

T-Mobile

T-MOBILE SITE NUMBER:
T-MOBILE SITE NAME:
SITE TYPE:
TOWER HEIGHT:

9JK0251A
LAKE CITY (SR 47 & US 41)
GUYED TOWER
350'

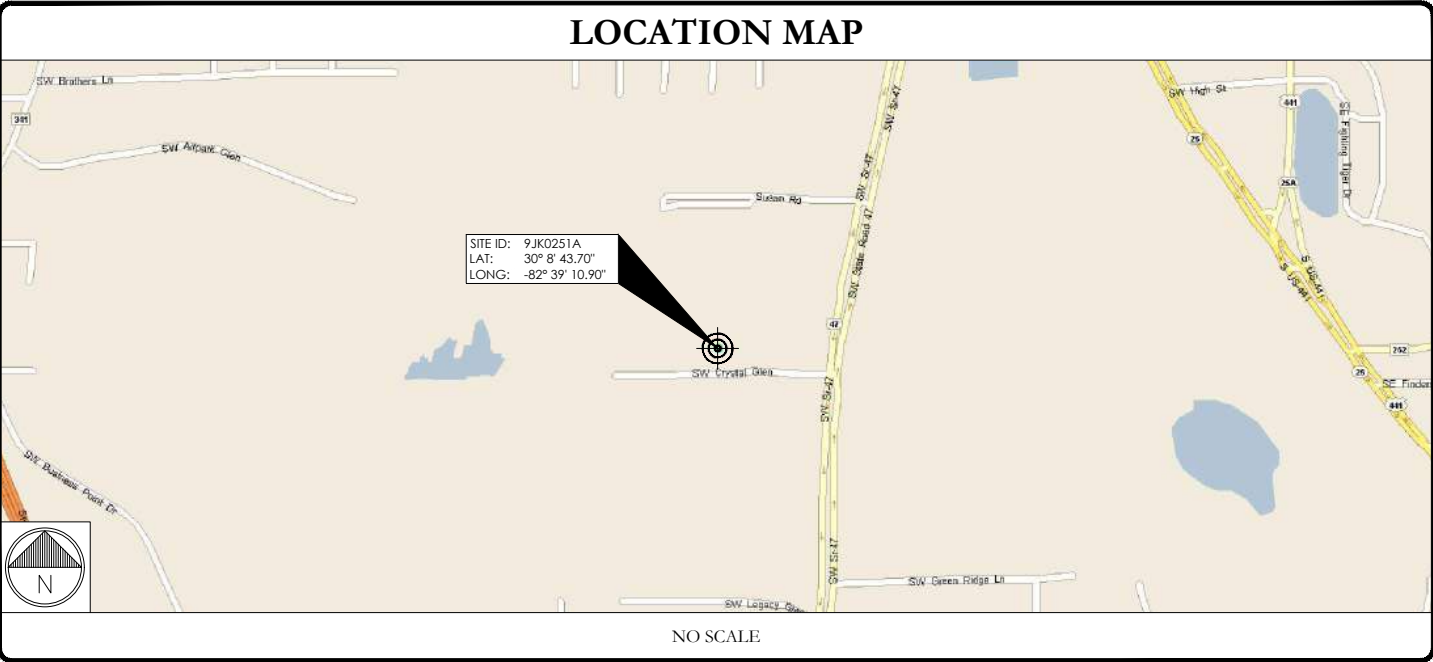
BUSINESS UNIT #:
SITE ADDRESS:
COUNTY:
JURISDICTION:

870081
267 SW CRYSTAL GLN,LAKE CITY, FL 32025
COLUMBIA COUNTY
COLUMBIA COUNTY

T-MOBILE GENERATOR

SITE INFORMATION	
CROWN CASTLE USA INC. SITE NAME:	LAKE CITY (SR 47 & US 41)
SITE ADDRESS:	267 SW CRYSTAL GLN LAKE CITY, FL 32025
COUNTY:	COLUMBIA COUNTY
MAP/PARCEL #:	18-4S-17-08461-000
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	30° 8' 43.70"
LONGITUDE:	-82° 39' 10.90"
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	153 FT
CURRENT ZONING:	----
JURISDICTION:	COLUMBIA COUNTY
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	BULLARD AUDREY S PO BOX 1733 LAKE CITY, FL 32056
TOWER OWNER:	CROWN CASTLE USA, INC. 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	T-MOBILE 1 RAVINIA DRIVE, SUITE 1000 ATLANTA, GA 30346
ELECTRIC PROVIDER:	CLAY ELECTRIC CO-OP ----
TELCO PROVIDER:	FIBER APP ----

DRAWING INDEX	
SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
GN-1	GENERAL NOTES
C-1.0	SITE PLAN
C-1.1	COMPOUND SITE PLAN
C-1.2	ENLARGED SITE PLAN
C-2	GENERATOR PAD DETAILS
C-3	GENERATOR & ATS DETAILS
C-4	PPC DETAILS
E-1	ELECTRICAL DETAILS
E-2	CONDUIT DETAILS
G-1	GROUNDING DETAILS
ATTACHED	EQUIPMENT SPECS
ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.	





CALL FLORIDA ONE CALL
(800) 432-4770
CALL 3 WORKING DAYS
BEFORE YOU DIG!



APPLICABLE CODES/REFERENCE DOCUMENTS	
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:	
CODE TYPE	CODE
BUILDING	2023 FL BUILDING CODE 8TH EDITION
ELECTRICAL	2020 NATIONAL ELECTRICAL CODE - NFPA 70
MECHANICAL	2023 FL MECHANICAL CODE 8TH EDITION
GENERATOR INFO:	
GENERATOR MODEL:	GENERAC RD048
GENERATOR FUEL TYPE:	DIESEL - 240 GAL
GENERATOR CAPACITY:	48KW/ 3.4L

APPROVALS		
APPROVAL	SIGNATURE	DATE
PROPERTY OWNER OR REP.		
LAND USE PLANNER		
T-MOBILE		
OPERATIONS		
RF		
NETWORK		
BACKHAUL		
CONSTRUCTION MANAGER		
THE PARTIES ABOVE HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL CONSTRUCTION DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND ANY CHANGES AND MODIFICATIONS THEY MAY IMPOSE.		

PROJECT TEAM	
A&E FIRM:	P. MARSHALL & ASSOCIATES LLC. 1000 HOLCOMB WOOD PKWY STE 210, ROSWELL, GA 30076 SENIOR ENGINEER - PATRICK MARSHALL, P.E. PROJECT ENGINEER - AJ BULOT, E.I.T. OFFICE 678-280-2325
CARRIER/APPLICANT:	T-MOBILE 5901 BENJAMIN CENTER DRIVE, SUITE 110 A-B TAMPA, FL 33634 CAROLE BRADLEY - DEVELOPMENT MANAGER 813-263-0879
CROWN CASTLE USA INC. DISTRICT CONTACTS:	4511 N HIMES AVE, SUITE 210 TAMPA, FL 33614 KEVIN DEPATIE - PROJECT MANAGER KEVIN.DEPATIE@CROWNCastle.COM NITSA CRENSHAW - AES NITSA.CRENSHAW@CROWNCastle.COM
NOTE: PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER.	

PROJECT DESCRIPTION
TOWER SCOPE OF WORK: NO TOWER WORK
GROUND SCOPE OF WORK: - REMOVE EXISTING GENERATOR - REMOVE EXISTING AC PANEL - NEW GENERAC 48KW GENERATOR - NEW 200 AMP PPC - POWER CONDUIT RUN - NEW 9'-0" x 4'-0" CONCRETE PAD - NEW 200A ATS - GROUND GENERATOR, ATS & PPC TO EXISTING GROUND RING
ELECTRICAL NOTE: NEW AC ELECTRICAL WORK IS CAPTURED WITHIN THIS PROJECT SCOPE, BUT NO NEW AC POWER SERVICE IS REQUIRED. ALL ELECTRICAL UPGRADES AND OR WORK WILL BE HANDLED BY THE GENERAL CONTRACTOR AND PERFORMED IN ACCORDANCE WITH THE LOCAL JURISDICTIONAL REQUIREMENTS.
EMERGENCY NOTE: NO EQUIPMENT PROPOSED WITHIN THE PROJECT SCOPE SHALL BE USED FOR EMERGENCY RESPONSE.
NOTE: PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER

T-Mobile
5901 BENJAMIN CENTER DRIVE, STE. 110 A-B
TAMPA, FL 33634

CROWN CASTLE
4511 N HIMES AVE, SUITE 210
TAMPA, FL 33614

PM&A
P. MARSHALL & ASSOCIATES
1000 HOLCOMB WOODS PKWY STE. 210
ROSWELL, GA 30076
OFFICE 678-280-2325

T-MOBILE SITE NUMBER:
9JK0251A

BU #: **870081**
LAKE CITY (SR 47 & US 41)

267 SW CRYSTAL GLN
LAKE CITY, FL 32025

EXISTING 350' GUYED TOWER

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/20/24	BMK	PRELIM	AJB
0	5/20/24	BMK	FINAL	AJB

Patrick W. Marshall, P.E.
Registered Engineer
State of Florida #053573
P Marshall & Associates Certificate of Authorization #27595



Patrick W. Marshall, State of Florida, Professional Engineer, License No. 53573. This item has been electronically signed and sealed by Patrick W. Marshall, PE on the Date and/or Time Stamp shown using a digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copy.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER:
T-1

REVISION:
0

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

- NOTICE TO PROCEED- NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800-788-7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
- "LOOK UP" - CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT: THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE, ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
- PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
- ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED--STD-10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA-322 (LATEST EDITION).
- ALL SITE WORK TO COMPLY WITH QAS--STD-10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE" AND LATEST VERSION OF ANSI/TIA-1019-A-2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
- IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
- ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
- CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
- THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
CARRIER: T-MOBILE
TOWER OWNER: CROWN CASTLE USA INC.
- THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
- THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
- NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
- SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CROWN CASTLE.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC.
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
- CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.
- ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615; ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
#4 BARS AND SMALLER 40 ksi
#5 BARS AND LARGER 60 ksi
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 BARS AND LARGER 2"
#5 BARS AND SMALLER 1-1/2"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
SLAB AND WALLS 3/4"
BEAMS AND COLUMNS 1-1/2"
- A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

ELECTRICAL INSTALLATION NOTES:

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
- CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
- EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
- PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND NEC.
- ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SKEW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND THE NEC.
- WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
- SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
- CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
- METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
- INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "T-MOBILE".
- ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE		
SYSTEM	CONDUCTOR	COLOR
120/240V, 1Ø	A PHASE	BLACK
	B PHASE	RED
	NEUTRAL	WHITE
	GROUND	GREEN
120/208V, 3Ø	A PHASE	BLACK
	B PHASE	RED
	C PHASE	BLUE
	NEUTRAL	WHITE
277/480V, 3Ø	GROUND	GREEN
	A PHASE	BROWN
	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
	GROUND	GREEN
	POS (+)	RED**
	NEG (-)	BLACK**

* SEE NEC 210.5(C)(1) AND (2)
** POLARITY MARKED AT TERMINATION

ABBREVIATIONS:

ANT	ANTENNA
(E)	EXISTING
FIF	FACILITY INTERFACE FRAME
GEN	GENERATOR
GPS	GLOBAL POSITIONING SYSTEM
GSM	GLOBAL SYSTEM FOR MOBILE
LTE	LONG TERM EVOLUTION
MGB	MASTER GROUND BAR
MW	MICROWAVE
(N)	NEW
NEC	NATIONAL ELECTRIC CODE
(P)	PROPOSED
PP	POWER PLANT
QTY	QUANTITY
RECT	RECTIFIER
RBS	RADIO BASE STATION
RET	REMOTE ELECTRIC TILT
RFDS	RADIO FREQUENCY DATA SHEET
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
SIAD	SMART INTEGRATED DEVICE
TMA	TOWER MOUNTED AMPLIFIER
TYP	TYPICAL
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
W.P.	WORK POINT

APWA UNIFORM COLOR CODE:

WHITE	PROPOSED EXCAVATION
PINK	TEMPORARY SURVEY MARKINGS
RED	ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES
YELLOW	GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
ORANGE	COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS
BLUE	POTABLE WATER
PURPLE	RECLAIMED WATER, IRRIGATION, AND SLURRY LINES
GREEN	SEWERS AND DRAIN LINES

T

Mobile

5901 BENJAMIN CENTER DRIVE, STE. 110 A-B
TAMPA, FL 33634

CC

CROWN
CASTLE

4511 N HIMES AVE, SUITE 210
TAMPA, FL 33614

PM&A

P. MARSHALL & ASSOCIATES

1000 HOLCOMB WOODS PKWY STE. 210
ROSWELL, GA 30076
OFFICE 678-280-2325

T-MOBILE SITE NUMBER:
9JK0251A

BU #: 870081
LAKE CITY (SR 47 & US 41)

267 SW CRYSTAL GLN
LAKE CITY, FL 32025

EXISTING 350' GUYED TOWER

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/20/24	BMK	PRELIM	AJB
0	5/20/24	BMK	FINAL	AJB

Patrick W. Marshall, P.E.
Registered Engineer
State of Florida #053573
P Marshall & Associates Certificate of Authorization #27595

PATRICK W MARSHALL
LICENSE
No. 53573
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Patrick W. Marshall, State of Florida, Professional Engineer, License No. 53573. This item has been electronically signed and sealed by Patrick W. Marshall, PE on the Date and/or Time Stamp shown using a digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copy.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

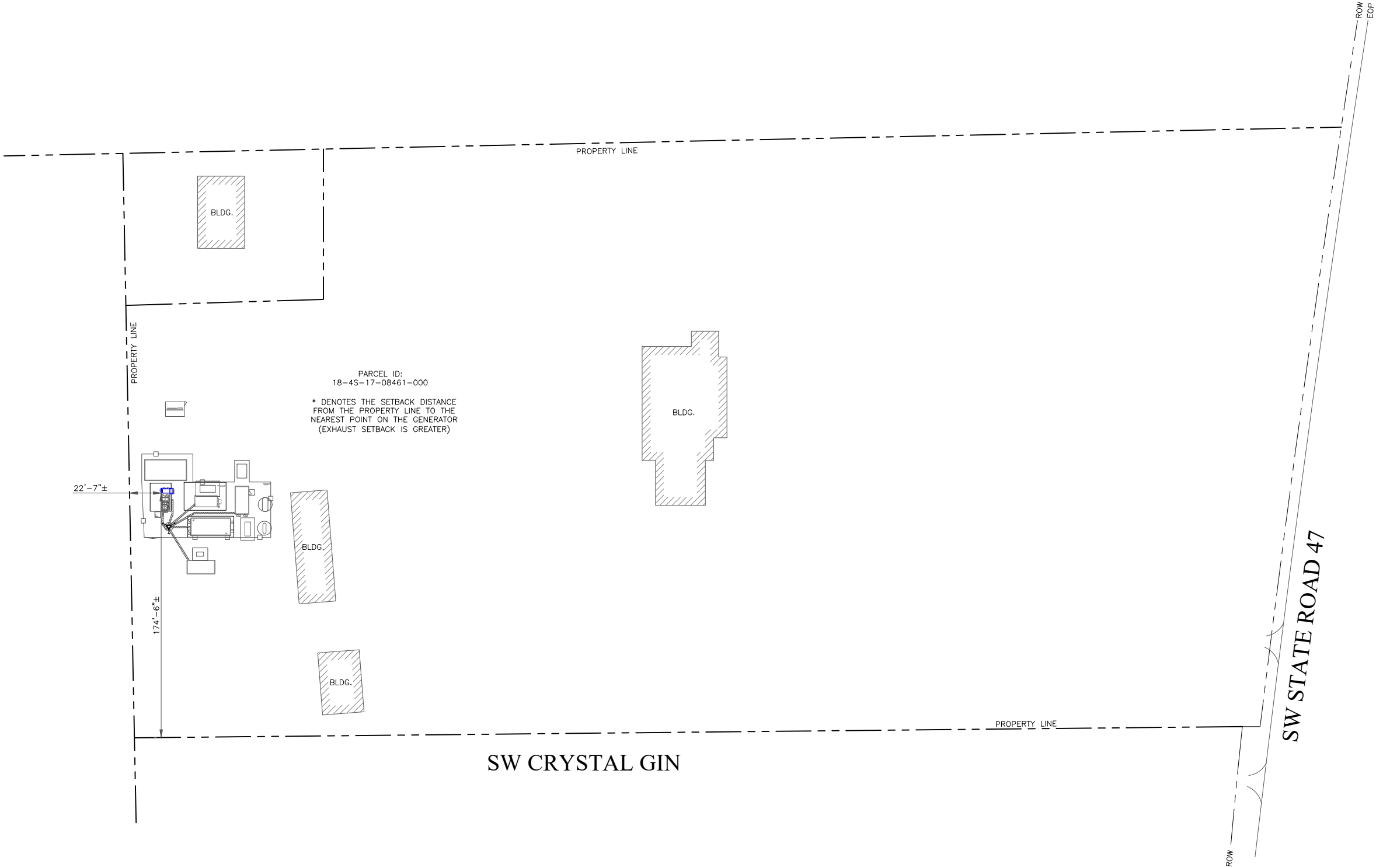
SHEET NUMBER:
T-2

REVISION:
0

GREENFIELD GROUNDING NOTES:

- ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
- THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
- THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
- METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
- EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
- CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
- ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
- COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
- APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- BOND ALL METALLIC OBJECTS WITHIN 6 ft. OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
- GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
- ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
- BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

SITE PLAN DISCLAIMER:
PROPERTY LINES AND STRUCTURES HAVE BEEN DIGITIZED FROM PREVIOUS PLAN SETS OR FROM ASSESSORS' MAPS. PM&A HAS NOT COMPLETED A SITE SURVEY AND THEREFORE MAKES NO CLAIMS AS TO THE ACCURACY OF INFORMATION DEPICTED ON THIS SHEET. CONTRACTOR SHALL FIELD VERIFY SITE PLAN & EQUIPMENT SHOWN AGAINST PRESENT FIELD CONDITIONS. IF PLANS DO NOT MATCH UP WITH SITE CONDITION AT TIME OF CONSTRUCTION, CONTACT T-MOBILE AND THE CROWN CASTLE CM.



T-Mobile

5901 BENJAMIN CENTER DRIVE, STE. 110 A-B
TAMPA, FL 33634

CROWN CASTLE

4511 N HIMES AVE, SUITE 210
TAMPA, FL 33614

PM&A

P. MARSHALL & ASSOCIATES
1000 HOLCOMB WOODS PKWY STE. 210
ROSWELL, GA 30076
OFFICE 678-280-2325

T-MOBILE SITE NUMBER:
9JK0251A

BU #: 870081
LAKE CITY (SR 47 & US 41)

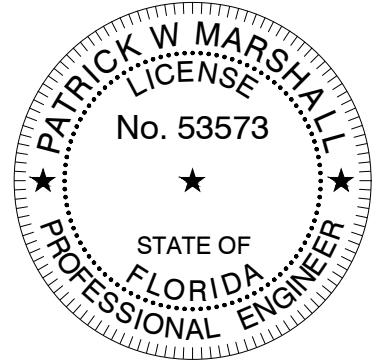
267 SW CRYSTAL GLN
LAKE CITY, FL 32025

EXISTING 350' GUYED TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/20/24	BMK	PRELIM	AJB
0	5/20/24	BMK	FINAL	AJB

Patrick W. Marshall, P.E.
Registered Engineer
State of Florida #053573
P Marshall & Associates Certificate of Authorization #27595



Patrick W. Marshall, State of Florida, Professional Engineer, License No. 53573. This item has been electronically signed and sealed by Patrick W. Marshall, PE on the Date and/or Time Stamp shown using a digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copy.

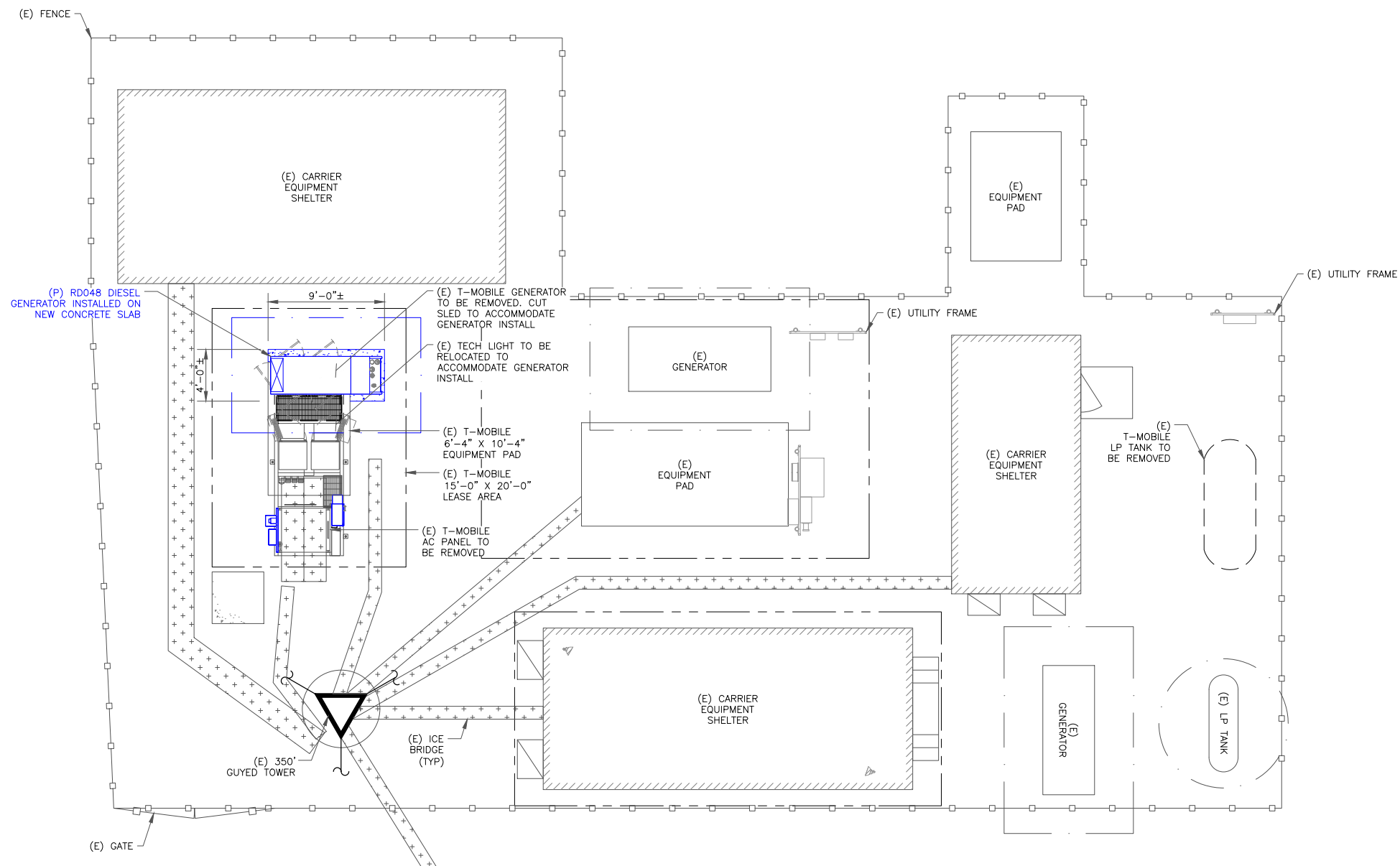
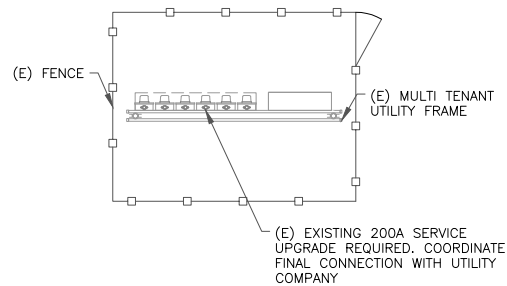
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

C-1.0

REVISION:

0



1 COMPOUND SITE PLAN
SCALE: 3/16"=1'-0" (FULL SIZE)
3/32"=1'-0" (11x17)



T-Mobile

5901 BENJAMIN CENTER DRIVE, STE. 110 A-B
TAMPA, FL 33634

CROWN CASTLE

4511 N HIMES AVE, SUITE 210
TAMPA, FL 33614

PM&A

P. MARSHALL & ASSOCIATES
1000 HOLCOMB WOODS PKWY STE. 210
ROSWELL, GA 30076
OFFICE 678-280-2325

T-MOBILE SITE NUMBER:
9JK0251A

BU #: **870081**
LAKE CITY (SR 47 & US 41)

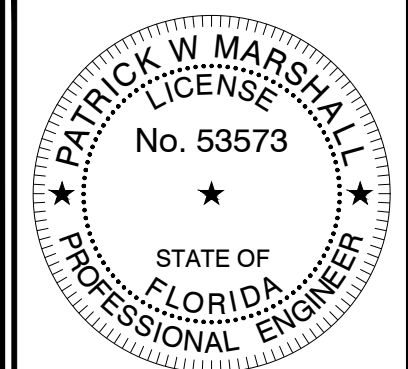
267 SW CRYSTAL GLN
LAKE CITY, FL 32025

EXISTING 350' GUYED TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/20/24	BMK	PRELIM	AJB
0	5/20/24	BMK	FINAL	AJB

Patrick W. Marshall, P.E.
Registered Engineer
State of Florida #053573
P Marshall & Associates Certificate of Authorization #27595



Patrick W. Marshall, State of Florida, Professional Engineer, License No. 53573. This item has been electronically signed and sealed by Patrick W. Marshall, PE on the Date and/or Time Stamp shown using a digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copy.

IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

C-1.1

REVISION:

0

SITE PLAN DISCLAIMER:

THIS IS NOT AN AS-BUILT SURVEY. EXISTING EQUIPMENT LOCATIONS INSIDE THE FENCED AREA HAVE BEEN PROVIDED BY CROWN CASTLE. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION.

SITE LAYOUT AND DIMENSIONS ARE PROVIDED BY CROWN CASTLE

CONDUIT NOTE:

RE-USE EXISTING CONDUIT WHERE ABLE - ANY ABOVE GROUND CONDUIT SHALL BE RIGID METAL. ALL BURIED CONDUIT SHALL BE PVC SCHEDULE 80.

BATTERY NOTE: THE PROPOSED GENERATOR WILL HAVE A 12V DC STARTER BATTERY INSTALLED THAT WILL BE CONTINUALLY CHARGED VIA INTERNAL BATTERY CHARGER.

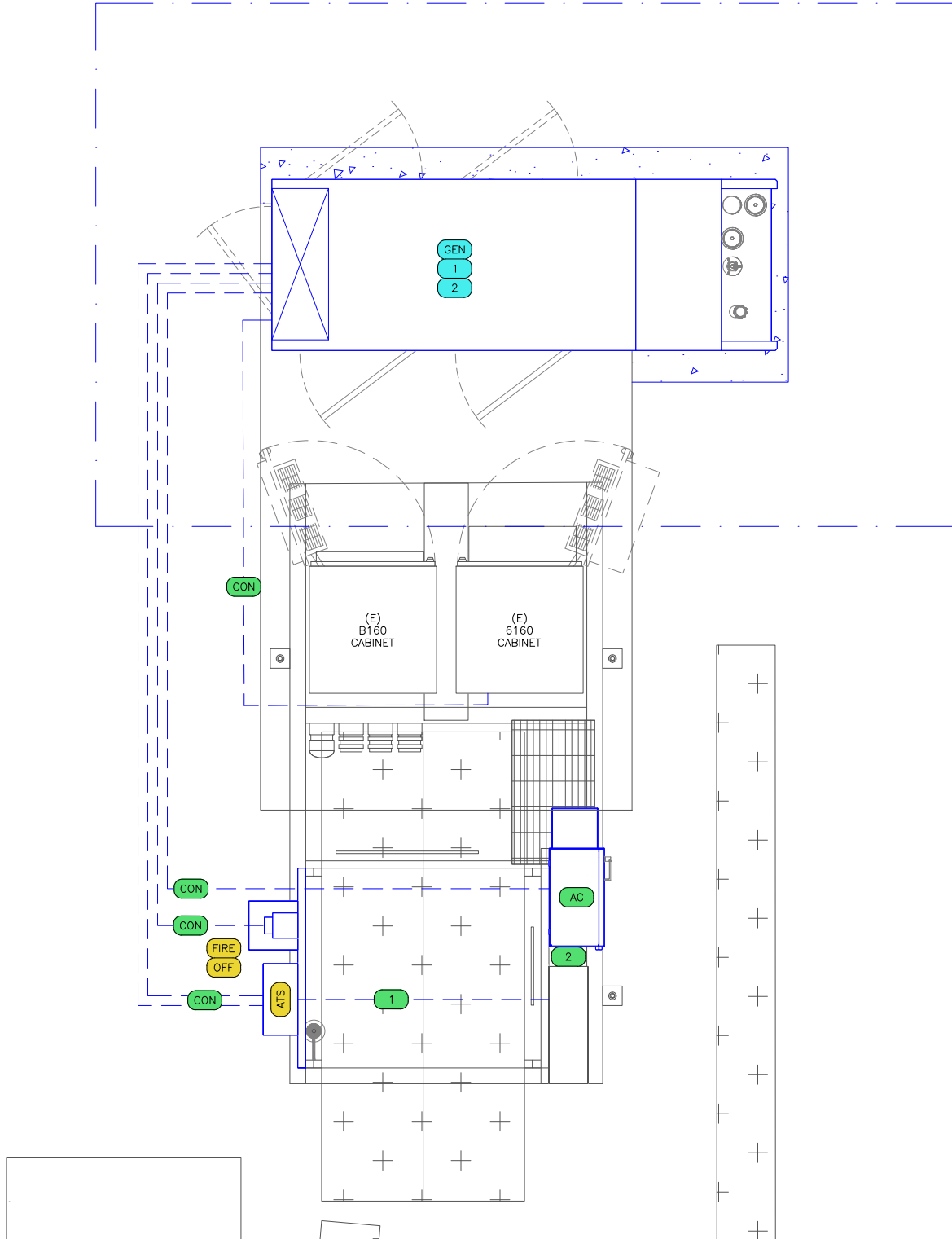
DESCRIPTION - BATT 12VDC 24F 525 CCA
EXIDE # 27F-6 650 CCA
BATT 12VDC 90-AH 27F
SEALED BATTERY - AGM TYPE - STARTER BATTERY

CLEARANCE NOTE: MINIMUM GENERATOR CLEARANCE MUST BE PROVIDED IN ACCORDANCE WITH THE MOST STRINGENT GOVERNING ADOPTED BUILDING CODE AND/OR THE MANUFACTURER'S SPECIFICATIONS AND DETAILS, WHICHEVER CRITERIA IS GREATER.

ACCESS NOTE: PROVIDE 3'-0" MINIMUM NEC AND OSHA ACCESS CLEARANCE FOR ALL GENERATOR ACCESS DOORS AND AC POWER PANELS (TYP.)

CONDUIT NOTE: ALL EXPOSED CONDUIT AND ALL CONDUIT ROUTED ACROSS THE TOPS OF SLABS AND PLATFORMS SHALL BE GALVANIZED RGS ON 1-5/8" UNISTRUT OR EQUIVALENT.

TRENCHING NOTE: THE CONTRACTOR SHALL HAND DIG ALL CONDUIT TRENCHES LOCATED WITHIN THE EXISTING FENCED COMPOUND. MECHANICAL EXCAVATION IS NOT ALLOWED BY CROWN CASTLE USA, INC.



1 COMPOUND SITE PLAN
SCALE: 3/4"=1'-0" (FULL SIZE)
3/8"=1'-0" (11x17)

EQUIPMENT KEYED NOTES

GENERATOR KEYED NOTES:

- NEW T-MOBILE 48KW DIESEL GENERATOR W/ SOUND ATTENUATED ENCLOSURE, NORMAL/EMERGENCY TANK ON A CONCRETE PAD. SEE SHEETS C-2, C-3, G-1.
- FUEL FILL SHALL BE PROVIDED WITH SPILL CONTROL, WITH A SOLID FILL CONNECTION, AND WITH OVERFILL PREVENTION.
- NFPA 704 PLACARD AND OTHER SIGNAGE. SEE SHEET C-3.

ATS/EQUIPMENT KEYED NOTES:

- FIRE EXTINGUISHER, (2A-20BC OR APPROVED EQUAL) PER IFC 906.3 IN FIRE EXTINGUISHER CABINET (BFC-7009 OR APPROVED EQUAL), MOUNTED TO BUILDING WALL OR UTILITY FRAME PER IFC 906.9 (5'-0" MAX ABOVE GRADE)
- EMERGENCY SHUTOFF SWITCH. MOUNT TO BUILDING WALL OR UTILITY FRAME PER IFC 906.9 (5'-0" MAX ABOVE GRADE)
- NEW ATS MOUNTED ON EXISTING SLED UNISTRUT RAILS WITH 36" FRONT CLEARANCE. SEE SHEET C-3.

POWER ROUTING KEYED NOTES:

- (P) 200A PPC CABINET WITH CAMLOCK GEN. PLUG. CONFIRM FINAL MODEL WITH T-MOBILE
- NEW T-MOBILE UNDERGROUND GENERATOR CONDUIT ROUTE. CONTRACTOR TO LOCATE (E) UTILITIES PRIOR TO EXCAVATION. SEE SHEETS E-1, E-2.
- ALARM CONDUIT WITH CAT6 TO EXISTING 66BLOCK IN EXISTING T-MOBILE TELCO CABINET.
- 1/2" FLEX CONDUIT WITH CAT6 ALARM CABLE FROM PROPOSED PPC TO 66BLOCK IN EXISTING TELCO CABIN FOR LOSS OF COMMERCIAL POWER AND SURGE ALARM

T-Mobile

5901 BENJAMIN CENTER DRIVE, STE. 110 A-B
TAMPA, FL 33634

CROWN CASTLE

4511 N HIMES AVE, SUITE 210
TAMPA, FL 33614

PM&A

P. MARSHALL & ASSOCIATES
1000 HOLCOMB WOODS PKWY STE. 210
ROS WELL, GA 30076
OFFICE 678-280-2325

T-MOBILE SITE NUMBER:
9JK0251A

BU #: 870081
LAKE CITY (SR 47 & US 41)

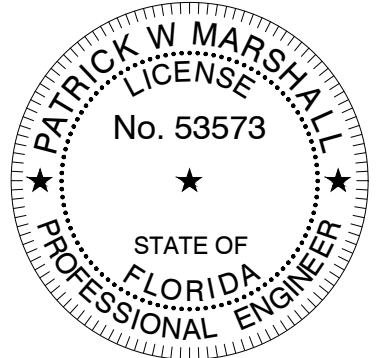
267 SW CRYSTAL GLN
LAKE CITY, FL 32025

EXISTING 350' GUYED TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/20/24	BMK	PRELIM	AJB
0	5/20/24	BMK	FINAL	AJB

Patrick W. Marshall, P.E.
Registered Engineer
State of Florida #053573
P Marshall & Associates Certificate of Authorization #27595



Patrick W. Marshall, State of Florida, Professional Engineer, License No. 53573. This item has been electronically signed and sealed by Patrick W. Marshall, PE on the Date and/or Time Stamp shown using a digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copy.

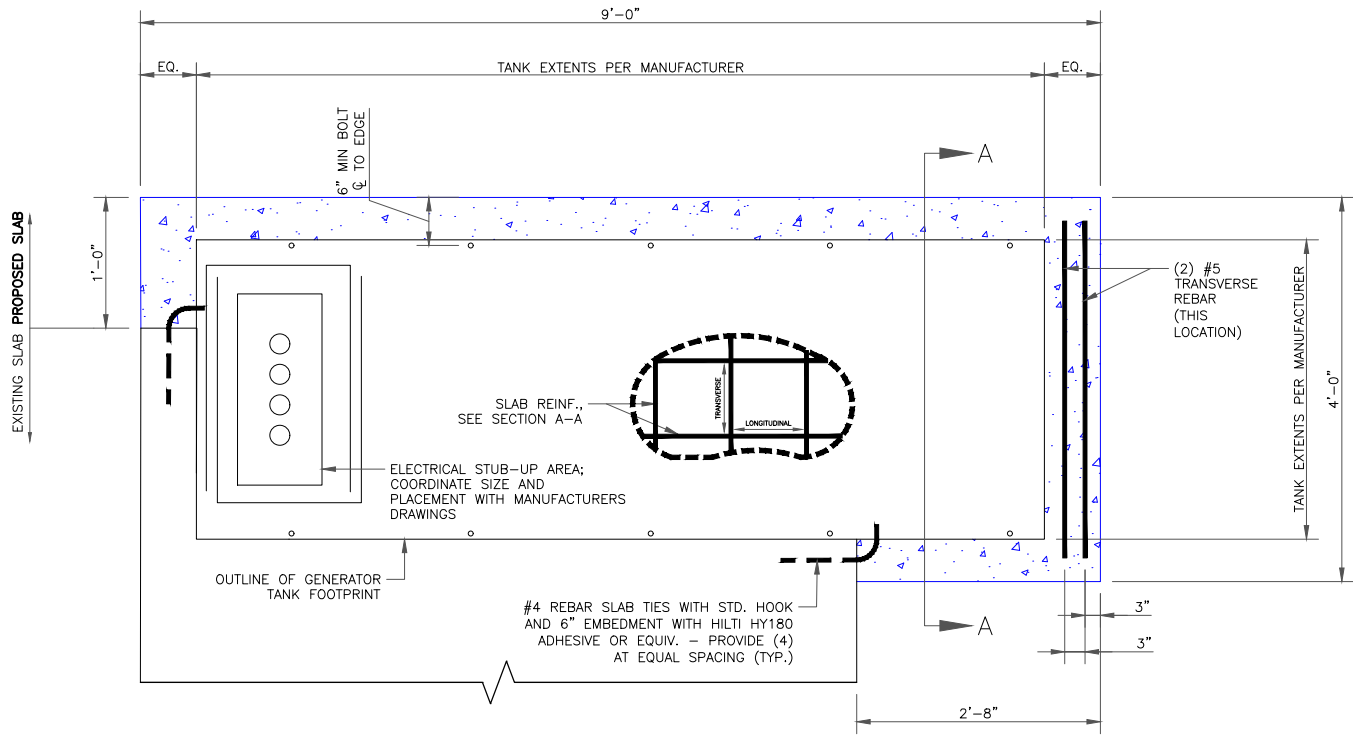
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER:

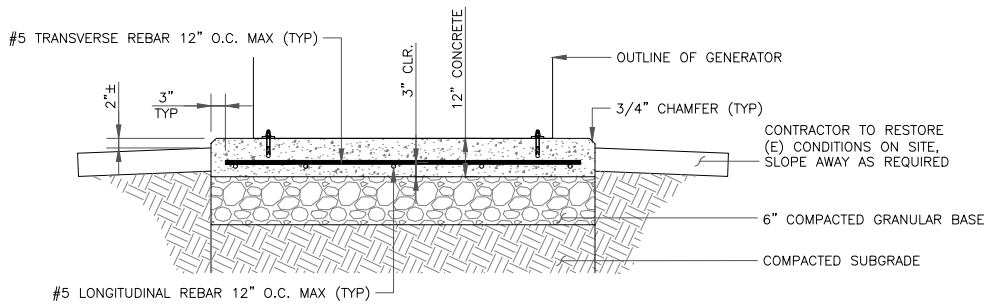
C-1.2

REVISION:

0

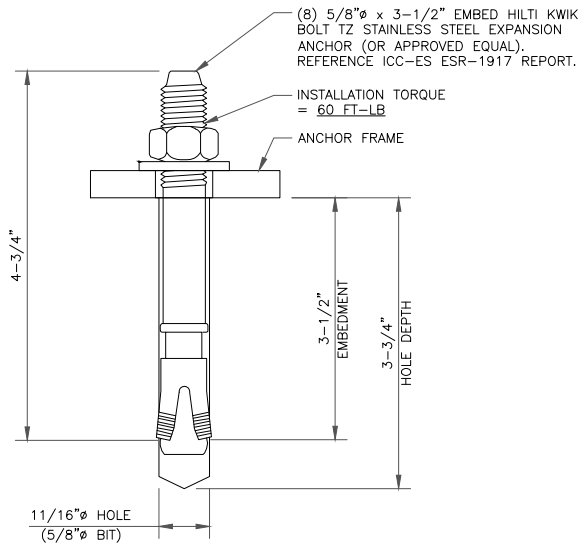


1 GENERATOR PAD DETAIL
SCALE: NOT TO SCALE



2 GENERATOR PAD DETAIL
SCALE: NOT TO SCALE

INSTALLER NOTE:
PER IBC 1705.12.6, PERIODIC SPECIAL
INSPECTION OF ANCHORAGE FOR
STANDBY POWER SYSTEMS IS REQUIRED



3 TYPICAL ANCHOR DETAIL
SCALE: NOT TO SCALE

CONCRETE NOTES:

- PRIOR TO EXCAVATION, CHECK THE AREA FOR UNDERGROUND FACILITIES.
- ALL CONCRETE SHALL BE IN ACCORDANCE WITH CHAPTER 19 OF THE IBC & ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", LATEST EDITION & HAVE THE FOLLOWING PROPERTIES:
 - MINIMUM 7-DAY COMPRESSIVE STRENGTH (f'_c) OF 2,500 PSI.
 - CEMENT SHALL BE "LOW-ALKALI" TYPE IIA (MODERATE SULFATE RESISTANCE, AIR ENTRAINING) CONFORMING TO ASTM C150.
 - MAXIMUM WATER/CEMENT RATIO OF 0.45 AND AIR-ENTRAINED 4% TO 7%.
 - CONCRETE PROPORTIONING SHALL BE DESIGNED BY AN APPROVED LABORATORY. TOLERANCES IN ACCORDANCE WITH ACI 117. COPIES OF CONCRETE MIX SHALL BE SUBMITTED TO THE CROWN CASTLE CONSTRUCTION MANAGER FOR REVIEW PRIOR TO PLACEMENT.
 - ALL AGGREGATE USED IN CONCRETE SHALL CONFORM TO ASTM C33. USE ONLY AGGREGATES KNOWN NOT TO CAUSE EXCESSIVE SHRINKAGE. MAXIMUM AGGREGATE SIZE TO BE 3/4".
 - MAXIMUM SLUMP: REFER TO GEOTECHNICAL REPORT FOR CONFIRMATION OF ANY ASSUMPTIONS MADE DURING DESIGN.
- FORMWORK FOR CONCRETE SHALL CONFORM TO ACI 347. TOLERANCES FOR FINISHED CONCRETE SURFACES SHALL MEET CLASS-C REQUIREMENTS. IN NO CASE SHALL FINISHED CONCRETE SURFACES EXCEED THE FOLLOWING VALUES AS MEASURED FROM NEAT PLAN LINES AND FINISHED GRADES: $\pm 1/4"$ VERTICAL, $\pm 1"$ HORIZONTAL.
- CHAMFER ALL EXPOSED CORNERS AND FILLET ENTRANT ANGLES 3/4" U.N.O.
- CONCRETE FINISHING: CONCRETE SURFACES SHALL BE FINISHED IN ACCORDANCE WITH ACI. PROVIDE ROUGH FINISH FOR ALL SURFACES NOT EXPOSED TO VIEW AND SMOOTH FINISH FOR ALL OTHERS, U.N.O.
- STEEL REINFORCEMENT AND CONCRETE SHOULD BE PLACED IMMEDIATELY UPON COMPLETION OF THE FOUNDATION EXCAVATION. CONTRACTOR SHALL NOT ALLOW A COLD JOINT TO FORM IN THE CONCRETE. PORTION AT GRADE SHOULD BE FORMED. TEMPORARY CASING MAY BE REQUIRED TO PREVENT CAVING PRIOR TO CONCRETE PLACEMENT.

REINFORCING STEEL NOTES:

- ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615. VERTICAL/HORIZONTAL BARS SHALL BE GRADE 60; TIES OR STIRRUPS SHALL BE A MINIMUM OF GRADE 40. ALL REINFORCING STEEL SHALL HAVE 3" ($\pm 3/8"$) OF CONCRETE COVER, U.N.O.
- ALL BAR BENDS, HOOKS, SPLICES AND OTHER REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ACI 315.
- ALL BARS SHALL BE SPLICED WITH A MINIMUM LAP OF 48 BAR DIAMETERS. LAP SPLICES OF DEFORMED BARS IN TENSION ZONES SHALL BE CLASS-B SPLICES. WELDING OF BARS IS NOT PERMITTED.
- AT ALL CORNERS AND WALL INTERSECTIONS, PROVIDE BENT HORIZONTAL BARS TO MATCH THE HORIZONTAL REINFORCING STEEL.
- PROVIDE VERTICAL DOWELS IN FOOTINGS AND AT CONSTRUCTION JOINTS TO MATCH VERTICAL REINFORCING BAR SIZE AND SPACING.
- ACI-APPROVED PLASTIC-COATED BAR CHAIRS OR PRECAST CONCRETE BLOCKS SHALL BE PROVIDED FOR SUPPORT OF ALL GRADE-CAST REINFORCING STEEL & SHALL BE SUFFICIENT IN NUMBER TO PREVENT SAGGING. METAL CLIPS OR SUPPORTS SHALL NOT BE PLACED IN CONTACT WITH THE STEEL OR THE SUB-GRADE.
- DOWELS AND ANCHOR BOLTS SHALL BE WIRED OR OTHERWISE HELD IN CORRECT POSITION PRIOR TO PLACING CONCRETE. IN NO CASE SHALL DOWELS OR ANCHOR BOLTS BE "STABBED" INTO FRESHLY-POURED CONCRETE.

FOUNDATION NOTES:

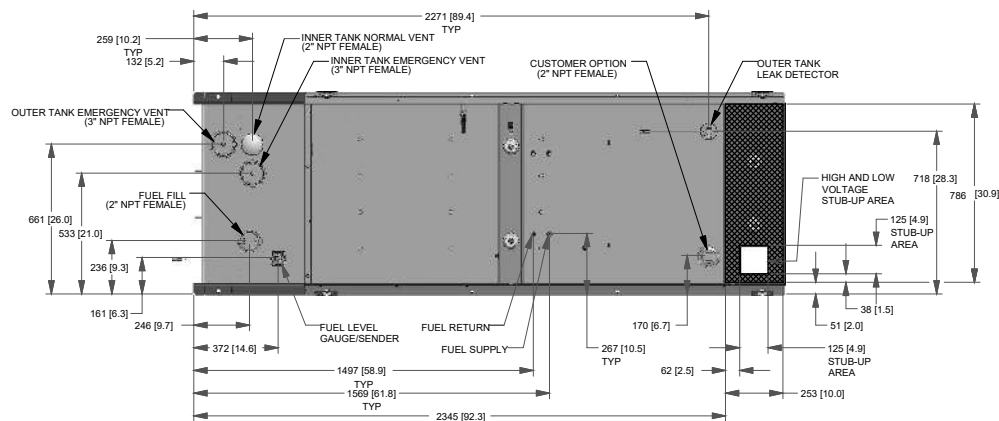
- THE CONTRACTOR SHALL READ THE GEOTECHNICAL REPORT AND SHALL CONSULT THE GEOTECHNICAL ENGINEER AS NECESSARY PRIOR TO CONSTRUCTION.
- THE GEOTECHNICAL ENGINEER (OR INSPECTOR) SHALL INSPECT THE EXCAVATION PRIOR TO THE PLACEMENT OF CONCRETE AND SHALL PROVIDE A NOTICE OF INSPECTION FOR THE BUILDING INSPECTOR FOR REVIEW AND RECORDS PURPOSES.
- THE CONTRACTOR SHALL DETERMINE THE MEANS AND METHODS NECESSARY TO SUPPORT THE EXCAVATION DURING CONSTRUCTION.
- REBAR AT BOTTOM OF FOUNDATIONS SHALL BE BONDED TO SITE GROUNDING SYSTEM (WHEN APPLICABLE). SEE ADDITIONAL DETAILS ON APPROVED A&E CONSTRUCTION DRAWINGS.
- ALL FOOTINGS TO BE PLACED ON FIRM, UNDISTURBED, INORGANIC MATERIAL. PROOF ROLL SUB-GRADE PRIOR TO PLACING CONCRETE WHERE THE MATERIAL HAS BEEN DISTURBED BY EQUIPMENT. UNACCEPTABLE/DISTURBED MATERIAL SHALL BE OVER-EXCAVATED AND REPLACED WITH "LEAN CONCRETE FILL". THE GEOTECHNICAL REPORT SHALL BE REVIEWED AND ADHERED TO FOR SPECIFIC RECOMMENDATIONS.
- STRUCTURAL BACKFILL SHALL BE GRANULAR FREE-DRAINING MATERIAL FREE OF DEBRIS, ORGANICS, REFUSE AND OTHERWISE DELETERIOUS MATERIALS. MATERIAL SHALL BE PLACED IN LIFTS NO GREATER THAN 6" IN DEPTH AND COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED PER ASTM D1557 (MODIFIED PROCTOR). THE GEOTECHNICAL REPORT SHALL BE REVIEWED AND ADHERED TO FOR SPECIFIC RECOMMENDATIONS.

SOIL NOTES:

- FOUNDATION DESIGN BASED ON THE PRESUMPTIVE MINIMUM SOIL PARAMETERS IN ACCORDANCE WITH THE IBC, CBC AND TIA. WHEN A SITE SPECIFIC GEOTECHNICAL REPORT IS AVAILABLE ON CCISITES AND THE ENGINEER AND THE CONTRACTOR SHALL ADHERE TO ALL RECOMMENDATIONS PROVIDED THEREIN.
- ALL FOUNDATIONS TO BE PLACED ON FIRM, UNDISTURBED, INORGANIC MATERIAL. PROOF ROLL SUB-GRADE PRIOR TO PLACING CONCRETE WHERE THE MATERIAL HAS BEEN DISTURBED BY EQUIPMENT. UNACCEPTABLE/DISTURBED MATERIAL SHALL BE OVER-EXCAVATED AND REPLACED WITH STRUCTURAL BACKFILL.
- STRUCTURAL BACKFILL SHALL BE GRANULAR FREE-DRAINING MATERIAL FREE OF DEBRIS, ORGANICS, REFUSE AND OTHERWISE DELETERIOUS MATERIALS. MATERIAL SHALL BE PLACED IN LIFTS NO GREATER THAN 6" IN DEPTH AND COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED PER ASTM D1557 (MODIFIED PROCTOR). THE GEOTECHNICAL REPORT SHALL BE REVIEWED AND ADHERED TO FOR SPECIFIC RECOMMENDATIONS.

MECHANICAL AND PIPING NOTES:

- HILTI PRODUCTS MUST BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, AS INCLUDED IN THE ADHESIVE PACKAGING.
- CONTRACTOR SHALL AVOID DRILLING HOLES IN VERTICAL/HORIZONTAL REINFORCING BARS.
- HOLES MUST BE WIRE BRUSHED AND BLASTED WITH COMPRESSED AIR PRIOR TO INSTALLATION. TEMPERATURES/METHODS/WORKING TIME/ETC. ARE TO BE IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS.
- REFERENCE ICC-ES ESR-1917 REPORT.



4 GENERAC RD048 STUB UP DETAIL
SCALE: NOT TO SCALE

T-Mobile

5901 BENJAMIN CENTER DRIVE, STE. 110 A-B
TAMPA, FL 33634

CROWN
CASTLE

4511 N HIMES AVE, SUITE 210
TAMPA, FL 33614

PM&A

P. MARSHALL & ASSOCIATES
1000 HOLCOMB WOODS PKWY STE. 210
ROSWELL, GA 30076
OFFICE 678-280-2325

T-MOBILE SITE NUMBER:
9JK0251A

BU #: 870081
LAKE CITY (SR 47 & US 41)

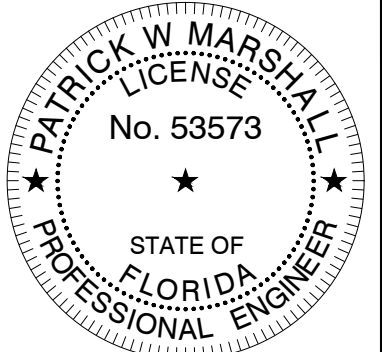
267 SW CRYSTAL GLN
LAKE CITY, FL 32025

EXISTING 350' GUYED TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/20/24	BMK	PRELIM	AJB
0	5/20/24	BMK	FINAL	AJB

Patrick W. Marshall, P.E.
Registered Engineer
State of Florida #053573
P Marshall & Associates Certificate of Authorization #27595



Patrick W. Marshall, State of Florida, Professional Engineer, License No. 53573. This item has been electronically signed and sealed by Patrick W. Marshall, PE on the Date and/or Time Stamp shown using a digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copy.

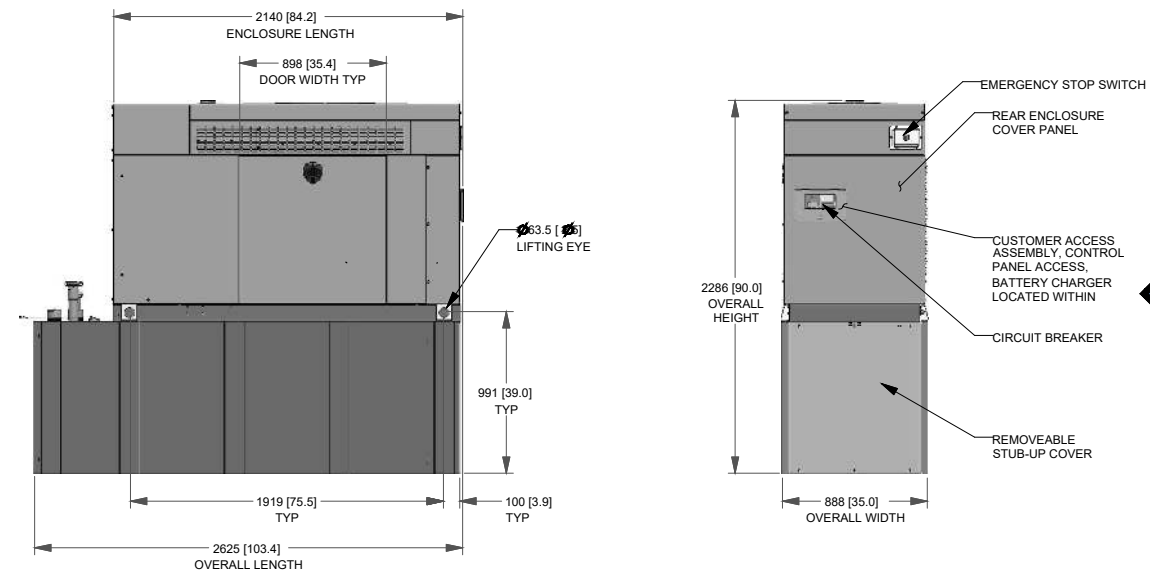
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

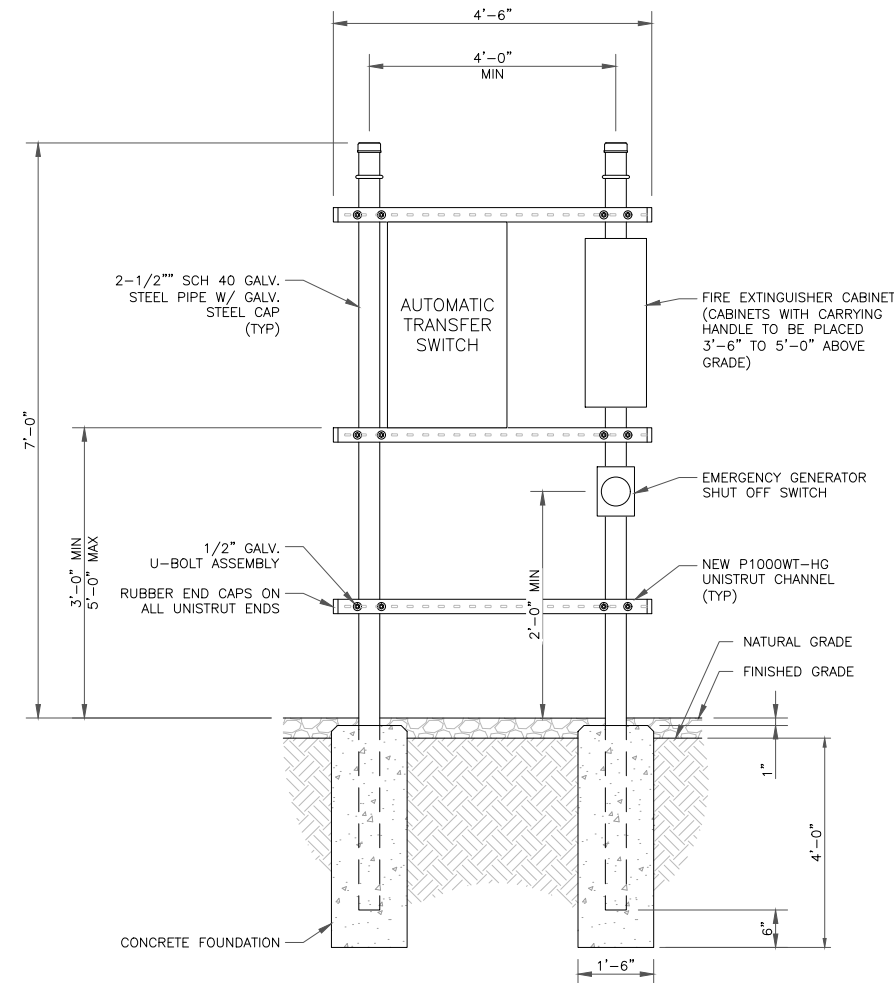
C-2

REVISION:

0



1 GENERATOR ELEVATION (GENERAC RD048)
SCALE: NOT TO SCALE



2 UTILITY FRAME ELEVATION
SCALE: NOT TO SCALE

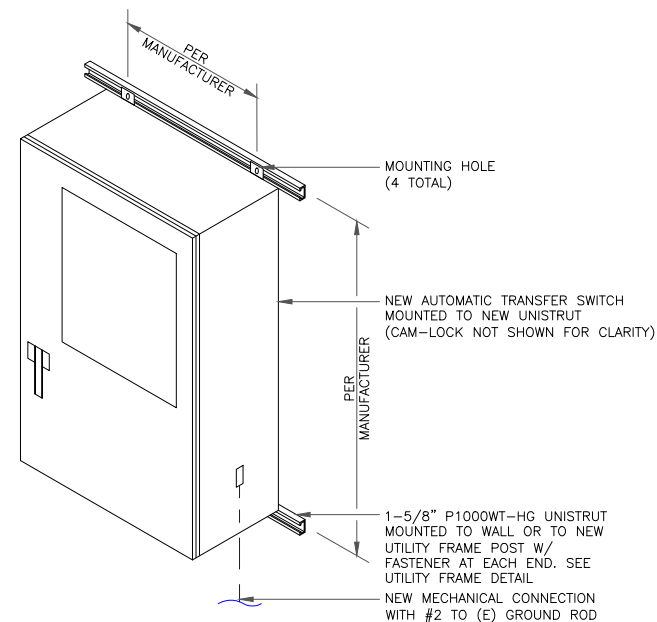
PLACE ON VISIBLE SIDE OF
NEW GENERATOR TANK
10" x 7" SIGN



PLACE ON (2) VISIBLE SIDES OF
NEW GENERATOR TANK
18" x 18" SIGN

UNISTRUT WALL ATTACHMENT:		
WALL CONSTRUCTION TYPE	FASTENER	ANCHOR SPACING
WOOD STUD	3/8" DIA. LAG SCREW	16"
CONCRETE BLOCK (HOLLOW)	-	8"
CONCRETE BLOCK (SOLID)	3/8"Ø SIMPSON TITEN HD ANCHOR MINIMUM EMBEDMENT 2-3/4"	24"

NOTES:
1. USE GALVANIZED OR STAINLESS STEEL HARDWARE FOR WALL MOUNT AND CONNECTION OF CHANNELS.
2. GC SHALL USE NON-SHRINKING CAULK TO WEATHER SEAL ALL PENETRATIONS INTO OR THROUGH SHELTER WALL.
3. MINIMUM (3) ANCHORS TO BE USED FOR EACH CHANNEL.



3 ATS MOUNTING DETAIL
SCALE: NOT TO SCALE

DIESEL TANK CHECKLIST:

- READILY ACCESSIBLE MANUAL SHUTOFF VALVES SHALL BE INSTALLED ON SUPPLY PIPING AT THE POINT OF USE AND THE TANK (CFC 5003.2.2.1)
SECONDARY CONTAINMENT-TYPE TANKS SHALL BE UL LISTED, UL-142, AND COMPLY WITH ALL OF THE FOLLOWING REQUIREMENTS; OTHERWISE TRADITIONAL SPILL CONTROL OR SECONDARY CONTAINMENT MEASURES, SUCH AS DIKING, SHALL BE UTILIZED (NFPA 30 22.11.4)
+ CAPACITY OF DIESEL TANK SHALL NOT EXCEED 50,000 GAL.
+ PIPING CONNECTIONS SHALL BE ABOVE THE LIQUID LEVEL
+ MEANS SHALL BE PROVIDED TO PROTECT RELEASE OF LIQUID BY SIPHON FLOW.
+ MEANS TO DETERMINE LIQUID LEVEL IN TANK SHALL BE PROVIDED TO DRIVER. MEANS TO PREVENT OVERFILLING BY AN ALARM AT 90% CAPACITY AND AUTOMATICALLY STOPPING
+ DELIVERY OF LIQUID TO THE TANK AT 95% CAPACITY.
+ SPACING BETWEEN ADJACENT TANKS SHALL NOT BE LESS THAN 3'.
+ TANK SHALL BE PROTECTED AGAINST DAMAGE FROM VEHICLES.
+ INTERSTITIAL SPACE SHALL HAVE EMERGENCY VENTING.
+ INTEGRITY OF SECONDARY CONTAINMENT SHALL BE ESTABLISHED. THE SECONDARY CONTAINMENT SHALL WITHSTAND THE HYDROSTATIC HEAD OF THE MAXIMUM
+ AMOUNT OF LIQUID STORED IN THE PRIMARY TANK.

TANK LABELING AND PROTECTIONS:

- THE FOLLOWING SIGNS AND LABELS SHALL BE AFFIXED TO THE TANK.
+ "DANGER-FLAMMABLE LIQUIDS" (CFC 5703.5)
+ NFPA 704 PLACARD (CFC 5003.5)
+ "NO SMOKING" (CFC 5003.7.1)
+ EH&S
+ CONTACTS
CRASH PROTECTION COMPLYING WITH FC 312 SHALL BE PROVIDED (CFC 5003.9.3) (IF APPLICABLE)

GENERATOR FEATURES:

- GENERATORS SHALL BE UL 2200 LISTED AND COMPLY WITH NFPA 37 AND NFPA 110. (CFC 604.1 AND 604.1.1)
INSTALLATIONS SHALL HAVE A LABELED REMOTE MANUAL STOP (NFPA 110 5.6.5.6 & 5.6.5.6.1 AND NFPA 37 9.2.1.1)

DOUBLE WALL FUEL TANK BASE SPECIFICATION:

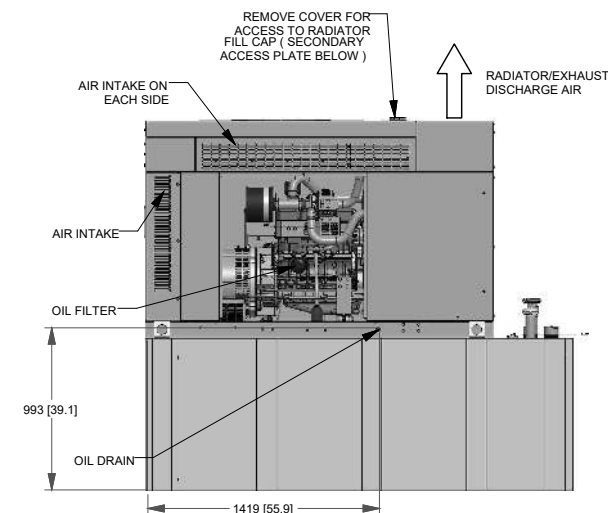
- REF: T-MOBILE 30KW GENERATOR PACKAGE
UL REGISTRATION NUMBER: MH 18459
UL 142 DOUBLE WALL FUEL TANK BASE SPECIFICATION
FUEL TANK BASE CONSTRUCTION:
+ BE CONSTRUCTED IN ACCORDANCE WITH UNDERWRITERS LABORATORIES STANDARD UL-142. BE CONSTRUCTED IN ACCORDANCE WITH FLAMMABLE COMBUSTIBLE LIQUIDS CODE, NFPA 30; THE STANDARD FOR INSTALLATION USE OF STATIONARY COMBUSTIBLE ENGINE GAS TURBINES, NFPA 37; AND THE STANDARD FOR EMERGENCY STANDBY POWER SYSTEMS, NFPA 110.
+ MINIMUM ANCHOR QUANTITY PER MANUFACTURER OR THIS PLAN SET; WHICHEVER IS LARGER.
SUB BASE TANK TESTING:
+ PRIMARY TANK & SECONDARY CONTAINMENT BASIN SECTIONS SHALL BE PRESSURIZED AT 3-5 PSI AND LEAK-CHECKED TO ENSURE INTEGRITY OF SUB BASE WELD SEAMS PER UL-142 STANDARDS
FUEL FILL: 2.5 - 5 GALLON SPILL CONTAINMENT WITH ALARM
+ 40% REMAINING FOR ALARM
+ 20% REMAINING FOR SHUT-DOWN
FACTORY PRE-SET AT 95% FULL FOR ALARM
FUEL CONTAINMENT BASIN:
+ SUB BASE TANK SHALL INCLUDE A WELDED STEEL CONTAINMENT BASIN, SIZED AT A MINIMUM OF 110% OF THE TANK. CAPACITY TO PREVENT ESCAPE OF FUEL INTO THE ENVIRONMENT IN THE EVENT OF A TANK RUPTURE. A FUEL CONTAINMENT BASIN LEAK DETECTOR SWITCH SHALL BE PROVIDED.

NEPA NOTES:

1. CONSTRUCTION, INSTALLATION, MAINTENANCE, & OPERATIONAL TESTING OF EPSS SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF NFPA 110.
2. ALL ELECTRICAL WORK SHALL COMPLY WITH LATEST ADOPTED EDITION OF NFPA 70 - NATIONAL ELECTRICAL CODE.

FUEL TANK NOTES:

- THE TANK SHALL BE MANUFACTURED WITH THE FOLLOWING:
- INTERSTITIAL ELECTRONICALLY MONITORED RUPTURE BASIN
- ALARM TO MONITOR THE SPACE BETWEEN THE PRIMARY AND SECONDARY TANK.
- OVERFILL ALERT TO VISUALLY WARN WHEN THE TANK IS FILLED UPON CAPACITY.
- OVERSPILL CONTAINMENT AT FILL PORT TO PREVENT SPILL OF FUEL DURING FILLING OPERATIONS.
- 5 GALLON OVERSPILL CONTAINMENT W/ LOCKABLE CAP.



4 GENERATOR VENTING DETAIL
SCALE: NOT TO SCALE

T-Mobile
5901 BENJAMIN CENTER DRIVE, STE. 110 A-B
TAMPA, FL 33634

CROWN CASTLE
4511 N HIMES AVE, SUITE 210
TAMPA, FL 33614

PM&A
P. MARSHALL & ASSOCIATES
1000 HOLCOMB WOODS PKWY STE. 210
ROSWELL, GA 30076
OFFICE 678-280-2325

T-MOBILE SITE NUMBER:
9JK0251A

BU #: **870081**
LAKE CITY (SR 47 & US 41)

267 SW CRYSTAL GLN
LAKE CITY, FL 32025

EXISTING 350' GUYED TOWER

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/20/24	BMK	PRELIM	AJB
0	5/20/24	BMK	FINAL	AJB

Patrick W. Marshall, P.E.
Registered Engineer
State of Florida #053573
P Marshall & Associates Certificate of Authorization #27595

PATRICK W MARSHALL
LICENSE
No. 53573
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

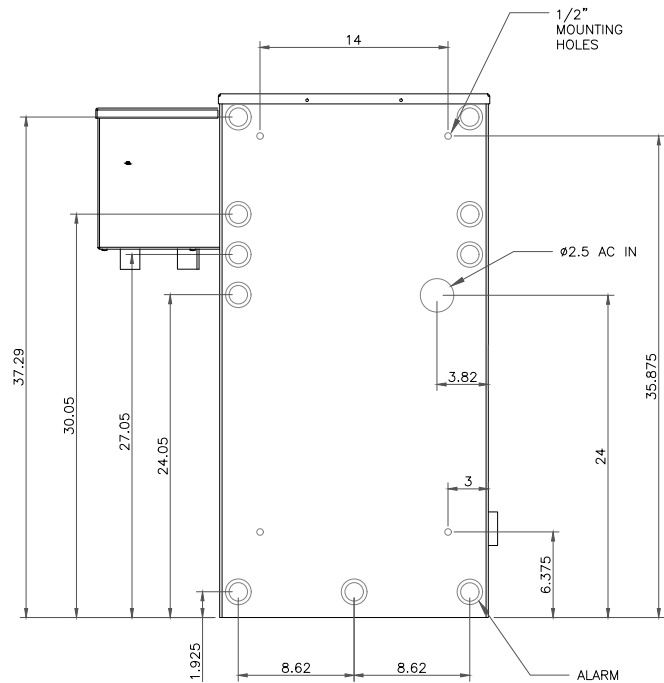
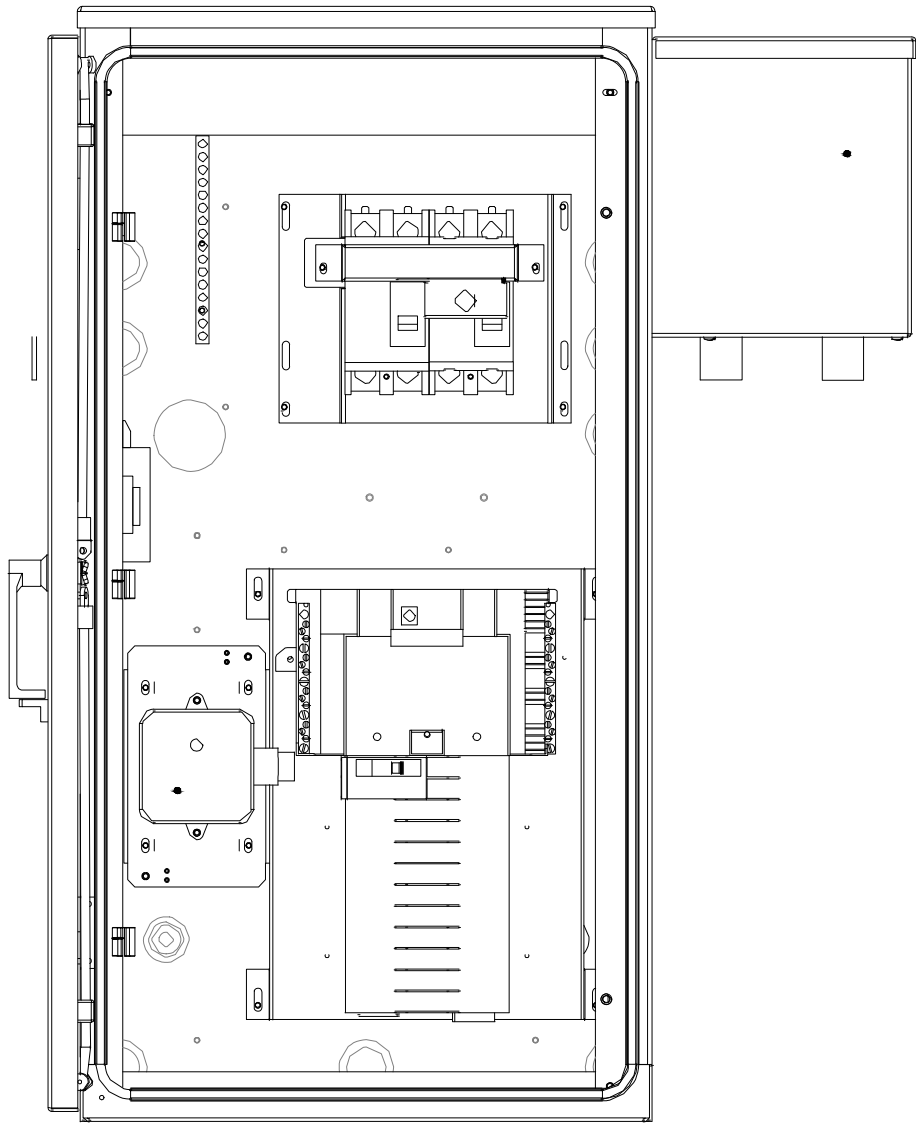
Patrick W. Marshall, State of Florida, Professional Engineer, License No. 53573. This item has been electronically signed and sealed by Patrick W. Marshall, PE on the Date and/or Time Stamp shown using a digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copy.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

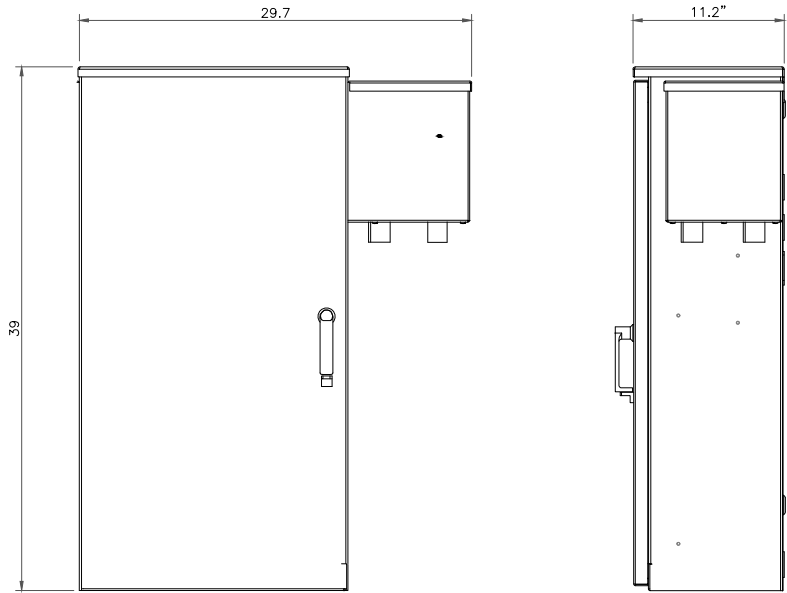
SHEET NUMBER:
C-3

REVISION:
0

MANUFACTURER:	DELTA
MODEL:	4910163600 200AMP MINI PPC CAMLOCK w/ALARM
DIMENSIONS:	29.7" x 39" x 11.2" (W x H x D)
WEIGHT	71 LBS

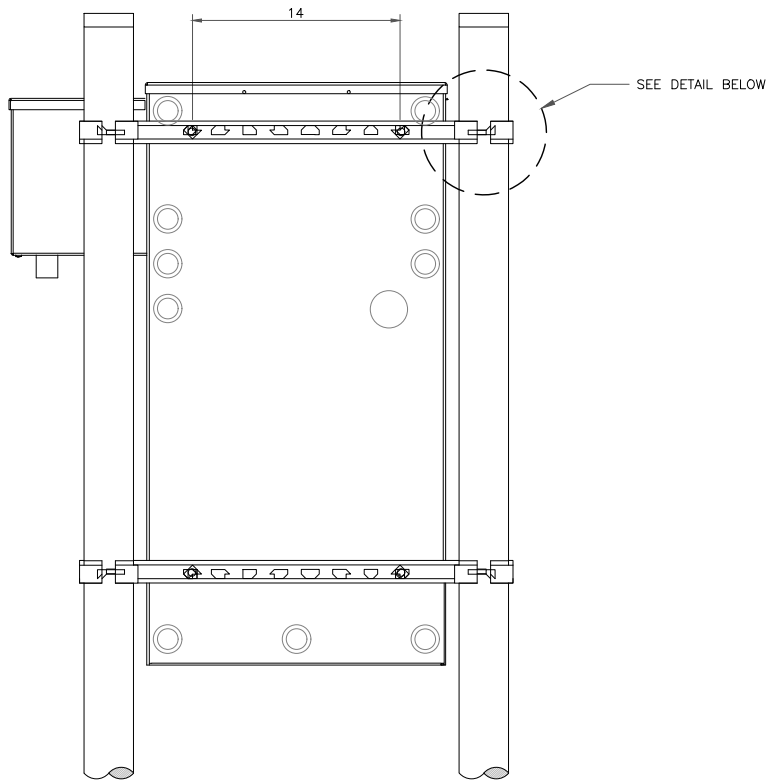


BACK VIEW

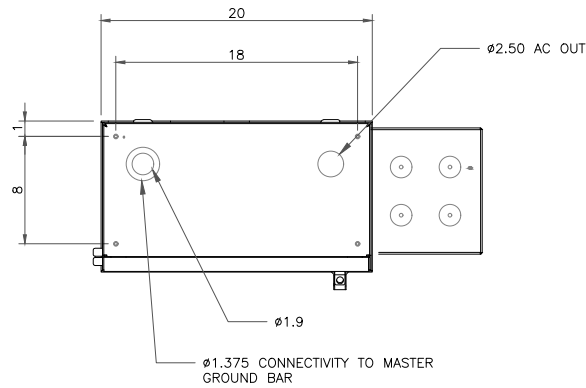


FRONT VIEW

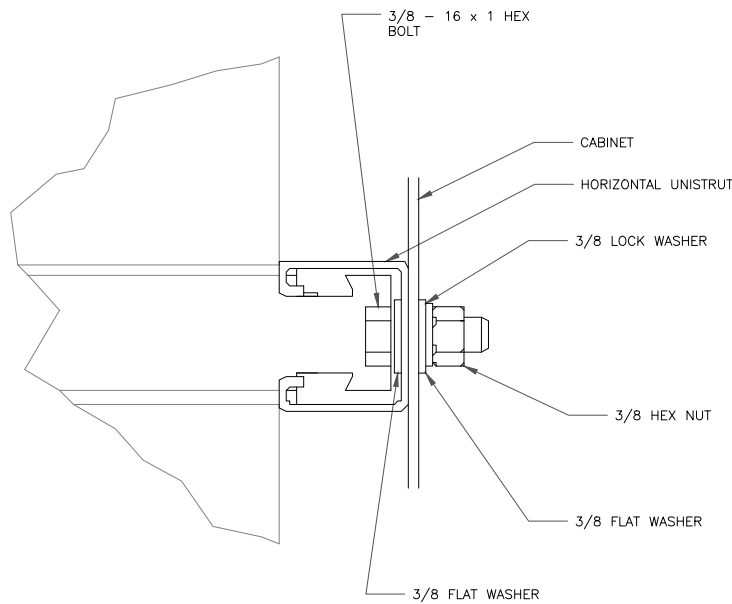
RIGHT SIDE VIEW



WALL AND RAIL MOUNTING DETAILS



BOTTOM VIEW



1 DELTA 200AMP MINI PPC HR CAMLOCK w/ALARMS
SCALE: NOT TO SCALE

T-Mobile

5901 BENJAMIN CENTER DRIVE, STE. 110 A-B
TAMPA, FL 33634

CROWN CASTLE

4511 N HIMES AVE, SUITE 210
TAMPA, FL 33614

PM&A

P. MARSHALL & ASSOCIATES
1000 HOLCOMB WOODS PKWY STE. 210
ROSWELL, GA 30076
OFFICE 678-280-2325

T-MOBILE SITE NUMBER:
9JK0251A

BU #: **870081**
LAKE CITY (SR 47 & US 41)

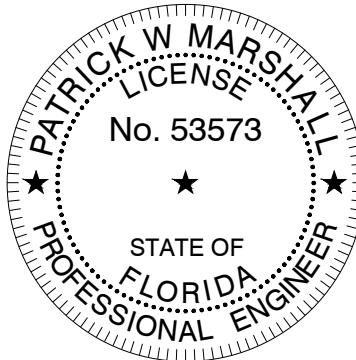
267 SW CRYSTAL GLN
LAKE CITY, FL 32025

EXISTING 350' GUYED TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/20/24	BMK	PRELIM	AJB
0	5/20/24	BMK	FINAL	AJB

Patrick W. Marshall, P.E.
Registered Engineer
State of Florida #053573
P Marshall & Associates Certificate of Authorization #27595



Patrick W. Marshall, State of Florida, Professional Engineer, License No. 53573. This item has been electronically signed and sealed by Patrick W. Marshall, PE on the Date and/or Time Stamp shown using a digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copy.

IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER:

C-4

REVISION:

0

NOTES:

- A. ALL NEW CONDUCTORS TO BE INSTALLED SHALL BE COPPER. ALL CONDUCTORS SHALL BE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 UNLESS NOTED OTHERWISE.
- B. CONTRACTOR IS TO FIELD VERIFY ALL EXISTING ITEMS SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- C. ALL GROUNDING AND BONDING PER THE NEC.
- D. ALL ELECTRICAL WORK SHALL COMPLY WITH NEC, STATE, AND LOCAL CODES.
- E. CONTRACTOR SHALL COORDINATE WITH THE ELECTRIC UTILITY FOR THE EXACT TRANSFORMER LOCATION, METERING REQUIREMENTS, AND SERVICE ROUTING. CONTRACTOR SHALL COORDINATE WITH THE TELEPHONE UTILITY FOR THE EXACT TELEPHONE REQUIREMENTS AND SERVICE ROUTING.
- F. PRIOR TO PURCHASING EQUIPMENT, THE CONTRACTOR SHALL CONTACT THE ELECTRIC COMPANY AND OBTAIN IN WRITING THE MAXIMUM AVAILABLE FAULT CURRENT AT THE UTILITY SERVICE POINT. THE CONTRACTOR SHALL ENSURE ALL ELECTRICAL EQUIPMENT, CIRCUIT BREAKERS, DISCONNECTS, FUSES, AND PANELBOARDS HAVE A FAULT CURRENT INTERRUPTING RATING GREATER THAN THE AVAILABLE FAULT CURRENT. IN NO CASE SHALL THE FAULT CURRENT INTERRUPTING RATING BE LESS THAN 10,000 AMPS.
- G. PRIOR TO TRENCHING CONTRACTOR SHALL LOCATE ALL EXITING UNDERGROUND UTILITIES. CONTRACTOR SHALL REPAIR AT CONTRACTOR'S EXPENSE ANY DAMAGE TO EXISTING UTILITIES.
- H. CONTRACTOR TO VERIFY EXACT ROUTING OF POWER AND TELCO CONDUIT WITH LOCAL UTILITIES AND OWNER/TENNANT. ENSURE ALL CONDUIT STUB-UPS ACCOMMODATE EQUIPMENT REQUIREMENTS.
- I. CONDUIT ENTERING EQUIPMENT SHALL BE SEALED WITH A SEALANT THAT IS IDENTIFIED FOR USE WITH THE CABLE/CONDUCTOR INSULATION, SHIELDING, ETC.
- J. THE OWNER SHALL FURNISH AND THE CONTRACTOR SHALL INSTALL ADDITIONAL SIGNAGE TO BE LOCATED AT THE COMPOUND FENCE. CONTRACTOR SHALL COORDINATE WITH OWNER/TENNANT CONSTRUCTION MANAGER FOR PLACEMENT OF SIGNAGE.
- K. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES TO THE LANDSCAPING AREA
- L. CONTRACTOR ENSURE A MIN. 3' CLEARANCE IN FRONT OF ELECTRICAL PANELS PER NEC.

T-MOBILE SITE #:		LOCATION:		VOLTAGE: 240/120 1Ø		MOUNTING / ENCLOSURE: EXISTING / NEMA 3R	
9JK0251A		SLED		MAIN C/B: 200 AMPS		AVAIL. FAULT CURRENT: EXISTING	
4/20/2024				BUS RATING: 200 AMPS		SHORT CIRCUIT RATING: EXISTING	
AMPS/ POLES	WIRE & CONDUIT	TYPE	DESCRIPTION	KVA	CKT	A	
60/2	EXISTING	EQ	SURGE	0.10	1	0.20	
-	-	EQ	-	0.10	3	-	
40/2	EXISTING	R	SPARE	-	5	8.64	
-	-	-	-	-	7	-	
20/1	EXISTING	L	TECH LIGHTS	0.50	9	0.50	
20/1	-	-	SPARE	-	11	-	
20/2	-	-	SPARE	-	13	0.10	
-	-	-	-	-	15	-	
-	-	-	SPACE	-	17	-	
-	-	-	SPACE	-	19	-	
-	-	-	SPACE	-	21	-	
-	-	-	SPACE	-	23	-	
PHASE TOTAL				9.4			
					9.2		KVA
				TOTAL CONNECTED LOAD		18.7 kVA	78 A
				TOTAL DEMAND LOAD		18.8 kVA	78 A
NOTES: DEPICTED LOAD BASED ON ASSUMPTIONS OF EQUIPMENT INSTALLED AND WAS NOT V.L.F. NOTIFY E.O.R. OF ANY DISCREPANCIES PRIOR TO INSTALLATION OF PROPOSED EQUIPMENT.							

LOAD TYPE	DESCRIPTION	CONN. LOAD		DEMAND FACTOR	DESIGN LOAD	
		KVA	AMPS		KVA	AMPS
L	LIGHTING	0.5	2.1	1.25	0.6	2.6
R	RECEPTACLE	0.1	0.4	NEC	0.1	0.4
M	MOTOR	0.0	0.0	NEC	0.0	0.0
H	HEATING	0.5	2.1	1.00	0.5	2.1
AC	HVAC	0.0	0.0	1.00	0.0	0.0
EQ	EQUIPMENT	17.6	73.3	1.00	17.6	73.3
E	EXISTING	0.0	0.0	1.25	0.0	0.0

* ALL EQUIPMENT LOADS CONSIDERED CONTINUOUS LOADS

2 PROPOSED AC POWER PANEL SCHEDULE
SCALE: NOT TO SCALE

NOTE: ALL CONDITIONS SHALL BE THHN/THWN - COPPER, UNLESS OTHERWISE NOTED.

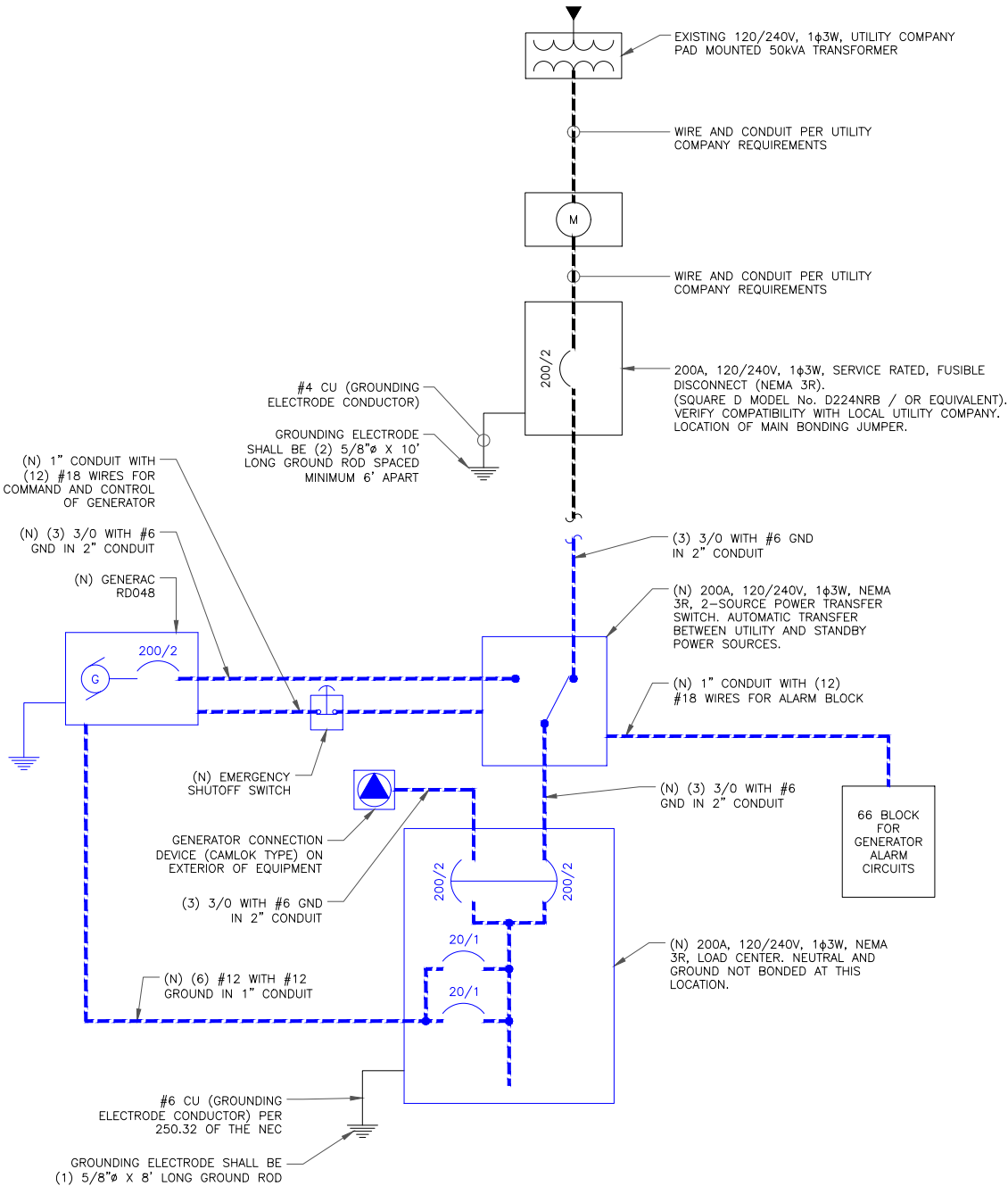
NOTE: ALL ABOVE GROUND CONDUIT SHALL BE RGS. WHERE CONDUITS CROSS SLABS RGS SHALL BE MOUNTED ON UNISTRUT CHANNEL. ALL CONDUCTORS SHALL BE COPPER TYPE (TYP.)

ALL ABOVE GRADE CONDUIT AND RISERS TO BE RIGID GALVANIZED CONDUIT THROUGH OUT.

NOTE: ONLY 90° AND SWEEPING 90° ELBOWS ARE TO BE USED, NO LB'S.

INSTALLER NOTE:

1. THE GENERATOR SIZE HAS BEEN DETERMINED BY T-MOBILE BASED ON AN INTERNAL LOAD ANALYSIS OF THEIR EQUIPMENT. THE GENERATOR SIZE WAS PROVIDED AS PART OF THE SCOPING ANALYSIS. T-MOBILE SHALL BE RESPONSIBLE FOR ENSURING THAT THEIR SYSTEM CONFIGURATION DOES NOT EXCEED THE MANUFACTURER POWER RATING OF THE SPECIFIED GENERATOR.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING A SPOT READING OF THE PANEL AT PEAK OPERATING HOURS TO VERIFY THE T-MOBILE PANEL SCHEDULE CALCULATIONS ARE NOT EXCEEDED. IN THE EVENT THE READING EXCEEDS THE CALCULATED PANEL SCHEDULE LOADS, RECORD THE READING AND CONSULT T-MOBILE ENGINEERING MANAGER PRIOR TO PROCEEDING WITH GENERATOR INSTALLATION.



1 ONE-LINE DIAGRAM
SCALE: NOT TO SCALE

T-Mobile

5901 BENJAMIN CENTER DRIVE, STE. 110 A-B
TAMPA, FL 33634

CROWN CASTLE

4511 N HIMES AVE, SUITE 210
TAMPA, FL 33614

PM&A

P. MARSHALL & ASSOCIATES
1000 HOLCOMB WOODS PKWY STE. 210
ROSWELL, GA 30076
OFFICE 678-280-2325

T-MOBILE SITE NUMBER:
9JK0251A

BU #: 870081
LAKE CITY (SR 47 & US 41)

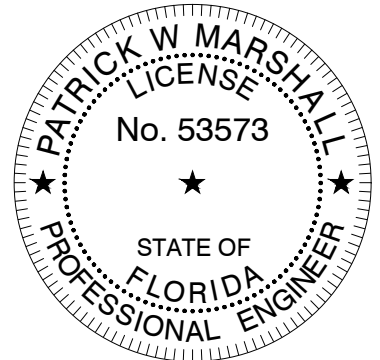
267 SW CRYSTAL GLN
LAKE CITY, FL 32025

EXISTING 350' GUYED TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/20/24	BMK	PRELIM	AJB
0	5/20/24	BMK	FINAL	AJB

Patrick W. Marshall, P.E.
Registered Engineer
State of Florida #053573
P Marshall & Associates Certificate of Authorization #27595



Patrick W. Marshall, State of Florida, Professional Engineer, License No. 53573. This item has been electronically signed and sealed by Patrick W. Marshall, PE on the Date and/or Time Stamp shown using a digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copy.

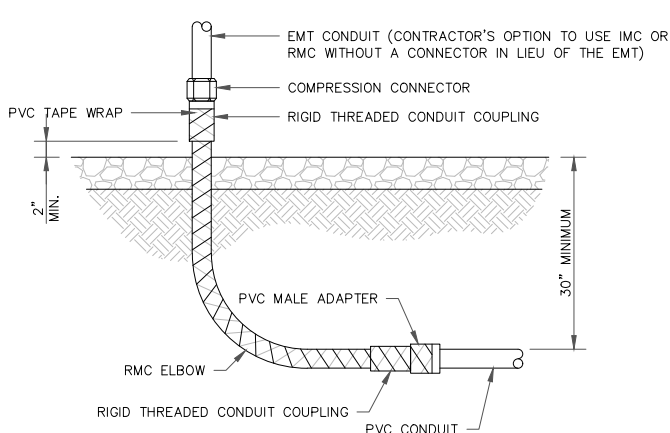
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER:

E-1

REVISION:

0

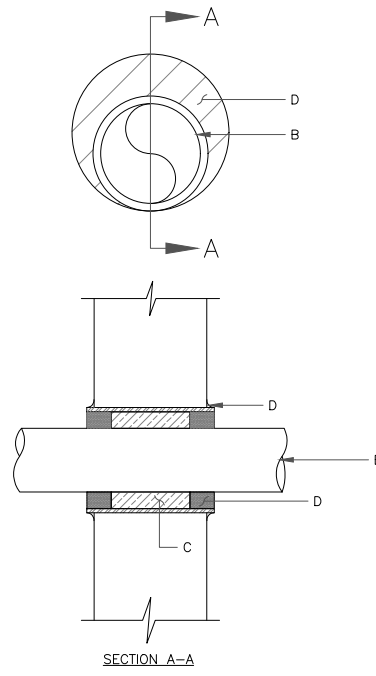


ALL METAL CONDUIT INSTALLED IN DIRECT CONTACT WITH THE EARTH SHALL BE CONSIDERED TO BE INSTALLED IN A SEVERELY CORROSIVE ENVIRONMENT AND IS REQUIRED TO HAVE SUPPLEMENTAL PROTECTION AGAINST CORROSION (NEC ARTICLE 342.10(B) & 344.10(B)(1)). THIS PROTECTION SHALL EITHER BE AN APPROVED MANUFACTURER INSTALLED PROTECTIVE COATING ON THE CONDUIT OR SHALL BE (2) LAYERS OF 10 MIL PVC PIPE WRAP TAPE INSTALLED USING OPPOSING SPIRAL WRAPS. ON VERTICAL PIPE THE OUTSIDE LAYER OF TAPE SHALL BE WRAPPED SO AS TO PROVIDE SHEDDING OF WATER (i.e. TAPE SHOULD WRAP IN AN UPWARD DIRECTION WITH LOWER WRAP BEING BENEATH THE WRAP ABOVE). SPIRAL WRAPS SHALL HAVE A MINIMUM OF 1/4" OVERLAP WITH THE PRECEDING TAPE WRAP. ANY OTHER METHODS OF CORROSION PROTECTION SHALL REQUIRE APPROVAL BY THE ENGINEER OF RECORD PRIOR TO BEING USED.

1 CONDUIT STUB UP DETAIL
SCALE: NOT TO SCALE

INSTALLER NOTES:
1. IF EXISTING CONSTRUCTION VARIES FROM THIS DETAIL, AN EQUAL 3-HR U.L. PENETRATION APPROPRIATE FOR THE EXISTING WALL TYPE SHALL BE CONSTRUCTED
2. GC SHALL USE NON-SHRINKING CAULK TO WEATHERSEAL ALL PENETRATIONS INTO OR THRU SHELTER WALL.

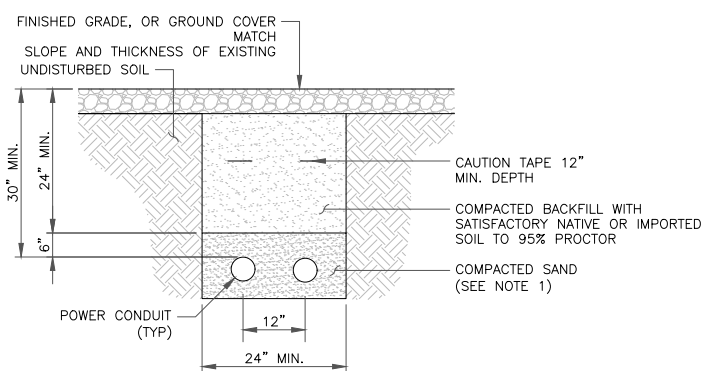
U.L. SYSTEM NO. C-AJ-1150
CONDUIT THROUGH BEARING WALL SIMILAR TO U.L. DESIGN NO. U902
F RATING = 3 HR
T RATING = 0 HR



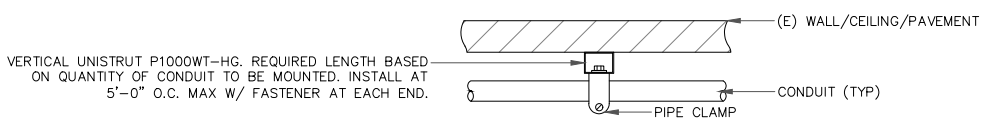
- A. FLOOR OR WALL ASSEMBLY : MINIMUM 4-1/2" THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX DIAMETER OF OPENING IS 4". (SEE CONCRETE BLOCKS 9CATZ) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
- B. THROUGH PENETRATIONS : ONE METALLIC PIPE OR CONDUIT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE ANNULAR SPACE SHALL BE MINIMUM 0". (POINT CONTACT) TO MAXIMUM 1-3/8". THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR CONDUITS MAY BE USED:
a. STEEL PIPE-NOMINAL 6" DIAMETER (OR SMALLER) SCHEDULE 40 (OR HEAVIER) STEEL PIPE
b. IRON PIPE-NOMINAL 6" DIAMETER (OR SMALLER) CAST OR DUCTILE IRON PIPE.
c. CONDUIT - NOMINAL 4" DIAMETER (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR NOMINAL 3-1/2" DIAMETER (OR SMALLER) STEEL CONDUIT.
- C. PACKING MATERIAL: MINIMUM 6" THICKNESS OF MIN 4.0 PCF MINERAL WOOL BATTING INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.
- D. FILL, VOID, OR CAVITY MATERIAL*: SEALANT: MINIMUM 1/4" THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR AND WITH BOTH SURFACES OF WALL. AT THE POINT CONTACT LOCATION BETWEEN PIPE AND CONCRETE, A MINIMUM 1/2" DIAMETER BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE CONCRETE/PIPE INTERFACE ON THE TOP SURFACE OF FLOOR AND ON BOTH SURFACES OF WALL. W-RATING APPLIES ONLY WHEN CP601S OR CP604 SEALANT IS USED.
- HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. : CP601S, CP604, CP606, OR FS-ONE SEALANT.
- * BEARING THE UL CLASSIFICATION MARK

2 OUTER WALL PENETRATION DETAIL
SCALE: NOT TO SCALE

INSTALLER NOTE:
1. LEAN CONCRETE, RED-COLORED TOP, MAY BE USED IN PLACE OF COMPACTED SAND

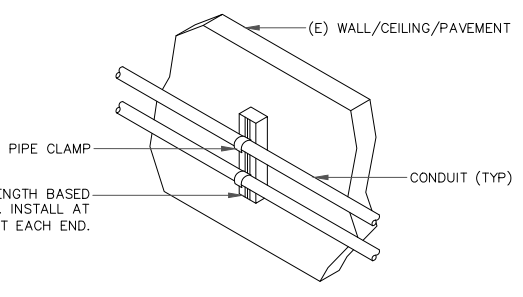


3 TRENCH DETAIL
SCALE: NOT TO SCALE



VERTICAL UNISTRUT P1000WT-HG. REQUIRED LENGTH BASED ON QUANTITY OF CONDUIT TO BE MOUNTED. INSTALL AT 5'-0" O.C. MAX W/ FASTENER AT EACH END.

VERTICAL UNISTRUT P1000WTHG. REQUIRED LENGTH BASED ON QUANTITY OF CONDUIT TO BE MOUNTED. INSTALL AT 5'-0" O.C. MAX W/ FASTENER AT EACH END.



4 CONDUIT WALL MOUNT DETAIL
SCALE: NOT TO SCALE

T-Mobile
5901 BENJAMIN CENTER DRIVE, STE. 110 A-B
TAMPA, FL 33634

CROWN CASTLE
4511 N HIMES AVE, SUITE 210
TAMPA, FL 33614

PM&A
P. MARSHALL & ASSOCIATES
1000 HOLCOMB WOODS PKWY STE. 210
ROSWELL, GA 30076
OFFICE 678-280-2325

T-MOBILE SITE NUMBER:
9JK0251A

BU #: **870081**
LAKE CITY (SR 47 & US 41)

267 SW CRYSTAL GLN
LAKE CITY, FL 32025

EXISTING 350' GUYED TOWER

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/20/24	BMK	PRELIM	AJB
0	5/20/24	BMK	FINAL	AJB

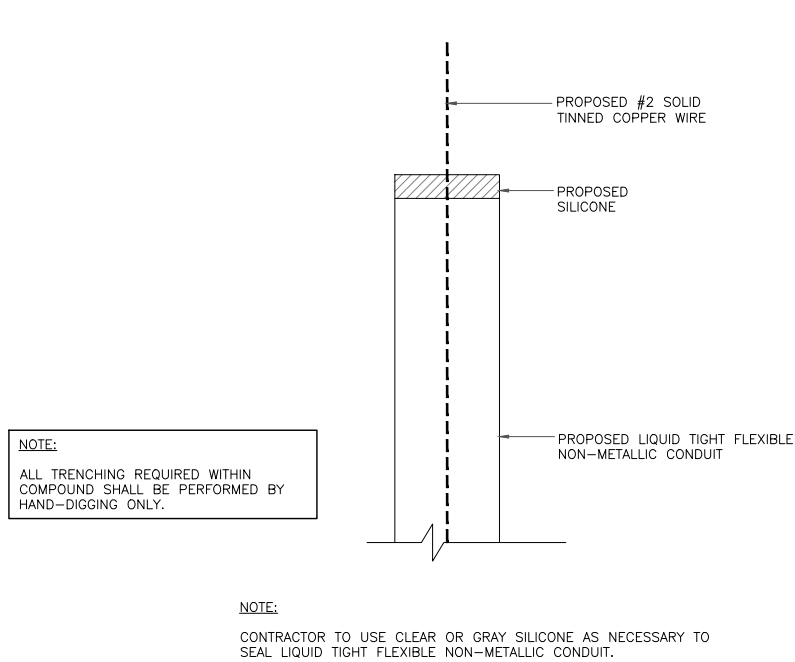
Patrick W. Marshall, P.E.
Registered Engineer
State of Florida #053573
P Marshall & Associates Certificate of Authorization #27595

PATRICK W MARSHALL
LICENSE
No. 53573
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

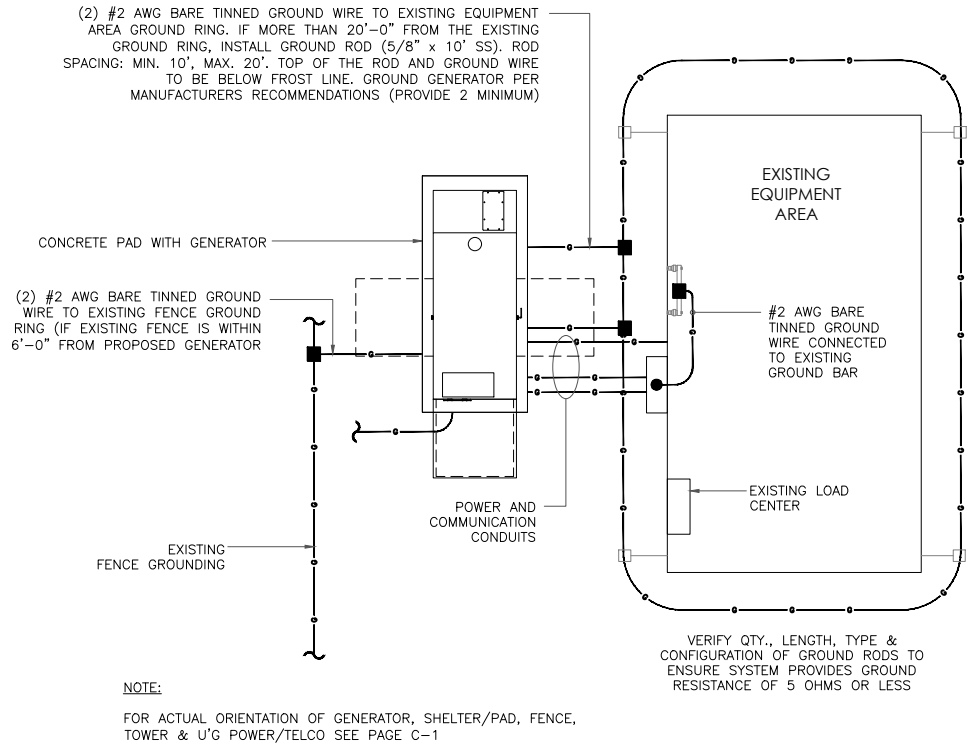
Patrick W. Marshall, State of Florida, Professional Engineer, License No. 53573. This item has been electronically signed and sealed by Patrick W. Marshall, PE on the Date and/or Time Stamp shown using a digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copy.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: **E-2** REVISION: **0**

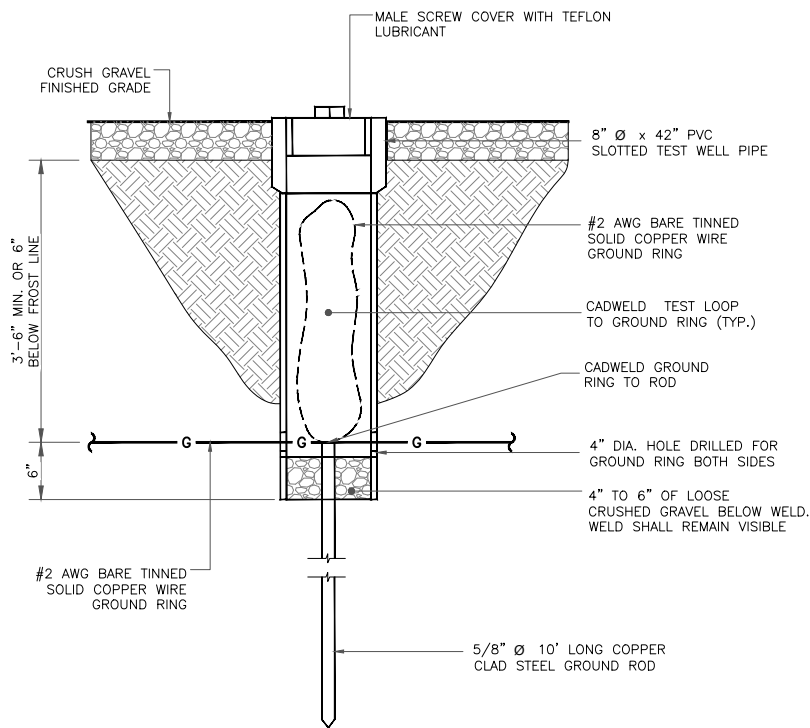


1 GROUND WIRE WEATHERPROOFING
SCALE: NOT TO SCALE



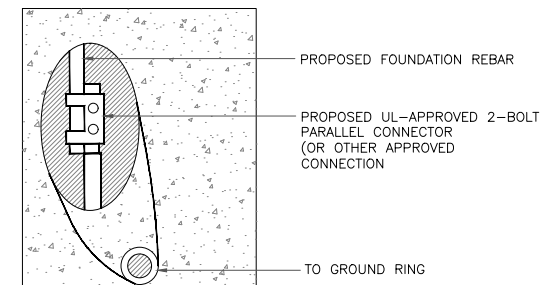
2 GROUNDING PLAN
SCALE: NOT TO SCALE

NOTE:
ONE TEST WELL SHALL BE PROVIDED BETWEEN THE TOWER GROUND LOOP AND THE EQUIPMENT GROUND LOOP

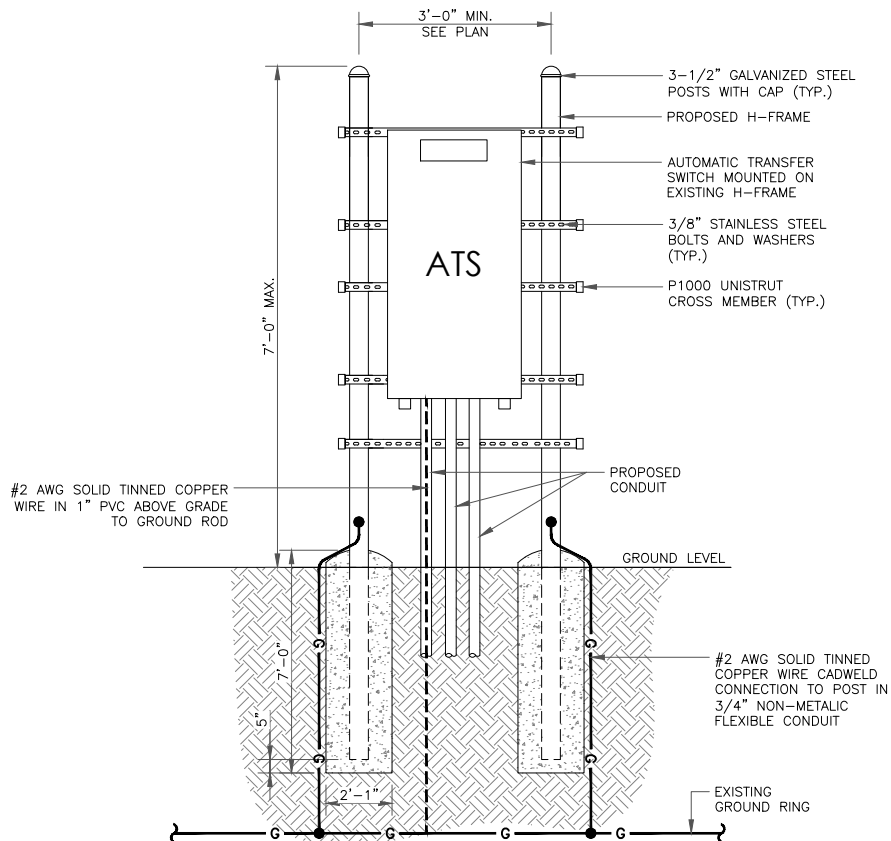


5 GROUND ROD TEST WELL DETAIL
SCALE: NOT TO SCALE

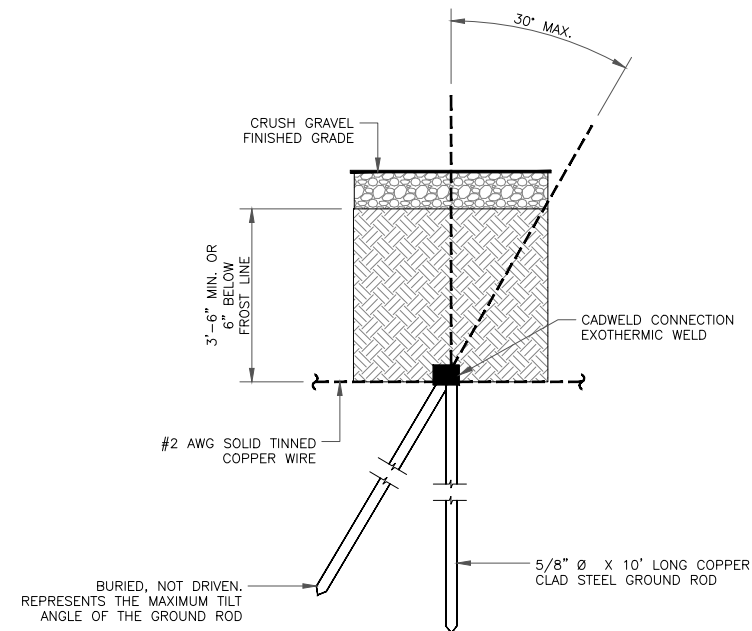
- NOTES:
1. CONNECTION SHALL BE COVERED BY NO LESS THAN 2" OF CONCRETE.
 2. ATTEMPT TO MAKE CONNECTION TO A 6'-0" RUN OF REBAR OR GREATER.
 3. APPLY HEAT SHRINK OR ELECTRICAL TAPE AROUND THE CONDUCTOR TO AVOID CORROSION.



3 EQUIPMENT PAD GROUNDING
SCALE: NOT TO SCALE



4 AUTOMATIC TRANSFER SWITCH GROUNDING (ELEVATION)
SCALE: NOT TO SCALE



6 GROUND ROD TEST WELL DETAIL
SCALE: NOT TO SCALE

T-Mobile

5901 BENJAMIN CENTER DRIVE, STE. 110 A-B
TAMPA, FL 33634

CROWN CASTLE

4511 N HIMES AVE, SUITE 210
TAMPA, FL 33614

PM&A

P. MARSHALL & ASSOCIATES
1000 HOLCOMB WOODS PKWY STE. 210
ROSWELL, GA 30076
OFFICE 678-280-2325

T-MOBILE SITE NUMBER:
9JK0251A

BU #: **870081**
LAKE CITY (SR 47 & US 41)

267 SW CRYSTAL GLN
LAKE CITY, FL 32025

EXISTING 350' GUYED TOWER

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/20/24	BMK	PRELIM	AJB
0	5/20/24	BMK	FINAL	AJB

Patrick W. Marshall, P.E.
Registered Engineer
State of Florida #053573
P Marshall & Associates Certificate of Authorization #27595

PATRICK W MARSHALL
LICENSE
No. 53573
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Patrick W. Marshall, State of Florida, Professional Engineer, License No. 53573. This item has been electronically signed and sealed by Patrick W. Marshall, PE on the Date and/or Time Stamp shown using a digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copy.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: **G-1** REVISION: **0**

100-400 Amps, Single Phase**Automatic Smart Transfer Switches****Functions**

All timing and sensing functions originate in the generator controller

Utility voltage drop-out	< 65%
Timer to generator start	10 second factory set, adjustable between 2-1500 seconds by a qualified dealer*
Engine warm up delay	5 seconds
Standby voltage sensor	65% for 5 seconds
Utility voltage pickup	> 80%
Re-transfer time delay	15 seconds
Engine cool-down timer	60 seconds
Exerciser	5 or 12 minutes adjustable weekly/Bi-weekly/Monthly**

The transfer switch can be operated manually without power applied.

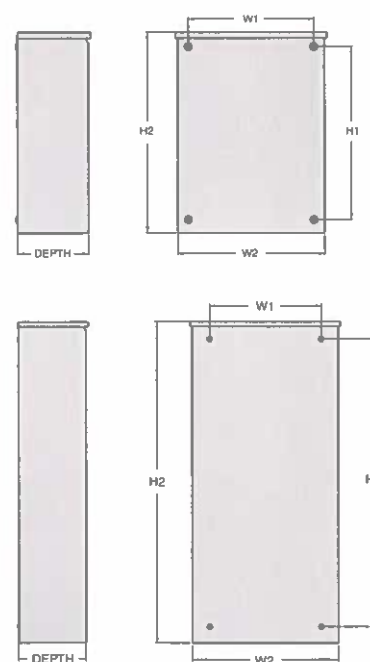
*When used in conjunction with units utilizing Evolution™ controls **Adjustable via the controller

Specifications

Model	RXSC100A3	RXSW100A3	RXSW150A3	RXSC200A3	RXSW200A3	RXSW300A3	RXSC400A3	RXSW400A3
Amps	100	100	150	200	200	300	400	400
Voltage	120/240, 1ø	120/240, 1ø	120/240, 1ø	120/240, 1ø	120/240, 1ø	120/240, 1ø	120/240, 1ø	120/240, 1ø
Load Transition Type (Automatic)	Open Transition	Open Transition Service Rated	Open Transition Service Rated	Open Transition	Open Transition Service Rated	Open Transition Service Rated	Open Transition	Open Transition Service Rated
Enclosure Type	NEMA/UL 3R	NEMA/UL 3R	NEMA/UL 3R	NEMA/UL 3R	NEMA/UL 3R	NEMA/UL 3R	NEMA/UL 3R	NEMA/UL 3R
UL Rating	UL/CUL	UL	UL	UL/CUL	UL	UL	UL/CUL	UL
Withstand Rating (Amps)	10,000	10,000	22,000	10,000	22,000	22,000	22,000	22,000
Lug Range	1/0 - #14		250 MCM - #6			600 MCM - #4 or 1/0 - 250 MCM		

Dimensions

Model	RXSC100A3	RXSW100A3	RXSW150A3	RXSC200A3	RXSW200A3	RXSW300A3	RXSC400A3	RXSW400A3
Height (in./mm)	H1	17.24/437.9	17.24/437.9	26.75/679.4	17.24/437.9	26.75/679.4	42.91/1089.9	31.25/793.8
	H2	20/508	20/508	30/762	20/508	30/762	48/1219.2	36/914.4
Width (in./mm)	W1	12.5/317.5	12.5/317.5	10.5/266.7	12.5/317.5	10.5/266.7	16.69/423.9	19.18/487.2
	W2	14.6/370.8	14.6/370.8	13.5/342.9	14.6/370.8	13.5/342.9	21.82/554.2	24/609.6
Depth (in./mm)		7.09/180.1	7.09/180.1	6.3/160.1	7.09/180.1	6.3/160.1	10.06/255.5	10.06/255.5
Weight (lbs./kilos)		20/9.07	22.5/10.21	39/17.69	20/9.07	39/17.69	140/63.5	133/60.33



RD048 | 3.4L | 48kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | **INDUSTRIAL
POWER**

Model Number
48kW: G0071940

Standby Power Rating

48 kW, 60 Hz

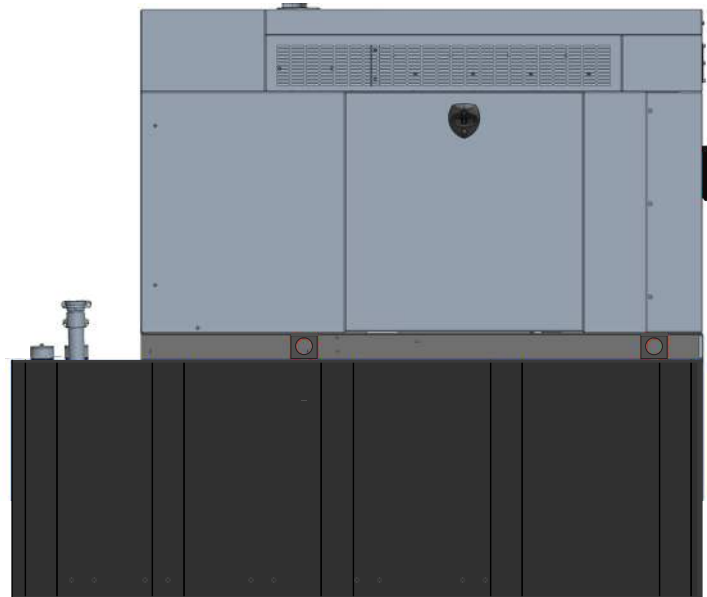


Image used for illustration purposes only



CODES AND STANDARDS

Not all codes and standards apply to all configurations.
Contact factory for details.



UL2200, UL508, UL489, UL142



CSA C22.2



BS5514 and DIN 6271



SAE J1349



NFPA 37, 70, 99



ISO 3046, 8528, 9001



NEMA ICS1, ICS10, MG1, 250, ICS6, AB1



ANSI/IEEE C62.41

POWERING AHEAD

For over 50 years, Generac has led the industry with innovative design and superior manufacturing. Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac's gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application. Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial application under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

STANDARD FEATURES

ENGINE SYSTEM

- Block Heater
- Oil Drain Extension
- Fan Guard
- Factory Filled Oil & Coolant

GENERATOR SET

- Sound Attenuated Aluminum Enclosure
- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Wrapped Exhaust Piping
- Standard Factory Testing
- Ready to Accept Full Load in <10 Seconds
- External Emergency Stop Push Button

ENCLOSURE

- Lockable Doors- Keyed Lock with Padlock Hasp
- Rust Proof Hardware
- RhinoCoat™ Textured Polyester Powder Coat

Electrical System

- Battery
- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor
- Smart Battery Charger
- Battery Disconnect

ALTERNATOR SYSTEM

- 2/3 Pitch
- Skewed Stator
- Sealed Bearings
- Low Temperature Rise (<120°C)
- Low THD (<5%)

Cooling System

- Closed Coolant Recovery System
- Factory-Installed Radiator
- 50/50 Ethylene Glycol Antifreeze
- Radiator Drain Extension
- Can Operate at up to 122°F (50°C) Ambient Temperature

Fuel System

- Primary Fuel Filter
- Stainless Steel Fuel Lines

FUEL TANKS

- 48 Minimum Hour Run Time
- UL142 Listed
- Lockable Fuel Cap

CONTROL SYSTEM



Evolution™ Controller

- Two-Line Plain Text LCD Display
- Programmable Start Delay Between 10-30 seconds
- 10 second Engine Start Sequence
- 5 second Engine Warm Up
- 1 minute Engine Cool-Down
- Starter Lock-Out
- Smart Battery Charger
- Automatic Voltage Regulation with Over and Under Protection
- Automatic Low Oil Pressure Shutdown
- Overspeed Shutdown
- High Temperature Shutdown
- Overcrank Protection
- Safety Fused
- Failure to Transfer Protection
- Low Battery Protection
- 50 Event Run Log
- Future Set Capable Exerciser
- Incorrect Wiring Protection
- Internal Fault Protection

- Common External Fault Capability
- Governor Failure Protection
- OBD2 Diagnostic Port

Alarms

- Door Open
- Fuel Level
 - 90% Full
 - 50% Low Fuel
 - 10% Shutdown
- Generator Running
- Not in Auto
- Common Shutdown

OPTIONAL SHIPPED LOOSE AND FIELD INSTALL KITS

GENERATOR SET

- Paint Kit
- Scheduled Maintenance Kit

FUEL TANK

- Fuel Fill Drop Tube
- Spill Box
- 90% Fuel Audible Alarm
- Tank Risers
- Spill Box Drainback Kit
- Vent Extension Support Kit
- Overfill Prevention Valve

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	4
Type	In-Line
Displacement - in³ (L)	207.48 (3.4)
Bore - in (mm)	3.86 (98)
Stroke - in (mm)	4.45 (113)
Compression Ratio	18.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head	Cast Iron OHV
Piston Type	Aluminum

Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	±0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full Flow Spin-On Canister
Crankcase Capacity - L (qts)	7.0 (7.4)

Cooling System

Cooling System Type	Pressurized Closed Recovery
Fan Type	Pusher
Fan Speed (rpm)	2,029
Fan Diameter - mm (in)	22 (559)

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Specification	ASTM
Fuel Pump Type	Mechanical Engine Driven Gear
Injector Type	Mechanical
Fuel Supply Line (mm/in)	7.94 (0.31) ID
Fuel Return Line (mm/in)	7.94 (0.31) ID
Fuel Filtering (microns)	10

Engine Electrical System

System Voltage	12 VDC
Battery Charger Alternator	Standard
Battery Size	Group 27F
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	Generac
Poles	4
Field Type	Rotating
Insulation Class - Rotor	F
Insulation Class - Stator	H
Total Harmonic Distortion	<5%
Telephone Interference Factor (TIF)	<50

Standard Excitation	Direct
Bearings	Sealed Ball
Coupling	Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Full Digital
Regulation Accuracy (Steady State)	±1.0%

OPERATING DATA

POWER RATINGS

		Standby	
Single-Phase 120/240 VAC @1.0pf	48 kW	Amps: 200	Circuit Breaker Size Amps: 200

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip at 30%	
120/240 V, Single-Phase at 0.4pf	189

FUEL CONSUMPTION RATES*

Percent Load	Diesel gal/hr (L/hr)
25%	1.35 (5.11)
50%	2.15 (8.14)
75%	3.06 (11.58)
100%	3.98 (15.07)

* Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby
Air Flow (Radiator and Alternator)	cfm (m³/min)	2824 (80)
Coolant System Capacity	gal (l)	2.8 (10.6)
Heat Rejection to Coolant	BTU/hr (MJ/hr)	135,900 (143.4)
Temperature Deration	3% for every 5°C above 25°C or 1.7% for every 5°F over 77°F	
Altitude Deration	1% for every 100 m above 915 or 3% for every 1000 ft over 3000 ft	
Maximum Ambient Temperature Operating Range	°F (°C)	-20 - 122 (-28 - 50)
Maximum Radiator Backpressure	in H ₂ O	0.5

COMBUSTION AIR REQUIREMENTS

	Standby
Flow at Rated Power cfm (m³/min)	190 (5.38)

ENGINE

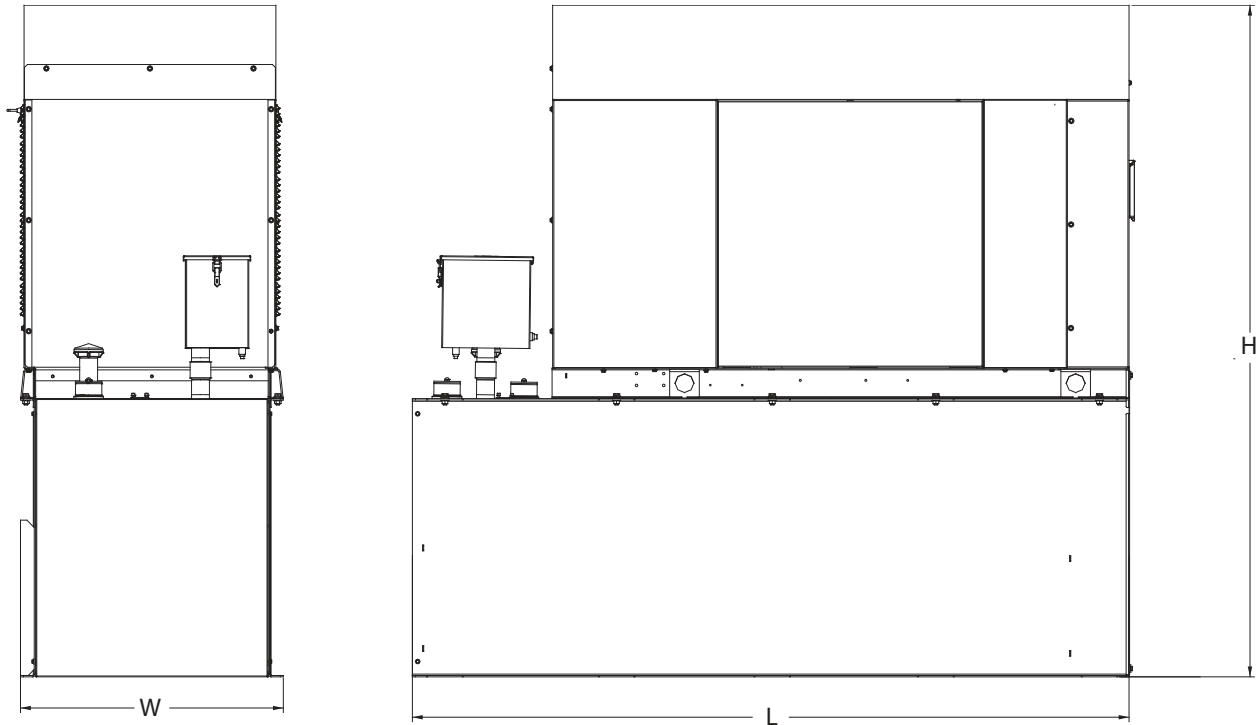
		Standby
Rated Engine Speed	rpm	1800

EXHAUST

		Standby
Exhaust Flow (Rated Output)	cfm (m³/min)	448 (12.7)
Exhaust Temp (Rated Output - Post Silencer)	°F (°C)	1120 (604.4)

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please consult a Generac Power Systems Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards.

DIMENSIONS AND WEIGHTS*



Weights and Dimensions

Unit Weight - lbs	Unit Weight with Skid - lbs	Dimensions (L x W x H) - in
2,915	2,954	103.4 (2,625) x 35.0 (888) x 90.0 (2,286)

48kW Fuel Consumption

Fuel Tank Gross Total Capacity	240
Fuel Tank Gross Usable Capacity	229
Fuel Tank Net Usable Capacity (Run Hours Based on Net Usable Capacity)	206
Run Hours 100% Load	52
Run Hours 75% Load	67
Run Hours 50% Load	96

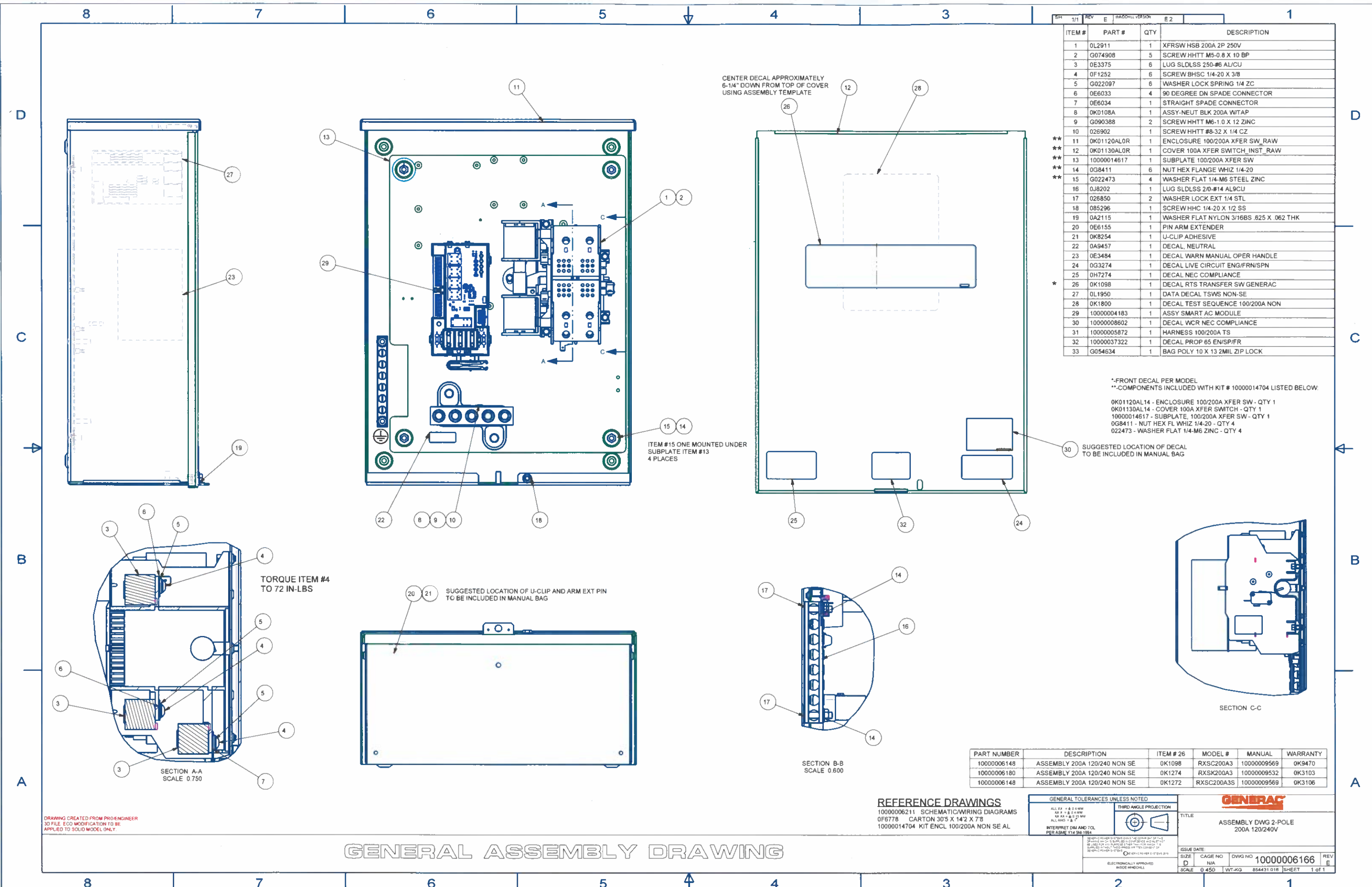
* All measurements are approximate and for estimation purposes only.

Sound Emission Data

Rated Load Sound Output at 23ft - dB(A)	65
---	----

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.

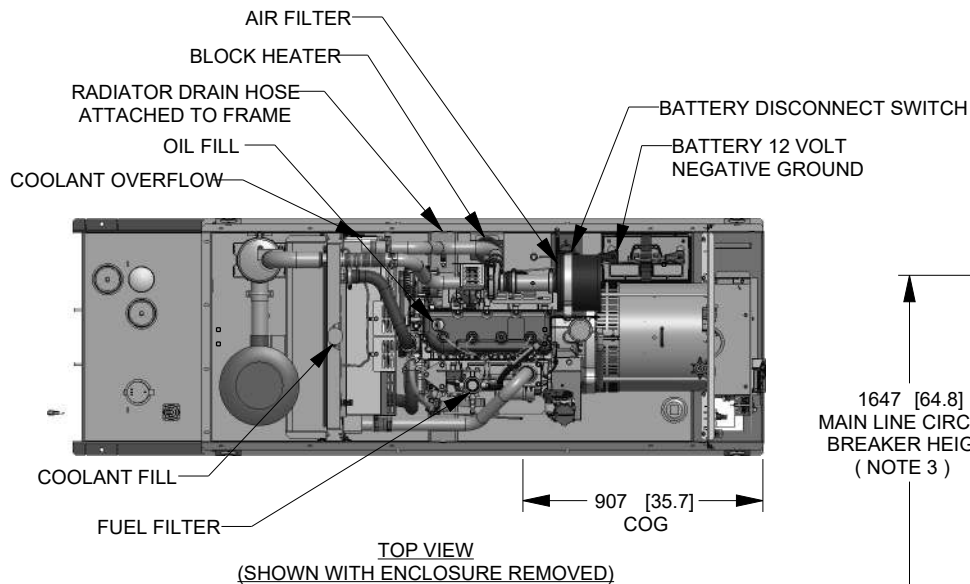


B

B

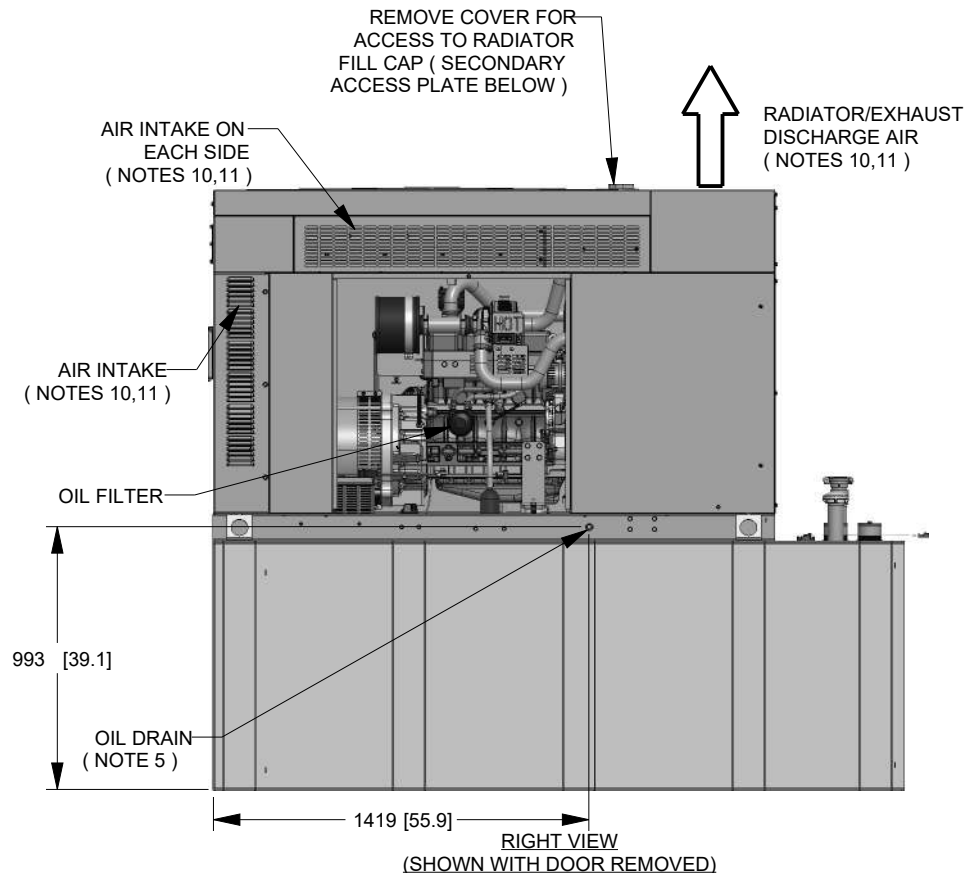
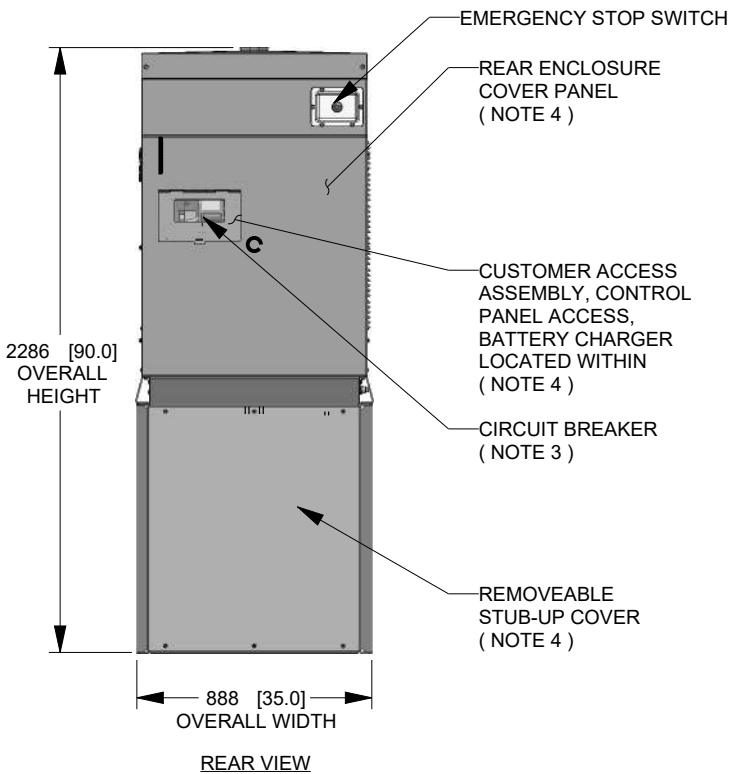
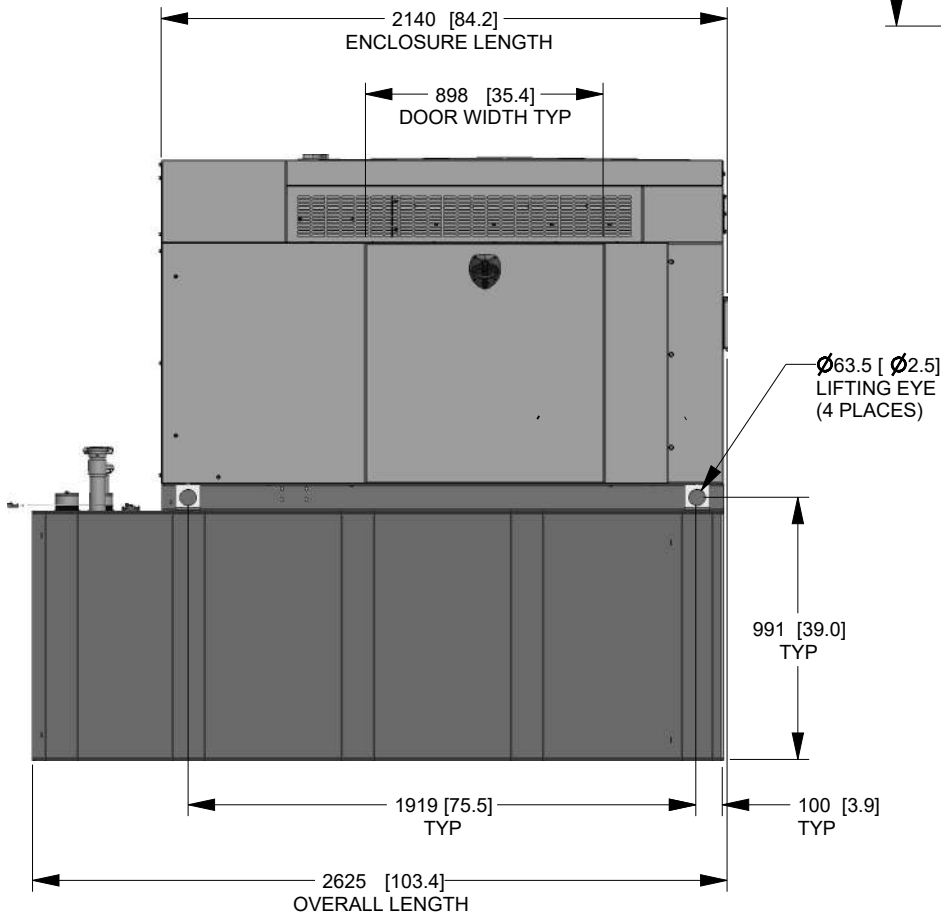
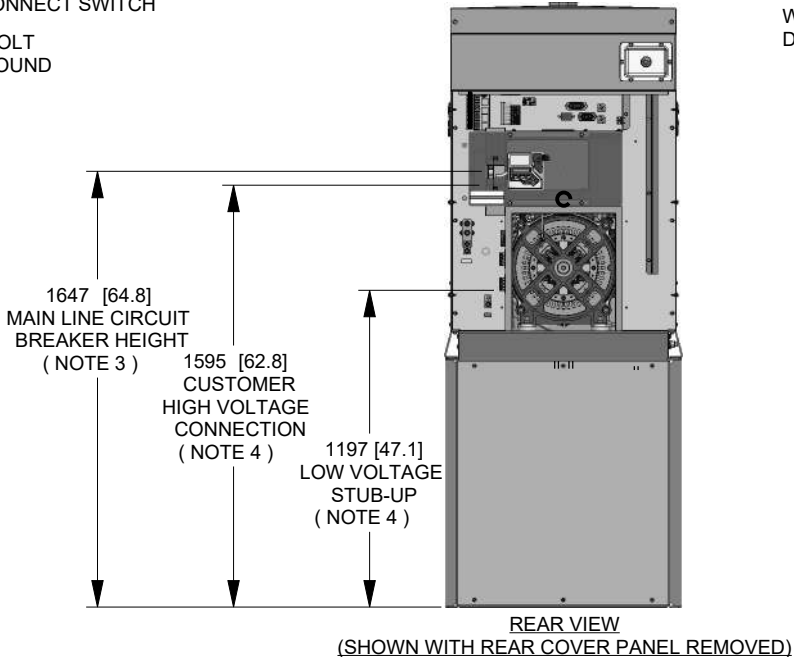
A

A



WEIGHT DATA WITH EMPTY BASETANK (SEE NOTE 6)	
GENERATOR AS SHOWN	1,322 [2,915]
WITH WOODEN SHIPPING SKID	1,340 [2,954]

WEIGHT: KG [LBS]
DIMENSIONS: MM [INCH]



- NOTES:
1. THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT APPLICABLE NFPA 37 AND NFPA 70 STANDARDS AS WELL AS ANY OTHER FEDERAL, STATE, AND LOCAL CODES.
 2. BATTERY (12 VOLT NEGATIVE GROUND SYSTEM).
 3. CONTROL PANEL / CIRCUIT BREAKER INFORMATION:
 - MAIN LINE CIRCUIT BREAKER 200 AMPS.
 - SEE SPECIFICATION SHEET OR OWNERS MANUAL.
 - ACCESSIBLE THROUGH CUSTOMER ACCESS ASSEMBLY DOOR ON REAR OF GENERATOR.
 - CONTROL PANEL INCLUDES INTEGRATED BATTERY CHARGER.
 4. REMOVE THE REAR STUB-UP AND REAR ENCLOSURE COVER PANEL TO ACCESS THE STUB-UP AREAS AS FOLLOWS:
 - HIGH VOLTAGE CONNECTION INCLUDING AC LOAD LEAD CONDUIT CONNECTION, NEUTRAL CONNECTION, AND BATTERY CHARGER 120 VOLT AC (0.5 AMP MAX) CONNECTION.
 - LOW VOLTAGE CONNECTION INCLUDING TRANSFER SWITCH CONTROL WIRES.
 5. ENGINE SERVICE CONNECTIONS:
 - OIL DRAIN = 1/2" NPT
 - RADIATOR DRAIN = HOSE CLAMPED TO FRAME
 6. CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.
 7. BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND RECIRCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
 8. REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
 9. MOUNTING BOLTS OR STUDS TO MOUNTING SURFACE SHALL BE 5/8-11 GRADE 5 (USE STANDARD SAE TORQUE SPECS)
 10. MUST ALLOW FREE FLOW OF INTAKE AIR, DISCHARGE AIR AND EXHAUST. SEE SPEC SHEET FOR MINIMUM AIR FLOW AND MAXIMUM RESTRICTION REQUIREMENTS.
 11. GENERATOR MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE AND THAT DISCHARGE AIR FROM RADIATOR IS NOT RECIRCULATED. RECOMMENDED MINIMUM PERIMETER (3FT) AND VERTICAL OVER EXHAUST (5FT) CLEARANCE FOR SITE LOCATION.
 12. GENERATOR MUST BE GROUNDED.

DRAWING CREATED FROM PRO/ENGINEER 3D FILE. ECO MODIFICATION TO BE APPLIED TO SOLID MODEL ONLY.

INSTALLATION DRAWING

GENERAC POWER SYSTEMS OWNS THE COPYRIGHT OF THIS DRAWING WHICH IS SUPPLIED IN CONFIDENCE AND MUST NOT BE USED FOR ANY PURPOSE OTHER THAN FOR WHICH IT IS SUPPLIED WITHOUT THE EXPRESS WRITTEN CONSENT OF GENERAC POWER SYSTEMS. ©GENERAC POWER SYSTEMS 2013

ELECTRONICALLY APPROVED
INSIDE WINDCHILL

GENERAC

TITLE

INSTALL D3.4L G16
48KW Y06 EXT

ISSUE DATE: 8/8/18

SIZE

CAGE NO

DWG NO

10000041950

REV

SCALE

0.035

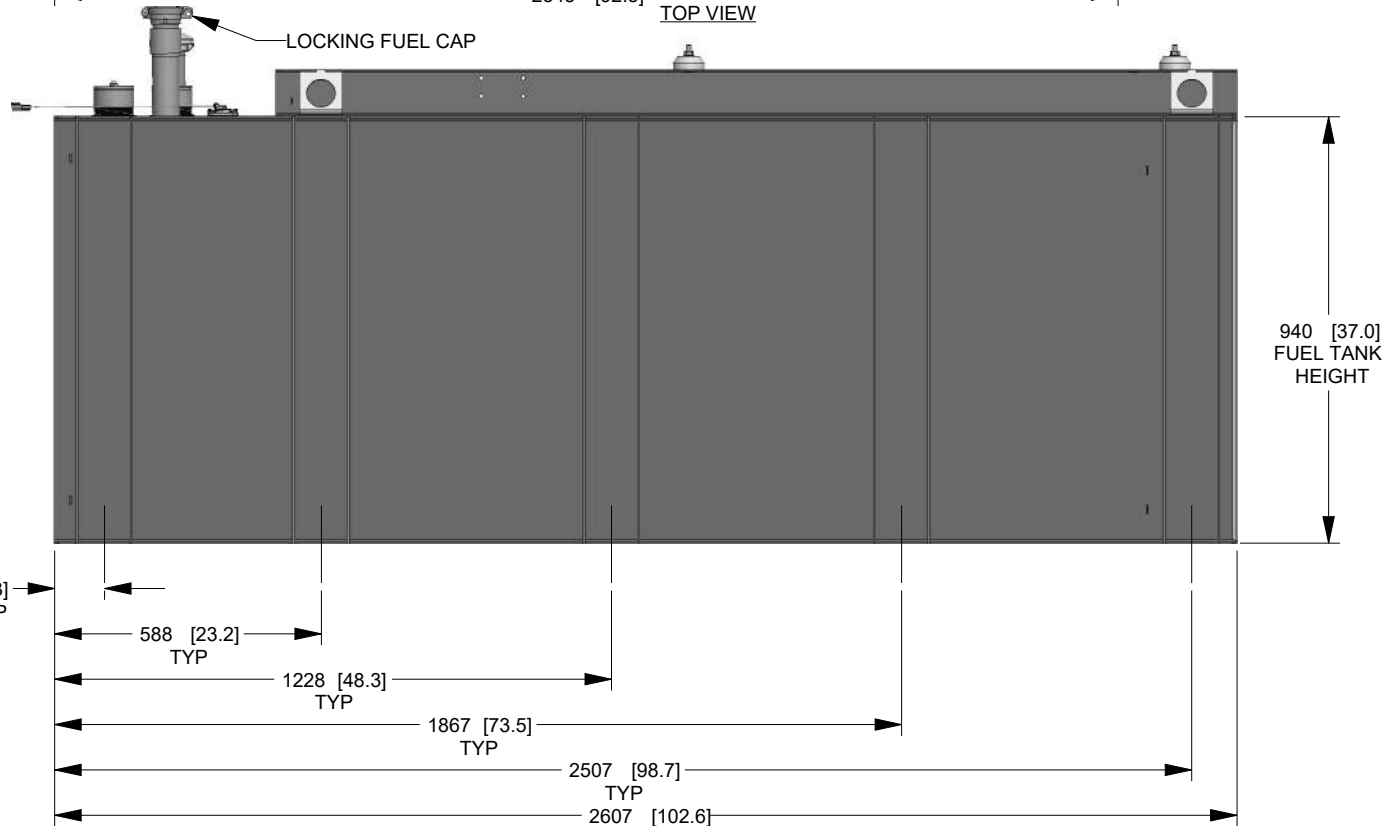
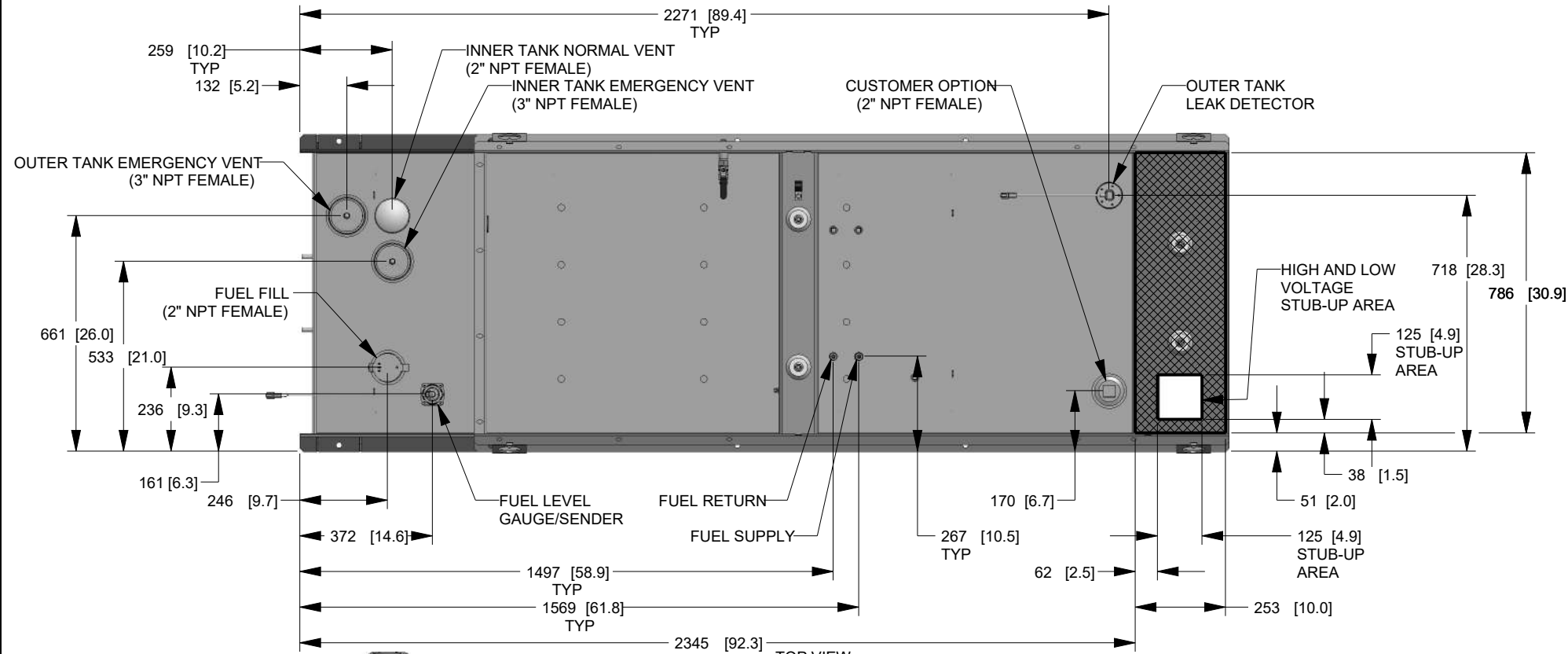
WT-KG

SEE ABOVE

SHEET

1 of 2

B



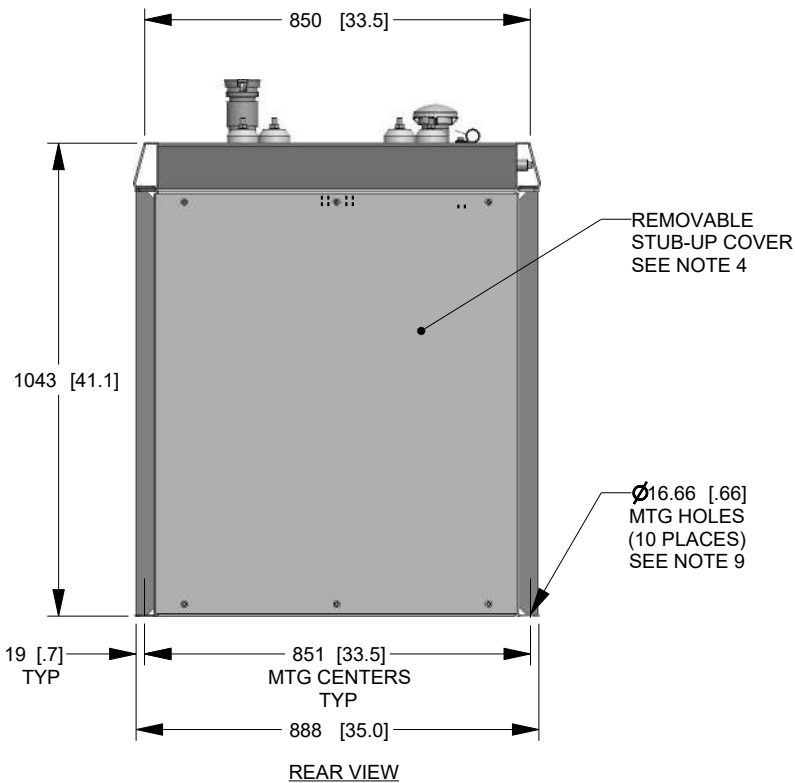
LEFT VIEW

DRAWING CREATED FROM PRO/ENGINEER 3D FILE. ECO MODIFICATION TO BE APPLIED TO SOLID MODEL ONLY.

FUEL TANK	
TOTAL CAPACITY	908 [240]
USABLE CAPACITY	867 [229]

CAPACITY: LITER [GALLON]
DIMENSIONS: MM [INCH]
TANK IS LISTED TO UL142 AND ULC5601

NOTE: STUB-UP AREA FOR HIGH AND LOW VOLTAGE CONNECTIONS, CIRCUIT BREAKER, NEUTRAL AND CUSTOMER CONNECTION OPENING.



GENERAC

TITLE

INSTALL D3.4L G16
48KW Y06 EXT

ISSUE DATE: 8/8/18

SIZE B	CAGE NO N/A	DWG NO 10000041950	REV A
SCALE	0.060	WT-KG SEE ABOVE	SHEET 2 of 2

INSTALLATION DRAWING