



To our Customers:

Thank you for the opportunity to provide electric service to your project. To make the process run as effectively as possible for all concerned, we would like to identify for you some key elements that result in delays.

### **Customer Data Sheet**

The information you provide on this form is critical to the initiation of any engineering work by TNMP. Some of the information required on this form may have to come from an electrician or engineer employed by you for your project. Regardless, the information must be complete and accurate. Any modifications or additions to the information after it is submitted can and usually do result in TNMP design delays. Your signature or the signature of your legal representative must be on the form. You are responsible for the information contained in the form.

### **Additional Data requirements**

Depending on the project size, TNMP may require additional data to determine the facilities we need to install to serve you. After review of your initial document submittal, a Designer or Engineer will contact you to discuss the need for additional data. If you receive a request for additional data, the timelier you can provide the information, the better.

### **Easements & Permits**

If TNMP installs distribution facilities across your property or any facilities across the property of another to provide service, an easement must be granted. If TNMP must cross a state highway, farm market road or railroad, permits from the state or railroad owner are required. TNMP will discuss with you the process of providing an easement if it is required for your project. A project will not be released to the Operations group for construction until all required easements and/or permits are in place.

### **Multiple Designs**

TNMP tariffs allow for one design to be provided to the customer as a part of the original request for service. This design is based on the information provided by the customer when

the Customer Data Sheet is submitted. Should the customer reject the design and want alternatives prepared, the labor costs associated with the additional design work is subject to collection from the customer. Requests for additional designs will result in project delays.

TNMP is required to collect the cost of improvements that cannot be justified by the revenue received from the continuing electric service to the project. For residential service, the customer receives a maximum \$3,000 of credit toward the cost of construction. For small commercial service up to a demand of 9KW, the maximum credit is \$3,000. For larger commercial projects, a credit of \$182.00 per KW is provided.

Any costs incurred to install TNMP facilities in excess of the allowed credit is payable by the customer before any material is ordered for the project. The invoice you receive has a notice that costs may change after 60 days. If TNMP does not receive payment by that time, the current invoice will be voided, and a new invoice generated reflecting the prevailing market prices.

Failure to pay the invoice in a timely manner will delay the project.

### **Material Lead Times**

If your project requires material not normally stocked in the distributors warehouse, your project may be subject to delays for material ordering and receipt. Depending on the materials required for your project; those delays could be as much as 26 weeks. A TNMP representative will inform you as early in the process as possible if your project might be subject to significant material lead time delays.

Please remember, no material is ordered until any required payments are made by the customer.

We hope the information provided here will help guide you in making the process of getting electric service as pleasant as possible.

# Customer Data Sheet



Please complete all applicable sections and mail or fax the signed and completed form to your engineering designer

### Customer Information:

Name: _____			
Mailing Address: _____			
City, State, Zip: _____			
Telephones: Home: _____	Work: _____	Cell: _____	E-Mail: _____

### Easement Information:

An easement is required for these facilities: <u>YES</u> <u>NO</u> <i>(Designer - please circle YES or NO)</i>			
<i>If an easement is required please provide the following information:</i>			
Landowner Name(s): _____			
Address <i>(if different from above)</i> : _____			
County Name: _____	Number of Acres: _____	Abstract/Survey: _____	
Deed Recorded in Volume: _____	Page Number: _____		

### Other Contacts:

Builder/General Contractor: _____	Phone: _____
Electrician/Electrical Contractor: _____	Phone: _____
Architect/Consulting Engineer: _____	Phone: _____

### Electrical Load Information:    *(please have your electrician provide this information)*

Load Type <i>(circle one)</i> <u>Residential</u> <u>Commercial</u>	Service Type <i>(circle one)</i> : <u>Overhead</u> <u>Underground</u>		
Service Voltage <i>(check one)</i> :	Service Capacity: <i>(check one)</i>	Conduit Information:	
_____ 120/240 Volt, 3-wire single-phase	_____ 100 Amp	Number: _____	
_____ 120/240 Volt, 4-wire three-phase Delta	_____ 200 Amp	Size: _____	
_____ 120/208 Volt, 4-wire three-phase Wye	_____ 320 Amp		
_____ 277/480 Volt, 4-wire three-phase Wye	_____ 600 Amp Transocket		
_____ Other <i>(specify)</i> :	_____ Other <i>(specify)</i> :		
Load Data:	Living Sq. Ft.: _____		
_____ Electric Heat	Phase: _____	Voltage: _____	Amps: _____    Size: _____ (kW)
_____ Air Conditioning	Phase: _____	Voltage: _____	Amps: _____    Size: _____ (Tons)
_____ Electric Cooking	Phase: _____	Voltage: _____	Amps: _____    Size: _____ (kW)
_____ Lighting Load	Phase: _____	Voltage: _____	Amps: _____    Size: _____ (kW)
_____ Motor Load(s)	Phase: _____	Voltage: _____	Amps: _____    Size: _____ (HP)
Electrician Name: _____	Electrician Phone: _____		

Customer Signature: \_\_\_\_\_  
Date Signed: \_\_\_\_\_

**Please mail or fax this signed form to your engineering designer!**

**Thank You!**

**Texas New Mexico Power**

**North Texas Region.....972-317-5542 ext. 4016**

**.....972-317-5542 ext. 4018**

**Lewisville Region.....972-317-5542 ext. 4018**

**.....972-317-5542 ext. 4016**

**Central Texas Region.....254-675-3908 ext. 6136**

**Gulf Coast Region-Bay Area.....281-996-0453 ext. 7121**

**.....281-996-0453 ext. 7122**

**Gulf Coast Region-Mainland.....409-948-8451 ext. 4261**

**Gulf Coast Region-Brazos.....979-345-4422 ext. 5133**

**West Texas Region.....432-447-2182 ext. 4923**

**.....432-447-2182 ext. 4922**

**.....432-447-2182 ext. 4906**

## Obtaining New Service



In order to proceed with new service installation, follow the following steps:

### Step 1 – Meet with a TNMP representative to discuss electrical service requirements:

- Call TNMP to request a meeting with an engineering designer.
- The designer will inspect the desired location to determine what equipment is necessary to establish service.
- The designer will also discuss possible fees and charges associated with the new service. If applicable, the customer may be required to pay any contributions in aid of construction (CIAC).
- No work will be done or materials ordered until the CIAC has been paid.
- For underground service, ditching and installation of conduit will be done at customer's expense to TNMP specifications.
- TNMP must inspect the ditch and conduit installation prior to covering up the ditch.

### Step 2 – Determine Load Information:

- Before the designer can begin the plans for new service, the designer must know the load information.
- The load information is an accurate record of the power requirements of the new service and can be compiled by an electrician.

### Step 3 – Easement Information:

- TNMP may require an electric line easement from you before TNMP can install power poles on your property.
- If it is necessary to cross another landowner(s) property in order to deliver your service you will also have to secure an easement from each landowner.
- All easements must be completed before work can begin.

### Step 4 – Landscaping Requirements:

- The customer is responsible for removing all trees, brush or limbs that obstruct access to construction. Refer to included drawing for a guideline.
- No construction work will occur until all obstacles have been removed.
- All limbs removed by TNMP will be left on site unless the customer requests limb removal which will be provided at an additional cost to the customer.

### Step 5 – Meter Requirements:

- The customer is responsible for building the meter loop.
- The loop must be constructed in accordance with TNMP standards. **It is the customer's responsibility to call TNMP for an inspection after the meter loop is finished.**
- All inspection requirements apply to temporary meter poles as well as permanent installations.
- Please note that some cities require their own code enforcement inspections of meter loops. It is the responsibility of the customer to contact the city for such inspections.

### Step 6 – Choosing a Retail Energy Provider:

- It is the responsibility of the customer to set up an account with a Retail Energy Provider.
- The State of Texas requires an Electric Service Identification Number (ESI ID#) for each meter location.
- After the meter loop passes inspection call TNMP to obtain an ESI ID#. You must have your ESI ID# when contacting your chosen REP.
- TNMP will send an energy technician to initiate service as soon as the REP issues a turn-on order.

Retail Energy Providers:  
Phone: (866)797-4839  
Website: [www.powertochoose.org](http://www.powertochoose.org)  
(Note: Texas official contact REP site)



## Frequently Asked Questions

### 1) How Long Does it Take to Get Power?

The amount of time varies, but in most cases the process will be completed in three to four weeks. You can help speed the process along by providing us with the information we need from you in as timely a manner as possible. The Customer Data Sheet (including easement information, if an easement is required for your electric line), complete with your signature plus the signed Letter of Permission are items that we have to get from you. Completing and signing these two forms and returning them to your engineering designer as soon as possible will help avoid delay in getting your power. Also note that if we require an easement we will need to receive the signed and notarized original document before we can build your power line.

### 2) What is a Contribution in Aid of Construction?

A Contribution in Aid of Construction, also known as CIAC, is a portion of the construction cost expense of building your power line that is borne by you. In calculating the CIAC charge we take into account the total cost to Texas-New Mexico Power Company of building your power line and the expected revenue generated by your electrical load. If the cost of building your line exceeds the revenue expected from the line this difference is treated as an unsupported investment and is borne by you. The exact amount of your CIAC charges will be quoted prior to any work being done.

### 3) What Other Fees May Apply?

The CIAC charges cover all the construction work of building your power line. The CIAC does not cover additional charges that may apply for temporary meter installations and removal and the installation of permanent service. If temporary service is required, a fee of \$240.00 will be added to the first month's bill.

### 4) What is an Easement?

An easement is a legal document granting the right to us to construct, maintain, and have access to our facilities (poles and wires) on private property. You, as property owner, grant the easement to us. You continue to own the land but are giving us the right to place our facilities there and to maintain them as time passes. In some cases, we may need to cross others' property to reach yours. If so, you may need to obtain an easement from adjoining landowner(s) as well.

We will request an easement for overhead lines and underground lines of a width that provides a safe distances from other structures and trees in order to comply with the National Electric Safety Code (NESC).

### 5) How Do I grant an Easement to Texas-New Mexico Power Company?

Your engineering designer will design an electric line to meet your needs and will inform you whether or not we require an easement from you. If we do require an easement you will need to provide us with a legal description of your property that includes the deed information as recorded in your County Clerk's office. Using this information we will prepare an "exhibit form" easement that references your property description and attaches a sketch as an exhibit describing the easement. You will then execute the easement by signing (all landowners must sign) and having the signatures notarized. We must receive the signed and notarized original (no copies) prior to constructing your electric line.

### 6) What if My Meter Loop Fails to Pass Inspection?

If your meter loop does not meet our standards upon inspection, our Energy Technician will place a red tag on it and leave a description of the defect(s) found. If you have any questions about the defects call us. After the defects are corrected we need to re-inspect the meter loop. Please call us to request the re-inspection.

### 7) Why Do I Need a Retail Energy Provider (REP)?

Texas-New Mexico Power Company does not provide retail electric service. Under Public Utility Commission of Texas rules, we are a Transmission and Distribution company – our role is to build and maintain your electric lines as reliably as possible. Under this arrangement, we work with you to get the facilities built to suit your needs. You will then have the right to choose your retail provider from all REP's authorized to do business in the State of Texas. The current list of authorized REP's is available online at [www.powertochoose.org](http://www.powertochoose.org) or you may call 1-866-797-4839



## Specifications for Use

### Service Entrance Conductors

The service entrance conductors shall be a minimum of 4/0 aluminum or 2/0 copper. Entrance conductors shall be installed in approved rigid metallic or non-metallic conduit or approved raceway. Approved service entrance cable may be used in lieu of conduit or raceway (subject to local code approval). The connection to the meter socket base shall be watertight and the service entrance shall be installed on the exterior of the building. In no instance shall service entrance conductors be run through attics, partitions or other enclosed places. No unsealable type fittings shall be installed in conduit or raceway ahead of the meter socket or metering enclosure.

### Meter Location

Meter locations must have prior approval of Texas-New Mexico Power Company (TNMP). Meters shall be located so they are readily accessible by TNMP personnel and not exposed to physical or environmental dangers. Where meter socket or enclosure and disconnecting means are mounted adjacent to each other, they should be separated by at least four (4) inches. Socket or enclosure shall be mounted level with vertical plane of the building and securely mounted to the building. Meter loop must be either on the front of the building or on the side within 5 feet from the front corner. Location of meter socket must be approved by TNMP representative, and TNMP must have permanent access to meter socket.

### Meter Socket or Enclosure Requirements

Meter sockets for service requirements less than 400 amps will be purchased and installed by the customer. They must be UL Listed and rated for a minimum of 200 amps. Underground service requires underground enclosures, not universal or modified overhead enclosures, with a dedicated raceway on the left side. Three-phase underground service requires enclosures rated 320 amps or greater. For service requirements in excess of 400 amps please contact your local TNMP representative.

### Service Requirements in Excess of 200 Amps

In accordance with local authority, services should have a service disconnect device, accessible by TNMP personnel, located on the exterior wall of the building adjacent to the meter socket. TNMP recommends a disconnect device for all customers. A remote control device used to actuate the service disconnecting means may be located on the exterior of the building in lieu of the actual service disconnect. The remote control device must be accessible by TNMP personnel. TNMP personnel shall have the right to operate the disconnect device to remove load from TNMP equipment for any legitimate purpose including but not limited to: public safety concerns, compliance with TNMP personal safety procedures, and routine maintenance of TNMP equipment.

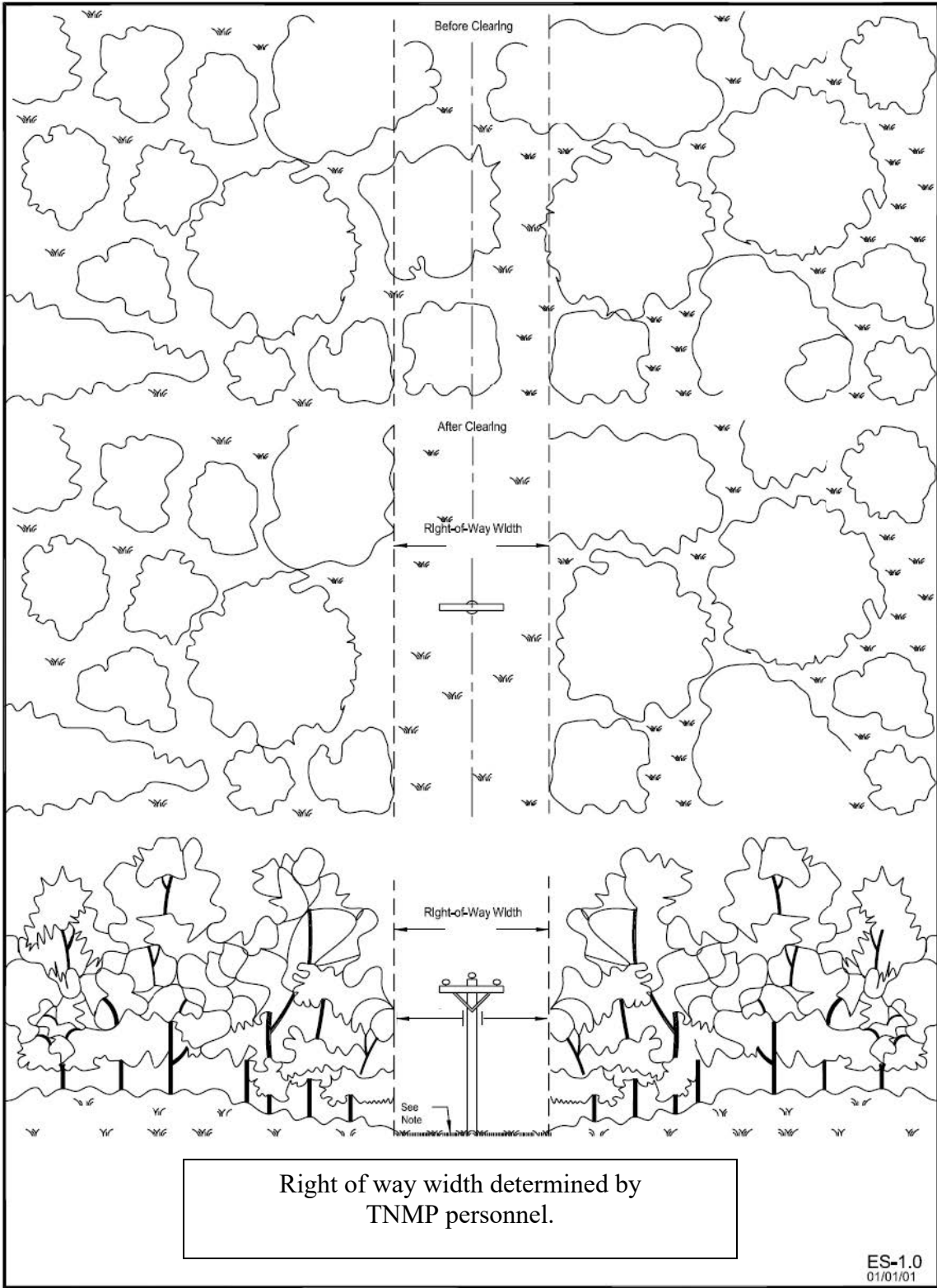
### Energizing of Customer Service

Only authorized employees of TNMP are to make and energize the connections between the company's service wire and the customer's service entrance conductors.

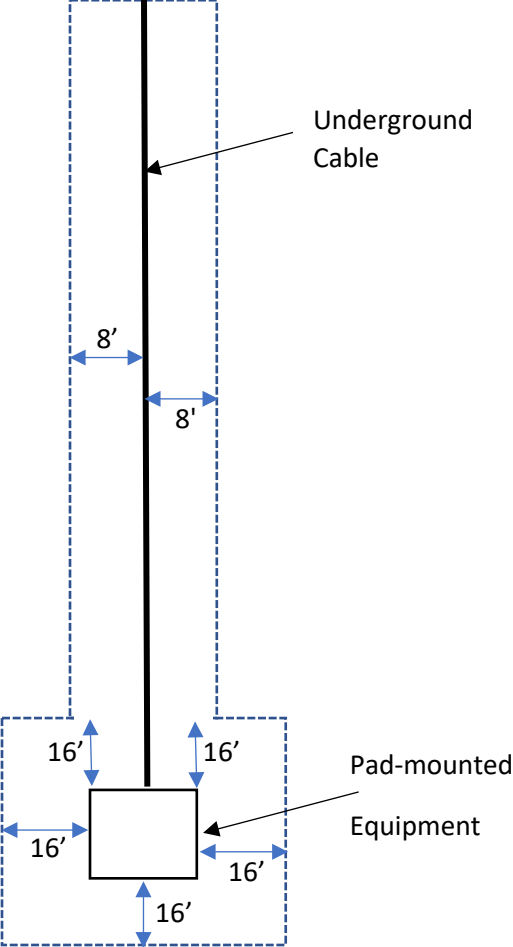
## **Easement Requirements**

- 1. Copy of the latest recorded Warranty Deed with File Number.**
- 2. Copy of Survey showing the needed Easement.**
- 3. Copy of Metes and Bounds (Schedule A) describing the needed Easement.**
- 4. Mark centerline of the needed Easement.**
- 5. Name of person (must be the deed holder) who will sign Easement, his / her title, state and county where he/she will sign the easement and a return address.**
- 6. If Grantor is a corporation, the state where it is incorporated.**
- 7. If Grantor is a partnership, the names of the other partners and the partnership.**





Right of way must be a minimum of 8 feet on both sides of underground cable and 16 feet to enclose the pad-mounted equipment.





# Meter Loop Installation Requirements

Refer to meter socket sheet for a list of meter socket requirements.

## Underground Service Checklist

- 1) \_\_\_ Ditch must be a minimum of 3 ft from the TOP of the conduit to the ground level at all times. If a 3 ft. clearance is not possible, contact a TNMP representative.
  
- 2) \_\_\_ All in-ground conduit must be a minimum of 3 inch GRAY schedule 40.
  
- 3) \_\_\_ Above-ground conduit on the customer end must be GRAY schedule 80 or GALVANIZED running from ground level to meter can.
  
- 4) \_\_\_ For primary, all turns must have a 48 inch min radius GRAY LONG SWEEPING 90's. For service, all turns must have a min 36 inch radius gray long sweeping 90's.
  
- 5) \_\_\_ There may be no more than 3 turns including up the pole and on the house. If the layout requires more than 3 turns, contact a TNMP engineering designer.
  
- 6) \_\_\_ The customer must provide a pull string running inside the conduit from the pole to the structure.
  
- 7) \_\_\_ The center of the meter socket must be located between 5 and 6 ft. above the final grade.
  
- 8) \_\_\_ The meter socket must be an approved **underground only** meter socket and **NOT** a universal or modified overhead meter socket.
  
- 9) \_\_\_ When facing the meter socket, the conduit must enter the meter socket through the bottom LEFT side. See figure MS-2-5.0 underground socket
  
- 10) \_\_\_ The conduit entering the bottom of the meter socket must be threaded and secured with 2 locknuts and plastic conduit bushing. See figure UG-9-6.
  
- 11) \_\_\_ Wires entering the customer's structure **MUST NOT** cross TNMP wires coming into or out of the meter socket.
  
- 12) \_\_\_ ALL Services should have a main breaker outside of the building next to the meter socket, in accordance with local authority.
  
- 13) \_\_\_ All meter loops must have an approved ground rod attached.
  
- 14) \_\_\_ Consult local TNMP representative for the location of the sweeping 90 located at the pole.

## Underground Meterloop Information

TNMP will need a point of contact to serve you from. This point will be the location to which the utility takes responsibility. It will need to include a meter to track your usage from which your bill will be calculated.

### Requirements:

- Location: Side of structure 5 ft. from front corner or as determined by TNMP representative.
- Meter can (supplied by customer or contractor) mounting height 5' - 6' from center of can. Service wire owned and installed to meter by Texas-New Mexico Power Company.
- Wild leg conductor must be wired to right side terminal on 3 phase installation.
- Conduit shall be rigid plastic – Schedule 40 underground and Schedule 80 above ground.
- Crossing of line and load wires is not permitted.

### Customer Installed - TNMP inspected - "before back fill"

- Buried conduit minimum 3 in. gray electrical schedule "40" from source pole, 6 in. above grade through
- pedestal to meter loop.
- Above ground conduit minimum 3 in. gray electrical schedule "80"
- Minimum 36 in. trench and backfill.
- Warning tape shall be installed above conduit 12 in below final grade.
- Maximum 3-90 degree, minimum 36 in. radius elbows.
- Nylon pull string must be sufficient to pull weight of wire through conduit and secured on either end.
- 8 ft. driven ground rod with a minimum encased #6 cu ground wire and approved ground clamp

### Construction Guideline

- Outside disconnect device must be mounted outside on load side (right side of meter),
- Customer to provide point of attachment.

AH requirements meet NESC and are subject to NESC changes as they occur. Any changes from above requirements are subject to approval by TNMP representative based on TNMP construction standards

# Underground Service Policy

## Meter Location

1. Meter locations shall be approved by TNMP representative. Meter bases should be located so they are readily accessible, relatively free from possible mechanical injury, and available to closest preferred serviced source as designated by a TNMP representative.
2. Mounting height of meter base is 5' to 6' above file grade.

## Service Conduit

1. Service conduit is furnished and installed by customer at customer's expense. Ownership of the conduit is accepted, and repairs made by TNMP after the initial installation.
2. Conduit size, number of elbows, and radius of elbows will be determined by TNMP representative.
3. Conduit installation will be approved by TNMP representative prior to backfill of trench.
4. Warning tape should be installed by customer in ditch approximately 1' below grade.

## Service Entrance Conductors

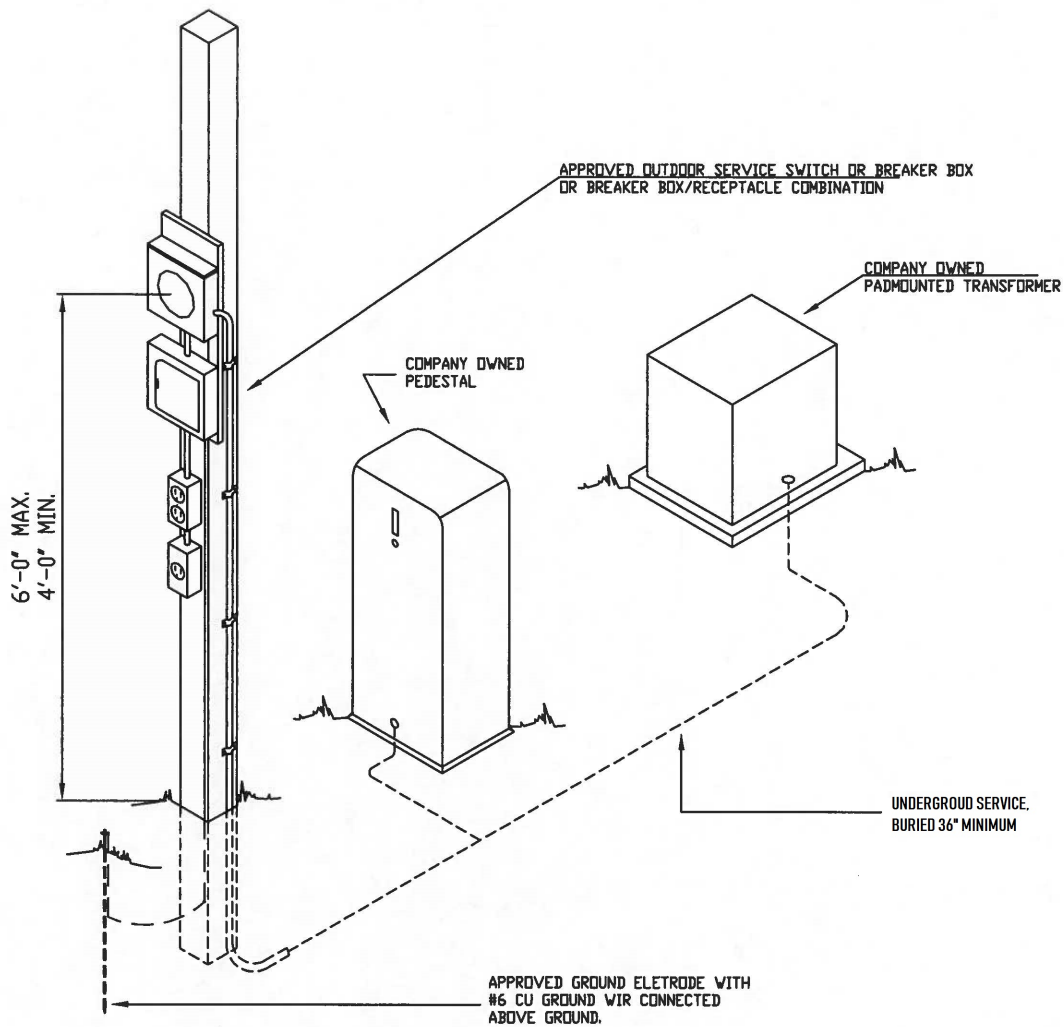
1. The service entrance conductors are owned and installed by TNMP.

## Grounding

1. All grounding shall be in accordance with the National Electric Code.
2. The ground electrode conductors may originate in the meter base or the customer's service equipment panel (not required in both locations).
3. The grounding electrode conductor shall be sized according to the following table:

Size of Largest Service-Entrance Conductor or Equivalent Area for Parallel Conductors		Size of Grounding Electrode Conductor	
Copper	Aluminum or Copper-Clad Aluminum	Copper	Aluminum or Copper-Clad Aluminum
2 or smaller	1/0 or smaller	8	6
1 or 1/0	2/0 or 2/0	6	4
2/0 or 3/0	4/0 or 250 kcmil	4	2
Over 3/0 thru 350 kcmil	Over 250 kcmil thru 500 kcmil	2	1/0
Over 350 kcmil thru 600 kcmil	Over 500 kcmil thru 900 kcmil	1/0	3/0
Over 600 kcmil thru 1100 kcmil	Over 900 kcmil thru 1750 kcmil	2/0	4/0
Over 1100 kcmil	Over 1750 kcmil	3/0	250 kcmil

4. The grounding electrode shall be a rod or pipe no less than 8 ft. in length made of 3/4" or larger galvanized iron pipe, 1/2" or larger copperweld rod, or 5/8" or larger iron or steel rod.



**NOTES:**

1. ALL TEMPORARY SERVICE POLE MATERIAL WILL BE SUPPLIED BY THE CUSTOMER OR HIS WIRING CONTRACTOR, WITH EXCEPTION OF METER SOCKET AND METER.
2. SERVICE SUPPORT TO BE 4' x 4' MINIMUM UNSPLICED WOOD POLE SET 36' MINIMUM DEPTH AND 6' MINIMUM FROM ALLEY OR DRIVE.
3. CUSTOMER OR HIS WIRING CONTRACTOR SHALL NOT ALLOW POLE TO BE MOVED OR TAMPERED WITH WHILE CONNECTED TO COMPANY FACILITIES.
4. CUSTOMER WILL TRENCH WITHIN 2' OF TRANSFORMER PAD OR SERVICE PEDESTAL AND INSTALL WIRE, LEAVING SUFFICIENT AMOUNT FOR CONNECTION TO COMPANY FACILITIES.
5. CUSTOMER WIRING, FROM TEMPORARY SERVICE POLE TO COMPANY FACILITIES, IN AREAS EXPOSED ABOVE GROUND MUST BE PROTECTED BY FLEXIBLE OR RIGID METAL CONDUIT.
6. COMPANY WILL MAKE FINAL TRENCHING AND CONNECTIONS.

**TEXAS NEW MEXICO POWER COMPANY**  
**DISTRIBUTION CONSTRUCTION STANDARD**

TEMPORARY SERVICE POLE  
 UNDERGROUND

APP. \_\_\_\_\_

DATE: 6/97

UG-9-10

## CUSTOMER WORK REQUIREMENTS FOR TNMP RESIDENTIAL UNDERGROUND SERVICE 36"

You will need to furnish and install the following in accordance with the TNMP standards attached.

For underground service to meter on home:

Service conduit, slip meter riser and meter socket. See list of approved meter sockets. 3 inch schedule 40 gray electrical PVC, schedule 80 from ground into slip meter riser, minimum cover depth 3', 3' radius vertical elbows, 3' radius horizontal elbows, slip meter riser, mule tape for pulling cables, and a TNMP approved meter socket.

METER LOCATION AND SERVICE SOURCE (POLE OR UNDERGROUND STRUCTURE)  
MUST BE PRIOR APPROVED BY TNMP.  
CALL TNMP ENGINEERING DESIGNER TO SET UP PRECON MEETING IF NEEDED.

If you are going to have more than 1 electrical main connected to the meter base or it is your intention to provide electricity to a shop or outbuilding from this meter in the future, then you may need to install a 320 amp meter base. The connection lugs on a standard 200 amp residential meter base are not rated for connecting 2 cables. A 320 amp meter base is rated for connecting 2 or more cables. TNMP will not allow you to connect 2 cables under one lug on a standard 200 amp meter base at any point in the future.

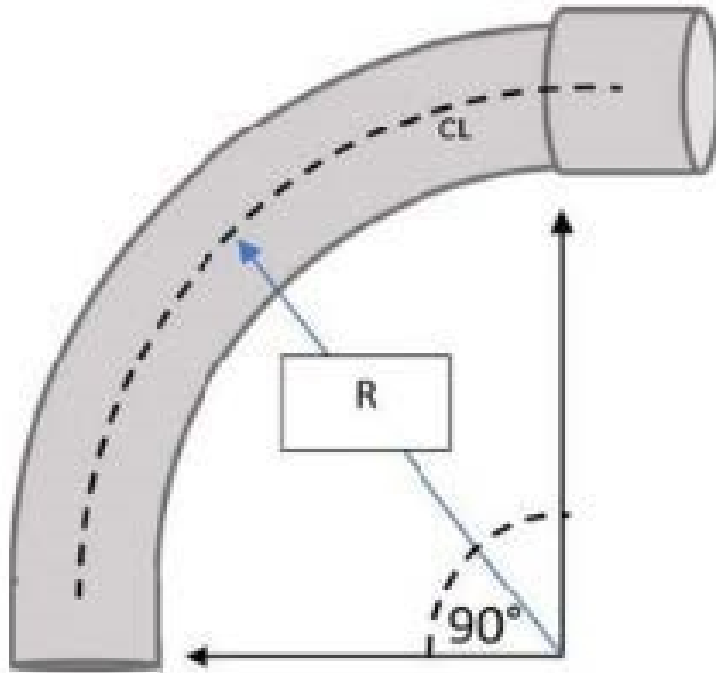
**CALL 1-800-DIGTESS 48 hours before digging.**

For scheduling of conduit/service entrance inspections or account initiation, please call TNMP Engineering Designer

ALL SERVICES ARE REQUIRED TO HAVE AN OUTSIDE DISCONNECT DEVICE. DISCONNECT DEVICE MUST BE LOCATED IMMEDIATELY TO RIGHT OF UNDERGROUND TYPE METER SOCKETS TO AVOID LINE AND LOAD WIRES CROSSING INSIDE METER SOCKET.

48 in. Radius for Primary

36 in. Radius for Service

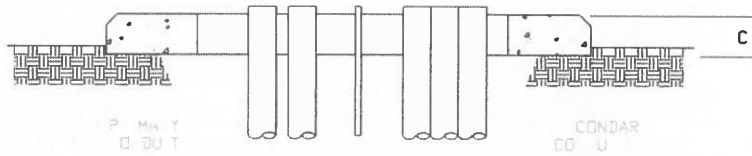
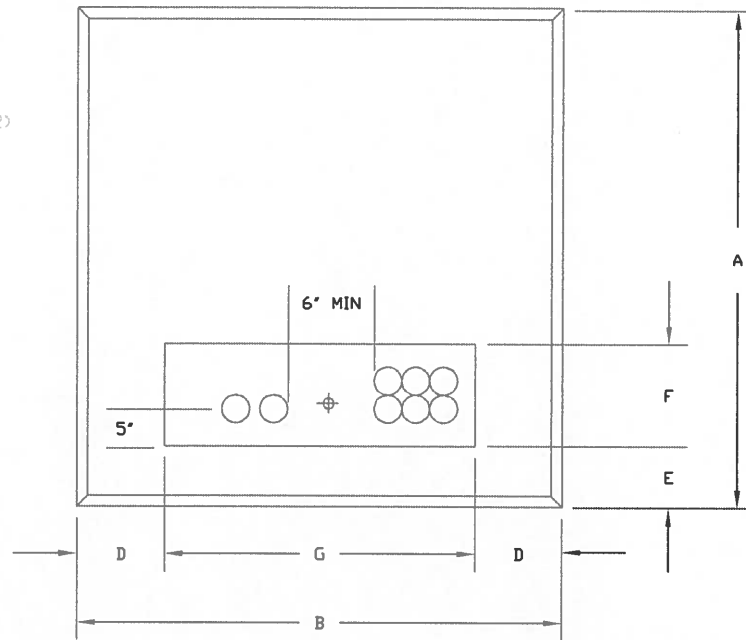


Drawing from todaypvcbending.com

Note: All conduit elbows require long sweeping 90's. For primary use a minimum of 48 inch and for service a 36 inch minimum radius is required.



⊕ GROUND ROD (ITEM 2)



CROSS SECTION

KVA	PAD DIMENSIONS IN INCHES							DESCRIPTION
	A	B	C	D	E	F	G	
50-75	42	42	3	7	6	12	27	POLYMER PAD 42 X 42
100-167	56	44	4	9	6	14	27	POLYMER PAD 56 X 44

**NOTES:**

1. A POLYMER CONCRETE PAD SHALL BE USED UNLESS CONDITIONS WARRANT A CONCRETE PAD. IF A CONCRETE PAD IS NEEDED INCREASE PAD DIMENSION - C - TO 6 INCHES.
2. PIERS SHALL BE INSTALLED UNDER PAD WHEN DIRT HAS BEEN DISTURBED UNDER THE LOAD BEARING AREA OF THE PAD. REFERENCE STANDARD UG-5-30 FOR PIER INSTALLATION.

ITEM	QTY	MATERIAL DESCRIPTION	REF	M&S	MUN
1	1	PAD, TRANSFORMER, POLYMER CONCRETE, 42" x 42"		31-1002	CUN XPAD1
1	1	PAD, TRANSFORMER, POLYMER CONCRETE, 56" x 44"		31-1005	CUN XPAD2
2	1	GROUND, UG EQUIPMENT	UG-7-10		



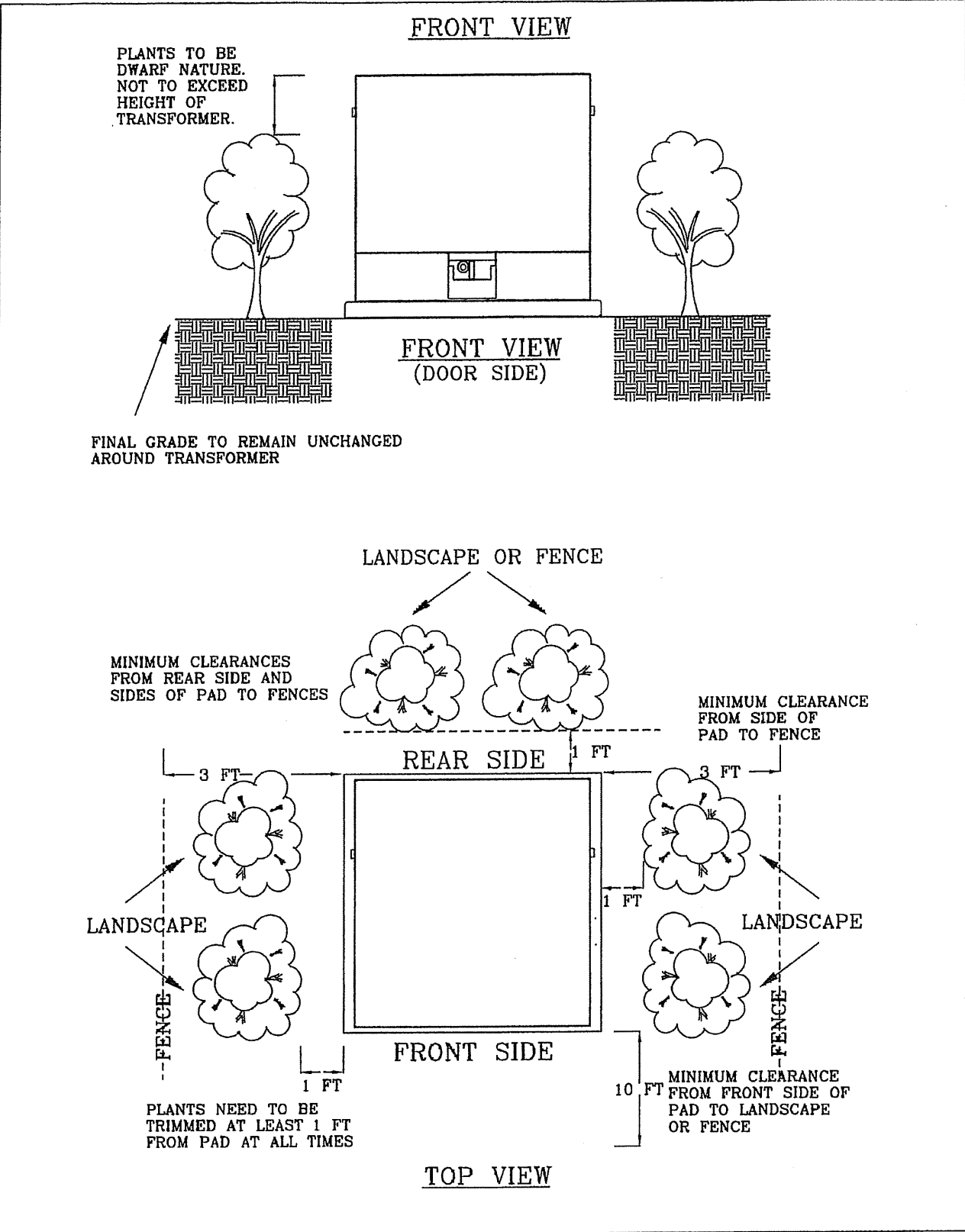
**TEXAS NEW MEXICO POWER COMPANY**  
DISTRIBUTION CONSTRUCTION STANDARD

TRANSFORMER PAD - POLYMER  
SINGLE PHASE  
DEADFRONT

APP. \_\_\_\_\_

DATE: 4/97

UG-5-25



**TEXAS NEW MEXICO POWER COMPANY**  
**DISTRIBUTION CONSTRUCTION STANDARD**

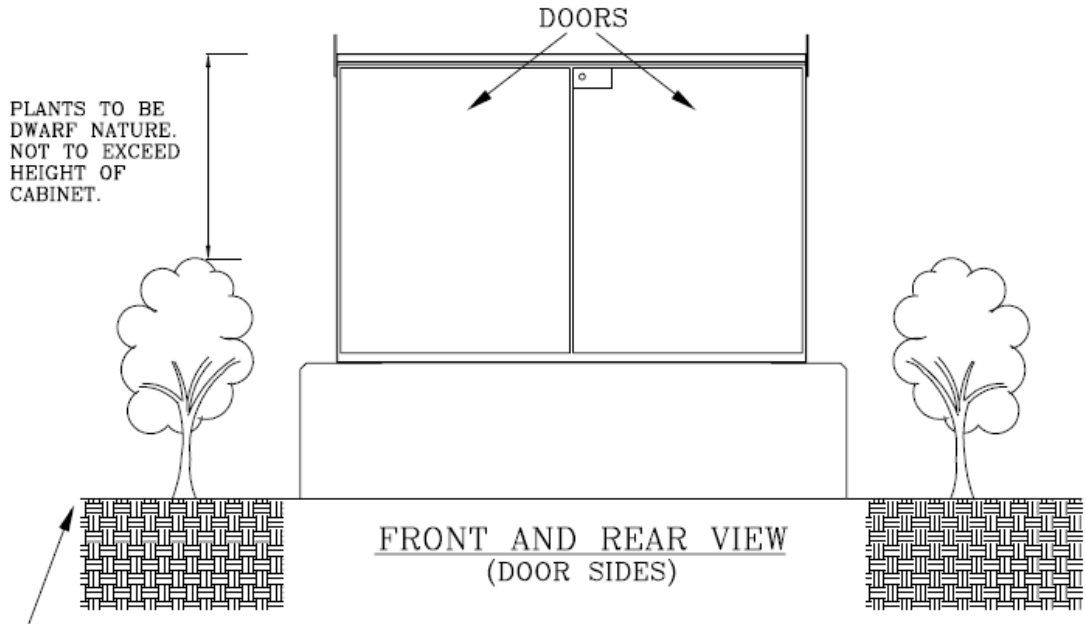
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DATE: 8/96

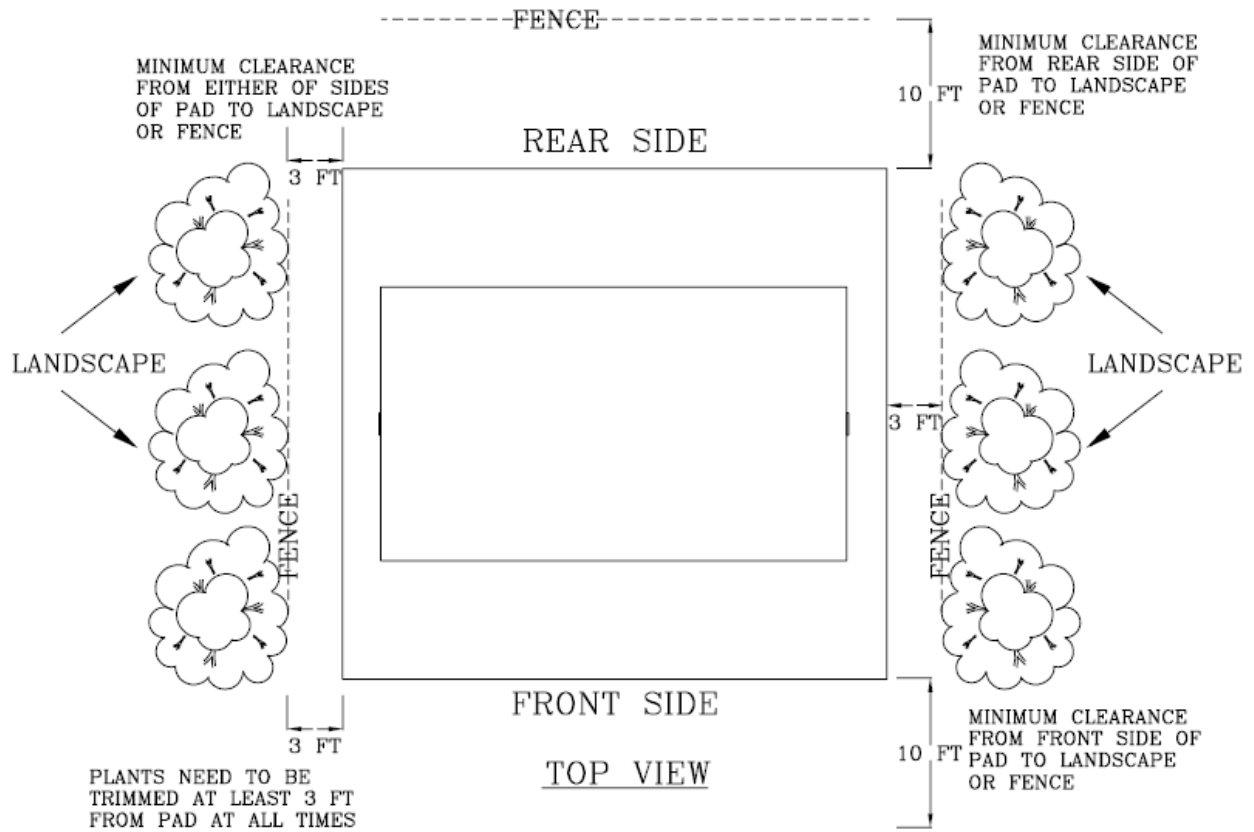
**CLEARANCES OF PADMOUNT TRANSFORMERS  
 FROM LANDSCAPING AND FENCING**

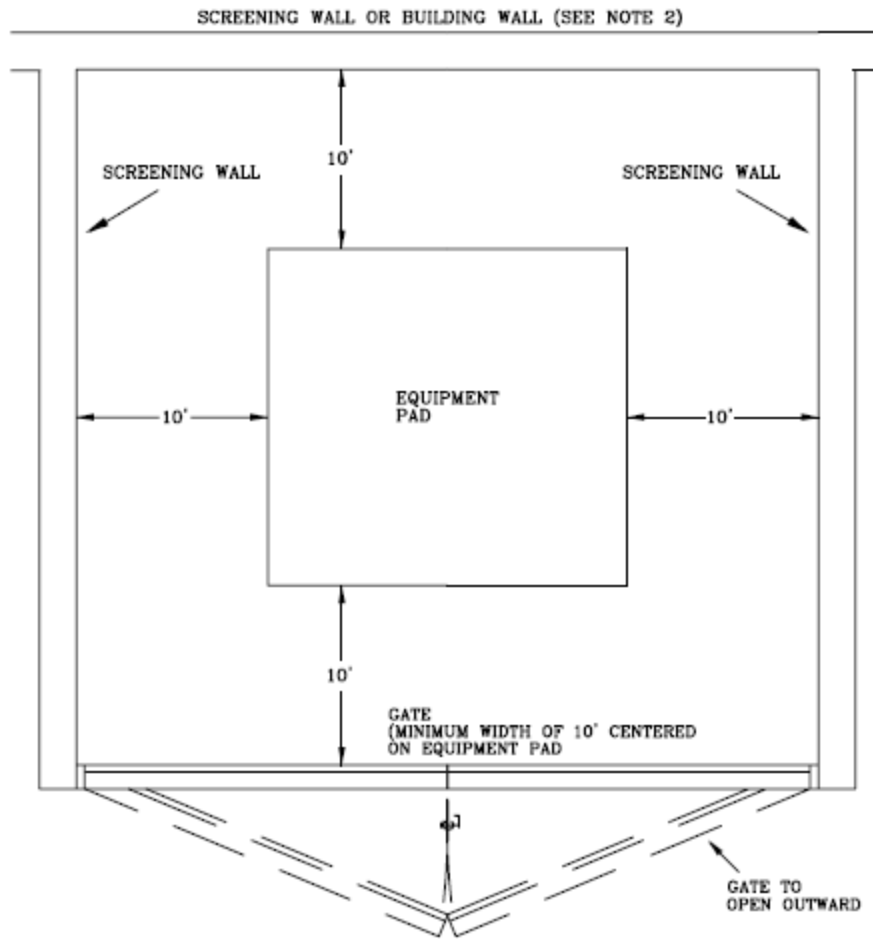
**UG-2-11**

FRONT AND REAR VIEW



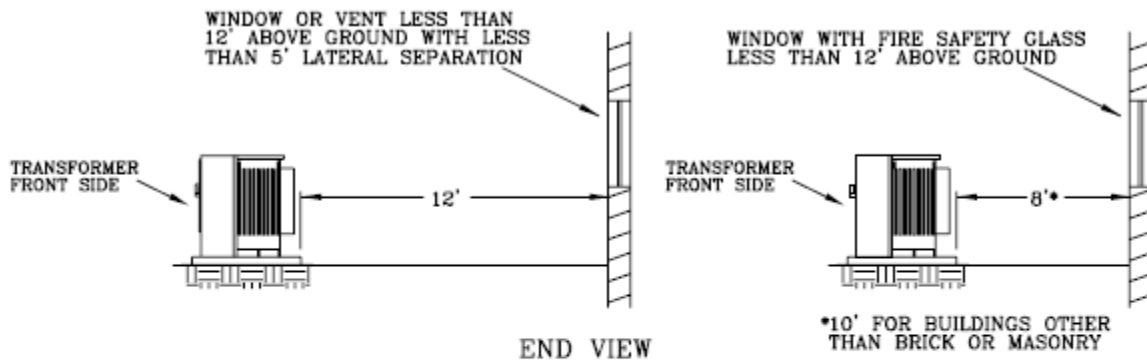
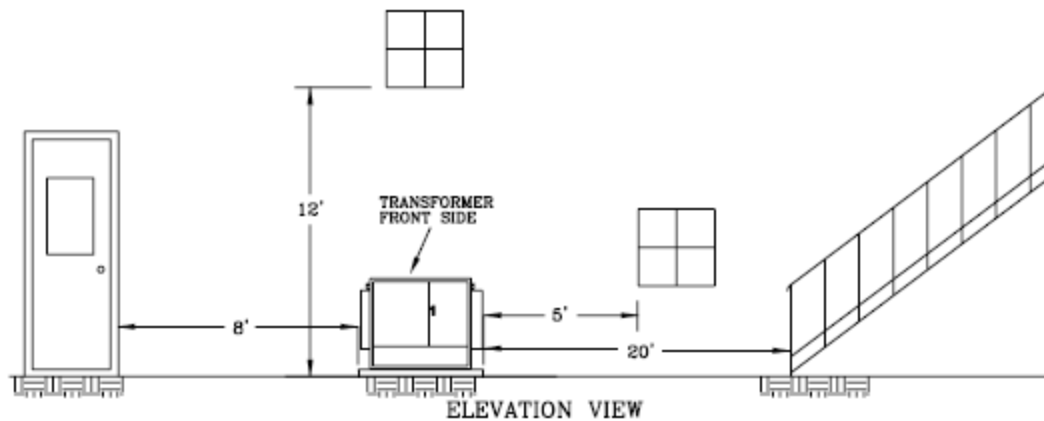
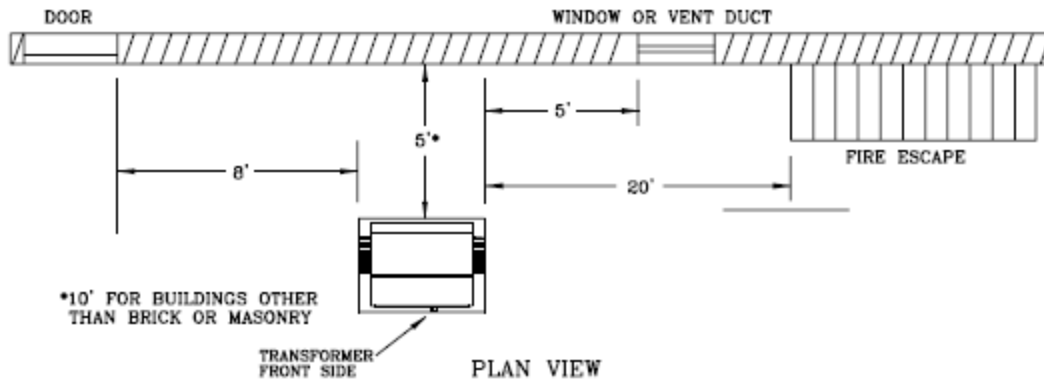
FINAL GRADE TO REMAIN UNCHANGED AROUND SWITCH CABINET





Notes:

1. Distance may be reduced to 5' if equipment side is not used for hot stick switching.
2. Use UG-2-10 for oil filled equipment distances from building walls.
3. If gate is locked, TNMP lock shall be installed.
4. Minimum distance from gate to pad may be reduced to 5' but minimum 10' open area required in front of pad with gate open.
5. When installing a transformer, screening walls shall provide adequate ventilation.



**NOTES:**

1. ALL DIMENSIONS ARE MINIMUM.
2. MAINTAIN A MINIMUM OF 10' CLEARANCE IN FRONT OF TRANSFORMER FOR ACCESS. ADEQUATE SPACE REQUIRED FOR TRUCKS AND LIFTING EQUIPMENT.
3. APPLIES TO BRICK OR MASONRY BUILDINGS ONLY, EXCEPT WHERE NOTED.
4. DRAINAGE FLOW AROUND TRANSFORMER SHOULD BE AWAY FROM BUILDING.
5. NO COOLING TOWERS, GAS METERS, ETC., WITHIN 5' OF PAD.
6. NO PIPES OR CONDUITS UNDER PAD EXCEPT THOSE REQUIRED FOR TRANSFORMER CONNECTIONS. EXCEPTIONS ALLOWED IF APPROVED BY TNP.
7. NO PART OF BUILDING MAY EXTEND OVER TRANSFORMER.

**TEXAS-NEW MEXICO POWER COMPANY  
SERVICE CONDUIT**

**For scheduling of conduit/service entrance inspections or account initiation, please call TNMP.**

All conduit inspections between 8AM - 5PM Mon. - Fri.

**CONDUIT**

***Specifications & Installation***

1. Inspection required on all conduit prior to back fill.
2. Schedule 40 PVC, Gray color (approved for electrical use).
3. All elbow radius per legend.
4. Customer remains responsible for conduit installation until all electrical facilities are installed.
5. Ditch shall be level and straight. Sand may be used to level ditch.
6. Flat braided mule tape shall be installed in each conduit section.
7. Yellow TNMP Warning Tape to be install 12" to 18" inches above conduit.
8. See attached sheet(s) for information on conduit installation: UG-2-5, UG-3-1, UG-3-2, UG-3-3
9. All conduit bends at poles will be turned up away from traffic, whenever possible.
10. ***SLIP METER RISERS REQUIRED BELOW METER SOCKET. SEE ATTACHED.***
11. ***SCHEDULE 80 PVC REQUIRED FROM GROUND LEVEL INTO SLIP METER RISER.***

***Conduit Clearances***

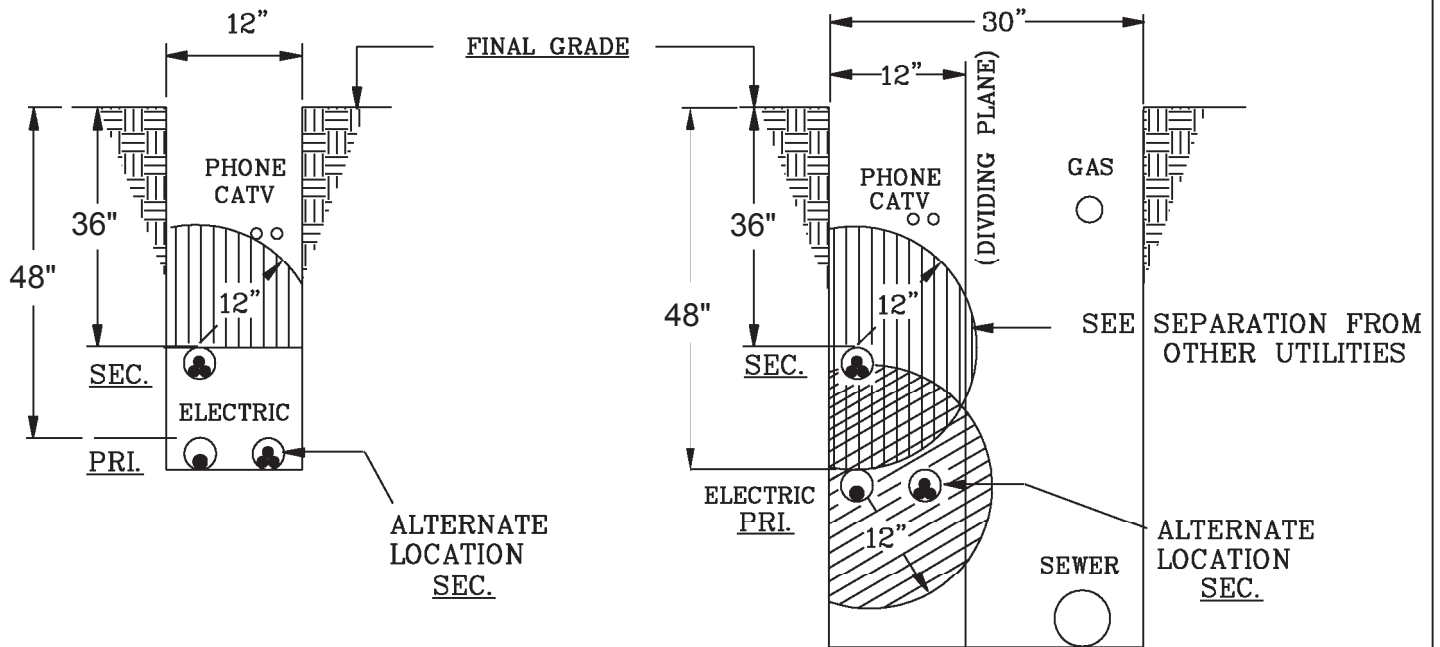
1. Min. Depth = 48" from top of PRIMARY conduit to grade.
2. Min. Depth = 36" from top of SECONDARY or SERVICE conduit to grade.
3. Five foot (5') minimum horizontal distance from structures, buildings, etc.
4. Twelve inch (12") minimum clearance from other utilities.

**Legend for conduit**

All measurements in inches

<u>Use</u>	<u>Description</u>	<u>Size</u>	<u>Elbow Radius</u>		<u>Cover Depth</u>	<u>Elbow</u>	<u># Conduits</u>
			<u>Horizontal</u>	<u>Vertical</u>		<u>Material</u>	
Primary	NA	NA	NA	NA	NA	NA	NA
Secondary	NA	NA	NA	NA	NA	NA	NA
Service	pole to meter	3	36	36	36	SCH 40 PVC	1

**For scheduling of conduit/service entrance inspections or account initiation, please call TNMP Engineering Designer.**



**MINIMUM COVER REQUIREMENTS**

Conduits shall be installed to meet the minimum depth requirements of the following table. The depth is measured from the top of the conduit to the final grade of the surface.

Circuit Voltage	Depth
0 to 600 Volts	36"
601 volts to 40 KV	48"

**Exceptions:**

1. If it is impractical to install at the above prescribed depths, the depth may be reduced 6" for each 2" of concrete cap placed in trench over the conduit installation. The depth will not be reduced more than 12".
2. When crossing under railroad tracks, the depth of the conduit will be 50" under the top of rails.
3. Due to design considerations or required separation from other utilities, the installed depth may be required to be deeper than noted in the above table or drawing.

**SEPARATION FROM OTHER UTILITIES**

1. Communication conduit systems shall be separated from the electrical conduit system by:
  - a) 12 inches of well-tamped earth
  - b) 3 inches of concrete
  - c) 4 inches of masonry
  - d) Exception: Lesser separations may used where the parties concur
2. Electrical conduit systems installed parallel to water, sewer or gas lines shall have a minimum horizontal separation of 12 inches.
3. Vertical crossing clearance from other utilities shall be 12 inches.
  - a) Exception: When it is not possible to achieve 12 inches of separation, the conduit system shall have suitable support on each side to prevent the direct transfer of loads onto the other utility.



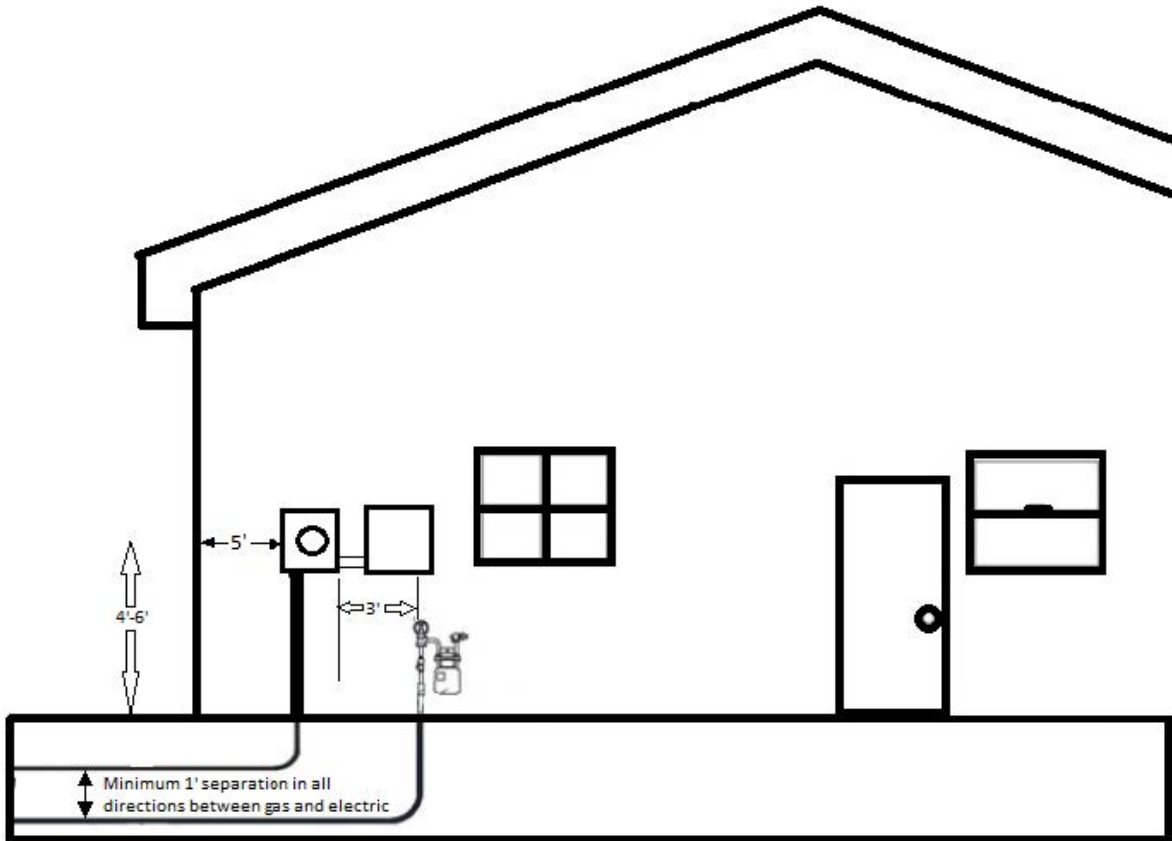
**TEXAS NEW MEXICO POWER COMPANY**  
**DISTRIBUTION CONSTRUCTION STANDARD**

APP. \_\_\_\_\_

DATE: 8/96

**CLEARANCES OF CONDUIT SYSTEM FROM GROUND  
 AND FOREIGN UTILITIES IN A COMMON TRENCH**

**UG-2-5**



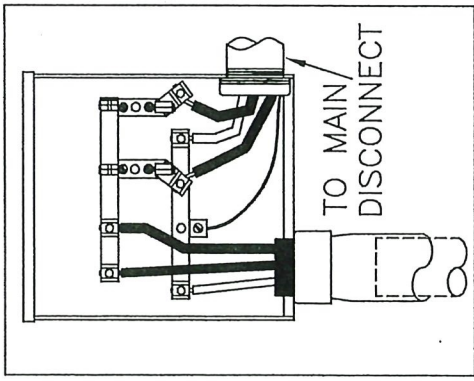
Notes:

1. Meter must have 3 ft horizontal clearance from gas regulator
2. Meter must be between 4' and 6' from final grade
3. Minimum of 1 ft separation in all direction between underground electric conduit and any other utility.
4. Meter must be located with 5 ft of front corner of building.



**NO 45 DEGREE ELBOWS**

METER CAN SHALL BE BONDED TO MAIN DISCONNECT THEN CONNECTED TO GROUND ROD.



METER CAN DESIGNED FOR UNDERGROUND SERVICE FURNISHED BY CUSTOMER.

SECURE SLIP RISER TO METER CAN WITH METAL RING AND PLASTIC NUT.

CUT SCH 80 PVC 5' BELOW METER BASE INSTALL SLIP RISER OVER SCH 80 AND INTO METER BASE, DO NOT GLUE SLIP RISER.

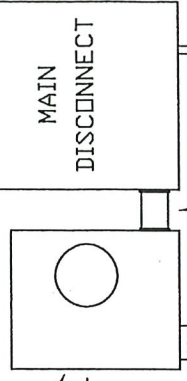
**DO NOT CROSS LINE & LOAD!!!!**

**INSPECTION OF CONDUIT BY TNMP PRIOR TO BACKFILLING TRENCH.**

Consult local TNMP representative for location of conduit next to pole

WITH NYLON PULL STRING.

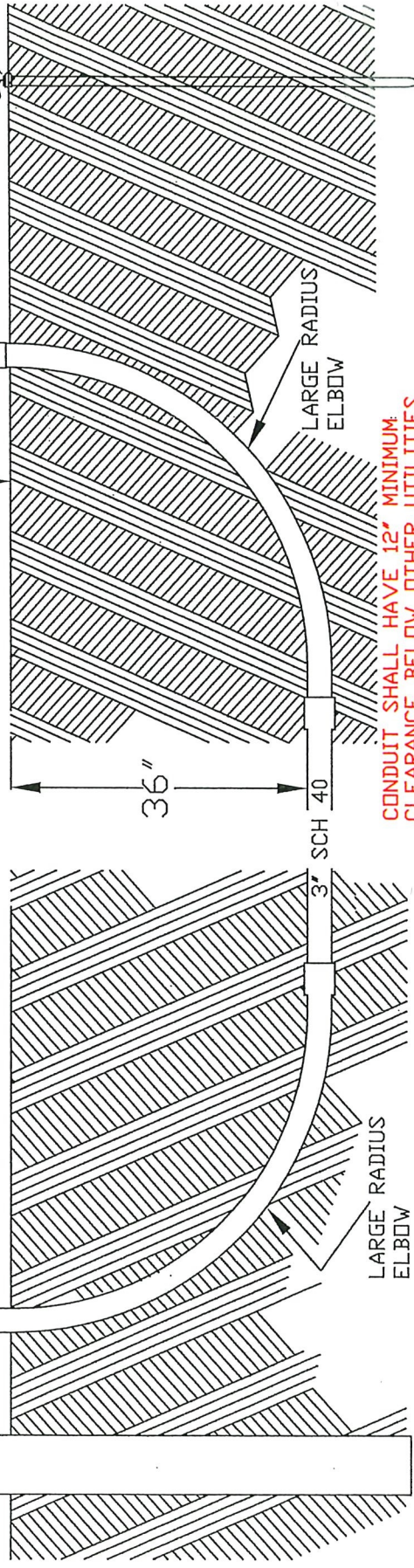
METER CAN SHALL BE PLACED 5 FT. FROM FRONT CORNER OF STRUCTURE.



RIGID PLASTIC

3" SCH 80

5/8" X 8' COPPERWELD GROUND ROD



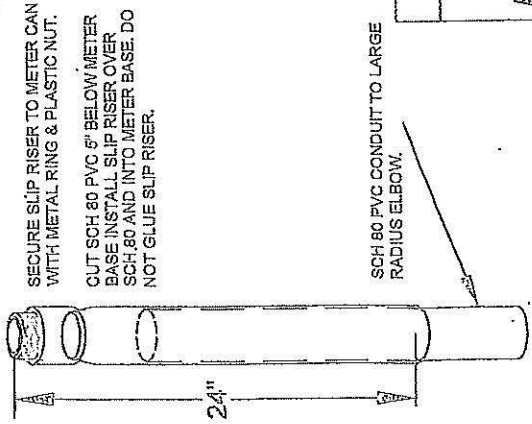
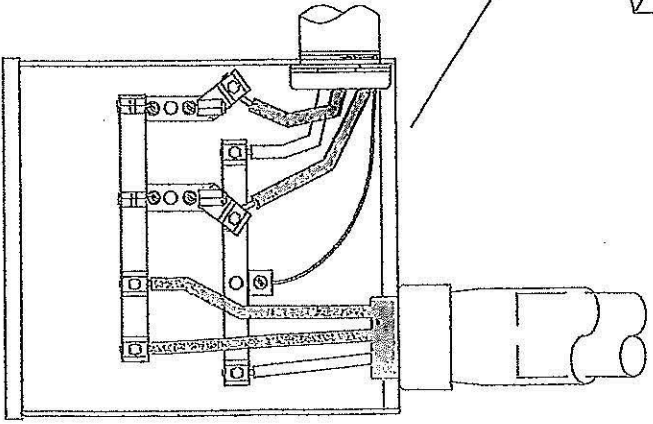
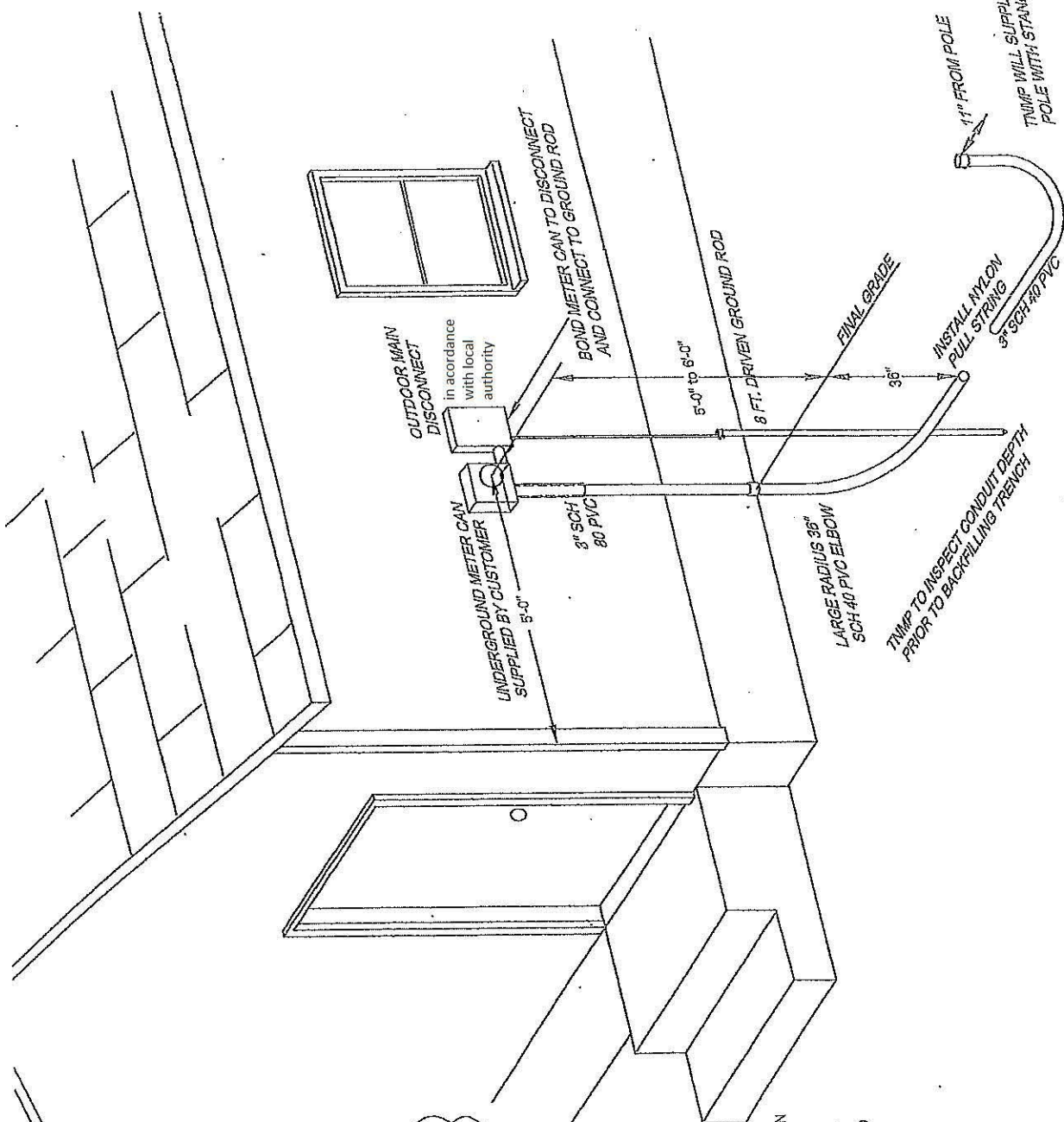
CONDUIT SHALL HAVE 12" MINIMUM CLEARANCE BELOW OTHER UTILITIES.

TNMP TO SUPPLY CONDUIT UP THE POLE WITH STANDOFF BRACKETS

TRANSFORMER POLE

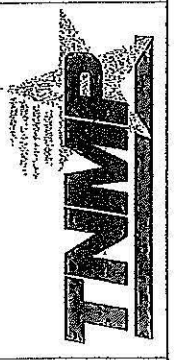


URD 200 AMP  
120/240V  
SERVICE ENTRANCE



Dwn. SUB	Ckd. XXX
Date XX-XX-XX	Scale NTS
DWG. NO. XXXX-X-XXXX	

URD 200 AMP  
120/240V  
SERVICE ENTRANCE



## Slip Meter Risers

Carlton® Slip Meter Risers are designed for use in electrical service entrance applications. They provide solutions for applications requiring a non-rigid connection, with incoming service conduit diameters ranging from 2" to 4".

The Slip Meter Risers are fitted with a terminal adapter for easy installation at the service entrance location, and provide a low-cost method to comply with NEC 300.5(J), which requires protection for buried cables in areas subject to ground movement due to frost or trench settling.

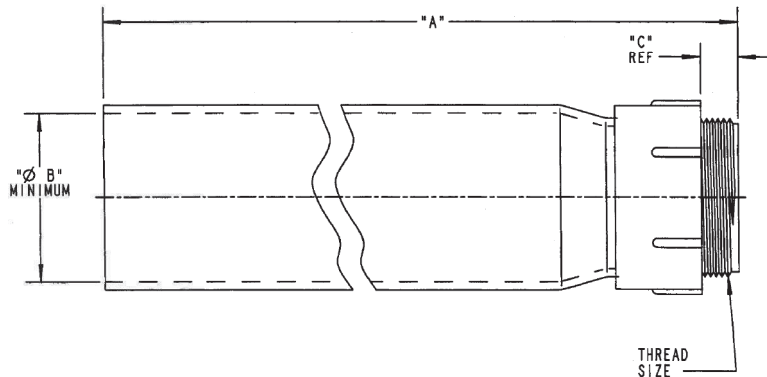
### Features:

- Designed to provide faster and easier underground service entrance installations.
- Provides cable protection from ground movement.
- Accommodates incoming service conduit diameters ranging from 3" to 4".
- Fitted with Terminal Adapters for easy installing.
- Allows ground water in raceway system to drain.
- Complies with NEC 300.5(J)



## Slip Meter Riser Specifications

Part Number	Size	"A" Length	"B" (minimum)	"C"	Thread Size	Std. Carton Qty.	Std. Carton Wt. (lbs.)
E954LXX	3"	24	3.012	0.798	3"NPSC	10	35
E954LXS (split)	3"	24	3.012	0.798	3"NPSC	10	36
E954Nxx	4"	24	5.06	0.773	4"NPSC	5	23



### Article 300 Wiring Methods

**(J) Ground Movement.** Where direct buried conductors, raceways, or cables are subject to movement by settlement or frost, direct buried conductors, raceways, or cables shall be arranged to prevent damage to the enclosed conductors or to equipment connected to the raceways.

**(FPN):** This section recognizes "S" loops in underground direct burial to raceway transitions, expansion joints in raceway risers to fixed equipment, and, generally, the provision of flexible connections to equipment subject to settlement or frost heaves.



## Approved Texas-New Mexico Power Co. Meter Sockets

### Approved Manufacturers

Millbank Mfg. Co.  
Durham  
Midwest  
Weigmann

Anchor Electric  
Cutler Hammer  
Square D

### Meter Socket Requirements

All permanent meter sockets must be UL listed and rated for a **minimum** of 200 amps.

Temporary services may allow for use of a 100 amp socket.

Meter location can not be changed without first consulting a TNMP engineering designer. A change in meter location may result in additional CIAC or a rejection during inspection.

For OVERHEAD service use an approved overhead or universal socket.

**For UNDERGROUND service ONLY use an underground socket. Universal and modified overhead sockets will NOT be accepted for underground use.**

All underground sockets must have a 4 in. raceway on the left that is for TNMP use only.

There must be a minimum 320 amp meter socket in order to accommodate 3 phase underground service.

**Approved Texas-New Mexico Power Co. Meter Sockets**

Milbank Mfg. Co.

Sockets Only - Order Hubs Separately

**Residential - Overhead**

100 Amp  
200 Amp

URS1204-G-HO  
U42542-HO

UTRS101B  
UTRS202B

UTRS101B-CH  
UTRS202B-CH

UTRS101B-MEP  
UTRS202B-MEP

UTRS101B-SQD  
UTRS202B-SQD

R114A11B-T  
R214B11B-T

**Anchor Electric**

**Durham**

**Cutler Hammer**

**Midwest**

**Square-D**

**Weigmann**

**Residential - Underground**

100 Amp  
200 Amp

U7588-XL  
U1980-O

W/4" Side Wireway

UTRS111B  
UTRS223A

UTRS111B-CH  
UTRS223A-CH

UTRS111B-MEP  
UTRS223A-SQD

R114A12B-T  
R214C13A-T

**Residential - Multiple Position**

150 Amp End Feed

U1233-RXL  
U1234-RXL

2-Gang  
3-Gang

UT2R5432B  
UT3R5432B

UT2R5432B-CH  
UT3R5432B-CH

UT2R5432B-MEP  
UT3R5432B-MEP

UT2R5432B-SQD  
UT3R5432B-SQD

R514L27B-T  
R514L37B-T

150 Amp Center Feed

U1235-RXL  
U1236-RXL

4-Gang  
5-Gang

UT5R5432T  
UT6R5432T

UT5R5432T-CH  
UT6R5432T-CH

UT5R5432T-MEP  
UT6R5432T-MEP

UT5R5432T-SQD  
UT6R5432T-SQD

R514L57J-T  
R514L26B-T

200 Amp

U1252-X-K1  
U1253-X-K2  
U1254-X-K3  
U1255-X-K4  
U1256-X-K4

2-Gang  
3-Gang  
4-Gang  
5-Gang  
6-Gang

UT2R2332T  
UT3R2332T  
UT4R2362T  
UT5R2392TT  
UT6R2392TT

UT2R2332T-CH  
UT3R2332T-CH  
UT4R2362T-CH  
UT5R2392TT-CH  
UT6R2392TT-CH

UT2R2332T-MEP  
UT3R2332T-MEP  
UT4R2362T-MEP  
UT5R2392TT-MEP  
UT6R2392TT-MEP

UT2R2332T-SQD  
UT3R2332T-SQD  
UT4R2362T-SQD  
UT5R2392TT-SQD  
UT6R2392TT-SQD

R514L46J-T  
R514M66J-T

**Commercial - Single Phase**

320 Amp

U1079-R  
U2448-X

Overhead Only  
Overhead or Underground

UTH4300T  
UTH4330T

UTH4300T-CH  
UTH4330T-CH

UTH4300T-MEP  
UTH4330T-MEP

UTH4300T-SQD  
UTH4330T-SQD

R314E11J-LT  
R314E14J-LT

**Commercial - Three Phase**

3 Wire

U9680-RL

W/Bypass Jaw Clamping  
W/Center Phase Disconnect

UTH5213B-ND  
UTH5213B-ND

UTH5213B-ND-CH  
UTH5213B-ND-CH

UTH5213B-ND-MEP  
UTH5213B-ND-MEP

UTH5213B-ND-SQD  
UTH5213B-ND-SQD

R235C12B-LNT  
R235C12B-LNT

4 Wire

U8100-RL  
U7423-XL  
U9701-RL  
U2594-X

W/ Bypass, Non Jaw Clamping  
W/Bypass, Jaw Clamping

UTH7213B/T  
UTH7330T

UTH7213B/T-CH  
UTH7330T

UTH7213B/T-MEP  
UTH7330T

UTH7213B/T-SQD  
UTH7330T

R237C12B-LT  
R237C12B-LT

100 Amp  
200 Amp

U22572-HO  
UD2072-HO/HLO

U2120-X Discontinued

UTH2H72353T  
UTH3H72353T  
UTH4H72393TT  
UTH5H72393TT  
UTH6H72393TT

UTH2H72353T-CH  
UTH3H72353T-CH  
UTH4H72393TT-CH  
UTH5H72393TT-CH  
UTH6H72393TT-CH

UTH2H72353T-MEP  
UTH3H72353T-MEP  
UTH4H72393TT-MEP  
UTH5H72393TT-MEP  
UTH6H72393TT-MEP

UTH2H72353T-SQD  
UTH3H72353T-SQD  
UTH4H72393TT-SQD  
UTH5H72393TT-SQD  
UTH6H72393TT-SQD

R237N26J-LT  
R237N36J-LT  
R237U46R-LT  
R237U66R-LT  
R237U66R-LT

4 Wire Multi-Position

200 Amp

U2734-XT

2-Gang  
3-Gang  
4-Gang  
5-Gang  
6-Gang

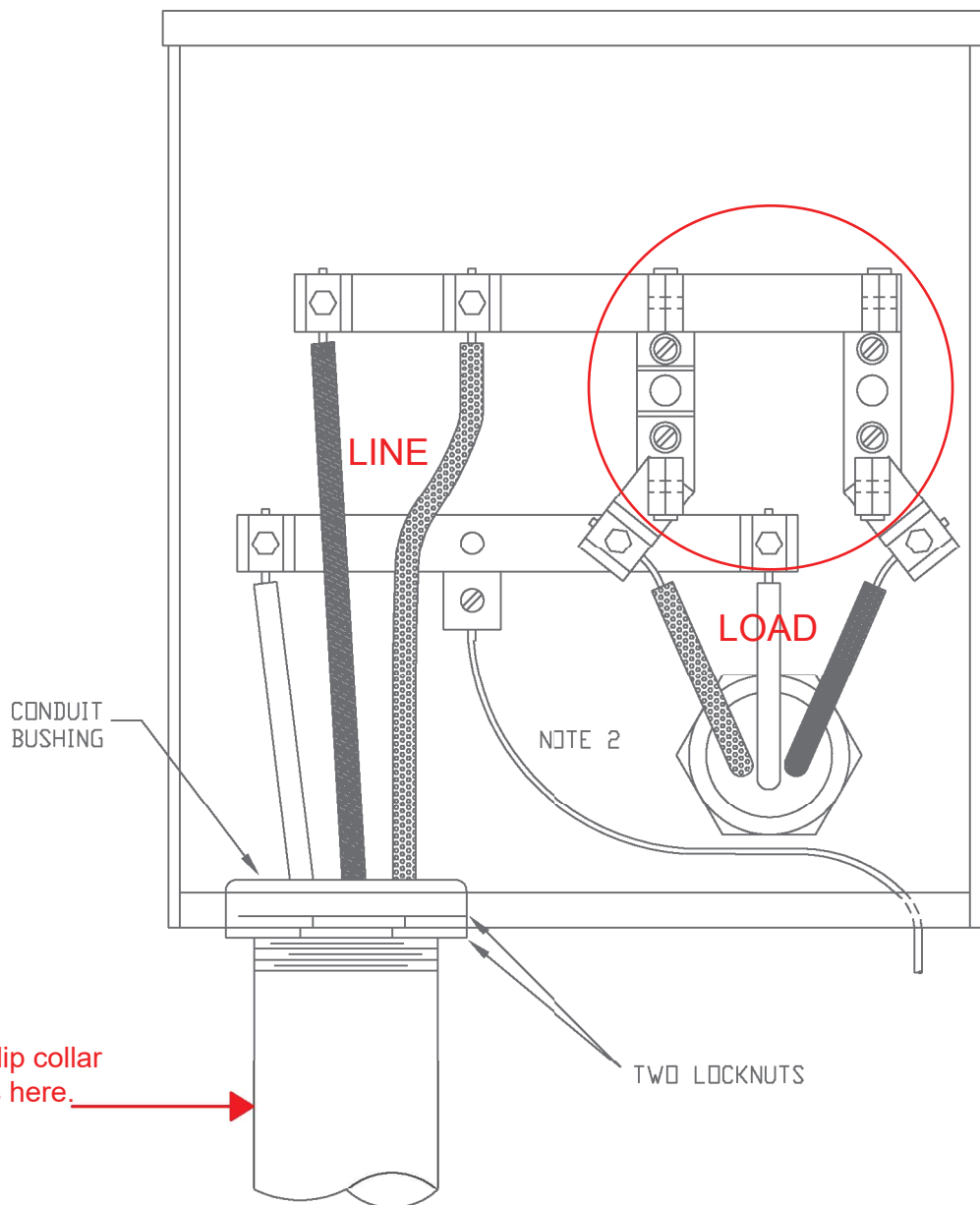
UTH2H72353T  
UTH3H72353T  
UTH4H72393TT  
UTH5H72393TT  
UTH6H72393TT

UTH2H72353T-CH  
UTH3H72353T-CH  
UTH4H72393TT-CH  
UTH5H72393TT-CH  
UTH6H72393TT-CH

UTH2H72353T-MEP  
UTH3H72353T-MEP  
UTH4H72393TT-MEP  
UTH5H72393TT-MEP  
UTH6H72393TT-MEP

UTH2H72353T-SQD  
UTH3H72353T-SQD  
UTH4H72393TT-SQD  
UTH5H72393TT-SQD  
UTH6H72393TT-SQD

R237N26J-LT  
R237N36J-LT  
R237U46R-LT  
R237U66R-LT  
R237U66R-LT



Note: Slip collar attaches here.

LINE AND LOAD CONDUCTORS SHALL NOT CROSS INSIDE METER SOCKET.

**NOTES:**

1. METALLIC CONDUIT RISER AND METER SOCKET SHALL BE EFFECTIVELY GROUNDED TO THE CUSTOMER'S GROUND AND THE SERVICE NEUTRAL CONDUCTOR IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE REQUIREMENTS.
2. OPTIONAL LOCATION FOR GROUNDING ELECTRODE CONDUCTOR. IT MAY BE INSTALLED IN CUSTOMER'S SERVICE PANEL. IF INSTALLED IN CUSTOMER'S SERVICE PANEL, IT MAY BE ROUTED THROUGH THE METER BASE TO THE GROUND ELECTRODE. SEE UG-9-1 FOR PROPER SIZE.

**TEXAS NEW MEXICO POWER COMPANY**  
DISTRIBUTION CONSTRUCTION STANDARD

APP. \_\_\_\_\_

DATE: 8/97

CONNECTION DIAGRAM FOR  
SINGLE-PHASE SOCKET  
UNDERGROUND SERVICE

UG-9-6



## U4413-O

Note: This meter socket can be used as an alternative to the right-facing meter socket.



4 TERM RNGLS PLAIN TOP LEFT FACING SOCKET

### SPECIFICATIONS

Brand Name	Milbank
Type	Ringless Meter Socket
Application	Meter Socket
Standard	UL Listed;Type 3R
Voltage Rating	600 Volts Alternating Current
Amperage Rating	200 Continuous Ampere
Phase	1 Phase
Frequency Rating	60 Hertz
Size	4.5L x 13W x15.25H
Number of Main Breakers	0
Main Breaker Size	No Main Breaker
Cable Entry	



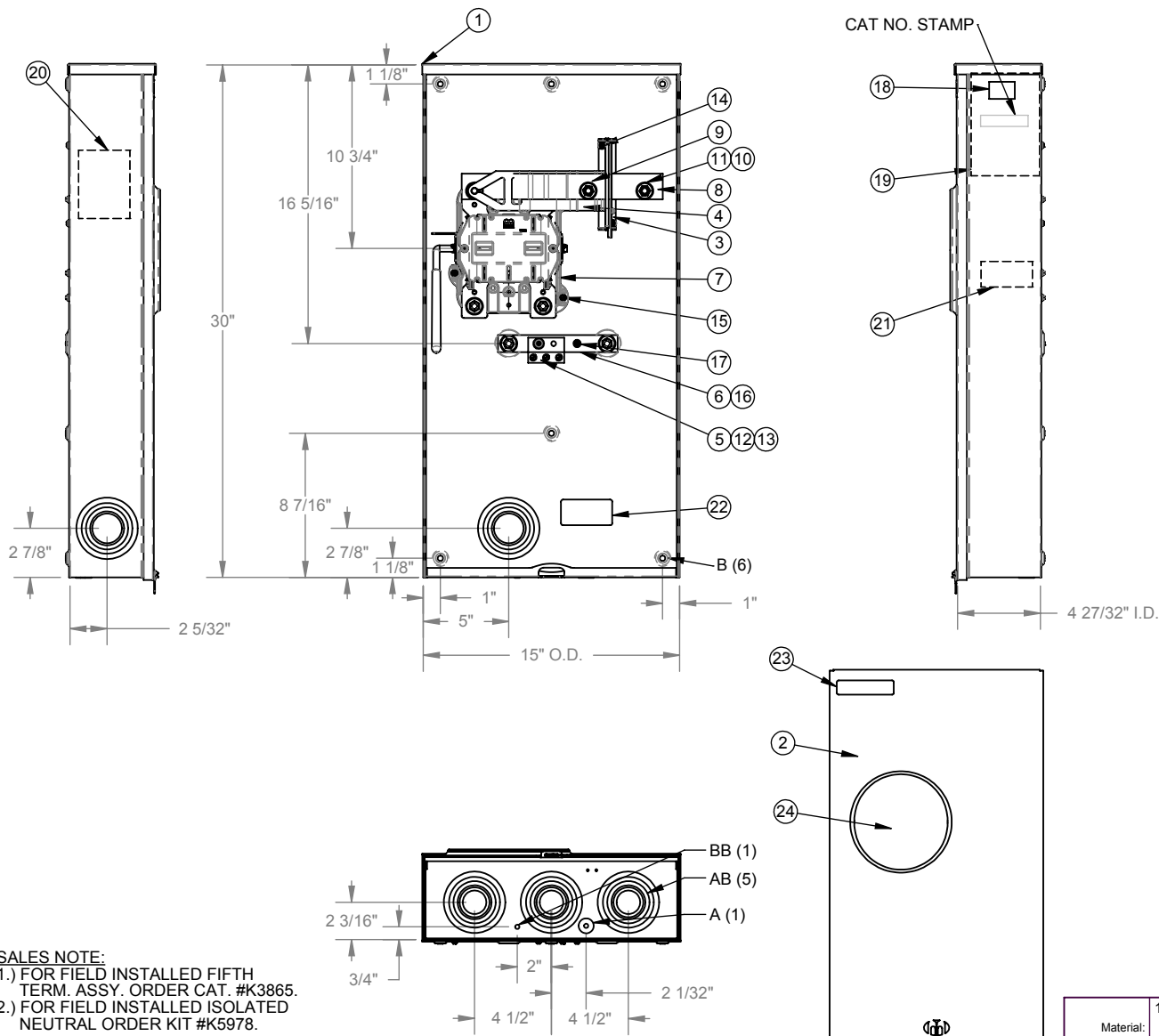


	Underground with Side Wireway
Terminal	Lay in
Insulation	Glass Polyester
Mounting	Surface Mount
Material	G90 Galvanized Steel with Powder Coat Finish
Number of Jaws	4 Terminal
Bypass Provision	No Bypass
Number of Meter Positions	1 Position
Equipment Ground	Ground Lug
Hub/Closing Plate	Plain Top
Line Side Wire Range	6 AWG - 350 kcmil
Load Side Wire Range	6 AWG - 350 kcmil
Number of Receptacles	0
Height	15.25 IN
Length	4.5 IN
Width	13 IN



*IMPORTANT NOTICE: Utility requirements for this equipment may vary. Always consult the serving utility for their requirements prior to ordering or installing this equipment. This product must be installed by a licensed electrician. Installation of this equipment may require local electrical inspector approval.*





ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	1161357	SHELL WELD ASSY.
	1	1161355	BACK
	1	1001110	BOTTOM
	1	1023766	TOP, BLANK
2	1	1161353	METER FRONT ASSY.
3	1	1008435	INSULATOR SUPPORT ASSY.
4	1	1008302	INSULATOR
5	1	1026583	1/0 CONNECTOR ASS'Y
6	1	1008301	GROUND BUS
7	1	1161344	320A BYPS RNLGS 4 TERM.
8	1	1161342	RIGHT STAKED BUS
9	1	1161338	LEFT STAKED BUS
10	8	1001273	NUT, 3/8-16 HEX W/BELL
11	8	1001270	WASHER, 3/8 FLAT
12	1	1000042	WASHER, 1/4" FLAT SAE
13	1	1104528	SCREW 12-24 x .750
14	2	1000183	SCREW 12-24 x 5/16
15	3	1123646	SCREW 12-24 X 9/16 HX ST
16	2	1001297	SCREW, 3/8-16 X 1 1/4
17	1	1156422	SCREW 12-24 x 1/2
18	1	1000166	LABEL, UL METER SOCKET
19	1	1001319	LABEL, RATING U/L
20	1	1001272	LABEL, BY-PASS INSTR. (LOC. F)
21	1	1150509	NEUTRAL KIT LABEL
22	1	1000046	LABEL, BOTTOM FEED ONLY
23	1	1000064	LABEL, WARNING
24	1	1000158	WIREMAN PAD
25	1	1001317	CARTON (NOT SHOWN)

**SALES NOTE:**  
 1.) FOR FIELD INSTALLED FIFTH TERM. ASSY. ORDER CAT. #K3865.  
 2.) FOR FIELD INSTALLED ISOLATED NEUTRAL ORDER KIT #K5978.

SUFFIX	DESCRIPTION	CONNECTOR	QTY.
-K1	1 POS. 350 kcmil	#1028221	3
-K2L	2 POS. 350 kcmil	#1007301	3
-K3L	1 POS. 600 kcmil	#1007327	3

KO CONFIGURATIONS	
B	STD. MNTG. EMBOSS
AB	1,000, 1,250, 1,500, 2,000, 2,500, 3,000 CONC.
A	.250, .500 CONC.
BB	.250 SOLID

REV.	DATE	DESCRIPTION	ECO No.	BY
**	10-18-12	NEW CATALOG (ECO #22883)	22883	DL
*1	3/18/15	ITEM 1001272 LOC. F WAS LOC. B	031767	KSP
*2	3-26-18	CLARIFIED ANNOTATION AND 1156422 WAS 1008132 TO MATCH CURRENT BILLS	038550	RRO

Material: 16 GA. STEEL		 KANSAS CITY, MO USA
Shear/Die No.:		
Finish: MILBANK LIGHT GRAY		Title: 320A BYPASS RL 4T, LEFT HANDLE Catalog No.: U6047-O-( ) Customer: ENERGY
Part Wt.: 30	LBS. EA.	
Paint Qty.:	GRAMS	
Tolerances: Unless Specified Otherwise X.X ±.1 X.XX ±.03 X.XXX ±.015 X" ±2"		Third Angle 
Scale: NTS	Checked By:	
Drawn By: DL	Approved By:	Date: 10-18-12 Sheet: 1 of 1

**TEXAS-NEW MEXICO POWER COMPANY  
TARIFF FOR RETAIL DELIVERY SERVICE**

**6.2 Company Specific Terms and Conditions**

Applicable: Entire Certified Service Area

Effective Date: January 15, 2015

Page No.: 226

Revision 2

**6.2.2****STANDARD VOLTAGES****Character of Service**

All delivery service furnished shall be of a character known as 60 hertz, alternating current and will be furnished as single or three-phase in accordance with the applicable provisions of the Company's rates in accordance with Section 6.1, RATE SCHEDULES, of this tariff.

**Residential Delivery Service**

1. Residential delivery service at each Point of Delivery will be furnished at one of the nominal voltages indicated below:
  - (a) 120 volts, 2-wire, single-phase;
  - (b) 120/240 volts, 3-wire, single-phase; or
  - (c) 240/120 volts, 4-wire, three-phase.
2. Unless previously agreed upon, delivery service under the Residential Delivery service rate shall not be used for the operation of individual motors in excess of five horsepower (HP).
3. Three-phase delivery service for residential use will be furnished where existing three-phase secondary lines of adequate capacity are already installed or where such delivery service may be extended as provided in the Residential Delivery service tariff and rates in accordance with Section 6.1.2.2, CONSTRUCTION SERVICE CHARGES, of this tariff.
4. Requests for residential service voltages other than listed in this rule shall be considered independently and are subject to availability. Customers requiring other voltages than listed in this rule may be required to provide a non-refundable contribution in accordance with Section 6.1.2.2.
5. In order to obtain delivery service under the Residential Delivery service tariff for an apartment house or single-family house which has been converted or constructed to include separate living quarters for more than one family, separate wiring must be provided for each dwelling unit so that delivery service to each separate living quarters can be metered separately.

**TEXAS-NEW MEXICO POWER COMPANY  
TARIFF FOR RETAIL DELIVERY SERVICE**

**6.2 Company Specific Terms and Conditions**

Applicable: Entire Certified Service Area

Effective Date: January 15, 2015

Page No.: 227

Revision 2

6. Where premises are used and occupied by a Retail Customer as a commercial establishment and also as a residence, all delivery service supplied will be billed under the applicable Secondary Service tariff. However, if the Retail Customer so desires, the wiring may be separated (subject to the Company's inspection, and State and Local inspection as required) and each class of delivery service may be metered separately and billed in accordance with the applicable rate schedule.
7. Each separate delivery service or meter location will be metered and billed separately.

**Secondary, Primary, and Transmission Delivery Service**

1. Secondary, Primary, and Transmission delivery service may be furnished at one of the nominal voltages indicated below, subject to the limitations of the electrical system in the vicinity and of the applicable rate schedule:

<b>Secondary Voltage</b>	<b>Primary Voltage</b>	<b>Transmission Voltage</b>
120/240, 3-wire, single phase	2400	69000
240, 3-wire, 3-phase	4160Y/2400	138000
240/120, 4-wire, 3-phase	12470y/7200	345000
208Y/120, 4-wire, 3-phase	20780y/12000	
480Y/277, 4-wire, 3-phase	24940Y/14400	
480, 3-wire, 3-phase		

**TEXAS-NEW MEXICO POWER COMPANY  
TARIFF FOR RETAIL DELIVERY SERVICE**

**6.1. Rate Schedules**

Applicable: Entire Certified Service Area

Effective Date: January 1, 2019

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**6.1.2.2 CONSTRUCTION CHARGES****6.1.2.2.1 EXTENSIONS OF ELECTRIC SERVICE**

Company is responsible for the construction, extension, upgrade, or alteration of Delivery System facilities necessary to connect Retail Customer's Point of Delivery to Company's Delivery System in conjunction with Section 5.7, FACILITIES EXTENSION POLICY and the terms and conditions contained herein. Company makes extension of Delivery System facilities to Retail Customer's electrical installation so as to minimize the cost of such extension. In instances where the cost of the requested extension, installation or modification of Company's facilities is in excess of the standard allowances stated herein, or where the installation of non-standard facilities is requested, a Contribution In Aid of Construction ("CIAC") is required from the Retail Customer.

**A. STANDARD DISTRIBUTION FACILITIES**

Company's standard distribution facilities consist of the Delivery System facilities necessary to transport electric power and energy from a single, single-phase or three-phase distribution source to Retail Customer at one Point of Delivery via radial line, with one standard Company meter, at one of Company's available standard voltages. The service wire and meter will be of sufficient size characteristics to properly deliver and account for the electric power and energy consumed, as is reasonably practicable.

**B. NON-STANDARD DISTRIBUTION FACILITIES**

Non-standard facilities may include but are not limited to a two-way feed, automatic and manual transfer switches, Delivery Service through more than one Point of Delivery, redundant facilities, facilities in excess of those normally required for Delivery Service, or facilities necessary to provide Delivery Service at a non-standard voltage.

**C. POLICY**

1. In determining whether or not a contract and/or non-refundable CIAC is required, the Company may consider several factors, including, but not limited to, the size of the projected load, the revenue the projected load will

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- generate, the Company's investment in the project, the likely permanence of the load, and the credit worthiness of the prospective customer.
2. To insure existing customers are not unfairly burdened by a proposed extension of services, the Company may alter the method of determining the Allowance. An Allowance is derived from a determination by the Company of the amount of investment supported by the customer's projected load, historical comparisons of similar loads in the same geographic region, and/or the failure rate of similar extensions to achieve permanence or generate revenue comparable to projections. Other similarly important factors may influence the actual Allowance the Company permits.
  3. A Retail Customer requesting an extension of the Company's Delivery System facilities for an installation which in the judgment of the Company is of temporary occupancy or use (less than 12 months) will pay a CIAC prior to construction. The CIAC for such installations will equal the total cost of the facilities extension.
  4. In the event a line extension is required, any construction cost options such as sharing of construction costs between the Company and the customer, or sharing of costs between the customer and other applicants shall be explained to the customer following assessment by the Company of necessary line work.
  5. Easements and rights-of-way: all extensions shall be constructed on private easements or rights-of-way. Where private easements or rights-of-way are not available, such lines may be constructed on existing public roads, streets, alleys, easements or rights-of-way. New customers shall furnish rights-of-way or easements in a form acceptable to Company as required, without charge to the Company, over property owned or leased by such new customers and will assist the Company in securing other rights-of-way or easements necessary to provide service.
  6. Pursuant to Section 5.7.2, CONTRACTUAL ARRANGEMENTS, the Company may, at its option, enter into a Facilities Extension Agreement with

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the customer, to assure that existing customers are not unfairly burdened in any way by the required investment.

7. Pursuant to Section 5.7.2, CONTRACTUAL ARRANGEMENTS, the Company shall at all times have title to, complete ownership of and control over facilities installed by the Company or its contractors. Company may use any such facilities to serve other customers when Company determines it is feasible to do so. A nonrefundable CIAC or any other project cost sharing mechanism does not give Competitive Retailer or Retail Customer or any survivors, any rights to Company facilities except as may be made by separate agreement.

**D. DEFINITIONS**

1. Contribution in Aid of Construction (CIAC). A payment from Retail Customer, required prior to construction, for line extension projects whose project costs exceed the customer's Standard Allowance, if applicable.
2. Project Investment. The cost to the Company of extending the requested service, reduced by the cost of readily salvageable items.
3. Cost of the Extension. Another way of referring to the Project Investment.
4. Standard Allowance. Standard dollar allowance used to offset the Cost of the Extension.

**6.1.2.2.2 STANDARD FACILITY EXTENSIONS**

Extensions of Standard Facilities to permanent Retail Customers within the Company's certificated area where the estimated cost to extend facilities does not exceed the Standard Allowances stated herein, will be provided to Retail Customer at no cost. The Cost of the Extension is calculated by the Company using the route of the new line, as determined by the Company, from Company Delivery System facilities to the Retail Customer's point of delivery, and includes the cost of all Standard Facilities required to provide service to the customer. If the Cost of the Extension exceeds the Standard allowances stated herein, the Retail Customer will pay a non-refundable CIAC for the Cost of the Extension in



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excess of the stated allowances. In cases where a non-refundable CIAC is required, full payment of the CIAC must be received prior to construction.

**A. FACILITIES EXTENSION AGREEMENT**

The Company may require execution of a Facilities Extension Agreement ("Agreement") before construction of the facilities may begin. This Agreement will set forth the terms and conditions of the extension and will specify the Project Investment, Standard Allowance, CIAC, and may require a letter of credit or surety to secure the amount of the Standard Allowance. The Agreement term will be for a period of up to 36 months (3 years).

**B. FUNDING ARRANGEMENTS**

1. The Company may require the Retail Customer to provide a letter of credit or other surety to secure the amount of the Standard Allowance prior to beginning construction. The amount of the surety will be equal to the Standard Allowance.
2. If acceptable to Company, the Retail Customer may establish a cash escrow account in lieu of other surety with the Company as beneficiary to the account. The arrangement must be approved by the Company before construction may begin. In addition, the applicant may be required to execute an Agreement setting forth the terms and conditions of the account arrangements. The amount of the escrow account will be equal to the Standard Allowance.
3. If the Retail Customer does not develop the number of lots or realize the maximum kW load that was used to compute the Standard Allowance and resulting CIAC, then the Retail Customer must pay an Under-Utilization charge at the end of the Agreement term. This Under-Utilization charge will be equal to the difference between the CIAC initially computed, and the Allowance and resulting CIAC as recalculated based on the number of lots built, sold and occupied, or maximum kW actually realized.

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**6.1.2.2.3 STANDARD ALLOWANCE FOR LINE EXTENSIONS****A. CONTRIBUTIONS IN AID OF CONSTRUCTION (CIAC)**

Retail Customers may be required to provide a **non-refundable** Contribution in Aid of Construction ("CIAC") to extend electrical facilities to a customer's Point of Delivery as determined in the formula below. If the amount calculated is zero or negative, no CIAC is required. To the extent that the CIAC payment is considered taxable revenue to the Company, the CIAC shall include an amount equal to the Company's tax liability. The Company will install, own, operate and control all facilities necessary to provide electrical service to the Point of Delivery. The Project Investment will include all standard facilities, meters, services and transformers. Facilities not included in the Project Investment are those necessary to accommodate future growth considerations or Company initiated reliability enhancement projects.

The CIAC required is based on the formula:

$$\text{CIAC} = (\text{Project Investment} - \text{Standard Allowance}) + \text{Company's Tax Liability}$$

**B. STANDARD ALLOWANCES**

The method for determining Standard Allowance is as follows:

**Residential and Small Commercial/Industrial loads with Maximum Demands  
less than 9 kW**

Allowance = \$3,000 per End-Use Customer

**Secondary Commercial/Industrial Loads over 9 kW**

Allowance = \$182/kW (based on Maximum kW)

**Primary Service**

Allowance = \$113/kW (based on Maximum kW)

The determination of Maximum kW for the Standard Allowances is based on historical data from residences or businesses of similar size and function in that region of the

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state. Consideration is given to customer-owned equipment data supplied prior to the determination of a CIAC.

Under no circumstance shall any unused allowance be paid or credited to the Retail Customer or used to reduce the cost for installation of non-standard distribution facilities or non-standard street lighting facilities.

**6.1.2.2.4 NON-STANDARD FACILITY EXTENSIONS**

- A. If an existing or prospective Retail Customer requires or requests services which involve Non-Standard Facilities as described in Section 6.1.2.2.1.A of this tariff, the Retail Customer will be required to pay a non-refundable CIAC equal to the total cost of the installation of the Non-Standard Facilities. This CIAC must be paid prior to the construction of the Non-Standard Facilities.
- B. Pursuant to Section 5.7.2, CONTRACTUAL ARRANGEMENTS, the Company may terminate the provision of any Delivery Service utilizing non-standard facilities at the end of the contract term, or in the absence of a contract term, on reasonable notice to Retail Customer.

**6.1.2.2.5 TEMPORARY DELIVERY SYSTEM FACILITIES**

If, in the judgment of the Company, a proposed extension of the Company's Delivery System appears to be of a temporary nature, the Company shall require a non-refundable CIAC to be paid prior to the construction of the temporary facilities. The amount of the CIAC will be equal to the cost of installing and removing the temporary facilities, plus the estimated costs of materials to be used which are unsalvageable after removal of the installation.

**6.1.2.2.6 REMOVAL AND RELOCATION OF COMPANY'S FACILITIES**

The company may remove or relocate Company facilities upon request. If the removal or relocation of the Company facilities is associated with a change in the Retail Customer's requirements that results in additional load to the Company, then the appropriate Standard Allowance will be applied to the costs of removal or relocation. In

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all other cases, the requesting entity will pay the total cost of removing or relocating the facilities.

**A. REPLACEMENT OF FACILITIES**

1. If the Company, pursuant to Section 4, SERVICE RULES AND REGULATIONS RELATING TO ACCESS TO DELIVERY SYSTEM OF COMPANY BY COMPETITIVE RETAILERS, and Section 5, SERVICE RULES AND REGULATIONS RELATING TO THE PROVISION OF DELIVERY SERVICE TO RETAIL CUSTOMERS, replaces existing overhead facilities with underground facilities, the Retail Customer will pay the Company a non-refundable CIAC consisting of the cost of installing the underground facilities plus the cost of removal of any overhead facilities less any salvage value of the removed facilities.
2. If the Company, as a result of the legal requirement of a political subdivision of the State of Texas ("Political Subdivision"), replaces or redesigns existing overhead facilities with underground facilities, or if a Political Subdivision requests Non-Standard facilities, or requires any future electrical facilities to be installed underground, the Company may surcharge all Retail Customers within the Political Subdivision for the previously described cost involved in converting or redesigning overhead facilities to underground, or in Company fulfilling the request for Non-Standard facilities. If said Political Subdivision wishes to make other arrangements to reimburse the Company, such other arrangements as are acceptable to the Company shall be allowed as long as Retail Customers outside the Political Subdivision are not required to subsidize the cost of such replacement.
3. Retail Customers will be required to pay a non-refundable CIAC for any of the following:
  - a. Removal and/or relocation of facilities for aesthetic purposes;
  - b. Relocation of facilities due to modifications on customer's Premises such as, but not limited to, swimming pools, barns, sheds, fences, etc.;

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- c. Commercial developments requiring the relocation and/or removal of facilities not necessarily for the purpose of providing electric service for that commercial development.

**B. CHANGES IN CUSTOMER FACILITIES**

If a Retail Customer makes changes to its facilities which result in the Company being required to make changes to its system in order to either facilitate the changes or to bring the Company's facilities back into compliance with applicable Codes, or the Company's construction requirements, whichever is more stringent, the Retail Customer shall pay all costs incurred by the Company as the result of such changes.

**6.1.2.2.7 TRANSMISSION LINE EXTENSIONS**

Line extensions for transmission service customers shall be in accordance with Substantive Rules, §25.195 and §25.198, Terms and Conditions for Transmission Service. Transmission service customers shall provide ample notice to the Company for the purpose of filing Certificates of Convenience and Necessity and any other preparatory work in advance of construction.

**A. STANDARD TRANSMISSION FACILITIES**

Standard transmission facilities consist of the overhead Delivery System facilities necessary to transport Electric Power and Energy from a single transmission or transformation source to Retail Customer at one Point of Delivery via radial line, with one standard Company Meter, at one of the Company's available standard voltages. The Company will evaluate each new transmission service customer's request for connection to the transmission system to determine if a CIAC will be required. Additionally, the Company may require the transmission service customer to pay a deposit or provide other security to ensure costs for planning, licensing and constructing non-customer owned facilities are recoverable in the event the transmission service customer is unable to take transmission service.

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**B. NON-STANDARD TRANSMISSION FACILITIES**

Transmission service customers requesting non-standard facilities will be required to pay all costs associated with those facilities. This provision does not apply to facilities related to transmission constraints that the Electric Reliability Council of Texas has otherwise required the Company to construct.

## LINE EXTENSION ALTERNATIVES

This document is published by the Public Utility Commission of Texas. Its purpose is to create an awareness of renewable energy technologies that may be viable alternatives to line extensions. Your utility company is required to distribute this document in accordance with the Commission's Substantive Rule 23.44(c)(3). Please note that the information provided here is to be used as a starting point only. You need to seriously evaluate available options before deciding which energy source is best suited for your particular situation.

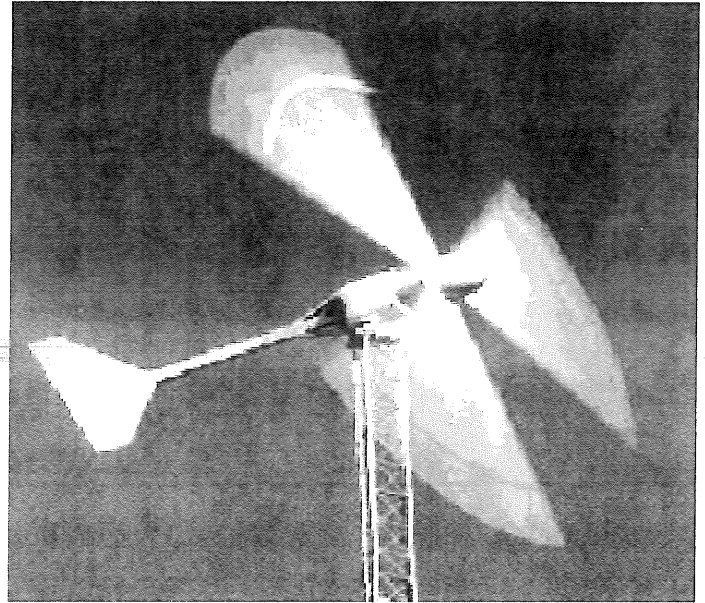
### SHOULD YOU CONSIDER RENEWABLE RESOURCES?

The economic decision to choose either a power line extension, solar power, or wind power requires careful analysis, just like any other investment. A line extension may include a one-time major expense, plus monthly bills. A solar or wind system will include a one-time major expense and will require a replacement of storage batteries every three to ten years, plus maintenance during the life of the system. Depending on your electricity needs, there may be additional costs for a backup generator, which include fuel and maintenance.

Stand-alone solar or wind systems are not normally used for water heating, space heating, refrigerated air conditioning, or electric cook stoves or ovens. These heating and cooling applications require more energy than what a stand-alone renewable system can economically provide. If your use of electricity includes such applications, the renewable system will need supplemental power from conventional energy sources.

#### Description of Solar and Wind Systems

Small-scale solar systems use photovoltaic (PV) cells to convert energy from sunlight. The basic principle of the energy conversion is the same as what takes place in a solar-powered calculator. A PV system can furnish electricity for communication systems, lights,



*Small Wind Turbine in Operation  
(Courtesy of National Renewable Energy Laboratory)*

#### Customer Cost Considerations

<u>Line Extension</u>	<u>Solar or Wind</u>
line installation	initial system
utility bills	battery*
	maintenance
	backup generator*
	generator fuel*

\*May be required.

#### Some Common Applications of Solar and Wind Power

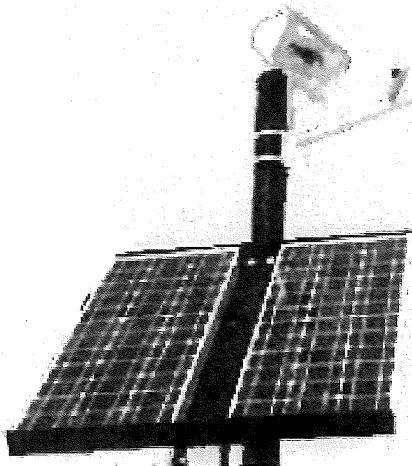
water pumping	billboard lighting
microwave repeater	traffic control devices
beacons	recreational/security lighting
obstruction lighting	gate openers
remote residence	control and monitors

irrigation, and many other electric appliances. In the picture to the left, an outdoor light is powered by a PV system that is supplemented by a battery. During the daytime, when the light is not needed, energy from sunlight is used to charge the battery. At night, the light draws power from the battery.

Unlike the water-pumping "windmills" that are a common sight on Texas farms and ranches, modern wind energy generators -- or wind turbines -- produce electricity from the wind. As shown in the picture above, the wind pushes the turbine blades and turns the electric generator. The electricity that is produced when the wind is blowing can, as with PV, be used for a variety of purposes.

### SYSTEM DESIGN

Designing a reliable, safe, cost-effective stand-alone renewable system requires knowledge of electrical usage characteristics, system components and system characteristics, local ambient temperature, sunlight intensity or wind speed data, electrical wiring practices, and electric codes. For example, sensitive electronic equipment such as personal computers may require a power conditioner to prevent damage to the equipment from an unsteady power supply. If you are inexperienced in these areas, you should get assistance from an expert who can advise you or provide you with the design and installation of



*PV-Powered Outdoor Light  
(Courtesy of National Renewable Energy Laboratory)*

your system.

A computer program is often used in the system design process to size components, predict system performance, and produce cost estimates. Some Texas companies provide design services at little or no cost. The following steps briefly explain the design process and will help prepare you for discussing with prospective suppliers.

#### Step 1. Identify Electrical Loads

What equipment do you want to power with electricity? The answer to this question will determine the load that must be serviced by your PV or wind system. It may be a single-purpose system or you may be planning to operate a variety of appliances. This question must be answered completely to properly design your system.

The more power the equipment needs, the higher the system costs. Energy conservation and efficient equipment are essential to keep the system costs down.

#### Step 2. Identify Load Wattage

Once you have identified the individual electrical loads, you can determine the wattage<sup>1</sup> of each item. The wattage of a device is usually stamped or printed on a nameplate or identification plate on the unit.

#### Step 3. Estimate Electricity Use

You should estimate the number of hours you plan to use the equipment as precisely as possible. The number of hours of operation each day times the wattage determines the number of watt-hours your system will need to produce daily. If you plan to power more than one piece of equipment, you will need to know whether you will be using more than one at the same time.

#### Step 4. Estimate System Cost

A PV or wind dealer can estimate the cost of a system to meet your needs. In some instances, packaged systems for remote uses may be available from home improvement stores, hardware stores, or catalogs.

#### Availability of Electricity

A renewable system can produce electric power only when there is adequate wind or sunlight. Therefore, it is possible that electricity will not always be available at the moment when you need it. If uninterrupted power is important, you should consider a backup generator or a battery that can provide needed power when the renewable power is not available.

#### Safety Issues

General Guidelines for safe installation and maintenance include:

- compliance with the National Electrical Code and other applicable local code
- proper size of electrical conductors or wires
- appropriate fuses, circuit-breakers, and circuit disconnects
- proper grounding techniques
- elimination of exposed wires and connections
- adequate ventilation for battery gas
- safe disposal of batteries.

A properly designed and installed renewable system should be able to provide many years of safe and reliable service.

More information about the PV design process can be found in the *Stand-Alone System Design Handbook*, available from Sandia National Laboratories, (505) 844-3698.

## COMPANIES THAT PROVIDE PRODUCTS AND SERVICES

PV and wind systems are available from contractors and dealers. These contractors can assist you in deciding whether a PV or wind system is the best option for you. Your electric utility may offer this service.

**This is potentially a big investment. Be sure to consult with more than one contractor. When you talk to your contractor, be sure to ask about the reliability of the system being proposed and the percent of time the system will provide the power you need. Get any warranties or guarantees in writing.**

You may want to use the following questions as a starting point for talking with the contractors and dealers:

- Will a licensed electrician install the system?
- Is the contractor a member of any trade associations?
- Is there a written contract agreement and written system specifications?
- How long has the contractor been in business?
- What are the warranties on the system?
- Is the equipment UL-approved<sup>2</sup> or equivalent?
- Does the contractor provide service and maintenance for the system?

Use your judgment when dealing with contractors. Be sure to ask for references and check with your Better Business Bureau and the Texas Renewable Energy Industries Association for additional information on a particular contractor.

For your convenience, the Commission maintains a list of companies in Texas that provide renewable systems and services. To obtain a copy of the list please call the Commission's Central Records at (512) 936-7176 or download it from the Commission's web site at [www.puc.state.tx.us](http://www.puc.state.tx.us).

This document is distributed in accordance with the requirement in Substantive Rule 23.44(c)(3) of the Public Utility Commission of Texas which states: "...the utility shall provide the customer with information about on-site renewable energy technology alternatives."

The information provided here is for educational purpose only and does not represent an endorsement of any particular option. The economic feasibility of alternatives has to be evaluated on a case by case basis. You need to conduct an additional investigation before making any decision on your investment

<sup>1</sup> While mechanical power is measured in horsepower, the electrical power is measured in watt (w). Another familiar term for electrical power is kilowatt, which is equal to 1,000 w. One horsepower is equivalent to 746 watts.

<sup>2</sup> UL stands for Underwriters Laboratories, an independent entity that conducts tests on devices, systems, and materials for their safety.