

# ELECTRICAL SERVICE REQUIREMENTS

## PRIMARY SERVICES, PRI

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## **Primary Service**

When the size of the electric service requested by the customer is larger than what is offered through the GWP's secondary distribution system, and/or the requested voltage is other than the standard distribution voltage, the customer is required to apply for a primary electric service and install an on-site transformer facility on its property. The customer's electric service switchboard facility is directly connected to this transformer facility. **See General Information (GEN) Chapter, Section GEN-100, page 3 of 11 "Standard Distribution Service Voltages".**

## **Types of Transformer Facilities**

Depending on the service size and voltage requested, the following types of transformer facilities can be requested:

- a) Precast Transformer Pad
- b) Transformer Vault Room
- c) Transformer BURD Enclosure

## **On-site Facility Construction Requirements**

The Customer Service Engineering Section will supply a drawing giving the construction details. **See General Information (GEN) Chapter, Section GEN-102 "How to Apply for Primary Electric Service".**

## **Transformer Fees**

GWP will furnish and install all transformers, conductors, and appurtenances. The customer shall pay a flat charge for the equipment, labor, and material prior to the installation. **Refer to General Information (GEN) Chapter, Section GEN-102, Page 3 of 4 "Primary Electric Service Connection Requirements."**

## **Inspection**

All materials and construction are subject to inspection and approval by GWP. Notify the GWP Construction Inspector at (818)548-3920, 48 hours in advance of construction for a pre-construction conference. Contractors must also secure a City of Glendale, Public Works Department excavation permit for any work in public right-of-way.

**Excavation Permit**

An excavation permit when required, shall be obtained from City of Glendale, Public Works Department, Permit Services, 633 E. Broadway, Room 101, telephone number (818)548-3200. Contractors must notify Public Works Construction Inspector at (818)548-3940, 72 hours in advance of the time when backfilling is to be done under this permit. The excavation permit shall be made available at job site for review by the GWP Construction Inspector.

**Resurfacing**

All necessary resurfacing in the public right-of-way is the total responsibility of the contractor, and must be to the satisfaction of the Public Works Inspector. All City property shall be restored to its original condition.

The size of the transformer pad is dependent on size and voltage of the electric service required. **Refer to Drawing No. PRI-DWG-001** for the size of precast pad required for your facility.

## Transformer Pad Location

All transformer pads shall be in an unobstructed and level location according to **Drawing No. PRI-DWG-002**. There shall be no building projection underneath the transformer pad such as subterranean parking structure.

## Transformer Pad Accessibility

The following requirements must be met for transformer pad accessibility:

- a) Transformer pads must be directly accessible to GWP service trucks.
- b) These trucks must be able to be backed up within five feet of the transformer pad.
- c) The driveway must be a level surface and capable of withstanding truck weights of 24 tons. Transformer pads for 750kVA and larger sized transformers require crane access and the driveways must withstand a minimum of 40 tons.
- d) The driveway must be a minimum of 18 feet wide.
- e) A minimum vertical access clearance of 20 feet shall be maintained from the street to the transformer pad.

## Transformer Pad Clearances

Transformer pads shall have the minimum clearances **shown in Drawing No. PRI-DWG-002, figure 1** and **PRI-DWG-009**. All clearances must be on the property served.

For buildings with architectural projection such as awnings, overhangs, or balconies, the edge of such projections shall be considered part of the floor area. Transformer pads shall be placed outside of these projections with the clearance **shown in Drawing No. PRI-DWG-002, figure 2** and proximity to openings must be observed.

## Proximity to openings

Transformer pads shall be placed at least ten feet radially from all fire escapes, doors (including garage doors), windows, air intakes or exhaust vents. These measurements shall be taken from the closest perimeter of the opening to the closest edge of the pad at ground level. **See Drawing PRI-DWG-002, figure 4.**

## Visibility Obstructions (Driveways and Intersections)

Transformer pads shall be placed outside of the visibility triangles **as shown in Drawing PRI-DWG-002, Figure 5** for driveways and intersections to ensure the safe operation of motor vehicles.

## Hazardous Locations

Transformer pads shall be placed outside of hazardous locations as defined in Chapter 5 “Special Occupancies” of National Electric Code (NEC), i.e. Article 514 on Gasoline Dispensing and Service Stations describes various location requirements.

## Noise Considerations

Some transformer pad installations require additional clearance from pad to adjacent residential property lines to comply with City of Glendale Noise Ordinance (Glendale Municipal Code- Chapter 8.36, Section 8.36.040). Contact GWP Customer Service Engineer for guidelines.

## Community Development, Zoning Section Requirements

All transformer pads shall comply with Community Development, Zoning Section Requirements, which requires transformer pads to be enclosed by block walls. See **PRI-DWG-009**.

## Landscaping and Other Obstructions

Padmount transformer surroundings and screening are permitted if they meet the required clearance indicated in **Section PRI-101, Page 1 of 3, “Transformer Pad Clearances”**. The only irrigation system allowed within 3 feet of the precast pad is a drip irrigation system or using bubblers for sprinkler heads.

The vault room can be an interior or exterior walk-in enclosure. If interior, it shall have a 3-hour fire rated room with a 3-hour fire rated metal clad door. If exterior, it shall have concrete walls and slab with chain-link roof and metal door. All doors shall open to the outside of vault.

**Transformer Vault Size (Interior Dimensions)**

**Table 1**

<b>Service Size (amps.)</b>	<b>Voltage</b>	<b>W</b>	<b>D</b>	<b>H</b>
Up to 600 amps.	120/240 V, Single-Phase, 3-Wire	7'	6'	8'
Up to 800 amps.	120/208 V, 3-Phase, 4-Wire	9'	15'	8'
801 to 2,000 amps.	120/208 V, 3-Phase, 4-Wire	9'	15'	10'
2001 to 3,000 amps.	120/208 V, 3-Phase, 4-Wire	12'	20'	10'
3001 to 4,000 amps.	120/208 V, 3-Phase, 4-Wire	14'	22'	10'
Up to 800 amps.	240 V, 3-Phase, 3-Wire	9'	15'	8'
801 to 1,600 amps.	240 V, 3-Phase, 3-Wire	9'	15'	10'
1601 to 2,400 amps.	240 V, 3-Phase, 3-Wire	12'	20'	10'
2401 to 4,000 amps.	240 V, 3-Phase, 3-Wire	14'	22'	10'
Up to 800 amps.	277/480 V, 3-Phase, 4-Wire	9'	15'	8'
801 to 1,600 amps.	277/480 V, 3-Phase, 4-Wire	12'	18'	10'
1,601 to 3,000 amps.	277/480 V, 3-Phase, 4-Wire	14'	22'	10'
(*) 3,001 to 4,000 amps.	277/480 V, 3-Phase, 4-Wire	14'	30'	10'
(*) 2-4000 amps.	277/480 V, 3-Phase, 4-Wire	30'	30'	10'

W = Width

D=Depth

H=Height

(\*) A Pair of 3'-0" x 8'-0" metal clad double doors (3 hrs fire rated) are required.

## Transformer Vault Accessibility

All transformer vaults must be directly accessible to GWP service trucks, 24 hrs a day. A six foot wide level dedicated concrete access way is needed from the nearest driveway to the door of the room. In cases where the transformer vault is located in a subterranean structure, it can only be located one level below the ground level, unless an equipment hatch is provided to lower the transformers and electrical equipment into the vault. If a hatch is provided, vertical clearance shall be clear to sky and have crane accessibility (outriggers).

## Transformer Vault Location

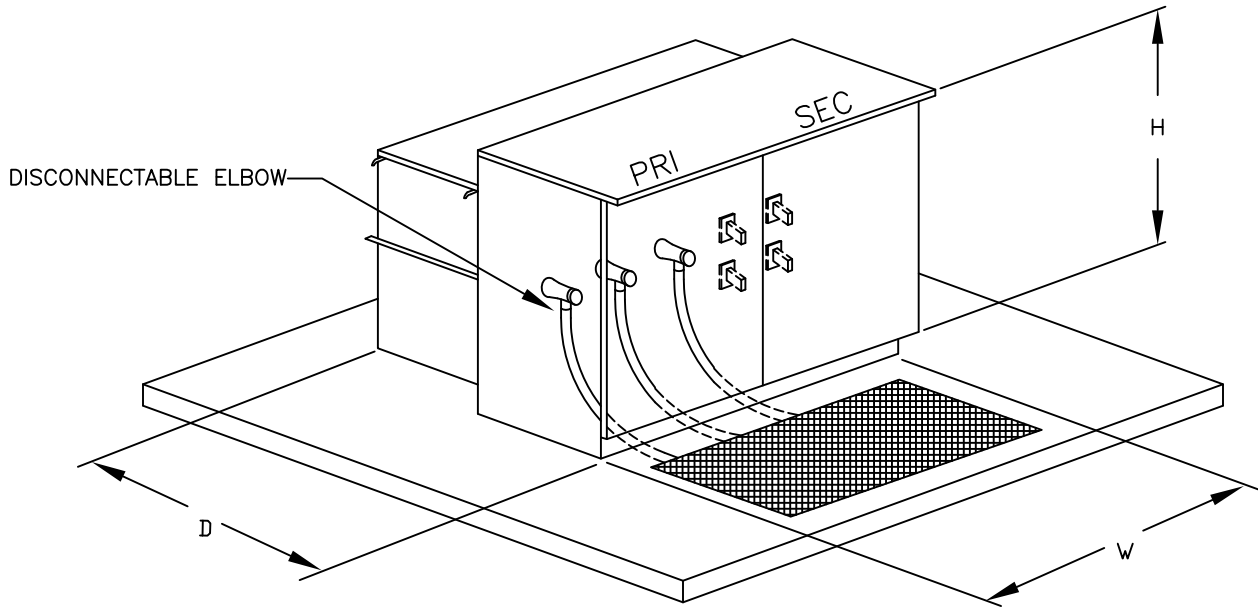
All transformer vaults shall be located directly adjacent to the electrical room. The electrical switchboard shall be directly bussed to the electrical vault. If the electrical room and electrical vault are **both fully vehicle accessible**, for services up to 1,600 ampere, the electrical room may be located 100-150 feet remotely from the electrical vault and the service sections can be directly cabled to the vault. Consult GWP Customer Service Engineering for approval.

The BURD enclosure is a buried precast concrete enclosure for one transformer (services up to 600A, 120/240 volt, Single-Phase, 3-Wire). This enclosure shall be Jensen precast K42-BTV79-19S or equal with GWP approval. This enclosure has a 5' X 5' concrete cover mounted flush with grade. The grade surrounding the cover shall slope away from it. The BURD enclosure is for outdoor installation, parkway (non-traffic) locations only.

## **BURD Enclosure Accessibility**

A hard smooth surface 4 feet wide should lead from the nearest driveway or street directly to the BURD. A three feet wide access ring shall be provided around the BURD. If concrete paver blocks are used, a maximum two inch separation between paver blocks is required.





SEC VOLTAGE	SERVICE SIZE (MAX)	3PH XFMR KVA	DIMENSIONS					APPROX. WEIGHT LBS	PRECAST PAD SIZE
			H	D	W	PRI.	SEC.		
			IN.	IN.	IN.	IN.	IN.		
208Y/ 120	600A	150	51	60.5	52	38.5	22.5	3325	6' X 8' (72" X 96")
	800A	300	51	60.5	52	38.5	22	4644	6' X 8' (72" X 96")
	1000A	300	51	60.5	52	38.5	22	4644	6' X 8' (72" X 96")
	1400A	300	57	60.5	52	38.5	22	4644	6' X 8' (72" X 96")
	1600A	500	57	60.5	58.5	38.5	22	4173	8' X 10' (96" X 120")
	2000A	500	57	60.5	58.5	38.5	22	4173	8' X 10' (96" X 120")
	3000A	750	69	66.5	60.5	41.5	25	7188	10' X 12' (120" X 144")
480Y/ 277	400A	300	51	60.5	52	38.5	22	5380	6' X 8' (72" X 96")
	600A	300	51	60.5	52	38.5	22	5380	6' X 8' (72" X 96")
	1000A	500	57	60.5	58.5	38.5	22	6239	8' X 10' (96" X 120")
	1600A	750	63	69.5	56	44.5	25	7209	8' X 10' (96" X 120")
	2000A	1000	63	66.5	64.5	41.5	25	8501	10' X 12' (120" X 144")
	3000A	1500	69	72.5	65.5	47.5	25	10416	10' X 12' (120" X 144")

NOTES:

1. 750 thru 1500 kVA TRANSFORMERS ARE NOT AVAILABLE IN 4 KV AREAS.
2. A TRANSFORMER VAULT ROOM IS REQUIRED FOR SERVICES LARGER THAN SPECIFIED
3. FOR 750kVA TRANSFORMER AND ABOVE, A CRANE IS REQUIRED (CUSTOMER'S EXPENSE)

DATE	REV.	DESCRIPTION	BY	CHK'D	APP.
7/1/09	1	CHANGED 5'-6" X 6' TO 6' X 8' PAD & ADDED NOTE #3	EN	PM	HRA



REV. NO.  
DATE 08/30/01  
DRAWN BY:JCW/HRA  
APPROVED: HRA

CITY OF GLENDALE WATER & POWER

PADMOUNT TRANSFORMER DIMENSIONS

PRI-DWG-001  
PAGE 1 of 1

CUSTOMER SERVICE ENGINEERING

FIGURE 1

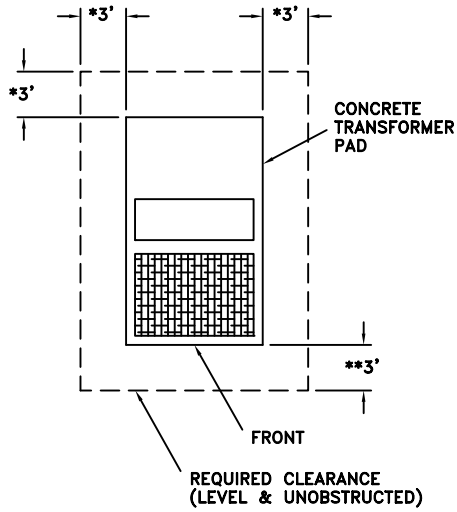
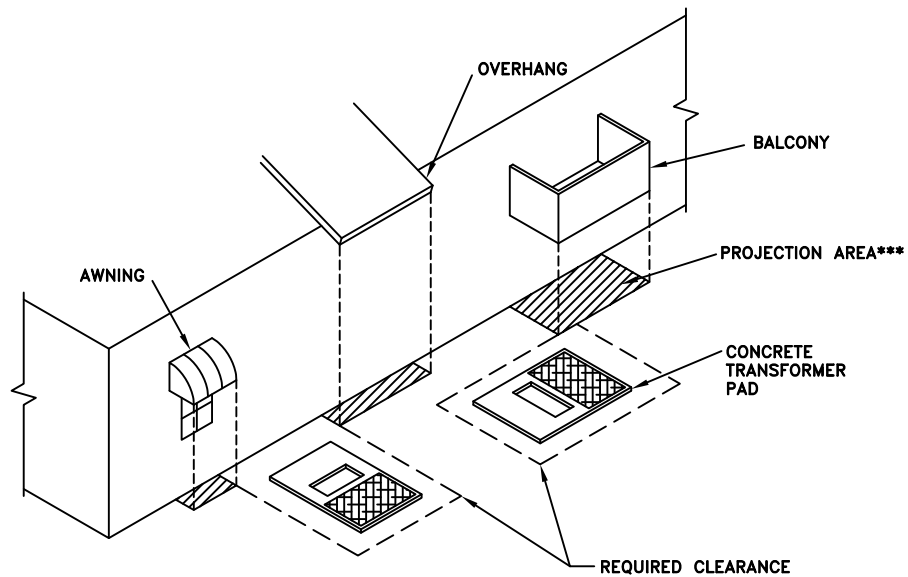
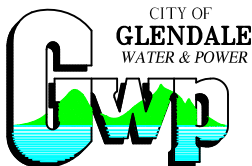


FIGURE 2



- \* For residential tract padmounted transformers, this clearance may be reduced to 2 feet when surrounded by retaining or decorative walls made of brick or concrete.
- \*\* When using 5'-6" x 6' precast pad, this clearance is increased to a minimum distance of 5' in order to load break transformer with a hot-stick.
- \*\*\* Projection to ground considered as floor area. Use as reference clearance area.

DATE	REV.	DESCRIPTION	BY	CHK'D	APP.



CITY OF GLENDALE WATER & POWER	
REV. NO. DATE 10/24/98 DRAWN BY JCW APPROVED BY:HRA	<b>PRECAST TRANSFORMER PAD                  CLEARANCE REQUIREMENTS</b>
PRI-DWG-002 PAGE 1 of 2	
CUSTOMER SERVICE ENGINEERING	

REQUIRED CLEARANCE SEE FIG. 1

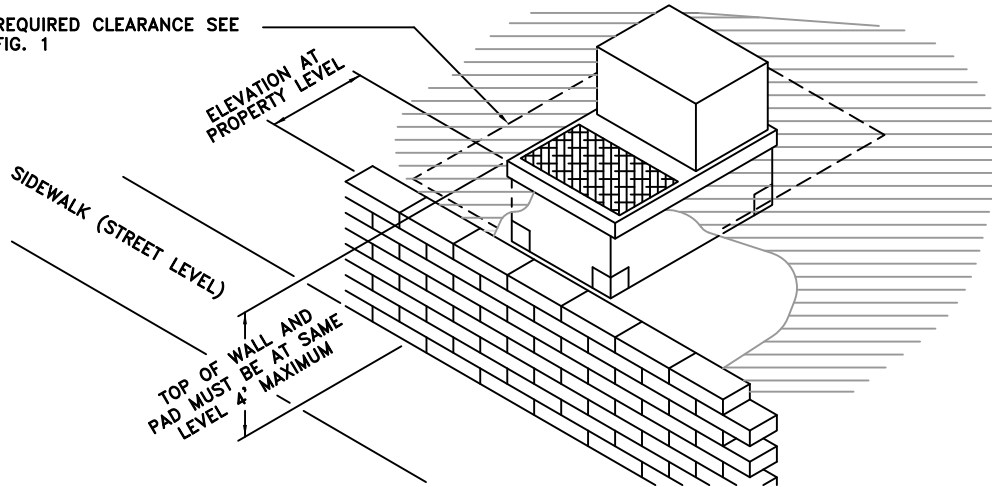


FIGURE #3: REQUIREMENTS FOR ELEVATED TRANSFORMER PADS

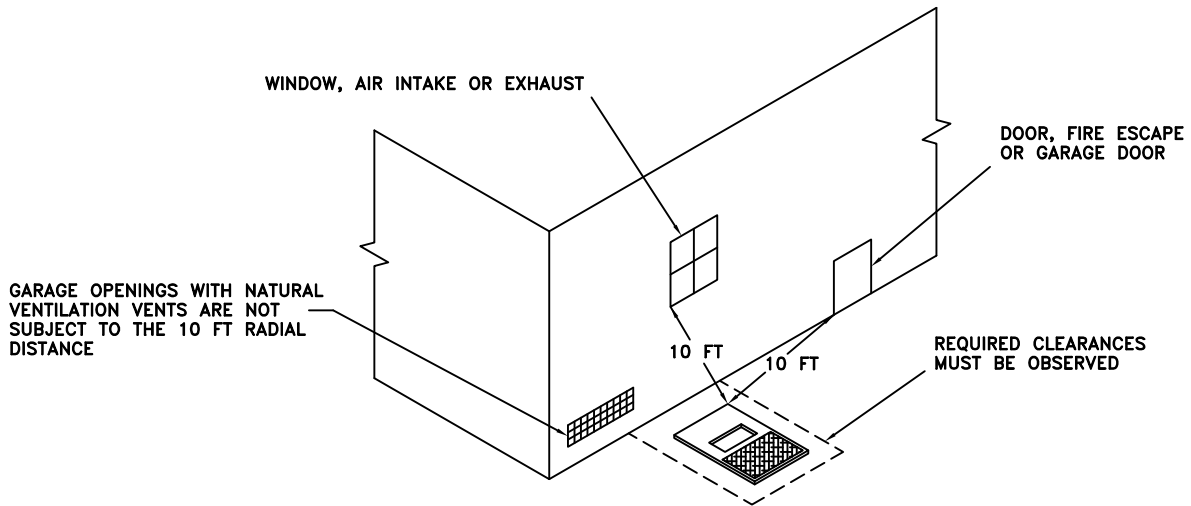


FIGURE #4: PROXIMITY TO OPENINGS (other than garage openings or exhaust vents)

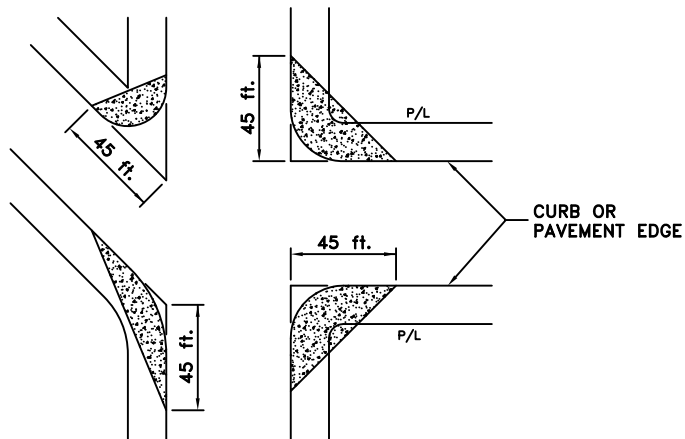


FIGURE #5: VISIBILITY OBSTRUCTIONS DRIVEWAYS AND INTERSECTIONS

DATE	REV.	DESCRIPTION	BY	CHK'D	APP.



REV. NO.  
DATE 01/14/05  
DRAWN BY: JCW  
APPROVED BY: HRA

CITY OF GLENDALE WATER AND POWER

PRECAST TRANSFORMER PAD  
CLEARANCE REQUIREMENTS

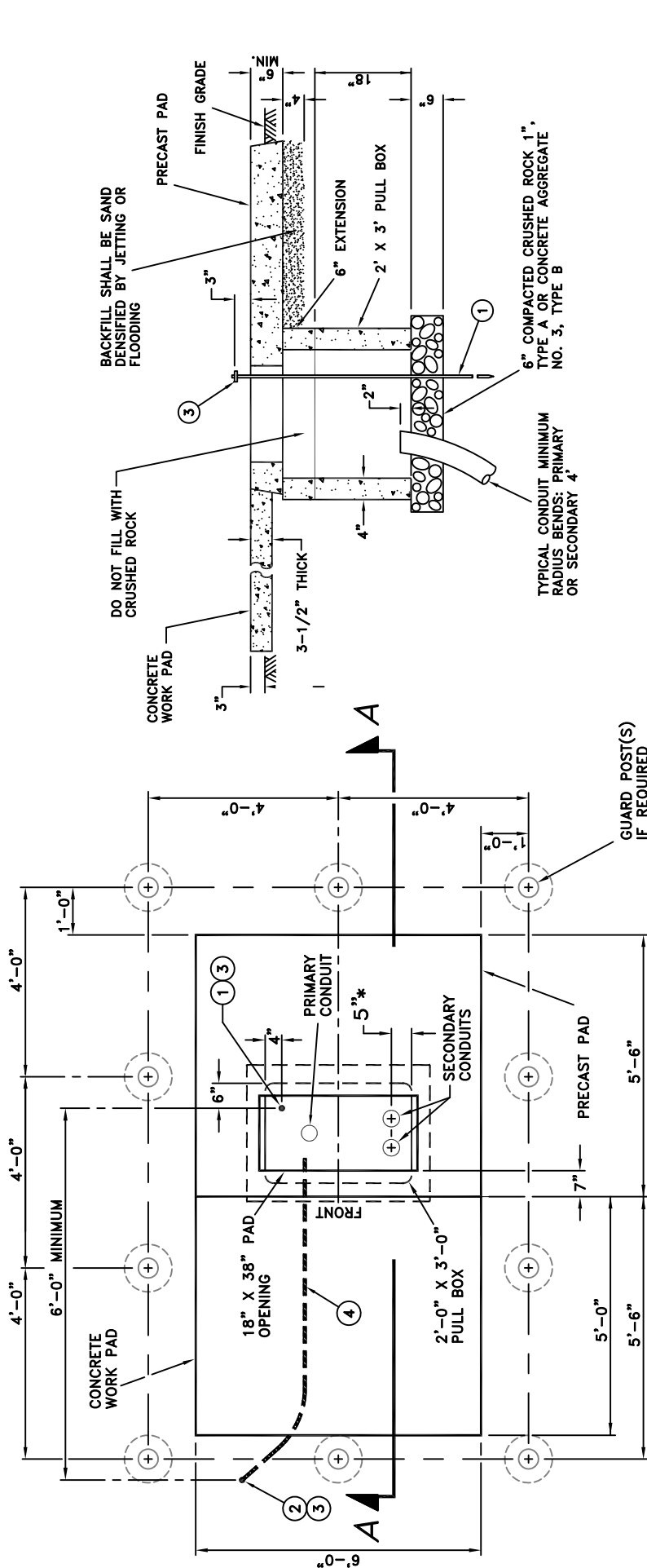
PRI-DWG-002  
PAGE 2 of 2

CUSTOMER SERVICE ENGINEERING

PARTS LIST

NO.	QTY	DESCRIPTION
1	1	5/8" x 11'-0" COPPERWELD GROUND ROD
2	1	5/8" x 8'-0" COPPERWELD GROUND ROD
3	2	CADWELD GROUNDING CONNECTIONS OR EQUAL
4	30'	#2/0 BARE STRANDED COPPER GROUND CABLE

- NOTES:
- TRANSFORMER PAD SHALL BE REINFORCED CONCRETE AND SHALL MEET THE REQUIREMENTS OF LOS ANGELES DEPT. OF WATER AND POWER SPECIFICATION NO. P-178 AS LAST REVISED, EXCEPT ARTICLE 4 FOR PAD HANDHOLE AND ARTICLE 3 (C) (1) AND ARTICLE 4 FOR PAD SLAB. MINIMUM REQUIRED DESIGN LOADING FOR PAD SLAB SHALL BE:  
 LIVE LOAD = 100 LBS/SQ. FT.  
 DEAD LOAD = 850 LBS/SQ. FT.  
 IMPACT = NONE



SCALE 1:26

PLAN

SECTION A-A

DATE	REV.	DESCRIPTION	BY	CHK'D	APP.

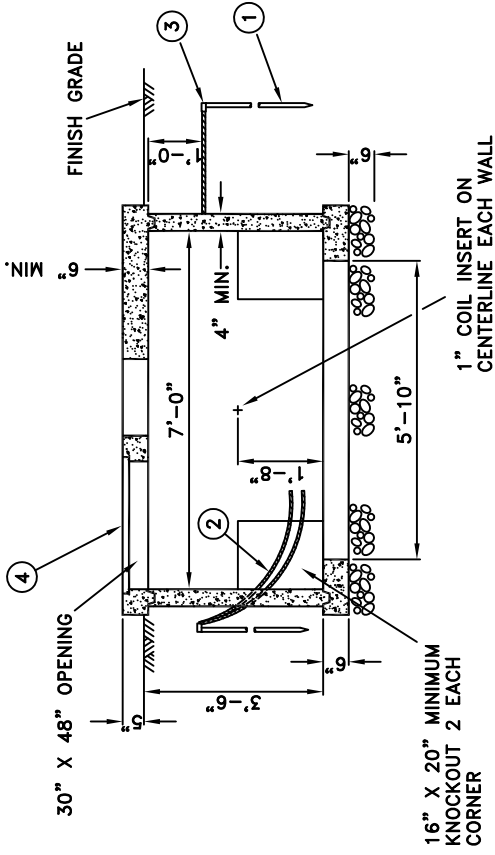
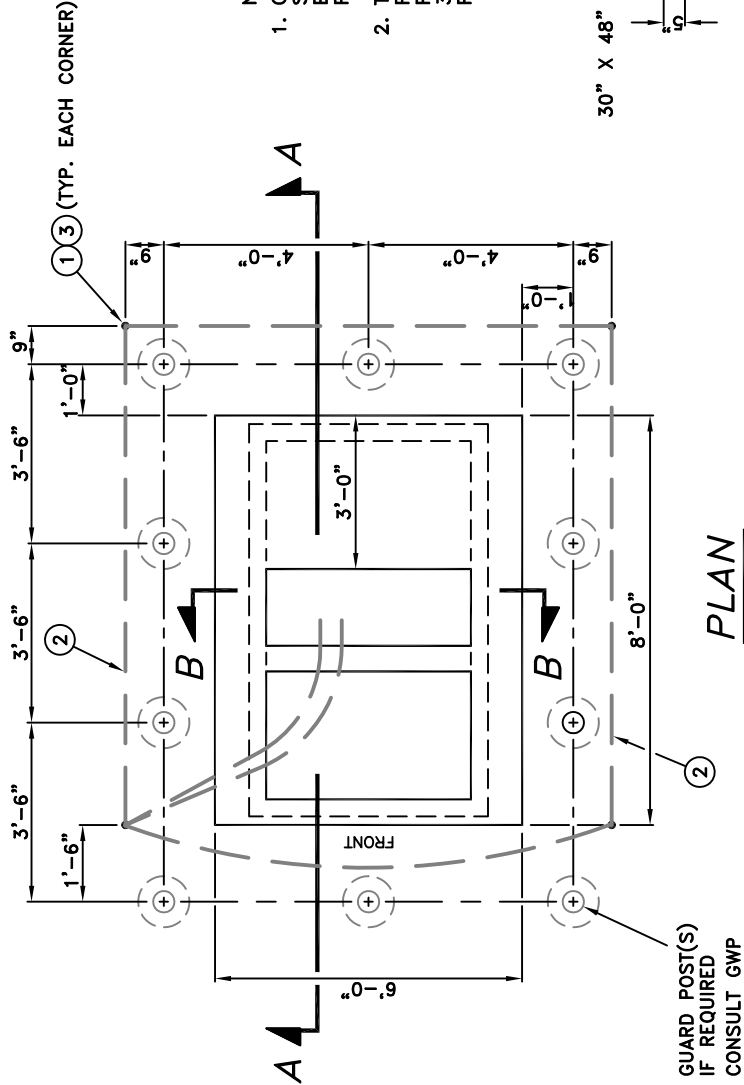
CITY OF GLENDALE WATER & POWER	
REV. NO. DATE 12/03/02 DRAWN BY: P. MEZA APPROVED ERG.HRA	5'-6" x 6' PRECAST PAD WITH 2' x 3' PULL BOX FOR PAD-MOUNTED TRANSFORMER
CITY OF GLENDALE WATER & POWER	
CUSTOMER SERVICE ENGINEERING	

\* CRITICAL DIMENSION FROM INSIDE PULL BOX WALL TO CENTER OF SECONDARY CONDUITS.

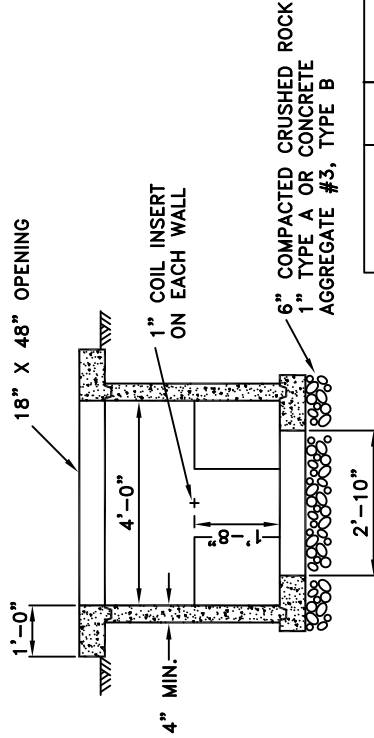
PARTS LIST	
NO. QTY	DESCRIPTION
1 4	5/8" x 8'-0" COPPERWELD GROUND RODS
2 60'	#2/0 BARE STRANDED COPPER GROUND CABLE
3 5	CADWELD GROUNDING CONNECTIONS OR EQUAL
4 1	3/16" DIAMOND PLATE COVER, SEE NOTE 1

**NOTES:**

- COVER SHALL BE PROVIDED WITH NON-CORROSIVE FASTENING DEVICES SUCH THAT A TOOL SHALL BE REQUIRED FOR ITS REMOVAL. COVER SHALL BE GALVANIZED AFTER "C of G ELECTRIC" LOGO IS BEADWELDED IN PLACE.
- TRANSFORMER PAD SHALL BE REINFORCED CONCRETE AND SHALL MEET THE REQUIREMENTS OF LOS ANGELES DEPT. OF WATER AND POWER SPECIFICATION NO. P-178 AS LAST REVISED EXCEPT ARTICLE 4 FOR PAD HANDHOLE AND ARTICLE 3 (C) (1) AND ARTICLE 4 FOR PAD SLAB. MINIMUM REQUIRED DESIGN LOADING FOR PAD SLAB SHALL BE:  
LIVE LOAD = 100 LBS/SQ. FT.  
DEAD LOAD = 650 LBS/SQ. FT.  
IMPACT = NONE



**SECTION A-A**

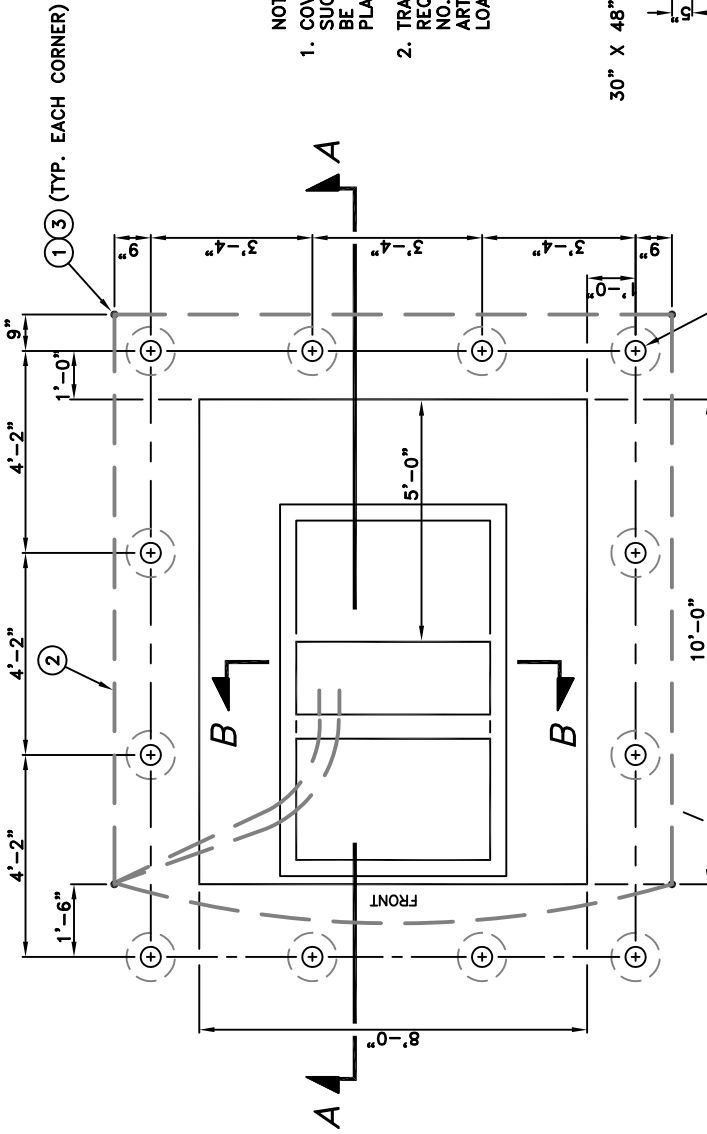


**SECTION B-B**

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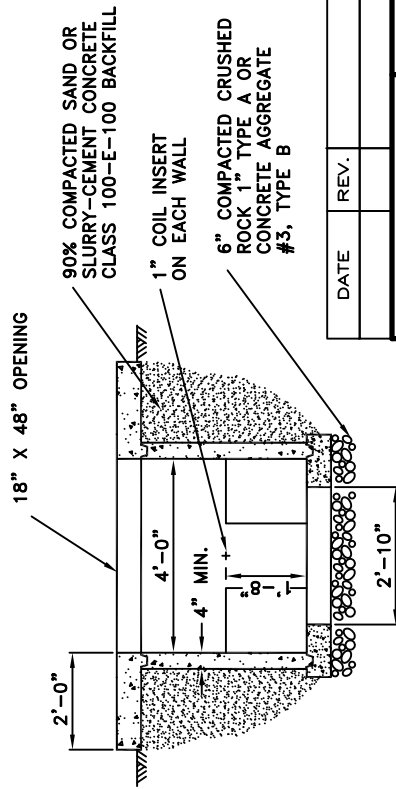
  

CITY OF GLENDALE WATER & POWER	
REV. NO. 02/13/96	DATE 02/13/96
DRAWN BY: P. MEZA	APPROVED: E.R.G. HRA
CITY OF GLENDALE WATER & POWER	
6' x 8' PRECAST PAD WITH PULL BOX FOR PADMOUNT TRANSFORMER	
PRI-DWG-004 PAGE 1 of 1	
CUSTOMER SERVICE ENGINEERING	

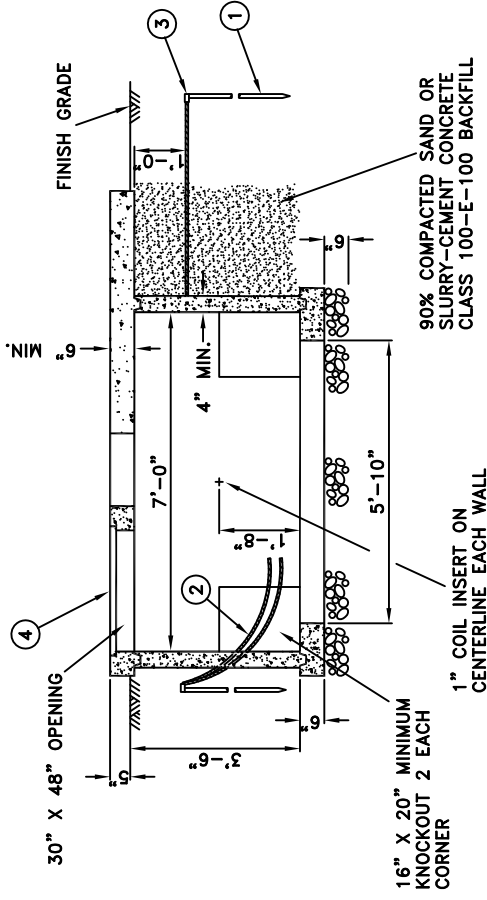


GUARD POST(S)  
IF REQUIRED  
CONSULT GWP

**PLAN**



**SECTION B-B**



**SECTION A-A**

PARTS LIST	
NO. QTY	DESCRIPTION
1	4 5/8" x 8'-0" COPPERWELD GROUND RODS
2	65' #2/0 BARE STRANDED COPPER GROUND CABLE
3	5 CADWELD GROUNDING CONNECTIONS OR EQUAL
4	1 3/16" DIAMOND PLATE COVER, SEE NOTE 1

**NOTES:**

- COVER SHALL BE PROVIDED WITH NON-CORROSIVE FASTENING DEVICES SUCH THAT A TOOL SHALL BE REQUIRED FOR ITS REMOVAL. COVER SHALL BE GALVANIZED AFTER "C OF G ELECTRIC" LOGO IS BEADWELDED IN PLACE.
- TRANSFORMER PAD SHALL BE REINFORCED CONCRETE AND SHALL MEET THE REQUIREMENTS OF LOS ANGELES DEPT. OF WATER AND POWER SPECIFICATION NO. P-178 AS LAST REVISED EXCEPT ARTICLE 4 FOR PAD HANDHOLE AND ARTICLE 3 (C) (1) AND ARTICLE 4 FOR PAD SLAB. MINIMUM REQUIRED DESIGN LOADING FOR PAD SLAB SHALL BE: LIVE LOAD = 100 LBS/SQ. FT. DEAD LOAD = 1600 LBS/SQ. FT. IMPACT = NONE

DATE	REV.	DESCRIPTION	BY	CHK'D	APP.

**CITY OF GLENDALE WATER & POWER**

**8'x10', PRECAST PAD WITH PULL BOX FOR PADMOUNT TRANSFORMER**

PRIDWG-005  
PAGE 1 of 1

CUSTOMER SERVICE ENGINEERING



REV. NO. 4  
DATE 12/03/02  
DRAWN BY: PMEZA  
APPROVED: ERG, HRA

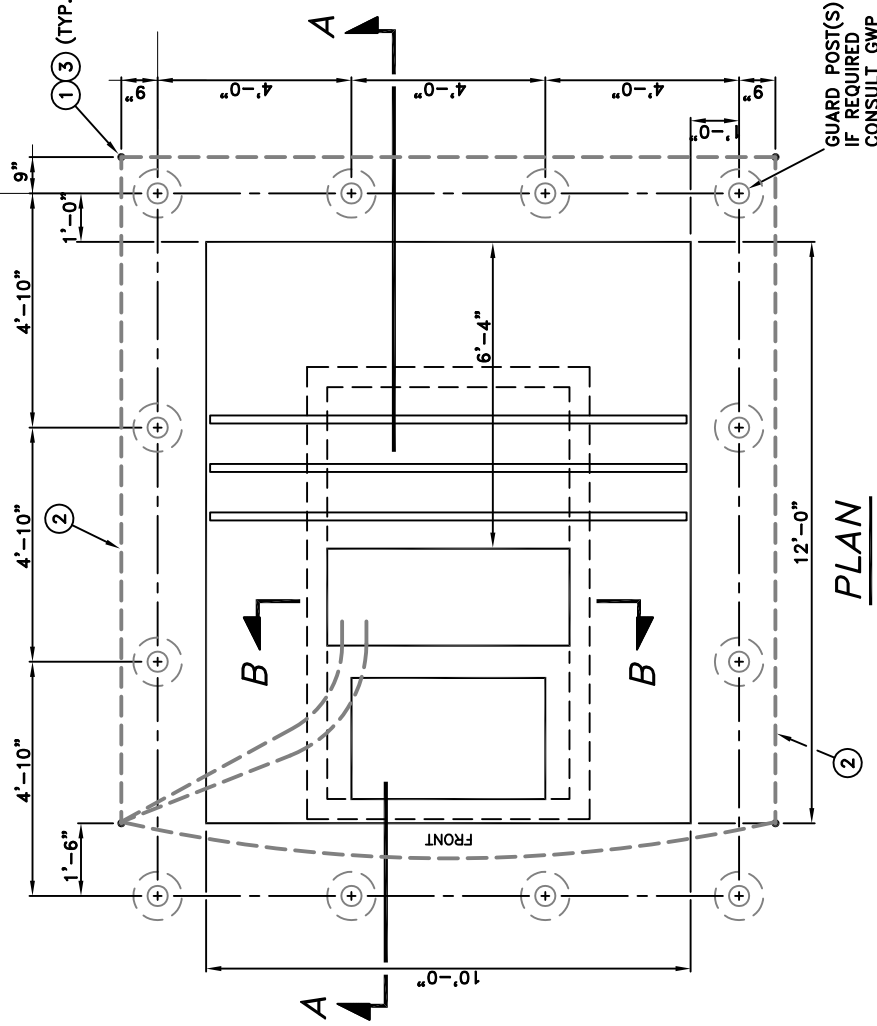
**PARTS LIST**

NO.	QTY	DESCRIPTION
1	4	5/8" x 8'-0" COPPERWELD GROUND RODS
2	75'	#2/0 BARE STRANDED COPPER GROUND CABLE
3	5	CADWELD GROUNDING CONNECTIONS OR EQUAL
4	1	3/16" DIAMOND PLATE COVER, SEE NOTE 1

**NOTES:**

- COVER SHALL BE PROVIDED WITH NON-CORROSIVE FASTENING DEVICES SUCH THAT A TOOL SHALL BE REQUIRED FOR ITS REMOVAL. COVER SHALL BE GALVANIZED AFTER "C OF 6 ELECTRIC" LOGO IS BEADWELDED IN PLACE.
- TRANSFORMER PAD SHALL BE REINFORCED CONCRETE AND SHALL MEET THE REQUIREMENTS OF LOS ANGELES DEPT. OF WATER AND POWER SPECIFICATION NO. P-178 AS LAST REVISED EXCEPT ARTICLE 4 FOR PAD HANDHOLE AND ARTICLE 3 (C) (1) AND ARTICLE 4 FOR PAD SLAB. MINIMUM REQUIRED DESIGN LOADING FOR PAD SLAB SHALL BE: LIVE LOAD = 100 LBS/SQ. FT. DEAD LOAD = 1600 LBS/SQ. FT. IMPACT = NONE

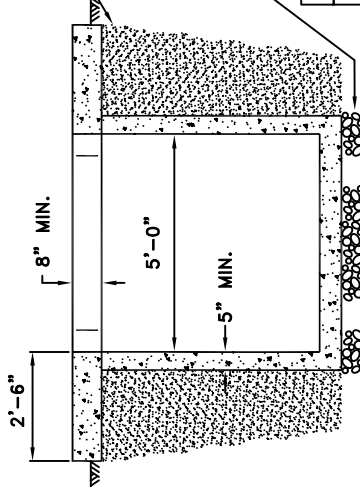
(1) (3) (TYP. EACH CORNER)



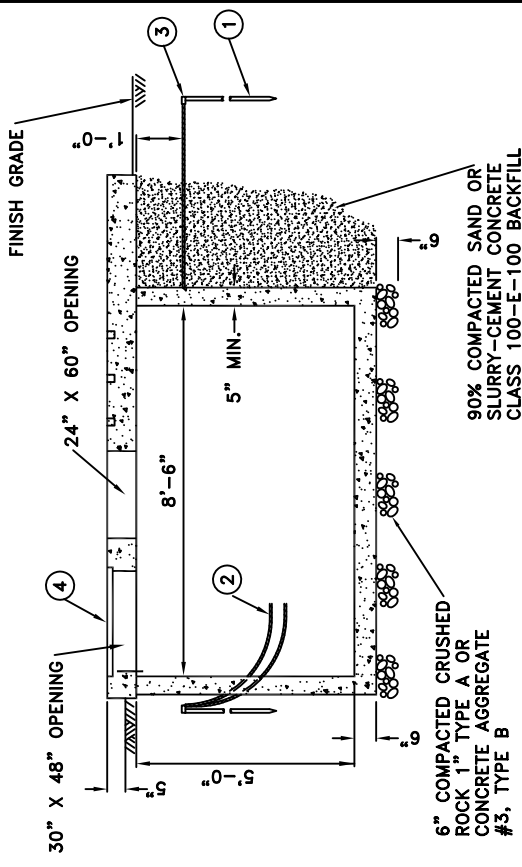
**PLAN**

90% COMPACTED SAND OR SLURRY-CEMENT CONCRETE CLASS 100-E-100 BACKFILL

6" COMPACTED CRUSHED ROCK 1" TYPE A OR CONCRETE AGGREGATE #3, TYPE B



**SECTION B-B**



**SECTION A-A**

6" COMPACTED CRUSHED ROCK 1" TYPE A OR CONCRETE AGGREGATE #3, TYPE B

90% COMPACTED SAND OR SLURRY-CEMENT CONCRETE CLASS 100-E-100 BACKFILL

DATE	REV.	DESCRIPTION	BY	CHK'D	APP.

CITY OF GLENDALE WATER & POWER	
REV. NO. 12/03/02	DATE 12/03/02
DRAWN BY: P. MEZA	APPROVED

CITY OF GLENDALE WATER & POWER	10'x12', PRECAST PAD WITH PULL BOX FOR PADMOUNT TRANSFORMER	PRI-DWG-006 PAGE 1 of 1
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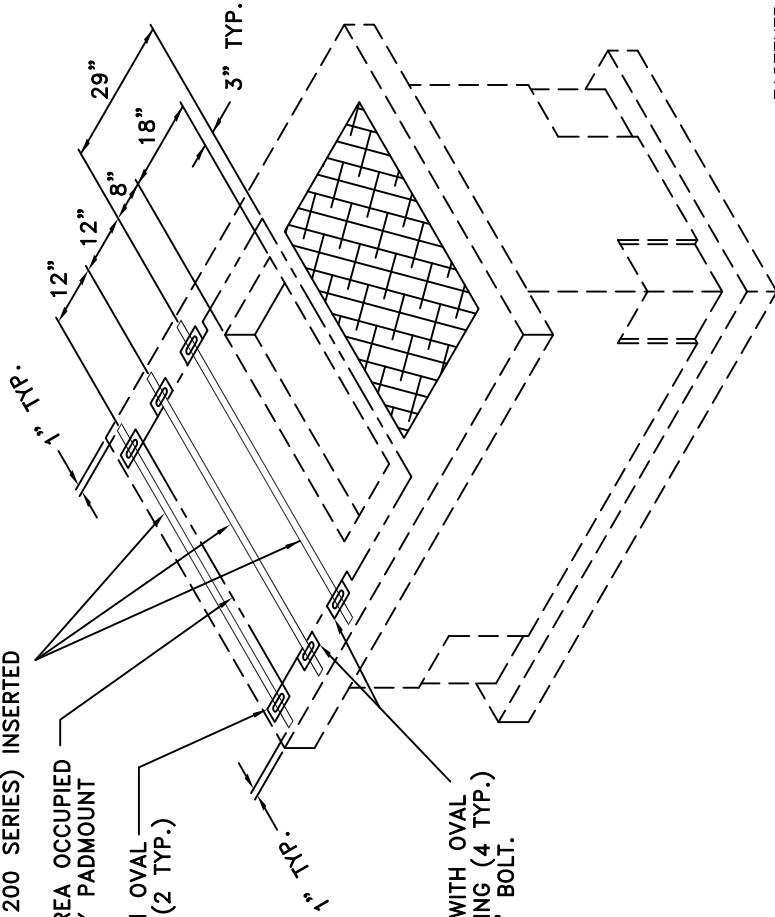
CUSTOMER SERVICE ENGINEERING
------------------------------

1-5/8" X 1-5/8" X 12 GAGE STRUT  
(UNISTRUT PS 200 SERIES) INSERTED  
IN PAD

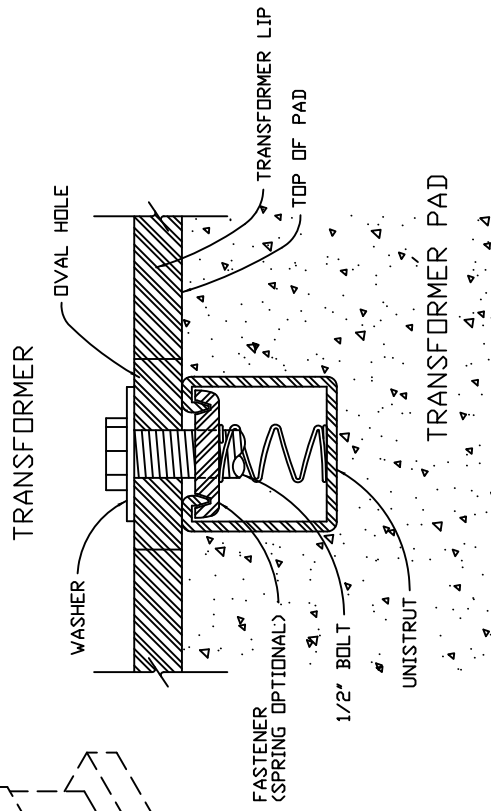
AREA OCCUPIED  
BY PADMOUNT

TRANSFORMER LIP WITH OVAL  
HOLE FOR ANCHORING (2 TYP.)  
1500 KVA AND ABOVE

TRANSFORMER LIP WITH OVAL  
HOLE FOR ANCHORING (4 TYP.)  
2" SLOT FOR 1/2" BOLT.



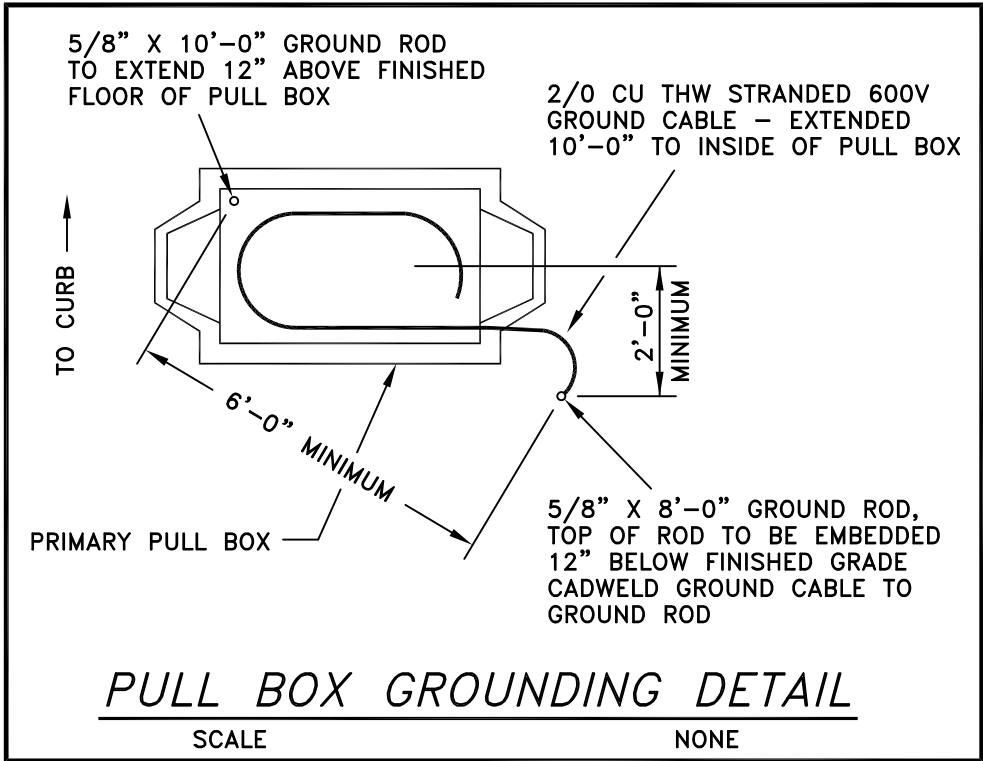
NOTE:  
TRANSFORMER ANCHORING LIPS TO BE  
SECURED TO TRANSFORMER AND ABLE  
TO WITHSTAND A 0.4g VERTICAL AND  
0.5g HORIZONTAL SEISMIC FORCE AT  
CENTER OF GRAVITY OF TRANSFORMER



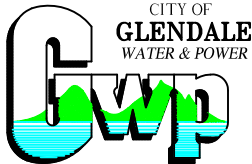
ANCHORING DETAIL

DATE	REV.	DESCRIPTION	BY	CHK'D	APP.
		CITY OF GLENDALE WATER & POWER			
		PADMOUNT TRANSFORMER ANCHORING			
		REV. NO. 12/03/02			
		DATE 12/03/02			
		DRAWN BY: P. MEZA			
		APPROVED BY: HRA			
		PRI-DWG-007			
		PAGE 1 of 1			
		CUSTOMER SERVICE ENGINEERING			

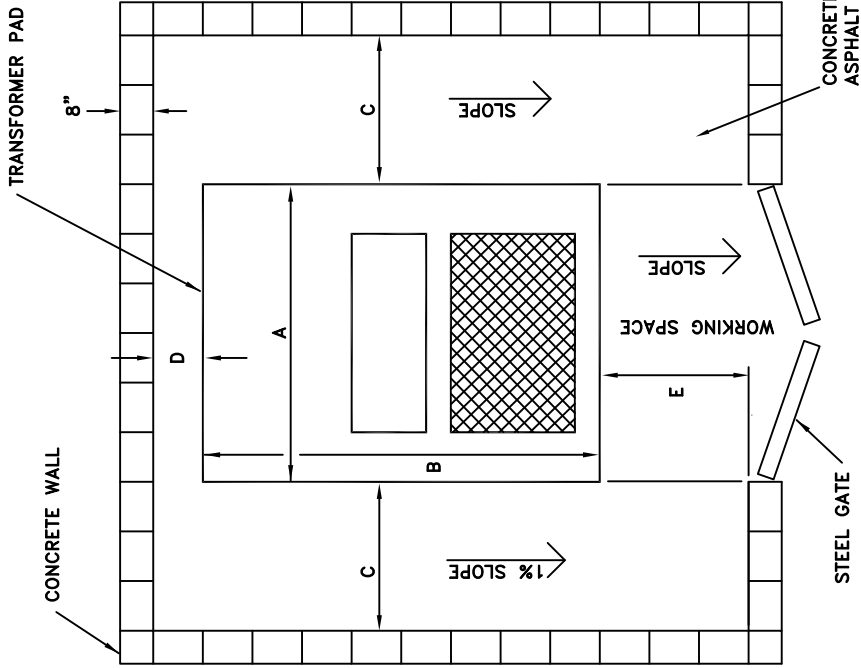




DATE	REV.	DESCRIPTION	BY	CHK'D	APP.
2/28/14	2	CHANGED LENGTH OF GROUND ROD INSIDE PULL BOX FROM 8' TO 10'	CC	PM	VA



CITY OF GLENDALE WATER & POWER		CITY OF GLENDALE WATER & POWER	
REV. NO. DATE 09/23/96 DRAWN BY: P MEZA APPROVED BY: HRA	<b>3'-0" X 5'-0" X 50" DEEP          PULL BOX GROUNDING STANDARD</b>		PRI-DWG-008 PAGE 1 of 1
CUSTOMER SERVICE ENGINEERING			




A	B	C	D	E (SEE NOTE 1)	HEIGHT OF WALL	REF DWGS	GATE SIZE
6'-0"	5'-6"	3'	6"	5'	6'	PRI-DWG-003	(2)3'Wx6'H MIN.
6'-0"	8'-0"	3'	6"	3'	8'	PRI-DWG-004	(2)3'Wx8'H MIN.
8'-0"	10'-0"	3'	6"	3'	8'	PRI-DWG-005	(2)4'Wx8'H MIN.
10'-0"	12'-0"	2'	6"	3'	8'	PRI-DWG-006	(2)5'Wx8'H MIN.

**NOTES:**

1. THIS DIMENSION MAY BE REDUCED TO 6" IF THE GATE OPENING SPANS THE ENTIRE FRONT OF THE ENCLOSURE AND THE REQUIRED CLEAR WORKING SPACE IS IN FRONT OF THE PAD.
2. ALL WALLS IN TRAFFIC AREAS SHALL BE POURED SOLID WITH CONCRETE.
3. THE STEEL GATE SHALL NOT OPEN INTO THE PUBLIC RIGHT OF WAY.
4. DESIGN OF THE WALL MUST BE APPROVED BY THE CITY OF GLENDALE, PUBLIC WORKS, BUILDING SECTION AND CONSTRUCTION OF THE WALL MUST BE INSPECTED BY THE CITY OF GLENDALE, PUBLIC WORKS, BUILDING INSPECTOR.
5. TRANSFORMER ENCLOSURE SHALL BE OPEN TO SKY. NO ROOF SHALL BE ALLOWED.
6. PROVIDE 1" MAX. OPENING AT THE BOTTOM OF THE GATES FOR WATER DRAINAGE.

DATE	REV.	DESCRIPTION	BY	CHK'D	APP.
7/1/09	1	ADDED GATE SIZES & NOTE: "CONCRETE OR ASPHALT FLOOR"	EN	PM	HRA
<b>CITY OF GLENDALE WATER &amp; POWER</b>					
<b>WALL CLEARANCE FOR PRECAST TRANSFORMER PAD</b>					
REV. NO. 2 DATE 06/23/99 DRAWN BY: DELEGAL APPROVED BY: HRA					
PRI-DWG-009 PAGE 1 of 1					
CUSTOMER SERVICE ENGINEERING					

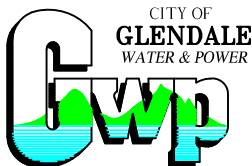
ITEM NO.	kVA	SEC VOLTAGE	BAYONET FUSING						ELSP FUSING						IZ %	
			12470GY/7200			4160GY/2400			4160GY/2400X12470GY/7200							
			PART NO.	Xfmr I	AMP	%	PART NO.	Xfmr I	AMP	%	PART NO.	Xfmr I	AMP	QTY		%
1	150	208Y/120	4000353C08	6.9	15	216	4000353C10	21	25	120	3543125M61M	21	125	3	600	1.50
2	225	208Y/120	4000353C10	10.4	25	240	4000353C12	31	40	128	3543200M51M	31	200	3	640	2.00
3	225	480Y/277	4000353C10	10.4	25	240	4000353C12	31	40	128	3543200M51M	31	200	3	640	2.00
4	300	208Y/120	4000353C10	13.9	25	180	4000353C14	42	65	156	3543200M51M	42	200	3	480	2.50
5	300	480Y/277	4000353C10	13.9	25	180	4000353C14	42	65	156	3543200M51M	42	200	3	480	2.50
6	500	208Y/120	4000353C10	23	25	108	4000353C16	69	100	144	(2)3543125M61M	69	250	6	360	3.00
7	500	480Y/277	4000353C10	23	25	108	4000353C16	69	100	144	(2)3543125M61M	69	250	6	360	3.00
8	750	208Y/120	4000358C14	35	65	187	4038361C05CB	104	125	120	(2)3543125M71M	104	250	6	240	5.75
9	750	480Y/277	4000358C14	35	65	187	4038361C05CB	104	125	120	(2)3543125M71M	104	250	6	240	5.75
10	1000	208Y/120	4000353C14	46	65	140	NA				(2)3543080M51M	46	160	6	346	5.75
11	1000	480Y/277	4000353C14	46	65	140	NA				(2)3543080M51M	46	160	6	346	5.75
12	1500	480Y/277	4000353C16	69	100	144	NA				(2)3543100M51M	69	200	6	288	5.75

DATE	REV.	DESCRIPTION	BY	CHK'D	APP.
					
<b>CITY OF GLENDALE WATER &amp; POWER</b>					
<b>BAY-O-NET AND ELSP FUSE CHART FOR PADMOUNT TRANSFORMERS</b>					
REV. NO. 06/01/01 DATE 06/01/01 DRAWN BY ABRARI APPROVED ERG,HRA			PRI-DWG-010 PAGE 1 of 1		
<b>CUSTOMER SERVICE ENGINEERING</b>					

KVA	Primary (Amps) @ 4.16 kV	FUSE TYPE	FUSE CUR. RATING (AMP)	% OF XFMR RATING	FUSE VOLT. RATING (kV)	COOPER PART NO.	MIN ORDER QTY	MAX ORDER QTY	GWP STOCK NO.
150	20.82	ELX	30	140	15.5	3564030M11M	36	72	003300
225	31.23	ELX	50	160	15.5	3564050M11M	36	72	003083
300	41.64	ELX	50	120	15.5	3564050M11M	36	72	003083
500	69.40	ELX	2(50)P	144	15.5	(2)3564050M11M	36	72	003083
750	104.09	XLIMIT.	2(75)P	144	4.3	(2)43F75	30	60	003302
1000	138.79	XLIMIT.	2(100)P	144	4.3	(2)43F100	30	60	003303

KVA	Primary (Amps) @ 12.47 kV	FUSE TYPE	FUSE CUR. RATING (AMP)	% OF XFMR RATING	FUSE VOLT. RATING (kV)	COOPER PART NO.	MIN ORDER QTY	MAX ORDER QTY	GWP STOCK NO.
150	6.95	ELX	12	173	15.5	3564012M11M	18	36	003280
225	10.42	ELX	18	173	15.5	3564018M11M	18	36	003299
300	13.89	ELX	25	180	15.5	3564025M11M	18	36	003082
500	23.15	ELX	40	173	15.5	3564040M11M	36	72	003301
750	34.73	ELX	2(30)P	173	15.5	(2)3564030M11M	36	72	003300
1000	46.30	ELX	2(40)P	173	15.5	(2)3564040M11M	36	72	003301
1500	69.45	ELST	2(100)	287	15.5	(2)3544100M51M	36	72	001219

DATE	REV.	DESCRIPTION	BY	CHK'D	APP.



CITY OF  
**GLENDALE**  
WATER & POWER

REV. NO.  
DATE 06/21/01  
DRAWN BY ABRARI  
APPROVED

CITY OF GLENDALE WATER & POWER

*ELX FUSE CHART*  
*PADMOUNT TRANSFORMERS*

PRI-DWG-011  
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CUSTOMER SERVICE ENGINEERING