GUIDELINES
FOR
ELECTRIC SERVICE

GRAND VALLEY RURAL POWER LINES, INC.

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GRAND VALLEY POWER

Empowering Lives with Hometown Service

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I. Getting Started and Contact Information

The Request for Service is the starting point for all electric utility needs, whether it is a new service request, a change service request, a temporary service request, etc. This first step creates a Work Order number and establishes the routing for a request. No activity/work will commence until Grand Valley Power receives a Request for Service and the required deposits. To make a request, contact the Engineering Department at

GVP Engineering Department: (970) 242-0040, engineering@gvp.org

Other Important Contacts:

GVP Operations Department: (970) 242-0040, dispatch@gvp.org

Underground Locates in Colorado: 811

II. Key Terms and Definitions

Grand Valley Power ("GVP") is a not-for-profit rural electric cooperative.

Contribution in Aid of Construction (CIAC): This is the cost that the member, developer, or builder pays for construction or services.

Meter: The device that allows the utility to track electricity usage and bill properly.

Site Plan: The site plan provides a visual overview of the project. This does not need to be an architectural type drawing — it can be hand drawn, not to scale, but with correct measurements for distances.

Temporary power/construction power: The provision of electrical service during construction before permanent service is installed at a building site. For residential consumers, temporary power will be billed through the regular utility billing cycle. Commercial consumers must submit a separate application for temporary power and are subject to standard charges outside the regular billing cycle. A service planner will provide cost information before work begins.

Trench Agreement: Describes requirements and site conditions that must be met before GVP moves forward with the installation of electric services. It is the consumer's responsibility to ensure that the location meets the conditions described in the agreement.

Conduit: A pipe or tube used to protect electrical wires between two locations.

Conductor: Another term for the wire that transmits electrical energy.

Point of Delivery: The location where GVP's electrical system connects to the consumer's electrical system. In most cases, this is the point where ownership and responsibility for the electrical facilities transfer from GVP to the property owner.

III. Ownership and Responsibilities

As of 1/1/2027, Grand Valley Power (GVP) owns and maintains all residential secondary from the meter to the transformer.

1) Grand Valley Power Ownership

A. Primary Conductors, both overhead and underground
B. Secondary conductors, and Conduit from transformer to meter or pedestal to the meter
C. Transformers
D. Meters
E. Primary and secondary risers

2) Consumer Responsibility

A. Initial information
   - Service sizing sheet (voltage, amperage, phase)
   - Type of loads (gas heat, electric heat, total electric home, demand controller, seasonal, commercial, etc.)
   - Location of service
B. Pay applicable engineering deposits and estimated cost of construction before work begins
C. Easements (If applicable)
D. Sign and return the following forms:
   - Agreement to Purchase
   - Applicable Service Plan (A, D, E, G, H)
   - Trench Agreement
E. The consumer must contact the local building authority to obtain required permits
   - Appropriate inspection sticker mounted on service
F. Trench and backfill (for underground cable)
   - Conduit and Wire will be paid for by the Consumer but provided by GVP, installation will be completed by GVP
   - Proper bedding and backfill over bedding per GVP specifications
G. All tree trimming per GVP specifications (for overhead)
H. Meter base, CT enclosures, meter pedestals, cabinets, and conductors from meter to main panel
I. The Consumer/Builder will be responsible for paying for meter and service lines on lots under two acres. GVP will perform the installation in the Consumer/Builder's trench.

3) Developer Responsibility—Subdivisions

A. Initial Information
   - Final plat drawings
   - Type of loads (gas heat, electric heat, total electric home, demand controller, seasonal, commercial, etc.)
   - Plans for solar or battery storage
B. Easements as dictated by GVP
C. Pay applicable engineering deposits and construction costs.
D. Sign and return the following forms that will be sent with your estimate:
   - Agreement to Purchase
   - Applicable Service Plan (A, D, E, G, H)
   - Trench Agreement
E. Trench, conduit, and backfill (for underground cable)
   - Developer will provide and install conduit (including road crossings)
     i) Size, quantity and material specifications will be provided by GVP
   - Proper bedding and backfill over bedding per GVP specifications
F. The Developer will be responsible for paying for meter and service line on lots under two acres. GVP will perform the installation in Developers trench.
G. All tree trimming (for overhead) per GVP specifications as shown in Appendix A

4) Vegetation Around Lines

A. GVP is not responsible for trimming trees from overhead lines between the transformer, meter, and house
B. Trees and vegetation must be 10 feet away from electrical equipment
C. For more information, refer to the GVP Vegetation Management page online

IV. Project Estimates

Real estate agents, builders, developers, and prospective property buyers seeking an estimate for bringing power to a new home site can obtain this information by following these steps:

- ☐ Contact the Engineering Department by phone or email
- ☐ Pay the required $200 deposit for estimates
  - If the project moves forward, this deposit will be applied toward the total project cost

V. Service Requests by Project Type

1) Residential Remodeling and Electrical Panel Upgrades

Consumers upgrading their electrical panels must complete the following steps:

- ☐ The consumer or a licensed electrical contractor will provide guidance regarding installation of the new panel
  - The consumer or electrical contractor may need to provide GVP details on the electrical wire size going into the meter socket
- ☐ The consumer must contact the local building authority to obtain the required permit
- ☐ Prior to the commencement of work, the consumer must contact GVP to arrange for the service to be disconnected. Please allow 24 hours minimum notice to GVP. Requests for service disconnection may be made by calling (970) 242-0040
- ☐ Consumer or licensed electrician performs the work
- ☐ Upon completion of the work, the consumer must contact the local building authority to obtain the required inspection
- ☐ After the signed inspection release has been issued, the consumer must contact GVP to request reconnection of service
- ☐ The service request will be scheduled for connection and energization of equipment as soon as a crew is available

2) Temporary Construction Power

Consumers/builders who need temporary power must complete the following steps:

- ☐ Consumer/Builder contacts GVP Engineering Department by phone or email
  - Consumer/builder will provide GVP with electrical requirements
- ☐ GVP will provide a cost estimate and send agreements to the consumer/builder
  - Payment must be completed and agreements returned before work begins
- ☐ Consumer/builder must provide a trench. Specifications for the trench are in Appendix A and the Customer Letter
- ☐ The consumer/builder must contact the local building authority to obtain the required permit
- ☐ The consumer/builder is responsible for providing the temporary pedestal
- ☐ Upon completion of the work, the consumer/builder must contact the local building authority to obtain the required inspection
- ☐ A separate fee for the temporary service will be billed to the mailing address on file after connection
- ☐ Temporary service will be removed at the consumer's/builder's request and/or when the structure is ready for permanent service. After 18 months of energization the service will be converted to a permanent service and charged accordingly

3) Private Area Lighting

I want to install Private Area Lighting (PAL) at my location. What is the next step?

- ☐ Call GVP to request a PAL light
- ☐ A Dark Sky Ordinance is in effect in some areas. Consumer must provide documentation showing that PAL installation is allowed
- ☐ GVP provides a 50W LED yard light/PAL light
- ☐ For additional information review the Street Light Rate sheet on the GVP website

4) Solar and Other Generation and Battery Interconnections

Refer to GVP's Interconnection Policy

5) Permanent Commercial Electric Service

- ☐ Consumer/Builder contacts GVP Engineering Department by phone or email
- ☐ Consumer/Builder must have electrical requirements for temporary service as well as One-Lines showing electrical loads and requirements for permanent service
- ☐ GVP will provide a cost estimate and send agreements to Consumers/Builders
  - Payment must be completed and agreements returned before work can be performed
- ☐ Consumer/Builder can start construction
  - Consumer/Builder provides all trenching and conduit. Specifications for the trench are in Appendix A
  - The Consumer/Builder provides secondary conductors; GVP provides primary conductors
- ☐ GVP installs necessary equipment and facilities
- ☐ GVP requires service to be inspected by local building authorities prior to energizing the service

6) Subdivisions

Developers building a new subdivision must complete the following steps:

- ☐ Submit and receive approval for subdivision plans from proper building authorities
  - Subdivision Plats must include easement for utilities. GVP will advise the easement type and size
- ☐ Developer contacts GVP Engineering Department by phone or email
- ☐ GVP may collect an engineering deposit to perform a cost estimate
- ☐ Payment and signed agreements must be returned before any material will be ordered and work is performed
- ☐ Developer is required to provide a trench and conduit. Specifications for the trench are in Appendix A; conduit requirements will be provided by a GVP Planner
- ☐ If temporary power is required, please review the Temporary Power section V.2

VI. Line Extensions and Service Work

Consumers planning to construct a house, set up a mobile home, install a pump, uprate an existing service, etc., should note the following guidelines:

- ☐ GVP will do its best to meet electrical requirements. However, to avoid delays in the construction of the service work/line extension, please plan accordingly. Construction scheduling is dependent on workload, crew availability, and material availability at the time the job is processed
- ☐ A GVP Service Planner will meet with the consumer to design the necessary electric facilities and provide a cost estimate
- ☐ If right-of-way easements or permits are required, these documents must be received before the line extension/service contract with GVP can be executed
- ☐ Before performing any trenching or digging, call 8-1-1 for underground utility locates (contact information on page 2)
- ☐ Consumer-owned underground facilities, including irrigation, water, sewer, and electric lines, shall be located by the consumer before utility construction (setting poles, meter pedestals, pad-mounted transformers, or trenching) will be scheduled
- ☐ If the consumer is unable to locate consumer-owned underground facilities and requests the utility to proceed with construction, the consumer shall be responsible for damage and repair of consumer-owned facilities not located. GVP shall locate only utility-owned electric underground lines

VII. Trenching and Point of Delivery Specifications

Utilities classify conductors as primary or secondary. Primary conductors are located on the utility side of the transformer and typically operate at 7,200 or 14,400 volts. Secondary conductors are located on the load side of the transformer and typically operate between 120 and 480 volts. The following requirements apply to trenching for underground electrical service.

GVP will install primary and secondary conductors with secondary conductors extending to the meter socket. Both conductors must be installed in conduit such as PVC or HDPE pipe. The member, developer, or builder shall provide conduit, trenching, and backfill within the development. GVP will provide conduit for the service line (transformer or junction box to the meter).

Required trench depth is 24 to 36 inches for secondary conductors and 48 inches for primary conductors. Areas designated for GVP facilities must be within 2 inches of final grade and free of obstructions. All depths are measured from final grade. Appendix A drawing UR2 illustrates trenching standards.

All consumers- or developer-provided trenching requires underground utility locates before excavation. Failure to call before digging may disrupt service, create safety hazards, and result in fines or repair costs. Call 811 or 1-800-922-1987 before each excavation to have underground utilities marked at no charge.

GVP will locate and repair consumer's installed underground service wire from the point of delivery to the meter after installation. Residential service wire installed after 2027 is owned by GVP. After 2027, repair requests from Members for Underground Service Wire installed prior to 2027 will transfer ownership of that wire to GVP.

The above standard does not apply to commercial facilities. For commercial properties, the builder or developer is responsible for the secondary conductor between the meter and the transformer. The commercial property owner is responsible for installation and maintenance.

Point of Delivery:
The point of delivery is the location where ownership of wire facilities transfers to the customer. Wiring prior to the point of delivery is governed by the National Electrical Safety Code (NESC). Wiring after the point of delivery is owned by the customer, is governed by NESC and must be inspected by the proper local authority. For this standard, the point of delivery is the meter socket.

The point of delivery or the meter must be located within 300 feet of a transformer or junction box. If this distance is exceeded, GVP will require a primary extension.

VIII. Meter Guidelines

1) Meter Collars and Service Entrance Surge Protector

At the consumer's request, GVP will install a consumer-provided meter collar or service entrance surge protector (SESP). GVP does not supply meter collars or SESPs. GVP is not responsible for issues arising from the meter collar or from consumer-owned equipment located beyond the meter collar. Consumers must contact GVP in advance to confirm that a meter collar is approved for use on the GVP system.

Customers may also review the GVP interconnection policy to find approved meter collars for backup power and for solar.

2) Customer Furnished Meter Sockets

All meter sockets should be ringless with printed fiber cover plate and must be U.L. approved. GVP does not require a fifth terminal; however, if equipped with the fifth terminal, it shall be in the 9 o'clock position.

Meters shall be installed in an outside location that is accessible at all times. Meter mounting devices shall be installed so that the center of the meter cover is at least 4½ feet and no greater than 5½ feet above the finished grade. GVP does not require a cold sequenced/fused meter socket.

100/125-amp Single Phase Meter Sockets:

The 100/125-amp meter housings are still allowed for use for rewiring for replacement of furnaces, appliances or upgrading services rated at 100 amps or less. A 200-amp housing is recommended.

The 100/125-amp meter housing will be allowed for use on services with small loads such as signs and sprinkler controllers.

200 & 320-amp Single Phase Meter Sockets:

200-amp meter housings are the minimum size sockets required on new building construction and additions.

The use of 200-amp housings does not require the service to be upgraded to 200 amp unless required by applicable codes. Any 200-amp services will be required to have a lever bypass.

The above guidelines do not apply to stacked meter housings or mobile home meter pedestals.

3) Replacement Meter Sockets

Mesa County requires a building permit for new or changed uprated electrical services (e.g., 60 amp to 200 amp). Existing services requiring meter socket replacement may require a Mesa County permit and inspection.

4) External Disconnect Switch or Circuit Breaker

For all three-phase services and any services where a single transformer is serving more than one service, GVP requires the consumer to provide (furnish and install) a visible external disconnect switch or circuit breaker adjacent to the GVP meter. (Applies to meters on pedestals, poles, or building/structures.) The disconnect switch or circuit breaker should be on the load side or consumer side of the GVP meter/socket. This requirement applies to all new and uprated service entrance/meter loop installations of the GVP system.

The purpose of the outside or external disconnect switch or breaker is to provide a method of quickly and safely disconnecting the electrical service in the event of a fire, maintenance, additions to the electrical panel, or electrical problems on the interior of the consumer's system.

The sizing, fusing, and application of the disconnect switch or circuit breakers are the responsibility of the consumer's electrician.

For single-phase and three-phase services that utilize current transformers and only serve a single service, an outside disconnect is recommended but not required.

5) Meter Pedestal and Ground Rod

GVP can supply a meter pedestal at the consumer's expense (see specs), or the consumer can fabricate their own (see guidelines). GVP-provided meter pedestals are provided with a main 200-amp breaker. The GVP meter pedestal can accommodate other small-frame breaker(s) (total 150-amps), provided by the consumer. The underground service conductors provided by the consumer from the meter pedestal to the house shall be terminated by the consumer/Developer at the breaker load terminals. Main breaker lugs limit the maximum size service wire to 300 MCM.

One driven ground rod shall be provided by GVP at the pole base if the GVP meter pedestal is within 6 feet of the pole. GVP meter pedestals at distances over 6 feet from the pole will have a separate external ground rod at the pedestal location.

6) Meter Seals and or Meter Loops

Meter seals and/or meter loops are not to be cut by anyone other than GVP. Scheduling for uprates is to be coordinated through GVP's Operations Department at least one day in advance. GVP will disconnect the service in the morning of the day scheduled and reconnect later in the day after being inspected by Mesa County. Unauthorized cutting of loops and seals is considered meter tampering and can be prosecuted under provisions of the law.

7) 400-amp Service Load Center and Metering

Grand Valley Power utilizes 320-amp meters for 120/240 volt single-phase 400-amp installations by the consumer at the consumer's cost. All-In-One combination meter socket-breaker panels are available through local suppliers. GVP does not provide these meter sockets or breaker panels.

8) Three-phase Metering Equipment

GVP furnishes self-contained meter sockets of 200-amp for 120/208, 120/240, or 277/480 volt three-phase, grounded four-wire, wye services.

All three-phase loads larger than 200-amps require a CT housing cabinet provided by the consumer. GVP furnishes the meter socket and current transformers for installation by the consumer. CT cabinets shall be a hot sequenced bussed style; (800 A and less bar type CT, greater than 800 A window style CT.)

Any time a CT is mounted on the consumer's equipment, the consumer must provide the CT cabinet

9) Approved Meter Locations

GVP allows meters to be attached to the following:

- Side/front of the house
- Meter pedestal-Per Drawing CONS-MP-3

The following is no longer allowed on new construction

- Meter poles-During upgrades or rebuilds the consumer's meter should be moved to a meter pedestal.

Overhead services require the weather head be 12-inches above the GVP-provided service wire attachment. This is shown in Drawing M24-10. The consumer should provide 30 inches of wire (pigtails) from weather head for GVP attachment to service wire. The height of the top of the mast must be a minimum of 13 feet to the ground to provide an 11-foot attachment to the drip loop.

10) Electrical Gutter, Two or More Meters

If an electrical gutter is required to split the line side service entrance for two or more meters, the gutter shall be equipped with meter-sealable slotted tabs as an integral part of the gutter/cover.

IX. Mesa County Inspection Requirements

Inspection and sticker ("green tag") of the electrical service entrance equipment remain the

responsibility of Mesa County. GVP shall not connect services without a Mesa County inspection sticker.

X. Underground Service Conduits

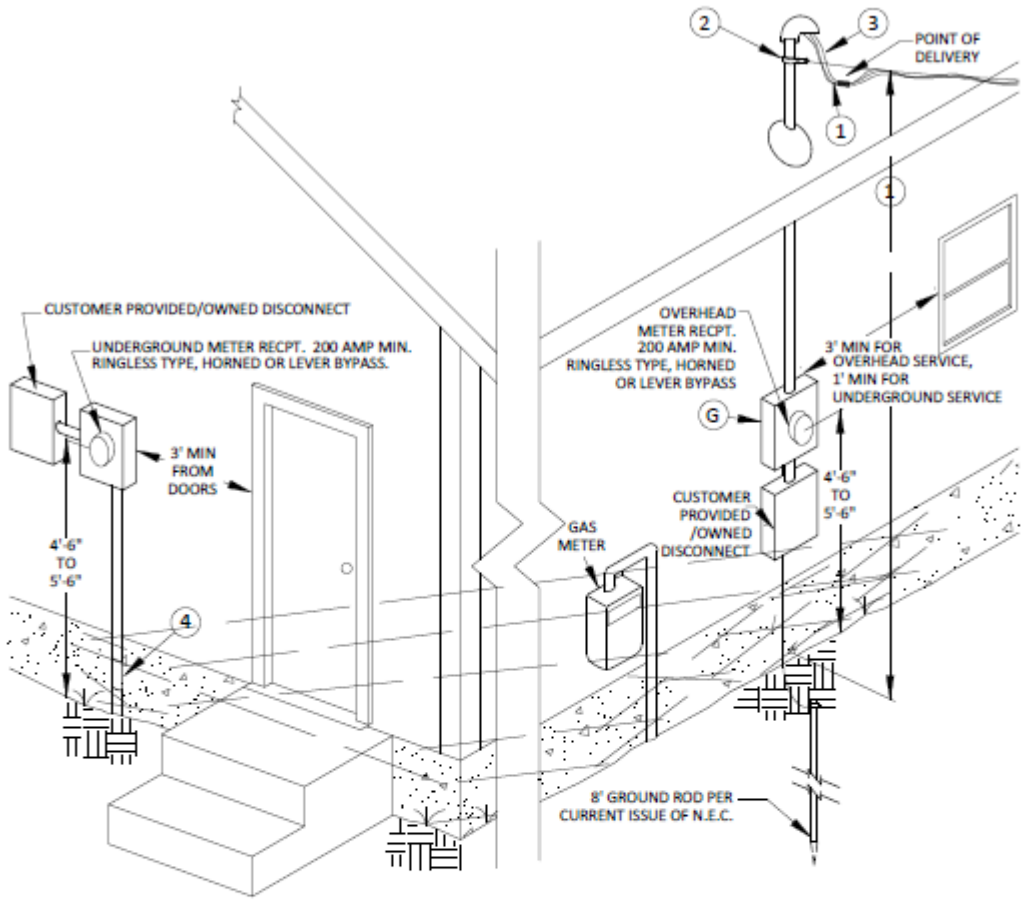
Underground service entrance conduits on the line side provided by the consumer into the meter socket shall be a minimum of 2", except for larger conduits as requested by GVP or required by the National Electric Code. A slip joint is required on underground risers/conduits whenever they come up through a concrete slab or sidewalk.

XI. Tap Fee and Refunds

The following policy applies to tap fee refunds for consumer-funded primary line extensions.

- Consumers who fund the construction of a GVP primary line extension may qualify for tap fee refunds if other consumers connect to that same line segment within five years.
- All tap refund eligibility expires at the end of the five-year contract term.
- Refund amounts are based on the tap location and the number of consumers sharing the line segment.
    - For example, if one additional consumer connects at the end of the extension, the original consumer will receive one-half of the original primary extension cost, minus the cost of the transformer and service work.
- GVP will calculate all tap refunds.
- Subdivisions and mainline replacement projects are not eligible for tap refunds.

Appendix A: Specification Drawings



NOTES:

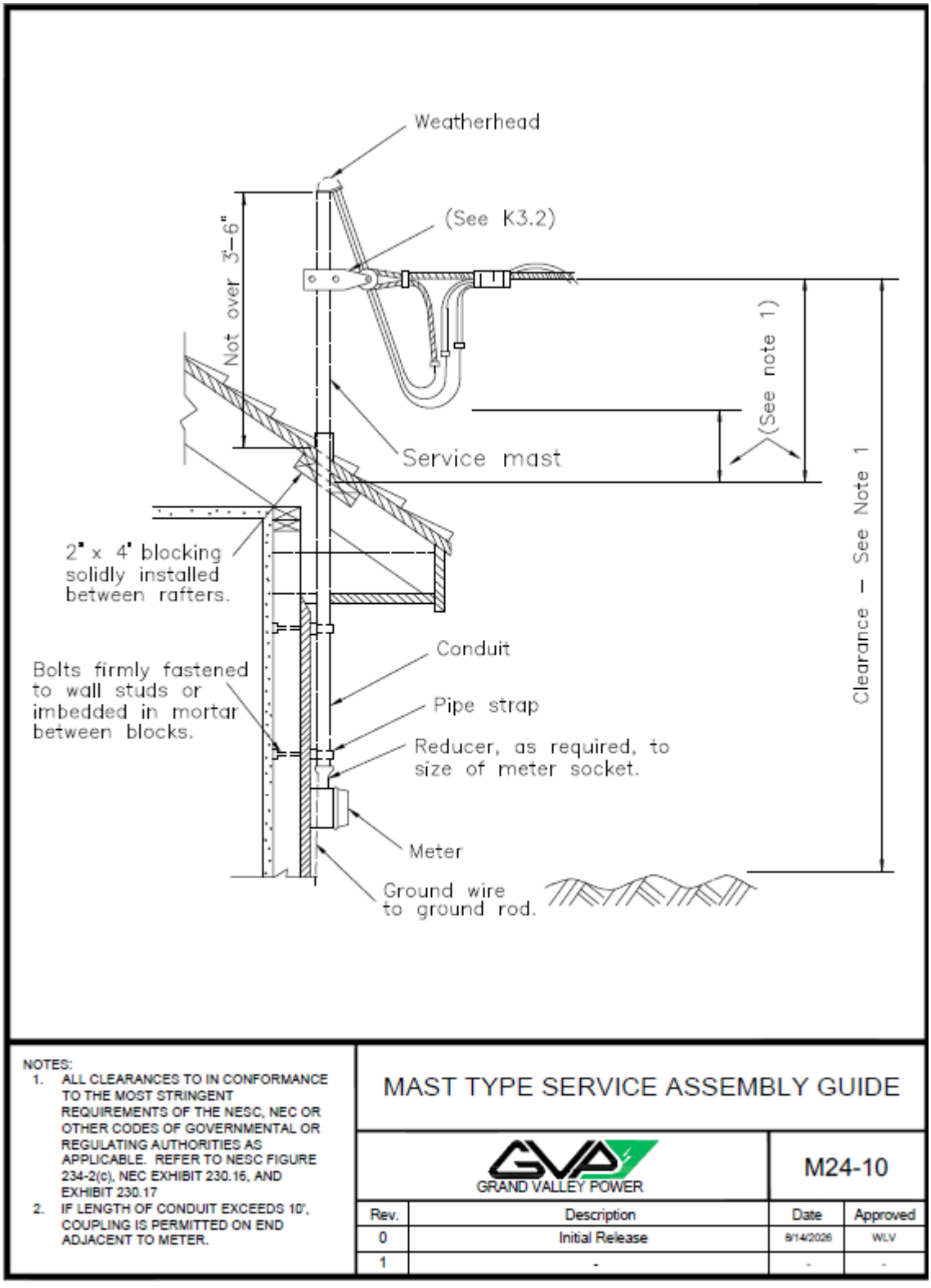
1. ALL CLEARANCES TO CONFORM TO THE MOST STRINGENT REQUIREMENTS OF THE NESC, NEC OR OTHER CODES OF GOVERNMENTAL OR REGULATING AUTHORITIES AS APPLICABLE. REFER TO NESC FIGURE 234-2(c), NEC EXHIBIT 230.16, AND EXHIBIT 230.17
2. POINT OF ATTACHMENT: ABOVE ROOF -- CUSTOMER TO SUPPLY INSULATED DEADEND FOR 2" MIN. RIGID CONDUIT. SIDE OF BUILDING -- ½" MIN. EYE BOLT DEADEND AND INSULATOR WITHIN 24" OF WEATHERHEAD -- EYE BOLT MUST GO THROUGH WALL AND FASTEN INSIDE WITH NUT AND WASHER - HOUSE KNOBS ARE NOT ALLOWED.
3. CONDUCTORS MUST EXTEND 24" OUTSIDE THE WEATHERHEAD.
4. SLIP SLEEVE REQUIRED ON UNDERGROUND RISER - CONDUIT TO COME INTO BOTTOM OF METER CAN ON RIGHT OR LEFT SIDE, NOT IN THE CENTER.
5. ELECTRICAL LABEL OR PERMIT REQUIRED - MUST BE IN METER CAN, AND STICKER ON LID OR SIDE.
6. FOREIGN ATTACHMENTS TO METER HOUSING MAST OR RISER ARE NOT PERMITTED.

TYPICAL RESIDENTIAL OVERHEAD/UNDERGROUND PERMANENT SERVICE

GRAND VALLEY POWER

M8-16

Rev.	Description	Date	Approved
0	Initial Release	8/10/2026	WLV
1	-	-	-



NOTES:
1. ALL CLEARANCES TO IN CONFORMANCE TO THE MOST STRINGENT REQUIREMENTS OF THE NESC, NEC OR OTHER CODES OF GOVERNMENTAL OR REGULATING AUTHORITIES AS APPLICABLE. REFER TO NESC FIGURE 234-2(c), NEC EXHIBIT 230.16, AND EXHIBIT 230.17
2. IF LENGTH OF CONDUIT EXCEEDS 10', COUPLING IS PERMITTED ON END ADJACENT TO METER.

MAST TYPE SERVICE ASSEMBLY GUIDE

GRAND VALLEY POWER

M24-10

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0	Initial Release	8/14/2026	WLV
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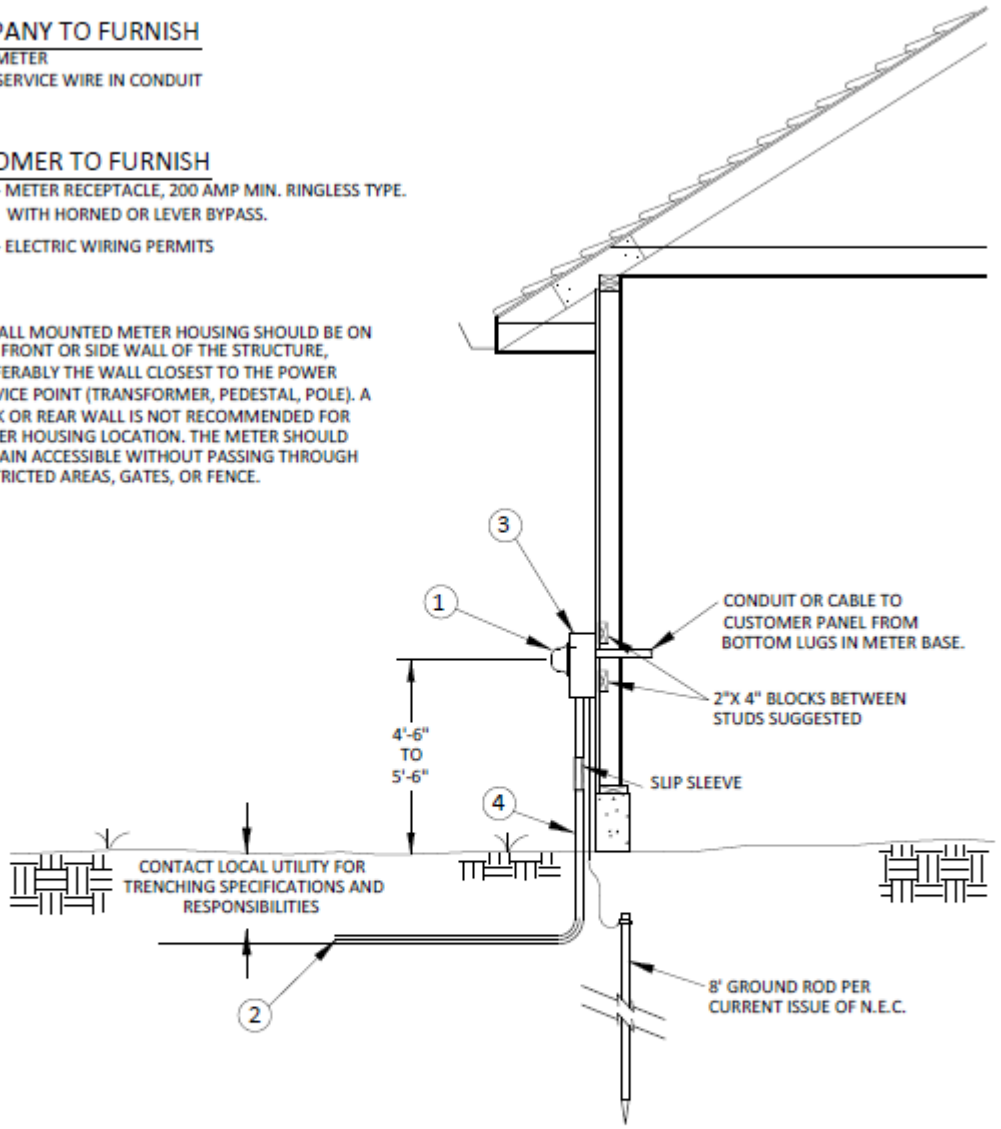
COMPANY TO FURNISH

1. METER
2. SERVICE WIRE IN CONDUIT

CUSTOMER TO FURNISH

3. - METER RECEPTACLE, 200 AMP MIN. RINGLESS TYPE. WITH HORNED OR LEVER BYPASS.
4. - ELECTRIC WIRING PERMITS

* A WALL MOUNTED METER HOUSING SHOULD BE ON THE FRONT OR SIDE WALL OF THE STRUCTURE, PREFERABLY THE WALL CLOSEST TO THE POWER SERVICE POINT (TRANSFORMER, PEDESTAL, POLE). A BACK OR REAR WALL IS NOT RECOMMENDED FOR METER HOUSING LOCATION. THE METER SHOULD REMAIN ACCESSIBLE WITHOUT PASSING THROUGH RESTRICTED AREAS, GATES, OR FENCE.



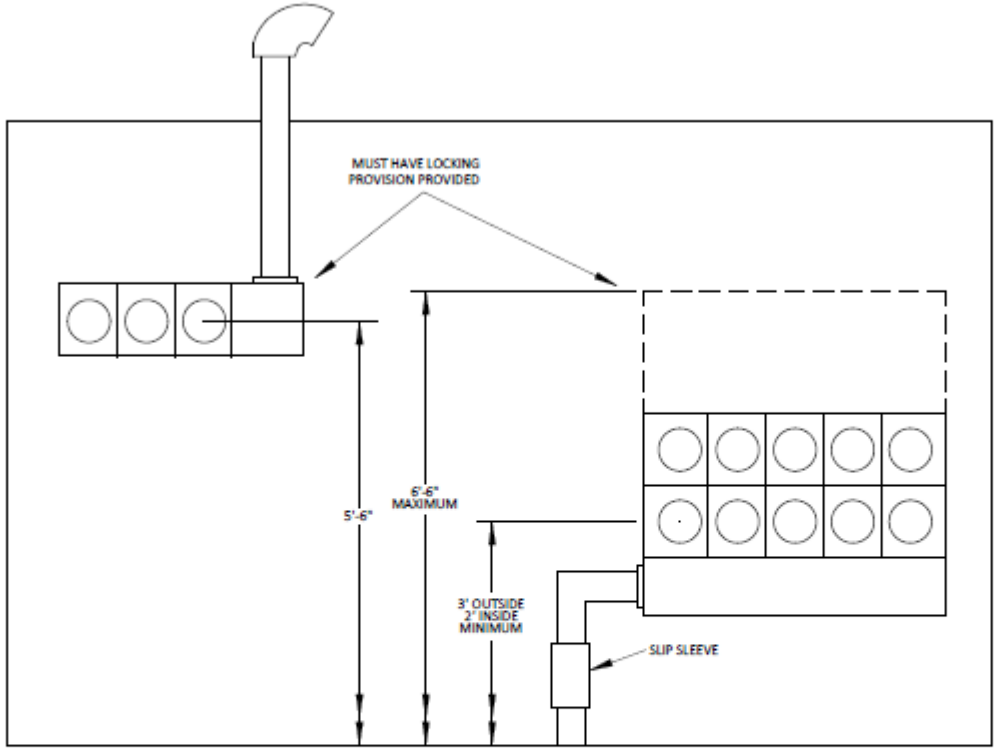
NOTES:
1. SLIP SLEEVE REQUIRED ON UNDERGROUND RISER -CONDUIT TO COME INTO BOTTOM OF METER CAN ON RIGHT OR LEFT SIDE, NOT IN THE CENTER.
2. METER HOUSING AND CONDUIT MUST BE SECURELY ATTACHED TO STRUCTURE.

STANDARD METHOD OF INSTALLING UNDERGROUND RESIDENTAL SERVICE SELF-CONTAINED METERING

GRAND VALLEY POWER

M8-17

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* METER MODULES OF ALL TYPES ARE TO BE MOUNTED NO LOWER THAN 24" CENTERLINE TO THE FIRST METER FROM THE GROUND AND NO HIGHER THAN 78" CENTERLINE TO THE TOP METER FROM THE GROUND. STANDARD SINGLE METER HEIGHT IS 66" FROM THE GROUND.

NOTES:

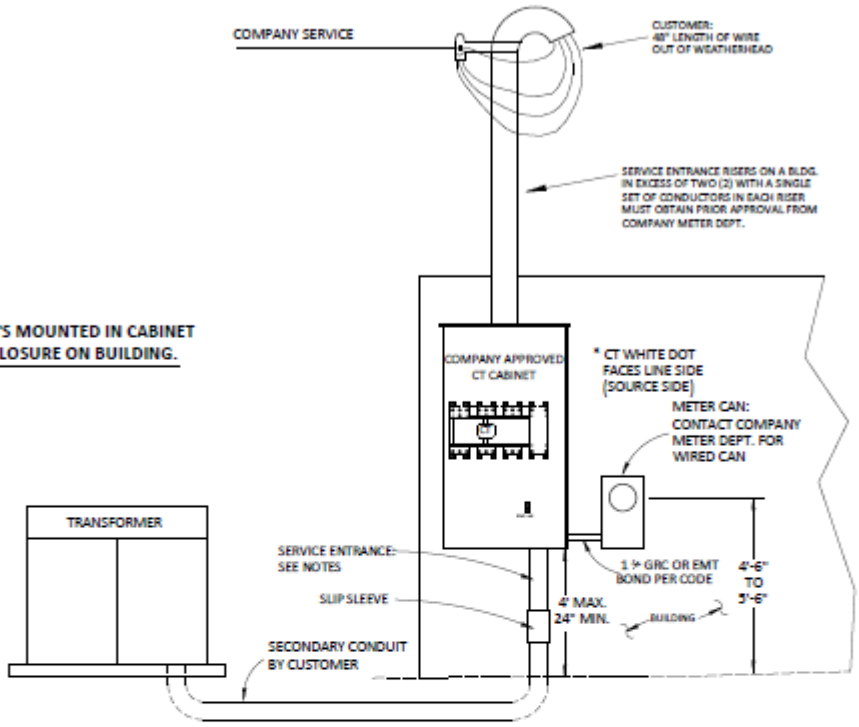
1. LEVER OPERATED BYPASS REQUIRED ON ALL COMMERCIAL SELF CONTAINED METERS.
2. HORNED OR LEVER BYPASS REQUIRED ON ALL RESIDENTIAL SOCKETS.
3. PERMANENTLY AFFIXED IDENTIFICATION TAGS ARE REQUIRED.
4. UL APPROVED MANUFACTURED METER MODULES INSTALLED BY CUSTOMER PER N.E.C., LOCAL AUTHORITY AND COMPANY RULES.
5. ATTACHED CT COMPARTMENTS OR ANY SWITCHGEAR / CT COMPARTMENTS MUST OBTAIN PRE-APPROVAL FROM THE COMPANY METER DEPARTMENT.
6. NO METER COLLAR ADAPTERS WILL BE ALLOWED ON GANGED METER SOCKETS.

GANG METER MODULES AND METER PEDESTALS

GRAND VALLEY POWER

M8-19

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C.T. CABINETS:

- MUST BE APPROVED BY COMPANY
- NEMA 3R RATED
- UL LISTED C.T. CABINET
- FURNISHED WITH FACTORY LUGS FOR PHASE AND NEUTRAL CONDUCTORS AND PROVISIONED FOR USE WITH STANDARD BAR-TYPE C.T.s
- RATED AND/OR INSTALLED TO MEET APPROPRIATE SHORT CIRCUIT CURRENT RATING. (SEE NEC AND AUTHORITY HAVING JURISDICTION)
- **CABINET USE FOR SERVICES UP TO 800 AMPS. PRIOR APPROVAL FROM COMPANY METER DEPT. MUST BE OBTAINED FOR USE OVER 800 AMPS.**

NOTES:
1. INSTRUMENT METERING WILL BE REQUIRED ON:
   - 1Ø LOADS ABOVE 400 AMPS
   - 3Ø LOADS ABOVE 200 AMPS
   - 480 VOLT SERVICES DUAL COMPARTMENT METER HOUSING MUST BE USED ON 480V SERVICES
2. SERVICE ENTRANCE RISERS IN EXCESS OF TWO (2) WITH A SINGLE SET OF CONDUCTORS IN EACH RISER MUST OBTAIN PRIOR APPROVAL FROM COMPANY METER DEPT.
3. SERVICE ENTRANCE CONDUCTORS SHALL NOT PASS THROUGH ANY OTHER ENCLOSURE PRIOR TO CT CABINET
4. CONDUCTORS SHALL NOT PASS IN FRONT OF BUSS OR CT.
5. TOP LUGS IN CT CABINET SHALL BE LINE SIDE.

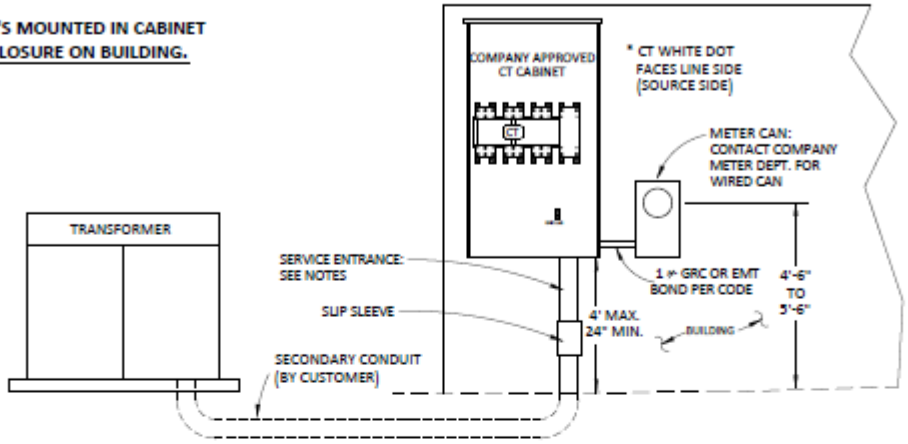
INSTRUMENT METERING OVERHEAD SERVICES

GRAND VALLEY POWER

M8-18

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0	Initial Release	8/17/2026	WLV
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C.T.'S MOUNTED IN CABINET ENCLOSURE ON BUILDING.



NOTES:

A. INSTRUMENT METERING WILL BE REQUIRED ON:
- 1Ø LOADS ABOVE 400 AMPS
- 3Ø LOADS ABOVE 200 AMPS
- 480 VOLT SERVICES DUAL COMPARTMENT METER HOUSING MUST BE USED ON 480V SERVICES

B. SERVICE ENTRANCE RISERS IN EXCESS OF TWO (2) WITH A SINGLE SET OF CONDUCTORS IN EACH RISER MUST OBTAIN PRIOR APPROVAL FROM COMPANY METER DEPT.

C. SERVICE ENTRANCE CONDUCTORS SHALL NOT PASS THRU ANY OTHER ENCLOSURE PRIOR TO CT CABINET

D. CONDUCTORS SHALL NOT PASS IN FRONT OF BUSS OR CT.

E. TOP LUGS IN CT CABINET SHALL BE LINE SIDE.

C.T. CABINETS:

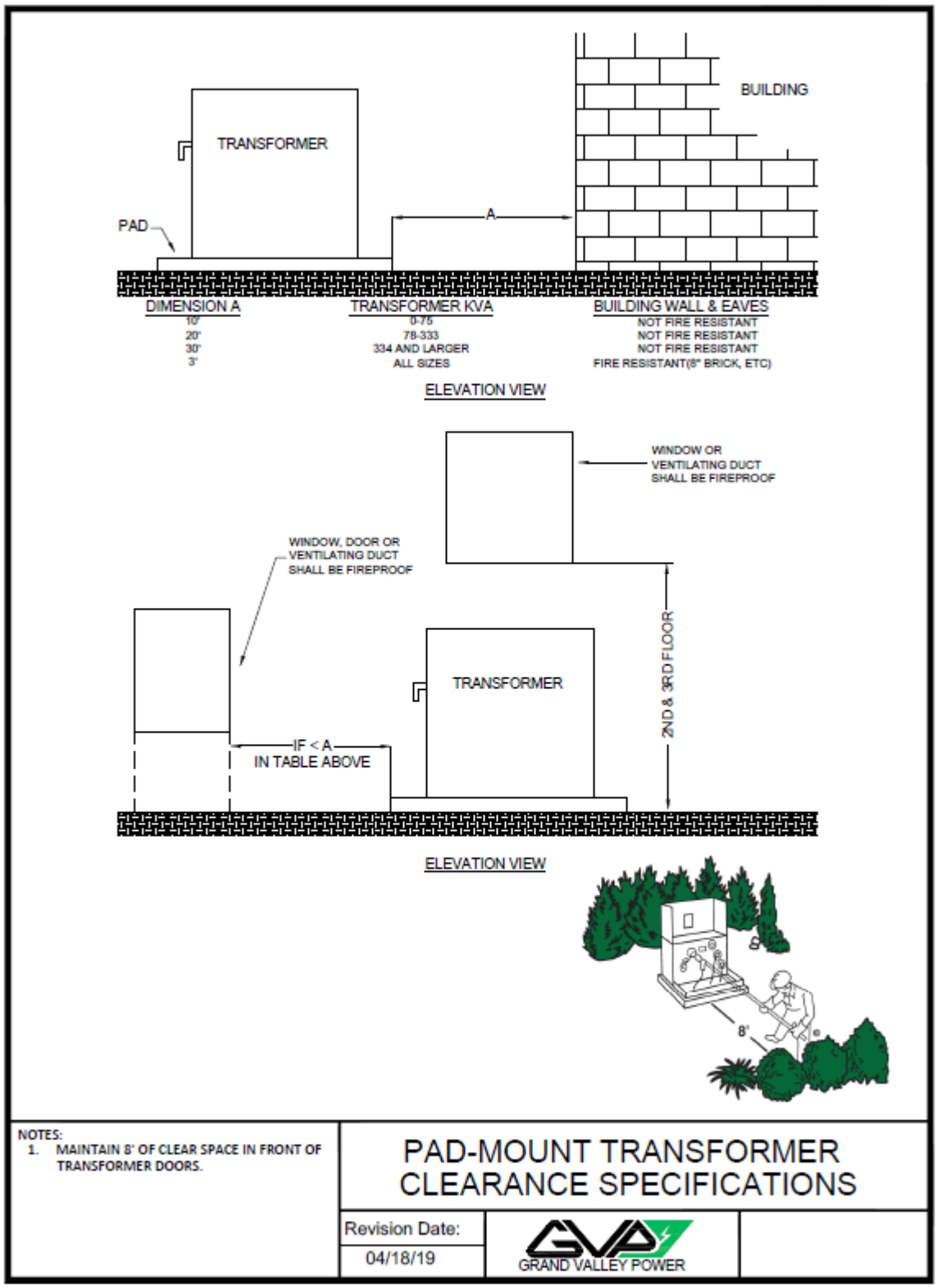
- MUST BE APPROVED BY COMPANY
- NEMA 3R RATED
- UL LISTED C.T. CABINET
- FURNISHED WITH FACTORY LUGS FOR PHASE AND NEUTRAL CONDUCTORS AND PROVISIONED FOR USE WITH STANDARD BAR-TYPE C.T.s
- RATED AND/OR INSTALLED TO MEET APPROPRIATE SHORT CIRCUIT CURRENT RATING. (SEE NEC AND AUTHORITY HAVING JURISDICTION)
- **CABINET USE FOR SERVICES UP TO 800 AMPS. PRIOR APPROVAL FROM COMPANY METER DEPT. MUST BE OBTAINED FOR USE OVER 800 AMPS.**

INSTRUMENT METERING
UNDERGROUND SERVICE

GRAND VALLEY POWER

M8-21

Rev.	Description	Date	Approved
0	Initial Release	9/10/2026	WLV
1	-	-	-

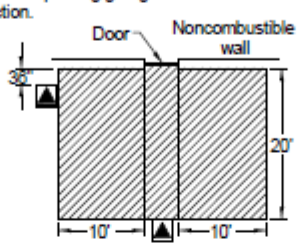

BUILDING
TRANSFORMER
PAD
A
DIMENSION A
10'
20'
30'
3'
TRANSFORMER KVA
0-75
78-333
334 AND LARGER
ALL SIZES
BUILDING WALL & EAVES
NOT FIRE RESISTANT
NOT FIRE RESISTANT
NOT FIRE RESISTANT
FIRE RESISTANT(8" BRICK, ETC)
ELEVATION VIEW
WINDOW OR
VENTILATING DUCT
SHALL BE FIREPROOF
WINDOW, DOOR OR
VENTILATING DUCT
SHALL BE FIREPROOF
2ND & 3RD FLOOR
TRANSFORMER
IF < A
IN TABLE ABOVE
ELEVATION VIEW
8'
8'
NOTES:
1. MAINTAIN 8' OF CLEAR SPACE IN FRONT OF TRANSFORMER DOORS.
PAD-MOUNT TRANSFORMER
CLEARANCE SPECIFICATIONS
Revision Date:
04/18/19
GRAND VALLEY POWER

I. NONCOMBUSTIBLE WALLS (Included in this class would be wood framed brick veneered buildings, metal clad steel framed buildings, cement-board walled metal framed buildings, masonry buildings, and masonry buildings with a one hour fire rating.)

Oil insulated, pad-mount transformers may be located a minimum distance of 36" from noncombustible walls if all the following clearances are maintained from doors, windows, and other building openings. A sump shall be installed for transformers if the immediate terrain is not pitched away from the building. Contact Electric Distribution Standards for sump specifications. If a combustible first floor overhang exists, a 10' distance from the edge of the transformer to the edge of the overhang shall be required in addition to the other clearances shown.

A. DOORS

Oil insulated, pad-mount transformers shall not be located within a zone extending 20' outward and 10' to either side of a building door on ground floor. Garage doors attached to a living space are subject to the same clearances. Parking garage and parking garage doors that are not connected to a building habitable space would not apply in this section.



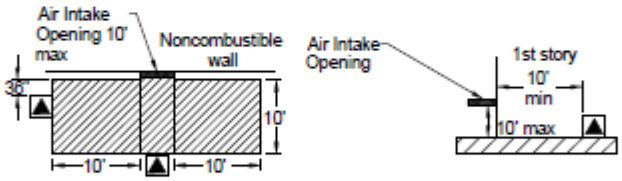
B. AIR INTAKE OPENINGS

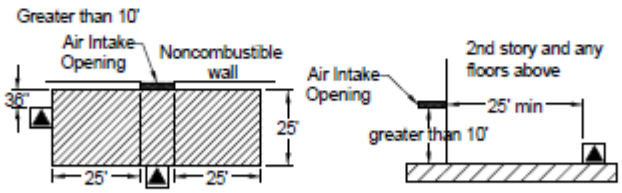
Oil insulated, pad-mount transformers shall not be located within a zone extending 10' outward and 10' to either side of an air intake opening located within 10' of the ground. If the air intake opening is located more than 10' above the ground, the distance from the transformer to the wall where opening is located shall be a minimum of 25' from the wall.

Air intake opening examples:

HVAC, air intake vent for the following but is not limited to gas appliance, hot water, furnace, etc. Any air exhaust that does not have smoke dampers or a mechanism to close off in the event of fire. Air exhaust that would be attached to a sealed combustion chamber (e.g., backup generator exhaust) would be allowed in this area since this would not have smoke entering living space.

Equipment with air intakes or exhaust to an area inside of the 25' clearance will not be considered an air intake opening if it is used for equipment cooling purposes only and does not have any possible air exchange with a living space. If an air exhaust vent is furnished with back-draft dampers to avoid outside air getting in through the duct work on the outside entrance of the vent, it will not be considered an air intake opening.





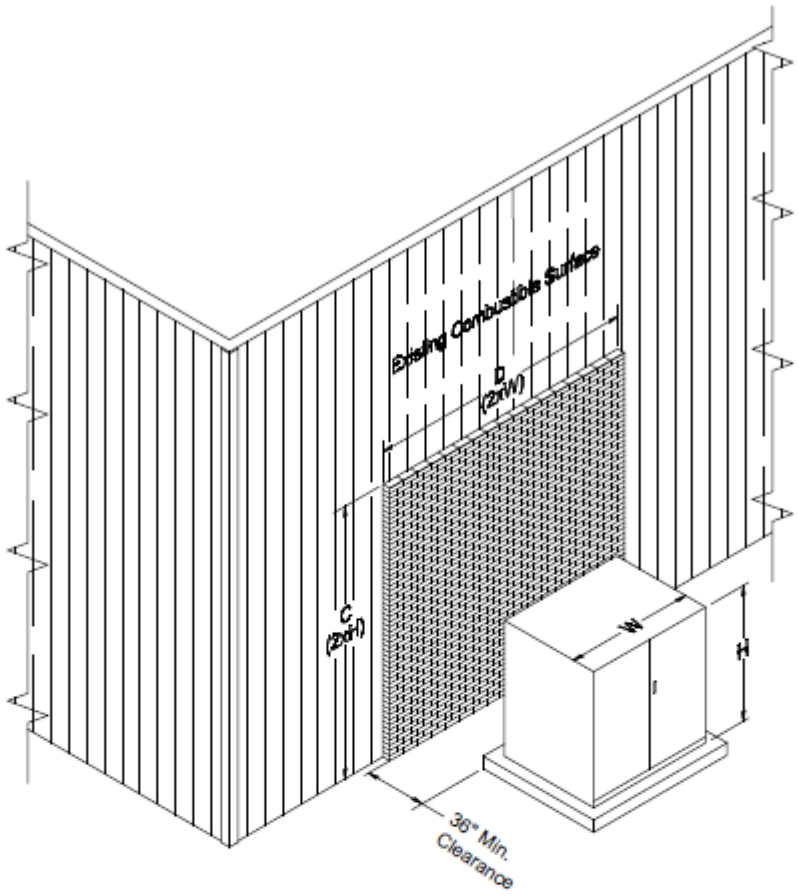
NOTES:

LOCATION OF PAD-MOUNTED TRANSFORMERS

GRAND VALLEY POWER

UG-20

Rev.	Description	Date	Approved
0	Initial Release	8/11/26	WLV
1	-	-	-



Fire Resistant Barriers Attached Directly To Wall

In locations where basic clearances cannot be met, a fire resistant barrier shall be installed either by the customer or at the customer's expense to reduce the required clearance to combustible walls, doors air intakes or windows. The barrier shall be constructed of non-combustible material certified to have a 2 hour fire rating. It shall be of sufficient strength and have stability to resist tipping and satisfy local building ordinances. If a specific ruling regarding fire ratings is necessary, contact the local fire protection district. Engineering will coordinate the construction and location of the barrier, however the customer is responsible for all maintenance. The barrier will satisfy the following dimensional requirements:

H = Height in inches of oil filled equipment.
W = Width in inches of oil filled equipment.
C = Height of barrier required to obtain a projected height of two times the height of the oil filled equipment on the building wall (2xH).
D = Width of barrier required to obtain a projected width of two times the width of the oil filled equipment on the building wall (2xW) .

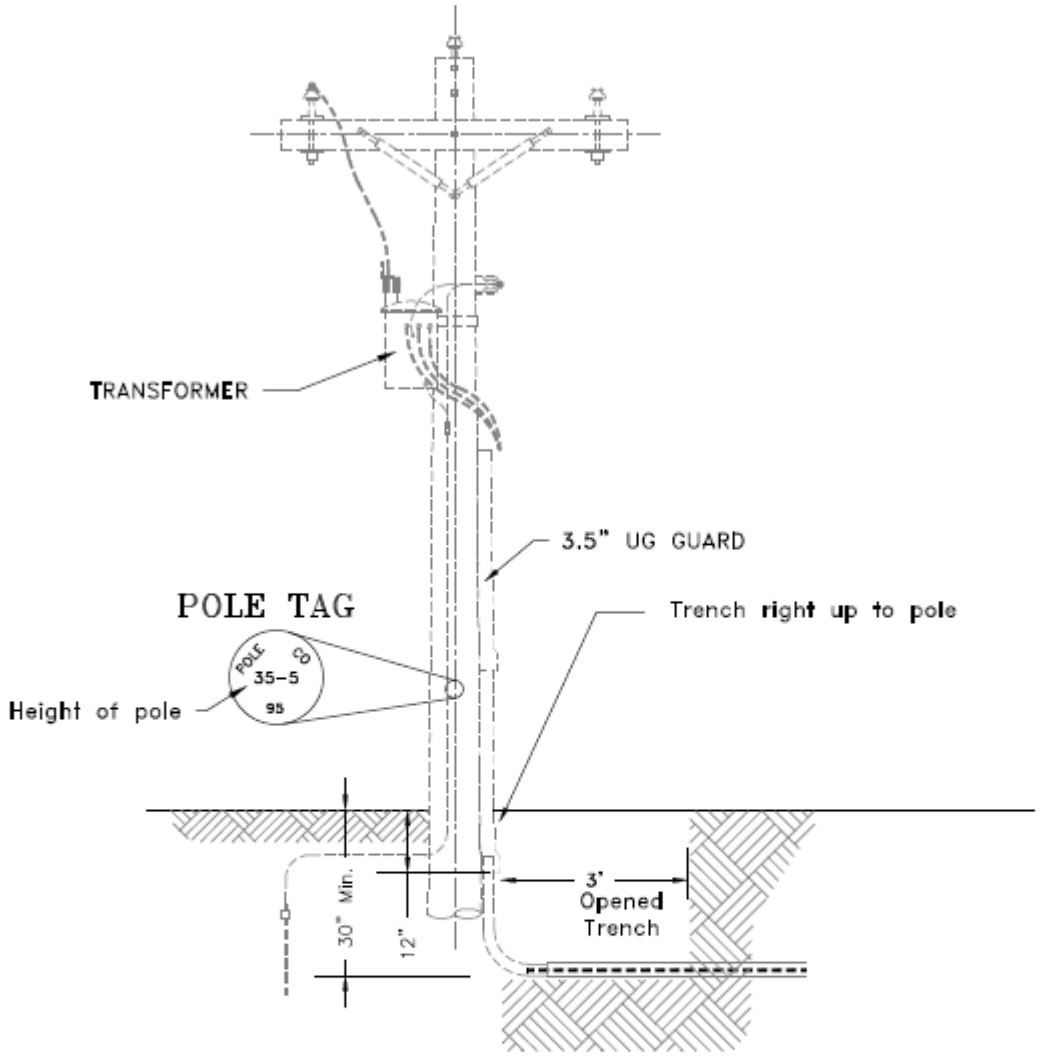
NOTES:

CLEARANCES FOR OIL-FILLED EQUIPMENT LOCATED NEAR BUILDINGS

GRAND VALLEY POWER

UG-21

Rev.	Description	Date	Approved
0	Initial Release	8/11/26	WLV
1	-	-	-



PROFILE

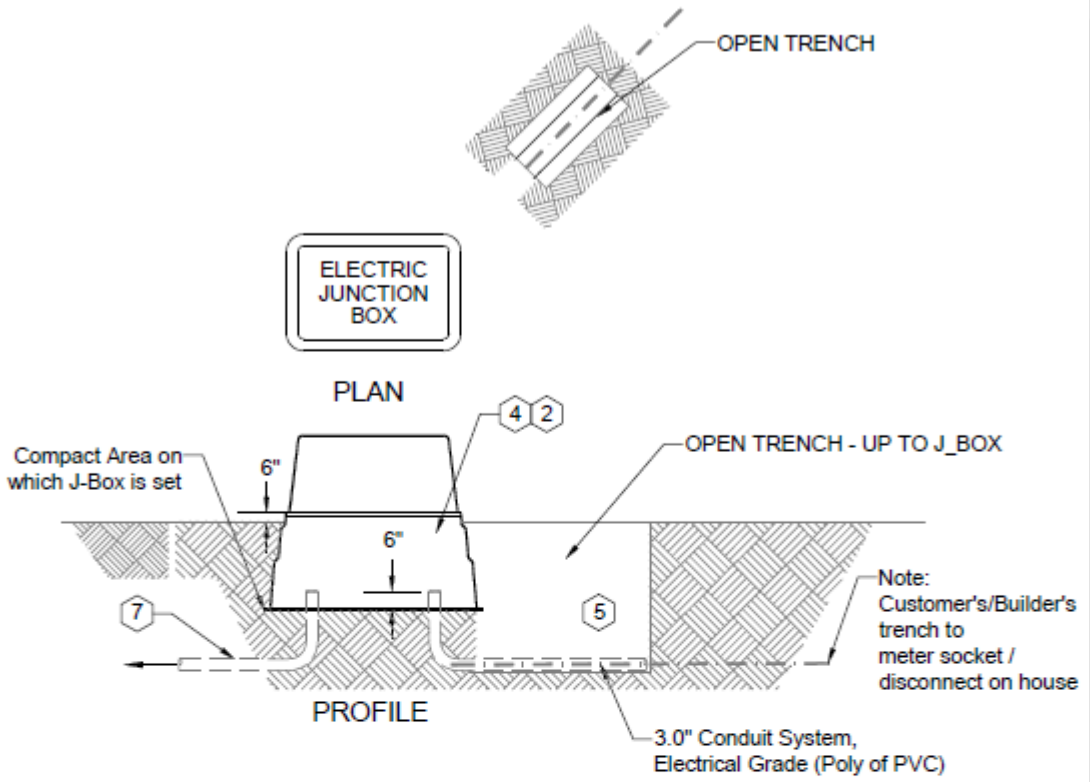
NOTES:
1. Trench to house is the responsibility of the customer/builder from the GVP riser pole to the house. (Minimum trench depth shall be 30").
2. GVP furnishes and installs necessary 3½" UG Guard up the pole, (UM5/3.5U).
3. GVP furnishes and installs service wire and conduit.
4. Mesa County Electrical Inspection sticker, or approval of responsible agency, is required on house/structure before the meter can be set for permanent or temporary service.
5. Grand Valley Power reserves the right to request necessary modification or reject the installation as suitable for service as necessary.

SECONDARY CABLE TERMINAL POLE (CUSTOMER TRENCH & WIRE)

GRAND VALLEY POWER

UM5 / 3.5U

Rev.	Description	Date	Approved
0	-	7/21/08	-
1	GVP Secondary Ownership Changes	9/15/26	WLV



NOTES:

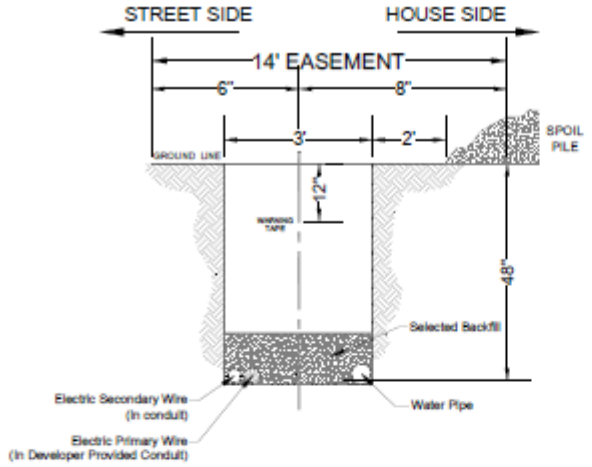
1. METER LOCATED ON THE SIDE / FRONT OF THE HOUSE NEAREST TO THE JUNCTION BOX, IS STANDARD.
2. SERVICE IS PROVIDED FROM A GRADE LEVEL "ELECTRICAL JUNCTION BOX". THE WIRE SHALL BE TERMINATED BY GVP INSIDE THE JUNCTION BOX.
3. UNDERGROUND SERVICE WIRE TO THE HOUSE IS FURNISHED AND INSTALLED GVP.
4. ELECTRIC JUNCTION BOX IS 17" X 30" 17"D, FURNISHED AND INSTALLED BY GVP.
5. CUSTOMER SHALL TRENCH UP TO GVP ELECTRIC JUNCTION BOX. ELECTRIC JUNCTION BOX SHALL NOT BE INSTALLED UNTIL FINAL GRADE IS ESTABLISHED.
6. GVP FURNISHES AND INSTALLS NECESSARY UNDERGROUND CONDUIT FROM JUNCTION BOX.
7. MESA COUNTY ELECTRICAL INSPECTION STICKER, OR APPROVAL OF RESPONSIBLE AGENCY, IS REQUIRE BEFORE THE METER CAN BE SET FOR PERMANENT OR TEMPORARY SERVICE.
8. GRAND VALLEY POWER RESERVES THE RIGHT TO REQUEST NECESSARY MODIFICATION OR REJECT THE INSTALLATION AS SUITABLE FOR SERVICE AS NECESSARY.

JUNCTION BOX STANDARD UNDERGROUND CONSTRUCTION

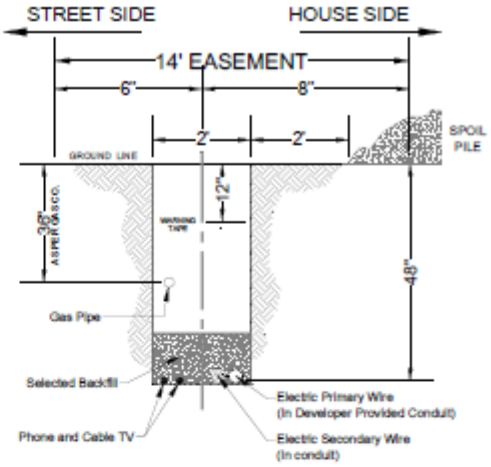
GRAND VALLEY POWER

UK6-1

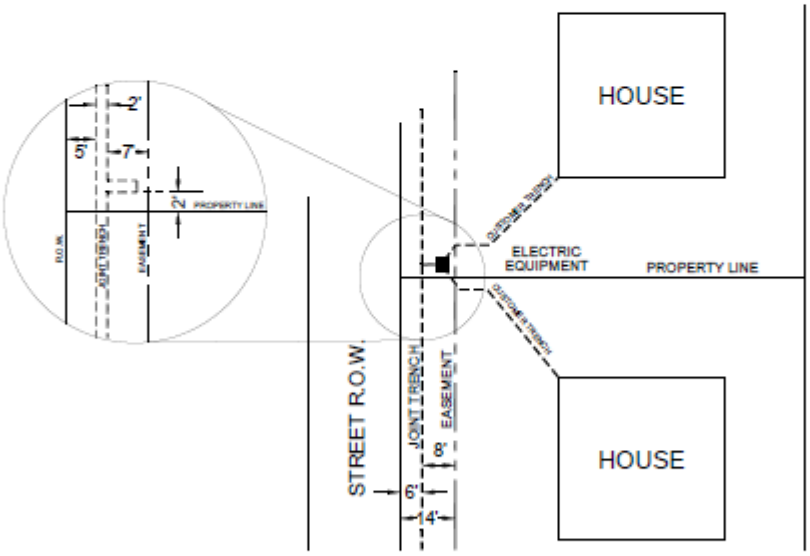
Rev.	Description	Date	Approved
0	Latest Revision	7/25/2016	-
1	GVP Secondary Ownership Changes	9/15/2026	WLV



IN TRENCH WITH WATER



IN TRENCH WITH GAS



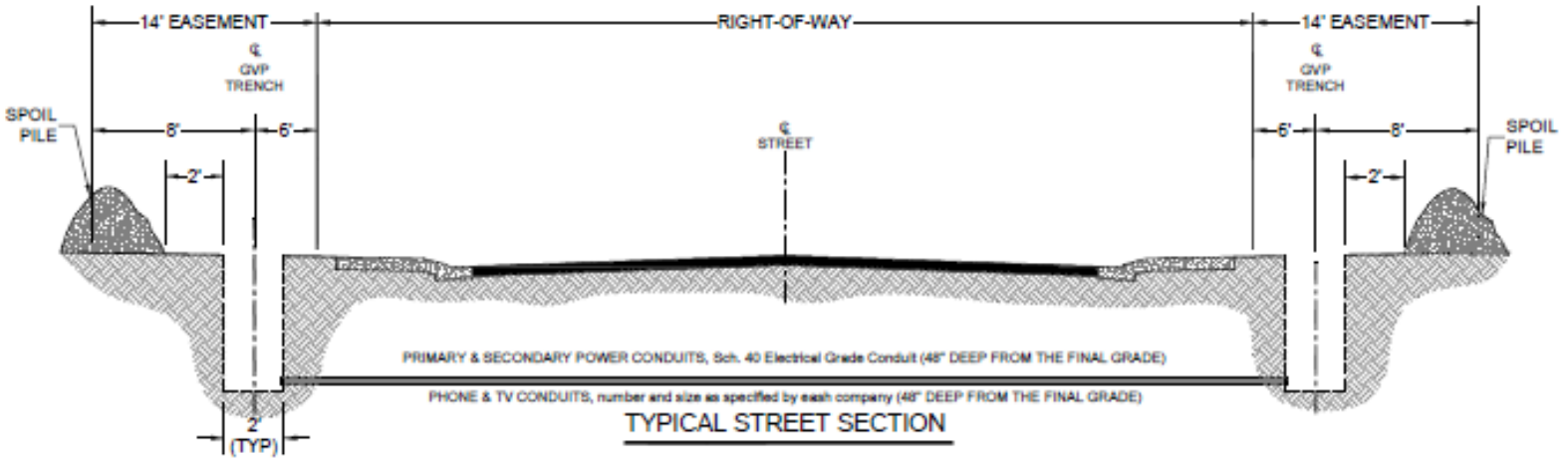
NOTES:
1. 4"of backfill must be added to the trench as a pad when rocky soil exists.
2. Over excavate to maintain 48" depth to electric primary.

FIGURE 1
TRENCH SPECIFICATIONS / CONFIGURATION

GRAND VALLEY POWER

UR2

Rev.	Description	Date	Approved
0	-	12/30/2020	-
1	Add note for primary wire conduit	9/15/2026	WLV



TYPICAL STREET SECTION

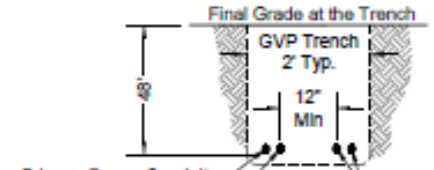
It is the general practice of GVP to allow the developer to supply and install road crossings for electrical facilities provided the following GVP requirements are met:

A. Schedule 40 Electrical Grade PVC conduit used (sizing by GVP), (Gray in Color) unless otherwise specified by GVP.
B. Conduit buried at specified depth, (see sketch above).
C. Leave trench open for inspection.
D. Conduit locations specified by GVP map.
E. Number of conduits as specified by GVP map.
F. Conduit ends stubed out 5 feet into easement on both sides.
G. Conduit location marked with:
   1. Electronic marker, (tracer wire) [Optional]
   2. As-built of station location (2x4, Steel Post, etc..)
   3. Some type of permanent marking system. [Optional] (on curb concrete, etc.)

If roads are surfaced in development before conduits are installed, open trenching or boring is required by the Developer.

GVP reserves the right to inspect the location, size and depth of crossing sleeves and reject the installation if not per above specifications.

WATER OR SEWER PIPE IS NOT ACCEPTABLE - PLEASE CALL FOR INSPECTION OR QUESTIONS: (970) 242-0040



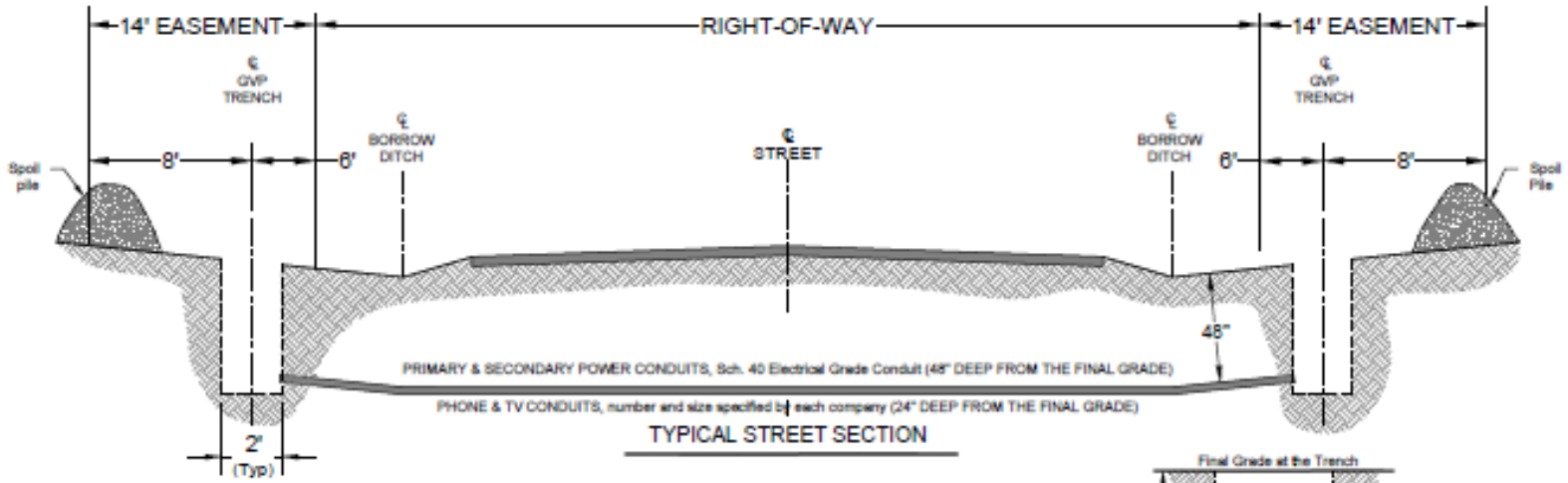
END VIEW OF CROSSING

ROAD CROSSING SPECIFICATION

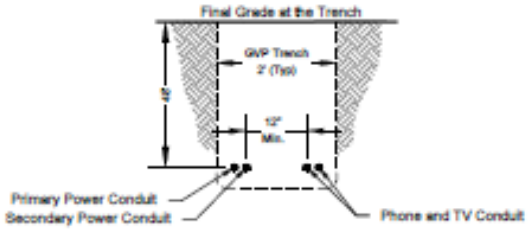
GRAND VALLEY POWER

EXHIBIT "A" 1 OF 2

Rev.	Description	Date	Approved
0	-	2/17/2020	-
1	Guidelines for Service Update Changes	8/14/2026	W.V



TYPICAL STREET SECTION



END VIEW OF CROSSING

WATER OR SEWER PIPE IS NOT ACCEPTABLE - PLEASE CALL FOR INSPECTION OR QUESTIONS: (970) 242-0040

It is the general practice of GVP to allow the developer to supply and install road crossings for electrical facilities provided the following GVP requirements are met:

A. Schedule 40 Electrical Grade PVC conduit used (sizing by GVP), (Gray in Color) unless otherwise specified by GVP.
B. Conduit buried at specified depth, (see sketch above).
C. Both ends of conduit capped.
D. Conduit locations specified by GVP map.
E. Number of conduits as specified by GVP map.
F. Conduit ends stubed out 5 feet into easement on both sides.
G. Conduit location marked with:
   1. Electronic marker, (tracer wire) [Optional]
   2. As-built of station location (2x4, Steel Post, etc..)
   3. Some type of permanent marking system. [Optional] (on curb concrete, etc.)

If roads are surfaced in development before conduits are installed, open trenching or boring is required by the Developer.

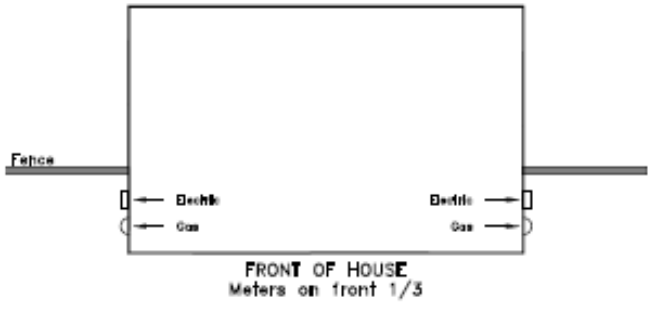
GVP reserves the right to inspect the location, size and depth of crossing sleeves and reject the installation if not per above specifications.

ROAD CROSSING SPECIFICATION

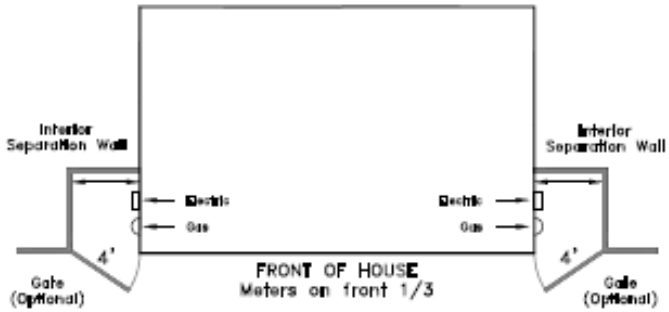
GRAND VALLEY POWER

EXHIBIT "A"
2 OF 2

Rev.	Description	Date	Approved
0	-	2/17/2020	-
1	Guidelines for Service Update Changes	8/14/2026	WLV

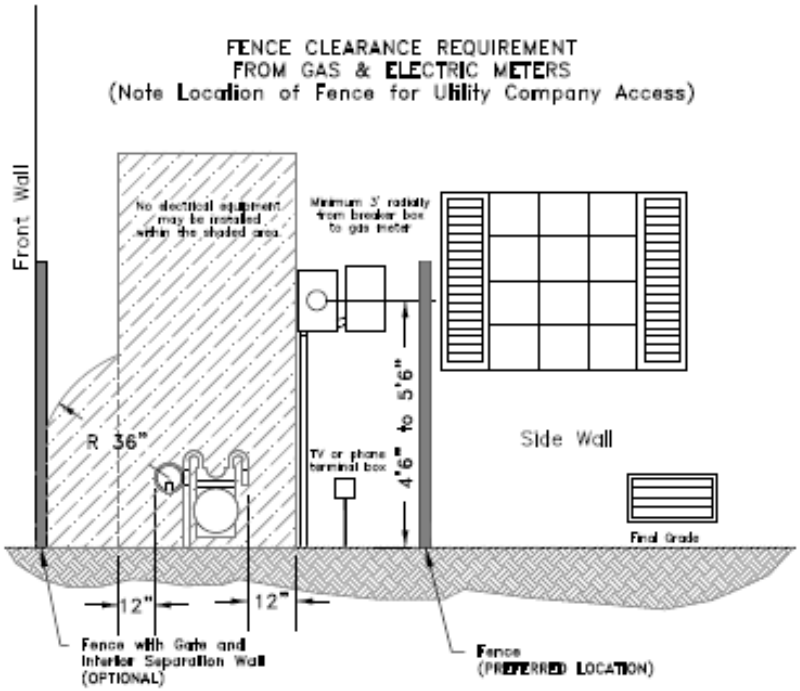


FRONT OF HOUSE
Meters on front 1/3



FRONT OF HOUSE
Meters on front 1/3

FENCE CLEARANCE REQUIREMENT
FROM GAS & ELECTRIC METERS
(Note Location of Fence for Utility Company Access)



Meters are to be located on the front one third of the house and not fenced in back yard.

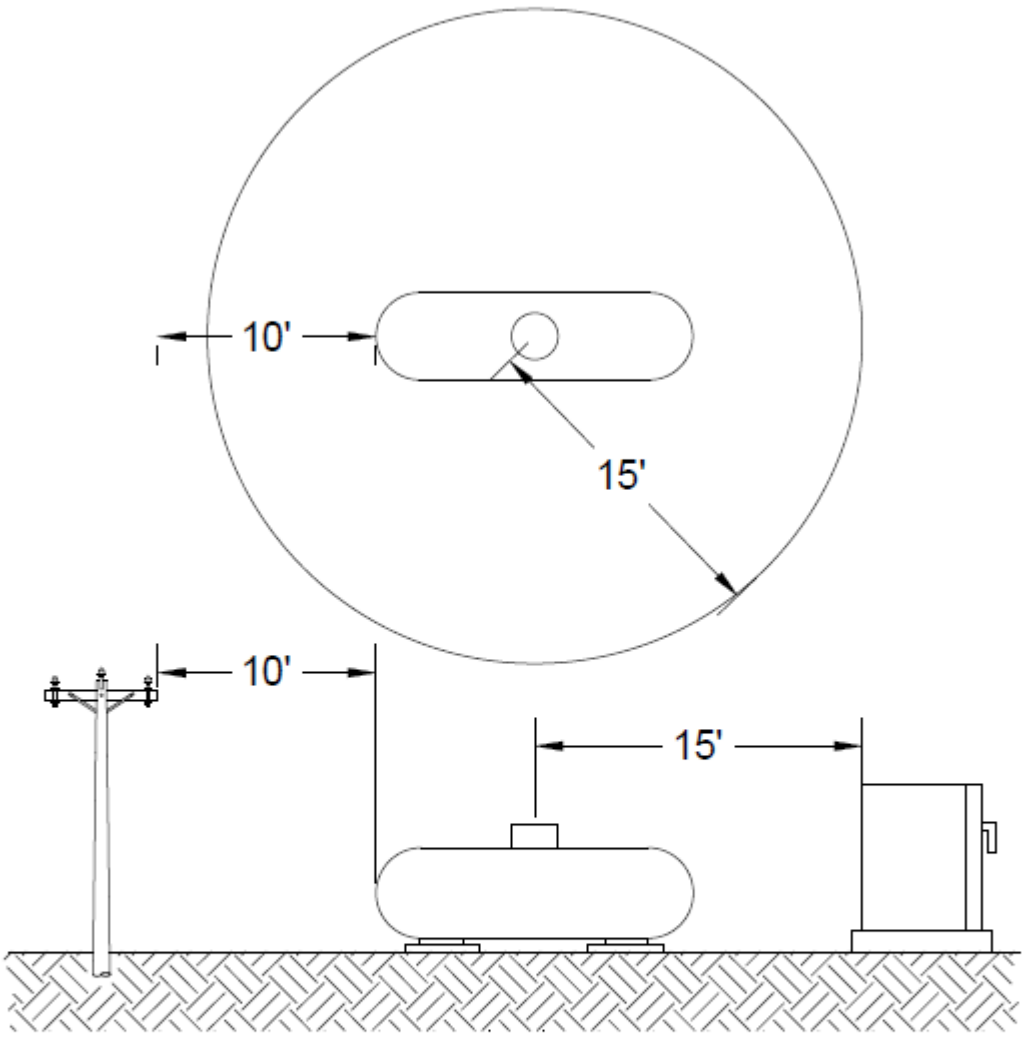
NOTES:

FENCE CLEARANCE REQUIREMENTS

GRAND VALLEY POWER

-

Rev.	Description	Date	Approved
0	Initial Release	5/1/04	DSG
1	-	-	-



NOTES:
1. NO PAD-MOUNTED EQUIPMENT OR ELECTRIC METER SHALL BE INSTALLED WITHIN 15' OF THE REFILL VALVE OF A TANK CONTAINING PROPANE

CLEARANCE REQUIREMENTS FOR PROPANE TANKS

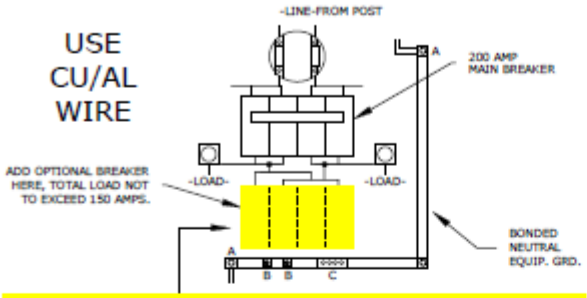
GRAND VALLEY POWER

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0	Initial Release	8/11/26	WLV
1	-	-	-

TYPICAL WIRING DIAGRAM

USE CU/AL WIRE



SPACE FOR (4) SINGLE POLE, (2) DOUBLE POLE, OR (1) DOUBLE POLE AND (2) SINGLE POLE G.E. TYPE THHQL/THQL, ITE/SIEMENS TYPE Q, SQUARE D HOMELINE, OR CUTLER HAMMER BRYANT/WESTINGHOUSE TYPE BR BREAKERS. TOTAL LOAD AMPS NOT TO EXCEED 150 AMPS.

THE MAXIMUM SHORT CIRCUIT RATING OF THIS DEVICE IS 22,000 RMS SYMMETRICAL AMPERES AT A MAXIMUM OF 120/240 VAC. THE MAXIMUM SHORT CIRCUIT RATING OF THIS DEVICE IS 10,000 RMS SYMMETRICAL AMPERES AT MAXIMUM OF 120/240 VAC WHEN UTILIZING ITE/SIEMENS TYPE Q, SQUARE D HOMELINE, OR CUTLER HAMMER/BRYANT/WESTINGHOUSE TYPE BR BRANCH BREAKERS IN SERIES WITH THE G.E. MAIN BREAKER. REPLACEMENT CIRCUIT BREAKERS SHALL BE OF THE SAME MANUFACTURER AND TYPE DESIGNATION AND SHALL HAVE AN EQUAL OR GREATER SHORT CIRCUIT RATING. WATT-HOUR METER IS NOT INCLUDED IN SHORT CIRCUIT RATING.

WARNING: TO AVOID ACCIDENTAL CONTACT WITH LIVE PARTS, CLOSE ALL OPENINGS WITH BREAKERS OR FILLER PLATES, CAT. NO. 255AS002P1 FOR ONE-POLE FILLER PLATE OR 265AS003P2 FOR TWO-POLE FILLER PLATE.

OVER CURRENT PROTECTION

IF BREAKER TRIPS, HANDLE WILL BE IN INTERMEDIATE POSITION. TO RESTORE SERVICE:
1. MOVE HANDLE TO "OFF" POSITION.
2. THEN TO "ON" POSITION.

ALUMINUM TERMINATIONS: TO HELP GUARD AGAINST OVERHEATING WHEN CONNECTING ALUMINUM WIRE IN CU/AL LUG. REMOVE OXIDE FILM FROM WIRE AND PROTECT IT WITH OXIDE INHIBITING COMPOUND.

WIRE RANGE

CONNECTOR	COPPER		ALUMINUM	
	SOLID	STRD	SOLID	STRD
LINE - (METER SOCKET)	--	6-4/0	--	6-4/0
LOAD - (BASE LUGS)	--	1-4/0	--	1-4/0
NEUTRAL "A"	--	1-4/0	--	1-4/0
NEUTRAL / GROUND "B"	--	6-2/0	--	6-2/0
NEUTRAL / GROUND "C"	14-8	14-4	12-8	12-4

ENCLOSED PANELBOARD

MODEL NO. R281C1P6H

200 AMPS 120/240 VOLTS A-C
TYPE 3R ENCLOSURE

SUITABLE ONLY FOR USE AS SERVICE EQUIPMENT.

USE ONLY 75 DEG.C (167 DEG.F) CONDUCTORS ON ALL FIELD INSTALLED LINE, LOAD AND NEUTRAL TERMINATIONS. USE 60 DEG.C (140 DEG.F) CONDUCTORS ON BRANCH CIRCUITS RATED 110A OR LESS.

WHEN CABINET HAS PROVISIONS FOR A CONDUIT HUB. SELECT FROM THE CHART BELOW.

CONDUIT SIZE	CLOSURE CAP	3/4	1	1 1/4	1 1/2	2	2 1/2
CAT. NO.	B01	B07	B10	B12	B15	B20	B25

DANGER

HAZARD OF ELECTRICAL SHOCK OR BURN. TURN OFF POWER BEFORE WORKING INSIDE THIS EQUIPMENT

LUG TIGHTENING TORQUE (LB-IN)

SCREW TYPE	WIRE SIZE	TORQUE
SLOTTED	14-10 8 6-4 3-2/0	32-35 36-40 41-45 45-50
INTERNAL HEX	3/16 ACROSS FLATS 1/4 ACROSS FLATS 5/16 ACROSS FLATS	108-120 180-200 248-275

MIDWEST ELECTRIC PRODUCTS, INC.
P.O. BOX 910
MANKATO, MN. 56002-0910

MNP601201

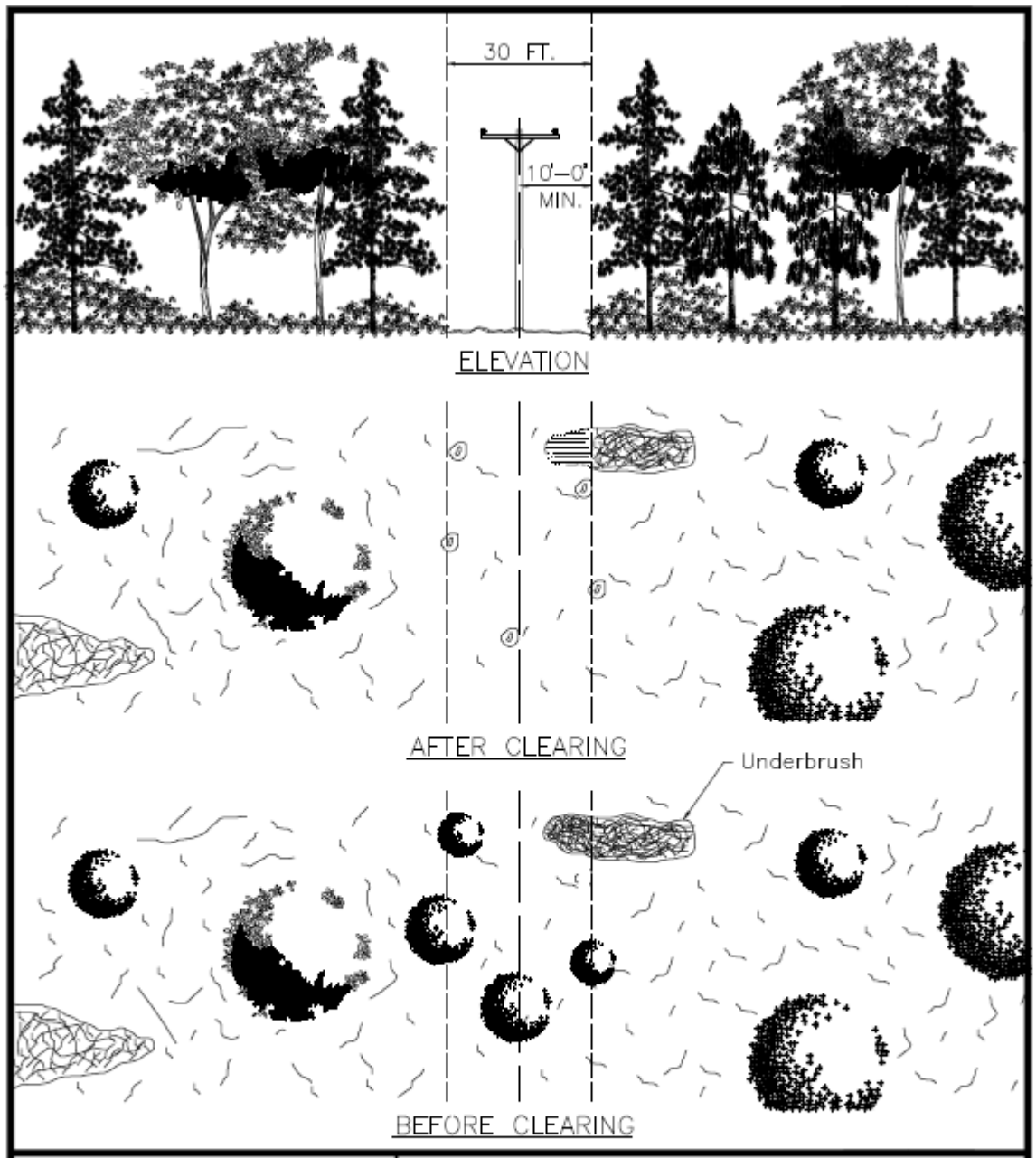
NOTES:
1. MAXIMUM WIRE SIZE, 200 AMP MAIN BREAKER, 4/0 COPPER OR ALUMNINUM WIRE.

METER PEDESTAL

GRAND VALLEY POWER

CONS-MP-4

Rev.	Description	Date	Approved
0	Initial Release	8/14/2026	WLV
1	-	-	-



NOTES:

CLEARING RIGHT-OF-WAY GUIDE

GRAND VALLEY POWER

R1

Rev.	Description	Date	Approved
0	Initial Release	8/11/2026	WLV
1	-	-	-

Appendix B: Service Length and Voltage Quality

Care must be taken by the consumer to avoid excessively long secondary service runs. Long secondary and/or service conductors can result in voltage drop, voltage rise, and voltage flicker problems.

GVP can assist as necessary to help determine the cause of power quality problems associated with the operation of motors, equipment, lighting, or service design. Please contact the Engineering Department with questions concerning power quality.

Service voltage levels are maintained to conform with Rural Utility Service (RUS) and American National Standards Institute (ANSI) standards. RUS and ANSI require that the minimum service voltage be 114 volts. A minimum of 114 volts is required at the service location, which corresponds to the “Point of Delivery” to the consumer.

ANSI requires that the minimum utilization voltage be 110 volts. The utilization voltage of 110 volts is at the terminals of equipment or the outlets located in the house or building. These 110 volts allows for 4 volts drop in the customers wiring from the “Point of Delivery” to the outlet. At minimum voltage levels, these voltage drops correspond to 114 volts at the service point and 110 volts at the utilization point.

If the consumer decides to take service at a pedestal or service pole near the transformer and run their own service conductor, the length of their service conductor may cause inadequate voltage levels at the equipment or outlets. GVP assures voltage of 114 volts to the “Point of Delivery”. To maintain a voltage of 110 volts at the point of utilization, the consumer only has 4 volts drop allowed in house wiring and wiring from the meter to the house. If the distance from the meter to the house is long and large loads exist at the house, the voltage drop from the meter to the outlet may exceed 4 volts.

Another concern with long-distance services is voltage flicker. Voltage flicker is the change in voltage resulting from an increase in load, such as starting motors, using arc welders, etc. Voltage flicker is most noticeable in the dimming of lights when the motor is started. The amount of voltage flicker is directly proportional to the length of service conductors. Larger conductors help reduce voltage flicker but may not eliminate the problem. As an example, when a 1 HP 120-volt motor starts, with a 50-foot #2 Aluminum service, the voltage flicker is approximately 3-4 volts. If the same motor starts on a 300-foot #2 Aluminum service, the voltage flicker is approximately 11 volts. The consumer may or may not notice a voltage flicker of 3-4 volts; however, a flicker of 11 volts will be noticed by a momentary dimming of lights. If the conductor size on the 300-foot service is increased to 1/0 Aluminum, the voltage flicker will be reduced to approximately 8 volts. An 8-volt flicker would also be noticeable by a momentary dimming of lights.

Voltage flicker can be minimized by keeping service lengths short. If a consumer installs a long length of service conductor from the metering point to the house, voltage flicker increases. Voltage flicker can be reduced, but not eliminated, by increasing the size of the service conductor.