CITY OF GRAND ISLAND

UTILITIES DEPARTMENT

Current Revision: January 4th, 2016

Metering Standards

METERING

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**** RED PRINT INDICATES STANDARD HAS BEEN REVISED.***

CITY OF GRAND ISLAND
UTILITIES DEPARTMENT

January 11, 2013

To: Electrical Contractors
From: Grand Island Utilities Department
Subject: Temporary Power for Construction / Meter Location on Permanent Hook-ups
(Revised January 11, 2013)

Temporary Power for Construction:

In trying to improve safety conditions with temporary power at construction sites, the following changes were made effective January 11, 2013.

In underground distribution areas, temporary power poles within 10 feet of the transformer or secondary pedestal, the service wires will need to be in flexible, non-metallic liquid tight conduit. This can be above ground or buried at the depth of 12 inches. It will be the responsibility of the electrical contractor to dig and install the flexible non-metallic liquid conduit with wire under the secondary pedestal. GIUD will make the electrical connection at the transformer or secondary terminal. If the temporary power pole is more than 10 feet from padmount transformer or secondary pedestal, the service wire to the temporary power pole can be direct buried at a depth of 18 inches. The direct buried wire used for the temporary service will be type UF, USE, or equal to, as specified by National Electrical Code. The wire, trenching and digging the wire under the padmount transformer or secondary pedestal will be the responsibility of the electrician.

The permanent underground electric service wire can be used for the temporary service if the service wires at the temporary pole are in conduit and any termination in the open air will be 12 feet above ground.

Temporary power poles that are fed from overhead power supply and within six feet of the utility pole, will need to be 12 feet at the point of attachment. If the temporary power pole is more than six feet from the utility pole, the service poles must be of sufficient height to keep 18 feet clearance on the wire at midspan. The overhead service wire will be installed by the GIUD.

All receptacle outlets on temporary power poles will be protected with ground-fault interrupter for personnel. Refer to National Electrical Code Article 590.6.

Hooking up temporary power at construction sites will normally be within two working days after electrical inspection of the temporary power pole and equipment is complete.

If there are any questions, please contact Larry Christensen, Electric Distribution Supervisor, (308)-385-5471. The best time to reach Larry is at 8:00 a.m., 11:30 a.m.; or 4:30 p.m.

CITY OF GRAND ISLAND

INTEROFFICE MEMO
from the
Utilities Department - Engineering Division

Working Together for a
Better Tomorrow, Today.

To: All Electricians and Electrical Contractors March 13, 2013

From: Robert H. Smith, Assistant Utility Director

Subject: Electrical Meter Releases and Installation

The Utilities Department strives to help our customers in every way possible. Our first priority is to cover outages and immediate safety problems.

Our service crew has been very busy with all of the new construction and remodeling that has helped our City grow.

To help us meet all of our customer's needs, we need to schedule new connects and meter replacements. To do so requires some advance planning and working closely with the Inspection Department.

Once the Inspection Department approves a final inspection; they turn a meter release in to the Utility Department.

The Utility Department will install the meter usually within one-half day, i.e., if the meter release is received before noon, the meter should be installed that same afternoon. If the meter release is received after noon, the meter will not be installed until the next working day.

The customer may request the meter installed after hours-which will result in an overtime charge.

If a specific hookup time is needed, an appointment should be made only after the final inspection has been completed.

When the electrical meter is installed, the Service Crew will make sure there is electricity to the main breaker, but will leave it in the OFF position. If the customer is present, he may request the Service Crew to check other locations.

If an appointment is called for and the service is not ready, or the final inspection has not been made, a service fee will be charged.

Arrangements should always be made with both the Utility Billing office and the Inspection Department prior to contacting the Service Crew. Appointments should be made with Line Supervisor Larry Christensen at 308-385-5471 for the Service Crew.

EX-B

CITY OF GRAND ISLAND

UTILITIES

DEPARTMENT

Working Together for a Better Tomorrow, Today

January 11, 2013

To: Electrical Contractors
From: Grand Island Utilities Department
Subject: **Padmount Transformers** (Revised January 2013)

The following are general guidelines addressing locations fed by padmounted transformers:

1. When planning any work involving a new service or metering, before starting the job, check with the Utilities Department on what voltages are available and the location of the power source for the service in question.

2. Normally, in new residential subdivisions, a secondary pedestal will be provided electrician to stub the service conduit (s) in to.

3. Secondary transformer lugs and bolts will be provided for all transformers and secondary pedestals by GIUD.

If there are any questions, please contact Randy Leiser, Underground Superintendent, at (Office) 308-385-5470 or (Cell) 308-390-5213.

EX-C

CITY OF GRAND ISLAND, NEBRASKA

UTILITIES DEPARTMENT PHONE:

(308) 385-5471

FAX: (308) 389-3474

CUSTOMER ELECTRIC SERVICE DATA

DATE_____

CONTRACTOR_____

BUSINESS OWNER_____

LOCATION OF BUILDING_____

Single Phase 120/240 Volt or 120/208	3 wire, lighting and/or single phase power. One or two meters. 010 Residential lighting rate and/or 030 Single Phase Commercial rate.
Three Phase 120/208 Volt	4 wire lighting and power. One meter. 050 Three Phase Commercial rate.
Three Phase 277/480 Volt	4 wire. One meter. 050 Three Phase Commercial rate or 100 Optional Power rate or 104 Large light and power service (1500 KW Minimum)

MAIN SIZE_____CALCULATED LOAD _____(AMPS OR KVA)

SIZE OF WIRE STUBBED OUT FOR SERVICE_____

NUMBER OF CONDUCTORS PER PHASE_____

☐ Copper ☐ Aluminum

LIGHTING KW_____

TOTAL CONNECTED HP_____

LARGEST SINGLE CONNECTED MOTOR HP_____

NUMBER OF THREE PHASE A/C UNITS_____

SIZE OF A/C UNIT (TON OF EACH UNIT) _____

BREAKER SIZE OF EACH A/C UNIT_____

ELECTRIC HEAT:

HOW MANY UNITS AND WHAT SIZE (KW) _____

MUST BE SUBMITTED BEFORE TRANSFORMER IS SET. **EX-D**

CITY OF GRAND ISLAND
UTILITIES DEPARTMENT

To: Electrical Contractors January 11, 2013

From: Grand Island Utilities Department

Subject: Self-Contained Meter Applications (Revised Jan 2013)

Single Phase:

120 Volt, two wire, 100 amps or less:
This service is being phased out. All single-phase services will be 240 volt, three wire or 120/208 volt, three wire.

120/240 Volt, three wire 200 amps or less:
For this service, use a four terminal socket meter compartment, with socket compartment amp rating being equal to or exceeding the main disconnect rating.

120/240 Volt, three wire, over 200 amp and up to 400 amp.
For this service, use a single phase meter socket with a four terminal socket and a lever bypass. Approved lever bypasses are: Square D, Landis & GYR HQ, and the Milbank lever bypass (jaw clamping). Services over 400 amps, current transformers will be used, refer to specifications memo, Requirements for Instrument Metering.

120/208 Volt, three wire, 200 amps or less:
This is a network installation, a standard four terminal socket meter compartment with a movable 5th terminal installed on the left side. A # 12 solid copper wire tapped from the neutral to the 5th terminal will be needed. Over 200 amp service, the service will be a 120/208, four wire, three phase service.

Three Phase:

240 Volt, three wire, Delta, 200 amps or less:
This service is being phased out. Any new three phase service will be 120/208 or 277/480 volt, four wire.

120/208 Volt or 277/480 Volt, four wire Wye, 400 amps or less:
For both of these services, a seven terminal socket meter compartment with the neutral wire installed on the third terminal from the left on the bottom terminal row, will be required.

120/208 Volt or 277/480 Volt, four wire Wye, over 200 amp and up to 400 amps.
For this service, a seven terminal three phase meter socket will be used with approved lever bypass. Approved lever bypasses are: Square D, Landis GYR HQ, or Milbank lever bypass (jaw clamping type). Over 400 amps, current transformers will be required, refer to specifications in the Grand Island Utilities Department memo, Requirements for Instrument Metering.

Irrigation Wells:
Any new and upgraded irrigation wells may use a UL approved factory manufactured meter pedestal with a breaker. GIUD will install stand-off brackets on the pole if they are required. All new or upgraded irrigation wells will require a fused disconnect to be installed after the meter socket. See print EX-9 and EX-9A.

General Requirements Meter Enclosures:
Meter socket will be mounted on the outside of a building or structure and will be at the centerline height of five to six feet above finish grade (see Plan EX-3) with exception to meter packs. All meter compartments will be grounded according to the National Electric Code Table 250-66. All masts above the roof will be 2" rigid steel. As of January 4th, 2016, all meter enclosures will be the "ring type" including single phase and three phase meter enclosures rated at 200 amps or less, as well as meter packs, and meter pedestals. All newly built temporary structures will need to follow updated guidelines. Current temporary meter structures will be excluded and may be used again. Meter locking rings will be supplied by GIUD.

Any customer's electric service over 200 amps will be an underground electric service to a pad mount transformer, secondary pedestal or a utility pole.

Point of Attachment:
The service drop point of attachment will be 12 feet minimum at the house/building while maintaining service drop clearances per N.E.C. article 230.24.

Damage to Meter Loop:
Any meter loop that required repair will be brought up to today's Electric Code, meter height, point of attachment height (12 ft. minimum), ground rod, etc.

Meter location: All meters for permanent residential services in the Grand Island incorporated area will be located on the dwelling or a factor-manufactured pedestal.

Trailer Houses:
All new, upgrades and repaired services for trailer homes, it will be required to use a factory manufactured meter pedestal, when the service is coming off a City owned utility pole.

Meter Pedestals:
Meter pedestals can be used on residential or commercial services, but they will be factory manufactured pedestals UL approved. Meter pedestals will not be located in the utility easement unless prior approval by the Grand Island Utilities Department.

Height of weather head on underground secondary conduit on a utility pole:
The weather head will be the same height as open secondary wires in a rack or triplex dead-ended on a J hook or twelve (12) inches below the bottom of the transformer (see plan EX-9). In all of these situations, the length of the wire coming out of the weather head will need to have at least two (2) feet for the drip loop, plus sufficient wire length to reach the termination point. If there are any questions on the height of weather head or the length of wire for termination, call before starting the job.

Secondary Standoff Brackets and Pedestals:
Any conduits installed on the utility pole will be on standoff brackets, unless prior approval is granted refer to specification memo, Secondary Standoff Brackets (see plan EX-9). Stand-off bracket and hardware will be furnished and installed by GIUD. In areas where the power is supplied by overhead

power lines and the customer want an underground electric service, GIUD will determine if there will be a secondary pedestal installed at the base of the pole or the electrical contractor will install the customer electric service up the pole. Where the customer underground electric service is required to go up a main line pole (pole with primary voltage), GIUD will determine if the clearances are sufficient for safe working by the electrical contractor, if not GIUD will assist the electrician after the first 10 foot of schedule. 40 G.R.C. conduit is installed on stand-off brackets. If clearances are adequate for the electrician to install the conduit and wire up the pole GIUD will install stand-off brackets, a two working day notice will be needed for GIUD to install stand-off brackets.

Padmount Transformer Secondary Lugs and Bolts:

Grand Island Utilities will supply all secondary transformer lugs and half inch bolts on all padmount transformers. The Grand Island Utilities will terminate all secondary wires in the padmount transformer and secondary pedestals. On three phase services with parallel wires the electrical contractor of said job will need to be present when secondary wires are terminated for assisting and verification of phase wire markings.

Residential Electric Furnace:

When installing the wiring for an electric furnace in a new house or when a gas furnace is replaced with an electric furnace, please notify Grand Island Utilities of the customer's address and furnace size. Any electric furnace larger than 10 KW should have the heating element come on in stages, minimum of 20 seconds between stages. This is to help prevent nuisance blinking of lights and or any associated voltage problems that may occur when the electric furnace turns on.

KYZ Pulses:

If a customer wants KYZ pulses from electric meter for load management, the customer will need to supply and install isolation relay at the electric meter.

When planning any work involving a new service or metering, and before starting the job, check with the Utilities Department on what voltages are available, and the power source for the service in question.

If there are any questions, please contact Larry Christensen, Electric Distribution Supervisor, (308)385-5471, office (308) 390-5212 cell.

CITY OF GRAND ISLAND
UTILITIES DEPARTMENT

To: Electrical Contractors April 27, 2015

From: Grand Island Utilities Department

Subject: Requirement for Instrument Metering (services over 400 amps.)

Current Transformer (C.T.) cabinets, compartments or pedestals will be used for metering any service over 400 amps. All C.T. cabinets, compartments, and pedestals will be factory manufactured. All C.T. cabinets, compartments, and pedestals will be ahead of the main disconnect unless prior approval by Grand Island Utility Department (G.I.U.D.) with exception of Multi Metering compartment of 277/480 volt. (see requirements for Commercial metering 277/480 volt with multi-metering) . All C.T. cabinets or compartment will have hinged door to doors with a latching mechanism and provision for a padlock. The C.T. cabinet/compartment and meter will be mounted outside the building or structure unless prior approval by G.I.U.D. The C.T. cabinet will have a NEMA-3R
for weatherproof enclosures. A direct buried pedestal with a combination meter socket, test switch, and C.T. compartment can be used. The C.T. compartment can be integrated into the switch-gear.

The C.T. cabinet or pedestal will need to accept a bar C.T., for a service over 400 amps. and up to 1600 amps, the C.T. bar will be 12 inches long with 2-holes on each end (see Plan EX-1). The C.T. cabinets or pedestal over 1600 amp. will need to accept a C.T. bar that is 14 ½ inches long with 4 holes on each end (see Plan EX-2).

The C.T. cabinet can be mounted on the outside of a building or structure (see Plan EX-3). The appropriate size C.T. cabinet will be needed, so it must be determined if the C.T. cabinet needed is a bottom feed, bottom exit, or a bottom feed, top exit. With this application the C.T. cabinet will be grounded from the electric panel per National Electric Code, (N.E.C.) table 250.66. The bottom of the wall mount C.T. cabinet will be a minimum of 18 inches above finish grade. If the wall mount C.T. cabinet has a conduit or conduits from G.I.U.D. transformer, there will need to be expansion couplings used at the C.T. Cabinet
(see Plan EX-3).

The C.T. compartment can be an integral part of the switch-gear (Plan EX-4 and Ex-4A) on the outside of the building or structure. If the switch-gear/C.T. compartment is located inside the building or structure, prior approval will be needed by G.I.U.D. When prior approval is acquired from G.I.U.D. for the C.T. compartment to be inside the building or structure, the meter socket will need to be on the outside of the building or structure and within 12 feet (wire pulling distance) of the C.T. compartment with a one inch conduit connecting them. When the C.T. compartment is inside the building or structure there will need to be an opening through the wall of the building or structure for future meter testing leads. The opening through the wall can be a window, a door or a 4 inch conduit. The maximum distance through the wall opening and between the C.T. cabinet and meter socket for the future test leads will be no more than 12 feet. If a 4 inch conduit is used for the future test leads there will need to be caps on both ends of the conduit that can be easily removed. When the C.T. compartment is an integral part of the switchgear, a doughnut type C.T. will be installed on the switchgear's bus bar. The bus bar will be bolted together so the C.T.'s can be installed or removed easily. For this application there will need to be a horizontal platform of non-metallic, high dielectric fiberglass board, for the doughnut C.T. to lie on. The bus bar in the C.T. compartment will have termination provisions for connecting the potential and neutral wires for the electric meter.

A padmount C.T. pedestal can be located by the G.I.U.D. transformer (see Plan EX-5A or EX-5B), with a concrete pad (see Plan EX-5C). A standard concrete G.I.U.D. transformer pad can be extended for a padmount C.T. pedestal (see Plan EX-6 and EX-6A). With both of these applications, the location of the padmount C.T. pedestal will need prior approval. The padmount C.T. pedestal will be anchored to a concrete slab. The padmount C.T. pedestal will have a ground rod at the pedestal and bonding jumper from the neutral bar to the pedestal cabinet. The bonding jumper will be per N.E.C. table 250.66. With a padmount C.T. pedestal the meter socket/test switch enclosure can be mounted to one end of the C.T. pedestal (see Plan EX-5A or Ex-6). This meter socket/test switch enclosure will be purchased from G.I.U.D.

A direct buried pedestal with a combination meter socket, test switch, and C.T. compartment can be used (see Plan EX-7 and EX-8). The meter socket, test switch, and C.T.'s will be factory wired per G.I.U.D. wire color code. With this pedestal the C.T.'s come installed from the factory. G.I.U.D. will pay for the C.T.'s through the supplier. The meter socket for a single-phase three wire service will be an 8 terminal socket with a 7-pole test switch (Milbank # TS07-0106 or approved equal). The meter socket for a three phase four wire service will be a 13-terminal meter socket with a 10 pole test switch (Milbank # TS10-0110 or approved equal). On both of these test switches, the potential switches will be inverted and have red knobs. The knobs on the current switches will be black.

Instrument Rated meter socket/test switch will be purchased from G.I.U.D. with the exception of the combination meter socket, test switch, C.T. pedestal. The electrician will install meter socket, test switch enclosure, and C.T.'s. The meter socket/test switch will be connected to the C.T. cabinet with a 1-inch conduit and will be grounded with a grounding conductor. The meter socket/test switch will be installed within 12 feet (wire pulling length) of the C.T. cabinet. The C.T.'s and electric meter will be furnished by G.I.U.D.

Meter sockets will be mounted on the outside of a building or structure and will be at a center line height of five to six feet above finished grade (see Plan EX-3) with an exception to meter packs.

The secondary wiring for the meter socket/test switch will be done by G.I.U.D. with exception to combination pedestal.

Grand Island Utility will supply the secondary lugs and half-inch diameter bolts for all padmount transformers. The Grand Island Utilities will terminate all secondary wires in padmount transformers and secondary pedestals. On three phase services with parallel wires the electrical contractor of said job will need to be present when secondary wires are terminated for assisting and verification of phase wire markings.

KYZ Pulses: If a customer wants KYZ pulses from the G.I.U.D.'s electric meter, the customer will need to supply and install an isolation relay in a weatherproof box next to the electric meter.

Primary metering will be installed by G.I.U.D. The customer will be billed for the labor and material.

When planning any work involving metering on a new service or a service that is going to be upgraded, check with G.I.U.D. on what voltages and hook-ups are available before starting the job.

If there are any electric metering questions please contact Larry Christensen, Electric Distribution Supervisor, (308) 385-5471, office. (308) 390-5212, cell.

UTILITIES DEPARTMENT - ENGINEERING DIVISION
Telephone 308.385.5460
FAX 308.385.5449

CITY OF GRAND ISLAND

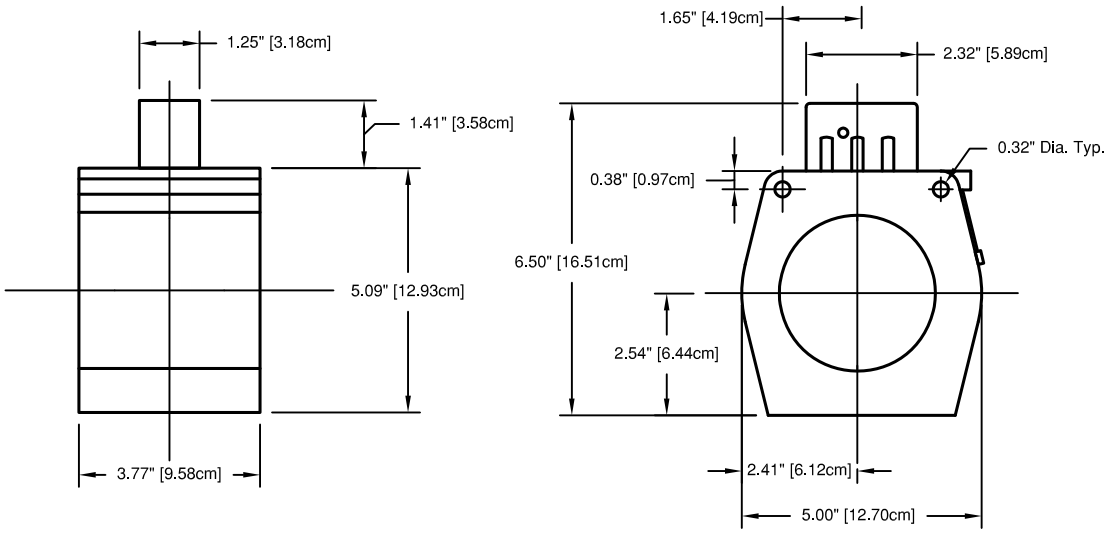
Working Together for a Better Tomorrow, Today

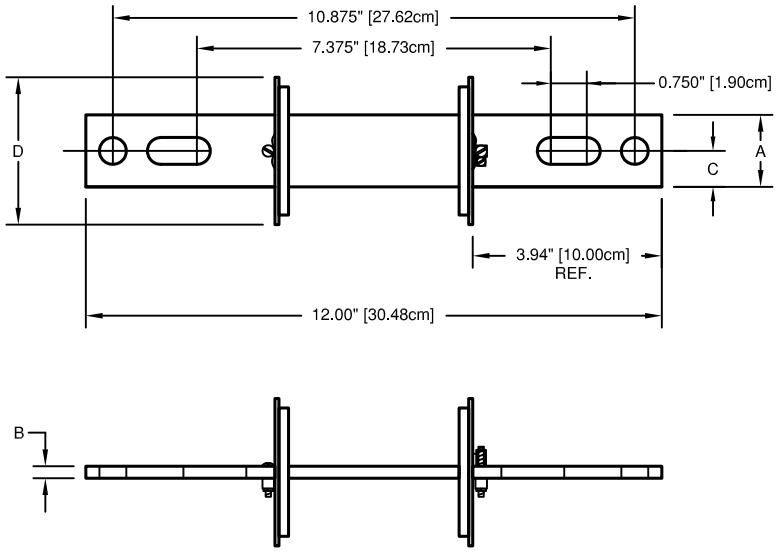
April 24, 2015

To: Electrical Contractors
From: Grand Island Utilities Department
Subject: Requirements for Commercial Metering 277/480 volt with multi-meters per service
(April 7, 2015)

For Safety reasons, the following requirements have been established for commercial metering, that are 277/480 volts when there is more than one meter per building or equipment room on the same 277/480 volt electric service. This service will be a factory manufactured meter pack with cold sequence metering. The cold sequence meter pack will have a main breaker, then go to a service disconnect and then to the meter socket for the suite. A 400 amp service going to a suite can be a self-contained meter socket with lever by pass. A service going to a suite over 400 amps will be metered with current transformers; this will be integral part of meter pack. A doughnut C.T. will be used and this will be a lockable compartment with a horizontal platform of non-metallic, high dielectric fiberglass board for the C.T. to mount on. The meter socket will be a 13 terminal, purchased from G.I.U.D. and be mounted within 12 feet (wire pulling distance) of the C.T. compartment. This will be required in a new installation or an improvement of the old service.

If there are any questions, please contact Larry Christensen, Electric Distribution Supervisor, and (308) 385-5471. The best times to make contact are 8:00 a.m., 11:30 a.m., or 4:30 p.m.





BAR KIT	DIM "A"	DIM "B"	DIM "C"	DIM "D"
1	1.50" (3.81cm)	0.25" (0.64cm)	0.75" (1.91cm)	3.07" (7.80cm)
2	2.25" (5.72 cm)	0.38" (0.95cm)	1.13" (2.86cm)	3.69" (9.37cm)

CITY OF GRAND ISLAND
UTILITIES DEPARTMENT

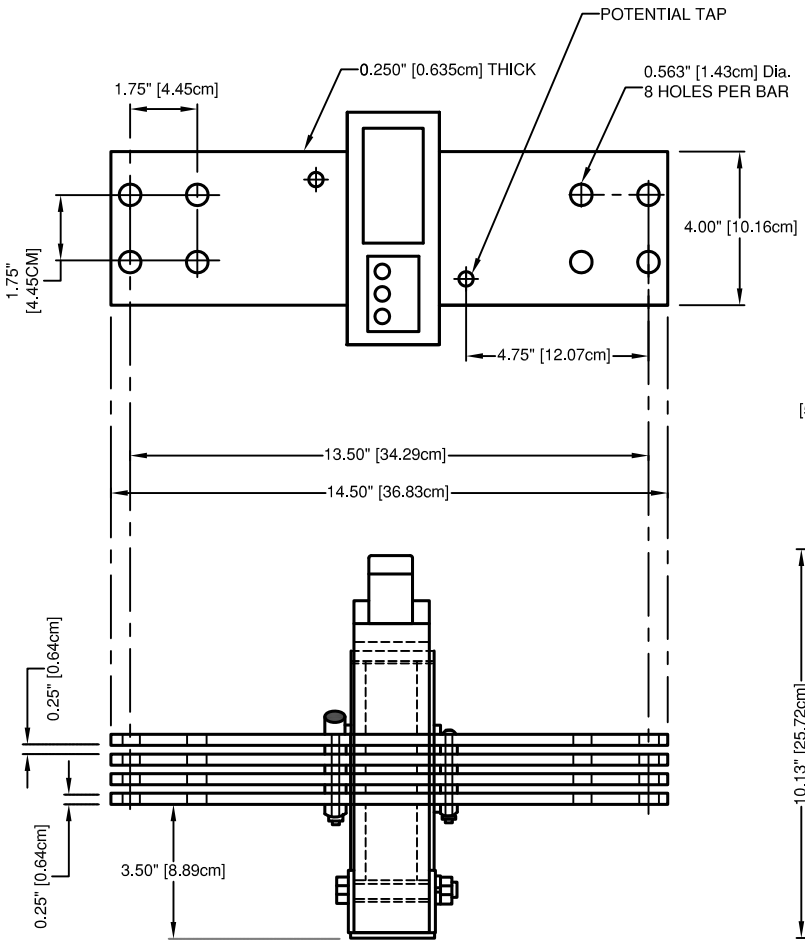
DATE: 2/7/2008
DRAWN BY: P.F.G.
CHECKED BY: T.W.B.

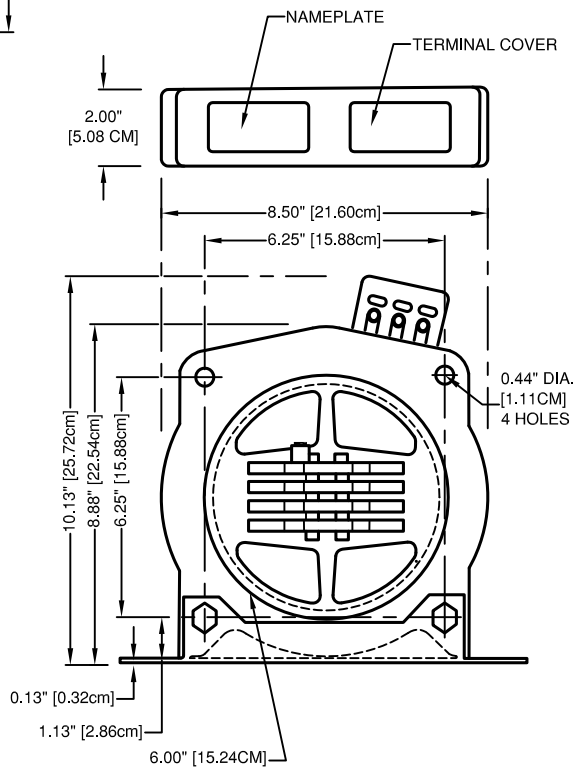
BAR C.T.'S ON SERVICES OVER 400 AMP AND UP TO 1,600 AMP

PLAN EX - 1

BARS USED ARE 0.250 INCH THICK BY 4 INCHES WIDE. ON MULTI-BAR ASSEMBLIES THERE IS A 0.250 INCH SPACING BETWEEN BARS. ASSEMBLY CAN BE MOUNTED WITH BARS HORIZONTAL OR VERTICAL.

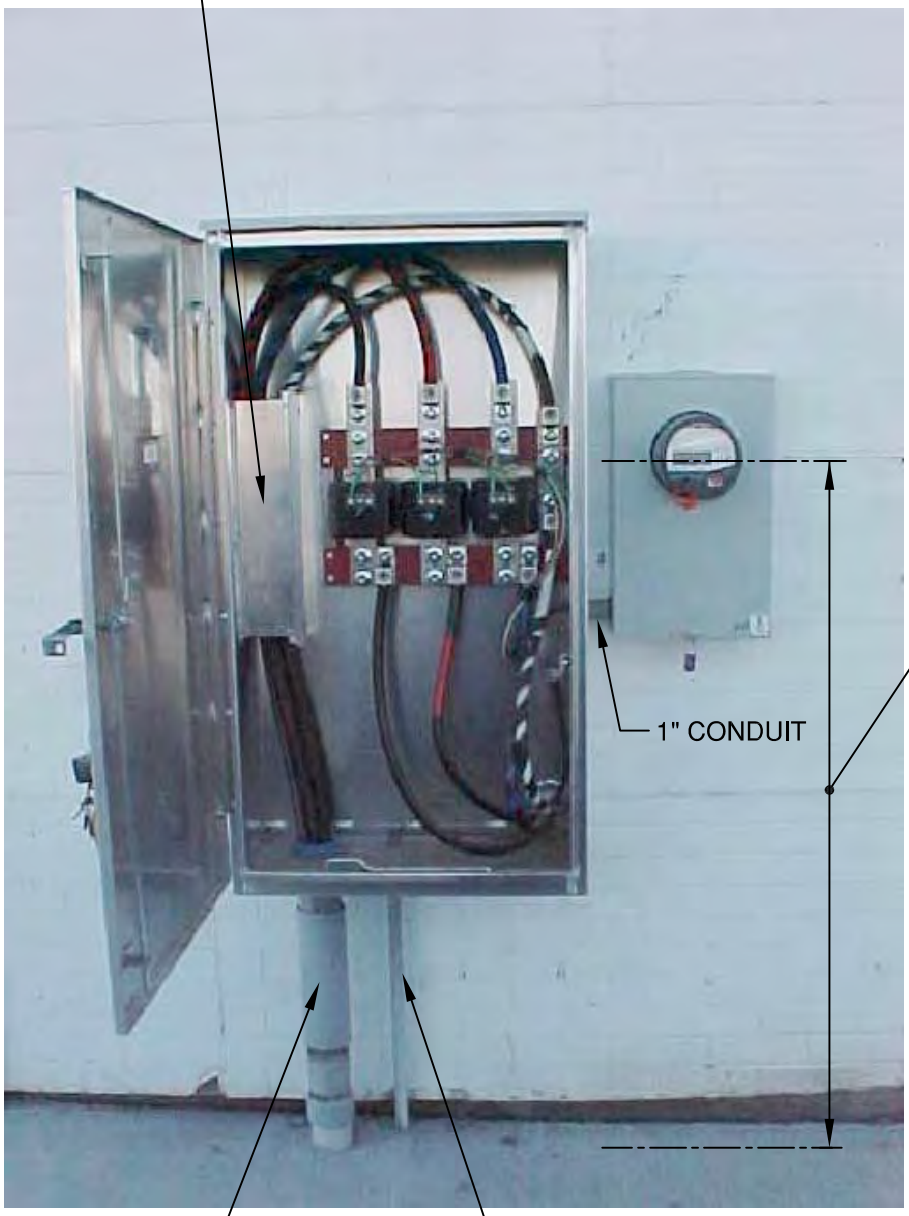
ONE BAR REQUIRED PER 1,000 AMPS OF SERVICE.





TYPE R6L

CITY OF GRAND ISLAND UTILITIES DEPARTMENT	DATE: 2/7/2008 DRAWN BY: P.F.G. CHECKED BY: T.W.B.	BAR C.T.'S ON SERVICES OVER 1,600 AMP	PLAN EX - 2



CITY OF GRAND ISLAND UTILITIES DEPARTMENT	DATE: 2/26/2008 DRAWN BY: P.F.G. CHECKED BY: T.W.B.	WALL MOUNT BAR C.T. CABINET BOTTOM FEED, BOTTOM EXIT	PLAN EX-3

INTERIOR HINGED DOOR OR DOORS WITH A LATCHING MECANISM AND PROVISION FOR PADLOCKING

SEE PLAN EX-4A FOR C.T. COMPARTMENT DETAILS

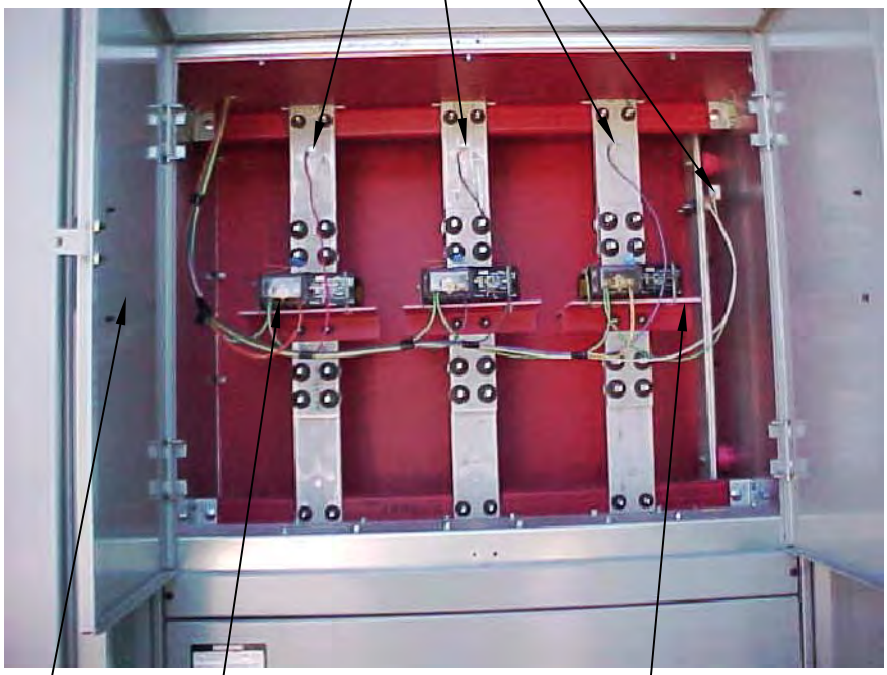
METER SOCKET TEST SWITCH TO BE PURCHASED FROM G.I.U.D

1" CONDUIT

MAIN DISCONNECT

CITY OF GRAND ISLAND UTILITIES DEPARTMENT	DATE: 2/29/2008 DRAWN BY: PFG CHECKED BY: T.W.B.	C.T. COMPARTMENT BUILT INTO SWITCH-GEAR CABINET	PLAN EX - 4

TERMINATION LUG FOR POTENTIAL AND NEUTRAL WIRES FOR METER

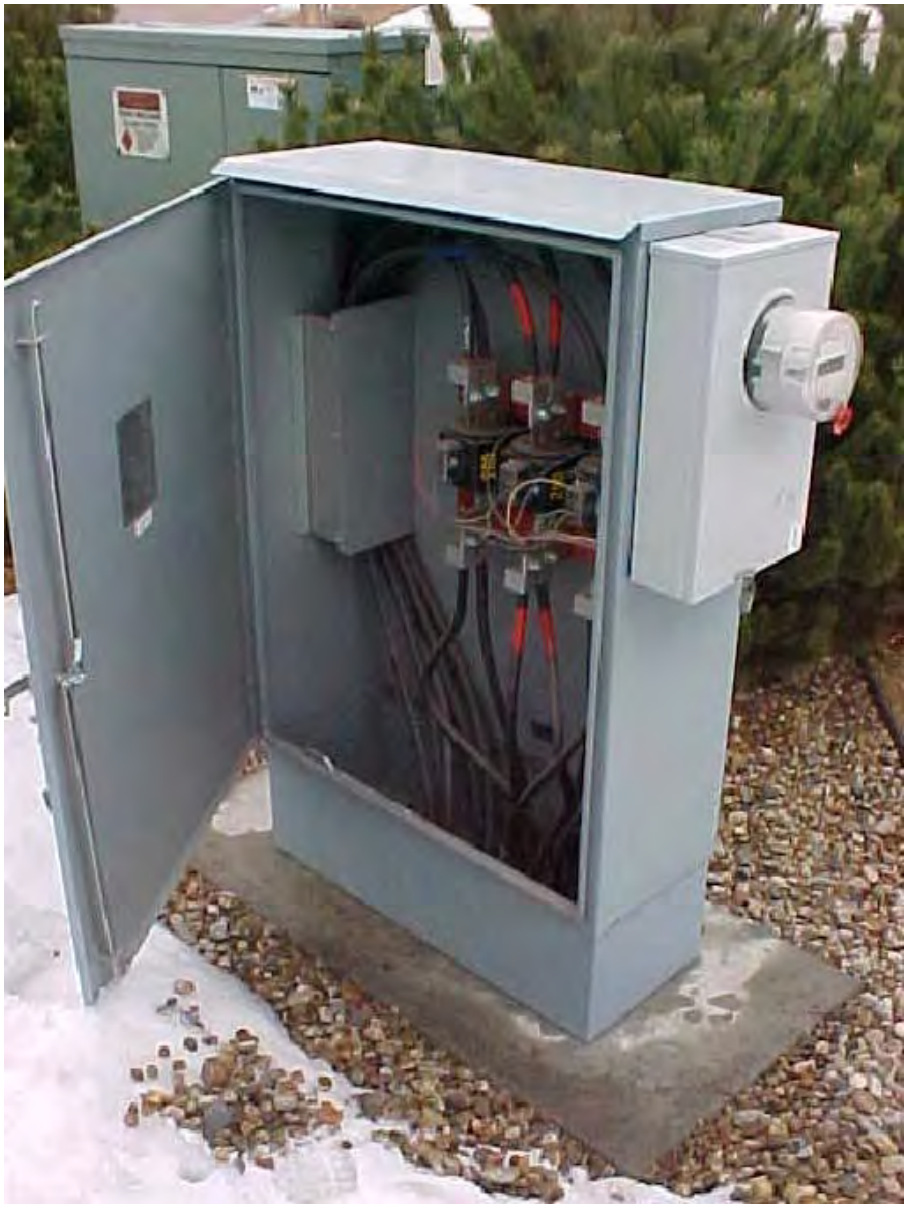


DOUGHNUT C.T.

C.T.PLATFORM OF NON-METALLIC, HIGH DIELECTRIC FIBERGLASS BOARD

INTERIOR HINGED DOOR OR DOORS WITH A LATCHING MECHANISM AND PROVISION FOR PADALOCKING

CITY OF GRAND ISLAND UTILITIES DEPARTMENT	DATE: 2/29/2008 DRAWN BY: PFG CHECKED BY: T.W.B.	C.T. COMPARTMENT BUILT INTO SWITCH-GEAR CABINET DETAILS	PLAN EX - 4A

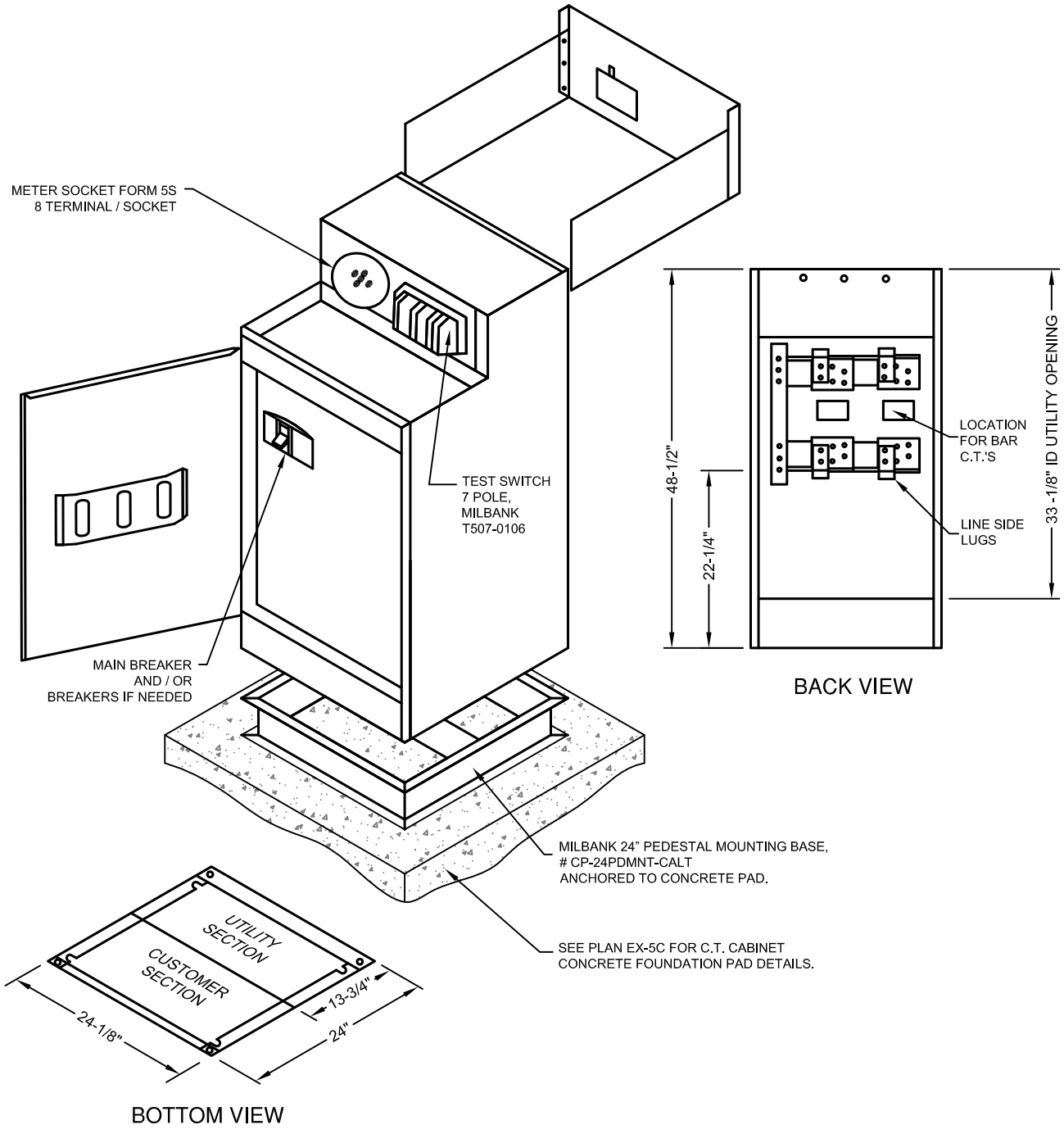


GALVA-CLOSURE, C.T. CABINET

SEE PLAN EX-5C FOR C.T. CABINET CONCRETE FOUNDATION PAD DETAILS.

ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.

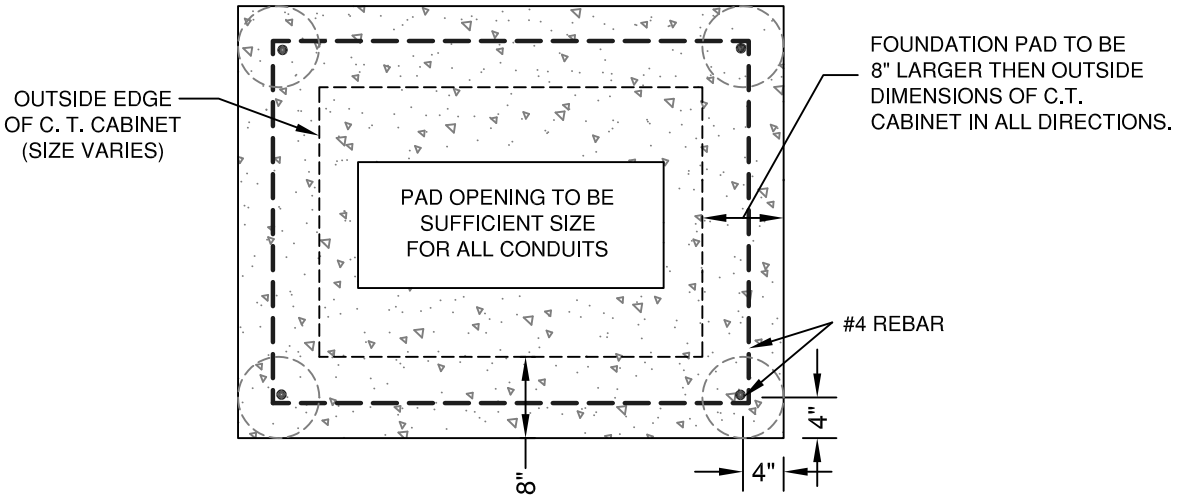
CITY OF GRAND ISLAND UTILITIES DEPARTMENT	DATE: 2/07/2008 DRAWN BY: P.F.G. CHECKED BY: T.W.B.	FREE STANDING C.T. CABINET	PLAN EX-5A



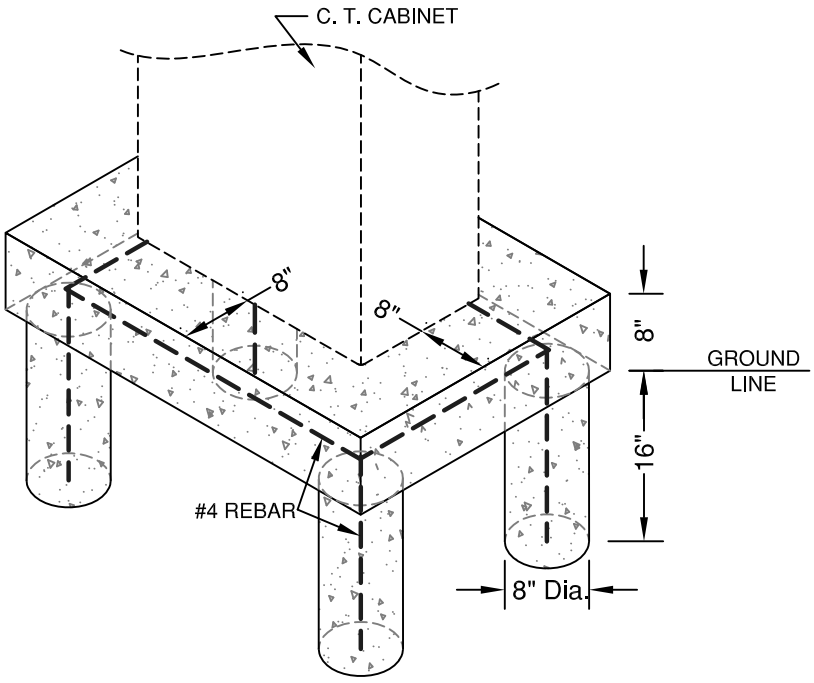
MILBANK MODEL CP3B-CT

ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.

CITY OF GRAND ISLAND UTILITIES DEPARTMENT	DATE: 3/6/2008 DRAWN BY: P.F.G. CHECKED BY: T.W.B.	PADMOUNT METER / C.T. CABINET	PLAN EX-5B



C. T. CABINET PAD



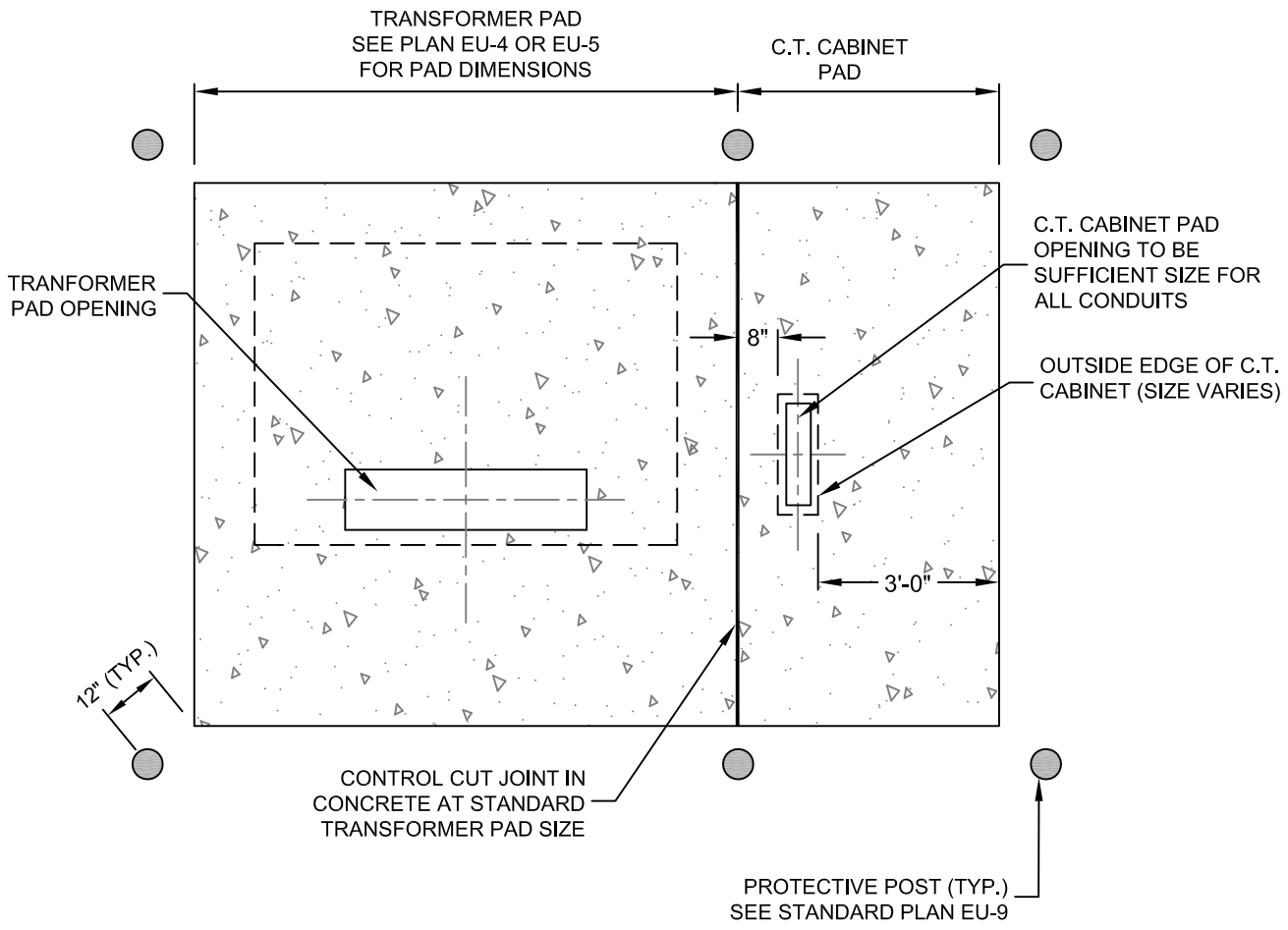
REVISED : 2/12/2008 PFG

CITY OF GRAND ISLAND UTILITIES DEPARTMENT	DATE: 1/16/2006 DRAWN BY: P.F.G. CHECKED BY: T.W.B.	C. T. CABINET FOUNDATION PAD	PLAN EX - 5C

1. USE OF COMBINATION TRANSFORMER PAD - C.T. CABINET PAD EXTENSION REQUIRES PRIOR APPROVAL OF GRAND ISLAND UTILITIES DEPARTMENT.

2. SEE STANDARD PLAN EX-6A FOR FOUNDATION PAD DETAILS.

CITY OF GRAND ISLAND UTILITIES DEPARTMENT	DATE: 2/12/2008 DRAWN BY: P.F.G. CHECKED BY: T.W.B.	TRANSFORMER PAD WITH C.T. CABINET FOUNDATION PAD	PLAN EX-6



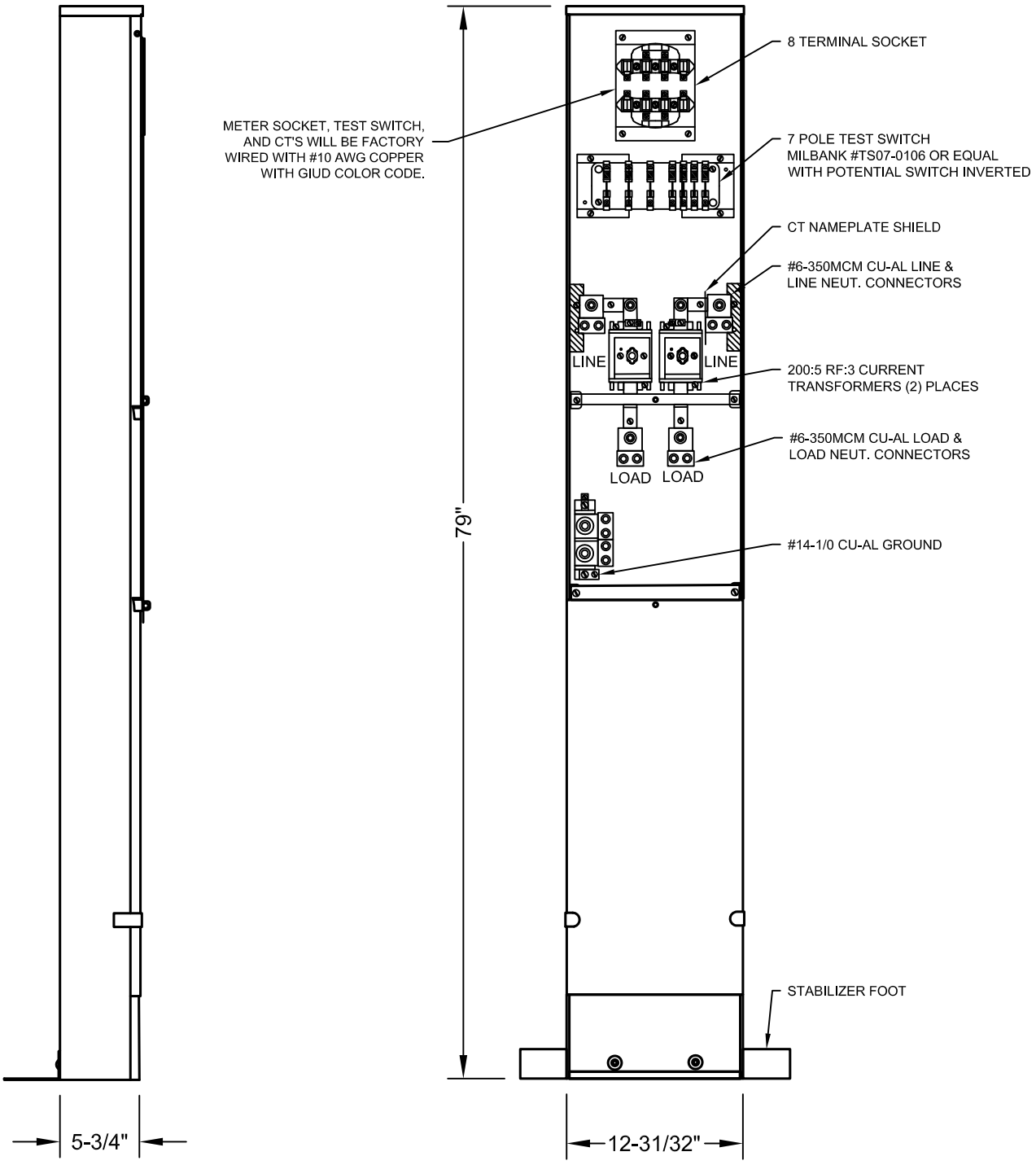
1. USE OF A TRANSFORMER PAD WITH A C.T. CABINET PAD EXTENSION REQUIRES PRIOR APPROVAL OF GRAND ISLAND UTILITIES DEPARTMENT.

2. PAD SHALL BE TYPE 47-B MODIFIED CONCRETE AS PER CITY SPECIFICATIONS SECTION 2, DIVISION 2. THE ENTIRE PAD SHALL BE 12" THICK, REINFORCED WITH 6"x6"-6 GAUGE WIRE MESH. TOP OF PAD TO BE 6" ABOVE FINISHED GRADE. ALL FORMS AND REINFORCING SHALL BE INSPECTED BY CITY ELECTRIC DEPARTMENT PRIOR TO PLACEMENT OF CONCRETE.

3. ELECTRICAL CONTRACTOR SHALL INSTALL CONCRETE FILLED PROTECTIVE POSTS AT EACH CORNER OF THE PAD AND ADDITION POSTS OPPOSITE THE CONTROL CUT JOINT. PROTECTIVE POSTS SHALL BE 3'-8" ABOVE AND 3 FEET BELOW FINISHED GRADE. PROTECTIVE POSTS ARE TO PROTECT EQUIPMENT FROM TRAFFIC AND SHALL NOT INTERFERE WITH DOOR OPENINGS.

4. A MINIMUM OF 10 FEET SHALL BE MAINTAINED BETWEEN THE PAD AND ANY STRUCTURE.

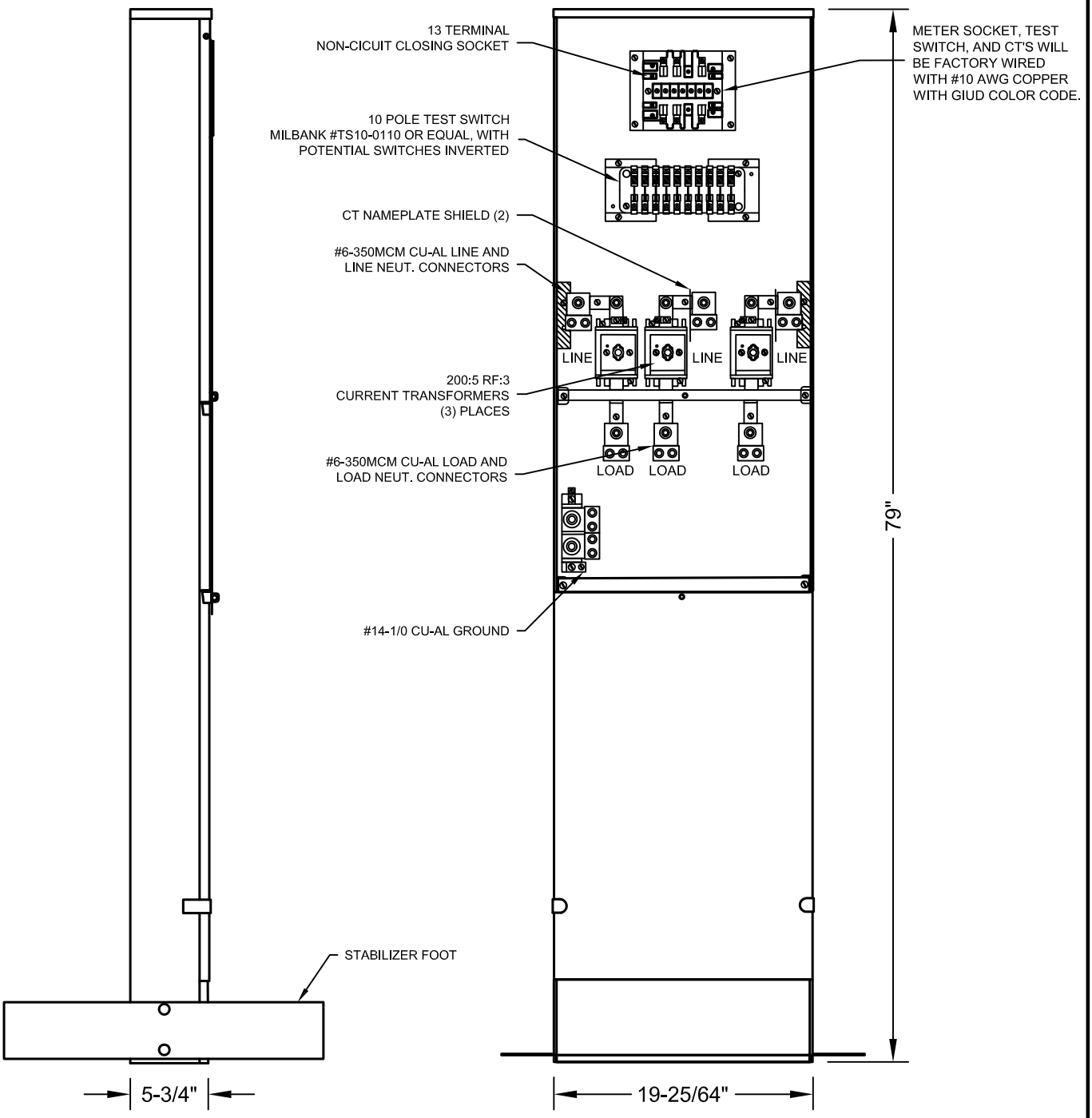
CITY OF GRAND ISLAND UTILITIES DEPARTMENT	DATE: 2/13/2008 DRAWN BY: P.F.G. CHECKED BY: T.W.B.	TRANSFORMER PAD WITH C.T. CABINET FOUNDATION PAD DETAILS	PLAN EX-6A



DURHAM COMPANY COMBINATION METER SOCKET, TEST SWITCH, C.T. PEDESTAL

ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.

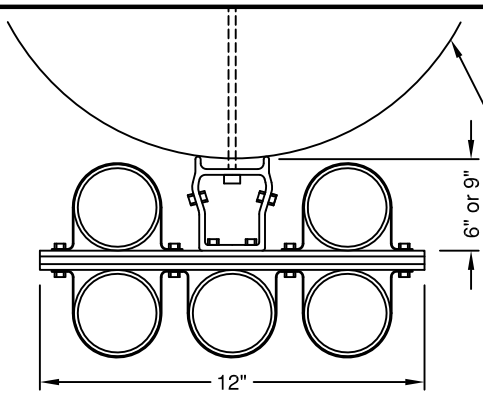
CITY OF GRAND ISLAND UTILITIES DEPARTMENT	DATE: 2/15/2008 DRAWN BY: PFG CHECKED BY: T.W.B.	METER / C.T. CABINET 1Ø, THREE WIRE, FORM 5S	PLAN EX - 7



DURHAM COMPANY COMBINATION METER SOCKET, TEST SWITCH, C.T. PEDESTAL

ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.

CITY OF GRAND ISLAND UTILITIES DEPARTMENT	DATE: 2/7/2008 DRAWN BY: PFG CHECKED BY: T.W.B.	METER / C.T. CABINET 3Ø, FOUR WIRE, FORM 9S	PLAN EX - 8



STANDOFF BRACKET WITH T-SLOT
TYPICAL CONDUIT CONFIGURATIONS

PER N.E.C. TABLE 352.30 SUPPORT OF RIDGED NONMETALLIC CONDUIT (RNC)	
CONDUIT SIZE	MAXIMUM SPACING BETWEEN SUPPORTS
1/2" - 1"	3 FT.
1-1/4" -2"	5 FT.
2-1/2" - 3"	6 FT.
3-1/2" - 5"	7 FT.
6"	8 FT.

NOTES:
ANY CONDUIT INSTALLED ON A UTILITY POLE SHALL BE INSTALLED WITH STANDOFF BRACKETS UNLESS OTHERWISE PRIOR APPROVAL IS RECEIVED FROM THE GRAND ISLAND UTILITIES DEPARTMENT. ***THE STANDOFF BRACKETS SHALL BE FURNISHED AND INSTALLED BY THE CITY OF GRAND ISLAND UTILITIES DEPARTMENT.***

BRACKETS SHALL HAVE A STANDOFF DISTANCE OF SIX (6) INCHES. THE CONDUIT ATTACHMENT BRACKET SHALL BE A MINIMUM OF TWELVE (12) INCHES LONG. ***EACH BRACKET SHALL BE BOLTED THROUGH THE POLE WITH A 5/8" MACHINE BOLT AND ONE 1/2"X4" LAG SCREW.***

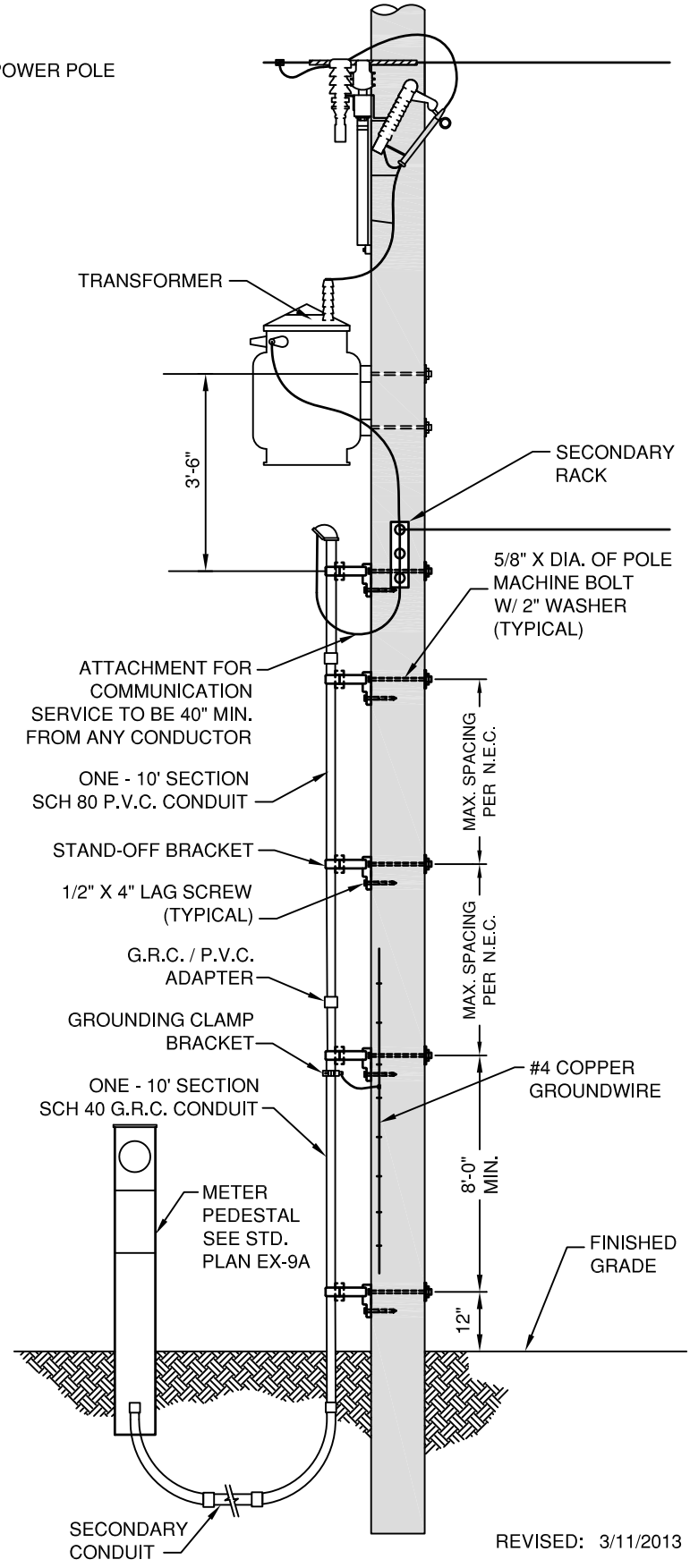
THE STANDOFF BRACKETS SHALL BE POSITIONED ON THE POLE SO ADJACENT PROPERTIES CAN HAVE EASY ACCESS.

WEATHER HEAD HEIGHT SHALL BE: 1'-6" BELOW THE BOTTOM OF THE TRANSFORMER; OR TO THE TOP WIRE OF THE SECONDARY RACK OR "J" HOOK.

BRACKET SPACING REQIREMENTS:
- FIRST BRACKET - WITHIN ONE (1) FOOT OF FINSIHED GRADE.
- SECOND BRACKET - A MIN OF EIGHT (8) FEET ABOVE FIRST BRACKET.
- SUBSEQUENT BRACKETS SHALL BE INSTALLED PER N.E.C., ARTICLES 344.30 AND 352.30.

THE G.I.U.D. SHALL INSTALL ALL STANDOFF BRACKETS ON ALL POLES. THE ELECTRICAL CONTRACTOR SHALL CONTACT THE ELECTRIC LINE DIVISION (308-385-5471) A MIN. OF TWENTY-FOUR (24) HOURS IN ADVANCE TO MAKE ARRANGEMENTS FOR ANY SUCH WORK.

SECONDARY PEDESTAL SHALL BE SUPPLIED BY G.I.U.D. IF A STAND ALONE METER PEDESTAL IS REQUIRED, THE ELECTICAL CONTRACTOR SHALL SUPPLY THE METER PEDESTAL, CONDUIT, AND WIRE TO THE TOP OF POLE.



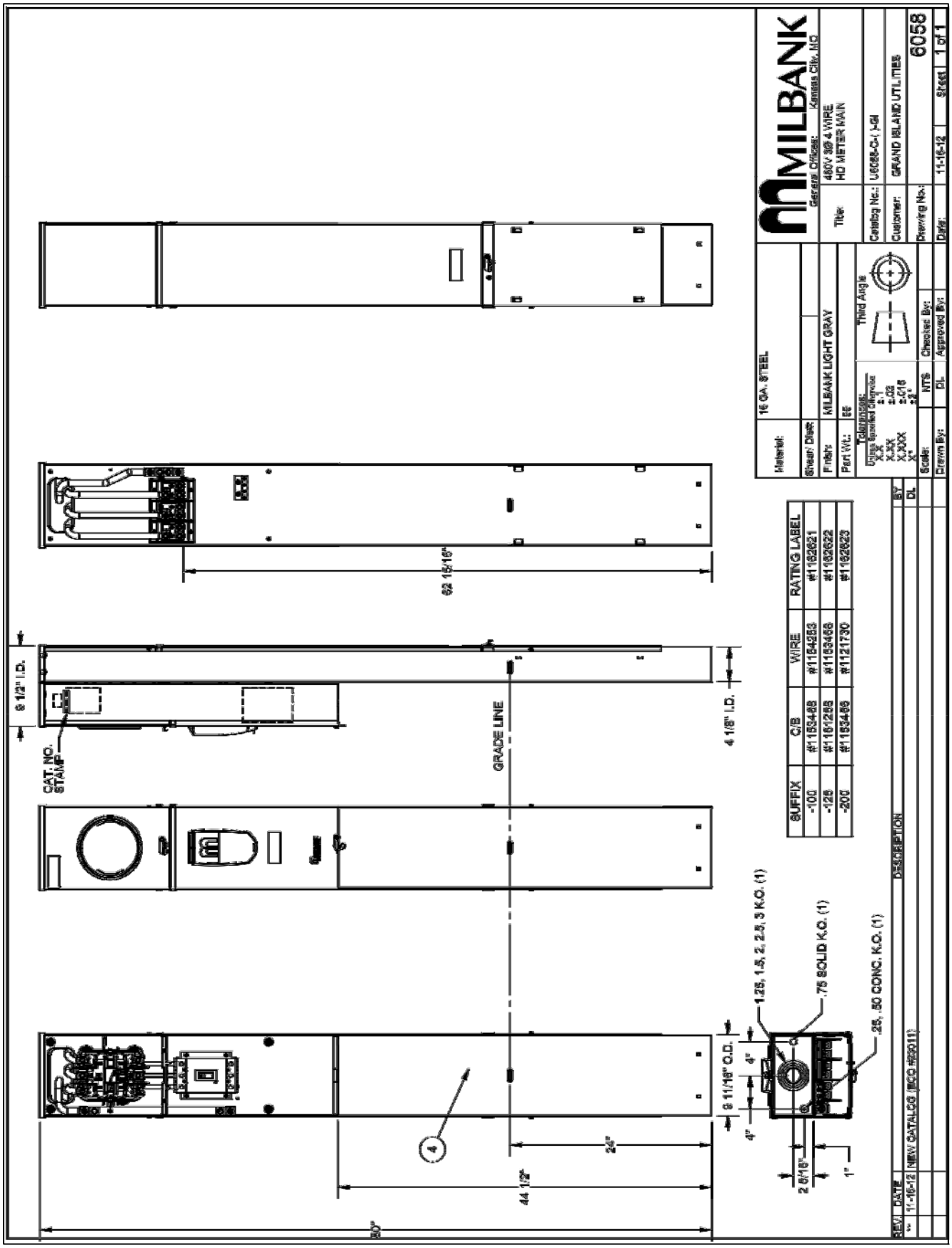
REVISED: 3/11/2013

CITY OF GRAND ISLAND
UTILITIES DEPARTMENT

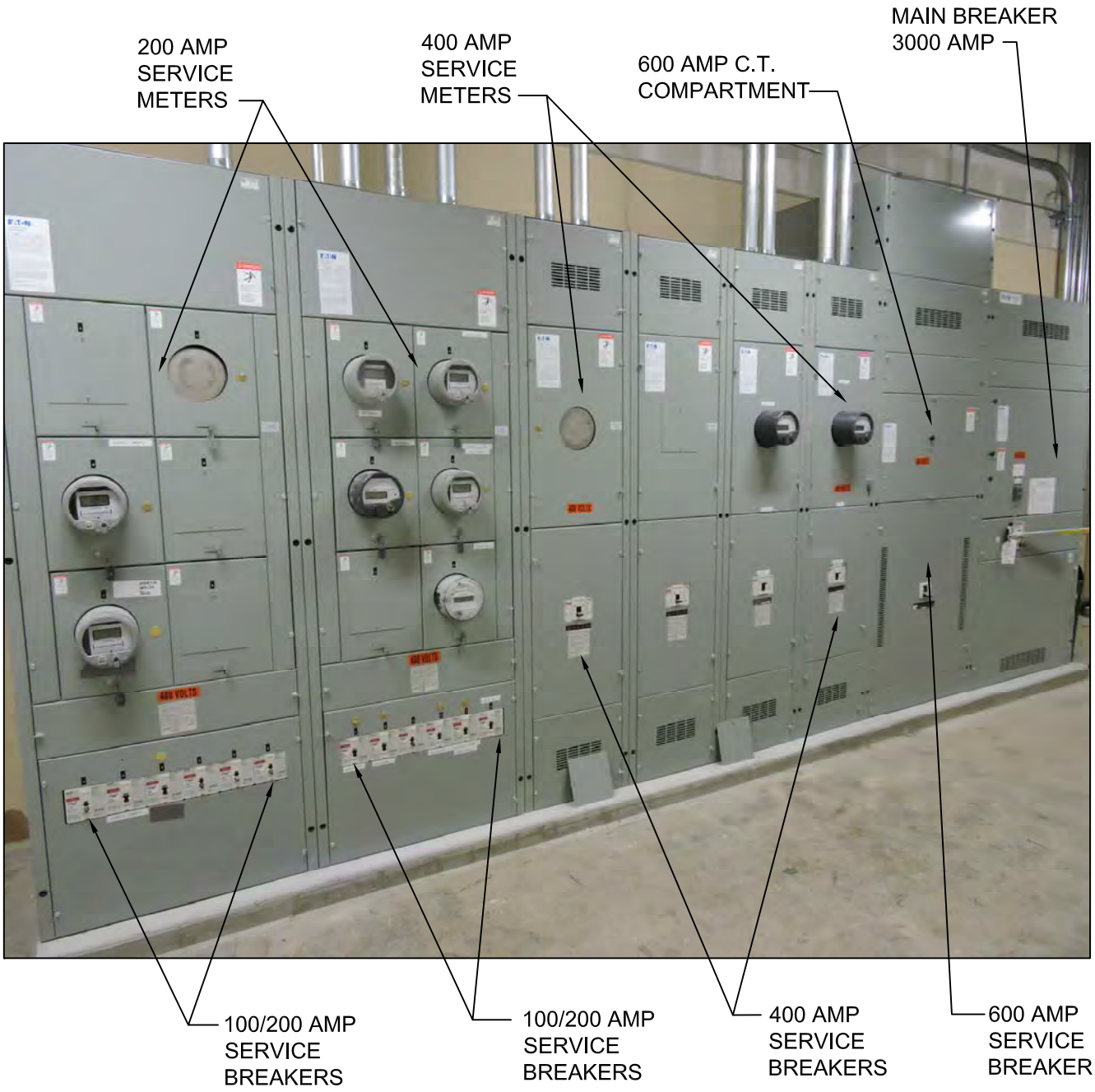
DATE: 3/11/2013
DRAWN BY: K.J.M.
CHECKED BY: T.W.B.

SECONDARY STAND-OFF BRACKET WITH METER PEDESTAL

PLAN EX-9



CITY OF GRAND ISLAND UTILITIES DEPARTMENT	DATE: 3/11/2013 DRAWN BY: K.J.M. CHECKED BY: T.W.B.	METER PEDESTAL (MILBANK)	PLAN EX -9A



CITY OF GRAND ISLAND UTILITIES DEPARTMENT	DATE: 4/7/2015 DRAWN BY: K.J.M. CHECKED BY: T.W.B.	COMMERCIAL 277/480 VOLT MULTIPLE METER SERVICE (TYPICAL)	PLAN EX-11