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Electric Service Handbook

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Electric Service Handbook

Introduction

The Electric Service Handbook has been prepared for Salmon River Electric Cooperative, Inc. (SREC) members to clarify frequently asked questions about electrical service and is not intended to be used as a design manual. The State or local electrical inspector, in conjunction with SREC, will provide specific guidelines that need to be considered before finalizing electrical equipment. The National Electrical Code (NEC) must be used as the minimum design code for customer wiring and equipment. SREC abides by the National Electrical Safety Code (NESC) as the minimum design code for electrical service.

An application for service should be made well in advance when a new or change of service is desired to allow SREC adequate time to order required materials and equipment. It is important that the member provide SREC with the estimated electrical load information (main breaker size, single phase or three phase). SREC cannot complete the design until the application has been completed and all present and future load information has been provided.

Any new or change of member service equipment requires an inspection by the State of Idaho Electrical Inspector. The member will need a State of Idaho electrical permit to attain an inspection. State certified electrical contractors can provide electrical permits or application can be made online at <https://dbs.idaho.gov/permits>.

Terms and Abbreviations

Commercial Service: Electrical service that are standard voltage and supplied through one point of delivery for general commercial uses.

Ground (earth): A conducting connection, whether intentional or accidental, by which an electric circuit or equipment is connected to the earth, or to some conduction body of relatively large extent that serves in place of the earth.

Irrigation Service: Electrical service that are standard voltage and supplied through one point of delivery for farm and ranch members for the operation of irrigation pump motors.

Main Exterior Breaker: SREC required equipment that serves as the primary means of disconnecting service entrance equipment from SREC's distribution system. This can be accomplished with a main breaker or other device that can be operated under load and is located on the exterior of the building.

Mast: A conduit riser containing service conductors that connects to the top of a meter base and continues upward to a weather head.

National Electrical Code (NEC): The State of Idaho adopted minimum standard for construction of electrical installations. Any reference made to NEC must be in agreement with the current edition of the code.

National Electrical Safety Code (NESC): Minimum standards and clearances for the construction of electrical distribution and transmission systems. Any reference made to NESC must be in agreement with the current edition of the code.

Point of Service: The metering location of a service. Generally, this is the end of the SREC's responsibility and the beginning of the members responsibility.

Primary Voltage: The distribution voltage connected to the source of supply side of power supply equipment (transformer). Primary voltage for SREC is 24,900 volts line to line, or 14,400 volts line to ground.

Residential Service: Electrical service that are single phase, standard voltage, and supplied through one point of delivery for residential service members and general domestic uses. Single phase motors of 10 horsepower rating or less are permissible.

Secondary Voltage: The service voltage connected to the load side of power supply equipment (transformer). Secondary voltage for SREC is generally 120/240 volts, 120/208 volts, or 277/480 volts. Secondary wire that goes directly from a transformer to a point of service is referred to as “service”.

Service: The conductor and equipment for delivering electric energy from the secondary distribution or street main, or other distribution feeder, or from the transformer, to the wiring system of the premises served.

Service Entrance Equipment: The necessary equipment, usually consisting of main exterior breaker, meter base, CT cabinet (if applicable), conduits, mast and their accessories, located near point of entrance of supply conductor to a members point of service.

Service Ground: See ground.

Transformer: A device used to change a source voltage (primary) to a different voltage (secondary).

Underground Service: An electrical service where the conduit and conductors connecting the utility to the member’s service entrance equipment is buried underground. The wire and conduit may come from either an overhead power pole or an underground transformer to the service entrance equipment point on a house or a pedestal.

Weather head: a device that connects to the top of a mast, which allows service conductors to enter the conduit, but protects the service equipment from environmental conditions.

Weather Proof: Constructed or protected so that exposure to the environment will not interfere with successful operation.

Steps to Electrical Service

The following steps are a list of events that are required to obtain electrical service at the member's facility:

- Step 1: Member Interview**
- Step 2: Site Visit**
- Step 3: Construction Estimate**
- Step 4: Application Process**
- Step 5: Construction Scheduling**
- Step 6: Construction and Energization**

Step 1: Member Interview

The member initiates contact with SREC to discuss the new installation or service upgrade. Preliminary information is gathered including the site location, main breaker amp rating, 1 or 3 phase installation, underground or overhead construction, building heating type, and water heating type.

Step 2: Site Visit

Representatives of SREC will meet with the member at the new service site. SREC will coordinate with the member to meet the member's specifications in routing and design of the new electrical facilities within the site specific limitations. SREC representative and the member will work together to fill out the SREC Service Checklist while on site.

Step 3: Construction Estimate

SREC will design the new service based on the information obtained from the previous steps. The SREC representative will submit a cost estimate to the member. This cost estimate is not a fixed bid and the member will be billed the actual cost of the project.

Step 4: Application Process

If the member decides to continue with the new service, the member will need to supply or complete all of the necessary information, agreement, easement, inspections and all aid to construction monies before construction can be scheduled. The time required to complete the steps to electrical service depends greatly on how long it takes the member to complete the necessary applications, easements, permits, and other required documents.

The following outlines the steps taken during the application process.

Property Description:

The member shall provide SREC with a legal description of the property where the construction is to take place. A map or drawing of the property would be beneficial. The legal names, addresses, and phone numbers of all property owners are required.

Complete the Service Agreement & Estimate:

The Service Agreement & Estimate is prepared by the SREC Operations Department. Most of the information needed for the Service Agreement & Estimate would have already been determined during the previous steps. The Service Application will show the estimated cost and outline the amount to be paid prior to construction.

The Service Agreement & Estimate is a binding document which specifies the responsibilities between SREC and the member. The service agreement needs to be signed by the property owner(s) and can only be made with the rightful land owner(s) that have right to encumber the property. Ownership of the newly installed SREC facilities will remain with the Cooperative.

Complete the Membership Application:

All applicants are required to become members of SREC prior to SREC beginning construction. New members of SREC need to apply for membership and pay a membership fee and a security deposit. An existing member of SREC may be required to pay an additional meter deposit for more than one service. Membership applications and deposits will be administered per SREC member policies.

Powerline Easements:

SREC requires easements for all overhead and underground power lines. Easements need to be signed and notarized by all property owner(s) that will be encroached upon by new SREC facilities. The easements will be generated by SREC upon completion of the Service Agreement & Estimate. The member will be responsible for getting all required easement signatures.

A property owner grants an easement to SREC giving SREC the right to enter the property to accomplish the construction of the power line and to maintain that line when needed. The owner retains all property rights to the land. The powerline easement is not a public access route. The landowner retains all rights of ownership. No public thoroughfare is created by the installation of utility facilities.

The property owner is responsible for maintaining SREC clearances to energized facilities within SREC easements at all times. Check with SREC before installing permanent structures or placing obstacles in the power line easement. The member may be charged for correcting a clearance violation that may occur.

The standard width for SREC distribution power line easements are as follow:

- Overhead primary power line: twenty (20') feet, 10' either side of power pole
- Overhead secondary power line: ten (10') feet, 5' either side of power pole
- Underground primary power line: ten (10') feet, 5' either side of power line
- Underground secondary power line: ten (10') feet, 5' either side of power line
- Wider easements are required for locations within the Sawtooth National Recreation Area and other agencies requiring special use permits

Note that site specific easement conditions may apply and easements can vary from site to site.

Power line maintenance includes the right to trim trees within and adjacent to the easement corridor. Even though a tree may not be touching a power line, the voltage from the power line is a potential fire hazard. It is important that these trees are trimmed and maintained through the lifetime of the power line. Trees outside the power line easement may be trimmed or cut down if they are a danger to the electrical facility. SREC will make every effort to coordinate tree trimming with the landowner prior to any tree trimming maintenance.

WARNING: Do not cut trees near power lines. Contact SREC to make arrangements for removing problem trees.

State Electrical Permit

A copy of the State of Idaho electrical permit must be provided to SREC and the installation inspected by a State of Idaho electrical inspector before the site can be energized. This pertains to work done by both licensed electrical contractors and individual property owners. An electrical permit can be obtained from a licensed electrical contractor or an application can be made online at <https://dbs.idaho.gov/permits>.

Step 5: Construction Scheduling

Construction will be scheduled only after all required processes in Step 4 have been completed and the members service equipment has been properly installed and inspected. This includes having the service entrance equipment in the proper location with proper conduit and/or conductor in place where applicable.

Members shall locate all underground utilities (sewer, drain fields, well, telephone, etc.) prior to construction. This is the responsibility of the member.

It is important to apply for service as early as possible. SREC wants to meet all of our member's needs during the short construction season. It is important that the member indicates when the permanent service is to be connected. SREC crews may already have several weeks of work scheduled at any time. This may affect the connect date if proper notification is not given.

Step 6: Construction and Energization

SREC crews construct the new facilities and energize the service.

Installation of Service Entrance Equipment

The member must furnish and install service entrance equipment before SREC begins construction of a new electrical service. SREC requires a main breaker to be located within close proximity of the service entrance equipment and on the exterior of the building. This is required for all types of service entrance equipment including CT installations. No equipment can be installed that would allow a member access to the line side equipment. SREC will not allow members service entrance equipment to be installed on primary power poles.

Meter bases must be mounted on a service pole or exterior of a building so that the center of the meter socket is 5'-6" above finished grade (this includes decks, patios, etc.). Meter bases must be accessible and shall not be located under porches, in carports, breezeways or under the exits of rain spouts or drains. All service entrance equipment must be securely anchored to the structure with wood screws, lag bolts or U bolts. Do not use nails.

In general, SREC requires services to be located within 200 feet of the transformer. There may be excessive voltage drop beyond that length and may cause power quality problems.

The location and placement of service entrance equipment must be approved by Operations department of SREC before it is installed. SREC's connection is always to the top lugs of the meter socket.

Overhead Service Installation

Overhead service entrance equipment must be installed in the approved location. The meter base should be located on the same side of the building as the SREC transformer.

The service entrance equipment must have an overhead mast with the appropriate wires in place. The wires at the weather head shall have a minimum of 18" tails and have the neutral identified as the white or yellow wire or be tapped with white tape. If SREC is to attach directly to a mast, it must be rated to withstand the tension of the service wires.

An eyebolt is required for buildings where the service wire is attached on the gable end of the building. The member must install a 5/8" eyebolt (minimum eye opening of 1-1/2" diameter) within two feet to the side of the weather head and at a height specified by SREC. This will be the SREC point of attachment. Eyebolt must be installed in a suitable backing.

If the service entrance equipment is to be placed on a service pole, SREC will install the pole and service wires to the pole prior to the member installing the service entrance equipment. Member shall notify SREC that the service entrance equipment is in place. SREC will schedule to return to the site and connect the service wires to the service entrance equipment.

See Detail A: Typical Overhead Service and Detail B: Typical Overhead Service, Meter on Pole in Appendix B for diagrams of overhead service installations.

The following are the responsibilities of the member and SREC for an overhead service.

Customer

- Installed meter base
- Main exterior breaker
- Meter base ground per NEC
- Mast and weather head (including the connecting hardware to the meter base)
- Conductor in the mast with 18" tails out of the weather head to connect to the SREC service wires.

SREC

- Primary pole
- Service pole
- Service pole ground
- Transformer
- Service conductors between the transformer and the weather head (connecting to the 18" tails)
- Meter

Underground Service Installation

Underground service entrance equipment must be installed in the approved location. Service routing is to be in a reasonably straight line from the pole, pad mount transformer, or junction box to the member's service entrance equipment. The service route must be clear of all equipment, brush, stumps, and debris to a minimum width of twenty (20') feet. The ground surface must be brought to near final grade prior to the trenching.

The service entrance equipment must have member supplied conduit, including a terminal adapter, locking ring, plastic bushing, and expansion joint. The conduit must attach to the meter box and extend twelve inches (12") below finished grade. The conduit must be schedule 80 PVC with a 3", 4" or 6" diameter depending on service size.

See Detail C: Typical Underground Service in Appendix B for diagrams of an underground service installations.

The following are the responsibilities of the member and SREC for an underground service.

Customer

- Installed meter pedestal
- Installed meter base
- Main exterior breaker
- Meter base ground per NEC
- Conduit (including the connecting hardware to the meter base)
- Slip joint

SREC

- Trenching
- Buried conduit
- Transformer
- Service conductors between the transformer and the meter base
- Meter

Temporary Service Installation

Construction sites may be served up to 1 year using temporary meter assemblies. The assembly will remain the property of the members.

Temporary overhead services must be located within twenty feet (20') of the SREC transformer. The base of the temporary assembly must be properly secured. A temporary service with an overhead mast connection must be a minimum of twelve feet (12') above finished grade. See Detail D: Temporary Service, Overhead in Appendix B for a diagram of this type of temporary service.

Temporary underground services must be located within ten ft (10') of the SREC pedestal or pad mounted transformer. DO NOT drive a ground rod alongside the underground construction service since the ground rod might contact one of SREC's underground cables. See Detail E: Temporary Service, Underground in Appendix B for a diagram of this type of temporary service.

A temporary underground service may be used in conjunction with an overhead service mast connection. A temporary service of this configuration must have a provision for the cable connection to be at least twelve feet (12') above finished grade. Approval is required by the SREC Operations department prior to construction. See Detail F: Temporary Service, Underground with Overhead Mast in Appendix B for a diagram of this type of temporary service.

The following are the responsibilities of the member and SREC for a temporary service.

Customer

- Temporary pedestal
- Meter base
- Main exterior breaker
- Meter base ground per NEC
- Mast and weather head (including the connecting hardware to the meter base)
- Conductor in the mast with 18" tails out of the weather head to connect to the SREC service wires.

SREC

- Primary pole
- Transformer
- Service conductors between the transformer and the weather head (connecting to the 18" tails)
- Meter
- Trenching

Meter Socket Requirements

Members are responsible for installing, at their own expense, meter bases compatible with SREC metering equipment. Listed below are the sockets types to be installed in typical applications. Contact the Operations Department with any questions regarding meter socket type.

- Single phase residential or non-residential service up to 400 amps (direct metered):
 - o 120/240 volt four jaw socket (compatible with 2S meter)
- Single phase residential or non-residential service above 400 amps (CT metered):
 - o 120/240 six jaw socket with test switch provision (compatible with 4S meter)
- Three phase services up to 400 amps (direct metered):
 - o Seven jaw socket (compatible with 16S meter)
- Three phase services over 400 amps (CT metered):
 - o 120/208 or 277/480 13 jaw sockets with test switch provision (compatible with 9S meter)

Additional Requirements for Single or Three Phase Current Transformer (CT) Services

SREC will provide the CT meters necessary, at the member's expense, to meter single phase or three-phase loads requiring a CT type installation. SREC is responsible for the installation and wiring of the CTs inside the CT cabinet. The member is responsible for purchasing and installing CT cabinet, CT rack and meter base in an approved location. All CT cabinets must be approved by the operations department prior to install.

Required Clearances for Underground Facilities

SREC requires adequate clearance around underground/pad mounted equipment in order to properly maintain and operate equipment. It is the members responsibility to maintain this clearance when landscaping, planting shrubbery, installing fences, or performing some other function that could encroach on the required clearances. The clearances required vary depending on the type of equipment and the voltage of that equipment. The member should contact the SREC Operations Department for any questions on which clearances apply to the members situation. See [Detail G: Underground Transformer / Primary J-Box Required Clearances](#) in Appendix B for a diagram showing the required clearances for primary voltage equipment. See [Detail H: Underground Secondary J-Box Required Clearances](#) in Appendix B for a diagram showing the required clearances for secondary voltage equipment.

Required Clearances for Propane Tanks

Propane tanks pose a unique risk to SREC facilities. SREC requires all propane tanks to be installed with adequate clearance from SREC overhead and underground equipment. This clearance is required for maintenance, to mitigate the risks inherent with propane tanks, and to minimize the risk of SREC equipment becoming an ignition source. The member should contact the SREC Operations Department for any questions on how propane tank clearances apply to the members situation. See [Detail I: Separation Requirements for Propane Tanks Near SREC Equipment](#) in Appendix B showing the required clearances.

Standby Electrical Generators

If a member chooses to install a standby electric generator, the installation is required to be performed in accordance with the National Electric Code (NEC). SREC requires transfer equipment be installed on all standby generator installations operating in parallel with SREC such that it is designed and installed to prevent the inadvertent interconnection of normal and emergency sources of supply in any operation of the transfer equipment. A state electrical inspection is required. Members shall notify SREC when a generator is installed on SREC's distribution system.

Appendix A

SREC Member Electric Policies

Policy 41. Electric Service Rules and Line Extensions

The purpose of this policy is to define the terms and conditions under which Salmon River Electric Cooperative (“The Cooperative”) will provide electric service to its members.

The following policy applies to all existing and new Cooperative electric services and facilities.

ELECTRIC SERVICE RULES

- **OWNERSHIP OF FACILITIES**

The Cooperative will construct and maintain the delivery facilities required to provide service to the Member’s point of delivery. The delivery facilities (transmission, distribution, services) up to the Point of Delivery (see below), whether financed by individual, developer or the Cooperative, shall remain the property of the Cooperative and shall be retained and maintained in accordance with general practices of the Cooperative. This will not apply when other contractual arrangements have been made with the Cooperative such as in the case of large industrial customers.

- **POINT OF DELIVERY**

The point of delivery is defined as the location where the Cooperative’s electrical service conductors terminate, more specifically defined as the weather head conductors on overhead services and the meter base on underground services. All equipment and conductors on the load side of the point of delivery shall be the responsibility of the Member, except where equipment is provided by the Cooperative. The Cooperative shall retain ownership and maintain service poles, meters and metering devices (including current transformers and potential transformers) located at the point of delivery. The electrical connection at the point of delivery will be made by the Cooperative.

The Cooperative will comply with all federal, state and local rules and regulations relative to the inspection and connection of electric wiring. If an existing electric service has been disconnected at the request of the Member, the State of Idaho will require the Member to have the electric service re-inspected by the state electrical inspection agency prior to the Cooperative re-connecting the service.

The Cooperative may relocate a point of delivery if the Member agrees to pay all costs associated with the relocation. If there is a significant benefit to the Cooperative, the Cooperative may elect to contribute towards the cost of the relocation.

- FACILITIES ACCESS

The Member specifically grants, at no cost to the Cooperative, a permanent easement over or through lands that he/she controls (owns), for the purpose of installation of the delivery facilities, and the maintenance, repair, replacement, inspection, and relocation of such facilities, or for any other purpose reasonably related.

The Cooperative retains the right from time to time to trim and to cut down and clear away any and all trees and brush that may be a hazard to its facilities. The Member shall not erect or construct any building or other structure, stack items or equipment (obstruct), or drill or operate any well, within the power line corridor. The costs of relocation of Cooperative facilities caused by the Member will be borne by the Member.

The Member shall provide, at no expense to the Cooperative, reasonable motor vehicle access to the meter location for each electric service.

All meters will be installed outside and accessible to the Cooperative.

The Member shall adjust his/her irrigation system to not irrigate Cooperative facilities (i.e., poles, transformers, meters, etc.).

The Member shall allow the Cooperative to install and maintain reasonable underground cable location signs on the Member's property.

The Member shall allow the Cooperative access, including the installation of Cooperative locks into the Member's gate(s), for the purpose of the Cooperative maintaining and operating its facilities.

- POWER QUALITY

The Cooperative does not guarantee constant or uninterrupted delivery of electric service. The Cooperative has no liability to its Members or any other persons for any interruption, suspension, curtailment or fluctuation in electric service or for any loss or damage caused thereby if such interruption, suspension, curtailment or fluctuation resulting from causes beyond the Cooperative's reasonable control. This includes repair, maintenance, improvement, renewal or replacement, and automatic or manual actions taken by the Cooperative, which in its sole judgment are necessary or prudent to protect the performance, integrity, reliability or stability of the Cooperative's facilities, and safety of Cooperative personnel and the general public.

The Cooperative reserves the right to disconnect the Member's service equipment from the Cooperative's system at any time during the life of service if the Cooperative experiences system Power Quality problems caused by the Member's facilities operating on the Cooperative's system. The Member, at his/her expense, shall install the necessary equipment to remedy Power Quality problems caused by the Member.

The Member, at its own expense, agrees to install equipment required to limit the Total Harmonic Distortion (THD) and the Total Demand Distortion (TDD) created by the Member's equipment and infused on the Cooperative's system. The Member's THD and TDD shall not

exceed those specified by industry standards and/or Cooperative's guidelines.

The Cooperative requires the Member to have all three-phase loads, phase conductors, balanced to within 80 % of each other.

- PHASE CONVERTER

Phase Converter Equipment such as roto-phase and variable frequency drives will require Cooperative approval prior to being connected to the Cooperative's system.

If the Member uses Phase Converter equipment to generate three-phase power from the Cooperative's single-phase system, such as an alternative to re-phasing an existing power line, the Member accepts all responsibility for the cost of mitigating any power quality problems that may occur on the Cooperative's system due to this installation.

- MOTOR INSTALLATIONS

Single phase and three phase motor installations of 10 horsepower or greater (individual or in aggregate) must be evaluated by the Cooperative prior to connecting to the Cooperative's system. Approval of the installation will be based upon factors such as starting and running currents, location on the Cooperative's system and voltage drop.

All motor installations must meet current National Electric Code requirements.

Time delay settings for automatic restarting equipment or simultaneous starting will be set according to Cooperative guidelines.

The Member is responsible for providing protective equipment to protect their facilities. The Cooperative will not be responsible for damage to the Member's equipment caused by the loss of one or more phases serving the Member's equipment. It is the Member's responsibility to obtain and install adequate phase protection for three-phase motors including lightening protection. The Cooperative will not be responsible for damage to Member's equipment caused by the Member's incorrect phase rotation.

The Member, at his/her expense, shall install power factor correction equipment (capacitors) of adequate size to attain unity power factor as more particularly set forth in the Cooperative's applicable Rate Schedules.

- LIMITATION OF USE

A Member's wiring shall not be extended or connected to furnish service to more than one place of use through one meter except in the following cases:

1. Where the places of use are located on the same parcel of land, such as a pump/pivot or out buildings (barn, garage).
2. Where the Member's business consists of one or more adjacent buildings located on the same parcel of land and the business is operated as an integral unit (under the same name and same type of business).

A Member will not resell electricity purchased from the Cooperative except in cases where the Member is owner, lessee, or operator of a commercial building, shopping complex, apartment house, mobile home/recreational vehicle park or other multi-family dwelling where the use has been sub-metered and the use is billed to tenants at a cost no greater than the cost the Cooperative would charge for service (direct pass through).

- **CONVERSIONS, SERVICE IMPROVEMENTS, UPGRADES**

The cost of converting from single-phase service to multi-phase service or from overhead to underground service will be entirely paid by the Member, unless there is some advantage to the Cooperative in the conversion. In that event the Cooperative may, at its sole discretion, share in the cost of the conversion.

When a Member upgrades service equipment and adds load at an existing account, the Cooperative, if necessary, will upgrade its transformers and secondary conductors. Generally, the Cooperative will upgrade its transformers and metering devices at no expense to the Member if the Cooperative can reasonably expect increased long term revenues that will justify the investment.

If the Member's upgrade requires any changes to equipment or conductors operating above 600 volts, any investment by the Cooperative will be evaluated and approved on a case-by-case basis.

- **RELOCATION OF FACILITIES**

If a Member requests the relocation of Cooperative Facilities, the Cooperative will evaluate the impact on operations, maintenance and financial viability of the Cooperative to determine the feasibility of the project. Each request for Relocation of Facilities will be considered on a case-by-case basis.

All costs of relocating facilities will be entirely paid by the Member, unless there is some advantage to the Cooperative for the relocation. In that event the Cooperative may, at its sole discretion, share in the cost of relocating facilities.

The Cooperative may request the Member to pay a non-refundable deposit, in advance, for engineering services needed for the Relocation of Facilities.

The Cooperative may require a construction agreement to be executed in writing and a deposit to be paid before any special equipment is ordered and/or any construction is started.

- **RETIREMENT OF SERVICE**

Only a property Owner/Member of the Cooperative can request a retirement of service. A retirement of service request, completed by the property Owner/Member, shall be submitted prior to the Cooperative retiring the service.

The member may be subject to paying the costs of the retirement. With the retirement of

service, no credits will be allowed toward the installation and retirement costs of the service from power bills (access charge and usage) that have been paid to the Cooperative during the period the service is in existence.

If a service is under an existing Agreement obligation, the service will not be removed until all obligations have been met.

The Cooperative shall determine the need, method and schedule for the retirement of the service and facilities.

The Cooperative reserves the right to retire a service that has been disconnected for a period of twelve (12) months or greater. If it is requested that the service be reinstalled, the service installation will be subject to the current line extension option chosen.

- UNDERGROUND TRENCHING & CONDUIT INSTALLATION

Generally, all underground trenching and conduit installations will be performed by the Cooperative. However, the Cooperative may allow SREC approved contractors to perform the work based on the contractor's ability to perform the work, construction coordination, inspection coordination and construction safety. All contractor work must be pre-approved by the Cooperative and must be completed in accordance with the Cooperative's specifications and guidelines.

- FACILITY LOCATES

Facility locates include the locating and identifying of both Cooperative overhead and underground facilities. Generally, the Cooperative will provide facility locates of Cooperative facilities at no charge to the member if the locate can be pre-scheduled and performed during regular business hours. Locates performed outside regular business hours may be charged to the Member.

The Member may be charged for locating non-Cooperative facilities. The Cooperative does not guarantee the accuracy of locating non-Cooperative facilities. The Member accepts all responsibility and costs associated with the Cooperative locating Member non-Cooperative facilities.

The Member is responsible for locating all other facilities (water, sewer, telephone, cable TV, gas, etc.) prior to the Cooperative performing any excavation type work, such as underground trenching for the Member. The costs for others locating facilities and repairing damaged facilities caused by incorrect and/or incomplete facility locates will be borne by the Member.

- CONSTRUCTION & STIPULATIONS

The Cooperative reserves the right to commence or cease construction of facilities contingent upon legal or easement considerations, Member caused delays, climate and weather conditions, geographical conditions, excavation problems, wetland problems, archaeological or endangered species considerations.

- HOLD HARMLESS

The Member will indemnify, defend and hold harmless SREC and its directors, officers, agents, members, and employees from all claims of whatsoever nature or kind, including those brought by employees of the Member or sub-contractors, arising out of or as a result of any act or failure to act, whether or not negligent, in connection with the operation of the Member's owned electric facilities and the Member's participation with facilities construction (i.e. trenching and backfilling).

- LINE EXTENSION RULES

It shall be the policy of the Cooperative to extend electric service to prospective member(s) insofar as it shall be possible within sound business principles. The line extension must also be able to comply with Cooperative operation and maintenance standards.

- MEMBERSHIP

The Applicant shall become a Member of the Cooperative upon completing the membership procedures to the satisfaction of the Cooperative and meeting the criteria for membership.

- CONSTRUCTION AGREEMENT

At the option of the Cooperative, a Member may be required to sign a construction agreement which specifies the terms of the line extension.

- EASEMENTS AND PERMITS

The Member, without cost to the Cooperative, is ultimately responsible for securing all necessary easements and/or permits for the construction and operation of Cooperative facilities. Easements and/or permits will require Cooperative approval for content and format prior to final signatures.

The Member is required to have necessary inspections and permits (electrical, building, etc.) completed prior to the Cooperative energizing the Member's service.

- CONSTRUCTION ESTIMATES

Construction estimates will be used to establish construction agreements and necessary deposits prior to facilities construction. The Cooperative will determine the cost of a line extension in accordance with standard engineering cost estimating procedures. Cost sharing between the Member and the Cooperative will be in accordance to the criteria established for each line extension option (e.g., Single-Phase Service, Multi-Phase Service, etc.).

Estimates will be valid for 90 days under normal conditions.

In special circumstances, the Cooperative may utilize outside engineering services to aid with facilities construction estimates.

- PAYMENTS

The Member is required to pay all costs (including engineering, travel, labor, equipment and

materials) associated with the construction of the line extension and service.

The Member will be required to pay one-half the estimated cost of construction amount prior to scheduling construction. Once the job has been completed, the Member will be billed for the actual audited cost of construction. This may result in an additional charge or credit to the Member.

The Cooperative, at its option, may require a member to provide a suitable performance bond or pay 100 percent of the estimated construction cost to guarantee the performance of a construction agreement.

A non-refundable deposit may be required for preliminary engineering and research and prior to ordering materials.

The billing period for a new service shall commence when the Cooperative's work is complete.

- DESIGN CRITERIA

For all Cooperative constructed facilities, the Cooperative will stipulate the design criteria, including but not limited to, the location of electrical facilities, the number of phases required, the use of overhead or underground power line, maximum horsepower and voltage stipulations. The Cooperative's Electric Service Handbook available on the Cooperative's website www.srec.org or at the office will serve as the guidelines for new service connections.

- SCHEDULING OF WORK

Scheduling of Work is conditional upon receipt of completed applications, easements, permits, agreements, deposits and other required documents.

- LINE EXTENSION CREDITS

When a new line extension requires attaching to an original line extension, and the original line extension was constructed within the last 10 years, a line extension refund may be owed to those members who have contributed to the cost of the original line extension. The refund amount would be calculated using the following determinants.

1. Depreciated audited line extension value based on a 10 year depreciation cycle.
2. Percentage of original line extension to be attached to.
3. The number of customers attached to the original line extension.

The refund amount will be payable to each member attached to the original line extension based on their pro rata share of the original line extension. This refund cost will be payable by the member attaching to the original line extension and rolled in to the applicable line extension option chosen.

Line extension credits for connecting to Subdivisions/Developments are addressed separately.

LINE EXTENSION OPTIONS

Line extension options specify how the costs for construction and removal of Cooperative delivery facilities will be applied. Other costs will be governed by the applicable rate schedule. Any line extension option chosen will be subject to agency approval prior to SREC initiating any work. “Agency Approval” includes approval from all governmental agencies involved with the subdivision/development (e.g., USFS, BLM, State, County, City).

- SERVICE TO SINGLE-PHASE POWER ACCOUNTS

Single-Phase service includes permanent service to residential, commercial and irrigation type accounts.

SREC shall provide a transformer and a meter (not to exceed \$5,000) as “Aid to Construction”.

- SERVICE TO MULTIPLE-PHASE POWER ACCOUNTS

Multiple-phase Service includes commercial, industrial and irrigation type services.

SREC shall provide a transformer(s) and a meter (not to exceed \$5,000) as “Aid to Construction”.

- SERVICE TO MOBILE HOME/RECREATIONAL VEHICLE PARK POWER ACCOUNTS

Service to Mobile Home/Recreational Vehicle Parks will be provided in accordance with the Extension Option for Subdivisions and/or Developments except that the facilities may be primary metered and owned by the Member.

If the Member purchases the facilities from the Cooperative, the Member agrees to accept all responsibility for the maintenance and ownership of the facilities.

Primary metering components and installation costs will be incurred by the Member.

- SERVICE TO SUBDIVISIONS AND/OR DEVELOPMENT ACCOUNTS

Subdivisions and developments are considered to be any parcel of real property divided into lots or blocks and/or any real property being developed, such as multiple dwelling units, condominiums, recreational facilities or other unspecified privately developed facilities. In some instances, the subdivision/development may be developed and constructed in segments.

Subdivision and developments will comply with the following requirements and guidelines:

The Developer/Owner shall become a Member of the Cooperative, if not already, by applying for membership and paying the membership fee.

The Cooperative may require, in advance, a non-refundable deposit from the Developer/Owner to cover the Cooperative's expenses to provide preliminary designs and cost estimates of the electric facilities.

The initial and ensuing installation(s) of the backbone system will be established by the Cooperative insuring an adequate and comprehensive plan. The backbone facilities will include the primary lines, secondary lines, junction boxes, deferral boxes and termination points necessary to complete the subdivision/development comprehensive plan. Backbone facilities do not include transformers, meters and service wires to individual services.

The Developer/Owner will provide, at no cost to the Cooperative, adequate easements and rights-of-way for constructing, operating and maintaining the electrical system. The Cooperative will specify the location and widths of required easements and rights-of-way.

If a line extension is required to reach a subdivision/development, the line extension will be administered separately.

Individual service(s) will be provided in accordance with the provisions of the current Line Extension Policy.

The Cooperative reserves the right to extend new facilities from an existing subdivision/development without reimbursement to the Developer/Owner or individual services. At no time will the backbone system of the subdivision/development be subject to a refund. In cases where the Developer/Owner or individual(s) provides a line extension to feed the subdivision/development, the provider may be reimbursed for the line extension in accordance with current Line Extension Credits.

To complete the design and the construction agreement, the Developer/Owner will be responsible for providing the Cooperative with the following items:

- a) Agency approved designs and construction drawings, including facilities locations (i.e., water, sewer, gas, telecommunications)
- b) Agency approved plat maps and surveyed parcels (pinned).
- c) Recorded subdivision documents.
- d) Estimated future electrical load information.

“Agency Approval” includes approval from all governmental agencies involved with the subdivision/development (e.g., USFS, BLM, State, County, City).

Once the Cooperative has approved the final design, the Developer/Owner will be required to enter into a construction agreement and pay the estimated cost of construction to the Cooperative. The construction agreement and payment of the estimated cost must be completed prior to the Cooperative procuring any materials and scheduling the project for construction. Construction of

the subdivision/development will be in accordance with the Developer/Owner(s) recorded plat map. Any construction modifications will require Cooperative approval. Once construction is completed, the actual costs will be determined and the Developer/Owner will receive a refund or be billed the balance due.

- **SERVICE TO LARGE POWER ACCOUNTS**

Service to Large Loads includes commercial and irrigation type services that exceed a 50 KVA capacity.

Requests for Large Loads service will be considered on a case-by-case basis and depending on the specific circumstances. Each Service will be administered through the corresponding Line Extension option for that type of service.

Services to large loads in excess of 2,500 KVA capacities, will be provided in accordance with the specific circumstances and the decision of the Board of Directors of the Cooperative.

The Cooperative may request the Member to pay, in advance, a deposit for engineering services.

- **SERVICE TO NONSTANDARD POWER ACCOUNTS**

A nonstandard service is considered a service requiring special installation requirements. A nonstandard service can include services requiring deviation from standard voltages and/or standard power quality.

All non-standard services will be provided in accordance with the specific circumstances and will require Cooperative approval prior to the design and installation.

The member/customer may be subject to pay the costs associated with the design and installation of a nonstandard service.

- **SERVICE TO TEMPORARY POWER ACCOUNTS**

Service to Temporary Power Accounts includes services for enterprises or activities, which are temporary in nature and/or where it is known in advance that the temporary service will be of a limited duration. Temporary services may also include operations of speculative character and/or services where the permanency has not yet been established.

Extensions constructed to provide temporary service to new buildings or homes during the construction period and which will be incorporated into the permanent service to the building or home will be provided in accordance with applicable extension option(s) for the class of service being provided.

Extensions to provide temporary service shall be constructed upon receipt of a deposit equal to the established cost of the facilities plus retirement labor and overheads. Once a temporary service has been removed, the Member may receive a salvage value credit for salvaged materials returned at value.

The Monthly Charge shall be charged for the period of time in which the service is in place

or until the Cooperative receives authorization to remove the service.

SERVICE TO OUTDOOR LIGHTING ACCOUNTS

Outdoor Lighting Service will be provided in accordance with the Cooperative Dusk to Dawn Lighting Service rate schedule. An Outdoor Lighting Service Agreement must be signed prior to light installation.

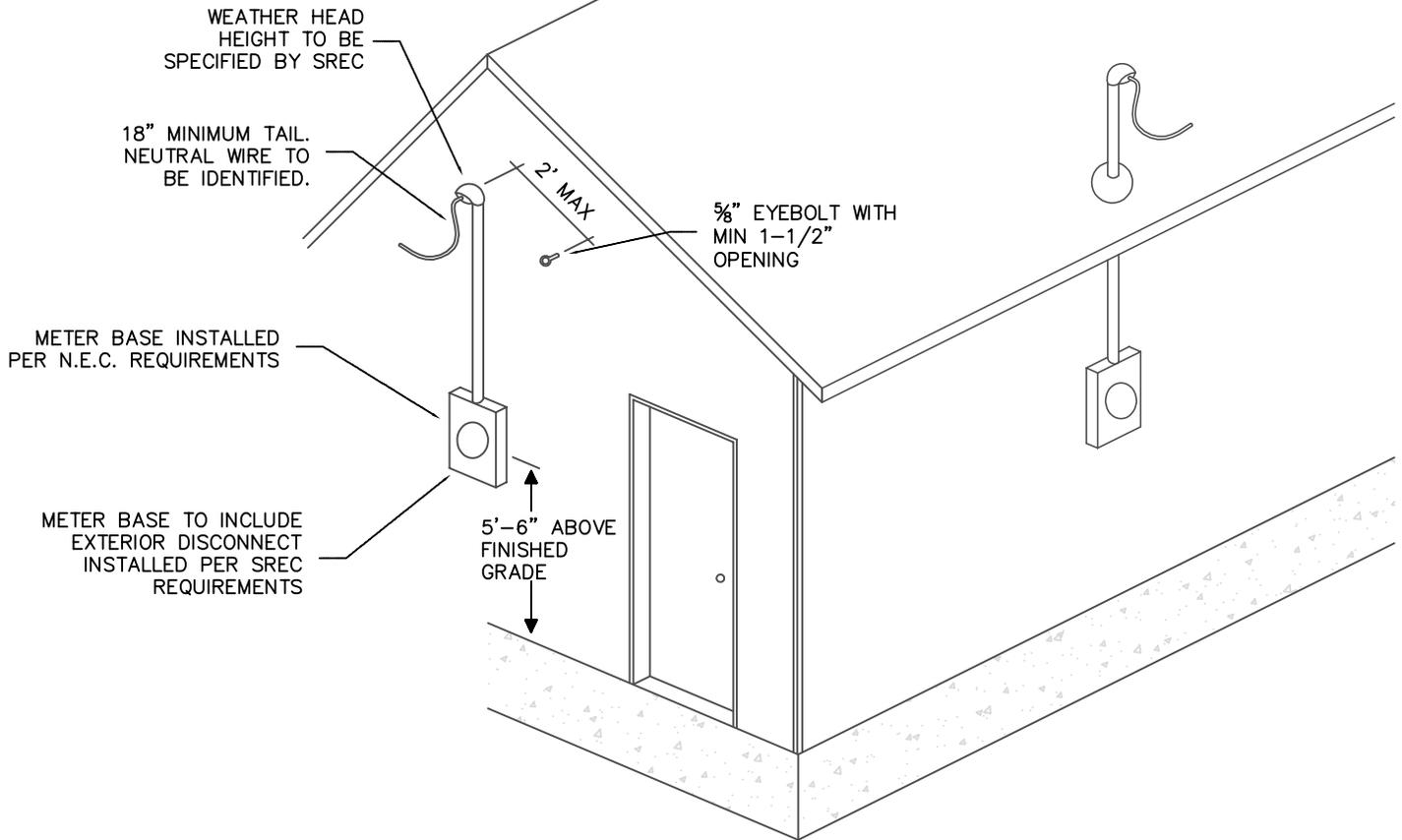
The Cooperative will install and maintain Outdoor lights (fixture and brackets) on existing Cooperative owned poles where secondary service is available. In cases where poles, transformers, wiring, etc. is required, the Member will be charged for the additional installation costs. Ownership of the installed facilities (including lights, poles, transformers, wire, etc.) will remain with the Cooperative.

Appendix B

Details

<u>Description:</u>	Drawing Name
Typical Overhead Service	Detail A
Typical Overhead Service, Meter on Pole	Detail B
Typical Underground Service	Detail C
Temporary Service, Overhead	Detail D
Temporary Service, Underground	Detail E
Temporary Service, Underground with Overhead Mast	Detail F
Underground Transformer / Primary J-Box Required Clearances	Detail G
Underground Secondary J-Box Required Clearances	Detail H
Separation Requirements for Propane Tanks Near SREC Equipment	Detail I

NOTE: WIRING FROM THE TRANSFORMER CAN ONLY BE ROUTED OVER THE ROOF IF 8' CLEARANCE IS MAINTAINED AND PRIOR SREC APPROVAL IS GIVEN.

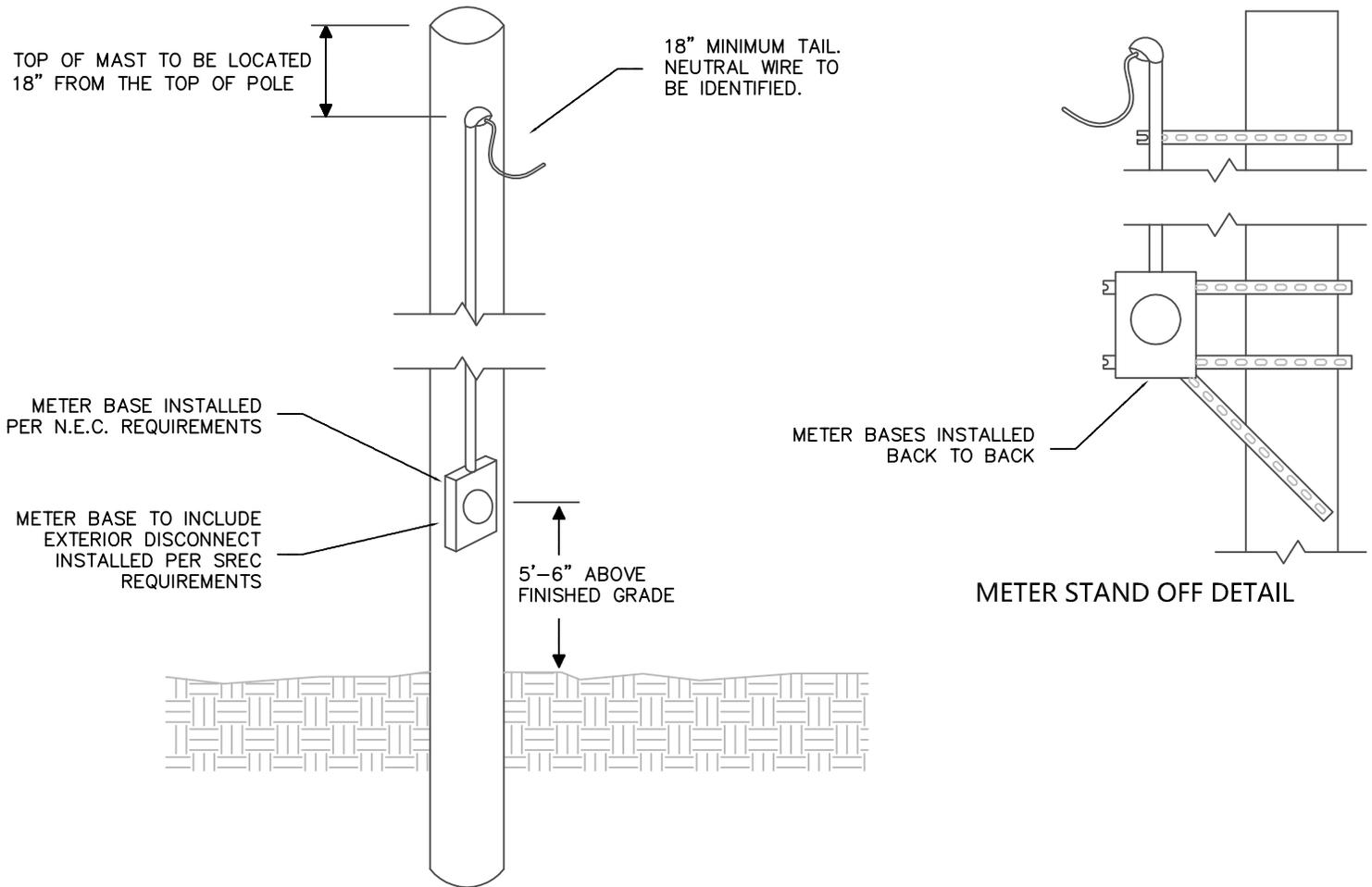


EQUIPMENT PROVIDED BY CUSTOMER
INSTALLED METER BASE
MAIN EXTERIOR DISCONNECT
METER BASE GROUNDS PER N.E.C.
MAST AND WEATHER HEAD (INCLUDING THE CONNECTING HARDWARE TO THE METER BASE)
CONDUCTOR IN MAST WITH 18" TAILS OUT OF THE WEATHER HEAD
EYEBOLT

EQUIPMENT PROVIDED BY SREC
PRIMARY POLE
SERVICE POLE
SERVICE POLE GROUND
TRANSFORMER
CONDUCTOR BETWEEN TRANSFORMER AND 18" TAILS
METER

DETAIL A: TYPICAL OVERHEAD SERVICE

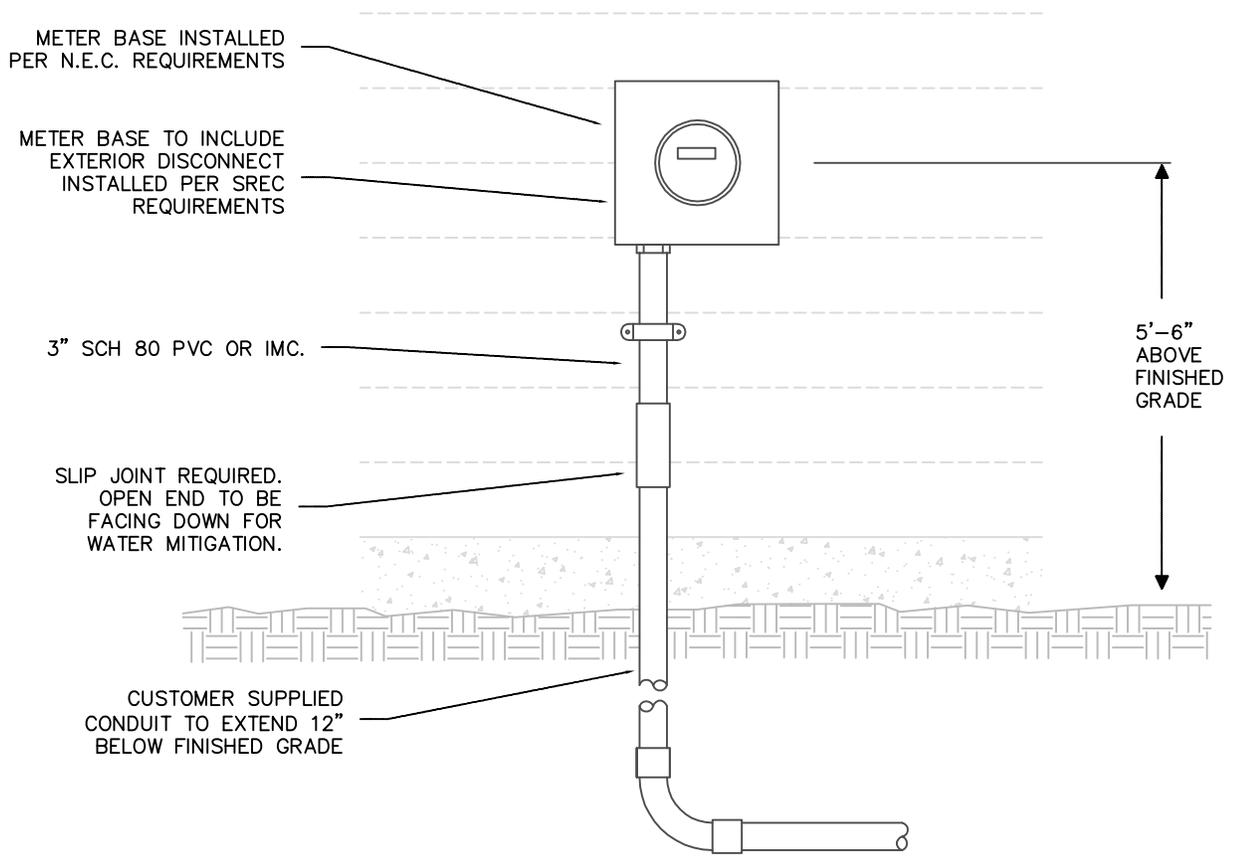
NOTE: NO MORE THAN ONE METER BASE CAN BE INSTALLED ON A POLE WITHOUT INSTALLING ALL METER BASES AND MASTS ON STANDOFFS. THE COST OF ADDING THE ADDITIONAL METER BASE, STANDOFFS, AND RELOCATING THE ORIGINAL METER BASE WILL BE THE RESPONSIBILITY OF THE MEMBER ADDING THE NEW METER BASE.



EQUIPMENT PROVIDED BY CUSTOMER
INSTALLED METER BASE
MAIN EXTERIOR DISCONNECT
METER BASE GROUNDS PER N.E.C.
MAST AND WEATHER HEAD (INCLUDING THE CONNECTING HARDWARE TO THE METER BASE)
CONDUCTOR IN MAST WITH 18" TAILS OUT OF THE WEATHER HEAD

EQUIPMENT PROVIDED BY SREC
PRIMARY POLE
SERVICE POLE
SERVICE POLE GROUND
TRANSFORMER
CONDUCTOR BETWEEN TRANSFORMER AND 18" TAILS
METER

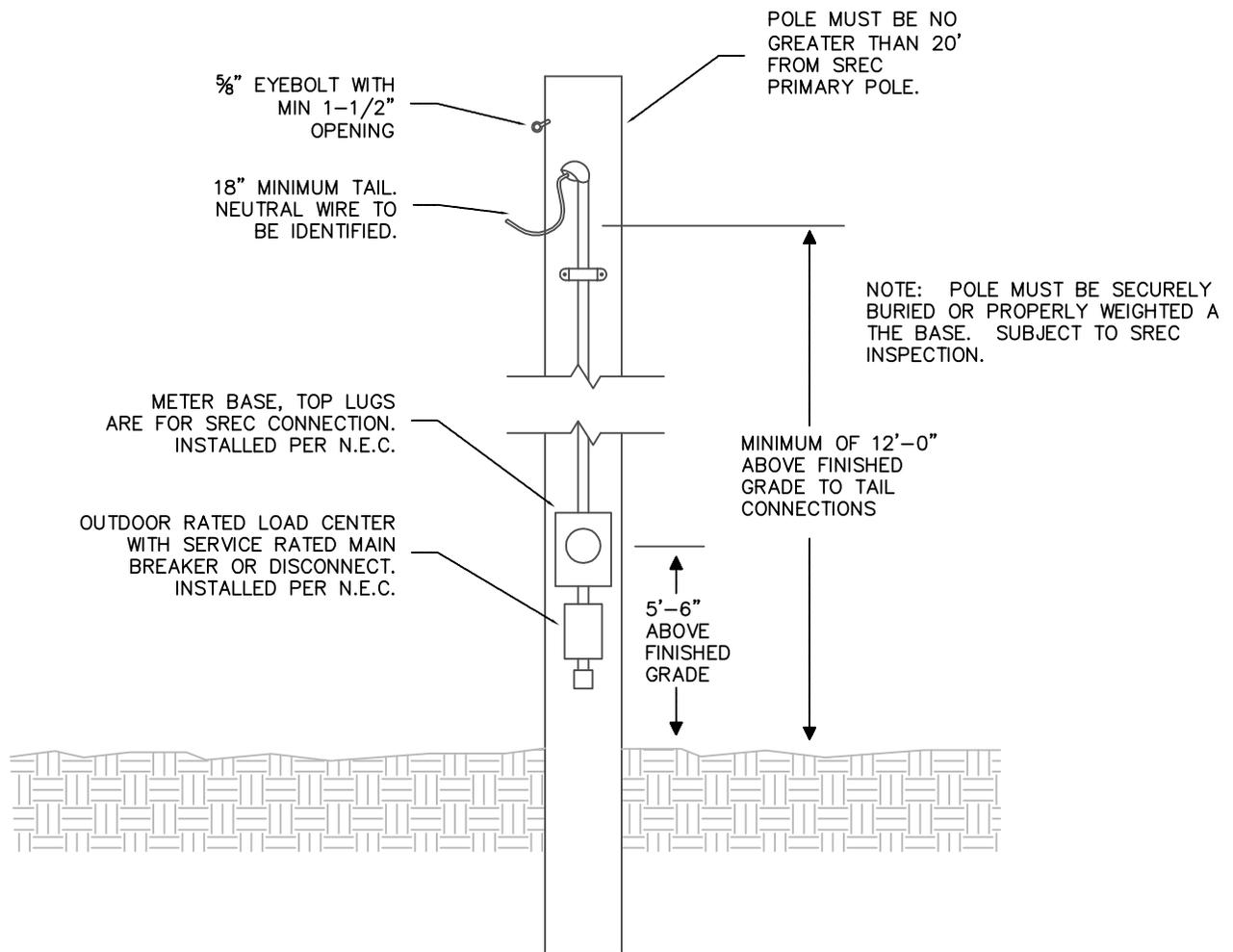
DETAIL B: TYPICAL OVERHEAD SERVICE, METER ON POLE



EQUIPMENT PROVIDED BY CUSTOMER
INSTALLED METER PEDESTAL
INSTALLED METER BASE
MAIN EXTERIOR DISCONNECT
METER BASE GROUNDS PER N.E.C.
CONDUIT STUB UP WITH TERMINAL ADAPTORS, LOCK RING AND PLASTIC BUSHING.
SLIP JOINT

EQUIPMENT PROVIDED BY SREC
TRENCHING
BURIED CONDUIT FROM TRANSFORMER OR JUNCTION BOX
TRANSFORMER
SERVICE CONDUCTORS BETWEEN THE TRANSFORMER AND THE METER BASE
METER

DETAIL C: TYPICAL UNDERGROUND SERVICE

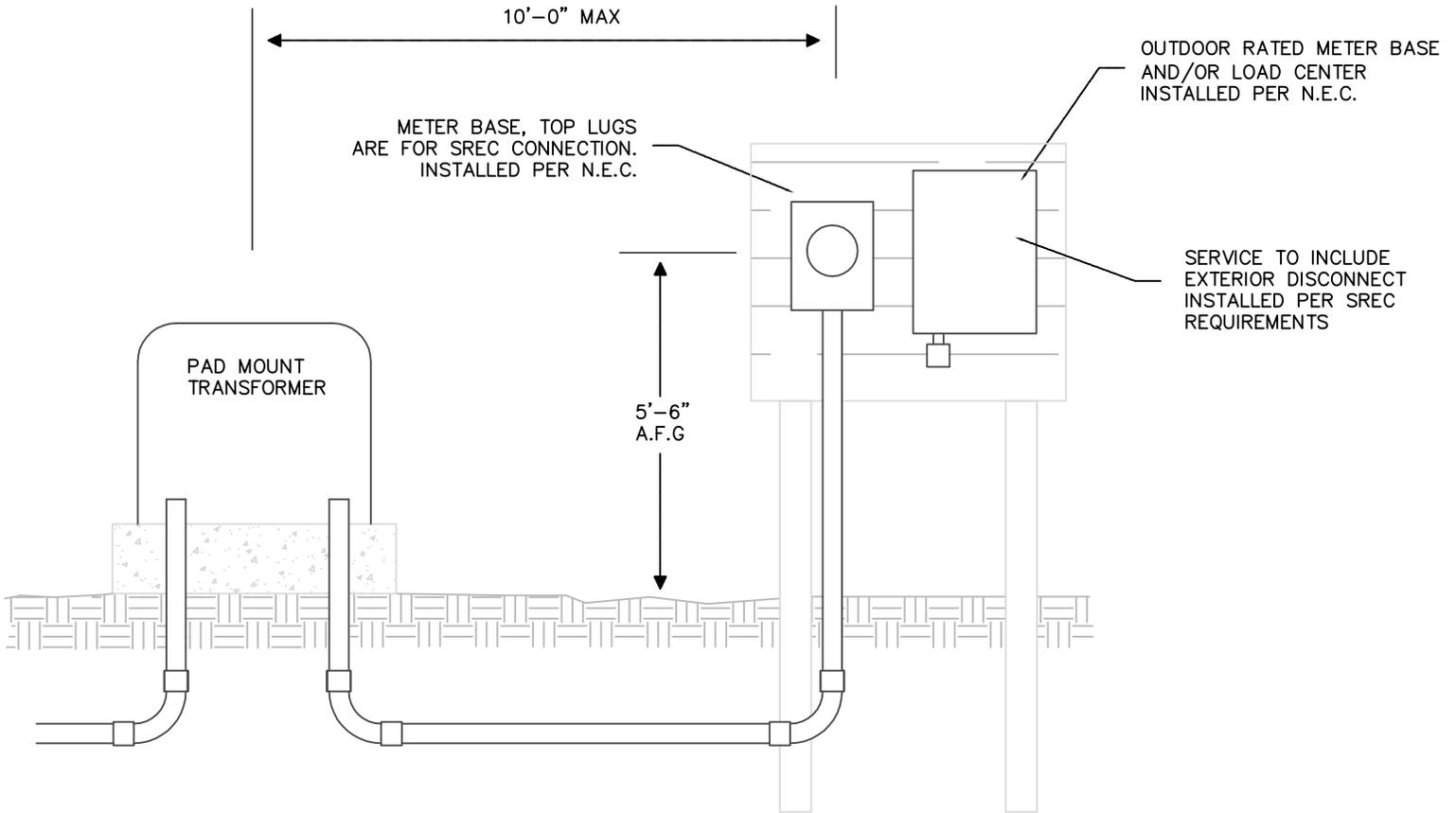


EQUIPMENT PROVIDED BY CUSTOMER
METER BASE WITH EXTERNAL DISCONNECT
METER BASE GROUND PER N.E.C.
MAST & WEATHER HEAD WITH ASSOCIATED HARDWARE
CONDUCTOR IN MAST INCLUDING 18" TAIL
TEMPORARY POLE AND ANY REQUIRED BRACING

EQUIPMENT PROVIDED BY SREC
PRIMARY POLE
TRANSFORMER
SERVICE CONDUCTORS BETWEEN THE TRANSFORMER AND THE METER BASE
METER

DETAIL D: TEMPORARY SERVICE, OVERHEAD

NOTE: NO GROUND RODS TO BE INSTALLED NEAR SREC EQUIPMENT AS IT MAY CONTACT UNDERGROUND CABLE.



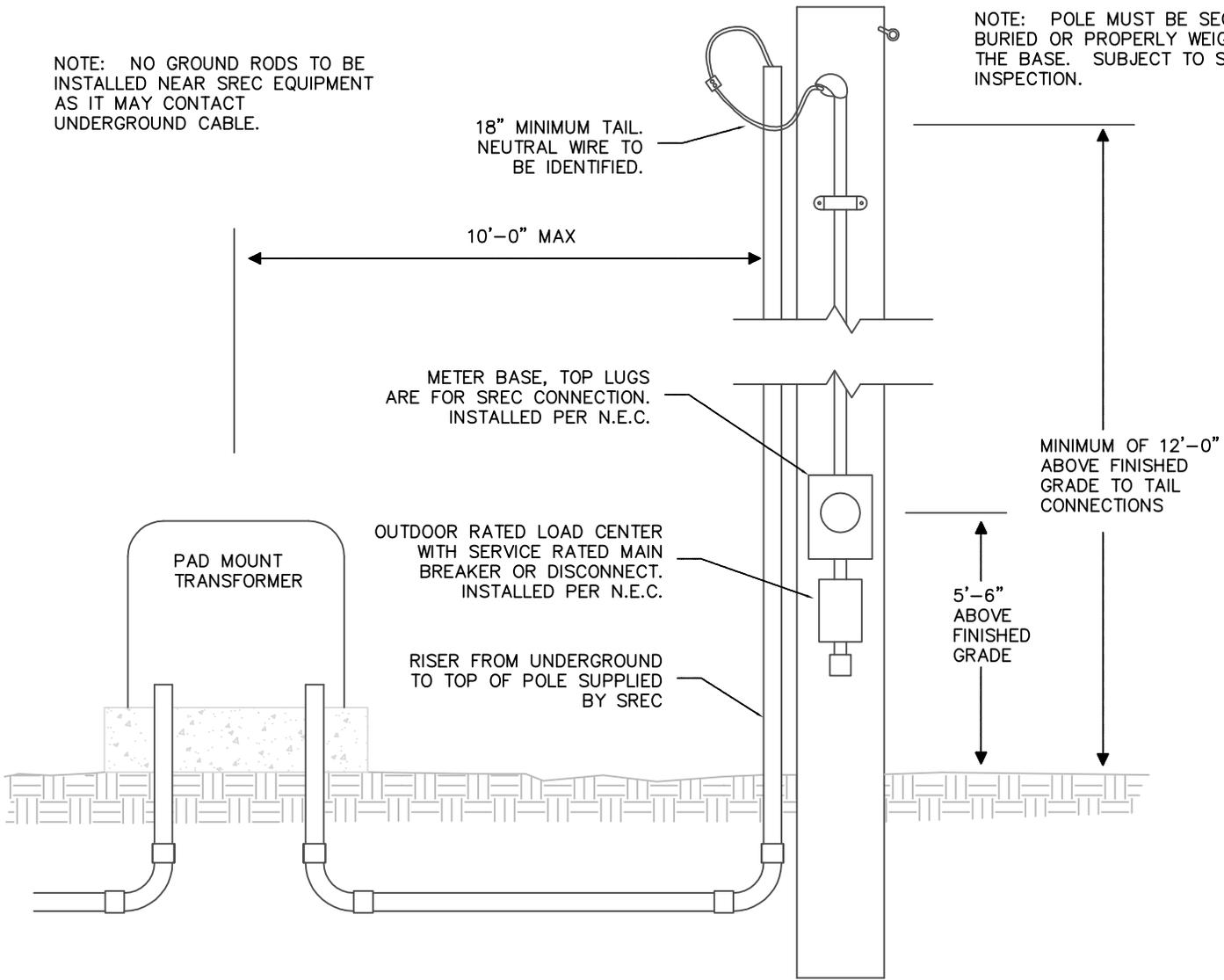
EQUIPMENT PROVIDED BY CUSTOMER
TEMPORARY METER PEDESTAL AND ANY REQUIRED BRACING
METER BASE
MAIN EXTERIOR DISCONNECT
METER BASE GROUNDS PER N.E.C.
CONDUIT STUB UP WITH TERMINAL ADAPTORS, LOCK RING AND PLASTIC BUSHING.
SLIP JOINT

EQUIPMENT PROVIDED BY SREC
PRIMARY POLE
TRANSFORMER
CONDUCTOR BETWEEN TRANSFORMER AND METER BASE
METER

DETAIL E: TEMPORARY SERVICE, UNDERGROUND

NOTE: NO GROUND RODS TO BE INSTALLED NEAR SREC EQUIPMENT AS IT MAY CONTACT UNDERGROUND CABLE.

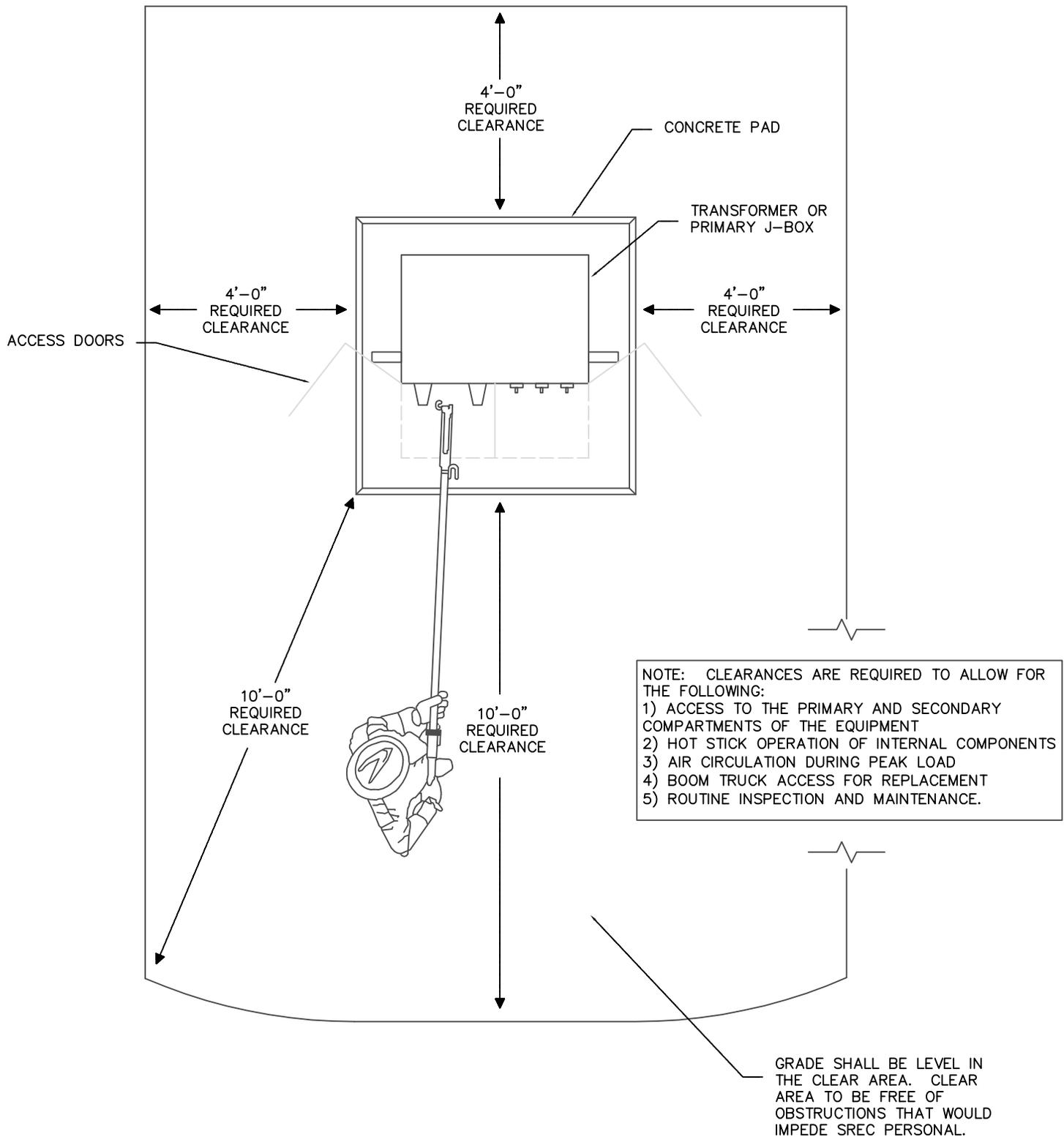
NOTE: POLE MUST BE SECURELY BURIED OR PROPERLY WEIGHTED AT THE BASE. SUBJECT TO SREC INSPECTION.



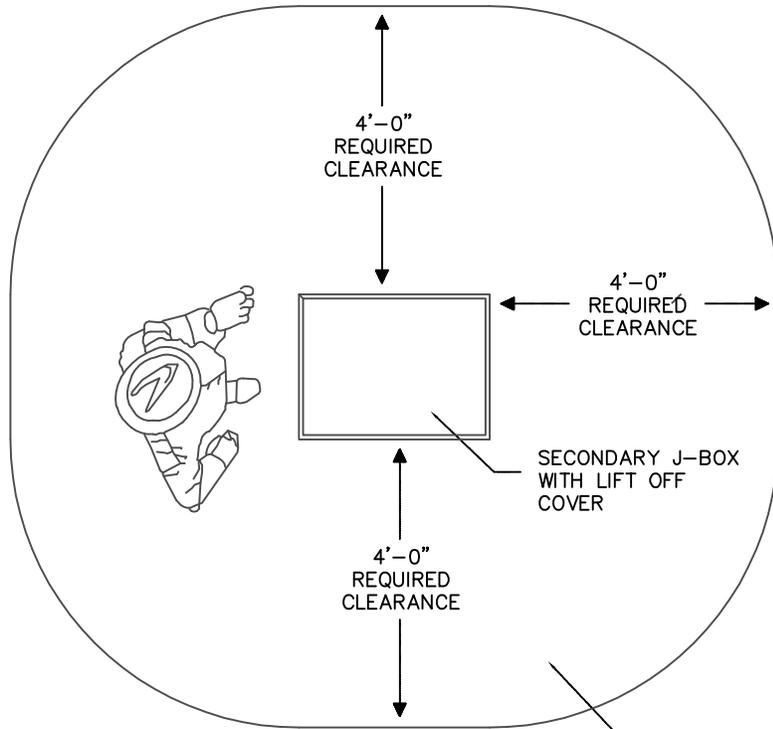
EQUIPMENT PROVIDED BY CUSTOMER
METER BASE WITH EXTERNAL DISCONNECT
METER BASE GROUND PER N.E.C.
MAST & WEATHER HEAD WITH ASSOCIATED HARDWARE
CONDUCTOR IN MAST INCLUDING 18" TAIL
TEMPORARY POLE AND ANY REQUIRED BRACING

EQUIPMENT PROVIDED BY SREC
PRIMARY POLE
TRANSFORMER
CONDUCTOR BETWEEN TRANSFORMER AND 18" TAILS
CONDUIT RISER FROM UNDERGROUND TO WEATHER HEAD
METER

DETAIL F: TEMPORARY SERVICE, UNDERGROUND WITH OVERHEAD MAST



DETAIL G: UNDERGROUND TRANSFORMER / PRIMARY J-BOX REQUIRED CLEARANCES

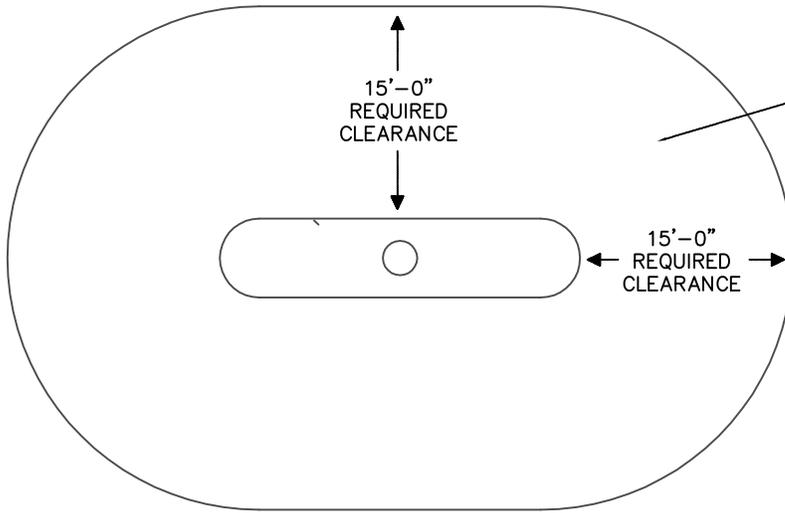


NOTE: CLEARANCES ARE REQUIRED TO ALLOW FOR THE FOLLOWING:

- 1) ACCESS TO INTERNAL COMPONENTS OF THE EQUIPMENT
- 2) AIR CIRCULATION DURING PEAK LOAD
- 3) BOOM TRUCK ACCESS FOR REPLACEMENT
- 4) ROUTINE INSPECTION AND MAINTENANCE.

GRADE SHALL BE LEVEL IN THE CLEAR AREA. CLEAR AREA TO BE FREE OF OBSTRUCTIONS THAT WOULD IMPEDE SREC PERSONAL.

DETAIL H: UNDERGROUND SECONDARY J-BOX REQUIRED CLEARANCES

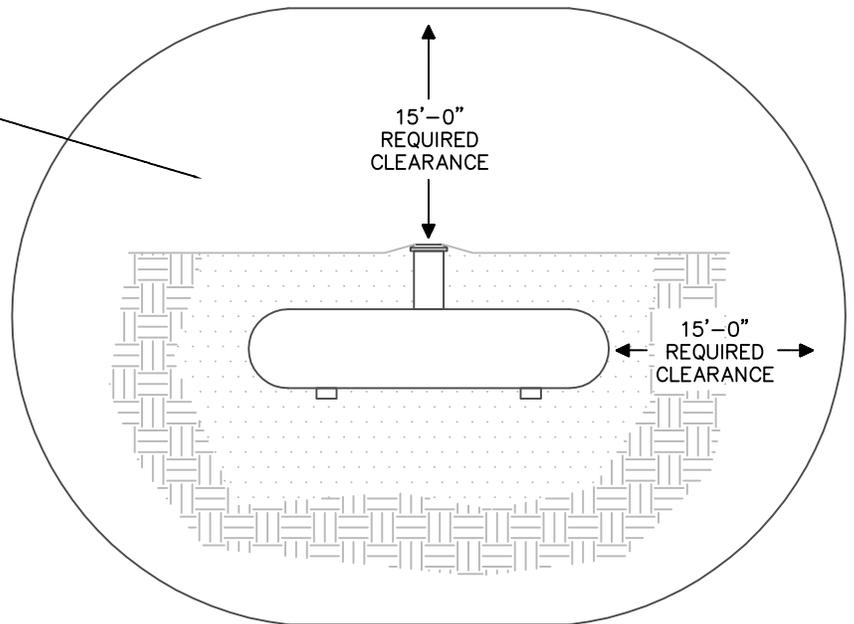


CLEAR AREA TO EXTEND VERTICALLY UPWARD TO INCLUDE ALL SREC OVERHEAD FACILITIES REGARDLESS OF HEIGHT AND VERTICALLY DOWNWARD TO INCLUDE ALL UNDERGROUND FACILITIES REGARDLESS OF DEPTH.

NO ABOVE GROUND PROPANE TANK, INCLUDING ITS ASSOCIATED CLEAR AREA, IS PERMITTED BELOW OVERHEAD EQUIPMENT. THE TANK CAN NOT BE LOCATED WITHIN 15 FT OF POLES, UNDERGROUND EQUIPMENT, OR UNDERGROUND LINES.

ABOVE GROUND PROPANE TANKS (TOP VIEW)

CLEAR AREA TO EXTEND VERTICALLY DOWNWARD TO INCLUDE ALL UNDERGROUND FACILITIES REGARDLESS OF DEPTH.



NO UNDERGROUND PROPANE TANK, INCLUDING ITS ASSOCIATED CLEAR AREA, IS PERMITTED NEAR OVERHEAD EQUIPMENT. THE TANK CAN NOT BE LOCATED WITHIN 15 FT OF POLES, UNDERGROUND EQUIPMENT, OR UNDERGROUND LINES.

UNDERGROUND PROPANE TANKS (SIDE VIEW)

DETAIL I: SEPARATION REQUIREMENTS FOR PROPANE TANKS NEAR SREC EQUIPMENT