

# GUIDELINES FOR ELECTRIC SERVICE

**GRAND VALLEY RURAL POWER LINES, INC.**

**P.O. BOX 190**

**845 22 ROAD**

**GRAND JUNCTION, CO 81502**

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A Touchstone Energy® Cooperative 

# Guidelines for Electric Service

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## **CONTACT INFORMATION:**

Engineering Department: (970) 242-0040

Operations Department: (970) 242-0040

Underground Locates in Colorado: 811

## **I. Scheduling for Electrical Line Extensions or Service Work.**

If you plan to construct a house, set a mobile home, install a pump, uprate an existing service, require temporary construction power, etc., please note the following guidelines:

- Grand Valley Power will do our best to serve your electrical requirements. However, to avoid delays in construction of your service work/line extension, please plan ahead. Actual construction scheduling is dependent on workload, manpower and material availability at the time your job is processed.
- A Grand Valley Power service planner will meet with you to design the necessary electric facilities and provide a cost estimate. Depending on the magnitude of the project and work load, up to 10 business days are required.
- If right-of-way easements or permits are required, these documents must be received before the line extension/service contract with Grand Valley Power can be executed.
- After upfront payment and executing a contract for service, a minimum of five business days are required for job processing and material procurement.
- Crew and material availability determine when a line extension or service can be scheduled. Crew availability is subject to progress on other ongoing work and can be directly affected by weather related storm damage. To get an approximate construction start date call the Operations Department (See Contact Information on page 2).
- Prior to performing any trenching or digging, all Customer/Developer provided trenching requires underground utility locates (See Contact Information on page 2).
- Underground construction can be directly affected by frost conditions of over 6" depth. Underground construction will not be performed by Grand Valley Power during the months such frost conditions exist. Grand Valley Power will decline underground extensions during the times of year when excessive frost prevails.

- Customer owned underground utilities including irrigation, water, sewer and electric lines shall be located by the Customer before Utility Construction (setting poles, meter pedestals, pad mounted transformers, or any trenching) can be scheduled.
- If the Customer is unable to locate customer owned underground utilities and requests the Utility to proceed with construction, the Customer shall be responsible for damage and repair of Customer Owned Utilities not located. Grand Valley Power shall locate only customer owned electric underground lines.

## **II. Service Entrance Surge Protector**

New 200 ampere residential services are provided with a Service Entrance Surge Protector (SESP) installed by Grand Valley Power with the meter as a Grand Valley Power standard. A SESP can also be installed by Grand Valley Power in newly uprated services or existing services. Contact the Engineering/Operations Department for details. This device diverts, or arrests the worst part of the surges from the power system before they can enter your house.

Ultimate whole house surge protection is best achieved by using a SESP at the meter base and quality surge suppressors for interior point of use applications.

## **III. Customer trenching option – “Point of Delivery”**

Secondary underground services as provided by the Customer/Developer can be connected to a variety of “Points of Delivery” as preferred by the Customer/Developer. The attached specifications illustrate some of these options.

Grand Valley Power authorizes the Customer/Developer to provide (furnish and install) trench and underground secondary service wire from a Grand Valley Power “Point of Delivery” or service wire connection to the Grand Valley Power meter. This installation must conform to the National Electrical Code. Grand Valley Power strongly recommends these underground services do not exceed 300 feet from the “Point of Delivery” to the meter.

In all cases where a Customer/Developer builder is providing trench and underground service wire to a Grand Valley Power meter, Mesa County shall inspect the installation before clean backfill is added as part of the Mesa County inspection process. Minimum depth is 24", Grand Valley Power recommends customer service wire be installed at 36" depth.

The Customer/Developer service wire will be covered and backfilled before the meter is set and service wire energized.

Grand Valley Power will locate and make all necessary repairs after installation of all Customer/Developer underground service wire from the "Point of Delivery" to the meter as a service to the Customer. If the Customer/Developer installed wire requires numerous repairs, Grand Valley Power will stop making repairs and the Customer will be required to replace the wire.

The trenching option is also available for the underground primary (7,200 volts and above) portion of the service work or line extension. Grand Valley Power requires the trench depth to be 48" deep for primary conductors.

The area where Grand Valley Power facilities will be installed must be within 6" of final grade and free of obstructions. All installation depths refer to final grade.

All Customer/Developer provided trenching requires underground utility locates before digging. Digging without calling can disrupt service to an entire neighborhood, endanger your life and those around you, and potentially result in fines and repair costs. Calling (8-1-1) or (1-800-922-1987) before every digging job gets your underground utility lines marked for free and helps prevent undesired consequences.

## **IV. Customer Service Entrance Requirements**

### **1. External disconnect switch or circuit breaker**

For all single phase 200 ampere and 320 ampere services, three phase 200 ampere services, and all services where a single transformer is serving more than one service, Grand Valley

Power requires the Customer to provide (furnish and install) a visible external disconnect switch or circuit breaker adjacent to the Grand Valley Power meter. (Applies to meters on pedestals, poles, or building/structures.) The disconnect switch or circuit breaker should be on the load side or customer side of the Grand Valley Power meter/socket. This requirement applies to all new and updated service entrance/meter loop installations of the Grand Valley Power 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 fire, maintenance, additions to the electrical panel or electrical problems on the interior of the customer's system.

The sizing, fusing, and application of the disconnect switch or circuit breakers is the responsibility of the Customer'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.

## **2. Meter Sockets**

Grand Valley Power does not furnish single phase 320 ampere, 200 ampere or 100/125 ampere meter sockets, or Meter Main and All-In-One combination meter socket-breaker panels. The customer shall supply these meter sockets. A 200 ampere meter housing is required on new building construction and additions as a Grand Valley Power standard. The exception is manufactured housing that requires only a 125 ampere meter housing.

Grand Valley Power will supply all three phase meter sockets and single phase meter sockets utilizing current transformers.

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. Grand Valley Power does not require a cold sequenced/fused meter socket.

### **3. Replacement Meter Sockets**

The replacement of a meter socket is considered an “uprated” service by Mesa County and requires a Mesa County inspection. Mesa County requires a building permit for new or changed out (uprating 60 ampere to 200 ampere etc.) electrical services. Existing services requiring meter socket changout will require a Mesa County permit and inspection.

### **4. Meter Pedestal and Ground Rod**

Grand Valley Power can supply a meter pedestal at the Customer’s expense (see specs) or the Customer can fabricate their own (see guidelines). Grand Valley Power provided meter pedestals should be provided with a main 200 ampere breaker. The Grand Valley Power meter pedestal is arranged to accommodate other small frame breaker(s) (total 150 amperes), provided by the Customer. The underground service conductors provided by the Customer/Developer from the meter pedestal to the house shall be terminated by the Customer/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 Grand Valley Power at the pole base if the Grand Valley Power meter pedestal is within 6 feet of the pole. Grand Valley Power meter pedestals at distances over 6 feet from the pole will have a separate external ground rod at the pedestal location.

### **5. Meter Seals and or Meter Loops**

Meter seals and/or meter loops are not to be cut by anyone other than Grand Valley Power. Scheduling for uprates is to be through the Operations Department at least one day in advance. Grand Valley Power 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.



## **6. 400 ampere service load center and metering**

Grand Valley Power utilizes 320 ampere meters for 120/240 volt single phase 400 ampere installation by the customer at the customer's cost. All-In-One combination meter socket-breaker panels are available through local suppliers with two 200 ampere main breakers.

## **7. Three-phase metering equipment**

Grand Valley Power furnishes self-contained meter sockets of 200 ampere for 120/208, 120/240 or 277/480 volts three phase grounded 4 wire, wye service.

Larger three phase loads require a CT housing cabinet provided by the Customer. Grand Valley Power furnishes the meter socket and current transformers for installation by the customer. CT cabinets shall be a busbed style; (800 A and less bar type CT, greater than 800 A window style CT.)

## **8. Mesa County Inspection Requirements**

Inspection and sticker of the electrical service entrance equipment remains the responsibility of Mesa County. Grand Valley Power shall not connect services without a Mesa County inspection sticker.

## **9. Underground Service Conduits**

Underground Service entrance conduits on the line side provided by the Customer into the meter socket shall be a minimum of 2", with the exception of larger conduits as requested by Grand Valley Power or required by the National Electric Code. A slip joint is recommended on underground risers/conduits whenever they come up through a concrete slab or sidewalk.

## **10. Grand Valley Power provided Meter Poles**

Grand Valley Power furnishes and installs meter poles if requested by the customer. Customer provided meter poles are not acceptable, except for temporary service. Pole standoff brackets

are not required on customer service conduits installed on Grand Valley Power meter poles. The only exception is for a second service to an existing meter pole with the first service on standoff brackets.

The weather head should be 12 inches below the Grand Valley Power provided service wire attachment. The customer should provide 30 inches of wire (pigtails) from weather head for Grand Valley Power attachment to service wire. The height of the top of the mast must be a minimum of 13 feet to provide an 11 foot attachment to the drip loop.

## **11. 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.

## **12. Front lot line delivery**

Front lot line delivery is the Grand Valley Power subdivision/lot standard with the meter located on the side/front of house. Service is provided at the front lot line by Grand Valley Power to an electrical junction box or pad mounted transformer which serves as the "Point of Delivery". Underground service wire to the house is furnished and installed by the Customer/Builder from the Grand Valley Power junction box or pad mounted transformer to the house. The Customer/Builder wire shall be terminated by Grand Valley Power inside the junction box or pad mounted transformer. Trench to one foot from the junction box and leave an additional 8 feet of wire past the junction box for Grand Valley Power installation. The same applies to temporary construction power set-up.

## **V. Tap Fee and Refunds**

Customers paying for the Grand Valley Power construction of primary high voltage line extension are eligible for a tap refund if and when other customers tap this line section per a five year contract. All tap fee refund provisions expire after five years.

The original construction cost is proportioned to the location of the tap and number of customers sharing this line section. Thus if one customer taps at the end of the new extension, the original customer receives half (1/2) of the original primary extension cost, less the cost of their transformer and service work. Tap refunds are calculated by Grand Valley Power.

Subdivision and Mainline Only contracts are not eligible for tap refunds.

## **VI. Power Quality and Service Voltage vs. Service Lengths**

Care must be taken by the Customer to avoid excessively long secondary service runs. Long secondary and/or service conductors can result in voltage drop and voltage flicker problems. See the write up on Service Voltage vs. Service Lengths

Grand Valley Power 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 if you have any questions concerning power quality.

## **SERVICE VOLTAGE VS. UTILIZATION VOLTAGE AND SERVICE LENGTHS**

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. The 114 volts is required at the service location which corresponds to the "Point of Delivery" to the customer.

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 customer decides to take service at a pedestal or service pole near the transformer and run his own service conductor, the length of their service conductor may cause inadequate voltage levels at the equipment or outlets. Grand Valley Power only assures voltage to the "Point of Delivery" of 114 volts. To maintain voltage of 110 volts at the point of utilization, the customer only has 4 volts drop allowed in his house wiring and the wiring from the meter to his house. If the customer has a long distance from the meter to his house and large loads at the house, the customer may not be able to limit the voltage drop to 4 volts from the meter to the outlet.

Another major concern of these long customer owned 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 mostly 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 will help reduce the 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 customer 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 noticed by a momentary dimming of lights.

By keeping service lengths short, voltage flicker can be minimized. If a customer installs a long length of service conductor from the metering point to his house, he is increasing his voltage flicker. By increasing the size of the service conductor the voltage flicker can be reduced but will not be eliminated.

## **Customer Furnished Meter Sockets**

### **Single Phase 320, 200, or 100/125 ampere**

#### **Overhead or Underground Service**

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

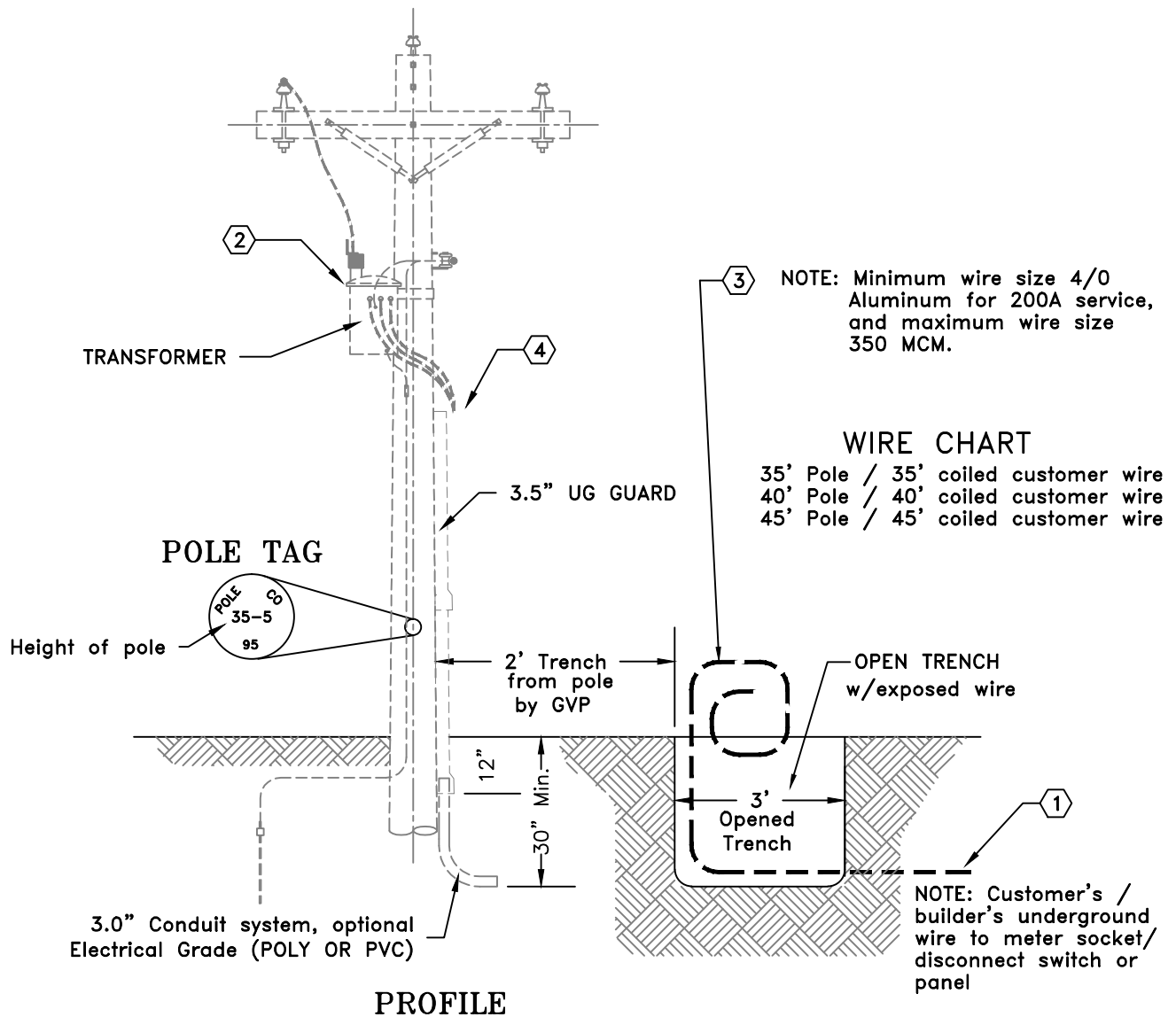
The 100/125 ampere meter housings are still allowed for use for rewiring for replacement of furnaces, appliances or upgrading services rated at 100 amperes or less. The 200 ampere housing is recommended.

The use of 200 ampere housings does not require the service to be upgraded to 200 ampere unless required by applicable codes.

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

The above guidelines do not apply to stacked meter housings or mobile home meter pedestals. Please contact Grand Valley Power for meter housing guidelines for these purposes.

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



- ① Underground service wire & trench to house is furnished and installed by the customer/builder from the GVP riser pole to the house. (Minimum trench depth shall be 30")
- ② The customer/builder wire shall be terminated by GVP at the transformer terminals. Customer shall not climb or attach equipment to GVP pole.
- ③ Customer shall trench from the structure to within 2 feet of the GVP riser pole, (LEAVE 3 FEET OF THE TRENCH EXPOSED), and leave an addition of wire coiled (SEE WIRE CHART ABOVE), for GVP installation up the pole to the transformer.
- ④ GVP furnishes and installs necessary 3 1/2" UG Guard up the pole, (UM5/3.5U)
- ⑤ Mesa County Electrical Inspection sticker, or approval of responsible agency, is required on service entrance equipment on house/structure and service wire/installation before the meter can be set for permanent or temporary service.
- ⑥ Grand Valley Power reserves the right to request necessary modification or reject the installation as suitable for service as necessary.

NOTE:  
Customer shall be responsible for maintenance of service wire from pole to meter. Ownership shall be identified at pole and meter socket.

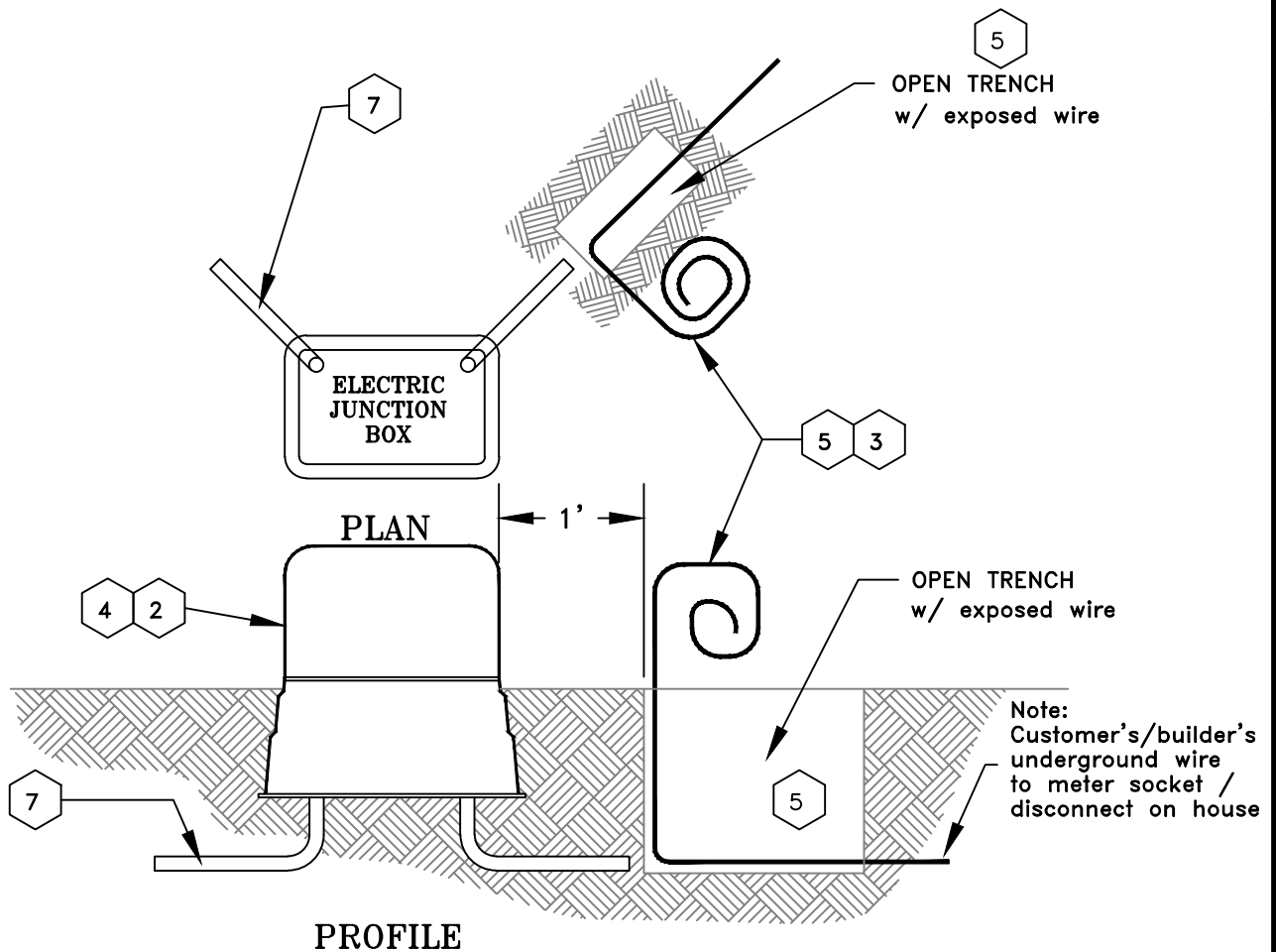
## SECONDARY CABLE TERMINAL POLE (CUSTOMER TRENCH & WIRE)

DWG BY: TA

DATE: 7/21/08



UM5/3.5U



1. "Front lot line" delivery is the GVP subdivision / lot standard with the meter located on the side / front of the house nearest to the junction box.
2. Service is provided at the front lot line by GVP to an "Electrical Junction Box".
3. Underground service wire to the house is furnished and installed by the customer/builder from GVP Junction Box to the house.
4. The customer/builder wire shall be terminated by GVP inside the junction box.
5. Customer shall trench to ONE FOOT FROM THE JUNCTION BOX, and leave an additon 8'-0" of wire past the junction box, for GVP installation.  
(Same with temporary construction power setup)
6. GVP shall not install Junction Box until final grade is established.
7. GVP furnishes and installs necessary underground conduit from junction box.
8. Mesa County Electrical Inspection sticker, or approval of responsible agency, is required before the meter can be set for permanent or temporary service.
9. Grand Valley Power reserves the right to request necessary modifications or reject the installation as suitable for service as necessary.

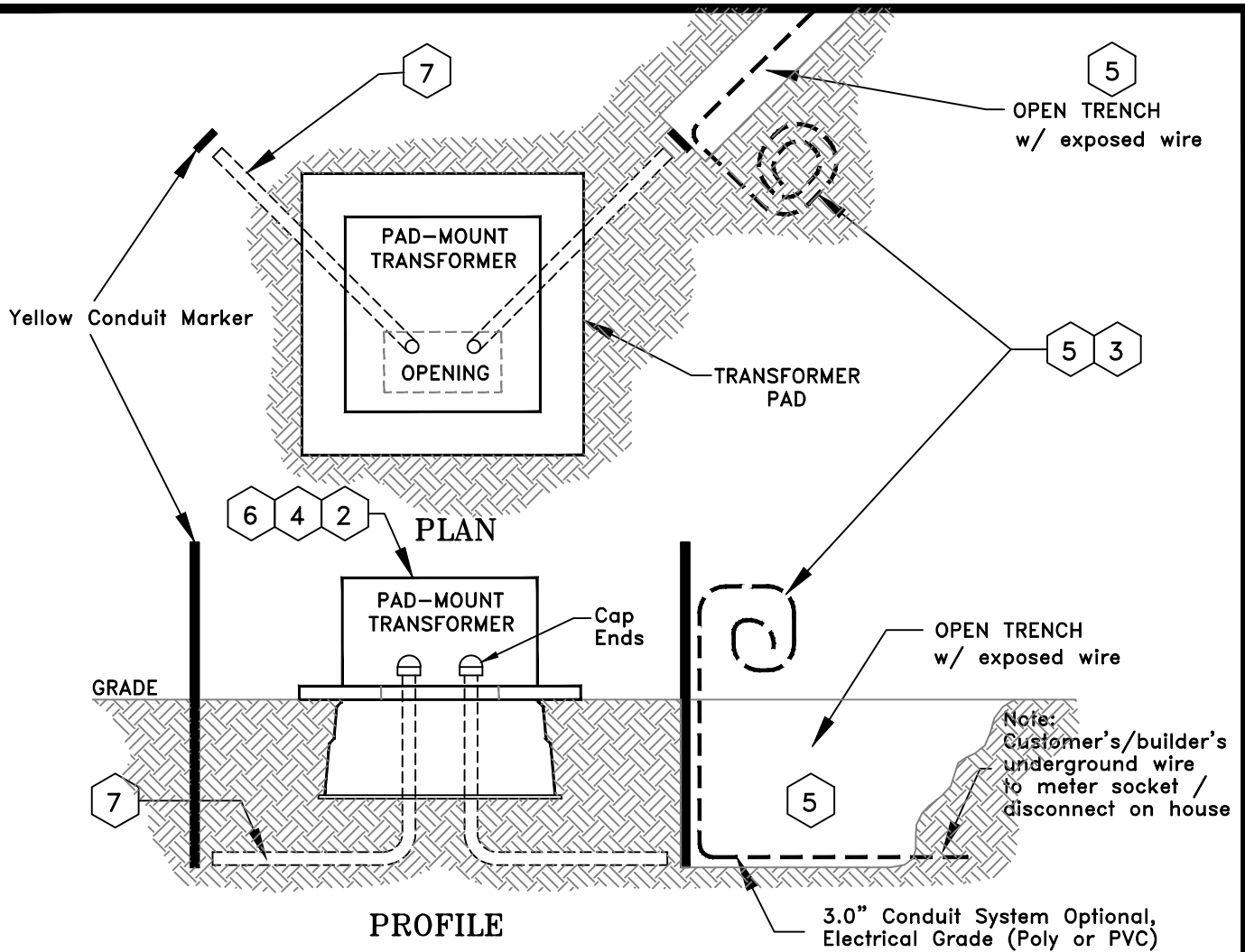
## JUNCTION BOX STANDARD UNDERGROUND CONSTRUCTION

DWG. BY: TA

DATE: 7/21/08



UK6-1,2,3



- 1 "Front lot line" delivery is the GVP subdivision / lot standard with the meter located on the side / front of the house nearest to the Transformer.
- 2 Service is provided at the front lot line by GVP to a grade level "Pad-Mount Transformer".
- 3 Underground service wire to the house is furnished and installed by the customer/builder from GVP Transformer to the house.
- 4 The customer/builder wire shall be terminated by GVP inside the transformer. (Trans. 31"x35"x24"H)
- 5 Customer shall trench to the GVP yellow marker, (DO NOT REMOVE THE YELLOW MARKER. LEAVE THE TRENCH OPEN 2 FEET FROM THE YELLOW MARKER), and leave an addition 12'-0" of wire past the transformer, for GVP installation. (Same with temporary construction power setup)
- 6 GVP shall not install Transformer until final grade is established. (Trans Pad 42"x42")
- 7 GVP furnishes and installs necessary underground conduit from transformer to the yellow markers.
- 8 Mesa County Electrical Inspection sticker, or approval of responsible agency, is required before the meter can be set for permanent or temporary service.
- 9 Grand Valley Power reserves the right to request necessary modifications or reject the installation as suitable for service as necessary.

## TRANSFORMER SERVICE TERMINATION 1 POSITION, 2 POSITION

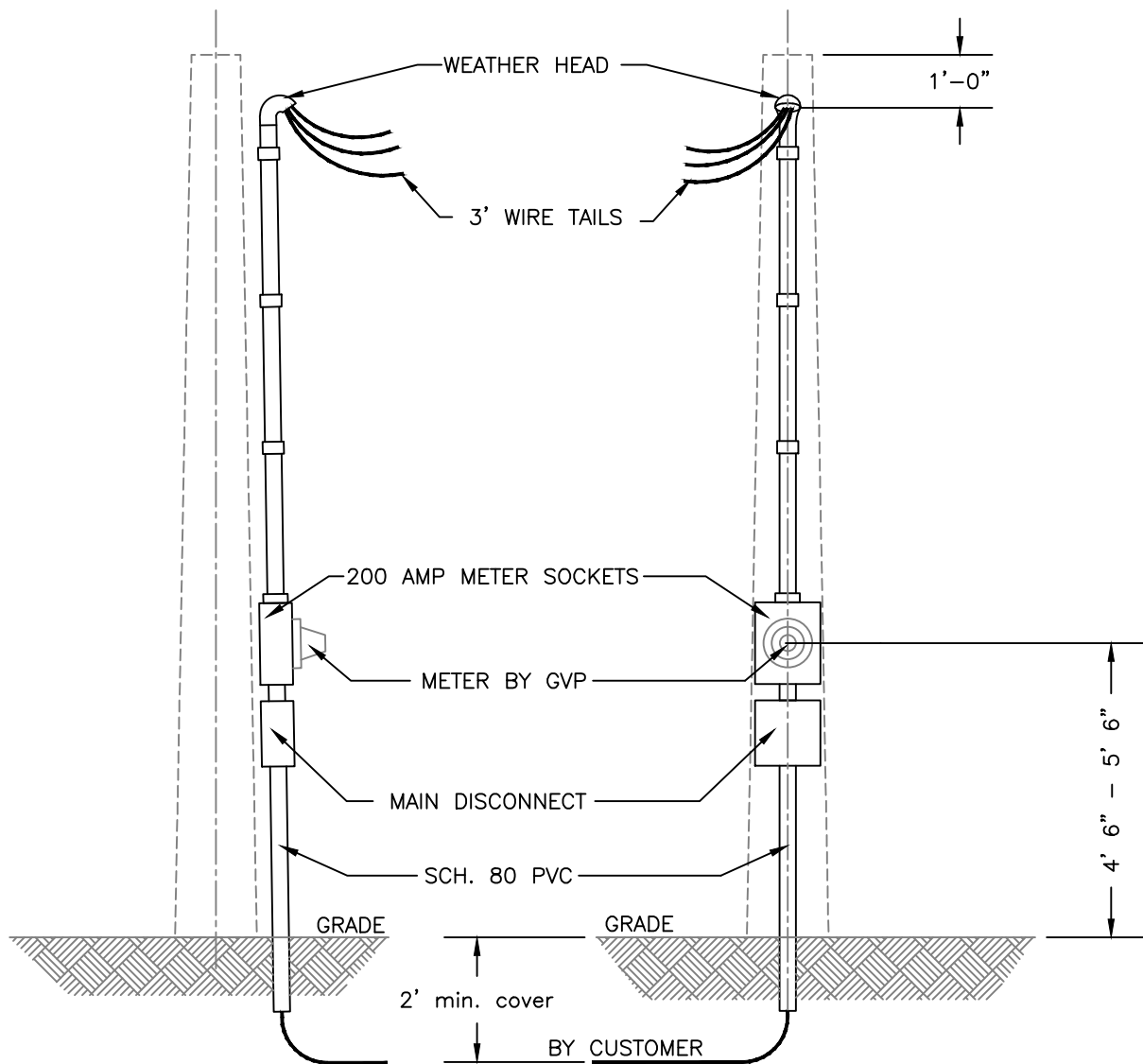
DWG. BY: DSG

DATE: 7/21/08



UK6-G1  
UK6-G2





1. Meters will not be installed on high-voltage (Primary Lines) transformer poles.
2. All permanent meter poles will be set, owned and operated by Grand Valley Power.
3. Grand Valley Power will furnish and install the meter. Customer is responsible for furnishing and installing meter socket, disconnecting means, conduits, grounds, standoffs and all other materials.
4. The center of the meter cover shall be 4' 6" to 5' 6" above finished grade.
5. Operable fault interruption disconnecting means mounted below meter sockets; main circuit breaker, or fused disconnecting switch is required.
6. The weather head should be within 1 foot of Grand Valley Power attachment at the top of the meter pole.
7. Wire tails must extend out of the weather head 3 feet on the meter pole.
8. If secondary only is attached to pole, member may take his service from main switch back up using a same set of standoff brackets.
9. Mesa County Electrical Inspection sticker, or approval of responsible agency, is required before the meter can be set.
10. Grand Valley Power reserves the rights to request necessary modification or reject the installation as suitable for service as necessary.

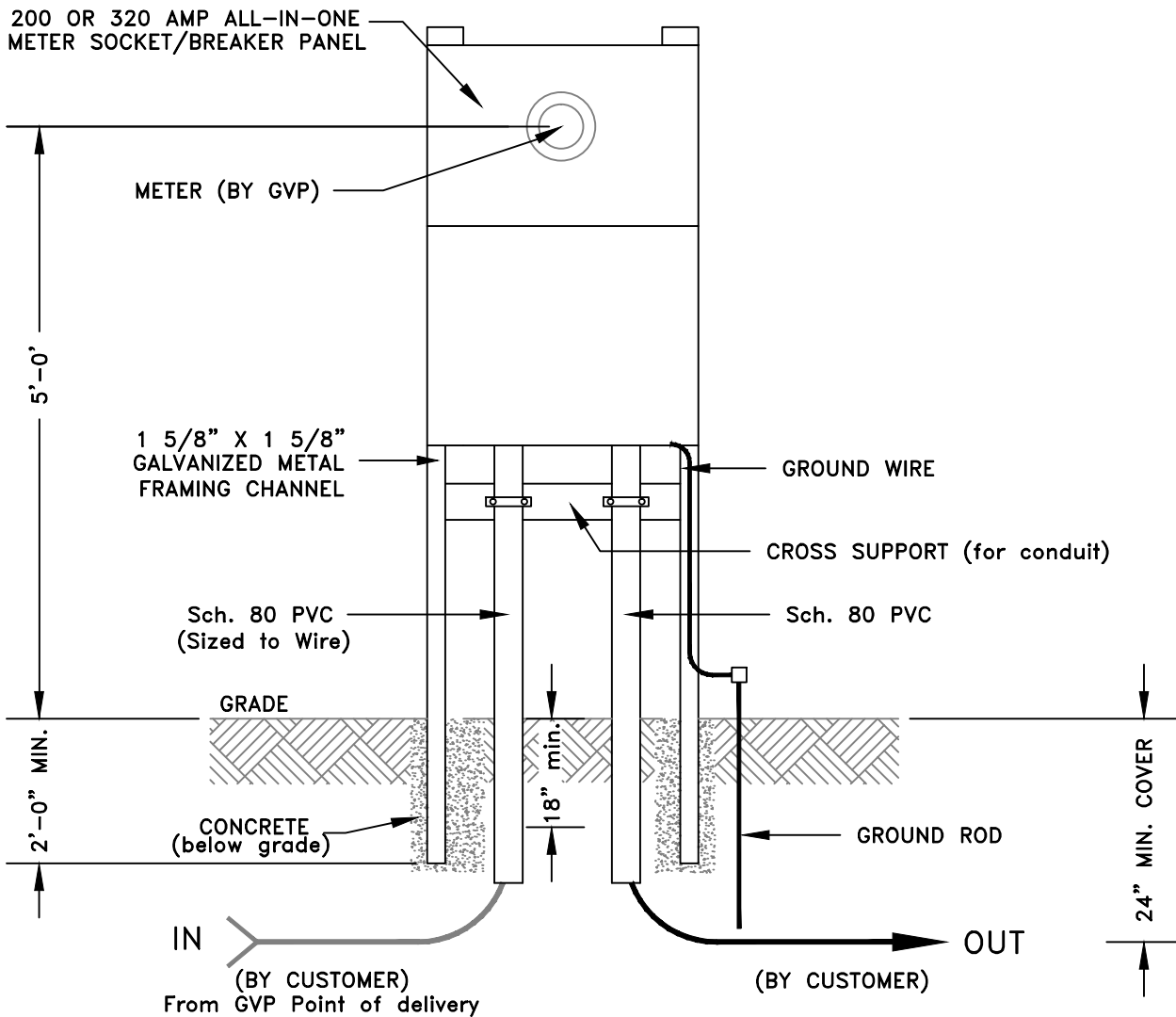
## METER POLE STANDARDS SINGLE METER AND RISER

DWG BY: TA

DATE: 7/21/08



M8-10



1. Meter pedestal may also be constructed with 4x4 redwood or pressure treated timbers; or may be constructed totally from "unistrut" 1 5/8" x 1 5/8" galvanized metal framing channel.
2. Operable fault interruption disconnecting means, main circuit breaker, or fused disconnecting switch is required.
3. Grand Valley Power will furnish meter; customer is responsible for mounting meter socket, breaker panel, disconnecting means, conduits, grounds, and all other materials, and for Mesa County Electrical Inspection.
4. The center of the meter cover shall be 5' above the finished grade.
5. Bury underground wire with a minimum cover of 24".
6. Mesa County Electrical Inspection sticker must be present before service can be energized.
7. Grand Valley Power reserves the rights to request necessary modifications or reject the installation as suitable for service as necessary.

## CUSTOMER'S METER PEDESTAL STANDARDS

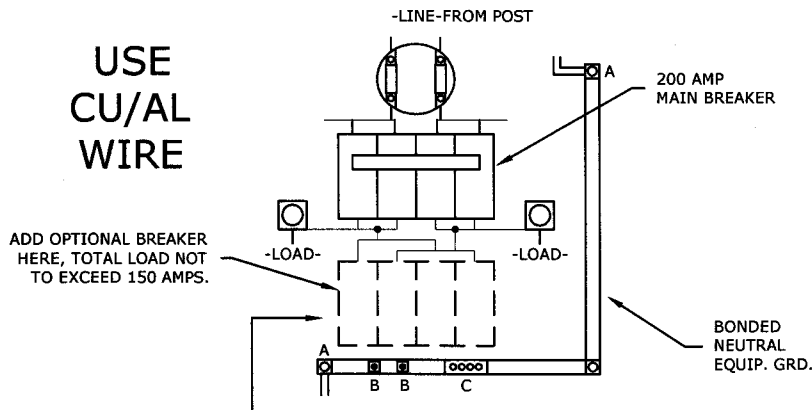
DATE: 11/29/12



CONS-MP-3

# GRAND VALLEY POWER METER PEDESTAL

TYPICAL WIRING DIAGRAM



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. 255A5002P1 FOR ONE-POLE FILLER PLATE OR 265A5003P2 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	32-35
	8	36-40
	6-4 3-2/0	41-45 45-50
INTERNAL HEX	3/16 ACROSS FLATS	108-120
	1/4 ACROSS FLATS	180-200
	5/16 ACROSS FLATS	248-275

**MIDWEST ELECTRIC PRODUCTS, INC.**

P.O. BOX 910  
MANKATO, MN. 56002-0910

**MNP601201**

### NOTE:

MAXIMUM WIRE SIZE, 200 AMP MAIN BREAKER,  
4/0 COPPER OR ALUMINUM WIRE.

# 400 AMP ALL-IN-ONE LOADCENTER

**SQUARE D COMPANY**  
Schneider Electric

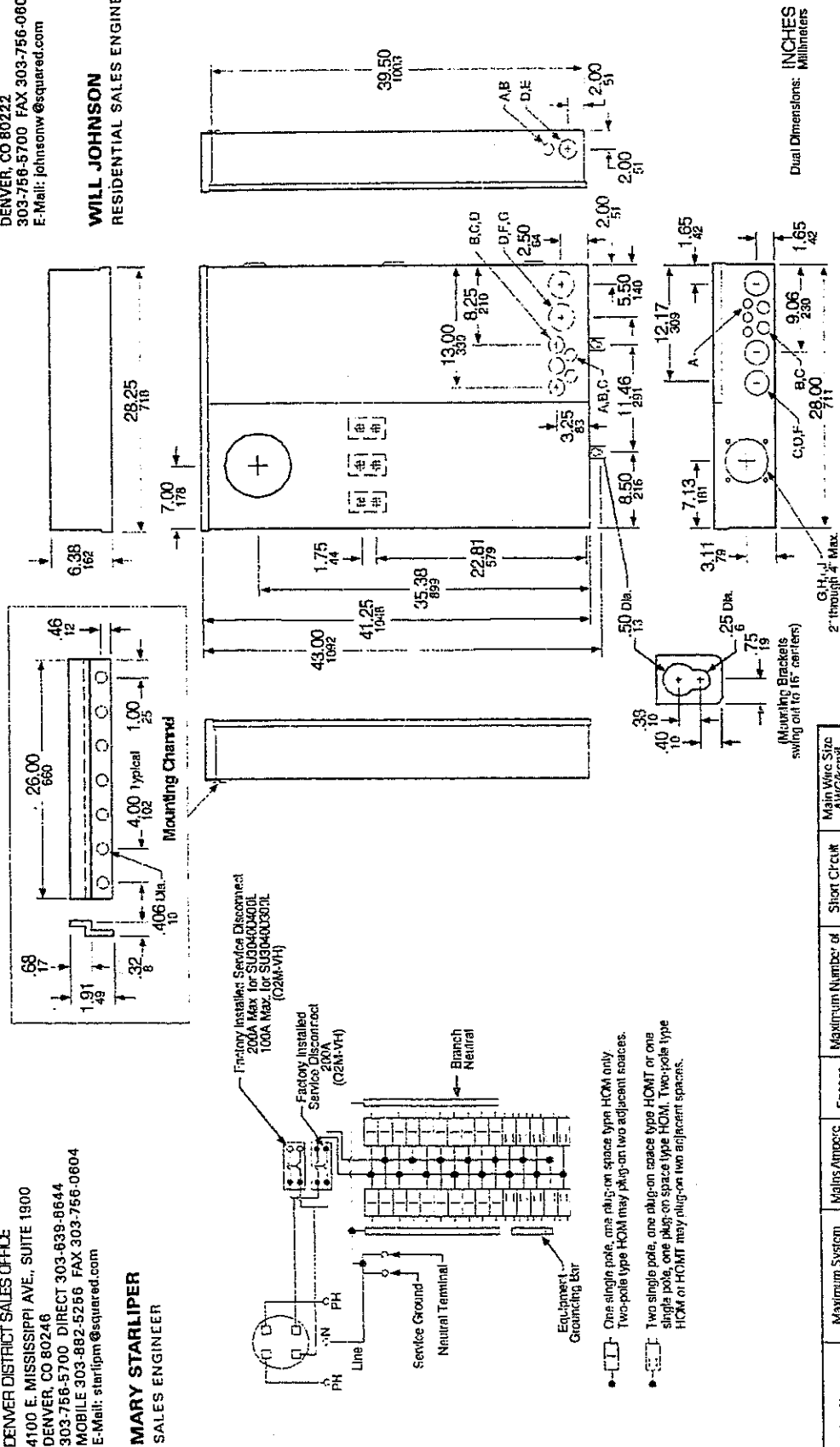
DENVER DISTRICT SALES OFFICE  
4100 EAST MISSISSIPPI AVENUE, SUITE 1900  
DENVER, CO 80222  
303-756-5700 FAX 303-756-0804  
E-Mail: johnsonw@squared.com

**WILL JOHNSON**  
RESIDENTIAL SALES ENGINEER

**SQUARE D COMPANY**  
Schneider Electric

DENVER DISTRICT SALES OFFICE  
4100 E. MISSISSIPPI AVE., SUITE 1900  
DENVER, CO 80246  
303-756-5700 DIRECT 303-839-8644  
MOBILE 303-882-5256 FAX 303-756-0604  
E-Mail: starlipm@squared.com

**MARY STARLIPER**  
SALES ENGINEER



Symbol	A	B	C	D	E	F	G	H	I	J
Knockout Size	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4

**SQUARE D**

DWG NO. **CSRDD-A-15**

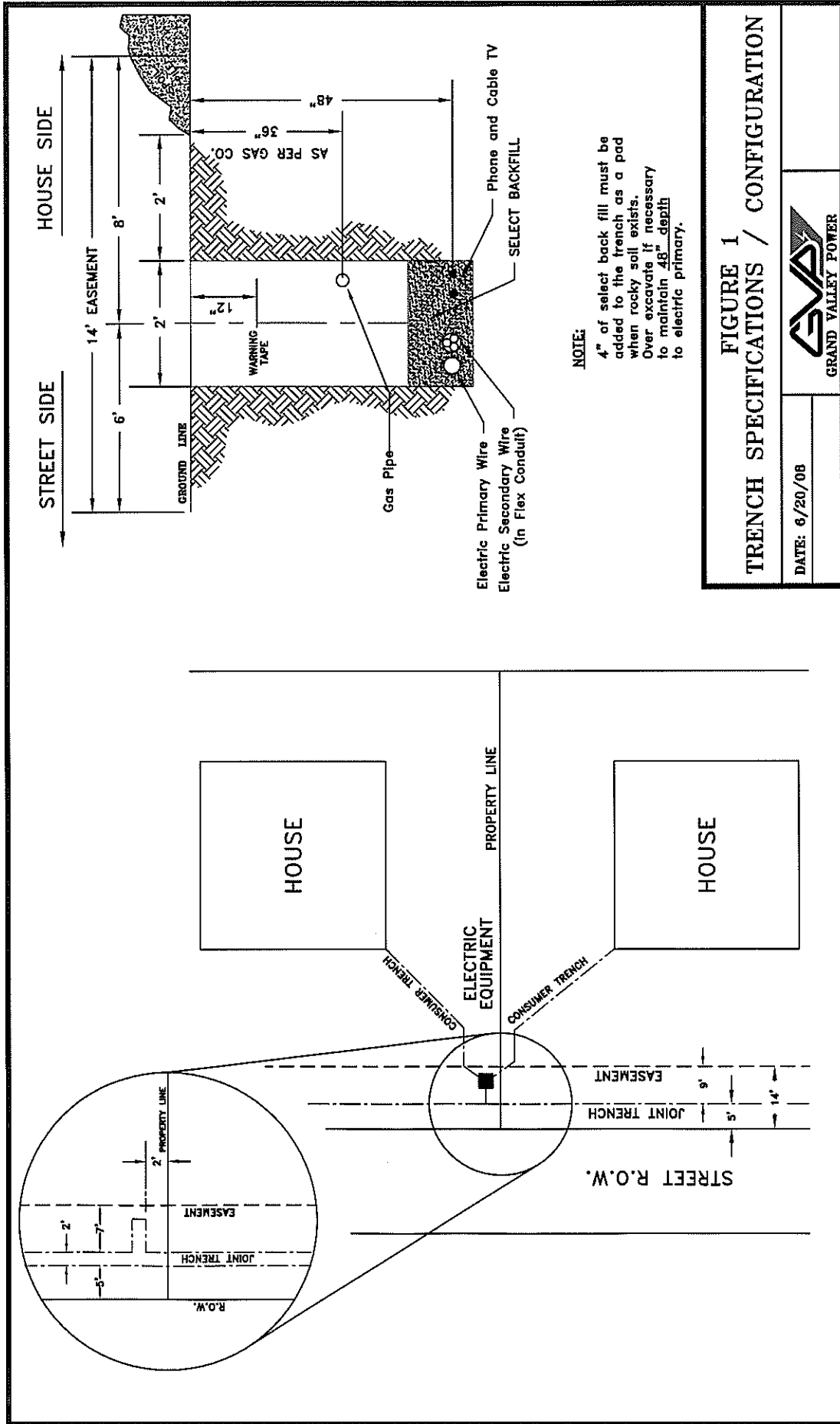
**COMBINATION SERVICE ENTRANCE DEVICES**  
Ringless All-In-One  
Rainproof Surface/Semiflush NEMA Type 3R Enclosure  
Outdoor

Category Number	Maximum System Voltage	Mains Ampere Rating	Spaces	Maximum Number of Single Pole Circuits	Short Circuit Current Rating	Main Wire Size AWG/Kcmil AL/CU
SUB040D400	120/240V ac, 1PH/3W	400	30	40	22,000/10,000	Supplied with 1/4" pads - order lugs separately
SUB040D300	208Y/120V ac, 1PH/3W	300	30	40	22,000/10,000	Supplied with 1/4" pads - order lugs separately

NOTES: First - UL component recognized gray baked powder coat paint over cleaned phosphated steel.  
Suitable only for use as service equipment.  
UL Listed File F-6294.  
Suitable for underground service only.  
Convertible to semiflush with SU40DF flange kit.  
Meets Electric Utility Service Equipment Requirements Committee standards.

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EXAMPLE



**FIGURE 1**  
**TRENCH SPECIFICATIONS / CONFIGURATION**

DATE: 6/20/08



UNDERGROUND/Trench1.DWG