMINATOR TO PROTECT AGAINST ANIMAL CONTACT.
6. THE COMPANY MAINTAINS 34.5kV DISTRIBUTION SYSTEMS IN THE TOWNS OF HUNTER, JEWETT & LEXINGTON. COORDINATE WITH THE COMPANY IF 34.5kV EQUIPMENT IS REQUIRED PRIOR TO INSTALLATION WHERE WORKING IN THESE LOCATIONS. IF 34.5kV EQUIPMENT IS REQUIRED, SEE FIGURE 48.

ELECTRIC STANDARDS	<b>CENTRAL HUDSON GAS &amp; ELECTRIC CORP.</b>	DATE 8/30/23
DRWN. <u>GC</u>	CUSTOMER POLE - 13.2kV THREE PHASE RISER FOR EXTRUDED CONCENTRIC NEUTRAL CABLE	ISSUE 1
CLEAR _____		APP. _____
ENGR. _____		APP. _____
APPD. _____		



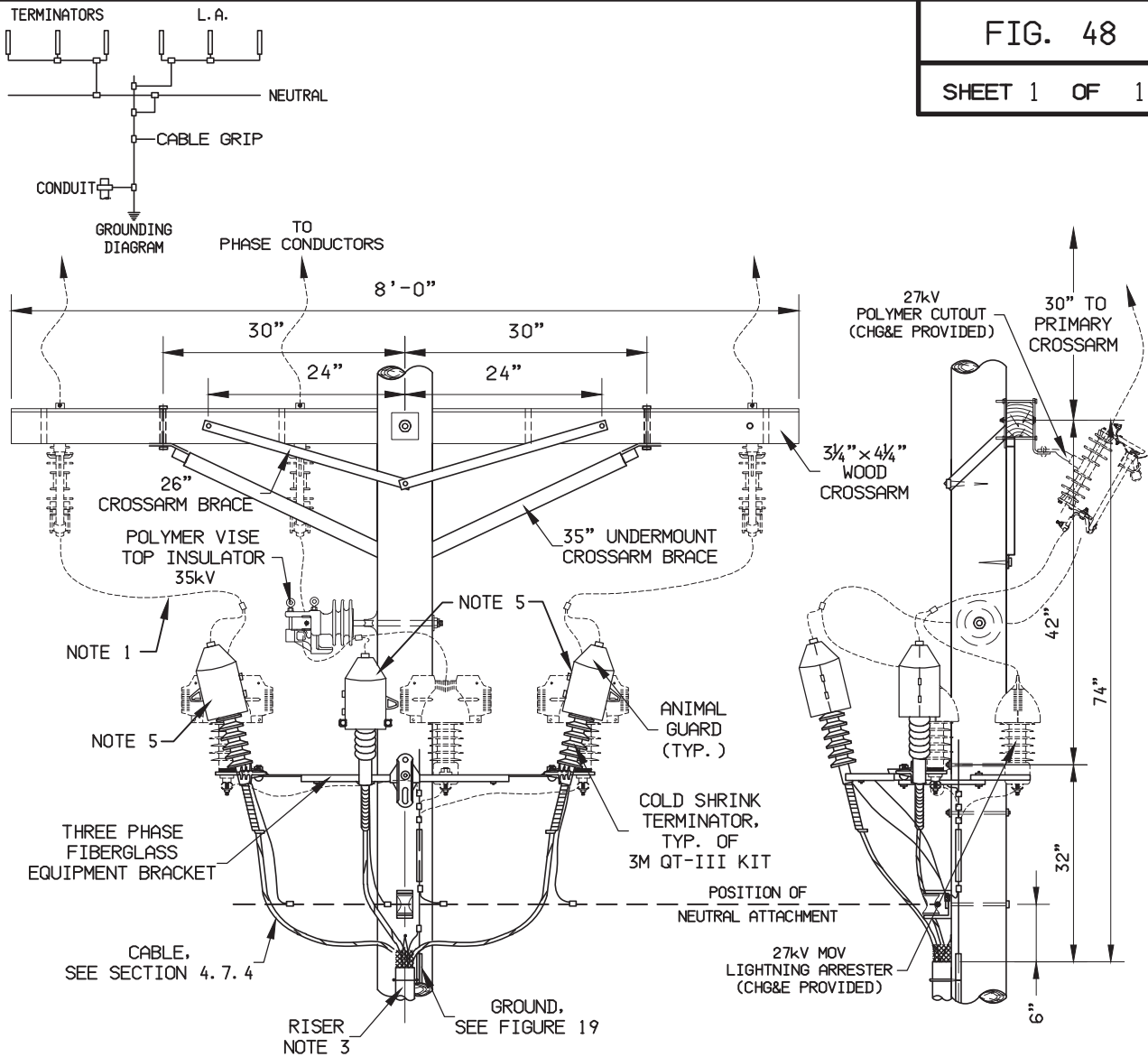
SECTION A-A



NOTES

1. COMPANY SHALL ENERGIZE THE TERMINATION. INSTALLATION OF ALL MATERIAL AND ALL OTHER WORK SHALL BE BY CUSTOMER ON CUSTOMER OWNED POLES.
2. LEAD BETWEEN CONCENTRIC NEUTRAL AND SYSTEM NEUTRAL SHALL BE ELECTRICALLY EQUIVALENT (AMPACITY) TO THE CONCENTRIC NEUTRAL:  
35kV 1/0 AL URD CABLE WITH 16-#14 AWG CONCENTRIC NEUTRAL- USE #2 CU.  
ON SPACER CABLE POLES, CONNECT TO BOTH MESSENGER AND SECONDARY NEUTRAL (IF ANY).
3. MINIMUM RECOMMENDED CONDUIT SIZE: 2 INCH. FIRST 8-10 FT, INCLUDING SWEEP, MUST BE RMC. USE PVC FOR ADDITIONAL SECTIONS. SEE FIG. 21 FOR INSTALLATION DETAILS.
4. RISER MAY BE OFFSET IN A QUARTER IF NECESSARY TO CLEAR OBSTRUCTIONS (SUCH AS A SECONDARY NEUTRAL).
5. HARDWARE TO BE 5/8" AND GALVANIZED. USE DOUBLE COIL SPRING WASHERS ON ALL POLE MOUNTED HARDWARE.

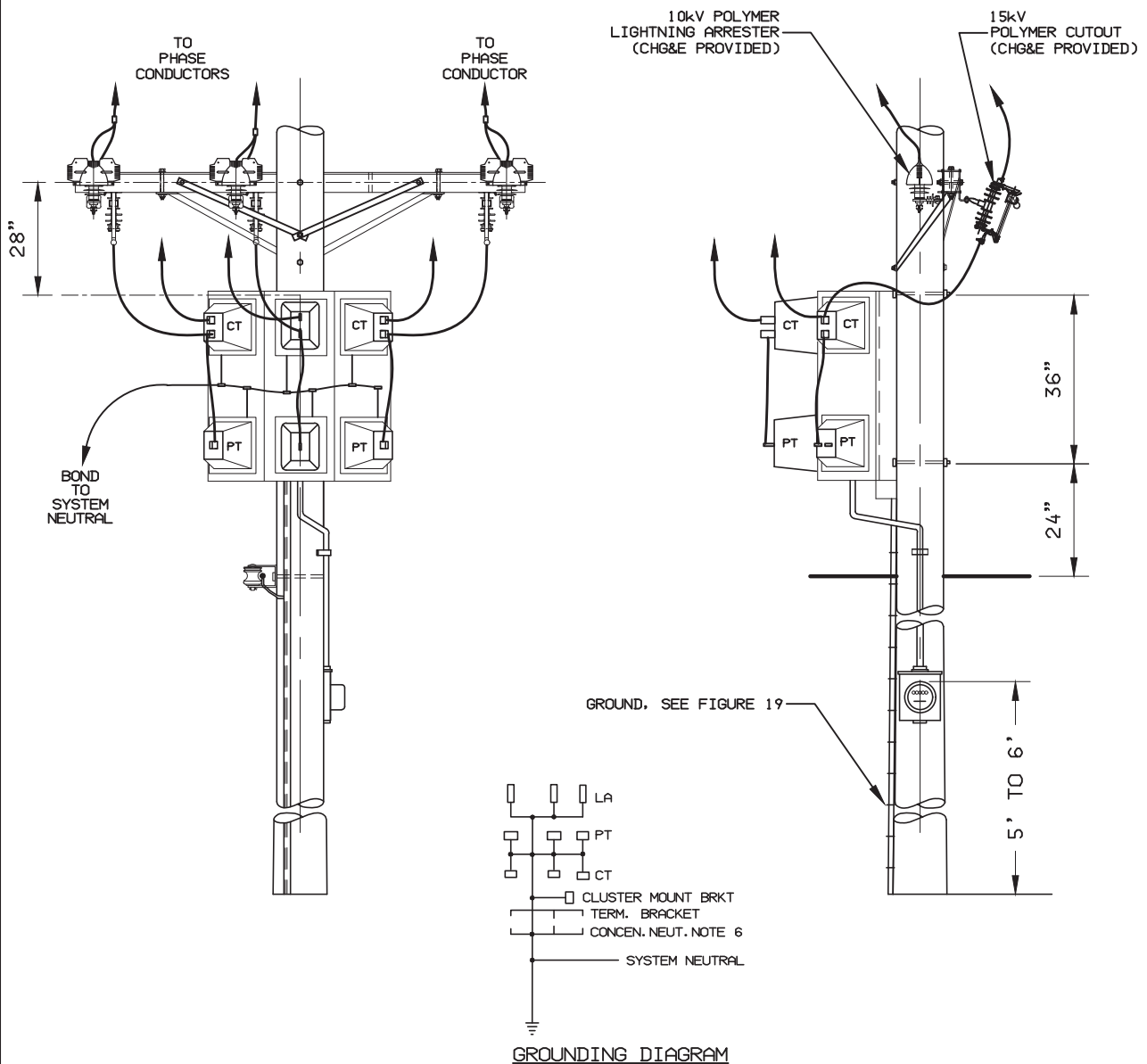
ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 8/22/23
DRWN. GC CLEAR _____ ENGR. _____ APPD. _____	CUSTOMER POLE - 19.9kV SINGLE PHASE RISER FOR EXTRUDED CONCENTRIC NEUTRAL CABLE	ISSUE 1 APP. _____ APP. _____



**NOTES**

1. COMPANY SHALL ENERGIZE THE TERMINATION. INSTALLATION OF ALL MATERIAL AND ALL OTHER WORK SHALL BE BY CUSTOMER ON CUSTOMER OWNED POLES.
2. LEAD BETWEEN CONCENTRIC NEUTRAL AND SYSTEM NEUTRAL SHALL BE ELECTRICALLY EQUIVALENT (AMPACITY) TO THE CONCENTRIC NEUTRAL:  
 35kV 1/0 AL URD CABLE WITH 16-#14 AWG CONCENTRIC NEUTRAL- USE #2 CU.  
 ON SPACER CABLE POLES, CONNECT TO BOTH MESSENGER AND SECONDARY NEUTRAL (IF ANY).
3. CONDUIT FILL SHALL NOT EXCEED 40%. FIRST 8-10 FT, INCLUDING SWEEP, MUST BE RMC. USE PVC FOR ADDITIONAL SECTIONS. SEE FIG. 21 FOR INSTALLATION DETAILS.
4. HARDWARE TO BE 5/8" AND GALVANIZED. USE DOUBLE COIL SPRING WASHERS ON ALL POLE MOUNTED HARDWARE.
5. ANIMAL GUARDS MUST BE INSTALLED FOLLOWING MANUFACTURER RECOMMENDATIONS ON TERMINATOR TO PROTECT AGAINST ANIMAL CONTACT.

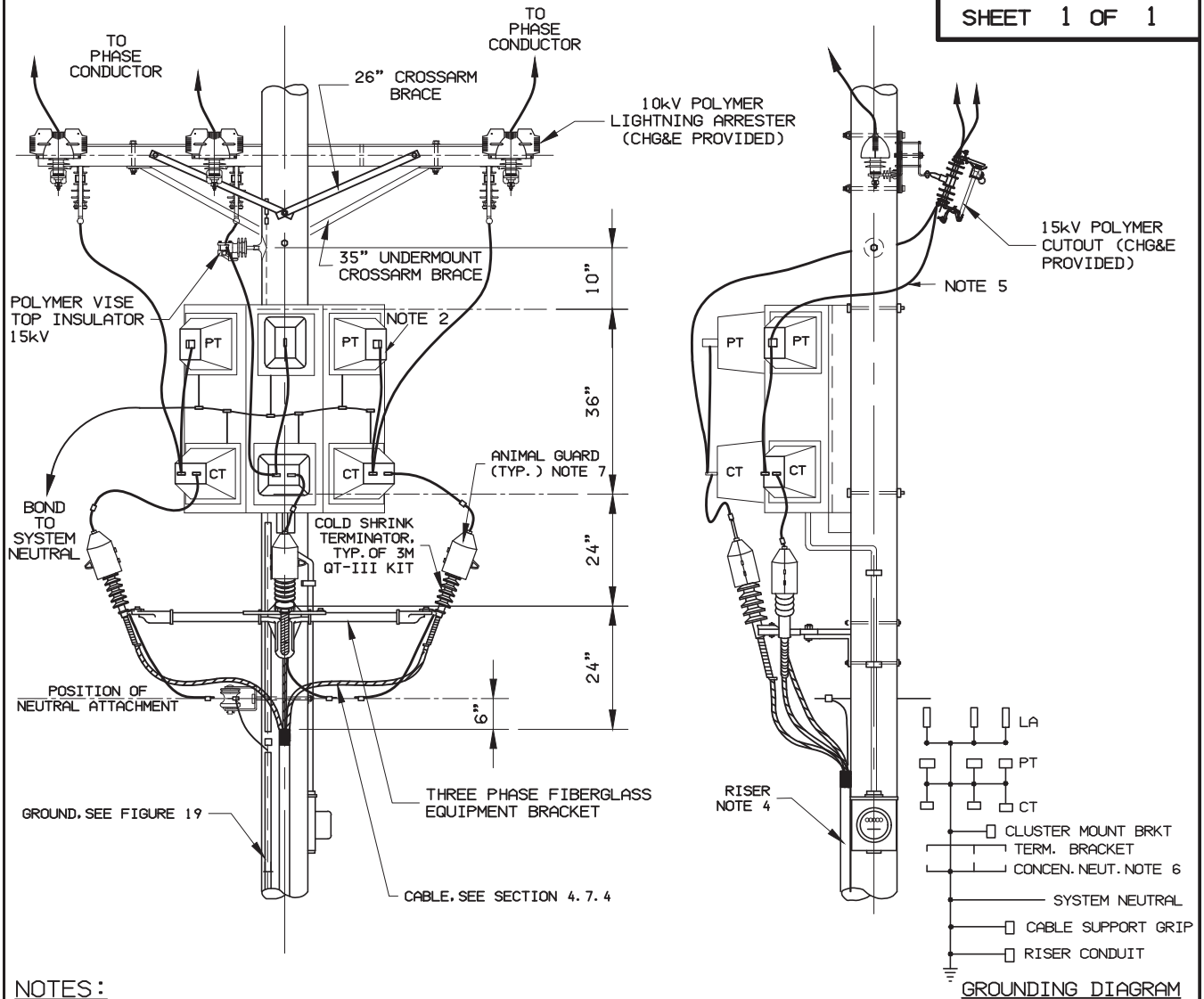
ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 8/22/23
DRWN. GC CLEAR ENGR. APPD.	CUSTOMER POLE - 34.5kV THREE PHASE RISER FOR EXTRUDED CONCENTRIC NEUTRAL CABLE	ISSUE 1 APP. APP.



**NOTES:**

1. COMPANY SHALL SUPPLY CUTOUTS, ARRESTERS, METER TEST SWITCHES, CURRENT AND POTENTIAL TRANSFORMERS, METER WIRE, CT/PT MOUNTING CLUSTER, AND CONDUIT. COMPANY WILL ENERGIZE THE METER. CUSTOMER SHALL PROVIDE THE POLE, METER PAN, CROSSARM, AND GROUNDING ELECTRODE(S).
2. HARDWARE TO BE 5/8" AND GALVANIZED. USE DOUBLE COIL SPRING WASHERS ON ALL POLE MOUNTED HARDWARE.
3. THE COMPANY MAINTAINS 34.5KV DISTRIBUTION SYSTEMS IN THE TOWNS OF HUNTER, JEWETT, & LEXINGTON. COORDINATE WITH THE COMPANY IF 34.5KV EQUIPMENT IS REQUIRED PRIOR TO INSTALLATION WHERE WORKING IN THESE LOCATIONS.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 9/18/23
DRWN. GC	CUSTOMER POLE - 13.2kV THREE PHASE PRIMARY METERING INSTALLATION	ISSUE 1
CLEAR _____		APP. _____
ENGR. _____		APP. _____
APPD. _____		



NOTES:

- COMPANY SHALL SUPPLY CUTOUTS, METER TEST SWITCHES, CURRENT AND POTENTIAL TRANSFORMERS, METER WIRE, CT/PT MOUNTING CLUSTER, AND CONDUIT. COMPANY WILL ENERGIZE THE METER AND TERMINATIONS. POLE INSTALLATION AND ALL OTHER WORK SHALL BE BY CUSTOMER ON CUSTOMER OWNED POLES.
- PT'S MAY BE ROTATED 90° IF NECESSARY.
- HARDWARE TO BE 5/8" AND GALVANIZED. USE DOUBLE COIL WASHERS ON ALL POLE MOUNTED HARDWARE.
- MINIMUM CONDUIT SIZE: 4 INCH. CONDUIT FILL SHALL NOT EXCEED 40%
- CONDUCTOR FROM OPEN WIRE TO TERMINATOR SHALL BE COVERED CONDUCTOR AND SHALL BE AT LEAST ELECTRICALLY EQUIVALENT (AMPACITY) TO RISER CABLE CONDUCTOR. FOR EXAMPLE, USE #2 CU FOR 1/0 AL CABLE.
- LEAD BETWEEN CONCENTRIC NEUTRAL AND SYSTEM NEUTRAL SHALL BE ELECTRICALLY EQUIVALENT (AMPACITY) TO THE CONCENTRIC NEUTRAL:
  - 30-55-349 & 30-55-420: 15KV #2 AL URD CABLE WITH 10-#14 AWG CONCENTRIC NEUTRAL - USE #4 CU.
  - 30-55-361: 15KV 4/0 AL URD CABLE WITH 20-#12 AWG CONCENTRIC NEUTRAL - USE 1/0 CU.
- ANIMAL GUARDS MUST BE INSTALLED FOLLOWING MANUFACTURER RECOMMENDATIONS ON TERMINATOR TO PROTECT AGAINST ANIMAL CONTACT.
- THE COMPANY MAINTAINS 34.5KV DISTRIBUTION SYSTEMS IN THE TOWNS OF HUNTER, JEWETT & LEXINGTON. COORDINATE WITH THE COMPANY IF 34.5KV EQUIPMENT IS REQUIRED PRIOR TO INSTALLATION WHERE WORKING IN THESE LOCATIONS.

ELECTRIC STANDARDS	CENTRAL HUDSON GAS & ELECTRIC CORP.	DATE 9/18/23
DRWN. GC CLEAR ENGR. APPD.	CUSTOMER POLE - 13.2kV THREE PHASE PRIMARY METERING INSTALLATION - RISER POLE TO OVERHEAD	ISSUE 1 APP. APP.

## Electrical Inspections Are A Vital Public Safety Function

**Inspections Can Save Lives and Property.** Inspections by qualified electrical inspectors reduce the potential for fire and shock hazards due to improperly selected, applied or installed electrical products. Ensuring that equipment covered by the National Electrical Code® is properly selected, applied, and installed reduces shock and electrocution accidents and reduces property damage resulting from unsafe electrical installations.

**Inspections Mean Compliance with Laws.** To protect public safety, most states and localities require electrical installations to comply with the National Electrical Code®. Electrical inspections help confirm that electrical wiring and systems are installed according to Code and manufacturer's instructions.

**Inspections Check for Safe Products.** Most states and localities require electrical products to be listed by a recognized product safety certification organization. Electrical inspectors help confirm that properly certified products meeting U.S. safety standards are installed.

**Inspections Confirm that Qualified Installers are on the Job.** Uniform adoption of the latest edition of the NEC provides for consistency of code requirements across jurisdictions thereby facilitating standardization of installer training, proper installation, and ease of use by inspectors in evaluating the safety of the installation.

**No Public Funding.** Government funding isn't needed to pay for proper and thorough electrical inspections. The cost of inspections is usually covered by fees paid directly by installers. This vital public safety function doesn't have to cost taxpayers or cash-strapped governments a dime!

**Inspections Can Help Lower Insurance Premiums.** Property insurance premiums are generally lower in areas with strong building codes enforced by professional inspectors. That's because qualified electrical inspectors help protect lives and property.

### The Electrical Code Coalition: An Industry Coalition Supporting Qualified Electrical Inspectors



Thomas R. Kuhn, President  
Edison Electric Institute



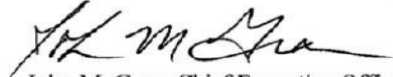
Larry Mullins, Executive Vice President and CEO  
Independent Electrical Contractors



David E. Clements, CEO and Executive Director  
International Association of Electrical Inspectors



Edwin D. Hill, International President  
International Brotherhood of Electrical  
Workers



John M. Grau, Chief Executive Officer  
National Electrical Contractors Association



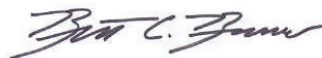
Evan R. Gaddis, President and CEO  
National Electrical Manufacturer's Association



James M. Shannon, President and CEO  
National Fire Protection Association®



Keith Williams, President and CEO  
Underwriters Laboratories Inc.



Brett Brenner, President  
Electrical Safety Foundation Intl. (ESFI)



*Central Hudson's Electric Service Area*