

INDUSTRIAL AVE,  
SUITE 3  
MAHWAH NJ 07430  
PHONE: 201.684.0055  
FAX: 201.684.0066



November 2, 2021

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

RE: Notice of Exempt Modification  
59 Youngs Apple Orchard Road, North Branford, CT 06472  
Latitude: 41.251580  
Longitude: -72.445761  
T-Mobile Site#: CT11224A - Hardening

Dear Ms. Bachman:

T-Mobile currently maintains three (3) antennas at the 97-foot level of the existing 130-foot lattice tower at 59 Youngs Apple Orchard Road, North Branford, CT. The 130-foot lattice tower is owned and operated by Everest Infrastructure Partners. The property is owned by Southern New England Telephone Company. T-Mobile now intends to add a 48Kw generator to a proposed 10'x4' concrete pad within the existing compound.

**Planned Modifications:**

**Ground:**

Install New:

- (1) Generac RD048 48 Kw AC Diesel Generator - 240 gallon double walled self-contained tank with fuel sensor. Requires (2) 12-minute run cycles by-weekly.
- (1) 10' x 4' Concrete Pad

There is no record of an original approval from the Siting Council for this facility. The Town of North Branford Zoning Enforcement Officer, Tom Hogarty, confirmed the town does not maintain a record of the original approval of the facility. This correspondence is enclosed.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16- SOj-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 Town Manager, Michael Paulhus, Appointed Official, and Cary Duques, Town Planner, as well as the tower 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,

**Eric Breun**

Transcend Wireless

Cell: 201-658-7728

Email: [ebreun@transcendwireless.com](mailto:ebreun@transcendwireless.com)

Attachments

cc: Michael Paulhus - North Branford Town Manager

Cary Duques - North Branford Town Planner

Everest Infrastructure Partners - Tower Owner

Southern New England Telephone Company - Property Owner

ERIC BREUN  
2016587728  
10 INDUSTRIAL AVE  
MAHWAH NJ 07430

1 LBS

1 OF 1

**SHIP TO:**  
EVEREST INFRASTRUCTURE PARTNERS  
SUITE 703  
NOVA TOWER 2  
2 ALLEGHENY CENTER  
**ALLEGHENY PA 15212**



**PA 152 9-42**



**UPS GROUND**

TRACKING #: 1Z V25 742 03 9339 3181



BILLING: P/P

Reference #1: CT11224A

XOL 21-10-07 NV45-44.0A 10/2021\*



TM

ERIC BREUN  
2016587728  
10 INDUSTRIAL AVE  
MAHWAH NJ 07430

1 LBS

1 OF 1

**SHIP TO:**  
SOUTHERN NEW ENGLAND TELEPHONE CO  
401 MERRITT 7  
**NORWALK CT 06851**



**CT 069 9-04**



**UPS GROUND**

TRACKING #: 1Z V25 742 03 9071 9174



BILLING: P/P

Reference #1: CT11224A

XOL 21-10-07 NV45-44.0A 10/2021\*



TM

ERIC BREUN  
2016587728  
10 INDUSTRIAL AVE  
MAHWAH NJ 07430

1 LBS

1 OF 1

**SHIP TO:**  
CARY DUQUES  
909 FOXON ROAD  
NORTH BRANFORD CT 06471



**CT 065 2-01**



**UPS GROUND**

TRACKING #: 1Z V25 742 03 9415 3205



BILLING: P/P

Reference #1: CT11224A

XOL 21.10.07 NV45-44.0A 10/2021\*



TM

ERIC BREUN  
2016587728  
10 INDUSTRIAL AVE  
MAHWAH NJ 07430

1 LBS

1 OF 1

**SHIP TO:**  
MICHAEL PAULHUS  
909 FOXON ROAD  
NORTH BRANFORD CT 06471



**CT 065 2-01**



**UPS GROUND**

TRACKING #: 1Z V25 742 03 9067 1199



BILLING: P/P

Reference #1: CT11224A

XOL 21.10.07 NV45-44.0A 10/2021\*



TM

**Hello, your package has been delivered.**

**Delivery Date:** Friday, 10/29/2021

**Delivery Time:** 10:27 AM

**Left At:** FRONT DESK

**Signed by:** ATCHISON

**TRANSCEND WIRELESS**

**Tracking Number:** [1ZV257420393393181](#)

**Ship To:** EVEREST INFRASTRUCTURE PARTNERS  
2 ALLEGHENY CENTER  
NOVA TOWER 2  
SUITE 703  
ALLEGHENY, PA 15212  
US

**Number of Packages:** 1

**UPS Service:** UPS Ground

**Package Weight:** 1.0 LBS

**Reference Number:** [CT11224A](#)

**Hello, your package has been delivered.**

**Delivery Date:** Thursday, 10/28/2021

**Delivery Time:** 11:01 AM

**Left At:** RECEIVER

**Signed by:** SOF

**TRANSCEND WIRELESS**

**Tracking Number:** [1ZV257420390719174](#)

**Ship To:** SOUTHERN NEW ENGLAND TELEPHONE CO  
401 MERRITT 7  
NORWALK, CT 06851  
US

**Number of Packages:** 1

**UPS Service:** UPS Ground

**Package Weight:** 1.0 LBS

**Reference Number:** [CT11224A](#)

**Hello, your package has been delivered.**

**Delivery Date:** Thursday, 10/28/2021

**Delivery Time:** 10:25 AM

**Left At:** RECEIVER

**Signed by:** GINA

**TRANSCEND WIRELESS**

**Tracking Number:** [1ZV257420390671199](#)

**Ship To:** MICHAEL PAULHUS  
909 FOXON ROAD  
NORTH BRANFORD, CT 06471  
US

**Number of Packages:** 1

**UPS Service:** UPS Ground

**Package Weight:** 1.0 LBS

**Reference Number:** [CT11224A](#)

**Hello, your package has been delivered.**

**Delivery Date:** Thursday, 10/28/2021

**Delivery Time:** 10:26 AM

**Left At:** RECEIVER

**Signed by:** LYNN

**TRANSCEND WIRELESS**

**Tracking Number:** [1ZV257420394153205](#)

**Ship To:** CARY DUQUES  
909 FOXON ROAD  
NORTH BRANFORD, CT 06471  
US

**Number of Packages:** 1

**UPS Service:** UPS Ground

**Package Weight:** 1.0 LBS

**Reference Number:** [CT11224A](#)

# 59 YOUNGS APPLE ORCH

[Sales](#)
[Print](#)
[Field Card](#)
[Map It](#)

<b>Location</b>	59 YOUNGS APPLE ORCH	<b>Mblu</b>	81/ 23/ //
<b>Acct#</b>	003797	<b>Owner</b>	SOUTHERN NEW ENGLAND TEL CO
<b>Assessment</b>	\$84,500	<b>Appraisal</b>	\$120,700
<b>PID</b>	5034	<b>Building Count</b>	1

## Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2020	\$0	\$120,700	\$120,700

Assessment			
Valuation Year	Improvements	Land	Total
2020	\$0	\$84,500	\$84,500

## Owner of Record

<b>Owner</b>	SOUTHERN NEW ENGLAND TEL CO	<b>Sale Price</b>	\$0
<b>Co-Owner</b>	C/O FRONTIER COMM ATT: TAX DEPT	<b>Certificate</b>	
<b>Address</b>	401 MERRITT 7	<b>Book &amp; Page</b>	0035/0296
	NORWALK, CT 06851	<b>Sale Date</b>	02/21/1958

## Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
SOUTHERN NEW ENGLAND TEL CO	\$0		0035/0296	02/21/1958

## Building Information

### Building 1 : Section 1

Year Built:  
Living Area: 0  
Replacement Cost: \$0  
Building Percent Good:  
Replacement Cost  
Less Depreciation: \$0

Building Attributes	
Field	Description
Style:	Outbuildings
Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Num Kitchens	
Cndtn	
Num Park	

### Building Photo



### Building Layout

 Building Layout

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	



**Extra Features**

Extra Features		<a href="#">Legend</a>
No Data for Extra Features		

**Land**

Land Use		Land Line Valuation	
Use Code	504V	Size (Acres)	0.36
Description	PUB UTIL MDL-00 ⓘ	Frontage	0
Zone	R40	Depth	0
Neighborhood		Assessed Value	\$84,500
Alt Land Appr Category	No	Appraised Value	\$120,700

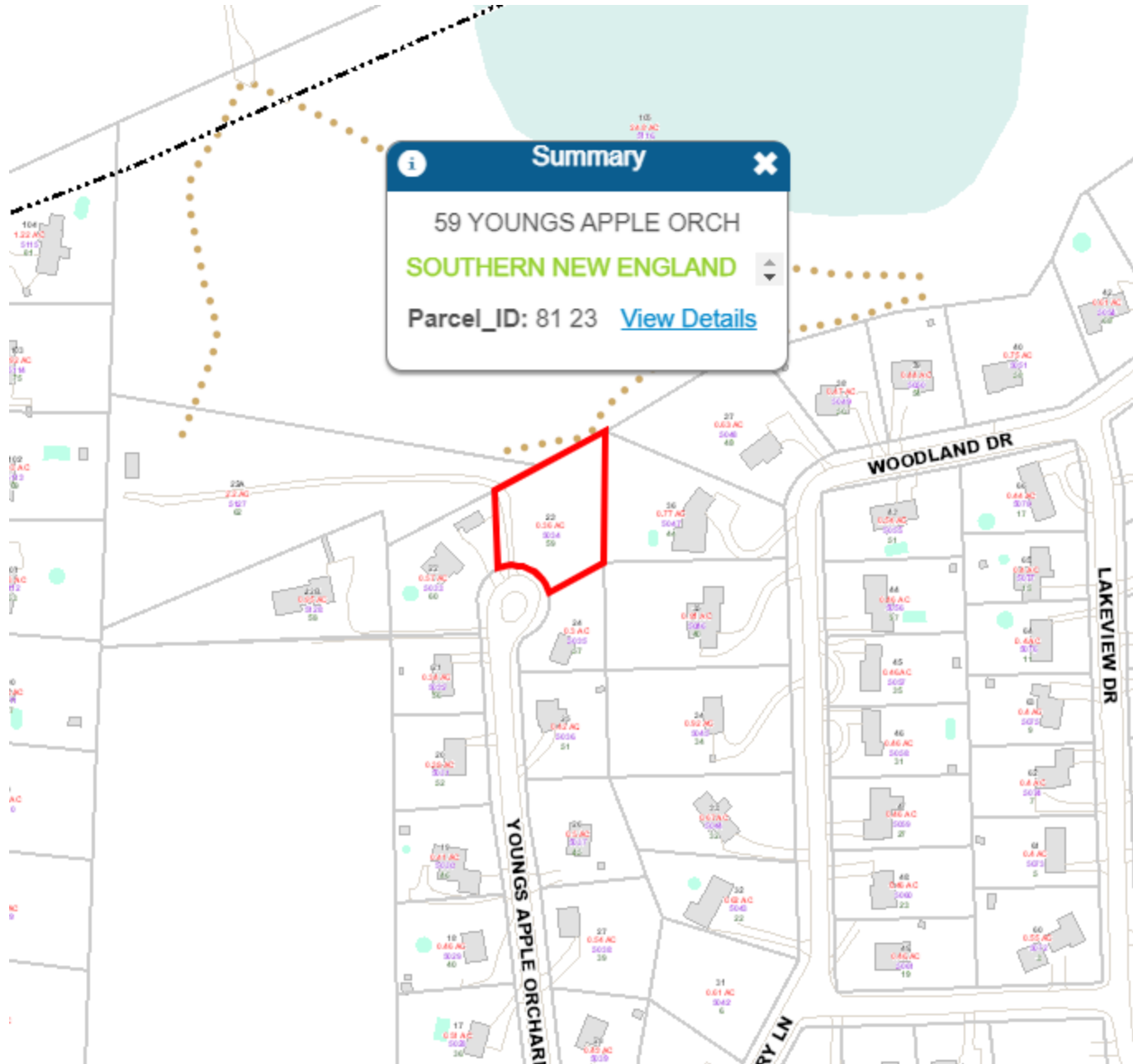
**Outbuildings**

Outbuildings		<a href="#">Legend</a>
No Data for Outbuildings		

**Valuation History**

Appraisal			
Valuation Year	Improvements	Land	Total
2019	\$0	\$117,200	\$117,200
2018	\$0	\$117,200	\$117,200
2017	\$0	\$117,200	\$117,200

Assessment			
Valuation Year	Improvements	Land	Total
2019	\$0	\$82,000	\$82,000
2018	\$0	\$82,000	\$82,000
2017	\$0	\$82,000	\$82,000



**Summary**

59 YOUNGS APPLE ORCH  
SOUTHERN NEW ENGLAND  
Parcel\_ID: 81 23 [View Details](#)

## Kyle Richers

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**From:** Tom Hogarty <[zeo@townofnorthbranfordct.com](mailto:zeo@townofnorthbranfordct.com)>  
**Sent:** Thursday, June 13, 2019 1:25 PM  
**To:** 'Kyle Richers'  
**Subject:** RE: T-Mobile Site at 59 Youngs Apple Orchard Road -- Original Zoning Approval -- CT11224A

Kyle, I am not finding any documentation for zoning approval for 59 Youngs Apple Orchard cell tower location.

Tom Hogarty, CZEO  
Zoning Enforcement Officer  
909 Foxon Road  
North Branford, CT 06471-1290

203-484-6010

[zeo@townofnorthbranfordct.com](mailto:zeo@townofnorthbranfordct.com)

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**From:** Kyle Richers [<mailto:krichers@transcendwireless.com>]  
**Sent:** Monday, June 10, 2019 1:20 PM  
**To:** 'Tom Hogarty' <[zeo@townofnorthbranfordct.com](mailto:zeo@townofnorthbranfordct.com)>; [townplanner@townofnorthbranfordct.com](mailto:townplanner@townofnorthbranfordct.com)  
**Subject:** RE: T-Mobile Site at 59 Youngs Apple Orchard Road -- Original Zoning Approval -- CT11224A

Tom,

Ideally an approval for the initial installation for T-Mobile or when the tower was originally built. I believe the T-Mobile facility was installed around 1997/1998 and the tower was built prior to that (T-Mobile was "Omnipoint Communications" back then). I know that dates back quite some time, if you have anything let me know. Thanks for looking.

Kyle

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**From:** Tom Hogarty <[zeo@townofnorthbranfordct.com](mailto:zeo@townofnorthbranfordct.com)>  
**Sent:** Monday, June 10, 2019 12:52 PM  
**To:** 'Kyle Richers' <[krichers@transcendwireless.com](mailto:krichers@transcendwireless.com)>; [townplanner@townofnorthbranfordct.com](mailto:townplanner@townofnorthbranfordct.com)  
**Subject:** RE: T-Mobile Site at 59 Youngs Apple Orchard Road -- Original Zoning Approval -- CT11224A

Kyle: There are quite a few documents on micro film. Attached are a few examples of what we have. Is there anything specific you need?

Tom Hogarty, CZEO  
Zoning Enforcement Officer  
909 Foxon Road  
North Branford, CT 06471-1290

203-484-6010

[zeo@townofnorthbranfordct.com](mailto:zeo@townofnorthbranfordct.com)

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**From:** Kyle Richers [<mailto:krichers@transcendwireless.com>]

**Sent:** Monday, June 10, 2019 12:11 PM

**To:** [townplanner@townofnorthbranfordct.com](mailto:townplanner@townofnorthbranfordct.com); [zeo@townofnorthbranfordct.com](mailto:zeo@townofnorthbranfordct.com)

**Subject:** T-Mobile Site at 59 Youngs Apple Orchard Road -- Original Zoning Approval -- CT11224A

Carey/Tom,

I am reaching out on behalf of T-Mobile regarding their site located at 59 Youngs Apple Orchard Road (cell tower). I am wondering if by any chance you had any record of the original planning/zoning approval by the town for this facility. We are gearing up for a filing with the Connecticut Siting Council for an antenna modification. We typically include some information on the original zoning approval, whether it was from the Council or the jurisdiction. In this case it does not appear the Council was involved with approving this facility originally, so I am wondering if the town had something on record about this. Let me know either way if possible. If you do not show any records, please just confirm that in an email and that would be sufficient. Thank you for your help.

Property card is attached for reference.

Kyle Richers

Transcend Wireless

10 Industrial Ave., Suite 3

Mahwah, New Jersey 07430

908-447-4716

[krichers@transcendwireless.com](mailto:krichers@transcendwireless.com)



# T-Mobile

## SITE NAME: GUILFORD-1\_1

## SITE ID: CT11224A

## 59 YOUNGS APPLE ORCHARD ROAD

## NORTH BRANFORD, CT 06472

### GENERAL NOTES

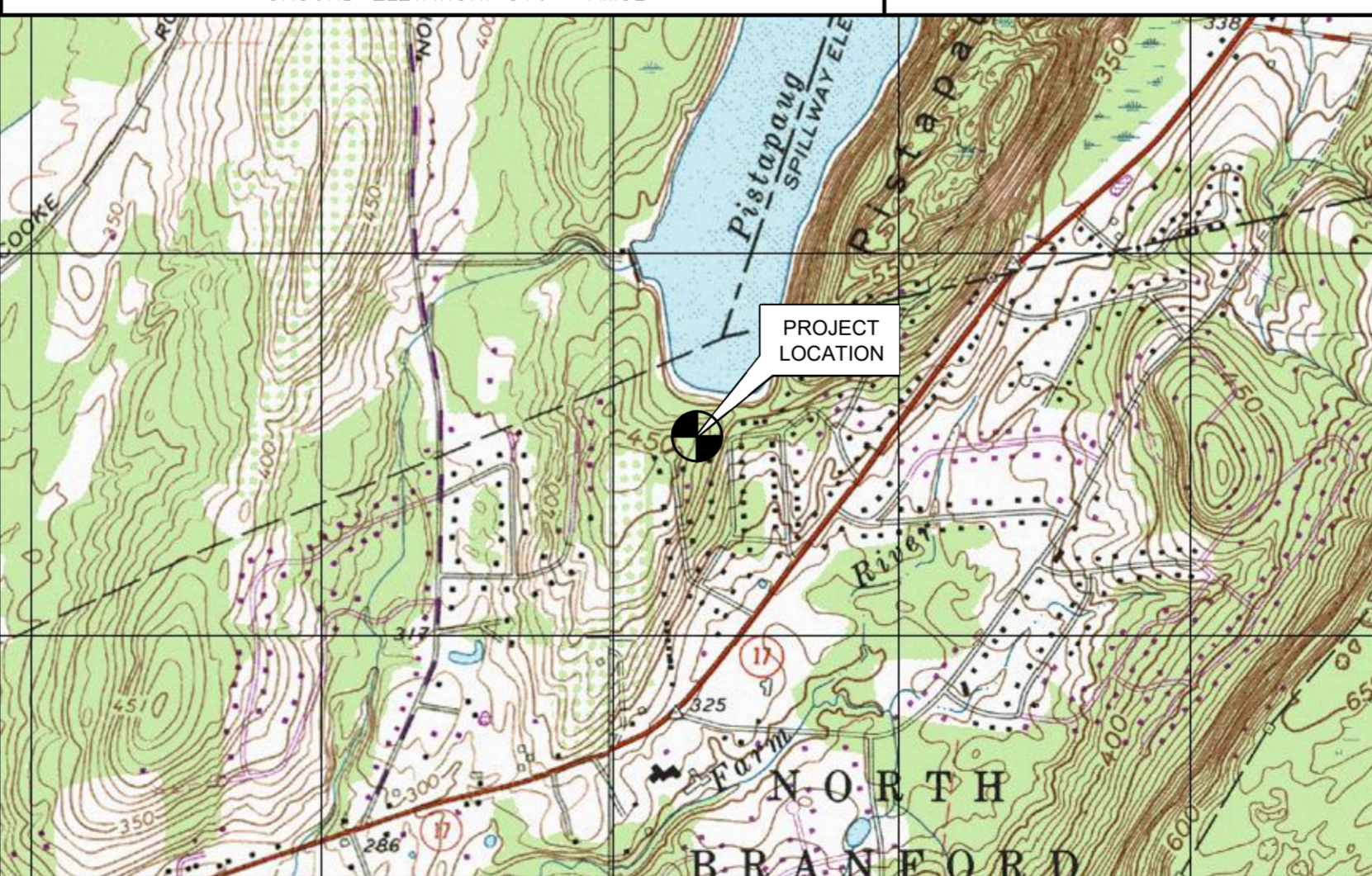
- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>ALL WORK SHALL BE IN ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2018 CONNECTICUT SUPPLEMENT, INCLUDING THE TIA/EIA-222 REVISION "G" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES." 2017 CONNECTICUT FIRE SAFETY CODE, NATIONAL ELECTRICAL CODE AND LOCAL CODES.</li> <li>CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.</li> <li>CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.</li> <li>CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.</li> <li>CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL, AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.</li> <li>CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN "AS-BUILT" SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.</li> <li>LOCATION OF EQUIPMENT AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS, SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.</li> <li>THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY.</li> <li>DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.</li> </ol> | <ol style="list-style-type: none"> <li>ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.</li> <li>ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.</li> <li>ANY AND ALL ERRORS, DISCREPANCIES, AND 'MISSED' ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE T-MOBILE CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO 'EXTRA' WILL BE ALLOWED FOR MISSED ITEMS.</li> <li>CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.</li> <li>CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.</li> <li>THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.</li> <li>COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUITS AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.</li> <li>ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.</li> <li>THE CONTRACTOR SHALL CONTACT 'CALL BEFORE YOU DIG' AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.</li> <li>CONTRACTOR SHALL COMPLY WITH THE OWNER'S ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.</li> </ol> |
|--|---|

### SITE DIRECTIONS

- |  |   |
|--|---|
| <b>FROM:</b> 35 GRIFFIN ROAD SOUTH<br>BLOOMFIELD, CT 06002 | <b>TO:</b> 59 YOUNGS APPLE ORCHARD RD<br>NORTH BRANFORD, CT 06472 |
|--|---|
1. HEAD SOUTHEAST ON W NEWBERRY RD TOWARD GRIFFIN RD S. 0.01 MI.
  2. TURN LEFT ONTO GRIFFIN RD S. 0.60 MI.
  3. TURN RIGHT ONTO DAY HILL RD. 3.60 MI.
  4. USE THE RIGHT LANE TO MERGE ONTO I-91 S VIA THE RAMP TO HARTFORD. 0.40 MI.
  5. MERGE ONTO I-91 S. 32.30 MI.
  6. TAKE EXIT 14 FOR E CENTER ST TOWARD CT-150/WALLINGFORD. 0.20 MI.
  7. TURN LEFT ONTO E CENTER ST. 0.70 MI.
  8. TURN RIGHT ONTO NORTHFORD RD. 1.90 MI.
  9. CONTINUE ONTO WOODS HILL RD. 0.40 MI.
  10. TURN LEFT ONTO CT-17 N. 1.6 MI.
  11. TURN LEFT ONTO YOUNGS APPLE ORCHARD RD. 0.30 MI.

SITE COORDINATES: LATITUDE: 41°-25'-15.80" N  
LONGITUDE: 72°-44'-57.61" W  
GROUND ELEVATION: 516'± AMSL

COORDINATES AND GROUND ELEVATION ARE REFERENCED FROM GOOGLE EARTH



**VICINITY MAP**

### PROJECT SUMMARY

- THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:
  - INSTALL (1) NEW 48 KW DIESEL FUELED BACK-UP GENERATOR WITHIN THE EXISTING COMPOUND
  - INSTALL (1) 200A AUTOMATIC TRANSFER SWITCH MOUNTED TO THE EXTERIOR OF THE SHELTER

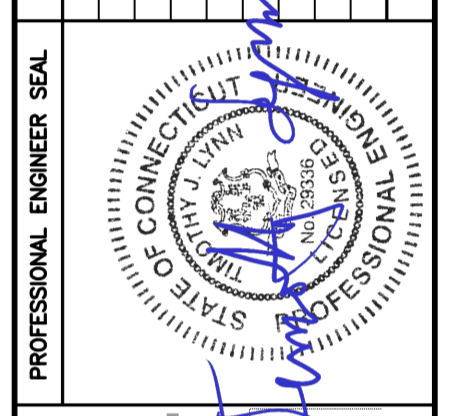
### PROJECT INFORMATION

SITE NAME:	GUILFORD-1_1
SITE ID:	CT11224A
SITE ADDRESS:	59 YOUNGS APPLE ORCHARD RD NORTH BRANFORD, CT 06472
APPLICANT:	T-MOBILE NORTHEAST, LLC 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002
CONTACT PERSON:	DAN REID (PROJECT MANAGER) TRANSCEND WIRELESS, LLC (203) 592-8291
ENGINEER OF RECORD:	CEN TEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT 06405
	CARLO F. CENTORE, PE (203) 488-0580 EXT. 122
PROJECT COORDINATES:	LATITUDE: 41°-25'-15.80" N LONGITUDE: 72°-44'-57.61" W GROUND ELEVATION: 516'± AMSL
	SITE COORDINATES AND GROUND ELEVATION REFERENCED FROM GOOGLE EARTH.

### SHEET INDEX

SHT. NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	0
N-1	GENERAL NOTES AND SPECIFICATIONS	0
C-1	COMPOUND PLAN AND EQUIPMENT PLANS	0
C-2	TYPICAL EQUIPMENT DETAILS	0
C-3	TYPICAL CONDUIT PENETRATION DETAILS	0
E-1	ELECTRICAL RISER DIAGRAM AND CONDUIT ROUTING	0
E-2	ELECTRICAL SPECIFICATIONS	0

REV.	DATE	R/S	D/R	CHK'D BY	DESCRIPTION
0	10/25/21				CONSTRUCTION DRAWINGS



**CEN TEK** engineering  
Centered on Solutions

(203) 488-0580  
(203) 488-8587 Fax  
632 North Branford Road  
Branford, CT 06405  
www.CenTekEng.com

**T-MOBILE NORTHEAST LLC**

**SITE NAME: GUILFORD-1\_1**

**SITE ID: CT11224A**

**59 YOUNGS APPLE ORCHARD RD**  
**NORTH BRANFORD, CT 06472**

DATE: 09/14/21  
SCALE: AS NOTED  
JOB NO. 21003.34

TITLE SHEET

# T-1

Sheet No. 1 of 7



**NOTES AND SPECIFICATIONS**

**DESIGN BASIS:**

GOVERNING CODE: 2015 INTERNATIONAL BUILDING (IBC) AS MODIFIED BY THE 2018 CONNECTICUT STATE BUILDING CODE.

**1. DESIGN CRITERIA:**

- RISK CATEGORY II (BASED ON IBC TABLE 1604.5)
- NOMINAL DESIGN SPEED: 130 MPH (Vasd)  
(EXPOSURE B/ IMPORTANCE FACTOR 1.0 BASED ON ASCE 7-10).

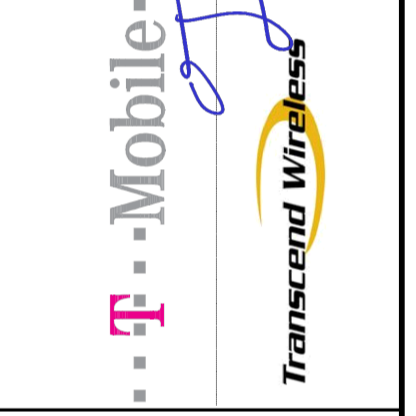
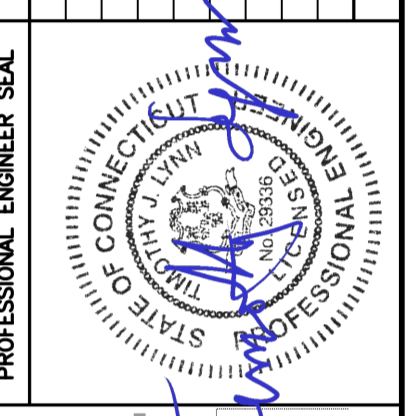
**SITE NOTES**

1. THE CONTRACTOR SHALL CALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
2. ACTIVE EXISTING UTILITIES, WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY, PRIOR TO PROCEEDING. SHOULD ANY UNCOVERED EXISTING UTILITY PRECLUDE COMPLETION OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
3. THE AREAS OF THE COMPOUND DISTURBED BY THE WORK SHALL BE RETURNED TO THEIR ORIGINAL CONDITION.
4. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
5. IF ANY FIELD CONDITIONS EXIST WHICH PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL PROCEED WITH AFFECTED WORK AFTER CONFLICT IS SATISFACTORILY RESOLVED.

**GENERAL NOTES**

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2018 CONNECTICUT SUPPLEMENT, INCLUDING THE TIA/EIA-222 REVISION "G" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES." 2017 CONNECTICUT FIRE SAFETY CODE, NATIONAL ELECTRICAL CODE AND LOCAL CODES.
2. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
3. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
4. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
5. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
6. CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN "AS-BUILT" SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
7. LOCATION OF EQUIPMENT AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS, SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
8. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND IT'S COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY.
9. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
10. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
11. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MFR.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
12. ANY AND ALL ERRORS, DISCREPANCIES, AND "MISSED" ITEMS, ARE TO BE BROUGHT TO THE ATTENTION OF THE SITE OWNER'S CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO 'EXTRA' WILL BE ALLOWED FOR MISSED ITEMS.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
14. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
15. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
16. COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUIT AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
17. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
18. THE CONTRACTOR SHALL CONTACT 'CALL BEFORE YOU DIG' AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
18. CONTRACTOR SHALL COMPLY WITH OWNER'S ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.
19. THE COUNTY/CITY/TOWN WILL MAKE PERIODIC FIELD OBSERVATION AND INSPECTIONS TO MONITOR THE INSTALLATION, MATERIALS, WORKMANSHIP AND EQUIPMENT INCORPORATED INTO THE PROJECT TO ENSURE COMPLIANCE WITH THE DESIGN PLANS, SPECIFICATIONS, CONTRACT DOCUMENTS AND APPROVED SHOP DRAWINGS.
20. THE COUNTY/CITY/TOWN MUST BE NOTIFIED (2) WORKING DAYS PRIOR TO CONCEALMENT/BURIAL OF ANY SYSTEM OR MATERIAL THAT WILL PREVENT THE DIRECT INSPECTION OF MATERIALS, METHODS OR WORKMANSHIP. EXAMPLES OF THESE PROCESSES ARE BACKFILLING A GROUND RING OR TOWER FOUNDATION, POURING TOWER FOUNDATIONS, BURYING GROUND RODS, PLATES OR GRIDS, ETC. THE CONTRACTOR MAY PROCEED WITH THE SCHEDULED PROCESS (2) WORKING DAYS AFTER PROVIDING NOTICE UNLESS NOTIFIED OTHERWISE BY THE COUNTY/CITY/TOWN.

REV.	DATE	BY	DESCRIPTION
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		JIR	CHK'D BY
			CONSTRUCTION DRAWINGS



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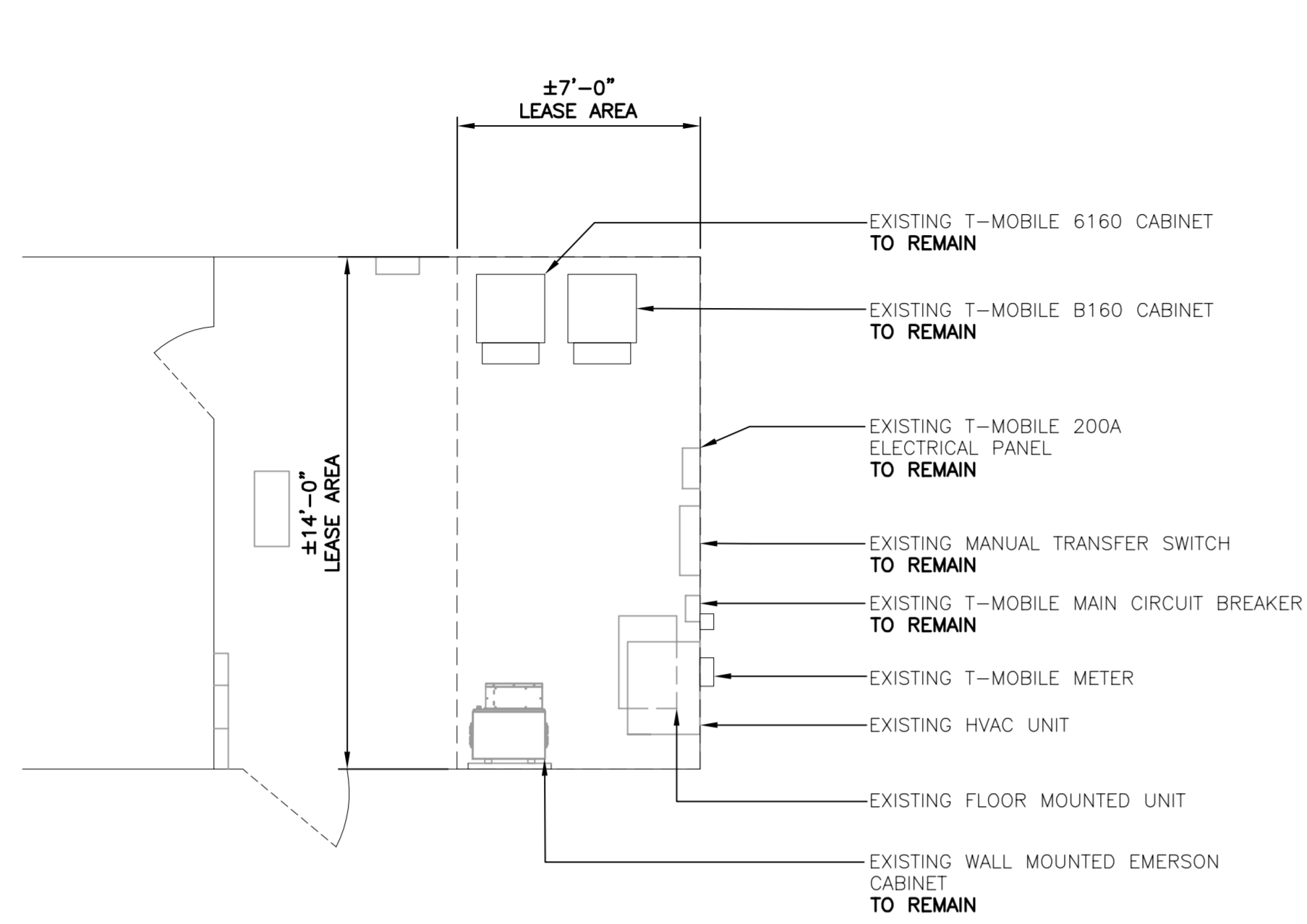
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**SITE ID: CT11224A**

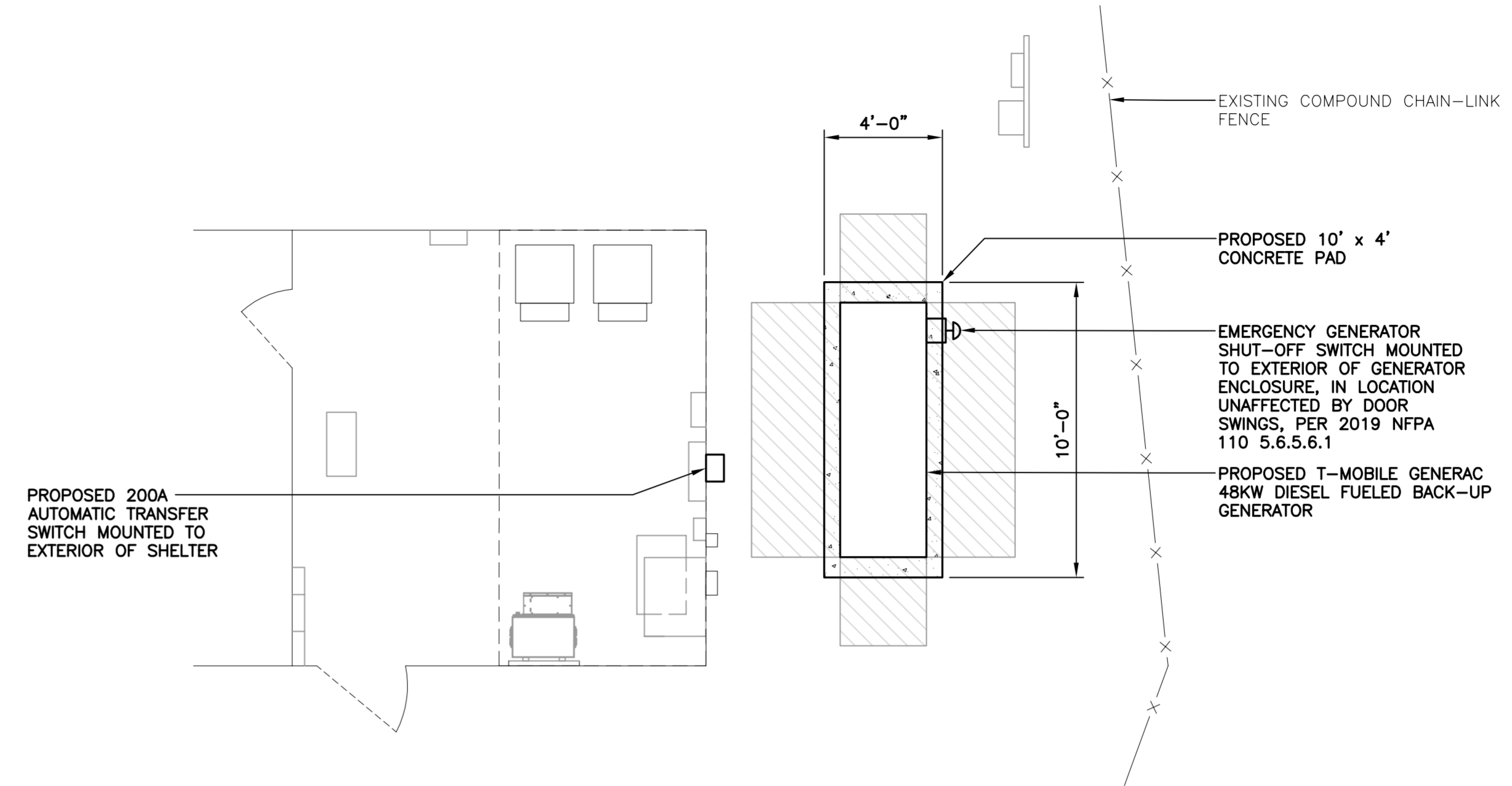
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NORTH BRANFORD, CT 06472**

DATE: 09/14/21  
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JOB NO. 21003.34

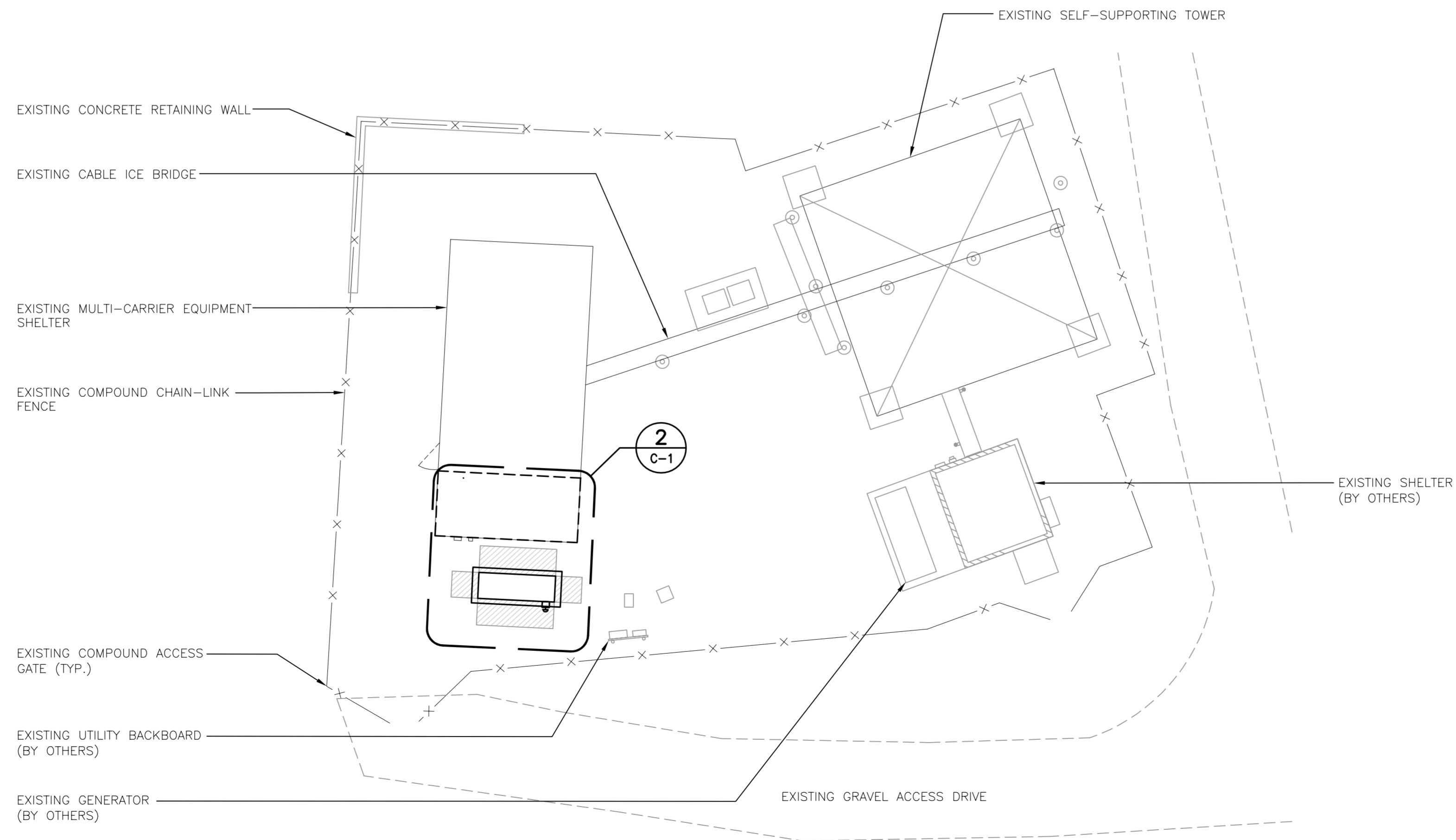
**GENERAL NOTES AND SPECIFICATIONS**



**1**  
C-1  
**EQUIPMENT PLAN - EXISTING**  
SCALE: 1/4" = 1'-0"  
TRUE NORTH

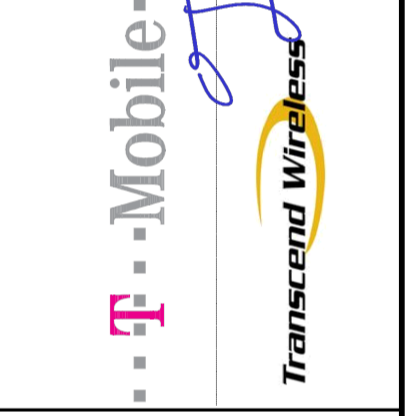
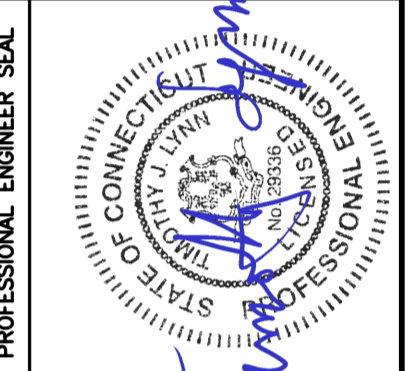


**2**  
C-1  
**EQUIPMENT PLAN - PROPOSED**  
SCALE: 1/4" = 1'-0"  
TRUE NORTH



**3**  
C-1  
**COMPOUND PLAN - PROPOSED**  
SCALE: 1" = 10'-0"  
TRUE NORTH

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**SITE ID: CT11224A**  
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**COMPOUND AND EQUIPMENT PLANS**

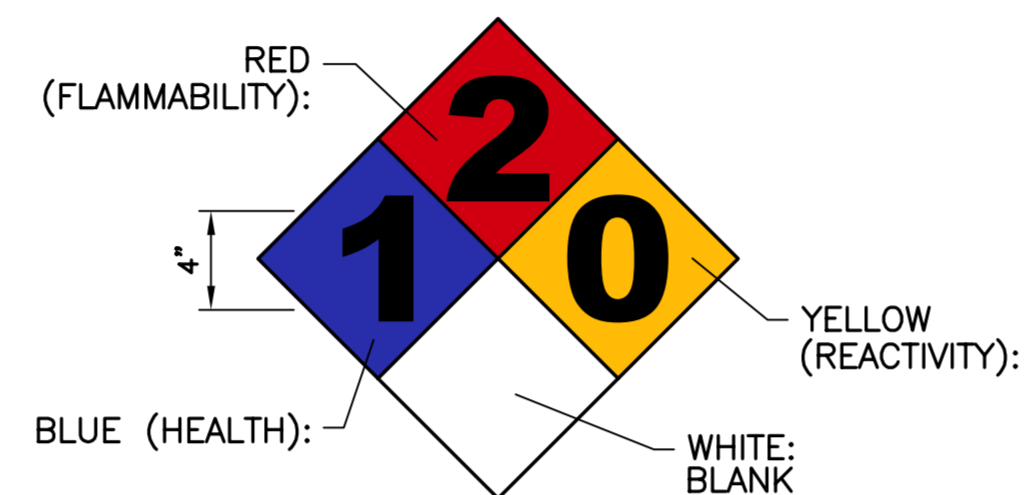
**C-1**  
Sheet No. 3 of 7





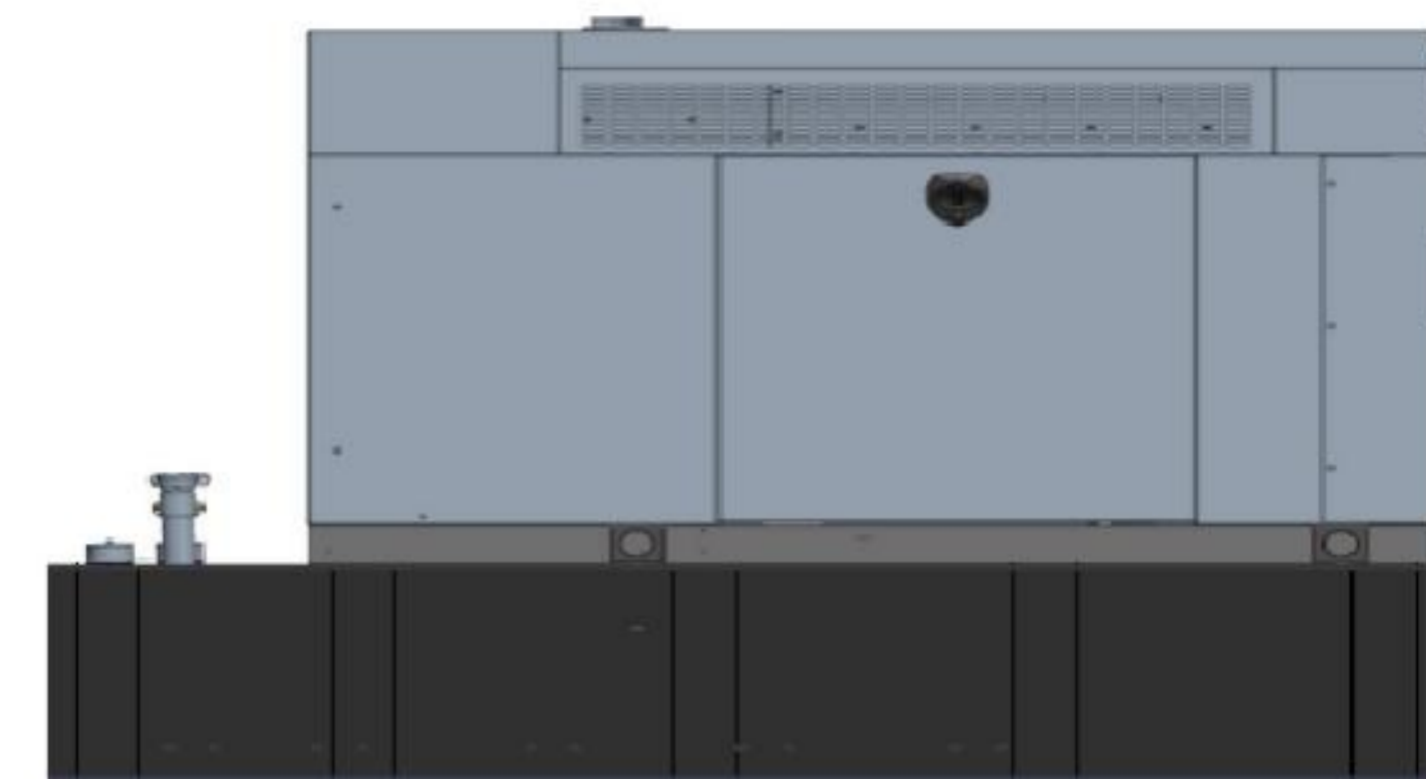
AUTOMATIC TRANSFER SWITCH					
EQUIPMENT	PHASE	VOLTAGE	ENCLOSURE	AMP	DIMENSIONS
MAKE: GENERAC MODEL: RXSC200A3	1-PHASE	120/240	NEMA-3R	200	17.3"L x 12.5"W

**1** AUTOMATIC TRANSFER SWITCH DETAIL  
C-2 SCALE: NOT TO SCALE



**SIGN NAME:** REGULATORY, NFPA 704 HAZARD ID  
**DESCRIPTION:** MOUNT ON GENERATOR ACCESS DOOR. CONSULT WITH GENERATOR MANUFACTURER MSDS SHEET FOR BLUE AND RES POSITIONS  
**NOTES:**  
 1) SIGNS EXPOSED TO WEATHER SHOULD BE CHECKED ANNUALLY FOR READABILITY.  
 2) SIGNS MUST BE UPDATED IF CHEMICAL STORAGE OR HAZARD INFORMATION FOR THE LOCATION CHANGES.  
 3) THE GC MUST REVIEW WITH LOCAL JURISDICTION WHEN FILLING FOR PERMITS, AS EACH JURISDICTION MAY HAVE DIFFERENT REQUIREMENTS AND COMPLY WITH POSTING REQUIREMENTS OR DIRECTIVES FROM THE LOCAL JURISDICTION.

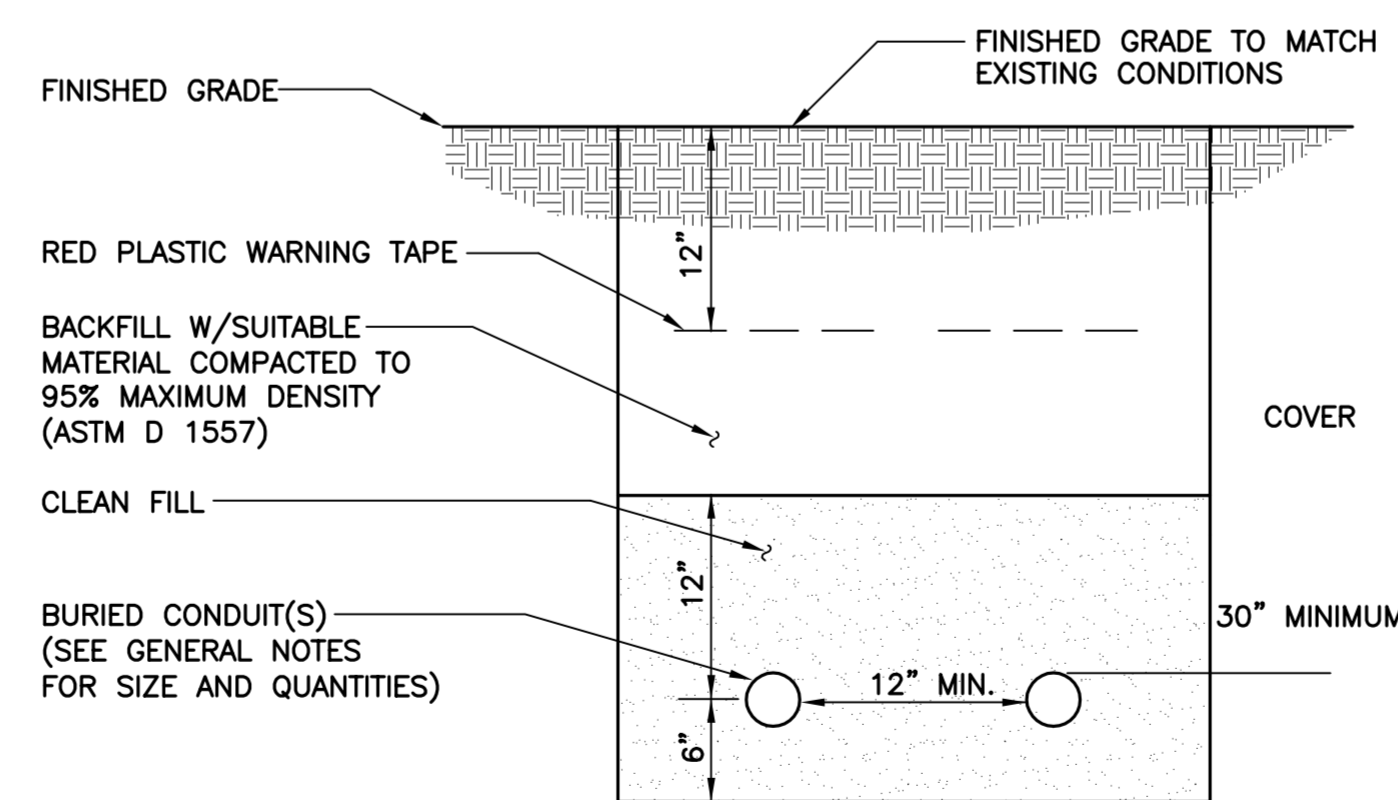
**2** NFPA 704 DIAMOND SIGNAGE DETAIL  
C-2 SCALE: NOT TO SCALE



BACKUP POWER GENERATOR						
EQUIPMENT	POWER GENERATED	FUEL	MODEL NUMBER	FUEL TANK SIZE (GAL)	DIMENSIONS	WEIGHT
MAKE: GENERAC MODEL: RD48	48 KW, AC	DIESEL	7194-0	229	103.4"L x 35.0"W x 91.7"H	-

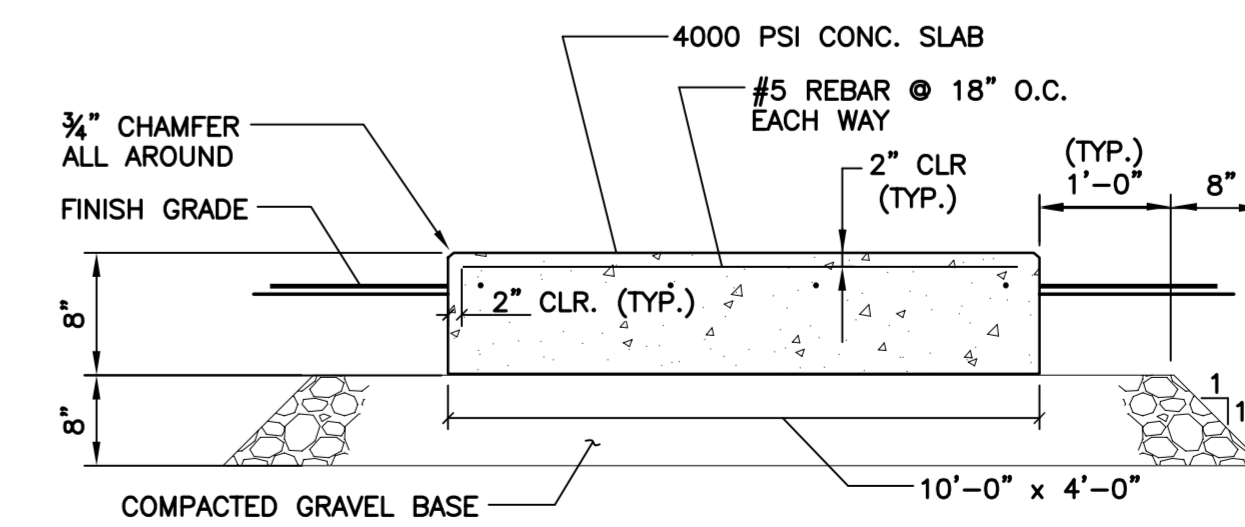
**NOTES:**  
 1. FUEL LEVEL/SECONDARY CONTAINMENT SHALL BE ALARMED AND IN COMMUNICATION WITH T-MOBILE'S NOC.  
 2. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION AND ALL OPTIONAL FEATURES WITH T-MOBILE'S CONSTRUCTION MANAGER PRIOR TO ORDERING.

**3** PROPOSED GENERATOR DETAIL  
C-2 SCALE: NOT TO SCALE



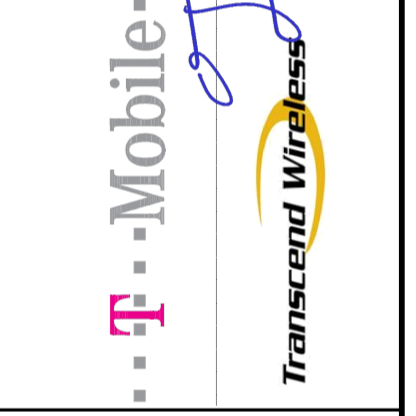
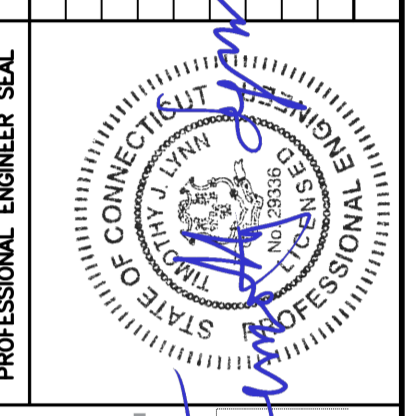
**NOTES:**  
 1. THE CLEAN FILL SHALL PASS THROUGH A 3/8" MESH SCREEN AND SHALL NOT CONTAIN SHARP STONES. OTHER BACKFILL SHALL NOT CONTAIN ASHES, CINDERS, SHELLS, FROZEN MATERIAL, LOOSE DEBRIS OR STONES LARGER THAN 2" IN MAXIMUM DIMENSION.  
 2. WHERE EXISTING UTILITIES ARE LIKELY TO BE ENCOUNTERED, CONTRACTOR SHALL HAND DIG AND PROTECT EXISTING UTILITIES.

**4** TYPICAL ELECTRICAL/TEL TRENCH DETAIL  
C-2 SCALE: NOT TO SCALE



**5** TYPICAL CONCRETE PAD DETAIL  
C-2 SCALE: NOT TO SCALE

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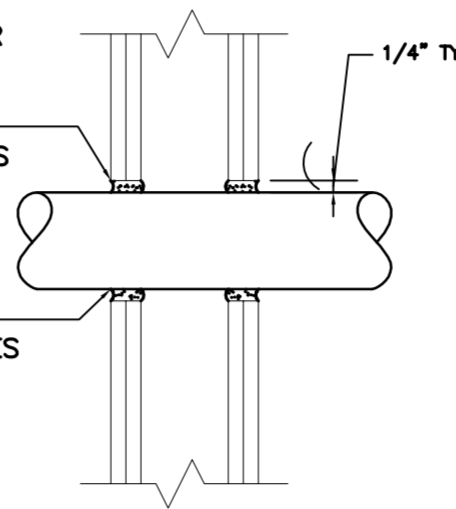
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TYPICAL EQUIPMENT DETAILS



PIPE OR CONDUIT	ANNULAR SPACE IN.	MIN. FILL MATERIAL THICKNESS	F RATING HR.
PIPE	3/4"	1 1/4"	2
CONDUIT	3/4"	3/4"	1

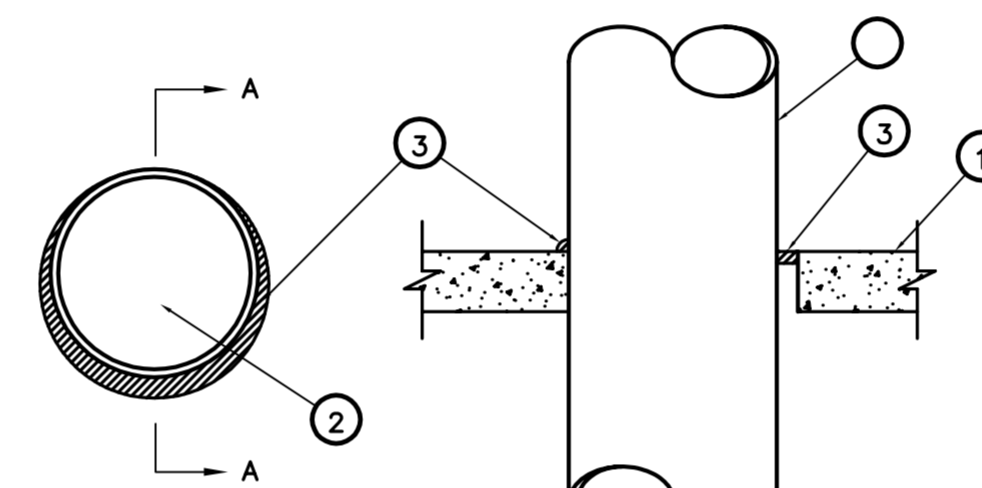
ONE 2"Ø METALLIC PIPE OR CONDUIT TO BE CENTERED WITHIN FIRESTOP SYSTEM. PIPE SHALL BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL/FLOOR ASSEMBLY



FILL VOID WITH CAULK, FLUSH WITH BOTH SURFACES OF WALL (SEE TABLE). SEALANT: TREMCO INC, TREMSTOP-WBM

UL SYSTEM NUMBER: WL1051  
F RATING - 1 & 2 HR.

**1**  
**PIPE AND CONDUIT PENETRATION**  
**DETAIL IN GYPSUM WALLBOARD**  
SCALE: NOT TO SCALE



UL SYSTEM NUMBER: C-AJ-1291  
F RATING - 2-HR

**3**  
**METAL PIPE THROUGH CONCRETE**  
**FLOOR/ WALL OR BLOCK WALL**  
SCALE: NOT TO SCALE

**NOTES:**

1. FLOOR OR WALL ASSEMBLY - MIN 2-1/2 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS\*. MAX DIAM OF OPENING IS 30-7/8 IN. SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

A. STEEL FLOOR UNIT/FLOOR ASSEMBLY (NOT SHOWN) - AS AN ALTERNATE TO ITEM 1, THE FLOOR ASSEMBLY MAY CONSIST OF A FLUTED STEEL FLOOR UNIT/ CONCRETE FLOOR ASSEMBLY. THE FLOOR ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL FLOOR CEILING DESIGN IN THE FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

B. CONCRETE - MIN 2-1/2 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE, AS MEASURED FROM THE TOP PLANE OF THE FLOOR UNITS.

C. STEEL FLOOR AND FORM UNITS\* - COMPOSITE OR NON-COMPOSITE 1-1/2 TO 3 IN. DEEP FLUTED GALV STEEL UNITS AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAX DIAM OF OPENING IS 30-7/8 IN.

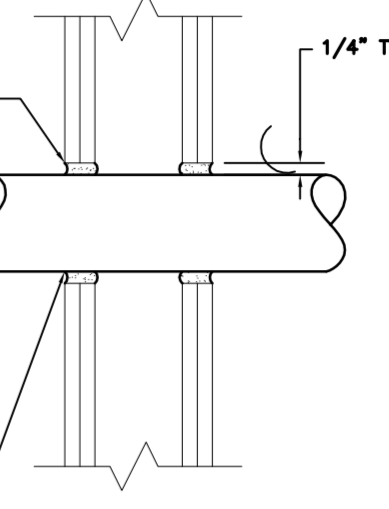
2. THROUGH-PENETRANT - ONE METALLIC PIPE OR CONDUIT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND PERIPHERY OF OPENING SHALL BE MIN 0 IN. TO MAX 7/8 IN. PIPE OR CONDUIT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR CONDUITS MAY BE USED:

- A. STEEL PIPE NOM 30 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
- B. IRON PIPE NOM 30 IN. DIAM (OR SMALLER) CAST OR DUCTILE IRON PIPE.
- C. COPPER PIPE NOM 6 IN. DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
- D. COPPER TUBING NOM 6 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
- E. CONDUIT NOM 6 IN. DIAM (OR SMALLER) STEEL CONDUIT.
- F. CONDUIT NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING (EMT).

3. FILL, VOID OR CAVITY MATERIAL\* - SEALANT - MIN 1/2 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR WITH BOTH SURFACES OF WALL. AT THE POINT CONTACT LOCATION BETWEEN PIPE AND CONCRETE, A MIN 1/4 IN. DIAM BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE CONCRETE/PIPE INTERFACE ON THE TOP SURFACE OF FLOOR AND ON BOTH SURFACES OF WALL.

MAX. DIA. OF THROUGH PENETRANT	NOMINAL ANNULAR SPACE IN.	FILL MATERIAL TYPE
1"	1/2"	FSP 1100 PUTTY
2"	1"	FS 1900 SEALANT

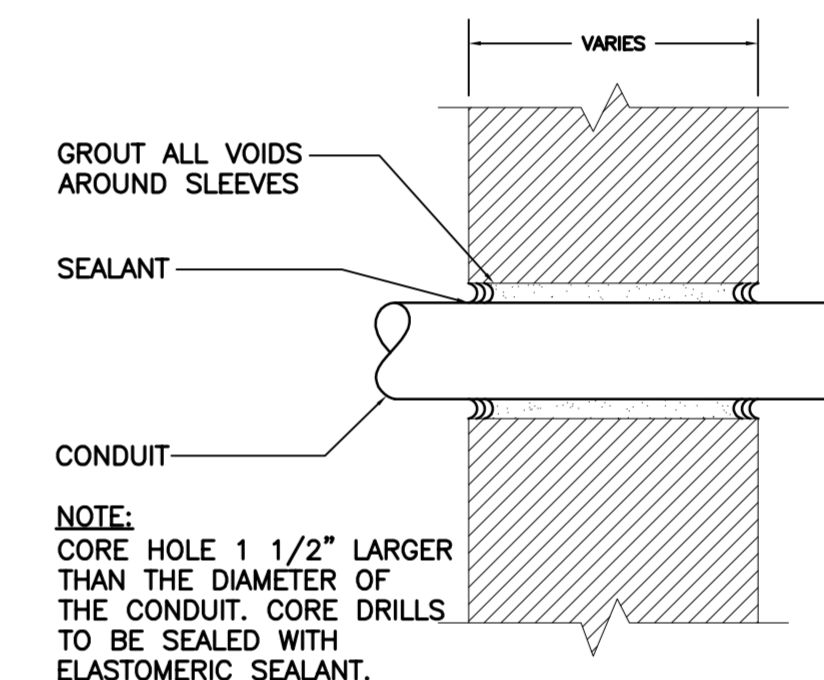
ONE 2"Ø SCHEDULE 40 PVC PIPE TO BE CENTERED WITHIN FIRESTOP SYSTEM. PIPE SHALL BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL/FLOOR ASSEMBLY



SEALANT, MIN. OF 1 1/4" THICK, FLUSH WITH BOTH SURFACES OF WALL FOR 2 HR. ASSEMBLY, 5/8" THICK FOF 1 HR. ASSEMBLY. A 5/8" CROWN AROUND CONDUIT WITH A 1" MIN. LAP AROUND OPENING SEALANT: INTERNAT'L PROTECTIVE COATINGS CORP-FSP 110 PUTTY OR FS1900 SEALANT

UL SYSTEM NUMBER: WL2038  
F RATING - 1 & 2 HR.

**2**  
**PVC CONDUIT PENETRATION**  
**DETAIL IN GYPSUM WALLBOARD**  
SCALE: NOT TO SCALE



GROUT ALL VOIDS AROUND SLEEVES

SEALANT

CONDUIT

NOTE: CORE HOLE 1 1/2" LARGER THAN THE DIAMETER OF THE CONDUIT. CORE DRILLS TO BE SEALED WITH ELASTOMERIC SEALANT.

**4**  
**PIPE AND CONDUIT PENETRATION**  
**DETAIL IN NON-RATED PARTITION**  
SCALE: NOT TO SCALE

FLOOR OR WALL	MIN. THICK.	MAX. PIPE DIA.	MIN. ANNULAR SPACE	MAX. ANNULAR SPACE	MIN. FILL MAT. THICK.	MIN. FORM. MAT. THICK.
F	3 3/4"	1 1/2"	3/8"	2 1/8"	1"	2 3/4"
F	3 3/4"	6"	3/8"	3/4"	1"	2 3/4"
F	3 3/4"	6"	3/8"	1"	2"	1 3/4"
F	4 1/2"	1 1/2"	3/8"	2 1/8"	1"	3 1/2"
F	4 1/2"	6"	3/8"	3/4"	1"	3 1/2"
F	4 1/2"	6"	3/8"	1"	2"	2 1/2"
W	5 1/2"	1 1/2"	3/8"	2 1/8"	1"	3 1/2"
W	5 1/2"	6"	3/8"	3/4"	1"	3 1/2"
W	6 1/2"	1 1/2"	3/8"	2 1/8"	2"	2 1/2"
W	6 1/2"	6"	3/8"	1"	2"	2 1/2"

**THROUGH PENETRANTS**

ONE METALLIC PIPE, CONDUIT OR TUBING TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL.

FORMING MATERIAL SHALL BE A MIN. OF 1 1/2" THICK OF MIN. 4.0 PCF MINERAL WOOL BATT INSULATION FIRMLY PACKED IN OPENING, USG INTERIORS-TYPE SAF

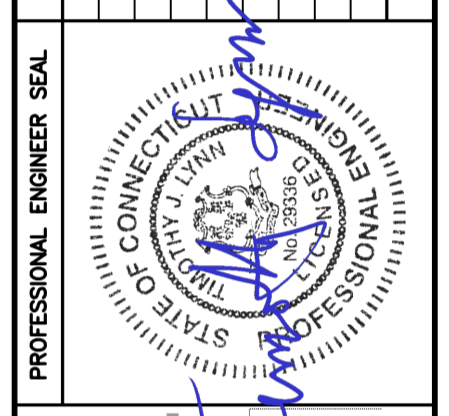
THICKNESS OF SEALANT APPLIED FLUSH W/THE TOP SURFACE OF BOTH SIDES OF FLOOR/WALL (SEE TABLE), USG INTERIORS-TYPE SS

UL SYSTEM NUMBER: CAJ1020

F RATING - 3 HR.

**5**  
**PIPE AND CONDUIT PENETRATION**  
**DETAIL IN CONCRETE OR MASONRY**  
SCALE: NOT TO SCALE

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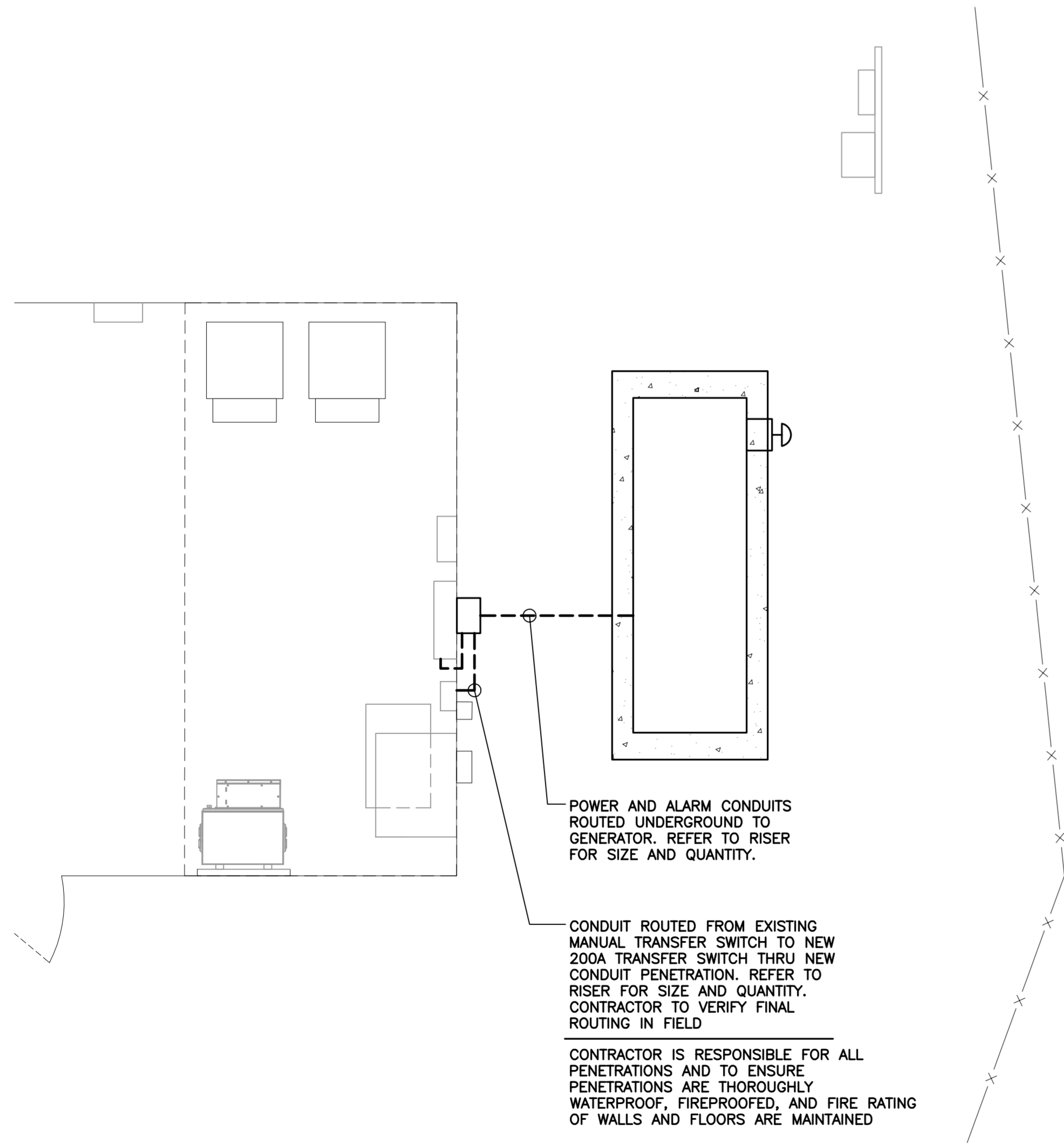
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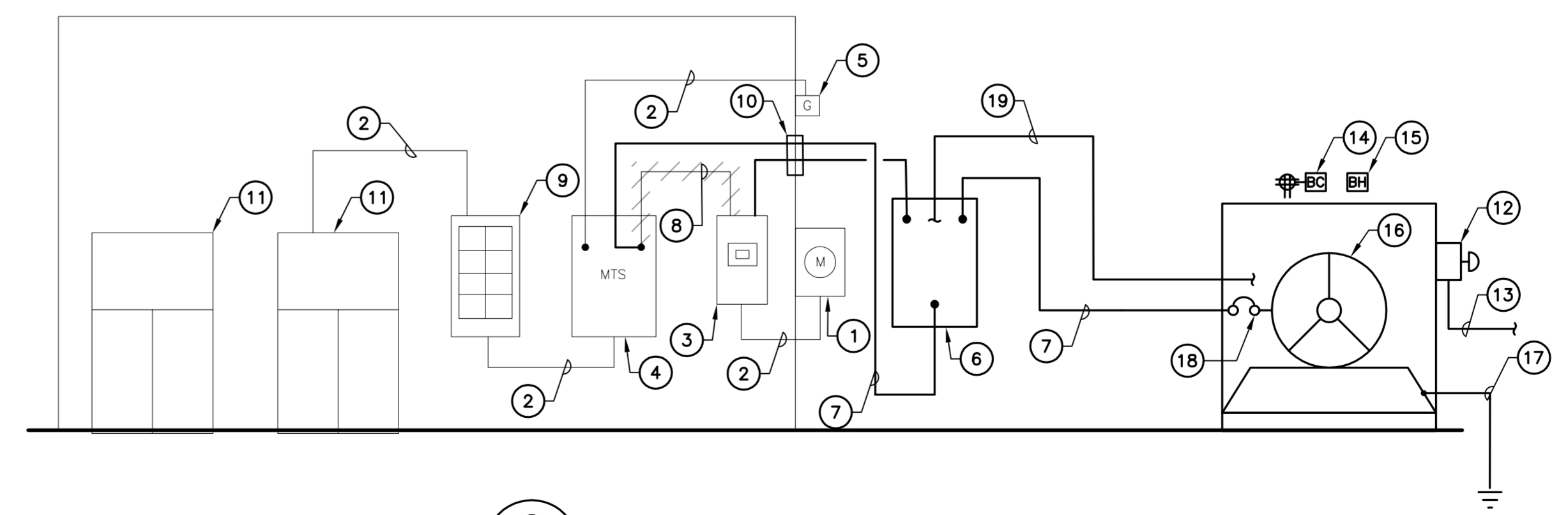
TYPICAL CONDUIT PENETRATION DETAILS

**C-3**  
Sheet No. 5 of 7



**1 ELECTRICAL CONDUIT ROUTING**  
 E-1 SCALE: 1" = 8'  
 TRUE NORTH

RISER DIAGRAM NOTES	RISER DIAGRAM NOTES
<ul style="list-style-type: none"> <li>① EXISTING 200A, 240V, 3 WIRE T-MOBILE METER TO REMAIN.</li> <li>② EXISTING CONDUIT AND CONDUCTORS TO REMAIN</li> <li>③ EXISTING T-MOBILE MAIN CIRCUIT BREAKER TO REMAIN.</li> <li>④ EXISTING MANUAL TRANSFER SWITCH TO REMAIN.</li> <li>⑤ EXISTING GENERATOR CAM-LOCK PLUG</li> <li>⑥ NEW 200A, 2 SOURCE AUTOMATIC TRANSFER SWITCH</li> <li>⑦ (3) #3/0 AWG, (1) #6 AWG GROUND, 2-1/2" CONDUIT.</li> <li>⑧ EXISTING CONDUITS AND CONDUCTORS TO BE REMOVED.</li> <li>⑨ EXISTING 200A ELECTRICAL PANEL TO REMAIN</li> <li>⑩ TYPICAL WALL PENETRATION. COORDINATE WITH CIVIL AND STRUCTURAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL PENETRATIONS ARE FIREPROOF AND FIRE RATING OF WALLS AND FLOORS IS MAINTAINED.</li> <li>⑪ EXISTING EQUIPMENT CABINETS TO REMAIN.</li> </ul>	<ul style="list-style-type: none"> <li>⑫ REMOTE GENERATOR SHUT OFF SWITCH IN BREAK GLASS ENCLOSURE MOUNTED TO EXTERIOR OF GENERATOR ENCLOSURE PER 2019 NFPA 110 5.6.5.6.1.</li> <li>⑬ 3/4" CONDUIT AND CONDUCTORS REQUIRED FOR PROPER OPERATION OF EMERGENCY GENERATOR SHUT OFF SWITCH.</li> <li>⑭ GENERATOR BATTERY CHARGER AND CONVENIENCE GFCI OUTLET WIRED TO EXISTING PANEL. OUTLET TO BE MOUNTED IN WEATHERPROOF ENCLOSURE.</li> <li>⑮ GENERATOR BLOCK HEATER WIRED TO EXISTING PANEL</li> <li>⑯ EMERGENCY 48KW BACK UP GENERATOR.</li> <li>⑰ GENERATOR GROUNDING PER NEC AND MANUFACTURER'S REQUIREMENTS. BOND TO EXISTING GROUNDING SYSTEM. (MINIMUM OF (1) #2 AWG GROUND)</li> <li>⑱ GENERATOR OUTPUT CIRCUIT BREAKER.</li> <li>⑲ 1" CONDUIT FOR GENERATOR CONTROL AND SIGNAL WIRING.</li> </ul>



**2 ELECTRICAL RISER DIAGRAM**  
 E-1 SCALE: NOT TO SCALE

**T-MOBILE NORTHEAST LLC**

**SITE NAME: GUILFORD-1**

**SITE ID: CT11224A**

**59 YOUNGS APPLE ORCHARD RD  
NORTH BRANFORD, CT 06472**

DATE:	09/14/21
SCALE:	AS NOTED
JOB NO.	21003.34

**ELECTRICAL RISER DIAGRAM AND CONDUIT ROUTING**

**E-1**

Sheet No. 6 of 7

PROFESSIONAL ENGINEER SEAL

**T-Mobile**

**Transcend Wireless**

**CEN TEK engineering**  
Centered on Solutions™

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Branford, CT 06405  
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REV.	DATE	BY	CHK'D BY	TJR	DESCRIPTION
0	10/25/21	RTS	RTS		CONSTRUCTION DRAWINGS



**ELECTRICAL SPECIFICATIONS**

1.02. GENERAL REQUIREMENTS

- A. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE INTERPRETED AS AN INFRINGEMENT OF SUCH CODES OR REGULATIONS.
- B. THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COORDINATION OF THE ENTIRE ELECTRICAL SERVICE. ALL ACTIVITIES TO BE COORDINATED THROUGH OWNERS REPRESENTATIVE, DESIGN ENGINEER AND OTHER AUTHORITIES HAVING JURISDICTION OF TRADES.
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES THAT MAY BE REQUIRED FOR THE ELECTRICAL WORK AND FOR THE SCHEDULING OF ALL INSPECTIONS THAT MAY BE REQUIRED BY THE LOCAL AUTHORITY.
- D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE BUILDING OWNER FOR NEW AND/OR DEMOLITION WORK INVOLVED.
- E. NO MATERIAL OTHER THAN THAT CONTAINED IN THE "LATEST LIST OF ELECTRICAL FITTINGS" APPROVED BY THE UNDERWRITERS' LABORATORIES, SHALL BE USED IN ANY PART OF THE WORK. ALL MATERIAL FOR WHICH LABEL SERVICE HAS BEEN ESTABLISHED SHALL BEAR THE U.L. LABEL.
- F. THE CONTRACTOR SHALL GUARANTEE ALL NEW WORK FOR A PERIOD OF ONE YEAR FROM THE ACCEPTANCE DATE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WARRANTIES FROM ALL EQUIPMENT MANUFACTURERS FOR SUBMISSION TO THE OWNER.
- G. DRAWINGS INDICATE GENERAL ARRANGEMENT OF WORK INCLUDED IN CONTRACT. CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE MODIFICATIONS TO THE LAYOUT OF THE WORK TO PREVENT CONFLICT WITH WORK OF OTHER TRADES AND FOR THE PROPER INSTALLATION OF WORK. CHECK ALL DRAWINGS AND VISIT JOB SITE TO VERIFY SPACE AND TYPE OF EXISTING CONDITIONS IN WHICH WORK WILL BE DONE, PRIOR TO SUBMITTAL OF BID.
- H. THE ELECTRICAL CONTRACTOR SHALL SUPPLY THREE (3) COMPLETE SETS OF APPROVED DRAWINGS, ENGINEERING DATA SHEETS, MAINTENANCE AND OPERATING INSTRUCTION MANUALS FOR ALL SYSTEMS AND THEIR RESPECTIVE EQUIPMENT. THESE MANUALS SHALL BE INSERTED IN VINYL COVERED 3-RING BINDERS AND TURNED OVER TO OWNER'S REPRESENTATIVE ONE (1) WEEK PRIOR TO FINAL PUNCH LIST.
- I. ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER AND WILL BE SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
- J. ALL EQUIPMENT AND MATERIALS TO BE INSTALLED SHALL BE NEW, UNLESS OTHERWISE NOTED.
- K. BEFORE FINAL PAYMENT, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF PRINTS (AS-BUILTS), LEGIBLY MARKED IN RED PENCIL TO SHOW ALL CHANGES FROM THE ORIGINAL PLANS.
- L. PROVIDE TEMPORARY POWER AND LIGHTING IN WORK AREAS AS REQUIRED.
- M. SHOP DRAWINGS:
  1. CONTRACTOR SHALL SUBMIT SIX (6) COPIES OF SHOP DRAWINGS ON ALL EQUIPMENT AND MATERIALS PROPOSED FOR USE ON THIS PROJECT, GIVING ALL DETAILS, WHICH INCLUDE DIMENSIONS, CAPACITIES, ETC.
  2. CONTRACTOR SHALL SUBMIT SIX (6) COPIES OF ALL TEST REPORTS CALLED FOR IN THE SPECIFICATIONS AND DRAWINGS.
- N. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH OWNER'S SPECIFICATIONS, AND REQUIREMENTS OF ALL LOCAL AUTHORITIES HAVING JURISDICTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH APPROPRIATE INDIVIDUALS TO OBTAIN ALL SUCH SPECIFICATIONS AND REQUIREMENTS. NOTHING CONTAINED IN, OR OMITTED FROM, THESE DOCUMENTS SHALL RELIEVE CONTRACTOR FROM THIS OBLIGATION.

1.01. CONDUITS

- A. MINIMUM CONDUIT SIZE FOR BRANCH CIRCUITS, LOW VOLTAGE CONTROL AND ALARM CIRCUITS SHALL BE 3/4". CONDUITS SHALL BE PROPERLY FASTENED AS REQUIRED BY THE N.E.C.
- B. THE INTERIOR OF RACEWAYS/ENCLOSURES INSTALLED UNDERGROUND SHALL BE CONSIDERED TO BE WET LOCATION, INSULATED CONDUCTORS SHALL BE LISTED FOR USE IN WET LOCATIONS. PROVIDE WEATHERPROOF CONSTRUCTION IN WET LOCATIONS.
- C. CONDUIT INSTALLED UNDERGROUND SHALL BE INSTALLED TO MEET MINIMUM COVER REQUIREMENTS OF TABLE 300.5.
- D. PROVIDE RIGID GALVANIZED STEEL CONDUIT (RMC) FOR THE FIRST 10 FOOT SECTION WHEN LEAVING A BUILDING OR SECTIONS PASSING THROUGH FLOOR SLABS
- E. ONLY LISTED PVC CONDUIT AND FITTINGS ARE PERMITTED FOR THE INSTALLATION OF ELECTRICAL CONDUCTORS, SUITABLE FOR UNDERGROUND APPLICATIONS.

CONDUIT SCHEDULE SECTION 1611I			
CONDUIT TYPE	NEC REFERENCE	APPLICATION	MIN. BURIAL DEPTH (PER NEC TABLE 300.5) <sup>1,2</sup>
EMT	ARTICLE 358	INTERIOR CIRCUITING, EQUIPMENT ROOMS, SHELTERS	N/A
RMC, RIGID GALV. STEEL	ARTICLE 344, 300.5, 300.50	ALL INTERIOR/ EXTERIOR CIRCUITING, ALL UNDERGROUND INSTALLATIONS.	6 INCHES
PVC, SCHEDULE 40	ARTICLE 352, 300.5, 300.50	INTERIOR/ EXTERIOR CIRCUITING AND GROUNDING SYSTEMS, UNDERGROUND INSTALLATIONS, WHERE NOT SUBJECT TO PHYSICAL DAMAGE. <sup>1</sup>	18 INCHES
PVC, SCHEDULE 80	ARTICLE 352, 300.5, 300.50	INTERIOR/ EXTERIOR CIRCUITING AND GROUNDING SYSTEMS, UNDERGROUND INSTALLATIONS, WHERE SUBJECT TO PHYSICAL DAMAGE. <sup>1</sup>	18 INCHES
LIQUID TIGHT FLEX. METAL	ARTICLE 350	SHORT LENGTHS (MAX. 3FT.) WIRING TO VIBRATING EQUIPMENT IN WET LOCATIONS.	N/A
FLEX. METAL	ARTICLE 348	SHORT LENGTHS (MAX. 3FT.) WIRING TO VIBRATING EQUIPMENT IN WET LOCATIONS.	N/A

<sup>1</sup> PHYSICAL DAMAGE IS SUBJECT TO THE AUTHORITY HAVING JURISDICTION.

<sup>2</sup> UNDERGROUND CONDUIT INSTALLED UNDER ROADS, HIGHWAYS, DRIVEWAYS, PARKING LOTS SHALL HAVE MINIMUM DEPTH OF 24".

<sup>3</sup> WHERE SOLID ROCK PREVENTS COMPLIANCE WITH MINIMUM COVER DEPTHS, WIRING SHALL BE INSTALLED IN PERMITTED RACEWAY FOR DIRECT BURIAL. THE RACEWAY SHALL BE COVERED BY A MINIMUM OF 2" OF CONCRETE EXTENDING DOWN TO ROCK.

**SECTION 16123**

1.01. CONDUCTORS

- A. ALL CONDUCTORS SHALL BE TYPE THWN (INT. APPLICATION) AND XHHW (EXT. APPLICATION), 75 DEGREE C, 600 VOLT INSULATION, SOFT ANNEALED STRANDED COPPER. #10 AWG AND SMALLER SHALL BE SPLICED USING ACCEPTABLE SOLDERLESS PRESSURE CONNECTORS. #8 AWG AND LARGER SHALL BE SPLICED USING COMPRESSION SPLIT-BOLT TYPE CONNECTORS. #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR FOR LINE VOLTAGE BRANCH CIRCUITS. REFER TO PANEL SCHEDULE FOR BRANCH CIRCUIT CONDUCTOR SIZE(S). CONDUCTORS SHALL BE COLOR CODED FOR CONSISTENT PHASE IDENTIFICATION:
 

120/208/240V	277/480V
LINE	COLOR
A	BLACK
B	RED
C	BLUE
N	CONTINUOUS WHITE
G	CONTINUOUS GREEN
	COLOR
	BROWN
	ORANGE
	YELLOW
	GREY
	GREEN WITH YELLOW STRIPE
- B. MINIMUM BENDING RADIUS FOR CONDUCTORS SHALL BE 12 TIMES THE LARGEST DIAMETER OF BRANCH CIRCUIT CONDUCTOR.

**SECTION 16130**

1.01. BOXES

- A. FURNISH AND INSTALL OUTLET BOXES FOR ALL DEVICES, SWITCHES, RECEPTACLES, ETC.. BOXES TO BE ZINC COATED STEEL.
- B. FURNISH AND INSTALL PULL BOXES IN MAIN FEEDERS RUNS WHERE REQUIRED. PULL BOXES SHALL BE GALVANIZED STEEL WITH SCREW REMOVABLE COVERS, SIZE AND QUANTITY AS REQUIRED. PROVIDE WEATHERPROOF CONSTRUCTION IN WET LOCATIONS.

**SECTION 16140**

1.01. WIRING DEVICES

- A. THE FOLLOWING LIST IS PROVIDED TO CONVEY THE QUALITY AND RATING OF WIRING DEVICES WHICH ARE TO BE INSTALLED. A COMPLETE LIST OF ALL DEVICES MUST BE SUBMITTED BEFORE INSTALLATION FOR APPROVAL.
  1. 15 MINUTE TIMER SWITCH – INTERMATIC #FF15M (INTERIOR LIGHTS)
  2. DUPLEX RECEPTACLE – P&S #2095 (GFCI) SPECIFICATION GRADE
  3. SINGLE POLE SWITCH – P&S #CSB20AC2 (20A-120V HARD USE) SPECIFICATION GRADE
  4. DUPLEX RECEPTACLE – P&S #5362 (20A-120V HARD USE) SPECIFICATION GRADE
- B. PLATES – ALL PLATES USED SHALL BE CORROSION RESISTANT TYPE 304 STAINLESS STEEL. PLATES SHALL BE FROM SAME MANUFACTURER AS SWITCHES AND RECEPTACLES. PROVIDE WEATHERPROOF HOUSING FOR DEVICES LOCATED IN WET LOCATIONS.
- C. OTHER MANUFACTURERS OF THE SWITCHES, RECEPTACLES AND PLATES MAY BE SUBMITTED FOR APPROVAL BY THE ENGINEER.

**SECTION 16170**

1.01. DISCONNECT SWITCHES

- A. FUSIBLE AND NON-FUSIBLE, 600V, HEAVY DUTY DISCONNECT SWITCHES SHALL BE AS MANUFACTURED BY SQUARE "D". PROVIDE FUSES AS CALLED FOR ON THE CONTRACT DRAWINGS. AMPERE RATING SHALL BE CONSISTENT WITH LOAD BEING SERVED. DISCONNECT SWITCH COVER SHALL BE MECHANICALLY INTERLOCKED TO PREVENT COVER FROM OPENING WHEN THE SWITCH IS IN THE "ON" POSITION. EXTERIOR APPLICATIONS SHALL BE NEMA 3R CONSTRUCTION WITH PADLOCK FEATURE.

**SECTION 16190**

1.01. SEISMIC RESTRAINT

- A. ALL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH ZONE 2 SEISMIC REQUIREMENTS.

**SECTION 16195**

1.01. LABELING AND IDENTIFICATION NOMENCLATURE FOR ELECTRICAL EQUIPMENT

- A. CONTRACTOR SHALL FURNISH AND INSTALL NON-METALLIC ENGRAVED BACK-LIT NAMEPLATES ON ALL PANELS AND MAJOR ITEMS OF ELECTRICAL EQUIPMENT.
- B. LETTERS TO BE WHITE ON BLACK BACKGROUND WITH LETTERS 1-1/2 INCH HIGH WITH 1/4 INCH MARGIN.
- C. IDENTIFICATION NOMENCLATURE SHALL BE IN ACCORDANCE WITH OWNER'S STANDARDS.

**SECTION 16450**

1.01. GROUNDING

- A. ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL AND TELEPHONE CONDUIT SYSTEMS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO PROVIDE AN INDEPENDENT RETURN PATH TO THE EQUIPMENT GROUNDING SOURCES.
- B. GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR HAVING JURISDICTION.
- C. GROUNDING OF PANELBOARDS:
  1. PANELBOARD SHALL BE GROUNDED BY TERMINATING THE PANELBOARD FEEDER'S EQUIPMENT GROUND CONDUCTOR TO THE EQUIPMENT GROUND BAR KIT(S) LUGGED TO THE CABINET. ENSURE THAT THE SURFACE BETWEEN THE KIT AND CABINET ARE BARE METAL TO BARE METAL. PRIME AND PAINT OVER TO PREVENT CORROSION.
  2. CONDUIT(S) TERMINATING INTO THE PANELBOARD SHALL HAVE GROUNDING TYPE BUSHINGS. THE BUSHINGS SHALL BE BONDED TOGETHER WITH BARE #10 AWG COPPER CONDUCTOR WHICH IN TURN IS TERMINATED INTO THE PANELBOARD'S EQUIPMENT GROUND BAR KIT(S).
- D. EQUIPMENT GROUNDING CONDUCTOR:
  1. EACH EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C. ARTICLE 250-122.
  2. THE MINIMUM SIZE OF EQUIPMENT GROUND CONDUCTOR SHALL BE #12 AWG COPPER.
  3. EACH FEEDER OR BRANCH CIRCUIT SHALL HAVE EQUIPMENT GROUND CONDUCTOR(S) INSTALLED IN THE SAME RACEWAY(S).
- E. CELLULAR GROUNDING SYSTEM:
 

CONTRACTOR SHALL PROVIDE A CELLULAR GROUNDING SYSTEM WITH THE MAXIMUM AC RESISTANCE TO GROUND OF 10 OHM BETWEEN ANY POINT ON THE GROUNDING SYSTEM AS MEASURED BY 3-POINT GROUNDING TEST. (REFER TO SECTION 16960).

PROVIDE THE CELLULAR GROUNDING SYSTEM AS SPECIFIED ON DRAWINGS, INCLUDING, BUT NOT LIMITED TO:

  1. GROUND BARS
  2. EXTERIOR GROUNDING (WHERE REQUIRED DUE TO MEASURED AC RESISTANCE GREATER THAN SPECIFIED).
  3. ANTENNA GROUND CONNECTIONS AND PLATES.
- F. CONTRACTOR, AFTER COMPLETION OF THE COMPLETE GROUNDING SYSTEM BUT PRIOR TO CONCEALMENT/BURIAL OF SAME, SHALL NOTIFY OWNER'S PROJECT ENGINEER WHO WILL HAVE A DESIGN ENGINEER VISIT SITE AND MAKE A VISUAL INSPECTION OF THE GROUNDING GRID AND CONNECTIONS OF THE SYSTEM.
- G. ALL EQUIPMENT SHALL BE BONDED TO GROUND AS REQUIRED BY N.E.C., MFG. SPECIFICATIONS, AND OWNER'S SPECIFICATIONS.

**SECTION 16470**

1.01. DISTRIBUTION EQUIPMENT

- A. REFER TO CONTRACT DRAWINGS FOR DETAILS AND SCHEDULES.

**SECTION 16477**

1.01. FUSES

- A. FUSES SHALL BE NONRENEWABLE TYPE AS MANUFACTURED BY "BUSSMAN" OR APPROVED EQUAL. FUSES RATED TO 1/10 AMPERE UP TO 600 AMPERES SHALL BE EQUIVALENT TO BUSSMAN TYPE LPN-RK (250V) UL CLASS RK1, LOW PEAK, DUAL ELEMENT, TIME-DELAY FUSES. FUSES SHALL HAVE SEPARATE SHORT CIRCUIT AND OVERLOAD ELEMENTS AND HAVE AN INTERRUPTING RATING OF 200 KAIC. UPON COMPLETION OF WORK, PROVIDE ONE SPARE SET OF FUSES FOR EACH TYPE INSTALLED.

**SECTION 16960**

1.01. TESTS BY INDEPENDENT ELECTRICAL TESTING FIRM

- A. CONTRACTOR SHALL RETAIN THE SERVICES OF A LOCAL INDEPENDENT ELECTRICAL TESTING FIRM (WITH MINIMUM 5 YEARS COMMERCIAL EXPERIENCE IN THE ELECTRICAL TESTING INDUSTRY) AS SPECIFIED BY OWNER TO PERFORM:
 

TEST 1: THERMAL OVERLOAD AND MAGNETIC TRIP TEST, AND CABLE INSULATION TEST FOR ALL CIRCUIT BREAKERS RATED 100 AMPS OR GREATER.

TEST 2: RESISTANCE TO GROUND TEST ON THE CELLULAR GROUNDING SYSTEM.

THE TESTING FIRM SHALL INCLUDE THE FOLLOWING INFORMATION WITH THE REPORT:

  1. TESTING PROCEDURE INCLUDING THE MAKE AND MODEL OF TEST EQUIPMENT.
  2. CERTIFICATION OF TESTING EQUIPMENT CALIBRATION WITHIN SIX (6) MONTHS OF DATE OF TESTING. INCLUDE CERTIFICATION LAB ADDRESS AND TELEPHONE NUMBER.
  3. GRAPHICAL DESCRIPTION OF TESTING METHOD ACTUALLY IMPLEMENTED.
- B. THESE TESTS SHALL BE PERFORMED IN THE PRESENCE AND TO THE SATISFACTION OF OWNER'S CONSTRUCTION REPRESENTATIVE. TESTING DATA SHALL BE INITIALED AND DATED BY THE CONSTRUCTION REPRESENTATIVE AND INCLUDED WITH THE WRITTEN REPORT/ANALYSIS.
- C. THE CONTRACTOR SHALL FORWARD SIX (6) COPIES OF THE INDEPENDENT ELECTRICAL TESTING FIRM'S REPORT/ANALYSIS TO ENGINEER A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO THE JOB TURNOVER.
- D. CONTRACTOR TO PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE TO OWNER AND ENGINEER FOR ALL TESTS REQUIRING WITNESSING.

**SECTION 16961**

1.01. TESTS BY CONTRACTOR

- A. ALL TESTS AS REQUIRED UPON COMPLETION OF WORK, SHALL BE MADE BY THIS CONTRACTOR. THESE SHALL BE CONTINUITY AND INSULATION TESTS; TEST TO DETERMINE THE QUALITY OF MATERIALS, ETC. AND SHALL BE MADE IN ACCORDANCE WITH N.E.C. RECOMMENDATIONS. ALL FEEDERS AND BRANCH CIRCUIT WIRING (EXCEPT CLASS 2 SIGNAL CIRCUITS) MUST BE TESTED FREE FROM SHORT CIRCUIT AND GROUND FAULT CONDITIONS AT 500V IN A REASONABLY DRY AMBIENT OF APPROXIMATELY 70 DEGREES F.
- B. CONTRACTOR SHALL PERFORM LOAD PHASE BALANCING TESTS. CIRCUITS SHALL BE CONNECTED TO THE PANELBOARDS SO THAT THE NEW LOAD IS DISTRIBUTED AS EQUALLY AS POSSIBLE BETWEEN EACH LOAD AND NEUTRAL. 10% SHALL BE CONSIDERED AS A REASONABLE AND ACCEPTABLE ALLOWANCE. BRANCH CIRCUITS SHALL BE BALANCED ON THEIR OWN PANELBOARDS; FEEDER LOADS SHALL, IN TURN, BE BALANCED ON THE SERVICE EQUIPMENT. REASONABLE LOAD TEST SHALL BE ARRANGED TO VERIFY LOAD BALANCE IF REQUESTED BY THE ENGINEER.
- C. ALL TESTS, UPON REQUEST, SHALL BE REPEATED IN THE PRESENCE OF OWNER'S REPRESENTATIVE. ALL TESTS SHALL BE DOCUMENTED AND TURNED OVER TO OWNER. OWNER SHALL HAVE THE AUTHORITY TO STOP ANY OF THE WORK NOT BEING PROPERLY INSTALLED. ALL SUCH DETECTED WORK SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL EXPENSE TO THE OWNER AND THE TESTS SHALL BE REPEATED.


PROFESSIONAL ENGINEER SEAL  
 STATE OF CONNECTICUT  
 REGISTERED PROFESSIONAL ENGINEER  
 J. [Signature]  
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T-MOBILE NORTHEAST LLC  
 SITE NAME: GUILFORD-1 J  
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ELECTRICAL SPECIFICATIONS

E-2  
 Sheet No. 2 of 7



## Protector™ 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)



QUIET-TEST™



\*Built in the USA using domestic and foreign parts

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.
- **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 ±1%.
- **TEST CRITERIA:**
  - ✓ PROTOTYPE TESTED
  - ✓ SYSTEM TORSIONAL TESTED
  - ✓ NEMA MG1-22 EVALUATION
  - ✓ MOTOR STARTING ABILITY
- **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.

**15 • 20 • 30 • 48 • 50 kW****application & engineering data****GENERATOR SPECIFICATIONS**

Type	Synchronous
Rotor Insulation Class	H (15 & 20 kW) or F (30, 48 & 50 kW)
Stator Insulation Class	H
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**

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

**GOVERNOR SPECIFICATIONS**

Type	Electronic Isochronous
Steady State Regulation	± 0.25%

**ELECTRICAL SYSTEM**

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

**GENERATOR FEATURES**

<p>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</p>
---

**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)

## 15 • 20 • 30 • 48 • 50 kW

## application & engineering data

### 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

### WEIGHTS AND DIMENSIONS

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

### 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

Type	Pressurized radiator - 15 & 20 kW Closed recovery - 30, 48 & 50 kW
Water Pump	Pre-lubed, self-sealing
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

**15 • 20 • 30 • 48 • 50 kW**

**operating data**

**GENERATOR OUTPUT VOLTAGE/kW - 60 Hz**

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

**SURGE CAPACITY IN AMPS**

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

**ENGINE FUEL CONSUMPTION**

		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/ RD050	25% of rated load	1.35	5.11
	50% of rated load	2.15	8.14
	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.

**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
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**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 generator may be higher depending on installation parameters.

**EXHAUST**

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

**ENGINE PARAMETERS**

Rated Synchronous RPM	1800			
HP at rated kW	26.4	33.5	49	85

**POWER ADJUSTMENT FOR AMBIENT CONDITIONS**

Temperature Deration .....	3% for every 5 °C above 25 °C or 1.7% for every 5 °F above 77 °F
Altitude Deration (15, 30, 48 & 50 kW) .....	1% for every 100 m above 915 m or 3% for every 1000 ft above 3000 ft
Altitude Deration (20 kW) .....	1% for every 100 m above 305 m or 3% for every 1000 ft above 1000 ft

**CONTROLLER FEATURES**

2-Line Plain Text Multilingual LCD Display .....	Simple user interface for ease of operation.
Mode Buttons: Auto .....	Automatic Start on Utility failure. Programmable 7 day exerciser.
Manual .....	Start with starter control, unit stays on. If utility fails, transfer to load takes place.
Off .....	Stops unit. Power is removed. Control and charger still operate.
Ready to Run/Maintenance Messages .....	Standard
Engine Run Hours Indication .....	Standard
Programmable start delay between 2-1500 seconds .....	Standard (programmable by dealer only)
Utility Voltage Loss/Return to Utility Adjustable .....	From 140-171 V/190-216 V
Future Set Capable Exerciser/Exercise Set Error Warning .....	Standard
Run/Alarm/Maintenance Logs .....	50 Events Each
Engine Start Sequence .....	Cyclic cranking: 16 sec on, 7 rest (90 sec maximum duration).
Starter Lock-out .....	Starter cannot re-engage until 5 sec after engine has stopped.
Smart Battery Charger .....	Standard
Charger Fault/Missing AC Warning .....	Standard
Low Battery/Battery Problem Protection and Battery Condition Indication .....	Standard
Automatic Voltage Regulation with Over and Under Voltage Protection .....	Standard
Under-Frequency/Overload/Stepper Overcurrent Protection .....	Standard
Safety Fused/Fuse Problem Protection .....	Standard
Automatic Low Oil Pressure/High Oil Temperature Shutdown .....	Standard
Overcrank/Overspeed (@ 72 Hz)/RPM Sense Loss Shutdown .....	Standard
High Engine Temperature Shutdown .....	Standard
Internal Fault/Incorrect Wiring Protection .....	Standard
Common External Fault Capability .....	Standard
Field Upgradable Firmware .....	Standard



15 & 20 kW

Drawing #0K7025-C (1 of 2)

- NOTES:**
- MINIMUM RECOMMENDED CONCRETE PAD SIZE: 1082 (437) WIDE X .2865 (837) LONG. REFERENCE INSTALLATION GUIDE SUPPLIED WITH UNIT FOR CONCRETE PAD GUIDELINES.
  - ALLOW SUFFICIENT ROOM ON ALL SIDES OF THE GENERATOR FOR MAINTENANCE AND SERVICING. THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT ELECTRICAL AND MECHANICAL CODES AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL, STATE, AND LOCAL CODES.
  - CONTROL PANEL / CIRCUIT BREAKER INFORMATION:
    - SEE SPECIFICATION SHEET OR OWNERS MANUAL FOR CIRCUIT BREAKER INFORMATION.
    - REMOVE REAR STUB-UP AND REAR ENCLOSURE COVER PANEL TO ACCESS THE STUBUP AREAS AS FOLLOWS:
      - HIGH VOLTAGE CONNECTION INCLUDING AC LOAD LEAD CONDUIT CONNECTION, NEUTRAL CONNECTION, AND BATTERY CHARGER 120 VOLT AC (105 AMP MAX) CONNECTION.
      - REMOVE REAR STUB-UP AND REAR ENCLOSURE COVER PANEL TO ACCESS THE STUBUP AREAS AS FOLLOWS:
        - TRIP AND ACCESSORY RELAY CONNECTION (RTY 4).
        - AND ACCESSORY RELAY CONNECTION (RTY 4).
    - CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.
    - BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND EXHAUST SYSTEM MUST BE MAINTAINED AT PRESSURE 2.0 INCHES H<sub>2</sub>O.
    - REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
    - MOUNTING BOLTS OR STUDS TO MOUNTING SURFACE SHALL BE 5/8-11 GRADE 5 (USE STANDARD SAE TORQUE SPECS).
    - FOR FRESH AIR INTAKE, AIR DISCHARGE, AIR AND EXHAUST. SEE SPEC SHEET FOR MINIMUM AIR FLOW RESTRICTION REQUIREMENTS.
    - GENERATOR MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE AND THAT DISCHARGE AIR FROM RADATOR IS NOT RECIRCULATED.

SERVICE ITEM	23L
OIL FILL CAP	RIGHT SIDE
OIL DIP STICK	RIGHT SIDE
OIL FILTER	RIGHT SIDE
OIL DRAIN HOSE	RIGHT SIDE
RADIATOR DRAIN HOSE	LEFT SIDE
COOLANT RECOVERY BOTTLE	LEFT SIDE
RADIATOR FILL CAP ACCESS	ROOF TOP
AIR CLEANER ELEMENT	EITHER SIDE
MUFFLER	FRONT
FAN BELT	EITHER SIDE
BATTERY	LEFT SIDE

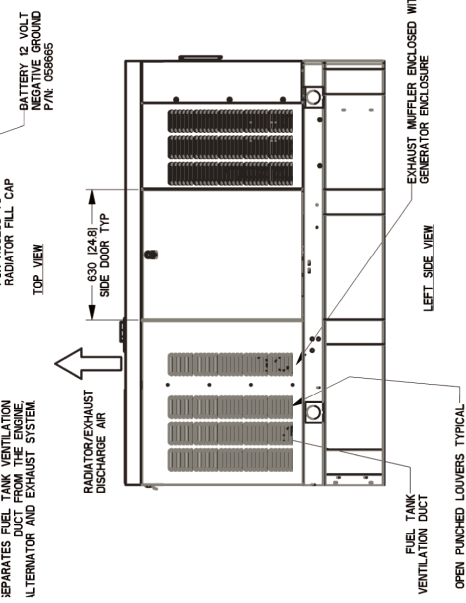
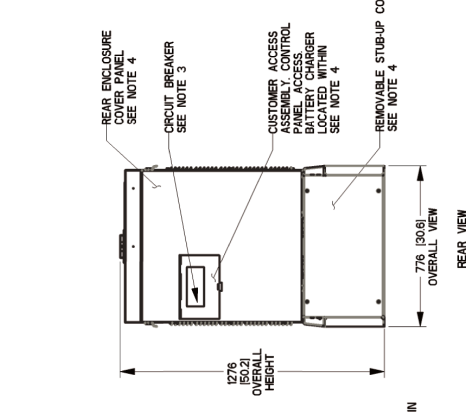
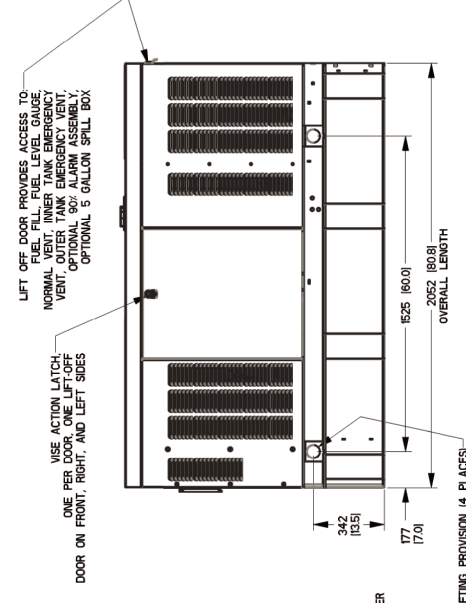
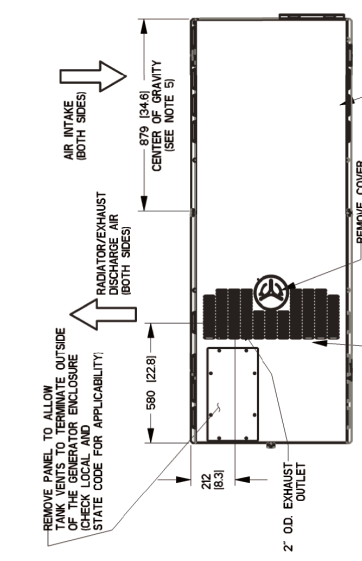
WEIGHT DATA WITH EMPTY BASE TANK (SEE NOTE 5):

GENERATOR AS SHOWN	626 (1360)
WITH WOODEN SHIPPING SKID	666 (1486)

WEIGHT: KG (LBS)

DIMENSIONS: MM (INCH)

REFERENCE OWNERS MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS.



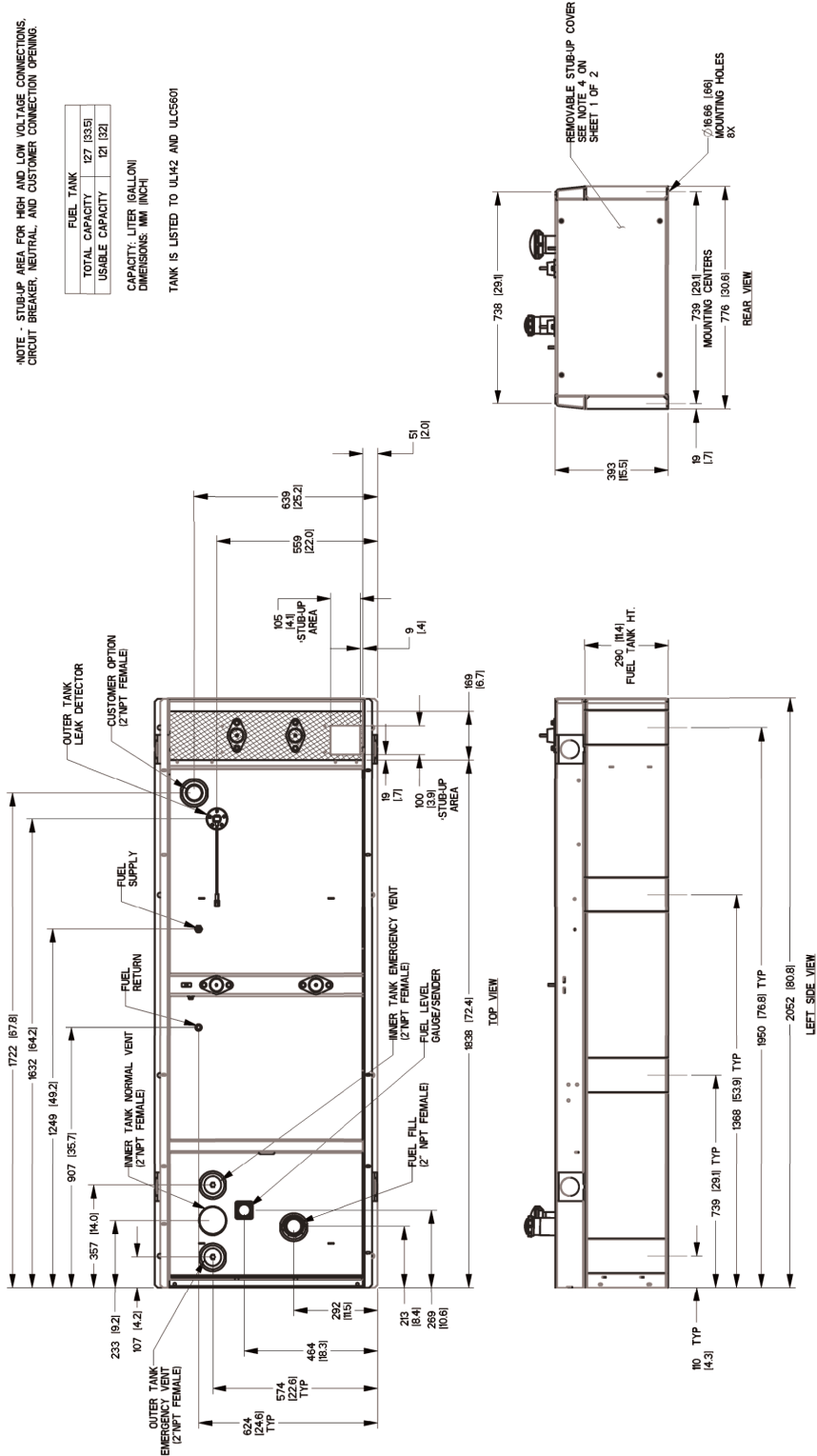
# 15 & 20 kW

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

FUEL TANK	
TOTAL CAPACITY	127 [33.5]
USABLE CAPACITY	121 [32]

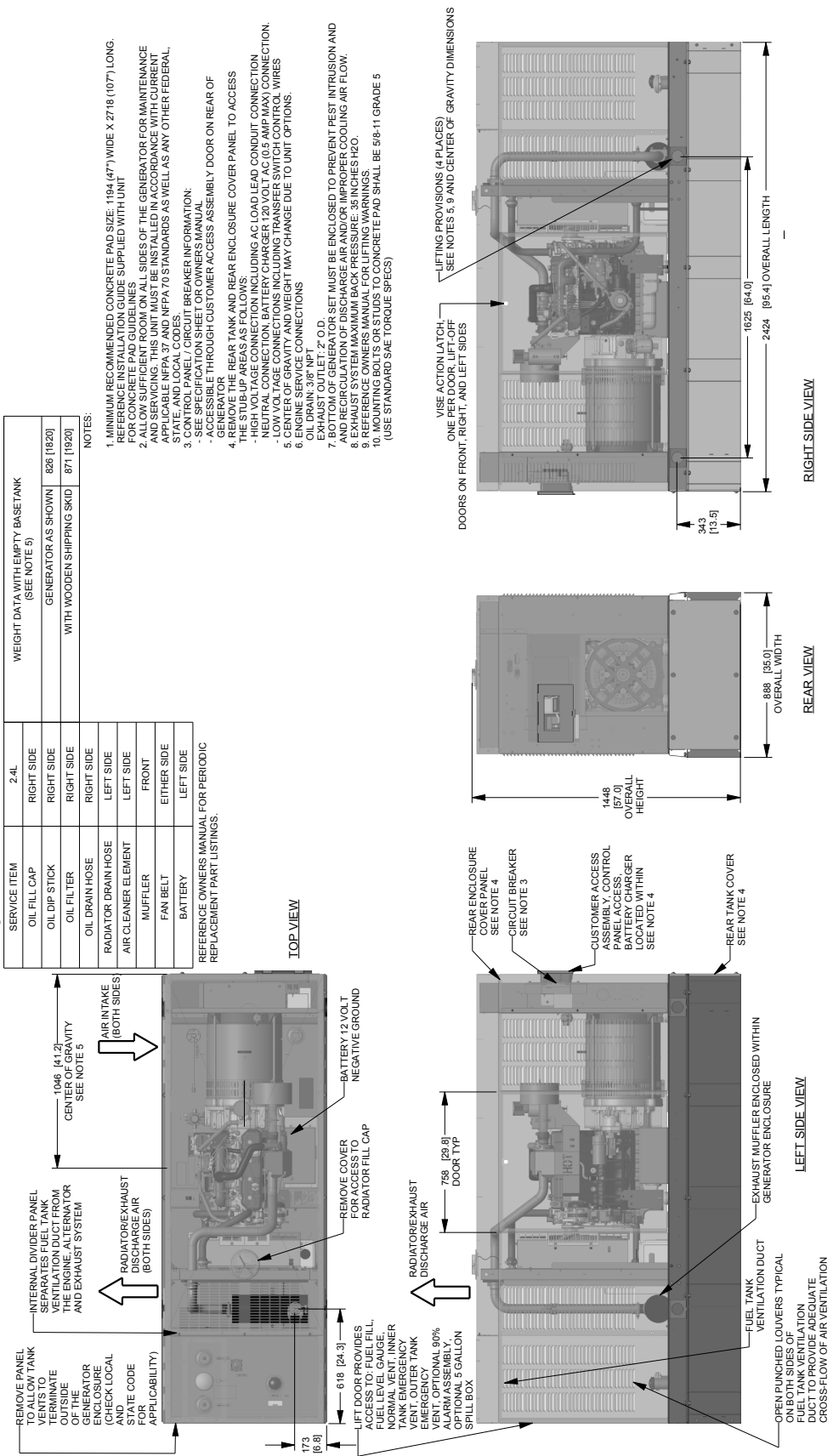
CAPACITY: LITER (GALLON)  
DIMENSIONS: MM (INCH)

TANK IS LISTED TO UL142 AND ULCS601



30 kW

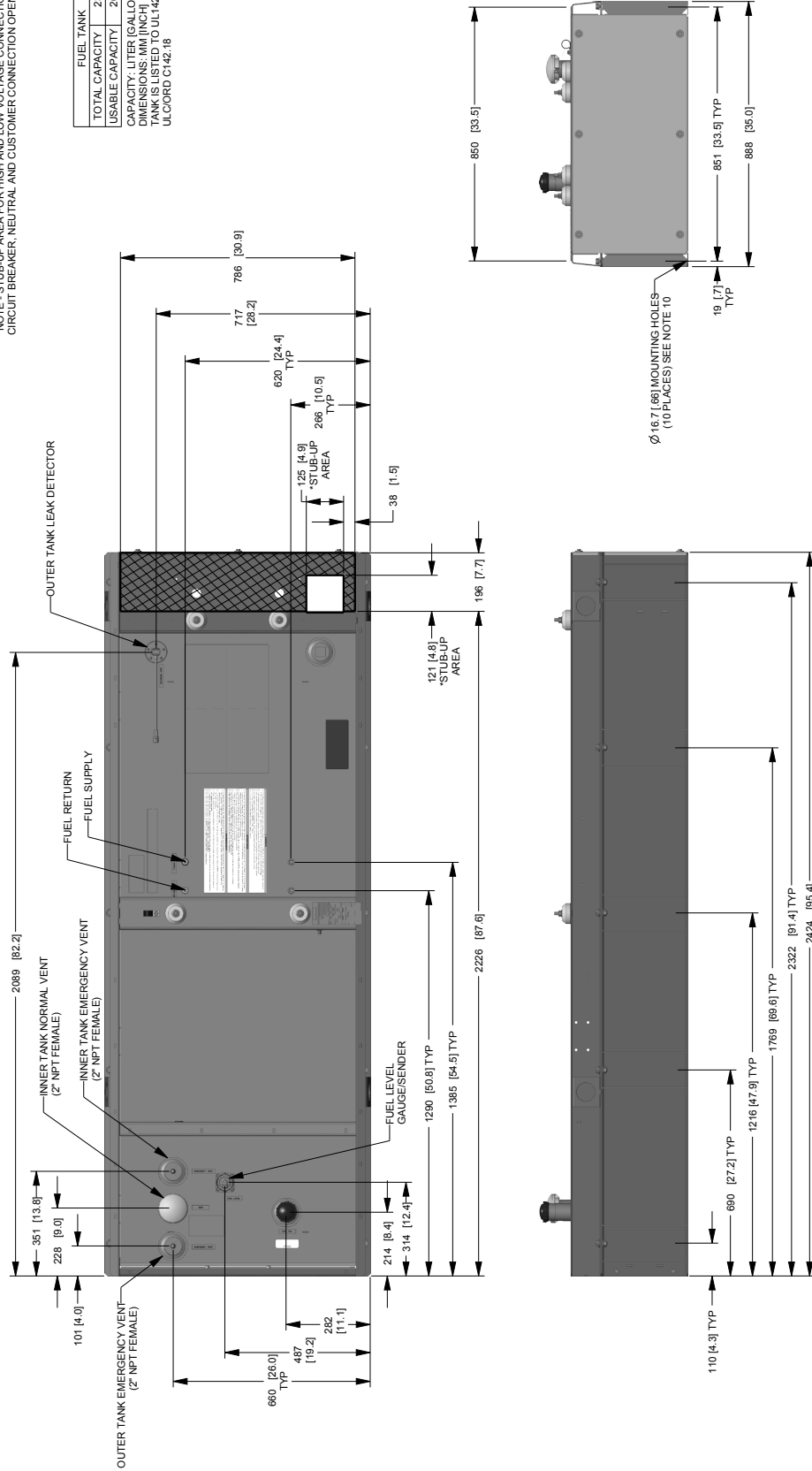
Drawing #0K7002-C (1 of 2)



### 30 kW

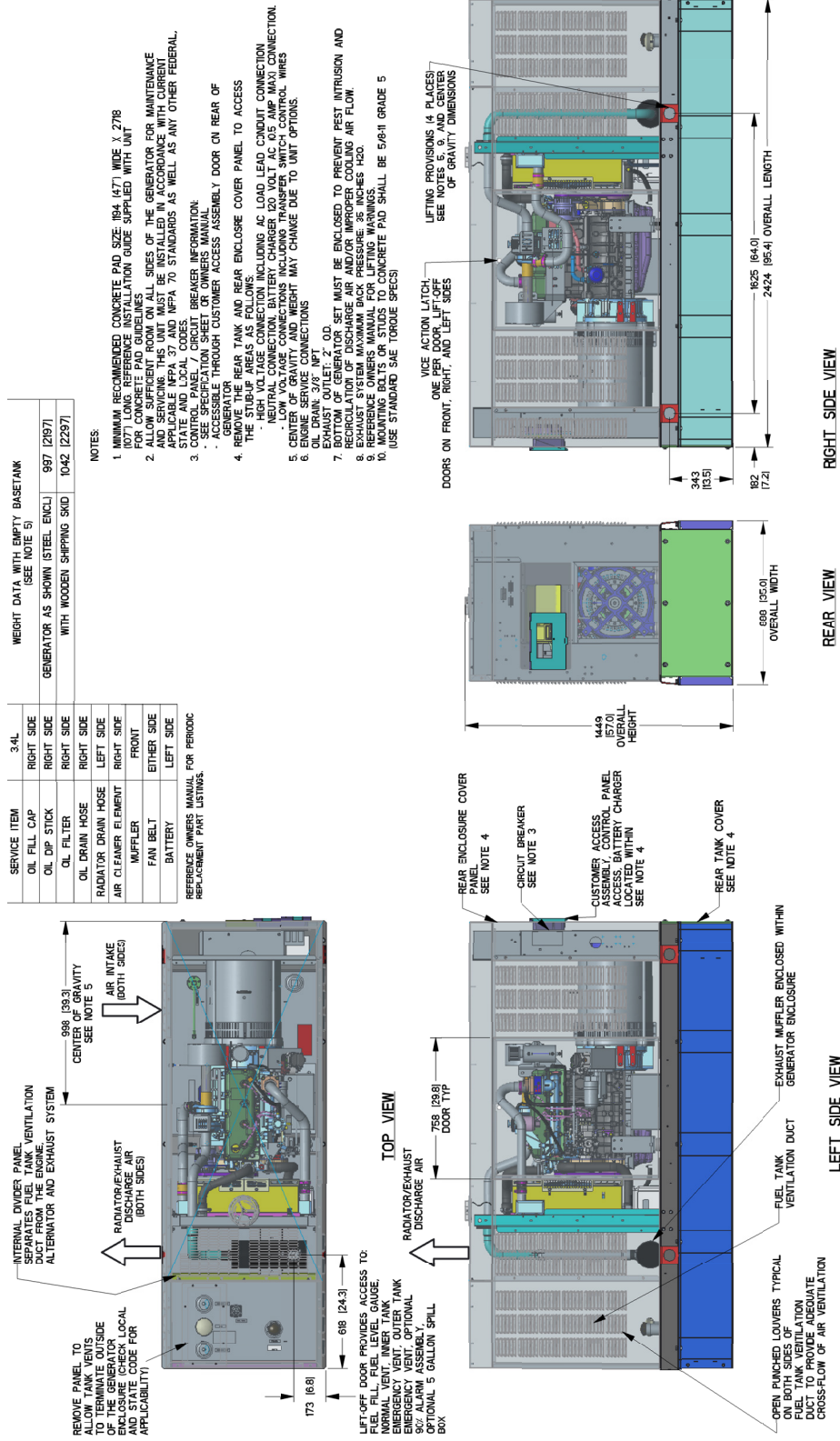
\*NOTE - STUB-UP AREA FOR HIGH AND LOW VOLTAGE CONNECTIONS, CIRCUIT BREAKER, NEUTRAL AND CUSTOMER CONNECTION OPENING.

FUEL TANK	
TOTAL CAPACITY	233 [6.1]
USABLE CAPACITY	203 [5.5]
CAPACITY, LITER (GALLON)	
DIMENSIONS: MM (INCH)	
TANK IS LISTED TO UL142 AND UL308 C142.18	



48 & 50 kW

Drawing #0K6968-C (1 of 2)



SERVICE ITEM	34L	WEIGHT DATA WITH EMPTY BASETANK (SEE NOTE 5)
OIL FILL CAP	RIGHT SIDE	GENERATOR AS SHOWN (STEEL ENCL)
OIL DIP STICK	RIGHT SIDE	997 (219.7)
OIL FILTER	RIGHT SIDE	WITH WOODEN SHIPPING SKID
OIL DRAIN HOSE	RIGHT SIDE	1042 (229.7)
RADIATOR DRAIN HOSE	LEFT SIDE	
AIR CLEANER ELEMENT	RIGHT SIDE	
MUFFLER	FRONT	
FAN BELT	ETHER SIDE	
BATTERY	LEFT SIDE	

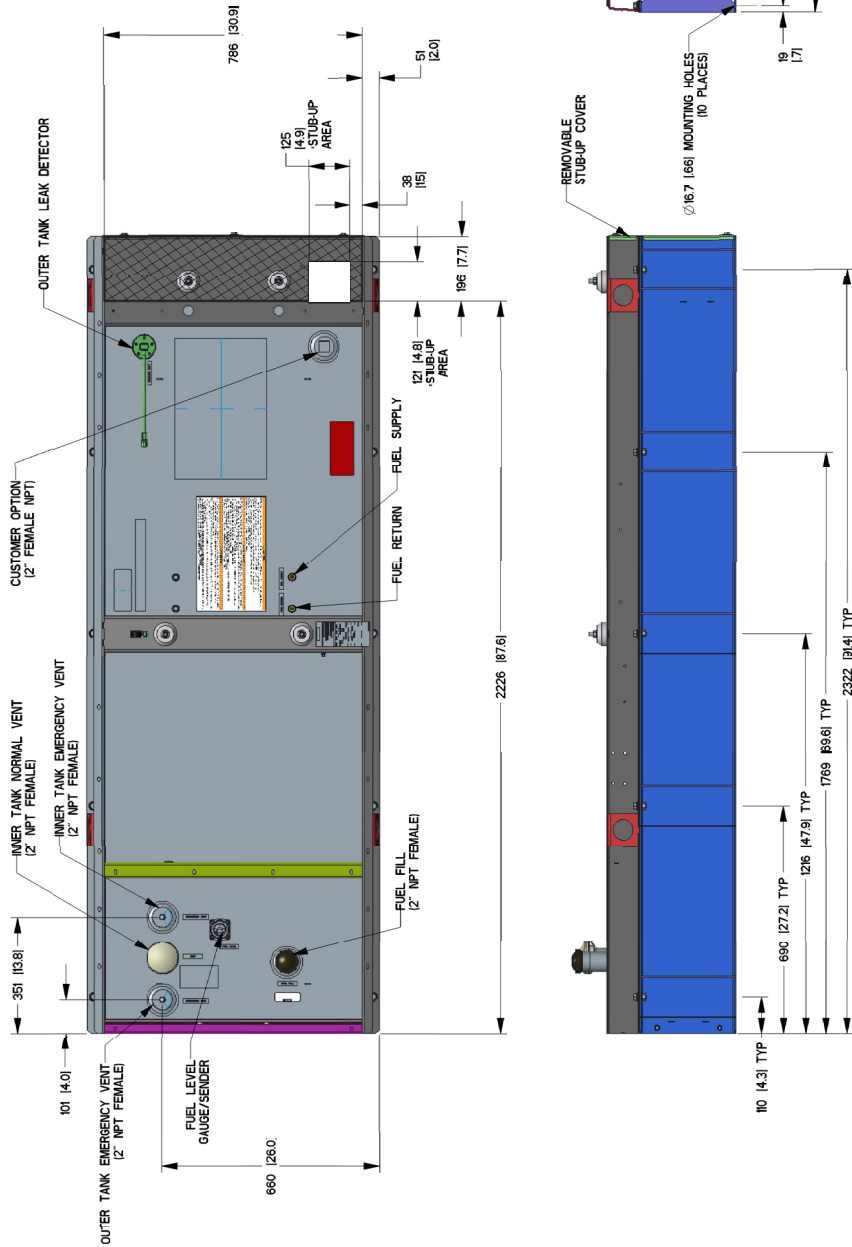
NOTES:

- MINIMUM RECOMMENDED CONCRETE PAD SIZE: 164" (4.7) WIDE X 278" (7.0) DEEP. SEE CONCRETE PAD GUIDELINES FOR CONCRETE PAD GUIDELINES.
- ALLOW SUFFICIENT ROOM ON ALL SIDES OF THE GENERATOR FOR MAINTENANCE AND SERVICING. THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT STATE AND LOCAL CODES.
- CONTROL PANEL / CIRCUIT BREAKER INFORMATION:
  - SEE SPECIFICATION SHEET OR OWNERS MANUAL
  - ACCESS THROUGH CUSTOMER ACCESS ASSEMBLY DOOR ON REAR OF ENCLOSURE
- REMOVE THE REAR TANK AND REAR ENCLOSURE COVER PANEL TO ACCESS THE STUB-UP AREAS AS FOLLOWS:
  - HIGH VOLTAGE CONNECTION INCLUDING AC LOAD LEAD CIRCUIT CONNECTION (SEE SPECIFICATION SHEET OR OWNERS MANUAL)
  - LOW VOLTAGE CONNECTIONS INCLUDING TRANSFER SWITCH CONTROL WIRES
- ENGINE SERVICE CONNECTIONS
- EXHAUST OUTLET: 2" OD
- BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT INTRUSION AND REDUCED DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
- SEE SPECIFICATION SHEET OR OWNERS MANUAL FOR LIFTING DIMENSIONS AND WEIGHTS.
- REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
- MOUNTING BOLTS OR STUDS TO CONCRETE PAD SHALL BE 5/8" I GRADE 5 (USE STANDARD SAE TORQUE SPECS)

### 48 & 50 kW

FUEL TANK	
TOTAL CAPACITY	233 [61]
USABLE CAPACITY	209 [55]
CAPACITY: LITER (GALLONS)	
DIMENSIONS: MM (INCH)	
THIS TANK IS LISTED TO UL142 AND ULCS90	

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



**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.