GAS DESIGN STANDARD J-15
GAS METER LOCATIONS

Publication Date: 06/24/2024 **Effective Date:** 09/01/2024 **Rev.** 10

Purpose and Scope

This gas design standard (GDS) outlines the requirements for complying with applicable federal and state codes when installing gas meter sets for residential and commercial premises.

This document includes definitions, references, and standard designs that support compliance with regulations and codes for gas meter set locations. Local jurisdictions may have adopted codes and ordinances relating to customer facilities that could require consideration when designing gas meter sets. Compliance with applicable federal and state codes is mandatory for Pacific Gas and Electric Company (PG&E or Company) facilities. Compliance with local codes is mandatory for customer facilities.

1 General Information

1.1. Applicability

A. Per Gas Rule 16, “Gas Service Extensions,” all gas meter set equipment must be located at a protected location on applicant’s premises as approved by the Company. All gas meter sets and meter locations are subject to PG&E review and final approval. The preferred meter set location is outside and adjacent to the building being served. Customers must submit the requested meter set location with the application early in the planning stage to avoid delays. Typically, PG&E provides only one meter set for each dwelling unit or commercial unit and one service lateral.

B. New meter sets and customer-requested relocations must be installed in compliance with this standard, current regulations, and codes.

C. When the customer requests the meter set be altered, then the clearance requirements in this standard must be met.

D. These requirements do not mandate retroactive compliance of existing meter sets unless unsafe conditions exist as determined by the Company.

1.2. General Requirements

A. Approved meter locations, listed in order of preference (see Figure1):

Note: PG&E considers approving items (6) and (7) on an exception basis only after items (1) through (5) have been determined not to be possible or practical.

(1) Meter set located outside a building.

(2) Meter set located outside in an alcove.

(3) Meter Set located in an outside enclosure.

(4) Meter set located in a breezeway.

(5) Meter set located in a cabinet or closet.

1.2 (continued)

(6) Meter set located in a buried vault, pit, or box.

(7) Meter set in a gas meter room that complies with GDS J-16, “Gas Meter Room.”

B. Single residential, apartment, or nonresidential building

(1) When the meter set from the gas distribution line is located in a rear alley, applicants should locate the meter set outside of any gated or fenced area. This allows access for PG&E employees when maintenance is required.

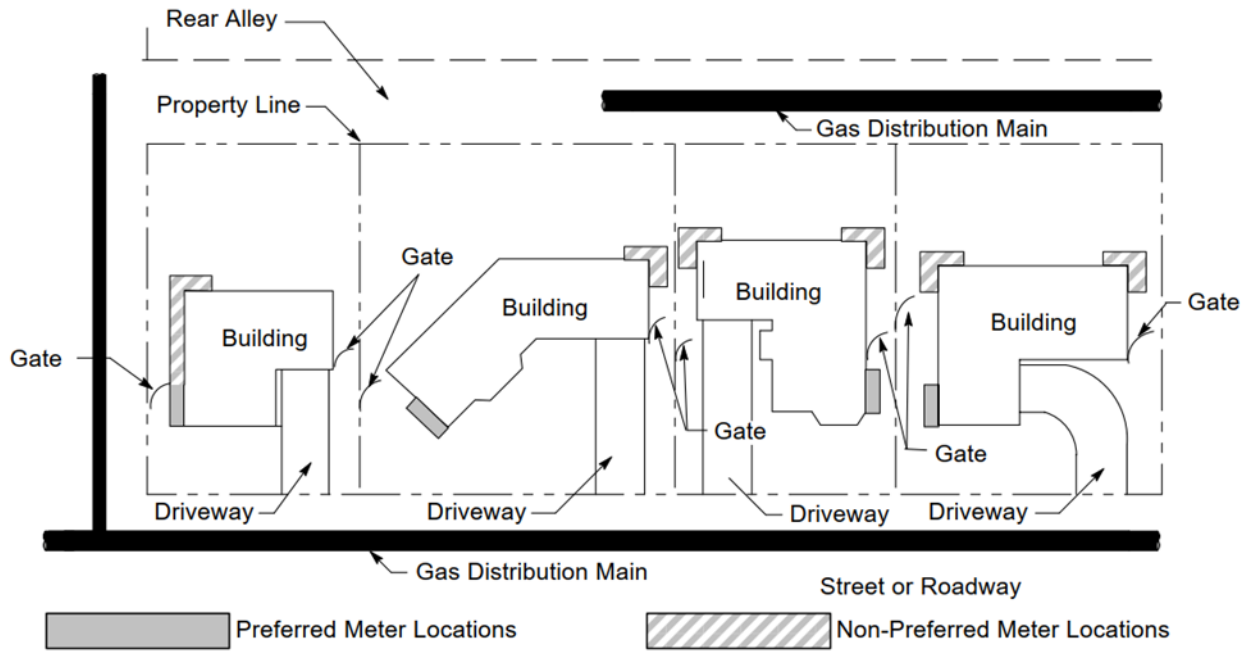


Figure 1. Acceptable Locations for Gas Meter Installations

C. For new or remodeled buildings, the following meter locations are prohibited:

(1) In curb meter boxes or vaults for new services.

(2) In living quarters, closets, toilet rooms, or bathrooms.

(3) In garages without properly vented meter cabinets.

(4) Under stairs, inside or outside.

(5) Behind fences that applicants can lock. (This is not preferred but may be allowed on an exception basis.)

(6) On steep slopes.

1.2 (continued)

(7) In areas where landscaping restricts access.

(8) Within engine, boiler, heater, or electrical-equipment rooms.

(9) Under display platforms or show windows in commercial buildings. This includes any permanent, elevated display floors or platforms associated with the window where the purpose of the window is to present a display to the public.

(10) In contact with the soil, in a depression below general ground level, or where potentially corrosive materials are likely to contact the meter set. No PG&E-owned components downstream of the service riser may be buried.

(11) In a poorly ventilated tradesman alley (passageway in a building, with a door at one end).

(12) In crawl spaces under buildings or decks.

(13) Near a driveway, drive-through, or other traveled area. On an exception basis the Company may approve the meter set to be near a travel way, but it must be adequately protected from vehicular damage as described in GDS J-95, “Meter Guard Design and Installation Arrangement.”

(14) In a metallic cabinet, room, or location that blocks or interferes with the radio frequency signal transmissions that are necessary for PG&E to operate the SmartMeter Advanced Meter Reading system.

(15) In any location that does not provide the required working space.

(16) Under an overhang that could direct gas into a building opening or electrical equipment.

(17) In Americans with Disabilities Act (ADA) designated areas and accessibility areas, such as parking spaces and access aisles, as referenced in California Building Code, Section 11B-502.

D. SmartMeter Module Location Requirements

(1) Specific SmartMeter module location requirements are detailed in Utility Manual TD-7001M, *Electric and Gas Service Requirements (Greenbook)*, Section 2.

1.3. Gas Meter Working Space

A. The required working space has a height of 78 inches and a depth extending from the wall to 3 feet in front of the meter. The width extends 12 inches beyond the edge of the Company meter set equipment and depends on meter size and the number of meters. Grade slope should be less than 2%. See Figure 2 and Figure 3. For a large meter set or multi-meter manifold, the working space extends 12 inches beyond the end of the Company meter set equipment.

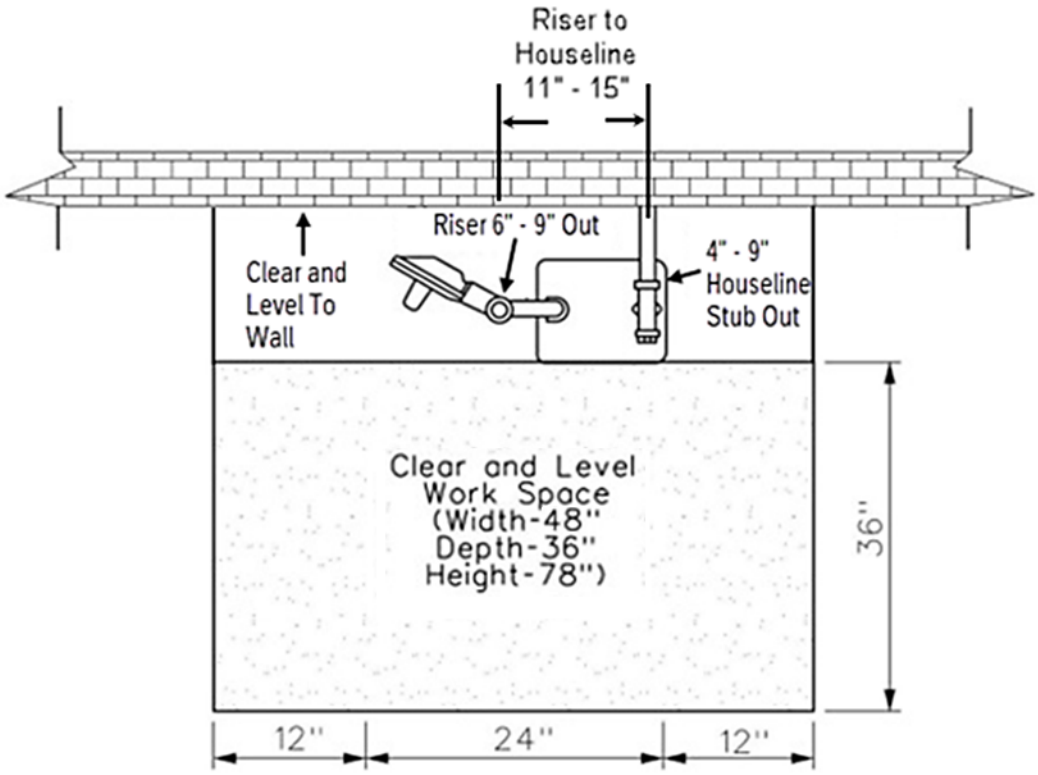
B. Other utilities, including pipes, conduits, wet facilities, and water lines, are not permitted in the working space.

C. Figure 2 represents a typical gas meter set for 350 standard cubic feet per hour (scfh) or less at 7 inches WC or 600 scfh or less at 2 pounds per square inch gauge (psig).

D. Figure 3 represents a typical gas meter set for with 351 to 1400 scfh at 7 inches WC or 601 to 2400 scfh at 2 psig.

E. Reverse sets for single diaphragm meters in the 250, 400, and 600 class are not allowed. The house line must be on the right of the gas service riser, unless a reverse set is approved by the Company. Single diaphragm meters in the 800 and 1000 class, meter manifolds and rotary meter sets may be built from right to left (reverse) when required and with final approval by the Company.

1.3 (continued)



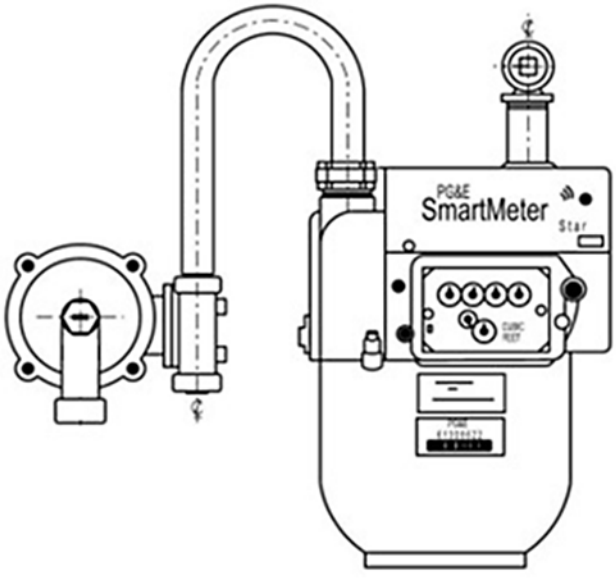


Figure 2. Typical 250-Class Gas Meter

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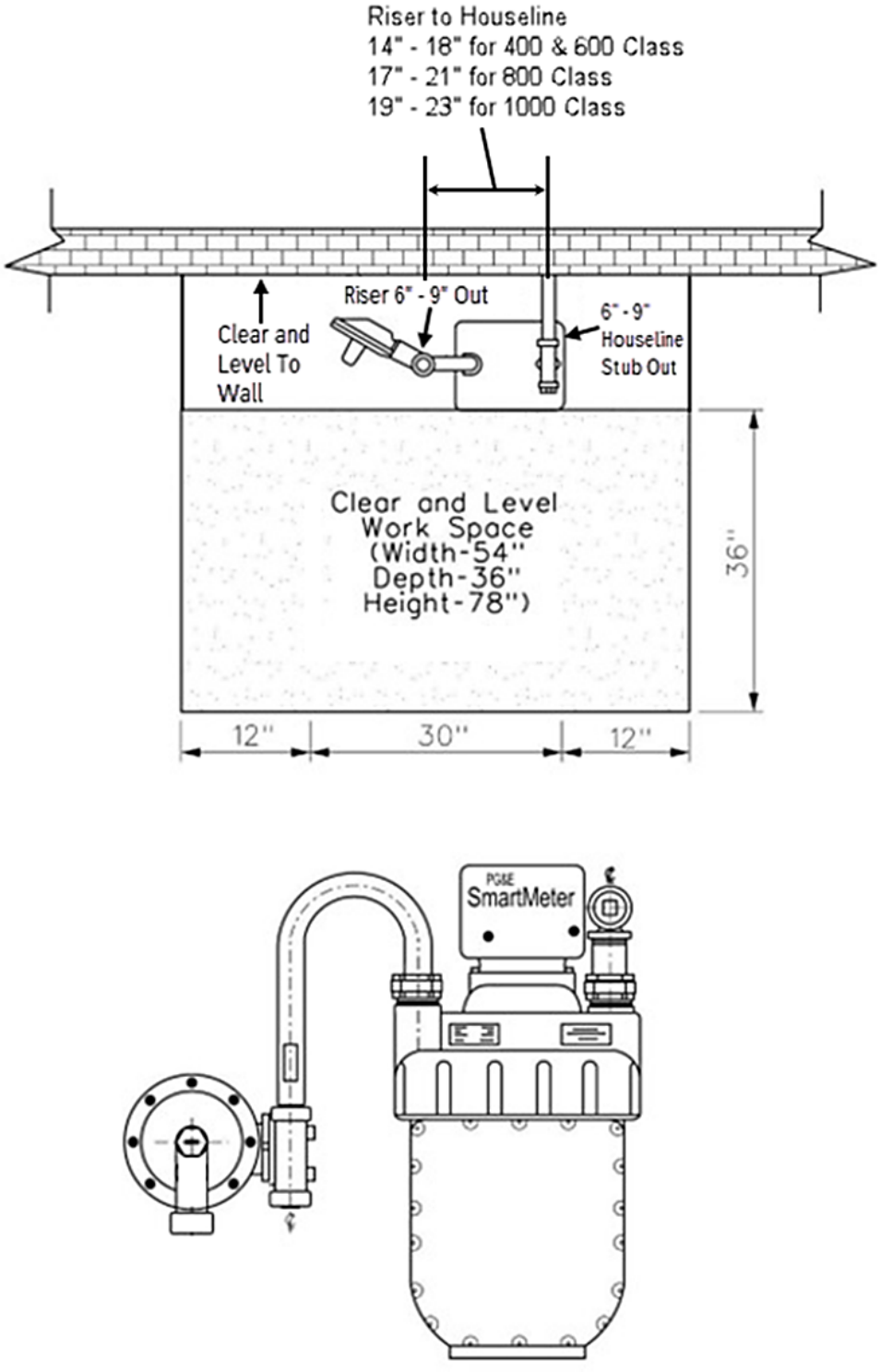

Figure 3. Typical Connection for 400 to 1000 Class Meter

1.4. Meter Set Location Relative to Service Line

A. The meter set is typically located so that the service line is the minimum possible length, in a straight line perpendicular to the main, on the side of the building.

B. The Company may consider an alternate route if it results in significantly lower construction costs or facilitates construction.

1.5. Meter and Regulator Accessibility

A. Each meter set must be in a readily accessible location for reading, maintenance, inspection, and replacement. It must be protected from corrosion and other damage that may be anticipated, including vehicular damage.

B. Large meter sets or multimeter manifolds require adequate space for installation, maintenance, and require drive-up access for the Company's service trucks.

1.6. Service Shut-Off Valve Locations

A. Each service line must have a shut-off valve on an outside service riser in a readily accessible location.

B. Service risers must not be installed inside buildings or meter rooms, except where special circumstances prevent outside installation as determined by the Company per GDS J-16. If the riser is located inside a building or an outside riser valve is not readily accessible, then a curb valve must be installed in a location that is readily accessible.

C. If the meter set (or meter and regulator assembly) is located remotely from the service shut-off valve, then install an additional service shut-off valve at the meter set.

1.7. Clearance Requirements for Typical Outside Meter Sets

A. The meter set and service regulator vent terminations must be located in a safe outside location that complies with the following criteria:

(1) The regulator vent must not terminate near any sources of ignition or openings into the building. The riser must be a minimum distance of 36 inches from sources of ignition, electrical equipment, and openings into the building, and this clearance area extends 10 feet above and 36 inches below the regulator vent termination. (See Figure 4.)

(2) For a large meter set or multi-meter manifold, the clearance requirement is 36 inches from the riser and extends 12 inches beyond the furthest Company meter set equipment, 10 feet above the highest regulator vent, and 36 inches below the lowest regulator vent.

(3) No wet facilities, such as water pipes, downspouts, sewers, or drainage pipes are allowed in the gas meter set clearance area.

(4) These clearance distances extend around outside corners.

1.7 (continued)

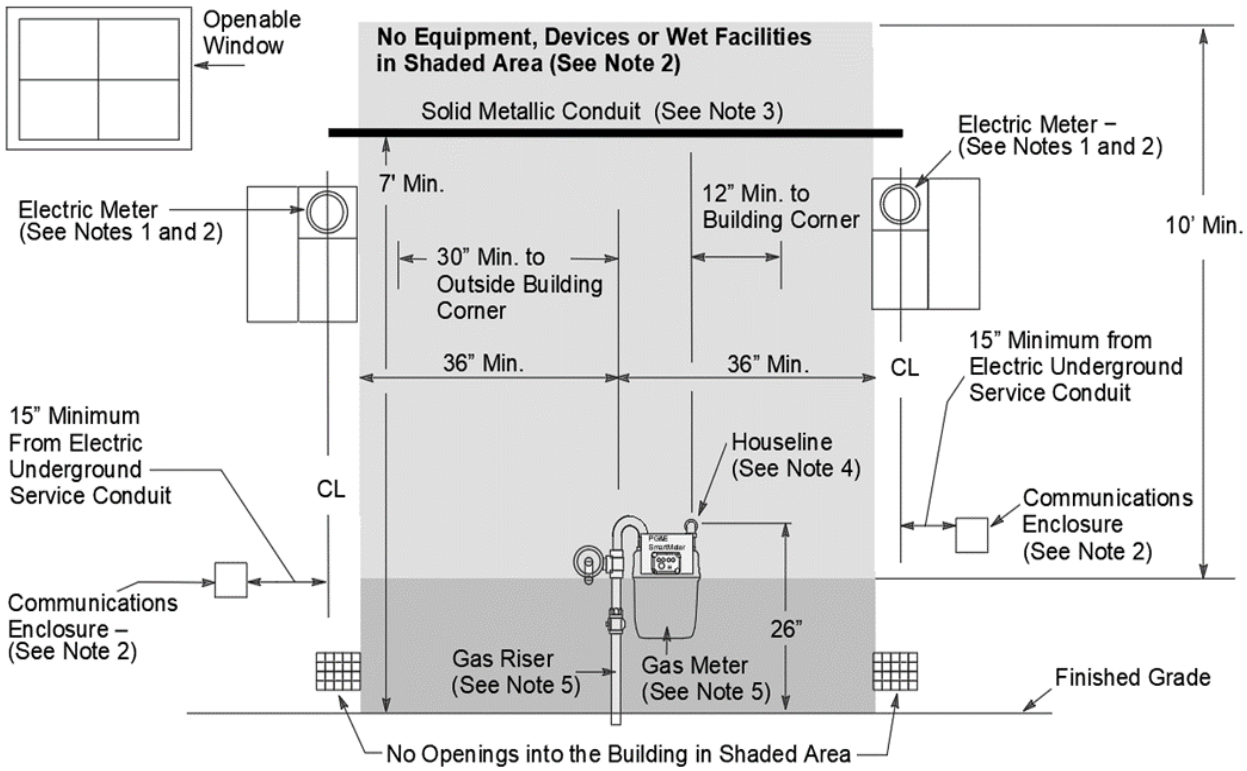

Figure 4. Gas Meter Set Separation Dimensions and Clearances

B. Notes in reference to Figure 4:

(1) Company electric meter panel locations are subject to utility approval and must comply with the applicable code requirements. Electric meter clear and level workspace will be enforced per the Greenbook (Manual TD-7001M), Section 5.

(2) Applicants must not install any sources of ignition or electrical devices or equipment, including wires, cables, metering enclosures, telecommunication enclosures, bond wires, clamps, or ground rods within the shaded area around the gas meter.

(3) A solid and continuous metallic conduit without couplings, joints, or connections is allowed to run completely through the shaded area at 7 feet or higher above the finished grade.

(4) Place the gas service riser 6 inches to 9 inches from the finished wall. The completed customer houseline at the service delivery point extends 4 to 9 inches out from the finished wall where the meter is to be set and 26 inches above the finished grade.

1.7 (continued)

(5) Do not place gas meter sets under display platforms or show windows in commercial buildings. This includes any permanent, elevated display floors or platforms associated with the window, where the purpose of the window is to present a display to the public.

(6) Applicants must not install wet facilities, water spigots, water lines, gutter systems, down spouts, storm drains, sewers, or other water sources within 36 inches of the gas riser in the shaded area.

(7) For a large meter set or multimeter manifold, the minimum separation requirement for sources of ignition, opening to buildings or wet facilities, extend 12 inches beyond the farthest PG&E metering facilities and 10 feet above the highest regulator vent.

(8) The minimum dimensions and clearances are good for single diaphragm gas meters up to the 1000 class.

(9) No openings into the building within the shaded area around the gas meter.

(10) The meter set and regulator vent must not be within any location under building overhangs, where the overhang can direct gas into a building opening or any electrical devices under the overhang.

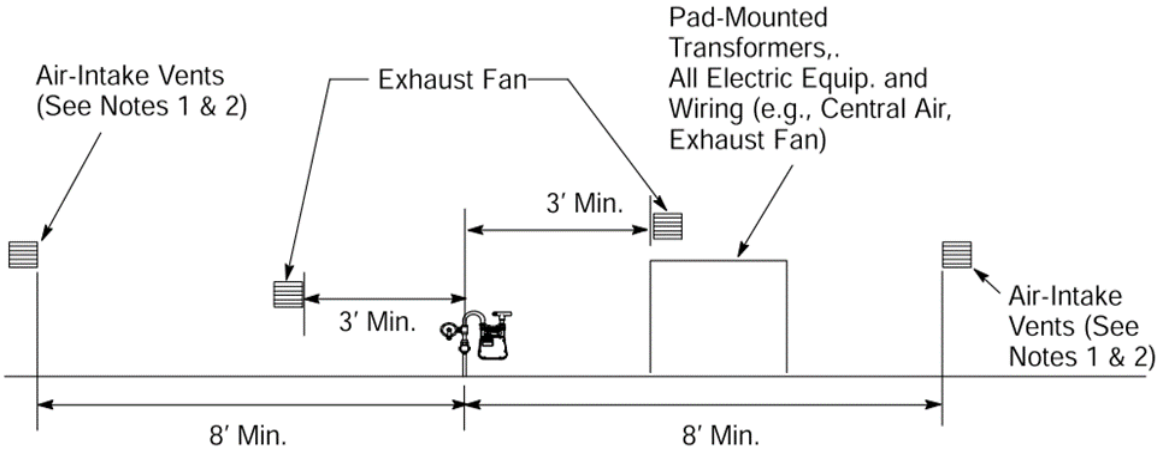

Figure 5. Requirements for Gas Meter Set Clearance from Air Intakes

C. Notes in reference to Figure 5:

(1) An 8-foot minimum horizontal and 10-foot minimum vertical clearance is required from the gas service riser to air-intake vents, pulling air into the building.

(2) For a large meter set or multimeter manifold, this clearance from air-intakes will extend 8-feet beyond the farthest PG&E meter equipment.

1.8. Typical Rotary Meter Set Dimensions

A. The typical dimensions shown below may not apply in all cases. Required dimensions will be determined by PG&E.

B. Figure 6 represents a rotary gas meter with 1401 through 3000 scfh at an approved delivery pressure.

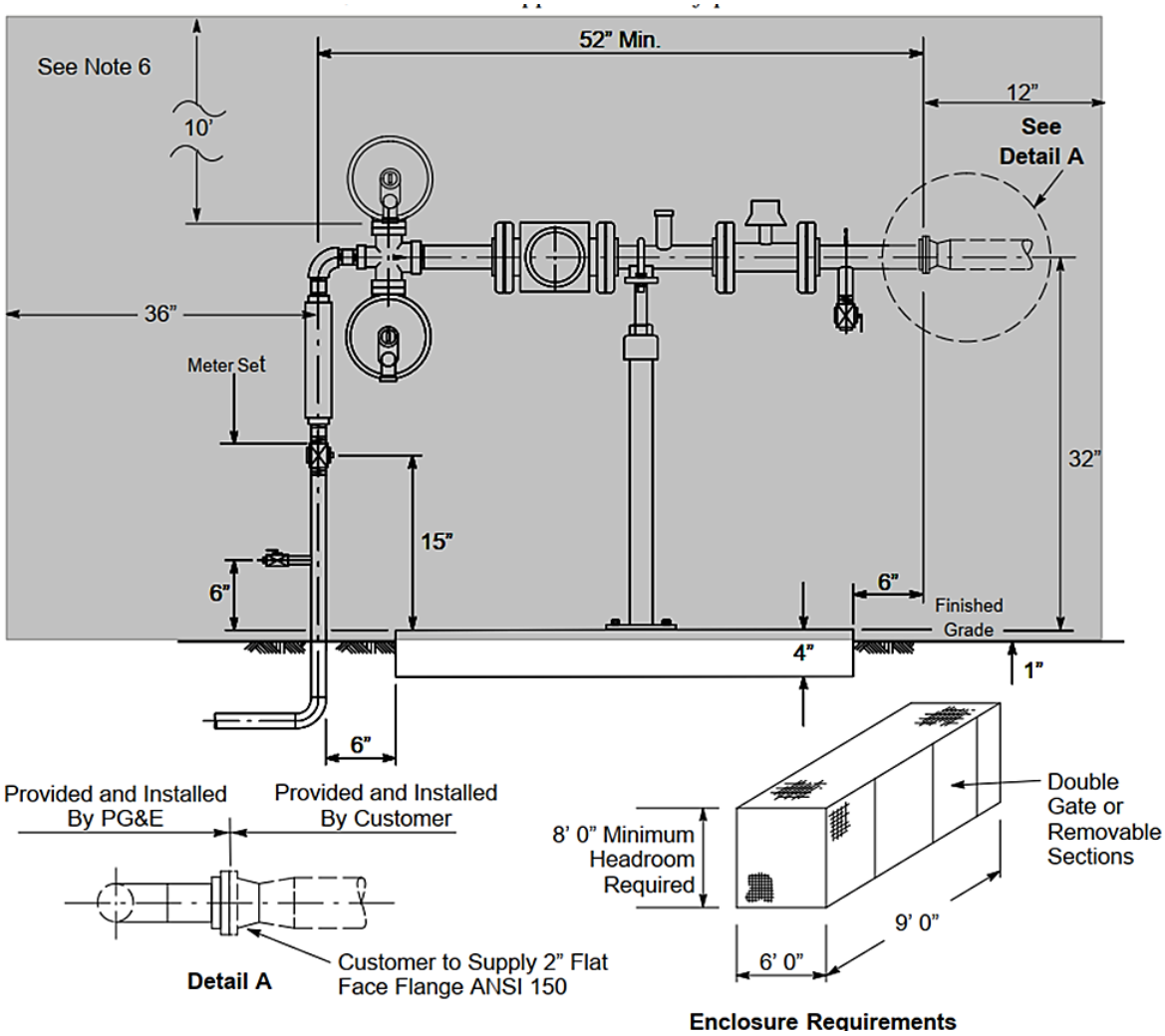

Figure 6. Typical 1.5M or 3M Rotary Gas Meter Set

C. Notes in reference to Figure 6:

(1) Customers must provide a 40-inch × 36-inch × 4-inch concrete pad with minimum #4 rebar that is typically 12-inches grid on center.

(2) Customers must provide a 2-inch American National Standards Institute (ANSI) 150 flat face flange to connect to PG&E facilities.

1.8 (continued)

(3) It is preferred that rotary meter sets be away from the building. If the meter set is built next to a building wall, place the vertical leg of the riser and the houseline 20 inches from the wall. This ensures that the meter set components are built in a straight line. The Company may approve the riser and houseline to be farther out from the building wall on a case-by-case basis.

(4) The finished grade must be below the bury-line marking on the service riser.

(5) PG&E's weld elbow is optional.

(6) The meter set must be clear of any sources of ignition or openings into the building. The riser must be a minimum of 36 inches from sources of ignition, from any openings into the building, or any wet facility. This clearance area extends 10 feet above the highest regulator vent, 36 inches below the lowest regulator vent, and 12 inches beyond the farthest PG&E meter-set equipment.

D. Figure 7 represents a rotary gas meter with 3001 through 7000 scfh at an approved delivery pressure.

1.8 (continued)

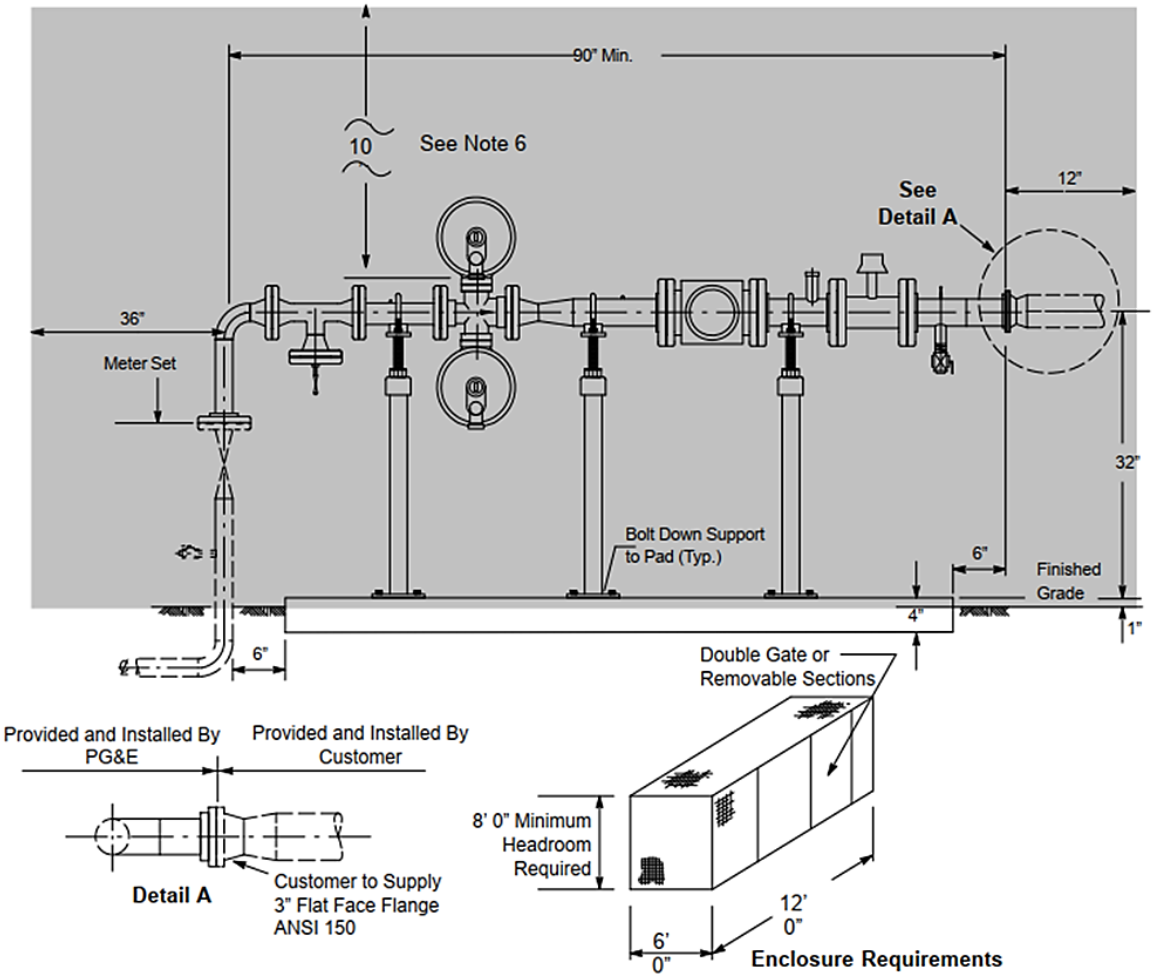

Figure 7. Typical 5M or 7M Rotary Gas Meter Set

E. Notes in reference to Figure 7:

(1) Customers must provide a 78-inches × 36-inches × 4-inches concrete pad with minimum #4 rebar that is typically 12-inches grid on center.

(2) Customers must provide a 3-inch ANSI 150 flat-face flange to connect to PG&E facilities.

(3) It is preferred to have the rotary meter sets away from the building. If the meter set is built next to a building wall, place the vertical leg of the riser and the houseline 20 inches from the wall. This ensures that the meter set components are built in a straight line. The Company may approve the riser and houseline to be farther out from the building wall on a case-by-case basis.

(4) The finished grade must be below the bury-line marking on the service riser.

1.8 (continued)

(5) PG&E's weld elbow is optional.

(6) The meter set must clear any sources of ignition or openings into the building. The riser must be a minimum distance of 36 inches from sources of ignition and openings into the building, or any wet facility. This clearance area extends 10 feet above the highest regulator vent, 36 inches below the lowest regulator vent, and 12 inches beyond the farthest PG&E meter-set equipment.

F. Figure 8 represents a rotary gas meter with 7,001 through 16,000 scfh at an approved delivery pressure.

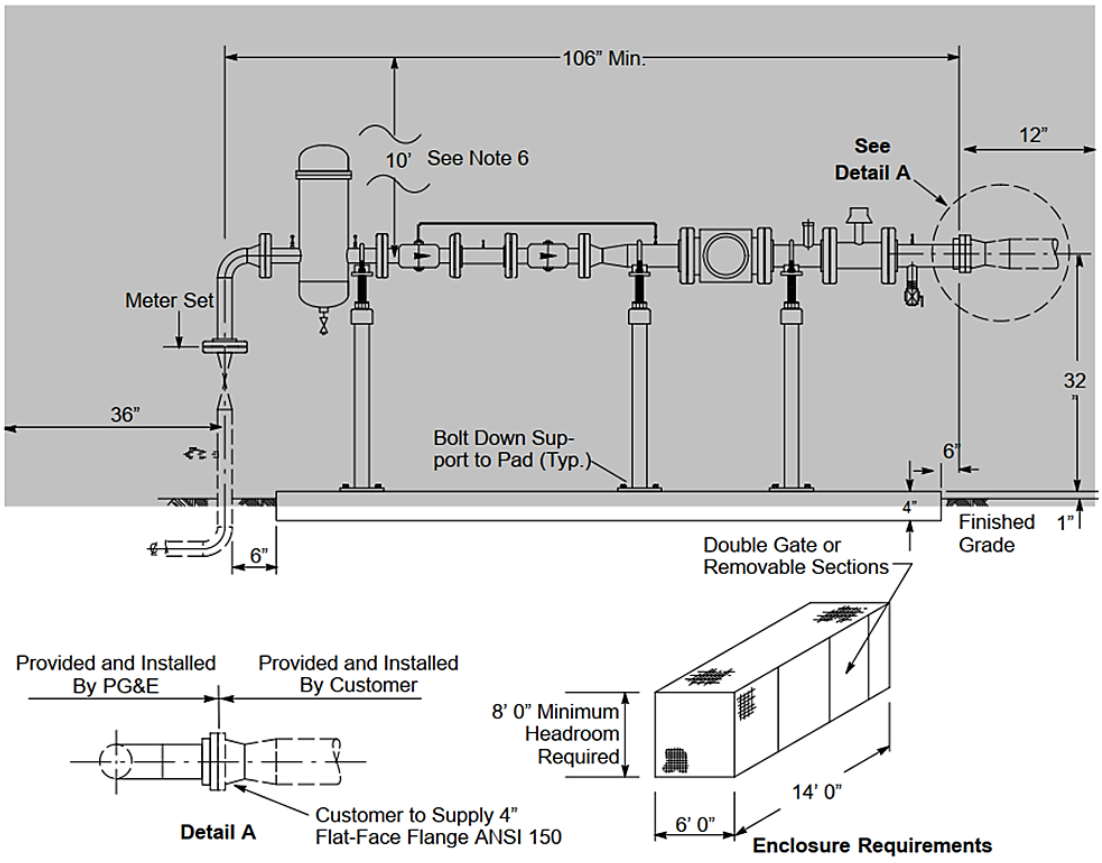

Figure 8. Typical 11M or 16M Rotary Gas Meter Set

G. Notes in reference to Figure 8:

(1) Customers must provide a 96-inch × 36-inch × 4-inch concrete pad with minimum #4 rebar that is typically 12-inches grid on center.

(2) Customers must provide a 4-inch ANSI 150 flat−face flange to connect to PG&E facilities.

1.8 (continued)

(3) It is preferred to have the rotary meter sets away from the building. If the meter set is built next to a building wall, place the vertical leg of the riser and the houseline 20 inches from the wall. This ensures that the meter set components are built in a straight line. The Company may approve the riser and houseline to be farther out from the building wall on a case-by-case basis.

(4) The finished grade must be below the bury-line marking on the service riser.

(5) PG&E's weld elbow is optional.

(6) The meter set must clear of any sources of ignition or openings into the building. The riser must be a minimum distance of 36 inches from sources of ignition, openings into the building, or any wet facility. This clearance area extends 10 feet above the highest regulator vent, 36 inches below the lowest regulator vent, and 12 inches beyond the farthest PG&E meter-set equipment.

1.9. Service Risers

A. Company approved non-corrodible service risers must be used per GDS A-91 "Prefabricated Risers." A minimum 3-inch casing will be required for the placement of the gas riser in areas that will be paved. Gas service risers must not be directly embedded in concrete or asphalt pavements.

1.10. Overpressure Protection

A. Overpressure protection devices may be required, in addition to the service regulators per GDS H-15, "Design Requirements for Company-Owned Gas Regulating Systems Serving Customers."

1.11. Meter Protection

A. Meter sets should be installed in locations where they are not exposed to damage from vehicular traffic or other potential impacts.

B. If any portion of a gas meter set is located in or adjacent to traveled areas where there is the probability of vehicular damage, then physical protection acceptable to the Company must be provided by the customer per GDS J-95.

C. When a meter set is damaged by a vehicle or other equipment and there is a potential for a recurrence, temporary barricading must be installed before service is restored, and until permanent protection is installed, per GDS J-95, or the meter is relocated.

1.12. Other Hazards

A. When selecting the meter set location, it is necessary to be alert to any potential hazards not specifically indicated in this document, including potential risk to others caused by the meter set, and exercise reasonable care to avoid any hazards.

B. Electric grounding or bonding wires must not be attached to any part of the gas meter set. No grounding wires or bonding is permitted within the clearance area of the PG&E meter set assembly.

C. When the gas meter set is subject to snow and/or ice damage the customer may be required to provide a protective cover acceptable to the Company.

1.13. Service Delivery Point

A. All customer-owned equipment must be installed downstream of the Company point of connection as shown in Figure 9. Customer-installed equipment may include earthquake valves, seismic shutoffs, remote monitoring equipment, or flex hoses. Any customer-installed equipment on Company facilities must be removed at the customer's expense.

B. The point of connection to the customer must be a rigid steel pipe houseline and not flex line.

C. Large meter sets and commercial meter sets may require the riser to be located farther away from the face of the building to accommodate the meter's installation. PG&E verifies that risers and houselines are installed and meet all minimum clearance requirements before scheduling the meter set installation.

D. The customer houseline must be clear of contacting any part of the meter set assembly including riser, regulator, and meter.

1.13 (continued)

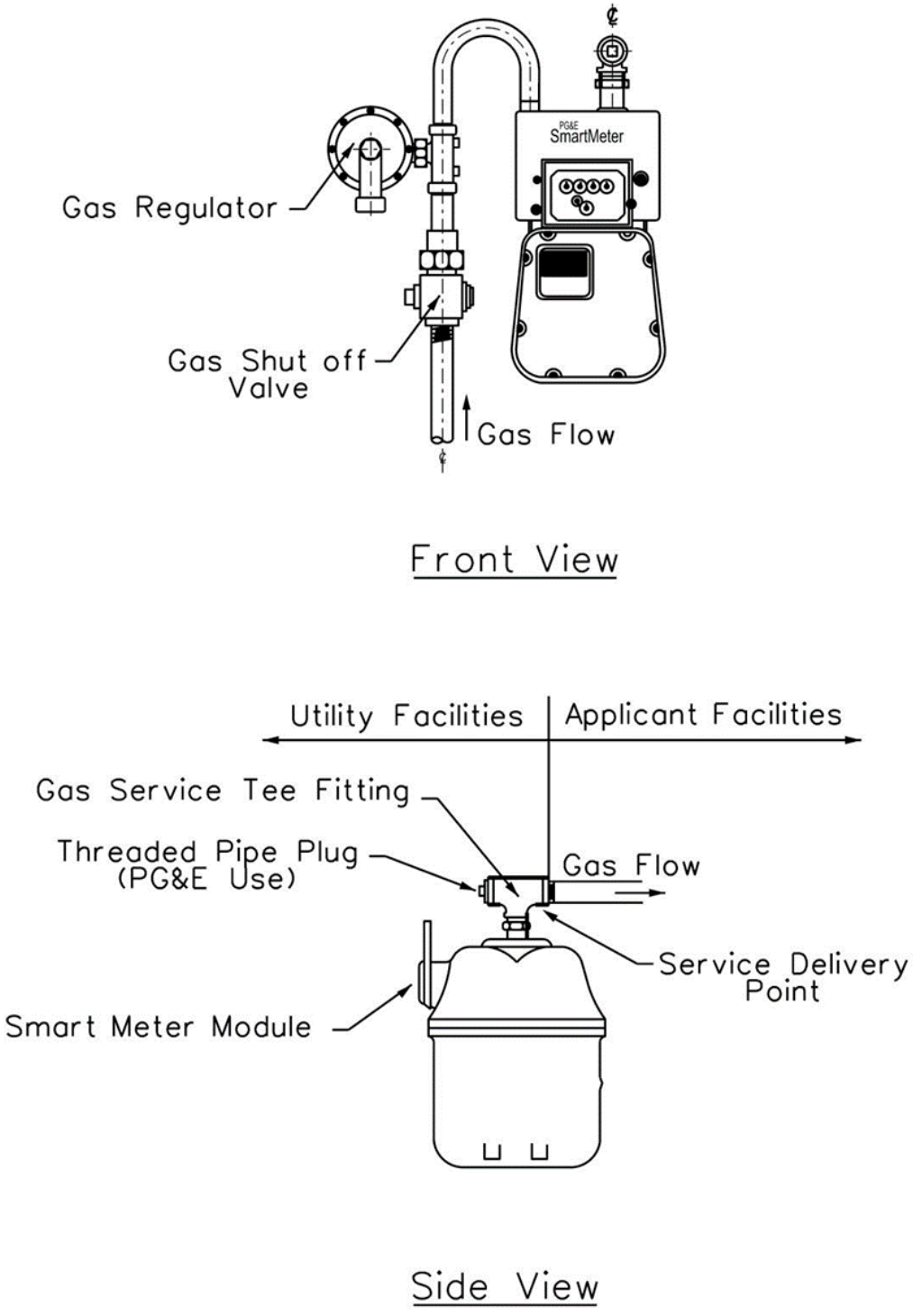

Figure 9. Typical Residential/Small Commercial Meter Set

1.14. Locations For Outside Meter Sets

A. Meter sets should be located at the building and as near as practical to the point where the gas service pipe enters the property. The meter set location is typically near the side of the building from which the customer will be served. The following is the order of preference for locating the outside, aboveground meter set.

(1) Location in a protected location next to the building being served (see Figure 10).

a) An exception to this requirement is for schools, where it is required to protect the meter set by installing it in a location that is separated from buildings and playground areas. It will be necessary to install a protective enclosure or wire cage with a cover around the meter set in these cases. (See Figure 11 and Figure 12.)

b) The following requirements apply to schools or other buildings where children congregate:

- Locate the gas meter enclosure adjacent to the property line or away from buildings in a wire cage enclosure or other suitable protective enclosure.
- PG&E requires an overhead wire cover, at least 8 feet above ground level, to prevent any debris or other material from falling inside the enclosure. The applicant must ensure that PG&E is able to secure the enclosure with a PG&E lock.
- It is the applicant's responsibility to provide the enclosure and concrete pad for the gas meter set. PG&E must approve the final design and size of the enclosure.

(2) Location at the customer's property line, if a location exists where the meter set can be properly protected from damage by vehicles and anticipated damage. The service and meter set location must be accessible and allow for inspection for and operation and maintenance activities. (See Figure 13.)

a) PG&E may require that the meter be set at the property line if either of the following two conditions are met:

- The building and/or the service path is back more than 200 feet from the property line.

1.14 (continued)

- A potential hazard or unusual site condition threatens the service between the property line and the building. Some examples of unusual site conditions are plowed land, ditches, bridges, ponds, waterways, leach fields, bioswales, inaccessible security areas, or another deterrent, obstacle, or hazard. For additional information refer to Gas Rule 16, “Unusual Site Conditions.”

(3) PG&E prefers that rotary meter sets be located outside of and away from the building.

a) A meter set with inlet pressure over 60 psig is typically installed at or near the property line and away from buildings.

b) PG&E must have unrestricted drive-up access for service trucks and adequate space to install and maintain the meter.

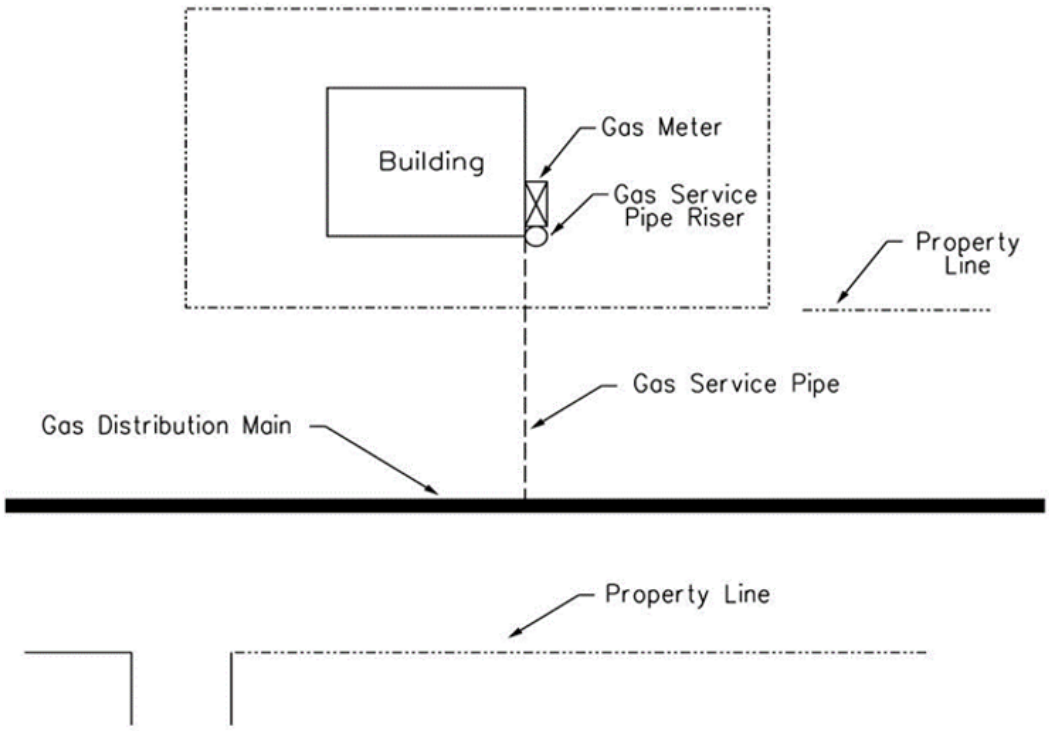

Figure 10. Typical Gas Service

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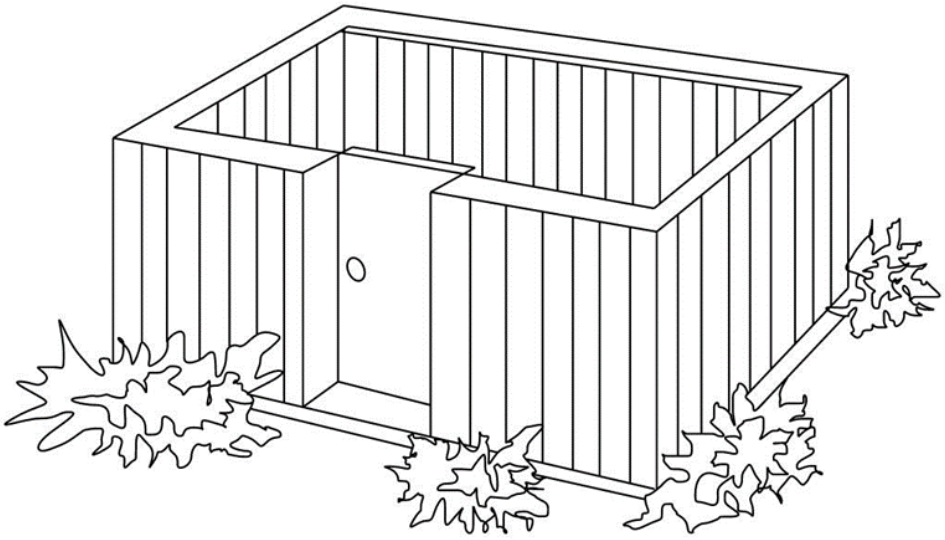
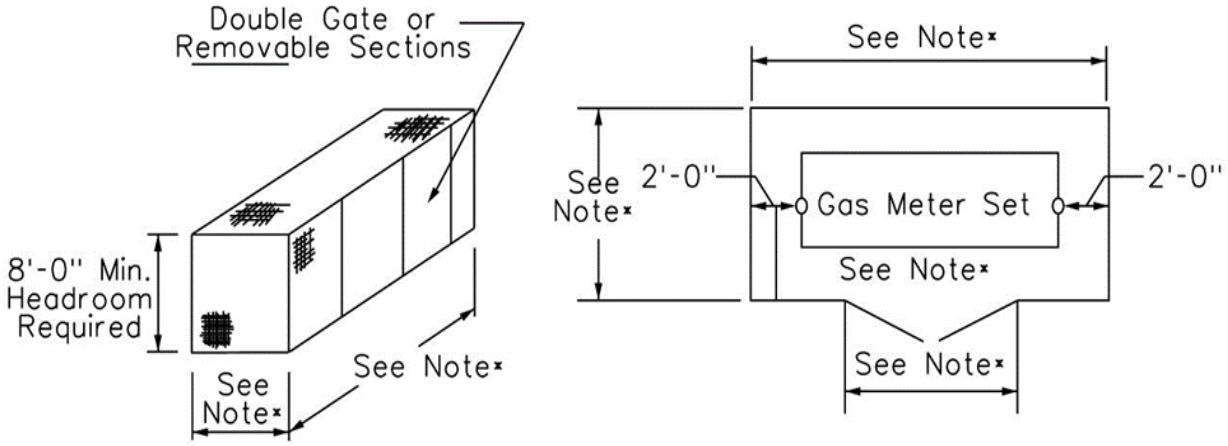


Figure 11. Typical Detached Enclosure



* The enclosure's width and length will vary depending on the meter set. Contact your local PG&E project coordinators (formerly service planners) for more information.

Figure 12. Typical Enclosure Dimensions

1.14 (continued)

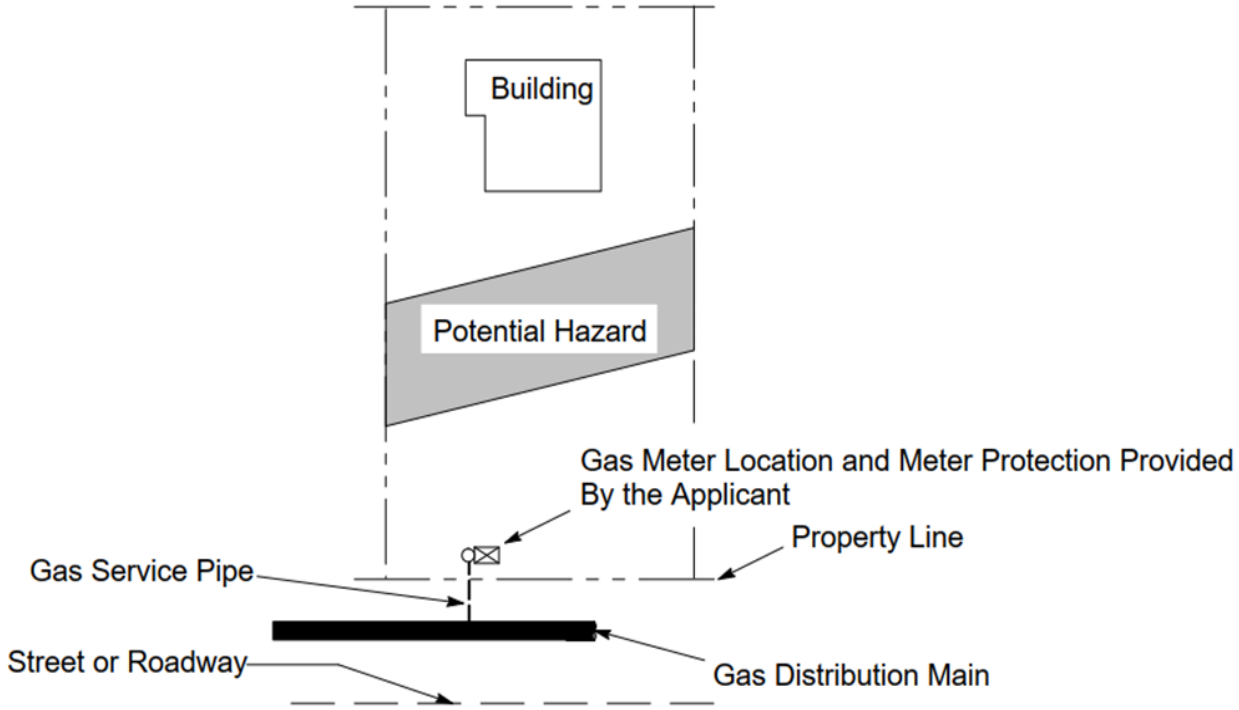


Figure 13. Property Line Installation

1.15. Specific Requirements for Meter Sets Located in Alcoves

A. An alcove is an exterior space that is recessed into a building or wall. An alcove's width can vary depending on the meter set. The height of the alcove is typically 8 feet and the depth must not exceed 36 inches. The ceiling must be designed to slope up and out and not have pockets that could trap gas. PG&E provides final dimensions after confirming the meter sizes and the number of meters.

B. It is preferred to have the riser and regulators installed on the outside of the alcove. A riser and regulators inside the alcove will only be approved by PG&E on an exception basis.

C. The alcove's dimensions must allow for the required working space.

D. A gate is not a preferred option and requires approval on an exception basis. If a gate is proposed in front of the alcove, the entire opening must have at least 50% net free open area.

E. The alcove must not have openings into the building, sources of ignition, wet facilities, or other services (such as lighting, wiring, downspouts, spigots, or other foreign pipes).

1.16. Specific Requirements for Meter Sets Located in Breezeways

A. Meter sets installed in breezeways must be located so that gas cannot migrate into building openings.

B. Meter sets may be installed in breezeways that are adequately ventilated to the outside atmosphere. The breezeway must be open at both ends and no openings into the building.

C. No sources of ignition are allowed in the breezeway. Any electric wiring, switches, light fixtures, or circuit breakers must meet the requirements of the National Electric Code (NEC) for installation in Class 1, Division 2 areas and be 36 inches away from the meter set.

1.17. Specific Requirements for Meter Sets Located in Cabinets

A. Meter cabinets are not a preferred method of installation. A meter cabinet larger than for a single domestic meter installation requires prior approval from the local field services manager. When approved, it must comply with the requirements in this section.

B. It is preferred to have the riser and regulators installed on the outside of the cabinet. Additional space is required for larger regulators and dual-head regulators. Installing the regulators in a cabinet requires prior approval from the local field services manager. If there are regulators in a cabinet, then the vents must be piped out of the cabinet per GDS H-93, “Piping – Details, Regulator Vent Lines - Above Ground.”

C. Meter sets and meter set components located in a cabinet must have adequate working space, and ventilation to a clear outside location with no source of ignition and no opening into the building. See GDS K-51, “Single Meter Cabinet for Domestic Gas Meters,” for single meter cabinet requirements and details. Final cabinet dimensions must be approved by the Company before construction for other meter sizes.

D. Cabinets must be designed to be vapor-proof and prevent migration of gas into the interior of a building or other location where gas may create a hazard. The cabinet must be constructed of non-metallic and non-combustible material with non-metallic doors, and open to clear outside location.

E. Cabinets are limited to a minimum depth of 18 inches and a maximum depth of 36 inches. See Figure 14, for specific meter cabinet sizes and clearances. Cabinets deeper than 36 inches must conform to the requirements of GDS J-16.

1.17 (continued)

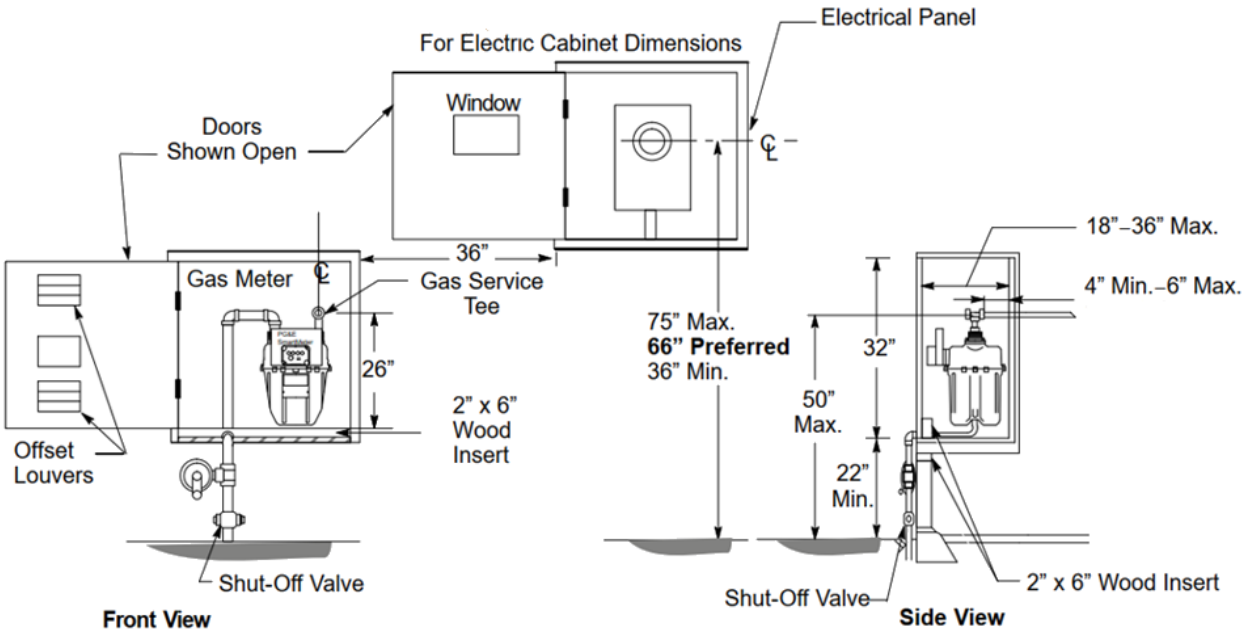


Figure 14. Specifications for a Recessed Individual Meter Cabinet

1.18. Gas Meter Closets

A. Gas meter closets must be furnished and installed by the applicant and have a depth of 18 inches minimum and 36 inches maximum, without exception.

B. Doors must be non-metallic, fully louvered, open at least 90°, and have a minimum clear opening height of 6-feet, 8-inches.

C. The inside walls of the closet must be made of non-flammable material and have a minimum 1-hour fire rating. All joints and penetrations must be sealed to prevent gas from migrating into the structure. Foreign pipes are not allowed inside the closet with the exception of fire sprinkler heads. Lighting, wiring, conduits, junction boxes, or inspection panels of any kind are not allowed inside the closet. Bonding or grounding wires on the customer's houselines are not allowed inside the closet.

D. The ceiling must have a 1:12 slope. The ceiling must slope up toward the door frame with a maximum of 6-inches measured from the door opening to the finished ceiling.

E. The inside width of the closet cannot exceed 8-inches beyond either side of the door frame. PG&E will provide manifold spacing to determine the size of closet required for the desired number of meters. The meters and manifold must fit within the opening of the closet doors with the exception of the tie-in piece from the outside riser.

1.18 (continued)

F. The riser and regulator must be installed outside of the closet. The applicant provides all required penetrations through the wall into the closet. The pipe penetration from outside to inside must not conceal the pipe and must be clearly visible for inspection. PG&E provides the size and location of the required penetration.

G. The doors must have an identifying sign that reads “Gas Meters.” If the doors have locks, the applicant must install a PG&E lock box near the closet that is acceptable to PG&E and contains a key for access.

H. The closet cannot be used for storage of any kind. Only PG&E gas meters and metering set appurtenances are allowed inside the closet.

1.19. Multi-Meter Manifolds

A. Multiple meters will be at one approved location for each building, property, or location. Number of meters, tiers and size of piping are designed by the Company.

B. See GDS J-52.1, “Gas Meter Manifolds (1-1/4" and 2" Sizes),” GDS J-52.2, “Brackets for Gas Meter Manifolds,” and GDS J-52.3, “Gas Meter Manifolding.”

C. The Company limits gas meter manifold configurations to one-tier or two-tier meter manifolds not exceeding 60 inches high. These manifolds are measured from the final level standing surface to the top of the manifold. See Figure 15 and Table 1.

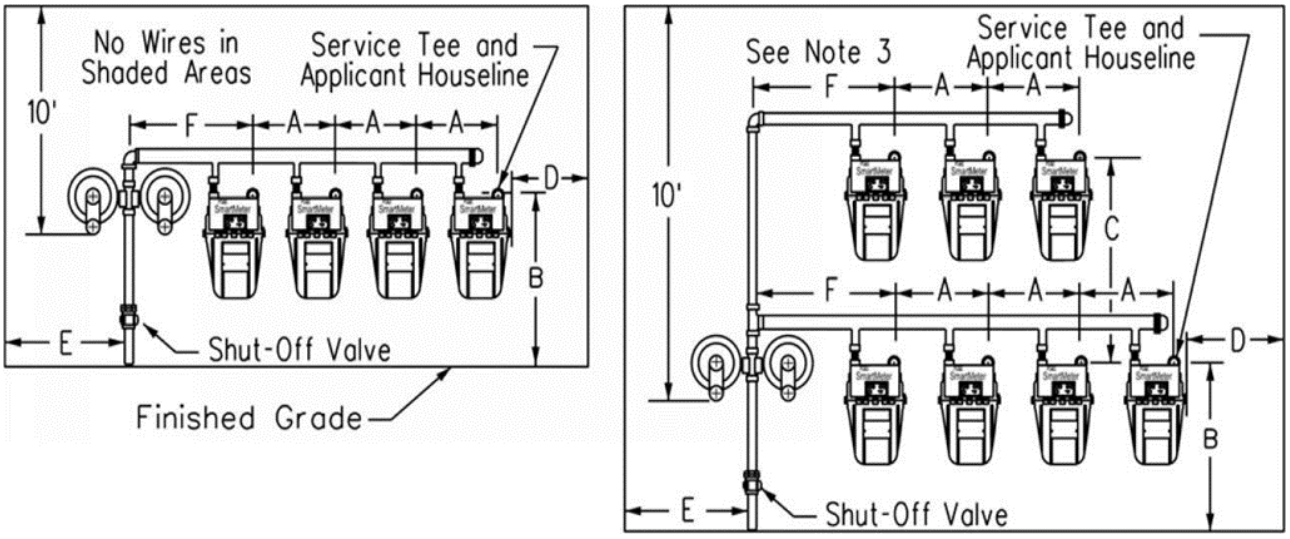


Figure 15. Typical Residential Multimeter Installations

D. Notes in reference to Figure 15:

(1) The applicant's houselines must be stubbed out 4-inches to 6-inches from the finished wall at the locations shown.

(2) The applicant must clearly mark each houseline.

(3) Applicants must not install any electrical devices or equipment, including wires, cables, metering enclosures, telecommunication enclosures, bond wires, clamps, or ground rods within 36-inches from the service riser, 12-inches horizontally from the farthest edge of PG&E facilities, and 10-feet above the regulator vent.

(4) Applicants may need to install the gas service riser farther away from the building to accommodate the manifold installation. PG&E will provide site-specific details for manifold meter set dimensions.

Table 1. Dimensions for Figure 15

Label in Figure 15	Installation Dimensions	Comments
A	12" for residential only. 15" for typical cabinet installations (may be reduced to 12" for cabinets with fully opening doors and no workspace restrictions). 20" for all commercial meters up to 1000 class.	PG&E provides custom-design dimensions for mixed meter sizes and for meters larger than 1000 class.
B	26" (typical) for unenclosed. 32" (typical) for cabinet installations.	—
C	24" residential (unenclosed and cabinet). 36" commercial.	PG&E will design two-tier commercial manifolds.
D	12" min. to outside or inside building corners. 12" to source of ignition (see Note 3 in Figure 15) and openings into the building.	From farthest edge of PG&E equipment.
E	30" min. to inside or outside corner of building. 36" min. to source of ignition and openings into building (see Note 3 in Figure 15).	PG&E may approve reduction of Dimension E from building corners (to not less than 12" from edge of meter set) on a case-by-case basis – such as in non-pedestrian traffic areas, or on select PG&E equipment.
F	24" (typical) for residential. 36" (typical) for 400 to 1000 class meter, commercial.	PG&E may approve reduction of Dimension F on a case-by-case basis with select equipment. PG&E provides custom-design dimensions for mixed meter sizes and for larger than 1000 class meters.

1.20. Required dimensions for a manifold in multiple cabinets are shown in Figure 16.

A. Gas meter manifolds in a cabinet may be built in a right-to-left (reverse) configuration when approved by the company in advance.

1.20 (continued)

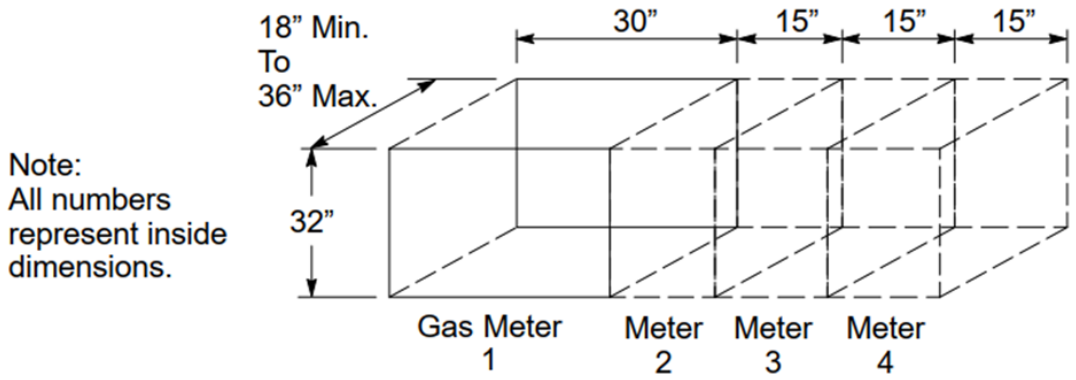


Figure 16. Cabinet Dimensions for Multiple, Residential Gas Meters

1.21. Identifying House Lines

A. Multiple houselines must be marked by attaching a permanently embossed, durable, metal, or plastic tag to each houseline. The Company must approve of the tag.

B. Markings must be legible and specific.

C. Marking information must include an authorized apartment or street number or a use or location designation.

D. PG&E will not install meters unless the permanent address, the location, or when applicable, the area being served is marked at each meter location.

E. When gas meters are installed in interior locations or rooms, the words "Gas Meters" must be placed on the room or location access doors to allow PG&E employees to easily find the meters.

1.22. Mobile Home Parks

A. For new mobile home parks, the mobile home park owner or operator must provide a separate and independent meter location for each lot. New mobile home parks are not allowed to have submetering facilities.

B. Typically, meters are located on flat surfaces that are not obstructed by landscaping. Meter locations cannot be obstructed by porches and stairs leading to porches. Figure 17 represents several acceptable meter locations within a typical mobile home park.

C. The mobile home meter set assembly and support stake must be installed per GDS J-12.4, "Mobile Home or Manufactured Home Meter Set Installation."

1.22 (continued)

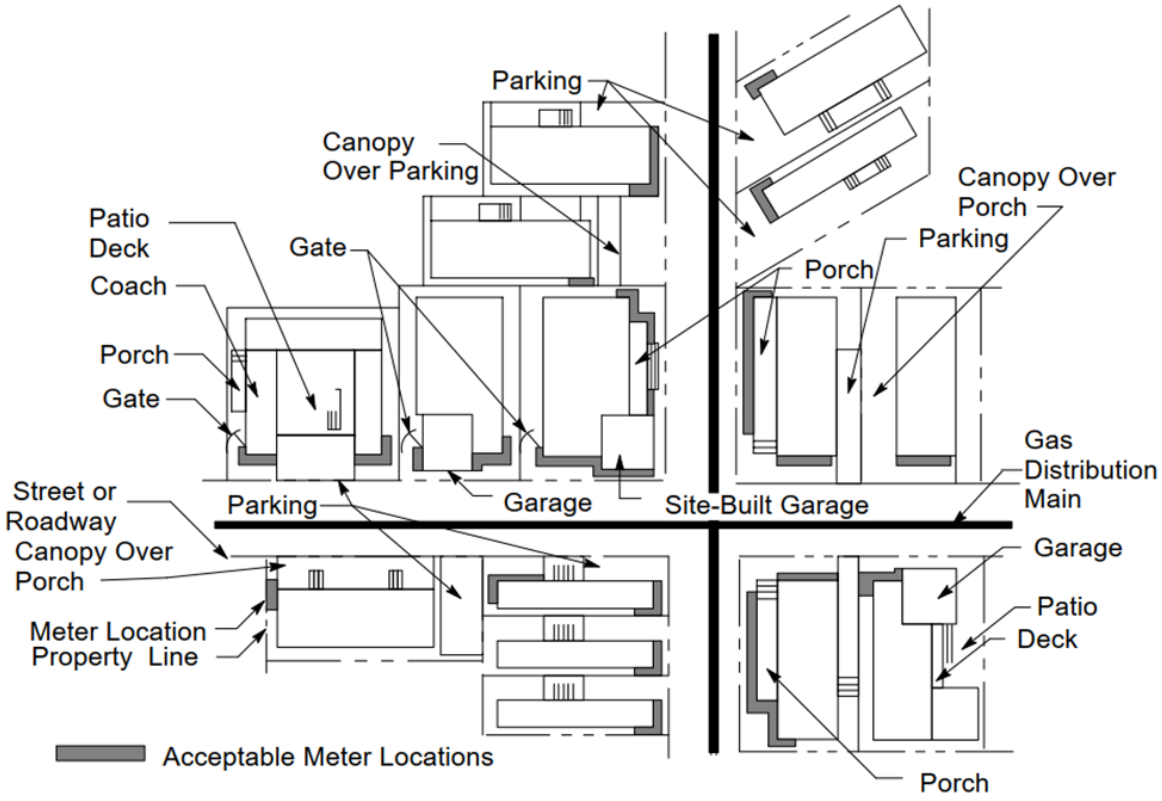


Figure 17. Acceptable Meter Locations for Mobile Home Parks

D. PG&E does not provide metering facilities if they will be attached directly to a movable mobile home unit that is installed or set up in any location, including a mobile home park. Before PG&E provides metering facilities, the mobile home must meet both of the following conditions:

(1) Fixed in Place: The mobile home does not have either running gear or wheels and is not capable of being moved to another location.

(2) Installed on a Foundation System: The mobile home must have a foundation system as described on the California Department of Housing and Community Development website.

1.23. Subsidence Areas

A. Where ground settlement is anticipated the applicant must provide geotechnical reports, typically for a 50-year period. A flexible hose connector must be installed between the gas meter outlet and the houseline with additional clearance distance per GDS J-58, “Flex Hose Meter Set Installation.”

1.24. Meter Sets Requiring Electric Circuits for Communication

A. Depending on rate schedule and gas usage, some meters require automated meter reading (AMR). Where AMR is required, the customer must provide facilities for power, and in some cases a telephone line. See GDS J-62.6, “Installation of Electronic Correctors on Gas Meters.”

1.25. Gas Pulse Metering

A. Refer to GDS J-65.1, “Volume Pulse Output Connection for Gas Meters,” for specific requirements about gas pulse metering.

Target Audience

Personnel who work in design, engineering, estimating, field services, maintenance, and construction (M&C), gas pipeline operations and maintenance (GPOM), and general construction.

Definitions

Alcove	Exterior space that is recessed into a building. The alcove's width can vary depending on the meter set. PG&E provides final dimensions after confirming the meter set size.
Breezeway	A passage or walkway with full openings on both sides. No sources of ignition or openings into the building.
Cabinet/Closet	A structure, not deeper than 36 inches inside, with a solid or closed top that is freestanding, attached or recessed into a building exterior wall, vapor proof from the building, with access doors for the purpose of containing/protecting a gas meter set or meter set components.
Enclosure	A structure with an open top that is freestanding or attached to a building exterior wall with access doors; a cage; or walls and gate for the purpose of containing/protecting a gas meter set or meter set components.
Gas meter room	A space within a building that is solely used to house natural gas metering equipment per GDS J-16.
Meter set	The gas meter, service regulator, overpressure protection devices, and all associated Company piping and fittings between the service riser valve and the customer houseline.
Readily accessible location	PG&E employees require access to gas meter sets to perform inspection and maintenance activities. For a gas meter set the preferred location can be accessed immediately and does not require contact with the owner or occupant. If the preferred location is unavailable, the Company may, on an exception basis, approve a lock box, provided by PG&E, and installed by the applicant, to hold the applicant's key. The lock box with key must be installed by the applicant in a PG&E-approved location near the gas meter access point. For gates, a double-lock device (hasp) may be required with one lock for the applicant and one lock for PG&E. *For a service shut-off valve:* The preferred location is outside and aboveground. If the preferred location is unavailable, the Company may approve a curb valve in which no permanent structure prevents immediate valve access or operation.

Definitions (continued)

Show window	A ground floor window in the wall of a commercial building, including any permanent elevated display floors or platforms associated with the window, where the purpose of the window is to present a display to the public.
Source of ignition	As defined by the National Fuel Gas Code Handbook, sources of ignition are defined as “devices or equipment that, because of their intended modes of use or operation, are capable of providing sufficient thermal energy to ignite flammable gas-air mixtures.”

Compliance Requirement / Regulatory Commitment

California Building Code, Section 11B-502

California Department of Housing and Community Development

California Public Utilities Commission (CPUC) General Order (GO) 112-F, “State of California Rules Governing Design, Construction, Testing, Operation, and Maintenance of Gas Gathering, Transmission, and Distribution Piping Systems”

Code of Federal Regulations (CFR) Title 49, Transportation, Part 192—Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards:

CFR 49 § 192.13, “What general requirements apply to pipelines regulated under this part?”

CFR 49 § 192.353, “Customer meters and regulators: Location”

CFR 49 § 192.355, “Customer meters and regulators: Protection from damage”

CFR 49 § 192.357, “Customer meters and regulators: Installation”

CFR 49 § 192.363, “Service lines: Valve requirements”

CFR 49 § 192.365, “Service lines: Location of valves”

Information and Records Management:

PG&E data, information, and records are Company assets that must be traceable, verifiable, accurate, and complete and can be retrieved upon request. Functional areas are responsible for complying with the Information & Records Governance Policy, standards, and the Information and Records Retention Schedule. Refer to GOV-7101S, “Enterprise Records and Information Management Standard,” for further guidance or contact Information & Records Governance at Information&RecordsGovernance@pge.com.

References

American National Standards Institute/ Gas Piping Technology Committee (ANSI/GPTC) Z380.1, “Guide for Gas Transmission, Distribution, and Gathering Piping Systems.”

Gas Design Standard A-75, “Gas Service and Mains in Plastic Casing”

Gas Design Standard A-90, “Polyethylene Gas Distribution System Design”

Gas Design Standard A-91 “Prefabricated Risers”

Gas Design Standard H-15, “Design Requirements for Company-Owned Gas Regulating Systems Serving Customers”

Gas Design Standard H-91, “Vent Cover for Regulator on Curb Meter Sets”

Gas Design Standard H-92, “Plastic Vent Caps”

Gas Design Standard H-93, “Piping – Details, Regulator Vent Lines - Above Ground”

Gas Design Standard J-12.4, “Mobile Home/Manufactured Home Meter Set Installation”

Gas Design Standard J-14.1, “Curb Meter Installations”

Gas Design Standard J-16, “Gas Meter Room”

Gas Design Standard J-52.1, “Gas Meter Manifolds (1¼ in. and 2 in. Sizes)”

Gas Design Standard J-52.2, “Brackets for Gas Meter Manifolds”

Gas Design Standard J-52.3, “Gas Meter Manifolding”

Gas Design Standard J-58, “Flex Hose Meter Set Installation”

Gas Design Standard J-62.6, “Installation of Electronic Correctors on Gas Meters”

Gas Design Standard J-65.1, “Volume Pulse Output Connection for Gas Meters”

Gas Design Standard J-95, “Meter Guard Design and Installation Arrangement”

Gas Design Standard K-10, “Precast Concrete Pit”

Gas Design Standard K-10.1, “Precast Concrete Vaults & Pits”

Gas Design Standard K-40, “Plastic Valve Box for 3/4" – 4" Valves”

Gas Design Standard K-40.1, “Method of Installing Concrete Curb Boxes in Concrete Sidewalk”

Gas Design Standard K-42, “Precast Boxes”

References (continued)

Gas Design Standard K-43 “Curb Meter Box”

Gas Design Standard K-51, “Single Meter Cabinet for Domestic Gas Meters”

Gas Rule 16, “Gas Service Extensions”

National Fire Protection Association 54, National Fuel Gas Code Handbook

NFPA 70: National Electric Code (NEC)

Utility Manual TD-7001M, *Electric and Gas Service Requirements (Greenbook)*

Utility Standard S4446, “Vault Inspection Procedure”

Appendices

NA

Attachments

NA

Revision Notes

Revision 10 has the following changes:

1. Added Figure 1, “Acceptable Locations for Gas Meter Installations,” and note from Greenbook.

2. Added a prohibited location “Under stairs, inside or outside,” to match Greenbook.

3. Added a prohibited location “In Americans with Disabilities Act designated areas and accessibility areas.”

4. Updated Figure 2, “Typical 250-Class Gas Meter,” and Figure 3, “Typical Connection for 400 to 1000 Class Meter,” showing “clear and level to the wall,” and provided houseline and riser dimensions.

5. Added clarity from Greenbook for clearances around outside corners and no wet facilities, such as water pipes, downspouts, or drainage pipes are allowed in the gas meter set clearance area.

6. Updated Figure 4, “Gas Meter Set Separation Dimensions and Clearances,” and notes to match Greenbook.

7. Updated Figure 5, “Requirements for Gas Meter Set Clearance from Air Intakes,” and notes to match Greenbook.

8. Added 3 typical rotary meter figures and notes from the Greenbook.

9. Consolidated meter protection post language.

Revision Notes (continued)

10. Added “The customer houseline must be clear of contacting any part of the meter set assembly including riser, regulator, and meter” to addresses CAP issue #125995068.

11. Added subsidence areas with anticipated ground settlement using a flexible hose connector from Greenbook.

12. Updated Figure 14, “Specifications for a Recessed Individual Meter Cabinet,” with the figure from the Greenbook.

13. Updated the manifold installation dimensions and comments in Table 1, “Dimensions for Figure 15.”

14. Added Figure 16, “Cabinet Dimensions for Multiple, Residential Gas Meters,” from the Greenbook.

15. Added Figure 17, “Acceptable Meter Locations for Mobile Home Parks,” from the Greenbook.

16. Added 1.24 “Meter Sets Requiring Electric Circuits for Communication,” and 1.25 “Gas Pulse Metering,” from the Greenbook.

Asset Type: Customer Connected Equipment

Function: Design and Construction

Document Contact: Gas Design Standard Responsibility List