

Northeast Site Solutions Victoria Masse 420 Main St Unit 1 Box 2 Sturbridge, MA 01566 victoria@northeastsitesolutions.com

May 23, 2023

Members of the Siting Council Connecticut Siting Council Ten Franklin Square New Britain, CT 06051

RE: Notice of Exempt Modification 170 Ingham Hill Road, Old Saybrook, CT 06475 Latitude: 41.309883 Longitude: -72.397495 T-Mobile Site#: CT11035E_NHP

Dear Ms. Bachman:

T-Mobile currently has nine (9) antennas at the 140-foot level of the existing 150-foot tower. The property is owned by Carol & Robert Lorenz and the Tower is owned by Crown Castle. T-Mobile now intends to add a 48Kw generator on a new 4'x9' concrete pad within the existing compound.

Planned Modifications: Ground work only-Install New: (1) GENERAC RD 48KW AC DIESEL GENERATOR – 233-gallon double walled self-contained tank with fuel sensor. Requires two (2) 12-minute run cycles bi-weekly. (1) 4'x9' concrete pad This facility was approved by the by the Siting Council, Docket No. 51 on September 26, 1998. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-SOj-73, a copy of this letter is being sent to Carl Fortuna, Jr., First Selectman and Christina Costa, Town Planner for the Town of Old Saybrook. A copy is also being sent to the tower owner and property owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S;A. 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, T-Mobile respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Victoria Masse

Victoria Masse Mobile: 860-306-2326 Fax: 413-521-0558 Office: 420 Main Street, Unit 2, Sturbridge MA 01566 Email: victoria@northeastsitesolutions.com

420 Main Street, Unit 1 Box 2, Sturbridge, MA 01566

Attachments cc: Carl Fortuna, Jr., First Selectman Town Hall 302 Main Street Old Saybrook, CT 06475

Christina M. Costa, Town Planner Town Hall 302 Main Street Old Saybrook, CT 06475

Carol and Robert Lorenz, Property Owners PO Box 351 Center Ossipee, NH 03814-0351

Crown Castle, Tower Owner

Exhibit A

DOCKET NO. 51

AN APPLICATION SUBMITTED BY THE SOUTHERN : CONNECTICUT SITING NEW ENGLAND TELEPHONE COMPANY FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, : COUNCIL MAINTENANCE, AND OPERATION OF FACILITIES TO PROVIDE CELLULAR SERVICE IN HARTFORD AND MIDDLESEX COUNTIES. : September 26, 1985

<u>DECISION AND ORDER</u>

Pursuant to the foregoing opinion, the Council hereby directs that a certificate of environmental compatibility and public need as required by section 16-50k of the General Statutes of Connecticut be issued to Southern New England Telephone Company (SNET) for the construction, operation, and maintenance of a telecommunications tower and associated equipment building to provide cellular service at sites in Old Saybrook and Enfield, Connecticut.

The facilities shall be constructed, operated, and maintained as specified in this matter, and subject to the following conditions:

- The towers shall be no taller than necessary to provide the proposed service, and in no event shall exceed
 - a) 150' at the Old Saybrook site; and
 - b) 150' at the Enfield site;
- A fence not lower than eight feet shall surround each tower and its associated equipment building;
- The applicant or its successor shall notify the Council if and when directional antennas or any other equipment is added to any of these facilities;
- 4. The applicant or its successor shall permit, in accordance with representations made by it during the proceeding, public or private entities to share space on the facilities, for due

consideration received, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing;

- 5. The facilities shall be constructed in accordance with all applicable federal, state, and municipal laws and regulations;
- 6. The applicant shall submit a development and management plan (D&M) for the Old Saybrook site pursuant to sections 16-50j-75 through 16-50j-77 of the regulations of state agencies, except that irrelevant items in section 16-50j-76 need only be identified as such. The D&M plan shall include erosion control measures, reseeding plans, and tree removal plans. The applicant shall comply with the reporting requirements of section 16-50j-77 for both sites;
- Construction activities shall take place during daylight working hours;
- 8. This decision and order shall be void and the towers and associated equipment approved herein shall be dismantled and removed, or reapplication for any new use shall be made to the Connecticut Siting Council before any such new use is made, if the towers do not provide or permanently cease to provide cellular service following completion of construction;
- 9. This decision and order shall be void if all construction authorized is not completed within three years of the issuance of this decision.

Pursuant to section 16-50p of the General Statutes, we hereby direct that a copy of the opinion and decision and order be served on each person listed below. A notice of the issuance shall be published in the

-2-

Hartford Courant, the Middletown Press, and the Old Saybrook Pictorial.

The parties to this proceeding are Southern New England Telephone Company (Applicant) 227 Church Street New Haven, Connecticut 06506 Attn: Peter J. Tyrrell Senior Attorney Room 314 The undersigned members of the Connecticut Siting Council hereby certify that they have heard this case or read the record thereof, and that we voted as follows:

Dated at New Britain, Connecticut, this 26th day of September, 1985.

Council Members

Vote Cast

Yes

Absent

<u>Alouin Dilille Pond</u>) Gloria Dibble Pond

Chairperson

AA

)
Commission	er John Downe	у		
Designee:	Commissioner	Peter	G.	Boucher

_ B Flooren)	
Commissioner Stanley Pac	
Designee: Christopher Cooper	

Owen L. Clark

Mortimer A. Gelston

James G. Horsfall

 $\overline{\alpha}$ Pamela B. Katz William H. Smith

Colin C. Tait

Absent

Yes

Yes

Yes

Yes

Yes

Yes

) :) STATE OF CONNECTICUT ss. New Britain, September 26, 1985 COUNTY OF HARTFORD

I hereby certify that the foregoing is a true and correct copy of the decision and order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:

Christopher S. Wood, Executive Director Connecticut Siting Council

Exhibit B

170 INGHAM HILL RD

Location	170 INGHAM HILL RD	MBLU	051/ 033/ / /
Acct#	00559800	Owner	LORENZ CAROL J & ROBERT A
Assessment	\$176,700	Appraisal	\$303,200
PID	3322	Building Count	1

Current Value

Appraisal					
Valuation Year Improvements Land Total					
2018	\$163,400	\$139,800	\$303,200		
	Assessment				
Valuation Year Improvements Land Total					
2018	\$114,40	0 \$62,300	\$176,700		

Owner of Record

Owner	LORENZ CAROL J & ROBERT A	Sale Price	\$0
Co-Owner		Certificate	
Address	P O BOX 351	Book & Page	0211/0890
	CENTER OSSIPEE N H, NH 03814-0351	Sale Date	03/15/1984

Ownership History

Ownership History
No Data for Ownership History

Building Information

Building 1 : Section 1

Year Built:	1959	
Living Area: 1,383 Building Attributes		
Field Description		
Style		Ranch
Model		Residential

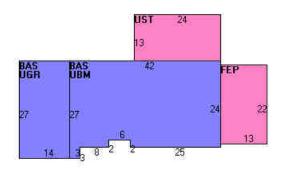
Grade:	Average
Stories:	1 Story
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plastered
Interior Wall 2	
Interior FIr 1	Vinyl/Asphalt
Interior FIr 2	
Heat Fuel	Oil
Heat Type:	Hot Water
АС Туре:	None
Total Bedrooms:	3 Bedrooms
Total Bthrms:	1
Total Half Baths:	1
Total Xtra Fixtrs:	
Total Rooms:	6 Rooms
Bath Style:	Average
Kitchen Style:	Modern
Num Kitchens	01
Cndtn	
Usrfld 103	
Usrfld 104	
Usrfld 105	
Usrfld 106	
Usrfld 107	
Num Park	
Fireplaces	
Usrfld 108	
Usrfld 101	
Usrfld 102	
Usrfld 100	
Usrfld 300	
Usrfld 301	

Building Photo



(http://images.vgsi.com/photos/OldSaybrookCTPhotos//\00\01\97\10.jpg)

Building Layout



(http://images.vgsi.com/photos/OldSaybrookCTPhotos//Sketches/3322_33:

	Building Sub-Areas (sq ft)		<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	1,383	1,383
FEP	Porch, Enclosed, Framed	286	0
UBM	Basement, Unfinished	1,005	0
UGR	Garage, Unfinished	378	0
UST	Utility, Storage, Unfinished	312	0
		3,364	1,383

Extra Features

Extra Features			Legend	
Code	Description	Size	Value	Bldg #

FPL1	FIREPLACE 1 ST	1.00 UNITS	\$2,300	1
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Land

Land Use		Land Line Valua	tion
Use Code	1010	Size (Acres)	11.8
Description	Single Family	Depth	0
Zone	AA-1	Assessed Value	\$62,300
		Appraised Value	\$139,800

Outbuildings

Outbuildings	<u>Legend</u>
No Data for Outbuildings	

Valuation History

Appraisal					
Valuation Year Improvements Land Total					
2018	\$163,400	\$139,800	\$303,200		
2016	\$147,200	\$139,800	\$287,000		
2015	\$145,700	\$139,800	\$285,500		

Assessment				
Valuation Year Improvements Land Total				
2018	\$114,400	\$62,300	\$176,700	
2016	\$103,000	\$62,300	\$165,300	
2015	\$102,000	\$62,300	\$164,300	

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INGHAM HILL RD

Location	INGHAM HILL RD	MBLU	052/ 04T/ / /
Acct#	00568700	Owner	LORENZ CAROL J & ROBERT A
Assessment	\$545,300	Appraisal	\$779,100
PID	3259	Building Count	1

Current Value

Appraisal						
Valuation Year Improvements Land Total						
2018	\$481,800	\$297,300	\$779,100			
	Assessment					
Valuation Year	Valuation Year Improvements Land Total					
2018	\$337,200	\$208,100	\$545,300			

Owner of Record

Owner	LORENZ CAROL J & ROBERT A	Sale Price	\$0
0.0		O a still a sta	
Co-Owner		Certificate	
Address	P O BOX 351	Book & Page	0211/0890
		5	
	CENTER OSSIPEE, NH 03814	Sale Date	01/20/1976

Ownership History

Ownership History
No Data for Ownership History

Building Information

Building 1 : Section 1

Year Built: Living Area:	199 880		
Building Attributes			
F	Field	Description	
STYLE		Industrial	
MODEL		Ind/Lg Com	

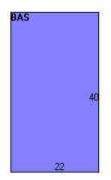
Grade	Average
Stories:	1
Occupancy	1.00
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Tar & Gravel
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Electric
Heating Type	Forced Air-Duc
АС Туре	Central
Struct Class	
Bldg Use	TEL REL TW
Total Rooms	
Total Bedrms	00
Total Baths	0
Usrfld 218	
Usrfld 219	
1st Floor Use:	4310
Heat/AC	NONE
Frame Type	MASONRY
Baths/Plumbing	NONE
Ceiling/Wall	SUSP-CEIL ONLY
Rooms/Prtns	LIGHT
Wall Height	10.00
% Comn Wall	0.00

Building Photo



(http://images.vgsi.com/photos/OldSaybrookCTPhotos//\00\01\27\84.jpg)

Building Layout



(http://images.vgsi.com/photos/OldSaybrookCTPhotos//Sketches/3259_32

	Building Sub-Areas	(sq ft)	<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	880	880
		880	880

Extra Features

		Extra Features		<u>Legend</u>
	No Data for Extra Features			
Land				
Land Use		Land Line Valua	ation	
Use Code	4310	Size (Acres)	0.23	
Description	TEL REL TW	Depth	0	
Zone	AA-1	Assessed Value	\$208,100	

Outbuildings

	Outbuildings					
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
FN9	W/O TOP RL-8'			272.00 L.F.	\$2,900	1
CELL	CELL TOWER			125.00 UNITS	\$56,300	1
MSC1	ARRAYS			3.00 UNIT	\$375,000	1

Valuation History

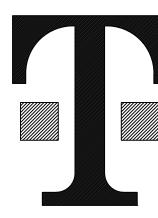
Appraisal			
Valuation Year	Improvements	Land	Total
2020	\$481,800	\$297,300	\$779,100
2018	\$481,800	\$297,300	\$779,100
2016	\$159,500	\$472,500	\$632,000

Assessment				
Valuation Year	Improvements	Land	Total	
2020	\$337,200	\$208,100	\$545,300	
2018	\$337,200	\$208,100	\$545,300	
2016	\$111,700	\$330,800	\$442,500	

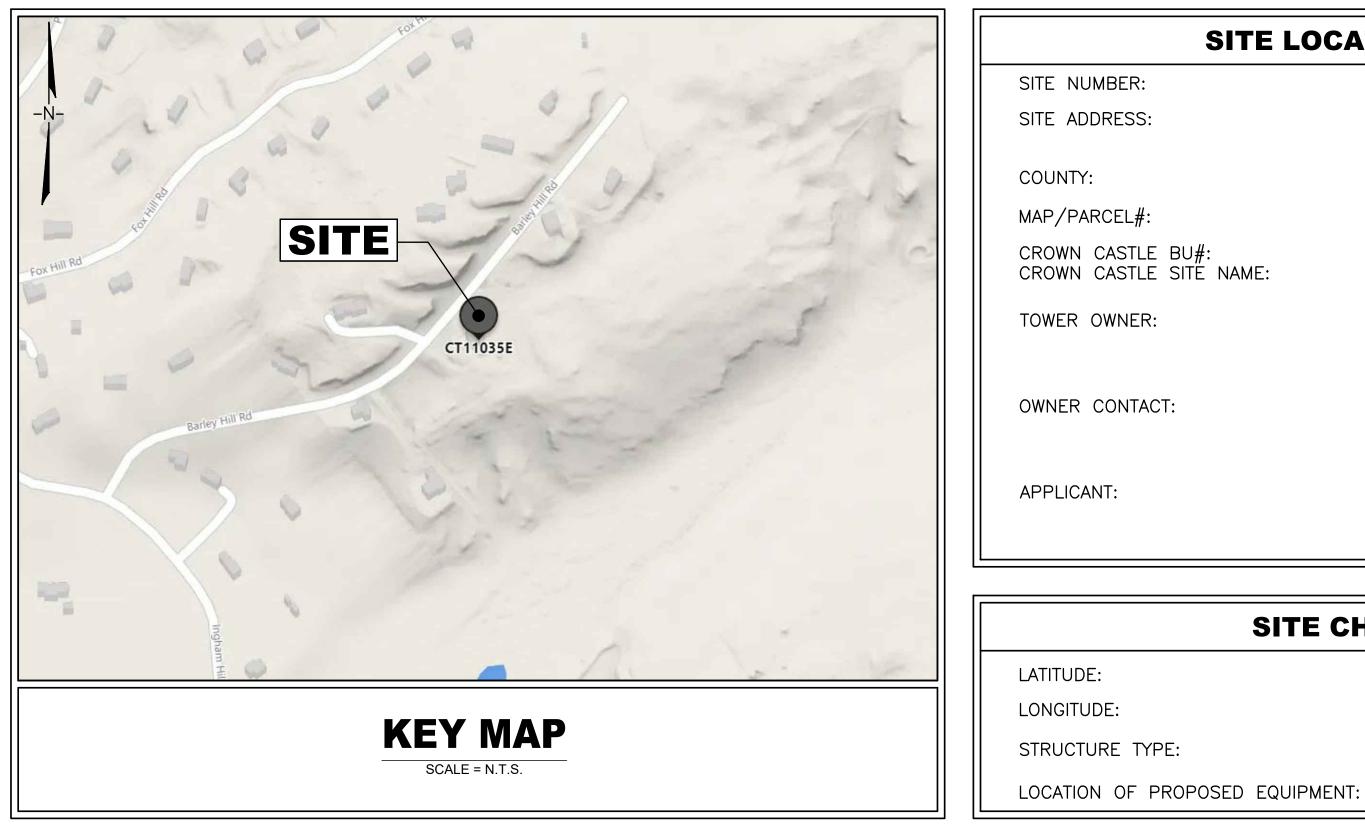
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Exhibit C



SITE #: CT11035E SITE NAME: OLDSAYBROOKSNETMOBILI_1 **170 INGHAM HILL ROAD OLD SAYBROOK, CT 06475 MIDDLESEX COUNTY**





T-MOBILE NORTHEAST LLC GENERATOR ADD

ATION INFORMATION		
CT11035E		
170 INGHAM HILL ROAD OLD SAYBROOK, CT 06475		
	GN-	
	C-1	
	C-2	EQUIPMENT PLANS
	C-3	EQUIPMENT DETAILS
	E-1	ONE-LINE DIAGRAM
CROWN CASTLE	E-2	ELECTRICAL NOTES
KING OF PRUSSIA, PA 19406	G-1	GROUNDING PLAN & NOTES
HTIM2 IAO2AL		
(610) 635-3225		
T-MOBILE NORTHEAST LLC 4 SYLVAN WAY PARSIPPANY, NJ 07054		UNDER
HARACTERISTICS		
41.309883°		
-72.397495°		
MONOPOLE TOWER		
	CT11035E 170 INGHAM HILL ROAD OLD SAYBROOK, CT 06475 MIDDLESEX COUNTY TBD 841289 OLD SAYBROOK CROWN CASTLE 3200 HORIZON DRIVE, SUITE 150 KING OF PRUSSIA, PA 19406 JASON SMITH (610) 635–3225 T-MOBILE NORTHEAST LLC 4 SYLVAN WAY PARSIPPANY, NJ 07054 HARACTERISTICS 41.309883 [*] -72.397495 [*]	CT11035E 170 INGHAM HILL ROAD OLD SAYBROOK, CT 06475 MIDDLESEX COUNTY TBD 841289 OLD SAYBROOK CROWN CASTLE 3200 HORIZON DRIVE, SUITE 150 KING OF PRUSSIA, PA 19406 JASON SMITH (610) 635–3225 T-MOBILE NORTHEAST LLC 4 SYLVAN WAY PARSIPPANY, NJ 07054 HARACTERISTICS 41.309883* -72.397495*

EXISTING COMPOUND

CONSTRUCTION DRAWINGS

ALL SCALES RELATIVE TO 24"X36" PAGE SIZE

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2 05/08/23	PER UPDATED CODE
1 10/06/22	ISSUED AS FINAL
o 08/01/22	INITIAL SUBMISSION
REV. DATE	DESCRIPTION OF CHANGES
DRAWN BY:	CJT
CHECKED BY	NDB
SCALE:	AS NOTED
JOB NO:	22002-TRN
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PROFES SITI OLDSAY 170 I OLD SA	E ID: CT11035E BROOKSNETMOBILI_1 NGHAM HILL RD AYBROOK, CT 06475
PROFES SITI OLDSAY 170 I OLD SA	E ID: CT11035E BROOKSNETMOBILI_1 NGHAM HILL RD
PROFES	E ID: CT11035E BROOKSNETMOBILI_1 NGHAM HILL RD AYBROOK, CT 06475 LESEX COUNTY
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ENGINEERING

976 TABOR ROAD, UNIT 6 MORRIS PLAINS, NJ 07950 862-242-8050

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SHEET INDEX

SHEET DESCRIPTION

RGROUND SERVICE ALERT CONNECTICUT LAW REQUIRES TWO WORKING DAYS NOTICE PRIOR TO

ANY EARTH MOVING ACTIVITIES BY CALLING 800-922-4455 OR DIAL 811

1.	FOR THE PURPOSE OF THE CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:	9.	5 ([
	CONTRACTORS – TO BE DETERMINED SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION) OWNER – T–MOBILE		-
2.	PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR 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 THE CONTRACTOR.	10. 11.	(
3.	ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE	10	ļ
	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.	12. 13.	
4.	DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.	14.	. A S
5.	UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.	15.	4 (
6.	"KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE PROVIDED BY THE SUBCONTRACTOR.		יב ד נ
7.	THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.	16.	. (
8.	IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSED AND ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY CONTRACTOR.	17.	. S C L A

ELECTRICAL & GROUNDING NOTES

1.	THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE SPECIFIC (UL, LPI, OR NFPA) LIGHTNING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.	11 12
2.	ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO LIGHTNING PROTECTION AND AS POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.	13
3.	THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.	14 15
4.	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 THE BTS EQUIPMENT.	16
5.	EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.	17
6.	EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.	18 19
7.	APPROVED ANTIOXIDANT COATING (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.	20
8.	ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.	21
9.	ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.	۲ <i>ک</i>
10.	MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.	22

UBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 ABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN RAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW RAYS AS NECESSARY . SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH HE CONTRACTOR.

HE SUBCONTRACTOR SHALL PROTECT THE EXISTING IMPROVEMENTS, PAVEMENTS, URBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT UBCONTRACTORS EXPENSE TO THE SATISFACTION OF OWNER.

UBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIAL UCH AS COAXIAL CABLE AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. NTENNAS REMOVED SHALL BE RETURNED TO THE OWNERS DESIGNATED LOCATION.

UBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

LL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN ONCRETE INSTITUTE (ACI) 301.

NY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

LL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN CCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 $F_y = 36$ ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 6 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. OUCH UP ALL SCRATCHED AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED ISING A COMPATIBLE ZINC RICH PAINT.

ONSTRUCTION SHALL COMPLY WITH UMTS SPECIFICATIONS AND "GENERAL ONSTRUCTION SERVICES FOR CONSTRUCTION OF T-MOBILE SITES."

UBCONTRACTORS SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO OMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE RAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF NY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH ONSTRUCTION.

METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

. ALL NEW STRUCTURE WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50.

. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.

ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.

THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATIONS INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.

GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.

. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.

. RIGID STEEL CONDUITS SHALL BE GROUNDED AT BOTH ENDS.

. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN OR THIN INSULATION.

0. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL ROOM AND PROPOSED CELL SITE POWER PEDESTAL AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.

. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROPOSED CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON DRAWING A-1. PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.

2. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.

- OF ANY DANGEROUS EXPOSURE LEVELS.
- 19. APPLICABLE BUILDING CODES:

SUBCONTRACTORS WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

 BUILDING CODE: 2022 CONNECTICUT STATE BUILDING CODE • ELECTRICAL CODE: NFPA 70 NATIONAL ELECTRICAL CODE, 2020 EDITION • LIGHTNING CODE: NFPA 780-2014 LIGHTNING PROTECTION CODE

SUBCONTRACTORS WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

- STRUCTURAL CONCRETE
- AMERICAN INSTITUTE FOR STEEL CONSTRUCTION (AISC)
- MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION
- STANDARDS FOR STEEL
- DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS A CONFLICT BETWEEN A GENERAL REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN

- 23. GROUNDING SHALL COMPLY WITH NEW ART. 250.

- TO BE IN CONTACT WITH GALVANIZED STEEL.
- GROUND IN BTS UNIT)
- EGB PLACES NEAR THE ANTENNA LOCATION.
- 31. BOND ANTENNA EGB'S AND MGB TO WATER MAIN.
- DOCUMENTATION.
- MASTER GROUND BAR.
- CONSTRUCTION.

		<u>ABBRE</u>	VIATIONS		
AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	R
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	T
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW	TBR	TC
EXISTING	EXISTING	N.T.S.	NOT TO SCALE	TBRR	T
EG	EQUIPMENT GROUND	REF	REFERENCE		A
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED	TYP	T

18. THE EXISTING CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT

• AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENT FOR

• TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-H, STRUCTURAL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL

24. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.

25. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON DRAWING.

26. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE

27. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.

28. CONNECTIONS TO MGB SHALL BE ARRANGED IN THREE MAIN GROUPS: SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO AND POWER PANEL GROUND); (GROUNDING ELECTRODE RING OR BUILDING STEEL): NON-SURGING OBJECTS (EGB

29. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.

30. BOND ANTENNA MOUNTING BRACKETS. COAXIAL CABLE GROUND KITS AND ALNA TO

32. TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT

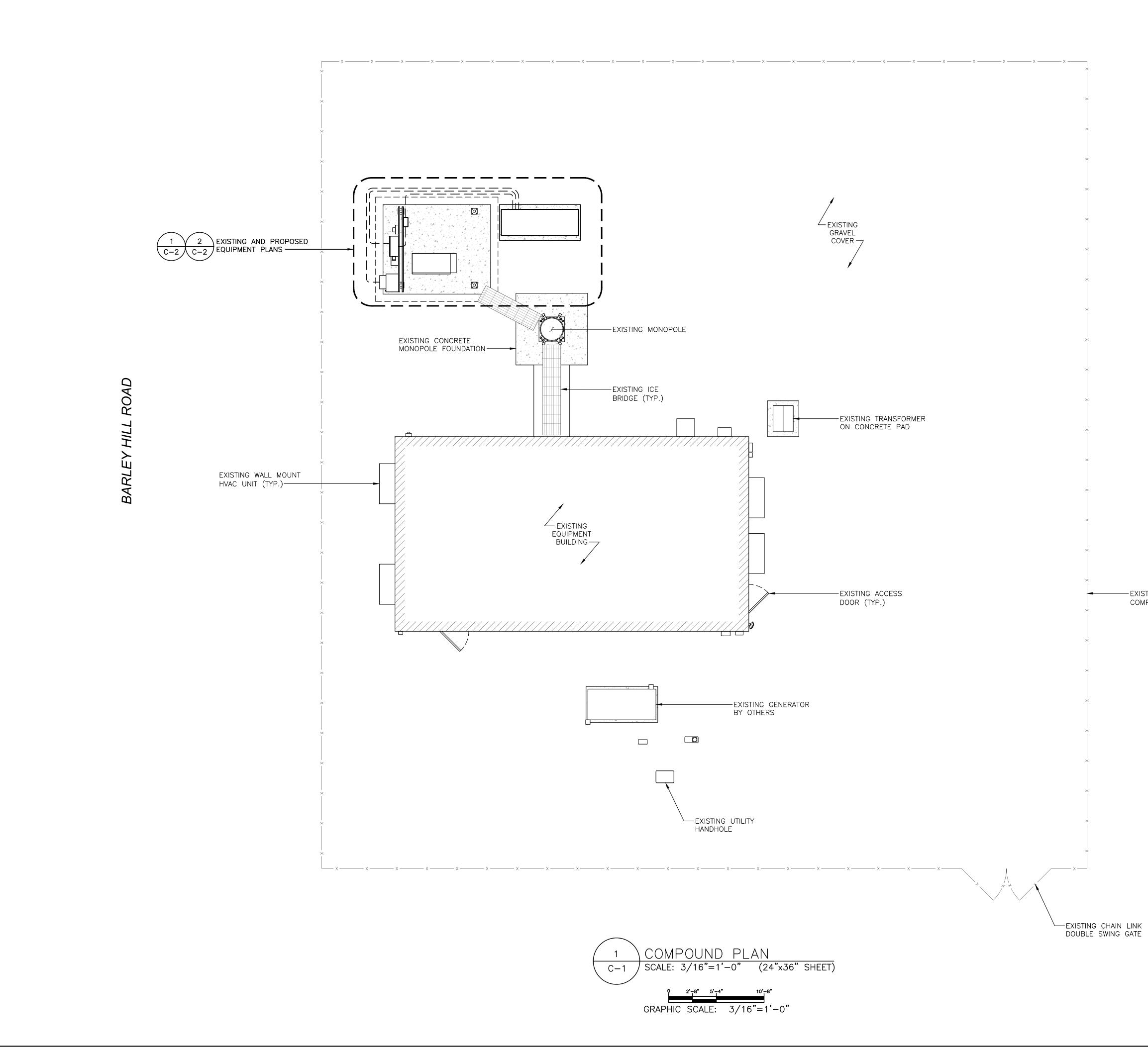
33. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO

34. VERIFY PROPOSED SERVICE UPGRADE WITH LOCAL UTILITY COMPANY PRIOR TO

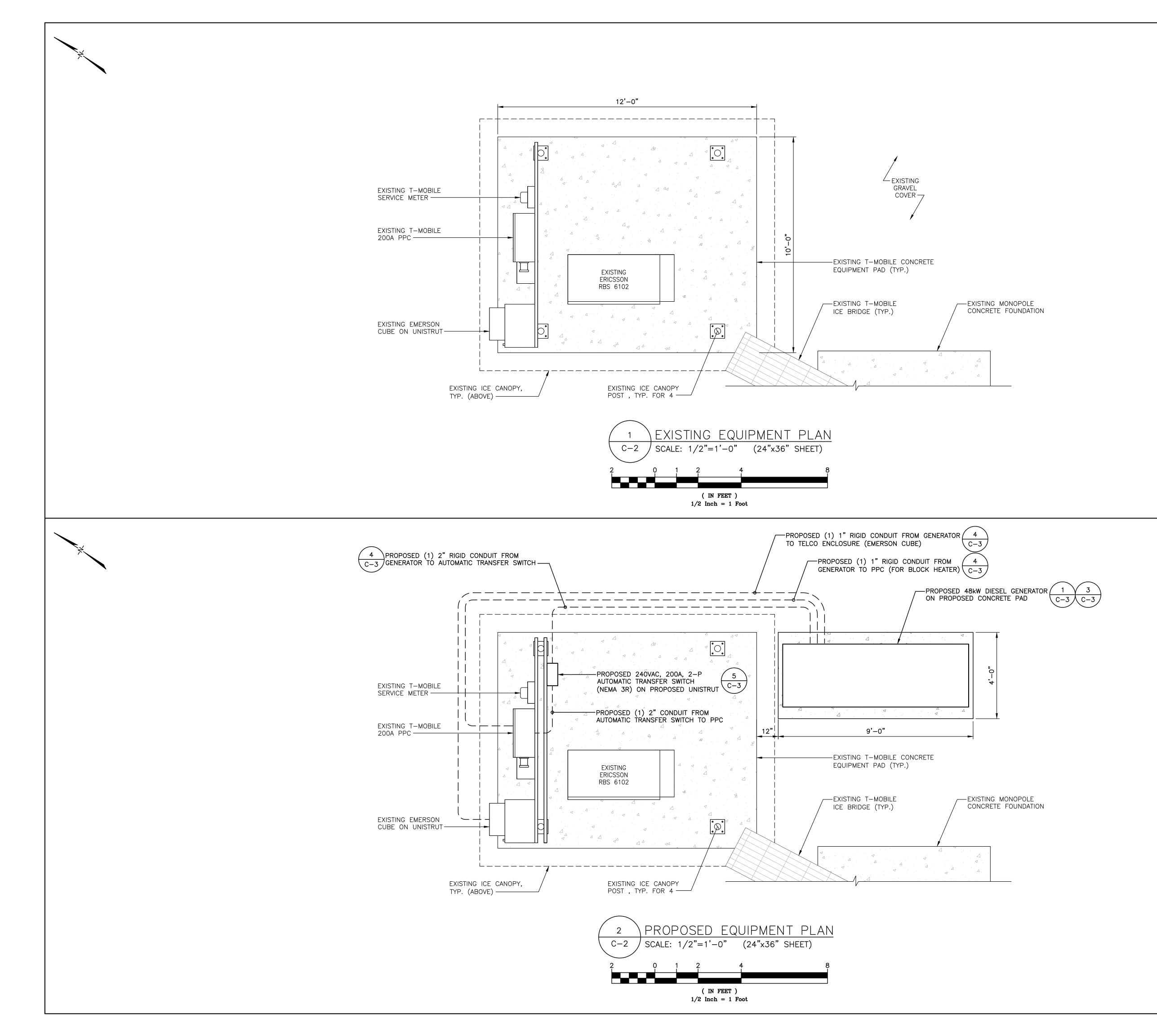
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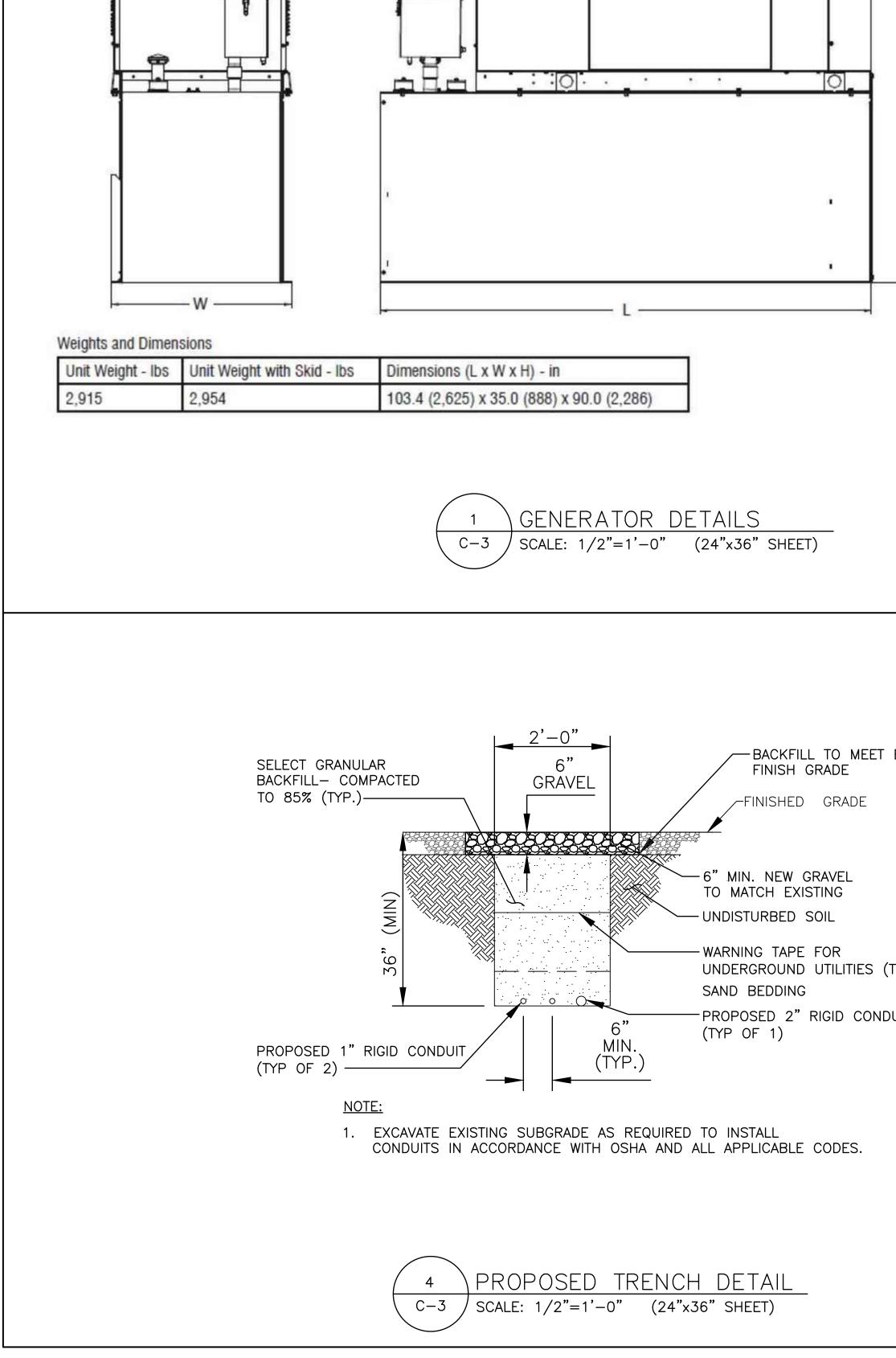


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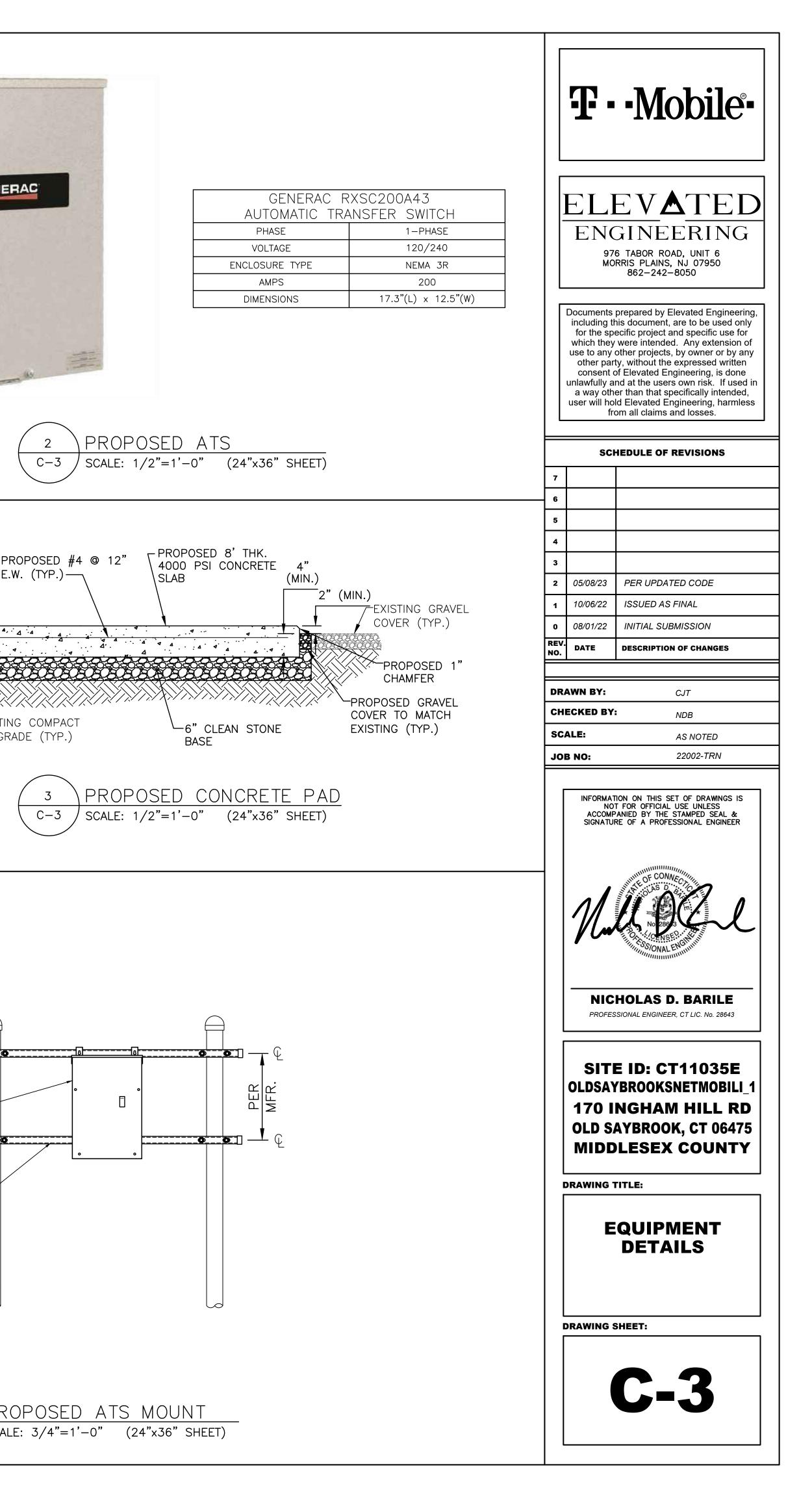


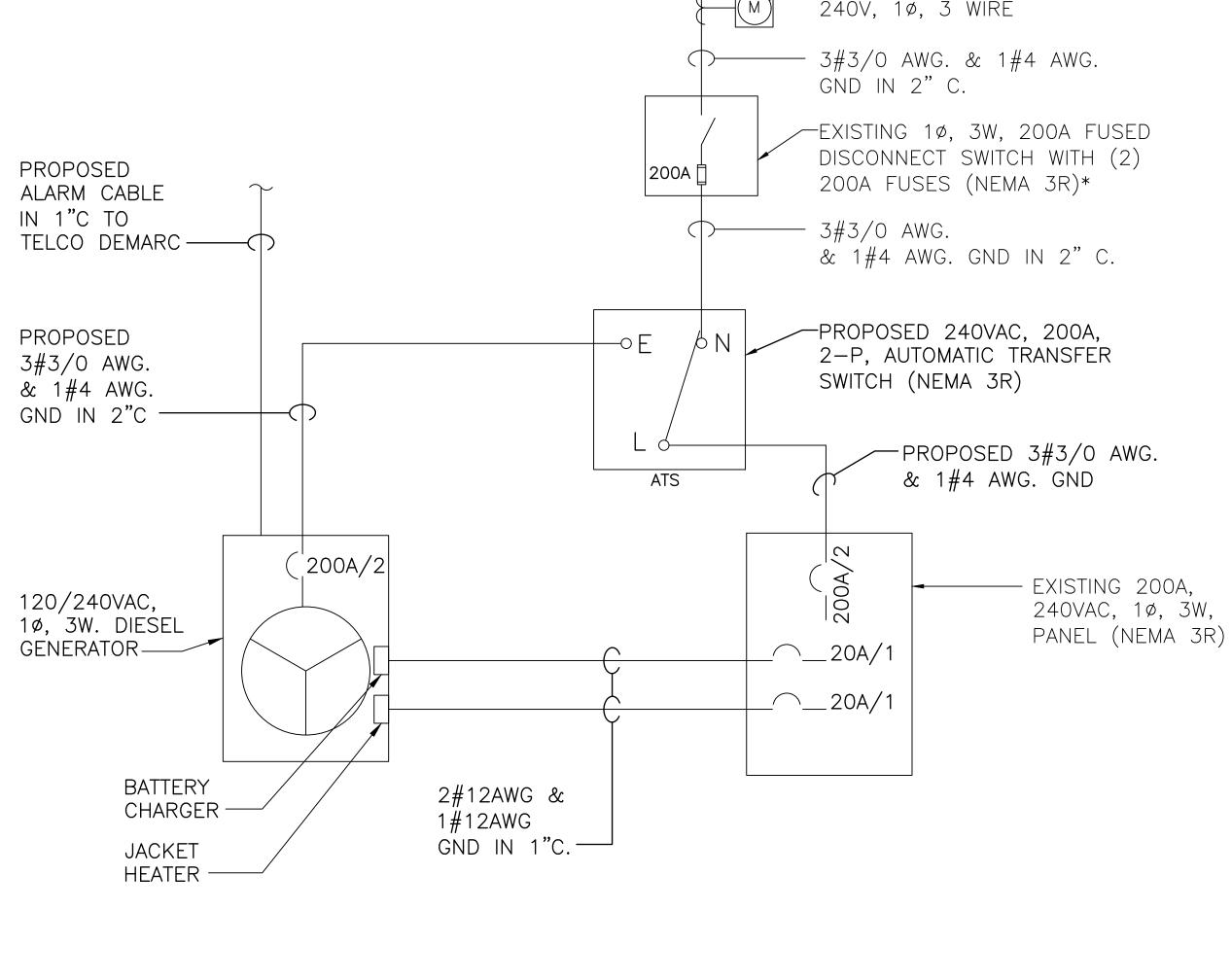
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	48kW Fuel Consumption			
	Fuel Tank Gross Total Capacity	240		
	Fuel Tank Gross Usable Capacity	229		
7	Fuel Tank Net Usable Capacity (Run Hours Based on Net Usable Capacity)	206		
	Run Hours 100% Load	52		
	Run Hours 75% Load	67		ALL'S RECORDED
-	Run Hours 50% Load	96		
		50		
.H	Sound Emission Data			
	Rated Load Sound Output at 23ft - dB(A)	65		$\begin{pmatrix} 2 \\ \hline 2 \hline 2$
				C-3
	* All measurements are approximate and for estimation pur	posec only.		
				PROPOSED #4
			(M	3" E.W. (TYP.) IIN.) 3"
<u> </u>				(MIN.)
			<u>+</u>	
				EXISTING COMPACT SUBGRADE (TYP.)
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			1/2"HOT DIP GALVANIZED U-	-BOLT
ET EXISTING			(4 TYP) W/NU LOCK WASHERS	ITS AND
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6 (TYP.)			EXISTING	
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			UNISTRUT P1000 OR EQUIVALENT (2 TYP)	
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				$ \begin{array}{c} 5 \\ \hline C-3 \end{array} PROPOSED $ scale: 3/4"=1'-
				C-3 SCALE: 3/4"=1'-
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GENERAC





ONE-LINE DIAGRAM E-1 / SCALE: N.T.S.

ELECTRICAL POWER		
SYMBOL	DESCRIPTION	
	ELECTRICAL PANELBOARD/E	
G	GENERATOR	
ç	CIRCUIT BREAKER	
Ð	GROUNDING ELECTRODE	

	ABBREVIATIONS
А	AMPERE
AC	ALTERNATING CURRENT
AFCI	ARC FLASH CIRCUIT INTERRUP
AWG	AMERICAN WIRE GAUGE
С	CONDUIT, CORRIDOR
СТ	CURRENT TRANSFORMER
EX	EXISTING
GND	GROUND
GFI	GROUND FAULT INTERRUPTER
κw	KILOWATT
MSB	MAIN SWITCHBOARD
	NOT TO SCALE
	OVERCURRENT PROTECTIVE DEV
Р	POLE(S)
PH, φ	
	PANEL
SE	SERVICE ENTRANCE
SW	SWITCH
TYP UON	TYPICAL UNLESS OTHERWISE NOTED
	VOLT
w	WATT, WIRE
WP	WATERPROOF
G	GENERATOR
М	METER
СВ	CIRCUIT BREAKER

NOTES:

1. CONTRACTOR IS TO FIELD VERIFY ALL EXISTING ITEMS SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

ALL NEW WIRING SHALL BE COPPER. ALL CONDUCTORS LARGER THAN #10 AWG SHALL BE THWN-2, THW-2, RHW-2, OR XHHW-2 WIRE UNLESS NOTED OTHERWISE.

FINAL ELECTRICAL SERVICE LAYOUT SUBJECT TO UTILITY COORDINATION

-EXISTING 200A METER SOCKET, 240V, 1ø, 3 WIRE

DISCONNECT SWITCH WITH (2)

SYMBOLS	5
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/ENCLOSURE

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	DRAWING S	DIAGRAM		
	E-1			

1. GENERAL REQUIREMENTS:

- 1.1 THE WORK TO BE DONE UNDER THIS PROJECT INCLUDES PROVIDING ALL EQUIPMENT, MATERIALS, LABOR AND SERVICES, AND PERFORMING ALL OPERATIONS FOR COMPLETE AND OPERATING SYSTEMS. ANY WORK NOT SPECIFICALLY COVERED BUT NECESSARY TO COMPLETE THIS INSTALLATION. SHALL BE PROVIDED. ALL EQUIPMENT AND WIRING TO BE NEW AND PROVIDED UNDER THIS CONTRACT UNLESS OTHERWISE NOTED.
- 1.2 ENTIRE INSTALLATION, INCLUDING MATERIALS, EQUIPMENT AND WORKMANSHIP, SHALL CONFORM TO THE 2014 EDITION OF THE NATIONAL ELECTRIC CODE (NEC) AS WELL AS ALL APPLICABLE LAWS AND REGULATIONS AND REGULATORY BODIES HAVING JURISDICTION OVER THIS WORK:
- 1.3 THE TERM "FURNISH" SHALL MEAN TO OBTAIN AND SUPPLY TO THE JOB SITE. THE TERM "INSTALL" SHALL MEAN TO FIX IN POSITION AND CONNECT FOR USE. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL. THE TERM "CONTRACTOR" SHALL MEAN ELECTRICAL CONTRACTOR.
- 1.4 ONLY WRITTEN CHANGES AND/OR MODIFICATIONS APPROVED BY THE ENGINEER, CONSULTING ENGINEER OR OWNER'S REPRESENTATIVE WILL BE RECOGNIZED.
- 1.5 THE ELECTRICAL CONTRACTOR SHALL SUBMIT, FOR THE ENGINEER'S APPROVAL, DETAILED SHOP DRAWINGS OF ALL EQUIPMENT SPECIFIED.
- 1.6 CONTRACTOR SHALL COORDINATE WITH SPECIFICATIONS PROVIDED BY OTHER TRADES.
- 1.7 PROVIDE OPERATING AND MAINTENANCE MANUALS, PER SPECIFICATIONS, AND GIVE INSTRUCTIONS TO USER FOR ALL EQUIPMENT AND SYSTEMS PROVIDED UNDER THIS CONTRACT AFTER ALL ARE CLEANED AND OPERATING.
- 1.8 KEEP PREMISES FREE FROM RUBBISH. REMOVE ALL ELECTRICAL RUBBISH FROM SITE.
- 1.9 ALL WORK SHALL BE INSTALLED CONCEALED UNLESS OTHERWISE NOTED.
- 1.10 THE WORK SHALL INCLUDE ALL PANELS, DEVICES, FEEDERS AND BRANCH CIRCUIT WIRING AS REQUIRED FOR THE DISTRIBUTION SYSTEM INDICATED AND CALLED FOR ON THE DRAWINGS. REQUIRED BY SPECIFICATIONS AND AS NECESSARY FOR COMPLETE FUNCTIONAL SYSTEMS PRESENTED AND INTENDED.
- 1.11 THE CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR, TOOLS, EQUIPMENT, CONSUMABLES AND SERVICES REQUIRED FOR OBTAINING, DELIVERY, INSTALLATION, CONNECTION, DISCONNECTION, REMOVAL, RELOCATION, REPAIR, REPLACEMENT, TESTING AND COMMISSIONING OF ALL EQUIPMENT AND DEVICES INCLUDED IN OR NECESSARY FOR THE WORK, AS APPLICABLE. THIS INCLUDES SCAFFOLDING, LADDERS, RIGGING, HOISTING, ETC.
- 1.12 ELECTRICAL WORK SHALL INCLUDE ALL REQUIRED CUTTING, PATCHING AND THE FULL RESTORATION OF WALL AND FLOOR STRUCTURE AND SURFACES. ALL EQUIPMENT, WALLS, FLOORS, ETC., DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER, AT THE CONTRACTORS EXPENSE.
- 1.13 BEFORE SUBMITTING HIS BID, THE CONTRACTOR SHALL FULLY ACQUAINT HIMSELF/HERSELF WITH THE JOB CONDITIONS AND DIFFICULTIES THAT WILL PERTAIN TO THE EXECUTION OF THIS WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.
- 1.14 THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING UTILITIES.
- 1.15 UPON COMPLETION OF THE ELECTRICAL WORK, THE CONTRACTOR SHALL TEST THE COMPLETE ELECTRICAL SYSTEM FOR SHORTS, GROUNDS, AND PROPER OPERATION, IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.
- 1.16 UPON COMPLETION OF WORK, THE CONTRACTOR SHALL CLEAN AND ADJUST ALL EQUIPMENT AND LIGHTING AND TEST SYSTEMS TO THE SATISFACTION OF OWNER AND ENGINEER. RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL
- 1.17 THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS OF FINISHED CONSTRUCTION PRIOR TO FABRICATION AND INSTALLATION OF FIXTURES AND EQUIPMENT
- 1.18 EXACT ROUTING OF CONDUITS AND "MC" CABLES SHALL BE DETERMINED IN THE FIELD.
- 1.19 IF THE OWNER AND/OR HIS REPRESENTATIVE CONSIDERS ANY WORK TO BE INFERIOR, THE RESPECTIVE CONTRACTOR SHALL REPLACE SAME WITH CONTRACT STANDARD WORK WITHOUT ADDITIONAL CHARGE. ALL WORK SHALL BE DONE IN A NEAT, WORKMANLIKE MANNER, LEFT CLEAN AND FREE FROM DEFECTS, AND COMPLETELY OPERABLE.
- 1.20 THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AS SHOWN ON THE DRAWINGS AND/OR AS SPECIFIED. ALL MATERIALS SHALL BE NEW, AND BEAR THE UL LABEL. ALL WORK SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER.
- 1.21 DRAWINGS ARE TO BE CONSIDERED DIAGRAMMATIC. AND SHALL BE FOLLOWED AS CLOSELY AS CONDITIONS ALLOW TO COMPLETE THE INTENT OF THE CONTRACT. THE DRAWINGS AND SPECIFICATIONS COMPLIMENT ONE ANOTHER, AND WHAT IS SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, AND VICE VERSA, IS TO BE INCLUDED IN THE SCOPE OF WORK.
- 1.22 ALL EQUIPMENT CONNECTIONS SHALL BE INSTALLED PER APPLICABLE SEISMIC REQUIREMENTS.
- 1.23 ENGINEER WILL MAKE A FINAL INSPECTION WITH THE OWNER AND CONTRACTOR AND WILL NOTIFY THE CONTRACTOR IN WRITING OF ALL PARTICULARS IN WHICH THIS INSPECTION REVEALS THAT THE WORK IS INCOMPLETE OR DEFECTIVE. THE CONTRACTOR SHALL IMMEDIATELY TAKE SUCH MEASURES AS ARE NECESSARY TO COMPLETE SUCH WORK OR REMEDY SUCH DEFICIENCIES.
- 1.24 THE CONTRACTOR SHALL PERFORM ALL EXCAVATION. TRENCHING AND BACKFILL REQUIRED FOR ELECTRICAL WORK. BACKFILL SHALL BE SUITABLE MATERIAL PROPERLY COMPACTED TO 95% DENSITY IN EACH LAYER OF SIX (6) INCH DEPTH. CONDUIT SHALL BE MINIMUM 36" BELOW FINISHED GRADE.

2. PROJECT COORDINATION:

- 2.1 THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS AT THE SITE AND NOTIFY THE OWNER OF ANY DISCREPANCIES, PRIOR TO COMMENCING WITH THE WORK.
- 2.2 THE CONTRACTOR SHALL REVIEW AND COORDINATE WITH THE DOCUMENTS OF ALL TRADES. 2.3 THE CONTRACTOR SHALL FURNISH A SCHEDULE INDICATING HIS PORTION OF TIME, WITHIN THE OVERALL SCHEDULE, REQUIRED TO COMPLETE THE WORK, IN CONJUNCTION WITH ALL TRADES. ALL WORK THAT MAY AFFECT OPERATION OF BUILDING SYSTEMS SHALL BE COORDINATED WITH
- THE OWNER'S REPRESENTATIVE.
- 2.4 REFER TO THE CONSTRUCTION DRAWINGS AND APPROPRIATE VENDORS APPROVED DIMENSIONED LAYOUT DRAWINGS FOR THE LOCATIONS OF ALL ELECTRICAL DEVICES AND EQUIPMENT. A. EXTERIOR, BUILDING MOUNTED LUMINARIES SWITCHES
- 2.5 REFER TO THE PLUMBING DRAWINGS FOR THE LOCATIONS OF THE FOLLOWING: A. GENERATOR
- 2.6 SHUT DOWN OF POWER SHALL BE COORDINATED WITH THE OWNER, ARCHITECT AND PROJECT MANAGER AT LEAST 14 WORKING DAYS PRIOR TO SHUT DOWN. SHUT DOWNS LONGER THAN 2 DAYS SHALL BE COORDINATED WITH THE ABOVE PERSONNEL AT LEAST ONE MONTH IN ADVANCE. TEMPORARY POWER FOR CONSTRUCTION SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR FOR SHUT DOWNS OVER 2 DAYS.
- 2.7 ALL CONDUITS AND DEVICE BOXES SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR, INCLUDING ALL TECHNOLOGY CONDUITS AND BOXES.
- 2.8 EXACT LOCATIONS OF OUTLETS AND EQUIPMENT SHALL BE COORDINATED WITH ARCHITECTURAL AND MILLWORK PLANS. ALL OUTLET AND EQUIPMENT LAYOUTS SHALL BE VERIFIED AND COORDINATED WITH WORK OF OTHER TRADES.
- 2.9 PROVIDE TEMPORARY LIGHTING AND POWER IN ACCORDANCE WITH ARTICLE 305 OF THE NEC. TEMPORARY LIGHTING FIXTURES IN UNFINISHED AREAS SHALL REMAIN CONNECTED UNTIL REMOVAL IS REQUESTED BY THE CONTRACTOR.
- 2.10 COLORS AND FINISHES OF ALL LIGHTING FIXTURES SHALL BE AS DETERMINED BY THE PROPERTY OWNER WHO SHALL SELECT SAME FROM THOSE AVAILABLE AS STANDARD OF THE EQUIPMENT SPECIFIED. PROVIDE CUSTOM ENGRAVING FOR ALL DIMMER SWITCHES.
- 2.11 THE CONTRACTOR SHALL CONTACT THE BUILDING MANAGER TO OBTAIN A COPY OF THE GENERAL REQUIREMENTS AND/OR CONDITIONS TO BE USED FOR THIS PROJECT.
- 2.12 INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES. ALARM AND EMERGENCY SYSTEMS SHALL NOT BE INTERRUPTED. TEMPORARY SHUT DOWNS OF ANY SYSTEM SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER AND ARCHITECT.
- 2.13 CONTRACTOR SHALL VERIFY ALL EQUIPMENT POWER REQUIREMENTS AND REQUIRED OUTLET TYPES WITH EQUIPMENT MANUFACTURER AND OWNER PRIOR TO POWER DISTRIBUTION AND RECEPTACLE INSTALLATION.
- 3. PROTECTION OF WORK:
- 3.1 EFFECTIVELY PROTECT ALL MATERIALS AND EQUIPMENT FROM ENVIRONMENTAL AND PHYSICAL DAMAGE UNTIL FINAL ACCEPTANCE. CLOSE AND PROTECT ALL OPENINGS DURING CONSTRUCTION. PROVIDE NEW MATERIALS AND EQUIPMENT TO REPLACE ITEMS DAMAGED.
- 4. WARRANTIES AND BONDS:
- MINIMUM OF ONE YEAR AFTER FINAL ACCEPTANCE BY OWNER.
- OF COMPLIANCE.

5. PERMITS:

- 5.1 CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTION FEES FOR ELECTRICAL WORK.
- 6. RACEWAYS:
- 6.1 ALL CONDUIT SHALL BE MINIMUM SIZE OF 3/4" FOR POWER CIRCUITS AND CONTROL CIRCUITS EXCEPT WHERE FLEXIBLE CONDUIT IS CALLED FOR ON PROJECT DOCUMENTS. ALL EXTERIOR EXPOSED CONDUIT SHALL BE GRC (GALVANIZED RIGID METAL CONDUIT). ALL UNDERGROUND, IN SLAB OR UNDER SLAB SHALL BE RNC (RIGID NONMETALLIC CONDUIT). CHANGE TO RIGID METALLIC CONDUIT OR INTERMEDIATE METALLIC CONDUIT BEFORE EXITING OUT OF CONCRETE OR PENETRATING A WALL, FLOOR OR ROOF. EMT IS ALLOWED IN INTERIOR DRY LOCATIONS WHERE NOT SUBJECT TO DAMAGE.
- 6.2 ALL FLEXIBLE CONDUIT IN WET OR DRY AREAS SHALL BE LIQUID TIGHT CONDUIT. NONMETALLIC FLEXIBLE CONDUIT IS SPECIFICALLY PROHIBITED.
- 6.3 CONDUIT SHALL BE RUN AT RIGHT ANGLES AND PARALLEL TO BUILDING LINES, SHALL BE NEATLY RACKED AND SECURELY FASTENED. JUNCTION BOXES SHALL BE PROVIDED WHERE REQUIRED TO FACILITATE INSTALLATION OF WIRES.
- 6.4 ALL CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN AN APPROVED MANNER.
- 6.5 ALL EMPTY RACEWAYS SHALL BE FURNISHED WITH A 200 LB. TEST NYLON DRAG LINE.
- 6.6 ARRANGEMENT OF CONDUIT AND EQUIPMENT SHALL BE AS INDICATED, UNLESS MODIFICATION IS REQUIRED TO AVOID INTERFERENCES.
- 6.7 ALL RACEWAY AND WIRING SHALL BE CONCEALED IN FINISHED AREAS. RACEWAY IN MECHANICAL ROOMS. BASEMENTS AND CRAWL SPACES MAY BE SURFACE MOUNTED.
- 6.8 FOR CONDUITS CROSSING EXPANSION JOINTS, PROVIDE EXPANSION FITTINGS FOR SIZE 1-1/4", AND LARGER. PROVIDE SECTIONS OF FLEXIBLE CONDUIT WITH GROUNDING JUMPERS FOR SIZES 1" AND SMALLER.
- 6.9 THE CONTRACTOR SHALL SEAL ALL PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS WITH APPROVED FIRE RATED SEALANT. ALL PENETRATIONS THROUGH ALL WALLS AND FLOORS SHALL BE SEALED. FOR ALL SLAB PENETRATIONS THE METHOD, DEPTHS AND LOCATIONS SHALL BE PRE-APPROVED BY THE BUILDING ENGINEER PRIOR TO THE START OF WORK.
- 6.10 THE CONTRACTOR SHALL INSTALL DETECTABLE UNDERGROUND TAPES FOR THE PROTECTION, LOCATION AND IDENTIFICATION OF UNDERGROUND CONDUIT INSTALLATION.
- 6.11 EXACT ROUTING OF CONDUITS AND CABLES SHALL BE DETERMINED IN FIELD.
- 6.12 ALL PENETRATIONS THROUGH FLOORS SHALL BE FIRE STOPPED AND SEALED WITH APPROVED SFALANT.
- 6.13 ELECTRICAL RACEWAY CONNECTIONS TO VIBRATING EQUIPMENT AND MACHINERY SUCH AS MOTORS, TRANSFORMERS, ETC., SHALL BE MADE WITH FLEXIBLE LIQUID TIGHT METALLIC CONDUIT
- 6.14 SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS IN HOLLOW MASONRY, EXPANSION SHIELDS OR INSERTS IN CONCRETE AND BRICK. MACHINE SCREWS IN METAL, BEAM CLAMPS IN FRAMEWORK AND WOOD SCREWS IN WOOD. NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO BUILDING LINES.
- 6.15 DO NOT RUN RACEWAYS CLOSER THAN 6 INCHES WHEN PARALLEL TO HOT WATER OR STEAM PIPES. WHEN CROSSING WATER OR STEAM PIPES CROSS A MINIMUM OF 3 INCHES ABOVE. IF CROSSING BELOW IS UNAVOIDABLE, PROVIDE DRIP SHIELDS EXTENDING 6 INCHES BEYOND THE WATER OR STEAMPIPE. BOXES INSTALLED IN PROXIMITY TO WATER OR STEAM PIPE SHALL BE RATED NEMA 4X.

- 4.1 ALL MATERIALS, EQUIPMENT AND WORKMANSHIP SHALL BE GUARANTEED IN WRITING FOR A
- 4.2 OBTAIN AND DELIVER TO THE OWNER'S REPRESENTATIVE ALL GUARANTEES AND CERTIFICATES

- 7. BOXES:
- 7.1 INTERIOR OUTLET BOXES SHALL BE METALLIC, EXCEPT AS NOTED. FAN MOUNTING BOXES SHALL BE RATED FOR THE APPLICATION AND FOR THE WEIGHT OF THE FAN. EXTERIOR OUTLET BOXES SHALL BE CAST ALUMINUM AND SHALL BE MADE WEATHERTIGHT.
- 7.2 INTERIOR JUNCTION BOXES SHALL BE SHEET STEEL. EXTERIOR JUNCTION BOXES SHALL BE NONMETALLIC, WITH SCREW COVERS. BOXES SHALL BE SUPPORTED INDEPENDENTLY OF CONDUITS.
- 7.3 MOUNTING HEIGHTS OF EQUIPMENT AND DEVICES SHALL BE AS FOLLOWS: RECEPTACLES (WALL MOUNTED) - 18" A.F.F.
 - RECEPTACLES (COUNTER HEIGHT) 9" ABOVE COUNTER
 - RECEPTACLES (EXTERIOR) 24" ABOVE FINISHED GRADE COMMUNICATION OUTLETS - SAME AS RECEPTACLES
 - LIGHTING SWITCHES AND CONTROLS 44" A.F.F.
 - F. PANELBOARDS AND CABINETS 78" TO TOP OF ENCLOSURE
- 7.4 WHERE MULTIPLE SWITCHES AND RECEPTACLES ARE INDICATED AT THE SAME LOCATION, THEY SHALL BE MOUNTED BEHIND A COMMON FACEPLATE. TECHNOLOGY OUTLETS SHALL BE SEPARATED FROM AND BE PROVIDED WITH SEPARATE FACEPLATES FROM THE ASSOCIATED POWER RECEPTACLES.
- 7.5 RECEPTACLES SHALL BE ACCESSIBLE EXCEPT A DEDICATED RECEPTACLE MAY BE OBSTRUCTED BY THE REMOVABLE EQUIPMENT IT SERVES.
- 7.6 OUTLET BOXES IN EXISTING CONCRETE FLOORS WITH ACCESS FROM BELOW SHALL BE FIRE RATED, POKE-THROUGH TYPE FOR POWER AND LOW TENSION SERVICE. SERVICE FITTING HEADS SHALL BE ANODIZED ALUMINUM AND SHALL CONTAIN DEVICES AS SHOWN ON THE DRAWINGS. BOXES SHALL BE AS MANUFACTURED BY STEEL CITY OR HUBBELL.
- 7.7 SET BOXES SQUARE AND TRUE WITH BUILDING FINISH. INSTALL RECEPTACLE AND SWITCH OUTLETS IN ADVANCE OF FURRING AND FIREPROOFING. SECURE TO BUILDING STRUCTURE IN ACCORDANCE WITH NEC REQUIREMENTS.
- 7.8 FURNISH OUTLET BOXES WITH RAISED COVERS AND FIXTURE STUDS WHERE REQUIRED. WHERE NO FIXTURE OR DEVICE IS INSTALLED, PROVIDE OUTLET BOX WITH BLANK COVER. OFFSET BACK-TO-BACK OUTLETS WITH MINIMUM 6 INCH HORIZONTAL SEPARATION.
- <u>8. WIRING</u>:
- 8.1 ALL WIRE SHALL BE COPPER WITH TYPE THNN/THWN 600 VOLT INSULATION, MINIMUM #12 AWG FOR POWER AND LIGHTING CIRCUITS AND #16 AWG FOR CONTROL CIRCUITS.
- 8.2 UNDER NO CIRCUMSTANCES SHALL FEEDERS BE SPLICED.
- 8.3 ALL COMPUTER CIRCUITS SHALL HAVE SEPARATE NEUTRAL CONDUCTORS. ALL OTHER CIRCUITS MAY SHARE GROUND AND NEUTRAL CONDUCTORS.
- 8.4 WHERE EQUIPMENT, LIGHTING FIXTURES AND WIRING DEVICES ARE SHOWN WITH CIRCUIT NUMBERS ONLY, THE MINIMUM BRANCH CIRCUITING REQUIREMENTS SHALL BE AS FOLLOWS: A. LIGHTING FIXTURES - (2)#12 & #12 GND.
 - B. RECEPTACLES (2)#12 & #12 GND.
 - BRANCH CIRCUIT BREAKERS (120 VOLT) 1P, 20A HOMERUNS TO PANEL BOARDS SHALL CONTAIN NO MORE THAN THREE CIRCUITS. WHERE LIGHTING SWITCH INDICATIONS ARE NOT SHOWN
 - SWITCHES SHALL BE CONNECTED TO CONTROL ALL SWITCHED FIXTURES WITHIN THE CORRESPONDING SPACE.
- 8.5 CONTRACTOR SHALL INCREASE SIZE OF CIRCUIT WIRING/CONDUCTORS TO COMPENSATE FOR VOLTAGE DROP.
- 8.6 WIRE SIZES SHALL BE INCREASED TO COMPENSATE FOR VOLTAGE DROP AS FOLLOWS: A. 120V AND 208V CIRCUITS LONGER THAN 80' SHALL UTILIZE MIN. #10 AWG.
 - B. 208V CIRCUITS LONGER THAN 150' SHALL UTILIZE MIN. #10 AWG.
- 9. GROUNDING:
- 9.1 PROVIDE A COMPLETE EQUIPMENT GROUND SYSTEM FOR THE ELECTRICAL SYSTEM AS REQUIRED BY ARTICLE 250, OF THE NEC, AND AS SPECIFIED HEREIN.
- 9.2 ALL BRANCH CIRCUITS FOR POWER WIRING SHALL CONTAIN A COPPER GROUND WIRE. NO FLEXIBLE METAL CONDUIT OF ANY KIND OR LENGTH SHALL BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR.
- 10. DEVICES:
- 10.1 THE CONTRACTOR SHALL VERIFY COLOR, LOCATION AND MOUNTING HEIGHT OF ALL DEVICES WITH ARCHITECT PRIOR TO INSTALLATION.
- 10.2 RECEPTACLES SHALL BE DUPLEX TYPE, 20 AMP, 125 VOLT RATING, WITH SIDE AND BACK WIRING. HUBBELL 5362 OR APPROVED EQUAL.
- 10.3 GROUND FAULT INTERRUPTERS SHALL BE SPECIFICATION GRADE. HUBBELL GF5362 OR APPROVED EQUAL.
- 10.4 SWITCHES SHALL BE SPECIFICATION GRADE, 20 AMP AT 120/277 VOLTS, QUIET, AC, SINGLE OR DOUBLE POLE, THREE OR FOUR WAY AS REQUIRED, ROCKER STYLE WITH BACK AND SIDE
- 10.5 ALL RECEPTACLES MARKED WP SHALL BE GROUND FAULT PROTECTED AND WEATHER TIGHT WHILE IN USE.
- 10.6 THE COLOR OF FACEPLATES SHALL MATCH COLOR OF DEVICE WHICH IT COVERS. ALL PLATES SHALL BE METALLIC.

- <u>11. PANELBOARDS</u>:
- TRANSPARENT COVER.
- PROJECT.

- 12. LIGHTING:
- 13. IDENTIFICATION:
- UNDER THIS CONTRACT.
- 14. RECORD DRAWINGS:
- STOPPING.

11.1 PANELBOARDS: SWITCHING UNITS SHALL BE 120/240V, 1-PHASE, 3-WIRE, 200A, 45KAIC CIRCUIT BREAKER TYPE UNLESS OTHERWISE NOTED ON PANEL SCHEDULES. BUS BARS SHALL BE HARD DRAWN COPPER, MINIMUM 98% CONDUCTIVITY, AND SILVER OR TIN-PLATED JOINTS. CABINETS SHALL BE GALVANIZED SHEET STEEL BACK BOX, WITH DOOR AND TRIM AND LAPPED AND WELDED CORNERS. HARDWARE SHALL BE CHROME-PLATED WITH FLUSH LOCK/LATCH HANDLE ASSEMBLY (UP TO 48 IN. HIGH DOORS) OR VAULT HANDLE, LOCK AND 3-POINT CATCH (LARGER THAN 48 IN. HIGH DOORS). HINGES SHALL BE SEMI-CONCEALED, 5-KNUCKLE STEEL WITH NONFERROUS PINS, 180-DEG OPENING, LOCATED A MAXIMUM 26 IN. ON CENTERS. PROVIDE DOOR-IN-DOOR CONSTRUCTION. MINIMUM GUTTER SPACES FOR LIGHTING PANELS SHALL BE 5- BOTTOM. DIRECTORY HOLDER SHALL BE METAL FRAME WITH CLEAR PLASTIC,

11.2 PROVIDE A NEW TYPE WRITTEN CIRCUIT DIRECTORY FOR EACH PANEL AFFECTED BY THIS

11.3 WHEREVER POSSIBLE, PANELBOARDS SHALL BE RECESSED IN WALL. SURFACE MOUNTED PANELBOARDS SHALL BE MOUNTED ON A PLYWOOD BACKBOARD. PLYWOOD SHALL BE MOUNTED ON TOP OF GYPSUM BOARD. PLYWOOD SHALL BE PAINTED ON ALL SIDES AND EDGES. COORDINATE WITH OWNER FOR COLOR.

11.4 PROVIDE LIGHTNING SURGE PROTECTION FOR MAIN SWITCHBOARD OR MAIN SERVICE PANEL BOARD. PROVIDE GROUNDING OF SURGE DEVICE PER THE NEC.

11.5 CIRCUIT NUMBERS SHOWN SHALL BE GENERALLY FOLLOWED. HOWEVER, CONTRACTOR IS RESPONSIBLE FOR BALANCING LOADS ON ALL PHASES AND MAY ALTER ASSIGNMENT OF CIRCUITS FOR BALANCING PHASES.

11.6 CIRCUIT SCHEDULES ARE INTENDED TO REPRESENT THE GENERAL WIRING NEEDS OF THE EQUIPMENT SERVICED FROM THE PANEL. THE EXACT CIRCUIT ARRANGEMENT WILL BE DETERMINED BY PANEL SHOP DRAWING AND ARRANGEMENT WILL BE DETERMINED BY PANEL SHOP DRAWING AND PANELS ACTUALLY FURNISHED.

12.4 PROVIDE LIGHTING FIXTURES AS SHOWN ON THE CONSTRUCTION DRAWINGS, COMPLETE WITH ALL STEMS, RODS, SUPPORTS, PLASTER FRAMES, ETC., NECESSARY FOR AN INSTALLATION IN OR ON THE MATERIAL FINISHES PROVIDED. PROVIDE ALL LAMPS FOR LIGHTING FIXTURES. FIXTURES SHALL HAVE ENERGY SAVING LAMPS, AND WHERE APPLICABLE, ENERGY SAVING BALLASTS WITH HIGH POWER FACTOR.

12.5 SEE DRAWINGS AND SPECIFICATIONS FOR FIXTURE REQUIREMENTS.

13.1 PROVIDE BLACK PHENOLIC IDENTIFICATION PLATES, WITH WHITE LETTERS ON ALL ELECTRICAL EQUIPMENT FURNISHED IN THIS CONTRACT. ATTACH WITH SUITABLE ADHESIVE.

13.2 INSTALL NAMEPLATES ON ALL MAJOR EQUIPMENT, INCLUDE STARTERS, TRANSFORMERS, PANELBOARDS, DISCONNECT SWITCHES AND OTHER ELECTRICAL BOXES AND CABINETS INSTALLED

13.3 APPLY CABLE/CONDUCTOR IDENTIFICATION MARKERS ON EACH CABLE AND CONDUCTOR IN EACH BOX, ENCLOSURE OR CABINET.

14.1 THE CONTRACTOR SHALL SUBMIT SIX (6) COPIES OF SHOP DRAWINGS. THE APPROVAL OF SHOP DRAWINGS SHALL ONLY BE CONSTRUED TO APPLY TO THE GENERAL LAYOUT AND CONFORMANCE TO THE DESIGN CONCEPT OF THE PROJECT AND FOR THE COMPLIANCE WITH THE GENERAL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL RETAIN THE RESPONSIBILITY FOR ANY DEVIATIONS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

14.2 PROVIDE SHOP DRAWINGS FOR THE LIGHTING FIXTURES, PANEL BOARDS, CIRCUIT BREAKERS, WIRING DEVICES, FIRE ALARM DEVICES AND SEALS FOR FIRE AND WATER

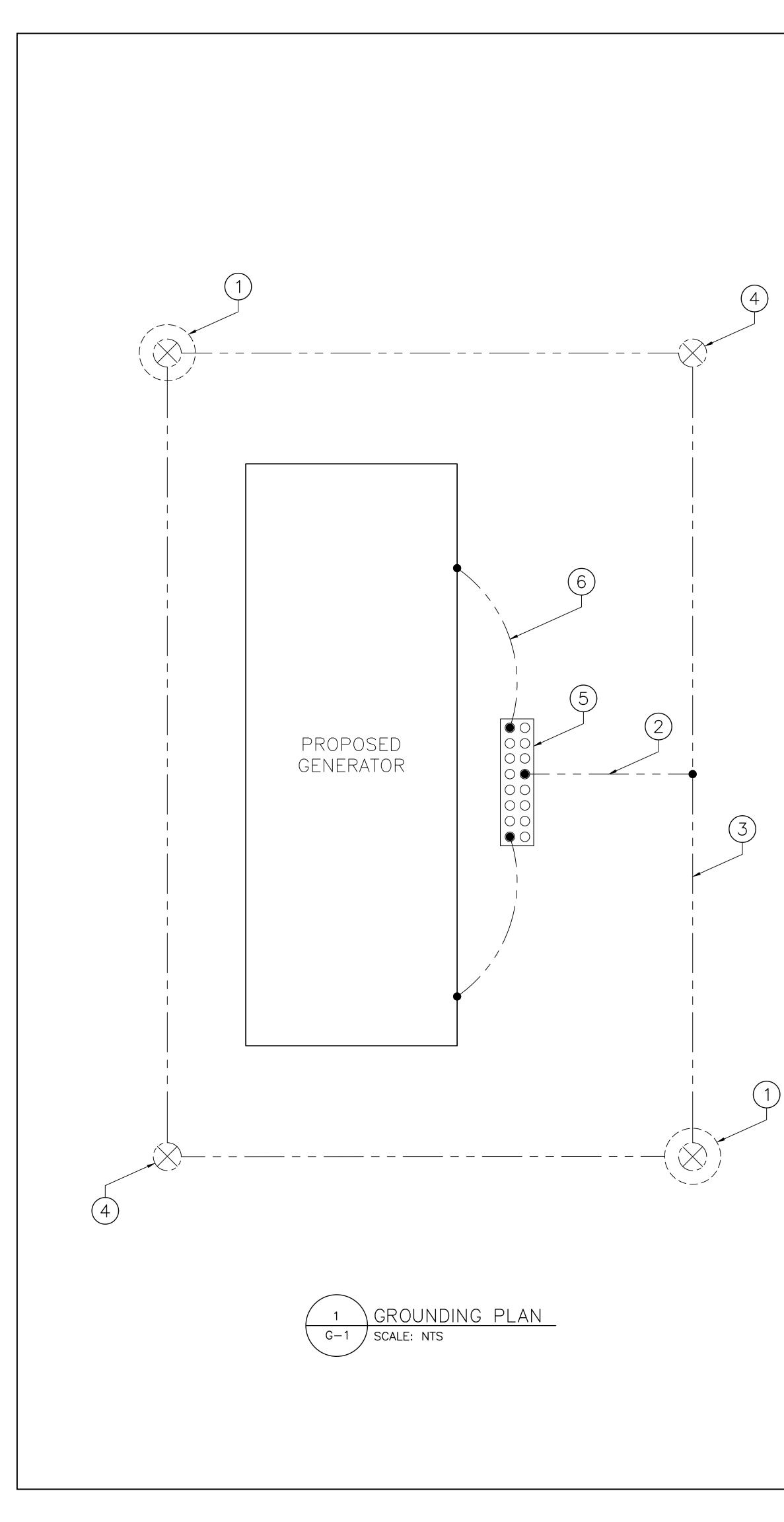
14.3 DURING CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN A RECORD SET OF INSTALLATION PRINTS. HE SHALL NEATLY AND CLEARLY RECORD ON THESE PRINTS ALL DEVIATIONS FROM THE CONTRACT DRAWINGS IN SIZES, LOCATIONS AND DETAILS.

14.4 UPON PROJECT COMPLETION, THE CONTRACTOR SHALL COMPLETE THE MARK UP OF ALL PROJECT DRAWINGS TO RECORD INSTALLED CONDITIONS.

14.5 REPRODUCIBLE "RECORD" DRAWINGS PREPARED IN CAD (AUTOCAD 2002) FORMAT SHALL BE PROVIDED TO T-MOBILE INDICATING THE AS INSTALLED CONDITIONS OF THE WORK. A FULL SIZE PRINT OUT OF THE "RECORD" DRAWING FILE SHALL BE PROVIDED TO T-MOBILE AFTER COMPLETION OF THE INSTALLATION.

14.6 UPON COMPLETION AND ACCEPTANCE OF WORK, THE CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS AND EQUIPMENT MANUALS AND DEMONSTRATE TO T-MOBILE THE PROPER OPERATIONS AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.

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	ELEVATED ENGINEERING 976 TABOR ROAD, UNIT 6 MORRIS PLAINS, NJ 07950 862-242-8050				
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GROUNDING NOTES:

- (1) GROUND ROD INSPECTION WELL (TYP. 2)
- 2 #2 AWG. SOLID TINNED CU. TO BOND MAIN GROUND BAR TO GROUND RING (TYP. 2)
- (3) #2 AWG. SOLID TINNED CU. 30" BELOW GRADE (GROUND RING)
- (4) 5/8 % x 10' CU. CLAD GROUND ROD (TYP. 6)
- (5) MAIN GROUND BAR INSTALLED ON EQUIPMENT FRAME
- (6) #2 AWG. STRANDED INSULATED CU. TO BOND GENERATOR TO MAIN GROUND BAR (TYP.)
- (7) #2 AWG. SOLID TINNED CU. TO BOND EQUIPMENT STEEL

GROUNDING NOTES:

- CADWELD WITH GALVANIZING PAINT.
- COATING.

- TO CARRIER'S CONSTRUCTION MANAGER.
- EXTERIOR GROUND BARS TINNED COPPER.
- KOPR-SHIELD OR EQUAL.
- RESISTANCE TEST" FORM.
- WITH SILICONE MATERIAL.
- ANTI-OXIDIZATION PAINT.
- POST USING (2) RUNS OF #2 BARE TINNED COPPER WIRE.

1. THE EQUIPMENT BONDING JUMPER SHALL BE PERMITTED TO BE INSTALLED INSIDE OR OUTSIDE OF A RACEWAY OR ENCLOSURE. WHERE INSTALLED ON OUTSIDE, THE LENGTH OF THE EQUIPMENT BONDING JUMPER SHALL NOT EXCEED 6 FEET AND SHALL BE ROUTED WITH THE RACEWAY OR ENCLOSURE. REFER TO NEC 2008 – 250.102 (E)

2. ALL GROUNDING DEVICES SHALL BE U.L. APPROVED OR LISTED FOR THEIR INTENDED USE.

3. ALL WIRES SHALL BE AWG THHN/THWN COPPER UNLESS NOTED OTHERWISE.

4. GROUNDING CONNECTIONS TO GROUND RODS, GROUND RING WIRE, TOWER BASE AND FENCE POSTS SHALL BE EXOTHERMIC ("CADWELDS") UNLESS NOTED OTHERWISE. CLEAN SURFACES TO SHINY METAL. WHERE GROUND WIRES ARE CADWELDED TO GALVANIZED SURFACES, SPRAY

5. GROUNDING CONNECTIONS TO GROUND BARS ARE TO BE TWO-HOLE BRASS MECHANICAL CONNECTORS WITH STAINLESS STEEL HARDWARE (INCLUDING SCREW SET.) CLEAN GROUND BAR TO SHINY METAL. AFTER MECHANICAL CONNECTION, TREAT WITH PROTECTIVE ANTIOXIDANT

6. GROUND COAXIAL CABLE SHIELDS AT BOTH ENDS WITH MANUFACTURER'S GROUNDING KITS. 7. ROUTE GROUNDING CONDUCTORS THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 12' RADIUS.

8. INSTALL #2 AWG GREEN-INSULATED STRANDED WIRE FOR ABOVE GRADE GROUNDING AND #2 BARE TINNED COPPER WIRE FOR BELOW GRADE GROUNDING UNLESS OTHERWISE NOTED.

9. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE ("CADWELDS") TO ANTENNA MOUNTS AND GROUND RING. REMAINING GROUNDING CONNECTIONS SHALL BE COMPRESSION FITTINGS. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO-HOLE LUGS.

10. EXOTHERMIC WELDS SHALL BE MADE IN ACCORDANCE WITH ERICO PRODUCTS BULLETIN A-AT. 11. CONSTRUCTION OF GROUND RING AND CONNECTIONS TO EXISTING GROUND RING SYSTEM SHALL BE DOCUMENTED WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PROVIDE PHOTOS

12. ALL GROUND LEADS EXCEPT THOSE TO THE EQUIPMENT ARE TO BE #2/0 TINNED. ALL

13. PRIOR TO INSTALLING LUGS ON GROUND WIRES, APPLY THOMAS & BETTS KOPR-SHIELD (TM OF JET LUBE INC.). PRIOR TO BOLTING GROUND WIRE LUGS TO GROUND BARS, APPLY

14. ENGAGE AN INDEPENDENT ELECTRICAL TESTING FIRM TO TEST AND VERIFY THAT IMPEDANCE DOES NOT EXCEED FIVE OHMS TO GROUND BY MEANS OF "FALL OF POTENTIAL TEST". TEST SHALL BE WITNESSED BY CARRIER REPRESENTATIVE, AND RECORDED ON CARRIER'S "GROUND

15. WHERE BARE COPPER GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO GROUND RING, INSTALL WIRE IN 3/4" PVC SLEEVE, FROM 1' BELOW GRADE AND SEAL TOP

16. PREPARE ALL BONDING SURFACES FOR GROUNDING CONNECTIONS BY REMOVING ALL PAINT AND CORROSION DOWN TO SHINY METAL. FOLLOWING CONNECTION, APPLY APPROPRIATE

17. ANY SITE WHERE THE EQUIPMENT (BTS, CABLE BRIDGE, PPC, GENERATOR, ETC.) IS LOCATED WITHIN 6 FEET OF METAL FENCING, THE BGR SHALL BE BONDED TO THE NEAREST FENCE

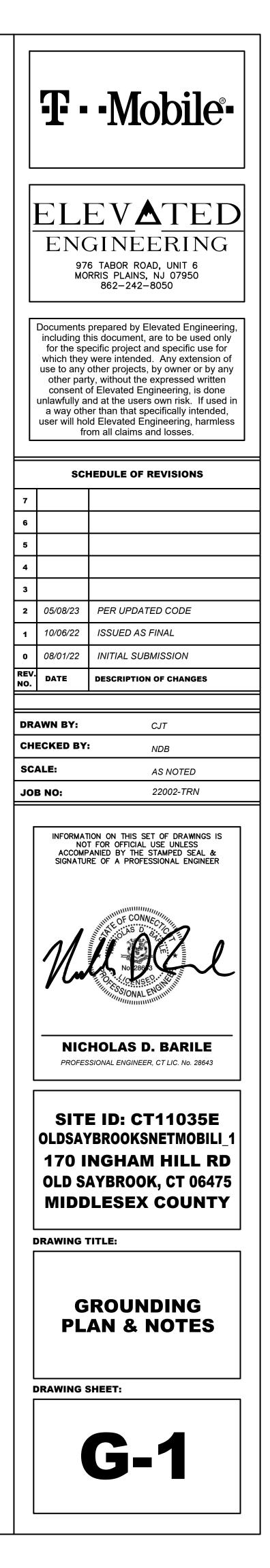


Exhibit D

RD048 | 3.4L | 48 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

Standby Power Rating 48 kW, 60 kVA, 60 Hz



Image used for illustration purposes only

Codes and Standards

ANSI

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



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

- Cold Weather Kit
- Oil Drain Extension
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil & Coolant

Fuel System

• Primary Fuel Filter

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

Electrical System

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

ALTERNATOR SYSTEM

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

GENERATOR SET

- Sound Attenuated Aluminum Enclosure
- Internal Genset Vibration Isolation
- Separation of Circuits High/Low Voltage
- Wrapped Exhaust Piping
- Standard Factory Testing
- 5 Year Limited Warranty
- Ready to Accept Full Load in <10 Seconds
- E-Stop

TANKS

- 48 Hour Run Time Tank
- UL 142 Listed Tank

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 Even Run Log
- Future Set Capable Exerciser
- Incorrect Wiring Protection
- Internal Fault Protection
- Common External Fault Capability
- Governor Failure Protection

Optional Shipped Loose and Field Install Kits

GENERATOR SET

- Paint Kit
- Scheduled Maintance Kit

CONTROL SYSTEM

○ Mobile Link [™] and Adapter Kit

TANKS

- Spill Box
- $\odot~$ 90% Fuel Alarm
- Tank Risers
- Spill Box Drainback Kit
- Vent Extension Support Kit
- 5 Day Run Time Tank
- Overfill Prevention Valve
- Fuel Fill Drop Tube

2 of 5



GENERAC

INDUSTRIAL POWER

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	4
Туре	In-Line
Displacement - in ³ (L)	3.4 (207.48)
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 Frequency Regulation (Steady State)

Electronic te) ±0.25%

Lubrication System

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

Cooling System

Cooling System Type	Closed Recovery
Fan Type	Pusher
Fan Speed- rpm	2,029
Fan Diameter - in (mm)	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 Lin (mm/in)	7.94/0.31 (ID)
Fuel Return Line (mm/in)	7.94/0.31 (ID)
Fuel Filtering (microns)	25

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	Standard Excitation	Direct
Poles	4	Bearings	Single Sealed
Field Type	Rotating	Coupling	Flexible Disc
Insulation Class - Rotor	Н	Prototype Short Circuit Test	Yes
Insulation Class - Stator	Н	Voltage Regulator Type	Full Digital
Total Harmonic Distortion	<5%	Number of Sensed Phases	2
Telephone Interference Factor (TIF)	<50	Regulation Accuracy (Steady State)	±1.0%

EPA Certified Stationary Emergency

OPERATING DATA

POWER RATINGS

Single-Phase 120/480 VAC @0.1pf

Standby 48 kW

Amps: 200

MOTOR 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

ft ³ /min (m ³ /min)	2824 (80)
gal (L)	2.8 (10.6)
BTU/hr (MJ/hr)	135,900 (143.4)
ure Deration 3% for every 5°C above 25°C or 1.7% for every 5°F ove	
1% for every 100 m above 915 or 3% for every 1000 ft over 3000 ft	
in H ₂ O (kPa)	0.50 (0.12)
	gal (L) BTU/hr (MJ/hr) 3% for every 5°C above 25°C or 1 1% for every 100 m above 915 or 3% fo

COMBUSTION AIR REQUIREMENTS

Flow	at	Rated	Power	ft ³ /min	(m ³ /min)	

Standby 190 (5.38)

ENGINE			EXHAUST		
		Standby			Standby
Rated Engine Speed	rpm	1,800	Exhaust Flow (Rated Output)	ft ³ /min (m ³ /min)	448 (12.7)
Horsepower at rated kW	HP	85	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 Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards. Standby - See Bulletin 0187500SSB

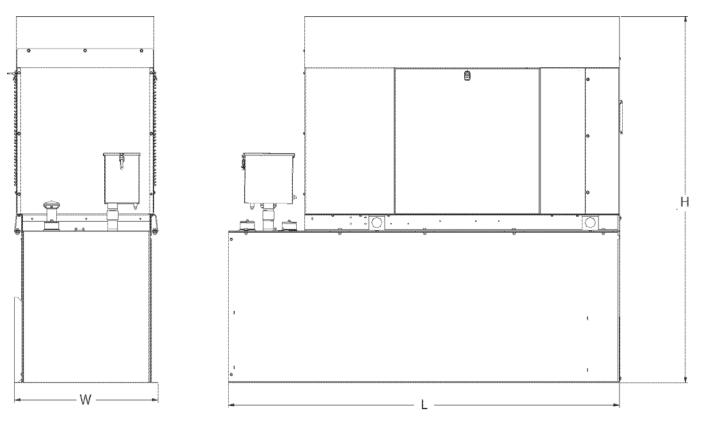


RD048 | 3.4L | 48 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

DIMENSIONS AND WEIGHTS*



ENCLOUSED UNIT with 48hour Tank

L x W x H in (mm)	95.4 (2,422) x 35.0 (880) x 89.3 (2,269)
Sound output in dB(A) at 23ft with generator operating at normal Load	65

* All measurements are approximate and for estimation purposes only.

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

5 of 5

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.





Series



Diesel Generator Set

INCLUDES:

- Two Line LCD Multilingual Digital Evolution™ Controller (English/Spanish/French/ Portuguese) with external viewing window for easy indication of generator status and breaker position.
- Isochronous Electronic Governor
- Sound Attenuated Aluminum Enclosure
- Smart Battery Charger
- UV/Ozone Resistant Hoses
- ±1% Voltage Regulation
- Integrated Base Tank Provides Up to 40 Hours of Run Time
- 5 Year Limited Warranty*
- UL 2200 / UL142 / ULC S601 Listed
- Meets code requirements for External Vent and Fill

Standby Power Rating

Model RD015 - 15 kW 60 Hz Model RD020 - 20 kW 60 Hz Model RD030 - 30 kW 60 Hz Model RD048 - 48 kW 60 Hz (single phase only) Model RD050 - 50 kW 60 Hz (three phase only)



Meets EPA Emission Regulations CA/MA Emissions Compliant

* 5 year warranty applicable to U.S. and Territories/Canada. International warranty is 3 year limited.

FEATURES

INNOVATIVE DESIGN & PROTOTYPE TESTING are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.

O TEST CRITERIA:

 $\sqrt{}$ PROTOTYPE TESTED $\sqrt{}$ SYSTEM TORSIONAL TESTED

 \checkmark NEMA MG1-22 EVALUATION \checkmark Motor starting ability

- SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION. This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine. Digital voltage regulation at $\pm 1\%$.
- SINGLE SOURCE SERVICE RESPONSE from Generac's extensive dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.
- GENERAC TRANSFER SWITCHES. Long life and reliability are synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems and controls for total system compatibility.





application & engineering data

15 • 20 • 30 • 48 • 50 kW

GENERATOR SPECIFICATIONS

Туре	Synchronous
Rotor Insulation Class	H (15 & 20 kW) or F (30, 48 & 50 kW)
Stator Insulation Class	Н
Telephone Interference Factor (TIF)	<50
Alternator Output Leads 1-Phase	3 wire
Alternator Output Leads 3-Phase	6 wire
Bearings	Single Sealed Cartridge
Coupling	Direct, Flexible Disc
Excitation System	Direct

VOLTAGE REGULATION

Туре	Electronic
Sensing	Single Phase
Regulation	± 1%
Features	Adjustable Voltage & Gain

GOVERNOR SPECIFICATIONS

Туре	Electronic Isochronous
Steady State Regulation	± 0.25%

ELECTRICAL SYSTEM

Battery Charge Alternator	50 Amp (15 & 20 kW) or 70 Amp (30, 48 & 50 kW) 2 Amp	
Smart Battery Charger		
Recommended Battery (battery not included)	Group 27F, 700 CCA	
System Voltage	12 Volts	

GENERATOR FEATURES

Revolving field heavy duty generator Directly connected to the engine Operating temperature rise 120°C above a 40°C ambient Class H insulation is NEMA rated Class F insulation is NEMA rated All models fully prototype tested

ENCLOSURE FEATURES

Aluminum weather protective enclosure	Ensures protection against mother nature. Electrostatically applied textured epoxy paint for added durability.	
Enclosed critical grade muffler	Quiet, critical grade muffler is mounted inside the unit to prevent injuries and maximize sound dampening.	
Small, compact, attractive	Makes for an easy, eye appealing installation.	
SAE	Sound attenuated enclosure ensures quiet operation.	

(All ratings in accordance with BS5514, ISO3046, ISO8528, SAE J1349 and DIN6271)

2 of 12

GENERAC

15 • 20 • 30 • 48 • 50 kW

ENGINE SPECIFICATIONS: 15 & 20 kW

Make	Generac
Model	In-line
Cylinders	4
Displacement (Liters)	2.28
Bore (in./mm)	3.46/88
Stroke (in./mm)	3.70/94
Compression Ratio	21.3:1
Intake Air System	Naturally Aspirated
Cylinder Head Type	Cast Iron OHV
Piston Type	Aluminum
EPA Emissions Compliance	Emergency Stationary

ENGINE SPECIFICATIONS: 30 kW

Make	Generac
Model	In-line
Cylinders	4
Displacement (Liters)	2.4
Bore (in/mm)	3.54/90
Stroke (in/mm)	3.70/94
Compression Ratio	21.3:1
Intake Air System	Turbocharged
Cylinder Head Type	Cast Iron OHV
Piston Type	Aluminum
EPA Emissions Compliance	Emergency Stationary

ENGINE SPECIFICATIONS: 48/50 kW

Make	Generac
Model	In-Line
Cylinders	4
Displacement (Liters)	3.4
Bore in/mm	3.86/98
Stroke in/mm	4.45/113
Compression Ratio	18.5:1
Intake Air System	Turbocharged/Aftercooled
Cylinder Head Type	Cast Iron OHV
Piston Type	Aluminum
EPA Emissions Compliance	Emergency Stationary

application & engineering data

ENGINE LUBRICATION SYSTEM

Oil Pump Type	Gear
Oil Filter Type	Full flow spin-on canister
Crankcase Capacity (quarts/liters)	6.87/6.5 - 15 & 20 kW
	6.8/6.4 - 30 kW
	7.4/7 - 48 & 50 kW

ENGINE COOLING SYSTEM

Туре	Pressurized radiator - 15 & 20 kW Closed recovery - 30, 48 & 50 kW
Water Pump	Pre-lubed, self-seating
Fan Speed (rpm)	1800 - 15 & 20 kW 2061 - 30 kW 2029 - 48 & 50 kW
Fan Diameter (in/mm)	18.11/460 (15 & 20 kW) 22/559 (30, 48 & 50 kW)
Fan Mode	Pusher

FUEL SYSTEM

Fuel Type	Ultra Low Sulfur Diesel Fuel
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 Specification	ASTM
Fuel Filtering (microns)	5 - 15, 20 & 30 kW 10 - 48 & 50 kW

TANK SPECIFICATIONS

Total Size (gallons/liters)	34/128.7 - 15 & 20 kW 62/234.7 - 30, 48 & 50 kW
Usable Size (gallons/liters)	32/121.1 - 15 & 20 kW 57/215.8 - 30, 48 & 50 kW
Run Time @ 1/2 Load (hrs)	41 - 15 kW 31 - 20 kW 38 - 30 kW 25 - 48 & 50 kW
Listings	UL142 ULC-S601

WEIGHTS AND DIMENSIONS

	15 kW	20 kW	30 kW	48 kW	50 kW
Weight (Ib/kg)	1380	/626	1927/874	2197	7/997
Dimensions (LxWxH) (in/cm)	81 x 31 x 50/205 x 78 x 128		95 x 35 x 57/242 x 89 x 145)

4 of 12

15 • 20 • 30 • 48 • 50 kW

GENERAC operating data

GENERATOR OUTPUT VOLTAGE/kW - 60 Hz

		kW (Standby)	Amp (Standby)	CB Size
	120/240 V, 1Ø, 1.0 pf	15	62	70
RD015	120/208 V, 3Ø, 0.8 pf	15	52	60
	120/240 V, 3Ø, 0.8 pf	15	45	50
	120/240 V, 1Ø, 1.0 pf	20	83	100
RD020	120/208 V, 3Ø, 0.8 pf	20	69	80
	120/240 V, 3Ø, 0.8 pf	20	60	70
	120/240 V, 1Ø, 1.0 pf	30	125	150
RD030	120/208 V, 3Ø, 0.8 pf	30	104	125
10000	120/240 V, 3Ø, 0.8 pf	30	90	100
	277/480 V, 3Ø, 0.8 pf	30	45	50
	120/240 V, 1Ø, 1.0 pf	48	200	200
RD048/	120/208 V, 3Ø, 0.8 pf	50	173	200
RD050	120/240 V, 3Ø, 0.8 pf	50	150	175
	277/480 V, 3Ø, 0.8 pf	50	75	90

SURGE CAPACITY IN AMPS

ENGINE FUEL CONSUMPTION

	Voltage Dip @ <) @ < .4 pf
		15%	30%
	120/240 V, 1Ø	53	129
RD015	120/208 V, 3Ø	37	90
_	120/240 V, 3Ø	32	78
	120/240 V, 1Ø	87	211
RD020	120/208 V, 3Ø	59	143
	120/240 V, 3Ø	51	124
	120/240 V, 1Ø	66	66 168
RD030	120/208 V, 3Ø	59	144
NU030	120/240 V, 3Ø	51	125
	277/480 V, 3Ø	26	64
	120/240 V, 1Ø	69	189
RD048/	120/208 V, 3Ø	90	218
RD050	120/240 V, 3Ø	78	189
	277/480 V, 3Ø	36	87

11.11

		gal/hr	L/hr
RD015	25% of rated load	0.51	1.93
	50% of rated load	0.79	2.99
	75% of rated load	1.14	4.31
	100% of rated load	1.48	5.58
RD020	25% of rated load	0.67	2.6
	50% of rated load	1.05	3.97
	75% of rated load	1.52	5.32
	100% of rated load	1.98	7.48
RD030	25% of rated load	0.92	3.5
	50% of rated load	1.45	5.5
	75% of rated load	1.96	7.4
	100% of rated load	2.74	10.4
RD048/	25% of rated load	1.35	5.11
	50% of rated load	2.15	8.14
RD050	75% of rated load	3.06	11.58
	100% of rated load	3.98	15.07

STANDBY RATING: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046-1. Design and specifications are subject to change without notice.

GENERAC

15 • 20 • 30 • 48 • 50 kW

operating data

ENGINE COOLING

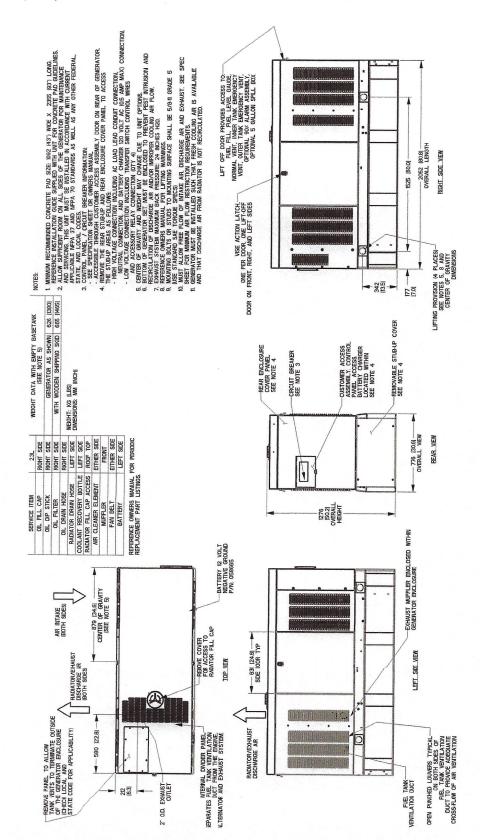
	15 kW	20 kW	30 kW	48/50 kW
Air flow (inlet air including alternator and combustion air in cfm/cmm)	2824/80	2824/80	3038/86	2824/80
System coolant capacity (gal/liters)	2.8/10.6	2.8/10.6	2.8/10.6	2.8/10.6
Heat rejection to coolant (BTU per hr/MJ per hr)	63,535/67	63,535/67	111,000/117.1	135,900/143.4
Maximum operation air temperature on radiator (°C/°F)		50,	/122	
Maximum ambient temperature (°C/°F)	50/122			
COMBUSTION REQUIREMENTS				
Flow at rated power (cfm/cmm)	84.76/2.4	84.76/2.4	90/2.55	190/5.38
SOUND EMISSIONS				
Sound output in dB(A) at 23 ft (7 m) with generator in exercise mode*	65			
Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load*			70	
*Sound levels are taken from the front of the generator. Sound levels taken from other sides of the ge			meters.	
Exhaust flow at rated output (cfm/cmm)	98.88/2.8	98.88/2.8	230/6.51	448/12.7
Exhaust temperature at rated output (°C/°F)	604.4/1120	604.4/1120	454.4/850	604.4/1120
NGINE PARAMETERS				
Rated Synchronous RPM		1800		
HP at rated kW	26.4	33.5	49	85
emperature Deration Ititude Deration (15, 30, 48 & 50 kW)	1% for ever	v 100 m above 915	m or 3% for every 10	00 ft above 3000 i
OWER ADJUSTMENT FOR AMBIENT CONDITIONS emperature Deration Ititude Deration (15, 30, 48 & 50 kW) Ititude Deration (20 kW) ONTROLLER FEATURES	1% for ever	v 100 m above 915	m or 3% for every 10	00 ft above 3000 t
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15 & 20 kW

GENERAC

installation layout

Drawing #0K7025-C (1 of 2)



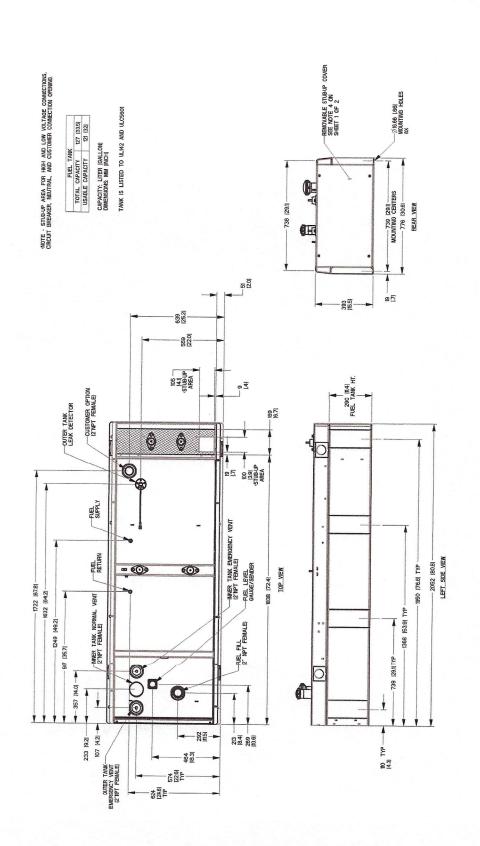
6 of 12

15 & 20 kW

GENERAC

installation layout

Drawing #0K7025-C (2 of 2)

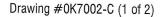


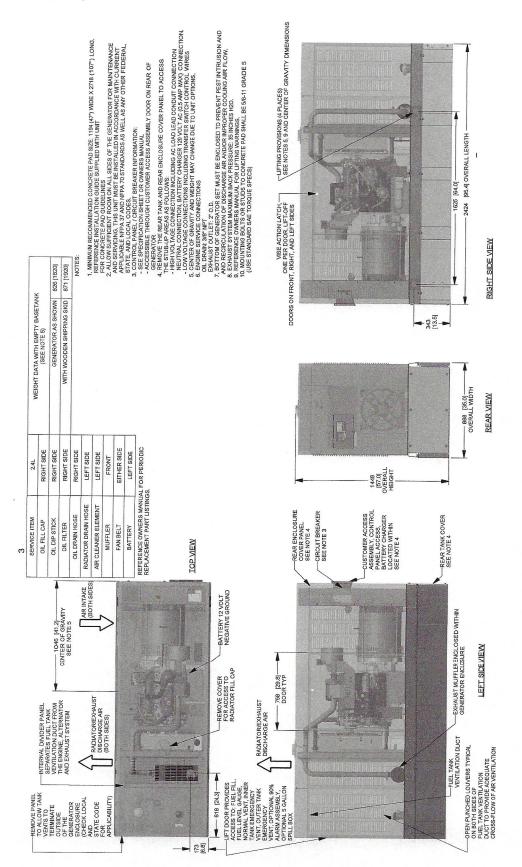
8 of 12

30 kW

GENERAC

installation layout



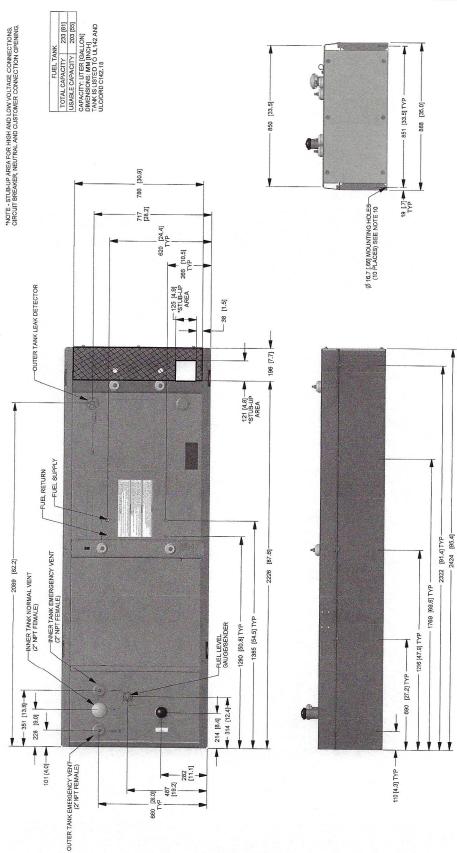




installation layout

Drawing #0K7002-B (2 of 2)

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30 kW

Protector[™] Series

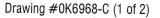
9 of 12

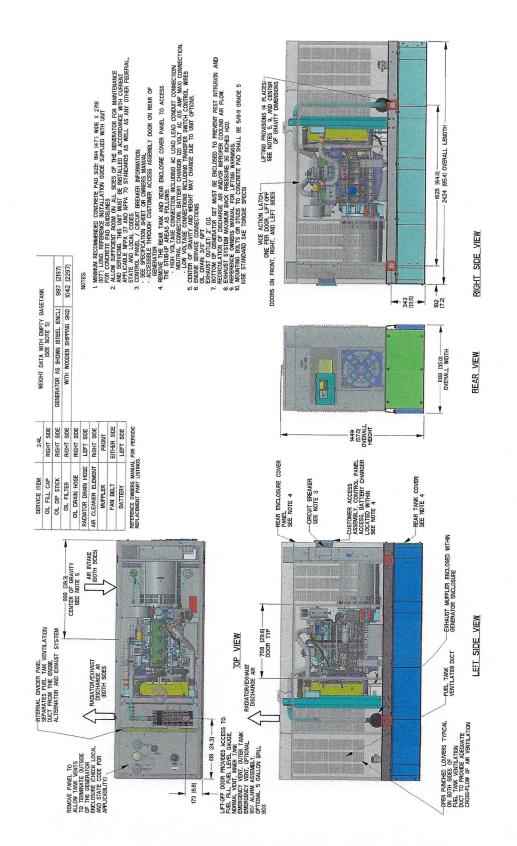
48 & 50 kW

GENERAC

installation layout

Protector TM Series

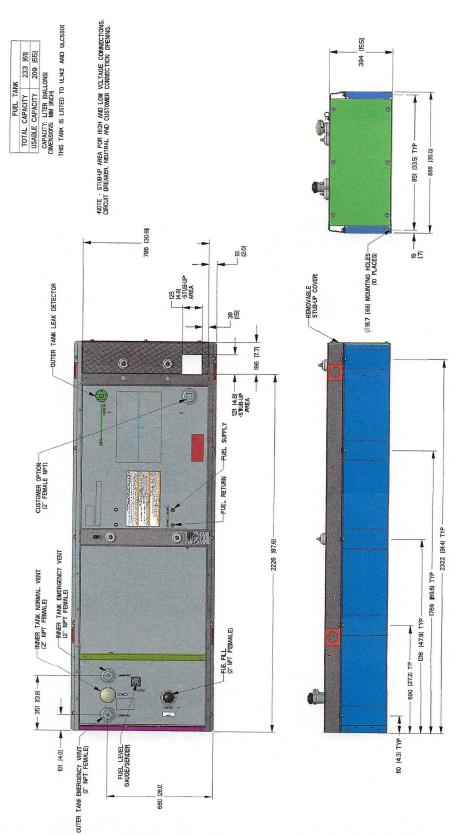




GENERAC

installation layout

Drawing #0K6968-A (2 of 2)



48 & 50 kW



15 • 20 • 30 • 48 • 50 kW

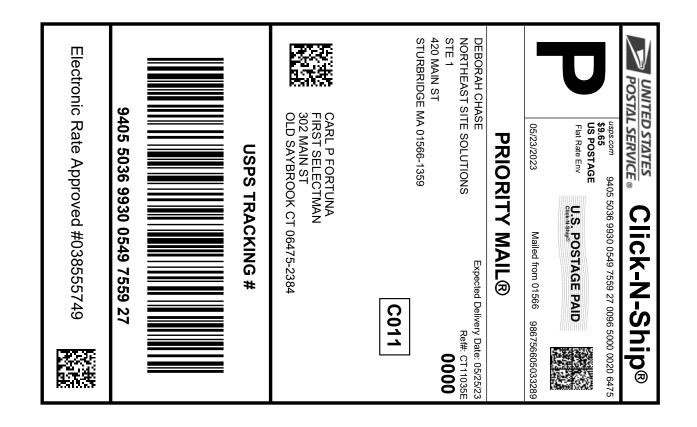
available accessories

Model #	Product	Description
G006463-4	Mobile Link™	Generac's Mobile Link allows you to check the status of your generator from anywhere that you have access to an Internet connection from a PC or with any smart device. You will even be notified when a change in the generator's status occurs via e-mail or text message. Note: Harness Adapter Kit required. Available in the U.S. only.
G006478-0	Harness Adapter Kit	The Harness Adapter Kit is required to make liquid-cooled units compatible with Mobile Link™.
G006502-0	Spill Box	The 5-gallon spill box screws into the existing fuel fill port of the base tank. It captures and contains fuel if over fueling or spilling occurs during the fill process.
G006504-0	90% Fuel Level Alarm	The 90% fuel level alarm alerts the fuel fill operator when the tank reaches a 90% fill level by sounding an audible alarm and triggering an LED warning light.
G006505-0 - 15 & 20 kW G006506-0 - 30, 48 & 50 kW	Tank Risers	Tank risers are required in some municipalities to help avoid potential base tank corrosion caused by mounting on rough surfaces.
G006507-0	Fuel Fill Drop Tube	A powder coat painted, steel fuel fill drop tube is required in some municipalities to prevent sparking due to static electricity buildup, which can be caused by the fuel dropping into the tank from the fill area. Using a drop tube also results in submerged filling, which increases the fuel delivery flow rate and reduces vapors, foam and potential tank evaporation.
G006513-0 - 15 & 20 kW G006517-0 - 30 kW G006516-0 - 48 & 50 kW	Stainless Steel Fuel Lines	Some municipalities require the use of stainless steel fuel lines instead of the standard hoses provided with the diesel generator products. These stainless steel lines are fire resistant for additional safety.
G006510-0	E-Stop	E-stop allows for immediate fuel shutoff and generator shutdown in the event of an emergency.
006511-0	Spill Box Drainback Kit	The spill box drainback kit allows fuel that was captured in the 5-gallon spill box to be drained directly back into the fuel tank to avoid vapors.
G006588-1	Vent Extension Support Kit	The vent extension support kit consists of two aluminum plates with the appropriate pipe cutouts to secure the vent extension pipes coming through the top of the generator enclosure. It helps to minimize stress on the NPT fittings integrated on the tank and also helps protect against pests.
G006512-0	Lockable Fuel Cap	The cast iron, lockable fuel cap provides the ability to lock the fuel system to prevent unwanted fuel tampering or fuel siphoning.
G006572-0 - 15 & 20 kW G006571-0 - 30 kW G006570-0 - 48 & 50 kW	Maintenance Kits	The Protector Maintenance Kits offer all the hardware necessary to perform complete maintenance on Generac Protector generators.
G006560-0 - 15 & 20 kW G006559-0 - 30 kW G006558-0 - 48 & 50 kW	Cold Weather Kits	Recommended for generators installed in regions where the temperature regularly falls below 32 °F (0 °C). The Cold Weather Kits consist of a block heater with all necessary mounting hardware and a battery warmer with a thermostat built into the battery wrap.
G005704-0	Paint Kit	If the generator enclosure is scratched or damaged, it is important to touch-up the paint to protect from future corrosion. The paint kit includes the necessary paint to properly maintain or touch-up a generator enclosure.
G006664-0	Local Wireless Remote	Completely wireless and battery powered, Generac's wireless remote monitor provides you with instant status information without ever leaving the house.
G006665-0	Wireless Remote Extension Harness	Recommended for use with the Wireless Remote on units up to 60 kW, required for use on units 70 kW or greater.
G006873-0	Smart Management Module (50 Amps)	Manage large loads by utilizing up to 8 individual Smart Management modules. These devices are installed directly in line with existing appliance wiring for easy installation.





Exhibit E

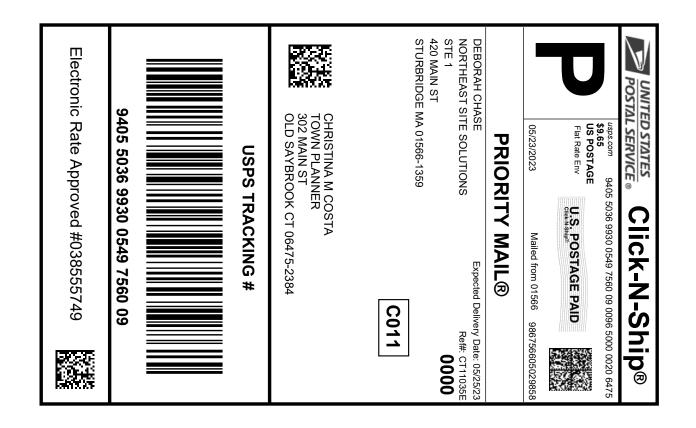


Instructions

- 1. Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
- 2. Place your label so it does not wrap around the edge of the package.
- 3. Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
- 4. To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
- 5. Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING #: 9405 5036 9930 0549 7559 27 Priority Mail® Postage: \$9.65 588860997 05/23/2023 05/23/2023 Trans. #: Total. \$9.65 Print Date: Ship Date: Expected 05/25/2023 Delivery Date: From: DEBORAH CHASE Ref#: CT11035E NORTHEAST SITE SOLUTIONS STE 1 420 MAIN ST STURBRIDGE MA 01566-1359 CARL P FORTUNA To: FIRST SELECTMAN 302 MAIN ST OLD SAYBROOK CT 06475-2384 * Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

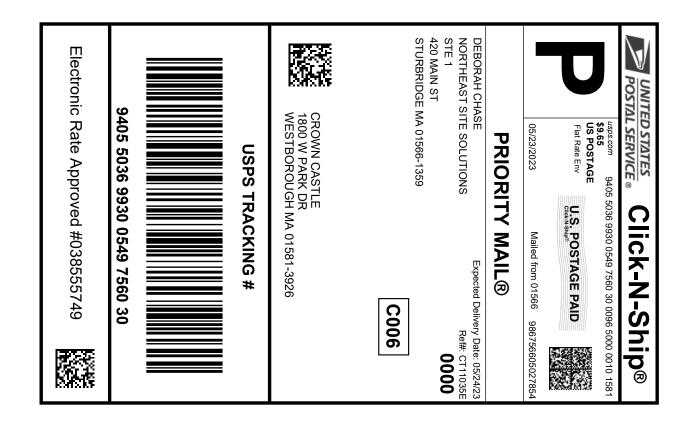


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Click-N-Ship® Label Record

USPS TRACKING #: 9405 5036 9930 0549 7560 09 Priority Mail® Postage: \$9.65 588860997 05/23/2023 05/23/2023 Trans. #: Total. \$9.65 Print Date: Ship Date: Expected 05/25/2023 Delivery Date: From: DEBORAH CHASE Ref#: CT11035E NORTHEAST SITE SOLUTIONS STE 1 420 MAIN ST STURBRIDGE MA 01566-1359 To: CHRISTINA M COSTA TOWN PLANNER 302 MAIN ST OLD SAYBROOK CT 06475-2384 * Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

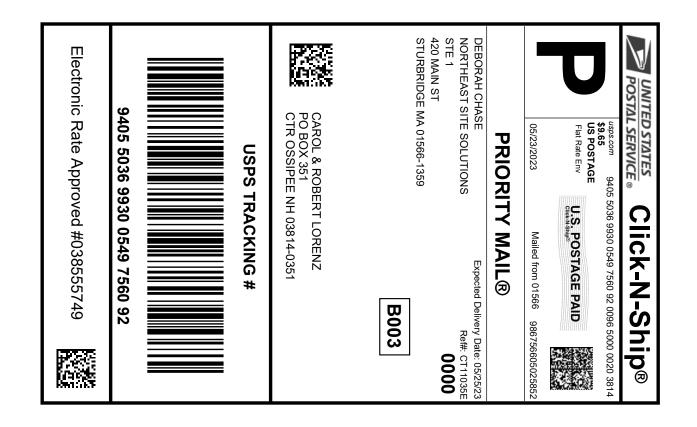


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- 5. Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING #: 9405 5036 9930 0549 7560 30 Priority Mail® Postage: \$9.65 588860997 05/23/2023 05/23/2023 Trans. #: Total. \$9.65 Print Date: Ship Date: Expected Delivery Date: 05/24/2023 From: DEBORAH CHASE Ref#: CT11035E NORTHEAST SITE SOLUTIONS STE 1 420 MAIN ST STURBRIDGE MA 01566-1359 To: **CROWN CASTLE** 1800 W PARK DR WESTBOROUGH MA 01581-3926 * Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.



Instructions

- 1. Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
- 2. Place your label so it does not wrap around the edge of the package.
- 3. Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
- 4. To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
- 5. Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING #: 9405 5036 9930 0549 7560 92 Priority Mail® Postage: \$9.65 588860997 05/23/2023 05/23/2023 Trans. #: Total. \$9.65 Print Date: Ship Date: Expected 05/25/2023 Delivery Date: From: DEBORAH CHASE Ref#: CT11035E NORTHEAST SITE SOLUTIONS STE 1 420 MAIN ST STURBRIDGE MA 01566-1359 To: CAROL & ROBERT LORENZ PO BOX 351 CTR OSSIPEE NH 03814-0351 * Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.



FISKDALE 458 MAIN ST FISKDALE, MA 01518-9998 (800)275-8777

05/24/2023	0)2/5-8	3///	09:51 AM
Product		Unit Price	Price
	1 T 06475 .90 oz : 023		\$0.00
Prepaid Mail Old Saybrook, C Weight: O lb 9 Acceptance Date Wed 05/24/2 Tracking #: 9405 5036 9	.00 oz : 023		\$0.00
Prepaid Mail Westborough, MA Weight: O lb 9 Acceptance Date Wed 05/24/20 Tracking #: 9405 5036 99	1 01581 .00 oz : 023		\$0.00
Prepaid Mail Center Ossipee, Weight: O lb 9 Acceptance Date Wed 05/24/20 Tracking #: 9405 5036 95	.00 oz :)23		\$0.00
Grand Total:			\$0.00

Text your tracking number to 28777 (2USPS) to get the latest status. Standard Message and Data rates may apply. You may also visit www.usps.com USPS Tracking or call 1-800-222-1811.

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or call 1-800-410-7420.

UFN: 242703-0518 Receipt #: 840-50180227-1-4323839-1 Clerk: 1