XTE 802G Generator Room Walk-In-Cabinet

Description and Installation Manual

Specification Number: F2019014

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Technical Support Site

If you encounter any installation or operational issues with your product, check the pertinent section of this manual to see if the issue can be resolved by following outlined procedures.

Visit https://www.vertiv.com/en-us/support/ for additional assistance.

TABLE OF CONTENTS

Admonishments Used in this Document

DANGER! Warns of a hazard the reader ***will*** be exposed to that will ***likely*** result in death or serious injury if not avoided. (ANSI, OSHA)

WARNING! Warns of a potential hazard the reader ***may*** be exposed to that ***could*** result in death or serious injury if not avoided. This admonition is not used for situations that pose a risk only to equipment, software, data, or service. (ANSI)

CAUTION! Warns of a potential hazard the reader ***may*** be exposed to that ***could*** result in minor or moderate injury if not avoided. (ANSI, OSHA) This admonition is not used for situations that pose a risk only to equipment, data, or service, even if such use appears to be permitted in some of the applicable standards. (OSHA)

ALERT! Alerts the reader to an action that ***must be avoided*** in order to protect equipment, software, data, or service. (ISO)

ALERT! Alerts the reader to an action that ***must be performed*** in order to prevent equipment damage, software corruption, data loss, or service interruption. (ISO)

FIRE SAFETY! Informs the reader of fire safety information, reminders, precautions, or policies, or of the locations of fire-fighting and fire-safety equipment. (ISO)

SAFETY! Informs the reader of general safety information, reminders, precautions, or policies not related to a particular source of hazard or to fire safety. (ISO, ANSI, OSHA)

Important Safety Instructions

Safety Admonishments Definitions

Definitions of the safety admonishments used in this document are listed under “Admonishments Used in this Document” on page v.

You Must Follow Approved Safety Procedures

DANGER! Performing the following procedures may expose you to hazards. These procedures should be performed by qualified technicians familiar with the hazards associated with this type of equipment. These hazards may include shock, energy, and/or burns. To avoid these hazards:

a) The tasks should be performed in the order indicated.

b) Remove watches, rings, and other metal objects.

c) Prior to contacting any uninsulated surface or termination, use a voltmeter to verify that no voltage or the expected voltage is present. Check for voltage with both AC and DC voltmeters prior to making contact.

d) Wear eye protection.

e) Use certified and well maintained insulated tools. Use double insulated tools appropriately rated for the work to be performed.

Buried Utilities

CAUTION! When installing the enclosure, ensure the site is free of any buried utilities. Call 811 before installation. Severe damage, serious injury, or death can occur if buried utilities are not identified prior to installation.

Personal Protective Equipment (PPE)

DANGER! ARC FLASH AND SHOCK HAZARD.
Appropriate PPE and tools required when working on this equipment. An appropriate flash protection boundary analysis should be done to determine the “hazard/risk” category, and to select proper PPE.

Only authorized and properly trained personnel should be allowed to install, inspect, operate, or maintain the equipment.

Do not work on LIVE parts. If required to work or operate live parts, obtain appropriate Energized Work Permits as required by the local authority, per NFPA 70E “Standard for Electrical Safety in the Workplace”.

Generator and Associated Equipment

Refer to the generator and associated equipment manufacturers documentation for specific generator and associated equipment safety instructions.

General Safety Precautions

The following precautions shall be observed at all time when handling and installing the enclosure:

- Observe all safety precautions against personal injury and equipment damage.
- The procedures outlined in this manual are only recommended guidelines. Ensure that all NEC (National Electric Code) and local codes for safety and wiring are followed.
  - Use listed two-hole compression connectors (lugs) to terminate all ground connections. Selected lug shall match wire and type, and crimped applied as specified by the lug manufacturer.
  - Apply NO-OX-ID-A to all ground connections.
  - Insulation of field-wire conductors should be rated no less than 90 °C, and sized in a manner that is consistent with the NEC and local codes.
- Always use an approved voltage detector, when approaching an enclosure, to verify no leaks or shorts are presents on the external body.
- Read “Specific Safety Precautions” starting on page viii in its entirety prior to attempting to handle or secure the enclosure.
- A minimum of two persons are required to safely install the enclosure.
- Hard hats and steel-toed boots should be worn while maneuvering the enclosure.
- Safety glasses should always be on while on-site.
- Safety gloves should be on when working in temperature extremes, with batteries, or with sharp objects.
- All electricians, operators, and technicians have been trained for the task at hand.
- Keep bystanders away.
- Ensure that all personnel on site are familiar with the first-aid kit location and emergency procedures in the event of an injury.
- Never leave the enclosure unattended. If leaving the site, close and secure the enclosure.

Specific Safety Precautions

DANGER! ELECTRICAL HAZARD

The equipment shall be installed and serviced by trained service personnel in accordance with the applicable requirements of the current edition of the American National Standards Institute (ANSI) approved National Fire Protection Association's (NFPA) National Electrical Code (NEC) (NFPA 70) or Canadian Electrical Code; and the applicable sections of the National Electrical Safety Code (NESC) (ANSI C2). For operation in countries where the NEC or NESC is not recognized, follow applicable codes.

All electrical procedures should be performed by a licensed electrician.

Observe all safety precautions as specified by local building codes. If local building codes specify procedures different from those in this section, follow local codes.

DANGER! RISK OF ELECTRICAL SHOCK, GENERAL

All enclosure grounding and ground ring must be installed and verified prior to connecting any power cables (AC or DC) and turning-up of enclosure.

When connecting any discrete power connection, make the connection first with the ground/return and break last with ground/return.

Do not install equipment showing any physical damage.
If packaging is damaged, do not accept receipt from the shipper.

DANGER! RISK OF ELECTRICAL SHOCK, OSP CABLES

If joint buried cables are used, check the cable sheath for voltage in accordance with local standards. If voltage is detected, do not proceed with the installation. Contact the supervisor and do not proceed until the voltage hazard is eliminated.

WARNING! RISK OF INJURY TO EYES AND SKIN, FROM OPTIC DEVICES

Do not look into a fiber cable or device, nor hold such cable or device against body, fabric or other material.

CAUTION! TO AVOID EQUIPMENT DAMAGE:

DO NOT REMOVE the exterior packaging or wrap from the enclosure until the enclosure is transported to the installation site. Control moisture and condensation inside the enclosure until it is turned up for service.

CAUTION! PREVENT EQUIPMENT DAMAGE, FROM CONDENSATION

Until the enclosure is turned up for service, the bags of desiccant shipped with the enclosure must remain in the enclosure to prevent condensation.

Once service is in-place, remove the desiccant.

DANGER! PREVENT EQUIPMENT DAMAGE, MAINTAIN VENTILATION

To optimize the service life of this equipment, make sure there are no obstructions in front of the ventilation openings.

WARNING! RISK OF EXPLOSION

For safety reasons, never restrict or block the airflow through the door or entry panel ventilation openings.

CAUTION! PREVENT EQUIPMENT DAMAGE, OPERATING TEMPERATURE

The enclosure is approved for operation in an environment with an expected temperature range of -40 °F to +115 °F (–40 °C to +46 °C) and 0% to 95% relative humidity range, condensing. Do not use at temperatures or humidity exceeding these ranges.

The enclosure is not for indoor use.

WARNING! PREVENT INJURIES, FROM LIFTING THE ENCLOSURE

Follow all local safety practices while lifting the enclosure. Safety equipment, signage, traffic control and all required Personal Protective Equipment (PPE) shall be used.

Keep unnecessary personnel and bystanders clear of work areas at all times.

Do not lift the enclosure over people. Do not let anyone work, stand, or pass under a lifted enclosure.

Do not move or lift the enclosure with a door open.

Only properly trained and certified operators shall operate any crane or lifting equipment.

Do not allow the lifting equipment or enclosure to touch any electrical wiring or equipment.

Operate all lifting equipment within safety constraints, as defined by the manufacturer and local practices; for example, do not exceed the capacity of reach.

Crane Operation:

Only properly trained operators shall operate the crane.

Do not operate the crane until all stabilizers are extended. The stabilizers must be in firm contact with the ground or other adequate support structure. Do not retract or extend the stabilizers when the enclosure is suspended from the crane.

Only the crane rigging crew should set up the crane and rigging.

Do not exceed the lifting capacity of the crane.

Use all four (4) provided lifting points (eyes) at the top corners of the enclosure to lift the enclosure.

Use crane spreader frames to prevent enclosure framework warping due to side loading.

Never route straps, cables or chains through the fork-lift channels in the base for a vertical crane lift.

Do not use slings, clevises or shackles of insufficient capacity.

Forklift Operation:

Only properly trained operators shall operate the forklift.

Do not exceed the lifting capacity of the forklift.

Forklifts shall have a minimum fork length of 72 inches (183 cm).

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1 Purpose of this Document

This document provides description and installation instructions for the XTE 802G Generator Room; Spec. No. F2019014, including associated foundation kits and platforms.

Procedures related to the provisioning, start-up, and acceptance of the generator and associated equipment are not covered in this document.

Documents that supplement the information in this document are referenced in “Sequence of Procedures” on page 20.

2 Product Description

2.1 General

The XTE 802G Generator Room is a companion enclosure for the XTE 802 Walk-In-Cabinet (WIC). The XTE 802G can be used to protect a 20 kW generator in snowy climates. See **Figure 2-1** for overall views of the XTE 802G Generator Room. See **Figure 2-2** for an illustration of the XTE 802G mounted next to an XTE 802.

Figure 2-1: Overall Views of XTE 802G Generator Room

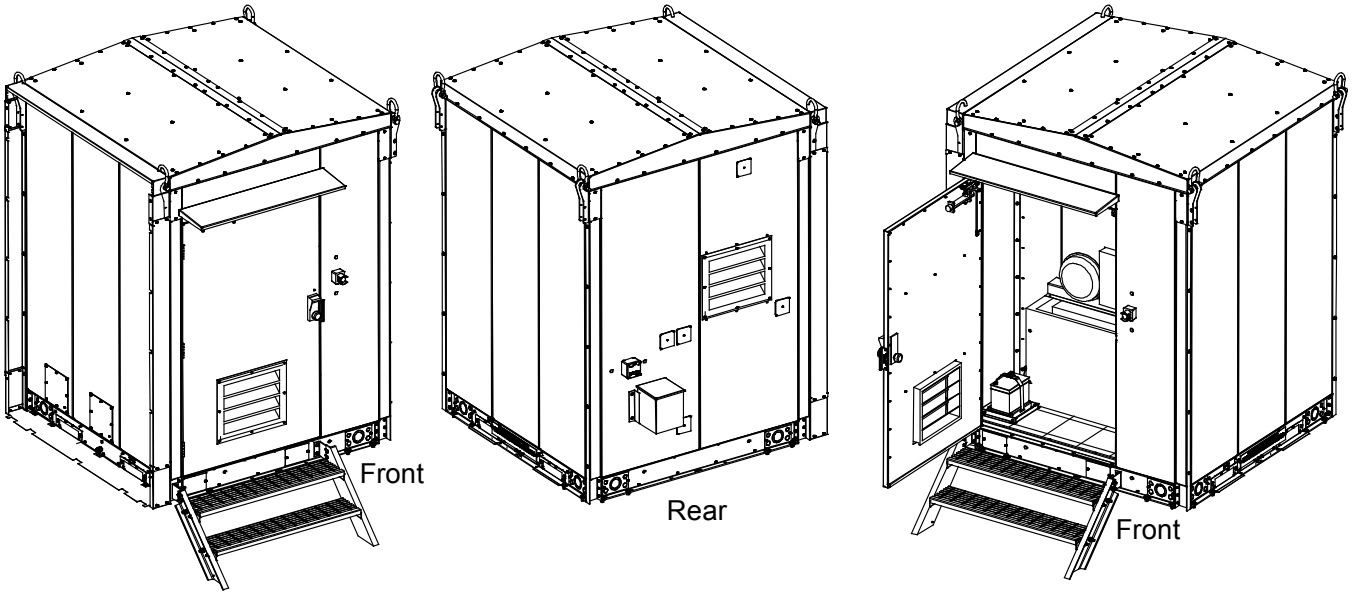
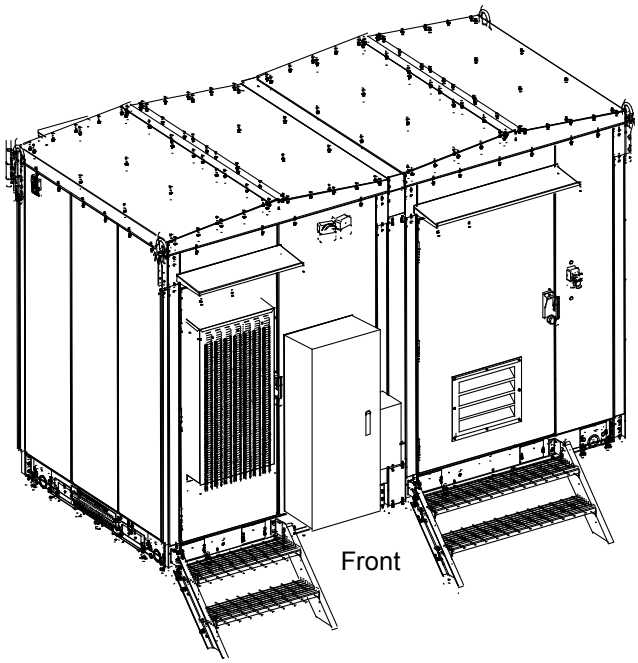


Figure 2-2: Illustration of XTE 802G Generator Room Mounted Next to an XTE 802 Walk-In-Cabinet (WIC)



2.2 Part Numbers

Refer to **Table 2-1** for applicable product part numbers.

Table 2-1: XTE 802G Generator Room Part Numbers and Descriptions

Part Number	Description	NEQ
XTE 802G Generator Room		
F2019014	ATT 6X6 Generator Room	BLD.44436
Foundation Options		
D1000-0000-0101 (stand-alone application)	WIC Helical Foundation Kit – (4) WIC Corner Plates, (1) Two Step Stair, and (4) 6” x 7’ Helical Piers with Leveling Hardware. (two required, one for the XTE 802 and one for the XTE 802G)	NEQ.19785
Combo Platforms		
D1000-0010-0171	Combo Helical Platform - (1) Platform, (2) Stairs, (4) 8" x 7' Helical Piers with Leveling Hardware	NEQ.44467
D1000-0010-0179	Combo Concrete / On the Ground Platform - (1) Platform, (2) Stairs, (3) Skis with Leveling Hardware	NEQ.44466

2.3 Application

The XTE 802G Generator Room is designed to house and protect a Kohler 20 kW diesel generator.

- The XTE 802G Generator Room is designed to provide secure and water-tight housing for the generator and associated equipment including the generator battery.
- The XTE 802G Generator Room depends upon a proven structural system and integrated mechanical components.
- The XTE 802G Generator Room has several mounting options, primarily helical and concrete pier.

2.4 Standards Compliance

The XTE 802G Generator Room is designed to meet the following standards where applicable:

- CSA Certificate of Compliance #70193287.
  - CLASS - C321111 - INDUSTRIAL CONTROL EQUIPMENT - Enclosures for Electrical Equipment
  - CLASS - C321191 - INDUSTRIAL CONTROL EQUIPMENT - Enclosures for Electrical Equipment – US
  - Enclosure Type 3R

NOTE! *This unit is intended for industrial and/or power distribution equipment applications. These components are intended for the installation of industrial electrical equipment and/or power distribution equipment where the complete assembly is approved for installation in non-hazardous locations in accordance with the National Electric Code (NEC) and Canadian Electric Code (CEC).*

APPLICABLE REQUIREMENTS

a) CSA C22.2 No, 94.1-07 / UL 50 12th Ed (Harmonized) Enclosures for Electrical Equipment, Non-Environmental Considerations.

b) CSA C22.2 No. 94.2-07 / UL 50E 1st Ed (Harmonized) Enclosures for Electrical Equipment, Environmental Considerations.

- National Building Code - Canada, 2005.
- National Building Code - USA, 2012.
- ASTM A653 - Galvanized Steel.
- Welding Conformance to CWB - CSA Standard W47.1 and AWS – D1.2, D1.3 and D1.6.
- Designed to meet Seismic Zone 4, water intrusion, impact resistance.
- Telcordia GR487 compliant for corrosion and ultraviolet radiation.
- Electrical certification as per CSA and NFPA70 (NEC) requirements.
- Installation method compliant to AT&T TP76300.

2.5 Safety Listed AC or DC Components

A typical XTE 802G Generator Room only utilizes listed or recognized components for the United States and/or Canada.

2.6 Dimensions, Weights, and Physical Specifications

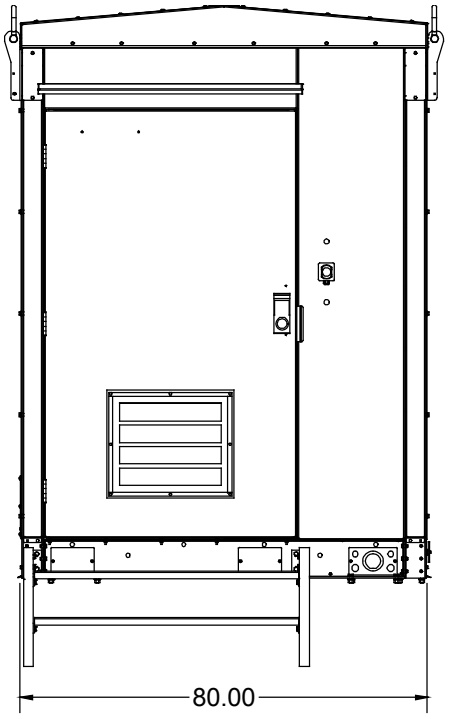
Dimensions

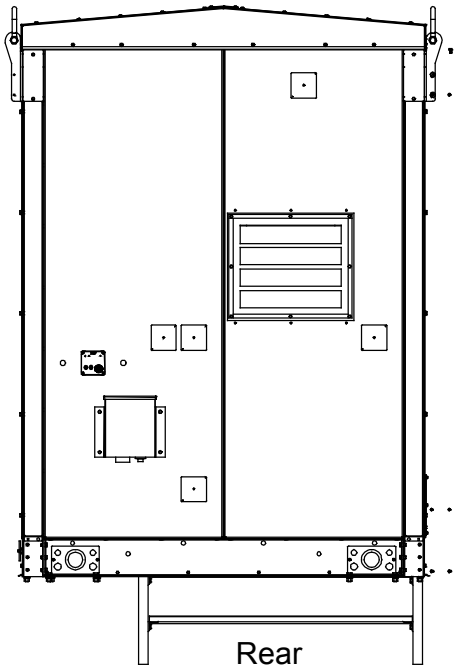
- See **Figure 2-3** for overall dimensions.
- See **Figure 2-4** for mounting hole dimensions without corner plates and **Figure 2-5** for mounting hole dimensions with corner plates.
- See **Figure 2-6** for working space clearances.
- See **Figure 2-7** for base dimensions.
- See **Figure 2-8** and **Figure 2-9** for conduit knockout locations and dimensions.

Specifications

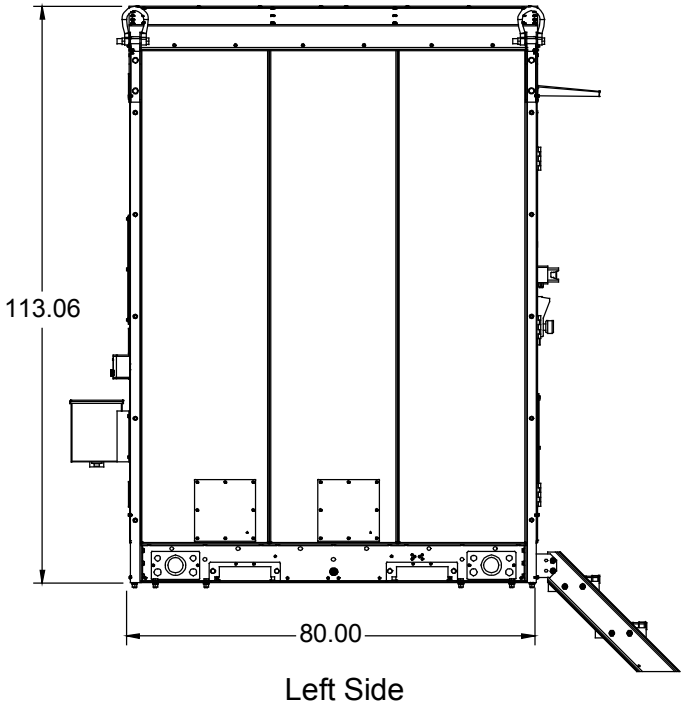
- External Dimensions – 80” x 80” x 113”
- Internal Height – 96.5"
- Internal Width – 71.4"
- Internal Length – 71.4"
- Weight – Empty: 2400 lbs.
  As Installed: 4750 lbs.
- One (1) hour fire rating.
- Common equipment kit (lighting, etc.).
- Fully integrated internal grounding system.
- Externally mounted color matched unistrut channels on each lifting strap for mounting external equipment.
- Color – Pebble-Gray, RAL7032.
- Finish – Standard finish is multistage dry powder polyester paint for maximum durability and performance against corrosion. Optional exterior finishes also available upon request.

Figure 2-3: Overall Dimensions





Notes:
1. All dimensions are in inches, unless otherwise specified.



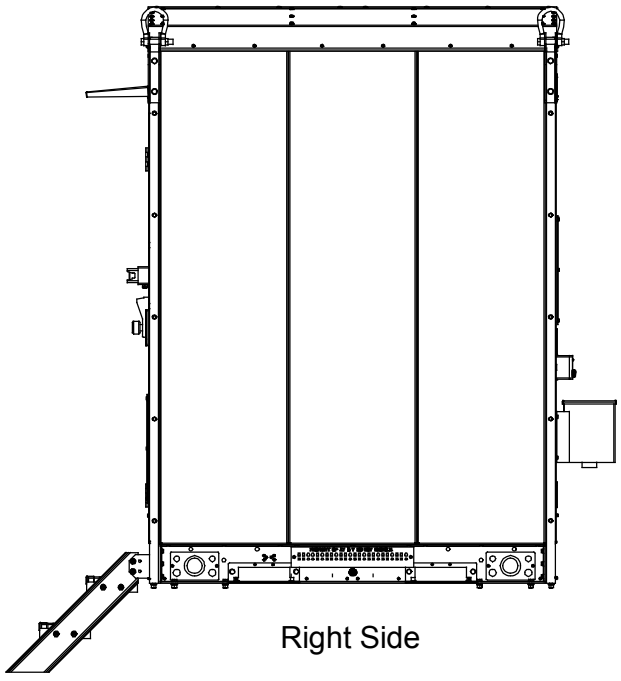


Figure 2-4: Mounting Hole Dimensions (without corner plates)

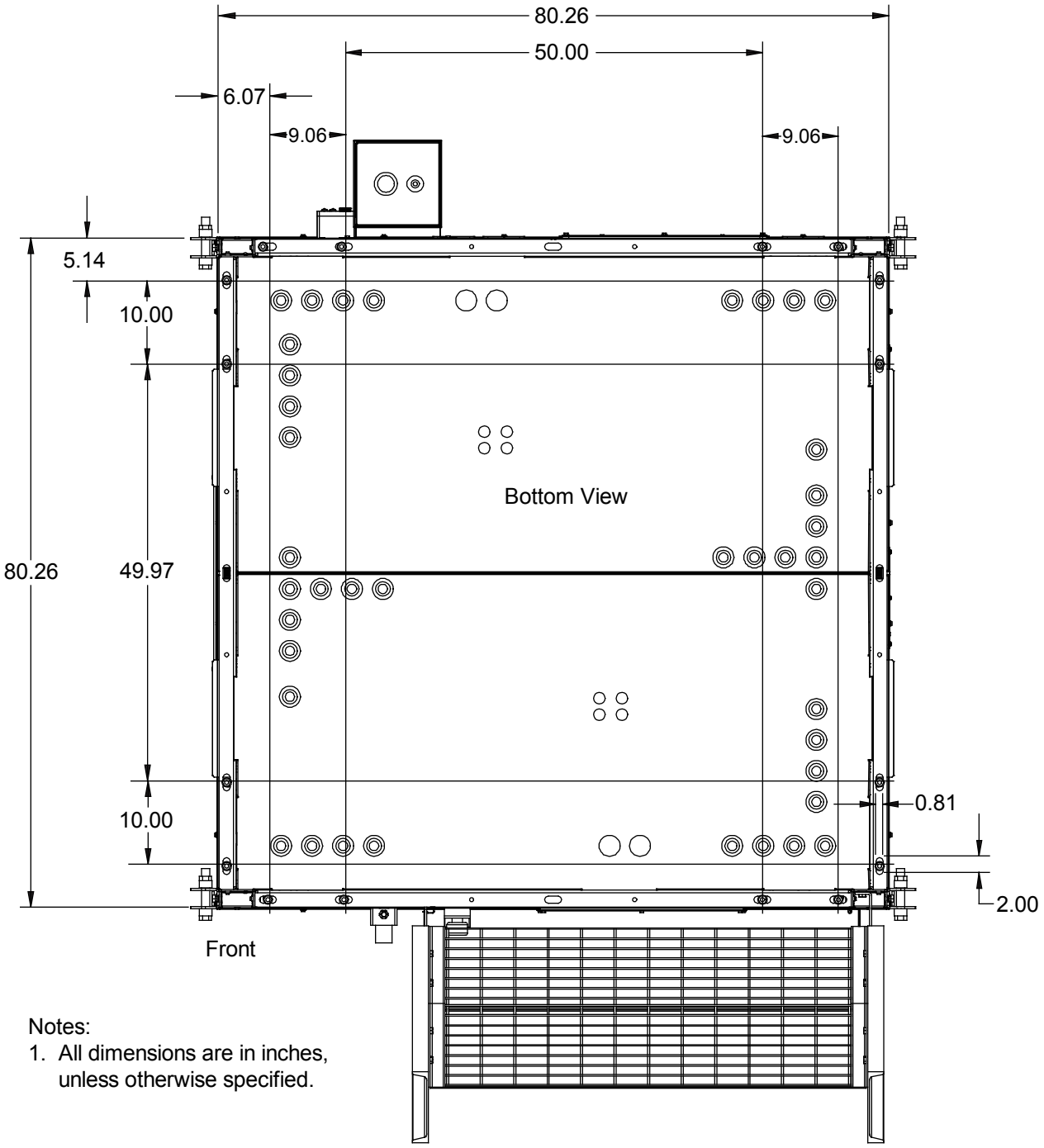


Figure 2-5: Mounting Hole Dimensions (with corner plates)

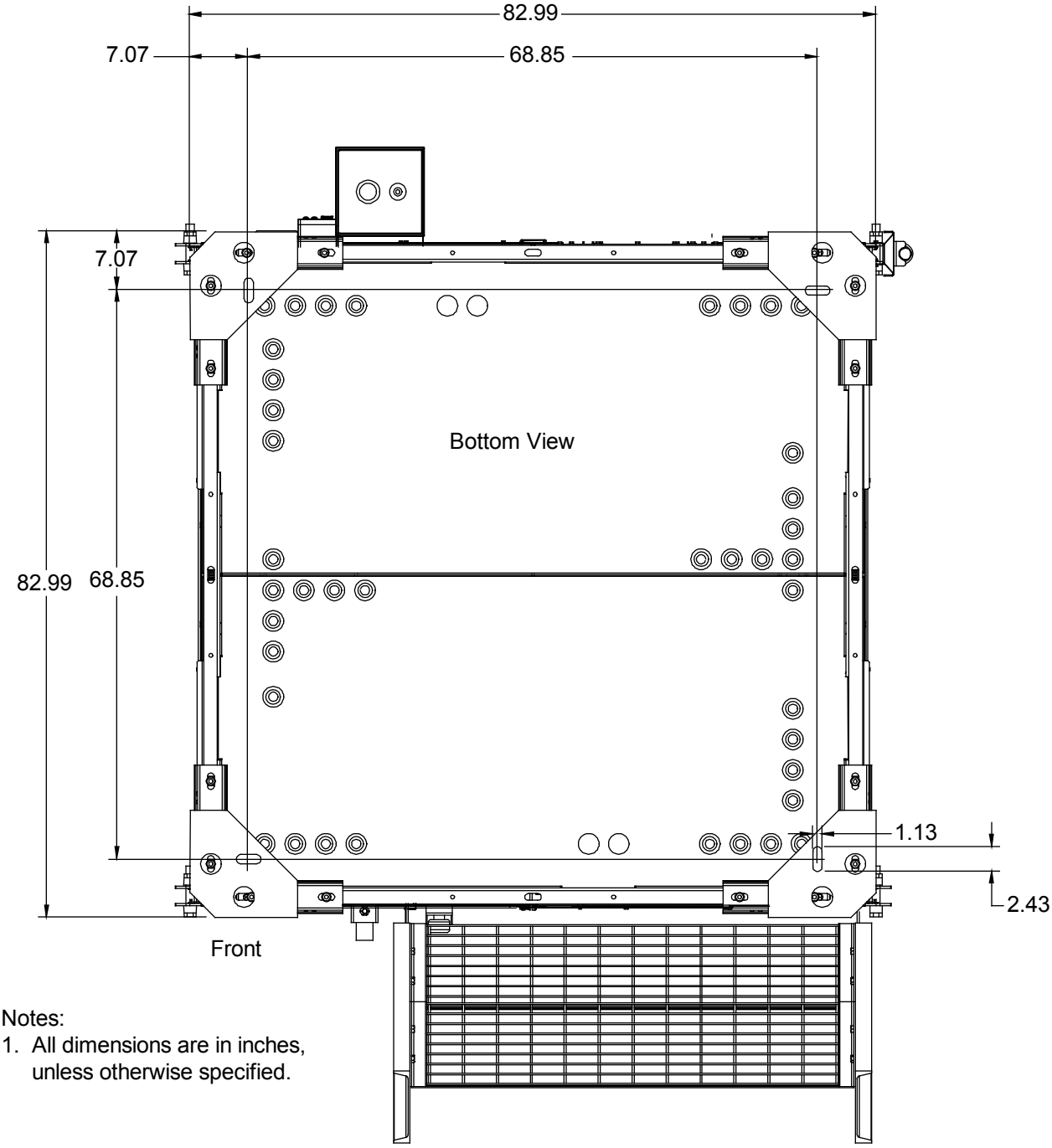
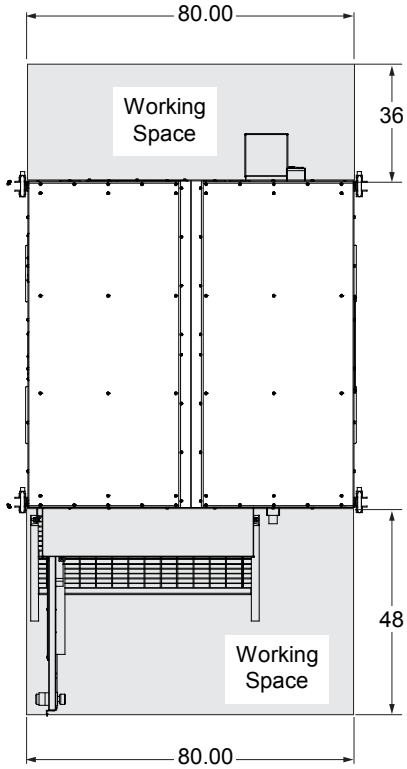


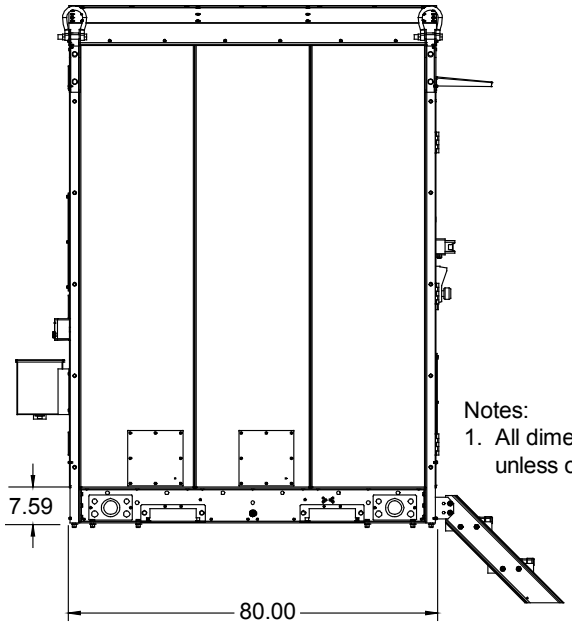
Figure 2-6: Working Space Clearances



Notes:
1. All dimensions are in inches, unless otherwise specified.

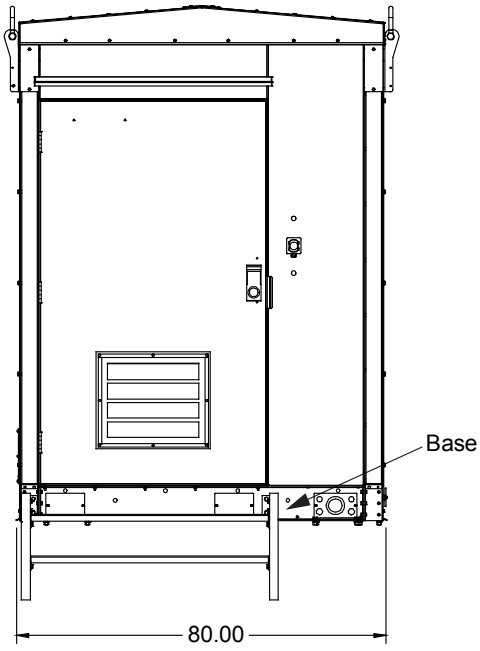
Top View

Figure 2-7: Base Dimensions



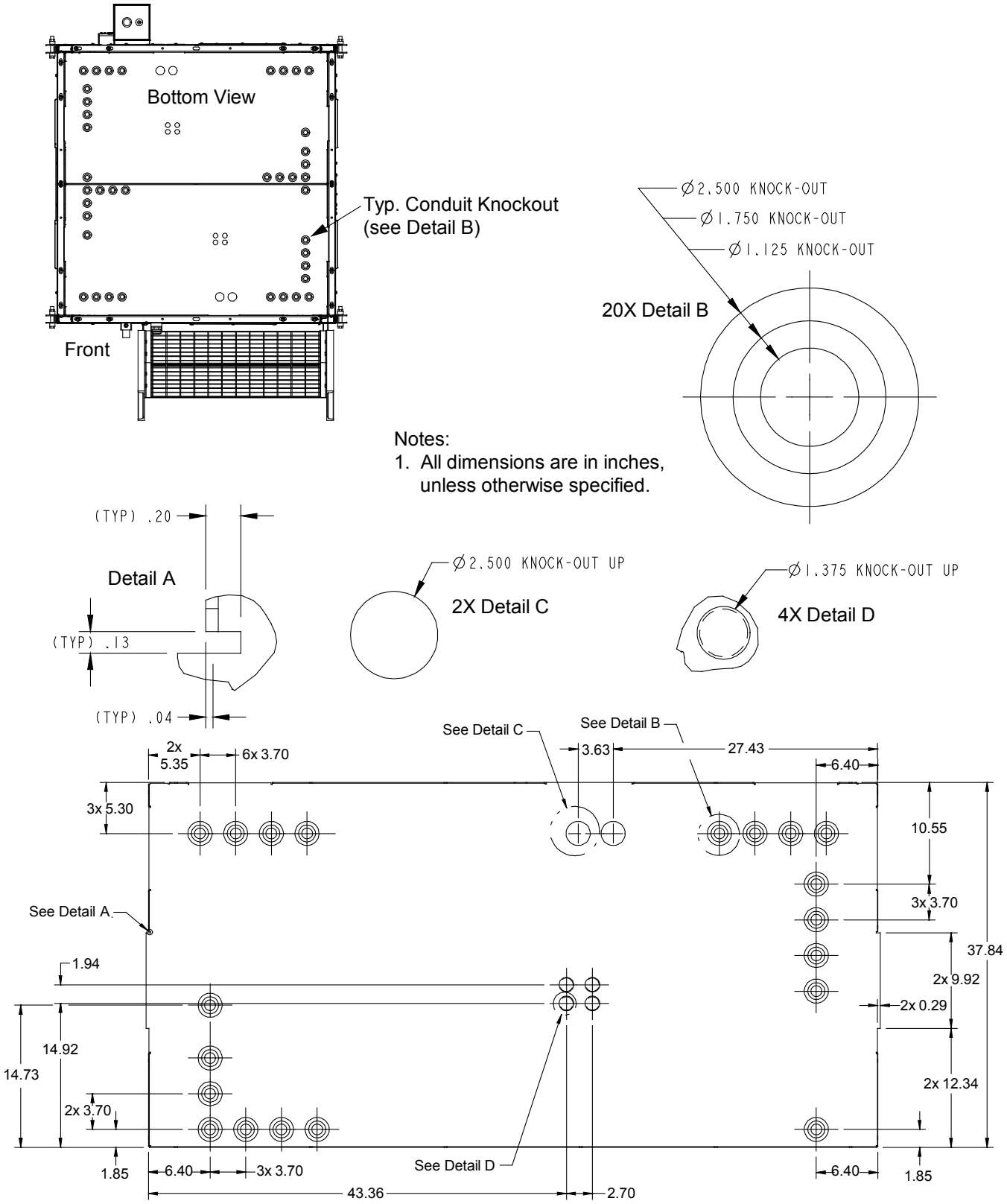
Notes:
1. All dimensions are in inches, unless otherwise specified.

Left Side



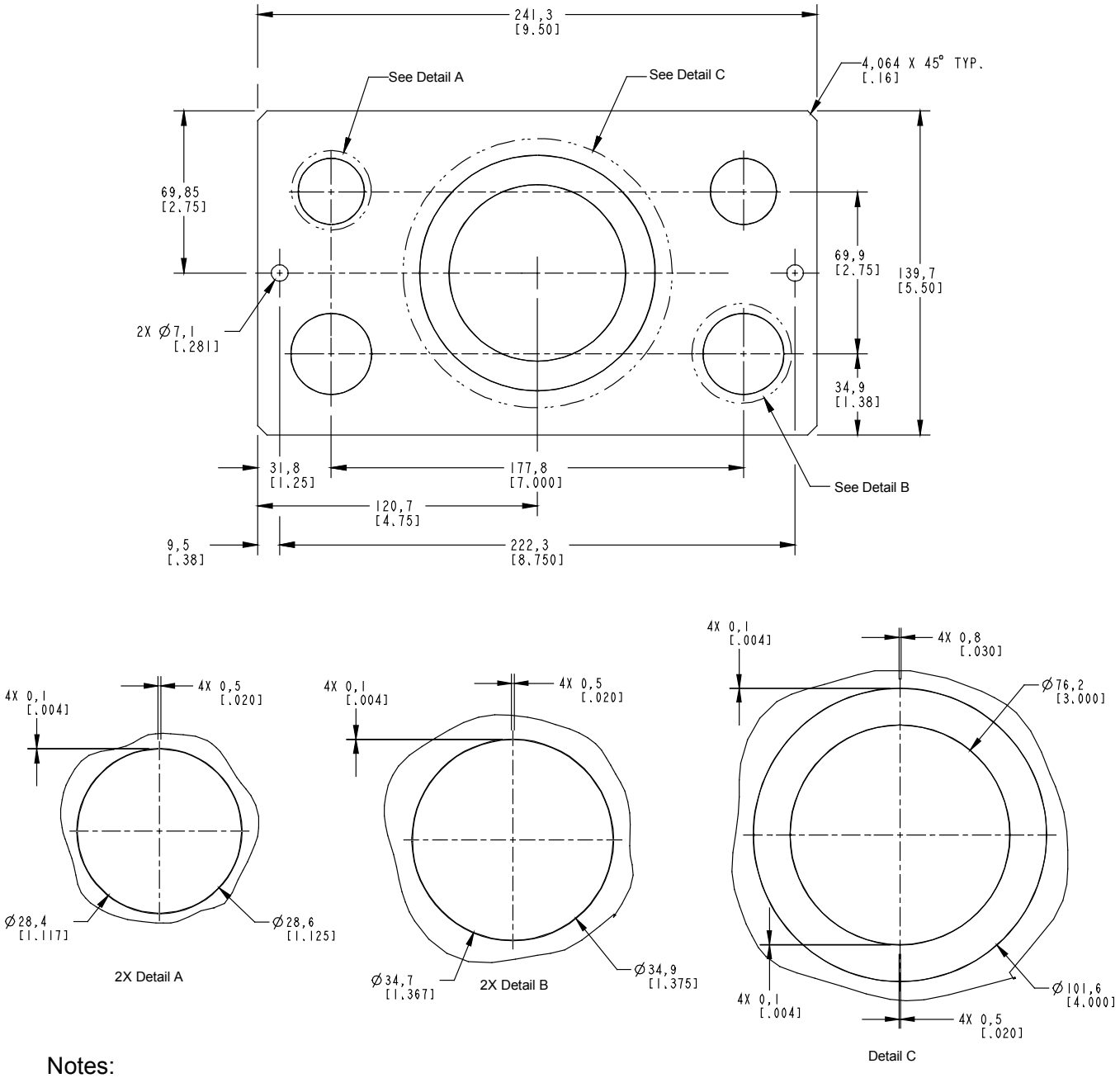
Front

Figure 2-8: Conduit Knockout Locations in Base Pan



Bottom Cover Panel Conduit Knockout Locations and Dimensions

Figure 2-9: Base Side Plate Conduit Knockout Dimensions



Notes:

1. All dimensions are in mm [inches].
2. All dimensions are to outside surface.

2.7 Features and Options

Perspective Views

For illustrations of the XTE 802G, refer to the following.

- Refer to **Figure 2-10** for perspective views with major features identified.
- Refer to **Figure 2-11** for wall detail views.
- Refer to **Figure 2-12** for top view of floor; including floor cable entry ports locations.
- Refer to **Figure 2-13** for door intrusion switch location.

Construction

Welded galvanized steel construction with outstanding impact and corrosion resistance.

- Interlocking steel panels construction.
- Walls, floor and ceiling are made of 14 gauge steel.
- Ceiling joists with 12 gauge steel.
- Floor Load: 200 pounds per square foot minimum (uniform with full-support foundation).
- Roof Live and Impact Load: 300 PSF (maximum).
- Wind Speed: 180 mph.

Protection

Powder coat finish. Meets GR487 Telcordia mechanical and environmental standards for telecom cabinets.

- Protects against rain, sleet, snow, splashing water and damage from external ice formation.
- Optional exterior finishes including brick, stone and exposed aggregate are available upon request.

Mounting Base

Cable mounting base with 360 degree access to floor penetrations for easy conduit and cable entries into the XTE 802G Generator Room. See **Figure 2-7** on page 8.

- Fork lift tubes on left and right sides of cabinet.
- Base includes steel cover plates front and back to accommodate cabling.

Common Equipment Kit

- Interior -48 VDC Lights
- Optional +24 VDC Smoke Detector
- Door Contacts
- Halo ground, interior isolated copper ground bar, H taps for ground terminal and external isolate ground bar, ground entry / exit plate as per ATT grounding specification.

Access Door and Hardware

- Type: 16 gauge galvanized steel commercial grade insulated door.
- Size: 48" x 84" outward opening.
- Frame: 16 gauge galvanized steel frame.
- Door Lock: KABA Simplex L1000 Series, Model 1021B, Mechanical w/Best core.
- Hinges: (3) stainless steel with non-removable pin (per door).
- Door Holder: positive engagement latch with bumper stop.
- Closer: adjustable-hydraulic.
- Drip Cap: 12" drip cap above doorway.

Master Ground Bar (MGB)

The XTE 802G contains one (1) 24-position galvanized steel Master Ground Gar (MGB) mounted to the outside of the right side of the base assembly. The all-metal structure of the XTE 802G is bonded together using the PANI method for grounding.

Ground Bar (Interior)

A ten (10) position ground bar is located at the inside rear of the XTE 802G. This ground bar is mounted on isolators. The default ground lug geometry is two hole with 1/4" post and 5/8" spacing.

NOTE! *Two (2) hole lugs are required on all ground bar terminations.*

Lifting

The XTE 802G Generator Room is equipped with one lifting lug at the top of each corner that allow it to be lifted and lowered into position. The base is also equipped with fork lift pockets that allow the use of a forklift to offload and lower to the mounting base at the site.

Door Intrusion Alarm Switch

A door intrusion alarm switch is provided. See **Figure 2-13** for location and "Door Intrusion Alarm Switch Operation" on page 21 for operation.

Alarms

The XTE 802G Generator Room is equipped with a door intrusion alarm switch. This switch can be wired to the alarm block located on the XTE 802 Walk-In-Cabinet (WIC). The intrusion alarm triggers whenever the door is opened. It can be disabled by pulling the alarm plunger completely forward.

Light Switch

A light switch is provided for the three (3) interior ceiling mounted LED lights. The light switch is located to the right of the door as you enter.

Cable Entry Ports

- The XTE 802G has one (1) cutout in the floor which is equipped with Roxtec 4/4 EzEntry ports (see **Figure 2-12** for location).
- The XTE 802G also contains a floor access plate which contains four (4) 1.37 inch conduit knockout holes (see **Figure 2-12** for location).
- The XTE 802G base pan also includes conduit knockouts (see **Figure 2-8** on page 9).

Working Space Requirements

See **Figure 2-6** on page 8 for working space requirements.

Foundation Options

Helical Foundation Kit - Single Point Leveling (P/N D1000-0000-0101) (for Mounting XTE 802G Separate from the XTE 802) (Two Required)

Consists of four (4) self drilling helicals, four (4) corner plates, leveling hardware, and stairs. Each helical is 6 inches in diameter and 7 feet in length. One helical will be located in each corner and will be drilled into the ground to 11 inches of grade (on the door side of the unit if on a slope). One leveling hardware set will be installed in each helical, then the four (4) corner plates will be installed on top of the leveling hardware. The unit will then be bolted to the corner plates using the appropriate provided hardware. The stairs are then attached to the unit.

NOTE! *For grounding purposes, NEC requires a minimum of 10 vertical feet of helical in the ground.*

Combo Foundation Options

Combo Helical Platform (P/N D1000-0010-0171)

If ordered through CEEOT, this platform will ship to the site completely configured with XTE 802 and XTE 802G including all conduit and cabling. Consists of four (4) self drilling helicals, one (1) platform, two (2) stairs, and leveling hardware. Each helical is 8 inches in diameter and 7 feet in length. Each helical will be drilled into the ground to 6 inches of grade (on the door side of the unit if on a slope). Four leveling hardware sets will be installed in each helical, then the platform will be installed on top of the leveling hardware. The stairs are then attached to the XTE 802 and the XTE 802G.

NOTE! *For grounding purposes, NEC requires a minimum of 10 vertical feet of helical in the ground.*

Combo Concrete / On the Ground Platform (P/N D1000-0010-0179)

If ordered through CEEOT, this platform will ship to the site completely configured with XTE 802 and XTE 802G including all conduit and cabling. Platform ships complete. Consists of three (3) skis, one (1) platform, two (2) stairs, and leveling hardware. Platform is simply lifted and set on the ground or concrete. Each ski has three leveling points for adjustments. The stairs are then attached to the XTE 802 and the XTE 802G.

Figure 2-10: Perspective Views with Major Features Identified

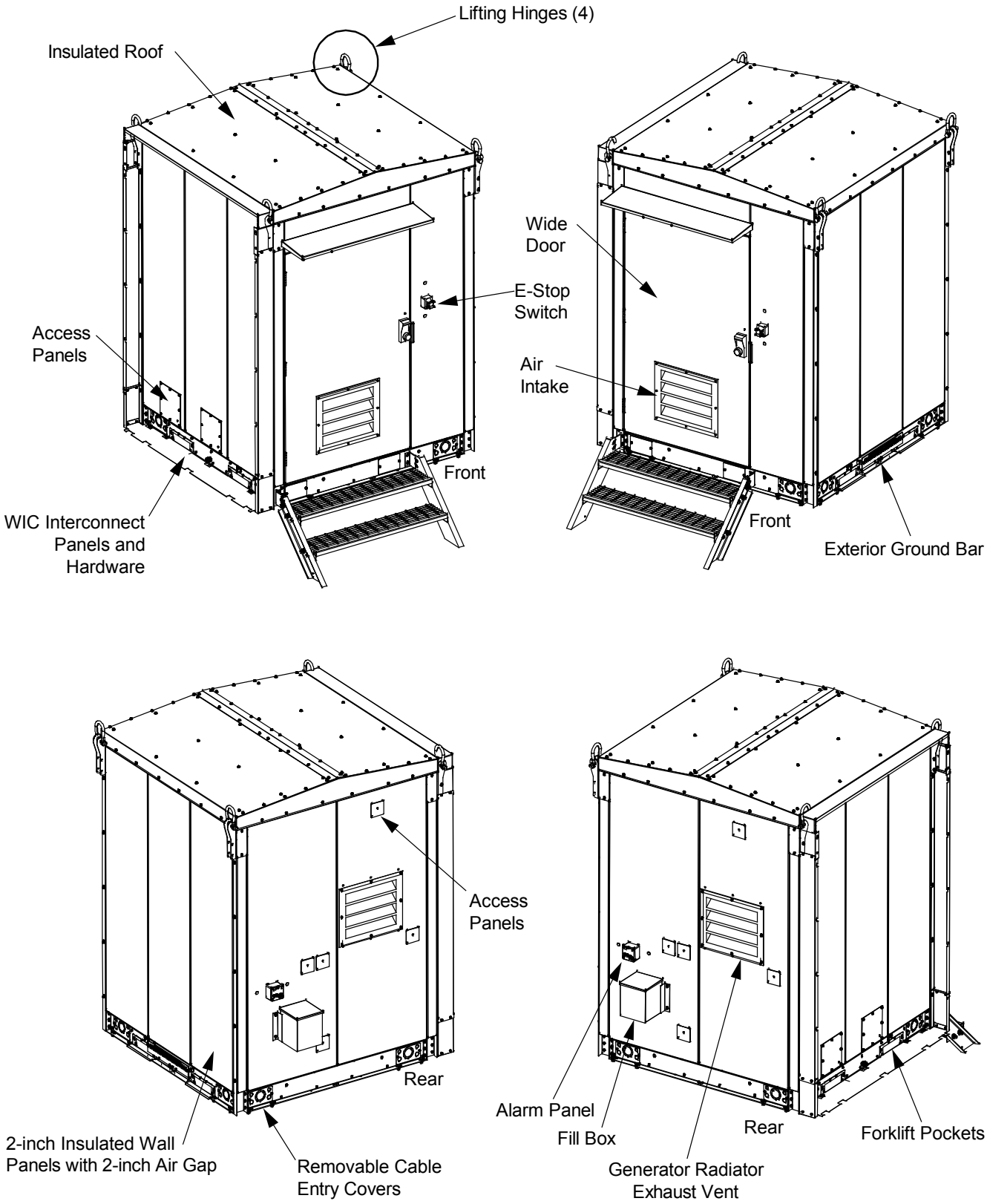


Figure 2-11: Wall Detail Views (cont'd on next page)

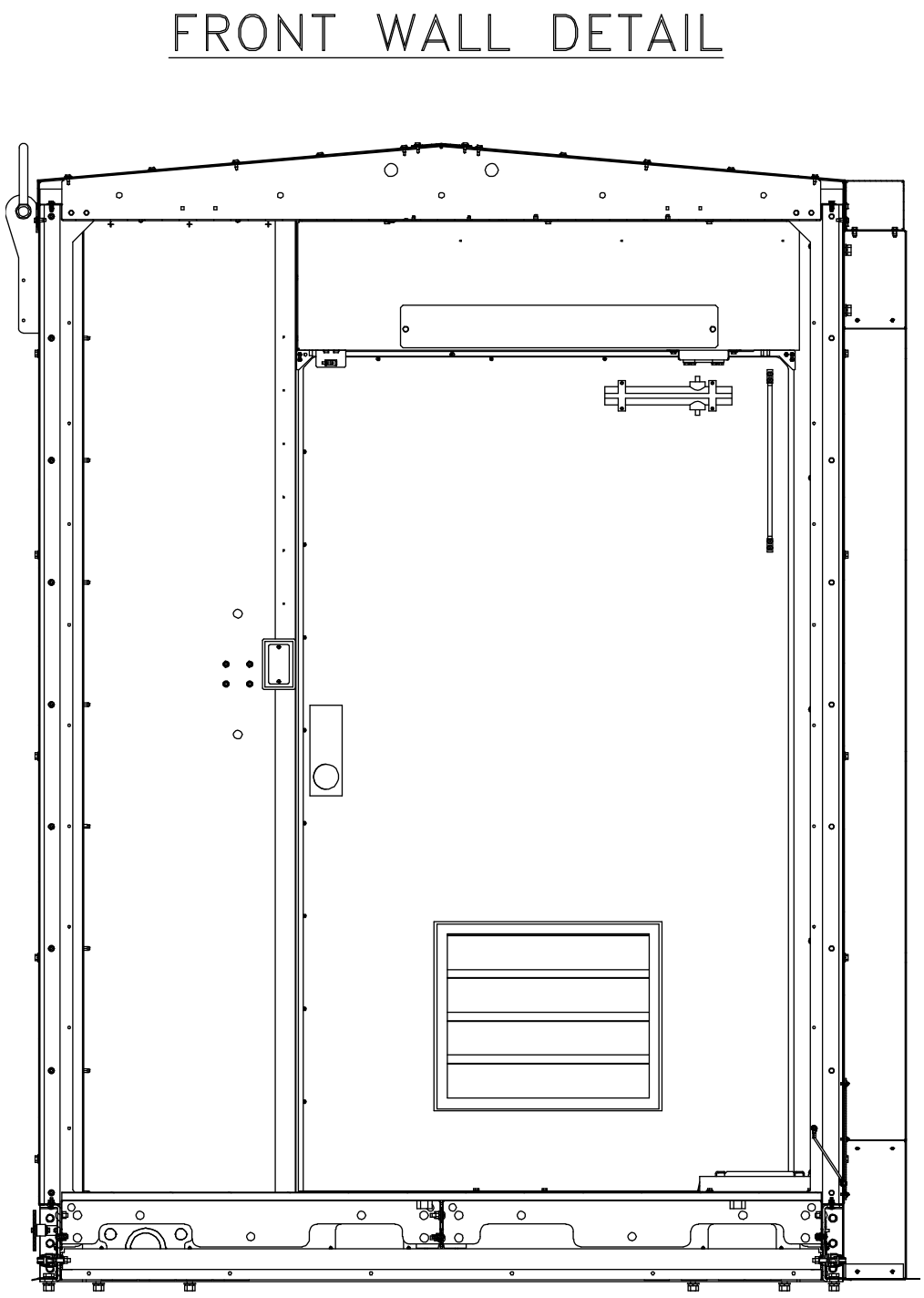


Figure 2-11: Wall Detail Views (cont'd from previous page, cont'd on next page)

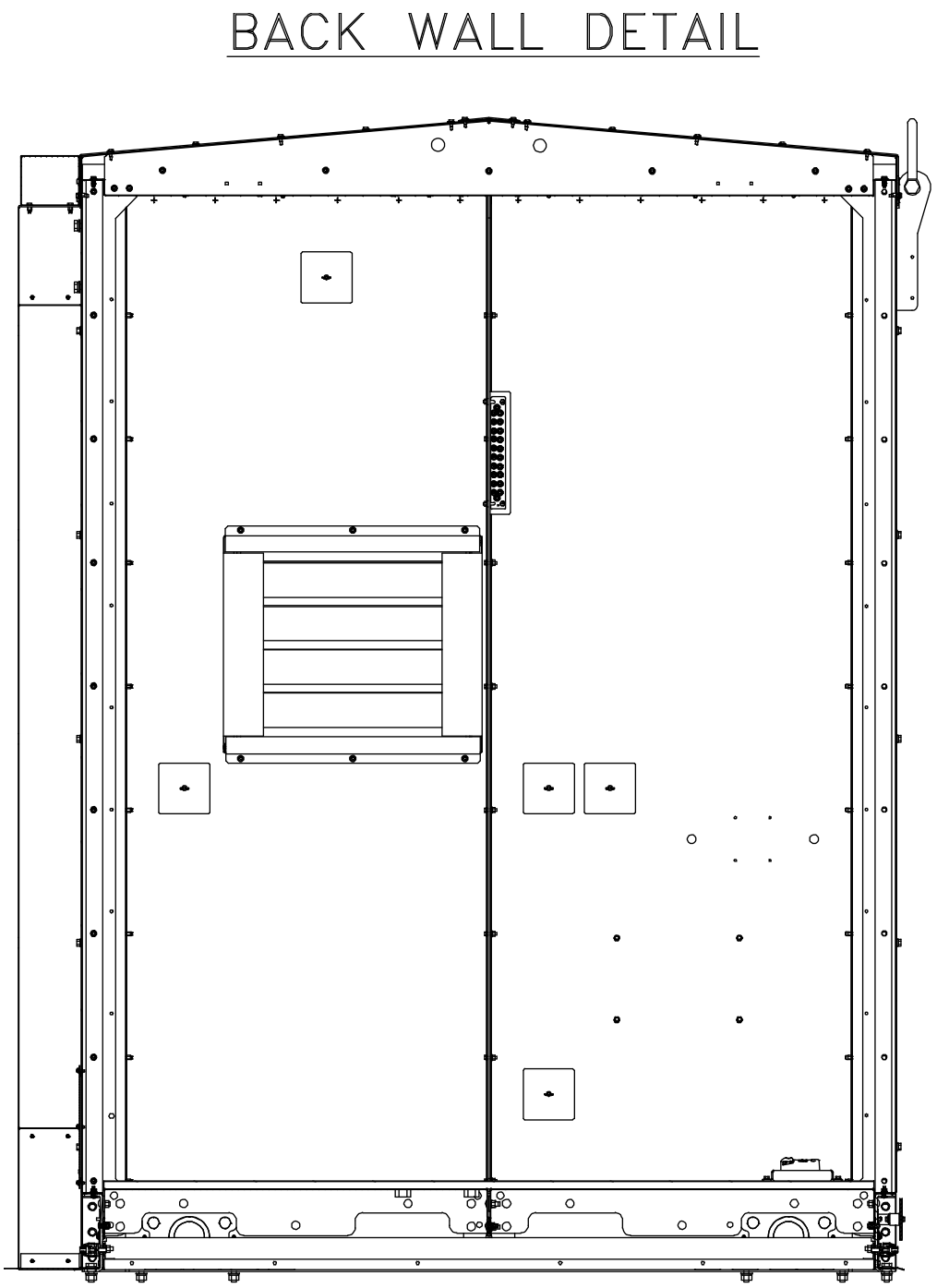
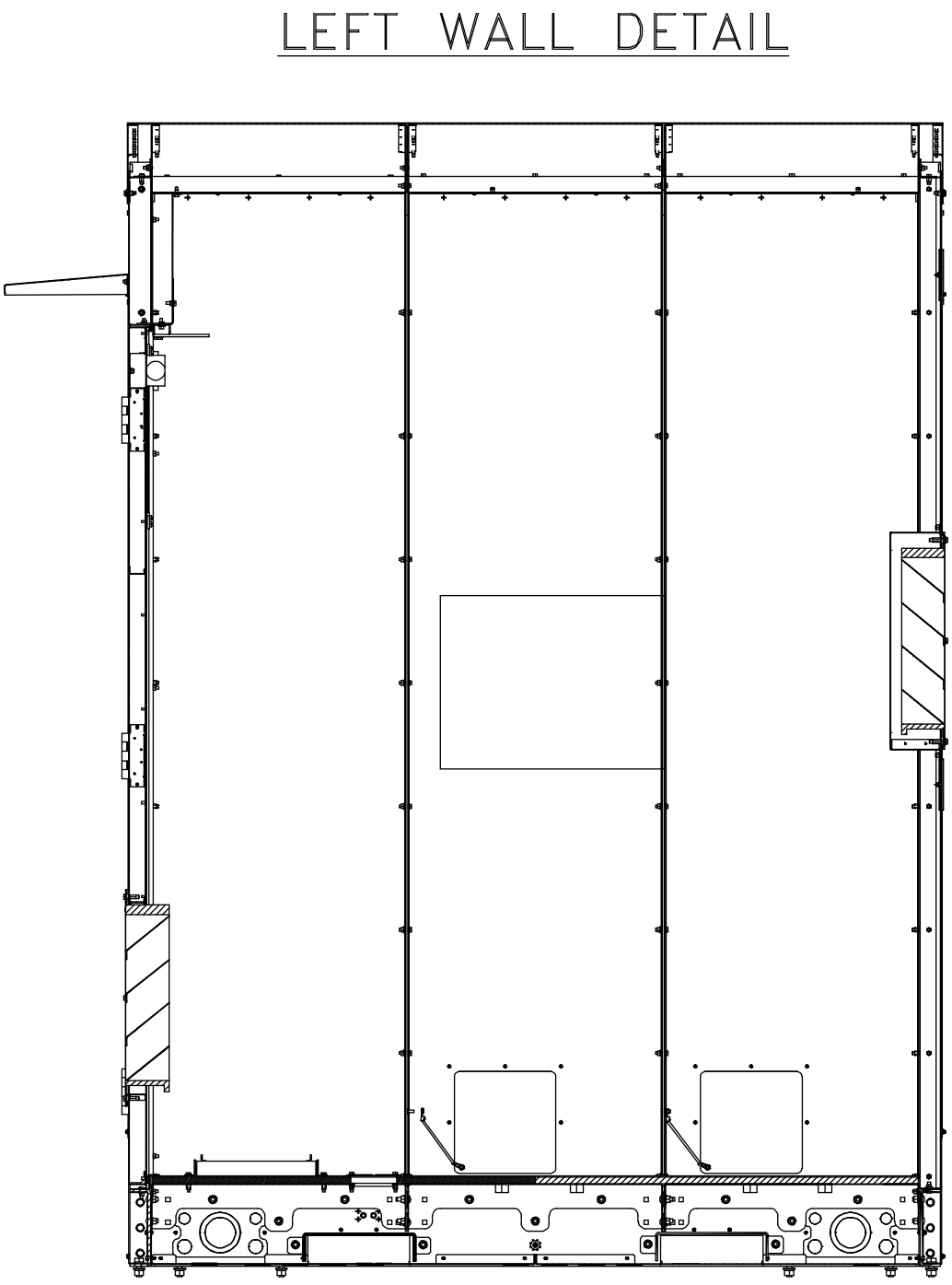


Figure 2-11: Wall Detail Views (cont'd from previous page, cont'd on next page)



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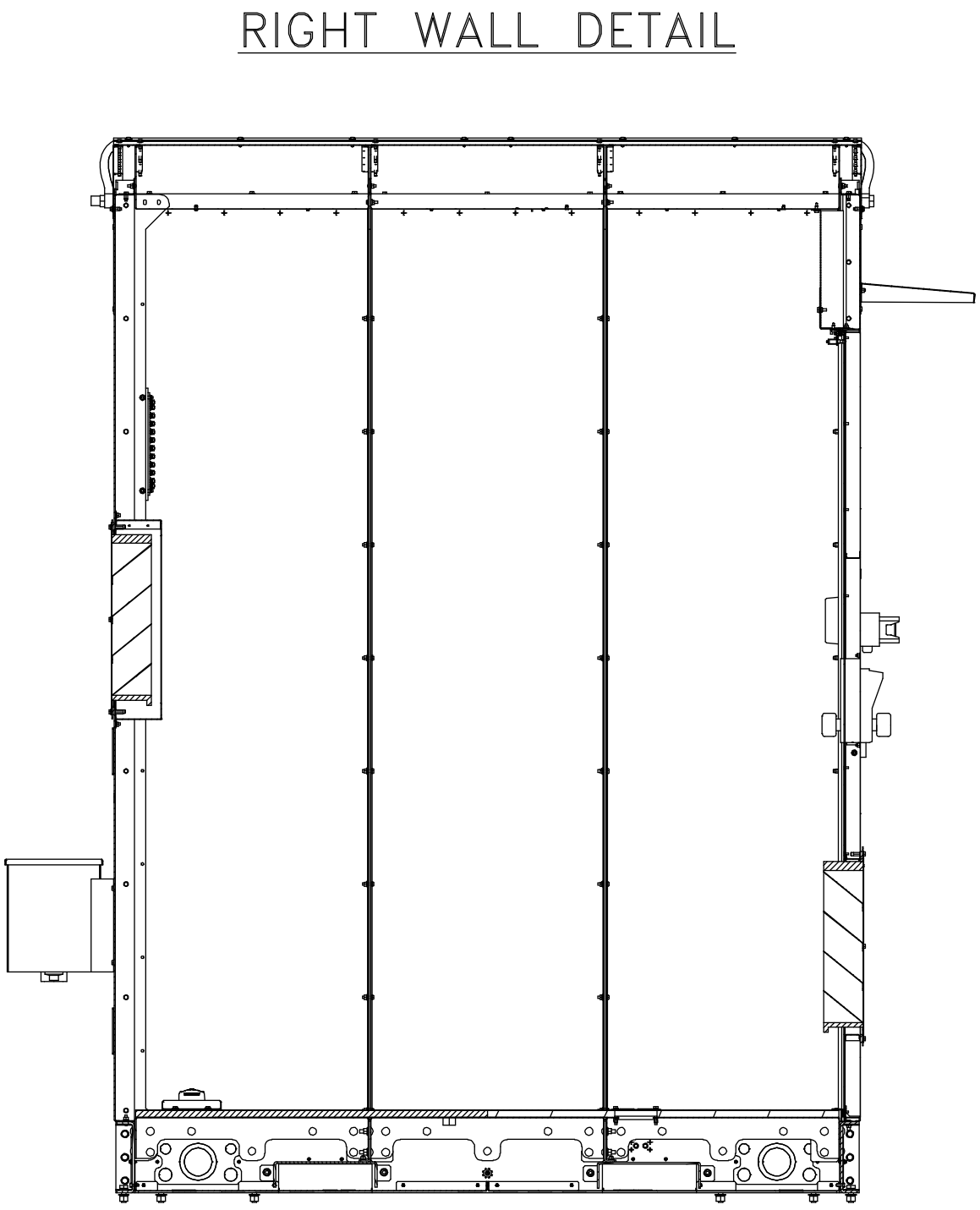


Figure 2-12: Top View of Floor and Floor Cable Entry Ports

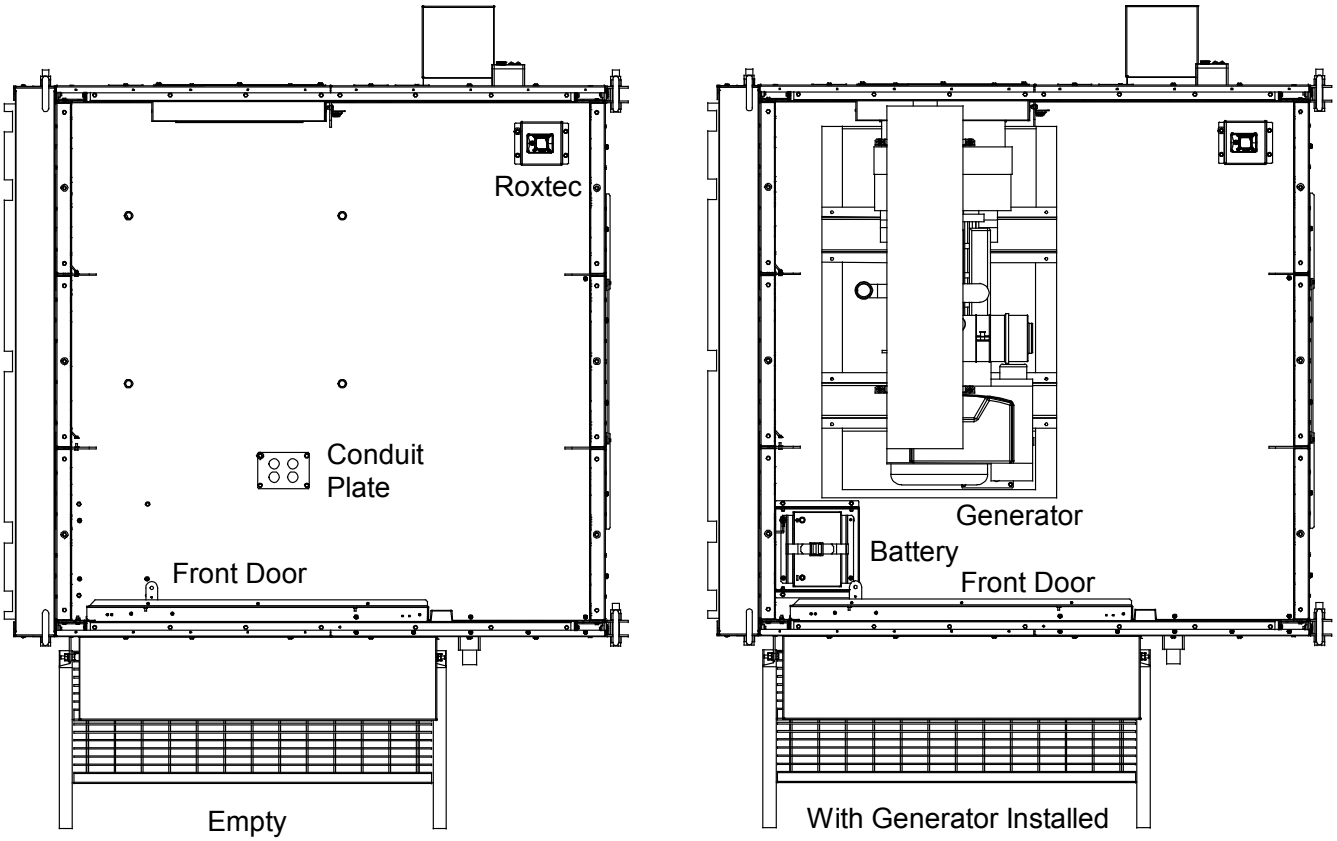
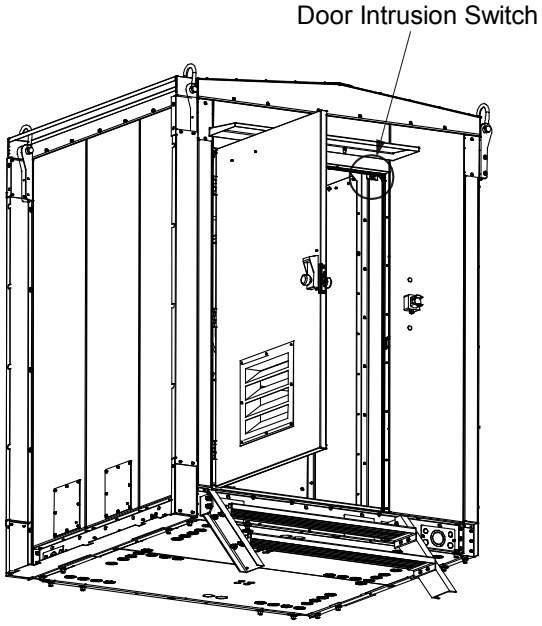


Figure 2-13: Door Intrusion Switch Location



3 Sequence of Procedures

3.1 General

Perform the procedures in **Table 3-1** (in the order listed) to fully install the XTE 802G.

Other practices and manufacturer's documents will be required to complete the installation of the system. This includes, but is not limited to:

- OSP cable fishing, sealing, grounding, splicing, and termination.
- Equipment manufacturer's drawings and documentation.
- Refer also to…
  - SD-2019014-01 (XTE 802G Schematic Drawings).
  - J-2019014-01 (XTE 802G Job Drawings)

Table 3-1: Sequence of Procedures

Section in this Document	Starting on Page	Description
Product Description	1	Provides information that will help the project engineer determine an appropriate use and location for the XTE 802G, including associated foundation options.
Front Door	21	Describes the front door and operation of the front door intrusion alarm switch.
Installation Considerations	22	Provides installation overview.
XTE 802G Placement	24	Describes the transportation and storage requirements, the safe handling of the XTE 802G, and the procedures to install the XTE 802G and associated foundation options.
Installing Interconnect Frame	43	Provides an installation diagram to assemble the sheet metal frame furnished to fill in the gap between the installed XTE 802 and XTE 802G.
Sealing Cable Entries	45	Provides methods for sealing cable entries.
Grounding the XTE 802G	46	Describes the grounding requirements for the XTE 802G.
DC Power	52	Provides DC wiring information for the interior DC lights and optional DC smoke detector.
OSP Cables	55	Provides procedures for preparing the cable sheaths and routing the cables within the XTE 802G.
Alarm Wiring	56	Describes the wiring for the XTE 802G alarms.

4 Front Door

4.1 Safety Precautions

DANGER! RISK OF ELECTRICAL SHOCK, AC

Proper actions, include, but not limited to:

- Verify before contacting the XTE 802G that no current leakage or ground fault condition is present.
- Verify a proper ground is in place.

WARNING! RISK OF EXPLOSION

For safety reasons, never restrict or block the airflow through the door or entry panel ventilation openings.

4.2 Locking Mechanism

The front door is equipped with a KABA Simplex L1000 Series, Model 1021B, Mechanical w/Best core door lock.

4.3 Securing Mechanism

The front door is equipped with a positive engagement latch with bumper stop to secure the door in an open position and an adjustable-hydraulic closure.

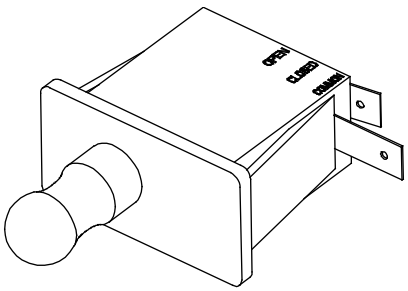
4.4 Door Intrusion Alarm Switch Operation

The front door is equipped with a door intrusion alarm switch. The intrusion alarm switch can be connected to the alarm block located on the XTE 802 Walk-In-Cabinet (WIC). If connected to an alarm sending device, an alarm can be sent whenever the front door is opened. The intrusion alarm can be disabled while performing routine maintenance as described in the following procedure. Refer to **Figure 2-13** on page 19 for location of the intrusion alarm switch. Refer to **Figure 4-1** for an illustration of the intrusion alarm switch.

Procedure

1. Open the front door. If connected properly, the intrusion alarm activates.
2. Pull the plunger on the switch to silence the alarm.
3. The intrusion alarm can be reset by pushing the plunger back in, or by closing the front door.

Figure 4-1: Intrusion Alarm Switch



Front Door Intrusion Alarm Switch View

5 Installation Considerations

NOTE! *If holes are drilled into the exterior of this XTE 802G and not filled using a seal tight connector, the manufacturer's warranty will be void.*

5.1 Important Safety Instructions

DANGER! Adhere to the "Important Safety Instructions" starting on page vi.

5.2 Installation Overview

The following is the recommended sequence for the installation and start-up procedures. The sequence may change according to job and site conditions.

- Ensure all site drawings and approvals are in place.
- Obtain the recommended tools and test equipment.
- Read "Important Safety Instructions" starting on page vi carefully.
- Check that all the equipment and materials have been delivered.
- Proceed with the physical installation of the XTE 802G.
- Install and verify ground cables.
- Install and verify the DC power.
- Route, splice, and verify the OSP cables.
- Install and verify the alarm cables.

5.3 Tools and Test Equipment Required for Installation

The following tools, test equipment and materials are required for the physical installation of the XTE 802G:

- Non-contact voltage detector
- Digital multimeter (DMM), 0 to 200 V dc, 0 to 300 V ac
  - Digital clamp-on meter, 0 to 30 A dc, 0 to 60 V ac, recommended
- Torque wrench
- Ratchet drive, extensions, sockets
- Carpenter's level
- Lineman's scissors
- Lineman's strippers
- Lineman's cutters
- Appropriate crimping tool with dies
- Electrician's insulated screwdrivers, Phillips, No. 1 and 2
- Electrician's insulated screwdrivers, flat-blade, small and large
- Insulated nut drivers for battery installation.
- Silicone sealant
- NO-OX-ID-A or approved equivalent

Outside the scope of this document are the tools to fish, splice, and terminate OSP cables.

Equipment associated with lifting the XTE 802G by the eyebolts is listed separately, in a subsequent section.

6 XTE 802G Placement

6.1 Overview

This section contains the procedures required for physical installation of the XTE 802G.

6.2 Site Selection

Obtain rights-of-way and other permits (building permit, electrical permit, etc.), depending on local codes and authorities, prior to installing the XTE 802G.

The XTE 802G is to be installed using one of the following approved foundation kits and options:

1. WIC Helical Foundation Kit - Helicals screw into the ground 6 feet removing the need for a ground ring. Two kits required, one for the XTE 802 and one for the XTE 802G.
2. Combo Helical Platform - Helicals screw into the ground 6 feet removing the need for a ground ring.
3. Combo Concrete / On The Ground Platform - To be installed on grade or on concrete.

Site Location Considerations

Consider the following when deciding on the location for the XTE 802G.

- Place the XTE 802G on servitudes, on dedicated (recorded) easements, or on property owned by the company. Avoid any unrecorded easements.
- Use public road and street rights of way only where there is enough space to place the XTE 802G and provide safe working conditions. The XTE 802G should be easily accessible with adequate parking to ensure safety for people and vehicles. Place the XTE 802G where it will not create a visual or physical obstruction to either vehicles or pedestrians.
- Select locations that will minimize accidental or intentional vandalism. Consider the use of protective posts/bollards when the XTE 802G is located near parking areas where vehicles could back into it.
- Do not place the XTE 802G in ditches or areas subject to flooding.
- **Figure 2-6** on page 8 shows the minimum working space allowed between the XTE 802G and any obstruction including fences, hedges, etc. Working space consists of adequate area for craft personnel to perform work and maintenance procedures as defined in the National Electric Code (NEC).
- Where ordinances or other standards require that the XTE 802G be placed behind vegetation, preference should be given to evergreens that will not produce leaves, sticky pollen or waste that could fall and clog the climate control units vents.
- If the area is subject to freezing temperatures, be sure to comply with the local building codes and footing requirements to eliminate the possibility of frost heave.
- Minimize snow buildup around the XTE 802G and its externally mounted components.
- Placement should support access for snow removal equipment in the event of a snow/ice storm.

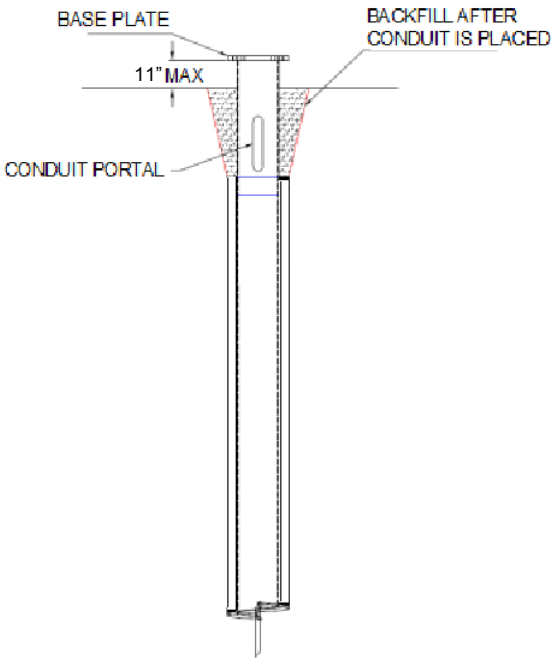
6.3 Foundation Kit Installation

6.3.1 Helical Foundation Kit Installation (P/N D1000-0000-0101)

Helical Foundation Kit Installation Procedure

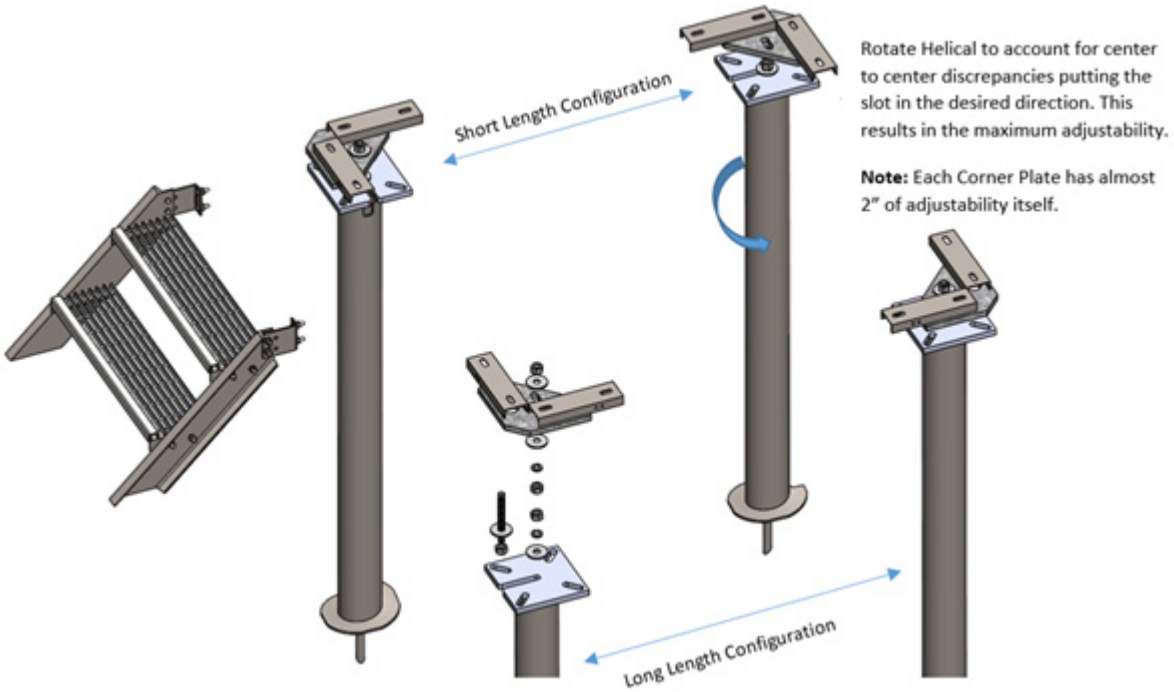
1. Assemble the universal driving tool on the correct Kelly bar adapter.
2. Connect Kelly bar adapter to Kelly bar on the drive head.
3. Move drive tool assembly to first helical and attach universal driving tool to helical plate paying attention to keeping the Kelly bar as centered in the helical as possible. The leveling hardware can be used for this temporary attachment.
4. Lift helical upright allowing it to swing free of the ground.
5. Maneuver the helical directly over the installation point.
6. Lower the helical until the point of the helical is forced into the ground on target.
7. Screw helical 12 inches into the ground and plumb using a level on 2 sides 90 degrees from each other.
8. Continue screwing the helical into the ground while correcting the Kelly bars orientation so the helical embeds itself straight. A ground man can be of assistance in keeping the foundation plumb during the installation.
9. Drive the helical until the helical plate is 11 inches above grade orientated as shown in **Figure 6-1**. Stop the driving tool assembly. Disconnect the universal driving tool from the helical plate.

Figure 6-1: Diagram of Properly Installed Pier



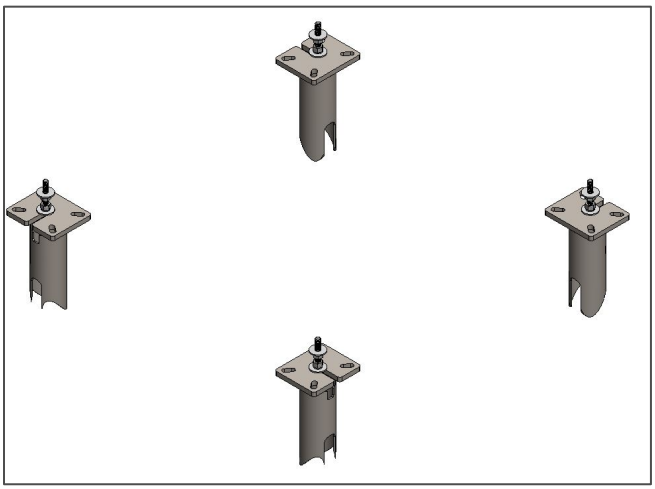
10. Repeat steps 3 through 9 for all helicals paying attention to helical plate orientations and to accomplish 68.85 inch centers between all four helicals. See **Figure 6-2**.

Figure 6-2: Helical Plate Orientations and Center to Center Adjustments



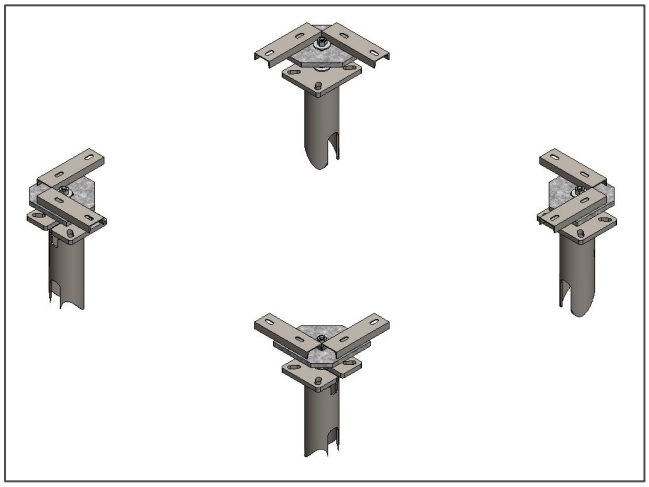
11. Install leveling hardware in the center on each helical. Each helical has one set of leveling hardware and each set of leveling hardware consists of one threaded rod, four nuts, eight washers, and four lock washers. See **Figure 6-3**.

Figure 6-3: Install Leveling Hardware



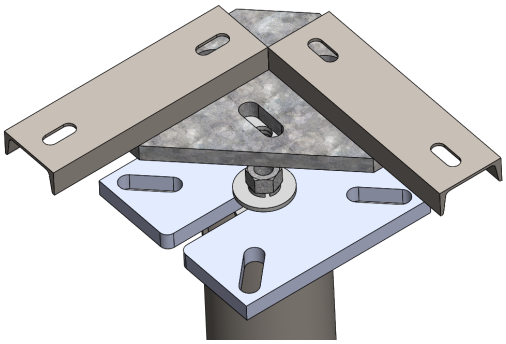
12. Install the four corner plates on the leveling hardware, one in each corner. See **Figure 6-4**.

Figure 6-4: Install Four Corner Plates



13. Level and secure all the leveling hardware on the corner plates and helicals, paying attention to 68.85 inch centers. The leveling hardware should not be installed outside the 3 inch radius of the helical pipe. The corner plates have elongated holes for 2 inches of play. There is a lot of room for adjustments to accomplish the 68.85 inch centers. See **Figure 6-2** and **Figure 6-5**.

Figure 6-5: Helicals and Corner Plates



14. Lift and set XTE 802G on Helical Foundation Kit. Be sure to bolt the XTE 802G base to the corner plates prior to releasing all of the weight of the XTE 802G on the corner plates. See "XTE 802G Lifting and Placement Procedures" starting on page 39.

15. Once all hardware is installed connecting the XTE 802G base to all corner plates, tighten and secure all the hardware.

16. Install the stairs using the provided hardware.

The helical foundation is designed to minimize soil disturbance and time involved for installation compared to other types of foundations. The minimum requirements for properly installed helical pier are 1) to achieve penetration so the pier's top base plate is 11 inches above grade and 2) achieve a minimum torque value of 3,000 foot-pounds. A maximum torque value of 15,000 foot-pounds should be used. In the event the helical foundation cannot be installed per the standard procedure above, one of the following Alternative Procedures should be used.

Alternative Installation Procedure #1 (6 Inch Auger)

1. Using a 6 inch auger, drill to a depth of 5 to 7 feet while minimizing enlargement of the bore. Drill the pier into the hole using the standard methodology and parameters.
2. Fill and tamp any space around the top of the helical with dirt or small gravel.

Alternative Installation Procedure #2 (New Location)

In the event the base-plate is more than 11 inches above grade, due to subsurface conditions including bedrock, boulders and other immovable objects;

1. Consider changing the location several feet while maintaining the required minimum antenna separation requirements. Follow the steps of appropriate procedures above.

NOTE! *If more than one helical is unable to be driven to the required depth, please consult Vertiv engineering. For grounding purposes, NEC requires a minimum of 10 vertical feet of helical in the ground. Consult the NEC to determine if a ground ring is required for your installation.*

6.4 Combo Platform Installation

6.4.1 Combo Helical Platform Installation (P/N D1000-0010-0171)

This platform is designed to be installed on helicals and it accommodates both the XTE 802 and XTE 802G. The default location for the XTE 802G is to the right of the XTE 802 next to the ATS but the XTE 802G can be mounted on either side of the XTE 802 to support any site layout. All conduits and cabling is installed at WWT so a completely configured platform can be installed at the site. Simply install the helicals in the ground then lift and set the platform onto the helicals. See **Figure 6-6**.

Combo Helical Platform Installation Procedure

1. Assemble the universal driving tool on the correct Kelly bar adapter.
2. Connect Kelly bar adapter to Kelly bar on the drive head.
3. Move drive tool assembly to first helical and attach universal driving tool to helical plate paying attention to keeping the Kelly bar as centered in the helical as possible. The leveling hardware can be used for this temporary attachment.
4. Lift helical upright allowing it to swing free of the ground.
5. Maneuver the helical directly over the installation point.
6. Lower the helical until the point of the helical is forced into the ground on target.
7. Screw helical 12 inches into the ground and plumb using a level on 2 sides 90 degrees from each other.
8. Continue screwing the helical into the ground while correcting the Kelly bars orientation so the helical embeds itself straight. A ground man can be of assistance in keeping the foundation plumb during the installation.
9. Drive the helical until the top of the helical plate is 7 inches above grade. Stop the driving tool assembly. Disconnect the universal driving tool from the helical plate.
10. Repeat steps 3 through 9 for all helicals paying attention to helical plate orientations and to accomplish 74 inch and 86 inch centers between all four helicals. See **Figure 6-6**.
11. Install leveling hardware in each helical. Each helical has four sets of leveling hardware and each set of leveling hardware consists of one threaded rod, four nuts, eight washers, and four lock washers. Leave the top washer, lock washer, and nut off until platform is set.

12. Lift and set the platform onto the leveling hardware and level the platform.
13. Install the top washer, lock washer, and nut on all threaded rods to secure the platform.
14. Install the stairs on the XTE 802 using the provided hardware.
15. Install the stairs on the XTE 802G using the provided hardware.

The helical foundation is designed to minimize soil disturbance and time involved for installation compared to other types of foundations. The torque value of a properly installed helical is a minimum of 3,000 foot-pounds and a maximum of 15,000 foot-pounds. In the event the helical foundation cannot be installed per the standard procedure above, one of the following Alternative Procedures should be used.

Alternative Installation Procedure #1 (8 Inch Auger)

1. Using an 8 inch auger, drill to a depth of 5 to 7 feet while minimizing enlargement of the bore. Drill the pier into the hole using the standard methodology and parameters.
2. Fill and tamp any space around the top of the helical with dirt or small gravel.

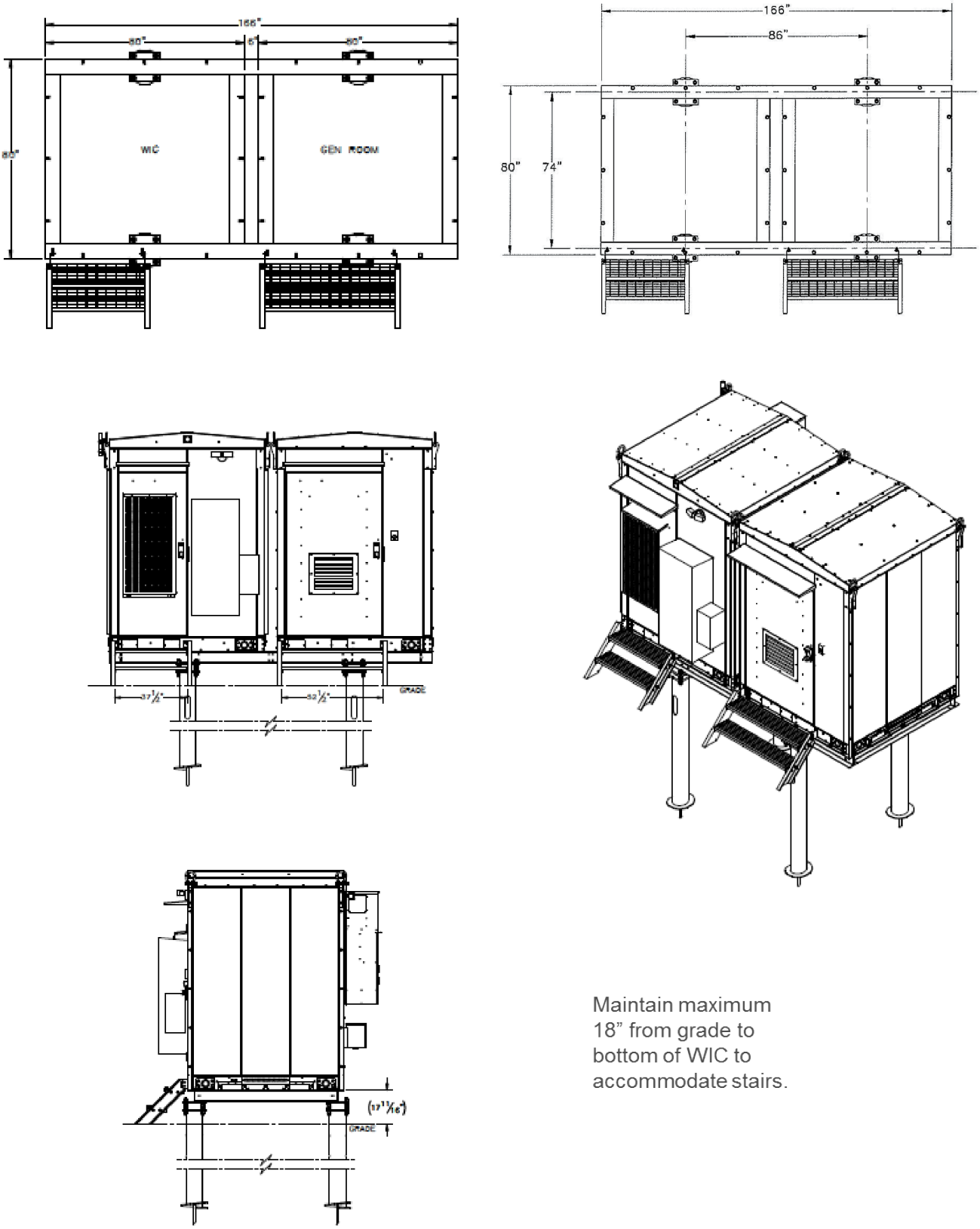
Alternative Installation Procedure #2 (New Location)

In the event the base-plate is more than 7 inches above grade, due to subsurface conditions including bedrock, boulders and other immovable objects;

1. Consider changing the location several feet while maintaining the required minimum antenna separation requirements. Follow the steps of appropriate procedures above.

NOTE! *If more than one helical is unable to be driven to the required depth, please consult Vertiv engineering. For grounding purposes, NEC requires a minimum of 10 vertical feet of helical in the ground. Consult the NEC to determine if a ground ring is required for your installation.*

Figure 6-6: XTE 802 and XTE 802G Combo Helical Platform



6.4.2 Combo Concrete / Gravity Platform Installation (P/N D1000-0010-0179)

Combo Concrete Platform

This platform is designed to be set on concrete piers or pad and it accommodates both the XTE 802 and XTE 802G. The default location for the XTE 802G is to the right of the XTE 802 next to the ATS but the XTE 802G can be mounted on either side of the XTE 802 to support any site layout. All conduits and cabling is installed at WWT so a completely configured platform can be installed at the site. The legs use single-bolt leveling and are pre-installed. Simply lift and set on concrete piers or pad. Anchor holes are provided for anchoring into the concrete. See **Figure 6-7**.

Combo Gravity Platform

This platform is designed to be set on the ground and it accommodates both the XTE 802 and XTE 802G. The default location for the XTE 802G is to the right of the XTE 802 next to the ATS but the XTE 802G can be mounted on either side of the XTE 802 to support any site layout. All conduits and cabling is installed at WWT so a completely configured platform can be installed at the site. The legs use single-bolt leveling and are pre-installed. Simply lift and set on the ground. Anchor holes are provided for anchoring to the ground if necessary. See **Figure 6-8**.

Grade Considerations

1. Ground/gravel should be normally dry and have good drainage.
2. Ground/gravel should be level or very close.

Concrete Pier Installation Considerations

1. Height of concrete piers must be constructed to grade level. If grade is not level, maintain an 18 inch height between grade and the XTE 802G base on the side with the door. The 18 inch height is required for the stairs to mount properly.
2. Depth of concrete piers must be determined by region and take into consideration such items but not limited to depth of frost line, soil type, general climate conditions, and site drainage.
3. 4000 PSI concrete strength should be considered as a minimum type of pier construction, but can vary based on local architectural standards and approvals.
4. Maximum pier diameter: 30 inches
5. Minimum pier diameter: 18 inches.
6. Anchor bolts can be drilled in the concrete piers after the platform is set. Be sure to align all nine concrete piers under each of three connection points under each of three skis. Anchor hardware could be anything between a 5/8 inch anchor (would need washers) to a 1 inch anchor (no washers needed).
7. XTE 802 fully loaded is 6500 lbs.
8. Platform is 2050 lbs.
9. XTE 802G with full tank is 4750 lbs.

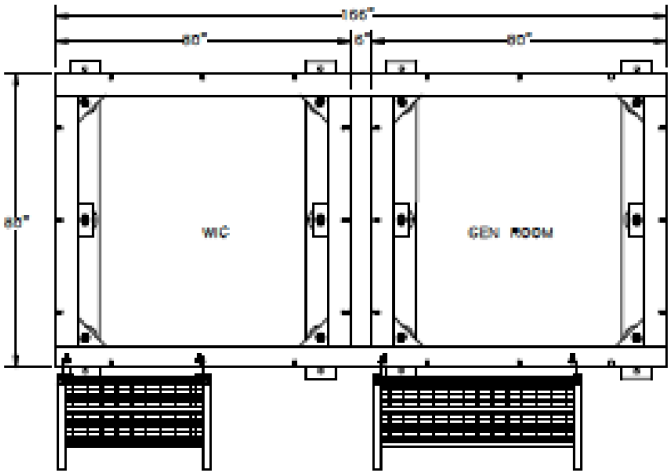
Existing Concrete Pad Considerations

1. Concrete area should be a minimum of 110" x 184" if the concrete is at grade level. This leaves one foot around the base of the XTE 802 and XTE 802G and does not accommodate the stairs.
2. Concrete area should be a minimum of 134" x 184" if above grade to accommodate for the stairs.
3. XTE 802 fully loaded is 6500 lbs.
4. Platform is 2050 lbs.
5. XTE 802G with full tank is 4750 lbs.

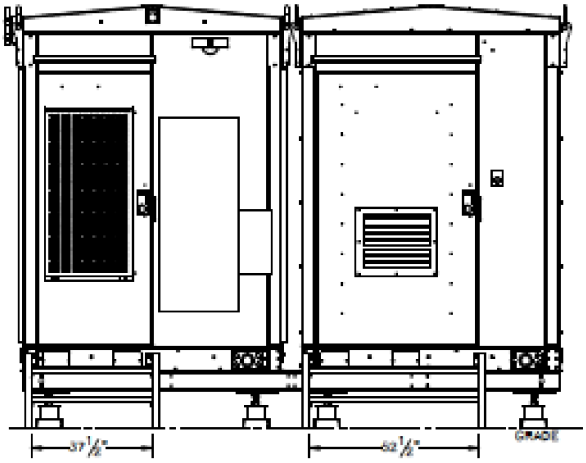
Combo Concrete / Gravity Platform Installation Procedure

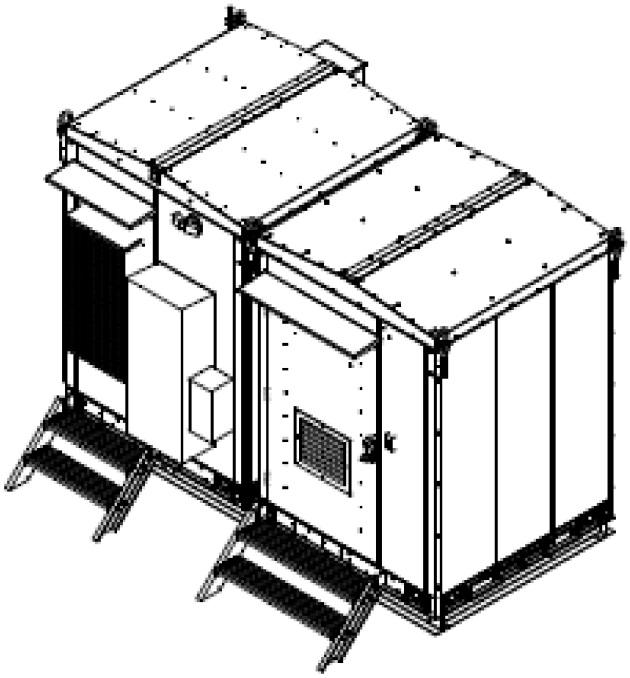
1. The On The Ground (Gravity) Foundation Kit ships assembled so lift and set it on grade or concrete in desired location.
2. Level the platform by adjusting the leveling hardware between the frame and the nine leveling points. Start by leveling the four corners first then adjust the remaining leveling points. Once leveling is achieved secure the hardware.
3. Install the stairs on the XTE 802 using the provided hardware.
4. Install the stairs on the XTE 802G using the provided hardware.

Figure 6-7: Combo Concrete Platform



Maintain maximum 18” from grade to bottom of WIC to accommodate stairs.





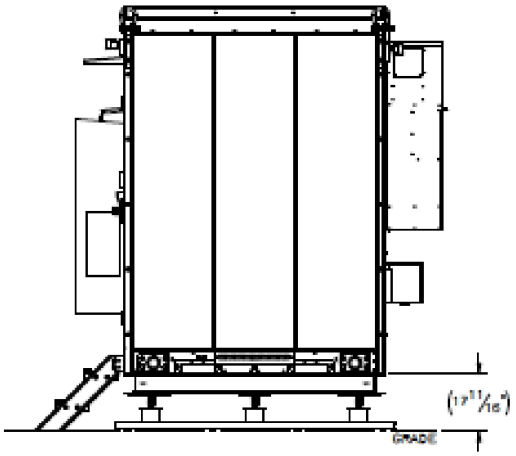
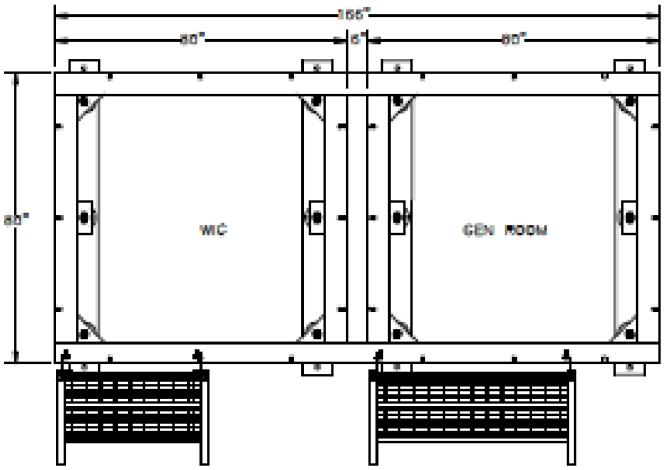
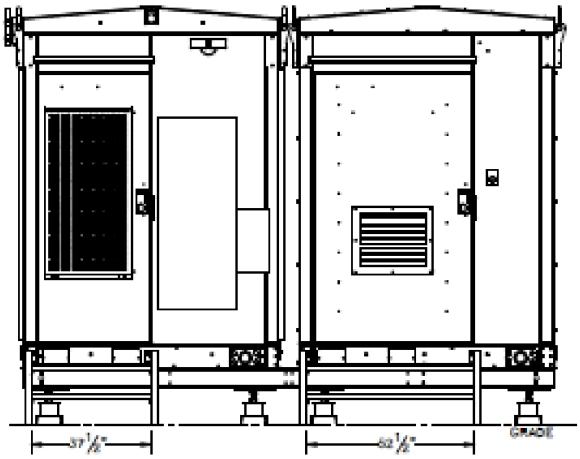
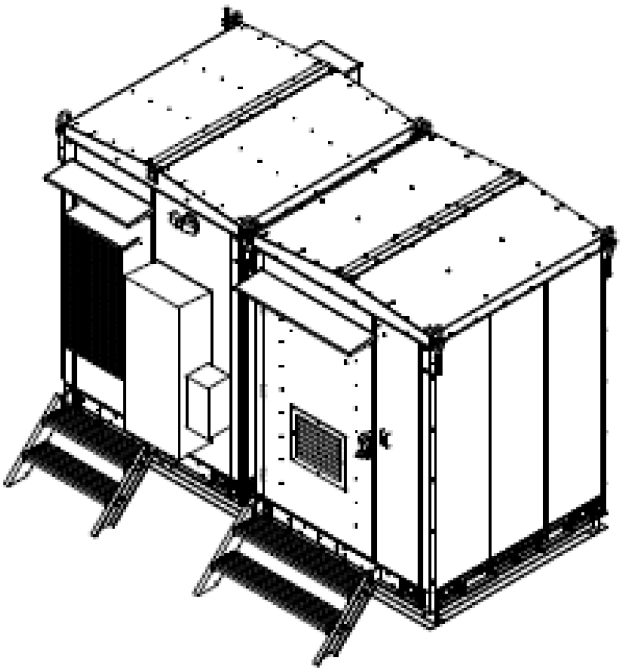


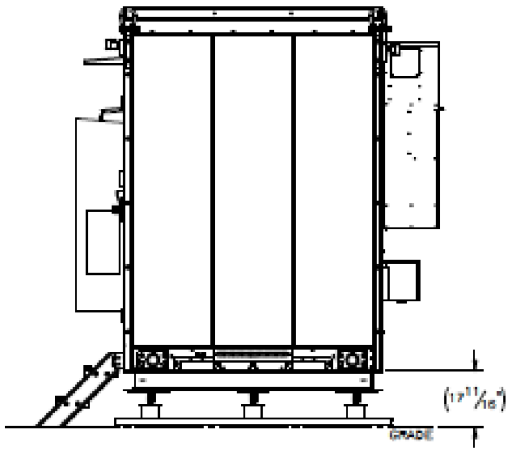
Figure 6-8: Combo Gravity Platform



Maintain maximum 18” from grade to bottom of WIC to accommodate stairs.







6.5 Transportation and Storage

Safety Precautions

WARNING! PREVENT INJURIES, FROM LIFTING THE XTE 802G

Follow all local safety practices while lifting the XTE 802G. Safety equipment, signage, traffic control and all required Personal Protective Equipment (PPE) shall be used.

Keep unnecessary personnel and bystanders clear of work areas at all times.

Do not lift the XTE 802G over people. Do not let anyone work, stand, or pass under a lifted XTE 802G.

Do not move or lift the XTE 802G with a door open.

Only properly trained and certified operators shall operate any crane or lifting equipment.

Do not allow the lifting equipment or XTE 802G to touch any electrical wiring or equipment.

Operate all lifting equipment within safety constraints, as defined by the manufacturer and local practices; for example, do not exceed the capacity of reach.

Crane Operation:

Only properly trained operators shall operate the crane.

Do not operate the crane until all stabilizers are extended. The stabilizers must be in firm contact with the ground or other adequate support structure. Do not retract or extend the stabilizers when the XTE 802G is suspended from the crane.

Only the crane rigging crew should set up the crane and rigging.

Do not exceed the lifting capacity of the crane.

Use all four (4) provided lifting points (eyes) at the top corners of the XTE 802G to lift the XTE 802G.

Use crane spreader frames to prevent XTE 802G framework warping due to side loading.

Never route straps, cables or chains through the fork-lift channels in the base for a vertical crane lift.

Do not use slings, clevises or shackles of insufficient capacity.

Forklift Operation:

Only properly trained operators shall operate the forklift.

Do not exceed the lifting capacity of the forklift.

Forklifts shall have a minimum fork length of 72 inches (183 cm).

DANGER! RISK OF ELECTRICAL SHOCK, GENERAL
Do not install equipment showing any physical damage. If packaging is damaged, do not accept receipt from the shipper.

CAUTION! PREVENT EQUIPMENT DAMAGE, PROPER HANDLING
Do not stack nor lay the XTE 802G on its side.

WARNING! RISK OF INJURY, FROM UNSECURED XTE 802G
Do not pull cables or terminate cables until XTE 802G has been properly secured in its mounted position.

CAUTION! PREVENT EQUIPMENT DAMAGE, FROM CONDENSATION
Until the XTE 802G is secured and sealed, weather protection shall be maintained to prevent moisture and condensation from entering ports or openings into the conditioned space within.

General

For short-term storage, the XTE 802G should not be exposed to temperatures that exceed the temperature range of –40 °C (–40 °F) to +70 °C (+158 °F).

For long-term storage, the XTE 802G and packaging should be kept dry and not be exposed to temperatures outside the range of –10 °C (+14 °F) to +40 °C (+104 °F).

Once packaging has been discarded and the XTE 802G has been securely placed in its mounted position, the XTE 802G may be exposed to conditions from –40 °C (–40 °F) to +46 °C (+115 °F).

6.6 Unpacking and Preparing the XTE 802G at the Installation Site

Safety Precautions

DANGER! Do not install any additional equipment until the XTE 802G is secured in its mounted position.

CAUTION! TO AVOID EQUIPMENT DAMAGE:
DO NOT REMOVE the exterior packaging or wrap from the XTE 802G until the XTE 802G is transported to the installation site. Control moisture and condensation inside the XTE 802G until it is turned up for service.

General

- The XTE 802G is shipped from the manufacturer with plastic wrap to protect the XTE 802G during shipment.
- If the external packaging appears excessively damaged, do not accept the unit from the shipper as interior damage may not be apparent.
- CAREFULLY remove all packaging material from around the XTE 802G. Dispose of the packaging according to local practices.
- On receipt at the site, inspect the XTE 802G to make sure there is no damage to equipment. Check the packing slip to make sure all components are received. If any components are damaged or not received, contact your supervisor for further instructions.
- Close and latch all doors in preparation for XTE 802G placement.

WARNING! Do not open any doors on the XTE 802G unless it is secured in its mounted position, or securely restrained against unexpected movement or tipping.

6.7 Preparing to Lift the XTE 802G

General

Refer to “Transportation and Storage” on page 35.

Required Equipment When Using a Crane:

- A crane capable of lifting the shipped weight of the equipped XTE 802G plus a safety margin.
  - 10,000 lbs (4536 kg), or greater.
- Four (4) wire-rope slings, 8-ft. (2.4 m) long (minimum). Slings should each have the capacity to support the entire shipped weight of the equipped XTE 802G to prevent potential cascading failures.
  - 8,000 lbs (3629 kg)
- Spreader frames are required for shorter slings to prevent XTE 802G framework damage due to side-loading forces at the top corner lifting eyes. Lifting forces shall be vertical only and applied only at the lifting eyes.
- Four (4) connecting links (clevises), to attach the wire-rope slings to the XTE 802G lifting eyebolts. Connecting links should each have the capacity to support the entire shipped weight of the equipped XTE 802G to prevent potential cascading failures.
  - 8,000 lbs (3629 kg)
- A 75-ft (20 m) rope, 5/8” (1.5 cm) in diameter, to use as a tagline. A tagline is used to guide the XTE 802G into position while it is lifted and lowered.

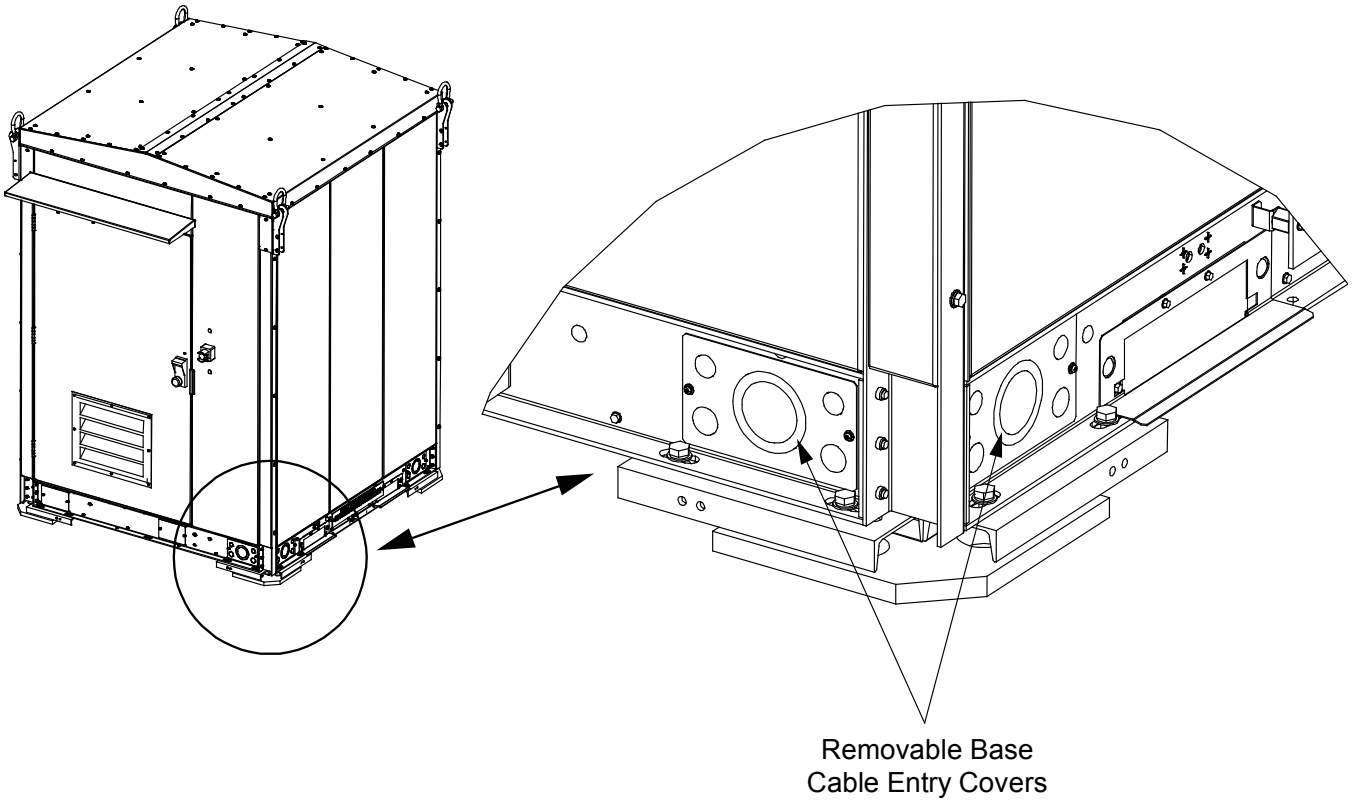
Required Equipment When Using a Forklift:

- A forklift capable of lifting the shipped weight of the equipped XTE 802G plus a safety margin.
  - 10,000 lbs (4536 kg), or greater.
- Forklifts shall have a minimum fork length of 72 inches (183 cm).

Preparing to Lift the XTE 802G Procedure

1. If not previously done, unpack the XTE 802G according to the instruction in “Unpacking and Preparing the XTE 802G at the Installation Site” on page 36.
2. If XTE 802G base cable entry covers are installed, remove the bolts from the XTE 802G base cable entry covers and set aside the covers and hardware for later re-use. See **Figure 6-9**.

Figure 6-9: Removing Base Cable Entry Covers



6.8 Lifting the XTE 802G

Safety Precautions

DANGER! The maximum XTE 802G weight when lifted shall not exceed equipment ratings!

Procedure (When Using a Crane)

1. Close and latch all doors before lifting and placing the XTE 802G.
2. Inspect the lifting eyebolts and ensure eyebolts and roof are secure and free of damage.
3. Install a clevis and shackle or a threaded shackle in each eyebolt at the top of the XTE 802G as shown in **Figure 6-10**.
4. Insert all four (4) 8 feet minimum lifting slings securely through all four clevises or shackles as shown in **Figure 6-10**. Never route straps, cables or chains through the forklift channels in the base for a vertical crane lift.

NOTE! *If slings are not long enough (8-ft. [2.4 m] or longer), use a spreader bar to be sure the cables pull on the lifting eyebolts in a vertical direction.*

NOTE! *It is important that the length of each sling allow for an angle 45 degree or more.*

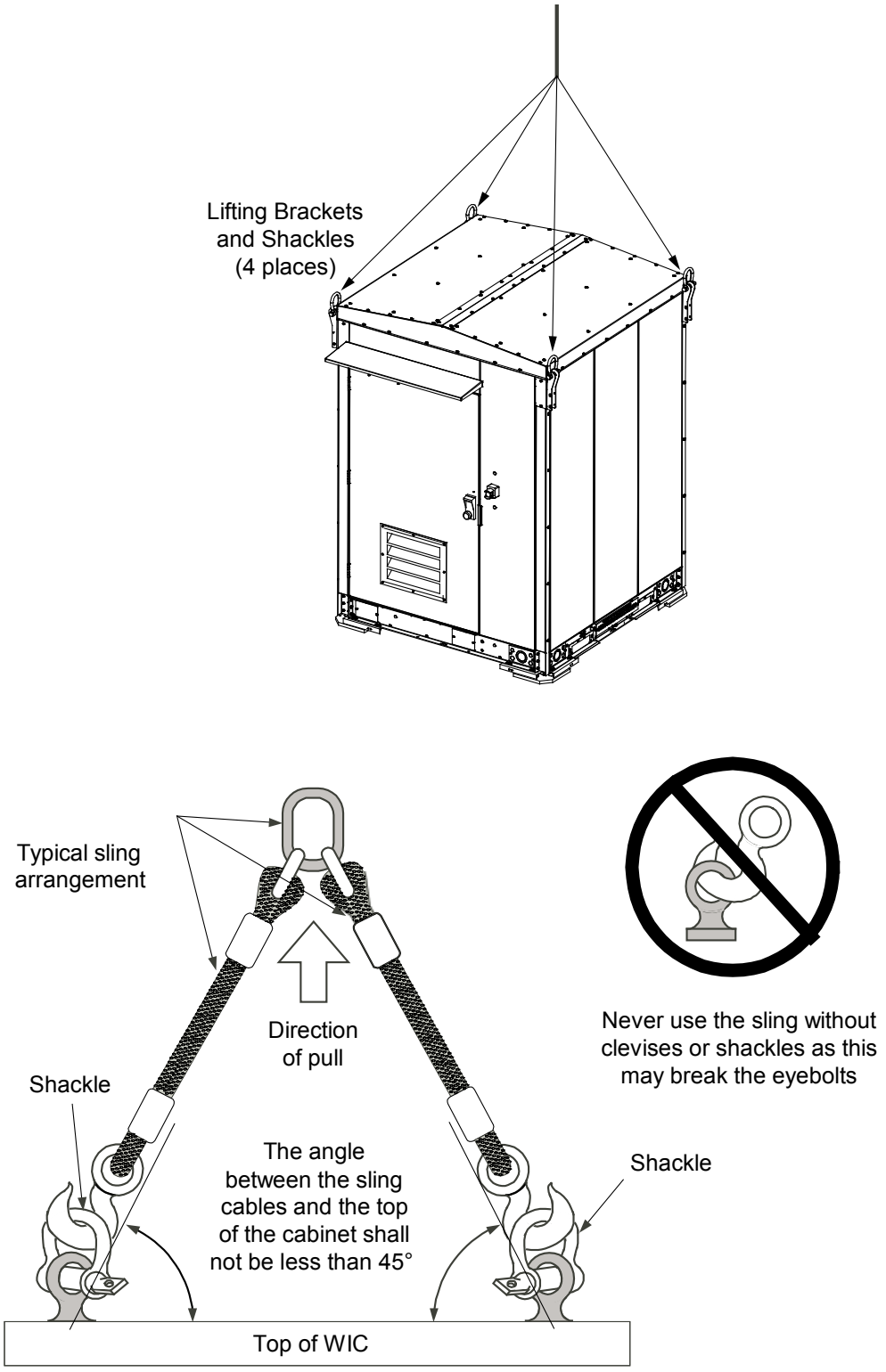
NOTE! *Failure to maintain a 45 degree angle or greater and using all four eyebolts will void any warranty or service claim.*

5. Tie a 75-ft. rope to a lifting eyebolt so it can be used as a tag line.
6. Never work under the XTE 802G while it is suspended above the ground.
7. Lift the XTE 802G off the truck and place it into its mounted position using the tagline to guide it into position. Continue with the “Placing the ” procedure on 41.

Procedure (When Using a Forklift)

1. Close and latch all doors before lifting and placing the XTE 802G.
2. Lift the XTE 802G using the forklift pockets located in the base of the XTE 802G.
3. Never work under the XTE 802G while it is suspended above the ground.
4. Lift the XTE 802G off the truck and place it into its mounted position. Continue with the “Placing the ” procedure on 41.

Figure 6-10: Lifting the XTE 802G



6.9 Placing the XTE 802G

6.9.1 On Approved Foundation Kit

Approved Foundation Kits:

- WIC Helical Foundation Kit
- Combo Helical Platform
- Combo Concrete / On The Ground Platform

The following is a typical guide. Consult your company policies for your specific installation requirements.

Perform the following steps in placing and securing the XTE 802G.

Procedure

ALERT! During lifting, the XTE 802G must be lowered so that the XTE 802G is level and parallel to the piers. Place the XTE 802G so that it lines up with the bolt locations and clears any conduits.

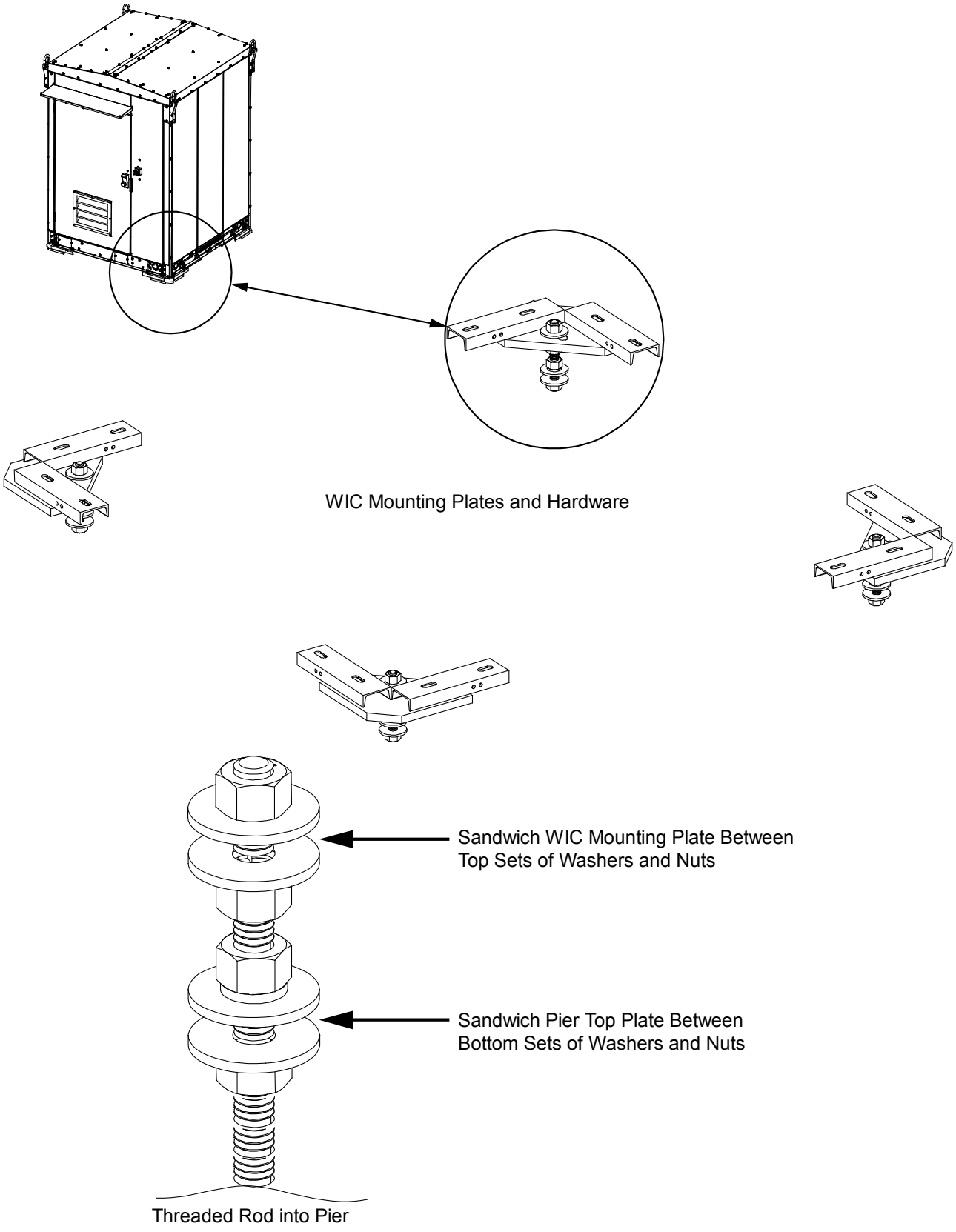
1. Set XTE 802G on foundation kit. Be sure to install and secure provided hardware between XTE 802G base and foundation kit prior to setting the full weight of the XTE 802G.
2. Check to be sure the XTE 802G is properly placed.
3. Loosen the slings or remove forklift so that the full weight of the XTE 802G rests on the foundation kit.
4. Secure the XTE 802G by bolting it to the mounting plates that are attached to the top of the piers using appropriate bolting material. Add top washers and nuts to leveling hardware and tighten. See **Figure 6-11**.

NOTE! *Each pier has four sets of leveling hardware. Each set of leveling hardware has one threaded rod and four nuts and washers. Two nuts and washers sandwich the pier top plate and the other two nuts and washers sandwich the XTE 802G mounting plate.*

5. Verify hardware between XTE 802G base and foundation kit is tight and secure.
6. Remove the slings, spreader bars, and tagline (if using a crane).

ALERT! If the XTE 802G will not be powered up for an extended period, place a heat source, such as two 120 VAC 150 W incandescent lamps inside the XTE 802G to prevent condensation. Suspend lamps to prevent contact with any structures or equipment inside the XTE 802G.

Figure 6-11: Bolting XTE 802G to Pier



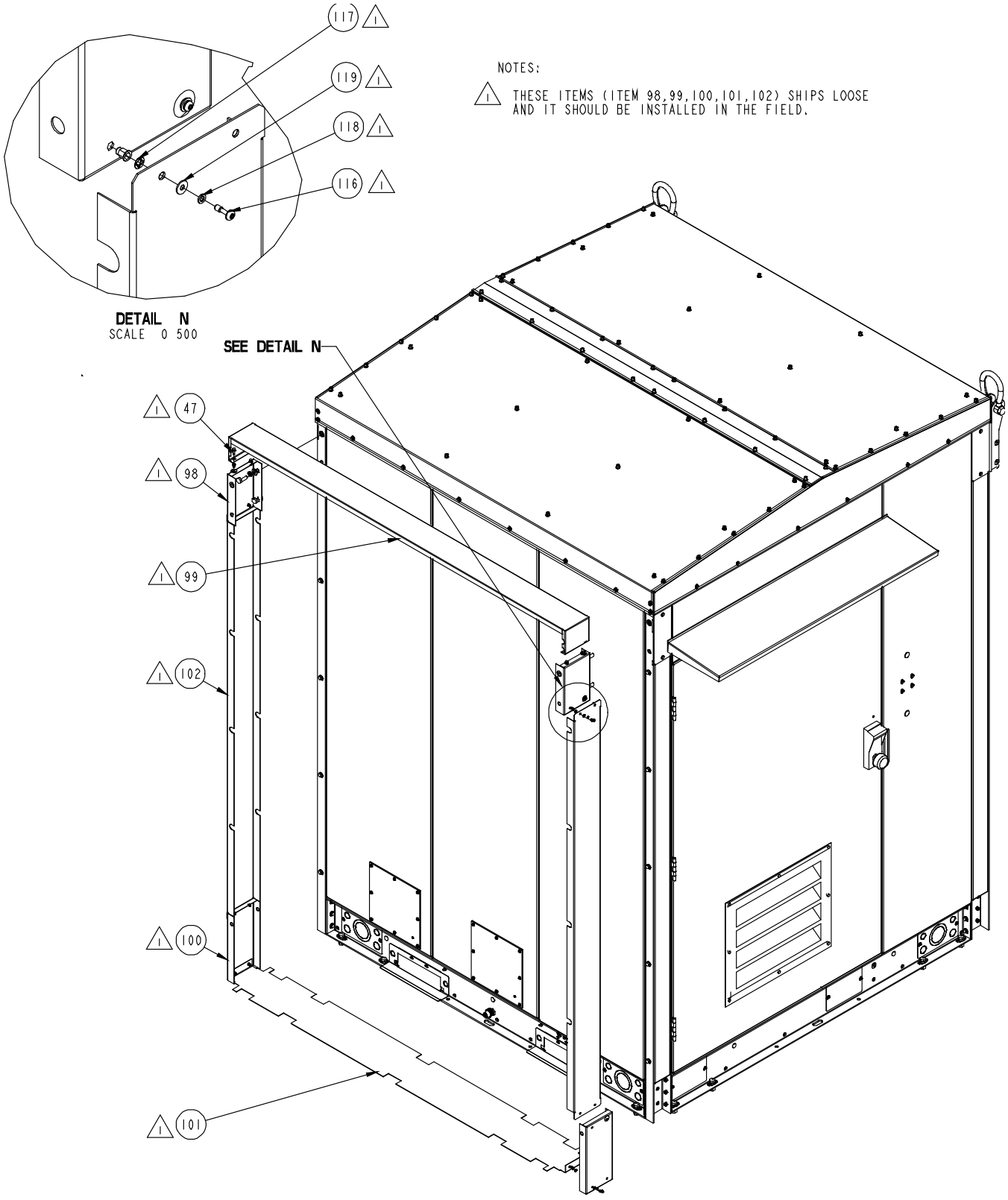
7 Installing Interconnect Frame

A sheet metal frame is furnished to fill in the gap between the installed XTE 802 and XTE 802G. Refer to **Figure 7-1** for assembly details.

Figure 7-1: Interconnect Frame (cont'd on next page)

119	30	EA.	P06616	WASHER,FLAT,-,#10 - 0.040
118	30	EA.	P15666	WASHER,LOCK,-,#10 - 0.047
117	30	EA.	132101	NUT,CAPTIVE,-,#10 - 0.065
116	30	EA.	141622	CAPTIVE SCREW,10-32 X 0.625 LG, PPH SS,- -, -
102	2	EA.	10009755	COVER, VERTICAL, WICG,-,-, -
101	1	EA.	10009619	BRACKET,CENTER,BOTTOM,WICG,-,-, -
100	2	EA.	10009618	BRACKET, VERTICAL BOT, WICG,-,-, -
99	1	EA.	10009617	PANEL, CENTER HORIZ, WICG,-,-, -
98	2	EA.	10009616	BRACKET, VERTICAL TOP, WICG,-,-, -
47	57	EA.	P34225	SCREW,MACHINE,WASHER HEX HEAD,1/4-20 - 0.750
4	1	EA.	10010528	ASM,PAN,BATTERY,WICG ,,, -
3	3	EA.	137769_WICG	GASKET,EPDM 5031,PURCHASED PART REFERENCE DRAWING, - 0.300
2	82	EA.	137769_WIC	GASKET,EPDM 5031,PURCHASED PART REFERENCE DRAWING, - 0.300
1	3	FT	137768_WIC	GASKET,EPDM 5031,PURCHASED PART REFERENCE DRAWING, - 0.300
INDEX (SORT STRING)	QTY	U/M	PART NUMBER	DESCRIPTION
BILL OF MATERIALS				

Figure 7-1: Interconnect Frame (cont'd from previous page)



8 Sealing Cable Entries and Openings with Factory Cover-Plates

8.1 General

In keeping with best industry practices, seal all cable grommets penetrations against weather, rodent and insect intrusions.

It is extremely important to maintain a well-sealed XTE 802G. Failure to do so can jeopardize the enclosed electronic equipment, as well as the proper functioning of the XTE 802G systems. All cable transitions into the XTE 802G must be properly sealed as required.

Refer to the following procedure to seal cable entries with duct sealing foam:

1. Route the cables into the XTE 802G through bottom-entry conduits (preferred) or through side-entry conduits in the XTE 802G base structure (if absolutely necessary). The bottom-entry and removable side-entry plates have pre-configured knockout stampings to facilitate conduit connections.
2. Route the OSP cables into the XTE 802G by removing a Roxtec port frame from the finished floor inside the XTE 802G. Use a fiberglass fish tape from a side-entry port to extend to below the Roxtec port. Reach down through the finished floor to the fish tape, and use it to route pull cord or cables as required. Conduit knockouts are directly below each Roxtec port in the XTE 802G base pan.
3. Route OSP cables to equipment through the Roxtec port frame, securing to cable rack and equipment frames as required.
4. Seal all conduit openings with Roxtec blocks, duct sealing foam or the equivalent against weather, animal and insect intrusion into the XTE 802G.
5. Replace port covers, Roxtec port frames and any other material removed during installation.
6. Verify that cables are routed as required and that all cable entries are properly sealed.

8.2 Generator Installation

After installation of a generator in this enclosure, it is the end-user's responsibility to seal the enclosure to maintain the rain-proof rating.

9 Grounding the XTE 802G

9.1 Important Safety Instructions

DANGER! Adhere to the “Important Safety Instructions” starting on page vi.

9.2 Safety Precautions

DANGER! RISK OF ELECTRICAL SHOCK, GENERAL

All XTE 802G grounding must be installed and verified prior to connecting any power cables (AC or DC) and turning-up of the XTE 802G.

Ensure that all NEC (National Electric Code), CSA (Canadian Electric Code) and local codes for safety and wiring are followed. Consideration for corporate standards also apply.

9.3 General

All external ground wires shall only be terminated to the Master Ground Bar (MGB) located at the base of the right side of the XTE 802G (see **Figure 9-1**).

All internal ground wires shall be terminated to an interior ground bar prior to any externally derived electrical power being connected to the XTE 802G (see **Figure 9-2**).

All XTE 802G grounding must be installed prior to turn up of XTE 802G.

- The internal XTE 802G frame and all attached equipment are factory grounded to the XTE 802G interior ground bar.
- A 2 AWG green conductor is factory connected from the XTE 802G interior ground bar to the Master Ground Bar (MGB) located on the lower right exterior of the XTE 802G.
- The XTE 802G structure is separately grounded to the Master Ground Bar (MGB).

9.4 Master Ground Bar (MGB)

ALERT! Grounding should be accomplished according to local practices and in accordance with the latest NEC codes.

Refer to **Figure 9-3**, **Figure 9-4**, and **Figure 9-5** for XTE 802G site grounding schemes.

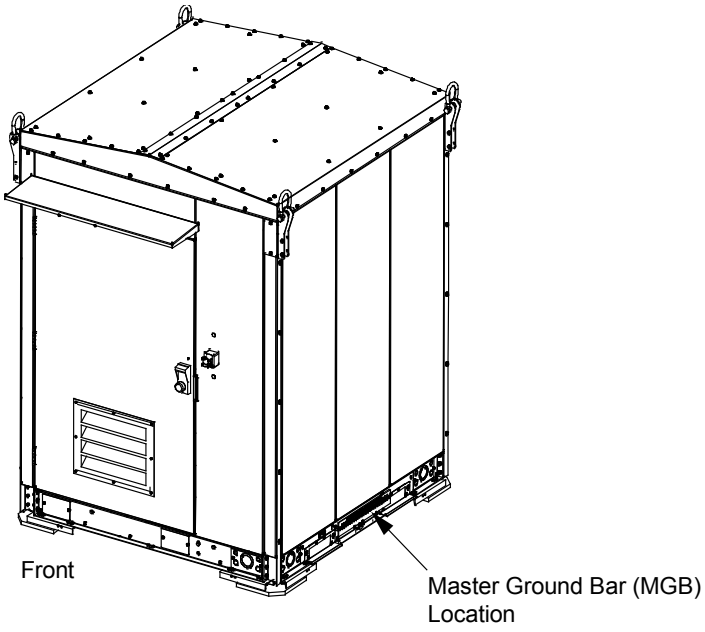
Procedure

1. Connect one provided stranded cable from the Master Ground Bar (MGB) to site ground per local practices. Refer to **Figure 9-1** for location.
2. The Master Ground Bar (MGB) is configured to terminate 2-hole lugs, 3/8” hardware, on 1” center spacing (see **Figure 9-1**).
3. Allow for a 0.125” minimum space between adjacent lugs.

9.5 Ground Bar (Interior)

See **Figure 9-2**.

Figure 9-1: XTE 802G Master Ground Bar (MGB) Location



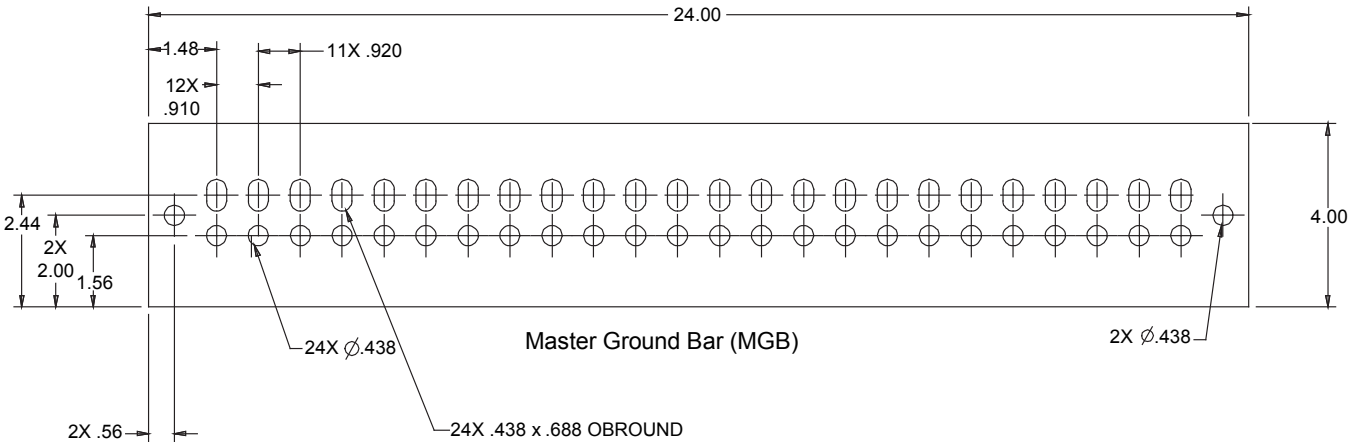
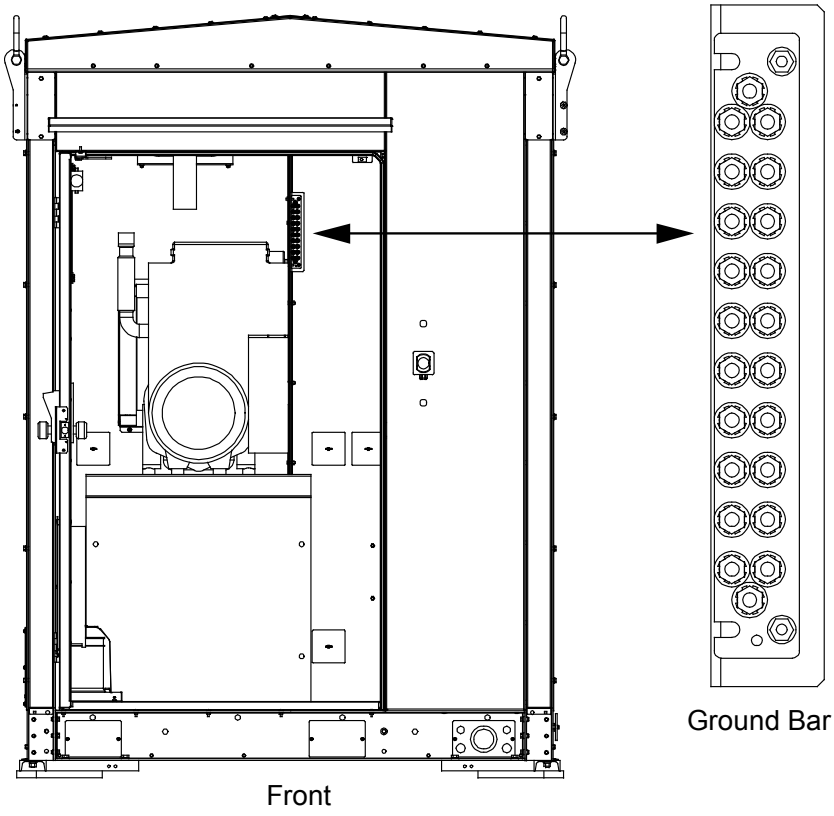


Figure 9-2: XTE 802G Ground Bar (Interior) Location



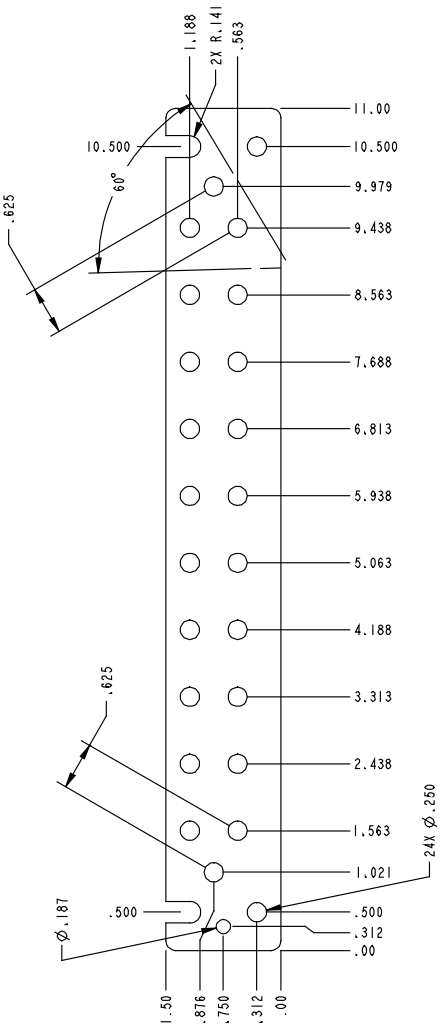
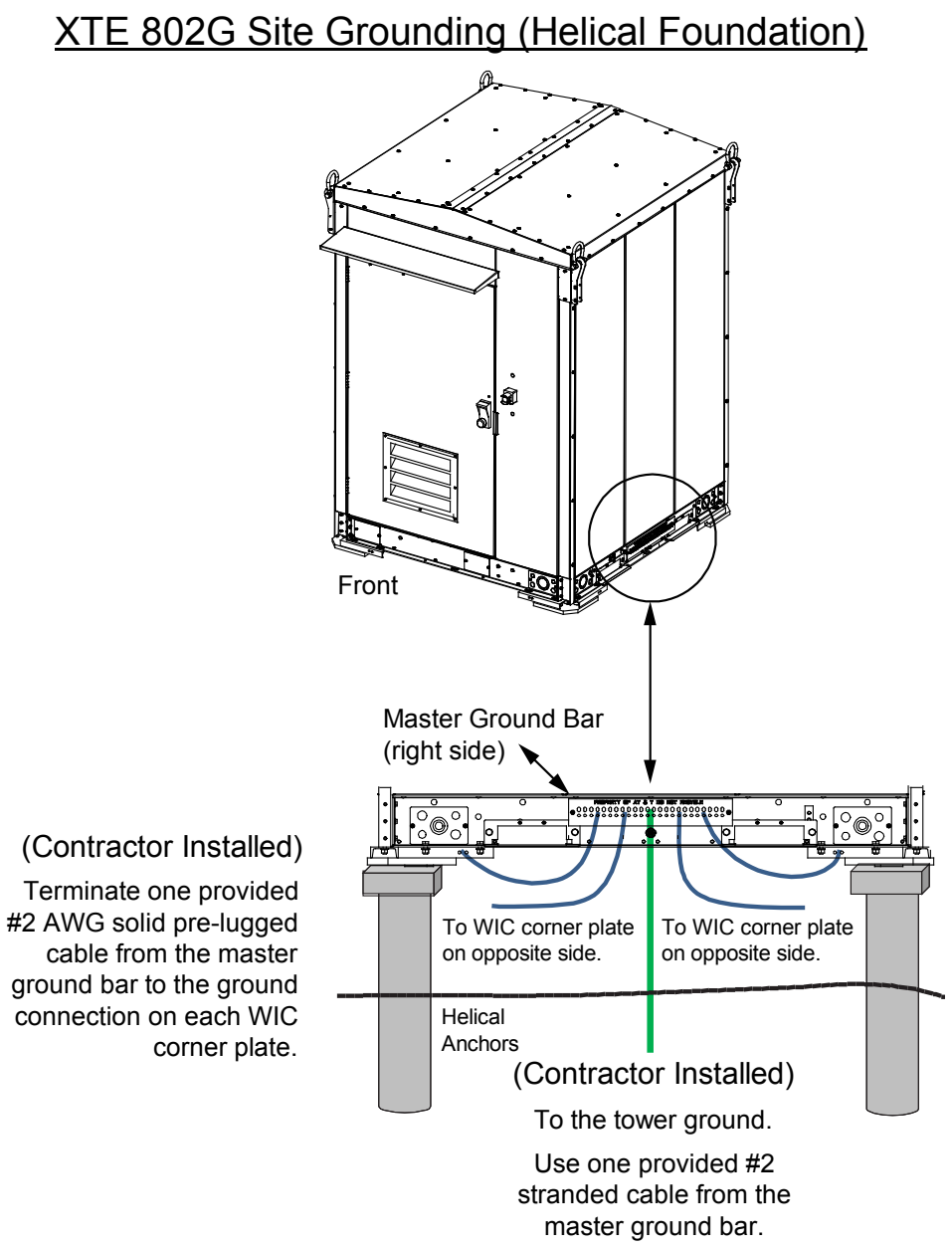
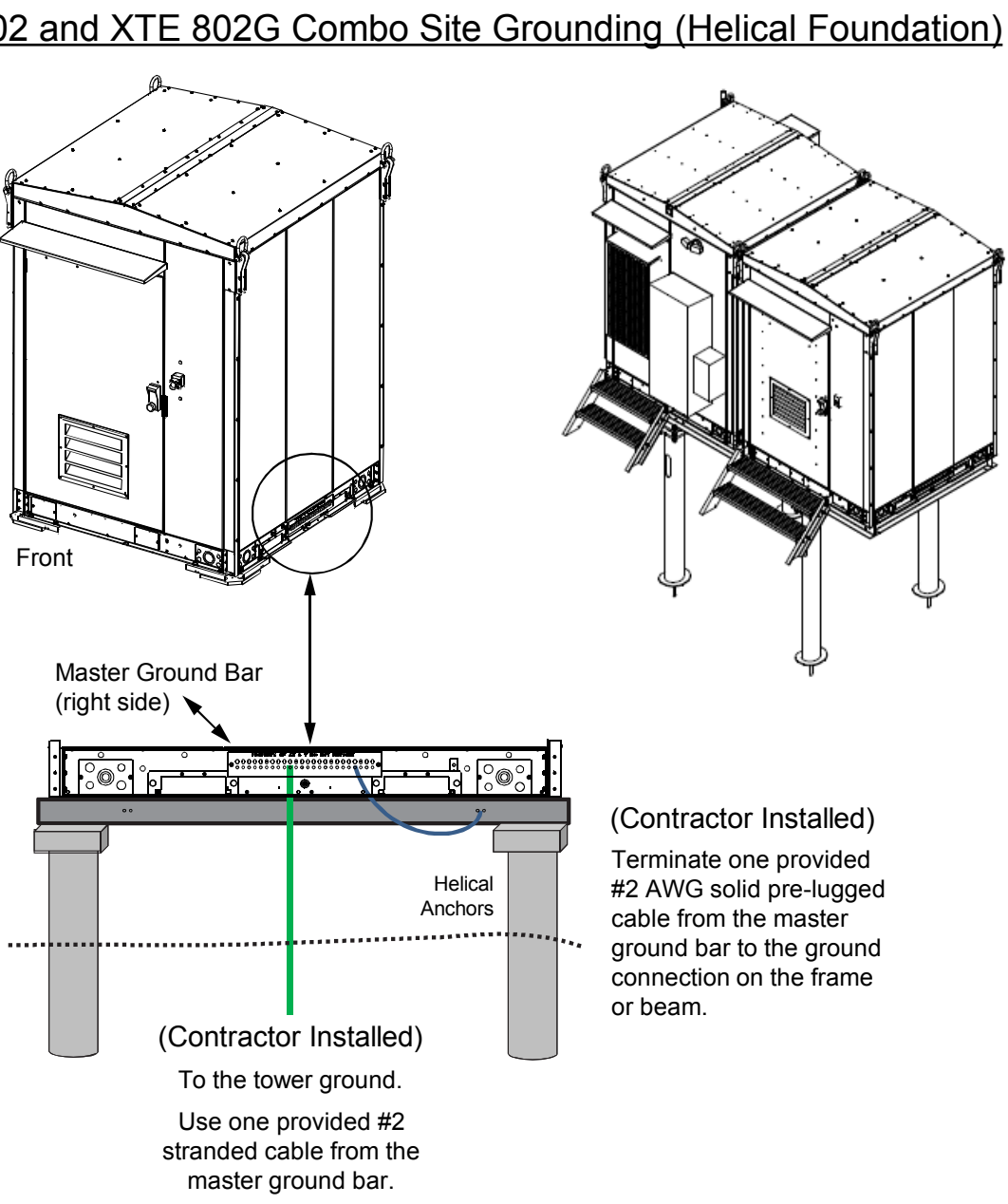


Figure 9-3: XTE 802G Site Grounding Scheme (Helical Foundation)



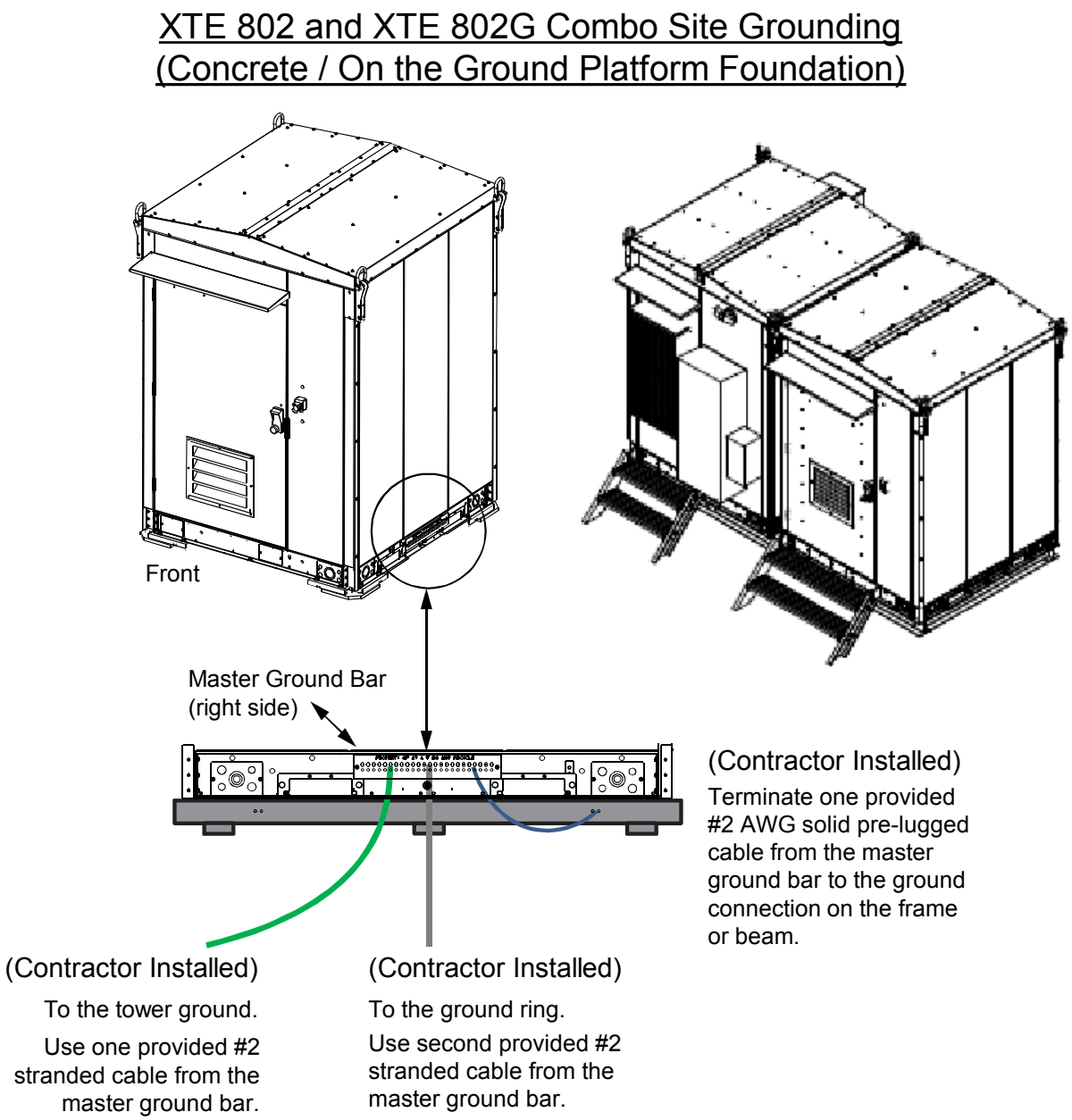
Grounding Conductor Size	Minimum Bending Radius (inches)		
	(Insulated RHH/RHW)		Solid (Uninsulated)
	Recommended	Required	
6 AWG	12	2	1-1/2
4 AWG	12	3	na
2 AWG	12	3	2
1/0 AWG	12	4	na
4/0 AWG	12	4	na
750 kcmil	12	7	na

Figure 9-4: Combo Site Grounding Scheme (Helical Foundation)



Grounding Conductor Size	Minimum Bending Radius (inches)		
	(Insulated RHH/RHW)		Solid (Uninsulated)
	Recommended	Required	
6 AWG	12	2	1-1/2
4 AWG	12	3	na
2 AWG	12	3	2
1/0 AWG	12	4	na
4/0 AWG	12	4	na
750 kcmil	12	7	na

Figure 9-5: Combo Site Grounding Scheme (Concrete / On the Ground Platform Foundation)



Grounding Conductor Size	Minimum Bending Radius (inches)		
	(Insulated RHH/RHW)		Solid (Uninsulated)
	Recommended	Required	
6 AWG	12	2	1-1/2
4 AWG	12	3	na
2 AWG	12	3	2
1/0 AWG	12	4	na
4/0 AWG	12	4	na
750 kcmil	12	7	na

10 DC Power

10.1 Important Safety Instructions

DANGER! Adhere to the “Important Safety Instructions” starting on page vi.

10.2 Safety Precautions

DANGER! RISK OF ELECTRICAL SHOCK, GENERAL
All ground connections must be installed and verified prior to connecting any power cables (AC or DC) and turning-up of the XTE 802G.

When connecting any discrete power connection, make the connection first with the ground/return and break last with ground/return.

Remove rings, metallic wrist bands, or bracelets, etc.

Do not install equipment showing any physical damage.

DANGER! RISK OF ELECTRICAL SHOCK, DC
A maintenance Battery Switch / Breaker does NOT isolate both legs of a battery circuit, nor do the batteries have a protective fuse. Proceed with caution and use only insulated tools when working around batteries or any DC potential.

Always be sure that any connection points have been de-energized.

Fuses can produce sparks during interruption or clearing of a fault, so only use fuses provided with safety caps or enclosed holders, where applicable.

10.3 General

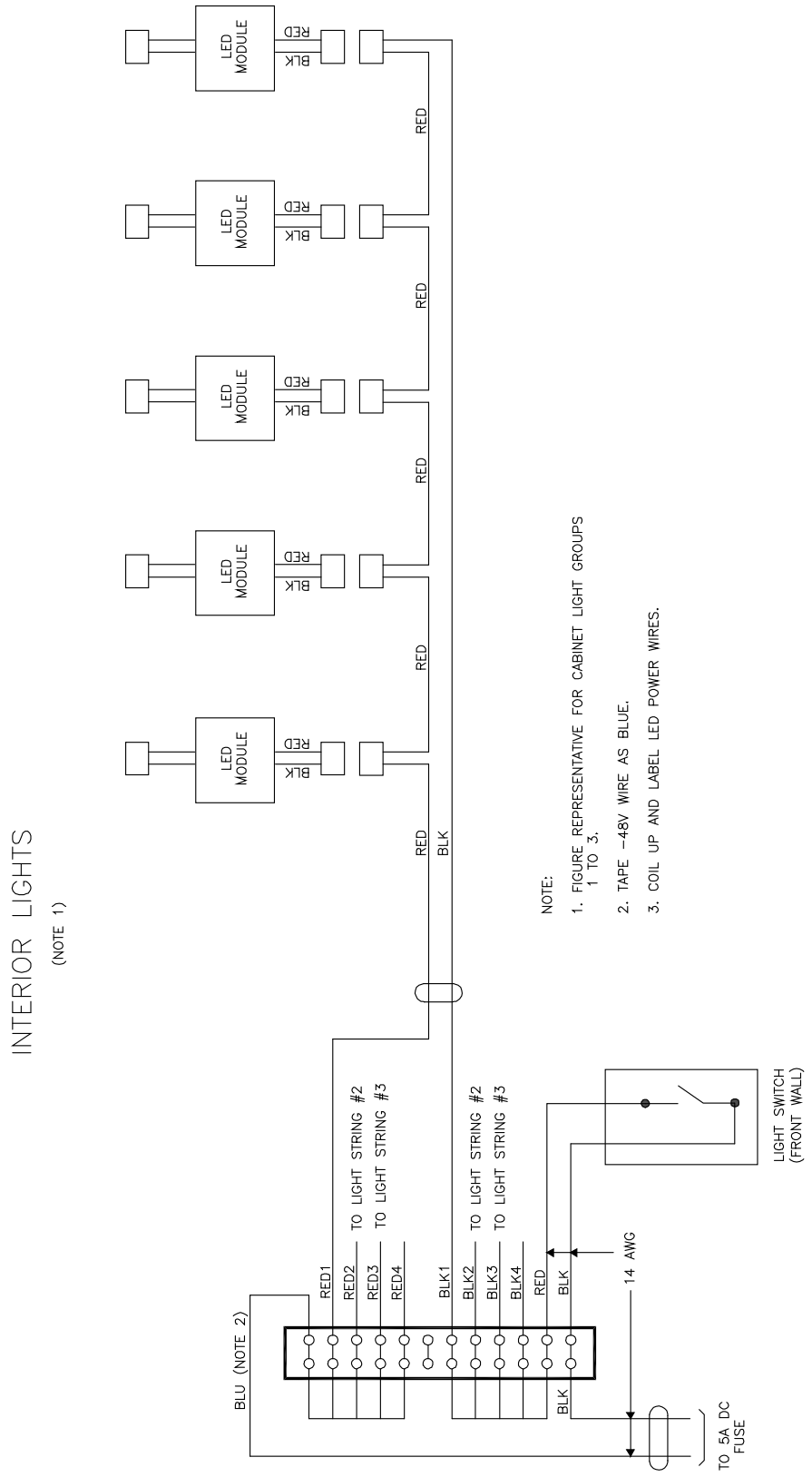
Refer to “Grounding the XTE 802G” on page 46 for information on XTE 802G grounding.

Refer to the schematic diagram provided with the XTE 802G.

10.4 -48 VDC Interior Lights Wiring Block

Connect -48 VDC to the interior lights wiring block as shown in **Figure 10-1**.

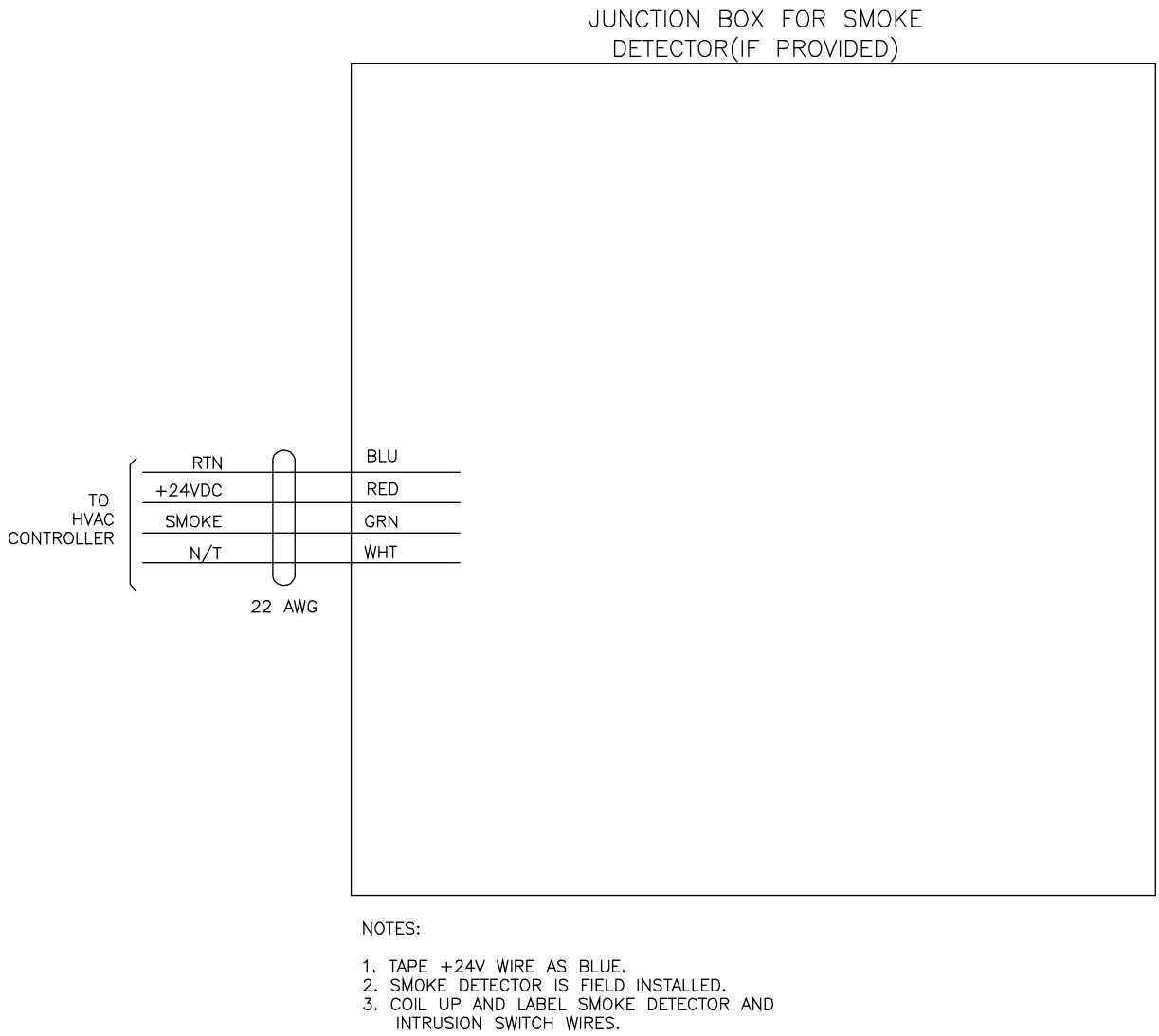
Figure 10-1: Interior Lights Wiring Block



10.5 Optional +24 VDC Smoke Detector Wiring Junction Box

Connect +24 VDC to the optional smoke detector wiring junction box as shown in **Figure 10-2**.

Figure 10-2: Smoke Detector Wiring Junction Box



11 OSP Cables

11.1 Important Safety Instructions

DANGER! Adhere to the “Important Safety Instructions” starting on page vi.

11.2 Safety Precautions

DANGER! RISK OF ELECTRICAL SHOCK, OSP CABLES

If buried cables are used, check the cable sheath for voltage in accordance with local standards. If voltage is detected, do not proceed with the installation. Contact the supervisor and do not proceed until the voltage hazard is eliminated.

11.3 General

Install OSP cables as required per site requirements.

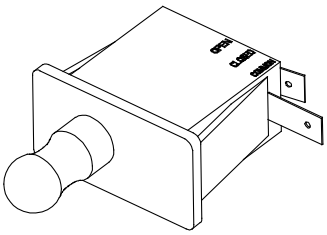
11.4 Sealing Cable Entries

After cables are installed, refer to “Sealing Cable Entries” on page 45 and seal all cable entries.

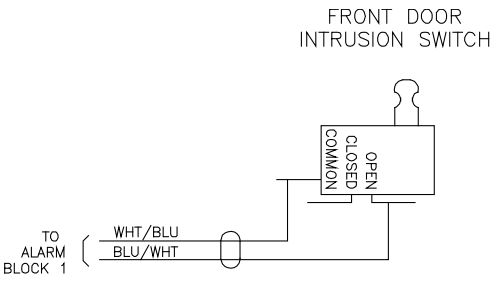
12 Alarm Wiring

The XTE 802G is equipped with a door intrusion alarm switch. This switch can be wired to the alarm block located on the XTE 802. See **Figure 12-1**. Refer also to the XTE 802 documentation.

Figure 12-1: Door Intrusion Alarm Switch Wiring



Front Door Intrusion Alarm Switch



Note: This wiring of the intrusion switch results in a Normally Closed (open on alarm) circuit.

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13 DC Power, Outdoor Enclosure & Service Contacts

CUSTOMER SERVICE (PRE-SHIPMENT)		
Email	CustomerService.ESNA@Vertiv.com	Call Customer Service for purchase order status, expediting requests and order tracking.
Phone	1.800.800.1280 option 1	
CUSTOMER SUPPORT CENTER (POST-SHIPMENT)		
Email	ESNACustomerSupportCenter@Vertiv.com	After an order has shipped, contact our Customer Support Center with post-shipment related questions, concerns or claims.
Phone	1.800.800.1280 option 9	
PRODUCTS		
Email	AccountManagement.ESNA@Vertiv.com	For product pricing[1] and bid responses for custom configured DC power systems and outdoor enclosures for customers and channel partners (Reps, VARs & Distributors), contact Account Management.
Phone	1.800.800.1280 option 2	
SPARE PARTS		
Email	DCpower.Spares@Vertiv.com OSP.Spares@Vertiv.com	Pricing and purchase orders for spare parts, including but not limited to breakers, cables, fuses, rectifier fans, misc. breaker and fuse panels, enclosure fans, doors and switches, etc.
Phone	1.800.800.1280 option 5	
DC POWER DEPOT REPAIR		
Email	DCpower.Repair@Vertiv.com	Creates and processes RMAs for depot repair and refurbishment.
Phone	1.800.800.1280 option 5	Determines repair and refurbishment lead times and pricing based on warranties/contractual agreements.
Website	Vertiv.com/DCpowerRMA	Provides repair shipping information and status.
INSTALLATION & AFTER MARKET SERVICES		
Email	ESNA.FieldService@Vertiv.com	Provides quotes for engineering, furnishing and installation of DC power systems, telecom & IT equipment, cabling infrastructure, and field services of existing DC equipment.
Phone	1.800.800.1280 option 5	
TECHNICAL SUPPORT		
Email	DCpower.TAC@Vertiv.com	Answers technical product questions about DC power systems and outdoor enclosures; determines status of warranties and contractual agreements for repair.
Phone	1.800.800.5260	

[1] Contact Spare Parts for parts and accessories.

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