

# Metering Equipment: Installation Requirements

## Table of Contents


1.	Purpose .....	1
2.	Definitions .....	1
3.	Design Considerations .....	2
4.	Location of Service Points .....	2
5.	Access to Service Equipment.....	2
6.	Visibility of the Safe Work Space.....	3
7.	Method for Locating the Standard Service Point.....	4
8.	Method for Locating an Alternate Service Point .....	5
9.	Additional Conditions .....	6
10.	Residential Meter Closet .....	9

## 1. Purpose

- 1.1 This standard specifies the requirements for the location of NV Energy (NVE) residential meters and service equipment. Requirements in this standard facilitate access to service equipment by NVE personnel for performing operations and maintenance functions as well as for fire and police agencies in emergency situations.
- 1.2 This standard is effective **September 14, 2009**. Customer design submittals showing meter location(s) must be project specific; design approvals will not be granted on a generic basis for possible, ongoing use.
- 1.3 Meter and service entrance installations must conform to the latest revisions of RPI-G and RPI-2, specifically, the “Meter Access” and “Meter Locations” section of RPI-G.
- 1.4 This standard must be read in its entirety to avoid additional costs or delays due to nonconformance.

## 2. Definitions

- 2.1 *Residential House:* A continuous structure under one roof containing living space and non-living space such as a storage, garage, deck, etc.
- 2.2 *Service Point:* The point of connection between the facilities of NVE and the premise’s electrical wiring system. The residential meter is normally installed near the service point.
- 2.3 *Standard Service Point:* The preferred location for installation of the residential electric meter. This service point shall be located along the front portion of the residential house that is facing the street with the legal address of the lot.
- 2.4 *Alternate Service Point:* An alternate location for installation of the residential electric meter. This service point shall be located along the portion of the residential house that is facing the public alley or side street where existing NVE facilities can provide a service run to the residential house. NVE will ensure that this location meets NVE rules for safe and readily accessible ingress/egress.
- 2.5 *Service Entrance Structure (SES):* Service equipment that is not attached to the building, such as a meter pedestal, separate switchboard, or wall-mounted service, (see 4.4). This equipment should be approved by NVE and specified in Section RPM of the Electric Service Requirements. See NVE Standard RPM-A for 400 Amp and 600 Amp single phase pedestals.
- 2.6 *Acceptable SES Area:* An area where a SES must be placed if the electric meter is not located on the wall of the residential house. See area indicated in Figures 1 - 4.
- 2.7 *Back-of-Curb:* Location directly behind and along the existing curb. If a curb does not exist, it is defined as the edge of easement.

				Electric Service Requirements		<b>RPI-2</b>  Revision:11 Page 1 of 10
				<b>Single Family Residential Meter Location</b>		
Drawn:	Eng:	Appr:	Date:			
JR	JR	DA	10/17			

## Metering Equipment: Installation Requirements

- 2.8 *In-Sight-From:* (as applied to safe work space) to be visible from public easement and not more than 100' measured from back of curb or public easement to the edge of the service equipment.
- 2.9 *Readily Accessible:* To be capable of being reached quickly for operation, renewal or inspection without the need to climb over, remove obstacles, or resort to portable ladders, chairs, etc., per NEC 2005 Article 100. Must be readily accessible 24/7.

### 3. Design Considerations


- 3.1 The location of the residential meter directly impacts NVE's goal to provide its customers with the safest, most cost effective and reliable electric service possible. Therefore, customers and their representatives (licensed Architects, Engineers, or owner builder) should select a meter location as close to NVE facilities as practical.
- 3.2 For operational and maintenance purposes, the residential meter requires direct accessibility 24-hours a day, 7 days a week. If the customer has specific problems regarding property access, landscaping, or the meter location on the house, a meter pedestal (SES) located close to the sidewalk offers the viable solution. NVE will work with the customer and their design representative to meet NVE standard requirements.
- 3.3 Proposed residential meter locations that will not be readily accessible over the life of the project will not be approved. All meter locations are subject to approval by NVE Meter Operations and T&D Standards.

### 4. Location of Service Points

- 4.1 The **Standard Service Point** must be located either along the wall of the residential house that is facing the street of the legal address, or along the side wall. The distance from the back of curb to the edge of the meter will not be greater than 100'. The entire safe work space must be *in-sight-from* the street or public alley. The Standard Service Point must be determined using Section 7, Method for Locating the Standard Service Point.
- 4.2 The **Alternate Service Point** must be located either along the wall of the residential house that is facing the public alley or side street, or along the side wall per Section 7. The distance from the back of curb to the edge of the meter will not be greater than 100'. The entire safe work space must be *in-sight-from* the street or public alley. This method can be used only where NVE existing facilities provide a service run to the residential house either from a side street or public alley. The Alternate Service Point must be determined using Section 8, Method for Locating an Alternate Service Point.
- 4.3 If the Standard Service Point and Alternative Service Point are not used for the meter location, an SES must be placed in the **Acceptable SES Area**. The default location for an SES must be 5' behind curb, 5' from existing driveway, and 5' from lot lines. See Figure 1.
- 4.4 Meters shall only be mounted on walls solely owned and controlled by the homeowner. Walls located on property lines are not approved.

### 5. Access to Service Equipment

- 5.1 Electric meter installations must be readily accessible to authorized representatives of NVE for reading, testing, and inspection at all times. Customer contact will not be required for meter reading.
- 5.2 **Fences, gates, walls, or other obstructions are not allowed** in front of the service equipment and are prohibited by the easement. The service equipment must be accessible without requiring passage through restricted areas or requiring customer contact.
- 5.3 Power-operated gates do not meet the requirements for a readily accessible service installation.
- 5.4 There must be a path to the service equipment that is free of landscaping.
- 5.5 The service lateral and access pathway, excluding paved driveways, will generally not have a running slope (maximum average slope) that exceeds  $\pm 5\%$  except for short distances outlined in items 1-3 below for

				Electric Service Requirements		RPI-2
				Single Family Residential Meter Location		
Drawn:	Eng:	Appr:	Date:			Revision:11
JR	JR	DA	10/17			Page 2 of 10

## Metering Equipment: Installation Requirements

specific distances. Frequent grade changes will not be allowed. Where conformance is not possible, an SES must be installed at an Acceptable SES Area.


±5% maximum average slope AND

- (1) ± 12% grade - maximum of 10' distance
- (2) ± 10% grade - maximum of 30' distance
- (3) ± 8% grade - maximum of 100' distance

*Example:* A residential meter is located 100' back of curb. The grade (slope) from back of curb to 50' (Point A) is 8%; Point A to the meter location the grade is 2%. The maximum average slope = total rise/total run = (4' + 1')/100' = 5%, with a maximum grade of 8%. This is an acceptable design.

### 6. Visibility of the Safe Work Space

- 6.1 In all cases, the entire safe work space must be *in-sight-from* the street or public alley where the residential house is served.
- 6.2 A 3' x 3' area directly in front of the meter must be provided as the minimum amount of work space necessary for safe operation and maintenance of the meter and service equipment. See Figure 5, Safe Work Space and Clearances Around the Meter.
- 6.3 The standing surface of the work space must not contain rocks larger than 3/8" and will be level within 1/4 inch per foot in all directions.
- 6.4 The safe work space must not be part of a driveway or subject to vehicular traffic, including parking.

				Electric Service Requirements		<b>RPI-2</b>
				<b>Single Family Residential Meter Location</b>		
Drawn:	Eng:	Appr:	Date:			Revision:11
JR	JR	DA	10/17			Page 3 of 10

# Metering Equipment: Installation Requirements

## 7. Method for Locating the Standard Service Point

- 7.1 Draw Line 1 100' parallel to the back of curb and through the inside of the house. If the back of curb does not run along the entire face of the house, for instance with a cul-de-sac or flag lot (See Fig. 4), Line 1 must be drawn using the method outlined in Section 9.6 of Additional Conditions. The Standard Service Point must be located on the outside wall of the house at a maximum distance of 100' from back of curb. If the service point is greater than 100' from back of curb: A SES must be installed within the Acceptable SES Area.
- 7.2 The entire safe work space must be in-sight-from the street or public alley. See Figure 5 and 6 for proper clearance around the meter.

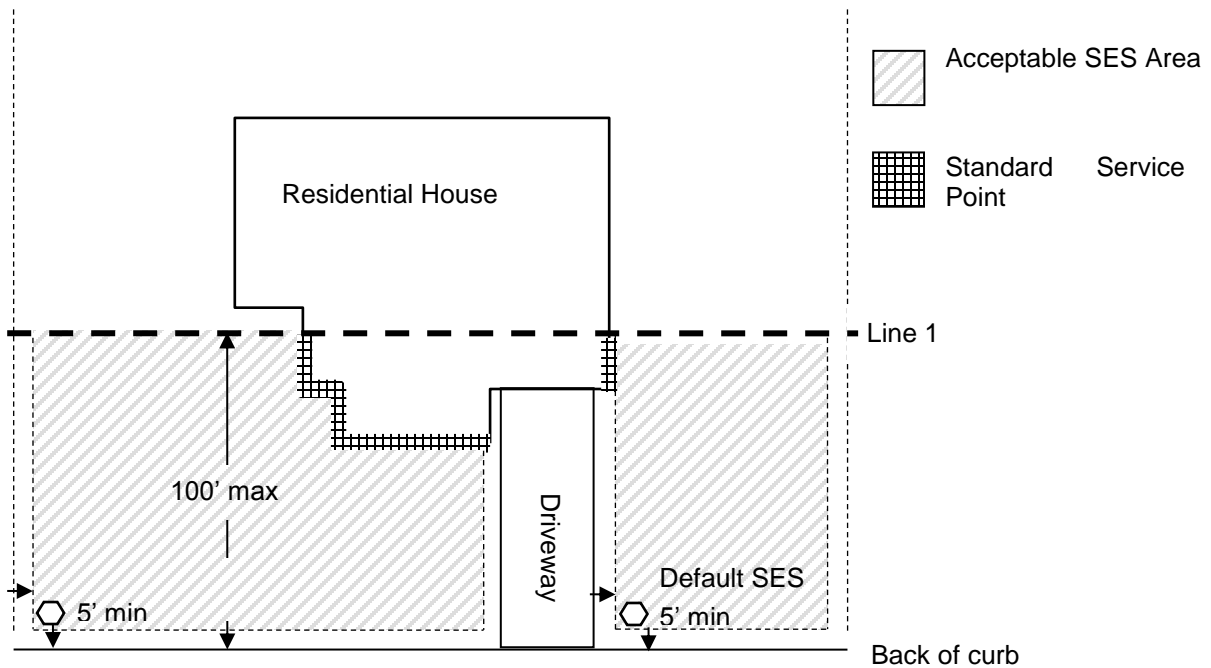



Figure 1. Locating the Standard Service Point

				Electric Service Requirements		<b>RPI-2</b>  Revision:11 Page 4 of 10
				<b>Single Family Residential Meter Location</b>		
Drawn:	Eng:	Appr:	Date:			
JR	JR	DA	10/17			

# Metering Equipment: Installation Requirements

## 8. Method for Locating an Alternate Service Point

- 8.1 Draw Line 1 25' parallel to the back of curb and through the inside of the house. If the back of curb does not run along the entire length of the house, for instance with a cul-de-sac or flag lot (See Fig. 4), Line 1 shall be drawn using the method outlined in Section 9.6 in Additional Conditions. The Alternate Service Point shall be located on the outside wall of the house at a maximum distance of 25' from back of curb. If the service point is greater than 25' from back of curb: A SES must be installed within the Acceptable SES Area.
- 8.2 The entire safe work space must be in-sight-from the street or public alley. See Figure 5 and 6 for proper clearance around the meter.

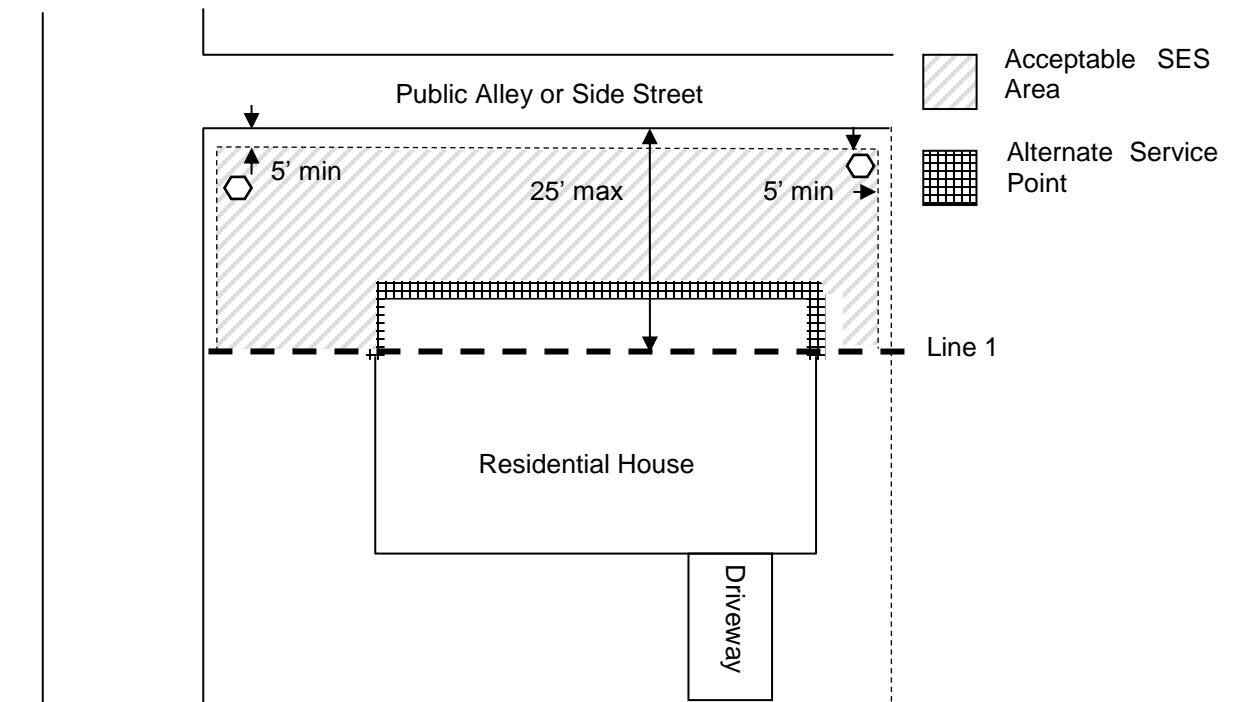



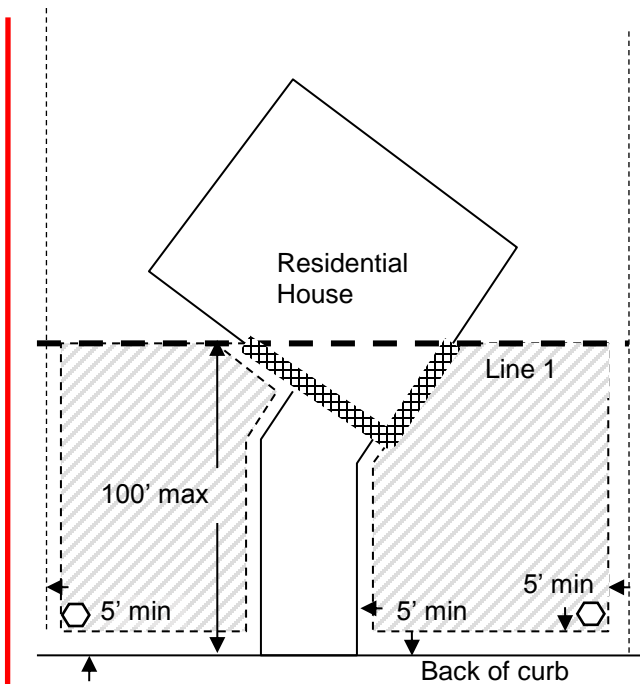
Figure 2. Locating an Alternate Service Point

				Electric Service Requirements		<b>RPI-2</b>  Revision:11 Page 5 of 10
				<b>Single Family Residential Meter Location</b>		
Drawn:	Eng:	Appr:	Date:			
JR	JR	DA	10/17			

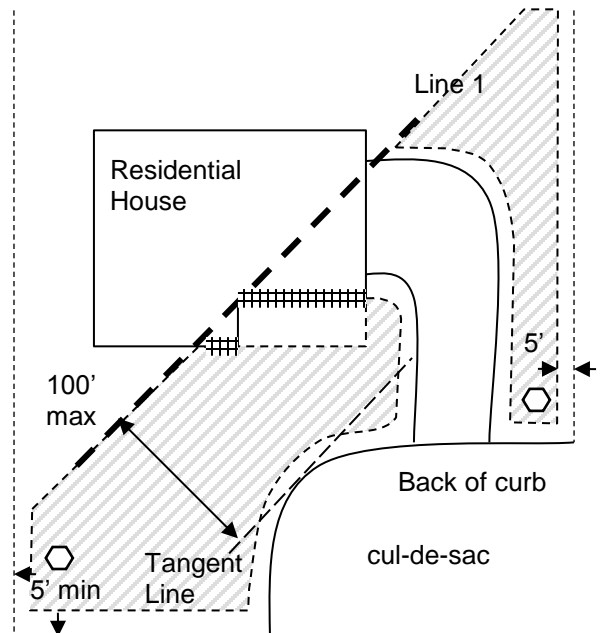
# Metering Equipment: Installation Requirements

## 9. Additional Conditions

- 9.1 For projects involving modification of existing service, a SES may be used to bring non-conforming installations into compliance.
- 9.2 Radio-read remote meters will be installed at customer's expense when the service equipment is over 50 feet from back of curb. There will be a one time charge for initial service (meter) installation.
- 9.3 Shunt trips with remote sockets are no longer acceptable due to changes in county ordinances.
- 9.4 For zero lot line developments that do not have a suitable space for service entrance equipment or Service Entrance Structures, the developer shall submit a gang meter structure design. NVE Electric Meter Operations and T & D Standards must approve the gang meter structure and the service point(s) location.
- 9.5 For lots where the back of curb is not parallel to the front of the house, see Figure 3 to draw **Line 1** (for method outlined in Sections 7 or 8).
- 9.6 For flag lots in cul-de-sacs or where the back of the curb does not run along the entire length of the house, see Figure 4 to draw **Line 1**. Line 1 for flag lots should be parallel to tangent line at the end of the back of curb as shown in Figure 4. The entire safe work space must be in-sight-from the street or public alley.
- 9.7 The meter(s) for an outbuilding, such as a garage, shop, or casita, must be located at the main meter location of the house.




**Figure 3. Front of House that is Not Parallel to the Back of Curb**



**Figure 4. Flag Lot in a Cul-de-Sac**



				Electric Service Requirements		<b>RPI-2</b>  Revision:11 Page 6 of 10
				<b>Single Family Residential Meter Location</b>		
Drawn:	Eng:	Appr:	Date:			
JR	JR	DA	10/17			

# Metering Equipment: Installation Requirements

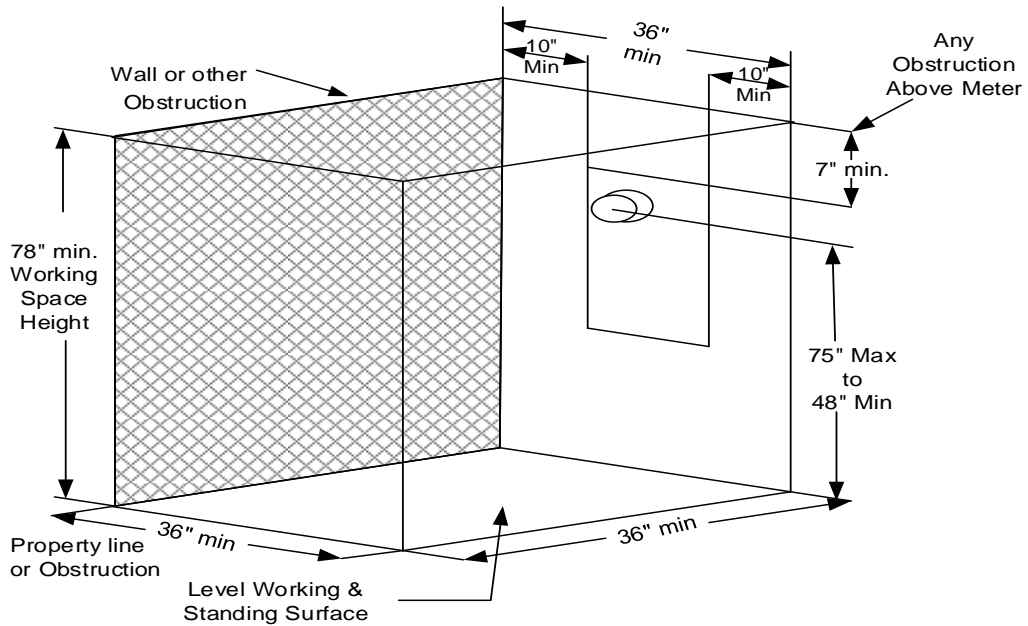


Figure 5. Safe Work Space and Clearances Around the Meter

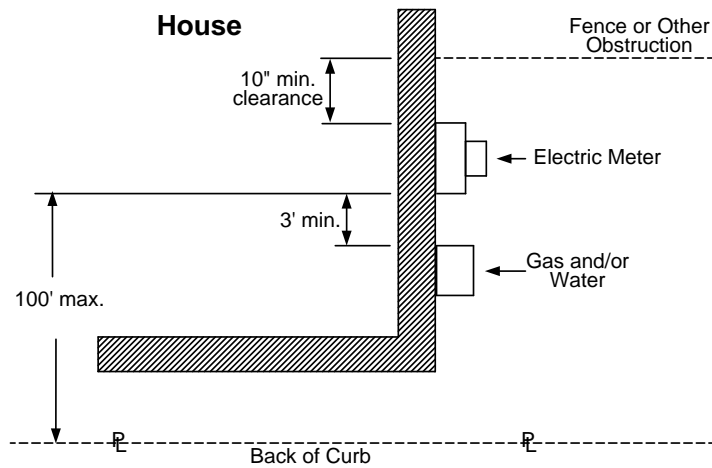

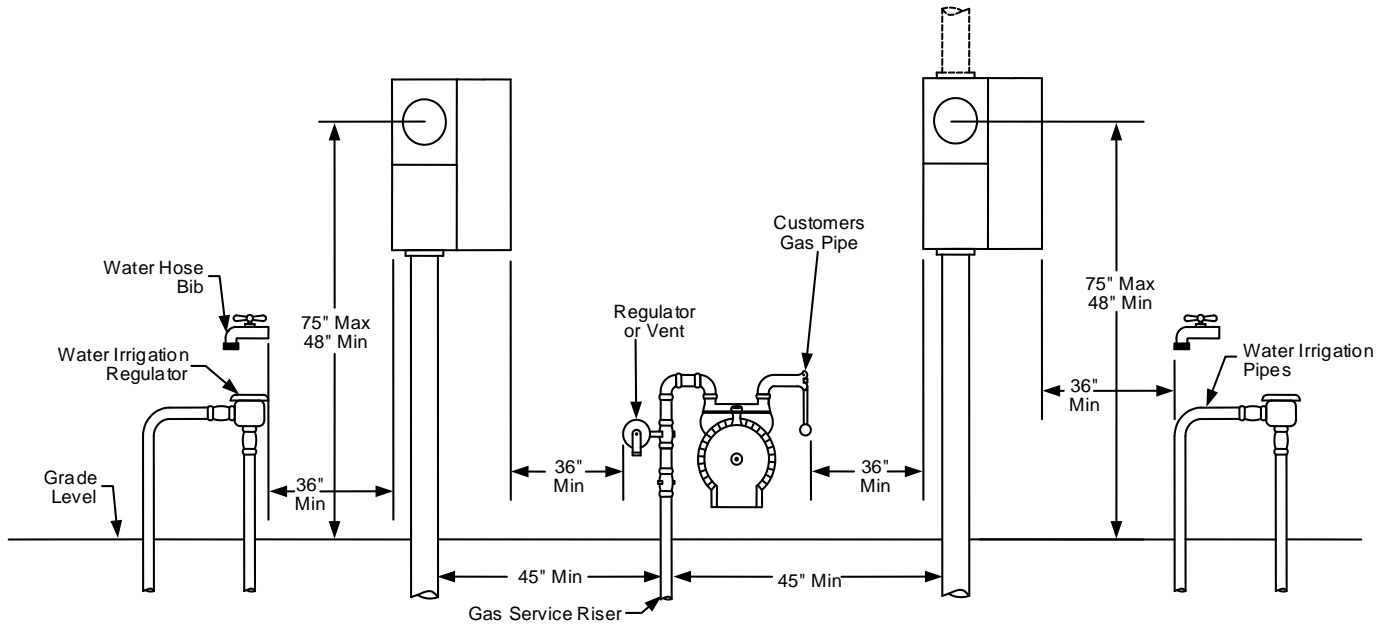


Figure 6. Clearances Around the Meter


				Electric Service Requirements		<b>RPI-2</b>
				<b>Single Family Residential Meter Location</b>		
Drawn:	Eng:	Appr:	Date:			Revision:11
JR	JR	DA	10/17			Page 7 of 10

# Metering Equipment: Installation Requirements



**Figure 7. Electric, Gas and Water Separation**

- 9.8 LP storage tanks- 15' minimum distance from NV Energy meter equipment and/or piping.
- 9.9 Gas regulator and/or vent need to maintain 3' separation from edge of service panel and/or electric riser pipe.

				Electric Service Requirements		<b>RPI-2</b>  Revision:11 Page 8 of 10
				<b>Single Family Residential Meter Location</b>		
Drawn:	Eng:	Appr:	Date:			
JR	JR	DA	10/17			



# Metering Equipment: Installation Requirements

## 10. Residential Meter Closet

- 10.1 An Access to Equipment Agreement is required for an installation of a residential meter closet.
- 10.2 Main disconnect signage is required and must be approved by an NVE inspector
- 10.3 The door(s) to the meter closet must have a minimum 50% open space on the top half of the door(s).
- 10.4 Meter closet must not be locked.

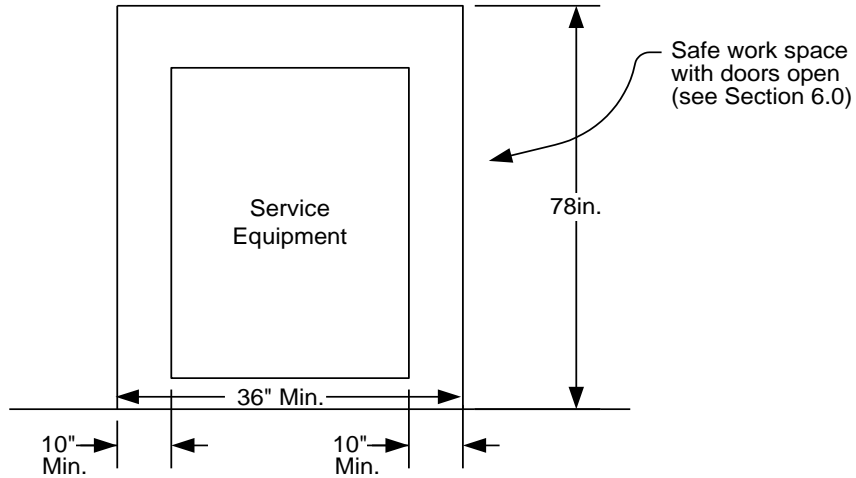


Figure 7a. Meter Closet Elevation

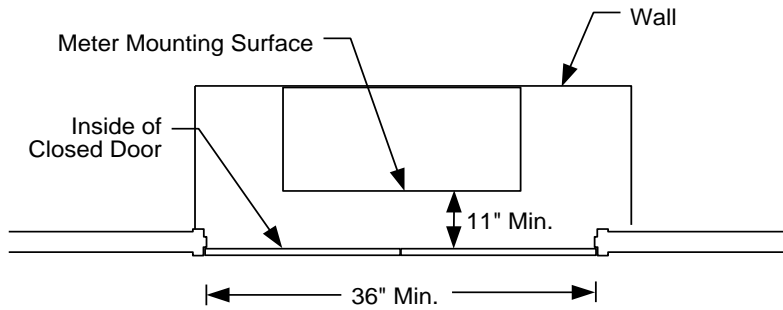


Figure 7b. Meter Closet with the Door Closed

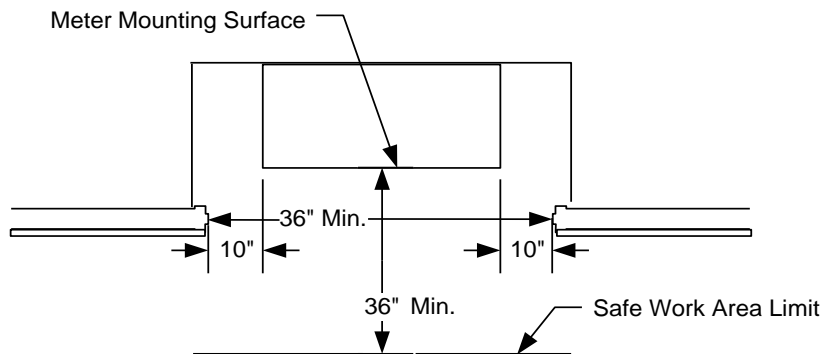




Figure 7c. Meter Closet with the Door Open

				Electric Service Requirements		RPI-2
				Single Family Residential Meter Location		
Drawn:	Eng:	Appr:	Date:			Revision:11
JR	JR	DA	10/17			Page 9 of 10

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				<b>Electric Service Requirements</b>		<b>RPI-2</b>
				<b>Single Family Residential Meter Location</b>		
<b>Drawn:</b>	<b>Eng:</b>	<b>Appr:</b>	<b>Date:</b>	<b>Revision:11</b>		
JR	JR	DA	10/17	<b>Page 10 of 10</b>		