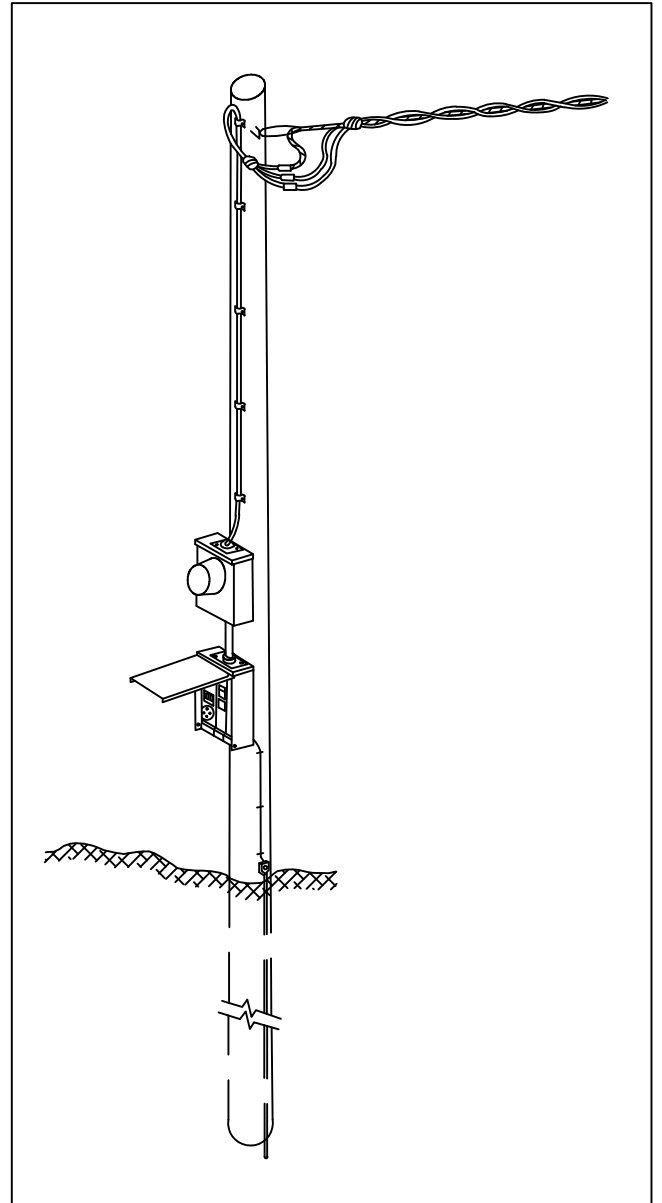
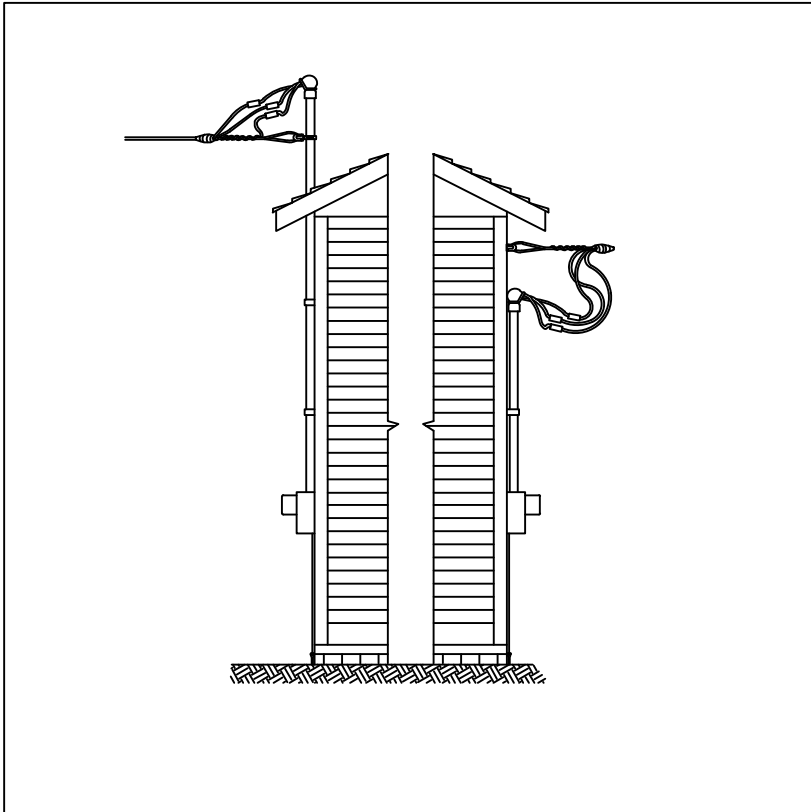


*RESIDENTIAL
ELECTRIC SERVICE
and
METER INSTALLATION
HANDBOOK*



**Alabama
Power**

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SECTION I

INTRODUCTION

Alabama Power Company constantly strives to maintain a high standard of service to all customers. This booklet has been issued for use by customers, architects, engineers, electrical contractors, and local inspection authorities when planning new electrical installations, repairing or renewing existing installations, or adding additional equipment. Copies are available in all Alabama Power Company business offices.

All holders of Electrical Service and Meter Installations booklets are encouraged to submit proposals to aid in future revisions. Please submit proposals as follows:

1. Give section, paragraph, and page number to which proposal pertains.
2. Submit proposal in writing giving details, sketches, drawings, and all supporting pertinent information.
3. Mail to: Alabama Power Company
Distribution Engineering Services
P. O. Box 2641
Birmingham, Al. 35291-0715

The practices discussed in this booklet are supplementary to and do not intentionally conflict with the National Electrical Code or such state and municipal laws and ordinances as may be in force within the cities, towns, or communities in which the Company furnishes electric service.

It is necessary to always refer to and comply with statutes, Alabama Public Service Commission rules, and local ordinances. The information contained herein is general and does not include every detail or every lawful requirement.

Except for the installation and maintenance of its own property, Alabama Power Company does not install or repair wiring to customer's premises and, therefore, is not responsible for the voltage beyond the point of delivery and does not assume any responsibility for, or liability arising because of the condition of wires or apparatus on the premises of any customer beyond the point of delivery.

The Company desires to serve its customers promptly and satisfactorily. It will endeavor to cooperate with customers and contractors to the fullest extent in completing service connections with as little delay and inconvenience as possible.

The Company will be pleased to confer with those desiring information concerning rates, services, etc., upon request by telephone or otherwise.

SECTION II

GENERAL INFORMATION

A. DEFINITIONS

The following definitions will apply for terms used in this booklet.

Company: The Alabama Power Company

Customer: User of the Company's electric service or his authorized representative (architect, electrical engineer, electrical contractor, etc.)

Inspector or Inspection Authority: A person or agency authorized by a governmental body to inspect and approve electrical installations.

National Electric Code (NEC): A code sponsored by the National Fire Protection Association for the purpose of safeguarding persons and property from hazards arising from the use of electricity.

Service: The supply by the Company of electricity to the Customer, including the readiness and availability of electrical energy at the Customer's Point of Delivery at the standard available voltage and frequency whether or not utilized by the Customer.

Service Drop: The overhead service conductors from the last pole or other aerial support to and including the splices, if any, connecting to the service entrance conductors at the building or other structure.

Service Entrance: Customer owned wire and enclosures, connecting the Customer's service equipment to the Company's service drop, service lateral, or other source of supply.

Service Lateral: The underground service conductors between the secondary conductors or transformers, including any risers at a pole or other structure, and the first point of connection to the service entrance conductors.

Point of Delivery: The point of attachment where the Company's service drop, service lateral, or transformer secondary bushings is connected to the Customer's service entrance conductors.

Nominal: The approximate value that is expected to normally exist when measured.

Ground Rod, Ground Electrode: A metal rod that is driven into the earth to provide a proper connection between the electrical circuit and the earth.

Ground Wire, Ground Conductor: A metal conductor that connects the grounding electrode to the electrical circuit.

Meter Socket, Meter Trough, Meter Base: A metal enclosure that holds the Alabama Power Company meter.

B. AVAILABILITY AND LOCATION OF SERVICE

1. Alabama Power company has every intention of meeting any Customer requirements in regards to your projected service date. If the Customer will contact the Company well in advance of the date the actual service connection is required, then his or her desires as well as the Company's, will be met with satisfaction. The Customer should contact the local District Engineering office to work with the Company on such matters as the type service available, the point of delivery, voltage, phase, etc., as these characteristics may vary in different locations.
2. The Company will make extensions to its existing facilities when serving its customers. These extensions will be to the point most beneficial to the Customer and the Company. Should any additional facilities be requested by the Customer, the Customer may be required to pay an additional cost.
3. Before construction is started, the Customer and the Company, shall agree on a point of delivery, and the appropriate load data. The point of delivery shall include the locations of such equipment as meters, risers, pedestals, pull boxes, etc. The load data should include the type and number of electrical appliances to be used, and when possible, a set of building plans. The request for point of delivery location is not an application for service to the permanent building.

C. APPLICATION FOR SERVICE

1. The Company will receive the application for original or added service at the local office, however, the Customer shall make application **on-line or call (800) 245-2244.** Service contracts and/or deposits may be required prior to service connection.
2. Customers or perspective customers should advise the Company of new installations as early as possible in order that details for furnishing service may be worked out and necessary materials assembled. This will help to avoid delay in providing service at the desired time. The Customer shall provide, free of expense to the Company, suitable locations and space for the transformer, meters and other equipment of the Company which are necessary to supply service.
3. Application for service must include street and house number, zip code or if in a rural territory other information to assist in locating Customer's premises.

D. TYPE AND CHARACTER OF SERVICE

1. It is essential that the customer consult the Company regarding type of service which can be furnished at a particular location before proceeding with purchase of equipment or installation of wiring.
2. Service is provided with alternating current at a nominal frequency of sixty (60) hertz (cycles).
3. The voltage and/or the number of phases which will be supplied will depend on the type, size, and location of the load, and existing Company facilities.

A. Voltage

The standard voltage is 120/240 nominal. If a voltage is requested other than that which is currently established at the desired location, the Customer should contact the Company to determine what is available.

B. Phase

Customers located in predominately residential areas will normally be provided with only single phase, three wire 120/240 volt service. Three phase, four wire service to such customers will be supplied if the required Company facilities are readily accessible.

E. INSPECTION

1. The Customer's wiring and electrical equipment shall be installed and maintained in accordance with the latest edition of the National Electrical Code and any state and local ordinances.
2. All wiring installations must be inspected and approved by an authorized electrical inspector, where available. The Company can make connection only when requirements of this booklet have been met, and the installation has been approved by the authorized inspecting authority, where available.
3. The Company will refuse service to any new or altered installation which the Company considers unsafe. The Company may disconnect a service that shows physical evidence of tampering, hazardous condition, or current diversion as provided under state statutes, Rules and Regulations of the Company, or the Public Service Commission. The Company will not be responsible in any way for any defect in the Customer's wiring or for damage resulting from such defects.

F. ALTERATIONS AND ADDITIONS

1. Service connections, metering, or metering equipment, shall not be removed or relocated except by employees of the Company authorized to do such work.
2. When the Company connects a Customer's installation to its supply lines, arrangements are made for meters, transformers, and other equipment to fit the installation as it is at the time. It is very essential that the customer or contractor give advance notice to the Company of any major addition of equipment which is to be connected to the wiring system.

G. CUSTOMER'S RESPONSIBILITIES

1. The Company shall have the right to enter the premises of the Customer at all reasonable hours for the purpose of making such inspection of the Customer's installation as may be necessary for the proper application of the Company's rate schedules and Rules and Regulations; for installing, removing, testing or replacing its apparatus or property; for reading meters; and for the entire removal of the Company's property in the event of termination of service to the Customer for any reason.
2. All property of the Company installed in or upon the Customer's premises used or useful in supplying service is placed there under the Customer's protection without charge to the Company. All reasonable care shall be exercised to prevent loss or damage to such property, ordinary wear and tear expected.
3. The Customer will be held responsible for breaking the seals, tampering or interfering with the Company's meter or meters or other equipment of the Company installed on the customer's premises. Only authorized employees of the Company will be allowed to make any repairs or any adjustments to any meter or other piece of apparatus belonging to the Company, except for repair or replacement of meter sockets that has been authorized by the Company.

H. REFUSAL OR DISCONTINUANCE OF SERVICE BY THE COMPANY

Under the Rules of the Alabama Public Service Commission, the Company may refuse or discontinue service for certain reasons. Several of these reasons are listed below. These rules are available for inspection, upon request of the Company.

1. Nonpayment of bills for electric service.
2. Without notice in the event of a condition on the Customer's premises determined by the Company to be hazardous.
3. Without notice in the event of customer use of equipment in such a manner as to adversely affect the Company's equipment or the Company's service to others.
4. Without notice in the event of tampering with equipment furnished and owned by the Company.
5. Without notice in the event of unauthorized use.
6. For failure of the Customer to permit the Company reasonable access to its equipment for inspection, securing of meter reading, etc.
7. For violation and/or noncompliance with the Company's rules on file with and approved by the Alabama Public Service Commission.
8. For failure of the Customer to fulfill his contractual obligations for service and/or facilities subject to the regulations by the Alabama Public Service Commission.

I. INTERRUPTION AND LIABILITY

1. The Company will endeavor to furnish continuous service but does not guarantee uninterrupted service, and is not liable for any damage which the customer may sustain by reason of the failure or partial failure of the power, or failure of reversal of phases, or variation in service characteristics, whether caused by accident, repairs or other causes; nor is the Company liable for damage that may be incurred by the use of any service wiring, connections, instruments, services or electrical appliances, installed by or for the customer; nor is the Company liable for damage that may be incurred due to the presence of the Company's property on customers premises. In the case the Customer requires three phase service the installation and maintenance of adequate relays with circuit breakers to protect against single phase conditions and phase reversal are advisable and their installation and maintenance is the responsibility of the Customer.
2. Customers utilizing devices which malfunction upon loss of power should consider the installation of an uninterruptible power supply or other appropriate backup power supply to insure continuity of service to the device. The Company will work with the Customer in every way possible if he has very sensitive equipment and will help him find the proper conditioning equipment to fulfill these needs.

SECTION III

SERVICES

A. GENERAL INFORMATION

1. Normally, there will be only one service voltage available at a location, and only one point of delivery for each building.
2. The point of delivery shall be a mutually agreed upon location between the Customer and Company.
3. All service entrance facilities, including meter sockets, shall be located in an exposed or accessible area.
4. Where conduit is used, fittings with removable covers should be avoided in the service entrance run if possible. If such fittings cannot be avoided, they shall not be concealed.
5. Overhead services: service entrance cables and conduits between the weatherhead and the meter socket shall not be concealed.
6. Grounding
 - A. All services shall have a grounded neutral.
 - B. Grounds shall be established and maintained as required by the National Electric Code and local authority.

B. TEMPORARY SERVICE

1. If temporary service is desired, the Customer **should** make arrangements **on-line or call (800) 245-2244**, well in advance of the required service date. Installations requiring special service, meter, or other work for construction purposes, exhibits of short duration, etc., will be made at the expense of the Customer.
2. Temporary installation of service entrance, other wiring, and meters shall be made and inspected in the same manner as permanent installations.
3. Temporary service for construction purposes may be overhead or underground depending on available service. Arrangements for temporary construction service are shown on Plates R-02 through R-05.
4. The Customer's permanent service panel shall not be connected to the temporary construction service.
5. All temporary poles or underground pedestals shall have a driven ground rod.

C. OVERHEAD SERVICES

1. A minimum of two feet of service entrance wire shall be left projecting from the weather head for connection to the service drop. This will allow for sufficient space for the Company to make connections to the Customer's wiring and provide a drip loop per the National Electrical Code. Arrangements for overhead service are shown on Plate R-01, except that overhead service to mobile homes is shown on plates R-02.
2. Unless otherwise required by local authorities, the point of attachment of the service drop conductors shall be located by the Customer so as to allow the minimum clearances required in the National Electrical Code. The minimum clearance includes the sag of the service drop conductors.

D. UNDERGROUND SERVICES

1. General

- a. Underground service is available based on the Company's current specifications. The Customer should contact the Company for the applicability of the underground service policies and possible charges involved before plans are made for underground service.
- b. In certain areas where the Company has underground distribution, underground service must be used, and overhead service will not be available to the Customer.
- c. The Customer shall be responsible for any cost incurred by the Company as a result of relocation or repair of Company facilities necessitated by grade changes.
- d. All residential underground distribution, including services, shall be installed under the present Underground Distribution Specifications of the Company. Arrangements for underground service are shown on Plate R-06.
- e. Normal service voltage will be 120/240 volt single phase, three wire. In large multi-story developments service may be 120/208 volt single phase, three wire, at the option of the Company. Three phase, four wire service will be provided only if the provisions of Section II-D have been met.
- f. The Customer and the Company shall mutually agree on the point of delivery for each service location before construction is started.

2. Underground Service from Overhead Facilities

- a. When requested by a Customer, the Company will install, own, and maintain an underground service from its overhead facilities to the Customer's point of delivery. The Customer shall install a meter socket, provided by the Company, and suitable service entrance facilities, provided by the Customer, at the point of delivery in accordance with the Company's specifications. Prior to such installation, the Customer and the Company will enter into an agreement outlining the terms and conditions of the installation, and the Customer will be required to pay the Company in advance the estimated difference in cost between the underground service and the overhead facilities the Company would otherwise have installed.
- b. When the Company has previously provided an overhead service to the Customer's point of delivery, the Customer will be required to pay the differential cost of the requested underground service plus the current cost of the existing overhead service facilities.

SECTION IV

METER INSTALLATIONS

A. GENERAL REQUIREMENTS

The Company shall provide and the Customer shall install the necessary meter sockets and other equipment directly related to the housing and protection of metering equipment. Typical meter installations for overhead and underground single phase sockets are shown on Plates R-07, R-08, and R-09.

1. On installations where the demand does not exceed 200 amps, a self contained meter socket shall be used.
2. On installations where the demand exceeds 200 amps and does not exceed 400 amps, a self contained, 320 amp meter socket may be used. A qualified employee of Alabama Power Company will determine the proper method for metering in these instances.
3. On installations involving more than one meter, the following procedure shall apply.
 - a. The Company will provide single and/or various ganged meter sockets for installation by the Customer as shown in Plate R-09 in the back of this book. Ganged sockets supplied by the Company are limited to 2, 3, 4, 5, and 6 position horizontal arrangement.
 - b. It is necessary for identification purposes that whenever several meters are grouped, all sockets and entrance equipment be plainly and permanently marked to designate the apartment or office served. The marking should be stenciled in black painted numbers at least one inch in height.
4. Not more than one service conductor shall be installed under a single terminal in any meter socket. All conductor strands must fit into the terminal. Conductor strands shall not be cut or folded back in an effort to fit conductors into terminals.
5. Proper clearance for the Company's conductors must be left inside meter cabinets by the Customer. The left side and top of the cabinets for underground service shall be for the use of the Company only. Space will not permit the Customer's conductors to cross over the Company's.
6. On installations involving more than one ganged meter socket, and where any part of the ganged meter sockets are within six feet separation from the other, the customer shall tie the separate grounding conductors together. This bonding conductor tying these separate grounding conductors shall be sized in accordance with the National Electrical Code. Arrangements for this type of installation are shown in Plate R-09.
7. The meter socket must not be drilled or damaged during installation of the intersystem bonding termination device required by Article 250.94 of the NEC for electrical bonding of cable, phone and other services. The device must not interfere with the opening of the meter enclosure. The building owner is responsible for all damage to the meter socket caused by the installation of this device.
8. Customer shall install an external disconnect at the meter socket that is readily accessible.

B. METER LOCATION

1. The location of meters is an important consideration to both the Company and the Customer. It is very important that a mutually agreed upon meter location be found that will be most suitable to both parties.
2. Plates in back of this booklet show typical meter installations. In unusual cases, the Company shall be consulted.
3. Meters shall be located on the building in place where they will be protected from mechanical damage and are not obstructed by shrubs, bushes or plants that would interfere with the reading or testing of the meter. The Customer shall be responsible for providing this protection.
4. Meter sockets and enclosures shall be securely mounted in a plumb and level position on a solid wall or structure. When mounted on masonry walls or structures, meter sockets and enclosures shall be secured with screws set in anchors or with toggle bolts.
5. The center of the meter shall not be more than five feet or less than four feet from the ground (final grade) or floor.
6. Meters for single family residences shall always be outdoors.
7. Residential meters should not be located in areas such as carports, open porches, swimming pools, etc., which are susceptible to subsequent enclosures by walls or screens. In the event a meter area is later enclosed or otherwise made inaccessible, the Customer shall, at his expense have the meter facilities moved to an accessible outside location.
8. Meters shall not be installed near moving machinery which might endanger those doing work about the meter.
9. A SPACE FREE OF OBSTRUCTIONS, AT LEAST 60 INCHES IN DEPTH, 30 INCHES IN WIDTH AND 7 FEET HIGH SHALL BE MAINTAINED IN FRONT OF ALL METER SOCKETS FOR READING, TESTING AND MAINTENANCE; WHERE MULTIPLE METER SOCKETS ARE INSTALLED, THE WIDTH OF THIS SPACE MUST BE THE GREATER OF 30 INCHES OR THE TOTAL WIDTH OF THE METER SOCKETS.
10. A minimum horizontal clearance of 3ft. shall be maintained between a meter socket and any gas meter or gas regulator vent.

SECTION V

SPECIAL EQUIPMENT

A. GENERATORS

1. Improperly installed generation equipment can create serious hazards for Company personnel working on the distribution system, as well as for other customers connected to the distribution system. The operation of improperly installed generators can also result in damage to customer's wiring, electrical equipment, or the generator itself. In order to safeguard against these hazards, customer owned generators must be installed as follows:
 - a. Standby generators must be installed in compliance with the NEC and local codes, as applicable. They must be properly connected through transfer switches so that they are completely isolated from the Company's distribution system. Power from a standby generator must never be supplied to another premise because of the danger created by back feeding into the distribution system.
 - b. Generators designed to run in parallel with the Company's system require special protective devices. It is essential that the customer consult the Company regarding these protective requirements before installing or attempting to operate parallel generators.


NOTES:

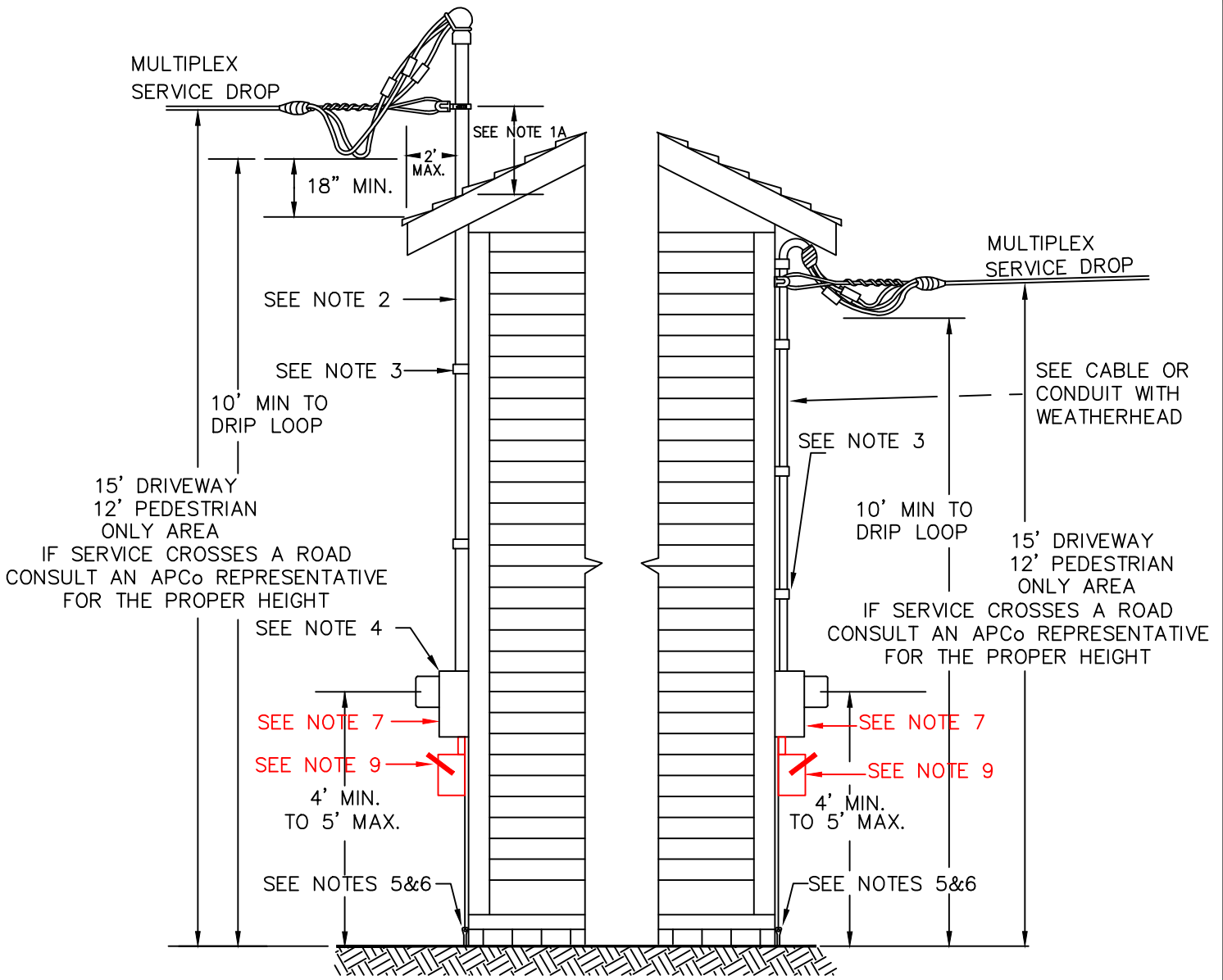
1. A. When a through the roof mast is to be installed it should be placed no more than two feet from the edge of the roof so that no more than six feet of service drop conductors pass over the overhang, and should have sufficient height so that a minimum clearance of 18 inches is maintained between the service drop conductors (including the drip loop) and the roof. The mast should extend above the roof a minimum of three feet.
- B. Service drop conductors, drip loops, and open service entrance conductors, including multiconductor cables without an overall covering, must have a minimum of three feet of clearance from windows that are designed to be opened, doors, porches and similar locations. Reference the NEC for additional clearance details.
- C. Masts taller than 36 in. above the roof shall be guyed.
2. A. The service entrance rating is equivalent to the main breaker or fuse ampere rating (when there is one breaker or fuse). Based on this rating, the minimum size conductors are:

Service Entrance Rating (Amps)	Copper Conductor Size	Aluminum Conductor Size
100	4	2
150	1	2/0
200	2/0	4/0
400	400	600


The minimum service rating is 100 amperes 3 wire for a one family dwelling.

- B. If a conduit riser is used, install a minimum 2 inch I.D. conduit. Use a minimum 2 inch weatherhead at the top of the conduit. If the conduit extends above the roof it should be rigid galvanized or intermediate metal conduit.
- C. If service entrance cable is used without conduit, install weatherhead at the top of the cable and leave two feet of the conductor, or leave a two foot loop of wire for the forming of a gooseneck and making connections.
- D. Weatherheads or goosenecks in SE cable shall be located above the point of attachment of the service drop except where impractical, in which case they shall be 24 inches.
3. Fasten the conduit or entrance cable with conduit or cable straps as shown. Use brass or non-rust screws to mount straps. Install cable straps in opposite directions at the drip loop or weatherhead. Conduit must be strapped within three feet of the meter socket, at ten foot intervals, and near the top. Service entrance cable shall have straps installed within 12 inches of the meter socket and the gooseneck and at 30 inch intervals.
4. Use only an approved socket with the APCo or SES stamp. Mount the socket four to five feet above final grade. Mount sockets with screws or anchors, not nails.
5. Grounding: Use a minimum of #6 copper ground conductor stapled to the house. Use an approved grounding clamp to connect the ground conductor to the ground rod.
Ground rod: Eight feet in length and 3/4 inch diameter galvanized pipe, or 5/8 inch diameter galvanized rod, or 1/2" diameter copper clad rod.
6. Where the electrical inspector has approved the rebar in the concrete footing as the grounding electrode, a ground rod is not required. A minimum #6 copper ground conductor must connect the rebar to the neutral bar in the meter socket or other inspector approved point.
7. The meter socket must not be drilled or damaged during installation of the intersystem bonding termination device required by Article 250.94 of the NEC for electrical bonding of cable, phone and other services. The device must not interfere with the opening of the meter enclosure. The building owner is responsible for all damage to the meter socket caused by the installation of this device.
8. Where vinyl siding, drivit, or stucco, or similar sidings are installed, the customer shall install a secure means of attachment, such as an eye bolt, for the service drop.
9. Customer shall install an external disconnect at the meter socket that is readily accessible.

Date	DESCRIPTION <u>Permanent Residential Service</u>	 Alabama Power	A- R-01-I
08-10-21	Installation		



NOTE: Customer shall install an external disconnect at the meter socket that is readily accessible.

Date 12-1-16	DESCRIPTION <u>Permanent Residential Service</u> Installation	 Alabama Power	A- R-01-2

SPECIFICATIONS FOR MANUFACTURED HOME
AND TEMPORARY SERVICE

CUSTOMER:

1. Pole— **Treated for ground contact**, 18 ft., 4 ft. deep, tamped. (16ft pole with conduit option).
Crushed stone
for stability if needed.

<u>Type Pole</u>	<u>Dimensions</u>
Round	5" Top Diameter
Square	6" x 6"
Rectangular (temporary only)	4" x 6"

2. Maintain pole plumb, replace if rotted.
3. **The service entrance rating is equivalent to the main breaker or fuse ampere rating (when there is one breaker or fuse). Based on this rating, the minimum size conductors are:**

Service Entrance Rating (Amps)	Copper Conductor Size	Aluminum Conductor Size
60 (temporary only)	6	4
100	4	2
150	1	2/0
200	2/0	4/0
400	400	600

The minimum service rating is 100 amperes 3 wire for a one family dwelling.


4. Weatherhead or gooseneck 18" from top of the pole. Leave 18" leads. Cable straps at top, 12 inches from top, 12 in. from meter socket and 30 inch intervals. Fasten with screws.
5. Mount Company meter socket and weatherproof breaker box with galvanized screws, on 2" x 12" x 36" pressure treated board, or 3/4" x 12" x 36" pressure treated plywood. Attach to pole, with meter socket at 4–5 feet, using galvanized lag screws. The board is not required for a 6" x 6" square pole, or a 4" x 6" rectangular pole with the equipment installed on the 6" face of the pole.
6. Seal SE cable at meter socket entrance with bushing and sealant.
7. Conduit Option: 2 inch I.D. rigid galvanized or IMC, with weatherhead. Two ft of conduit above pole. No joints above or within 2 feet of top of pole. Install on side of pole opposite service drop. Three metal conduit straps (minimum), one near top, one mid-way and one within a foot of the meter socket. Fasten each strap with two galvanized 1/4" by 2-1/2" lag screws.
8. PVC conduit to the home— gray schedule 40 or schedule 80 if subject to physical damage, buried 18 inches deep. Galvanized— 6 inches deep, if buried. The feeder conductors for manufactured homes must be either a factory installed cord or four insulated conductors, color-coded or field marked for identification.
9. GFCI required on temporary services.
10. Ground rod: 3/4" x 8' galvanized pipe, 1/2" x 8' copper clad rod, or 5/8" x 8' solid galvanized steel rod.
11. Ground wire: #6 copper min. from meter socket to rod, stapled to pole. No splices. Connect with NEC approved clamp.
- 11.1 **The meter socket must not be drilled or damaged during installation of the intersystem bonding termination device required by Article 250.94 of the NEC for electrical bonding of cable, phone and other services. The device must not interfere with the opening of the meter enclosure. The building owner is responsible for all damage to the meter socket caused by the installation of this device.**

COMPANY:

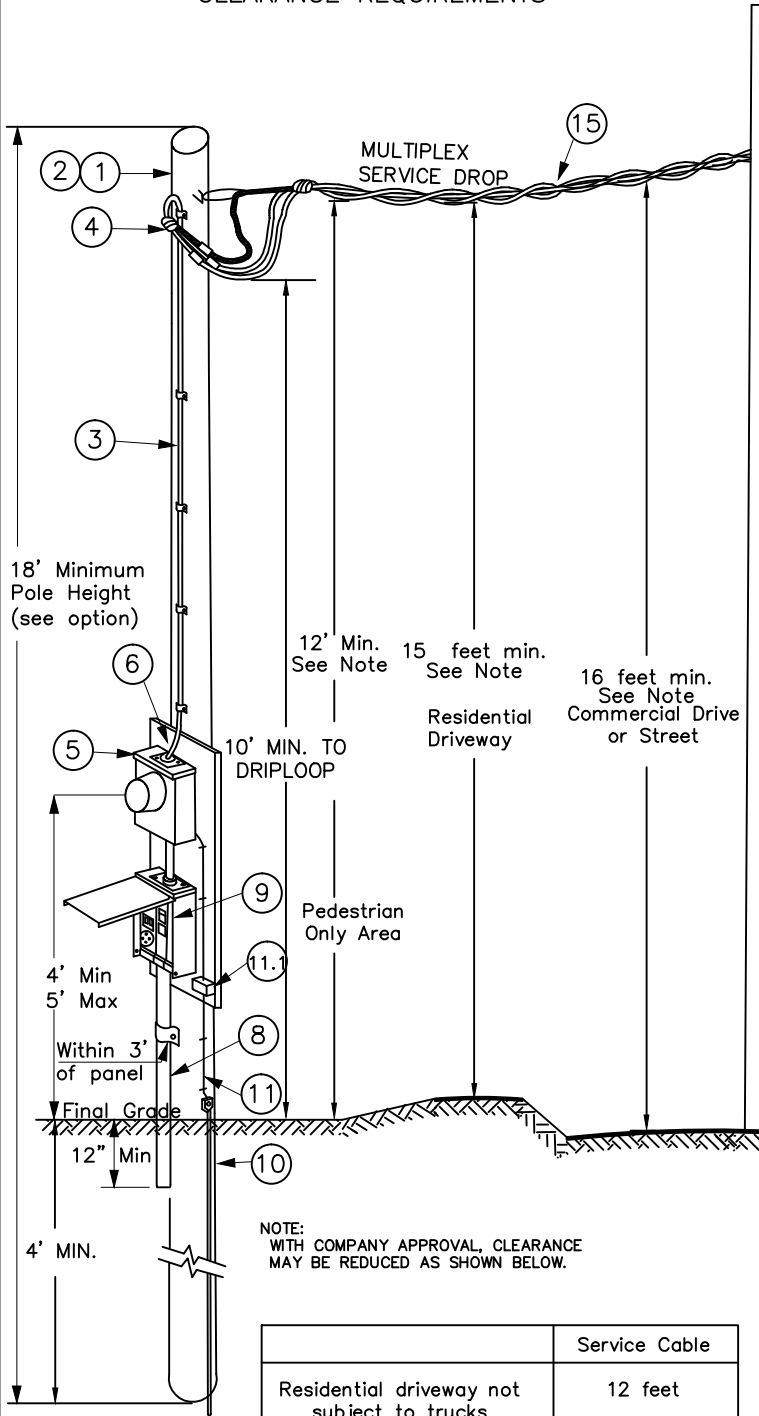
12. Provide meter socket.
13. Specify location of service.
14. Connect the overhead service.

NOTES:

15. Service will not be pulled over a trailer or building.
16. All aspects of meter pole wiring must comply with NEC.

Date	DESCRIPTION <u>Service To A Mobile Home Or</u>	 Alabama Power	A- R-02-I
08-11-16	Temporary Construction		

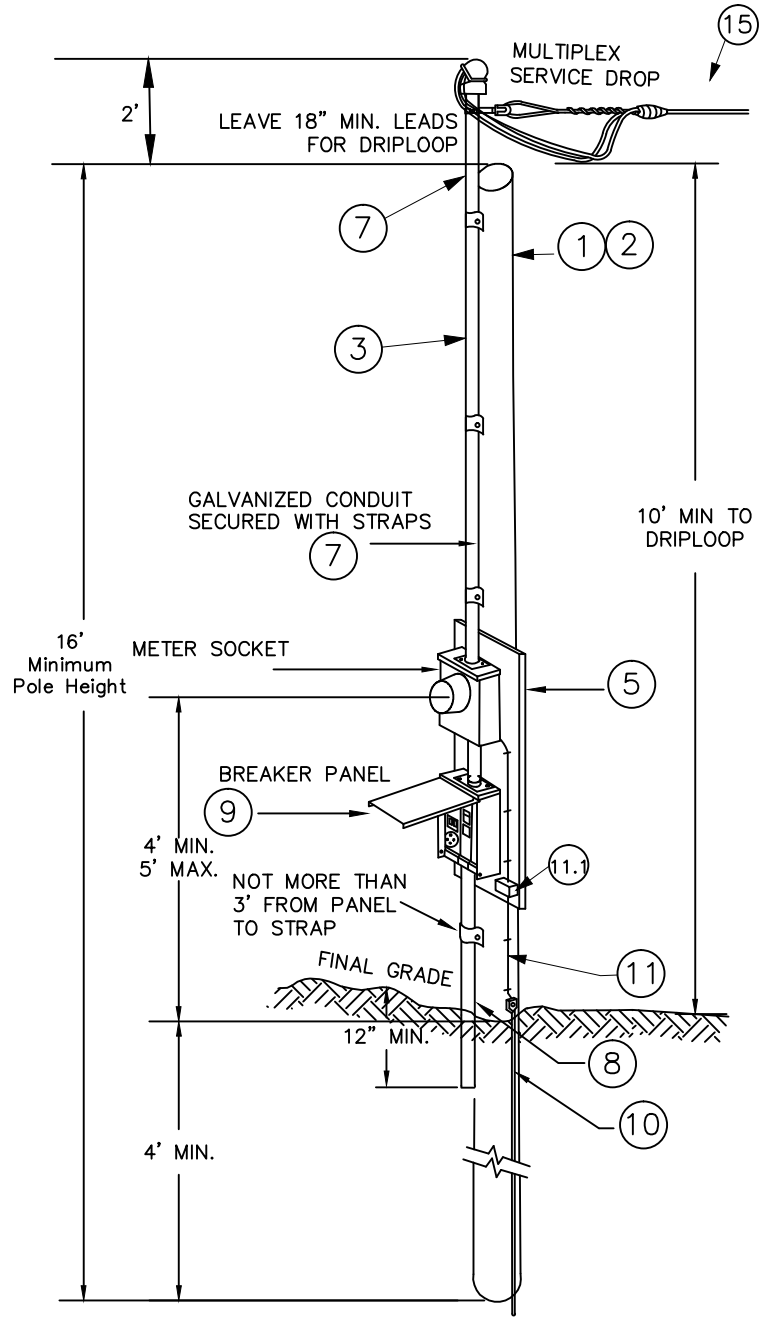
SERVICE POLE AND CLEARANCE REQUIREMENTS



NOTE:
WITH COMPANY APPROVAL, CLEARANCE
MAY BE REDUCED AS SHOWN BELOW.

	Service Cable
Residential driveway not subject to trucks	12 feet
Pedestrian only areas	10 feet
Other drives, alleys, and parking lots not subject to trucks	15 feet

OPTIONAL SERVICE POLE WITH GALVANIZED CONDUIT MAST



All Clearance Requirements for the service drop are the Same as Shown on the drawing to the left.

Date

03-09-17

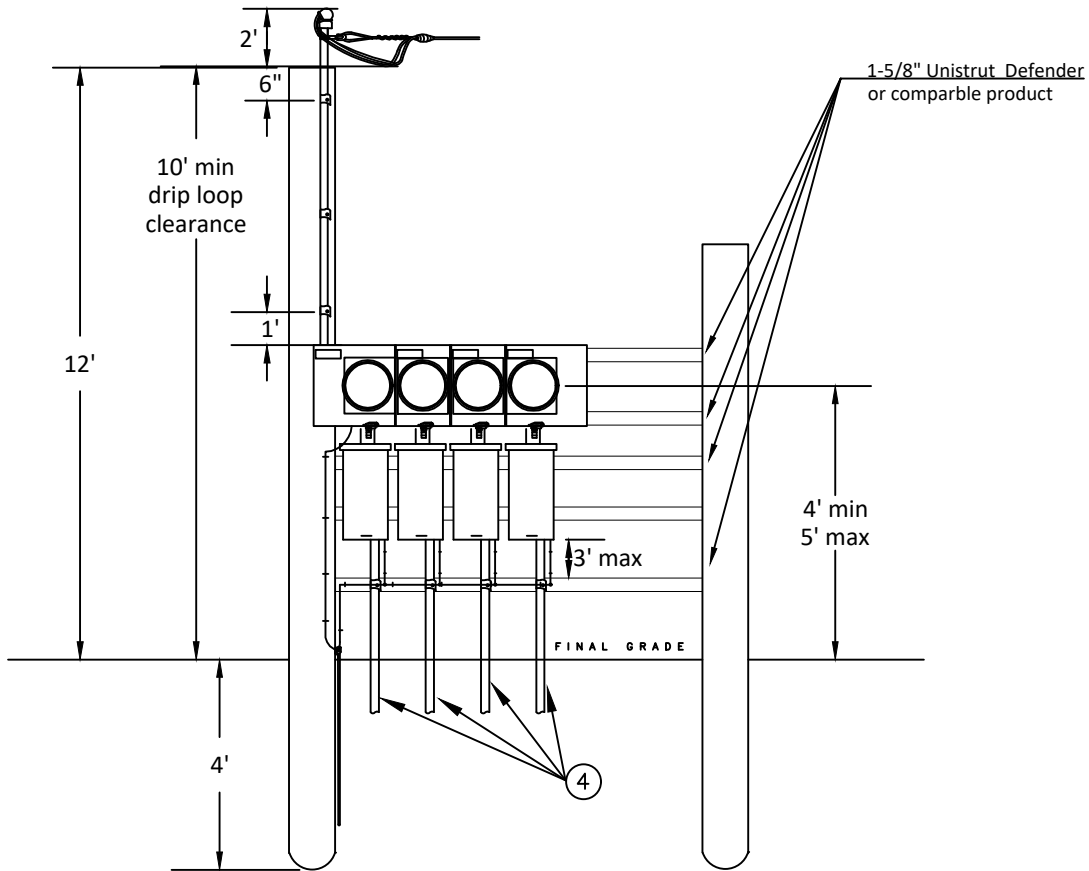
DESCRIPTION Service To A Mobile Home Or
Temporary Construction



Alabama Power

A- R-02-2

OPTIONAL SERVICE POLE
WITH GALVANIZED CONDUIT MAST



CUSTOMER:

1. Pole- Treated for ground contact 16 ft., 4 ft. deep, tamped. Include crushed stone for stability if needed.

Type Pole	Dimensions
Round	5" Top Diameter
Square	6" x 6"

2. Maintain pole plumb, replace if rotted.
3. Conduit Option: 2 inch I.D. rigid galvanized or IMC, with weatherhead. Two ft of conduit above pole. No joints above or within 2 feet of top of pole. Install on side of pole opposite service drop. Three metal conduit straps (minimum), one near top, one mid-way and one within a foot of the meter socket. Fasten each strap with two galvanized 1/4" by 2-1/2" lag screws.
4. PVC conduit to the home- gray schedule 40 or schedule 80 if subject to physical damage, buried 18 inches deep. Galvanized- 6 inches deep, if buried. The feeder conductors for manufactured homes must be either a factory installed cord or four insulated conductors, color-coded or field marked for identification.
5. Ground rod: 3/4" x 8' galvanized pipe, 1/2" x 8' copper clad rod, or 5/8" x 8' solid galvanized steel rod.
6. Ground wire: #6 copper min. from meter socket to rod, stapled to pole. No splices. Connect with NEC approved clamp.
7. The meter socket must not be drilled or damaged during installation of the intersystem bonding termination device required by Article 250.94 of the NEC for electrical bonding of cable, phone and other services. The device must not interfere with the opening of the meter enclosure. The building owner is responsible for all damage to the meter socket caused by the installation of this device.

COMPANY:

8. Provide meter socket.
9. Specify location of service.
10. Connect the overhead service.

NOTES:

11. Service will not be pulled over a trailer or building.
12. All aspects of meter pole wiring must comply with NEC.
13. All sockets must be marked with weatherproof stickers or stencil painted.

SUBJECT OVERHEAD DISTRIBUTION

DETAIL 6 GANG HORIZONTAL METER SOCKET

Date 08-12-20

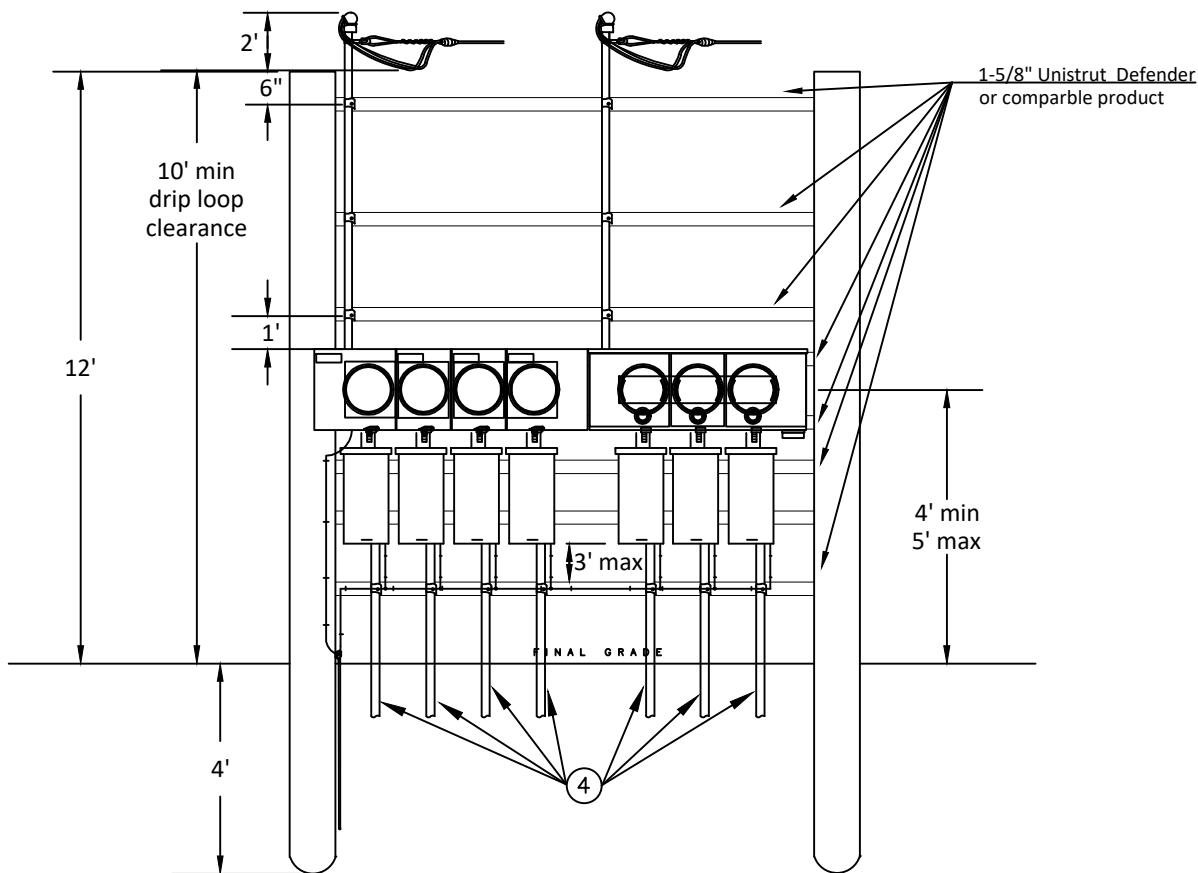
SUPERSEDES _____
DATE _____

SHEET 1 OF
2 SHEETS



A- R-02-3

OPTIONAL SERVICE POLE
WITH GALVANIZED CONDUIT MAST



CUSTOMER:

1. Pole- Treated for ground contact 16 ft., 4 ft. deep, tamped. Include crushed stone for stability if needed.

Type Pole	Dimensions
Round	5" Top Diameter
Square	6" x 6"

2. Maintain pole plumb, replace if rotted.
3. Conduit Option: 2 inch I.D. rigid galvanized or IMC, with weatherhead. Two ft of conduit above pole. No joints above or within 2 feet of top of pole. Install on side of pole opposite service drop. Three metal conduit straps (minimum), one near top, one mid-way and one within a foot of the meter socket. Fasten each strap with two galvanized 1/4" by 2-1/2" lag screws.
4. PVC conduit to the home- gray schedule 40 or schedule 80 if subject to physical damage, buried 18 inches deep. Galvanized- 6 inches deep, if buried. The feeder conductors for manufactured homes must be either a factory installed cord or four insulated conductors, color-coded or field marked for identification.
5. Ground rod: 3/4" x 8' galvanized pipe, 1/2" x 8' copper clad rod, or 5/8" x 8' solid galvanized steel rod.
6. Ground wire: #6 copper min. from meter socket to rod, stapled to pole. No splices. Connect with NEC approved clamp.
7. The meter socket must not be drilled or damaged during installation of the intersystem bonding termination device required by Article 250.94 of the NEC for electrical bonding of cable, phone and other services. The device must not interfere with the opening of the meter enclosure. The building owner is responsible for all damage to the meter socket caused by the installation of this device.

COMPANY:

8. Provide meter socket.
9. Specify location of service.
10. Connect the overhead service.

NOTES:

11. Service will not be pulled over a trailer or building.
12. All aspects of meter pole wiring must comply with NEC.
13. All sockets must be marked with weatherproof stickers or stencil painted.

SUBJECT OVERHEAD DISTRIBUTION

DETAIL 2-6 GANG HORIZONTAL METER SOCKET

Date 08-12-20

SUPERSEDES _____
DATE _____

SHEET 2 OF
2 SHEETS



Alabama Power

A- R-02-04

R-02-04

CREOSOTED POLE OR TREATED TIMBER, **TREATED FOR GROUND CONTACT** (4" X 4" MINIMUM SIZE), OR 6" GALVANIZED CHANNEL IRON TO BE FURNISHED AND INSTALLED BY THE CUSTOMER. MINIMUM SETTING DEPTH 24 INCHES. LOCATE POLE IMMEDIATELY ADJACENT TO SECONDARY CABLE MARKER.

METER TROUGH, SINGLE PHASE 200 AMPERE, FURNISHED BY ALABAMA POWER AND INSTALLED BY CUSTOMER.

CUSTOMER TO SUPPLY AND INSTALL MAIN SWITCH, OVER CURRENT PROTECTION AND WIRING DEVICES IN A WEATHERPROOF ENCLOSURE WITH WEATHERPROOF COVERS. SEE THE LOCAL AUTHORITIES FOR ANY REQUIREMENTS BEYOND THESE LISTED.

CONDUIT STRAPS SPACED AT A MAXIMUM DISTANCE OF 24 INCHES APART TO BE FURNISHED AND INSTALLED BY CUSTOMER.

CONDUIT TO BE 1-1/2 INCH MINIMUM I.D. PVC SCHEDULE 40, RIGID GALVANIZED, OR FLEXIBLE NON-METALLIC CONDUIT WITH BUSHING FURNISHED AND INSTALLED BY THE CUSTOMER.

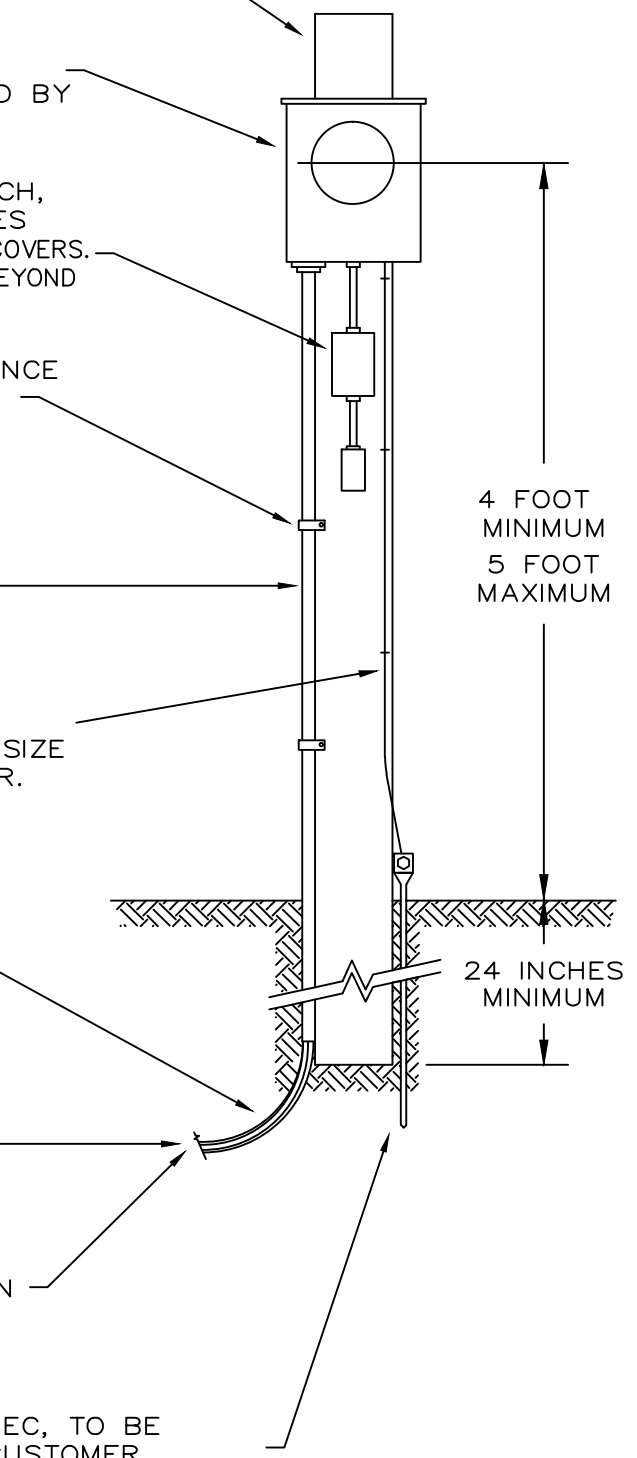
GROUND CONDUCTOR TO CONFORM TO NEC, EXCEPT THAT # 6 CU. SHALL BE THE MINIMUM SIZE TO BE FURNISHED AND INSTALLED BY CUSTOMER.


CONDUCTOR TO BE FURNISHED AND INSTALLED BY THE CUSTOMER

UNDERGROUND SERVICE CABLE TO PAD-MOUNTED TRANSFORMER OR SECONDARY PEDESTAL

ALABAMA POWER TO MAKE SERVICE CONNECTION

GROUND ROD TO CONFORM TO NEC, TO BE FURNISHED AND INSTALLED BY CUSTOMER.



Date	DESCRIPTION <u>Temporary Service Installation</u>	 Alabama Power	A- R-03-1
08-11-16	from Underground Secondary at Cable Marker or secondary pedestal		

CREOSOTED POLE OR TREATED TIMBER, TREATED FOR GROUND CONTACT (4" X 4" MINIMUM SIZE), OR 6" GALVANIZED CHANNEL IRON TO BE FURNISHED AND INSTALLED BY THE CUSTOMER. MINIMUM SETTING DEPTH 24 INCHES..

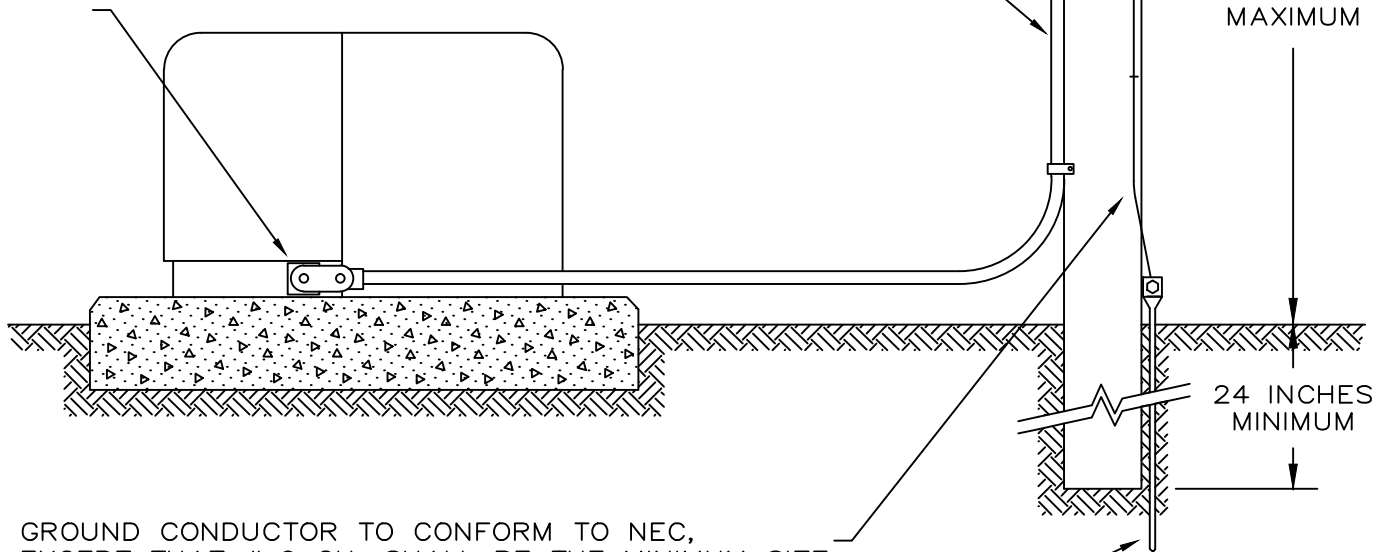
METER TROUGH, SINGLE PHASE 200 AMPERE, FURNISHED BY ALABAMA POWER AND INSTALLED BY THE CUSTOMER.

CUSTOMER TO SUPPLY AND INSTALL MAIN SWITCH, OVER CURRENT PROTECTION AND WIRING DEVICES IN A WEATHERPROOF ENCLOSURE WITH WEATHERPROOF COVERS. SEE LOCAL AUTHORITIES FOR ANY REQUIREMENTS BEYOND THESE LISTED.

CONDUIT STRAPS SPACED AT A MAXIMUM DISTANCE OF 24 INCHES APART TO BE FURNISHED AND INSTALLED BY THE CUSTOMER.

CONDUIT TO BE 1-1/2 INCH MINIMUM I.D. PVC SCHEDULE 40 OR RIGID GALVANIZED STEEL. CONDUIT, BUSHING, TYPE LB ACCESS FITTING OR FLEXIBLE NON-METALLIC CONDUIT TO BE FURNISHED AND INSTALLED BY THE CUSTOMER.


ACCESS HOLE ADAPTER PLATE TO BE FURNISHED BY THE CUSTOMER AND INSTALLED BY ALABAMA POWER.



GROUND CONDUCTOR TO CONFORM TO NEC, EXCEPT THAT # 6 CU. SHALL BE THE MINIMUM SIZE TO BE FURNISHED AND INSTALLED BY THE CUSTOMER.

GROUND ROD TO CONFORM TO NEC, TO BE FURNISHED AND INSTALLED BY THE CUSTOMER.

ALABAMA POWER IS TO MAKE THE SERVICE CONNECTION IN THE PAD-MOUNTED TRANSFORMER.

Date 08-11-16	DESCRIPTION Temporary Service Installation from a Pad-Mounted Transformer with an Access Hole	 Alabama Power	A- R-04-1
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CREOSOTED POLE OR TREATED TIMBER, **TREATED FOR GROUND CONTACT** (4" X 4" MINIMUM SIZE), OR 6" GALVANIZED CHANNEL IRON TO BE FURNISHED AND INSTALLED BY THE CUSTOMER. MINIMUM SETTING DEPTH 24 INCHES.

METER TROUGH, SINGLE PHASE 200 AMPERE, FURNISHED BY ALABAMA POWER AND INSTALLED BY THE CUSTOMER.

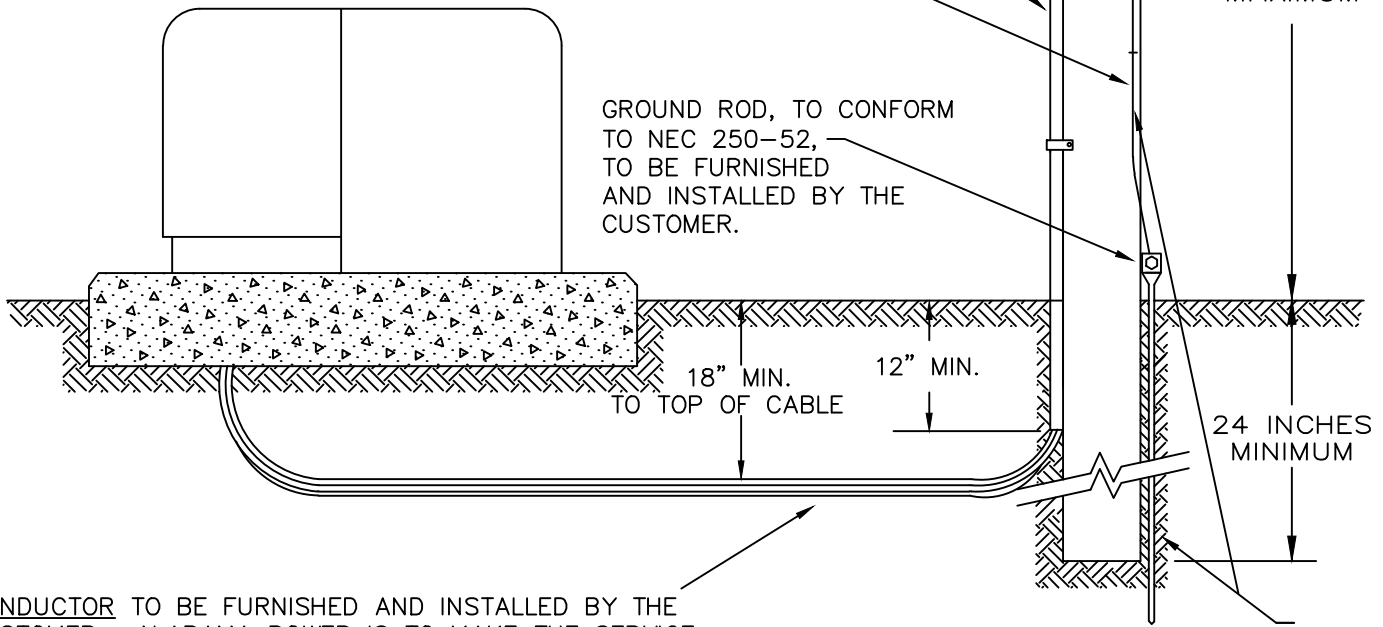
CUSTOMER TO SUPPLY AND INSTALL MAIN SWITCH, OVER CURRENT PROTECTION AND WIRING DEVICES IN A WEATHERPROOF ENCLOSURE WITH WEATHERPROOF COVERS. SEE LOCAL AUTHORITIES FOR ANY REQUIREMENTS BEYOND THESE LISTED.

CONDUIT STRAPS SPACED AT A MAXIMUM DISTANCE OF 24 INCHES APART TO BE FURNISHED AND INSTALLED BY THE CUSTOMER.

CONDUIT TO BE 2 INCHES MINIMUM I.D. PVC SCHEDULE 40 OR RIGID GALVANIZED STEEL WITH BUSHING TO BE FURNISHED AND INSTALLED BY THE CUSTOMER.


GROUNDING CONDUCTOR TO CONFORM TO NEC 250-66; EXCEPT THAT #6 COPPER SHALL BE THE MINIMUM SIZE TO BE FURNISHED AND INSTALLED BY THE CUSTOMER.

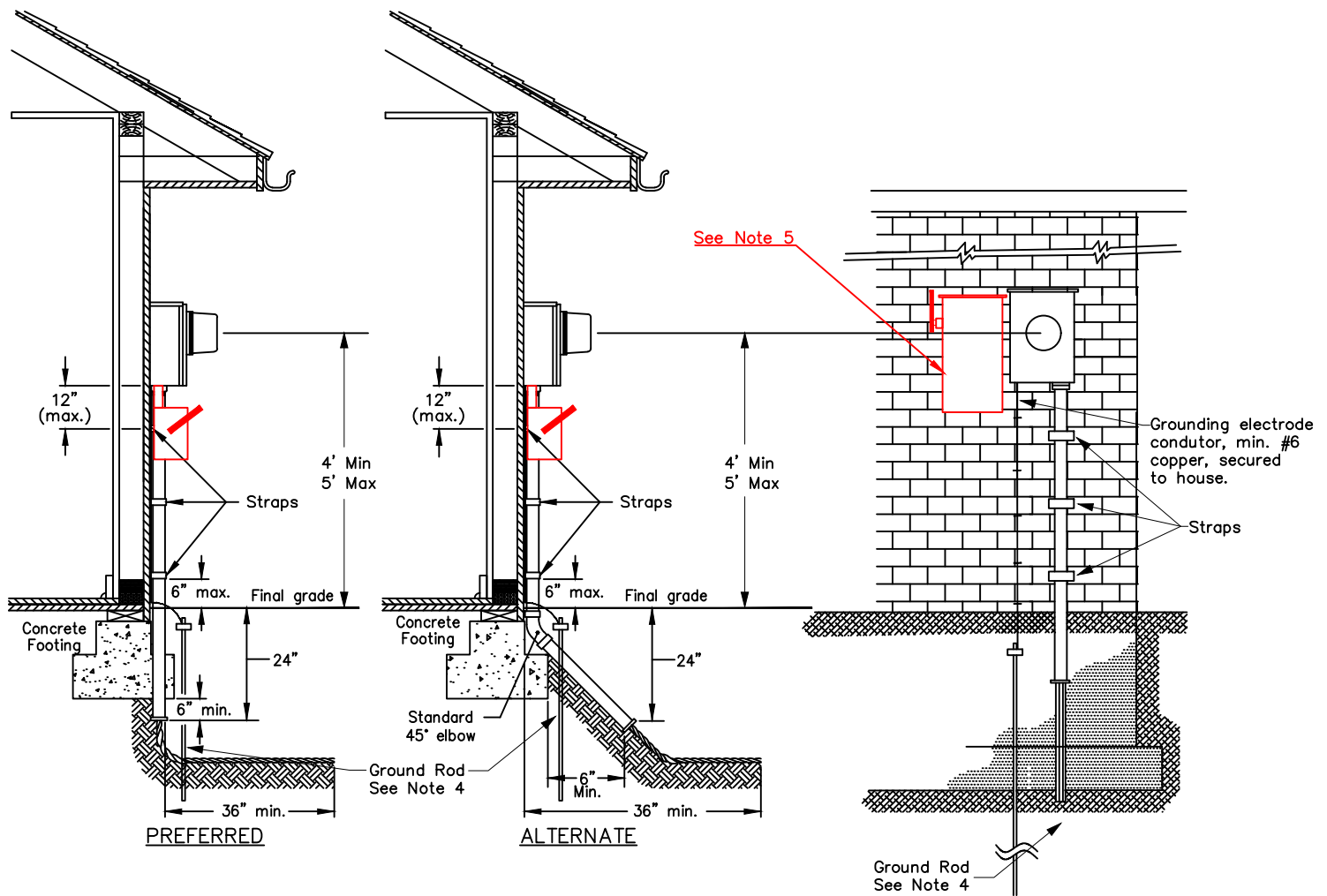
GROUND ROD, TO CONFORM TO NEC 250-52, TO BE FURNISHED AND INSTALLED BY THE CUSTOMER.



CONDUCTOR TO BE FURNISHED AND INSTALLED BY THE CUSTOMER. ALABAMA POWER IS TO MAKE THE SERVICE CONNECTION IN THE PAD-MOUNTED TRANSFORMER.

CUSTOMER TO FURNISH AND INSTALL THE GROUNDING ELECTRODE AND GROUNDING ELECTRODE CONDUCTOR.

Date 03-09-17	DESCRIPTION <u>Temporary Service Installation</u> from a Pad-Mounted Transformer without an Access Hole	 Alabama Power	A- R-05-1
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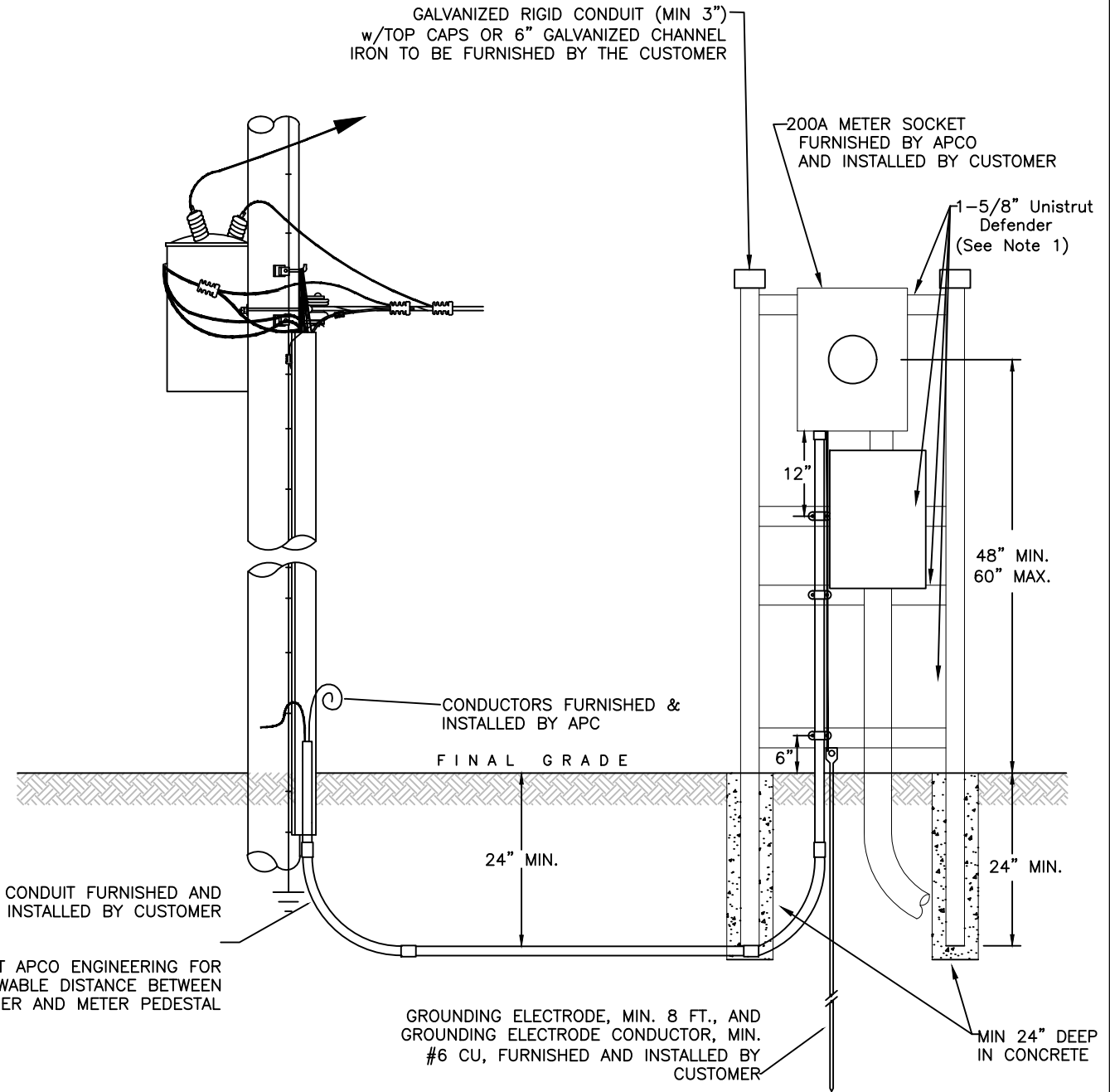
- NOTES:
1. Crosshatched  area denotes undisturbed or re-compacted soil directly beneath cable (extending 36" min. from building) and conduit (or elbow) to prevent later settling of cable and conduit, failure to provide compact soil may result in damage to cables, conduit and meter socket.
 2. If a concrete or asphalt drive is to be installed between the meter and supply transformer install a 3" minimum PVC conduit, 24" to 48" under this surface, directly in line with the meter and transformer. Temporary end caps shall be placed on the conduit. The location of one end shall be flagged for location purposes.
 3. PVC schedule 40 conduit with bushing or where subject to physical damage, schedule 80 with bushing, or rigid galvanized steel conduit with bushing to be furnished and installed by the customer. Service cable to be owned and installed by Alabama Power Co. (See Table 1 for conduit schedule).
 4. The ground rod is to be furnished and installed by the customer. The ground rod is to be a 3/4" x 8' galvanized pipe, 1/2" x 8' listed rod or a 5/8" x 8' galvanized steel rod installed in accordance with the National Electrical Code.
 5. Customer shall install an external disconnect at the meter socket that is readily accessible.

TABLE I

SERVICE ENTRANCE SIZE	MINIMUM CONDUIT SIZE
200 AMPERE	3"
400 AMPERE (320 Amp Meter Socket)	3"

Date 03-09-17	DESCRIPTION Permanent service installation from	 Alabama Power	A- R-06-1
	underground service cable cont.		

**UG SERVICES FROM APC POLES TO
200A RESIDENTIAL METER SOCKET**



Notes

- 1: Comparable product to Unistrut Defender is acceptable.
- 2: The conduit from the pole to the meter socket shall be a minimum of 3" diameter.

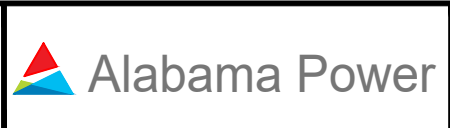
SUBJECT _____

DETAIL UG SERVICES FROM APC POLES TO 200A METER SOCKET

Date 05-09-23

SUPERSEDES R-06-2
DATE 05-09-23

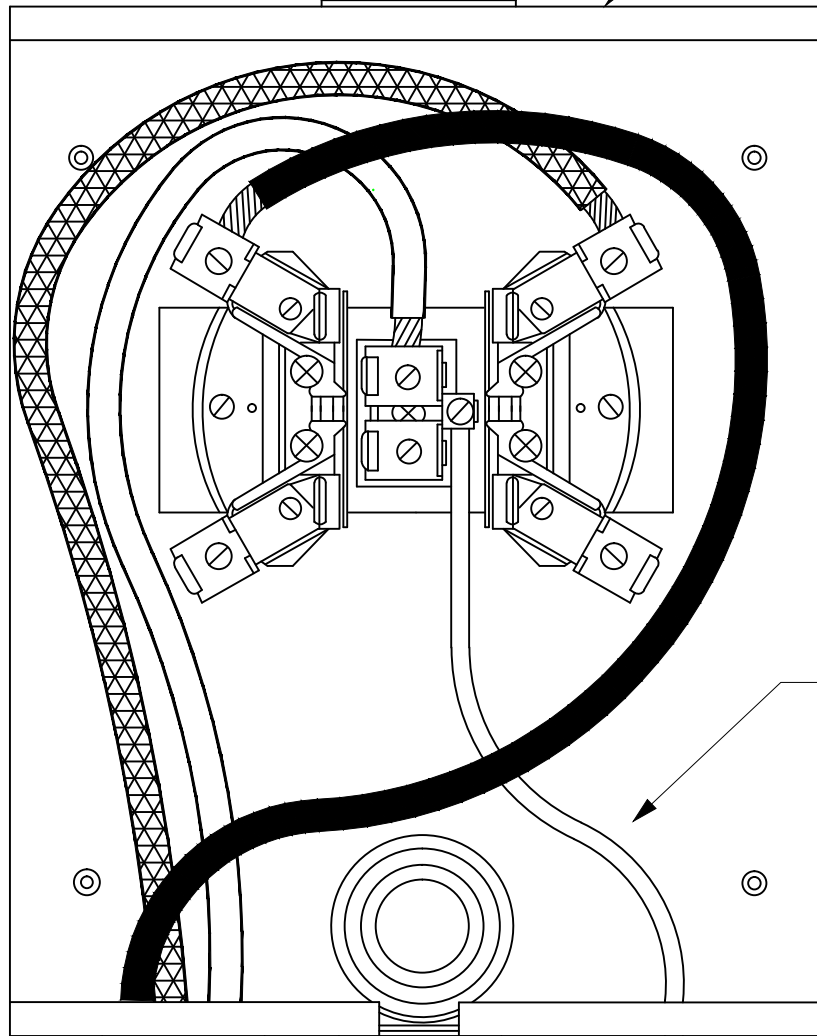
SHEET ____ OF ____ SHEETS



A- **R-06-2**

PLATE, FURNISHED AS PART OF METER SOCKET

METER SOCKET TO BE FURNISHED BY APCo AND INSTALLED BY THE CUSTOMER



KNOCK-OUT
3" ON 200AMP
3-1/2" ON 320AMP

GROUNDING ELECTRODE CONDUCTOR, MIN. #6 COPPER

CONDUIT ADAPTER

CONDUIT, TO BE FURNISHED AND INSTALLED BY THE CUSTOMER. SERVICE CABLE TO BE OWNED AND INSTALLED BY APCo.

CONDUIT, AND SERVICE ENTRANCE CONDUCTORS TO BE FURNISHED AND INSTALLED BY THE CUSTOMER.

↓ TO GROUND ROD

Date

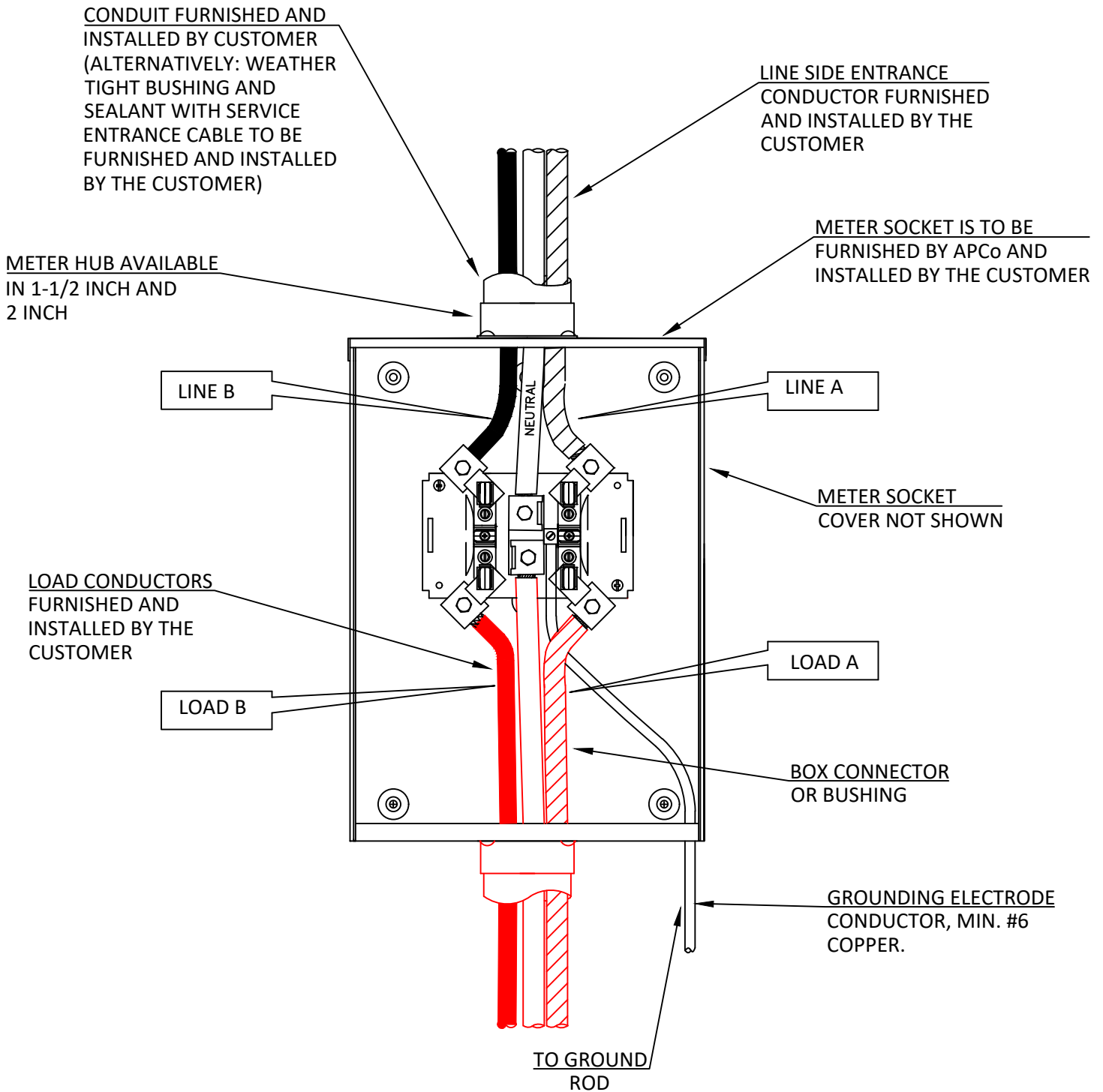
04-21-06

DESCRIPTION Typical Meter Installation for a Single Phase Underground Service cont.



Alabama Power

A- R-07-1



Date
06-08-21

DESCRIPTION Typical Meter Installation for a Single Phase Overhead Service



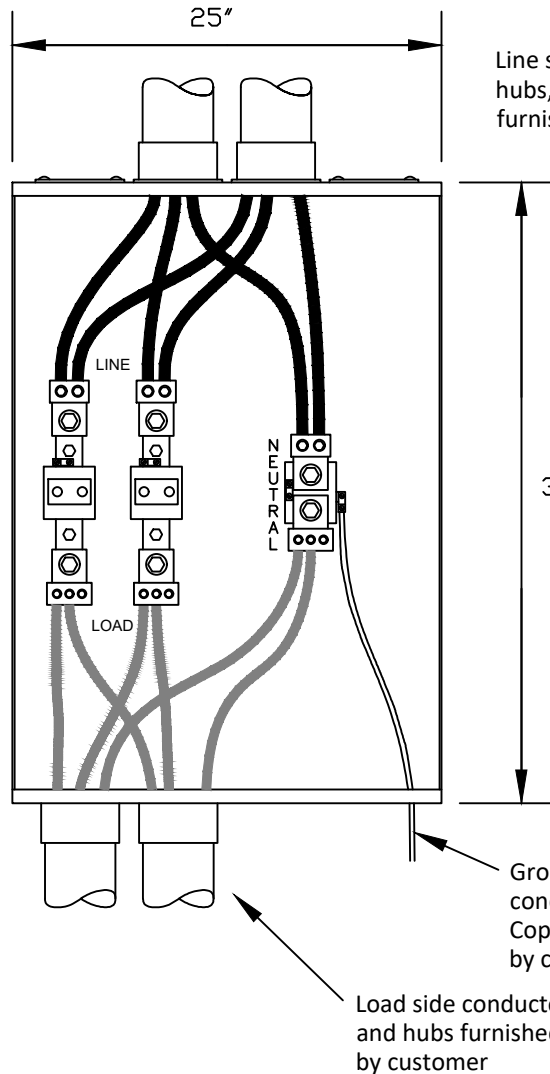
A- R-08-1

Transocket Furnished by APCo and installed by Customer

Line connectors are each dual 600 kcm capacity.

Load connectors are each triple 250 kcm capacity.

Four (4) knockouts, each with 3" and 4" knockouts.



Line side Service Entrance conductors, hubs, conduit, and/or cable furnished and installed by customer

Transocket cover, metering inner panel, and meter wiring omitted for clarity

36"

Grounding electrode conductor, minimum #6 Copper, furnished and installed by customer

Load side conductors, conduit, and hubs furnished and installed by customer

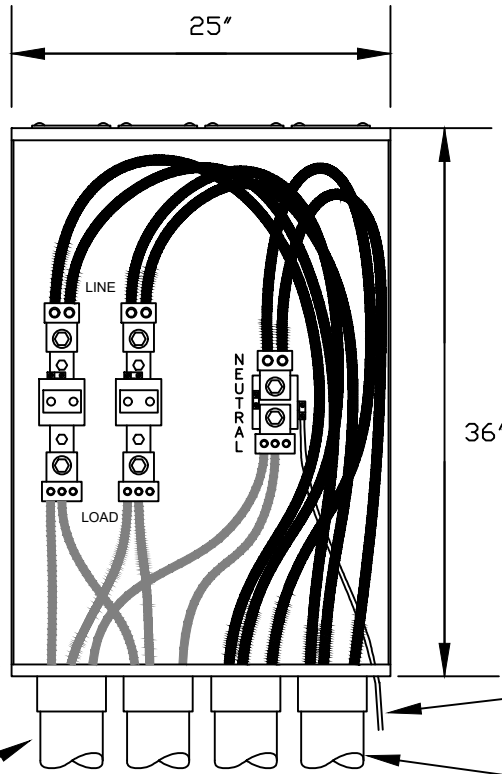
Date
05-25-11

DESCRIPTION Transocket Installation for a Single Phase Overhead Service



A- R-08-2

Transocket Furnished by APCo
and installed by Customer



Line connectors are each
dual 600 kcm capacity.

Load connectors are each
triple 250 kcm capacity.

Four (4) knockouts,
each with 3" and 4"
knockouts.

Load side conductors, conduit,
and adapters furnished
and installed by customer

Transocket cover,
metering inner panel,
and meter wiring
omitted for clarity

Grounding electrode conductor,
minimum #6 copper, furnished
and installed by customer

Line side conduit and adapters
furnished and installed by
customer. Company will furnish
and install line side conductors.

Date

05-25-11

DESCRIPTION Transocket Installation for a Single
Phase Underground Service




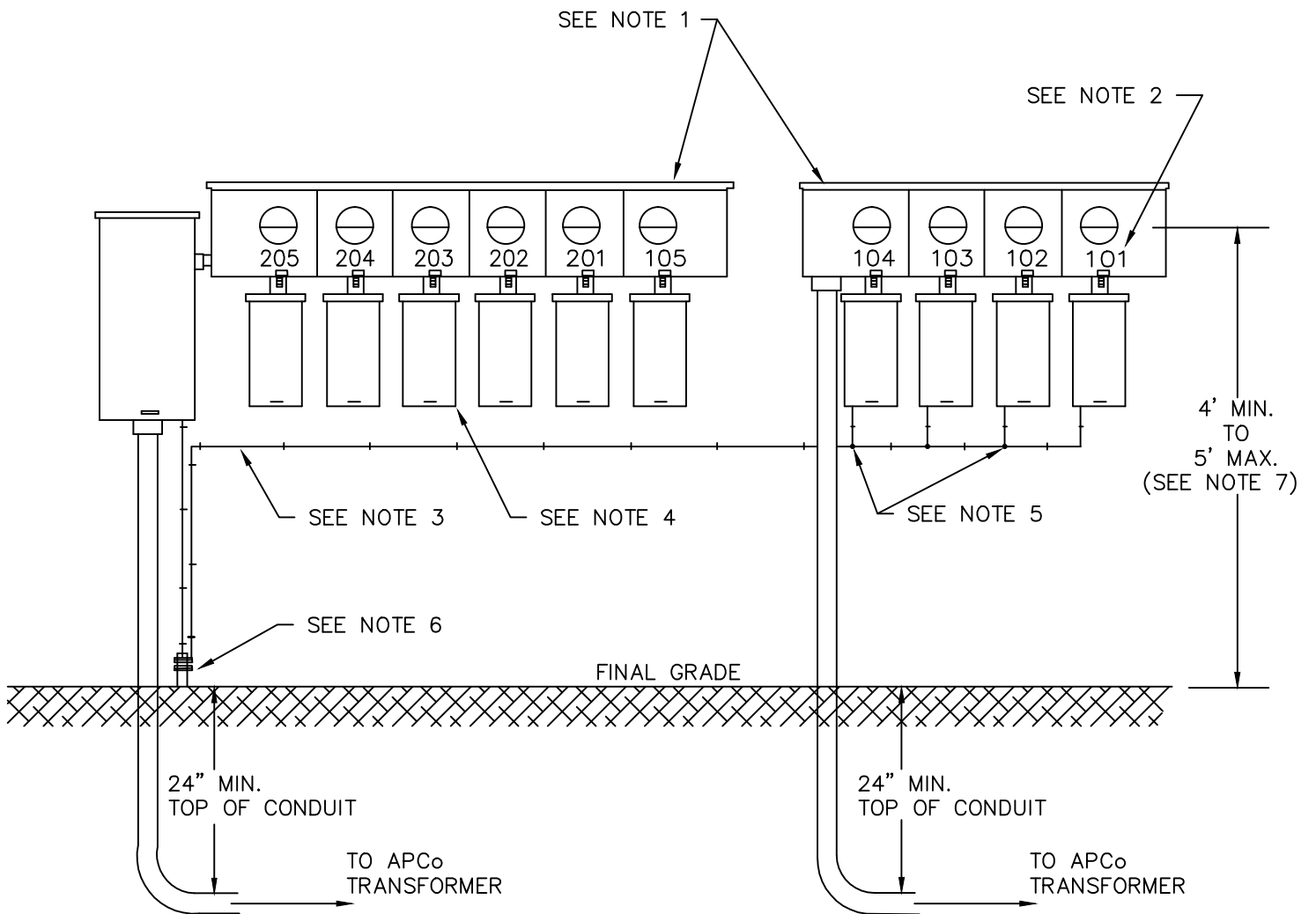
Alabama Power


A- R-08-3

NOTES:

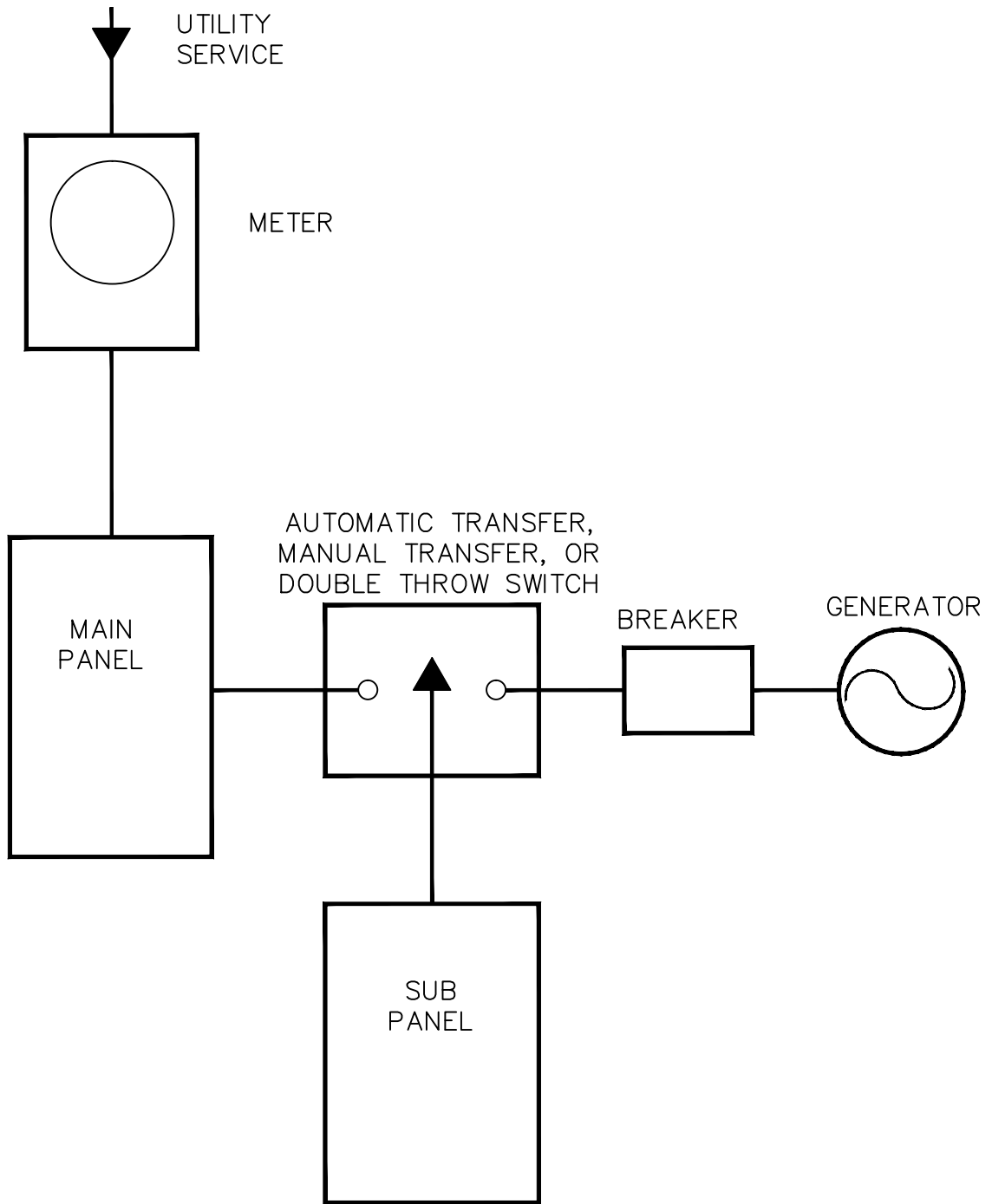
1. Ganged meter sockets will be supplied by the Company and are limited to 2, 3, 4, 5 and 6 position horizontal arrangement.
2. All socket positions should be permanently marked to designate the apartment or office served. The marking should be stenciled in black numbers or letters at least one inch in height.
3. The separate grounding conductors should be tied to one grounding electrode using separate clamps. Any grounding conductor that serves to bond together separate grounding conductors should be sized in accordance with Table 250-66 of the National Electrical Code.
4. Each apartment or office shall have a service disconnecting device that will be furnished and installed by the customer. The maximum number of disconnecting devices to be operated to completely disconnect the building shall be six. (For example; for this installation to be completely disconnected, the main breaker to the six ganged socket and the individual breakers on the four ganged socket will be operated).
5. A cadweld type connector or other locally approved connector should be used to bond the individual grounding conductors.
6. Grounding electrode: Use an approved grounding clamp to connect the ground conductor to the ground electrode.
Ground rod: 8 feet in length and 3/4" in diameter galvanized pipe, or 5/8" diameter Galvanized rod, or 1/2" diameter copper clad rod.
7. When seven or more meters are installed on a wall together, an exception is allowed and they may be installed as high as six feet.

Date 12/01/99	DESCRIPTION <u>Multiple Ganged Meter Socket</u> Installation	 Alabama Power	A- R-09-1
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Date 12/01/99	DESCRIPTION <u>Multiple Ganged Meter Socket</u> Installation	 Alabama Power	A- R-09-2
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AUTOMATIC TRANSFER, MANUAL TRANSFER OR
DOUBLE THROW SWITCH IN FEEDER

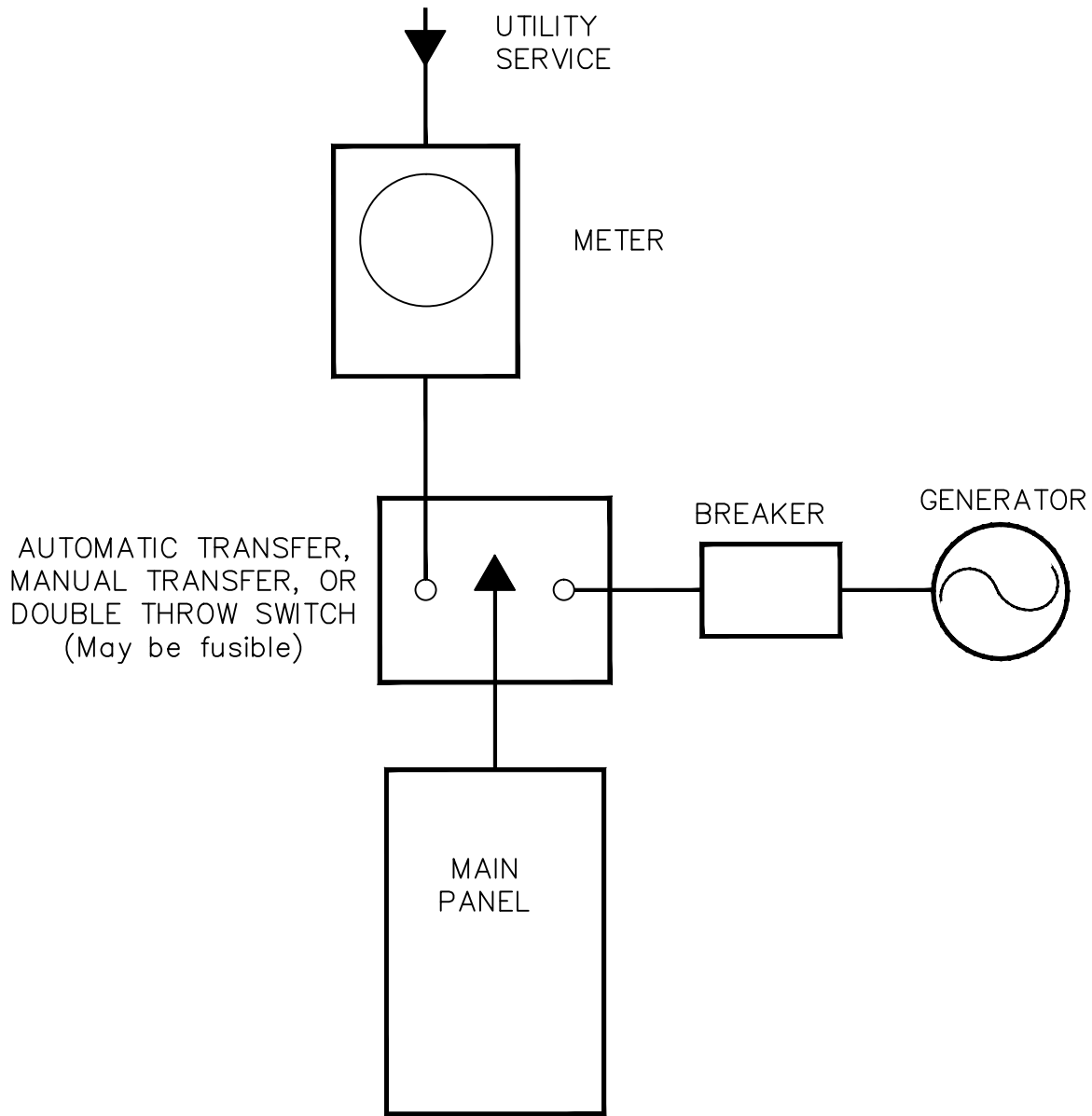


NOTES:

1. Transfer switch must meet UL-1008.
2. Double throw switch must meet UL-98
3. Transfer switch must not tie the generator to the Company system at any time.
4. Automatic transfer switch must be approved by the Company.


Date 12/01/99	DESCRIPTION <u>Emergency Generator Installation</u>	 Alabama Power	A- R-12-1

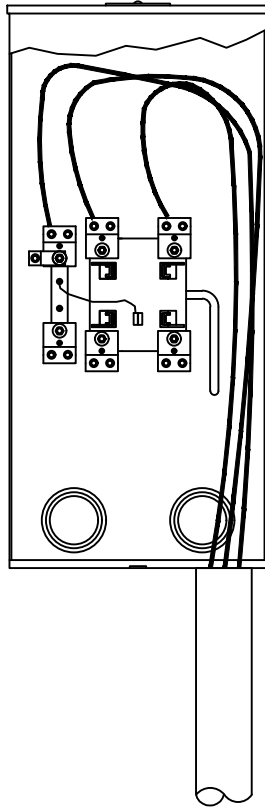
AUTOMATIC TRANSFER, MANUAL TRANSFER OR
DOUBLE THROW SWITCH IN THE MAIN POSITION



NOTES:

1. Transfer switch must meet UL-1008.
2. Double throw switch must meet UL-98
3. Transfer switch or double throw switch must be marked as being suitable for use as service equipment.
4. Transfer switch must not tie the generator to the Company system at any time.
5. Automatic transfer switch must be approved by the Company.

Date 12/01/99	DESCRIPTION <u>Emergency Generator Installation</u>	 Alabama Power	A- R-12-2



SOCKET 320 AMP SINGLE PHASE

Date
12-06-23

DESCRIPTION UG Riser Entrance for 320A Socket



A- R-13-1