MOUNTAIN PARKS ELECTRIC, INC.

All contracts and completed paperwork must be received by Oct.1 for fall excavations, weather permitting. Paperwork received after Oct. 1 will be subject to winter price adjustments.

Your Touchstone Energy® Cooperative

Electric Service Construction Standards (ESCS)
Secondary Service, Meter Installations & Primary Line Extensions Effective 2024

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www.mpei.com -See New Construction Page

Contents

I. Line Extension Policy

New Service, Upgrade, or Relocation Procedures

Owners seeking advice on a new service, upgrade, relocation, or line extension project will need to contact the Engineering Department. Contact the office staff at 970-887-3378 or visit the engineering office at 321 West Agate Avenue, Granby, Colorado.

1. To initiate a new project or upgrade an existing service, the owner shall provide a completed Load Sheet. All required fields on the form must be completed before MPEI will begin the engineering process. Required information includes all contact and property location details, service ratings requested, and a site sketch or site plan drawing. The owner's signature is required on the Load Sheet. Load sheets can be submitted in person, by mail, fax, or email. Load Sheets can be downloaded from the MPEI website www.mpei.com or will be provided at the time of an office visit.

2. Effective January 1, 2022, all new MPEI facilities will be underground distribution facilities unless specific qualified under *Tariff Section III, 305.01* Line Extension General Policy, or depending upon availability and local restrictions, HOA, or subdivision covenants. The owner shall speak with an MPEI representative before purchasing equipment, beginning construction of a proposed installation or altering existing service installations. MPEI will determine if the type of service and voltage desired by the owner is available, determine if additions to MPEI's facilities are required and determine meter location and point of delivery. The points of delivery for the various classifications of service are shown on drawings throughout this document. It is the policy of MPEI to own, operate, and maintain the electric distribution facilities up to the point of delivery.

3. MPEI's standard method of providing service is a meter pedestal located on the property line or within a dedicated utility easement, where the size of the lot or location of the service dictate, or typically within 20 ft. of MPEI's transformer.

4. Services greater than or equal to 600 amps and requiring a single-phase transformer greater than a 100 kVA within on half of a mile from a 3-phase line, will be required to be a 3-phase service, with the exception of single family homes.

5. Meters on homes are allowed and must be located on a gabled end of the building. Commercial buildings and multi-family buildings may have meters located on the building per standards.

6. Once the engineering deposit is received, MPEI can schedule a site visit providing requirements below are met:
   - Visible property pins
   - Address clearly posted at the site
   - If metering on a building, the building must be staked or a foundation constructed with the meter's location clearly marked. If site visit is scheduled and the requirements are not met, additional fees may apply.
   - The owner or their representative is required to attend a scheduled site visit with an MPEI representative. During the appointment, the MPEI line extension policy and service options (e.g., overhead, underground, routing, etc.) will be discussed.
   - Once the project has been designed, the owner is responsible for all costs associated with changes to the design.

7. MPEI will design the project including the field staking of equipment along with an engineering estimated cost. From the engineering estimate, MPEI will generate a contract tailored to the project. Estimates are good for 60 days from the date of issue. The work order is valid for 1-year, in which if the estimate is not paid, the job will be canceled, and the applicant must start over with a new non-refundable engineering deposit. Contract charges will be based on MPEI's engineering estimates of the construction costs along with transformer and capacity charges (refer to the Transformer Section and Table).
8. If easements are required from adjacent property owners MPEI will prepare any easement documents and information the applicant of required landowner easements. The applicant is responsible to obtain signatures from property owners for all required easements using MPEI documents. Applicants are responsible of obtaining any approvals from HOA for construction of facilities.

9. MPEI requires 20-foot-wide easements (10' on each side of centerline) for primary underground power lines, as installed. (Part of the easement can be in the road if provided for in the plat). No structure (including decks, footers/foundations and building overhangs) is allowed closer than 10' from any primary voltage power lines or within ten feet (10') around any equipment. Water and sanitation districts require a minimum of ten feet (10') separation to parallel power lines. MPEI requires five-foot (5') separation to parallel gas lines (main or services) and one foot (1') separation to communications.
   For secondary lines, MPEI requires 10-foot-wide easements (5' on each side of centerline) and must be 5 feet from any parallel utility line or a building.

10. All installed electric conduit and associated conductor (wires) are not allowed to be installed in, through, or beneath foundations, footers, or other concrete associated with the residence, porch, or permanent structure. Distances for primary are shown in Drawing U4-1, U4-2.

11. MPEI will schedule jobs for construction, providing the following conditions have been met:
    - MPEI has received all required easements and permits.
    - MPEI has received payment and signed contract(s).

12. MPEI will install a temporary or permanent meter only after the following are completed:
    - The owner has completed the installation of service entrance equipment to NEC/local codes and completed other owner-installed facilities on the MPEI source side of the meter in accordance with the MPEI contract and standards. (Note - If applicant installs a different service rating than agreed upon in the contract, MPEI will be unable to install a meter until a revised, signed contract is received and applicable charges are paid.)
    - MPEI has completed construction of MPEI-installed facilities, including transformer and service connections.
    - MPEI has received a release upon temporary or final inspection from the State Electrical Inspector (or other local authority with jurisdiction.)
    - The MPEI representative confirms the meter installation meets all MPEI specifications.

13. PROJECTS WILL BE RELEASED TO OPERATIONS FOR CONSTRUCTION ONCE PAYMENT AND COMPLETED PAPERWORK HAVE BEEN RECEIVED AND PROCESSED. ALL CONSTRUCTION MUST BE COMPLETED WITHIN THE CURRENT BUILDING SEASON OF BEING RELEASED TO OPERATIONS.

Construction Charges in Accordance with Mountain Park Tariffs

Deposits for Line Extension Engineering Estimate *(see Tariff Section II 204.11)*

The Cooperative shall collect a deposit to provide one engineering cost estimate for new services, line extensions, subdivision developments, conversions, relocations, and other projects based on a site visit and detailed plans furnished by the owner. The deposit will be applied toward the construction cost estimate contract. Such deposits are non- refundable. Line extension estimates will be valid for 60 days from the date contracts are issued for execution and payment. The following line extension engineering deposit schedule shall apply:

Type of Service or Project	Line Extension Engineering Deposit
Residential/Commercial service or service upgrade rated up to 320-amps 240-volts including 600 ft or shorter Primary Line Extension	$600
Primary Line Extension over 500 ft	$1,000 plus $1 per ft of line over 500 ft
Subdivision or multi-family project, including primary design within project site	$1,500 plus $50 per lot or unit
Relocation, conversion, or another project	Greater of $600 or 10% of applicant's preliminary project cost estimate
For projects requiring more than one type of installation – e.g., a primary line extension, and a new service, or subdivision development – all applicable fees apply	

Construction Charge for New Services, Primary Line Extensions, or Other Projects – Site Specific Line Extension Contracts *(See Tariff Section II, 205.01)*

The Cooperative will implement a site-specific line extension contract tailored to each project. Contract charges will be based on the Cooperative's engineering estimate of construction costs and indirect costs.

Actual construction charges will be reconciled with the contract payment upon completion of all work in accordance with contract term. The applicant is responsible for any actual cost above the estimate within MPEI company policies. Actual costs that result in an overcollection will be refunded to the applicant within MPEI company policies.

Applicable capacity charges shall be paid in addition to this construction charge.

- Tariff's *(see Section III 308.00 and Section II, 205.00)*.

Capacity Charges for Various Service Ratings Requested

In order not to place an additional burden on the existing ratepayers, MPEI collects a capacity charge on all newly constructed services where a meter is installed and on all upgrades to existing services for the capacity in excess of 48 kVA (1-phase, 240-volts, 200-amps services) or the increase in capacity if existing is greater than 48 kVA.

Capacity Charge Rate ($/kVA service rating) $ 9.09

#Phases	Voltage	Amps	KVA Rating	Capacity
1	240	100	24	$218
1	240	200	48	$436
1	240	400	96	$873
1	240	600	144	$1,309
1	240	800	192	$1,745
1	240	1000	240	$2,182
1	240	1200	288	$2,618
Note: 1-Phase 208V capacity charge same as 1-Phase 240V				
3	208	100	36	$327
3	208	200	72	$654
3	208	400	144	$1,309
3	208	600	216	$1,963
3	208	800	288	$2,618
3	208	1000	360	$3,272
3	208	1200	432	$3,927
3	208	1500	540	$4,909
3	208	2000	720	$6,545
3	480	100	83	$754
3	480	200	167	$1,518
3	480	400	333	$3,027
3	480	600	499	$4,536
3	480	800	665	$6,045
3	480	1000	831	$7,554
3	480	1200	998	$9,072
3	480	1500	1247	$11,335
3	480	2000	1663	$15,117

Service Upgrades and Relocations

1. Overhead Services – If required, Mountain Parks Electric, Inc. will upgrade the transformer and secondary wire to the designated delivery point (the top meter mast) at the owner's expense. The owner is responsible for construction and maintenance on the owner side of the point of delivery (e.g., the connection at the top of the weather head).

2. Underground Services – If required, Mountain Parks Electric, Inc. will upgrade transformer and secondary wire to the designated supply point (transformer, secondary pedestal, or secondary riser pole) at the owner's expense. The owner will upgrade underground service conduit and cable from the supply point to the meter location.

3. If the meter location changes, the owner must pay relocation costs. Mountain Parks Electric, Inc. is not responsible for construction or maintenance on the owner's side of the point of delivery. A state inspection is required prior to setting the meter in a different location.

4. If the meter to be upgraded is located on a primary pole, MPEI will require the meter be relocated to a secondary pole, meter pedestal, or to the building at the owner's expense.

5. Any service upgrade to a rating greater than 200 amps, 120/240 volts, single-phase will be subject to additional capacity charges.

6. If the existing installed service is exceeding the existing service size or meter rating causing MPEI equipment to malfunction or not communicate, the owner is responsible for upgrading service at the member's cost.

Note: Only qualified MPEI employees may cut seals and disconnect meters.

General Information – All Primary Line Extensions

See: Primary Underground Line Extension, Primary Underground Line Extension (Subdivision)

1. All primary line extensions will be underground. Applicant shall contact the Engineering Department at Mountain Parks Electric, Inc. (MPEI) for the proper application(s) for the primary line extension. All completed applications, engineering deposits, and CAD files (if applicable) must be received before project engineering will begin. Visit the NEW CONSTRUCTION page at www.mpei.com for additional information.

2. MPEI will schedule a site visit with the applicant. During this site visit, the MPEI line extension policy and service options (e.g., overhead, underground, routing, etc.) will be discussed.

3. MPEI will design the project and provide applicant with a contract for execution.

4. Line will be energized and the work order closed when construction is complete and all requirements of the contract have been met. Cost reconciliation will occur at this time. If job changes occur during the construction of the job, the job maybe invoiced mid-job for the change in costs.

5. In the event the primary line extends past or thru properties which are currently not served by MPEI, MPEI may incorporate into its design facilities adequate to serve these properties in the future.

6. Applicant shall obtain all necessary easements and permits *(see Tariff Section III 303.03 D)*. MPEI will provide utility easement documents for execution when necessary. Construction shall be contained within dedicated or conveyed and recorded easements.

7. Property corners shall be identified prior to MPEI field staking.

8. In the event secondary service(s) is not constructed in conjunction with primary service, additional application(s) and fees will apply.

9. Applicant shall plan and design for street and security lighting circuits. Such circuits, when underground construction, may be installed in a joint trench with the underground electric distribution facilities.

- MPEI will allow non-metered lighting circuits with MPEI standard L.E.D. fixtures installed on MPEI owned and maintained wood pole(s) in accordance with MPEI Tariff's *(see Section II 202.06)*.
- Applicant desiring custom lighting fixtures shall take metered service with all load side wiring and equipment installed and maintained by applicant in accordance with MPEI.

Primary Underground Line Extension

See: General Information – All Primary Line Extensions

1. MPEI shall provide field staking for individual primary line extension for trench centerline and vault and electric equipment locations in accordance with MPEI design. See *Primary Underground Line Extension (Subdivision)* for subdivision and commercial development specific requirements for field staking.

2. Trench may be joint with electric, lighting, telephone, and/or cable TV. MPEI requires 5 feet of horizontal separation from gas lines and 10 feet of horizontal separation from existing or planned structures and water and sewer lines. Applicant is responsible for coordinating the design and installation of primary underground conduit with other utilities.

3. MPEI is responsible for installation of primary cable and electric equipment.

4. Right of way Clearing and Landscaping:
   - 20' in width for all Underground or existing single-phase overhead to be measured 10' on each side of the line
   - 30' in width for all existing three phase overhead; to be measured 15' from the outside conductor on each side
   - Right-of-way clearing includes clearing of underbrush, tree removal, and such tree trimming as is required so that the right-of-way, except for tree stumps which shall not exceed 6-inches in height, shall be clear from the ground up of the width specified. However, low growing shrubs, which will not interfere with the operation or maintenance of the line, shall be left undisturbed if so directed by MPEI. Slash may be chipped and blown on the right-of-way if so specified. The landowner's written permission shall be received prior to cutting trees outside of the right-of-way. Trees fronting each side of the right-of-way shall be trimmed symmetrically unless otherwise specified.
   - No trees are allowed to be planted in the right-of-way. Low growing shrubs or flowers are acceptable. Planters in right-of-way are not permitted. If electric infrastructure repairs are required in right-of-way, MPEI will make an effort to repair the site and spread grass seed; however, no plants/trees/shrubs or other vegetation, including low growing shrubs or flowers, other than grass seed will be replaced. MPEI may, at its sole discretion, cut, remove, and/or trim trees and shrubbery within ten feet of any portion of the power line, equipment, or facilities.
   - MPEI requires 5 feet separation from any structure to an MPEI secondary conductor other than homeowner service and 10' separation from any structure from the primary.
   - MPEI does not allow any structures to be built within our utility easements without prior written permission from MPEI.

Primary Underground Line Extension (Subdivision)

See: General Information - All Primary Line Extensions

1. Applicant shall provide area master plans and identify locations where three-phase service will be required.

2. Applicant shall provide a CAD file meeting standards listed under '*CAD Requirements'.*

3. Applicant shall provide a copy of the recorded final plat and physical addresses for each lot/unit of the subdivision/new development prior to project completion.

4. Applicant shall provide field staking for trench centerline and vault and electric equipment locations in accordance with MPEI design.

Temporary Construction Service

Refer to Drawing A.

1. Temporary service may be made available prior to the installation of the permanent meter and can be in use up to two years. After two years, the temporary service shall be converted to permanent, or will be retired. Temporary service shall be restricted to as short a time as possible, such as the time necessary for the construction of a building. Temporary service will be provided by MPEI in accordance with its established Rate Schedules, and Line Extension Policy.

2. Overhead Temporary Service - The overhead service drop support shall be supplied by the owner in accordance with the requirements shown in Drawing A and the additional requirements of this section. The support shall be located on the owner's property within 15- feet of a pole supporting MPEI secondary conductor. The support shall be located in such a manner as to clear all utility obstructions. The overhead drop shall overhang only the property owned and controlled by the owner and shall clear all structures and obstacles in accordance with the NESC/NEC. The support shall be installed in such a manner that the installed drop is at a vertical angle of not less than 45 degrees and not closer than 10-feet horizontally to MPEI's secondary or primary conductors. The ground rod(s) and grounding electrode conductor shall be furnished and installed by the owner and shall comply with the NEC.

3. Underground Temporary Service - The underground service lateral and meter support shall be supplied and installed by the owner in accordance with the requirements shown in Drawing A, and the additional requirements of this Section. The meter support shall be installed outside the utility easement on the owner's property and not less than 5 feet from the secondary pedestal or pad-mounted transformer. The ground rod(s) and grounding electrode conductor shall be furnished and installed by the owner and shall comply with the NEC. The driven ground rod shall be located outside of the utility easement.

4. General Requirements for Temporary Service - The service address shall be prominently displayed on the temporary service installation. Entry into and connections within all pad-mounted or underground facilities will be made by MPEI. The meter socket shall be furnished and installed by the owner. Temporary service installations shall be braced as shown in the respective drawings to withstand normal service drop tension and normal use of the facility. Refer to Drawing A. Temporary meter service panels shall not be attached to vehicles or trailers. If a temporary service installation fails or collapses, it will be disconnected by MPEI until repaired by the owner. The service equipment shall be "rain tight" (NEMA3R) and meet all applicable NEC requirements.

5. Temporary construction service including conduit, masts, meter sockets, disconnects and poles, is the owner's responsibility. Installation of a temporary construction loop post should be a short distance (15- feet maximum) from an existing secondary MPEI source and access under overhead wire limited to pedestrians only.

6. Each temporary meter shall be labeled with address and unit number.

II. Transformers

1. The Cooperative shall determine the appropriate transformer rating for all cooperative owned transformers.
2. Multi-family and multi-unit projects and all other services where the transformer is installed to supply only that one service will be charged the full cost of the transformer.
3. Transformer costs for small loads (5kVA or less) that the cooperative determines can be supplied by existing transformers serving other owners will be charged the pro-rated cost.
4. Projects where the transformer will supply services to adjacent lots in the future will be pro-rated based on the number of adjacent single-family lots (up to four) that can be served from that transformer location as determined solely by the cooperative's representative.
5. For additions or upgrade to an existing service supplied by a transformer, the owner will be charged the full cost of the new transformer, less the current cost of the existing transformer, and the full labor costs associated with installation or upgrade of a transformer.
6. Single-phase padmount transformers are limited to 6 sets of secondary wires up to 500 MCM size. For additional services supplied by the same transformer, the project owner will install secondary junction pedestals specified and supplied by MPEI at the project owner's expense, and each pedestal is limited to four sets of customer cables of maximum 500 MCM aluminum.
7. Three-phase padmount transformers are limited to eight sets of secondary wires connected with 2-hole NEMA spade terminals.
8. All three-phase transformers come with bushing and spade connectors. The owner shall furnish 2-hole NEMA compression lugs sized to fit their secondary conductors to be installed/connected by MPEI personnel.
9. If transformer is closer than 10-feet from a building or structure, an exception form is required and MPEI may require a non-flammable wall to be installed.

MAXIMUM AVAILABLE SECONDARY FAULT CURRENTS

Single- Phase Padmount or Overhead, 120/240 Volt Secondary				
Size(kVA)			240 Volt Faults	
			Min %Z	Amps
10			1.9%	4,400
15			1.9%	6,600
25			1.9%	11,000
37.5			1.9%	16,400
50			1.9%	21,900
75			1.9%	32,900
100			1.9%	43,900
167			1.9%	50,400

Three -Phase Padmount or Overhead Wye-Wye Bank				
3-Phase(kVA)	120/208VoltSecondary		277/480VoltSecondary	
	Min %Z	Amps	Min %Z	Amps
45	1.2%	10,400	1.2%	4,500
75	1.2%	17,400	1.2%	7,500
150	1.2%	34,700	1.2%	15,000
300	1.4%	59,500	1.4%	25,800
500	2.0%	69,400	1.4%	43,000
750	4.78%	43,600	4,78%	18,900
1000	4.78%	58,100	4.78%	25,200
1500			4.78%	37,800
2000			4.78%	50,400
2500			4.78%	62,900

Approximate Minimum Length of Secondary Cable (Triplex or Twin Concentric) to Limit Available 120 and 240 Volt Fault Current to 10,000 amps RMS symmetrical (interrupting rating of most common molded case breakers)						
Single Phase Transformer Size(kVA)	Minimum Length of Overhead or Underground 600 Volt Aluminum Cable for Standard Conductor Sizes					
	#4	#2	1/0	4/0	350	500
10	0	0	0	0	0	0
15	0	0	0	0	0	0
25	5	5	5	10	10	15
37.5	10	10	15	30	40	55
50	10	20	30	50	65	90
75	20	30	45	80	110	145
100	20	35	50	95	130	175
167	25	40	60	110	150	210
250	25	45	65	120	180	225

MPEI Voltage Drop Tables 120/240 Volt, 1-Phase, 3-Wire Services

MPEI Loading (Amps) Allowed on Aluminum Secondary Conductors

3% Voltage Drop Chart, 240-Volts Single-Phase, @ 95% Power Factor

Data from NEC at 75C, in Plastic Conduit; Distance From Transformer To Meter

Distance (ft):	0	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500
Standard MPEI Stock Triplex - AL Wire Size																		
500 AL	350	350	350	350	350	340	302	272	247	226	209	194	181	170	160	151	143	136
350 AL	300	300	300	300	292	256	227	204	186	170	157	146	136	128	120	114	108	102
4/0 AL	200	200	200	200	191	167	148	134	121	111	103	95	89	83	79	74	70	67
1/0 AL	125	125	125	118	101	88	79	71	64	59	54	50	47	44	42	39	37	35
	Maximum Amp Loading - To Be Equal to or Greater than 80% of Main Breaker (or 100% of Fused Disconnect). Example: A 200-foot-long service for a 200-amp main breaker @ 80% = 160-amp loading; select 4/0 AL as smallest conductor allowed.																	

Service Conductors in Conduit

Service Lateral Sizes (for balanced load):

PADMOUNTED TRANSFORMERS		
KVA	Copper	Aluminum
208 GRD Y/120 Volt 3Φ		
75	1 - 4/0	1 - 500
150	2 - 500	2 - 500
300	3 - 500	2 - 750
500	4 - 500	4 - 750
750	6 - 500	5 - 750
1000	8 - 500	7 - 750
480 GRD Y/277 Volt 3Φ		
75	1 - 1/0	1 - 1/0
150	1 - 4/0	1 - 500
300	1 - 500	2 - 500
500	2 - 500	2 - 500
720	3 - 500	3 - 750
1000	4 - 500	4 - 750
1500	6 - 500	5 - 750
2000	7 - 500	6 -750
240/120 Volt 1Φ		
167	2 - 500	2 - 500
250	3 - 500	4 - 500

CONDUIT SIZING CHART: The following is a list of pipe or duct size to be used for cable installations in conduit. This table is based on 40% maximum pipe fill.

Cable Size	Voltage	#Cond/Conduit	Pipe Size (ID) PVC,
1/0-2-1/0	600 V	1 Set	3” PVC Schedule 40 or 3” flex
4/0-2/0-4/0	600 V	1 Set	3” PVC Schedule 40 or 3” flex
350-4/0-350	600 V	1 Set	3” PVC Schedule 40
350AL/CU	600 V	1-5	6”
350AL/CU	600 V	6-8	Two 6”
500AL/CU	600 V	1-4	6”
500AL/CU	600 V	5-8	Two 6”
750AL/CU	600 V	1-4	6”
750AL/CU	600 V	5-8	Two 6”

Note: Conduit or Conduit fittings made from a ferrous material may not be used when separating three- phase runs into separate conduits.

III. Types of Services

Overhead Service to Meter on Building

Single-Phase to 320 Amps & Three-Phase to 200 Amps

Applies to existing services only. All new services to be underground as of 1/1/2022.

Refer to Drawings D, E, and F.

The Meter shall be installed on the gabled end of the building and not under the drip edge of roof. Any installation deemed unsafe by MPEI may be disconnected. **A completed and approved *Exception Form* is required to install service mast and/or meter on a drip side if it is not practical to install on a gabled end.**

Meters must be mounted 5 feet 6 inches above the final grade level.

A disconnect is required to be within 2- feet of the meter on the load side in an accessible location on the outside of the building.

MPEI will install and maintain overhead service wire from the pole to the building or mast's attachment point. Owners must provide and install a firm point of attachment (e.g., stud). The owner is responsible for construction and maintenance on the owner's side of the point of delivery (e.g., the connection at the top of the weather head) and for the attachment point. Repair of damage to masts (e.g., a mast bent by excessive snow accumulations) is the building owner's responsibility.

The owner or their electrician is responsible to install all conduits, masts and meter sockets in accordance with National Electric Code (NEC), National Electric Safety Code (NESC) and MPEI requirements. Aluminum conductor is acceptable per NEC guidelines.

All conduits and masts through the roof must be a minimum size of 2-inch threaded, galvanized, rigid steel (no EMT or plastic conduit will be allowed for any mast). If the mast penetrates a metal roof, a "cricket" is required. If installed more than 3-feet above a roof, the mast must be guyed and anchored.

Service Entrance Conductors – Conductor tails shall be a minimum of 6-feet in length at the weather head for drip loop connections. No conductors, other than service entrance conductors, shall be installed in the service entrance conduit. All utility-side (non-metered) conductors shall be in a continuous length of conduit from the point of delivery to the meter socket or the main disconnect. Junction boxes, conduit fittings, LB's, or other devices are not allowed without specific written approval from MPEI Engineering Department.

Point of Attachment – MPEI will specify the location of the service entrance conductors most suitable for connection to the MPEI's lines.
MPEI requires the owner to furnish and install the physical means of attachment.

- The point of attachment shall be located within 24- inches of the weather head and at a point nearest MPEI facilities to be used to provide service.
- The point of attachment shall be located such that adequate clearance can be obtained for the service drop from trees, awnings, patio cover, foreign wires, adjacent buildings, hot tubs etc. Service drops shall not pass over adjacent private property, except where permitted by easement. Specified heights and clearances may be maintained by use of an approved service mast through the roof.
- Vertical clearance from the ground is 16.0 feet over driveways, parking lots, alleys, or other land traversed by vehicles.
- Any exception to truck clearances requires written approval by MPEI.
- The point of attachment shall not be higher than 24- feet above final grade.

Service Mast/Riser Supports – Only MPEI's power service drop conductors shall be attached to a service mast.

Service Drops - Where the length of the service drop conductors is excessive or the size of the conductor would cause undue mechanical strain upon either the applicant's structure or MPEI line pole, a service pole may be required.

Note: For meter specifications, please refer to the Metering Section

EXISTING SERVICES ONLY

Required Minimum Clearances Overhead Service Drops

Max Spans Across Level Ground for 16' Clearance to Roads From Guyed Pole (1000 lbs. Max Tension) (Commercial or Residential Services)										
Aluminum Multiplex Cable Size/Type	Ampacity (Amps) @ 90C in 25C Air	Max Span for 6' Sag Pole-Pole	Max Service Drop Span (Ft) from 23' Pole Height to Service Attachment Height (ft)						
			16	17	18	19	20	21	22
#4 Triplex	104	190	95	134	150	162	173	182	190
#2 Triplex	140	178	89	125	140	152	162	170	178
1/0 Triplex	190	157	79	111	124	134	143	151	157
4/0 Triplex	299	137	68	96	108	117	124	131	137
#4 Quadruplex	104	182	91	128	143	155	165	174	182
#2 Quadruplex	140	168	84	118	133	143	153	161	168
1/0 Quadruplex	190	149	74	105	117	127	135	142	149
4/0 Quadruplex	299	128	64	90	101	109	116	123	128

margin of 1' vertical clearance included

Max Spans Across Level Ground for 16' Clearance to Roads From Un-Guyed Pole (500 lbs Max Tension) (Commercial or Residential Services)										
Aluminum Multiplex Cable Size/Type	Ampacity (Amps) @ 90C in 25C Air	Max Span for 6' Sag Pole-Pole	Max Service Drop Span (Ft) from 23' Pole Height to Service Attachment Height (ft) :						
			16	17	18	19	20	21	22
#4 Triplex	104	129	64	91	102	110	117	123	129
#2 Triplex	140	113	56	80	89	96	103	108	113
1/0 Triplex	190	104	52	73	82	88	94	99	104
4/0 Triplex	299	92	46	65	73	79	84	88	92
#4 Quadruplex	104	123	61	86	97	105	111	117	123
#2 Quadruplex	140	108	54	76	86	93	99	104	108
1/0 Quadruplex	190	99	50	70	78	85	90	95	99
4/0 Quadruplex	299	87	44	62	69	75	79	84	87

margin of 1' vertical clearance included

Metering on a Secondary Pole
Single- Phase 200 Amps and Three- Phase up to 200 Amps

Refer to Drawing C.

No more than two 200-amp meters can be installed on a single secondary pole.

The owner, or their electrician, is responsible to mount and install all meter sockets and disconnects in accordance with National Electric Code (NEC), National Electric Safety Code (NESC) and MPEI requirements. Aluminum conductor is acceptable per NEC guidelines.

All risers must be aluminum conduit (no EMT or plastic conduit is allowed). MPEI will advise the owner where the meter should be located on the pole and provide the owner with the required riser length. The owner must furnish and assemble the riser to MPEI specifications. Mountain Parks Electric, Inc. is responsible for attaching the riser.

Meters must be mounted 5 feet 6 inches above final grade.

A disconnect is required within 2- feet of the meter on the owner's side of the socket.

Service Conductors – A sufficient length of wire, but in no case less than 6- feet, shall extend from the service weather head for connection to MPEI's service drop. Only service conductors shall be installed in the conduit. All utility-side (non-metered) conductors shall be in a continuous length of conduit from the point of delivery to the meter socket or the main disconnect.

The owner is responsible for construction or maintenance on the owner's side of the point of delivery (e.g., the top of the weather head).

The owner shall not attach any overhead secondary conductors to MPEI poles.

If the permanent loop is used as a temporary service on a secondary pole, the main disconnect shall be on the owner side of the meter (on the secondary pole) or a temporary construction loop post is installed a short distance (15 feet maximum) from an existing secondary MPEI source. *(Refer to Drawing A)*

Note: For meter specifications, please refer to the metering section

Underground Service to Meter on Building
Single phase up to 320 Amps & Three- Phase up to 200 amps 120/208-Volts

All contracts and completed paperwork must be received by Oct.1 for fall excavations, weather permitting. Paperwork received after Oct. 1 will be subject to winter price adjustments.

Refer to Drawings F, G, & H.

The meter shall be installed on the gabled end of building not under the drip edge of the roof. Any installation deemed unsafe by MPEI may be disconnected. Prior written approval by MPEI Engineering Department is required to install meter on a drip side if it is not practical to install on a gabled end.

Meters must be mounted 5 feet 6 inches above the final grade level.

The property shall be to final grade (+ 6 inches) except for the equipment location, which shall be to final grade.

A disconnect is required to be within two feet of the meter on the load side in an accessible location on the outside of the building.

MPEI will install conduit and cables from the designated MPEI supply point to meter location. If the customer elects to hire a qualified contractor to install facilities, refer to the Customer Dig Standards.

MPEI will own, operate, and maintain the primary underground installation between the adjacent distribution facilities and the transformer, including the primary cable, ducts, transformer and protective equipment. MPEI will make and maintain all connections at the transformer terminals. Refer to the Transformers Section**.**

The point of delivery for single-phase underground services rated up to 400-amps (with 320-amp meter) is the utility side meter terminals. The point of delivery for three-phase underground services rated up to 200-amps at voltages below 277-volts is the source side meter terminals. Owners are responsible for installation and maintenance of electric facilities beyond the point of delivery. In order for MPEI to provide maintenance or repair of service cables installed by the owners on the utility (source) side of the point of delivery, utility (source) side meter terminals in this situation, the following installation requirements must be met:

- MPEI will designate the supply point (padmount transformer, pedestal or secondary riser pole) from which the underground service will be supplied. New subdivisions will be served from the front lot line. Meters can be located under a permanent deck/porch roof that has a minimum 4 feet horizontal cover and a minimum 7.5 feet vertical access clearance.

- Service length/conductors must be sized to a maximum limit voltage drop of 3 percent on 240-volt single-phase services **(***refer to Voltage Drop Tables).* The owner will be required to install a MPEI secondary junction pedestal if any one run exceeds approximately 200- feet or total of all bends exceeds 270 degrees (to facilitate cable pulling).

  Conduit must be routed in the most practical, direct alignment from the supply point to the service entrance. All bends or sweeps must have a minimum of 36 inch radius. A 90-degree sweep must be used when entering transformer vaults. Sweeps or connectors shall not be cut. All trenches must be smooth, flat on the bottom and free from rocks larger than 1 inch diameter. **NOTE: All trench, conduit and wire must be inspected by an MPEI employee.**

- All installed electric conduit and associated conductor (wires) are not allowed to be installed in, through, or beneath foundations, footers, or other concrete associated with the residence, porch, or permanent structure. Distances for primary are shown in Drawing U4-1, U4-2, U4-3.

- Only permanent utility service conductors will be installed in the service conduit. Minimum separation between electric services and telecommunications lines must be 12 radial inches. Electric services are not permitted in the same trench with gas, water, or sewer lines. Minimum 5-foot horizontal separation must be maintained between parallel gas and electric service lines. Any crossing of electric, gas or other utilities will need a 12-inch minimum vertical separation.

- Due to soil expansion, contraction, and ground settling, slip sleeves must be used on all underground PVC conduit riser installations on building-mounted meter sockets.

- Utility-side and owner-side wires entering and leaving underground meter sockets must enter and exit through opposite sides of the socket. The center knockout in the bottom of the socket, if provided, must not be used. Knockouts on either end of the horizontal surface or vertical surfaces may be used for customer-side conductors. Utility-side conductors must enter through the knockouts provided on the bottom of the enclosure. *(see drawing H).*

The owner or their electrician must make all meter socket connections. MPEI will connect transformer terminals/junction pedestals after all inspections have been passed. Whenever possible the underground secondary wire should be physically located on the property being served. If it is necessary to cross adjacent private property, the owner must obtain the required easements.

Single -Phase Underground Service
(Single Meter Installations) - Post Mounted 400-Amp (320-amp Meter) Meter Assembly or Meter Pedestal Up to 200-Amps

Refer to Drawings B & K1

For single- phase services rated up to 200-amps and 240-volts with main breaker, Mountain Parks Electric, Inc. will furnish the meter pedestal (at owner's expense). The owner will own and maintain single- phase meter pedestals.

For single-phase services rated 400-amps, the owner may install post mounted 320-amps meter assembly including: posts set in concrete, channels, conduit, ground rod/ground conductor; MPEI will install conduit and cable from post mount to the MPEI source. ***(see drawing K1)***. Post mounted meter must be installed facing the street and must be plumb and level. The owner must ground meter sockets to an 8-foot ground rod (installed by the owner). The owner will install conduit and cable from the MPEI designated supply point (transformer, junction pedestal, secondary riser pole) to the 320-amp meter assembly.
The owner shall install a main disconnect either on the post mounted assembly or outside on the building.

A qualified MPEI employee must be on site before entrance is made into any MPEI facility. The owner shall call MPEI Operations Department at least 2 business days in advance to schedule conduit/cable entry into a padmount transformer vault.

The owner is responsible for installation from the meter pedestal/post mounted meter to the load. MPEI highly recommends the installation of cable in conduits (beyond the meter to the service entrance).

Meter pedestal installation may be used for construction power. A 20-amp GFCI breaker and outlet can be installed on the meter pedestal or a temporary construction loop post can be installed a short distance (15 feet) from the supply point.

MPEI will install a meter only after the trench is backfilled and compacted up to the meter location and all conditions are considered safe in the sole opinion of the MPEI representative performing the work.

The point of delivery for single-phase underground services rated up to 400-amps (with 320-amp meter) is the utility (source) side meter terminals. Owners are responsible for installation and maintenance of electric facilities beyond the point of delivery.

PLEASE NOTE: Some subdivision covenants require that all meters be on the building and will not allow for meters on a pedestal or a post mount. It is up to the owner to verify the covenants or restrictions for the area they are building. If a meter must be relocated, the owner will be responsible for all applicable charges.

*THIS APPLIES ONLY TO EXISTING SERVICES. NEW OVERHEAD SERVICES ARE NOT ALLOWED AFTER 1/1/2022

MPEI TABLE OF RESPONSIBILITY

Overhead Service- Meter on the Building or Secondary Pole Single -Phase up to 400-Amps (320-Amp Meter), Three- Phase 120/208 Volt up to 200-Amps

ITEM MATERIAL OR WORK DESCRIPTION	PARTY TO FURNISH	PARTY TO OWN AND MAINTAIN	PARTY TO INSTALL	INSPECTION
Permits	Customer	N/A	N/A	State or Local Electrical Inspectors
Overhead Service Drop Cable	MPEI	MPEI	MPEI	N/A
Service Entrance Conduit and Conductor	Customer	Customer	Customer	State or Local Electrical Inspector
Meter Socket	Customer	Customer	Customer	MPEI/State or Local Electrical Inspector
Billing Meter	MPEI	MPEI	MPEI	N/A
Customer Side Conduit and Conductor	Customer	Customer	Customer	State or Local Electrical Inspector
On Service Mast Through the Roof Need for Roof Jack or Cricket on Metal Roof	Customer	Customer	Customer	State or Local Electrical Inspector
Ground Rod(s)	Customer	Customer	Customer	State or Local Electrical Inspector

MPEI TABLE OF RESPONSIBILITY

Underground Service – Meter on the Building or Post Mounted Meter Assembly Single- Phase up to 400-Amps (320-Amp) Three- Phase up to 200-Amps 120/208 Volts

ITEM MATERIAL OR WORK DESCRIPTION	PARTY TO FURNISH	PARTY TO OWN AND MAINTAIN	PARTY TO INSTALL^	INSPECTION
Permits	Customer	N/A	N/A	N/A
Underground Service Lateral Cables and Conduit	MPEI	MPEI	MPEI (always cable) ^Customer	MPEI
Service Entrance Conduit	Customer	Customer	Customer	State or Local Electrical Inspector
Post Mounted Meter Assembly (if required)	Customer	Customer	Customer	MPEI/State or Local Electrical Inspector
Meter Socket	Customer	Customer	Customer	MPEI/State or Local Electrical Inspector
Meter Pedestal (Single- phase only)	MPEI	Customer	MPEI ^Customer	MPEI/State or Local Electrical Inspector
Billing Meter	MPEI	MPEI	MPEI	N/A
Customer Side Conduit and Conductor	Customer	Customer	Customer	State or Local Electrical Inspector
Ground Rod(s)	MPEI	MPEI	MPEI	State or Local Electrical Inspector
3-ph Transformer Secondary Connectors 2-Hole Compression NEMA Lugs	Customer	MPEI	MPEI	MPEI

^ Denotes depends on whether customer elects to have a qualified contractor install facilities. Starting July 2024

MPEI TABLE OF RESPONSIBILITY

Underground Service- CT Meter on Building or Post Mounted Assembly Single- Phase over 400-Amps, Three- Phase over 200-Amps, and all Three- Phase 277/480 Volt Services with VTs

ITEM MATERIAL OR WORK DESCRIPTION	PARTY TO FURNISH	PARTY TO OWN AND MAINTAIN	PARTY TO INSTALL	INSPECTION
Permits	Customer	N/A	N/A	N/A
Underground Service Lateral Cable and Conduits	Customer	Customer	Customer	State or Local Electrical Inspector
Service Entrance Conduit	Customer	Customer	Customer	State or Local Electrical Inspector
Post Mounted Meter Assembly (if required)	Customer	Customer	Customer	MPEI/State or Local Electrical Inspector
Meter Socket (CT) (if required)	MPEI	MPEI	MPEI	MPEI/State or Local Electrical Inspector
CT/Meter Transocket (if required)	MPEI	Customer	Customer	MPEI/State or Local Electrical Inspector
CT Cabinet (if required)	Customer	Customer	Customer	MPEI/State or Local Electrical Inspector
Metering Conduit (if required)	Customer	Customer	Customer	MPEI
Billing Meter, CT's, VT's, and Metering Circuit Cables	MPEI	MPEI	MPEI	N/A
Customer Side Conduit and Conductor	Customer	Customer	Customer	State or Local Electrical Inspector
Ground Rod(s)	Customer	Customer	Customer	State or Local Electrical Inspector
3-ph Transformer Secondary Connectors 2-Hole NEMA Compression Lugs	Customer	MPEI	MPEI	MPEI

IV. METERING

Refer to Drawing H.

1. In all instances, meter type and locations for individual or multi-unit metering must be approved by an authorized MPEI representative in advance of construction and/or purchase of equipment. The meter shall be sited on the property served. Meter locations and disconnects must be accessible at all times for meter reading and maintenance**.** MPEI also recommends that new service ratings are a minimum of 200 amps, to allow for future load increases.

2. Owners shall furnish and install all self-contained meter sockets with lever bypass for services up to 320 amps complete with any hubs or cover plates, and any CT cabinets (except for transockets), service connection cabinets, multiple (stacked) meter socket panels, switchgear metering compartments as required to meet MPEI requirements and NEC/local codes. Prior to purchasing of equipment, the owner is responsible to coordinate with MPEI's Engineering Department to assure equipment is acceptable to MPEI. The exception for no lever bypass with jaw release is for temporary services and permanent meter pedestals for single- phase up to 200 amps.

3. All services must comply with the Tariff Section III, 321.00. All services to owners will be supplied by a single service and only one meter. Each unit of a multi-unit building is required to have an individual meter.

4. Only MPEI employees or qualified individuals authorized by MPEI are permitted to connect, disconnect, move, or remove meters. All meters, service wires, and other electrical facilities installed by MPEI on the utility side of the point of delivery upon the customer's premises for delivering or measuring electrical energy to the owner shall continue to be the property of MPEI. All metering equipment owned by MPEI and not installed shall be returned to MPEI. These facilities may be repaired, inspected, tested, relocated, replaced, or removed by MPEI.

Meter Location

Meters located on poles are allowed and preferred on secondary poles**.** Meters and disconnects are only allowed on MPEI primary poles if they are accessible by bucket truck, which is at the sole discretion of MPEI.

Self-contained and transformer-rated meters (including CT/VT cabinets) shall be installed outdoors in accordance with rules in this Section governing outdoor meter installations. Under unusual circumstances, when it is not practical to install outdoors, the meters may be located indoors. PRIOR WRITTEN APPROVAL UTILIZING THE EXCEPTION FORM SHALL BE OBTAINED FROM MPEI METER DEPARTMENT BEFORE AN INDOOR LOCATION IS APPROVED.
Approved indoor meter installations, at the sole discretion of MPEI, shall be grouped together in a common room or other suitable space with direct access from outside the building or common area. Approved indoor meter installations shall have a suitable lockbox or alternative keyless entry. MPEI shall be given code access to enter.

The owner shall provide and maintain, an easily accessible metering location. No wiring dependent upon a meter location shall be started until a permanent meter location has been approved by MPEI. MPEI will not be responsible for the relocation of the service attachment, service entrance, or meter socket resulting from an improper location chosen by the owner, which does not meet the requirements of MPEI.

Meters installed outdoors which become inaccessible due to alterations to the property or building, or become enclosed within the building structure, where access through a doorway is required, shall be relocated to an outdoor location designated by MPEI's Engineering Department. The relocated service entrance installation shall conform to current MPEI Standards. Meters shall be reinstalled at a point designated by MPEI at the expense of the property owner.

Gated communities or individual customers with locked gates which limit MPEI access need to supply MPEI with code for keyless entry or lockbox combination.

Mobile homes, construction trailers, and those buildings not intended as a dwelling unit, such as, but not limited to, contractor's onsite offices, sales offices, mobile studios, mobile stores, or construction job dormitories intended for sleeping purposes only, shall have the meter socket located adjacent to, and in line of sight, of the structure it supplies. The meter socket shall not be mounted on or attached to the structure. Refer to the NEC.

Meters shall be installed:

1. In a location that will be easily accessible to MPEI personnel for reading and maintenance
2. In a location where they will be safe from damage
3. On owner's property
4. On the property being served

Meters shall not be installed:

1. On fences, mobile homes, or construction trailers
2. Where the meter will interfere with traffic on sidewalks, driveways, hallways, or passageways; at the sole discretion of MPEI.
3. Where the meter will obstruct the opening of doors or windows, at the sole discretion of MPEI.
4. In a location that may be considered hazardous, at the sole discretion of MPEI.
5. Where meter reading or servicing may become impracticable, at the sole discretion of MPEI.

Meter Installation

Installation of utility-side of the meter facilities shall be in conformance with MPEI drawings.

Installation of the meter socket is the responsibility of the customer. Meter sockets and associated equipment, both indoors and outdoors, shall be mounted securely and plumb. Expansion bolts, plugs, or anchors shall be used where attachment is made to masonry, concrete, or plaster walls.

The meter socket, service mast, service riser, or any conduit containing conductors on the utility-side of the meter shall not be covered or concealed except when necessary to pass through roof eaves.

Any location that puts a meter at risk of damage will be the responsibility of the property owner to provide suitable protective equipment and shall be approved by MPEI.

All utility-side unmetered conductors shall be in a continuous length of conduit from the point of delivery to the meter socket, main disconnect, or CT cabinet. No conductors other than utility-side conductors, shall be permitted in utility-side conduits, troughs, or lug landings. Access to the utility-side conductors shall be sealable. Junction boxes, conduit bodies, LB's, or other devices are not allowed without specific approval from the Meter Department.

Meters serving structures designed for multiple occupancy, shall be grouped together at a point nearest to the service entrance. Individual meter sockets may be placed as close together as the fittings will permit, but in no case less than 2 inches apart.

Conductors in Meter Socket – Drawing H

For any underground services, the center knockout on the horizontal surface in the bottom of the socket, if provided, shall not be utilized. MPEI-side and customer-side conductors shall only enter or exit through opposite sides of the socket. The MPEI conductors shall enter through the knockouts provided at the left end of the bottom horizontal surface of the meter socket. MPEI conductors shall be routed along the outermost edges of the meter socket allowing for ground settling. The knockouts on either end of the horizontal surface or the knockouts provided on the vertical surfaces of the meter socket may be used for the customer conductors. Owner's conductors shall exit the right side or the lower knockout on the rear wall of the socket on the lever-type bypass meter sockets and shall not exit the left side of the meter socket.

Meter Socket Identification – Drawing L

The unit number shall be plainly marked on all meter bank installations with a stamped brass tag securely attached to the meter socket. The tag will identify the corresponding main service breaker, tenant panel board, doorway, or entrance to the apartment, office, store, or other premise. The stamped tag shall be attached to the exterior, non-removable portion of the meter socket or at the individual meter main disconnect. Any other means of identification is not acceptable.

Note: Meter will not be installed until all units are permanently marked.

Meter Mounting Heights

Note: Refer to Drawing F.

Meters should be mounted at 5'6"at the middle of the glass. Gang meters are referenced in Drawing F. If a platform is used to achieve the required mounting heights for a meter installation, it shall be permanent and accessible by a stairway and have railings as required by code. The minimum horizontal dimensions of the platform shall meet the NEC requirements for working space as specified by METER CLEARANCES in this section.

Meter Clearances

The minimum depth of working space in front of metering equipment shall be 3', 3'- 6", or 4' in accordance with the NEC. The minimum width of the working space in front of metering equipment shall be the width of the metering equipment or 2'- 6", whichever is greater, in accordance with the NEC. Customer owned equipment may NOT be installed directly in front of metering equipment.

Metering equipment includes disconnects, CT cabinets, service connection cabinets with metering CT's, switchgear CT compartments, and meter sockets.

Clearances from Gas Meter Sets and Sources of Ignition

The minimum clearance between gas meter sets and sources of ignition are 3- feet radially from the discharge point of the regulator or relief valve. The 3-foot clearance from a source of ignition is measured from the vent or source or release (discharge port), not from the physical location of the meter set assembly. Refer to Drawing F.

Self-Contained Metering

Single-phase 120/240-volt services with a rating of 400-amps or less, single-phase 120/208-volt (network) services rated up to 200-amps, and three-phase 120/208 volt services rated up to 200-amps shall be metered by self-contained meters. Services where the rating is in excess of the above limits and all new 277/480-volt services shall use instrument transformer (CT and PT) metering.

The total continuous load on self-contained metering shall not be greater than 200-amps on a 200-amp meter socket or 320-amps on a 320-amp meter socket. For devices having a meter socket in combination with a main disconnect(s), the total amp rating of the main disconnect(s) shall not exceed 250-amps, for a 200-amp continuous duty rated meter socket or 400-amps for a 320-amp continuous duty rated meter socket. If the service exceeds the stated limits, it will be the responsibility of the owner to upgrade the system at their expense. Lever operated bypass is required on all self-contained meter sockets except temporary meter setups, 100-amp meter sockets, and meter pedestals.

All self-contained single position and/or modular (multi-position) meter sockets that are of either single-phase or three-phase design shall be furnished, owned, and maintained by the owner. All self-contained meter sockets shall be UL listed and labeled and will be inspected by the local Public Authority for compliance to the NEC and any other applicable codes. The construction of the meter sockets shall also conform to MPEI standards as described in METER SOCKETS in this Section.

K-base type meter socket installations are no longer allowed within MPEI service area on new installation or upgrades on services.

Meter Sockets

Self-Contained 200-Amps and 320-Amps Meter Sockets Shall Have Lever Operated Bypass:
Purchasing, installing, connecting, and maintaining self-contained meter sockets, including hubs or hub cover plates, shall be the responsibility of the owner. All meter sockets shall be UL listed and labeled, used in accordance with their labeling, installed per the NEC, and meet any code requirements that may be enforced by the local Public Authority.
All single and multiple position meter sockets installed on MPEI's system shall meet MPEI's standards for these devices as listed below. MPEI personnel are instructed not to install a meter at a location where the meter socket does not comply with **all criteria listed below**:

1. Individual meter sockets shall be constructed from steel in accordance with Underwriters Laboratories (UL) Standard No. 414-revised March 24, 1999, or as may be amended. Sockets constructed from aluminum or non-metallic materials are not allowed.

2. Individual meter sockets, excluding side-wired type which are bussed on the utility-side of the meter, used in underground installation shall have the following minimum dimensions:
   a. 200-amps – 19 inches height X 13 inches width
   b. 320- amps – 26 ½ inches height X 13 inches width

3. Temporary cover plates for meter sockets shall be constructed from a non-metallic material.

4. Single-phase meter sockets shall be rated either 200-amps or 320-amps continuous duty and three-phase 120/208 voltmeter sockets shall be rated for 200-amps continuous duty, and shall be equipped with an approved lever-actuated locking-jaw bypass. The only approved bypasses are the Siemens, Landis & Gyr HQ, Square D, Milbank HD (**H**eavy **D**uty) and Eaton MSL (**M**eter **S**ocket **L**ever Bypass**).**

   Exception 1: For single-phase temporary services (e.g., construction temporary), a meter socket without bypass is permitted, provided all the following conditions are met:

   a) The total connected load is 200-amps or less.
   b) The service voltage is 240-volts or less.
   c) Refer to Drawing A for other requirements.
   d) All other self-contained meter socket requirements listed in this section are met.
   Note: Permanent single-phase installations do not qualify for this exception.

   Exception 2: For meter pedestal installations of permanent single-phase services rated up to 200-amps provided by MPEI, a meter socket without a bypass is permitted.

5. Sockets shall be equipped with an insulating track-resistant polycarbonate safety shield.

6. Sockets shall have ringless style cover. Screws, studs, or wing nuts are not allowed to secure meter covers.

7. The enclosure shall have a means of sealing by installation of a plastic padlock seal.

8. 320-amp meter sockets shall have an anti-inversion clip (field installed) in the top right terminal.

Additional Requirements for Self-Contained Meter Banks Panels – Drawing L:

Meter bank shall be constructed from steel. Panels constructed from non-metallic materials are not allowed.
Each meter socket shall have an individual ringless style cover with sealing provisions. Screws studs or wing nuts are not allowed to secure meter covers.
The panel shall have permanent barriers to isolate the customer's disconnect switch and wiring from the metering areas.
Each utility-side compartment shall have provisions for MPEI's seal, whether or not the compartment is designed to house a meter.
No meter bank panels shall have a door that completely encloses the utility metering.

Meter Pedestal (200-amps, Single-Phase, 240-Volt) – Drawing B & Installation Guide:

The meter pedestal shall be furnished by MPEI at the owner's expense. The meter pedestal shall be installed by MPEI and owned and maintained by the owner. The installation of the meter pedestal is to be installed on the owner's property.

Instrument Transformer Meter Sockets

MPEI supplies CT, PT and wiring to the meter socket, the owner installs and maintains meter socket and metering cabinet. MPEI will furnish and install instrument transformer meter sockets except transockets. The transockets will be furnished by MPEI and installed, owned, and maintained by the owner. MPEI shall be contacted first to determine the load, and service voltage. The owner shall contact MPEI Meter Department to coordinate meter installation.

Additional Requirements for Combination Metering Devices:

- Combination metering devices, such as meter/main and meter/panel, shall be constructed from steel. Devices constructed from non-metallic materials are not allowed.
- Combination metering devices, excluding side-wired type which are bussed on the utility-side of the meter, used in underground installations shall have the following minimum dimensions in the metering section:
  - 200-amps – 9 ½ inches height X 13 inches width (height measured from top of enclosure to center of meter block).
  - 320-amps – 13 ¼ inches height X 13 inches width (height measured from top of enclosure to center of meter block).
- Combination metering devices shall have permanent barriers to isolate the owner's disconnect switch and wiring area from the metering area.
- Combination metering devices shall have separate covers on the owner's disconnect switch and wiring area and on the metering area.

Instrument Transformer Metering, Secondary Voltage

MPEI requires all metering to be hot sequenced for maintaining communications with the metering system. Hot sequence is the act of placing the metering package before the main service disconnect, allowing the service to be shut down without powering down the metering. An exception is a multi-metered building consisting of a bank of meters, being fed form one source. For safety, a main disconnect is placed before the meter bank, allowing shut down of the whole building, removing all power, with the operation of one handle. Placing the main disconnect before the metering is referred to as cold sequence metering. A service main disconnect is normally place after each meter for normal service operation, leaving the main disconnect for emergency operation only, keeping communications to the meters if normal conditions exist.
The placement of the main disconnect location also can be dictated by the Public Authority having jurisdiction of the service area.

Member supplied and owned equipment include the CT Cabinet and Switchgear CT Compartment. MPEI supplied, owned, and maintained equipment include instrument/transformer rated metering current transformers (CT's), voltage transformer pack/ potential transformers (VT Pack/ PT's), and meter socket (instrument rated only).

Installation of these devices can be completed by a qualified electrician or the MPEI Metering Department. Normally the member's qualified electrician will install these items. Once the MPEI Metering Department has notification of the completed installation, wiring of the metering package (meter, CT, VT) will be performed on-site. The member's qualified electrician completes and supplies all other needed wiring and material needed to complete this service installation. No member owned equipment or other wired circuits can be installed or run through the meter boxes and metering space. ALL installations and wiring are to be installed in accordance with the NEC and MPEI OH & UG Construction Standards.

Transockets

Transockets are supplied by MPEI at the member's expense. The instrument/ transformer rated metering current transformers (CT's), voltage transformer pack/ potential transformers (VT Pack/ PT's), and transocket will be supplied, and wired by MPEI. Member will have ownership, and maintenance of the transocket enclosure only. Access into the enclosure, while in active service ,is ONLY authorized MPEI employees or MPEI authorized contractors. The transocket will be installed, and service wires, LINE and LOAD landed by the members qualified electrician. Member owned equipment or other wired circuits cannot be installed or run through this metering space. ALL installations and wiring are to be installed in accordance with the NEC and MPEI OH & UG Construction Standards.

NOTE: Voltage transformer packs/ potential transformers (VT Pack/ PT's) are only used for services of 480 volt services. MPEI restricts the voltage at the meter socket to 120 volts for safety reasons. The VT pack/PTs reduce the voltage to 120v, meeting this requirement.

Metering conduit installed below grade (underground) from the meter-socket to the CT cabinet (or compartment) shall be minimum 1.5" schedule 40 PVC. Meter conduit installed above grade (above ground) from the meter-socket to the CT cabinet (or compartment) shall be minimum 1-inch GRC, IMC, or EMT. Metering conduit shall be a continuous run between the meter socket and the CT cabinet. The conduit run shall not exceed 10 feet in length. Installations requiring conduit shall only be 10 linear feet. Total degrees of bends shall not exceed 180, the equivalent of two quarter bends. Junction boxes, conduit bodies,LB's, or other devices are not allowed without prior written approval from MPEI Meter Department.

The meter socket shall be bonded with a separate bonding conductor in accordance with the NEC..

CT Cabinets

In addition to the general requirements in Sections Metering, Instrument Transformer Metering, Secondary Voltage, the following requirements shall also be met:

The CT cabinet (enclosure) shall meet NEMA 3R standards and shall be factory labeled "NEMA 3R."

The CT cabinet shall be UL listed and labeled as a CT enclosure.

Installations of 1200-amps rating and below shall have mounting provisions for bar-type CT's, 2 for single-phase, 3 for three-phase.

Installations for 1200 to 4000-amps rating shall have a minimum 12 inches in length removable bus section and an insulated CT supports which will accommodate MPEI furnished ABB Type CLC window-type CT's. The removable bus section shall have an enclosed screw type compression terminal to accommodate a minimum #12 copper AWG metering potential conductor.

Any CT metering cabinet (or compartment) used for 277/480 volt shall have installation provisions for three (3) MPEI furnished VT's, T6R (cat#92358-241).

The CT cabinet shall be furnished with factory installed landing pads and lugs for phase and neutral conductors.

The neutral bus shall have a grounding lug which will accommodate one #12 AWG solid through two #10 AWG stranded copper wires(s) for the metering neutral conductors.

All instrument transformer compartments shall have barriers between adjacent areas.

The door shall be hinged either on the left or right side and be equipped with a hasp for a MPEI padlock with a 5/16 inch diameter shackle.

The installation height of the CT's shall be between 2'-0" minimum and 6'-0" maximum measured from the center of the CT's to final grade. The minimum clearance from the bottom of a wall- mounted CT cabinet to final grade shall be 1'-0".

The utility-side conductors shall enter and terminate in the top half of the CT cabinet, and the customer-side conductors shall exit and terminate in the bottom half. Neither the utility-side nor the customer-side conductors shall cross the horizontal centerline of the CT cabinet.

Refer to the table below for CT cabinet minimum dimensions.

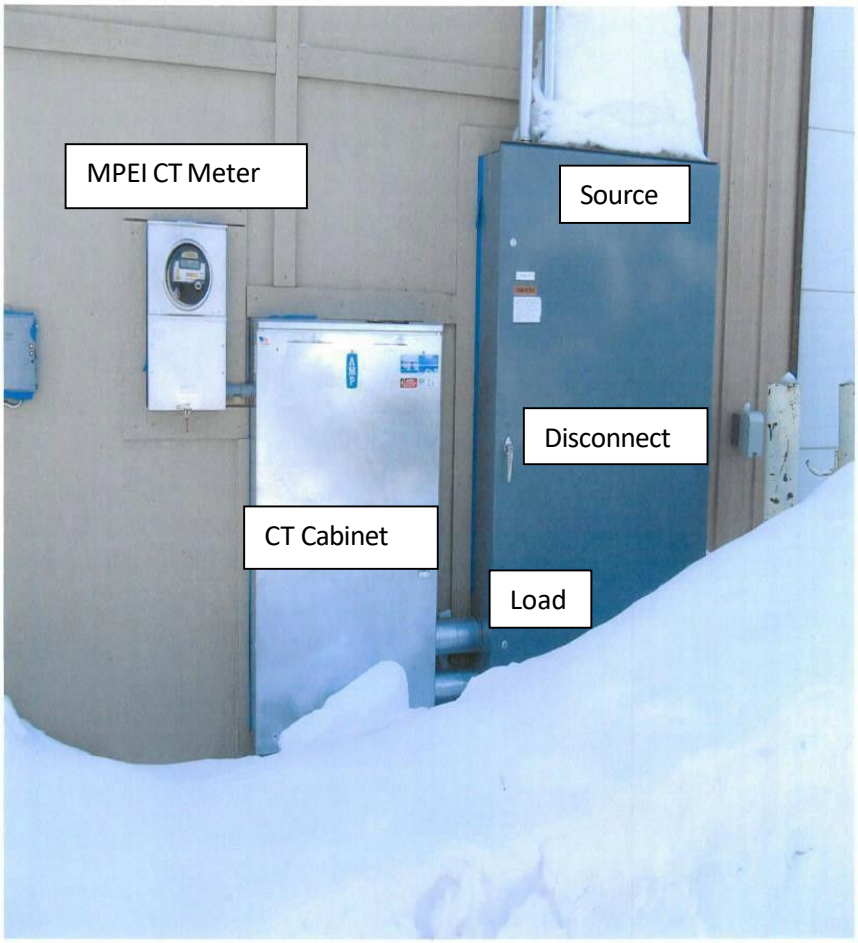
MINIMUM DIMENSIONS FOR WALL-MOUNTED CT ENCLOSURES AND SWITCHGEAR

Ampacity	Minimum Number of Conductor Terminals to Provide	Vertical Bending Space (1Φ to 3Φ)	Depth (3Φ)	Depth (1Φ)	Width (3Φ)	Width (1Φ)
400	1	18"	10"	10"	30"	24"
600	2	18"	10"	10"	30"	24"
800	2	24"	12"	10"	32"	24"
1000	3	24"	12"	---	32"	---
1200	4	27"	12"	---	32"	---

Current Transformer (CT) Meter InformationGuide

What load qualifies as a CT metered service?

All CT Cabinets shall meet NEMA 3R standards and be UL listed and labeled as a CT enclosure. Transockets are limited to a maximum of 600 amps.

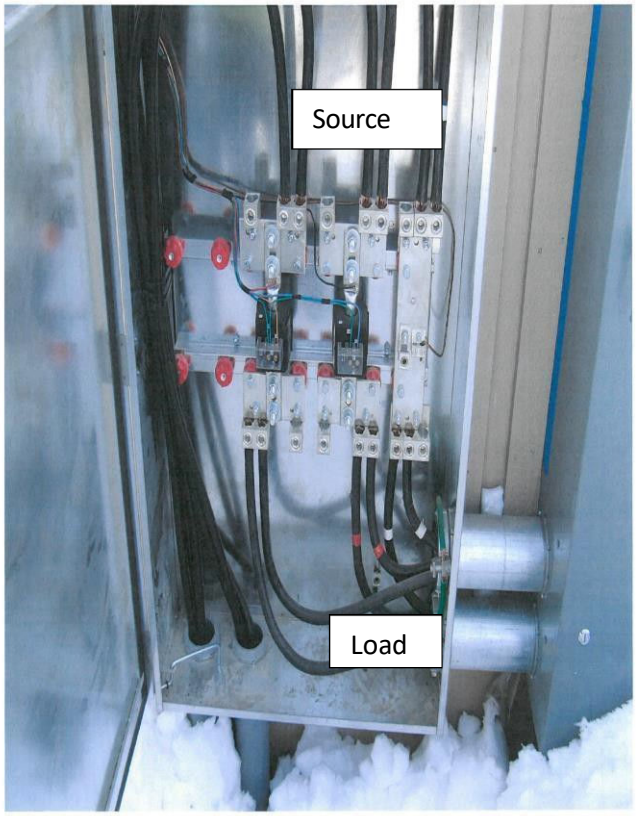


Single - phase 120/240 services 400 amps or greater.
Up to 600 amps- Transocket or CT Cabinet
Over 600 amps- CT Cabinet
Primary and Secondary poles- Pole mount CT's

Three-Phase 120/208 services over 200 amp
Transocket up to 600 amps
CT Cabinet
Primary and Secondary poles- Pole mount CT's

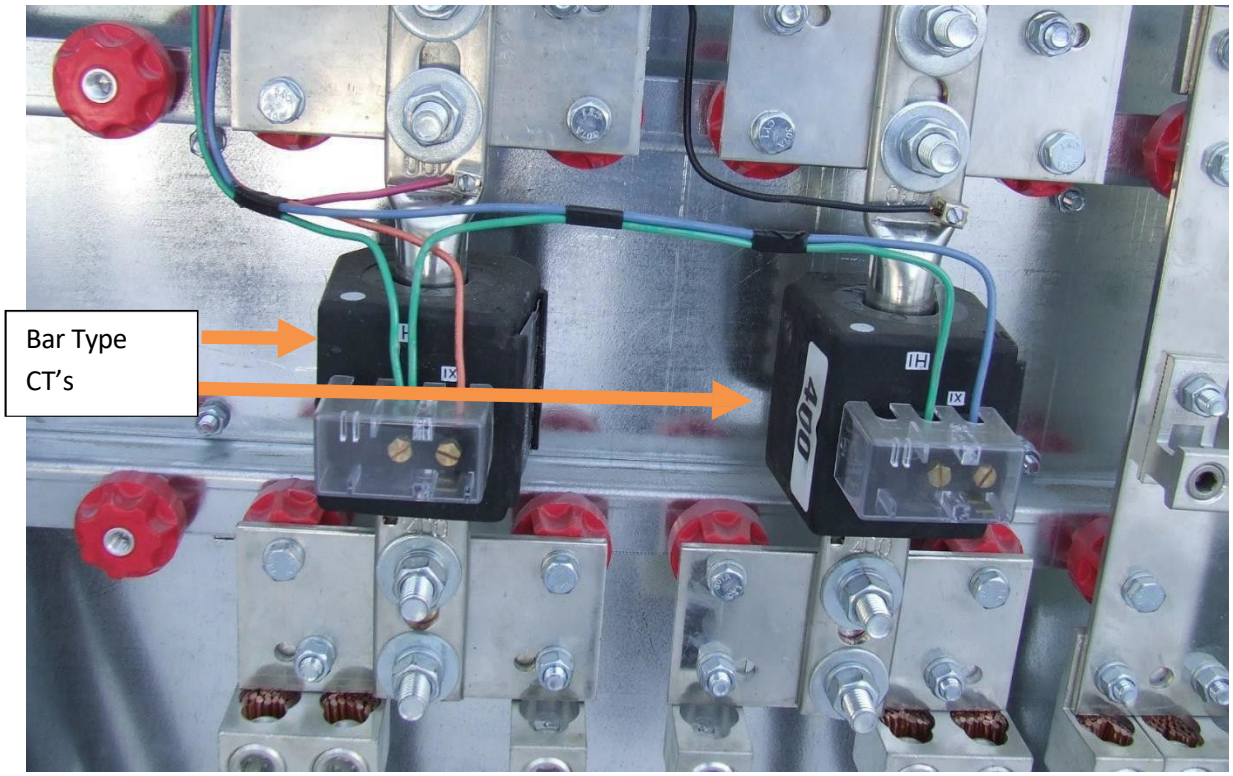
Three-Phase 277/480 services of any size
Transocket up to 600 amps

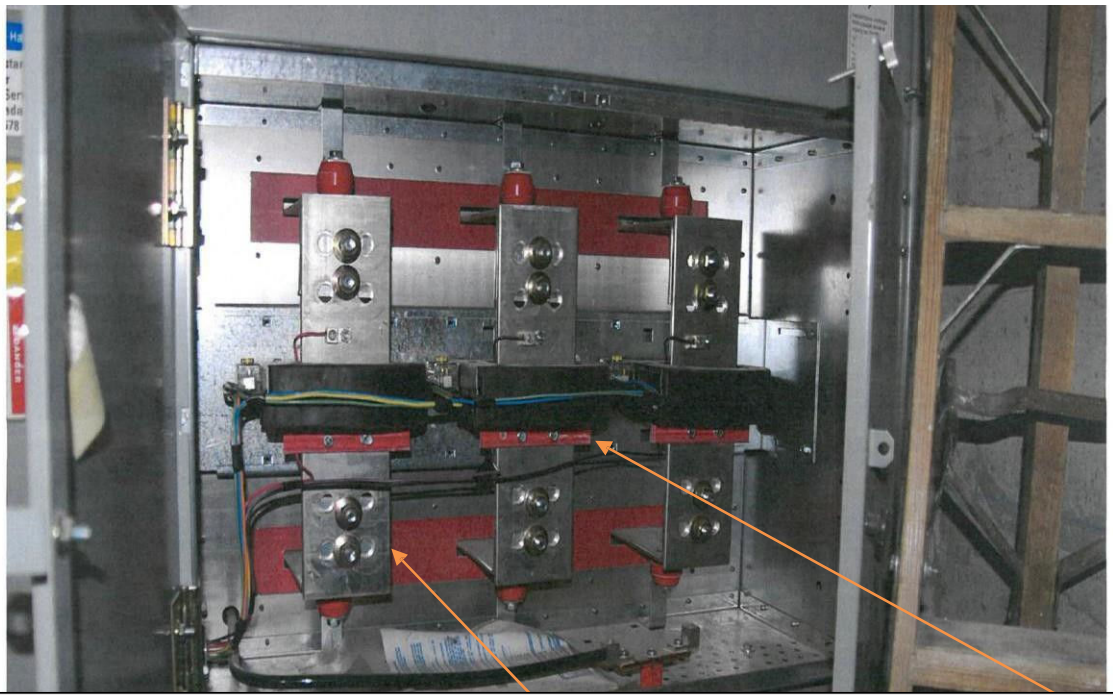
A disconnect is NOT allowed ahead of the CT Cabinet, unless required by local Public Authority having jurisdiction.
Hot Sequence is meter and CT Cabinet installed ahead of or on the source side of the main disconnect



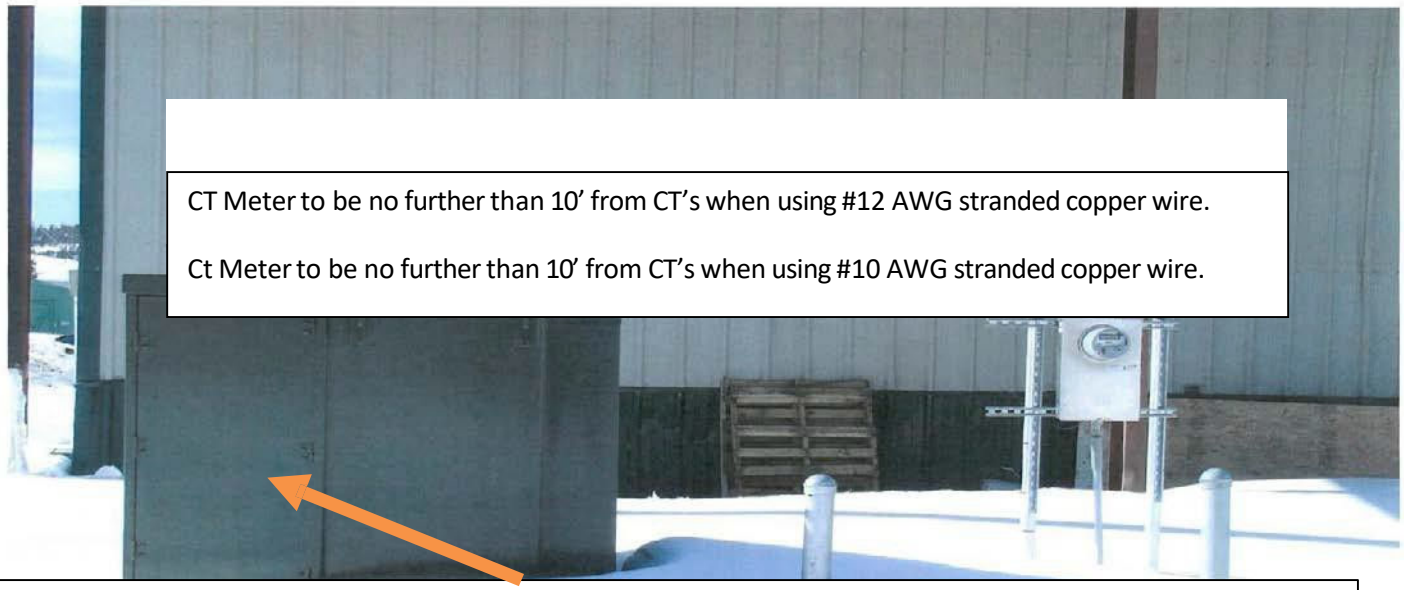
Installations of 1200-amps rating and below shall have mounting provisions for bar-type CT's, 2 for single-phase and 3 for three-phase as shown in the picture below.

The utility-side conductors shall enter and terminate in the top half of the CT cabinet, and the customer-side conductors shall exit and terminate in the bottom half. Neither the utility-side nor the customer-side conductors shall cross the horizontal centerline of the CT cabinet.





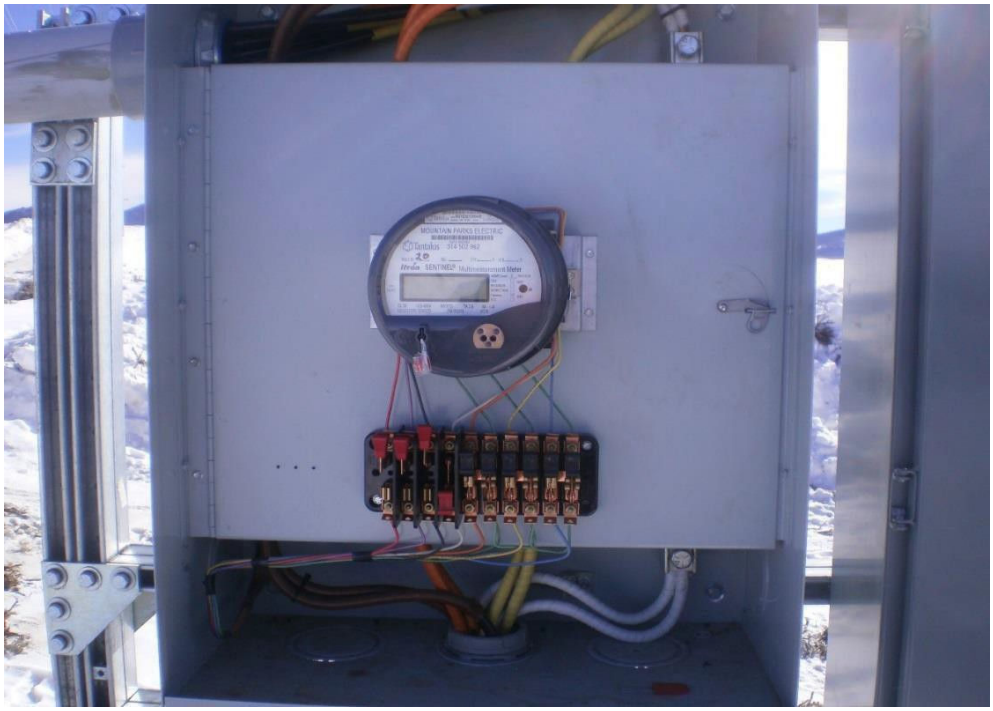
1200A to 4000A rating shall have a minimum 12" in length removable bus section and insulated CT supports which accommodate MPEI furnished ABB type CLC window type CT's.



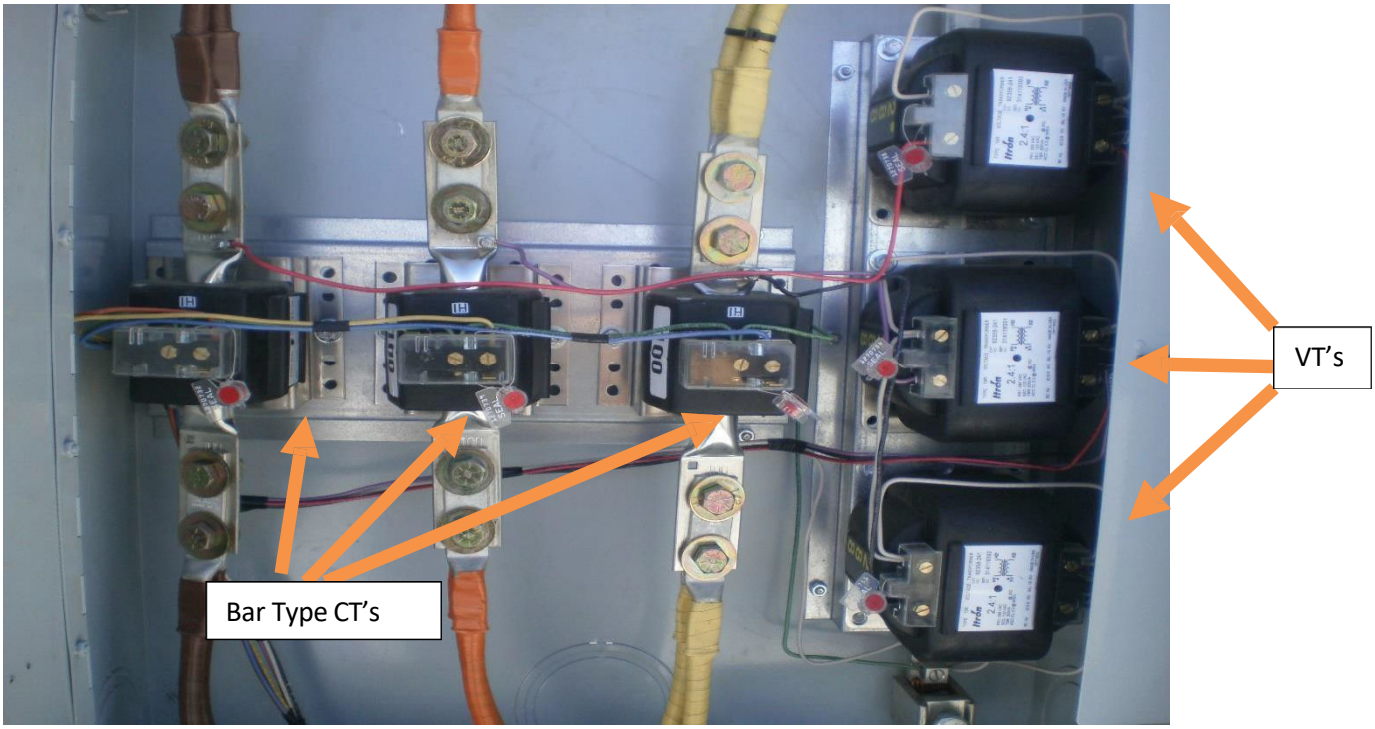
CT Meter to be no further than 10’ from CT’s when using #12 AWG stranded copper wire.

Ct Meter to be no further than 10’ from CT’s when using #10 AWG stranded copper wire.

120/208 three- phase service with CT’s in the transformer;this is acceptable if this transformer feeds this service only.



277/480 volt three- phase (pedestal mount) service in a MPEI supplied transocket



Primary Meter Installations

MPEI owned primary metering installations shall be located on the owner's property within a distance of 5 to 10 feet from the access point. Primary metering installations require coordination between the owner and MPEI regarding technical details and location.

The MPEI meeting with the staking technician will be scheduled of the so the design and construction work of both parties may be properly coordinated**.** Primary voltage installations use both current and voltage instrument transformers regardless of the load current. The primary meter installation will be installed in a MPEI owned primary metering cabinet.

Meter Bank Installations for Single-Phase Service or Three-Phase Service (Commercial Centers, Condominiums, Apartments, and Mobile Homes)

Refer to Drawing L.

When applying for service, MPEI requires the Final Plat for the project in AutoCAD compatible format (DXF or DWG) meeting MPEI CAD file as stated in the CAD file requirements within this standard. If adequate easements are not defined with in the subdivision plat, the project owner is responsible for obtaining signatures from the property owner(s) or Home Owner Association for all required easements using MPEI documents. Required easements may include but are not limited to:
Primary line and vault installation
Secondary lines across open space or tracts
Wall or common element easements

When a meter bank is installed (e.g. same building for different customers), the point of delivery is the secondary terminals of the transformer (or MPEI specified secondary junction pedestal)**.** The meters will be permanently marked with brass ID tags, riveted to the disconnect, indicating condo, apartment, space number, or townhome. The unit door, space, or entrance will also be clearly marked with the same designation. After MPEI receives a meter inspection release from a state or local Electrical Inspector, the project owner is required to have their electrician available to meet with a qualified MPEI employee at the site. The employee will verify that the brass ID tags match the corresponding units. Once this verification has taken place, the meters will be connected.

All meter bank equipment, including disconnects and protection for each service (except for the meter itself) must be purchased and installed by the project owner's licensed electrician responsible for wiring the building. Metering equipment must be ringless cover design and meet all National Electric Code (NEC) requirements **(**see Drawing L). *Note: If the meter bank consists of more than 6 services, each individual meter requires its own disconnect with an additional main disconnect installed ahead of the meter bank.*

Project owners are responsible for trenching/backfill/compaction and installation and maintenance of underground secondary conduits and cables from the transformer to the meters as required to meet NEC/local codes. MPEI highly recommends the installation of cable in conduit.

The project owner shall call MPEI Operations Department at least 2 business days in advance to schedule conduit/cable entry into a padmount transformer vault.

Metering panels shall be installed outdoors. Only under unusual circumstances and with advance written approval from MPEI's Meter Department may meter panels be installed indoors. A disconnect must be installed at a readily accessible location, nearest the entrance point of the building. Metering rooms must remain accessible at all times for meter reading and maintenance. If metering room doors are locked, MPEI requires keyless entry with code provided by owner for access. If approved indoors, meter panels shall be on the main building level at entrance point.

Meters on the outside of the building shall be installed on the front one-third of gabled end only, not under drip edge of roof.

MPEI highly recommends that new service ratings are a minimum of 200-amps, to allow for future load increases.

Single-phase padmount transformers are limited to 6 sets of secondary wires up to 500 kcmil. For additional services supplied by the same transformer the project owner will install secondary junction pedestals specified and supplied by MPEI at the project owner's expense, and each pedestal limited to four (4) sets of customer cables of maximum size 500 kcmil aluminum. For more or larger conductors a customer furnished secondary connection cabinet or other design will be required.

Three phase padmount transformers are limited to 8 sets of secondary wires connected with 2-hole NEMA spade terminals. For additional secondary wires the project owner shall furnish and install a customer-owned secondary connection cabinet adjacent to the padmount transformer. Manufacturing

spec sheets and design drawings for the cabinet installation shall be approved by MPEI prior to purchase of the equipment. The point of delivery with secondary connection cabinet is the utility side terminal in the cabinet; the customer shall furnish and install MPEI specified conduits and secondary cables from the transformer to secondary connection cabinet with connections installed by MPEI.

If the project owner installs a meter bank separate from any buildings, the project owner is responsible for the installation and maintenance of underground secondary conduits and cables per NEC requirements from the transformer to the meter bank and from the meter bank to the individual units.

Townhome Projects – Single-Phase 120/240-volts Meter up to 320-Amps or Single-Phase 120/208-Volt Network Meter up to 200-Amps on Building at Each Unit

Refer to Drawing G.

When applying for service, MPEI requires the Final Plat for the project in AutoCAD compatible format (DXF or DWG) meeting MPEI CAD file as stated in the CAD file requirements within this standard. If adequate easements are not defined with in the subdivision plat, the project owner is responsible for obtaining signatures from the property owner(s) or Home Owner Association for all required easements using MPEI documents. Required easements may include, but are not limited to:

- Primary line and vault installation
- Secondary lines across open space or tracts
- Wall or common element easements

Each townhome must be individually metered on the outside of each unit or on the lot for that unit. The service line to each unit, must be installed by the owner's licensed electrician, but will be owned and maintained by MPEI. Services will be routed outside the building within utility easements or on the property served without encroaching on adjacent lots. The point of delivery for such single-phase underground services is the utility (source) side meter terminals.
Meters must be mounted 5 feet 6 inches above ground level. Meter shall be installed on the front one third of the building on a gabled end, not under drip edge of roof.

MPEI highly recommends that new service ratings are a minimum of 200-amp.

Single-phase padmount transformers are limited to 6 sets of secondary wires up to 500 MCM size. For additional services, supplied by the same transformer, the project owner will install secondary junction pedestals specified, and supplied by, MPEI at the project owner's expense. Each pedestal is limited to 4 sets of customer cables of maximum 500 MCM aluminum.

Three -phase padmount transformers are limited to 8 sets of secondary wires connected with 2-hole NEMA spade terminals.

V. CAD Requirements (Subdivision)

1. MPEI prefers that the development has received final plat approval and plat has been recorded before MPEI designs the primary line extension and/or secondary service to the subdivision.
2. Applicant shall provide a complete copy of the recorded final plat to MPEI in electronic format, either *.tif or *.pdf.
3. Applicant shall provide a map or listing of the development containing approved physical addresses for each lot and or unit of the development.
4. One file (DWG or DXF) shall be provided. Xrefs shall be avoided. Multiple layouts within the same drawing file are allowed. File shall contain all plat notes.
5. The CAD file shall be created in the projected coordinate system of NAD 83 State Plane Colorado North Foot (CO83-NF).
6. The drawing file must comply, at a minimum, with Colorado Revised Statutes, Title 38, Article 51 regarding Land Survey Plats.
7. Plat geometry and dimensioning information must be included to allow MPEI to run coordinate geometry on the boundary, right of ways, easements, lot lines, etc.
8. The CAD file shall contain all existing and proposed features that will affect MPEI's design for primary and secondary main lines and electric equipment.
9. An AutoCAD template file containing suggested layers and PLSS Township and Section Lines for the entire service area is available, from the Mountain Parks Electric Engineering Department, upon request. This template file contains section, township, and range lines, as well as a collection of MPEI layers.
10. To the extent practical, the CAD file shall conform to MPEI's drawing requirements contained in the above-described template file. Where the layer structure does not conform to MPEI's drawing standards a data dictionary listing layer name and feature data contained on said layer shall be provided.
11. Applicant consents to MPEI's use of the CAD file to update MPEI's GIS data.
12. Applicant is responsible for assuring that the project data supplied to MPEI is current through all phases of the project design and construction.

Following is a list of MPEI layer names and features. Annotation may reside on the layer for the feature with which it is associated . As stated previously in these requirements, additional layers will be accepted and shall be accompanied by a data dictionary.

	Feature	**Description**
	Section Line	PLSS Section Line, when MPEI drawing template is not used
	Township Line	PLSS Township Line, when MPEI drawing template is not used
	Range Line	PLSS Range Line, when MPEI drawing template is not used

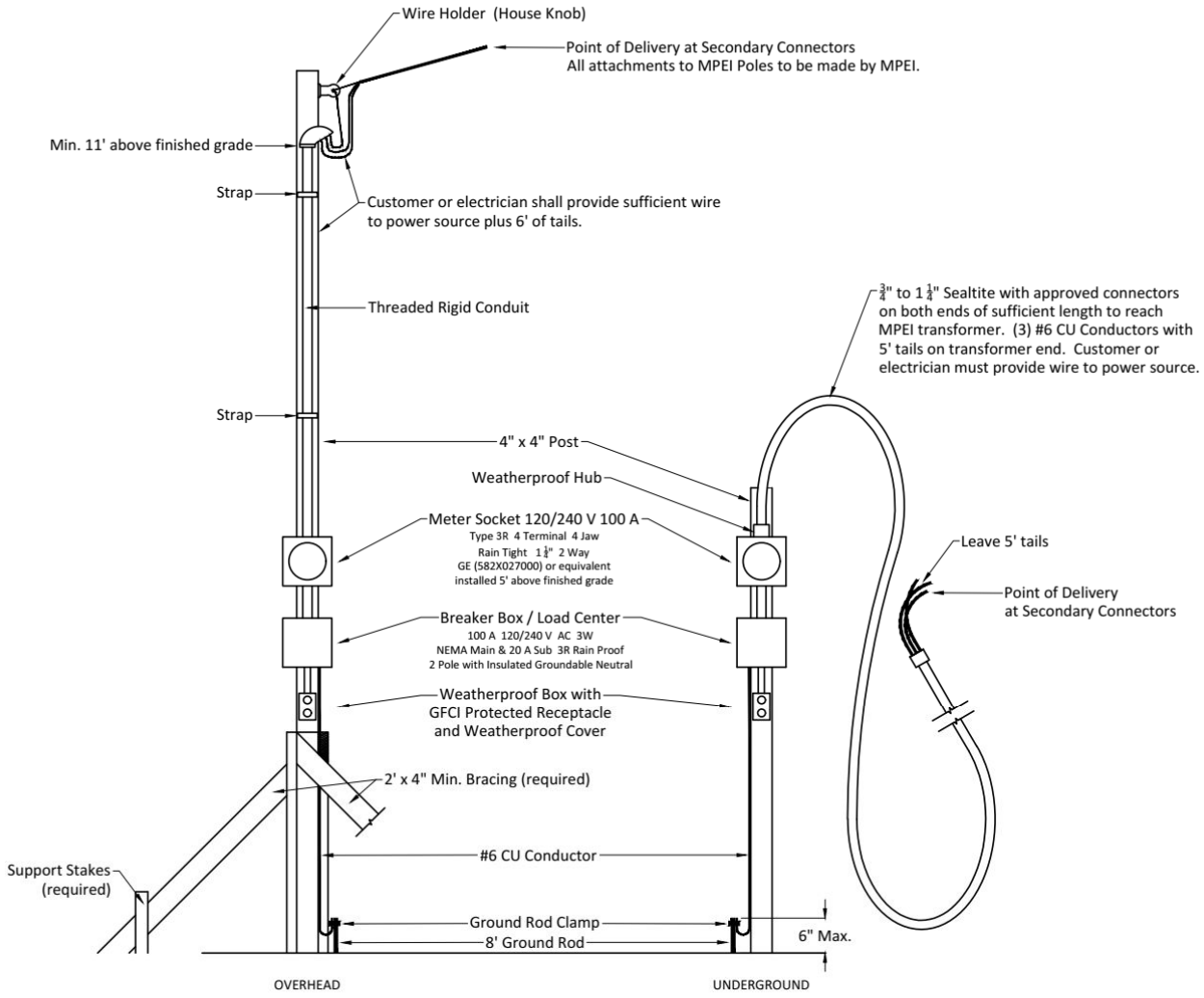
	Quarter Section Corner	PLSS Quarter Section Corner
	Monument	Survey Monument
	Subdivision Boundary	Subdivision Boundary
	Project Boundary	Project or phase boundary, if different than subdivision boundary
	Plat Text	Any annotation not specifically related to a listed layer
	Lot Line	Lot line and lot number
	Building Footprint	Footprint of Building/Structure including deck, porch, stairs, patio, and building/unit identification
	Building Envelope	Building Envelope, where applicable
	Structure	Miscellaneous structure, e.g., gazebo, storage shed, fire pit, hot tub, pool, trash enclosure, playground equipment, etc.
	Address	Physical address of lot, building, or unit
	Setback	Zoning setback
	Road ROW	Road right-of-way
	Road Edge	Edge of driving surface or edge of paved surface
	Road Centerline	Centerline of road
	Parking Area	Parking Area, turn-around, or pull-out
	Driveway	Driveway
	Sidewalk	Sidewalk or other such constructed walkway
	Curb Gutter	Curb, gutter, and drain pan
	Snow Storage	Snow storage or snow staging areas
	Landscaping	Landscaping features or vegetation that may affect design of the electric distribution system
	Sign	Signage that may affect design of the electric distribution system
	Retaining Wall	Retaining wall; regardless of height
	Water Feature	Existing or proposed stream, creek, pond, or lake
	Wetland	Existing or proposed wetlands

	Ditch	Existing or proposed irrigation or borrow ditch
	Fire Suppression	Existing or proposed fire mitigation, control, or suppression facilities
	Fence	Existing or proposed fencing
	Easement Access	Access Easement, label accordingly
	Easement Drainage	Drainage Easement, label accordingly
	Easement Trail	Trail Easement, label accordingly
	Easement Utility	General Utility Easement, label as blanket utility or with specific details
	Easement Electric	Easement specific to MPEI
	Easement Gas	Easement specific to natural gas utility
	Easement Water	Easement specific to water utility
	Easement Sewer	Easement specific to sanitation utility
	Easement Misc	Miscellaneous easement, label with specific details
	Existing Electric	Existing electric line and facilities
	Existing Gas	Existing natural gas line and facilities
	Proposed Gas	Proposed natural gas line and facilities
	Existing Phone	Existing phone line and facilities
	Proposed Phone	Proposed phone line and facilities
	Existing CaTV	Existing cable line and facilities
	Proposed CaTV	Proposed cable line and facilities

	Existing Water	Existing water line, main and secondary
	Existing Water Tap	Existing water tap
	Proposed Water	Proposed water line, main and secondary
	Proposed Water Tap	Proposed water tap
	Existing Sewer	Existing sewer line, main and secondary
	Existing Sewer Tap	Existing sewer tap
	Proposed Sewer	Proposed sewer line, main and secondary
	Proposed Sewer Tap	Proposed sewer tap
	Existing Storm Sewer	Existing storm sewer features including ditches, pipes, and water retention/detention structures
	Proposed Storm Sewer	Proposed storm sewer features including ditches, pipes, and water retention/detention structures
	Existing Lighting	Existing lighting circuit and facilities, including meter location (for metered service)
	Proposed Lighting	Proposed lighting circuit and facilities, including proposed meter location

VI. APPENDIX - Drawings

Drawing A

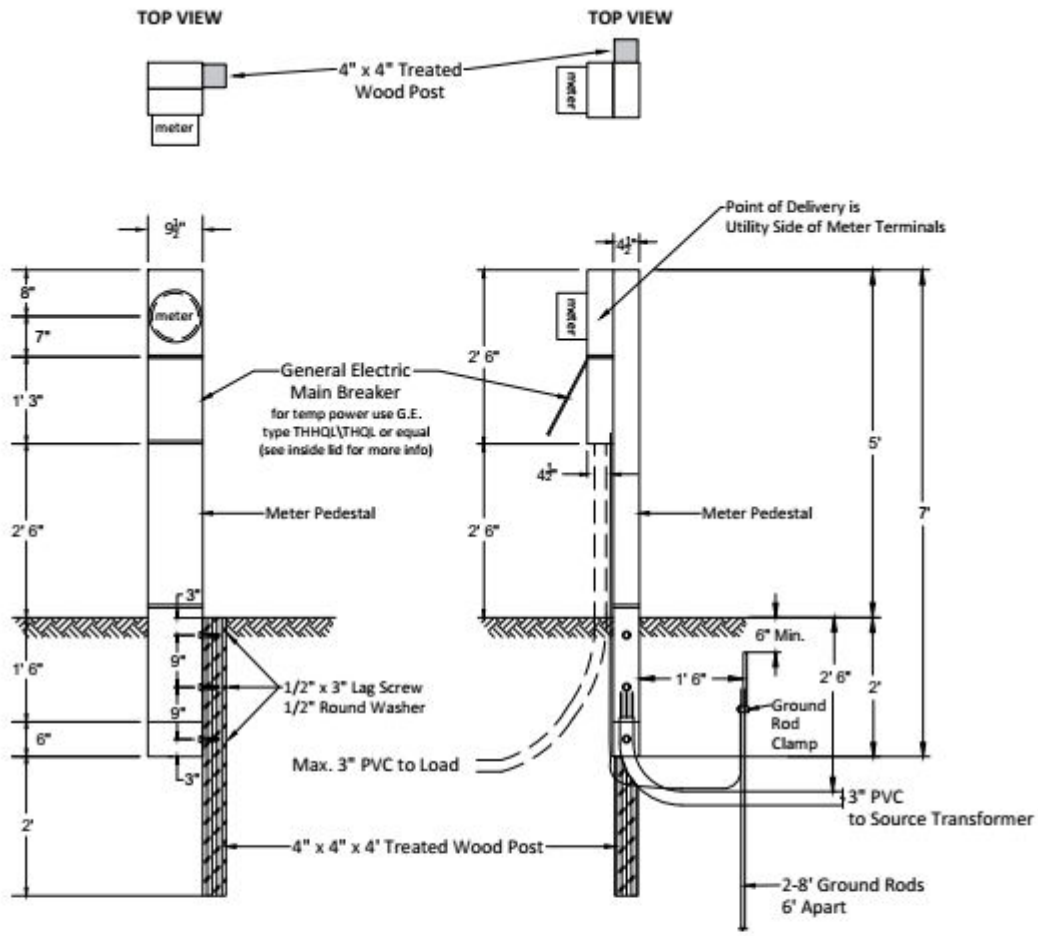


Notes:

1. Burial of 4" x 4" post and bracing shall be sufficient to provide stable support for the duration of the project. Refer to Article 305 of the National Electric Code (NEC) for further information.
2. Always obtain locates of all underground utilities before digging.
3. The customer shall be responsible for their own construction loop. Installations that do not meet MPEI requirements will not be connected.
4. Temporary service meter shall be located on property owned by the customer and within 15' of MPEI source.

	TEMPORARY CONSTRUCTION SERVICE STRUCTURES 1Ø SERVICE UP TO 200 AMPS	
FEBRUARY 2009	MOUNTAIN PARKS ELECTRIC, INC.	Dwg A

Drawing B



NOTES:

1. Pedestal, wood post, lag bolts, washers, ground rods, ground rod clamps, & 6' - #6 Copper & meter provided and installed by MPEI at customer expense, and owned and maintained by customer.
2. Secondary conduit and wire provided and installed by customer downstream of meter.
3. Flex conduit may be used when the pedestal is within five feet (5') of the transformer or junction pedestal.

	PERMANENT METER LOOP CONFIGURATION - METER PEDESTAL 1Ø SERVICE FOR 100 OR 200 AMPS	
JANUARY 2017	MOUNTAIN PARKS ELECTRIC, INC.	Dwg B

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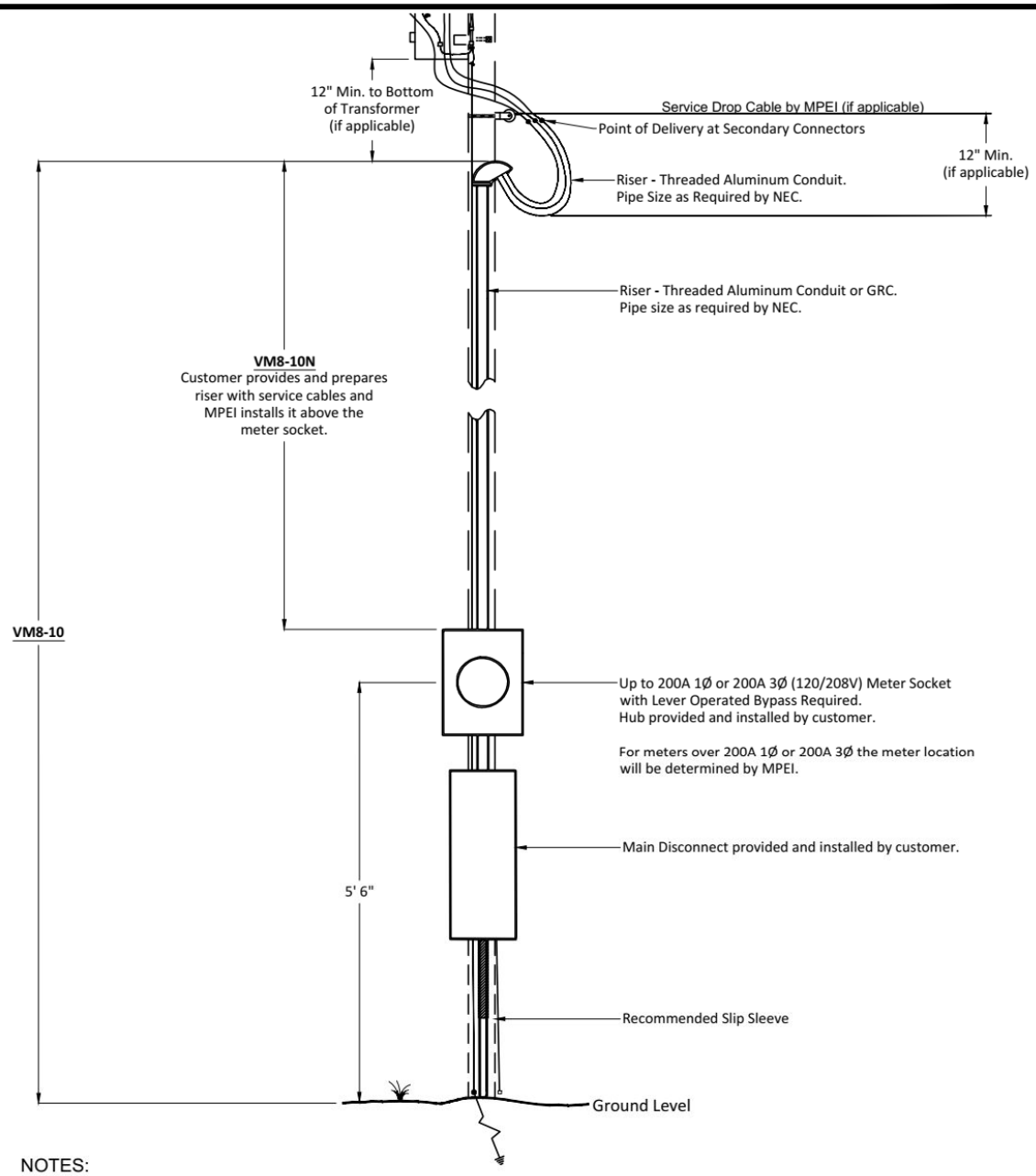
Drawing C

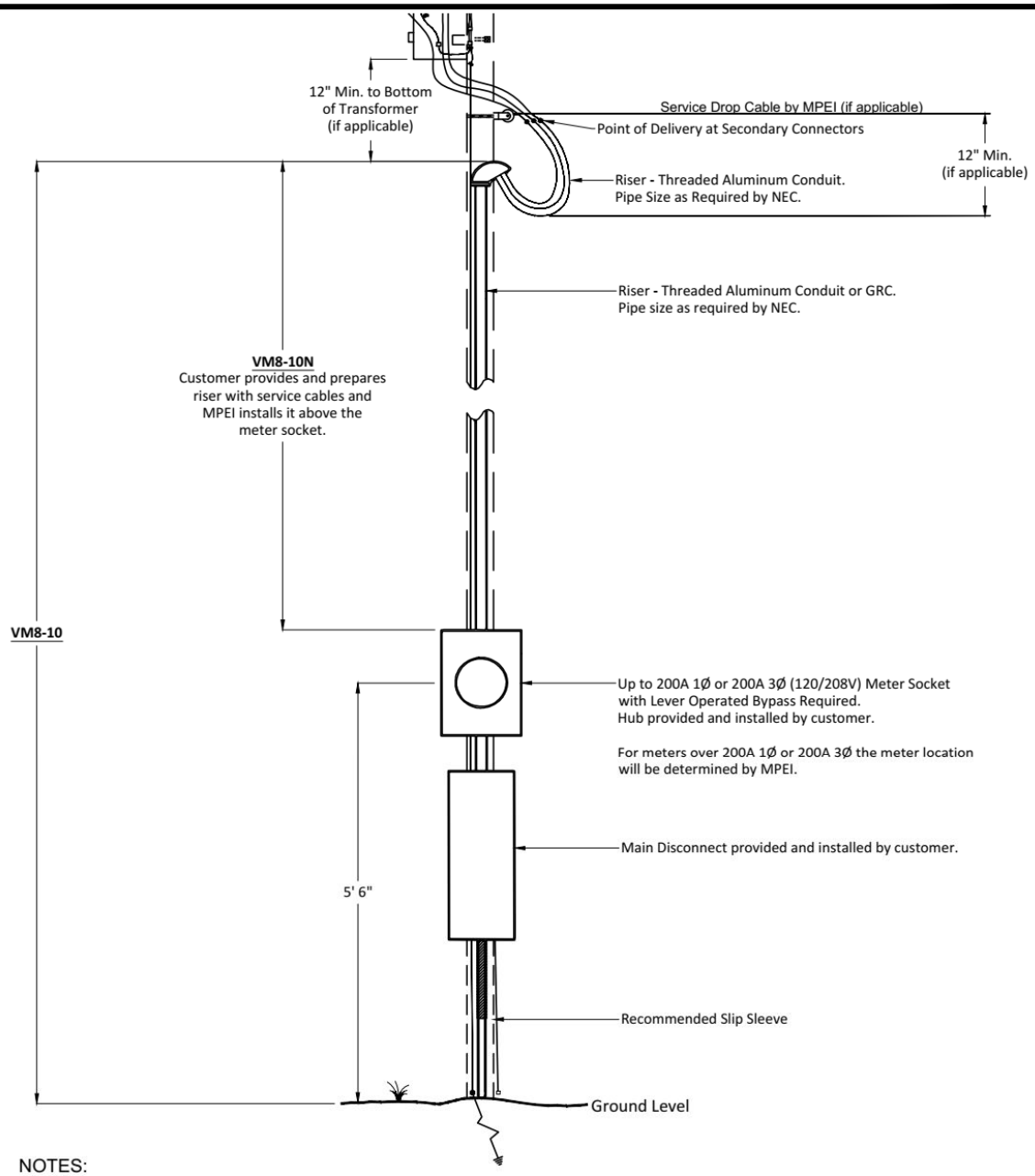


NOTES:

1. Meter location on the pole and riser length must be approved by MPEI prior to installation. Call for measurements.
2. Main disconnect to be installed on the pole below the meter socket.
3. All wiring on load side is subject to NEC requirements and state or local inspection.
4. Ground wire and electrode, per NEC, to be provided and installed by customer.

	TEMPORARY OR PERMANENT METER LOOP CONFIGURATION SECONDARY POLE INSTALLATION 1Ø SERVICE UP TO 200A or 3Ø SERVICE UP TO 200A	
APRIL 2023	MOUNTAIN PARKS ELECTRIC, INC.	Dwg C

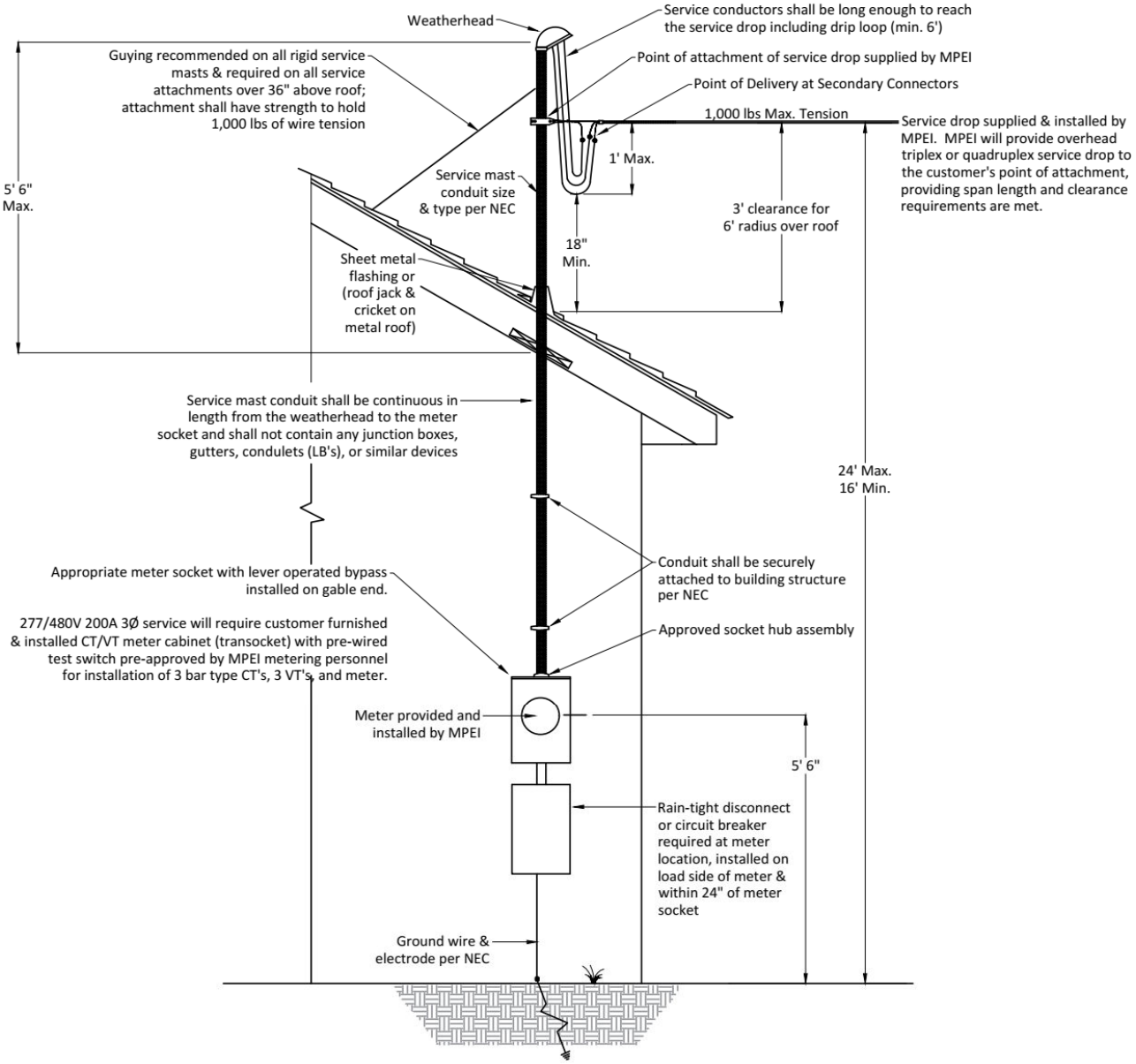
Drawing D



NOTES:

1. Meter location on the pole and riser length must be approved by MPEI prior to installation. Call for measurements.
2. Main disconnect to be installed on the pole below the meter socket.
3. All wiring on load side is subject to NEC requirements and state or local inspection.
4. Ground wire and electrode, per NEC, to be provided and installed by customer.

	TEMPORARY OR PERMANENT METER LOOP CONFIGURATION SECONDARY POLE INSTALLATION 1Ø SERVICE UP TO 200A or 3Ø SERVICE UP TO 200A	
APRIL 2023	MOUNTAIN PARKS ELECTRIC, INC.	Dwg C

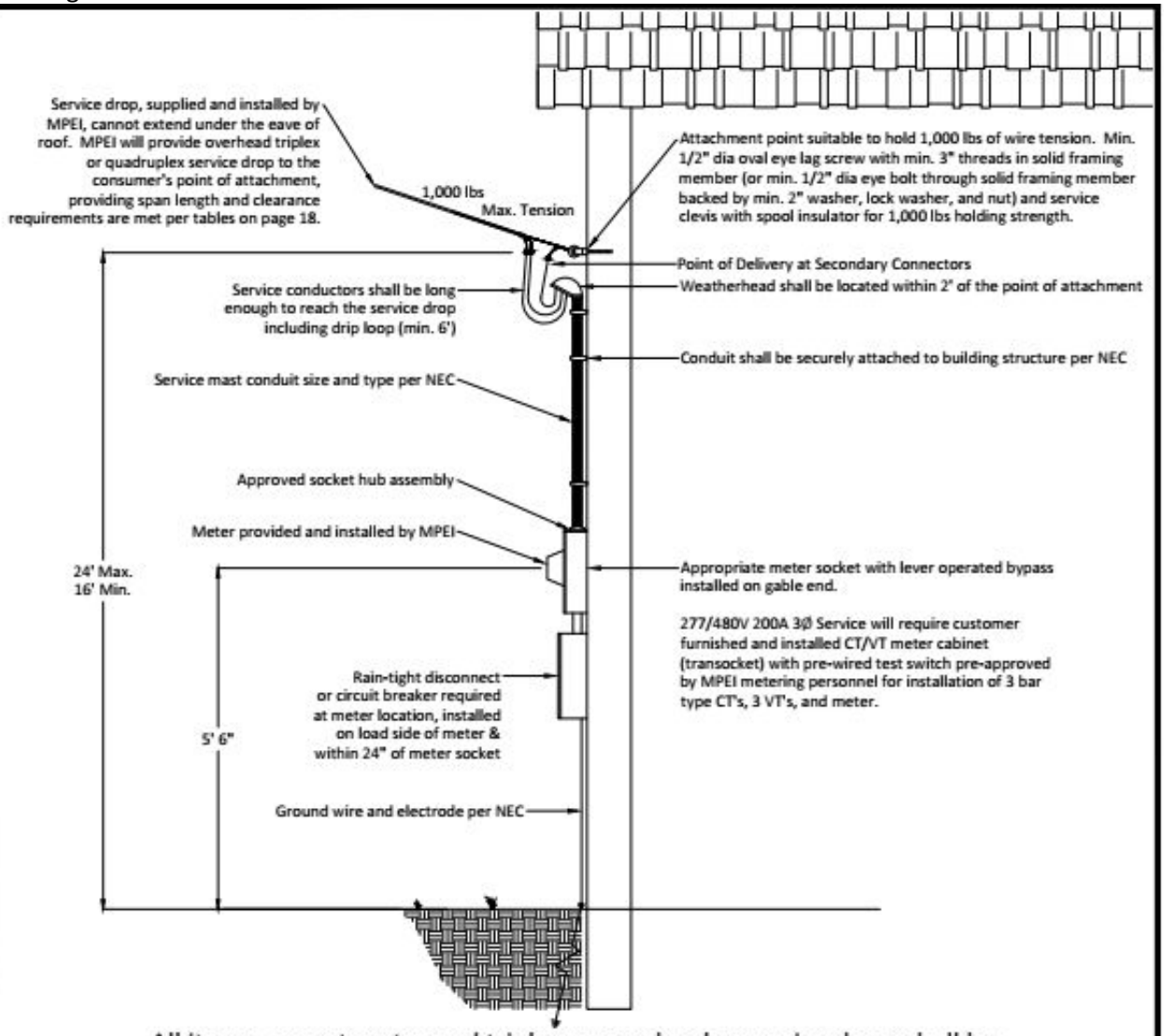


All items, except meter and triplex or quadruplex service drop, shall be supplied and installed by customer.

Please contact MPEI if any of the above requirements cannot be met. Deviations from these requirements could result in tensions in excess of 1,000 lbs as well as a violation of the National Electric Safety Code (NESC).

	OVERHEAD WITH SERVICE MAST THROUGH ROOF - GABLE END 1Ø Service up to 400 Amp (320 A meter) or 3Ø Service up to 200 Amp.	MPE MOUNTAIN PARKS ELECTRIC, INC.
March 2023	MOUNTAIN PARKS ELECTRIC, INC.	Dwg D

Drawing E

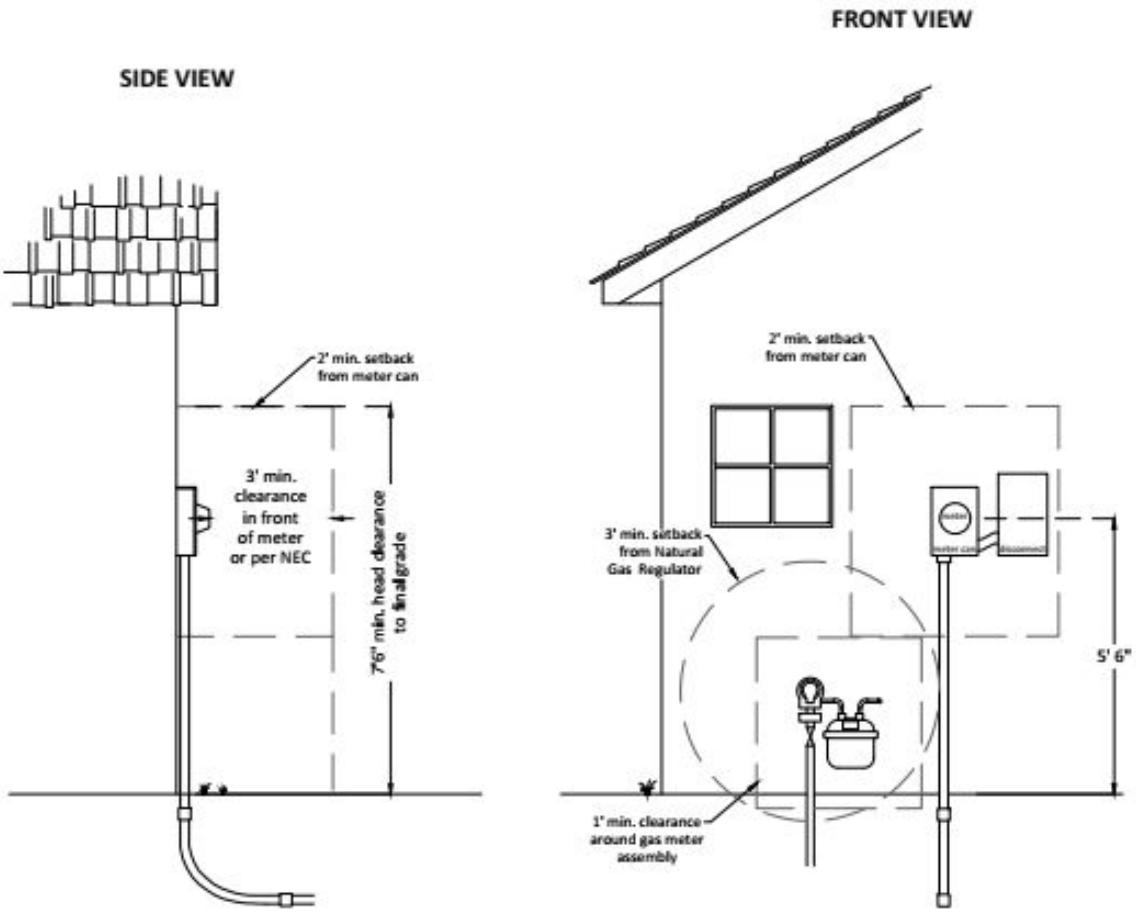


All items, except meter and triplex or quadruplex service drop, shall be supplied and installed by customer.

Please contact MPEI if any of the above requirements cannot be met. Deviations from these requirements could result in tensions in excess of 1,000 lbs as well as a violation of the National Electric Safety Code (NESC).

	OVERHEAD WITH SERVICE RISER GABLE END 1Ø Service up to 400 Amp (320 A meter) or 3Ø Service up to 200 Amp.	
APRIL 2019	MOUNTAIN PARKS ELECTRIC, INC.	Dwg E

Drawing F

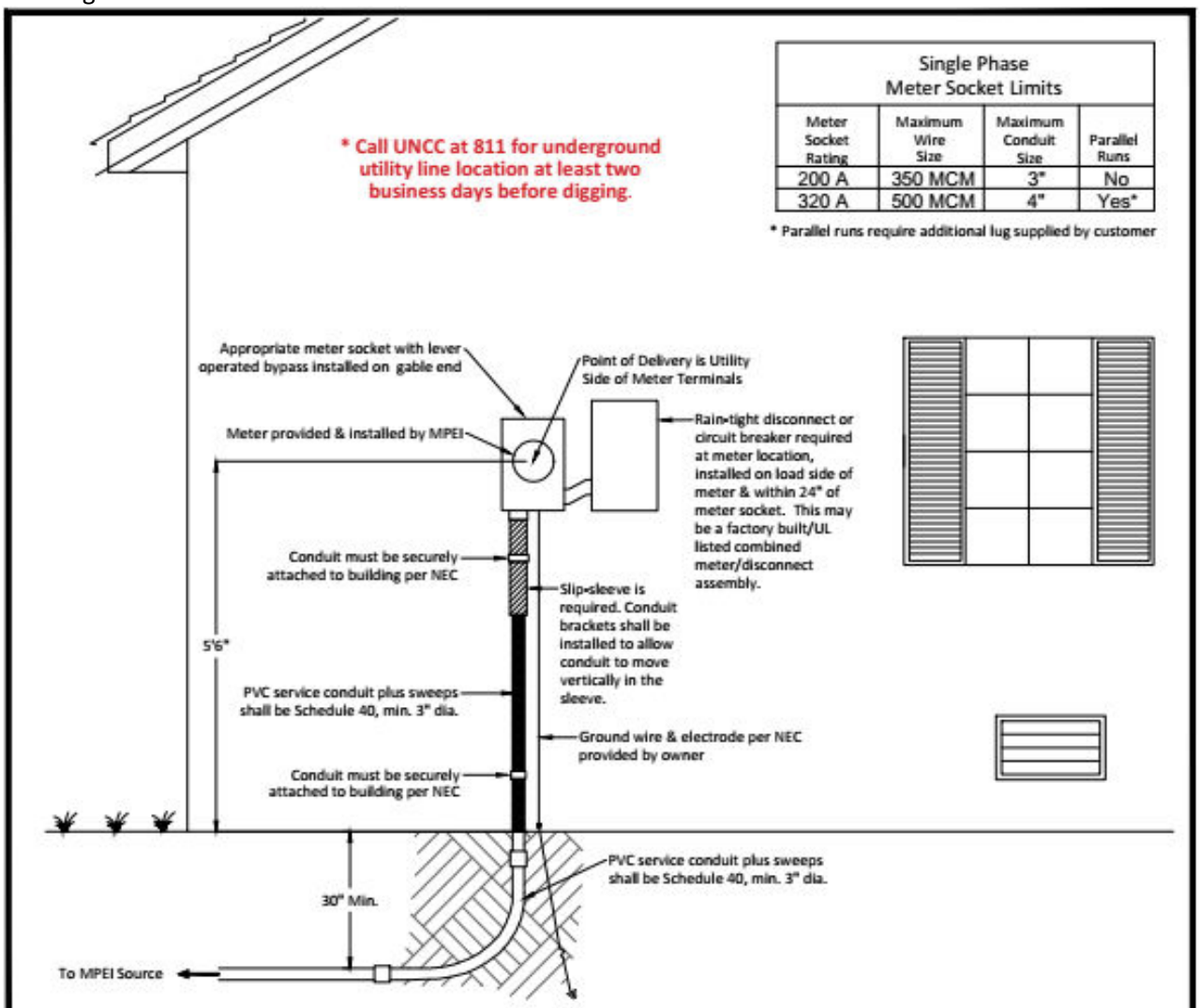


Working & safety clearances shall meet or exceed NEC & MPEI requirements.

Minimum 2' of clear space is required on each side of the meter socket with 3' of clear area required in front of the meter. This clear space shall extend from the final grade up to the required 7'6" head clearance. Obstructions that can hinder maintenance or reading of meters such as wood piles, stairways, window wells or other debris are prohibited within this clear space.

	REQUIRED METER WORKING & SAFETY CLEARANCES Overhead & Underground Services	
JANUARY 2017	MOUNTAIN PARKS ELECTRIC, INC.	Dwg F

Drawing G



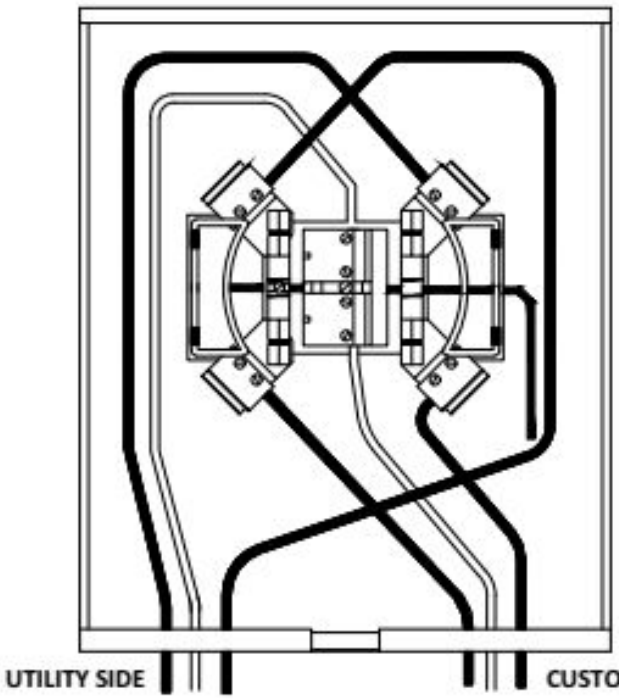
See applicable standards on total limit and size of conduit bends, length limits, & intermediate pedestals; conduit run shall not contain any condulets (LB's), vaults, or handholes (other that MPEI approved pedestals).

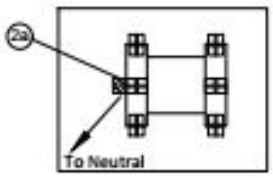
Minimum separation between electric service conduit and telecommunication lines shall be 12" radially. Electric lines shall not share the same trench with gas, water or sewer lines; maintain 5' min. horizontal separation between electric & gas lines routed parallel to each other. See Dwg F for min. safety & working clearances. Minimum separation to building is 5 feet.

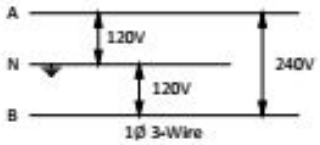
Please contact MPEI if any of the above requirements cannot be met.

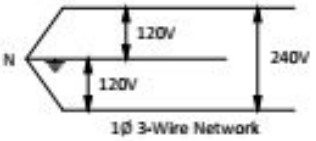
	UNDERGROUND SERVICE METER ON BUILDING 1Ø Service up to 400 Amp (320 A meter) or 3Ø 120/208V Service up to 200 Amp.	
March 2023	MOUNTAIN PARKS ELECTRIC, INC.	Dwg G

Drawing H









STANDARDS FOR 1Ø METER SOCKETS & 1Ø MULTIPLE METER SOCKETS.

Following is a list of criteria for 1Ø meter sockets in which MPEI will install meters. No meter sockets will be approved unless they adhere to these criteria.

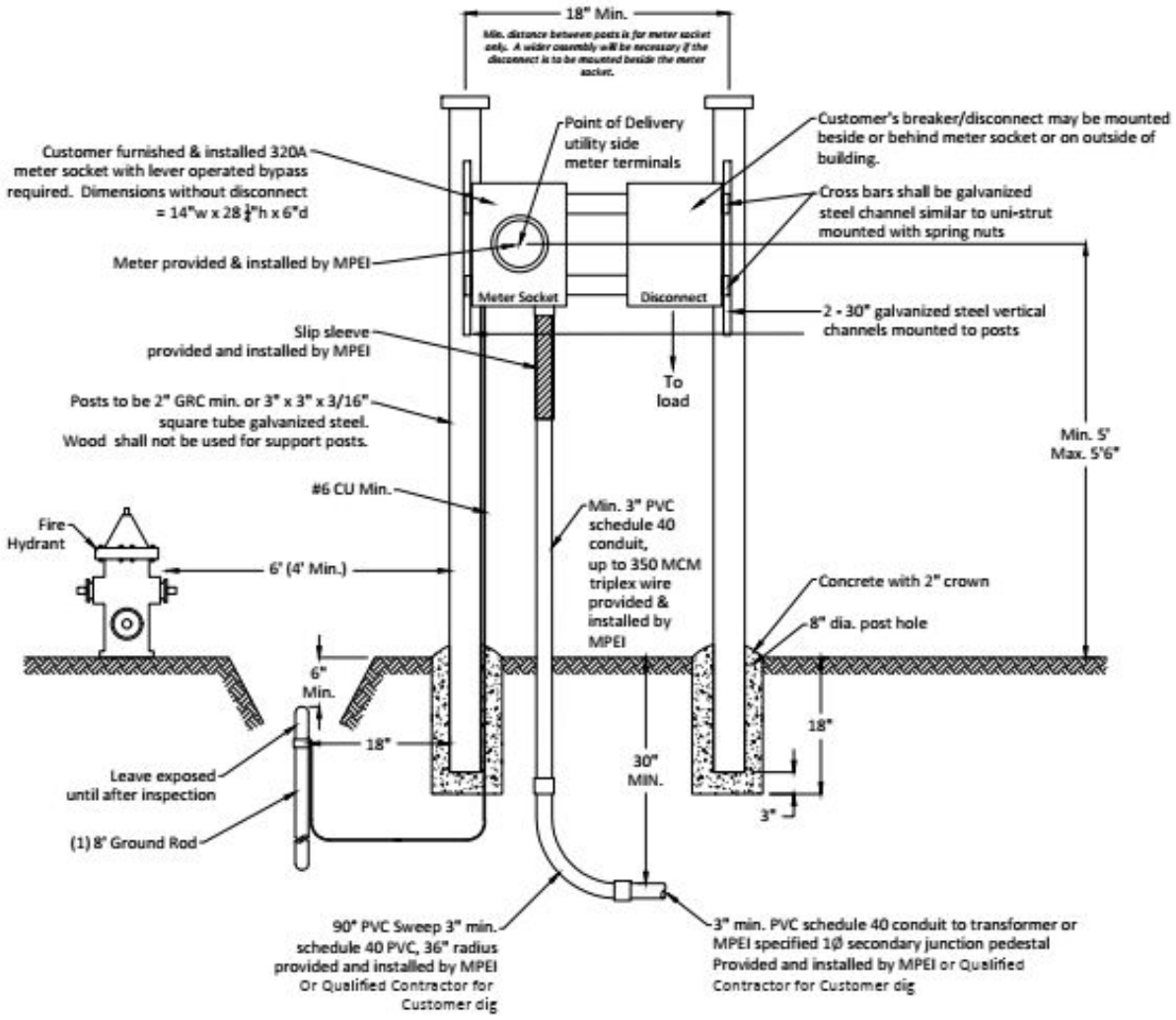
1. Housings shall be constructed from sheet metal in accordance with Underwriters Laboratories (UL) standard No. 414, revised October 1992, for meter sockets. Sockets constructed from non-metallic material will not be allowed.
2. Ringless covers & lever operated bypass required on all meter sockets.
3. Sealing:
   a. Ring-type cover is not allowed.
   b. After the installation and sealing are completed the socket shall not have any opening except as permitted by NEMA Type 3R construction.
   c. The sealing means shall provide for HCE wire seal and/or 5/16" diameter shackle key type padlock.
4. All meter sockets shall be UL listed and labeled and shall be installed & used in accordance with their labeling.
5. Meter socket installations shall be installed per NEC procedures and shall be enforced by the local inspection authority having jurisdiction in the area in which the work is performed.

Underground - 200A

1. Double lay-in neutral connector, hub closure plate to be single bolt device.
2. Tin-plated aluminum connectors.
3. Temporary meter cover plate shall be minimum waxed cardboard. Metallic material is not allowed.
4. Concentric knockout shall accommodate up to 3" conduit.
5. Lug wire size not to exceed the range specified by the manufacturer's label.

	UNDERGROUND 1Ø METER SOCKET WIRING	MPE MOUNTAIN PARKS ELECTRIC, INC.
MARCH 2011	MOUNTAIN PARKS ELECTRIC, INC.	Dwg H

Drawing K1

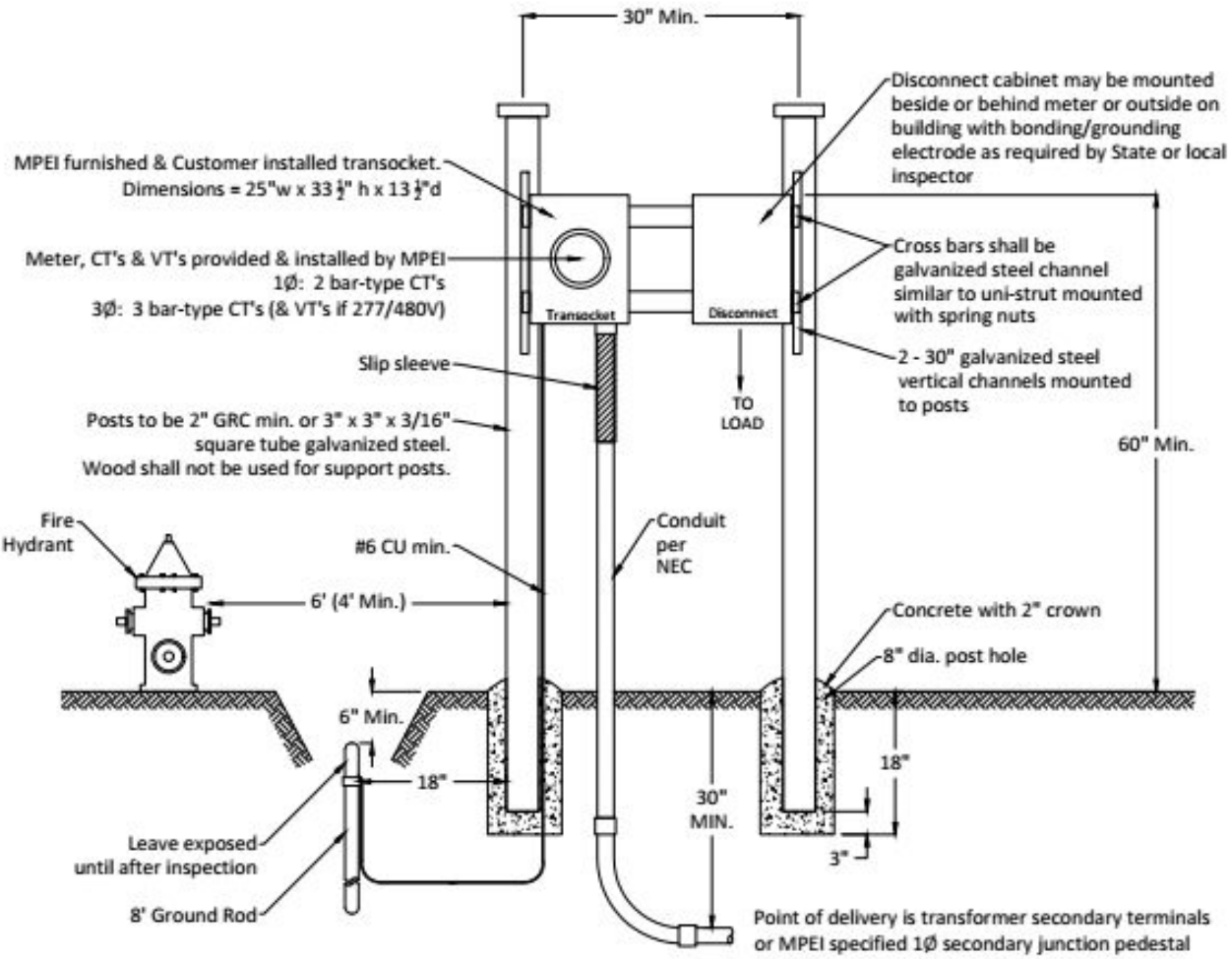


NOTES:

1. Meter assembly shall be bonded to neutral & grounded per NEC.
2. Cover plates or hubs for top of socket should be purchased as needed at the same time as the socket.
3. Please contact MPEI Metering Dept. with any questions.

	POST MOUNTED 320 AMP METER ASSEMBLY 1Ø SERVICE 400A (320A METER SOCKET)	MPE MOUNTAIN PARKS ELECTRIC, INC.
March 2023	MOUNTAIN PARKS ELECTRIC, INC.	Dwg K1

Drawing K2

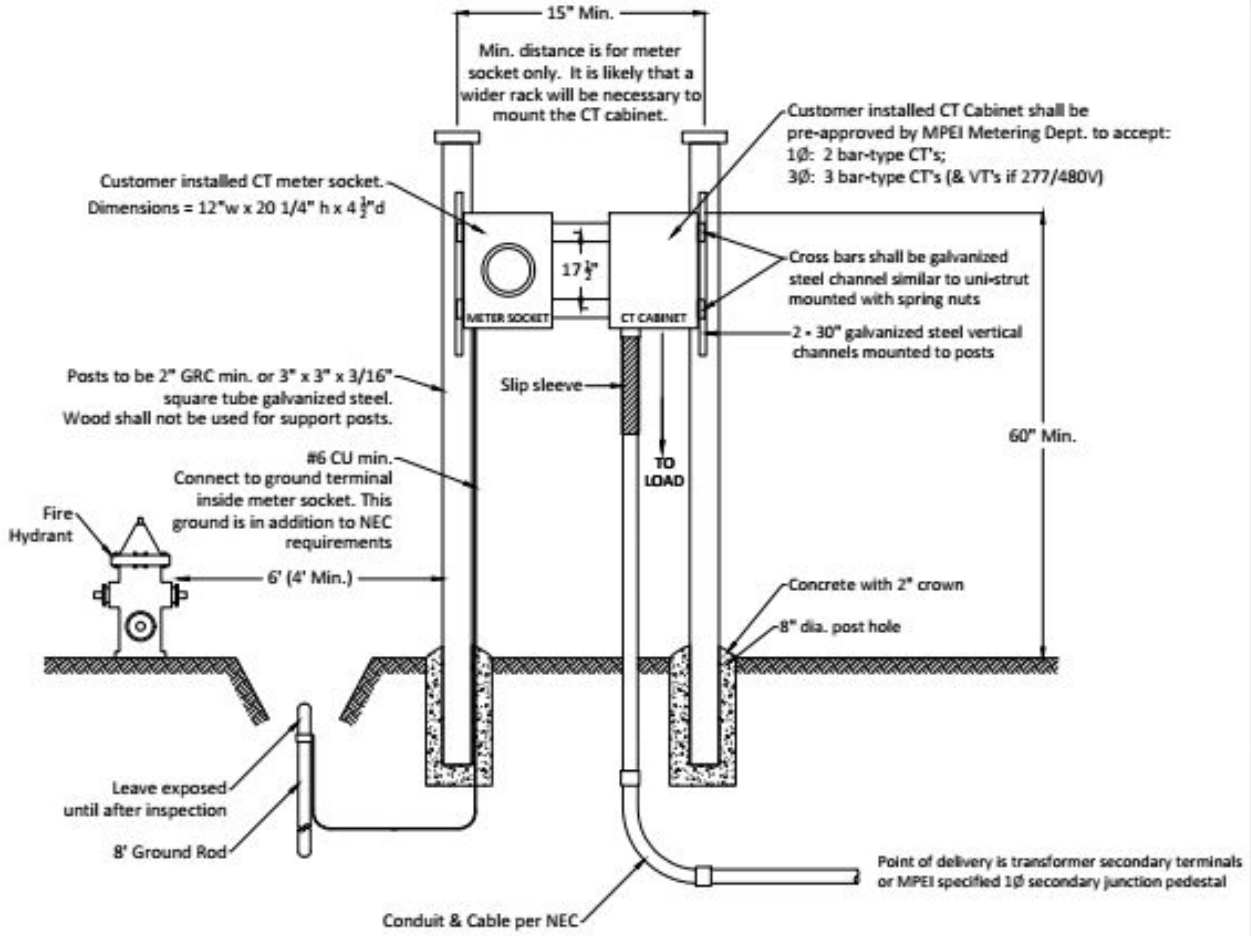


NOTES:

1. Customer shall install meter assembly as shown, including posts set in concrete, conduit, ground rod, ground conductor & service cables from transformer secondary terminals or 1Ø secondary junction pedestal.
2. All non-current carrying metallic parts shall be bonded to neutral & grounded per NEC.
3. Please contact MPEI Metering Dept. with any questions.

	POST MOUNTED TRANSOCKET METER ASSEMBLY UP TO 600 AMPS 1Ø SERVICE OVER 400A, 3Ø 120/208V SERVICE OVER 200A, 3Ø SERVICE 277/480V ALL AMP RATINGS	MPE MOUNTAIN PARKS ELECTRIC, INC.
APRIL 2019	MOUNTAIN PARKS ELECTRIC, INC.	Dwg K2

Drawing K3

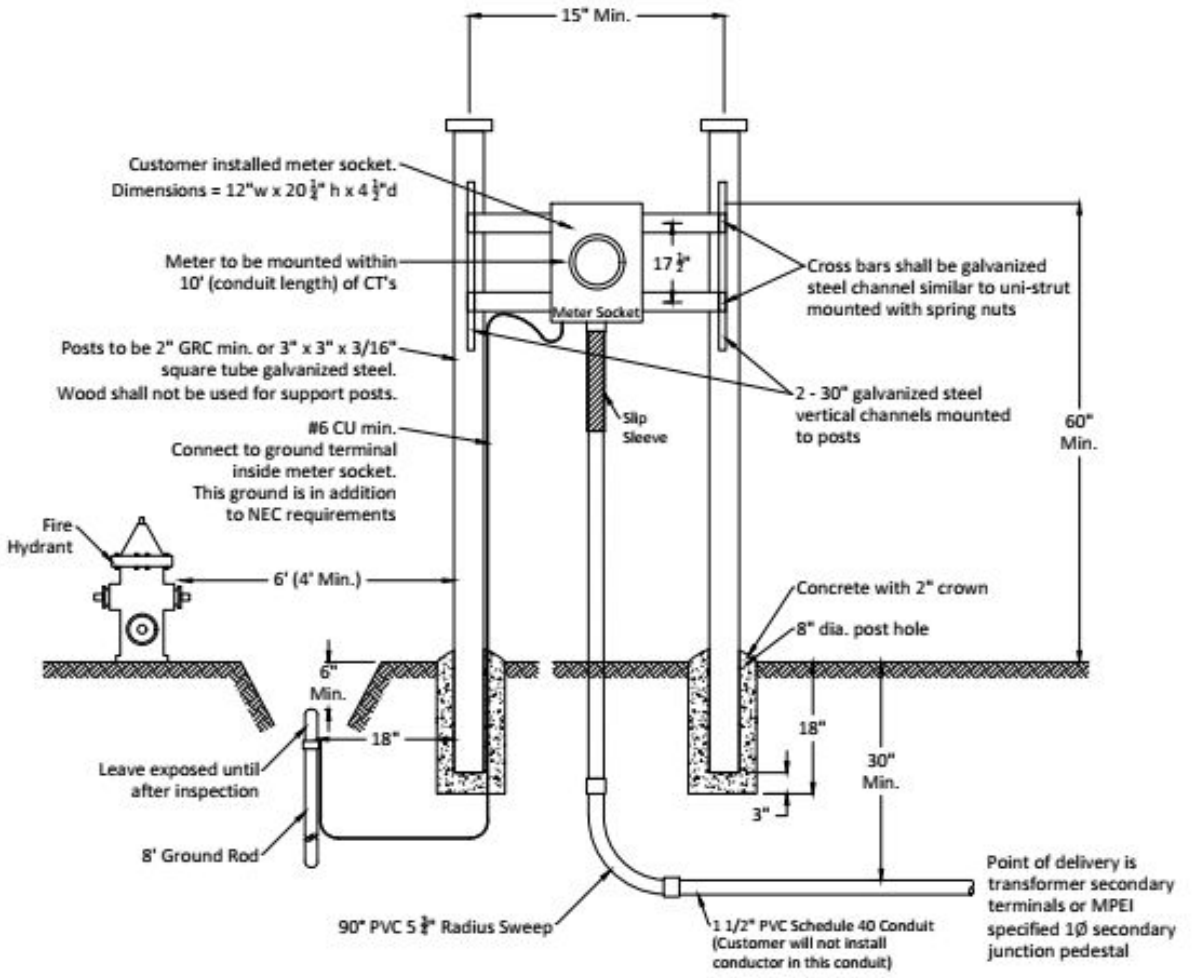


NOTES:

1. Customer shall install CT cabinet & meter assembly as shown, including posts set in concrete, conduit, ground rod, ground conductor & service cables from transformer secondary terminals.
2. MPEI installs meter socket & CT wiring.
3. All non-current carrying metallic parts shall be bonded to neutral & grounded per NEC.
4. Please contact MPEI Metering Dept. with any questions.

	POST MOUNTED CT CABINET METER ASSEMBLY 1Ø SERVICE 400A - 1200A; 3Ø 120/208V SERVICE 200A - 1200A; 3Ø 277/480V SERVICE UP TO 1200A	
APRIL 2019	MOUNTAIN PARKS ELECTRIC, INC.	Dwg K3

Drawing K4

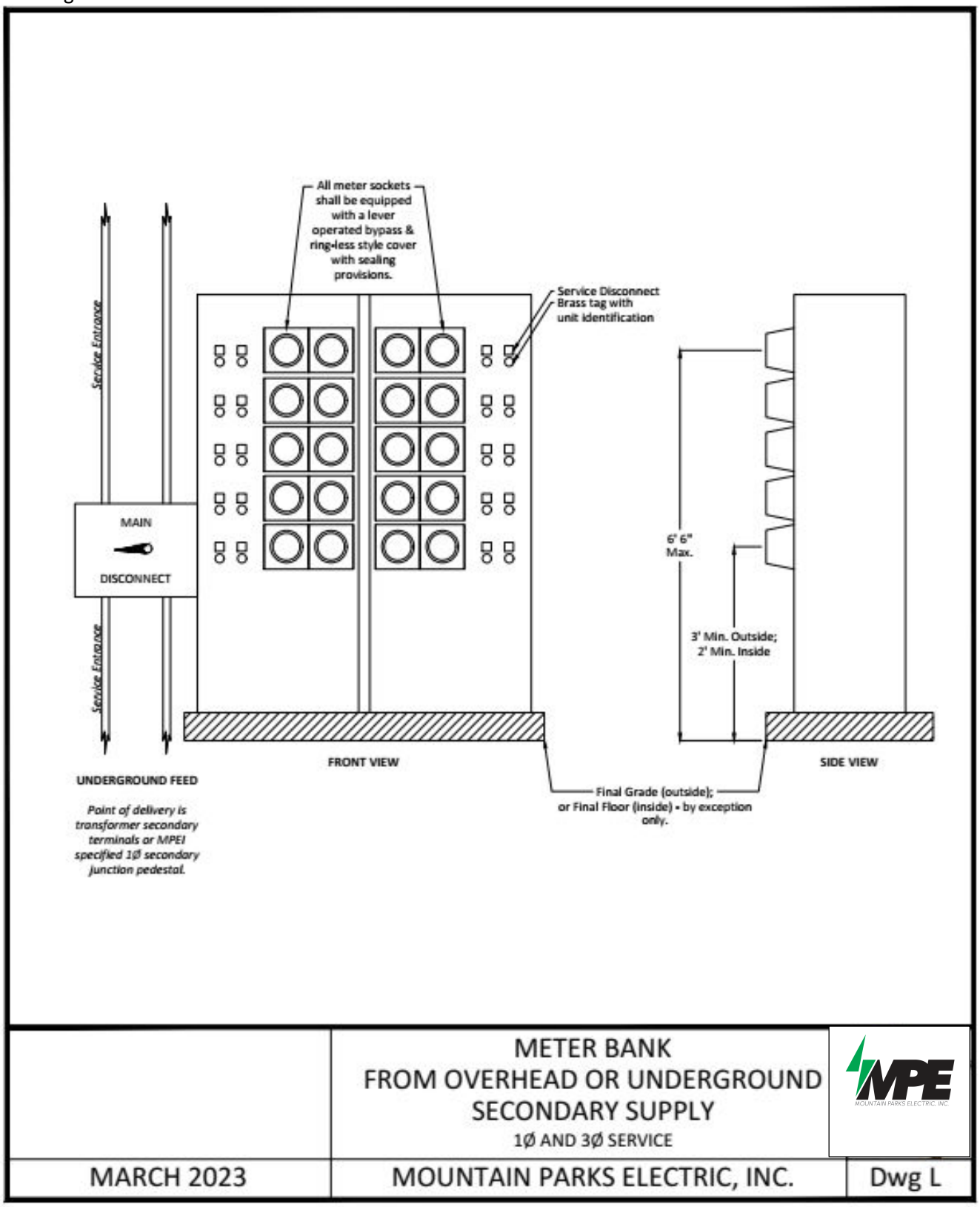


NOTES:

1. Customer shall install CT cabinet & meter assembly as shown, including posts set in concrete, conduit, ground rod, ground conductor & service cables from transformer secondary terminals.
2. All non-current carrying metallic parts shall be bonded to neutral & grounded per NEC.
3. Cover plates or hubs for top of meter socket should be purchased as needed at the same time as the socket.
4. Maximum number of allowable bends in conduit shall not exceed 270°.
2. Please contact MPEI Metering Dept. with any questions.

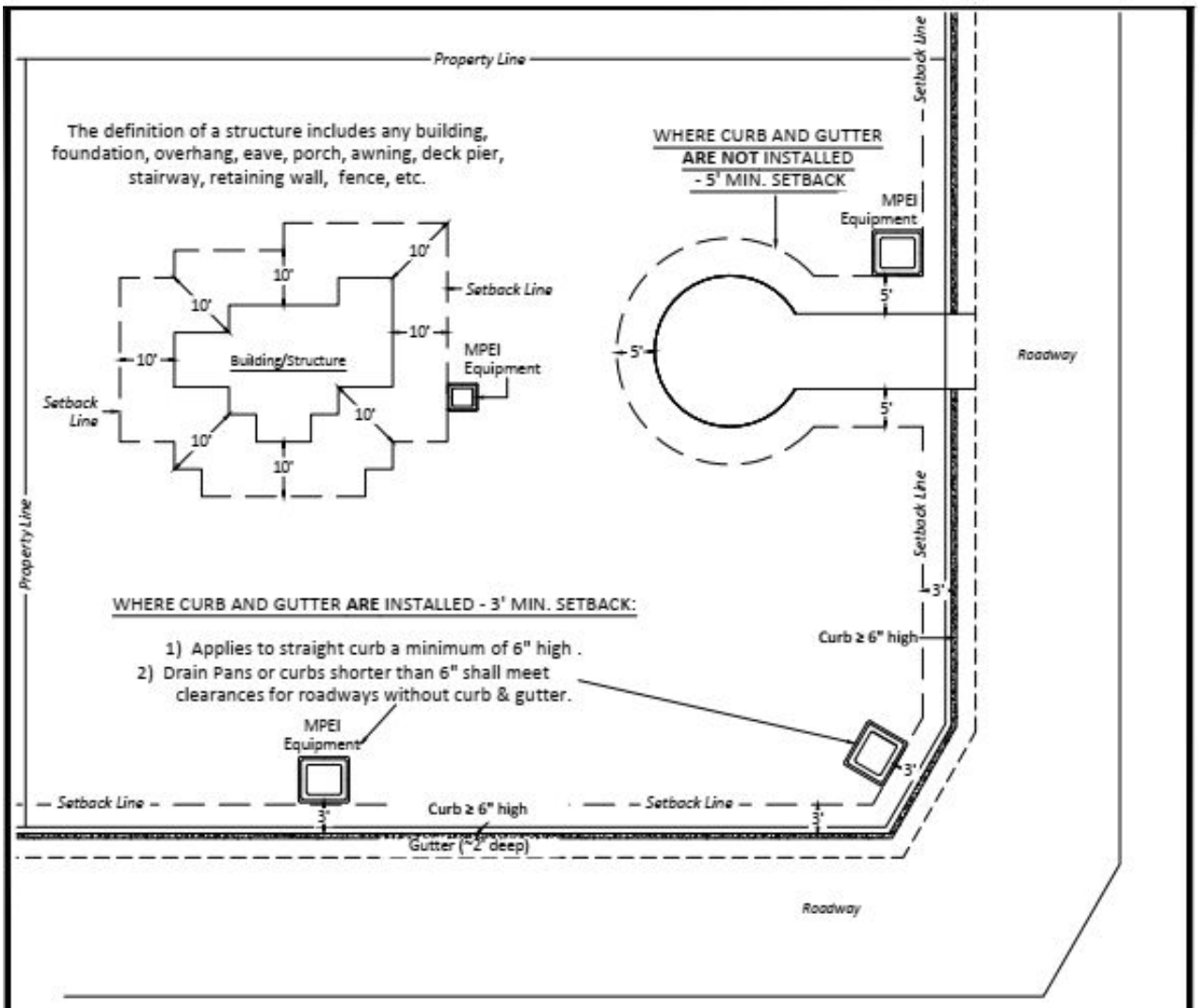
	POST MOUNTED CT METER ASSEMBLY 1Ø OR 3Ø SERVICE WITH CT'S IN TRANSFORMER *DESIGN MUST BE PRE-APPROVED BY MPEI*	
MARCH 2023	MOUNTAIN PARKS ELECTRIC, INC.	Dwg K4

Drawing L



	METER BANK FROM OVERHEAD OR UNDERGROUND SECONDARY SUPPLY 1Ø AND 3Ø SERVICE	
MARCH 2023	MOUNTAIN PARKS ELECTRIC, INC.	Dwg L

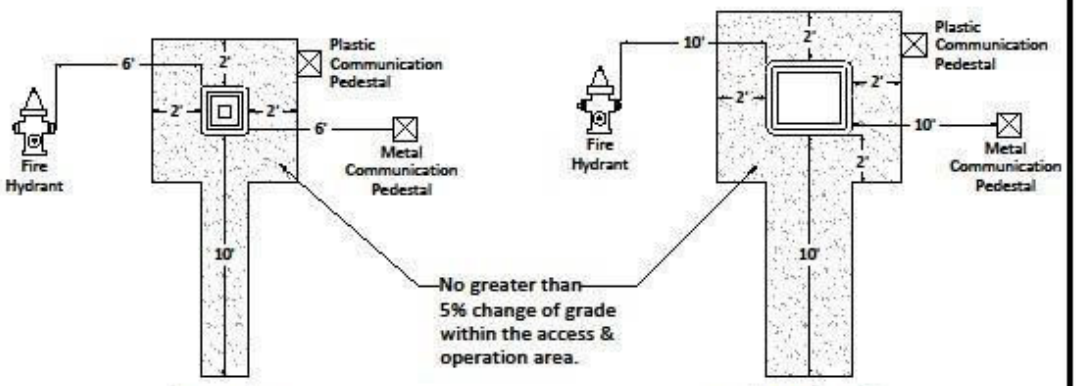
Drawing U4-1



MINIMUM SETBACK TO ROADWAY, DRIVEWAY AND/OR PARKING AREA

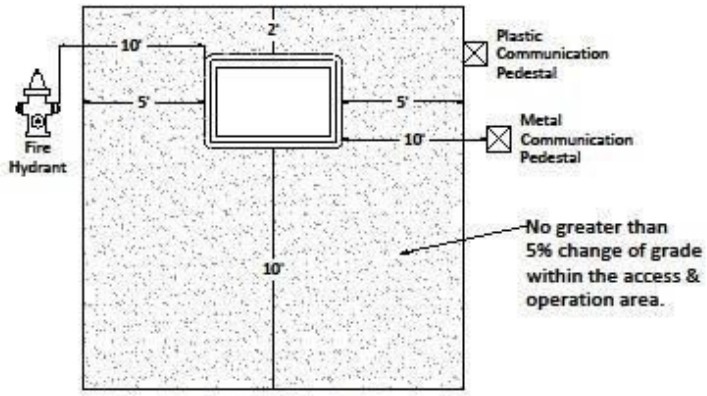
1) Setbacks are minimums and MPEI reserves the right to increase setbacks as necessary for safety and protection of equipment.
2) Equipment shall not be located in areas of known or planned drainage.
3) MPEI reserves the right to require bollards in any installation for safety and protection of equipment.
4) Conduit and cable may be installed within MPEI minimum setbacks.
5) Please contact the Engineering Department at (970) 887-3378 with any questions.

	MINIMUM SETBACKS TO ELECTRIC FACILITIES (PRIMARY & SECONDARY)	MPE MOUNTAIN PARKS ELECTRIC, INC.
JANUARY 2017	MOUNTAIN PARKS ELECTRIC, INC.	U4-1



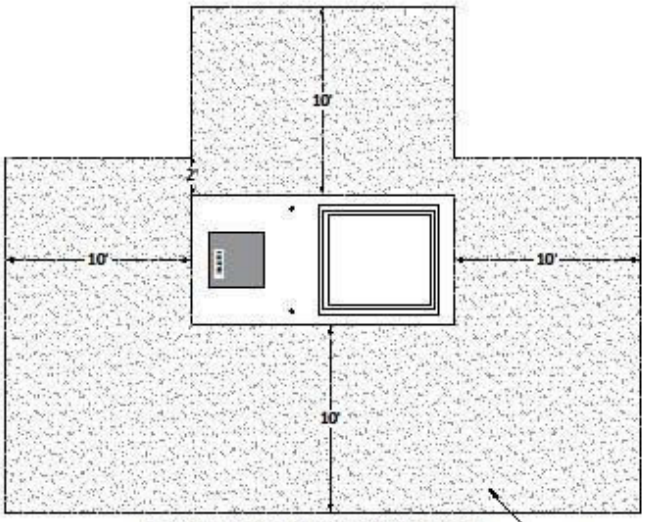
Secondary Junction Pedestal & Meter Pedestal

25kV 1Ø Vault, 1Ø Padmount Transformer & 1Ø or 3Ø Sector Cabinet



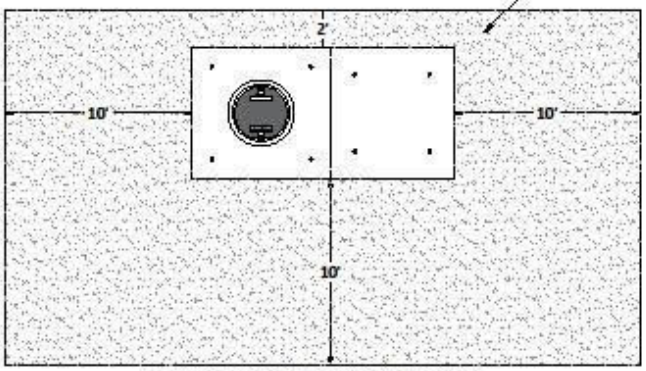
25kV 3Ø Vault & Padmount Transformer

	MINIMUM CLEARANCES FOR ACCESS AND OPERATION (PRIMARY & SECONDARY)	
JANUARY 2017	MOUNTAIN PARKS ELECTRIC, INC.	U4-2



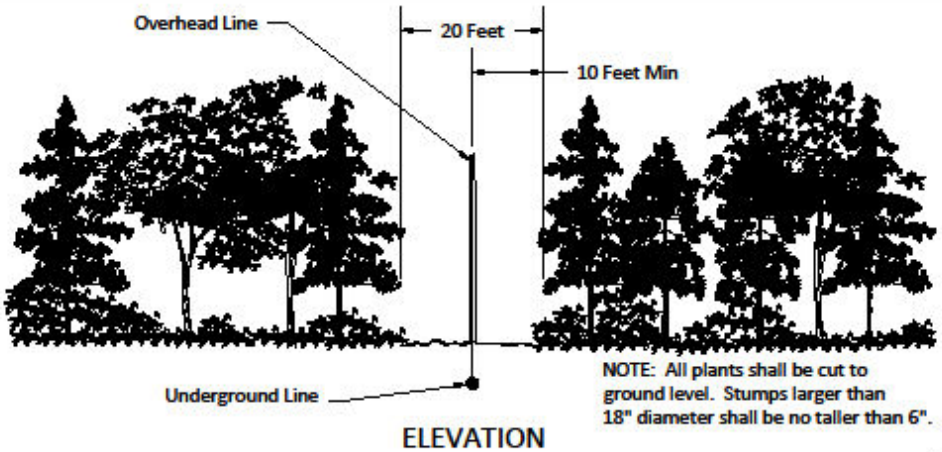
25kV PMH/PME & VISTA SWITCHGEAR

No greater than 5% change of grade within the access and operation area.

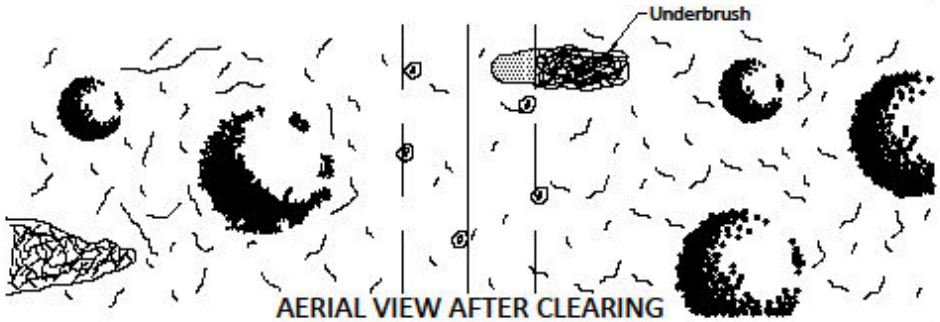


MANHOLE SPLICE VAULT (≥ 6' X 12')
3Ø FIBERGLASS VAULT (≥ 75" X 45")

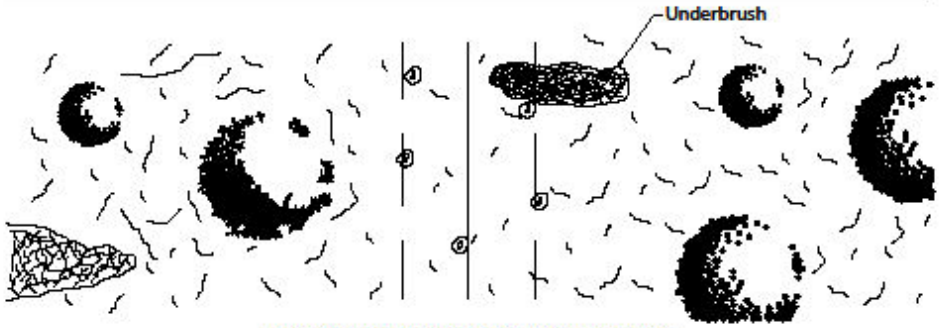
	MINIMUM CLEARANCES FOR ACCESS AND OPERATION (PRIMARY & SECONDARY)	MPE MOUNTAIN PARKS ELECTRIC, INC.
JANUARY 2017	MOUNTAIN PARKS ELECTRIC, INC.	U4-3



ELEVATION

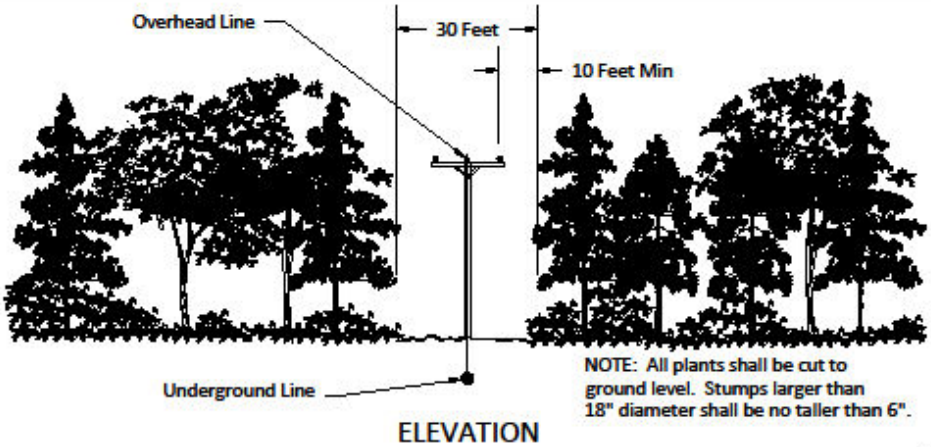


AERIAL VIEW AFTER CLEARING

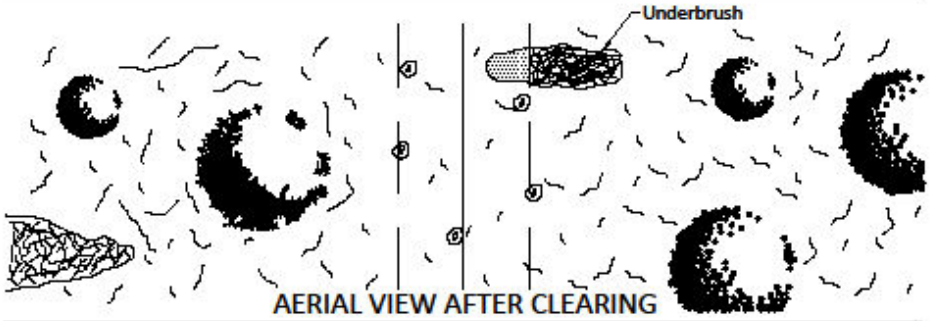


AERIAL VIEW BEFORE CLEARING

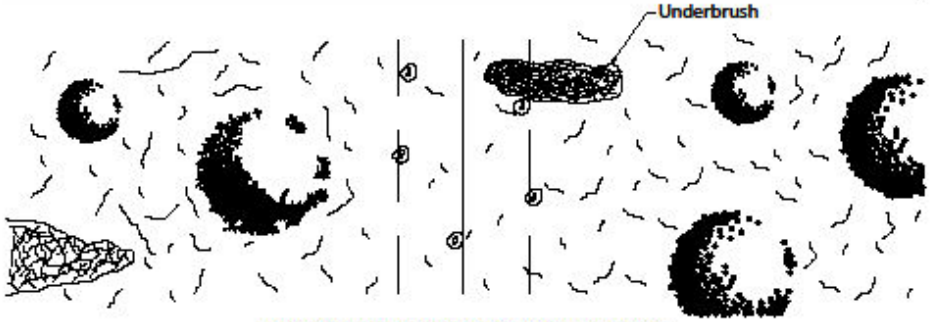
	RIGHT-OF-WAY CLEARING GUIDE ALL UNDERGROUND OR EXISTING SINGLE-PHASE OVERHEAD	
FEBRUARY 2009	MOUNTAIN PARKS ELECTRIC, INC.	R20



ELEVATION

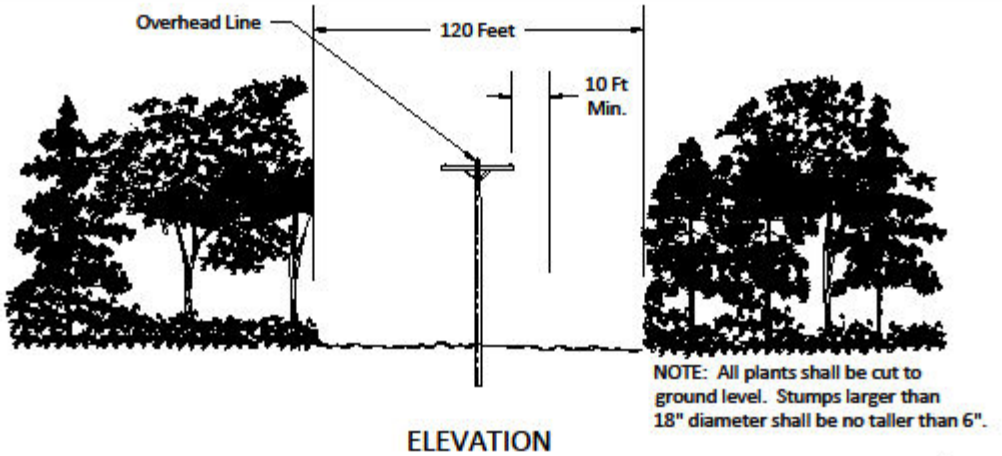


AERIAL VIEW AFTER CLEARING

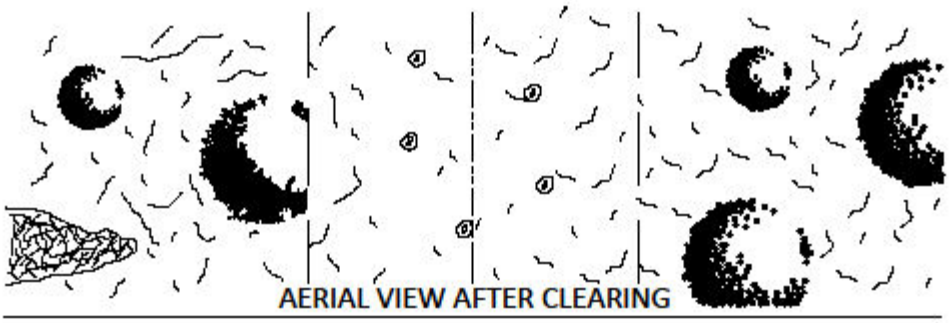


AERIAL VIEW BEFORE CLEARING

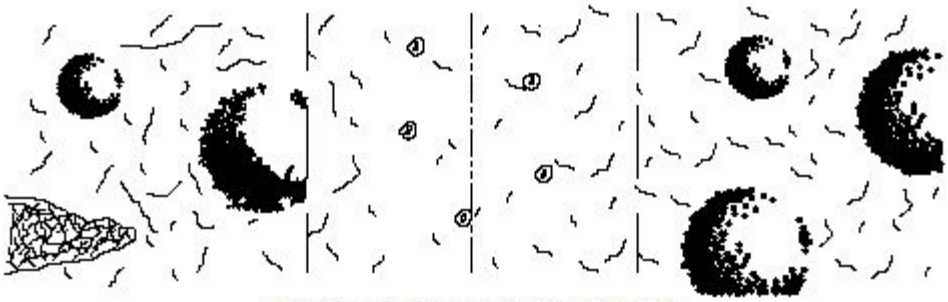
	RIGHT-OF-WAY CLEARING GUIDE EXISTING THREE-PHASE OVERHEAD	
FEBRUARY 2009	MOUNTAIN PARKS ELECTRIC, INC.	R30



ELEVATION



AERIAL VIEW AFTER CLEARING



AERIAL VIEW BEFORE CLEARING

	RIGHT-OF-WAY CLEARING GUIDE NEW SINGLE-PHASE OR THREE-PHASE OVERHEAD	
JANUARY 2017	MOUNTAIN PARKS ELECTRIC, INC.	R120

EXCEPTION / REVISION FORM

Use this form when requesting exceptions or changes to the Mountain Parks Electric, Inc. - Electric Service Construction Standards. Please print legibly or type.

I request **exception** to the following section(s) titled: _____

I request **revision** to the following section(s) titled: _____

This section is responsible for the following problem(s):

_____

_____

_____

_____

Legal description of the property:

_____

_____

I request the following exception/change (Please attach sketch of exception/change):

_____

_____

_____

_____

Please explain how the requested exception/revision will maintain/improve safety/reliability:

_____

_____

Requested by: _____ Date: _____

Address: _____

Email: _____ Phone: _____ Fax: _____

Deliver to Mountain Parks Electric, Inc., Attn: Manager of Engineering, P.O. Box 170, Granby, CO 80446

MPE
INTERNAL USE ONLY

The above exception/change request is hereby approved as noted.
(Note: Approval required by the Manager of Engineering or Manager of Operations)

MOUNTAIN PARKS ELECTRIC, INC.

Approved by: _____ Title: _____

Date: _____

VII. Useful Telephone Numbers

Call Before You Dig (UNCC Locators)	811
Colorado State Electrical Board	**303-894-2300**
http://www.dora.state.co.us/electrical/	
Rod Roberts, State Electrical Inspector (Larimer County)	**303-869-3451**
Mountain Parks Electric, Inc.	
Toll Free	**877-887-3378**
Toll Free (from the Denver area)	***303-377-2525***
Granby Office – Main Office	**970-887-3378**
Main Fax	**970-887-3996**
Engineering Fax	**970-887-0029**
Kremmling Office	**970-724-3314**
Walden Office	**970-723-4500**
Walden Fax	**970-723-8251**
Grand County	
Government Offices	**970-725-3347**
Building Department	**970-725-3255**
Town of Winter Park	**970-726-8081**
Town of Fraser	**970-726-5491**
Town of Granby	**970-887-2501**
Town of Grand Lake	**970-627-3435**
Town of Hot Sulphur Springs	**970-725-3933**
Town of Kremmling	**970-724-3249**
Jackson County	
Government Offices	**970-723-4660**
Building Inspector	**970-723-8580** or **cell 970-873-8116**
Town of Walden	**970-723-4662**
Larimer County	
Building Department	**970-498-7700**
Inspection Request Line	**970-498-7697**
Routt County	
Government	**970-879-0108**
Building Department	**970-870-5566**
Building Inspections	**970-870-5484**
Summit County	
Government	**970-453-2561**
Building Department	http://co-summitcounty2.civicplus.com/185/Building-Inspection Inspection request online only through **eTRAKiT**
Request Line (Including Electrical Inspection)	
Summit County Road & Bridge, Construction Inspector	**970-668-4199**

* If you are building in a city limit, please contact that city for permitting information.