# Electric Service Guide Commercial & Industrial





Contact MID's Electric Engineering Department (<u>electric.standards@mid.org</u>) with any questions about this Service Guide.

Check MID's website (<u>www.mid.org</u>) "Electric Service Guide" for the most current version of this Service Guide.

If you have any suggestions about improving this Service Guide, please complete the form on the last page of this Guide and return it to MID's Electric Engineering Department.

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# **1** General Requirements for Service

- 1.1 This Guide sets forth Modesto Irrigation District's (MID's) requirements for the establishment of electric service to new or re-wired commercial/industrial installations. The requirements presented here are necessary for MID to supply uniform, satisfactory, and safe service. It is necessary that all written material (this Guide, as well as all of the notes on the drawings) be carefully read and followed.
- 1.2 It is important that arrangements be made prior to the purchase and installation of electric service lines and the location and setting of meters. Contact MID's Customer Service Department at (209) 526-7337 for new or additional service. This must be completed as soon as initial planning is considered.

NOTE: customer "service entrance facilities" is the term used to designate all the electrical components required to be furnished and installed by the customer.

- 1.3 Where the operation of the customer's equipment will require unusually stable voltage regulation, refer to Rule 2 in MID's Electric Service Rules at <u>www.mid.org</u>.
- 1.4 In addition to MID's requirements, the customer is responsible for complying with applicable provisions of City and County ordinances, the NEC, EUSERC, UL listed, and State of California General Orders, rules and regulations of the State of California.
- 1.5 NO service can be connected until approved by the appropriate local governing authority and MID. **Only authorized MID employees** are permitted to make connections between MID wiring and customer wiring. (See a list of local governing authorities on page 18.)
- 1.6 The MID design, service letter and cost estimate are valid for six months.
- 1.7 Building plans and definite load information for commercial and industrial installations must be furnished to an MID Engineering Technician at P.O. Box 4060, 1231 11th Street, Modesto, CA 95354, as soon as possible. Delays in supplying this required information could cause unnecessary inconvenience for the customer.
- 1.8 The customer's service voltage will be determined by an MID Engineering Technician. Multiple service voltages to one building or parcel of property will only be granted upon approval of an MID Engineering Technician and local governing authorities.
- 1.9 Normally, only one service point will be granted to one building or one parcel of property. Multiple service points may be granted one building or multiple buildings on one parcel, provided they meet the requirements of the "National Electric Code" as well as the requirements of MID and local governing authorities.
- 1.10 All commercial meter installations with a service main disconnect greater than 200 Amps must be reviewed and approved by MID. These drawings shall show the customer's name and job address. Submit a copy to: MID Electrical Engineering Department, PO Box 4060, Modesto, CA 95352, prior to fabrication. A copy will be returned to the sender with approvals or required corrections.

1.11 Customer must submit panel manufacturer's specifications to an MID Engineering Technician. The Engineering Technician will submit the specifications to the Meter Department for approval.

#### **2** Abbreviations

The following abbreviations may be used throughout this Service Guide.

Amp	Ampere
EUSERC	Electric Utility Service Equipment Requirements Committee
NEC	National Electric Code
СТ	Current Transformer

# 3 Minimum Requirements for Commercial/Industrial Electric Service Installations

#### 3.1 Underground Services

City or County inspects all underground services and determines panel size, conductor size (500 MCM Max), and number of conductors required.

The customer is to provide all conduit and conductor to a location designated by MID.

#### **3.2 Overhead Service Drops**

- a) A "service drop" is the span of overhead conductors from MID's pole to the customer's building or structure and does not include the "drip loops." The drip loop is formed by connecting the ends of the customer's service entrance conductors to the service drop.
- b) Unless special permission is granted by the MID Engineering Technician, the length of the service drop is not to exceed 100 feet (distance measured from the nearest MID pole to the point of attachment). In addition, the point of attachment shall be located on that part of the building nearest to and facing MID's pole.
- c) The height of the point of support or attachment on the customer's building must be sufficient to provide the necessary ground clearances. (See Drawing COMM-014.1, page 31.)
- d) In the area accessible to pedestrians only, where the 12-foot minimum clearance applies, clearances shall be measured from either the lowest point of the drip loops or the lowest point of sag of the service drop conductors, whichever is lower. Where the proper height cannot be maintained by going to the highest point on the face of the building, a periscope-type service riser will be necessary. (See Drawing COMM-017.0, page 34.)
- e) In addition to the required ground clearances, the service drop must have a radial clearance (See Drawing Drawing COMM-015.0, page 32.)

- f) Because of the necessity of meeting these clearances, it is imperative that the customer contact MID before deciding on a point of attachment for the service drop. An MID Engineering Technician will help select a point of attachment that will meet MID's requirements. Call (209) 521-7337 to request a meter location.
- g) Eye bolts or securely bolted service racks are required for support of the service drop and must be installed by the customer through a minimum of 2X4 inch backing. Lag screws are not permissible.
- h) The point of attachment shall be designated by an MID Engineering Technician.
- i) The Engineering Technician must be consulted on all rewire jobs which involve proper service wire clearance over a swimming pool or metallic roof.

#### 3.3 Weatherhead

An approved weatherhead shall be installed at a point suitable for connecting the service entrance conductors to the service drop.

#### 3.4 Service Entrance Conductors

- a) The local governing authorities must be consulted for size and wire type (see a list on page 18).
- b) The service entrance conductors must be continuous and without splices. Neutral line wire (white) shall be continuous and without a splice from the weatherhead through the bonding lug to the neutral bar in the panel.
- c) A minimum of 24 inches of conductor must remain outside of the service head and allow for a proper drip loop at the service connection.

#### 3.5 Service Conduit

- a) The local governing authorities must be consulted for size and type of conduit.
- b) Conduit should be in one continuous length from the weatherhead to the meter socket. A limited number of approved type condulets with sealing devices will be permitted when building construction makes a continuous run impractical. If gutters are used, they shall be equipped with sealing devices.
- c) RMT or IMT conduit of 1-½ inch inside diameter is the minimum service riser conduit acceptable for attaching MID's service conductors.
- d) Conduit may be concealed in building walls and or attics on the MID (line) side of the meter under the following conditions:
  - 1) A semi-flush, mounted, combination meter socket main breaker is used.
  - 2) A 1-½ inch minimum inside diameter conduit is used.

 Conduit is one continuous vertical run from the meter service entrance to a minimum of 6 inches above where the conduit leaves the concealed wall and/or attic. No condulets or sleeves are allowed in the concealed area.

#### **3.6 Meter Location**

- a) A clear, unobstructed work space shall be left on all sides of the meter. (See Drawing COMM-009.0, Drawing COMM-010.0 and Drawing COMM-011.0 pages 26-28.)
- b) The meter(s) shall be located on the exterior of the building and shall be at least 3 feet from a property line. When it is absolutely necessary to locate meters in dedicated meter rooms, cabinets, or fenced enclosures, consult the MID Engineering Technician. MID representatives shall have access to such areas by using an MID key. The customer is responsible for having the lock(s) keyed for an MID key.
- c) Carports, breezeways, covered or screened porches, or any other area that might be enclosed at some future date should not be selected as a meter location. These areas may only be utilized with prior approval of an MID Engineering Technician.
- d) Meters or metering equipment shall be approved by the MID Metering Department.
- e) The area on either side of a door or swinging window, equal to the width of that door or swinging window is not acceptable as a meter location. (See Drawing COMM-009.0, page 26.)
- f) A level standing and working surface shall be provided in front of each meter to permit ready access to the meter. This space must be at least 36 X 36 inches and contain no working obstructions. (See Drawing COMM-009.0, page 26.)

#### 3.7 Meter Socket

- a) The meter socket must be installed in a true vertical plane.
- b) Commercial, self-contained meter sockets shall be UL listed and shall have a continuous duty current rating equal to or greater than the current rating of the associated load service equipment.
- c) The neutral conductor shall be connected to the neutral lugs and shall be located behind sealed panels.
- d) Meter sockets with extruded or cast aluminum jaws are not acceptable and will not be connected.
- e) Standard switchboard service sections can be used on all services having a main size of 201 Amps or over. They shall be EUSERC compliant.
- f) The customer's wiring for new service or rewiring shall include a grounded conductor or bus in the service entrance equipment. The grounded conductor or bus shall connect to the proper terminals in the service entrance meter compartment and service switch.

Sizing of this conductor or bus shall be in accordance with the requirements of local governing authorities.

#### 3.8 Test Bypass Devices for Self-Contained Meter Installations

- a) Approved test bypass devices are required on all MID designated commercial installations.
- b) See Drawing COMM-018.0, Drawing COMM-019.0, Drawing COMM-020.0, Drawing COMM-021.0 and Drawing COMM-022.0 (pages 35-39).

#### 3.9 Service Main Disconnect

- a) The service main disconnect, or main breaker, must be installed on the load side of the MID meter.
- b) If the service main disconnect is installed outside, it shall be of an approved rain tight type, UL listed and lockable.
- c) If the meter socket and service main disconnect (main breaker) are in separate enclosures, the wiring between the two enclosures must be in RMT, IMT electrical conduit or approved sealable raceway per NEC.
- d) All service disconnects shall have a provision for locking in the open/off position.

#### 3.10 Grounding

- a) An approved, concrete encased electrode (ufer ground) must be used for all new construction.
- b) The local governing authorities must be consulted for the required ground conductor type and size and for other types of grounding.

#### 3.11 Metering Arrangements

- a) The metering arrangement shall be approved by the MID Meter Department.
- b) Unmetered services wires and metered load wires shall not be combined in the same conduit, raceway, or gutter.

# 4 Meter Installations on Low Voltage Switchboards, 0-600 Volts, 0-4000 Amps

#### 4.1 Metering Equipment Requirements

#### 4.1.1 EUSERC - Electric Utility Service Equipment Requirements Committee

EUSERC is an organization comprised of utility representatives from the western section of the United States that work to promote the standardization of electric service requirements and the design and engineering of metering and service equipment.

All metering and service equipment approved for use in the areas served by MID shall be built to the requirements developed by EUSERC. Approved metering and service equipment is available to customers and contractors through electrical wholesale distributors.

#### 4.1.2 Approval of Electric Service Panel Manufacturer's Drawings

All electric service panels shall meet EUSERC requirements. Purchase or installation of any equipment that does not conform to EUSERC requirements is done at the developer's risk. Any electrical service panels that do not comply with EUSERC will be required to have field modifications completed or be replaced at the developer's expense.

Electric service panel drawings are submitted for review prior to purchase and installation. The project developer can submit three (3) copies of the panel manufacturer's drawings to MID. Submitted drawings shall reflect correct EUSERC drawing numbers. One copy will be returned to the sender with approval or corrections as needed. Send submittals to:

Modesto Irrigation District Attn: Electrical Engineering Department PO Box 4060 Modesto, CA 95352 Telephone: (209) 526-7337

#### 4.2 UL Listing Required

All meter sockets, boxes and enclosures shall be designed in accordance with the latest revision of AEIC-EEI-NEMA standard for watt-hour meter sockets, publication ANSI c12.7, UL standard for meter sockets UL414.

#### 4.3 Safety Socket Boxes

All safety socket boxes with factory-installed test-bypass disconnect facilities shall be listed by ASTM and shall have a continuous-duty rating not less than the service equipment ampacity.

#### 4.4 Meter Sequence

The metering arrangement must provide for the line current to enter first the meter and then the disconnecting means and overload protective devices (meter-switch-fuse sequence). For multiple meter installations, refer to the NEC.

#### 4.5 Instrument Transformer vs Self-Contained Metering

- a) Instrument transformer compartments will be required if the rated capacity of the service switch exceeds 200 Amps.
- b) An instrument transformer enclosure with safety socket box will not be allowed for new construction.

#### 4.6 Panel Inspection Required Prior to Establishment of Service

Electric service will not be established until the service entrance facilities are satisfactorily inspected by MID and passes inspection by the local governing authority. MID will charge a re-inspection fee if multiple trips are required due to improperly installed or unapproved service facilities. Requirements will be set forth by the Engineering and Metering Departments. See the Notice To Contractor for requirements on page 19.

#### 4.7 Type of Service

Since the type of service available may vary, it is important that the customer consult MID for information before proceeding with the purchase or equipment or installation of wiring. Equipment that is improperly installed or does not meet MID requirements will be rejected and must be replaced at the customer's expense before service will be established.

#### 4.8 Service Entrance Facilities

- a) The customer shall furnish, install and maintain the service entrance conductors and service equipment beyond the point of attachment to MID's overhead service drop or the underground service delivery point. All conductors between the overhead service outlet, underground splice box, or pull section and meter enclosure, shall be suitably enclosed and protected, and shall not be concealed except with expressed consent of MID.
- b) The type and size of service entrance conductors shall conform to the ordinance and codes of the local governing authority, or where there is no ordinance requirement they shall conform to current standards of the NEC.
- c) In general, a building will be supplied through only one set of service conductors of the same voltage classification.

#### 4.9 **Overhead Service Terminations**

For overhead services, the customer/developer shall furnish lugs and connect the cable to line and load sides of the bus stubs in the current transformer compartment.

#### 4.10 Underground Service Terminations

The customer will terminate all service conductors to the service pull section or switchgear. (See Drawing COMM-023.0, Fig 1.) The customer/developer will terminate its service conductors on lug landings in the pull section. On switchboards rated 201-800 Amps, the customer shall install conductors from the service termination lug landings to the line side of the current transformer bus stubs.

#### 4.11 Pull Section Lug Landings and Busing Requirements

a) Single meter switchboard installation rated 201 through 800 Amps:

Bus bars (or cable) shall extend from the landing lugs in the pull section to the CT bus stubs.

b) Single meter switchboard installation rated above 800 Amps:

Bus bars shall extend from the service-terminating stubs in the pull section to the CT bus stubs.

#### 4.12 Meter and Service Locations Require MID Approval

- a) The location for the meter and service disconnect shall comply with applicable codes, laws and ordinances of the local governing authorities, and with the provisions of this Service Guide.
- b) On new installations, it is necessary that the location for the meter be approved in writing by an MID Engineering Technician.
- c) Whenever any addition or alteration on existing service conduits, service entrance conductors or metering equipment is contemplated, the customer or contractor shall contact the Engineering Technician.
- d) For single-occupancy buildings, meters and metering equipment may be installed:
  - 1) Outdoors.
  - 2) In a room within a building, approved by MID for the location of electric meters, with provision for proper illumination and with access only by a door opening to the outside of the building. See item 4.14, Meter Rooms, and Drawing COMM-010.0 and Drawing COMM-011.0 (pages 27 and 28).
- e) For multi-occupancy buildings not exceeding two floors, meters and metering equipment are to be grouped in one central location that is readily accessible 24 hours a day to MID in accordance with the conditions prescribed by Sections 4.11 and 4.12 above.
- f) In large multi-occupancy buildings, extensive shopping centers or buildings exceeding two floors, MID may, at its option, establish more than one meter location for groups of

individual meter facilities. Consult the Engineering Technician whose area your project is located for approval of service plans in these cases.

- g) Grouped meter locations for high-rise buildings, as defined in the uniform building code, may be permitted on one or more floors upon approval by MID.
- h) MID may require the customer to relocate a metering installation, at the customer's expense, if an existing meter location becomes inaccessible.
- For service stations, the utility underground service lateral conductors may not extend through a hazardous (classified) class 1 location (as defined by article 514 of the NEC). The underground pull can/section and metering would then be grouped and located outside (and prior to) the hazardous area at a location approved by MID.

#### 4.13 Unacceptable Meter Locations

Contact an MID Engineering Technician for proper placement of Meter Equipment. See the Area Map on page 49 for contacting the appropriate Engineering Technician.

Meters or meter rooms shall not be located in or adjacent to a drive through.

#### 4.14 Meter Rooms

An electric meter room is a weatherproof, illuminated room provided by the customer at his option and approved by MID for the location of the electric metering equipment. The following provisions will apply:

- a) <u>Access</u>: Access must be through a door on the building exterior opening directly into the electric meter room that provides immediate 24 hour a day access. All meter rooms that are to be locked must be keyed to MID specifications. *Al's Certified Safe and Lock* or *Easy Locks* will provide the specifications to qualified locksmiths or can provide the work. The key way for the lock is Schlage "C". Meter rooms must not inhibit use of personal protective equipment gear, e.g., not in a biohazard area.
- b) <u>Communications equipment</u>: Telephone, CATV, data processing equipment, etc., are not permitted in an electric meter room.
- c) <u>Doors</u>: The entrance to the electric meter room shall be through a vertical doorway not less than 3'-0" wide and 6'-6" high, and should swing out whenever possible.

Local governing authorities may require the doors to open out and utilize "leveroperated" hardware. If the door swings into the room, it is to be located so that it will not open into the meters or working space. Roll-up doors are not acceptable.

d) <u>Foreign equipment</u>: Equipment foreign to the electrical equipment is not permitted within the electric meter room. **Only electric service equipment is permitted**.

Note: Sprinkler heads, when required in an electrical meter room by the local fire department or building official, are acceptable. Requirements for shielding will be determined by the local governing authority.

- e) <u>Meter clearances</u>: All meter installations must provide minimum clearances as shown on Drawing COMM-009.0 and Drawing COMM-010.0 (pages 26 and 27).
- f) <u>Meter heights</u>: The minimum height of the meter may be 3 feet and the maximum height may be 6 feet 3 inches as measured from the standing surface to the centerline of the meter.
- g) <u>Meter marking</u>: See Section 4.15, Multi-Meter Identification (Labeling Requirements), for meter identification examples.
- Pull sections: The position of a pull section in a meter room is subject to approval by MID.
  - 1) Pull sections should be positioned either:
    - (a) Opposite the access door to allow use of the doorway as additional working space for cable-pulling equipment.
    - (b) On a wall perpendicular to the access door.

Note: Do not locate on the same wall as the access door.

- Pull sections (to 600V equipment) must allow a minimum of 3 feet clear and level working space in front of the section. All 12kV pull sections require an unobstructed 8 feet clear area in front of any and all access doors for installation and removal of MID safety grounds.
- 3) Additional clearances may be required by the local governing authority for 480 volt services.
- <u>Readily accessible</u>: Capable of being reached quickly and conveniently 24 hours a day for construction, operation, maintenance, inspection, testing or reading, without requiring those seeking access to climb over or remove obstacles; or to obtain special permission or security clearances. A stairway of normal rise (4" to 7") and run (11" minimum) conforming to building code requirements is acceptable. Shipboard ladders are unacceptable.
- j) <u>Room identification</u>: The meter room must be permanently identified "electric meter room" or "meter room" or "electric room." Placards are to be purchased and installed by the customer. The identifying marking for rooms shall be engraved into or raised from a tag of plastic laminate, aluminum, brass or other approved non-ferrous metal with 2 inch minimum letters. The engraving shall be deep or raised enough to prevent it from being obscured by subsequent painting of the service sections. The tag shall be attached to a non-removable area of the door with a high strength, 5-minute epoxy adhesive. Other types of adhesives WILL NOT be acceptable. The tag shall not be able to be removed without the use of hand tools.
- k) <u>Vehicle access</u>: Permanent vehicle access to the meter room is required for the installation and maintenance of metering equipment. Under some conditions, as determined by MID, the vehicle access requirement may be waived.

#### 4.15 Multi-Meter Identification (Labeling Requirements)

- a) Marking of all meters and disconnects shall be required as follows:
  - Where the installation requires more than one meter for service to the premises, each meter panel shall be permanently marked (**NOT PAINTED**) by the customer to properly identify the portion of the premises being served.
  - When adding a new meter to an existing service location, **ALL** meters shall be identified to properly indicate the portion of the premises being served.
  - Each main service disconnect shall be permanently marked (**NOT PAINTED**) by the customer to properly identify the street address and the building number (if applicable).
  - If there is more than one service disconnect for a building, each service disconnect needs to have a tag that clearly references the location of the service disconnect(s).
- b) The identifying marking for meters and disconnects shall be engraved into or raised from a tag of plastic laminate, aluminum, brass or other approved non-ferrous metal with 1/4 inch minimum letters. The engraving shall be deep or raised enough to prevent it from being obscured by subsequent painting of the service sections. The tag shall be attached to a non-removable area of the panel with a high strength, 5-minute epoxy adhesive. Other types of adhesives WILL NOT be acceptable. The tag shall not be able to be removed without the use of hand tools. If the main breakers are NOT installed directly adjacent to the meters, BOTH the meter and the main breaker shall be identified with individual tags.
- c) Additional markings are required when one tenant occupies two or more suites. In applications where the commercial suite/unit requires more than one meter to be used to feed into one location, each meter, each main breaker and each appropriate sub-panel shall be marked with the suite/unit number and individual panel location as well as a statement that the suite/unit is being fed by more than one meter and list the sockets/sub-panels that also feed into the suite/unit.

Examples: A1 31-B This suite is also fed by A-2. Unit 31 fed by 31-A & 31-B.

#### 4.16 Multi-Metering Policy

<u>Purpose</u>: To establish specific policies and procedures for customers who wish to combine two or more areas for a single customer use without the requirement to remove multiple meters and install a single meter to serve a single customer facilities, where, in the sole opinion of MID, a non-residential premise has been designed to be subdivided in non-discrete sections after construction is complete to meet varying tenant requirements.

a) Customers requesting combination of suites or units, using more than one meter, must take out the appropriate building permits with the local governing authority. The review of plans will be the same as any other tenant improvement.

b) Identification of the meters and disconnect serving each suite or unit must be in accordance with the Multiple Meter Identification Policy as referenced previously.

#### 4.17 Meter Access

All electric meters and main disconnects shall be accessible by MID 24 hours a day, 7 days a week. Fences, gates, alarms, security guards or the other means that prohibit direct accessibility are a violation of this requirement.

If the metering service panel is located behind a locked gate or door, the lock must be keyed to MID specifications. *Al's Certified Safe and Lock* or *Easy Locks* will provide the specifications to qualified locksmiths or can provide the work. The key way for the lock is Schlage "C". Another option is double hasp padlock hardware with a padlock keyed to MID specifications. These requirements apply to any situation where access is restricted.

#### 4.18 Working Space in the Area of Meter Installation

A level standing and working surface shall be provided and maintained in front of each metering installation. A clear and unobstructed working space shall be provided above this surface. The width of the working space shall be sufficient to permit ready access to the metering equipment in no case less than 3 feet. The height of the working space shall be equal to the overall height of the metering installation and in no case less than 6 feet 6 inches. The working space shall extend at least 3 feet in front of the metering enclosure. See Drawing COMM-009.0 (page 26).

#### 4.19 Meter Heights

Meters shall be located not more than 75 inches and not less than 48 inches above the ground or standing surface when installed outdoors. When installed in a cabinet or indoors in a meter room the minimum height may be reduced to 36 inches. The meter height shall be measured to the meter axis.

#### 4.20 Meter Sockets

Sockets for self-contained meters shall be furnished, installed and wired by the customer. Sockets for instrument transformer installations shall be furnished and installed by the customer.

#### 4.21 Meter Socket Connections

- a) For self-contained meters, the customer shall terminate his/her wiring. The socket shall be equipped with terminals of sufficient size to install the conductors without removing any strands of wire. See Drawing COMM-002.0 (page 20) for connection diagrams.
- b) For instrument transformer-rated meters, MID will furnish and install the normal secondary wiring from the metering transformers to the meter socket.

#### 4.22 Grounding

Lugs for terminating the user's ground wire (or other grounding conductors) shall be located outside of the sealable section, and shall be designed to readily permit the user's neutral system to be isolated, when necessary, from MID's neutral.

#### 4.23 Instrument Transformer Enclosure-General

- a) No connections shall be made in the instrument transformer enclosure to supply any other meter, or more than one load circuit.
- b) When the neutral conductor is a part of the service, it shall pass through the instrument transformer box, be continuous, and be capable of being bondable to the box.

#### 4.24 Metered and Unmetered Conductors

Line side (unmetered) and load side (metered) conductors are prohibited from occupying the same raceway or enclosure by both MID policy and the NEC. Conductors from the customer's distribution section shall not pass through MID's sealable sections.

#### 4.25 Sealing of Meters and Metering Equipment

- a) All meters and enclosures for meters, metering equipment and service entrance equipment on the line side of the meter, except as approved for access to replace fuses used for over-current protection, will be sealed by MID. The MID seal shall not be broken except by an authorized representative of MID, or with MID's permission granted in response to a request warranting approval. No person is permitted to tamper, or in any way interfere, with a meter or its connections as placed by MID.
- b) All removable panels and covers (tops, sides, front, and rear) to compartments used for terminating or routing unmetered conductors shall be sealable.
- c) Sealable latches, stud and wing-nut assembly, or sealing screws shall be used for sealing covers or sections.
- d) When a latch is used, it shall be designed to permit positive locking and made of a durable material that is non-corrosive.
- e) When a stud and wing-nut assembly is used for sealing, the stud shall be 1/4" x 20" (minimum). The stud and wing-nut shall each be drilled .0635" minimum for sealing purposes.
- f) Screws or bolts requiring special tools for installation or removal are not acceptable. Sealing methods, other than those mentioned, require MID approval.
- g) All service disconnects shall have a provision for locking in the open/off position.
- All compartments containing unmetered conductors shall be sealable. When a raceway or conduit for meter secondary wiring is necessary, such raceway or conduit shall be sealable.

#### 4.26 Meter Socket Sealing Rings

Meter sockets shall be equipped with approved sealing rings as a part of the meter socket installation.

#### 4.27 Switchboards-General

- a) Contact MID Metering Department for approval of switchgear specifications prior to manufacture of the switchgear to determine the type of metering, size of current and/or voltage transformers, and any special arrangement necessary for mounting instrument transformers, and compliance with EUSERC standards. Submit three (3) copies to: MID Meter Department, P.O. Box 4060, Modesto, CA 95352, prior to manufacturing.
- b) The rating of the instrument transformers will not necessarily be the same as the service switch.
- c) All compartments containing unmetered conductors shall be sealable. When a raceway or conduit for meter secondary wiring is necessary, such raceway or conduit shall be sealable.
- d) The meter current and potential transformers supplied by MID shall not be utilized for any other purpose.

#### 4.28 Switchboard Service Section

- a) In cases where more than one meter is to be installed, there will ordinarily be a separate service section for each meter installation and its associated service switch.
- b) For services with self-contained meters (not using current transformers) it may be practicable to put two or more meters and switches in the service section.
- c) When two or more switchboard service sections are supplied from one set of service conductors, the supply conductors serving these switchboards shall be terminated ahead of and outside of, the metering transformer compartments in a separate sealable enclosure. The supply conductors are to be arranged so they are readily accessible without disturbing the metering transformers and associated secondary wiring.
- d) Additional service connections may be made in the main service termination and pull section where more than one metering installation is necessary, or where more than one rate schedule is desired. Contact MID Metering Department for approval.

#### 4.29 Specially Engineered Service Section

All specially engineered service sections require MID approval. A switchboard design which does not conform to the standard switchboard herein, is considered specially engineered, and includes installations:

- a) Rated over 3000 Amps or 600 Volts.
- b) Where the service breaker ampacity rating exceeds that of the standard service section.

- c) When multiple metering sections are used.
- d) When recessed meter panels are used.

#### 4.30 Service Limitations

Single-phase service is limited to 400 Amps maximum. Individual three-phase service is limited to 3200 Amps maximum.

#### 4.31 Metering Emergency Alarm Systems

MID policy typically does not allow connections to a customer's service preceding the electric meter. In those cases when it is impractical to install an emergency alarm system on the load side of the service meter, a separate house meter for the emergency system will be required.

#### 4.32 Inspection Tag

MID inspects all new meter installations prior to electrically energizing the customer's panel. Figure 1 on Drawing COMM-001.1 (page 19) shows a copy of an orange colored tag that the MID service representative leaves when the MID inspection does not pass. The tag lists the most common installation infractions that prevent MID from setting electric meters.

#### **5** Requirements for Commercial Multiple Meter Installations

#### 5.1 Meter Cabinets and Enclosures

- a) The cabinet shall be designed so that no obstruction such as door jams, vertical posts, etc., is allowed within the cabinet opening. With the cabinet door open, a clear working space of 36 inches is required directly in front of the socket for installing the meter.
- b) Shallow cabinets, with holes cut in the doors for meters to protrude through, will not be permitted.
- c) Clearances between the sealing flange of the meter socket and the inside of the closed cabinet door shall be a minimum of 11 inches, but not more than 15 inches for commercial and industrial meter installations.
- d) Hinged doors shall not exceed 4 X 4 feet and shall be provided with a device to hold them in the open position safely.
- e) All doors shall be fitted properly to insure positive opening and closing and shall be equipped with adequate pulls, hinges, and latches.
- f) Cabinets shall be rain tight and constructed of weather resistant materials. All top openings (conduit entering and leaving) shall be flashed and sealed.
- g) When cabinets are to be locked with the customer's lock, a double lock arrangement shall be provided to accommodate an MID padlock.

- h) If the socket is installed for future use, plastic meter covers will be used to cover energized sockets. Where extra meter sockets have been installed in multi-meter installations and have no probable future use, the internal bus must be removed from the socket and the socket opening closed.
- i) For multiple-meter installations in a multi-meter enclosure, the meter sockets shall have a minimum horizontal clearance of 7-½ inches, center to center, and a minimum vertical clearance of 8-½ inches, center to center.

#### 5.2 Totalized Metering

Totalized metering may be available for certain larger commercial/industrial services. Contact MID Energy Services Department.

#### 5.3 Non-Installation of Meters

The meters will not be installed until:

- a) The customer has complied with all the requirements listed above.
- b) The work has been inspected and passed by the local governing authorities.
- c) Each service switch and meter position, in a multiple meter installation, has been clearly labeled (see Section 4.15, Multi-Meter Identification (Labeling Requirements)). Street address and suite, apartment number, etc. are permanently applied to the building.
- d) All required fees are paid.

#### 6 Swimming Pool Clearances for Supply Service Drops (Includes Hot Tubs)

- 6.1 The installation and maintenance of service drops over swimming pools is to be avoided where practical.
- 6.2 The customer must contact an MID Engineering Technician to determine MID service requirements.
- 6.3 The clearances shown on Drawing COMM-016.0 (page 33) are required in MID's Service Area.

# 7 Project Scheduling Table

Step	Party	Typical Time Required by MID	Action
1	Customer		Send final set of site plans to MID's Electrical Engineering Department for review and design.
2	MID	10 business days	Engineering Technician designs the electric layout and sends the installation agreement and one marked-up copy of site plan to the Customer.
3	Customer		Pay any charges, return a signed installation agreement, and return completed Commercial Load Information Form with all relevant dates regarding construction and service requirements. Both must be returned to MID. Obtain all necessary permits from the local governing authority.
4	MID	10 business days	Engineering Technician designs engineering drawing(s), materializes and assembles the work order.
5	Customer		Call USA to locate underground utilities, install conduit and substructures, return Application for Electric Services to the Customer Service Department, request MID and local governing authority to inspect conduit, substructure, transformer pad, and electric facilities.
6	MID	3 business days	MID inspects trench, conduit, substructures, and transformer pad. This stage repeats itself until you satisfactorily pass inspection.
7	Customer		Close trench, pull service conductors to agreed location, connect conductors to panel. Local governing authority inspects electric facilities. Your facilities pass inspection and you request service.
8	MID	7 business days pending weather and scope of project	Meter Department wires instrument transformers, where required; MID construction installs transformer, primary cables and secondary cables where needed. MID reviews the local governing authority inspection tag to verify equipment conformance; if the equipment passes, the meter is set and the panel is energized.

# 8 Local Governing Authorities Within MID's Service Area

#### **City of Modesto Building Department**

1010 Tenth St. 3rd Floor Modesto, CA 95353 Phone: 209-577-5232

#### **Stanislaus County Building Department**

1010 Tenth St. Suite 3500 Modesto, CA 95354 Phone: 209-525-6557 Fax: 209-525-7759

#### San Joaquin County Building Department

1810 Hazelton Ave. Stockton, CA 95205 Phone: 209-468-3121

# **City of Riverbank Building Department**

6617 3rd St. Riverbank, CA 95367 Phone: 209-863-7128

#### **City of Ripon Building Department**

259 N. Wilma Ave. Ripon, CA 95366 Phone: 209-599-2613 Fax: 209-599-2183

# 9 MID Contact Information

#### **Modesto Irrigation District**

1231 Eleventh Street (P.O. Box 4060) Modesto, CA 95354 (Modesto, CA 95352) Electrical Engineering Department<sup>1</sup> Phone: 209-526-7468 Fax: 209-526-7357

#### City of Waterford Building Division 101 E St. Waterford, CA 95386 Phone: 209-874-2328 Fax: 209-874-9656

#### **City of Oakdale Community Development** 455 S. Fifth Ave. Oakdale, CA 95361 Phone: 209-845-3625 Fax: 209-848-4344

# City of Escalon Building Department

2060 McHenry Ave. Escalon, CA 95320 Phone: 209-691-7460 Fax: 209-691-7439

<sup>&</sup>lt;sup>1</sup> Contact the MID Engineering Technician assigned to the area (see map on page 49).

<image/>	<section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header>
FRONT	BACK
FIGU	JRE 1
ABY: BC APPROVED BY: LN DATE: DWG: COMM-001.1 REVISION:	PREVIOUSLY GE-07-369.0 METERING EQUIPMENT INSTALLATIONS INSPECTION TAG

Drawing COMM-001.1: Inspection Tag



Drawing COMM-002.0: Connection Diagrams for Self-Contained Meter Sockets

#### (CONTINUED)

NOTES:

- 1. Sockets for non-residential installations shall be equipped with test bypass facilities.
- 2. Line conductors shall be connected to the top terminals of socket and load conductors connected to the bottom terminals of the socket. An exception to this rule is for photovoltaic production meters. (Refer to Section 9)
- 3. Potential taps, including the neutral tap, shall be located behind sealed panels.
- 4. All meter socket terminal clips must be back connected.
- 5. 4th wire (redundant grounding conductor only not a neutral), Delta connected with B phase, is required by G.O. 95, G.O. 128 and the NEC.
- 6. The correct position of the fifth clip for self-contained meter sockets is 9 o'clock.
- 7. Existing installations only. Does not apply to new installations. All new 480 volt services shall be four wire (277/480V, 3Ø, 4 wire wye connected)

		PREVIOUSLY GE-07-385.2
DRAWN BY: APPROVED BY: DATE:	DWG:	CONNECTION DIACRANS FOR
TE ATTOLE ON DALE	COMM-003.0	SELF CONTAINED METER SOCKETS

Drawing COMM-003.0: Connection Diagrams for Self-Contained Meter Sockets, continued



Drawing COMM-004.0: Typical Multiple Metering Arrangements



Drawing COMM-005.0: Typical Underground Service Termination Arrangements



Drawing COMM-006.0: Underground Service Terminating Pull Section, 12,000V, 3 & 4 Wire





Drawing COMM-009.0: Single Phase Self-Contained Meters, Residential Service Working Clearance



Drawing COMM-010.0: Meter Room, Meter Clearances

WORKING SPACE AND CLEARANCE REQUIREMENTS 0-600 VOLTS (TOP VIEW OF SERVICE EQUIPMENT)								
		GROUND SECTION	METER AND C.T. SECTION (OR MAIN, IIF MULTI-METERS)	METER AND SUBMAINS	METERS AND SUBMAINS			
	3'-0" M. SEE NOT. #1,3 &	ES	REQUIRED CLE SEE COMM-012	(FRONT) AR AND LEVEL WORKING FOR BARRIER REQU				
	6'-0" MIN. SEE NOTE #1 3' 0" MIN. OR LENGTH OF SERVICE EQUIPMENT WHICHEVER IS GREATER							
1,	sections, a level wor	and metering e	equipment. Pull sections front of the pull section.	e is <u>REQUIRED</u> for under requiring 4" conduits must Verify location of pull sec	st allow a minimum of 6 f	feet clear and		
2.		See COMM-010 for meter mounting height requirements. Meter height will be measured from the standing and work space to the centerline of the meter.						
3.		When non-raintight service equipment is installed on an elevated portion of the floor, or "HOUSEKEEPING PAD", The pad <u>MUST</u> be flush with or extend a minimum of 3' in front of the service equipment.						
4.		When outdoor raintight service equipment is installed on a housekeeping pad, the housekeeping pad must be level and extend a minimum of 3' measured from the FACE OF THE METER PANEL.						
5.	To maintain a safe, clear and level working area in front of new or existing meter and service equipment, a concrete slab or other suitable surface, acceptable to the utility, may be required.							
					PREVIOUSL	Y GE-07-401.0		
MID	ELECT	PRIC SER	DWG: COMM-011.0 REVISION:	WOR	EQUIPMENT INSTALLAT KING SPACE AND CLEARANCE QUIREMENTS - 0-600 VOLTS			

Drawing COMM-011.0: Working Space and Clearance Requirements, 0-600 Volts

٦
### BARRIERS

Customer will provide and install "<u>NON-REMOVABLE</u>" barriers to provide the clearances where working space is exposed to vehicle or hazardous conditions. Service and metering equipment located in franchise position must be installed a minimum of 5'-0" back from face of curb or it is considered subject to vehicular contact and requires barriers. Meters will not be set until the barriers are installed.

Barrier posts are used to protect meter and service equipment and personnel from vehicular contact and to prohibit encroachment into the working space. For example: loading zones, driveways, congested areas, alleys, off street parking, etc.



Drawing COMM-012.0: Barrier Requirements



Drawing COMM-013.0: Flat Rate Service Connection



Drawing COMM-014.1: Service Drop Conductor Clearances, 0-600V, Commercial or Industrial



Drawing COMM-015.0: Service Drop Conductor Clearances, 0-600V, Clearance from Doors, Exits, etc.



Drawing COMM-016.0: Service Drop Conductor Clearances, 0-600V, Clearance from Swimming Pools & Diving Boards



Drawing COMM-017.0: Bracing of Periscope Type Risers

## **Electric Service Guide**



Drawing COMM-018.0: Safety Socket Box with Factory Installed Test-Bypass Facilities, 100 Amp, 0-600V



Drawing COMM-019.0: Safety Socket Box with Factory Installed Test-Bypass Facilities, 200 Amp, 0-600V



Drawing COMM-020.0: Self-Contained Meters Installed in Switchboards, 0-200A, 0-600V



Drawing COMM-021.0: Test-Bypass/Disconnect Block for Safety Sockets, 100 & 200 A, 0-600V



Drawing COMM-022.0: Test-Bypass/Disconnect Block for Safety Sockets, 100 & 200 A, 0-600V (Bussed and/or Cable Terminations)



Drawing COMM-023.0: Underground Service Termination, Standard Switchboard Service Section, 400-2000A, 0-600V

#### NOTES: (continued)

- 5. Side or rear entry of the service cable into the pull section may require a greater dimension than that shown in Table 1. consult the M.I.D. Metering Department.
- 6. Consult a M.I.D. Engineering Technician for the type and size of terminating lugs.
- 7. All pull and terminating sections shall have full front access. Cover panels shall be removable, sealable, provided with two lifting handles, and limited to a maximum size of 9 square feet in area.
- 8. Access cover panel to bus clearances:
  - A. A minimum of 4 inches of clearance is required from any energized part to any removable access cover or the clearance may be reduced to 1-1/2 inches when a safety barrier of insulating material with a minimum 1/8 inch thickness is provided by the manufacturer.
  - B. Barrier must extend a minimum of 10 inches below terminating buss and extend upward to cover all energized parts that infringe into the 4 inch minimum clearance dimension.
  - C. Barrier shall be removable.
  - D. Barrier shall have a caution sign affixed to it reading "WARNING: THIS BARRIER MUST BE INSTALLED BEFORE REPLACING PULL SECTION COVERS".
  - E. Additional caution signs shall be affixed to exterior of all pull section access covers reading "DO NOT REPLACE PULL SECTION COVERS UNTIL SAFETY BARRIER IS IN PLACE".
  - F. Brackets and associated hardware used to mount the safety barrier shall not extend into the provided access opening.
- Sealing provisions shall consist of two drilled stud and wing-nut assemblies on opposite sides of the panels.
- 10. Ground bus, when provided shall be located at the rear of the terminating enclosure.

	PREVIOUSLY GE-08-517.2
MID ELECTRIC SERVICE GUID	METERING EQUIPMENT SPECIFICATIONS           UNDERGROUND SERVICE TERMINATION – STANDARD SWITCHBOARD           SERVICE SECTION – 400–2000A, 0–600V

Drawing COMM-024.0: Underground Service Termination, Standard Switchboard Service Section, continued



Drawing COMM-025.0: Minimum Requirements for Terminating Electrical Services, Typical



Drawing COMM-026.0: Minimum Requirements for Terminating Electric Services, Riser Without or Below Eave



## MODESTO IRRIGATION DISTRICT

Filing date: <u>9/8/2010</u>

1231 Eleventh Street, PO Box 4060, Modesto, CA 95352 Customer Service Phone: (209) 526-7337 Fax: (209) 526-7359 Email address: CSCommercial@MID.org

#### APPLICATION FOR NON-RESIDENTIAL ELECTRIC SERVICE(S)

	MID US	SE ONLY			
	🗆 Equivalent 🗆 Change in	svc DNew construction	Franchise District:	Tax District:	
	Anticipated Load:		Rate:	Reactive Meter.	
	NAICS Code:		Voltage:		
iving:	Map grid seq #:		Class 1 Code:		
Date:	Mktg Approved by:	Date:	Engr Approved by:	Date:	
Commercial	🔲 Industrial 🗌	Lighting	Ag Pump – horsep		
]Yes ∏No	Square footage of bui	Iding or work area:			
e: John Doe					
s (DBA): Busin	ess Name				
	All a section of the				
			NA – de eter	05353	
1234 Sample D	Street		Modesto Citv	<b>95352</b> Zip Code	
	Date: on completely, and ules & Regulations, 15 Commercial Yes No a: John Doe s (DBA): Busine		INAICS Code:         iving:       Map grid seq #:         Date:       Mktg Approved by:       Date:         on completely, and attach supporting documentation. Sign and return to ules & Regulations, a minimum deposit of \$300, or three times the high         15       Service start date:       12/1/2015         Commercial       Industrial       Lighting         2 Yes       No       Square footage of building or work area:         a:       John Doe         s (DBA):       Business Name         Name of Organization or Entity	Image:	

Street Zip Code itv Type of business: Distribution/Trucking Company Franchisee? 🗖 Yes 🔳 No 5. Complete description of goods or services rendered Fax number: <u>209-456-7890</u> \_ Business phone: 209-123-4567 Number of years in business: 10 6.

Type of ownership: Sole Proprietor Partnership LLC LLP Corporation Public Agency Other 7.

California

Year filed: 2004 If corporation, LLP or LLC list state where filed: 8. Copy of documents required \_Business License number: 1234567 Taxpayer ID number (EIN or SSN): 123456789 9. Copy of license required

10. If business name is legal billing name, fictitious name file number: 11-2345

11. Address of corporate office or residence address if sole proprietor:

John Doe	President/CEO	209-123-4567	D1234567	1/18/75
Name	Title	Phone	Driver's License & Stat	e Date of Birth
Jane Doe	Vice President	209-456-0987	D9876543	5/30/76
Name	Title	Phone	Driver's License & Stat	e Date of Birth
Name	Title	Phone	Driver's License & Stat	e Date of Birth
3. Contact for billing inqu	iries: Jane Doe	Vice President	209-456-0987	janedoe@email.com
	Name	Title	Phone	email address
4. Name of person comp	eting form: Jane Doe	Vice P		
	Name	Title GO	to <u>http://www</u>	<u>.mid.org/forms/</u> fo
Signature (required):		the	e most current a	Application.
Signature (required).	Owner or Corporate Officer	Driver's Licens	se number & State	Date of Birth
Jane Doe	6293 (1000) (1996) (100) - 639(100) - 639(100) - 639(100) (100)	Vice President		9/10/2015
Print Name		Title		Date

Note: In accordance with published MID regulations, supporting documents verifying the legal billing name may be required.

Sample 1: Application for Non-Residential Electric Services

Commercial Load In	formation Form
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Modesto Irrigation ATTN: Electrical En PO Box 4060 1231 11 <sup>th</sup> Street Modesto, Californi Fax: (209) 526-735	ngineerir a 95352	g								
							Date:			
Project:	Sample	e Wareho	ouse Expa	nsion		_				
Location (Street):	$1234~\mathrm{S}$	ample W	ay, Mode	sto, CA	95353					
Owner (Name):	John D					– Te	lephone:	(209) 55	5-4444	
			Malast		FOFO	_	repriorier			
Address:	5687 L	ata Driv	e, Modest	to, CA 9	0000	-				
Engineer (Name):	David	Doe				Te	lephone:	(209) 56	6-5664	
Address:	7896 S	ample C	t., Modest	to, CA 9	5352	_				
Estimated Date Re	ady for S	ervice:	9-15-201	15	Pre-Constr	uction	Meeting	Date:		
					-		Grading			
C					Degin	nough	Grading			
General Information	on									
Approximate Squa	re Foota	ge: 85	28		Type of Busi	iness:	Wareh	louse		
Electric Load Infor	mation									
	Initial		Future				Initial		Future	
Lighting	3.4	kW		kW	Receptacles	×	1.0	kW		kW
Water Heater	1.5	kW		kW	Duct Air Heater			kW		kW
Unit Air Heaters		kW		kW	1Ø Air Conditic			HP/Ton		HP/Ton
Cooking Units		kW		kW	3Ø Air Conditic	ners	20	HP/Ton		HP/Ton
X-Ray (input)		kW		kW	10 Heat Pump			HP/Ton		HP/Ton
Welders		kW		kW	3Ø Heat Pump			HP/Ton		HP/Ton
Aux. Strip Heater		kW		kW	10 Misc. Moto			HP/Ton		HP/Ton
3Ø Motors		HP		HP	Largest 3Ø Mot	tor		HP/Ton		HP/Ton
() (	ected Ele sired: (ci Volt One site One sepi	ctrical Lo rcle one) age: plan in d a or two	ad: 208/120 fx or Autor reproduci	kW erhead Wire cad form ble hard	/ Estimated	Date o nd Est	timated In			
					_	Go t	o http:/	/www.r	nid.org	/forms/
Signature of Applicant								t curren		
T T	⊐ Yes ⊐ No				e Use Only			_ Date:		
9/2015										



MODESTO IRRIGATION DISTRICT 1231 Eleventh Street, PO Box 4060, Modesto, CA 95352 Customer Service Phone: (209) 526-7337 Fax: (209) 526-7359 Email address: CSCommercial@MID.org

## APPLICATION FOR NON-RESIDENTIAL ELECTRIC SERVICE(S)

MID USE ONLY									
CSR Name	Equivalent Change in svc New construction	Franchise District: Tax District:							
Account #:	Anticipated Load:	Rate: Reactive Meter:							
		Yes No							
Svc Pt #:	NAICS Code:	Voltage:							
Deposit Amount/Reason for waiving:	Map grid seq #:	Class 1 Code:							
CS Approved by: Date:	Mktg Approved by: Date:	Engr Approved by: Date:							

Please fill out the application completely, and attach supporting documentation. Sign and return to MID in the office, by fax or email. In accordance with MID Rules & Regulations, a <u>minimum</u> deposit of \$300, or three times the highest monthly bill, may be required to activate service.

То	day's date		Service start	date:		Power On?	Yes No
Ту	<b>be of Service:</b> Co	mmercial	Industrial	Lighting	🔲 Ag Pump –	horsepower: _	
Ne	w construction: Yes	No So	quare footage o	f building or wo	rk area:		
1.	Legal billing name:						
2.	Doing business as (DB	A):	Name of Organization	or Entity			
3.	Service address:		Street		City	7:	p Code
4.	Mailing address:		Street		City		p Code
5.	Type of business:			services rendered		Franchisee?	
6.	Number of years in bus					number:	
7.	Type of ownership:	Sole Proprietor	Partnership		LLP Corporation	Public Agen	cy DOther
8.	If corporation, LLP or L	LC list state w	/here filed:		Ye	ear filed:	
9.	Taxpayer ID number (E	IN or SSN):		Copy of documents		number:	
•						Сору с	of license required
10.	If business name is leg	al billing name	e, fictitious nam	e file number: _		Filing date:	
11.	Address of corporate o	ffice or reside	nce address if s	ole proprietor:			
12.	Name and information	for all corpora	te officers, part	ners, or sole ow	/ners:		
	Name	Title		Phone	Driver's License & S	tate [	Date of Birth
	Name	Title		Phone	Driver's License & S	tate [	Date of Birth
	Name	Title		Phone	Driver's License & S	tate [	Date of Birth
13.	Contact for billing inqui	ries:					
		Name		Title	Phone	email ac	ldress
14.	Name of person comple	eting form:	Name	Title	Tel	ephone	
	Signature (required):	Owner or Co	orporate Officer	Drivor's Liv	cense number & State	Date of	Birth
1	Print Name			Title		Date	

Note: In accordance with published MID regulations, supporting documents verifying the legal billing name may be required.

# **Commercial Load Information Form**

ATTN: Electrical Er	) District ngineerin	ıg							
PO Box 4060 1231 11 <sup>th</sup> Street									
	- 05252								
Modesto, Californi									
Fax: (209) 526-735	/								
						Date:			
Project:									
Location (Street):									
Owner (Name):						ephone:			
Address:									
Engineer (Name):					Tel	ephone:			
Address:									
Estimated Date Re	ady for S	ervice:			Pre-Construction	Meeting [	Date:		
					Begin Rough	Grading [	Date:		
General Information	on								
Approximate Squa	re Foota	ge:			Type of Business:				
Electric Load Infor	<u>mation</u>								
Electric Load Infor	<u>mation</u> Initial		Future			Initial		Future	
Lighting		kW	Future	kW	Receptacles	Initial	kW	Future	kW
Lighting Water Heater		kW	Future	kW	Duct Air Heaters	Initial	kW	Future	kW
Lighting Water Heater Unit Air Heaters		kW kW	Future	kW kW	Duct Air Heaters 1Ø Air Conditioners	Initial	kW HP/Ton	Future	kW HP/Ton
Lighting Water Heater Unit Air Heaters Cooking Units		kW kW kW	Future	kW kW kW	Duct Air Heaters 1Ø Air Conditioners 3Ø Air Conditioners	Initial	kW HP/Ton HP/Ton	Future	kW HP/Ton HP/Ton
Lighting Water Heater Unit Air Heaters Cooking Units X-Ray (input)		kW kW kW kW	Future	kW kW kW kW	Duct Air Heaters 1Ø Air Conditioners 3Ø Air Conditioners 1Ø Heat Pump	Initial	kW HP/Ton HP/Ton HP/Ton	Future	kW HP/Ton HP/Ton HP/Ton
Lighting Water Heater Unit Air Heaters Cooking Units X-Ray (input) Welders		kW kW kW kW kW	Future	kW kW kW kW kW	Duct Air Heaters 1Ø Air Conditioners 3Ø Air Conditioners 1Ø Heat Pump 3Ø Heat Pump	Initial	kW HP/Ton HP/Ton HP/Ton	Future	kW HP/Ton HP/Ton HP/Ton HP/Ton
Lighting Water Heater Unit Air Heaters Cooking Units X-Ray (input) Welders Aux. Strip Heater		kW kW kW kW kW kW	Future	kW kW kW kW kW kW	Duct Air Heaters 1Ø Air Conditioners 3Ø Air Conditioners 1Ø Heat Pump 3Ø Heat Pump 1Ø Misc. Motors	Initial	kW HP/Ton HP/Ton HP/Ton HP/Ton	Future	kW HP/Ton HP/Ton HP/Ton HP/Ton
Lighting Water Heater Unit Air Heaters Cooking Units X-Ray (input) Welders	Initial	kW kW kW kW kW HP		kW kW kW kW kW	Duct Air Heaters 1Ø Air Conditioners 3Ø Air Conditioners 1Ø Heat Pump 3Ø Heat Pump 1Ø Misc. Motors Largest 3Ø Motor		kW HP/Ton HP/Ton HP/Ton HP/Ton HP/Ton		kW HP/Ton HP/Ton HP/Ton HP/Ton
Lighting Water Heater Unit Air Heaters Cooking Units X-Ray (input) Welders Aux. Strip Heater 3Ø Motors	Initial	kW kW kW kW kW HP trical Loa	d:	kW kW kW kW kW HP	Duct Air Heaters 1Ø Air Conditioners 3Ø Air Conditioners 1Ø Heat Pump 3Ø Heat Pump 1Ø Misc. Motors Largest 3Ø Motor Size Main I	Fused Swi	kW HP/Ton HP/Ton HP/Ton HP/Ton HP/Ton tch:		kW HP/Ton HP/Ton HP/Ton HP/Ton HP/Ton
Lighting Water Heater Unit Air Heaters Cooking Units X-Ray (input) Welders Aux. Strip Heater 3Ø Motors Total Initial Connec	Initial	kW kW kW kW kW HP trical Loa ctrical Loa	d:	kW kW kW kW kW HP	Duct Air Heaters 1Ø Air Conditioners 3Ø Air Conditioners 1Ø Heat Pump 3Ø Heat Pump 1Ø Misc. Motors Largest 3Ø Motor Size Main I	Fused Swi	kW HP/Ton HP/Ton HP/Ton HP/Ton HP/Ton tch:		kW HP/Ton HP/Ton HP/Ton HP/Ton HP/Ton
Lighting Water Heater Unit Air Heaters Cooking Units X-Ray (input) Welders Aux. Strip Heater 3Ø Motors Total Initial Connec Total Future Connec	Initial	kW kW kW kW kW HP trical Loa ctrical Loa	d:	kW kW kW kW kW HP kW kW kW	Duct Air Heaters 1Ø Air Conditioners 3Ø Air Conditioners 1Ø Heat Pump 3Ø Heat Pump 1Ø Misc. Motors Largest 3Ø Motor Size Main I Estimated Date of Underground	Fused Swi	kW HP/Ton HP/Ton HP/Ton HP/Ton HP/Ton tch:		kW HP/Ton HP/Ton HP/Ton HP/Ton HP/Ton
Lighting Water Heater Unit Air Heaters Cooking Units X-Ray (input) Welders Aux. Strip Heater 3Ø Motors Total Initial Connect Total Future Connect Type of Service De Phase: Site Plan: ( ) (	Initial	kW         kW         kW         kW         kW         trical Loa         ctrical Loa         ctrical Loa         ctrical Loa         plan in df         a or two n	d: ad: Over	kW kW kW kW kW HP kW erhead Wires ocad forn ible hard	Duct Air Heaters 1Ø Air Conditioners 3Ø Air Conditioners 1Ø Heat Pump 3Ø Heat Pump 1Ø Misc. Motors Largest 3Ø Motor Size Main I Estimated Date of Underground	Fused Swi Future Lo	kW HP/Ton HP/Ton HP/Ton HP/Ton HP/Ton tch:		kW HP/Ton HP/Ton HP/Ton HP/Ton HP/Ton

 Office Use Only

 Application
 Yes
 Checked By: \_\_\_\_\_ Date: \_\_\_\_\_

 Complete
 No
 If no, explain: \_\_\_\_\_\_



Form 3: Area Map



## Service Guide Customer Input Form

The Modesto Irrigation District strives to provide excellent customer service. In an effort to improve our Service Guides, this form is provided so you can share your comments and suggestions. Please fill out this form and submit it with along with your comments. Please be as specific as possible. Once the form is complete, email the form to our Standards Department at <u>electric.standards@mid.org</u>, or mail the form to the Modesto Irrigation District office, attention Electrical Standards.

	Attn: Elect PO I	rigation District rical Standards Box 4060 CA, 95352-4060			
Name:			Date:		
Phone Number:		Email:			
Indicate which Service Guide you	r comments	pertain to:			
<ul> <li>Residential</li> <li>Agricultural</li> <li>Commercial and Indust</li> <li>Temporary</li> </ul>	trial	<ul> <li>Solar Photovoltaic</li> <li>Electric Vehicle</li> <li>Residential Subdivision</li> <li>Street Lighting and Miscellaneous</li> </ul>			
	Not Effective	Somewhat Effective	Effective	Very Effective	N/A
Organization of Service Guide					
Requirements Were Clear					
Effectiveness of Sample Forms					
Effectiveness of Drawings					
Effectiveness of Service Guide					
Comments:					

