BOROUGH OF MIDDLETOWN

Electric Service & Meter

Installation Requirements

Revision C - July 21, 2004
Borough of Middletown Electric Light Department

FORWARD

This manual covers the general conditions that apply to furnishing electric service from the Borough of Middletown's electrical distribution system. Any electrical installations under the jurisdiction of this document but not in compliance with this document will not be connected to the Borough of Middletown's electrical distribution system.

The requirements published in this manual supersede any requirements that have been previously published by the Borough. This document shall be used in accordance with Chapter 142 "Electrical Standards" and Chapter 144 "Electric Service" of the Middletown Code(latest edition). Changes in these requirements may be made from time to time and will be published in the next revision of the manual. Due to rapid changes in the electric industry, modifications may have to be implemented prior to the publication of the next revision to this manual. In these cases, you will be informed of the changes by the Borough of Middletown Electric Department personnel at the time of your permit approval.

Any conditions not covered by this manual will be handled on a case-by-case basis. Under these circumstances, the electrical service and metering requirements will be established by the Borough of Middletown Electric Superintendent or a party working under the direction of the Superintendent. All decisions will be final.

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Section 1 - Introduction

1. Purpose. This manual presents information and general specifications relative to the introduction and use of electricity supplied from the Borough's lines. This manual is intended as a guide in making electrical installations in order to protect the interests of our customers and to comply with regulations which experience has shown to be necessary for safe, adequate, and satisfactory service.

2. Scope. The information and specifications included in this manual cover conductors and equipment connecting the Borough's electric supply system to the Customer's. It covers only those points in which the Customer, the Architect, the Engineer, the Electrical Contractor, and the Borough are mutually interested. It is not a complete set of rules governing the installation of electric wiring and equipment.

3. Cooperation. It is the intent of the Borough to provide and maintain dependable, safe, and satisfactory electric service in a courteous and efficient manner. Cooperation of customers and their agents is appreciated. Preliminary information furnished to the Borough early in the development of plans leading to new or increased electric service will aid in proper determination of requirements and scheduling of service work. Cooperation of all interested parties and strict adherence to the information in this manual will expedite satisfactory introduction of the electric service.

4. Codes. These specifications are a supplement to the National Electric Code(NFPA 70) and the National Electrical Safety Code(ANSI C2), but they are not a substitute for these codes. All new installations and alterations or additions to existing installations shall comply with the latest edition of the National Electric Code and the National Electrical Safety Code, with all applicable Borough ordinances, and with this manual. Although this manual may elaborate on the requirements of the National Electric Code or applicable Borough ordinances, they shall not be interpreted as conflicting with either.

5. Customer Responsibility. The Customer has the responsibility to maintain customer owned wiring and equipment in a safe operating condition. Wiring of adequate capacity and convenient arrangement is essential to secure the full benefits of electric service. This is most important for commercial and industrial customers where an inadequate installation could result in production limitations, power losses, and excessive maintenance costs.

The Customer should always obtain competent advice on the design and choice of materials for a new electric service installation or for an upgrade to an existing service. ***Any significant increases or changes in connected load at the service location shall be reported to the Borough.***

6. Electric Service Inspection. The Borough Electric Department checks only the wiring and equipment from the service drop or lateral to and including the service equipment and meter location for general compliance with this manual. Inspection of Customer's wiring

shall be performed in accordance with ordinances contained in Chapter 142 " Electrical Standards" and Chapter 144 "Electric Service."

7. Revisions. This manual is subject to revision without notice and will be revised or amended as required by developments of the industry to protect the mutual interests of the Customer and the Borough. The latest revisions should always be used.

Section 2 - Definitions

1. Definitions. For the purpose of these rules and regulations, the following terms or words used herein, unless otherwise expressly stated, shall have the meanings hereinafter set forth. Words used in the present tense include the future; words in the masculine gender include the feminine and the neuter; the singular number include the plural, and the plural includes the singular.

Applicant: The person, firm, corporation, association, partnership, Customer, or Customer's agent, which applies for an electric service and meter installation or modification.

Borough: The Borough of Middletown, Pennsylvania; the Borough of Middletown Electric Department.

Borough Council: The Council of the Borough of Middletown.

Borough Electric Department: The electric department of the Borough of Middletown.

Connected Load: The combined rated capacity of all the Customer's lights, motors or other energy consuming devices.

Cost or Expense: The cost of all materials and equipment, labor and other definite charges applicable thereto, plus a reasonable percentage for engineering, purchasing, the use of construction equipment and other costs of a general character, involved in connection with the work to be performed.

Customer: The corporation, association, partnership, individual or legal entity being served by or using electric service supplied by the Borough or the Architect, Engineer, or Electrical Contractor acting as the Customer's agent.

Customer's Installation: All wire, cutouts, switches, panelboards, appliances and apparatus of every kind and nature used in the connection with or forming a part of an installation utilizing electric energy for any purpose ordinarily located on the Customer's side at the point of delivery and including the service leads, whether installation is owned outright by the Customer or used by the Customer under lease, or otherwise.

Easement: A right granted by a property owner or their agent for a specific use of a defined area of said owner's property.

Mobile Home: A vehicular, portable structure built on a chassis and designed to be used without a permanent foundation as a dwelling when connected to water, sanitation, and power utilities.

NEC, National Electrical Code: The standard of the National Board of Fire Underwriters as recommended by the National Fire Protection Association, in effect at any given time for electrical wiring and apparatus which have been adopted by the United States of America Standards Institute.

National Electrical Safety Code: The rules published by the National Bureau of Standards applying to grounding, installation, maintenance, and operation of electric supply, communication, utilization equipment, lines and facilities which have been adopted as standard by the United States of America Standards Institute.

Point of Delivery: That single point at which the service supply lines of the Borough terminate and the Customer's facilities for receiving the service begin.

Premises: A building, group of buildings and/or contiguous parcels of land under the control of a single customer and used for a single purpose. Contiguous parcels of land separated by a public road are considered to be separate premises. Separate buildings and adjoining buildings in a group of buildings, which are directly accessible to the public and function independently from the others, are separate premises. A building is defined by the National Electric Code as a structure which stands alone or which is cut off from adjoining structures by fire walls with all openings therein protected by approved fire doors.

Right-of-Way: The right of ingress or egress over and/or to the easement.

Service: The conductors and equipment for delivering energy from the Borough's electric supply system to the wiring system of the premises being served.

Service Connection: A service connection is one service drop or lateral and it's associated service entrance.

Service Drop: The overhead service conductors between the Borough's last pole or aerial support and the Customer's first point of attachment to the building or other structure.

Service Entrance: That part of the installation from the point of attachment or termination of the service drop or lateral to and including the service equipment on the Customer's premises.

Service Entrance Conductors: The service conductors or cable which extend from the point of attachment or termination of the service drop or lateral to the terminals of the service equipment.

Service Equipment: The necessary equipment usually consisting of a circuit breaker or switch and fuses and their accessories, located near the point of entrance of supply conductors to a building and intended to constitute the main control and means of cutoff for the supply to the premises.

Service Lateral: A system of underground conductors and equipment for delivering electricity from the Borough's distribution system to the wiring system of a building or premise.

Temporary Service: Service to be used for a limited time for construction, exhibits, decorative lighting or similar purposes, or service to non-permanent structures.

URD - Underground Residential Distribution: The terminology used to describe the placement below ground of the Borough's electric distribution system(except transformers and switchgear) and Customer's service laterals in residential developments.

Utility: Borough of Middletown Electric Department

Utility Pole: A Utility owned pole or a pole owned by another utility company whom the Utility has an agreement or understanding for joint use of poles.

Voltage: Numerical voltages mentioned are to be construed as nominal values.

Wire Sizes: All wire sizes are based on the American Wire Gauge(AWG) Standard and National Electrical Code current carrying capacities for copper and aluminum conductors.

Section 3 - General Information and Requirements

1. Application for Service. Application for service must be made to, and be accepted by the Borough before service will be furnished. The Customer shall complete an "Application for Electric Service" form available at Borough Hall, 60 W. Emaus Street, Middletown, PA 17057. The Customer shall inform the Borough as fully as possible of the nature of the equipment to be served and the size of the load to be served. Design drawings, including all pertinent electrical information, shall be supplied to the Borough for review if applicable or if requested by the Borough Electric Department. Before proceeding with wiring, the Contractor should determine that the point of delivery and meter location are in accordance with the requirements set forth in this manual. Typical illustration drawings are available for each type of electrical installation along with the "Application for Electric Service" forms.

2. Standard Types of Service Furnished. It is the Customer's responsibility to secure information pertaining to the types of service available before completing his electrical plans. All types of service are not available in the Borough and the Borough does not offer to supply non-standard type of services. All services are 60 hertz and all stated voltages are nominal. See Section 4, paragraph 3 for available service types.

3. Right to Reject Application. The Borough shall have the right to reject, for any valid reason, any application. The Borough may require either a contract, bonding for a suitable period of time, or pre-payment. The Borough may also require a contract establishing reasonable guarantees when construction or equipment expense is necessary to furnish service.

4. Permits. Application for permits must be made in accordance with Chapter 142 "Electrical Standards" of the Middletown Code

5. Additional Load. The capacity of the service connection, transformers, meters and equipment supplied by the Borough is based on the type of equipment and estimated loads provided by the Customer at the time of the application for service. Because this capacity is limited, no additions to the Customer's equipment or load will be allowed after establishment of the service without the consent of the Borough. The Borough shall be notified, well in advance of the contemplated change, in order to permit arrangements for any necessary alterations to the Borough's service and metering facilities.

6. Right of Way and Access to Property. Borough representatives, who are properly identified, shall have full and free access to the Customer's premises at all reasonable times for the purposes of reading meters, for inspection and repairs, for removal of Borough property, or for any purpose incident to the service. The Customer should immediately communicate with the Borough in case of any question as to the authority or credentials of Borough Representatives. The Customer shall provide without charge, a legal right-of-way for such lines across property owned or controlled by the Customer. The right-of-way shall be in accordance with the requirements of the Borough, as deemed

necessary to furnish the service. When premises of the Customer are so located that right-of-way across the property of another is required for the supply of service, the Customer shall re-imburse the Borough for any and all special, or rental charges that may be made for such right-of-way permit.

7. Data Acquisition and Value Added Services: The Borough reserves the right to utilize the Customer's phone service for data acquisition purposes including, but not limited to, outage notification, load management, and home security. The use of the Customer's service shall not interfere or disrupt the Customer's quality of service and shall not result in any charges to the Customer for the Borough's use of the phone service. For new construction, the Customer shall coordinate the electric point-of-service with the telephone point-of-service to minimize the physical distance between these locations.

Section 4 - Service Limitations

1. Standard Service. The Borough's standard service is single phase or three phase, 60 Hertz, alternating current. The Borough's distribution system is generally overhead and the normal method of supply is by overhead wires. Service is supplied by an underground service lateral from overhead distribution at the request of the Customer and in accordance with Section 5. In areas where the Borough has or may establish underground distribution, overhead service will not be supplied.

2. Single Point Delivery. Normally only one service will be made available to a Customer's premises. The Borough will furnish a separate point of delivery to the premises when requested by the Customer for a location remote from the present point of delivery or for an isolated load requiring a different supply voltage, when such separate point of delivery is justified in the Borough's opinion and is in accordance with the National Electrical Code, Article 230 - "Services". A separate point of delivery is provided only under a separate contract and rate application. The use of service at two or more separate points will be separately metered and billed. Combined billing is not allowed. The Customer must guarantee a revenue from each additional service equal to the estimated cost of installing and removing all facilities for the service, less salvage value.

3. Character of Service. The Borough will designate the character of electric service. The service voltage, 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 ***existing*** at the Customer's location.

Secondary or low voltage service of the following types will be supplied by the Borough only where available:

Phase	No. of Wires	Nominal Voltage	Demand
1	2	120	3 KW max.
1	3	120/208	
1	3	120/240	150 KVA max
3	4	120/240	
3	4	120/208	
3	4	277/480	75 KVA min.

4. Service Above 600 Volts. High voltage service is supplied at 13,200 volts, 3 phase 4 wire. The Customer installs, owns, and maintains all equipment necessary to transform the energy from line voltage.

5. Temporary Service. The Borough will supply a temporary service to be used for a limited time period or to supply a service of doubtful permanency. An example is a service to a builder at a construction site. A temporary service will be supplied only where capacity is readily available and it will not interfere in any way with service to other Customers. The Borough will install and remove the indicated facilities and make connection to the Customer's service point. All temporary facilities shall be in accordance with this manual and will be subject to inspection in accordance with ordinances contained in Chapter 142 "Electrical Standards" and Chapter 144 "Electric Service."

The cost of connection and disconnection of the service supply and of any equipment and extension of facilities required to furnish the temporary service shall be paid by the Customer, but such payment shall not confer upon, nor entitle the Customer to any title to, or right of property in, such facilities and equipment.

6. Service Continuity. The Borough will use reasonable diligence to provide a continuous, regular and uninterrupted supply of service, but, should the supply be interrupted by the Borough for the purpose of making repairs, changes, or improvements, in any part of it's system for the general good of the service or safety of the public, or should the supply of service be interrupted, or fail, by reason of accident, strike, legal process, state interference, acts of God, or any cause whatsoever, the Borough shall not be liable for damages, direct or consequential, resulting from such interruption or failure of any kind.

7. Service Connections. All connections between the Borough's wires and the Customer's wires will be made and removed exclusively by the Borough Electric Department employees.

8. Construction and Route of the Service. The type of construction and the route of the service connection will be determined by the Borough and the Customer. Services will not be run from building to building. When crossing private property, service drop wires should not be carried over buildings and shall not be carried over swimming pools.

9. Customer Responsibility. The Customer shall furnish, install, own, and maintain all service entrance conductors and service equipment.

10. Load Balance. The Customer shall balance his load so that a minimum of unbalanced current occurs. **See Section 8.**

11. Customer Owned Generation. The Borough shall be consulted before any generating equipment is connected to circuits which are, or may be supplied from the Borough's lines. **See Section 8.**

12. Special Equipment. Services for electric furnaces, welders, x-ray apparatus, large motors, and other types of equipment, which may interfere with satisfactory service to other customers, require special consideration. **See Section 8.**

13. Discontinued Service. The Borough reserves the right to discontinue service where equipment used by the Customer results in objectionable effects upon or interference with the operation of facilities of the Borough, it's Customers, or another electric utility, unless the Customer discontinues the use of such equipment or installs corrective equipment to overcome the objectionable effect or interference. The Borough also reserves the right to discontinue electric service in accordance with Chapter 144 "Electric Service", subparagraph 144-4 "Right of borough to terminate supply".

14. Unauthorized Attachment to Poles. The Borough forbids any unauthorized attachments to it's poles such as banners, signs, clothes lines, antennas, basketball hoops, lighting fixtures, etc. It forbids the use of its poles for placards, political posters or any advertising matter. The Borough will remove any such unauthorized attachments without notice ***and may prosecute such trespassing.***

15. Work on Borough Facilities. The Borough forbids any work by Contractors on it's poles or in it's manholes without specific ***written*** authorization.

Section 5 - Services

1. Overhead Service Connection from Overhead Distribution Lines - 600 V and Below

a. This is the standard type of electrical service. The Customer shall convey to the Borough the property right-of-way required for the Borough to install the necessary service equipment. The Borough will install at it's expense, in the conveyed right-of-way, its meter, all transformations, and the first span of the overhead service drop. The length of the first span is dependant on the required wire size and shall be determined as follows:

Service Drop	Recommended	Maximum
#4, #1/0 Triplex Aluminum and #2/0 or #4/0 Quadruplex Aluminum	100 feet	100 feet
Open 3 wire, #4/0 or 350 kcmil copper and 350 kcmil or 500 kcmil aluminum	50 feet	60 feet
Open 3 wire, 500 kcmil or larger copper and 750 kcmil aluminum	25 feet	60 feet
Open 4 wire, #4/0 or larger copper and 350 kcmil or larger aluminum	25 feet	60 feet

The Borough will determine the size service conductors to be installed in accordance with the information provided on the Customer's application for service.

b. The Customer will be required to bear the material and construction costs for service installation lengths exceeding the maximum lengths indicated or will be required to provide a Customer owned service and meter pole for termination of the Borough's facilities. If a pole is required because distribution facilities are located on the opposite side of street or highway, the Borough will bear the cost to extend the service across the street or highway.

c. The Borough will designate the point of attachment of the service drop on the Customer's building or service support at the most practical location accessible from the Borough's line and where the connection's to the Customer's service entrance conductors can be reached from a ladder placed on the ground. The Customer's support shall be located so the service span will be free from obstruction and will adequately support the size and weight of the conductors. The span shall meet all clearance specifications as required by the National Electrical Code and the National Electrical Safety Code. See Illustrations Nos. 1 and 2.

d. When the building construction does not lend itself to satisfactory anchorage for the service bracket, the Customer shall install additional reinforcement to support the service drop attachment. When the building is of insufficient height to provide adequate clearances for the service drop, the Customer furnishes, installs, and maintains a support of sufficient height to provide the necessary clearance. The extension shall be installed as shown in Illustration No. 3.

e. After the service has been established, any Customer requested change for the location of the service drop attachment that requires a change in the Borough's facilities will be made by the Borough at the Customer's expense. Whenever the Borough is required to make any change in the location of it's facilities, and in the point of delivery, to comply with Governmental requirements, the Customer shall make necessary changes in his wiring and service entrance at his expense.

f. When temporary service is required for construction purposes, the Customer provides a service entrance which meets all the requirements of a permanent service insofar as clearances, grounding, and safety are concerned. The temporary facilities shall be constructed as indicated on Illustration 21.

2. Underground Service Connection from Overhead Distribution Lines - 600 V and Below

When a customer normally supplied from the Borough's overhead distribution desires that the service wires be installed underground, the Borough will install, own, and maintain an underground service lateral from a Borough pole on or adjacent to the Customer's property to the point of delivery providing:

a. The Customer pays to the Borough it's estimated excess cost of the underground service over the estimated cost of normal overhead construction, plus any right-of-way or permit fees incurred by the Borough. The excess cost shall be determined by the Borough.

b. The Customer excavates, backfills, and restores the surface of the trench for the service lateral and furnishes and installs the specified size conduits for the Borough's service lateral cables. When the Borough elects to install direct buried cable, conduits will be required under roads, driveways, patios, or other paved areas. When Customer elects or is required to install conduit, the conduit shall be PVC Schedule 40, or threaded galvanized rigid conduit. See Illustration No. 5.

c. The Customer is responsible for piercing and sealing the wall where conduits enter the building.

d. The Customer furnishes, installs and maintains:

1. A meter trough with a PVC or threaded galvanized rigid conduit riser on the outside of the building for single-phase or polyphase service when the Borough specifies a self-contained meter. See Illustration No. 10.

2. A suitable housing for the instrument transformer metering equipment furnished by the Borough. The housing shall be installed in a location determined by the Borough. The Customer shall be responsible for installing the Borough provided instrument transformers. See Illustration No. 10.

e. Upon completion of the installation made in accordance with this manual and subject to the Borough's inspection, ownership of all conduits installed by the Customer on the line side of the point of delivery and not located in, on, or under buildings shall be conveyed to the Borough free-of-charge. The Borough will thereafter maintain these facilities at no cost to the Customer.

f. The replacement and/or installation of additional or larger than required conductors will be at the Customer's expense.

3. Secondary Voltage Delivery - High Voltage Underground Supply

a. When a Customer requests service at secondary voltage delivery but desires the Borough to install the transformer(s) in or in the vicinity of the Customer's building with the Borough's high voltage supply line installed underground, the Borough will supply this type of service at their discretion and under the terms and conditions specified below. The Borough uses several types of transformers to provide this service depending on the service characteristics, location, and construction method use. The Customer shall consult the Borough for the type of transformer that will be installed.

The Borough will furnish, install, and maintain the following electric facilities:

1. A terminal pole generally on the Customer's premises at a location where clearance for the overhead wires can be provided in accordance with the National Electrical Safety Code.

2. Line disconnecting equipment and protective equipment and the conduit riser and cable on terminal pole.

3. Underground cable between the terminal pole and the transformers.

4. Transformers, associated wiring and equipment.

5. The connections between the transformer(s) secondary terminals and the Customer's service entrance conductors when distribution class pole mount transformers are installed in a vault or on a pad.

6. The underground service lateral cables from the transformer to the point of delivery in or on a Customer's building for padmounted transformer installations with secondary metering not located at the transformer, For service installations where the Borough installs the secondary metering at the padmounted transformer, the point of delivery will be the transformer secondary bus and the Customer will be responsible for the service lateral conductors from the transformer to the service termination point on or inside the Customers building.

The Customer agrees to:

1. Pay the Borough the estimated cost of installing underground electrical facilities in excess of the cost of normal(overhead) construction, plus any excess right-of-way or permit fees incurred by the Borough.

2. Furnish and install, in accordance with the Borough's plans and specifications and/or direction, all mechanical facilities including underground conduits, protective barriers, and the transformer(s) pre-cast concrete foundation. This work will be subject to the Borough's inspection.

3. Upon completion of construction, ownership of all physical facilities installed by the Customer to the line side of the point-of-delivery, and not located in, on or under buildings, shall be conveyed to the Borough, free-of-charge. The Borough will thereafter maintain these facilities at no cost to the Customer. The Customer shall grant to the Borough a permanent right-of-way, without charge, that will perpetually provide ingress and egress to the right-of-way and the sole right to the use of the mechanical facilities.

b. The Customer and the Borough will choose the location of the transformer(s) foundation to permit free access via a suitable driveway or other area so the Borough can install, replace or remove transformer(s). This location will be chosen so future additions to the building will not block the access.

c. The Borough normally installs pad-mount type transformers on a pre-cast transformer foundation furnished and installed by the Customer. The location of the transformer shall be determined in accordance with the National Electrical Code, the National Electrical Safety Code, insurance guidelines ,and local codes. Whenever fire resistant barriers, enclosures, protective barriers, or other safeguards are required by any authority having jurisdiction, such safeguards are installed, owned, and maintained entirely by the Customer at his expense. Illustration No. 13 shows a foundation for a typical pad-mount transformer installation. In the event a vault is not feasible, the Electric Department Superintendent may elect to have the Customer provide a cast-in-place transformer foundation. In this event, the foundation shall be constructed in accordance with Illustration No. 14.

d. The point of delivery depends on the type and location of the transformer and metering installation

1. When the Borough installs underground service laterals from transformers, the point-of-delivery is where the service lateral cables terminate on the line side of the metering transformers or the customer's service entrance equipment.

2. When the Borough installs metering at the padmounted transformer and the Customer provides the service lateral conductors, the point -of-delivery is where the service lateral cables terminate on the low side transformer terminals.

e. The Borough generally provides only one service lateral to a premise. However, where the Borough determines that multiple service laterals are required, the Borough will designate the locations of the multiple service laterals.

f. The Customer furnishes, installs, and maintains an instrument transformer cabinet. The Borough supplies the instrument transformers and fittings. Instrument transformers and fittings to be installed by the Customer. If the Borough decides to install the metering in the padmounted transformer, the Borough will furnish and install the instrument transformers, associated wiring, metering trough, and meter.

g. The Customer shall pay all future costs associated with the excavation and site restoration for future repairs to the service if required.

4. High Voltage Service-Overhead Service From Overhead Lines

a. The standard connection for high voltage supply from the Borough's distribution system is by overhead wires from the Borough's pole to the Customer's service pole or structure. The Borough generally provides only one set of service wires for one premises.

b. The Borough designates the location of the Customer's service pole or structure on the Customer's property at the most practical location accessible from the Borough's lines so that the length of the service wires is not less than 15 feet nor more than 100 feet.

c. The Customer furnishes, installs, and maintains a service pole or structure of sufficient height to provide clearances to ground, buildings and other facilities as prescribed by the National Electric Safety Code. Whenever the service pole or structure must be guyed to offset the pull of the Borough's service drop or the Customer's distribution wires, the guy(s) is furnished, installed, and maintained by the Customer. The service pole shall be ANSI Class 4 minimum, preservative treated, and installed at the depth indicated on Illustration No. 19.

d. The Customer furnishes, installs and maintains a disconnecting means, of a type specified by the Borough, on the service pole or structure for electrically disconnecting the Customer's facilities from those of the Borough. The disconnecting means, installed ahead of the metering equipment, shall be a group operated load interrupter switch with fuses or a circuit breaker. If a circuit breaker is used, it shall be proceeded by a device allowing visual confirmation that the circuit is open. The sectionalizing device shall be double locked to allow operation by the Borough and by the Customer.

e. The Borough specifies the type and characteristic of automatic protective devices to be installed by the Customer to ensure coordination with the Borough's protective devices.

f. The Borough furnishes, installs and maintains the dead end insulator assembly to attach it's service wires to the Customer's service pole or structure and makes the connection at the point-of-delivery which is on the line side terminals of the Customer's disconnecting facilities.

5. High Voltage Service - Underground Service from Overhead Distribution

a. When a Customer, normally supplied from the Borough's overhead distribution, desires that the service wires across his property be installed underground, the Borough will install, own and maintain an underground service lateral from a Borough pole on or adjacent to the Customer's property to the point of delivery providing:

1. Customer pays to the Borough its estimated excess cost of the underground service lateral over the estimated cost of normal overhead construction, plus any right-of-way or permit fees incurred by the Borough.

2. Customer excavates, backfills and restores the surface of the trench and when specified by the Borough, furnishes and installs the underground conduits starting from and including the elbow at the base of the Borough's pole to the point of delivery, including any manholes or handholes required. Customer is responsible for piercing and sealing the wall where conduits enter the building. The installation is made in accordance with the Borough's plans and specifications and subject to Borough inspection. Upon completion, ownership of such facilities installed by the Customer on the line side of the point of delivery and not located in, on or under buildings shall be conveyed to the Borough free-of-charge. The Borough will hereafter maintain these facilities at no cost to the Customer.

3. Customer furnishes, installs, operates and maintains a high voltage service disconnecting means of a type designated by the Borough, at the point of delivery, of the type, size and duty characteristics specified by the Borough.

This disconnecting means shall be installed on the line side of the metering equipment. When a circuit breaker other than a drawout type is installed, it shall be preceded by a set of isolating switches so mounted that the break is visible when the switches are open.

4. Customer furnishes and installs suitable housing and installs the instrument transformer metering equipment furnished by the Borough at a location specified by the Borough.

5. Customer submits for Borough approval detailed construction drawings of switchgear, including relaying, prior to construction of the switchgear. The Borough will provide detailed drawings of switchgear and relaying requirements upon request.

b. As an alternative, the Customer may furnish, install and maintain his own service pole or support structure on his property and the Borough attaches its overhead service wires to that service pole or the structure. The point of delivery of the service is on the line side terminals of the Customer's disconnect mounted on that pole or structure. The service is then a "High Voltage Service - Overhead Service from Overhead Lines" and the Customer installs, owns, operates and maintains all facilities beyond the point of delivery except the meter.

6. Underground Distribution in Commercial or Industrial Development

a. A development is a single parcel of land or contiguous parcels of land under the ownership and control of an individual, partnership or corporation (referred to as developer). A Developer can contract with the Borough for the establishment and construction of an underground distribution system in a designated area. This does not include residential developments.

b. Underground facilities are considered an underground distribution system when the facilities:

1. Include primary supply line to one or more distribution transformers, secondary distribution mains and/or service laterals to each Customer's premises.

2. Are all within the designated underground service area.
3. Supply more than one Customer in more than one building.

c. The Borough may establish an underground distribution system within the designated area of the development which would normally be supplied by overhead distribution and can supply underground service to individual Customer's premises, under an agreement with the developer under which the developer agrees to:

1. Pay the Borough the Borough's estimated excess cost for installing underground electrical distribution facilities over normal overhead construction. This difference does not include items to be provided by the Customer as indicated below.

2. Establish grade for the entire system, excavate, backfill and restore all trenches. Furnish and install all conduits from Borough's terminal pole(s) to points of delivery including handholes and manholes for Borough's cables for polyphase distribution systems or when secondary or service lateral cables required are larger than #4/0.

3. Furnish and install pre-cast foundations for all above grade transformers or vaults for transformers located in buildings. Furnish and install protective barriers when specified.

4. Upon completion of construction, ownership of all physical facilities installed by the Customer on the line side of the points of delivery not located in, on, or under the buildings, shall be conveyed to the Borough at no cost. The Borough thereafter will maintain these facilities at no cost to the Customer.

5. Grant to the Borough, free-of-charge by perpetual easement, the sole right to use, maintain and extend the facilities transferred to the Borough.

d. The Borough installs, owns and maintains the complete electrical system from the connection to the overhead distribution system to the point of delivery at each Customer's premises. The point of delivery is the point where the Borough connects the service lateral cables to the Customer's service entrance equipment which may be:

1. For secondary voltage service, on the line side terminals of:

   a. The metering equipment for an individual service.
   b. Common bus for multi-meter service.
   c. Customer's service entrance conductors in a splice box, or
   d. Customer's service disconnect when disconnect is required by the National Electrical Code.

2. For padmounted transformers with secondary metering at the transformer:

   a. The Customer installs the service lateral conductors and the Borough attaches the conductors to the low side terminals of the padmounted transformer.

2. For high voltage service, on the line side terminals of Customer's service disconnecting devices.

e. No overhead service will be supplied within an area designated as an underground service area.

f. The Customer and the Borough will choose the location of the vaults or transformer foundations or enclosure to permit free access via a suitable driveway or other area so the Borough can install, replace or remove transformers. The location will be chosen so future extension to the buildings will not block the access. The Customer is solely responsible for the choice of location of transformer foundations in relation to combustible materials, buildings, fire escapes and door and wall openings. Whenever fire restricting barriers, enclosures, protective barriers or other safeguards are required by any authority having jurisdiction, such safeguards are installed, owned, and maintained entirely by the Customer at the Customer's expense.

g. When buildings provided for in the original agreement, are erected after the system is completed, the Customer or builder constructing the building is responsible for excavating, backfilling and restoring the surface of the trench for the service lateral and installing such mechanical facilities as the developer would have furnished and installed had the building been erected when the system was constructed. The Borough assumes ownership of the conduit to the building, when installed, upon completion and installs, owns and maintains the service lateral cables.

7. Underground Electric in Residential Developments

a. A residential development is a single parcel of land or contiguous parcels of land under the ownership and control of an individual, partnership or corporation (referred to as developer) to be used for the construction of single-family residences, apartment houses, mobile homes, town houses or row homes.

b. All distribution and service lines for electric service within a residential development to be installed underground shall be installed, owned and maintained by the Borough.

c. The point of delivery for each service is to be determined by the Borough.

d. Any street lighting lines shall also be installed underground.

e. The Borough's standard installation is along front property lines using pad-mount transformers, but the Borough reserves the right to install facilities in the most economical manner with due consideration for initial costs, maintenance costs and aesthetics. Rear lot service and meter locations should be avoided since subsequent installation of swimming pools, patios, fences and other structures by the Customer may require the relocation of the Borough's facilities at Customer expense.

f. The applicant for electric service to a residential development shall:

1. At his own cost, provide the Borough with satisfactory easements for occupancy by distribution, service and street lighting lines and related facilities except in public ways which the Borough has the legal right to occupy.

2. At his own cost, clear the ground in which the aforesaid lines and related facilities are to be laid of trees, stumps and other obstructions, rough grade it to within 6 inches of final grade, and excavate and backfill with suitable backfill material subject to the inspection and approval of the Borough so that the Boroughs part of the installation shall consist only of laying of the lines and installing other service-related facilities.

3. Request electric service at such time that the aforesaid lines may be installed before curbs, pavements and sidewalks are laid and before temporary service for construction is required; keep the route of lines clear of machinery and other obstructions when the line installation crew is scheduled to appear; and otherwise cooperate with the Borough to avoid unnecessary costs and delays.

4. Pay any estimated additional costs incurred by the Borough for the installation of underground facilities that deviate from the Borough's standard underground construction if such deviation is requested by the applicant for electric service and is acceptable to the Borough.

g. If the applicant fails to comply with Paragraph (f) (2) or (f) (3) of this rule, or changes his plot plan after the installation of the lines has begun, or otherwise necessitates additional costs by his act or failure to act, such additional costs shall be borne by the applicant.

h. Conduits are required under roadways, driveways, patios or other paved areas when specified by the Borough. When Customer elects or is required by the Borough to install conduit, the conduit shall be PVC Schedule 40, or threaded galvanized, rigid or intermediate steel conduit.

8. Mobile Homes - Mobile Home Parks and Recreational Vehicle Parks

a. The requirements for electric service and meters for mobile homes, mobile home parks and recreational vehicle parks differ from the requirements for other types of service and, therefore, must be given special consideration. All installations must be in accordance with the National Electrical Code. The power supply to the mobile home shall be a feeder assembly consisting of not more than one (1) approved power supply cord rated 50 amperes or a permanently installed circuit. The Customer shall provide a suitable meter board for support of the Company's meters. ***When more than one mobile home is served, each meter position shall be permanently marked by the Customer to clearly***

identify the mobile home it serves. The Borough shall be consulted in advance for detailed information regarding each installation.

b. Single Mobile Home Not in a Development or Park: 100 amp minimum service for a single meter position is required.

1. When the service is overhead, the Customer shall be required to provide a substantial and adequate support, adjacent to but not attached to the mobile home for the attachment of the service drop to serve 100 amp minimum size service equipment. The support shall be capable of withstanding a horizontal pull of 1,000 pounds at the center of the service bracket. The support shall be a preservative pressure treated (creosote, penta) pole set in solid earth and guyed, if necessary. The pole shall be of sufficient length to provide necessary clearance. The Borough shall be consulted in all cases for required pole sizes, setting depths and guying requirements. See Illustration No. 17.

2. When an underground service to a mobile home is served from an overhead distribution line, 100 amp minimum size service equipment for a single meter position is necessary (150 amp recommended). Where service entrance conductors are underground, the meter may be located on approved service pedestal. See Illustration No. 18.

3. Mobile Homes Considered as Permanent Structures:

   The requirements of a permanent structure are an approved permanent water supply and sewer system, and compliance with municipal zoning requirements. If not met, the service will be considered to be a temporary service. All Borough work required for temporary service will be at the Customer's expense.

c. Mobile Homes Within a Development or Park: 100 amp minimum size service equipment for each meter position is required, and 150 amp service conductors are required. (200 amp service equipment is recommended to provide adequate capacity for mobile homes needing such capacity, such as large electrically heated units).

Service to mobile homes in a development or a park in which it is planned to install five units or more must comply with Section 10: Illustration Nos. 15 and 16 for overhead and underground installations respectively.

9. Changes or Modifications to Service

Customer shall make application for any requested change or modification to existing electric service. For any structure presently or previously served by the Borough, customer shall be responsible for all costs associated with the customer furnished equipment and the Borough furnished equipment, with new or modified service. This paragraph is applicable for new or existing customers requesting service for existing structures.

Section 6 - Meters

1. General

a. The Customer shall provide, free of charge to the Borough, space to accommodate the Borough's meters at the point of delivery or the nearest suitable available location designated by the Borough. The location chosen shall be readily available to Borough employees at all reasonable times for reading, testing, or replacing with the least inconvenience to the Customer and the Borough.

b. The capacity and type of meter installation will be determined by the Borough to accommodate the Customer's load and type of service supplied.

c. The Customer shall install the meter trough or panel, level and plumb, securely fastened on a wall or other support not subject to vibration.

d. Only Borough Electric Department personnel are authorized to install, remove, or relocate a meter. The Customer shall make all necessary changes in wiring before the Company moves a meter to a new location.

e. Metered and unmetered conductors shall not be installed in the same raceway or conduit.

f. Meter troughs and termination compartments of multiple position meter troughs and instrument transformer cabinets shall not be used as junction boxes.

2. Meters - Secondary Service - Location

a. The Borough's standard practice is to locate all meters outdoors. Indoor locations are permitted only with the specific approval from the Electric Department Superintendent.

b. The meter mounting shall be installed by the Customer so that the center of the meter is approximately 5 feet above the finished grade or floor level at the location designated by the Borough. Outdoor locations shall be chosen so that the meter is protected from mechanical damage and does not interfere with traffic on sidewalks or driveways. Outdoor locations on open porches, in carports, breezeways, or other similar locations should be avoided whenever practical in order to prevent future expense to the Customer for relocation of service and service facilities if the area is enclosed. For services located in the 100 year flood plain, the meter shall be located 3 feet above the 100 year flood plain elevation but shall not be less than 5 feet above the finished grade or floor level.

c. When an indoor location is approved for metering it shall be in the basement or on the ground floor, readily accessible, and shall not be near furnaces or in rooms where excessive heat; moisture, acid fumes or dust is present. The distance between the center

of the meter and any adjacent wall shall be 18 inches minimum. In buildings located within the 100 year flood plain, the meter shall be located 3 feet above the 100 year flood plain elevation but shall be no lower than 5 feet above finish floor elevation.

d. A 50 inch minimum clear space, measured from the wall on which the meter trough and/or instrument transformer cabinet are mounted, shall be provided directly in front of the meter and/or instrument transformer cabinet and the installation shall not hamper the opening of any doors or windows.

e. The Customer's meter trough shall not be installed on a Borough pole except upon specific approval of the Borough in connection with cable television amplifiers, traffic signals, or similar installations where the Customer has no facilities on which to mount the meter. An installation, when approved, shall not be made until the Borough issues a written attachment permit.

f. Upon request, the Borough will consult with architects and builders to develop aesthetically pleasing meter locations which are acceptable to the Borough. Recessing meter troughs, concealing service entrance conductors, enclosing meter troughs in boxes, mounting meter trough so that the center of the meter is lower than approximately 5 feet, and planting flowers, trees and shrubs near meter troughs is prohibited.

3. Meters - Secondary Service - Self-Contained Installations

a. The Customer installs and maintains an approved meter trough whenever the metering specified by the Borough is by self-contained meters. The Borough uses self-contained, Class 200 metering for single phase, 208 or 240 Volt loads with continuous demands not exceeding 45 KVA and for polyphase 208 or 240 Volt loads not exceeding 70 KVA. No individual phase current, however, shall exceed 200 Amperes as determined by the coincidental maximum of both single phase and three phase current. Only one conductor shall be installed in each terminal unless terminals supplied by the trough manufacturer are designed to accept more than one conductor. Installation of multiple terminal lugs is not permitted. For underground service, the Borough may require the Customer to install a trough capable of accepting 350, 500 or 750 kcmil conductor if load or service distance warrants. When a Customer proposes to install service entrance conductors larger than 500 kcmil, the Customer shall consult the Borough for specifications and terms under which the Borough will install metering before planning, purchasing or installing the service entrance equipment.

b. The meter trough is installed on the line side of all service protective equipment except where a main service disconnect is required by the National Electrical Code.

c. Manual type by-pass facilities are required on all ringless meter troughs for commercial and industrial customers. By-pass facilities will also be required on ringless residential meters as determined by the Borough based on the Customer's load information.

4. Meters - Secondary Service Under 600 Volts - Instrument Transformer Installations

a. The Borough furnishes the current transformers, the transformer mounting devices when specified on the appropriate illustrations, and a meter mounting when instrument transformer metering is specified.

b. The Borough furnishes both current and potential transformers for services where the voltage between phases is 480 volts or greater.

c. The Borough furnishes, installs and maintains the instrument transformers generally located outdoors on the service rack, see Illustration No. 4. When the service rack is installed on a building, metal structure, or pole, the Customer installs, owns and maintains a 1 inch minimum, galvanized, rigid or intermediate steel conduit and fittings for the Borough's meter cable from the instrument transformers to the meter panel. The Customer may install, own and maintain a 1 inch PVC Schedule 40 conduit for the metering cable except where the Borough determines the conduit would be subject to physical damage. The Borough furnishes and installs wiring between the instrument transformers and meters. Additional outdoor instrument transformer mounting installations are shown in Illustration Nos. 6, 7, 8, and 9.

d. When an indoor installation for instrument transformers is approved by the Borough, the Borough furnishes the instrument transformers and their mounting device when specified on the appropriate illustration. The Customer shall furnish, install, and maintain an approved sealable metal cabinet and shall install the instrument transformers and mounting in the cabinet, see Illustration No. 10. In addition, the Customer may furnish, install and maintain an outdoor instrument transformer cabinet for an overhead service if a service rack cannot be installed on a building. Approval by the Electrical Superintendent is required in these instances.

e. Instrument transformer cabinets shall be of the following minimum dimensions unless otherwise specified by the Borough:

(1) Single phase, 120/240 Volt or 240/280 Volt --
36 inches x 36 inches x 10 inches -
2 finger transformer mounting device
800 Ampere maximum.

(2) Single or three phase, 208 Volt or 240 Volt, and three phase, 480 Volt or 480Y/277 Volt --
48 inches x 48 inches x 12 inches

3 finger transformer mounting devices

1200 Ampere maximum (800 Ampere maximum for three phase, 480Y/277 Volt. Free standing switchgear or installation is required for services over 800 Amperes.)

(3) Three phase, 208 Volt or 240 Volt --
48 inches x 72 inches x 12 inches
5 finger transformer mounting device
2000 Ampere maximum.

Note: Cabinets shall:

a) Be constructed of galvannealed steel or equivalent minimum #16 gauge.
b) Have double hinged doors.
c) Have a hasp which will accommodate at least a 1/4 inch diameter lock.
d) Be weather resistant, rain tight and tamper proof when installed outdoors.
e) Instrument transformers are installed on the line side of all service protective equipment in the manner specified by the Borough unless the location of the meters mutually agreed upon is remote from the service entrance and/or where the National Electrical Code requires the installation of a main service disconnect ahead of the metering equipment.
f) The Customer may, with Borough approval, install instrument transformers in metal-clad switchgear on the line side of the main service disconnect when a separate sealable cubicle or compartment with a hinged door for easy access is provided and the instrument transformers are installed so that they can be readily replaced without hazard. An additional incoming line compartment is required for the Borough's underground conductors if the instrument transformers are mounted in the top section of the cubicle. The additional incoming line compartment also shall have a sealable, hinged door for easy access. Isolating barriers shall be installed between the instrument transformer compartment and the line side compartment and between the instrument transformer compartment and the load side compartment. Filler bars are furnished by the customer and should be equivalent to bussing in switchgear or specified by the Electric Superintendent. The supplier shall furnish a detail drawing of the instrument transformer arrangement in the switchgear compartment to the Borough for approval and acceptance before constructing the switchgear. The meter mounting or meters shall not be installed in or on the metal-clad switchgear. Customer-owned current transformers or other load sensing equipment shall not be installed in the instrument transformer or incoming line compartments.
g) The Borough furnishes its standard meter mounting which the Customer installs at the location designated by the Borough. The Customer furnishes and installs a conduit between the instrument transformer compartment and the meter mounting. A 1 inch minimum, galvanized, rigid or intermediate

steel or PVC Schedule 40 conduit is installed between the instrument transformers and the meter mounting. All conduit installations which exceed 50 feet in length shall be approved by the Electric Superintendent. Galvanized, rigid or intermediate steel conduit shall be used for all elbows and LB in runs over 50 feet. If specified, 1-1/4 inch minimum conduit shall be installed. All bends shall have at least a 24 inch radius. No more than three 90 degree bends (270 degrees total) shall be installed. The metering cable from the instrument transformers to the meter mounting is furnished, installed and connected by the Borough.

h) The line, load and neutral terminals of the current transformer mounting device in a transformer cabinet shall be the only terminals used for the termination of conductors. Each terminal finger shall accommodate only one conductor. Refer to Section 6, Paragraph 4(e) for number of fingers per phase. The current transformer primary shorting terminals are not considered line or load terminals and shall be used by Borough only to short circuit the primary of the current transformer. Connections for sub-services to other meters shall not be made on the line side of the instrument transformers or mounting device in the cabinet. Multiple circuits are permitted from load side terminals; however, each terminal finger shall accommodate only one conductor.

I) In all switchgear cubicles containing instrument transformers, a minimum vertical clearance of 36 inches between the bushings of the incoming service lateral conduits and the line side cable termination points is required to allow proper training of service cables.

f. When the service is three phase, 4 wire, 480Y/277 Volts or more than 6 sets of service conductors are installed, the minimum size of the switchgear cubicle must be increased to provide 48 inches minimum vertical clearance between the bushings of the incoming service lateral conduits and the line side terminals. This additional space is required for Borough-installed cable limiters and properly training the additional service cables required. The Customer is responsible for consulting with the Borough to determine if additional clearance is required.

g. Mounting in Padmounted Transformers: When a three phase padmounted transformer supplies a single customer, the metering transformers should be installed in the padmounted transformer. Metering transformers shall not be installed in padmounted transformers that initially supply multiple customers or are likely to supply multiple customers in the future. In these cases, the metering transformers shall be installed in a metering transformer or switchgear enclosure. All metering transformer primary connections shall be made by the Borough. The term "metering transformer" includes current and voltage transformers with voltage transformers required only when the secondary service voltage is 277/480 volts.

When the Borough supplies bus bar type metering current transformers for installation in a padmounted transformer, the metering current transformer primary bars shall always be

bolted to the secondary spades of the padmounted transformer. If window type metering current transformers are supplied by the Borough, for installation in a padmounted transformer, they shall be mounted directly over the secondary spades of the padmounted transformer.

5. Meter - Secondary Service - Multi-meter Installations

a. Meters for all Customers in a multiple occupancy building are to be grouped at one location which is accessible to all parties concerned. In large buildings it may be desirable to establish several metering points and group the meters for several Customers at those locations. The Customer installs a common service entrance for the building with an individual riser main in continuous conduit from the service protective equipment to each group metering point. The meter installation at each location is governed by the same rules as any other group installation.

b. The meter trough and sub-service disconnecting equipment for each Customer in a multi-meter installation shall be clearly and permanently marked by the owner designating the apartment number, lot number, etc. that it supplies. Marking can be performed by etching, a permanent marker, or other forms of permanent labeling. Ringless meter troughs shall be marked on the front cover.

c. Meter troughs for multi-meter installations are installed either as horizontal multiple meter troughs with built-in bussing, or an individual meter troughs preceded by a sealable horizontal wire trough. See Illustration Nos. 11 and 12.

d. Multi-meter installations consisting of meter troughs and current transformer cabinets are preceded by a sealable horizontal wire trough.

e. Common service entrance conductors enter the meter trough through a single hub in the top or through a bushed connection in the bottom. Where a wire trough is installed, the service entrance conductors enter the side or bottom of the trough and all taps from the common service entrance conductors to the metering equipment for each sub-service are made in the wire trough by the Customer.

f. Where more than six disconnects per service are grouped in any one location, the National Electrical Code (NEC) requires the installation, ahead of the meters and disconnect, of a sealable, fused, main switch(es) or circuit breaker(s) of a type and interrupting duty acceptable to the Borough. The Customer shall determine whether the NEC also requires an additional insulated grounding conductor between the main service disconnecting equipment, meter enclosures and panelboards. For underground service, breaker(s) is required to terminate the Borough service lateral conductors.

6. Meters - High Voltage Service Over 600 Volts

a. The Borough furnishes and maintains, and Customer installs, high voltage current and potential transformers, meter mounting, lightning arresters to protect the disconnects, terminations, and potential transformer fuses. The Borough will specify the location and arrangement of metering equipment most suitable for the physical arrangement of the service facilities. For overhead facilities, the Borough shall install the metering equipment with the Customer assuming all costs and expenses to do so.

b. The Customer furnishes, installs and maintains the structural support or housing for the instrument transformers and installs the instrument transformers on the structure or in the housing on the load side of the customer's service disconnecting facilities. For overhead installations, the Borough will provide and install facilities with the Customer assuming all costs and expenses to do so.

If the Customer requests a change from secondary service to high voltage service, the Customer removes and returns the instrument transformers and meter mounting to the Company.

c. Instrument transformers and meter mounting for outdoor metering are generally installed on a separate meter pole located not less than 15 feet from the service pole. This arrangement provides the greatest safety and flexibility. However, when space is limited, the Electrical Superintendent may approve installing instrument transformers on the Customer's service pole or structure for overhead service to overhead distribution only. The Electric Superintendent may also approve mounting the instrument transformers on the Customer's transformer structure providing its consists of more than a single pole and when framing permits proper spacing.

d. When the Customer installs a high voltage service underground or is supplied by underground high voltage service laterals, the instrument transformers may be installed in the customer's transformer vault, or in a metal-clad switchgear.

e. When instrument transformers are installed in a metal-clad switchgear, the supplier furnishes detail drawings of the instrument transformer arrangement to the Borough for acceptance and approval before construction of the switchgear. Metal-clad switchgear for 15 KV or less shall conform to the general specifications in paragraphs (f) and (g) below.

f. A separate isolated, sealable and accessible compartment shall be provided within the switchgear for standard current and voltage transformers of types designed for metering. This compartment shall be large enough to contain three (3) current transformers and three (3) voltage transformers and so designed that, after proper electrical isolation, the transformers can be readily installed or changed after the switchgear is installed.

g. The voltage transformers may be installed in a compartment separate from that provided for the current transformers. This compartment shall be large enough to contain three (3) voltage transformers and shall be so designed that the transformers can be readily installed or removed. Draw or swing-out instrument transformer compartments are not permitted.

h. High voltage connections from the line side of the current transformers to the voltage transformers are provided and installed by the Customer.

I. The Borough furnishes its standard meter mounting which the Customer installs at the location designated by the Company, either on the Customer's meter pole for outdoor metering, on free-standing support for outdoor metal-clad switchgear, or in a room remote from the transformer vault for indoor metering. The meter mounting shall not be installed in or on metal-clad switchgear. The Borough will install facilities with the Customer assuming all costs and expenses.

j. When the metering equipment is installed on a wood pole, the Customer furnishes and installs conduit between the instrument transformers. The Customer also furnishes, installs and maintains a 1 inch minimum, galvanized, rigid or intermediate steel conduit and fittings for the Borough's meter cable from the instrument transformers to the meter panel. The Customer may furnish, install, and maintain a 1 inch PVC Schedule 40 conduit for the metering cable except where the Borough determines the conduit would be subject to physical damage. The Borough furnishes and installs wiring between the instrument transformers and meters.

k. When the instrument transformers are installed on a metal structure, in a vault or in metal-clad switchgear the Customer furnishes and installs a 1 inch minimum, galvanized, rigid or intermediate steel or PVC Schedule 40 conduit from the instrument transformers to the meter mounting. The installation of conduit shall give due consideration to the number of bends for ease of pulling cable. The metering cable from the instrument transformers to the meter mounting is furnished, installed and connected by the Borough.

l. The Customer furnishes and installs facilities for temporary safety grounds by the Borough on both the line and load sides of the current transformers in the metering compartment or cubicle.

Section 7. Customer's Service Equipment

1. Grounding

a. The neutral wire of the service entrance shall be grounded on the supply side of the service entrance protective equipment in accordance with the requirements of the National Electrical Code. The service conduit or metallic sheath of service entrance cable and the metal cases of all switches, circuit breakers or load centers shall be securely bonded and connected to the common ground connection.

b. The neutral wire of the service entrance shall be connected to the grounding terminal of the meter trough for a self-contained meter.

c. All metal buildings, metal structures, bodies and frames of mobile homes or trailers and any vehicle housing electrical equipment to which electric service is to be supplied, shall be permanently grounded to the service entrance ground before electric service is connected.

d. The grounding electrode conductor shall be installed directly between the grounding electrode and the service disconnecting equipment and not pass through the meter trough.

2. Service Entrance Equipment

a. All equipment beyond the point of delivery, except the meter, shall be installed by the Customer. Installation shall conform with the National Electrical Code as well as with all applicable ordinances of authorities having jurisdiction and with these Electric Service Requirements.

The National Electrical Code requires service equipment to be suitable for the short circuit current available at its supply terminals. Many but not all residences supplied by individual services can be adequately protected by overcurrent protective devices having a minimum interrupting rating of 10,000 amperes. However, services to individual residences supplied from underground or padmounted transformers should be protected by fuses or circuit breakers with adequate interrupting capacity. (UL Class K-1 are recommended for full coordination with branch breakers.)

The available short-circuit current for secondary services to commercial, industrial, or multiple occupancy residential buildings may be obtained through the Electric Superintendent. The available short circuit current may be calculated assuming a transformer impedance of 1.5% to 2.5% for transformer nameplate ratings through 500 kVA and 5.5% for 750 kVA and larger transformers. For convenience the following table lists the maximum available short circuit at the secondary terminals of various three-phase transformers based on typical transformer impedances.

Maximum Short Circuit Current Available at Transformer

Secondary Terminals (Amperes)

Transformer Size 3-Phase (kVA)	120/208 Volt Secondary	240 Volt Secondary	277/480 Volt Secondary
74	14,000	12,000	6,000
150	28,000	24,000	12,000
300	56,000	48,000	24,000
500	93,000	80,000	40,000
750	38,000	33,000	16,000
1000	-----	-----	22,000
1500	-----	-----	33,000

Section 8 - Customer's Use of Service and Utilization Equipment

1. Motors and Controllers

a. General: It is important that the Borough be consulted concerning the type of power service available to assure correct application (phase and voltage) of the motor to be used. Starting current limitations are prescribed for conventional motorized equipment rated in horsepower and air conditioning or heat pump equipment rated in BTUH.

b. Borough to be Advised: The Borough shall be advised before any single phase motor rated in excess of 5 HP (equivalent 40,000 BTUH) or any three phase motor rated 10 HP (equivalent 75,000 BTUH) or larger is installed by a customer. The information given to the Borough shall include the nameplate data of the motor, the nature of the load and operating characteristics of the proposed installation, such as how frequently the motor will be started and if the load fluctuates rapidly, e.g., in a sawmill, stone crusher, elevator, etc.

c. Single Phase Motors: Single phase motors larger than 1/2 HP or with running current exceeding 10 amperes should normally be arranged for operating at 208 or 240 volts. Generally, motors larger than 5 HP should be three phase, but the Borough may require the use of single phase motors or appropriate phase convertors where three phase service is not readily available.

d. Protection: All motors should be properly protected against overload, including overloads caused by low voltage conditions. It is the Customer's responsibility to protect three phase motors against the possibility of single phase operation. Reverse phase relays, together with circuit breakers, or the equivalent devices should be used on all three phase installations for elevators, cranes and similar applications to protect the installation from phase reversal.

e. No Voltage Release: We recommend that motor controllers be so arranged that in the event of sustained interruption the motor will be disconnected from the line, unless it is equipped for automatic starting after such an interruption. Where continuous operation of motorized equipment is essential, motor controllers should be arranged to allow motors to operate through a transient no-voltage condition lasting for 1/2 second (30 cycles). The Borough should be consulted where problems of this nature might be encountered.

f. 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 lighting flicker may be observed by the Customer or 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.

g. Motor Starting Currents: The maximum starting currents permitted for single phase and three phase conventional motorized equipment rated in horsepower and for air conditioning or heat pump equipment rated in BTUH are:

SINGLE PHASE MOTORS

Service Voltage	Max. Starting Current per Step, Max. Four Starts per Hour	Max. Equiv. Rating of Air Conditioner or Heat Pump BTUH
120 Volts	50 Amperes	10,000
208 or 240 Volts	60 Amperes for 2 HP Motor	20,000
208 or 240 Volts	80 Amperes for 3 HP Motor	25,000
208 or 240 Volts	120 Amperes for 5 HP Motor	40,000

THREE PHASE MOTORS

Service Voltage	Max. Starting Current per Step, Max. Four Starts per Hour	Max. Equiv. Rating of Air Conditioner or Heat Pump BTUH
208 or 240 Volts	100 Amperes up to 5 HP Motor	40,000
208 or 240 Volts	130 Amperes for 7 1/2 HP Motor	50,000
208 or 240 Volts	160 Amperes for 10 HP Motor	75,000
208 or 240 Volts	230 Amperes for 15 HP Motor	150,000
480 Volts	50 Amperes up to 5 HP Motor	40,000
480 Volts	65 Amperes for 7 1/2 HP Motor	50,000
480 Volts	80 Amperes for 10 HP Motor	75,000
480 Volts	115 Amperes for 15 HP Motor	150,000

h. Explaining Starting Limits: The specific motor-starting current limitation stated in Paragraph g is the maximum allowable increase in current on the line side of the motor-starting device at any instant during the starting operation. The limitation does not restrict the total current that can be taken by the motor in starting, but may require that the total be built up gradually, or in steps, each of which does not exceed the specific limitation for the motor. Where a step type starter is used, an appreciable time must be allowed on each step and the current increase of each step shall not exceed the imposed limitation.

I. Group Starting: When motors are started in group instead individually, the starting current limitations apply to the group and not to the individual motors. In some cases sequential starting may be necessary.

2. Welders and Furnaces

a. Welders for residential application with a transformer type "limited input", not to exceed 37-1/2 amperes at 240 volts, are acceptable. Other electric welding equipment, electric furnaces, and other special forms of electric equipment will be accepted for connection to the Borough's lines only under conditions and arrangements specified by the Borough for each particular case.

The Customer shall provide a copy of the manufacturer's data concerning the electrical input characteristics of all welders proposed for use on the Borough system.

3. Customer's Equipment - Power Factor Corrective Equipment

a. The Borough's rate schedule contains a power factor clause which affects the Customer's billing. A Customer may wish to install power factor corrective equipment to reduce billing, improve voltage conditions, and eliminate voltage drop in overloaded circuits. The Customer shall consult the Borough before equipment is purchased and installed. The Borough will recommend the number and size of capacitors, points of connection in the system and method of control the Customer is to install to secure maximum benefits and at the same time not impair service to other Customers. Switching of capacitors may be accomplished as described in paragraphs (1) and (2) below.

1. Capacitors may be connected to the terminals of power consuming equipment so that the capacitors are switched on and off with the equipment.

2. Capacitors may also be connected at strategic points in the Customer's wiring system when provided with automatic switching actuated by either load current magnitude, voltage level, KW load, KVAR load or KVAR feed out. However, manual control of capacitors may be permitted if there is assurance, satisfactory to the Borough, that they will be properly operated.

5. Harmonic Distortion

a. The Customer shall consult the Borough before purchasing or installing equipment that can introduce higher-frequency alternating current (AC) voltages and currents (harmonics) into the Borough's supply circuits. Excessive harmonic distortion interferes with the performance of both the Borough's and Customer equipment.

b. For the service voltage requested by the Customer, the Borough specifies the maximum allowable harmonic distortion of the Borough's system voltage at the customer's point of delivery for normal or emergency operation of the Borough's system.

c. The Borough notifies the Customer if the Customer's proposed equipment would produce harmonic voltages greater than those allowed by the Borough's criteria. Customer

is responsible for reducing the harmonics which will appear on the Borough's system by modifying equipment design or installing remedial equipment such as harmonic filters.

6. Unbalanced Load

The Customer shall at all times take, and use, energy in such manner that the load will be balanced between phases to within nominally 10%. In the event of unbalanced polyphase loads, the Borough reserves the right to require the Customer to make the necessary changes at his expense to correct the unsatisfactory condition, or to compute the demand used for billing purposes on the assumption that the load on each phase is equal to that on the greatest phase.

7. Quality of Power

a. The Borough does not claim to provide power to its Customers which is free from impulses, sags, surges, or noise. Most of the disturbances seen by the Customer's equipment are caused either by the affected customer or by other Customers connected to the same supply system. There is little the Borough can do to eliminate most power line disturbances.

b. Customers should determine the criticality of their operations and then select the necessary power supply conditioning equipment to meet their requirements. Equipment such as surge and transient suppressors, isolation sets, uninterruptible power supplies, and magnetic power synthesizers are available to mitigate power line aberrations. Customers should contact their equipment supplier for availability and type of power conditioning equipment need for their installation.

c. Additionally, the Borough recommends the Customer:

- Not be totally dependent on computer availability--have alternatives or a backup system.
- Not use computer equipment during thunderstorms.
- Disconnect computer equipment when not in use.
- Install lightning arrestors.
- Use proper grounding techniques.
- Control static electricity.
- Use a separate branch circuit for computer equipment if possible.
- Be aware that computers themselves can generate interference.

8. Standby Generating Equipment

a. A Customer may desire to install a standby generator(s) to supply all or part of his load in the event of an interruption in the supply of the Borough's service.

b. The Customer shall furnish complete nameplate data on the generator(s) to be installed and consult with the Borough on method of connection to assure the installation of proper type equipment.

c. The Customer shall install, in a manner approved by the Borough, a double throw switch so there can be no electrical connection between the Borough's service and the Customer's other source of supply. The double throw switch may be operated automatically or manually and must be rated adequately for the voltage and current levels. Where the National Electrical Code permits and the Customer chooses to install the double throw switch on the supply side of the Customer's main disconnect and overcurrent protective devices, the double throw switch must be listed for use as service entrance equipment. Installation of a pole-top fused double-throw switch is not permitted.

d. This rule does not pertain to generating equipment and wiring installed by a Customer to meet the requirements of the Pennsylvania Dept. of Labor and Industry for Emergency Lighting Systems. The Borough does not make any recommendations regarding size, location, method of connection, approval or the operation of such emergency lighting equipment.

Section 9 - Extension of Borough Primary and Secondary Facilities

1. Extension of Single Phase and Three Phase Distribution System from Overhead/Underground Distribution Lines.

a. When the utility must extend it's primary or secondary distribution systems on existing Borough owned streets or properties for the purpose of serving a single Customer, the Customer shall pay the costs for the extension of these facilities. The Customer shall enter into a Contractual Agreement with the Borough and shall deposit an amount equal to the cost of the Construction, as estimated by the Borough, with the Borough Manager. Within thirty days after the completion of the extension, the Borough will refund to the Customer, any portion of the deposit in excess of the actual construction cost, without interest. In the event the Customer's deposit is less than the actual costs incurred by the Borough, the Customer shall reimburse the Borough for the additional amount within sixty-days from invoice. Electrical service to the Customer will not be energized until final payment is deposited with the Borough.

b. The Borough reserves the right to extend their distribution facilities and waive the costs detailed in Paragraph a. if the guaranteed revenue from the Customer is sufficient to offset the costs of extending the Borough's facilities. This judgement rests solely with, and is at the discretion of, the Borough.

2. Extension of Borough Facilities through Existing Facilities Owned by the Customer

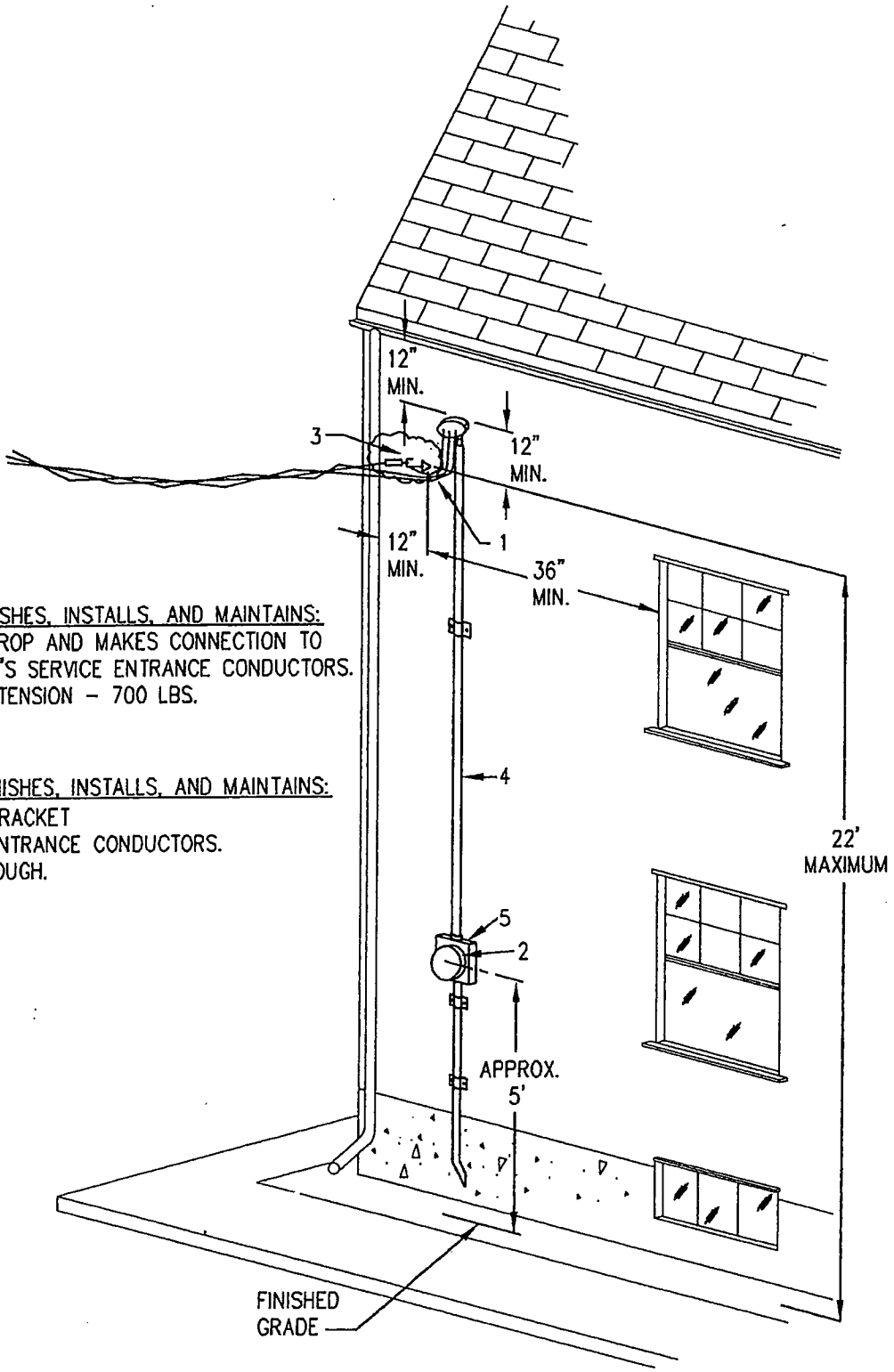
a. The Borough reserves the right to purchase facilities from a Customer that are owned and maintained by that Customer for the use of serving any additional Customer(s). The Borough will provide an offer to the Customer for the original cost of the materials and installation minus depreciation. Depreciation will be based on a fifty year useful life and will utilize the straight line method. The Borough's offer will only include the equipment up to and including the last pole or manhole required to provide service to any additional customer(s). The purchase of the facilities shall also include all easement rights associated with the installed facilities. In addition, the Borough will be responsible for all costs associated with re-configuring the Customer's facilities to re-establish the Customer's contracted electrical service.

Section 10 - Illustrations

Illustration No. 1:	Secondary Service - Triplex Service Drop Attachment on Building
Illustration No. 2:	Secondary Service - Service Drop Attachments
Illustration No. 3:	Secondary Service - Service Drop Attachment to a Mast Attached to Low Building to Provide Required Clearances
Illustration No. 4:	Secondary Service - Service Drop Attachment to a Mast with Mast Mounted Instrument Transformers
Illustration No. 5:	Secondary Service - Underground Service Connection from Overhead Distribution Lines
Illustration No. 6:	Secondary Service - Service Drop Attachment and Instr. Transf. Mounting on Customer's Building(Less than 300V)
Illustration No. 7:	Secondary Service - Service Drop Attachment and Instr. Transf. Mounting on Customer's Bldg.(Greater than 300V)
Illustration No. 8:	Secondary Service - Typical Arrangement of Inst. Transf. And Mounting for Install. In Cabinet(240V and Less)
Illustration No. 9:	Secondary Service - Typ. Arrangement of Inst. Transf. And Mounting for Install. in Cabinet(Single Phase)
Illustration No. 10:	Secondary Service - Typical Arrangement for Outdoor Meter on Building - Underground Service lateral
Illustration No. 11:	Secondary Service - Multi-meter Installation Using Meter Trough w/ Factory Built-in Bussing
Illustration No. 12:	Secondary Service - Multi-meter Installation for Two to Six Meters Using Individual Meter Troughs and Wire Trough
Illustration No. 13:	Three Phase Pad-Mount Transformer Installation
Illustration No. 14:	Cast-in-Place Transformer Concrete Foundation
Illustration No. 15:	Secondary Service - Multi-meter Installation for Mobile Home Court - Overhead Distribution
Illustration No. 16:	Secondary Service - Multi-meter Installation for Mobile Home Court - Underground Distribution
Illustration No. 17:	Secondary Service - Service Drop Attachment to Customer Owned Service and Meter Pole for a Mobile Home
Illustration No. 18:	Secondary Service - Outdoor Mobile Home Pedestal - Underground Service lateral
Illustration No. 19:	Customer's Wood Pole

Section 10 - Illustrations(Cont.)

Illustration No. 20: Customer Installed Protective Barriers for Transformers
Illustration No. 21: Typical Service and Meter Support for Temporary Overhead Service
Illustration No. 22: Typical Service and Meter Support for Temporary Underground Service
Illustration No. 23: Application for Service



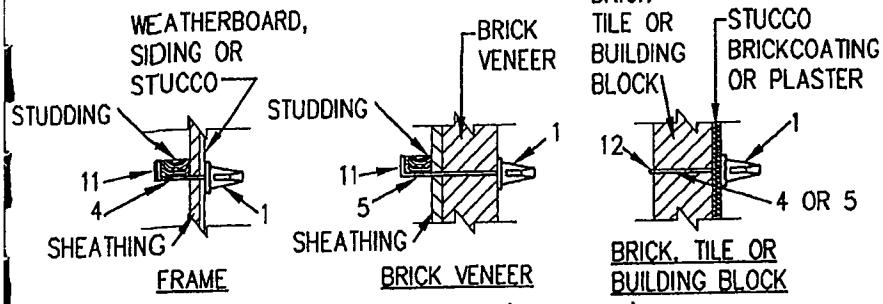
BOROUGH FURNISHES, INSTALLS, AND MAINTAINS:

1. – SERVICE DROP AND MAKES CONNECTION TO CUSTOMER'S SERVICE ENTRANCE CONDUCTORS. MAXIMUM TENSION – 700 LBS.
2. – METER

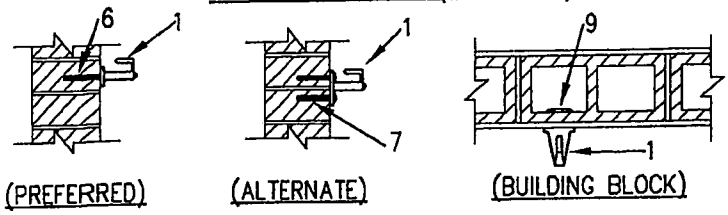
CUSTOMER FURNISHES, INSTALLS, AND MAINTAINS:

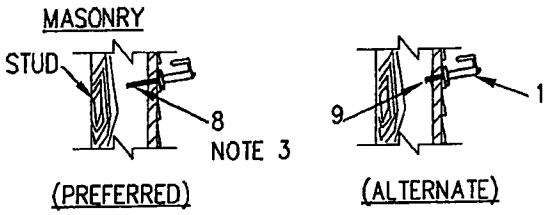
3. – SERVICE BRACKET
4. – SERVICE ENTRANCE CONDUCTORS.
5. – METER TROUGH.

ILLUSTRATION NO.1: SECONDARY SERVICE – TRIPLEX SERVICE DROP ATTACHMENT ON BUILDING



NEW HOUSES (NOTE 1)

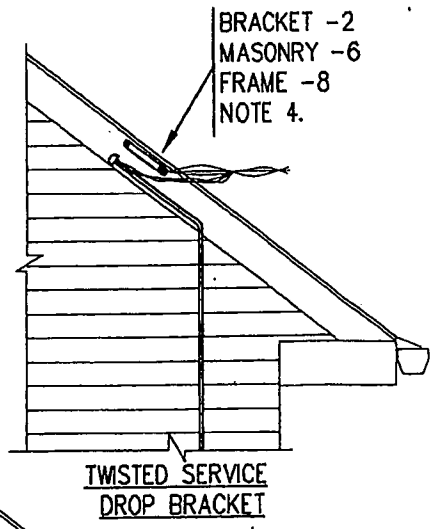


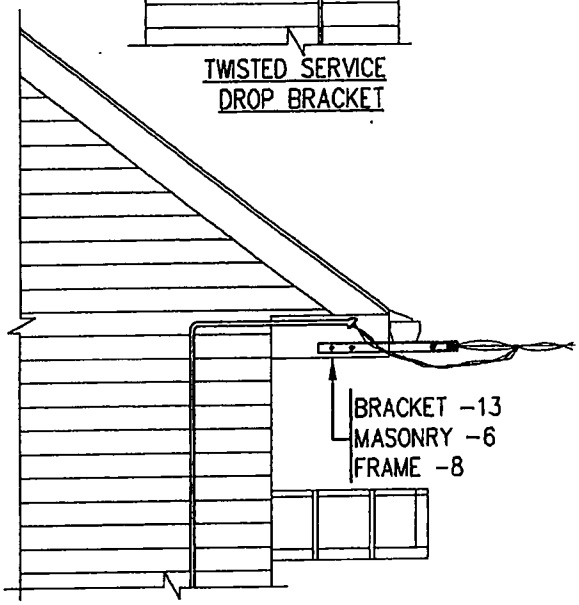


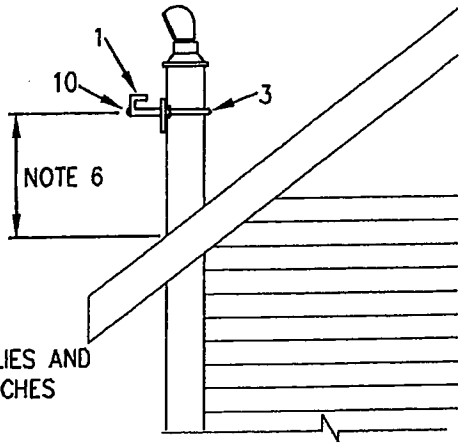
FRAME OR SIDING (NOTE 5)

EXISTING HOUSES (NOTE 2)

ITEM	DESCRIPTION
1	BRACKET, SERVICE DROP, THREE POINT
2	BRACKET, SERVICE DROP, TWISTED
3	BRACKET, SERVICE DROP, PIPE ATTACHMENT
4	BOLT, ANCHOR, HOUSE, BRACKET, 3/8" X 12"
5	BOLT, ANCHOR, HOUSE, BRACKET, 3/8" X 16"
6	ANCHOR, EXPANSION, 3/8 X 5"
7	ANCHOR, EXPANSION, 1/4" X 1 3/4"
8	SCREW, LAG, GIMLET POINT, 3/8" X 5"
9	BOLT, TOGGLE, 3/8" X 5"
10	BOLT, MACHINE, 3/8" X 2"
11	NAIL WIRE, 8d
12	NAIL MASONRY
13	BRACE, CROSSARM – DRILL EXTRA 3/8" HOLE



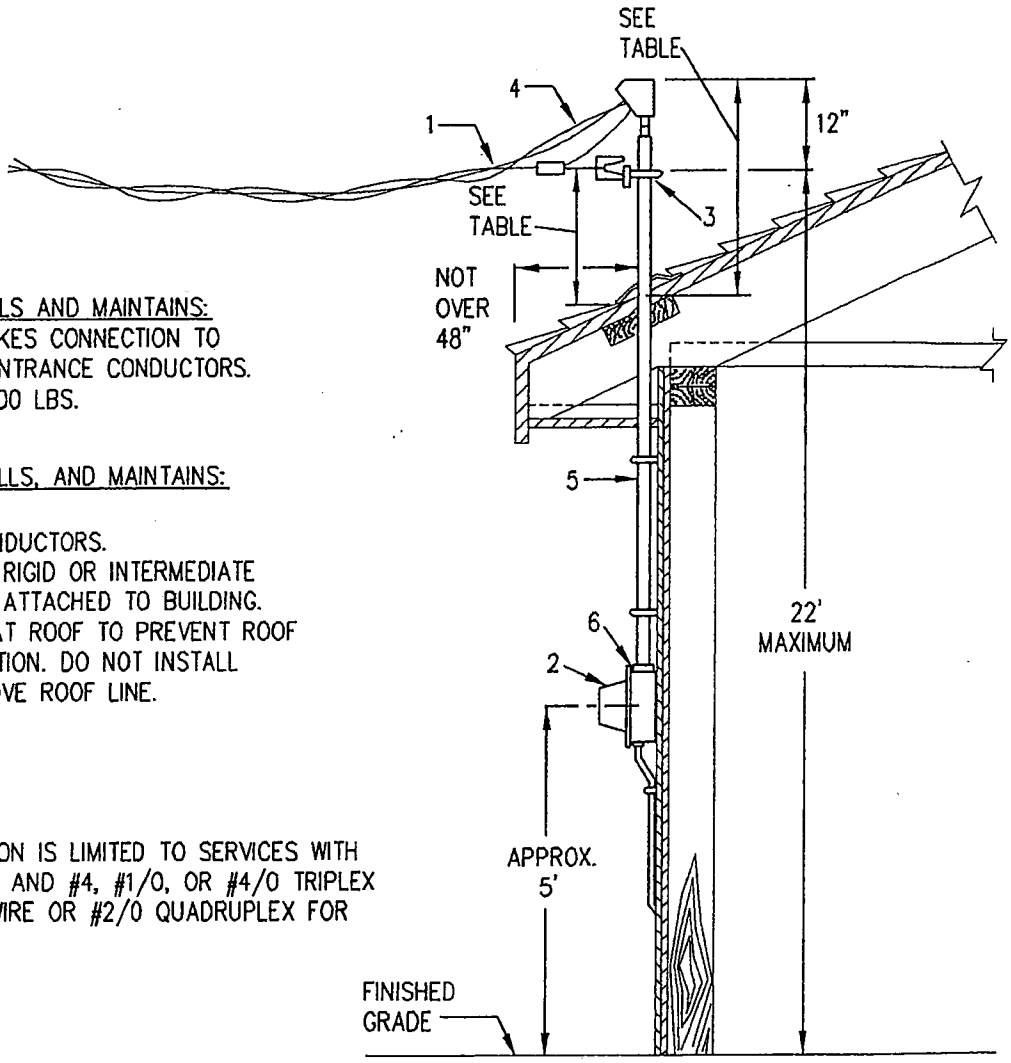




NOTES:

1. – BOROUGH DESIGNATES ATTACHMENT LOCATION. BUILDER SUPPLIES AND INSTALLS ANCHOR BOLT WITH BOLT EXTENDING AT LEAST 2 INCHES BEYOND OUTSIDE FACE OF FINISHED WALL. BUILDER SUPPLIES BRACKET AND CUTS OFF EXCESS BOLT LENGTH.
2. – CUSTOMER SUPPLIES BRACKET AND FASTENERS, AND ATTACHES OR REATTACHES BRACKET.
3. – DRILL 1/4 INCH HOLE INTO STUD.
4. – TWISTED SERVICE CABLE BRACKET USED TO PROVIDE CLEARANCE BETWEEN SERVICE CABLE AND DOWN SPOUT OR ROOF EDGE.
5. – PREFERRED ATTACHMENT METHOD IS TO INSTALL LAG SCREW INTO STUD. IF NO STUD LOCATED, THE ALTERNATE METHOD CAN BE USED PROVIDED BRACKET IS LOCATED LESS THAN 4 FEET FROM ANY CORNER OF STRUCT.
6. – SEE ILLUSTRATION NO. 3 FOR ATTACHMENT HEIGHTS ABOVE ROOF ON PIPE MAST.

ILLUSTRATION NO. 2: SECONDARY SERVICE – SERVICE DROP ATTACHMENTS



BOROUGH FURNISHES, INSTALLS AND MAINTAINS:

1. – SERVICE DROP AND MAKES CONNECTION TO CUSTOMER'S SERVICE ENTRANCE CONDUCTORS. MAXIMUM TENSION – 700 LBS.
2. – METER.

CUSTOMER FURNISHES, INSTALLS, AND MAINTAINS:

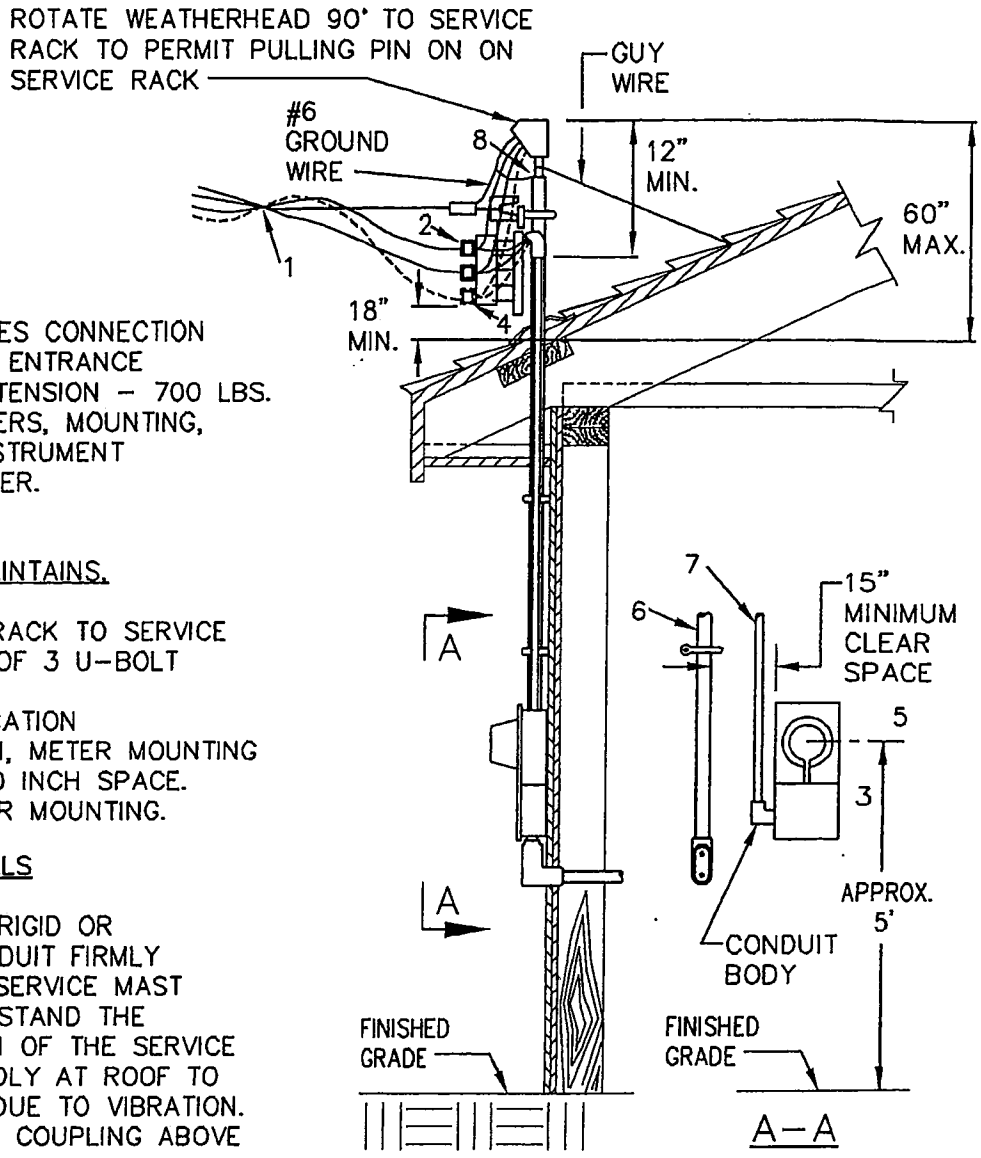
3. – ATTACHMENT SUPPORT
4. – SERVICE ENTRANCE CONDUCTORS.
5. – THREADED GALVANIZED RIGID OR INTERMEDIATE STEEL CONDUIT FIRMLY ATTACHED TO BUILDING. ANCHOR PIPE RIGIDLY AT ROOF TO PREVENT ROOF DAMAGE DUE TO VIBRATION. DO NOT INSTALL CONDUIT COUPLING ABOVE ROOF LINE.
6. – METER TROUGH.

NOTE:

1. – THIS TYPE OF CONNECTION IS LIMITED TO SERVICES WITH SELF-CONTAINED METER AND #4, #1/0, OR #4/0 TRIPLEX FOR SINGLE PHASE, 3 WIRE OR #2/0 QUADRUPLEX FOR THREE PHASE, 4 WIRE.

	HEIGHT ABOVE ROOF							
SERVICE	ATTACHMENT				WEATHER HEAD			
SIZE	2" PIPE		2 1/2" PIPE		2" PIPE		2 1/2" PIPE	
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
1ø – 100AMP	18"	24"	18"	36"	30"	36"	30"	48"
1ø – 200AMP			18"	20"			30"	32"
1ø – 300AMP			18"	18"			30"	30"
3ø – 200AMP			18"	18"			30"	30"

ILLUSTRATION NO. 3: SECONDARY SERVICE – SERVICE DROP ATTACHMENT TO A MAST ATTACHED TO LOW BUILDING TO PROVIDE REQUIRED CLEARANCES



BOROUGH FURNISHES, INSTALLS, AND MAINTAINS:

1 – SERVICE DROP AND MAKES CONNECTION TO CUSTOMER'S SERVICE ENTRANCE CONDUCTORS. MAXIMUM TENSION – 700 LBS.

2 – INSTRUMENT TRANSFORMERS, MOUNTING, AND WIRING BETWEEN INSTRUMENT TRANSFORMERS AND METER.

3 – METER

BOROUGH FURNISHES AND MAINTAINS, CUSTOMER INSTALLS:

4 – SERVICE RACK. FASTEN RACK TO SERVICE MAST USING A MINIMUM OF 3 U-BOLT TYPE CLAMPS.

5 – METER MOUNTING AT LOCATION DESIGNATED BY BOROUGH, METER MOUNTING REQUIRES 30 INCH BY 30 INCH SPACE. SPACE TO LEFT OF METER MOUNTING.

CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:

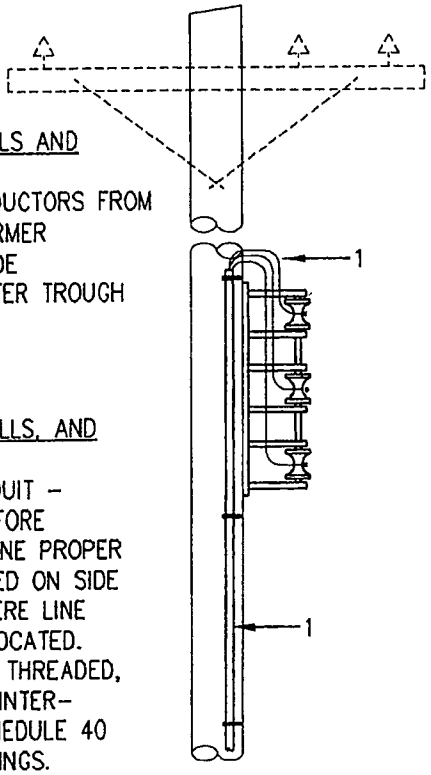
6 – THREADED, GALVANIZED, RIGID OR INTERMEDIATE STEEL CONDUIT FIRMLY ATTACHED TO BUILDING. SERVICE MAST MUST BE GUYED TO WITHSTAND THE MAXIMUM DESIGN TENSION OF THE SERVICE DROP. ANCHOR PIPE RIGIDLY AT ROOF TO PREVENT ROOF DAMAGE DUE TO VIBRATION. DO NOT INSTALL CONDUIT COUPLING ABOVE ROOF LINE.

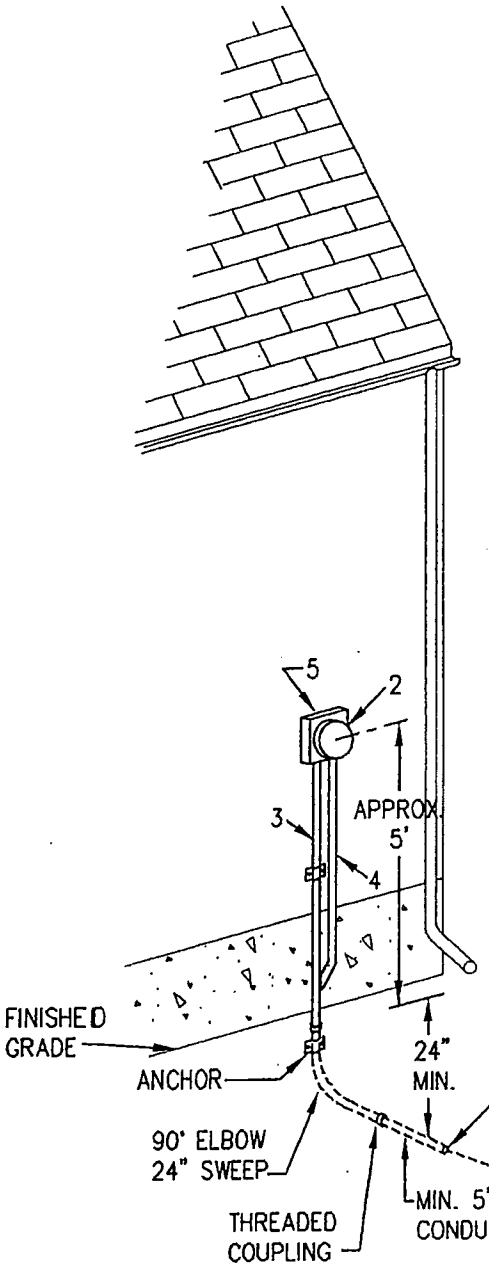
7 – 1 INCH MINIMUM, THREADED, GALVANIZED, RIGID OR INTERMEDIATE STEEL OR SCHEDULE 40 PVC CONDUIT AND FITTINGS BETWEEN INSTRUMENT TRANSFORMERS AND METER MOUNTING. CONDUIT TO BE FIRMLY ATTACHED TO BUILDING AND SUPPORTED ABOVE THE ROOF BY PHYSICAL ATTACHMENT TO THE SERVICE ENTRANCE CONDUIT.

8 – GROUND CLAMP

ILLUSTRATION NO. 4: SECONDARY SERVICE – SERVICE DROP ATTACHMENT TO A MAST WITH MAST MOUNTED INSTRUMENT TRANSFORMERS

SINGLE & THREE PHASE 120/208 VOLT AND 120/240 VOLT - SELF-CONTAINED METER





BOROUGH FURNISHES, INSTALLS AND MAINTAINS:

1. - SERVICE LATERAL CONDUCTORS FROM DISTRIBUTION TRANSFORMER LEADS TO THE LINE SIDE TERMINALS OF THE METER TROUGH CONDUIT ON POLE.
2. - METER.

CUSTOMER FURNISHES, INSTALLS, AND MAINTAINS:

3. - SERVICE LATERAL CONDUIT - CONTACT BOROUGH BEFORE INSTALLING TO DETERMINE PROPER CONDUIT SIZE. INSTALLED ON SIDE OF METER TROUGH WHERE LINE SIDE TERMINALS ARE LOCATED. 3 OR 4 INCH MINIMUM, THREADED, GALVANIZED, RIGID OR INTER-MEDIATE STEEL OR SCHEDULE 40 PVC CONDUIT AND FITTINGS. INSTALLATION TO INCLUDE 24 INCH SWEEP 90 DEGREE ELBOW. (SECURELY ANCHORED TO FOUND-ATION) AND MINIMUM 5 FEET OF CONDUIT IN TRENCH. CONDUIT IN TRENCH MUST BE ABLE TO BE THREADED AND UNTHREADED FROM ELBOW. PROVIDE FISH LINE IN SERVICE CONDUIT RUN.
4. - SERVICE ENTRANCE CONDUCTORS AND CONDUIT
5. - METER TROUGH.

NOTES:

1. - CUSTOMER EXCAVATES, PROVIDES SELECT BACKFILL FOR BOROUGH SPECIFIED CONDUIT, BACKFILLS, TAMPS IN LAYERS OVER DISTURBED EARTH NEAR BUILDING FOUNDATION TO HELP PREVENT DAMAGE TO SERVICE ENTRANCE EQUIPMENT DUE TO GROUND SETTLING AND RESTORES SURFACE OF TRENCH FROM BASE OF POLE TO BUILDING. SERVICE LATERAL TO BE EITHER INSTALLED IN CONDUIT OR DIRECT BURIED AS DIRECTED BY THE BOROUGH.

ILLUSTRATION NO. 5: SECONDARY SERVICE - UNDERGROUND SERVICE CONNECTION FROM OVERHEAD DISTRIBUTION LINES

SINGLE PHASE, 3 WIRE, 120/208 VOLT OR 120/240 VOLT AND
3 PHASE, 4 WIRE, 208Y/120 VOLT OR
3 PHASE, 4 WIRE, 240–SINGLE PHASE 120/240 VOLT
INSTRUMENT TRANSFORMER METERING FOR SERVICE
ENTRANCE CONDUCTORS 300 KCMIL OR LARGER

CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:

1 – SERVICE ENTRANCE

2 – 1 INCH MINIMUM, THREADED, GALVANIZED, RIGID OR INTERMEDIATE STEEL OR SCHEDULE 40 PVC CONDUIT AND FITTINGS BETWEEN INSTRUMENT TRANSFORMERS AND METER MOUNTING.

3 – GROUND CLAMPS

BOROUGH FURNISHES AND MAINTAINS, CUSTOMER INSTALLS:

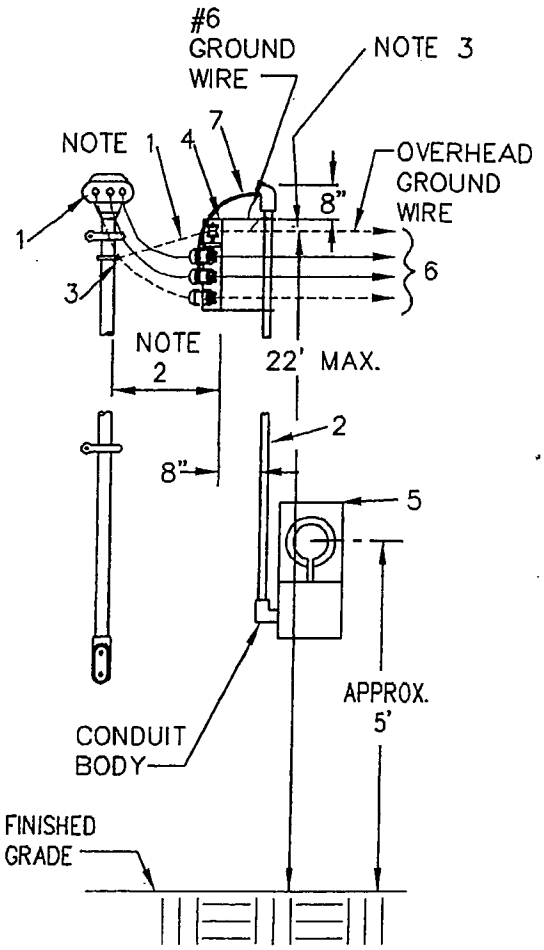
4 – ANCHOR BOLTS AND SERVICE RACK.

5 – METER MOUNTING – LOCATION DESIGNATED BY BOROUGH.

BOROUGH FURNISHES, INSTALLS AND MAINTAINS:

6 – SERVICE DROP, INSTRUMENT TRANSFORMERS AND MOUNTING AND MAKES CONNECTION TO CUSTOMER'S SERVICE ENTRANCE CONDUCTORS. MAXIMUM TENSION PER CONDUCTOR – 800 LBS.

7 – WIRING BETWEEN INSTRUMENT TRANSFORMERS AND METER MOUNTING.



NOTES:

1 – IDENTIFY THIS CONDUCTOR OF 3 PHASE, 4 WIRE DELTA CONNECTED SERVICE.

2 – 36" MINIMUM CLEAR SPACE.

3 – BOROUGH MAKES GROUNDING CONNECTION FOR METAL CONDUIT.

ILLUSTRATION NO. 6: SECONDARY SERVICE DROP ATTACHMENT AND INSTRUMENT TRANSFORMER MOUNTING ON CUSTOMER'S BUILDING. LESS THAN 300V

3 PHASE, 3 WIRE, 480 VOLTS
INSTRUMENT TRANSFORMER METERING
WHEN VOLTAGE EXCEEDS 300 VOLTS

CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:

1 – SERVICE ENTRANCE
2 – 1 INCH MINIMUM, THREADED, GALVANIZED, RIGID OR INTERMEDIATE STEEL OR SCHEDULE 40 PVC CONDUIT AND FITTINGS BETWEEN INSTRUMENT TRANSFORMERS AND METER MOUNTING.
3 – GROUND CLAMPS

BOROUGH FURNISHES AND MAINTAINS, CUSTOMER INSTALLS:

4 – ANCHOR BOLTS AND SERVICE RACK.
5 – METER MOUNTING – LOCATION DESIGNATED BY BOROUGH.

BOROUGH FURNISHES, INSTALLS AND MAINTAINS:

6 – SERVICE DROP, INSTRUMENT TRANSFORMERS AND MOUNTING AND MAKES CONNECTION TO CUSTOMER'S SERVICE ENTRANCE CONDUCTORS. MAXIMUM TENSION PER CONDUCTOR – 800 LBS.
7 – WIRING BETWEEN INSTRUMENT TRANSFORMERS AND METER MOUNTING.
8 – 480 VOLT LIGHTNING ARRESTERS.

NOTES:

1 – COMPANY MAKES GROUNDING CONNECTION FOR METAL CONDUIT.
2 – 36" MINIMUM CLEAR SPACE.

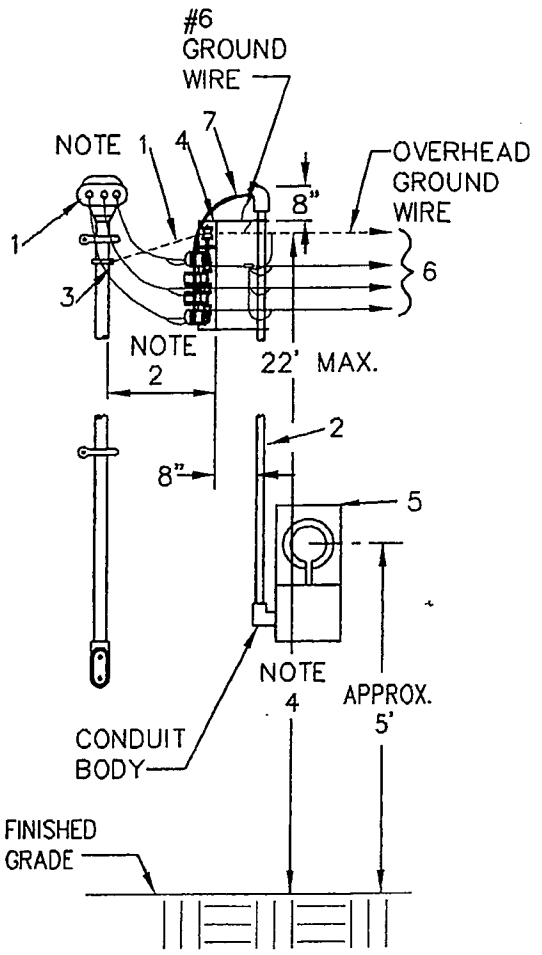


ILLUSTRATION NO. 7: SECONDARY SERVICE DROP ATTACHMENT AND INSTRUMENT TRANSFORMER MOUNTING ON CUSTOMER'S BUILDING. GREATER THAN 300V

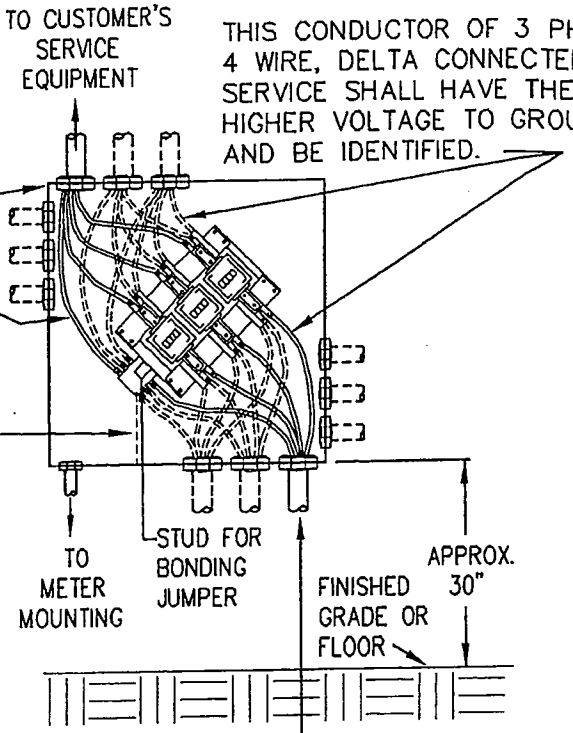
3 PHASE, 4 WIRE, 208Y/120 VOLTS OR 3 PHASE, 4 WIRE,
240-SINGLE PHASE 120/240 VOLTS – 1200 AMPERE MAXIMUM

CUSTOMER FURNISHES, INSTALLS AND MAINTAINS SEALABLE METAL CABINET MINIMUM SIZE 48 INCHES BY 48 INCHES BY 12 INCHES AND INSTALLS INSTRUMENT TRANSFORMERS AND MOUNTING FURNISHED BY BOROUGH. MOUNT ON 45° ANGLE TO ELIMINATE SHARP BENDS IN CABLES. GROUP CONDUITS IN CORNER OF CABINET.

CUSTOMER FURNISHES AND INSTALLS AND BOROUGH MAINTAINS BONDING JUMPER PER NEC RULE 250-79 (A), (B), & (C). ALL METALLIC CONDUITS MUST BE BONDED TOGETHER AND TO THE CABINET.

NOTE:
MAXIMUM TIGHTENING TORQUE ON BENELEX – 450 INCH-POUNDS.

MAXIMUM AMPACITY OF EACH BENELEX CONNECTOR IS 400 AMPERES. EACH CONNECTOR CAN ACCOMMODATE ONE COPPER OR ALUMINUM CONDUCTOR UP TO 750 KCMIL.



METER MOUNTING – OUTDOOR INSTALLATION

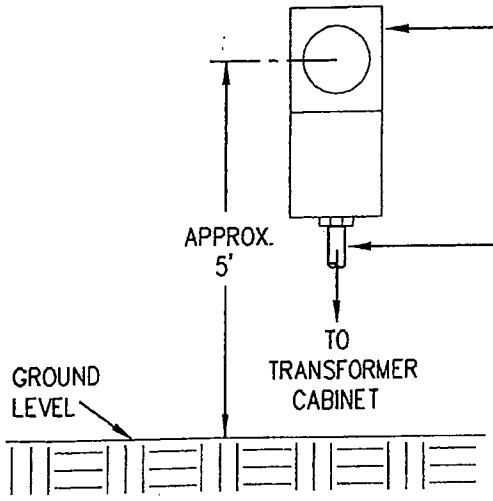


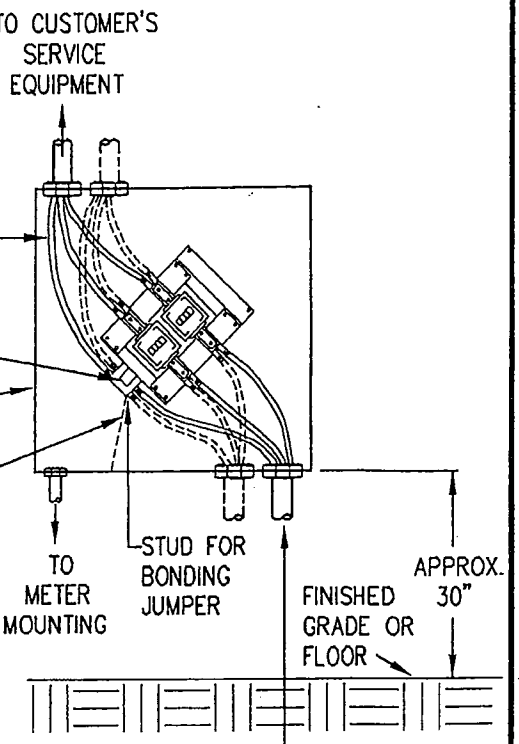
ILLUSTRATION NO. 8: SECONDARY SERVICE – TYPICAL ARRANGEMENT OF INST. TRANSFORMERS AND MOUNTING FOR INSTALLATION IN INST. TRANSFORMER CABINET (240V AND LESS)

SINGLE PHASE 120/240 VOLT OR 240/480 VOLT - 800 AMPERE MAXIMUM

NOTE:
1. — MAXIMUM AMPACITY OF EACH BENELEX CONNECTOR IS 400 AMPERES. EACH CONNECTOR CAN ACCOMMODATE ONE COPPER OR ALUMINUM CONDUCTOR UP TO 750 KCMIL.
2. — MAXIMUM TIGHTENING TORQUE ON BENELEX - 450 INCH-POUNDS.

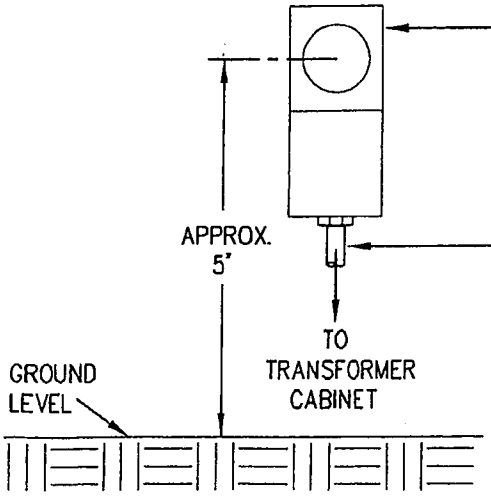
CUSTOMER FURNISHES, INSTALLS AND MAINTAINS SEALABLE METAL CABINET MINIMUM SIZE 36 INCHES BY 36 INCHES, BY 10 INCHES AND INSTALLS INSTRUMENT TRANSFORMERS AND MOUNTING FURNISHED BY BOROUGH. MOUNT ON 45° ANGLE TO ELIMINATE SHARP BENDS IN CABLES. GROUP CONDUITS IN CORNER OF CABINET.

CUSTOMER FURNISHES AND INSTALLS AND BOROUGH MAINTAINS BONDING JUMPER PER NEC RULE 250-79. ALL METALLIC CONDUITS MUST BE BONDED TOGETHER AND TO THE CABINETS.



SERVICE ENTRANCE UP TO 2 PARALLEL CONDUITS WITH 2-500 KCMIL CU. OR 750 KCMIL AL. CONDUCTORS PER PHASE AND NEUTRAL. CONDUITS SHALL HAVE 36 INCHES MINIMUM BENDING RADIUS.

METER MOUNTING - OUTDOOR INSTALLATION

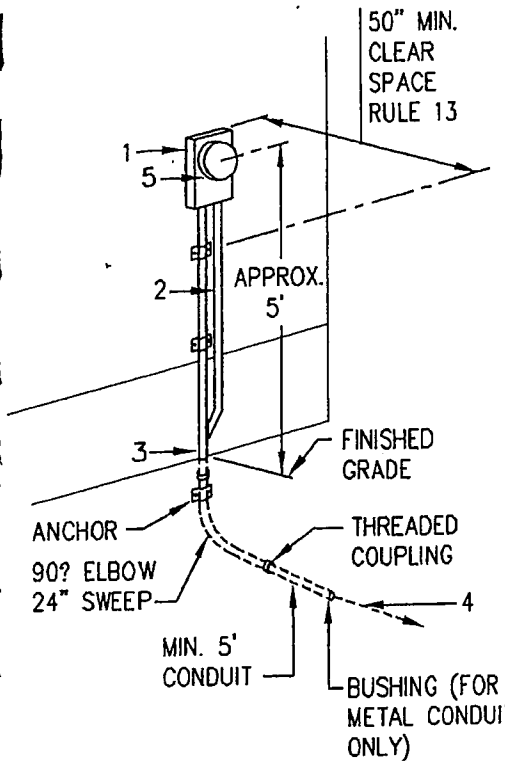


METER MOUNTING FURNISHED & LOCATION DESIGNATED BY BOROUGH AND INSTALLED BY CUSTOMER. PROVIDE SPACE 40 INCHES BY 40 INCHES FOR METER MOUNTING. ALLOW CLEAR SPACE, 15 INCHES MINIMUM, TO LEFT OF METER.

CUSTOMER FURNISHES, INSTALLS, AND MAINTAINS 1 INCH MINIMUM, THREADED, GALVANIZED, RIGID OR INTERMEDIATE STEEL OR SCHEDULE 40 PVC CONDUIT AND FITTINGS BETWEEN INSTRUMENT TRANSFORMER CABINET AND METER MOUNTING. BOROUGH FURNISHES AND INSTALLS WIRING BETWEEN INSTRUMENT TRANS-FORMERS AND THE METER MOUNTING.

ILLUSTRATION NO. 9: SECONDARY SERVICE - TYPICAL ARRANGEMENT OF INST. TRANSFORMER AND MOUNTING FOR INSTALLATION IN INST. TRANSFORMER CABINET (SINGLE PHASE)

UNDERGROUND SERVICE LATERAL FROM OVERHEAD
OR UNDERGROUND DISTRIBUTION
SINGLE PHASE, 3 WIRE, 120/208 VOLTS OR 120/240 VOLTS



CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:

1. – METER TROUGH
2. – SERVICE ENTRANCE CONDUCTORS.
3. – SERVICE LATERAL CONDUIT – CONTACT BOROUGH BEFORE INSTALLING TO DETERMINE PROPER CONDUIT SIZE. INSTALLED ON SIDE OF METER TROUGH WHERE LINE SIDE TERMINALS ARE LOCATED. 3 OR 4 INCH MINIMUM, THREADED, GALVANIZED, RIGID OR INTERMEDIATE STEEL OR SCHEDULE 40 PVC CONDUIT AND FITTINGS – INSTALLATION TO INCLUDE 24 INCH SWEEP 90 DEGREE ELBOW (SECURELY ANCHORED TO FOUNDATION) AND MINIMUM 5 FEET OF CONDUIT IN TRENCH. CONDUIT IN TRENCH MUST BE ABLE TO BE THREADED AND UNTHREADED FROM ELBOW. PROVIDE FISH LINE IN SERVICE CONDUIT RUN.

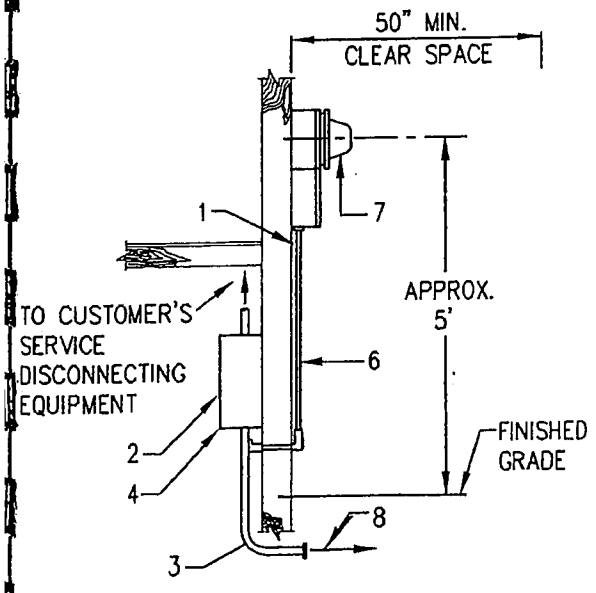
BOROUGH FURNISHES, INSTALLS AND MAINTAINS:

4. – SERVICE LATERAL – CABLES TERMINATE ON THE LINE SIDE TERMINALS OF CUSTOMER'S METER TROUGH.
5. – METER.

NOTE:

1. – CONSTRUCTION FOR 3 PHASE, 4 WIRE SERVICE LATERAL TO SELF-CONTAINED METER IS SIMILAR, EXCEPT THAT CUSTOMER ALSO INSTALLS THE SERVICE LATERAL CONDUIT IN ACCORDANCE WITH PLANS AND SPECIFICATIONS FURNISHED BY THE BOROUGH FOR EACH SPECIFIC INSTALLATION.

ARRANGEMENT OF EQUIPMENT FOR SELF-CONTAINED METER



CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:

1. – 1 INCH MINIMUM, THREADED, GALVANIZED, RIGID OR INTERMEDIATE STEEL OR SCHEDULE 40 PVC CONDUIT AND FITTINGS BETWEEN INSTRUMENT TRANSFORMER CABINET AND METER MOUNTING.
2. – SEALABLE METAL CABINET, MINIMUM SIZE 36 INCHES BY 36 INCHES BY 10 INCHES.
3. – 36 INCHES MINIMUM RADIUS, GALVANIZED, STEEL ELBOW THROUGH BASEMENT WALL.

BOROUGH FURNISHES AND MAINTAINS, CUSTOMER INSTALLS:

4. – INSTRUMENT TRANSFORMERS.
5. – METER MOUNTING INSTALLED AT LOCATION DESIGNATED BY THE BOROUGH.

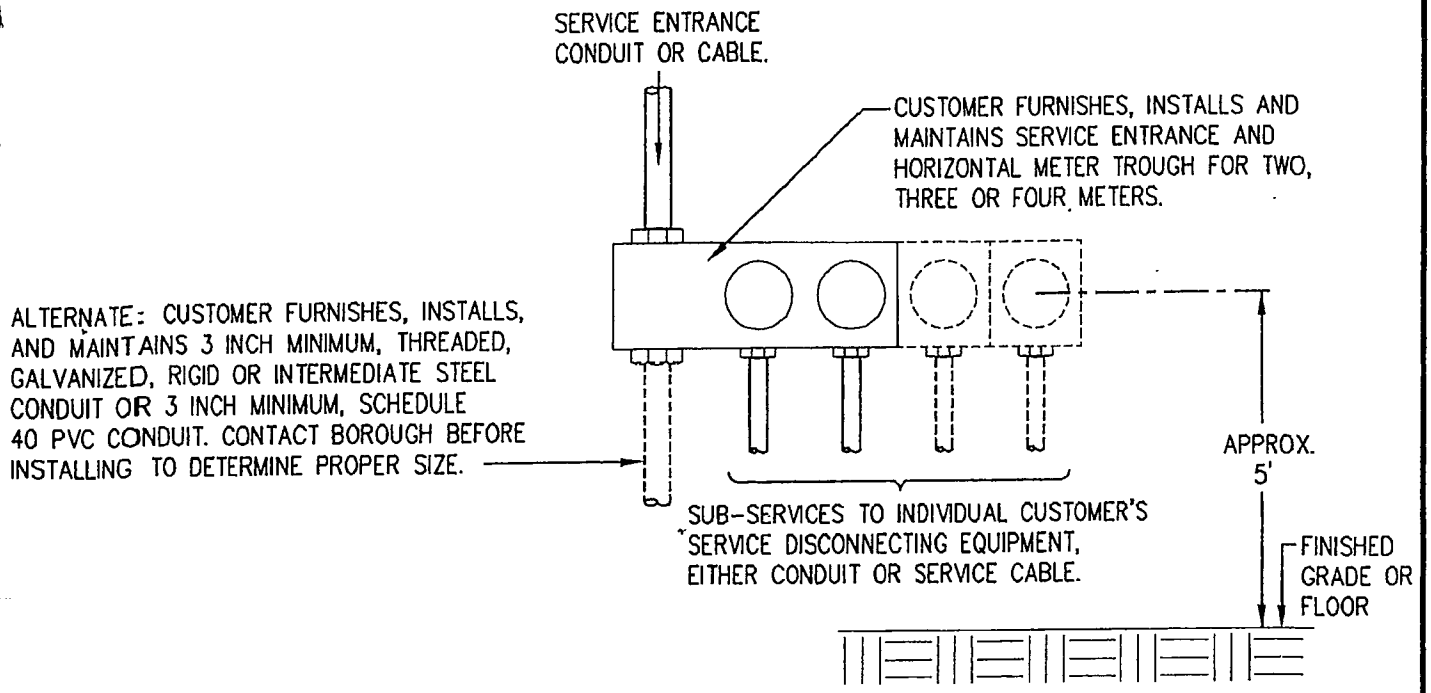
BOROUGH FURNISHES, INSTALLS AND MAINTAINS:

6. – WIRING BETWEEN INSTRUMENT TRANSFORMERS AND METER MOUNTING.
7. – METER
8. – SERVICE LATERAL CABLES TERMINATING ON THE LINE SIDE OF THE INSTRUMENT TRANSFORMER.

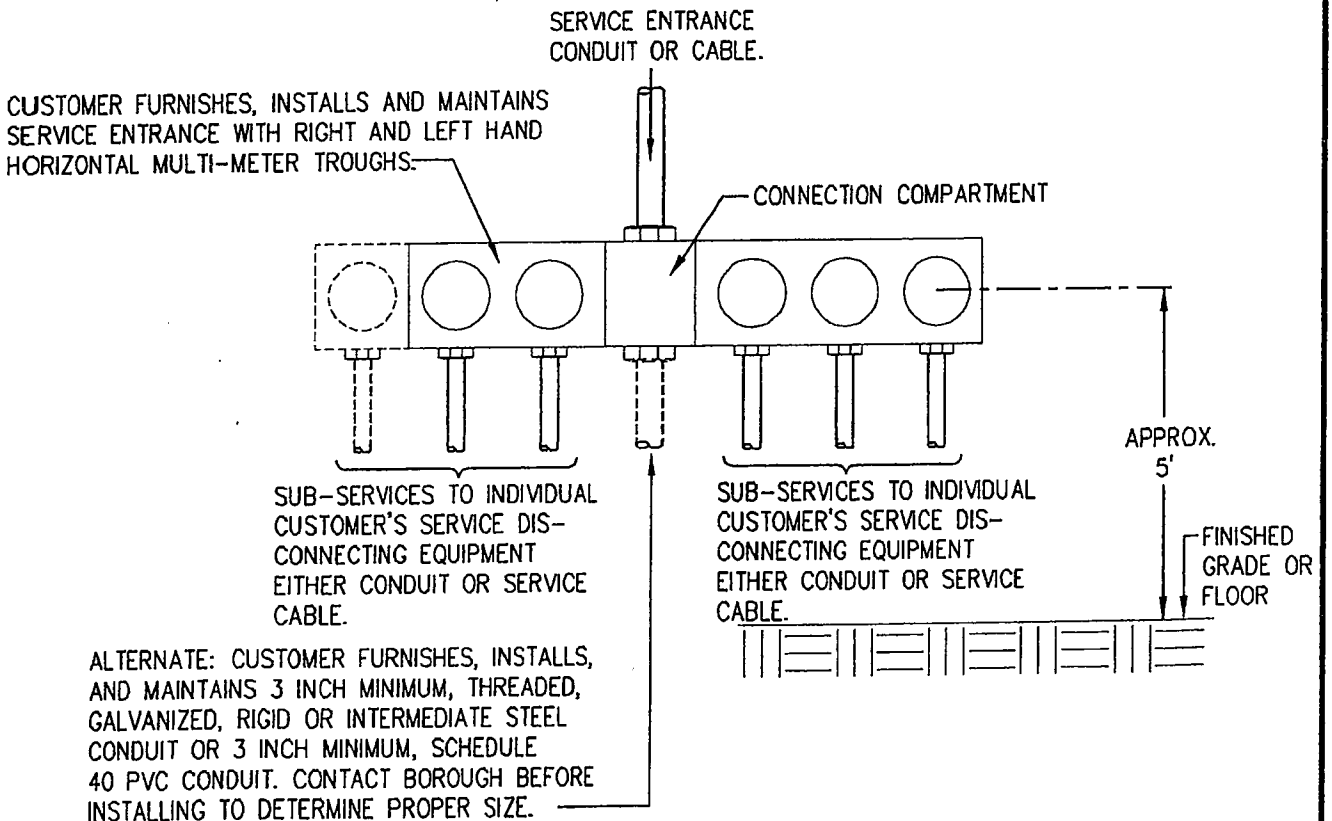
ARRANGEMENT OF EQUIPMENT FOR INSTRUMENT TRANSFORMER METERING

ILLUSTRATION NO. 10: SECONDARY SERVICE – TYPICAL ARRANGEMENT OF OUTDOOR METER ON BUILDING UNDERGROUND SERVICE LATERAL

SINGLE PHASE, 3 WIRE, 120/208 VOLTS OR 120/240 VOLTS



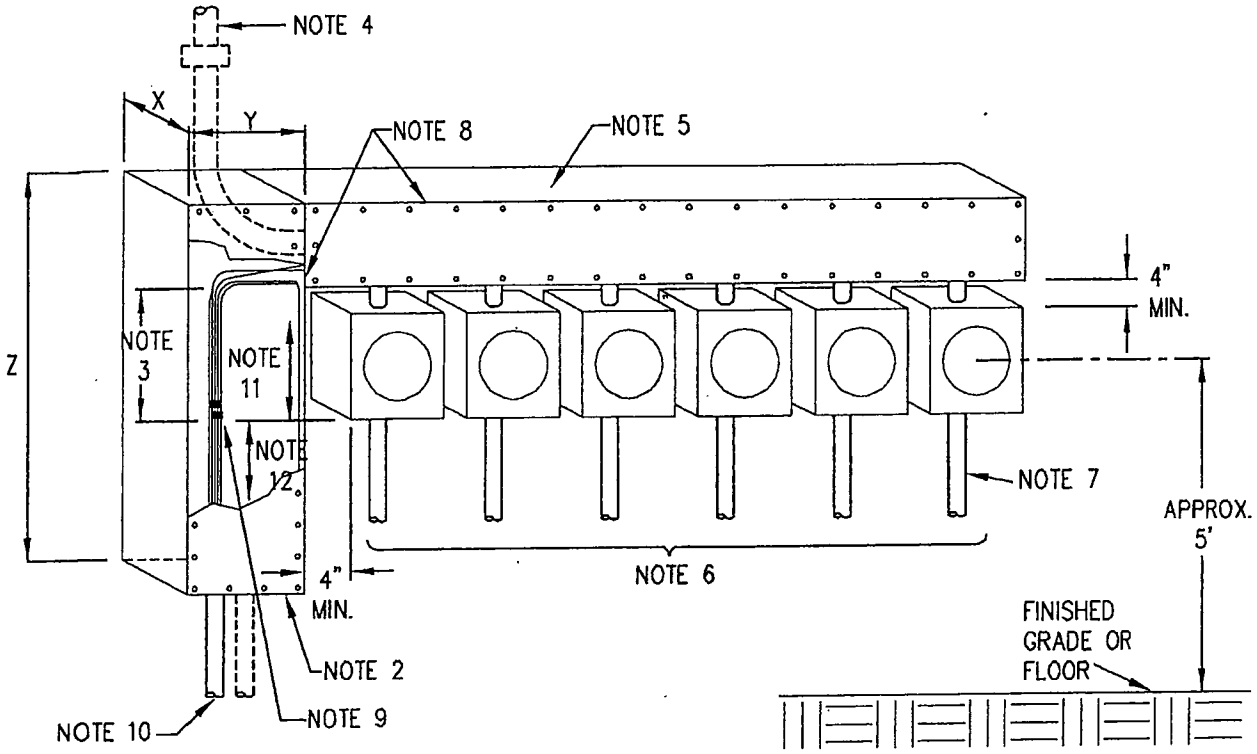
TYPICAL ARRANGEMENT FOR TWO, THREE OR FOUR METERS



ALTERNATE ARRANGEMENT UP TO SIX METERS

ILLUSTRATION NO. 11: – SECONDARY SERVICE – MULTI-METER INSTALLATION USING METER TROUGH WITH FACTORY BUILT IN BUSSING

SINGLE PHASE, 3 WIRE, 120/208 VOLTS OR 120/240 VOLTS
3 PHASE, 4 WIRE, 208Y/120 VOLTS OR 3 PHASE, 4 WIRE, 240-SINGLE PHASE 120/240 VOLTS



NOTES:

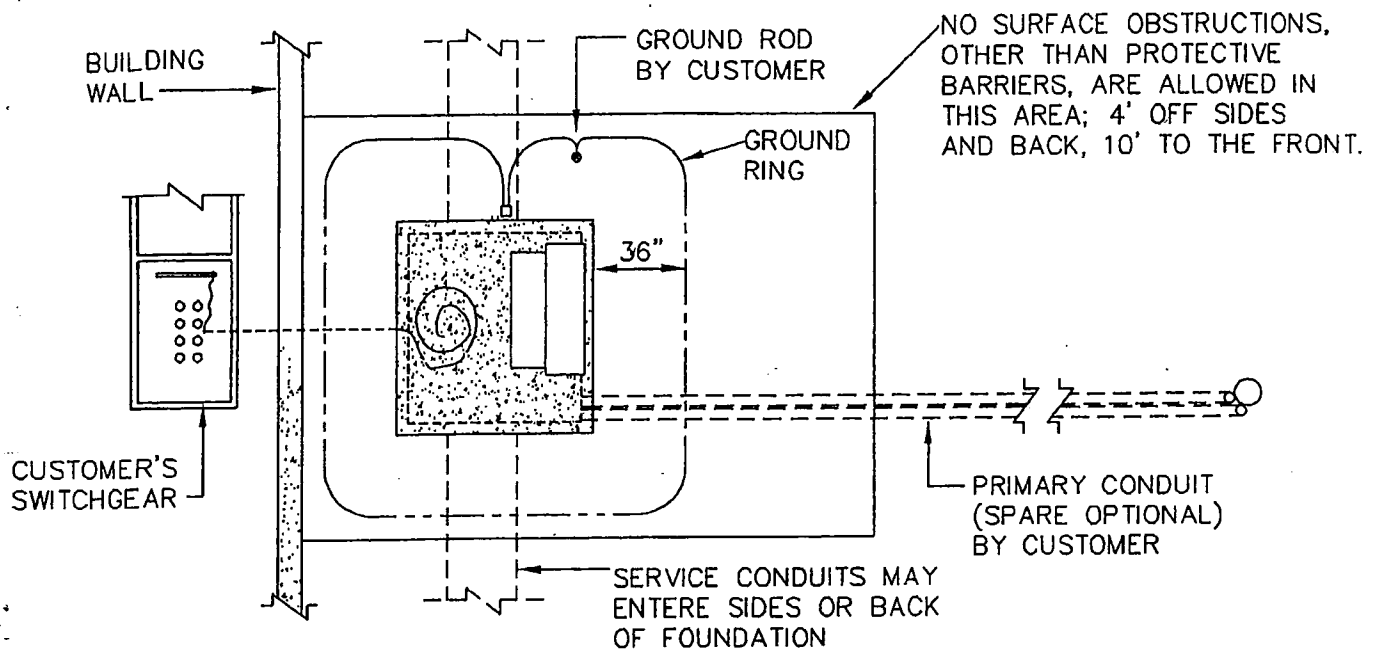
1. - SUB-SERVICE FROM A COMMON 3 PHASE, 4 WIRE, 208 VOLT SERVICE SHALL BE BALANCED.
2. - VERTICAL SEALABLE WIRE TROUGH SHALL OPEN ON FRONT.
3. - MINIMUM LENGTH OF CABLES BY CUSTOMER INSIDE TROUGH 18 INCHES.
4. - SERVICE ENTRANCE CONDUIT OR CABLE FOR OVERHEAD SERVICE.
5. - CUSTOMER SHALL MAKE ALL SUB-SERVICE TAPS TO INDIVIDUAL METER TROUGHS FROM CUSTOMER'S BUS IN HORIZONTAL WIRE TROUGH. METERED CONDUCTORS SHALL NOT BE INSTALLED IN THIS WIRE TROUGH.
6. - SUB-SERVICES TO INDIVIDUAL CUSTOMER'S SERVICE DISCONNECTING EQUIPMENT.
7. - SUB-SERVICES, CONDUIT OR CABLE.
8. - CUSTOMER FURNISHES, INSTALLS AND MAINTAINS SERVICE ENTRANCE. HORIZONTAL AND VERTICAL SEALABLE WIRE TROUGH, AND INDIVIDUAL METER TROUGHS.
9. - POINT OF DELIVERY, BOROUGH MAKES CONNECTION BETWEEN SERVICE LATERAL CABLES AND CUSTOMER SERVICE ENTRANCE CABLES.
10. - UNDERGROUND SERVICE ENTRANCE CONDUIT OR CABLES.
11. - CUSTOMER RESPONSIBILITY.
12. - BOROUGH RESPONSIBILITY.

BOROUGH ALUMINUM XLP CABLE	1 SET OF 3					1 SET OF 4				
	SERVICE CONDUIT		MINIMUM VERTICAL TROUGH DIMENSIONS			SERVICE CONDUIT		MINIMUM VERTICAL TROUGH DIMENSIONS		
	NO.	MIN. SIZE	X	Y	Z	NO.	MIN. SIZE	X	Y	Z
#1/0	1	1.5"	6"	6"	36"	1	2"	6"	6"	36"
#4/0	1	2"	6"	6"	36"	1	2"	6"	6"	36"
350 KCMIL	1	2.5"	6"	6"	36"	1	3"	8"	8"	36"

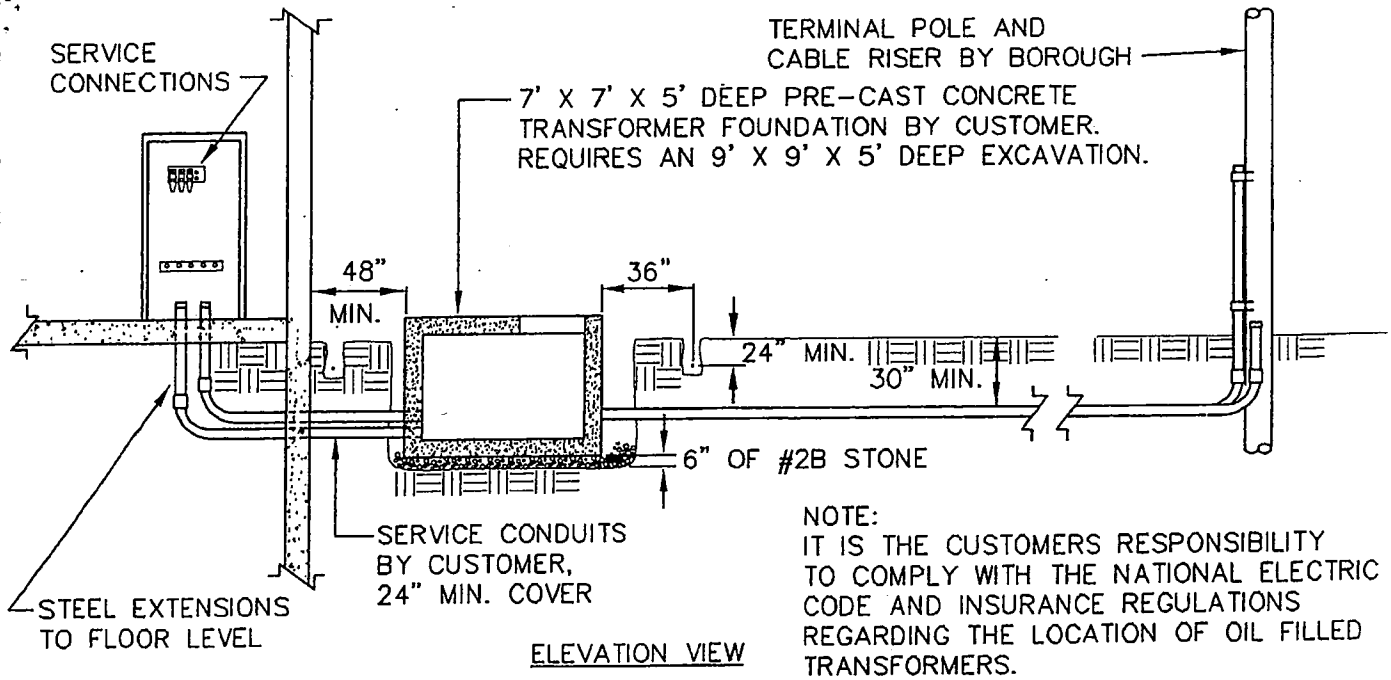
ILLUSTRATION NO. 12: - SECONDARY SERVICE - MULTI-METER INSTALLATION FOR TWO TO SIX METERS USING INDIVIDUAL METER TROUGHS AND WIRE TROUGH.

75 KVA TO 2500 KVA CAPACITY

A TYPICAL INSTALLATION



PLAN VIEW



ELEVATION VIEW

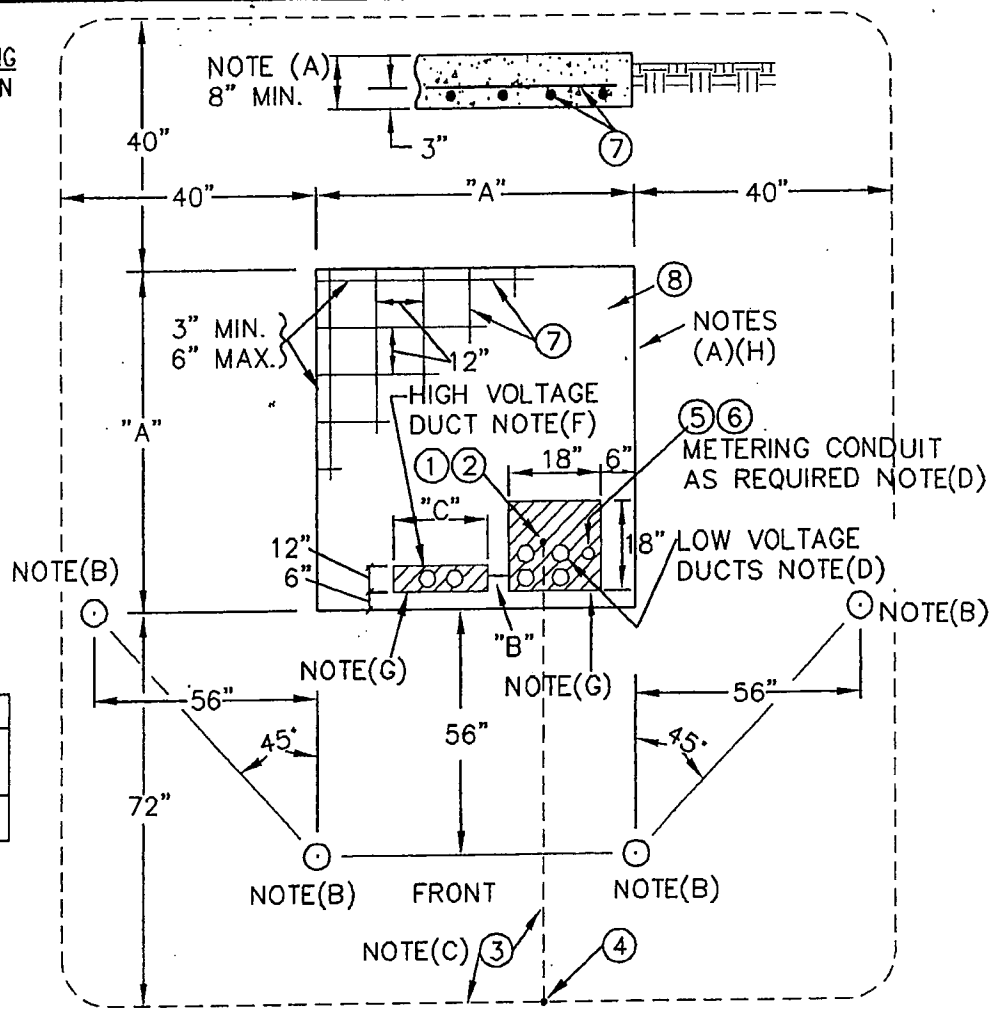
NOTE:
IT IS THE CUSTOMERS RESPONSIBILITY TO COMPLY WITH THE NATIONAL ELECTRIC CODE AND INSURANCE REGULATIONS REGARDING THE LOCATION OF OIL FILLED TRANSFORMERS.

MINIMUM NUMBER OF SERVICE CONDUITS

KVA	75	150	300	500	750	1000	1500	2000	2500
208Y/120	2	2	4	6	10	12	–	–	–
480Y/277	–	2	2	3	4	6	10	12	12

ILLUSTRATION NO. 13: THREE PHASE PADMOUNT TRANSFORMER INSTALLATION

CONCRETE PAD AND GROUNDING FOR 3ø PADMOUNT DISTRIBUTION TRANSFORMERS 13KV



POURED PAD DIMENSIONS			
PRIMARY VOLTAGE	A	B	C
13 KV	84"	6"	24"

NOTES:

(A) MINIMUM PAD DEPTH 8" CONCRETE. TAMP DIRT BEFORE POURING CONCRETE. ALLOW CONCRETE TO EXTEND 2" ABOVE FINAL GRADE.

(B) INSTALL GUARD POSTS WHEN TRANSFORMER IS SUBJECT TO DAMAGE BY VEHICLES. USE 4" GALVANIZED STEEL PIPE FILLED WITH CONCRETE, SET IN 15" DIAMETER 3'-0" DEPTH CONCRETE BASE. PIPE MUST EXTEND 4'-0" ABOVE GRADE.

(C) INSTALL #4 BARE COPPER WIRE FOR GROUNDING. PROVIDE 12" MIN. TO 18" MAX. COVER. EXTEND TO GROUND ROD.

(D) CLUSTER LOW VOLTAGE DUCTS, GROUND ROD AND METERING CONDUIT TOWARD FRONT OF PAD.

(E) A GROUND ROD IS REQUIRED.

(F) TWO HIGH VOLTAGE DUCTS ARE REQUIRED. USE 90° BEND FOR CABLE ENTRANCE.

(G) DO NOT POUR CONCRETE IN CABLE ACCESS AREAS.

(H) ALL THREE PHASE TRANSFORMERS CAN BE SET ON PRECAST TRANSFORMER FOUNDATIONS.
BUT ALL THREE PHASE TRANSFORMERS LARGER THAN THOSE LISTED MUST BE INSTALLED ON A PRECAST FOUNDATION.

BILL OF MATERIAL

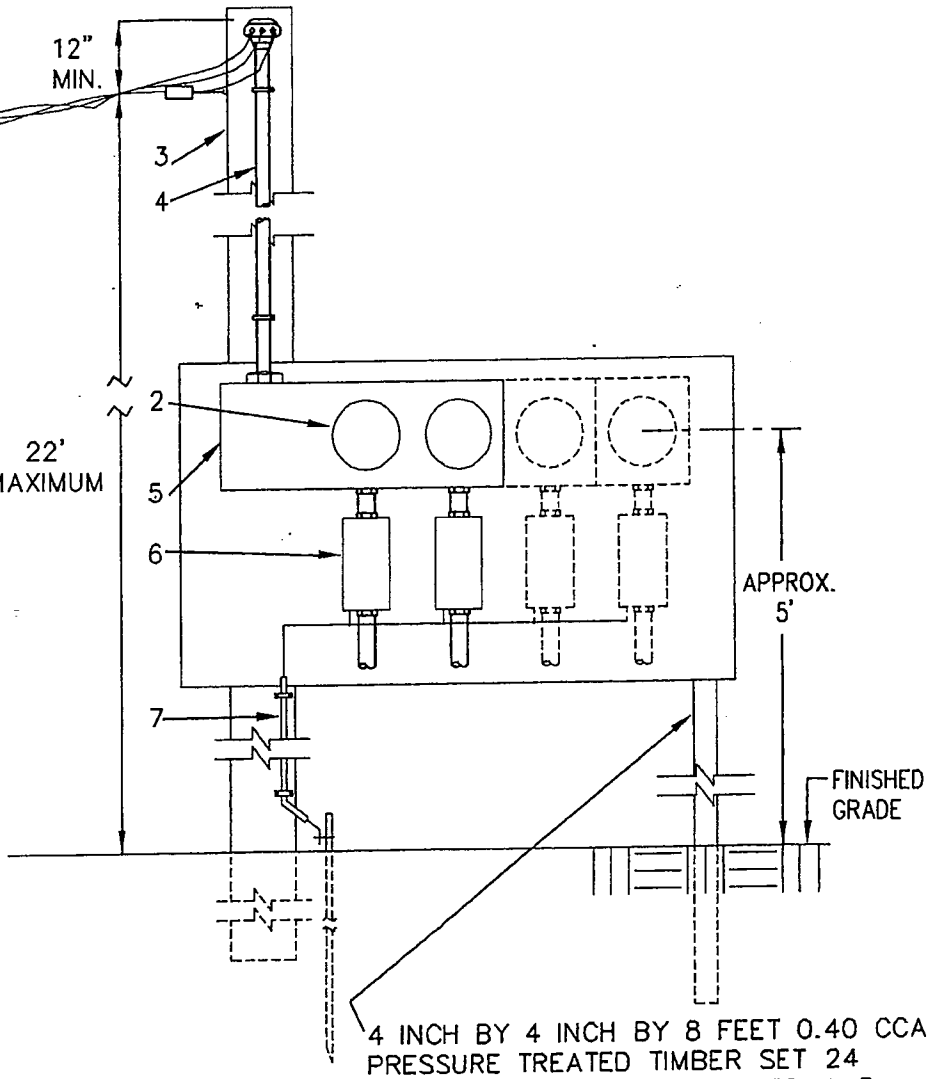
ITEM CODE#	QUAN.	DESCRIPTION
1	1	ROD,GROUNDING, 5/8 X 10', POINTED
2	1	CLAMP,5/8, GROUND ROD
3	75'	WIRE,#4 SOL. CU. BARE SD TIE
4	1	CONN,TAP,VISE TYPE,#4 SOL. CU.
5	*	CONDUIT,METERING,RIGID METAL, 1" MIN. ID.
6	*	BUSHING,INSULATED
7	*	ROD,CONCRETE REINFORCING, 1/2"X20'
8	*	CONCRETE,2500 PSI MIN.

CAUTION

1. BEFORE SUBMITTING BIDS OR STARTING CONSTRUCTION, CONTACT THE BOROUGH TO DETERMINE THE PRIMARY VOLTAGE RATING AND THE KVA SIZE OF THE TRANSFORMER.
2. THE TRANSFORMER LOCATION, TYPE OF FOUNDATION, POINT OF SERVICE DELIVERY, AND METERING LOCATION MUST BE APPROVED BY THE BOROUGH.

MAXIMUM TRANSFORMER SIZES ALLOWED ON POURED PAD FOUNDATIONS			
PRIMARY VOLTAGE	SECONDARY VOLTAGE		INTERPOSING TRANSFORMERS
	120/208 OR 240	277/480	
13KV	UP TO 300KVA	UP TO 500KVA	ALL

ILLUSTRATION NO. 14: TRANSFORMER CONCRETE PAD (BOROUGH APPROVAL REQUIRED)



BOROUGH FURNISHES INSTALLS, AND MAINTAINS:

1 – SERVICE DROP AND MAKES CONNECTION TO CUSTOMER'S SERVICE ENTRANCE CONDUCTORS.

2 – METERS

CUSTOMER FURNISHES, INSTALLS, AND MAINTAINS:

3 – SERVICE SUPPORT, EITHER GUYED 3 INCH MINIMUM STEEL PIPE SET 5 FEET IN CONCRETE OR CLASS 5 MINIMUM WOOD POLE.

4 – SERVICE ENTRANCE CONDUCTORS

5 – SERVICE ENTRANCE AND HORIZONTAL METER TROUGH FOR 2 THRU 6 METERS. MOUNT METER TROUGHS ON 3/4" INCH MINIMUM THICKNESS LUMBER SECURELY FASTENED TO SUPPORTS. LUMBER MUST BE 0.40 CCA PRESSURE TREATED AND GALVANIZED NAILS MUST BE USED. SIZE AS REQUIRED.

6 – SERVICE DISCONNECTING EQUIPMENT (SEE NOTES)

7 – SERVICE GROUND – PROTECT GROUND WIRE WITH MOLDING OR USE ARMORED GROUND CABLE.

8 – GROUND ROD

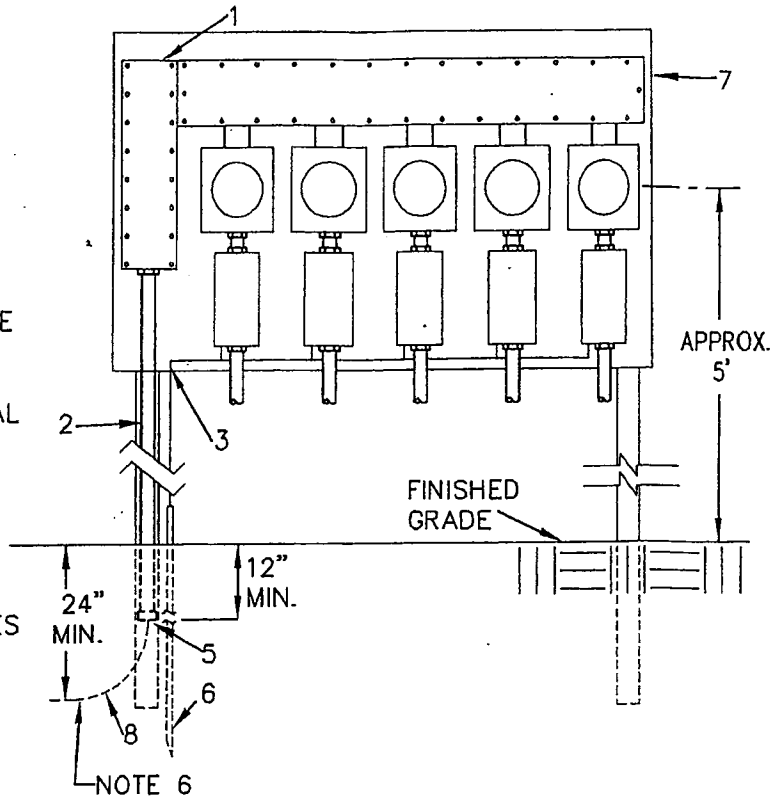
NOTE:

1. SERVICE EQUIPMENT MAY ALSO BE MOUNTED ON THE BACK OF THE TREATED WOOD OPPOSITE THE METER TROUGH.
2. WHEN THE EXTERIOR WALL OF THE MOBILE HOME IS NOT IN SIGHT FROM AND/OR MORE THAN 30 FEET FROM THE SERVICE DISCONNECTING EQUIPMENT. THE INSTALLATION OF A SECOND CIRCUIT BREAKER OR SWITCH AND FUSES IN SERIES WITH THE SERVICE DISCONNECTING EQUIPMENT IS ACCEPTABLE. IF A POST IS USED TO MOUNT THE SECOND DISCONNECT, USE 4 INCH BY 4 INCH CROSS SECTION 0.40 CCA PRESSURE TREATED TIMBER SET 24 INCHES MINIMUM IN GROUND. THE SECOND DISCONNECT IS THE MOBILE HOME SERVICE EQUIPMENT. INSTALL THREE-WIRE UNDERGROUND CABLE BETWEEN THE TWO DISCONNECTS AND FOUR-WIRE FEEDERS CABLE BETWEEN THE SECOND DISCONNECT AND THE MOBILE HOME. INSTALL GROUNDS AT BOTH DISCONNECTS.

ILLUSTRATION NO. 15: SECONDARY SERVICE – MULTI-METER INSTALLATION FOR MOBILE HOME COURT – OVERHEAD DISTRIBUTION

NOTES:

1. SERVICE EQUIPMENT MAY ALSO BE MOUNTED ON THE BACK OF THE TREATED WOOD OPPOSITE THE METER TROUGH.
2. WHEN 3 INCH PIPE IN CONCRETE IS USED FOR SUPPORT, THE CONDUIT SHALL TERMINATE 24 INCHES BELOW GRADE IN A 24 INCH RADIUS ELBOW TO CLEAR CONCRETE.
3. IN HORIZONTAL METER TROUGHS, ALL CONNECTIONS FROM THE COMMON BUS IN THE METER TROUGH TO METER BASES ARE THE RESPONSIBILITY OF THE CUSTOMER.
4. IN WIRE TROUGH INSTALLATIONS, CUSTOMER MAKES ALL TAPS TO INDIVIDUAL METER TROUGHS FROM CUSTOMER'S BUS.
5. WHEN THE EXTERIOR WALL OF THE MOBILE HOME IS NOT IN SIGHT FROM AND/OR MORE THAN 30 FEET FROM THE SERVICE DISCONNECTING EQUIPMENT. THE INSTALLATION OF A SECOND CIRCUIT BREAKER OR SWITCH AND FUSES IN SERIES WITH THE SERVICE DISCONNECTING EQUIPMENT IS ACCEPTABLE. IF A POST IS USED TO MOUNT THE SECOND DISCONNECT, USE A 4 INCH BY 4 INCH CROSS SECTION 0.40 CCA PRESSURE TREATED TIMBER SET 24 INCHES MINIMUM IN GROUND. THE SECOND DISCONNECT IS THE MOBILE HOME SERVICE EQUIPMENT. INSTALL THREE-WIRE UNDERGROUND CABLE BETWEEN THE TWO DISCONNECTS AND FOUR-WIRE FEEDER CABLE BETWEEN THE SECOND DISCONNECT AND THE MOBILE HOME. INSTALL GROUNDS AT BOTH DISCONNECTS.
6. CUSTOMER EXCAVATES, BACKFILLS AND RESTORES SURFACE OF TRENCH.



CUSTOMER FURNISHES
INSTALLS, AND MAINTAINS:

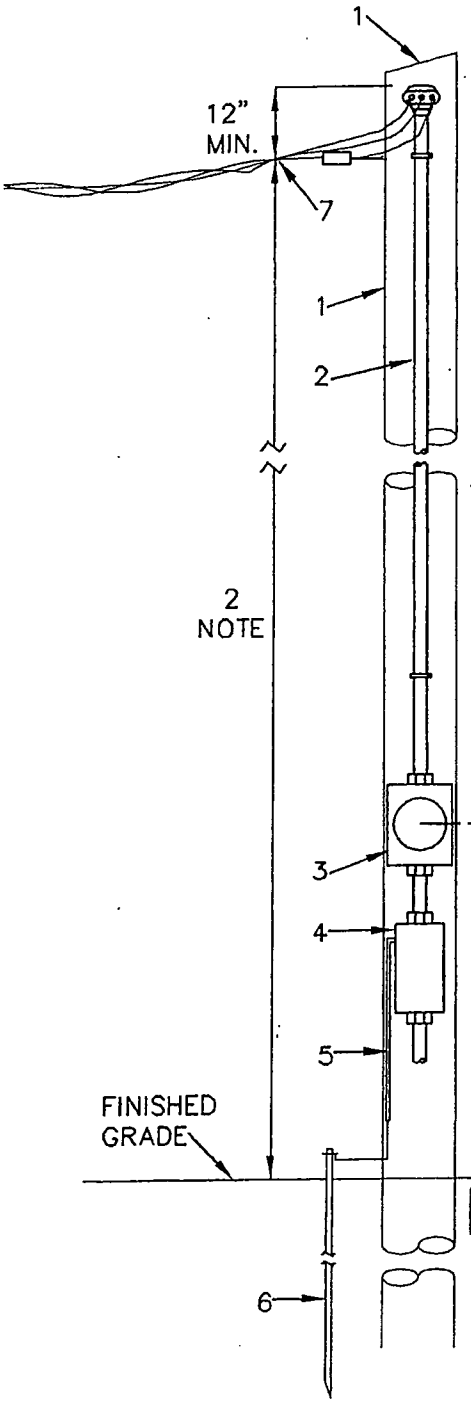
1. SERVICE ENTRANCE AND HORIZONTAL METER TROUGH OR HORIZONTAL AND VERTICAL SEALABLE WIRE TROUGHS AND INDIVIDUAL METER TROUGHS FOR 2 TO 6 METERS.
2. MINIMUM 3 INCH GALVANIZED RIGID OR INTERMEDIATE STEEL OR SCHEDULE 40 PVC CONDUIT. BEFORE INSTALLING, CONTACT BOROUGH TO DETERMINE SIZE REQUIRED.
3. SERVICE GROUND - PROTECT GROUND WIRE WITH MOLDING OR USE ARMORED GROUND CABLE.
4. SERVICE DISCONNECTING EQUIPMENT.
5. BUSHING
6. GROUND ROD.
7. MOUNTING FOR SERVICE EQUIPMENT - 3/4" INCH MINIMUM LUMBER SECURELY FASTENED TO SUPPORTS CONSISTING EITHER OF 4 INCH BY 4 INCH BY 8 FOOT TIMBERS SET 24 INCHES MINIMUM IN GROUND OR 3 INCH PIPE 8 FEET LONG SET 24 INCHES MINIMUM IN CONCRETE. ALL LUMBER TO BE 0.40 CCA PRESSURE TREATED AND ALL NAILS AND SCREWS MUST BE GALVANIZED.

BOROUGH FURNISHES
INSTALLS, AND MAINTAINS:

8. SERVICE LATERAL AND MAKES CONNECTION BETWEEN THE SERVICE LATERAL CABLES AND LINE SIDE TERMINALS OF THE COMMON BUS IN CUSTOMER'S HORIZONTAL METER TROUGH OR THE SERVICE CONDUCTORS IN CUSTOMER'S VERTICAL WIRE TROUGH.

ILLUSTRATION NO. 16: SECONDARY SERVICE - MULTI-METER INSTALLATION FOR MOBILE HOME COURT - UNDERGROUND DISTRIBUTION

SINGLE PHASE 120/240VOLTS – SELF-CONTAINED METER



CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:

1. SERVICE SUPPORT – EITHER GUYED 3 INCH. – MINIMUM STEEL PIPE SET 5 FEET IN CONCRETE OR CLASS 6 MINIMUM WOOD POLE.
2. SERVICE ENTRANCE CONDUCTORS.
3. METER TROUGH
4. SERVICE DISCONNECTING EQUIPMENT
5. SERVICE GROUND – PROTECT GROUND WIRE WITH MOLDING OR USE ARMORED GROUND CABLE.
6. GROUND ROD

COMPANY FURNISHES, INSTALLS AND MAINTAINS:

7. SERVICE DROP AND MAKES CONNECTION TO CUSTOMER'S SERVICE ENTRANCE CONDUCTORS.

NOTES:

1. WHEN THE EXTERIOR WALL OF THE MOBILE HOME IS NOT IN SIGHT FROM AND/OR MORE THAN 30 FEET FROM THE SERVICE DISCONNECTING EQUIPMENT. THE INSTALLATION OF A SECOND CIRCUIT BREAKER OR SWITCH AND FUSES IN SERIES WITH THE SERVICE DISCONNECTING EQUIPMENT IS ACCEPTABLE. IF A POST IS USED TO MOUNT THE SECOND DISCONNECT, USE A 4 INCH BY 4 INCH CROSS SECTION 0.40 CCA PRESSURE TREATED TIMBER SET 24 INCHES MINIMUM IN GROUND. THE SECOND DISCONNECT IS THE MOBILE HOME SERVICE EQUIPMENT. INSTALL THREE-WIRE UNDERGROUND CABLE BETWEEN THE TWO DISCONNECTS AND FOUR-WIRE FEEDER CABLE BETWEEN THE SECOND DISCONNECT AND THE MOBILE HOME. INSTALL GROUNDS AT BOTH DISCONNECTS.

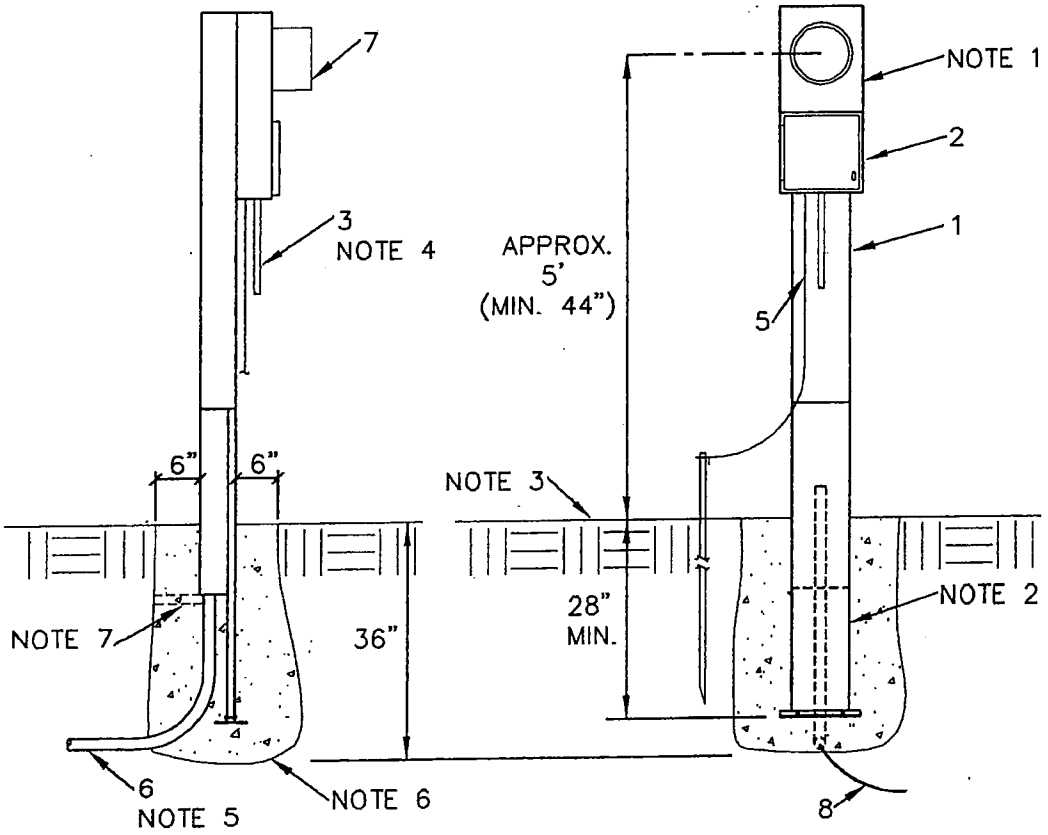
ILLUSTRATION NO. 17: SERVICE DROP ATTACHMENT TO CUSTOMER OWNED SERVICE AND METER POLE FOR A MOBILE HOME

SINGLE PHASE, 3 WIRE, 120/208 VOLTS OR 120/240 VOLTS

ACCEPTABLE PEDESTALS
SQUARE D – HNP200 METER SOCKET
HNP54PSF – PEDESTAL
ANCHOR – PRB2R-B-12-PP&L
ANCHOR – 2PRB2R-B-12-PP&L
MILBANK – U3136-O-KK
MILBANK – U3137-O-KK
SUPERIOR – MP-200

CUSTOMER FURNISHES, INSTALLS AND MAINTAINS:
1 – MOBILE HOME METER PEDESTAL.
2 – SERVICE SWITCH (ALL BREAKERS SHALL BE 10,000 A.I.C. MIN.)
3 – SERVICE ENTRANCE CONDUCTORS
4 – GROUND ROD
5 – SERVICE GROUND
6 – 2-1/2" MIN. 90° ELBOW 36" SWEEP DB PVC SCHEDULE 40 OR GALVANIZED STEEL.

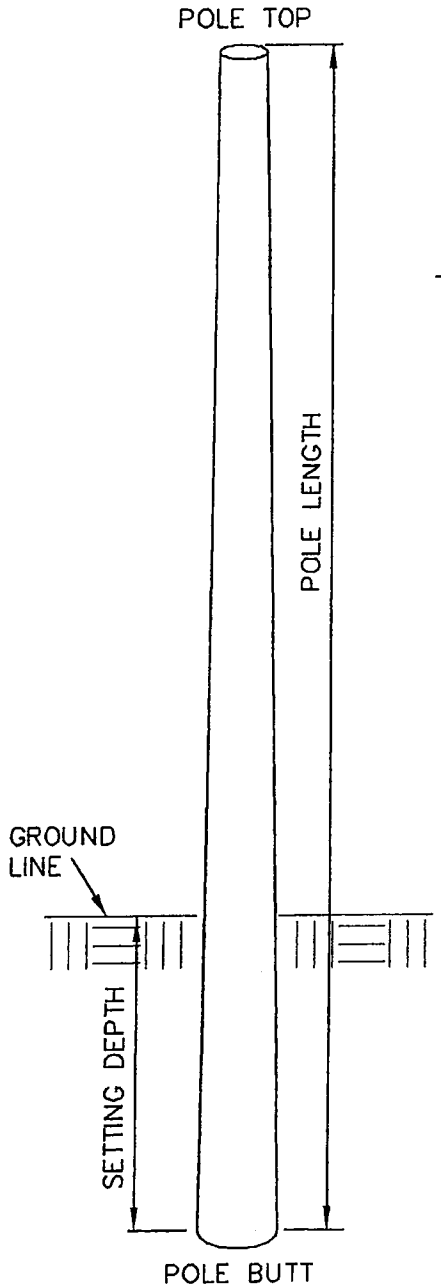
BOROUGH FURNISHES, INSTALL AND MAINTAINS:
7 – METER
8 – SERVICE CONDUCTORS



NOTES:
1 – METER TROUGH LUGS SHALL ACCEPT #2 AWG TO 350 KCMIL CONDUCTORS.
2 – THE BASE OF THE PEDESTAL TO 2 INCHES ABOVE GROUND LEVEL SHALL BE FACTORY COATED BOTH INSIDE AND OUTSIDE WITH BITUMASTIC OR EQUIVALENT.
3 – EARTH BACKFILL AROUND PEDSETAL SHALL BE CAREFULLY AND THROUGHLY COMPACTED.
4 – WHEN CONDUIT IS REQUIRED FOR SERVICE ENTRANCE CONDUCTORS, INSTALL CONDUIT SUPPORTS 36 INCHES BELOW METER BASE.
5 – EXTEND ELBOW INTO PEDESTAL AND OUT THROUGH CONCRETE.
6 – INSTALL PEDESTAL IN CONCRETE FOUNDATION AS SHOWN.
7 – PROVIDE HOLE IN CONCRETE FOR WATER DRAINAGE.

ILLUSTRATION NO. 18: OUTDOOR MOBILE HOME PEDESTAL – UNDERGROUND SERVICE LATERAL

DIMENSIONAL DETAILS IN ACCORDANCE WITH
AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) 05.1



MINIMUM POLE TOP CIRCUMFERENCE, ALL WOOD SPECIES
ANSI CLASS 4 – 21 INCHES
ANSI CLASS 5 – 19 INCHES
FOR WOOD SPECIES DOUGLAS FIR AND SOUTHERN YELLOW PINE:

POLE LENGTH (FEET)	SETTING DEPTH (FEET)	MINIMUM CIRCUMFERENCE AT 6 FEET FROM POLE BUTT (INCHES)	
		ANSI CLASS 4	ANSI CLASS 5
20	4.0	25.0	23.0
25	4.5	27.5	25.5
30	5.0	29.5	27.5
35	5.5	31.5	29.0
40	6.0	33.5	31.0
45	6.0	35.0	32.5
50	6.5	36.5	34.0

PRESERVATION

TO AID IN PREVENTING PREMATURE DETERIORATION, THE BOROUGH RECOMMENDS ALL WOOD POLES BE TREATED FULL LENGTH BY A PRESSURE PROCESS APPROVED BY THE AMERICAN WOOD PRESERVERS ASSOCIATION.

POLE INSTALLATION

THE CUSTOMER SHALL INSTALL THE POLE AT THE SETTING DEPTH SPECIFIED ABOVE AND CAREFULLY TAMP THE BACKFILL EARTH AND STONE TO STABILIZE THE POLE. WHERE THE POLE SUPPORTS UNGUYED CONDUCTOR TENSIONS, THE POLE SHALL BE FURTHER STABILIZED (KEYED). THE BOROUGH WILL PROVIDE DETAILS OF ACCEPTABLE KEYING METHODS.

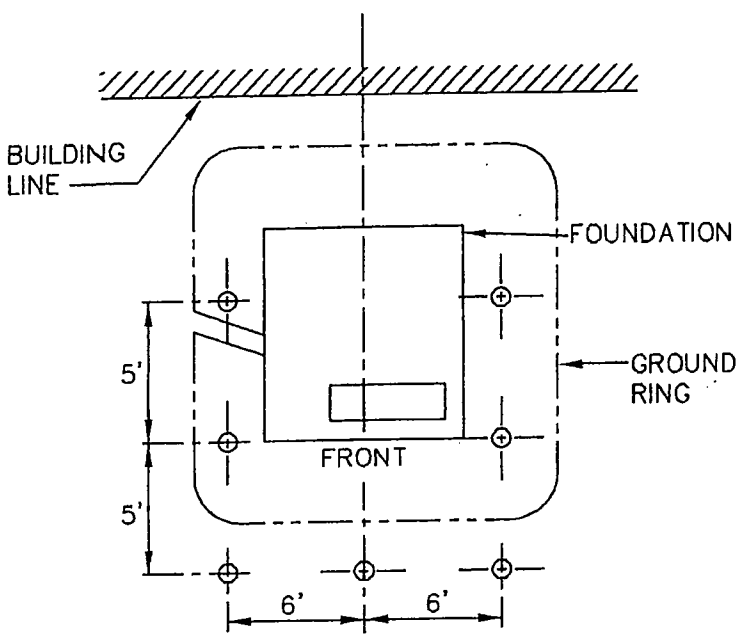
CUSTOMER SHALL INSTALL THE POLE AT A LOCATION DESIGNATED BY THE BOROUGH. THE POLE SHALL BE ACCESSIBLE TO BOROUGH BUCKET TRUCKS.

ILLUSTRATION NO. 19: CUSTOMER'S WOOD POLE

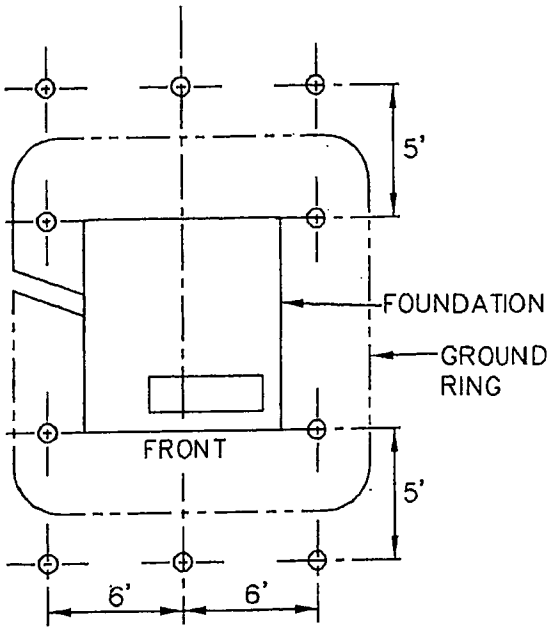
75 KVA TO 2500 KVA CAPACITY

CUSTOMER INSTALLED PROTECTIVE BARRIERS

BARRIERS ARE REQUIRED ON ALL SIDES EXPOSED TO VEHICULAR TRAFFIC



EXAMPLE A



EXAMPLE B

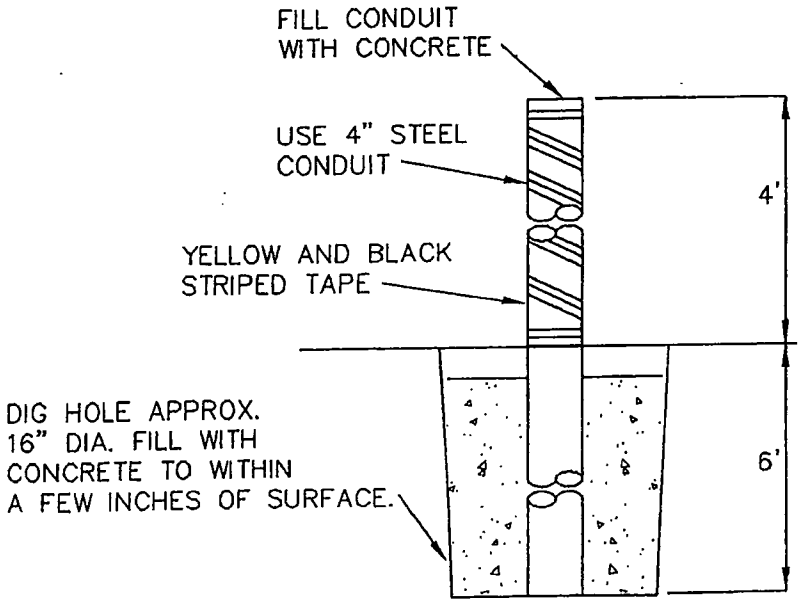
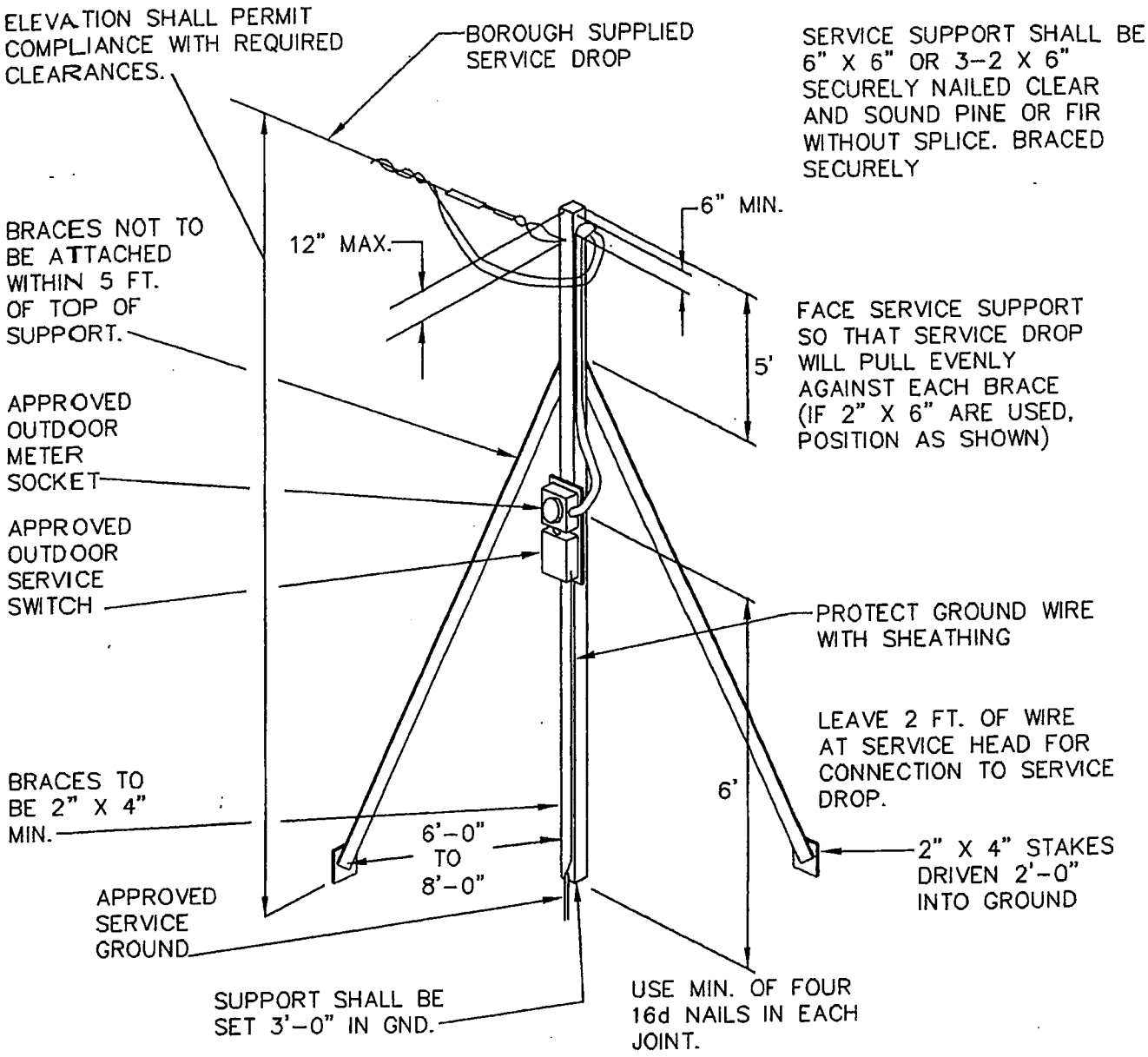


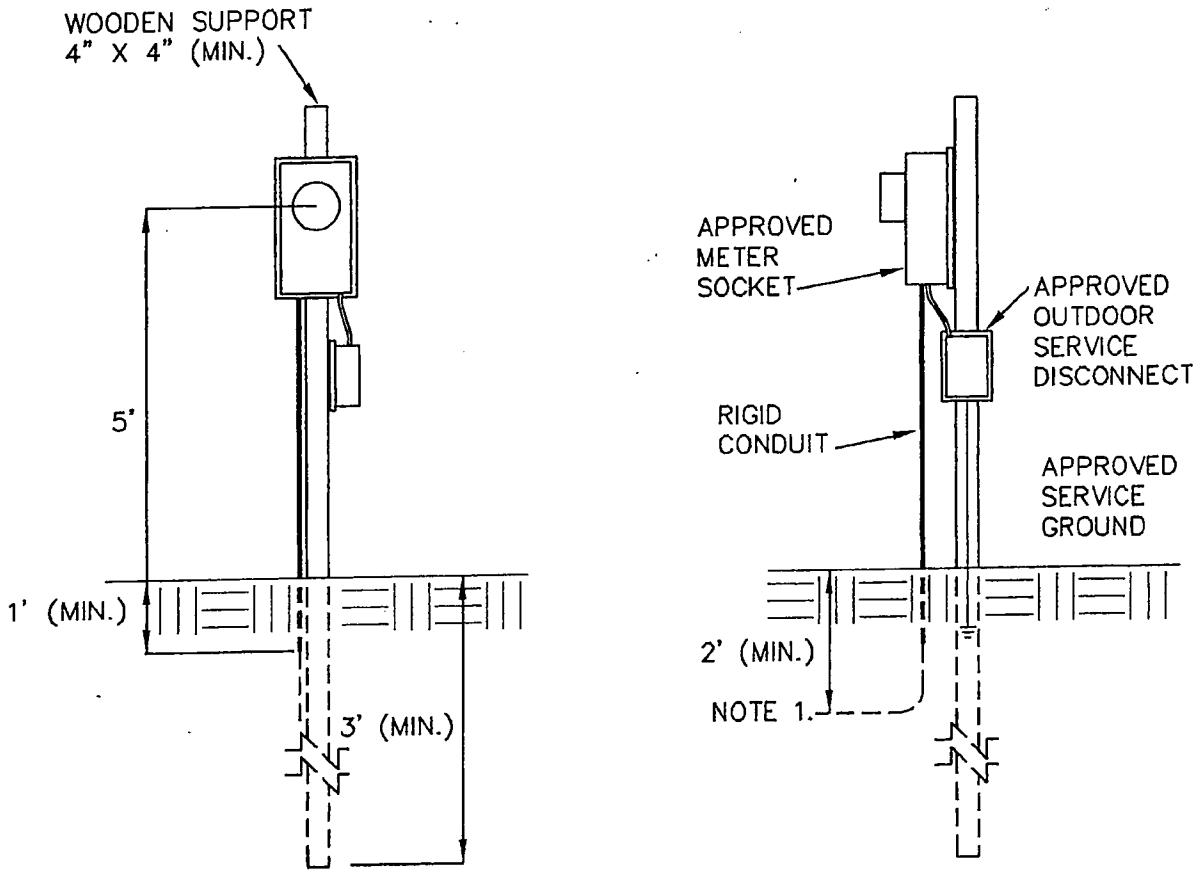
ILLUSTRATION NO. 20: CUSTOMER INSTALLED PROTECTIVE BARRIERS FOR TRANSFORMERS



NOTE:

1. CUSTOMER SHALL NOT ALLOW INSTALLATION TO BE MOVED WHILE BOROUGH'S SERVICE DROP IS ATTACHED.
2. ALL ITEMS TO BE PROVIDED BY CUSTOMER EXCEPT SERVICE DROP AND METER.
3. TEMPORARY SERVICE SHALL BE INSPECTED PRIOR TO ENERGIZATION.

ILLUSTRATION NO. 21: TYPICAL SERVICE AND METER SUPPORT FOR TEMPORARY OVERHEAD SERVICE



NOTE:
1. CUSTOMER TO EXTEND SERVICE CONDUCTORS TO POINT OF DELIVERY AS DESIGNATED BY THE BOROUGH, LEAVING SUFFICIENT SLACK FOR COMPANY TO MAKE CONNECTION.

ILLUSTRATION NO. 22: TYPICAL SERVICE AND METER SUPPORT FOR TEMPORARY UNDERGROUND SERVICE

BOROUGH OF MIDDLETOWN
60 W. EMAUS STREET
MIDDLETOWN, PA 17057

APPLICATION FOR ELECTRIC SERVICE

THE APPLICANT AND/OR CONTRACTOR MUST SUPPLY THE BOROUGH WITH ANY AVAILABLE BLUEPRINTS OF THE PROPOSED PROJECT PRIOR TO THE START OF CONSTRUCTION. A METER LOCATION WILL BE GIVEN BY THE BOROUGH AFTER APPLICATION FOR SERVICE IS MADE. ALL WORK MUST COMPLY WITH BOROUGH ORDINANCES AND MUST BE INSPECTED BY AN APPROVED INSPECTION AGENCY BEFORE SERVICE WILL BE CONNECTED.

PLEASE PRINT

APPLICANT
NAME: _____
TELEPHONE: _____
ELECTRICAL CONTRACTOR: _____
_____
TELEPHONE: _____
BILLING ADDRESS _____
_____

ADDRESS OF PROPERTY TO BE SERVICED:
_____
_____
_____
INSPECTION AGENCY: _____
_____
_____

APPROX. DATE CONSTRUCTION TO START: _____

APPROX. DATE SERVICE TO REQUIRED: _____

NUMBER OF METERS: _____

TYPE OF SERVICE

- ▫ RESIDENTIAL
- ▫ COMMERCIAL
- ▫ INDUSTRIAL
- ▫ PERMANENT
- ▫ TEMPORARY
- ▫ NEW
- ▫ ADDITIONAL
- ▫ AERIAL
- ▫ UNDERGROUND

VOLTAGE: _____ VOLTS AMPS: _____ AMPS PHASE: _____ ø WIRE: _____

LOAD INFORMATION

LIGHTING _____ KW. APPLIANCES _____ KW. WATER HEATER _____ KW. ELECTRIC HEAT _____ KW.
LARGEST MOTOR SIZE _____ HP. AIR CONDITIONER _____ KW. HEAT PUMP _____ KW. TOTAL _____ KW.

SKETCH OR PLOT PLAN OF AREA (2 COPIES) -- INDICATE DESIRED SERVICE LOCATION.
▫ ATTACHED ▫ SENT UNDER SEPARATE COVER

REMARKS:
_____
_____
_____
_____

I CERTIFY THAT THE INFORMATION ON THE ABOVE APPLICATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE.

SIGNED: _____ DATE: _____

ELECTRIC DEPARTMENT REMARKS:
_____
_____
_____
_____

PERSON GIVING LOCATION: _____ DATE: _____

RULES FOR ELECTRIC SERVICE (C)
RULE 4 - SUPPLY OF SERVICE

A. CHARACTERISTICS OF SERVICE

(1) The Company's standard service is single or three-phase, sixty Hertz alternating current at standard voltages as specified in the Company's "Rules for Electric Meter and Service Installations". Standard service includes overhead service and underground service at new residential developments, locations where the Company in its discretion has elected to install underground facilities and at locations where the customer has paid for the incremental cost of installing facilities underground. All non-standard service is in the process of elimination and no new or additional non-standard service will be supplied.

(2) The distribution system is defined, for the purposes of this rule, as including all lines energized at voltages less than the nominal 69,000 volts and excluding service extensions and lines energized at voltages of nominal 69,000 volts or higher. However, this definition does not affect the Company's obligations under the Federal Power Act and/or the Public Utility Code, as applicable: (1) to provide safe, reliable and adequate retail electric service to customers taking service at voltages of 69 kV and above, and (2) to provide just and reasonable and non-discriminatory distribution and transmission rates, terms and conditions of service to such customers.

(3) When a rate schedule specifies service at secondary voltage or specifies no particular voltage, Company furnishes, where necessary, one standard transformation at the point of delivery from the line voltage to a standard secondary voltage. Where the rate schedule specifies service at distribution voltages, service is supplied from the nearest available line of not less than that voltage and customer furnishes all equipment necessary to transform the energy from the line voltage.

(4) The Company extends service facilities from its distribution lines to the customer's point of delivery. The customer pays the estimated cost of service extension length over 500 ft. and the estimated additional cost of facilities other than those which the Company would normally install to meet the customer's load requirements.

(5) The Customer provides, without charge to the Company, suitable right-of-way across property owned or controlled by the customer (or property owner) including but not limited to: ground line clearing of trees, brush and other obstructions, rough grading, and access by mechanical construction equipment. When restoration of service to the premise is not possible due to an obstruction, the customer, or the owner of the property on which the obstruction is situated is responsible for removing the obstruction. (C)

(6) The point of delivery is the point designated by Company where Company's service conductors are connected to customer's service entrance conductors, terminals, or bus. Company installs and maintains facilities to the point of delivery and shall not be required to install or maintain any conductors, meter base, equipment or apparatus except meter and meter accessories beyond that point.

(7) The Company normally supplies energy to only one point of delivery to a premise. The Company may provide a separate point of delivery at the customer's request as a line and/or service extension. The customer pays the fully allocated cost of any primary or secondary facilities needed to serve the additional points of delivery. For application of this rule, services to more than one building or facility located on the same property and owned by the same entity will be considered service to a single premise; each individual building or facility will not be considered a separate premise.

(Continued)

RULE 4 - SUPPLY OF SERVICE (CONTINUED) (C)

B. SPECULATIVE SERVICE EXTENSIONS

(1) A service extension is speculative when, in the Company's opinion, there is doubt as to the initial or continued use of the new facilities by the customer. This may include, but is not limited to separate points of delivery, and service at locations which are relatively inaccessible or remote, or where the customer has less investment than is required by the Company to supply service. (C)

(2) When a service extension is speculative, the Company requires a minimum distribution revenue guarantee equal to the Company's estimated fully allocated cost of installation and removal of all facilities less any contribution in aid of construction by the customer. The guarantee is for a five year period or less.

(3) Each customer agrees that when the net distribution service bills rendered during the period from the start of the initial term of the contract to the end of the current year total less than the sum of the customer's annual guarantee over that period, then the difference becomes due and payable.

(4) The customer may elect to make a one-time payment to the Company in lieu of annual differential billings during the period of the guarantee. The payment, which will be equal to the total amount of the guarantee, will be subject to partial refunds each year based upon the actual amount of the customer's distribution service billings.

(5) The Company may require, in addition to any deposit necessary to secure payment of service bills, a surety bond or other security acceptable to the Company, to guarantee the fulfillment of the agreement.

(6) Where the customer requires a speculative service extension to be disconnected and Company facilities left in place for subsequent reconnection, the service extension shall be treated as temporary service under Tariff Rule 7. In addition, for each reconnection of service the customer pays the cost of connection and disconnection.

(7) A speculative service extension guarantee may be discontinued prior to expiration of the contract whenever the service becomes non-speculative in nature.

(8) A speculative service extension requires an "in advance of construction" payment of the fully allocated cost of engineering design and survey work to produce a detailed estimate.

C. METHOD OF SERVICE

(1) The Company furnishes and installs all electric service line facilities extending from its distribution supply lines at or near the customer's property line to the customer's point of delivery using normal construction for load conditions according to Company standards except as follows:

(a) The Company may at its discretion install other than normal service facilities at the customer's request and at the customer's expense.

(b) The customer provides all mechanical facilities on his property, other than poles and guys, which are required to accommodate the installation of the Company's electric facilities. All electric facilities, and all mechanical facilities, installed by the customer on the Company's side of the point of delivery which are not in, on or under buildings shall, after installation, be owned and maintained by the Company and be available for further extension.

(c) The customer at his option may install all service lines and related facilities on his property. Such facilities shall be on the customer's side of the point of delivery and shall be owned and thereafter maintained by the customer.

(Continued)

RULE 4 - SUPPLY OF SERVICE (CONTINUED) (C)

C. METHOD OF SERVICE (Continued)

(d) When a customer requests service in the vicinity of Company underground distribution facilities, the Company may require the customer to take underground service under the same terms and conditions which would apply if the Company supply were overhead.

(2) The Company may establish an underground system at its own option except as provided in (3) below when in the Company's opinion the circumstances justify the investment, and at the customer's request on condition that Company installs the complete electrical system to the point of delivery and the customer installs the mechanical facilities; ownership and maintenance of all facilities in the development on Company's side of the point of delivery that are not in or under buildings shall vest in the Company; the developer grants the Company, free-of-charge by perpetual easement, the sole right to move, maintain, and extend these facilities. The developer agrees to pay the Company, in advance, the Company's estimated excess cost over normal overhead construction.

(3) Underground Electric Service in New Residential Developments

The Company installs only underground distribution and service facilities in residential developments of five or more adjoining lots for the construction of single-family residences, detached or otherwise, mobile homes, or apartment houses intended for year round occupancy, when service requires the extension of primary voltage lines. It does not apply to tracts of land which are subdivided, but not developed into utility-ready lots by a bona fide developer.

The applicant for electric service to a development shall conform with the following:

(a) At its own cost, provide the Company with a copy of the recorded development plot plan identifying property boundaries, and with easements satisfactory to the Company for occupancy by distribution, service and street-light lines and related facilities.

(b) At its own cost, clear the ground in which the lines and related facilities are to be laid of trees, stumps and other obstructions, provide the excavating and backfilling subject to the inspection and approval of the Company, and rough grade it to within six inches of final grade, so that the Company's part of the installation shall consist only of laying of the lines and installing other service-related facilities. Excavating and backfilling performed or provided by the applicant shall follow the Company's underground construction standards and specifications set forth by the Company in written form and presented to the applicant at the time of application for service and presentation of the recorded plot plan to the Company. If the Company's specifications have not been met by the applicant's excavating and backfilling, such excavating and backfilling shall be corrected or redone by the applicant or its authorized agent. Failure to comply with the Company's construction standards and specifications permits the Company to refuse service until such standards and specification are met.

(c) Request electric service at such time that the lines may be installed before curbs, pavements and sidewalks are laid; carefully coordinate scheduling of the Company's line and facility installation with the general project construction schedule, including

(Continued)

RULE 4 - SUPPLY OF SERVICE (CONTINUED) (C)

C. METHOD OF SERVICE (Continued)

coordination with any other Company sharing the same trench; keep the route of lines clear of machinery and other obstructions when the line installation crew is scheduled to appear; and otherwise cooperate with the Company to avoid unnecessary cost and delay.

(d) Pay to the Company any necessary and estimated additional costs incurred by the Company as a result of the following: (C)

1. Installation of underground facilities that deviate from the Company's underground construction standards and specifications if such deviation is requested by the applicant for electric service and is acceptable to the Company.

2. A change in the plot plan by the applicant for electric service after the Company has completed engineering for the project and/or has commenced installation of its facilities.

3. Physical characteristics such as oversized lots or lots with extreme set-back where under the Company's line extension policy contained in its tariff a charge is mandated for overhead service.

(e) No charges other than those described in paragraph (d) shall be borne by the applicant for electric service or by another utility sharing the same trench, even if the Company elects to perform its own excavating and backfilling.

(4) The Company may supply service, upon request, in a manner which requires additional facilities or related regulated services to be performed, which are over and above those that the Company would normally install or provide, if the customer agrees to pay the Company at a fair and nondiscriminatory price for those additional facilities or related regulated services.

D. ALTERNATE SERVICE (C)

The Company furnishes one source of service to a single point of delivery to a premises. However, when a customer requests an alternate source of service, the Company will install the additional facilities required providing the customer agrees to compensate the Company for the estimated cost of the additional facilities maintained for the alternate service and for the future estimated costs of continuing the alternate service.

E. CAPACITY

The Company's facilities have a limited capacity. Therefore, to assure satisfactory operation of customers' equipment and to protect both customer's and Company's facilities against damage, each customer shall notify the Company of any substantial increase in use of service so that additional facilities may be provided in accordance with the applicable provisions in this tariff.

(Continued)

RULE 4 - SUPPLY OF SERVICE (CONTINUED) (C)

F. CONTINUITY

(1) The Company uses reasonable diligence to preserve continuity of service, but in the event of interruption or curtailment of service, Company shall not be subject to any liability, penalty or payment for or on account of any such interruption or curtailment nor shall the application of the rate schedule to the regular billing period be affected.

(2) The Company may temporarily suspend service for the purpose of making necessary repairs and makes every reasonable effort to notify customers in advance, except in cases of emergency.

G. EMERGENCY LOAD CONTROL

(1) A load emergency situation exists whenever:

(a) the demands for power on all or part of the utility's system exceed or threaten to exceed the capacity then actually available to supply such demands;

(b) system instability or cascading outages could result from actual or expected transmission overloads or other contingencies; or

(c) such conditions exist in the system or another public utility or power pool with which the utility's system is interconnected and cause a reduction in the capacity available to the utility from that source or threaten the integrity of the utility's system.

(2) In such case, the utility shall take such reasonable steps as the time available permits to bring the demands within the then-available capacity or to otherwise control load. Such steps shall include but shall not be limited to reduction or interruption of service to one or more customers, in accordance with the utility's procedures for controlling load.

H. EMERGENCY ENERGY CONSERVATION

An emergency energy conservation situation exists whenever events result or, in the judgment of the utility, threaten to result in a restriction of the fuel supplies available to the utility or its energy vendors, such that the amount of electric energy which the utility is able to supply is or will be adversely affected. In the event of an emergency energy conservation situation, the utility shall take such reasonable measures as it believes necessary and proper to conserve available fuel supplies. Such measures may include, but shall not be limited to reduction, interruption or suspension of service to one or more of its customers or classes of customers in accordance with the utility's procedure for emergency energy conservation.

I. RELOCATION OF FACILITIES

(1) The relocation of customer's facilities due to moving or rearranging Company's facilities at the direction of either the federal, state or local government is the customer's responsibility and expense.

(Continued)

RULE 4 - SUPPLY OF SERVICE (CONTINUED)

I. RELOCATION OF FACILITIES (Continued)

(2) The relocation of Company facilities, when done at the request of others, is at the applicant's expense and payment of the Company's estimated cost of the relocation is required in advance of construction. When the request is from an affected property owner and the facilities are on the customer's property, the charges for relocation of distribution system facilities are limited to estimated contractor costs, estimated direct labor and estimated material costs, less an amount equal to any estimated maintenance expense avoided as a result of the relocation. **(C)**

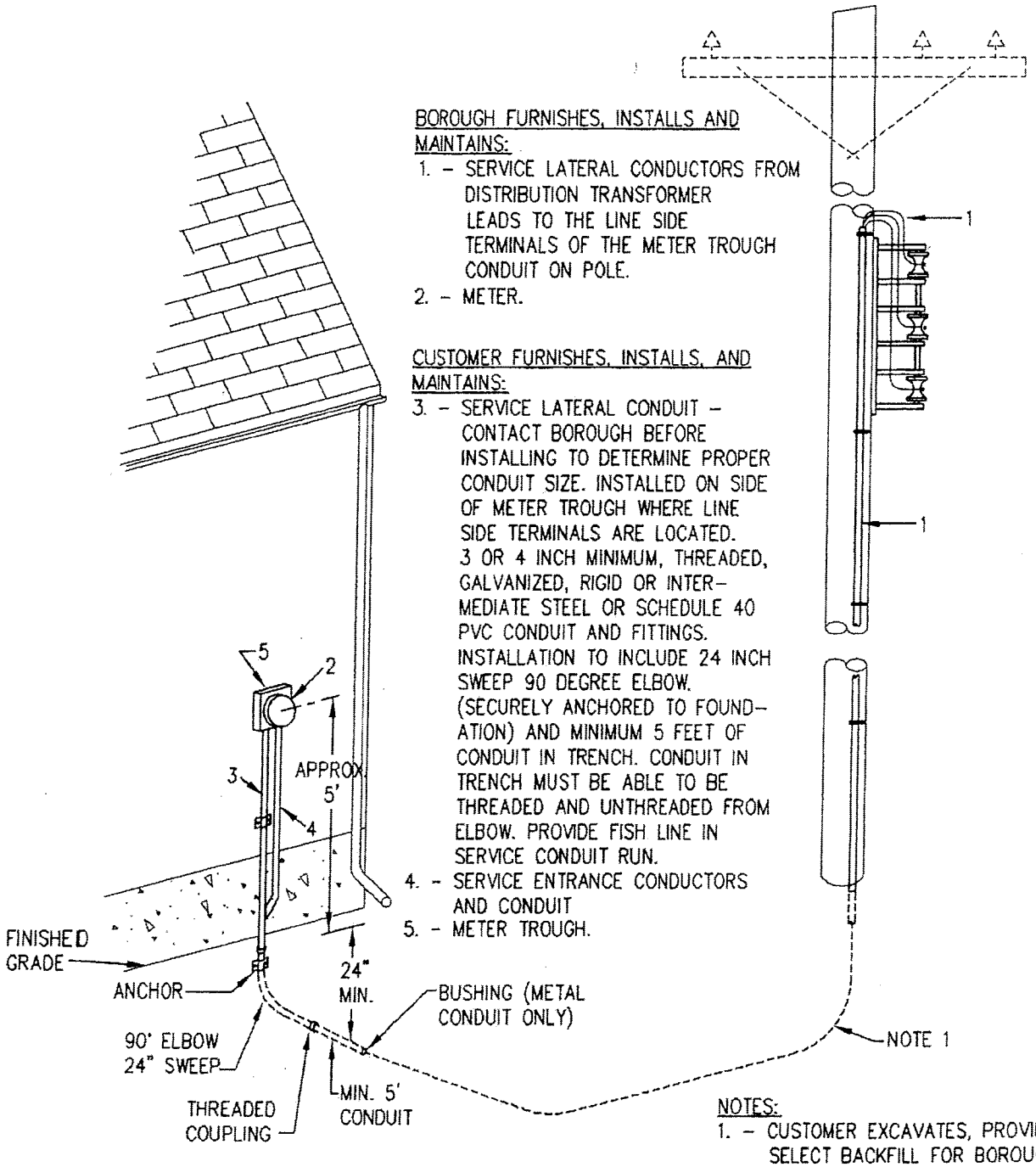
J. EMERGENCY ASSISTANCE

The Company may, upon request, assist in emergencies to correct defects in and make temporary repairs to the customer's installation. Any such assistance shall be accepted by the customer without involving responsibility on the part of the Company.

K. CHANGE IN SERVICE CONDITIONS

The Company may, upon request, make a change in service conditions provided the customer pays the estimated fully allocated cost to be incurred by the Company.

SINGLE & THREE PHASE 120/208 VOLT AND 120/240 VOLT - SELF-CONTAINED METER



BOROUGH FURNISHES, INSTALLS AND MAINTAINS:

1. - SERVICE LATERAL CONDUCTORS FROM DISTRIBUTION TRANSFORMER LEADS TO THE LINE SIDE TERMINALS OF THE METER TROUGH CONDUIT ON POLE.
2. - METER.

CUSTOMER FURNISHES, INSTALLS, AND MAINTAINS:

3. - SERVICE LATERAL CONDUIT - CONTACT BOROUGH BEFORE INSTALLING TO DETERMINE PROPER CONDUIT SIZE. INSTALLED ON SIDE OF METER TROUGH WHERE LINE SIDE TERMINALS ARE LOCATED. 3 OR 4 INCH MINIMUM, THREADED, GALVANIZED, RIGID OR INTER-MEDIATE STEEL OR SCHEDULE 40 PVC CONDUIT AND FITTINGS. INSTALLATION TO INCLUDE 24 INCH SWEEP 90 DEGREE ELBOW. (SECURELY ANCHORED TO FOUND-ATION) AND MINIMUM 5 FEET OF CONDUIT IN TRENCH. CONDUIT IN TRENCH MUST BE ABLE TO BE THREADED AND UNTHREADED FROM ELBOW. PROVIDE FISH LINE IN SERVICE CONDUIT RUN.
4. - SERVICE ENTRANCE CONDUCTORS AND CONDUIT
5. - METER TROUGH.

NOTES:

1. - CUSTOMER EXCAVATES, PROVIDES SELECT BACKFILL FOR BOROUGH SPECIFIED CONDUIT, BACKFILLS, TAMPS IN LAYERS OVER DISTURBED EARTH NEAR BUILDING FOUNDATION TO HELP PREVENT DAMAGE TO SERVICE ENTRANCE EQUIPMENT DUE TO GROUND SETTLING AND RESTORES SURFACE OF TRENCH FROM BASE OF POLE TO BUILDING. SERVICE LATERAL TO BE EITHER INSTALLED IN CONDUIT OR DIRECT BURIED AS DIRECTED BY THE BOROUGH.

ILLUSTRATION NO. 5: SECONDARY SERVICE - UNDERGROUND SERVICE CONNECTION FROM OVERHEAD DISTRIBUTION LINES