FOR CONTRACT NO.: 02-2C8104
PROJECT ID: 0200000183

INFORMATION HANDOUT

ENCLOSURES AND TRENCHING FOR ELECTRIC UNDERGROUND

PG&E Secondary Enclosures for Electric Underground

PG&E Joint Trench Configurations and Occupancy Guide

OPTIONAL DELIVERY SITES

Optional Delivery Site for AC Grindings

ROUTE: 02-Sha-299-40.7/60.0

ENCLOSURES AND TRENCHING FOR ELECTRIC UNDERGROUND

PG&E Secondary Enclosures for Electric Underground

Prepared by: ABB1

SECONDARY ENCLOSURES FOR ELECTRIC UNDERGROUND 028028

Asset Type:	Gas and Electric Distribution	**Function:**	Construction, Maintenance, and Operation
Issued by:	S. K. Chang (SKC5)	**Date:**	10-15-09

Rev. #15: This document replaces PG&E Document 028028, Rev. #14. For a description of the changes, see Page 15.

This document is also included in the following manual:

- *Electric and Gas Service Requirements Manual* (Greenbook)

Purpose and Scope

This document provides specifications for secondary enclosures through 36” x 60”. Also included are ordering information, illustrations, and application instructions.

General Information

1. This document illustrates the various sizes of non-concrete and precast concrete enclosures used in electric underground secondary distribution.
2. The design loads for these subsurface enclosures are specified in Engineering Material Specification No. 51, “Non-Concrete Enclosures”.
3. Requirements for non-concrete boxes:
   A. Non-concrete boxes for incidental loading must meet the requirements of Engineering Material Specification No. 51, “Non-Concrete Enclosures.”
   B. The cover and exposed portions of a box shall be a concrete color.
   C. Boxes shall comply with this document concerning marking, security devices, and dimensions.
   D. Box covers must have PG&E identification. The box body and cover must be labeled with the manufacturer’s name, box weight, and have the PG&E code number on inside surfaces.
   E. The cover shall be made of polymer concrete and shall have a PG&E-approved high coefficient of friction (0.65 or better), slip-resistant surface.
   F. Non-concrete parts shall be interchangeable.
4. Requirements for concrete boxes:
   A. Concrete boxes for full-traffic must meet the requirements of the latest ASTM C-857.
   B. Boxes shall also comply with this document’s requirements, such as marking, security devices, and dimensions.
   C. Concrete parts shall be interchangeable. Concrete joints shall be interchangeable with those shown on Pages 10, 12, and 14.
   D. Covers shall have a PG&E-approved high coefficient of friction (0.65 or better), slip-resistant surface.
   E. Box covers must have PG&E identification. The box body, cover, and extension must be labeled with the manufacturer’s name, box weight, and have the PG&E code number on inside surfaces.
5. Requirements for pedestals:
   A. Pedestals must meet the WUC Guide 3.6 sidewall deflection criteria with 600 pounds per square foot (psf) applied to the base per the WUC Guide 3.6 test protocol.
   B. Pedestal covers must withstand, without damage, 60 foot-pound impact test with a 2-1/2 inch diameter test tup dropped directly on top of the cover.
   C. Pedestals shall comply with this document’s requirements, such as marking, security devices, and dimensions.
   D. The pedestal covers must have PG&E identification. The pedestal body and covers must be labeled with the manufacturer’s name and shall be Muncell green in color.

Secondary Enclosures for Electric Underground

Application

6. Consider the following when selecting box/pedestal sizes:
   A. Secondary pedestals are the preferred method of terminating 600 V conductors in residential, small commercial applications, and in flood plain areas. Do not use secondary pedestals where wild grassland fires are prevalent.
   B. Ultimate predictable conductor size and number.
   C. Location of duct entrances, cable layout, and minimum bending radius of cables.
7. The 26” boxes are required for installations of conductors larger than 350 kcmil.
8. When setting concrete boxes in place, use spacers to adjust the box to grade. Install boxes as level as practical, but do not exceed 1/8” per foot slope in any direction. Place grout in and around duct entrances. Do not pave over the box cover.
9. Secondary boxes shall not be used for primary cable. The minimum box size for primary cable is 3’ x 5’ x 42”.
10. Swedge reducers are necessary with conduit smaller than the terminators supplied (see Document 062288).
11. All conduits are to be stubbed a minimum of 2 inches from the pedestal or subsurface enclosure.
12. Conduit entry shall be as shown in Figure 4 on Page 5 for pedestals and Figure 8 on Page 8 for splice boxes. When an extended depth box or an extension is used, conduits may enter through terminals or knockouts.
13. Conduits that do not terminate in a duct terminator or belled end must be fitted with an end bell.
14. Boxes shall be set on a 6-inch gravel bed.
15. See Document 066205 for replacement parts for older style installations.

References	Location	Document
Connectors for Insulated Cables Underground Distribution Systems	UG-1: Connectors	015251
Multi-Tap Splice for 600-Volt Insulated Cables	UG-1: Splices	036640
Straight and Tap Splice for 600 Volt Insulated Cable	UG-1: Splices	051034
Identification Plates for Subsurface Enclosures	UG-1: Marking	051768
Primary Electric Underground Equipment Enclosures	UG-1: Enclosures	062000
Underground Conduits	UG-1: Conduits	062288
Enclosure Repair/Replacement Criteria and Replacement Materials	UG-1: Enclosures	066205
PG&E Approved Manufacturers	TIL	066211
Engineering Material Specification No. 51, “Non-Concrete Enclosures”	TIL	EMS51

Table 1 Guide for Application of Splice Boxes and Pedestals in New Construction for Underground Secondary Using Multi-Tap Splices (see Document 036640) [1]

Bus Bar Information		Enclosure Size					Pedestal Size [2]	
Description	–	11-1/2”	13” x 24”	17” x 30”	24” x 36”	36”x60” [3]	10” x 14”	14” x 22”
4 Terminal	#6 Str - 350 kcmil	For Streetlight Applications Only (see Note 2 on Page 6)	For Service Runs and Non-Bus Bar Splices (4/0 max)	x	–	–	x	–
6 Terminal	#6 Str - 350 kcmil			x	–	–	x	–
8 Terminal	#6 Str - 350 kcmil			–	x	–	–	x
4 Terminal	4/0 - 1,000 kcmil			–	x [4]	x	–	x
6 Terminal	4/0 - 1,000 kcmil			–	x [4]	x	–	x
6 Terminal	(4) #6 – 350, (2) 4/0 - 1,000			–	x [4]	x	–	x
8 Terminal	(4) #6 – 350, (4) 4/0 - 1,000			–	x [4]	x	–	x

1 For approved suppliers, see Document 066211.
2 For single-phase applications only.
3 If using splices, 36” x 60” enclosure can accommodate up to 12 runs (6 ins and 6 outs) of 1,000 kcmil or smaller wires.
4 1,000 kcmil installations require a 26-inch deep non-concrete enclosure or a 12-inch extension with a concrete enclosure. The maximum number of runs of 1,000 kcmil conductors will be limited to 2 (two); otherwise a 36” x 60” enclosure is needed.

Installation of Boxes in Special-Finish Sidewalks

Notes

1. Frequently the customer or city (or other public body) installs special-finish sidewalks (brick, tile, terrazzo, etc.). When required with boxes through 3' x 5', the box and standard cover shall be installed 2 inches below the final grade, and the customer or city shall furnish and install the special-finish cover as illustrated in Figure 1.
2. The requirements for this cover shall be as follows:
   A. No single section of cover shall exceed 125 pounds.
   B. Provisions for removal shall be provided.
   C. The special-finish cover shall be identified by the letter "E" to indicate the location of the PG&E splice box.
   D. This type of installation shall not be installed in traffic locations.
   E. **Caution:** PG&E cover design allows for a maximum of 1/2-inch deflection under an 8,000-pound or 12,000-pound design load, depending on the specified cover.

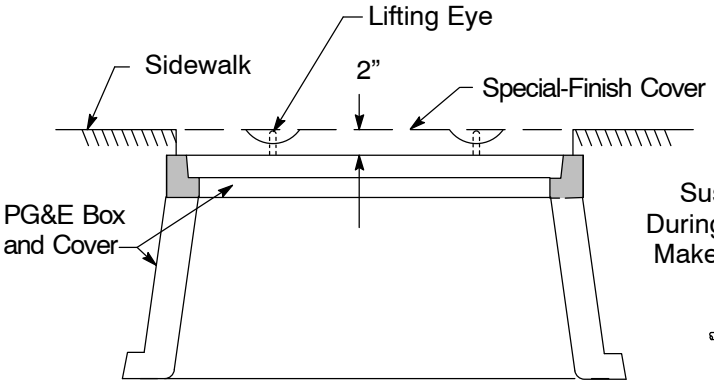


Figure 1
Installation of Boxes in Special-Finish Sidewalks

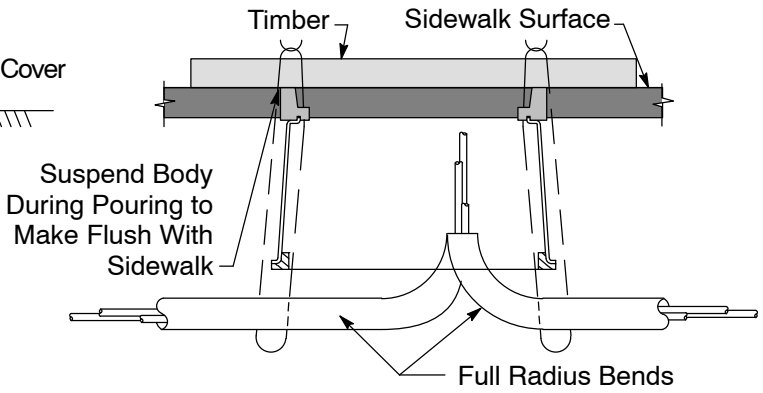


Figure 2
Installation of Non-Concrete Boxes in Sidewalks

Secondary Pedestals

Notes

1. See Document 036640 for appropriate sized connector.
2. The 10 x 14 pedestal can be used for conductor combinations through 6-way, 350 kcmil.
3. The 14 x 22 pedestal can be used for conductor combinations through 8-way, 4-1,000 kcmil; 4-350 kcmil.

Table 2 Dimensions and Codes for Secondary Pedestals

Type	A	B	C	D	E	F	G	Weight	Code
10 x 14	14-1/2”	10-1/4”	24”	22”	18-5/8”	14-5/8”	2”	20 lbs.	360007
14 x 22	22-1/2”	14-1/2”	24-1/2”	22”	25”	17-1/2”	2”	30 lbs.	360006

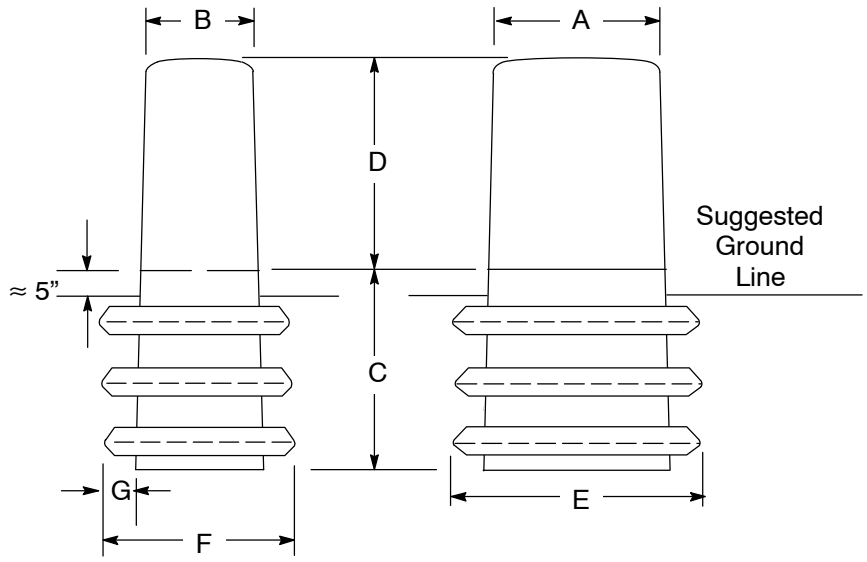


Figure 3
Dimensions of Secondary Pedestal Enclosure

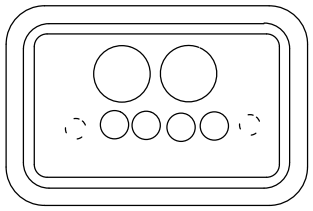
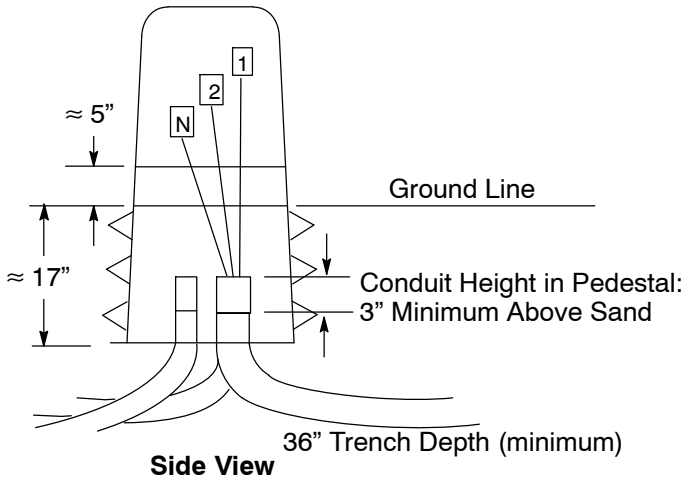


Figure 4
Preferred Location of
Conduits Entering Pedestal



Side View

Figure 5
Secondary Pedestal Enclosure Installation

Streetlight Box Assembly

Notes

1. In conduit systems, enter the bottom of the box with 90° sweeps.
2. Do not connect more than two streetlights per box.
3. For streetlight applications only (see Table 1 on Page 3).

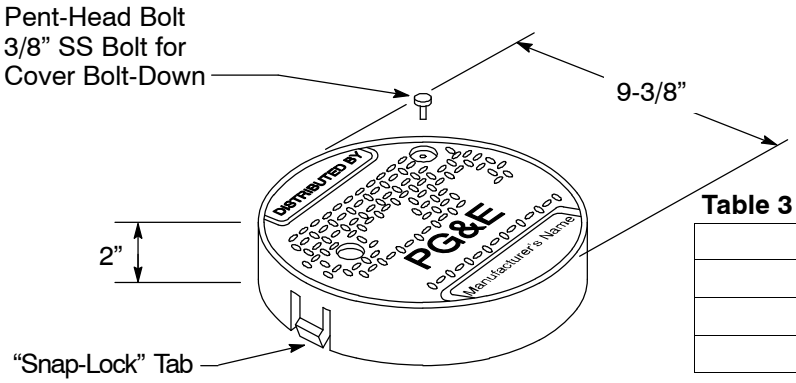
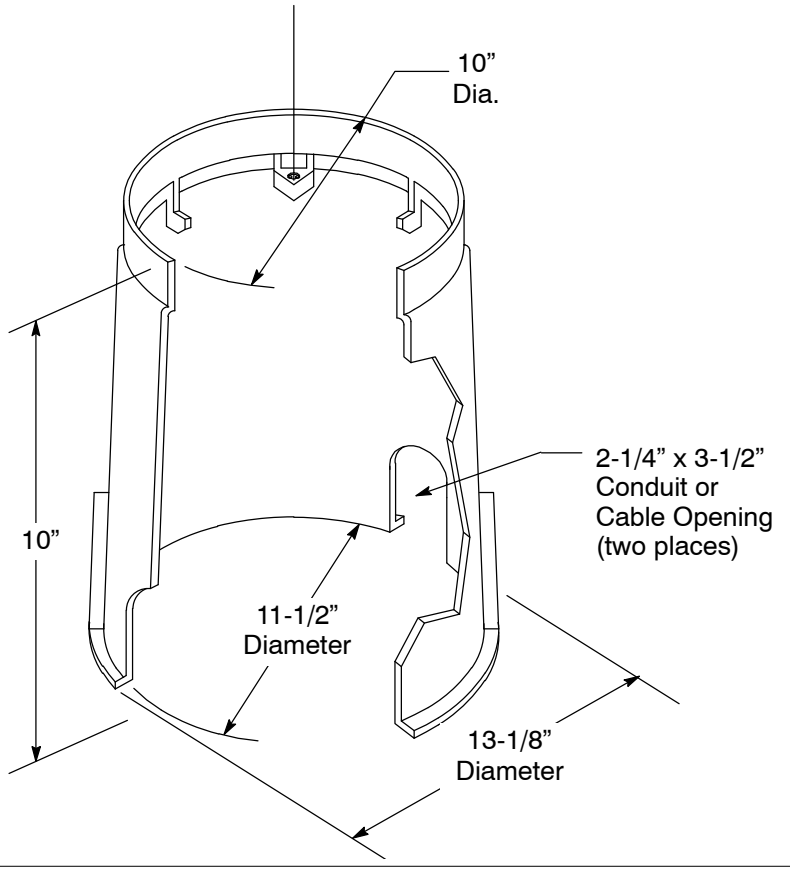


Table 3 Codes for Streetlight Box Components

Description	Code
Cover	032509
Body	032510
Complete Assembly	032511



Non-Concrete Boxes for Incidental Traffic

Note

1. See Table 4 on Page 8 for box dimensions.

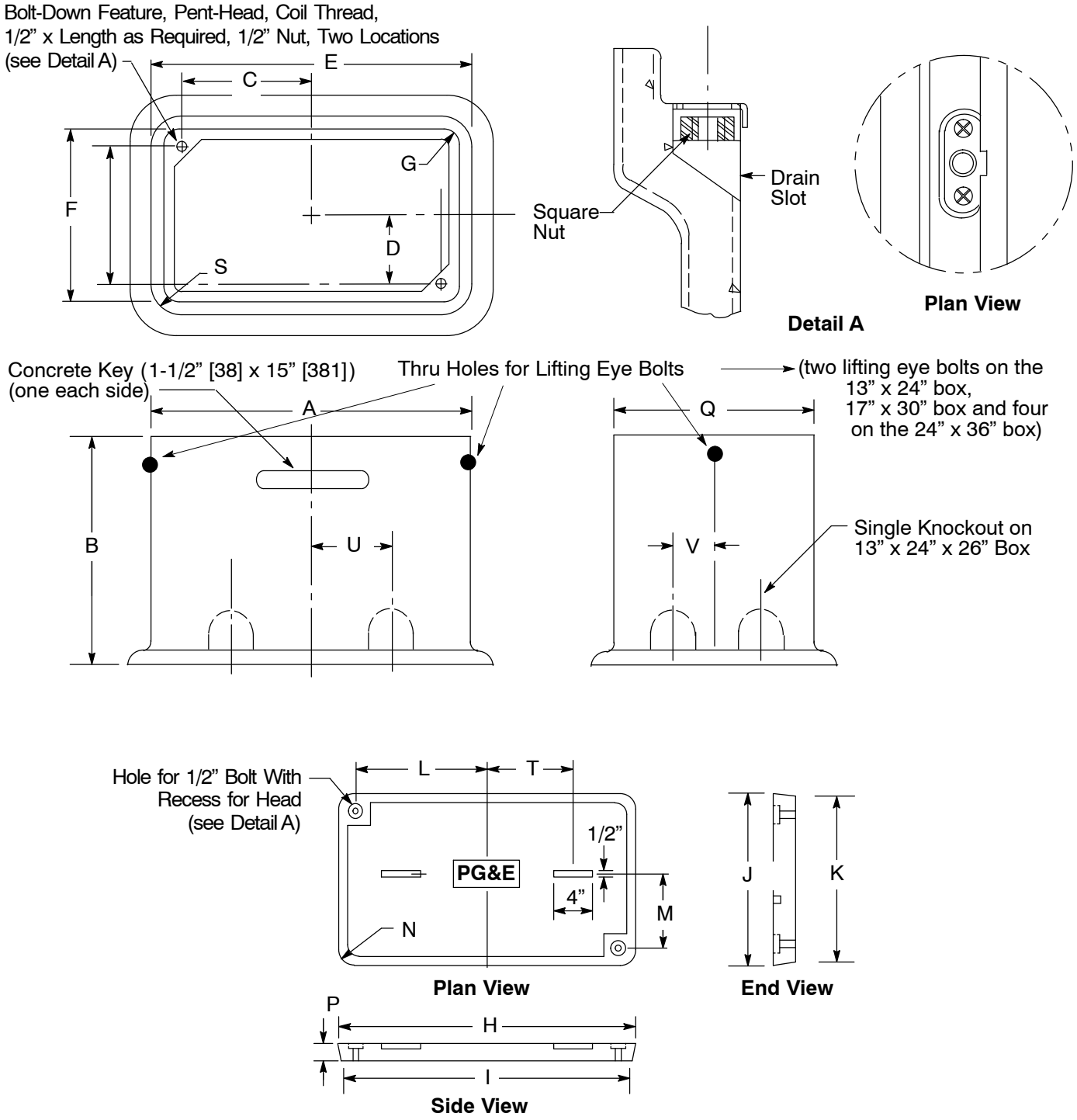


Figure 7
Cover

Non-Concrete Boxes for Incidental Traffic (continued)

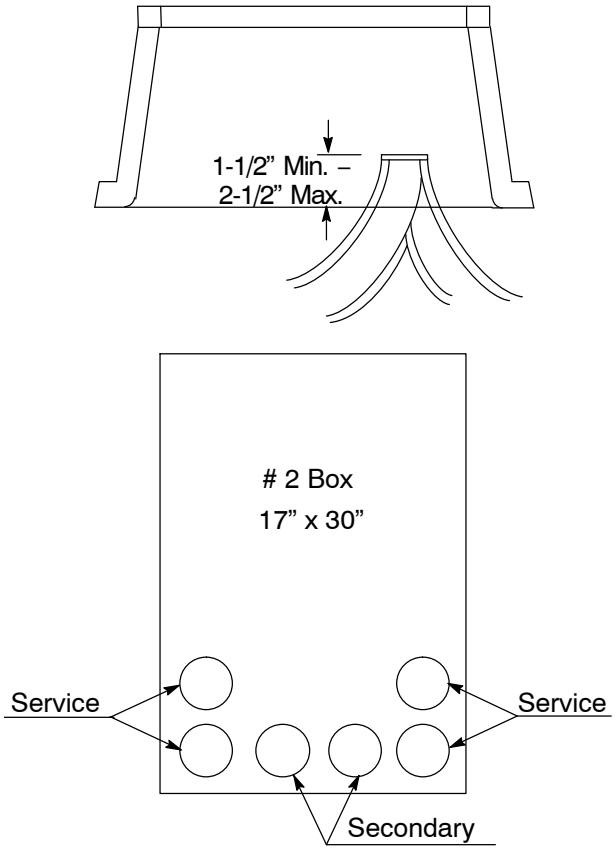


Figure 8
Preferred Location of Conduits Entering
17" x 30" Splice Box

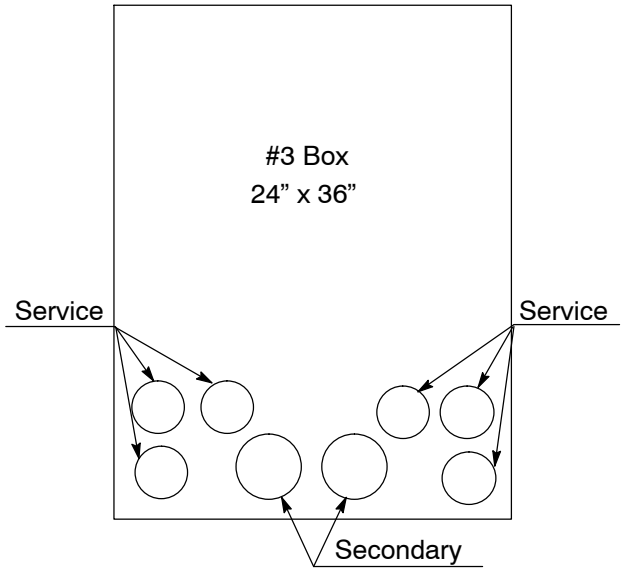


Figure 9
Preferred Location of Conduits Entering
24" x 36" Splice Box

Table 4 Codes for Box Components and Assemblies

Box		Description	Code
Size (inches)	Depth (inches)		
13 x 24	18	Body	040931
	18	Assembly [1]	040933
	26	Body	040920
	26	Assembly [1]	040935
	8,000 lb Cover		043716
	–		–
17 x 30 [2]	18	Body	040928
	18	Assembly [1]	040936
	26	Body	040929
	26	Assembly [1]	040937
	8,000 lb Cover		043720
	–		–
24 x 36	18	Body	040930
	18	Assembly [1]	040940
	26	Body	040919
	26	Assembly [1]	040942
	8,000 lb Cover		043724
	–		–
All	Pent-Head Bolt Coil Thread 1/2" x	2-1/2"	192853
		3-1/2"	017488
		4-1/2"	017489

[1] Includes cover and body.
[2] Only six conduits allowed in 17" x 30" boxes.

Non-Concrete Boxes for Incidental Traffic (continued)

Table 5 Dimensions of Non-Concrete Boxes

Box Size (inches)	Dimensions (inches)									
	A	B	C	D	E	F	G	H	I	J
13 x 24 x 18	25-1/4	18	9-7/8	5-1/8	23-1/2	14	1-1/2	–	–	–
–	–	–	–	–	–	–	–	–	–	–
13 x 24 x 26	25-1/4	26	–	–	29-1/4	19-3/4	–	–	–	–
13 x 24 Cover	–	–	–	–	–	–	–	23-1/4	23	13-3/4
17 x 30 x 18	32-1/2	18	13-1/4	6-3/4	30-3/4	17-3/4	1-1/2	–	–	–
–	–	–	–	–	–	–	–	–	–	–
17 x 30 x 26	32-1/2	26	–	–	30-3/4	17-3/4	–	–	–	–
17 x 30 Cover	–	–	–	–	–	–	–	30-1/2	30-1/4	17-1/2
24 x 36 x 18	37-7/8	18	15-9/16	9-3/4	35-7/8	24-1/4	5-1/8	–	–	–
–	–	–	–	–	–	–	–	–	–	–
24 x 36 x 26	37-7/8	26	15-9/16	9-3/4	35-7/8	24-1/4	5-1/8	–	–	–
24 x 36 Cover	–	–	–	–	–	–	–	35-5/8	35-1/8	24

Box Size (inches)	Dimensions (inches)							
	K	L	M	N	P	Q	S	T
13 x 24 x 18	–	–	–	–	–	15-3/4	4-5/8	–
–	–	–	–	–	–	–	–	–
13 x 24 x 26	–	–	–	–	–	15-3/4	4-1/2	–
13 x 24 Cover	13-1/2	9-7/8	5-1/8	1-3/8	2	–	–	8
17 x 30 x 18	–	–	–	–	–	19-1/2	4-5/8	–
–	–	–	–	–	–	–	–	–
17 x 30 x 26	–	–	–	–	–	19-1/2	4-1/2	–
17 x 30 Cover	17-1/4	13-1/4	6-3/4	1-3/8	2	–	–	9
24 x 36 x 18	–	–	–	–	–	26	6	–
–	–	–	–	–	–	–	–	–
24 x 36 x 26	–	–	–	–	–	26	6	–
24 x 36 Cover	23-1/2	15-9/16	9-3/4	5	3	–	–	11

Table 6 Knockout Dimensions of Non-Concrete Boxes

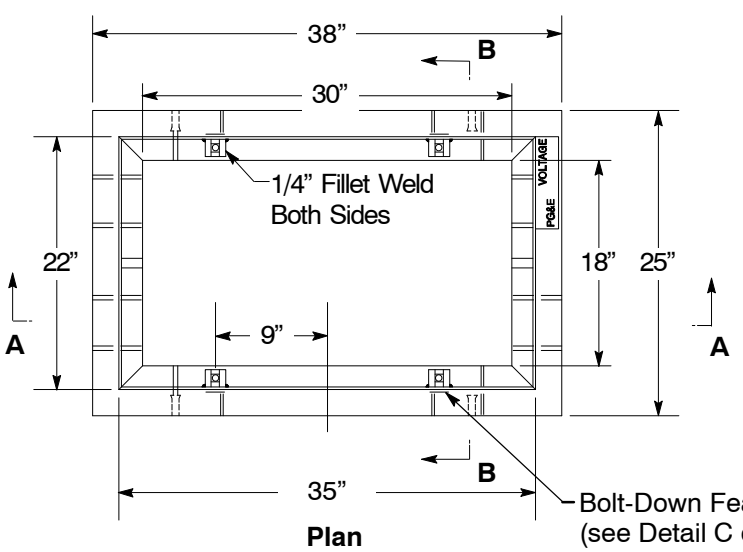
Box Size	Dimensions (inches)		Number of Knockouts
	U	V	
13” x 24” x 26” [1]	7-1/2	0	6
17” x 30” x 26” [1]	10-1/2	5	8
24” x 36” x 26” [1]	11	5-1/2	8

[1] Knockouts in 26” deep boxes only.

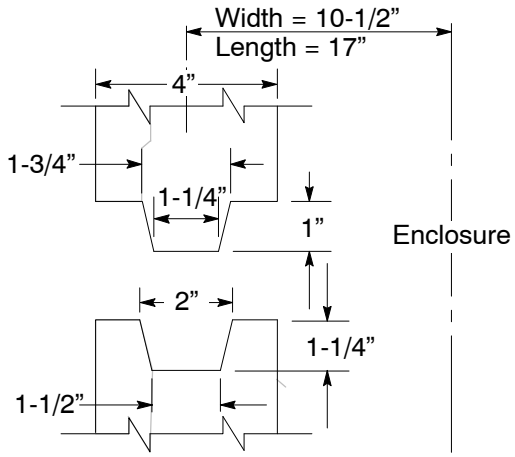
17" x 30" Concrete Boxes for Full Traffic

Notes

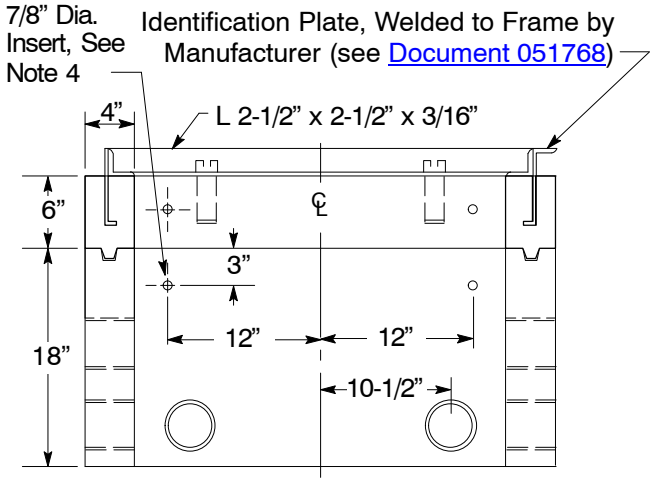
1. Grade adjustment, when required, shall be made between the box and the extension or top section.
2. A base is not required.
3. All concrete parts shall be permanently identified as to the manufacturer on the inside surface. The weight shall be stenciled on the outside of all concrete parts.
4. All concrete parts shall be provided with four 7/8-inch diameter, 1-3/4-inch minimum deep inserts with UNC Class 2A threads.
5. Joints must be interchangeable with those shown in Detail B and approved by distribution standards personnel.



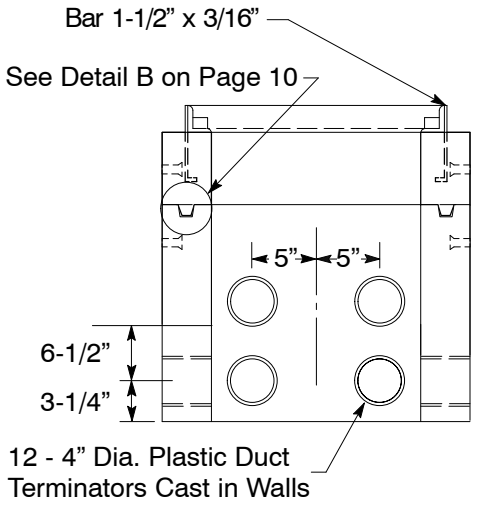
Plan



Detail B
Tongue and Groove



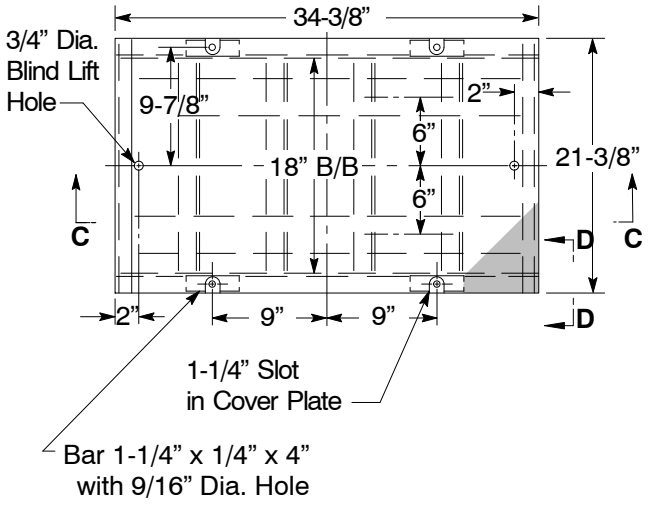
Section A-A



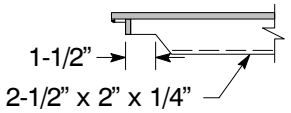
Section B-B

Figure 10
Concrete Enclosure

17” x 30” Concrete Boxes for Full Traffic (continued)



Cover

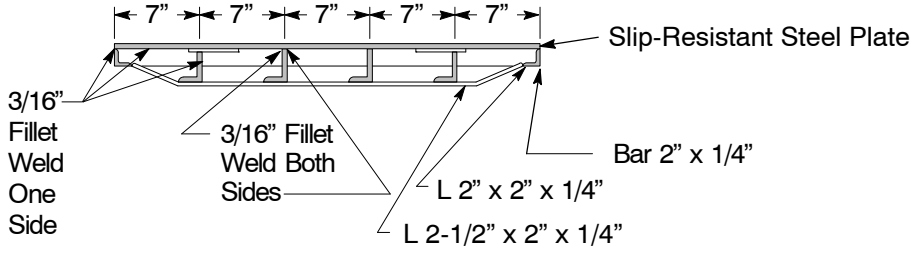


Section D-D

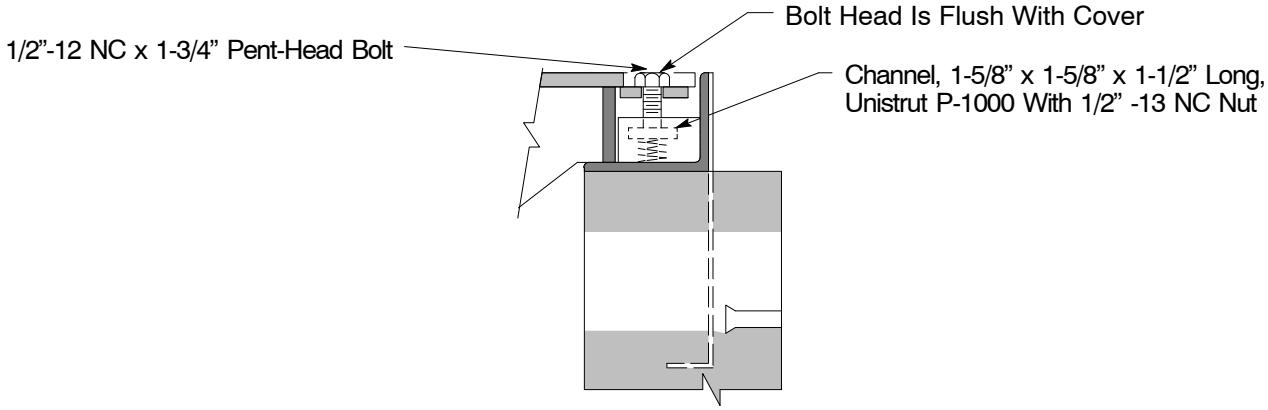
Table 7 Codes for Complete 17” x 30” Concrete Box Assemblies

Box		Code [1]
Type	Depth	
Full-Vehicular-Traffic With Slip-Resistant Cover	24”	019588
	30”	019597
Extension	6”	043517

[1] PG&E assembly code includes body with a 6” or 12” top section with cast-in frame and a cover. If more depth is required, order the 6” extension.



Section C-C



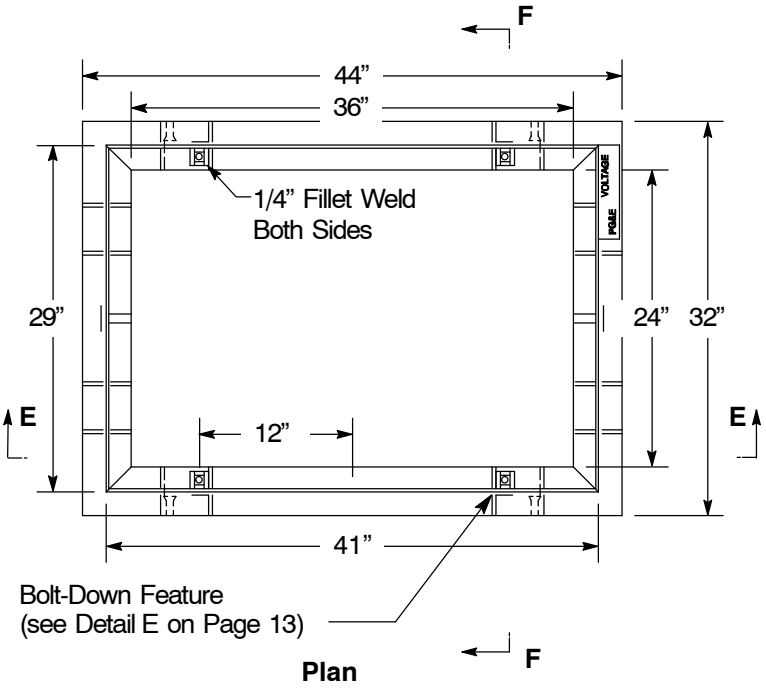
Detail C
Bolt-Down Feature

Figure 11
17” x 30” Cover

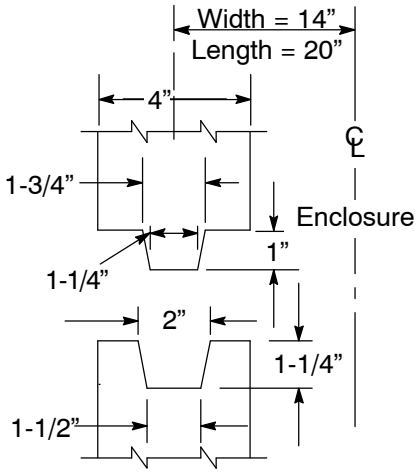
24” x 36” Concrete Boxes for Full Traffic

Notes

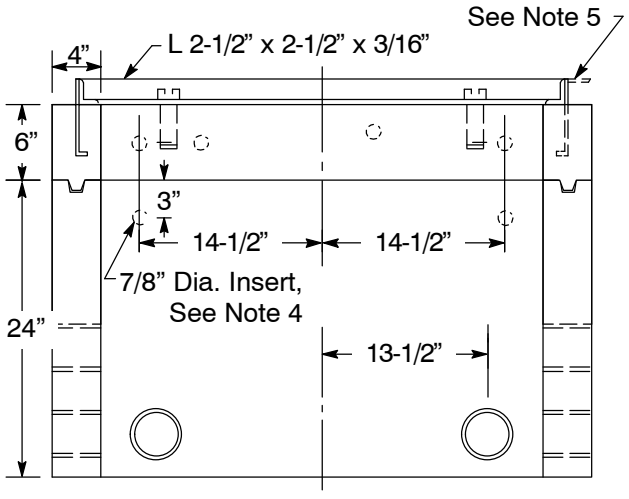
1. Grade adjustment, when required, shall be made between the box and the extension or top section.
2. A base is not required.
3. All concrete parts shall be permanently identified as to the manufacturer on the inside surface. The weight shall be stenciled on the outside of all concrete parts.
4. All concrete parts shall be provided with four 7/8-inch diameter, 1-3/4-inch minimum deep inserts with UNC Class 2A threads.
5. The identification plate is to be welded to the frame by the manufacturer (see Document 051768 and Figure 12).



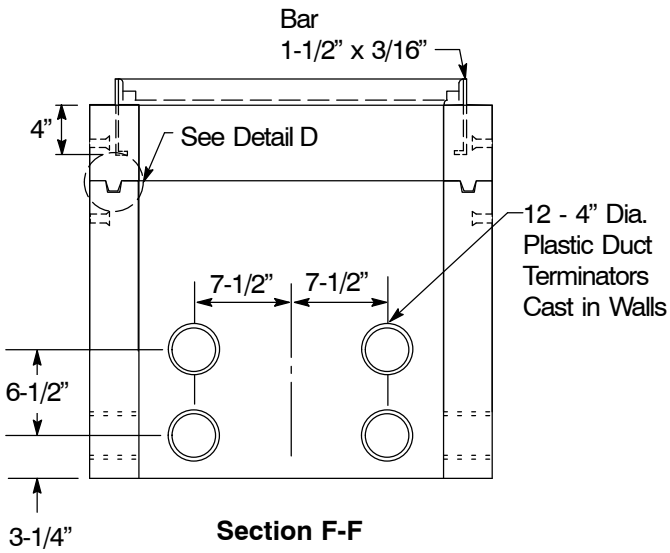
Plan



Detail D
Tongue and Groove



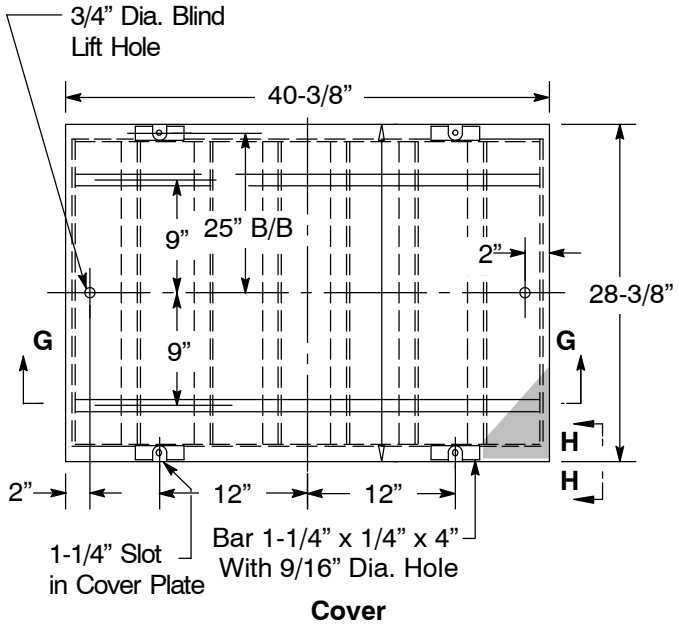
Section E-E



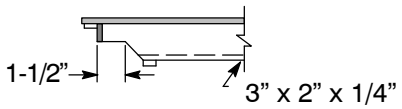
Section F-F

Figure 12
24” x 36” Concrete Box

24" x 36" Concrete Boxes for Full Traffic (continued)



Cover

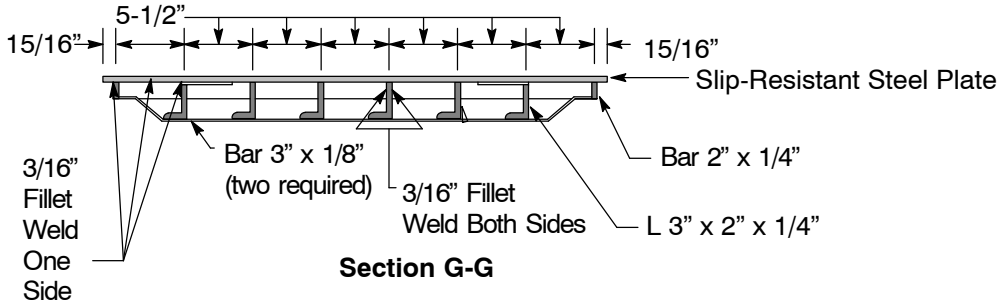


Section H-H

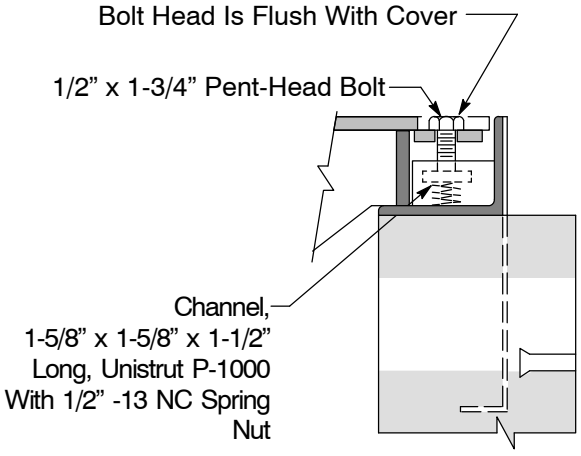
Table 8 Codes for Complete 24" x 36" Concrete Box Assemblies

Box		Code [1]
Type	Depth	
Full-Vehicular-Traffic With Slip-Resistant Cover	30"	019598
	36"	019599
Extension	6"	043521

[1] PG&E assembly code includes body, 6" or 12" top section with cast-in frame and cover. If more depth is required, order a 6" extension.



Section G-G



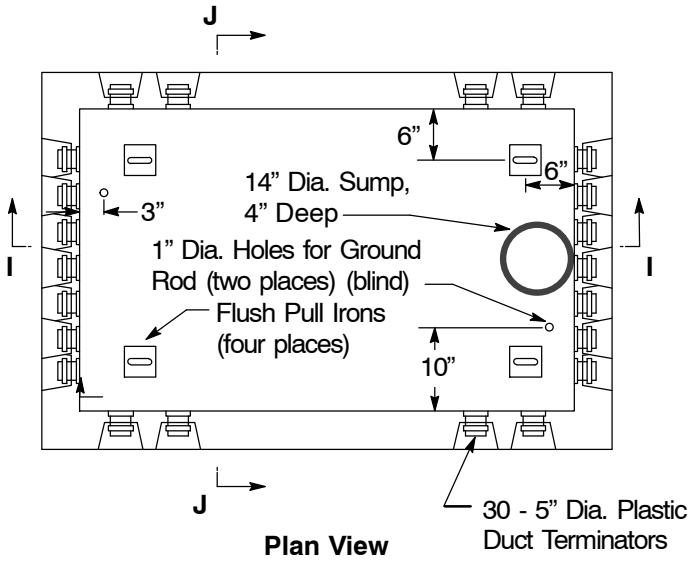
Detail E
Bolt-Down Feature

Figure 13
24" x 36" Steel Cover

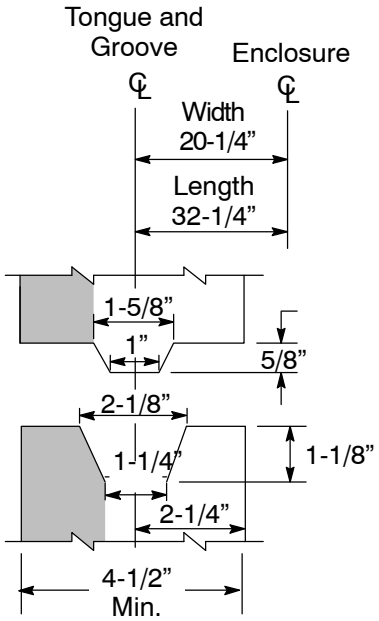
36” x 60” Incidental- and Full-Traffic Concrete Boxes

Notes

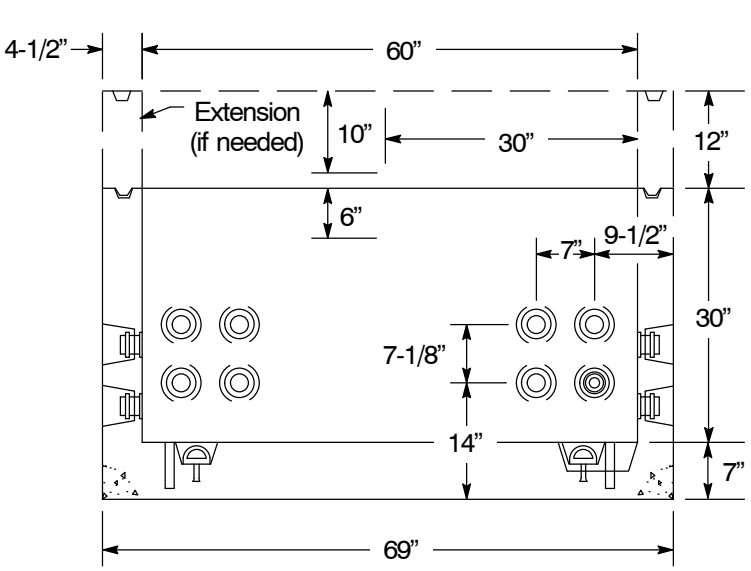
1. Joints must be interchangeable with those shown in Detail F.
2. Mastic sealant is to be included with the enclosure assembly for all concrete-to-concrete joints below surface level.
3. Pulling irons shall be designed for 20,000 pounds ultimate, with a safety factor of 2 (40,000 pounds).
4. Boxes shall be lifted using pulling irons in the floor.



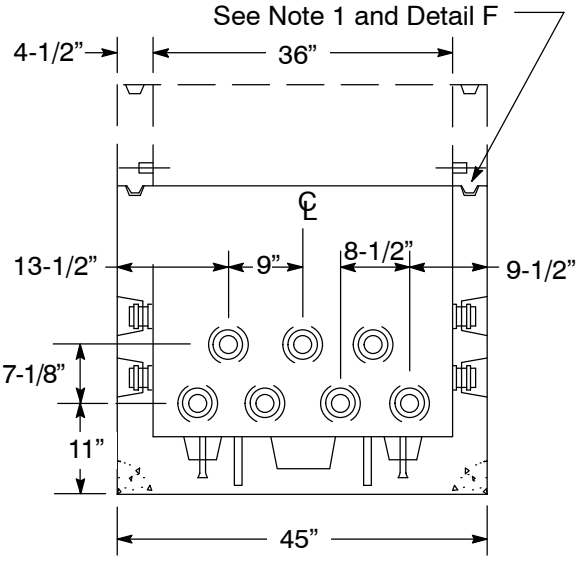
Plan View



Detail F
Tongue and Groove



Section I-I



Section J-J

Figure 14
36” x 60” Concrete Box

36” x 60” Incidental- and Full-Traffic Concrete Boxes (continued)

Table 9 Codes for 36” x 60” Concrete Box

Box		Code
Type	Depth [1]	
Incidental-Traffic Assembly	30”	032506
Full-Traffic Assembly		032507 [2]
Body		032508

[1] When extra depth is required, order additional 12” extensions (see Document 062000).

[2] This code includes a 12” extension to accommodate the heavy full-traffic cover.

Revision Notes

Revision 15 has the following changes:

1. Revised the placement of Footnote 3 in Table 1 on Page 2.
2. Revised Footnote 4 in Table 1 on Page 2.
3. Revised dimensions in Figure 8 on Page 7.

ENCLOSURES AND TRENCHING FOR ELECTRIC UNDERGROUND

PG&E Joint Trench Configurations and Occupancy Guide

TYPICAL
DISTRIBUTION TRENCH

Joint Trench – Franchise Area or P.U.E.

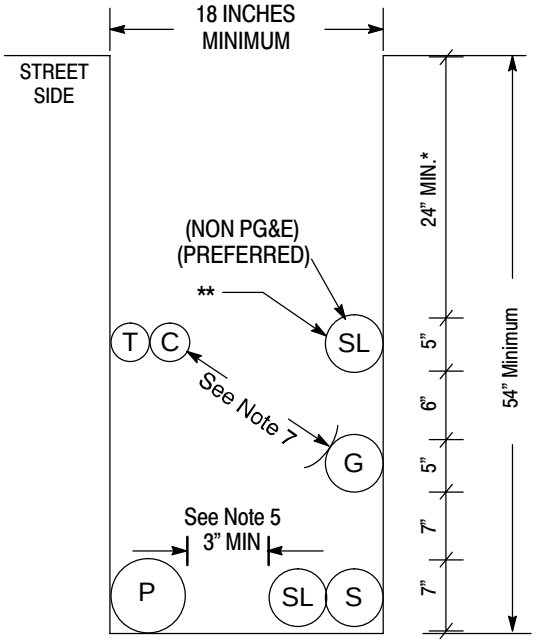


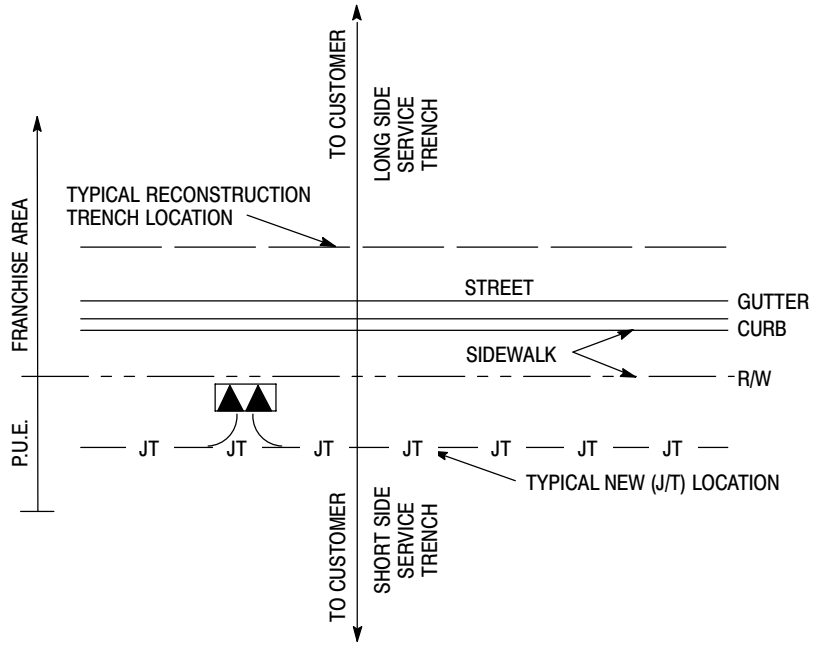
FIG. 1

Placement of the Distribution Trench within a P.U.E. is the preferred method. Trenching in the Franchise Area should only be used when a P.U.E. is unobtainable or otherwise infeasible.

* Increase cover to 30" in the street area (see Note 3).

** Separation must be 12" unless a reduction (6") is mutually agreed upon by affected utilities.

STANDARD TRENCH LOCATIONS



TYPICAL
SERVICE TRENCH

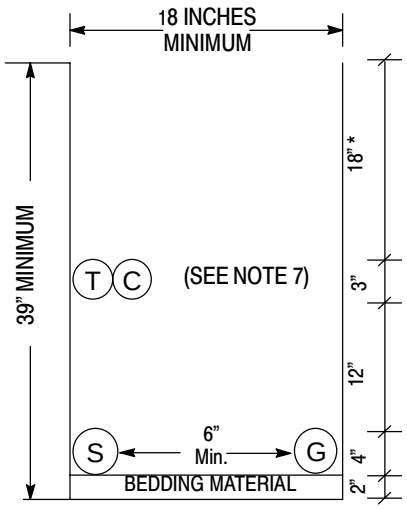


FIG. 2
(View facing Distribution Trench)

MINIMUM SEPARATION AND CLEARANCE REQUIREMENTS

		G	DUCT T	DB T	C	S	P
G	(GAS) SEE NOTES 4, 7 & 13	—	12"	12"	12"	6"	12"
T	(TELEPHONE) DUCT	12"	—	1"	1"	12"	12"
T	(TELEPHONE) DIRECT BURY	12"	1"	—	1"	12"	12"
C	(CATV)	12"	1"	1"	—	12"	12"
S	(ELECTRIC SECONDARY)	6"	12"	12"	12"	—	3"
P	(ELECTRIC PRIMARY)	12"	12"	12"	12"	3"	—
SL	(STREETLIGHT) SEE NOTE 5	6"	12"	12"	12"	1"	3"

SEPARATION AND CLEARANCE DEFINITIONS

Cover:
The term "cover" means the radial distance between the surface of an underground cable, conduit, pipe, or other substructure and the surface elevation (grade).

Backfill:
The term "backfill" refers to the materials used to refill a cut or other excavation, or the act of such refilling after any needed shading is performed.

Shading:
The term "shading" refers to the materials used to provide a measure of separation between facilities installed at different levels within an excavation or cut.

Lift:
The term "lift" is a layer of fill as spread or as compacted or a measurement of material depth that is the rated effective soil depth a compactor can achieve.

Bedding:
The term "bedding" refers to the materials installed beneath facilities at the bottom of a cut or other excavation and intended to provide support and/or protection for those facilities.

OTHER TYPICAL PG&E DISTRIBUTION JOINT TRENCH CONFIGURATIONS

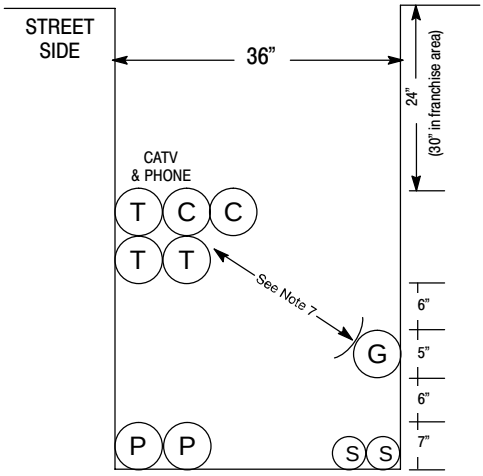


FIG. 3
36" Wide Joint Trench

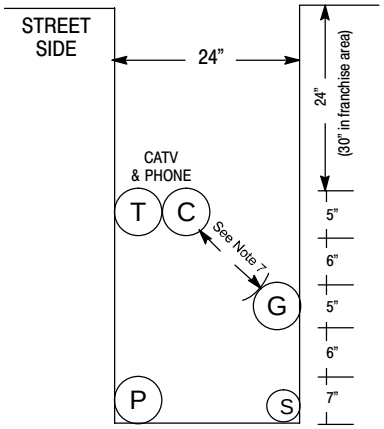


FIG. 4
24" Wide Joint Trench

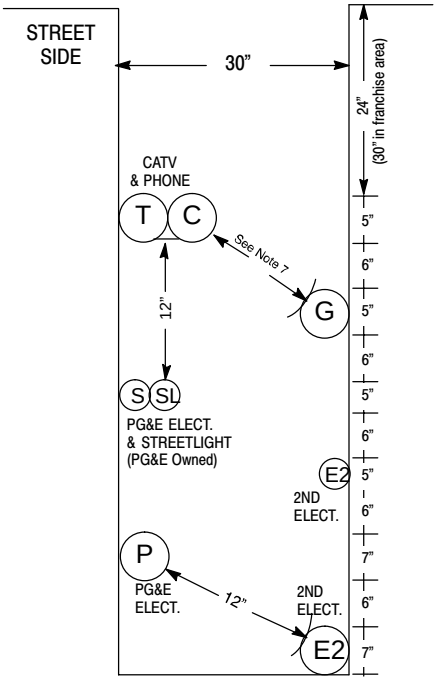


FIG. 5
Joint Trench With Second Electric Utility

Trench Configuration Notes

The trench configurations shown in this guide are to be considered "typical" only and that other trench widths, depths, as well as utility configurations (placement) may be used, provided all minimum requirements for separation, clearances, and cover are observed. In no case shall electric primary or secondary (excluding street lighting) be placed at a level higher than that of the gas and communications level. Gas shall be placed at the same level or below communications when gas is placed above the electric facilities.

Special Notes for Joint Trench With Second Electric Utility

A. Refer to Sheet 3 for General Notes.

B. A red 3-inch wide "PG&E Electric Line in Conduit" plastic marking tape, Code 375054, shall be installed, spiral wound in a manner that allows for the tape to be readily visible every 3 feet, with each conduit intended to be used for PG&E electric facilities. An equivalent red tape marked to identify the owner shall be installed with the conduit intended to be used for the second electric facility.

C. Each utility shall ensure adequate grounding between electric facilities is provided (See UO Standard S5453, "Joint Trench").

D. Provide a minimum of 2 inches of compacted PG&E approved bedding material as a trench leveling concourse, where required. See General Notes Items 11 and 12 (on Page 3), in order to obtain proper compaction.

General Notes

1. The preferred trench location is in a Public Utility easement (P.U.E.).
2. All depths and resulting cover requirements are measured from final grade.
3. Cover, clearances, and separation shall be as great as practicable under the circumstances, but under no circumstances shall be less than the minimum cover, clearance, and separation requirements set forth in General Order 128 and 49CFR 192.321, 49CFR 192.325, and 49CFR 192.327. All facilities shall be anchored in place prior to compaction, or other means shall be taken to ensure no motion of the facilities. Dimensional requirements for shading, leveling, and backfilling shall be determined subsequent to compaction.
4. Trench dimensions shown are typical. Trench sizes and configurations may vary depending upon occupancy and/or field conditions. Trench size and configuration must at all times be constructed in a manner that ensures proper clearances and cover requirements are met. Any "change" to the trench width and configurations as shown in this exhibit must be designed to ensure this requirement.
5. It is preferred to have non-PG&E owned streetlights at a level other than the gas or electric level. Non-PG&E owned streetlights may be at the electric level of the trench as long as minimum clearances are provided and comply with all special notes for a joint trench with a second electric utility.
6. Non-Utility facilities are not allowed in any Joint Utility trench, e.g., irrigation control lines, building fire alarm systems, private telephone systems, outdoor electrical cable, etc.
7. When communication ducts are installed, a minimum of 12" radial separation shall be maintained from gas facilities. Exception: With mutual agreement, when 4-inch diameter or smaller gas pipe is installed, the separation may be reduced to not less than 6 inches.
8. Provide separation from trench wall and other facilities sufficient to ensure proper compaction.
9. Maintain proper separation between PG&E facilities and "wet" utility lines as described in UO Standard S5453. The minimum allowable horizontal separation between Company facilities and "wet" facilities is 3' with a minimum 1' of undisturbed earth or the installation of a suitable barrier between the facilities.

   If a 3' horizontal separation cannot be attained between "wet" utilities and Company dry facilities, a variance may be approved by the local Inspection Supervisor and submitted to the Service Planning Support Program Manager for approval. Separations of 1' or less are not permissible and will not be allowed. The Company may agree to waive the minimum 3' separation requirement at the request of an applicant if warranted and the need is justified. The request for a waiver must:

   - Be made in writing and submitted to the Company ADE during the planning and design phase of the project,
   - Clearly describe the conditions necessitating the waiver,
   - Include a proposed design,
   - And, include a design for a barrier between the "wet" utilities and Company dry facilities in the event 1' of undisturbed earth cannot be maintained.

   Note: Drain lines connected to downspouts on buildings are considered a "wet" utility for the purposes of this standard.
10. Separations shall be maintained at aboveground termination points.
11. Procedures for approving native backfill for shading of PG&E gas facilities:

    - Random soil samples shall be taken from a minimum of 3 locations per 1,000' of trench. 100% of the sample must pass through a 1/2" sieve and 75% must pass through a #4 screen. Additional samples must be taken if existing soil conditions change and are to be taken at the discretion of the PG&E representative on site.
    - The soils must not contain any rocks that have sharp edges or that may otherwise be abrasive.
    - The soils must not contain clods larger than 1/2" if to be used as shading, bedding, or leveling materials.
    - Compaction requirements must meet any applicable PG&E, Federal, State, County, or local requirements.
    - At no time shall the over saturation of native soils be used to achieve these requirements.

    The sieves and screens shall be:

    - 1/2" Sieve: 8" diameter by 2" deep, stainless steel mesh screen.
    - #4 Screen: 8" diameter by 2" deep, stainless steel mesh screen.

Notes continued on the next page

General Notes, continued

12. Procedures for approving native backfill for shading at PG&E electric facilities:
    - Random soil samples shall be taken from a minimum of 3 locations per 1,000' of trench. Additional samples must be taken if existing soil conditions change and are to be taken at the discretion of the PG&E representative on site.
    - Shading material containing large rock, paving material, cinders, sharply angular substances, or corrosive material shall not be placed in the trench where such material may damage the conduits and/or prevent proper compaction over or around the conduits.
    - Native soils containing clods not to exceed 6" in diameter may be included in the shading material provided the clods are readily breakable by hand.

      Note: Soils consisting primarily of adobe, hard compact (dense) clay, and bay muds shall not be used as shading material.
    - At no time shall the over saturation of native soils be used to achieve these requirements.
    - Refer to Engineering Document 062288, Item 13 on Page 2.
13. Competent native soils are preferred to be used for shading, bedding, and backfilling throughout the trench.
    - Where native soils exceed 1/2" minus and/or where gas is to be placed at the bottom of a trench in areas that exceed 1/2" minus soil conditions, or where the bottom of a trench is considered to consist of hard pan, PG&E approved 1/2" minus import material shall be used for shading and/or bedding of gas facilities.
    - PG&E approved import material is per CGT Engineering Guideline 4123.
    - If a leveling course is required for gas facilities, the use of native soils is preferred, but if 1/2" minus conditions are not attainable with the native soils, then the use of PG&E approved import materials is required. Bedding under gas facilities will be a minimum of 2" of compacted 1/2" minus native soils or PG&E approved import material.
    - For electric facilities, refer to Note 12. This applies to leveling courses as well as shading.
    - The minimum PG&E approved bedding material may be increased at the discretion of PG&E when warranted by existing field conditions (e.g., rocky soils, hard pan, etc.).
    - The use of any imported material for backfilling purposes shall be limited to those situations when native soils do not allow for required compaction.
14. The applicant is responsible for the removal of excess spoil and associated costs.
15. Separation between gas facilities and electric facilities may be reduced to 6" when crossing.
16. Service saddles are the preferred service fittings for use throughout the joint trench project. All projects will be designed and estimated using service saddles. However, service tees may be used if all clearances, separation, and coverage requirements are maintained.

Revision Notes

1. Revised Note 9 to clarify the minimum allowable horizontal separations requirements.
2. This document was revised on 09-27-2006.

OPTIONAL DELIVERY SITES

Optional Delivery Site for AC Grindings

INFORMATIONAL HANDOUT

FOR CONSTRUCTION CONTRACT
IN SHASTA COUNTY
AT AND NEAR MONTGOMERY CREEK FROM 0.3 MILE WEST OF BACKBONE RIDGE TO BIG BEND ROAD

Project Location
Montgomery Creek, SHA-299-PM 40.7/60.0
HMA Overlay

OPTIONAL DELIVERY SITE FOR AC GRINDINGS
Shasta County Public Works - Road Maintenance Yard
Located in Round Mountain on State Highway 299 at PM 54.05

Note: The records from this compilation may be inspected in the District Office at 1657 Riverside Drive Redding, CA 96001 or Contact the Disposal Site Coordinator, Linda Garner, (530) 225-3375, e-mail: Linda_S_Garner@dot.ca.gov

Facts stated herein are as known to the State of California, Caltrans, and are to be verified by the Contractor as per Section 6-2 of the Standard Specifications.

Table of Contents

General Information

This site is provided by Caltrans as an optional location for the delivery of AC grindings, which will be salvaged from the HMA Overlay Montgomery Creek Project on highway 299, in accordance with section 15-2.04 of the standard specifications. This site is a paved, chain-link fenced lot that is operated by the Shasta County Maintenance Department. Upon delivery to this site the AC grindings will become the property of Shasta County, which will then be reused by the county Maintenance Road Department.

Upon award of the contract, the contractor will coordinate with Shasta County regarding any operational requirements for delivery to this site. The contractor must notify the County at least 48 hours prior to the beginning of work.

Shasta County Public Works (Maintenance Road Department) Contact Information:

- Herb Cox, Road Maintenance Supervisor, (530) 245-6796

Section 7-1.13 of the Standard Specifications will apply to all disposal material from this project, including any material delivered to this site.

The contractor bears all liability for damage to haul vehicles and any county facility or equipment damaged by the contractor's use of the site. The State assumes no liability for damage to contractor's equipment. Hauling AC grindings will be included in the cost of the contract price for cold plain asphalt concrete.

The contractor should anticipate being responsible for the following provisions:

- Control of gates as needed.
- Dust abatement as needed.
- Dumping into consolidated area as directed by Shasta County.

Location Map

Site Plan Map