

INDUSTRIAL AVE,
STATE 3
MORRIS HILL NJ 07430
PHONE: 201.684.0055
FAX: 201.684.0066



March 25, 2022

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

RE: Notice of Exempt Modification
890 Evergreen Avenue, Hamden, CT
Latitude: 41.40667
Longitude: -72.90444
T-Mobile Site#: CT11686I - Hardening

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 104-foot level of the existing 108-foot silo tower at 890 Evergreen Avenue in Hamden, CT. The 108-foot silo tower and property is owned by Connecticut Agricultural Expt Station and the tower is operated by Crown Castle. T-Mobile now intends to add a 48Kw generator to a proposed 9' x 4' concrete pad within the existing compound.

Planned Modifications:

Ground:

Install New:

- (1) Generac RD048 48 Kw AC Diesel Generator. Requires (2) 12-minute run cycles by-weekly.
- (1) 9' x 4' concrete pad

This facility was approved by the Town of Hamden Planning and Zoning Commission via Site Plan Application #00-1263. Please see enclosed documentation.

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 Mayor Lauren Garrett, Elected Official, and Erik Johnson, 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

Attachments

cc: Lauren Garrett - Mayor of Hamden

Erik Johnson - Town Planner

Crown Castle - Tower Owner

CT Agricultural Expt Station - Property Owner

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

1 LBS

1 OF 1

SHIP TO:
CT AGRICULTURAL EXPT STATION
890 EVERGREEN AVENUE
HAMDEN CT 06518



CT 065 2-03



UPS GROUND

TRACKING #: 1Z V25 742 03 9526 7886



BILLING: P/P

Reference #1: CT11686I

XOL 22.03.13 NV45 13.0A 03/2022*



TM

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

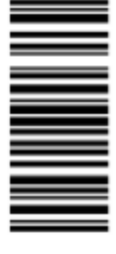
1 LBS

1 OF 1

SHIP TO:
CROWN CASTLE USA
2000 CORPORATE DRIVE
CANONSBURG PA 15317

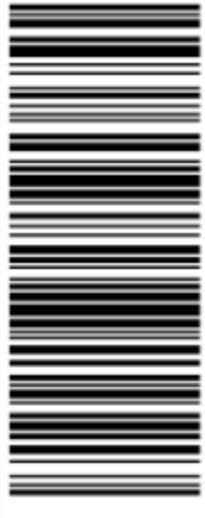


PA 153 0-10



UPS GROUND

TRACKING #: 1Z V25 742 03 9949 7871



BILLING: P/P

Reference #1: CT11686I

XOL 22.03.13 NV45 13.0A 03/2022*



TM

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

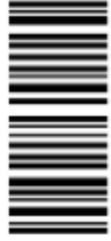
1 LBS

1 OF 1

SHIP TO:
ERIK JOHNSON
2750 DIXWELL AVENUE
HAMDEN CT 06518



CT 065 2-03



UPS GROUND

TRACKING #: 1Z V25 742 03 9605 7897



BILLING: P/P



XOL 22.03.13 NV45 13.04.03/2022*

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

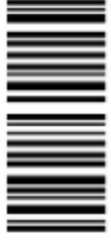
1 LBS

1 OF 1

SHIP TO:
MAYOR LAUREN GARRETT
2750 DIXWELL AVE
HAMDEN CT 06518

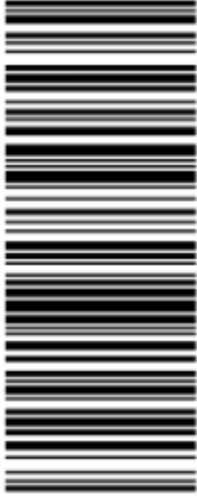


CT 065 2-03



UPS GROUND

TRACKING #: 1Z V25 742 03 9492 2544



BILLING: P/P

Reference #1: CT11686I

XOL 22.03.13 NV45 13.04.03/2022*



Hello, your package has been delivered.

Delivery Date: Wednesday, 03/23/2022

Delivery Time: 12:33 PM

Signed by: MAILROOM

TRANSCEND WIRELESS

Tracking Number: [1ZV257420396057897](#)

Ship To: ERIK JOHNSON
2750 DIXWELL AVENUE
HAMDEN, CT 06518
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 1.0 LBS

Hello, your package has been delivered.

Delivery Date: Wednesday, 03/23/2022

Delivery Time: 12:33 PM

Signed by: MAILROOM

TRANSCEND WIRELESS

Tracking Number: [1ZV257420394922544](#)

Ship To: MAYOR LAUREN GARRETT
2750 DIXWELL AVE
HAMDEN, CT 06518
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 1.0 LBS

Reference Number: CT11686I

Hello, your package has been delivered.

Delivery Date: Wednesday, 03/23/2022

Delivery Time: 12:48 PM

Left At: FRONT DOOR

TRANSCEND WIRELESS

Tracking Number: [1ZV257420395267886](#)
Ship To: CT AGRICULTURAL EXPT STATION
890 EVERGREEN AVENUE
HAMDEN, CT 06518
US
Number of Packages: 1
UPS Service: UPS Ground
Package Weight: 1.0 LBS
Reference Number: CT11686I

Hello, your package has been delivered.

Delivery Date: Thursday, 03/24/2022

Delivery Time: 11:05 AM

Signed by: TODD

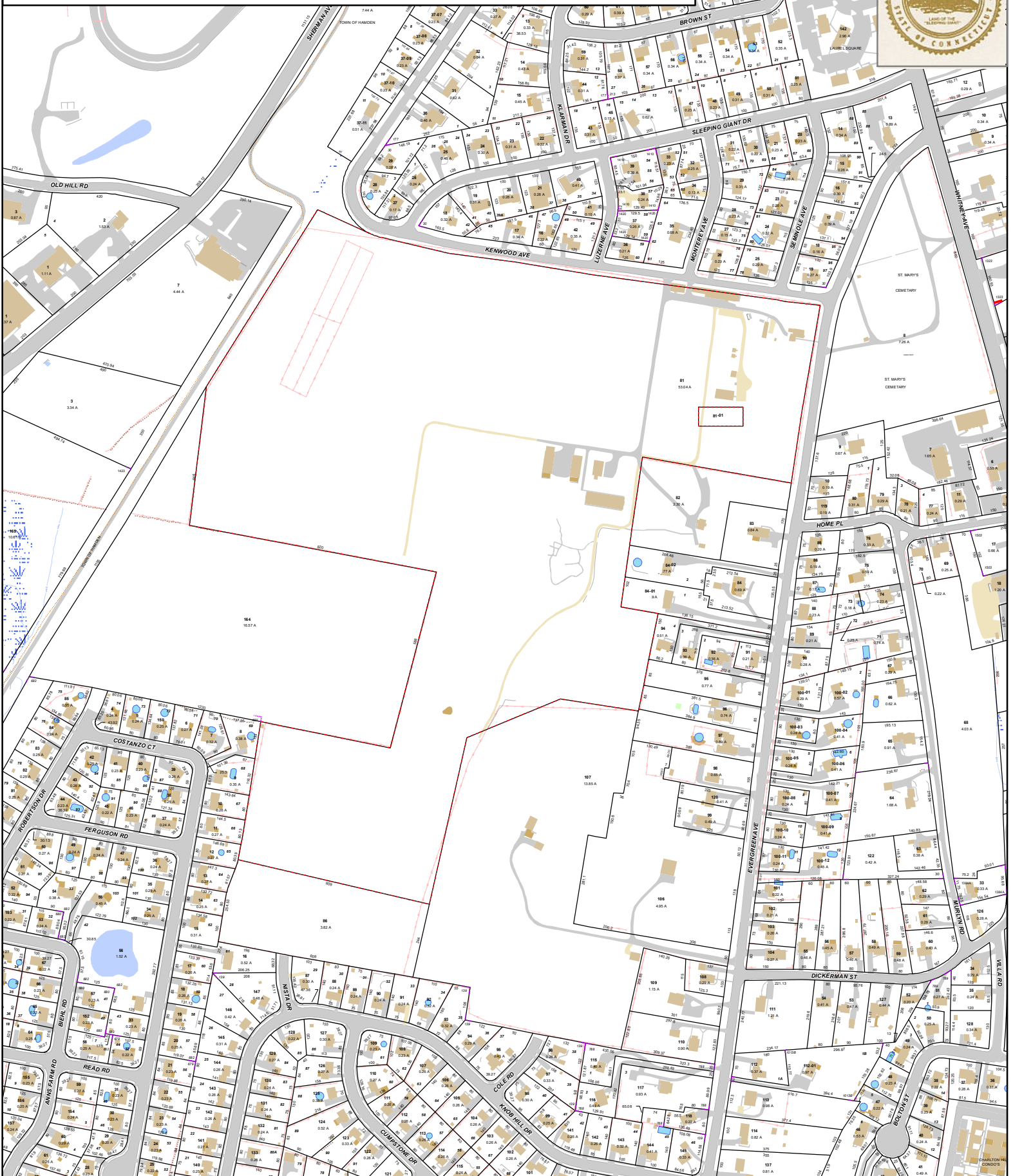
TRANSCEND WIRELESS

Tracking Number: [1ZV257420399497871](#)
Ship To: CROWN CASTLE USA
2000 CORPORATE DRIVE
CANONSBURG, PA 15317
US
Number of Packages: 1
UPS Service: UPS Ground
Package Weight: 1.0 LBS
Reference Number: CT11686I

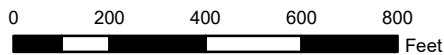
Town of Hamden, Connecticut - Assessment Parcel Map

Parcel: 2930-081-00-0000

Address: 890 EVERGREEN AVE



Approximate Scale: 1 inch = 400 feet



Map Produced: October 2020

Disclaimer: This map is for informational purposes only.
All information is subject to verification by any user.
The Town of Hamden and its mapping contractors assume no legal responsibility for the information contained herein.



Town of Hamden, CT

Property Listing Report

Map Block Lot

2930-081-00-0000

Building # 1

PID 101742

Account

Property Information

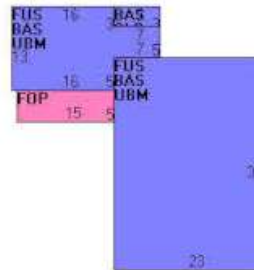
Property Location	890 EVERGREEN AVE
Owner	CONN AGRICULTURAL EXPT STATION
Co-Owner	na
Mailing Address	890 EVERGREEN AVE HAMDEN CT 06518
Land Use	901R STATE M01
Land Class	E
Zoning Code	R4
Census Tract	

Neighborhood	110
Acreage	53.04
Utilities	All Public
Lot Setting/Desc	Suburban Above Street
Book / Page	0064/0135
Additional Info	

Photo



Sketch



Primary Construction Details

Year Built	1870
Building Desc.	STATE M01
Building Style	Colonial
Building Grade	B -
Stories	2
Occupancy	1.00
Exterior Walls	Vinyl Siding
Exterior Walls 2	NA
Roof Style	Gable
Roof Cover	Asphalt
Interior Walls	Plastered
Interior Walls 2	NA
Interior Floors 1	Carpet
Interior Floors 2	Vinyl/Asphalt

Heating Fuel	Oil
Heating Type	Hot Water
AC Type	None
Bedrooms	01
Full Bathrooms	1
Half Bathrooms	1
Extra Fixtures	0
Total Rooms	7
Bath Style	Average
Kitchen Style	Average
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	0
Fireplaces	0

(*Industrial / Commercial Details)

Building Use	Residential
Building Condition	G
Sprinkler %	NA
Heat / AC	NA
Frame Type	NA
Baths / Plumbing	NA
Ceiling / Wall	NA
Rooms / Prtns	NA
Wall Height	
First Floor Use	NA
Foundation	NA



Town of Hamden, CT

Property Listing Report

Map Block Lot

2930-081-00-0000

Building # 1

PID 101742

Account

Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings		122640
Extras	0	0
Improvements		
Outbuildings	176100	123270
Land	755600	528920
Total	1106900	774830

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Porch, Open	75	0
Upper Story, Finished	1002	1002
Slab	21	0
Basement, Unfinished	1002	0
First Floor	1023	1023
Total Area	3123	2025

Outbuilding and Extra Features

Type	Description
PAVING-ASPHALT	18780 S.F.
W/LOFT-AVG	2100 S.F.
W/LOFT-AVG	2100 S.F.
1 STORY W/LOFT	2808 S.F.
1 STORY W/LOFT	1056 S.F.
PIPE & PLASTIC	520 S.F.
2 STORY	4800 S.F.

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
CONN AGRICULTURAL EXPT STATION	0064/0135	1911-01-04	0



TOWN OF HAMDEN

CONNECTICUT

BOND RELEASE RECOMMENDATION/ACTION

MEMO TO: Planning & Zoning Commission

FROM: Joseph J. Venditto, Zoning Enforcement Officer

DATE: MARCH 7, 2002

RE: Bond Release

ADDRESS: 890 EVERGREEN Ave

PROJECT: SITE PLAN 00-1263

TOTAL BOND AMOUNT:	Present Amt.	Recommendation Amt. to Retain
Site Work	13,527.	0
Right of Way	0.	0
Subtotal	13,527.	0
Other 10%	1,473.	0
TOTAL	15,000.	0

Bond total covers all items listed or not listed. Categories are for estimation purposes only.

Comments: ALL SITE WORK COMPLETE. BOND RELEASE CAN BE RECOMMENDED.

\$60.00
FEE

TOWN OF HAMDEN
APPLICATION FOR CERTIFICATE OF ZONING COMPLIANCE

Property Address 890 EVERGREEN ^{DRIVE} ~~DRIVE~~ Zoning District R-9
Property Owner CROWN CASTLE ~~PLANNING~~ ^{LLC} Phone # (860) 657-1563 CALL (860) 306-0337
Property Owner Address 703 HARRISON AVE, GLOSTONBURY, CT 06033
Type of Zoning Permit: CONDOMINIUM SITING COUNCIL

I certify that the work required has been completed in accordance with approved plans except as noted on attached as-built drawing.

Applicant Signature [Signature] Date 8-26-02
Owner/Agent

PRINTED NAME WILLIAM W WATSON - 7th
ADDRESS 703 HARRISON AVE, GLOSTONBURY, CT 06033
TELEPHONE # (860) 657-1567 FAX # (860) 633-7078

Certificate # _____ Certificate of Zoning Compliance

Zoning Enforcement Officer Findings: based upon inspection of MARCH 5, 2002

Unconditional Meets all requirements
Conditional See list below

Following is a list of requirements determined from inspection which while not yet complete do not adversely affect use/occupancy of the premises and for which sufficient security is being held:

Signature [Signature] Date 3/5/02
Zoning Enforcement Officer

This is not a Certificate of Occupancy under the Building Code

Rev 08/16/01

RECEIVED
TOWN OF HAMDEN
3-5-02
PLANNING AND
ZONING DEPT.
171ST TOWN OFFICE



Crown Castle Atlantic LLC
Northeast Region
703 Hebron Avenue, 2nd Floor
Glastonbury, CT 06033

Tel 860 633.9369
Fax 860 633.7078
www.crowncastle.com

February 25, 2002

Mr. Joseph J. Venditto
Town of Hamden
2372 Whitney Avenue
Hamden, CT 06518

Re: Hamden Telecommunications Facility
CT Agricultural Station
Hamden, CT

Dear Mr. Venditto,

Please find enclosed two (2) stamped original as built drawings for the referenced Telecommunications facility.

Also enclosed is a copy of a letter dated January 11, 2002 from Mr. Roberts of URS Corporation the A&E firm of record for this project addressing the Bollard issue.

I am requesting that a Certificate of Zoning Compliance be issued for this project.

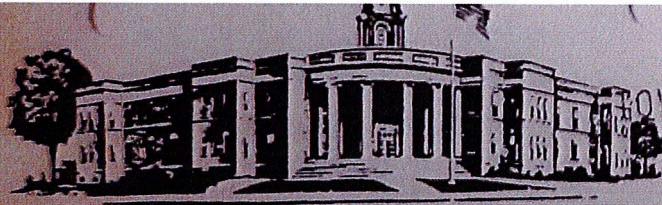
If you have any questions and/or need any additional information please do not hesitate to call. If I'm not in the office you can reach me on my cell phone (860) 306-0337.

Sincerely,
Crown Atlantic Company.LLC

William W. Watson
Project Manager

WWW:www

RECEIVED
TOWN OF HAMDEN
FEB 25 2002
PLANNING AND
ZONING DEPT.



TOWN CLERK
HAMDEN, CT

TOWN OF HAMDEN

CONNECTICUT

2001 OCT -3 P 12:00

REC'D AND FILED BY

Draft Minutes subject to Commission approval

MINUTES: ZONING SECTION, Planning & Zoning Commission, Town of Hamden, held a Public Hearing and Regular Meeting on Tuesday, September 25, 2001 and the following were reviewed:

Commissioners in Attendance:

- Mr. Crocco
- Mr. Del Vecchio
- Mr. Sims
- Mr. Cesare, (for Mr. Vegliante)
- Ms. Woodward, (for Ms. Benevides)

Staff in Attendance:

- Mr. O'Brien, Town Planner
- Mr. Lee, Town Attorney
- Ms. Raccio, Stenographer
- Ms. Gaiolini, Clerk

Mr. Del Vecchio opened the Regular Meeting at 7:10 p.m. He introduced the Commission, and staff and gave an overview of the procedures for the evening.

A. Regular Meeting

1. Site Plan/WS 01-1308
72 Crest Way, Lot #12
Office/Storage
Robert Massaro, Applicant
Deadline: October 18, 2001

Bernard Wright, 71 Charnes Dr., East Haven, CT. Will answer any questions the Commission may have.

Mr. O'Brien stated this had been submitted several months back. There were questions from the Town Engineer, those questions have since been answered & incorporated on the map. Mr. Savarese's letter dated 9/20/01 states the plan is now satisfactory to his department. The comments from December 18th have been addressed. RWA comments dated 9/17/01. The comment on slope stabilization has already been discussed.

Mr. Del Vecchio said item #3 (stabilization) will be taken care of, it has already been discussed with the applicant. Mr. O'Brien noted the parking lot is not paved but crushed stone. Sometimes that is better with respect to drainage. Mr. Del Vecchio read the RWA letter. Mr. Wright said there are 3 dry wells to retain and also take any water coming down the slope. Also provided pipe from dry well to dry well so if 1 fills up it drains into next one. No heavy equipment to speak of. Mr. Crocco questioned location of parking and catch basins. 2 in the crushed stone part and 1 in the black top (the front is black top). Mr. Del Vecchio asked if Mr. Wright had reviewed the Town Planner's recommendations. Mr. Wright answered yes, noting the erosion and sediment control will be in place and iron pins set at a later date. As built site plan to Al Savarese. Will post bond after permit issued. Dumpster to the rear of the building. They don't need it because all they have is office space, but if required by the Town, they will provide. Mr. Crocco questioned the warehouse itself, above the office - you're not asking for storage on top? Mr. Wright answered, not right now. Mr. Crocco also asked Mr. O'Brien for clarification on the placing of corner pins & bond releases.

Mr. Sims motions to approve 01-1308 with the recommendations of the Town Planner:

- Parking location and handicapped parking to be approved by Town Planner
- Dumpster location to be approved by Town Planner
- Submit slope stabilization plan to Town Planner & Town Engineer
- Erosion sediment controls installed prior to beginning of construction
- RWA recommendations of letter dated 9/17/01 to be incorporated
- Iron pins to be set
- No outdoor storage
- Post bond prior to zoning permit

Mr. Cesare seconds. Unanimous. **APPROVED.**

B. Informational

Mr. Del Vecchio noted item B is Informational. There is actually no action being taken on either of these 2 items. These are administrative bond releases. This Commission has voted and given the Town Planner the authority to release up to \$15,000.00. Both released per Roger O'Brien.

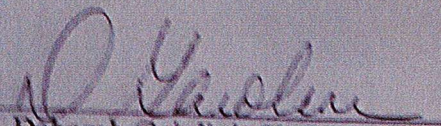
1. Site Plan 00-1263
890 Evergreen Ave./Lockwood Farms
Administrative Bond Release \$15,000.00
Requested by Crown Castle
2. Site Plan 01-1307
88 Mulberry Hill Rd.
Single Family Lot
Bond Release \$2,200.00
Requested by Joan Wagner

C. Approval of Minutes

1. Approve Minutes of June 26, 2001 Regular Meeting. (Mr. Sims, Mr. Crocco & Mr. Del Vecchio were present at that meeting and can vote). Mr. Crocco motions to approve as written. Mr. Sims seconds. **APPROVED.**

2. Approve Minutes of July 24, 2001 Regular Meeting. Mr. Sims motions to approve as written. Mr. Crocco seconds. **APPROVED.**

Ms. Woodward motions to adjourn. Mr. Cesare seconds. Closed at 7:30 p.m.

Submitted by: 
Deborah Gaiolini, Clerk

T-Mobile

CT HAMDEN NORTH CAC - GENERATOR ADD

SITE ID: CT116861

890 EVERGREEN AVENUE

HAMDEN, CT 06518

GENERAL NOTES

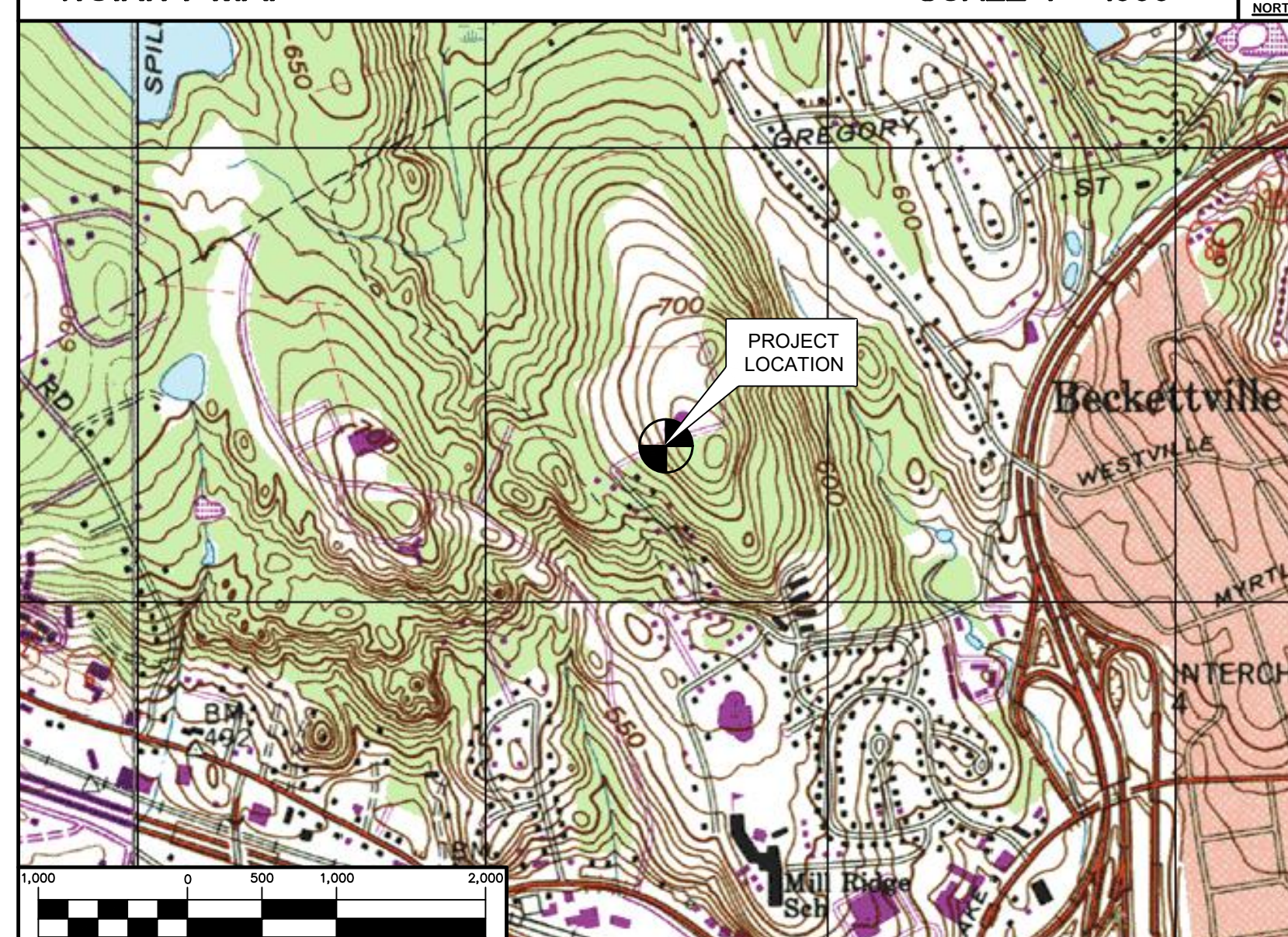
- ALL WORK SHALL BE IN ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2018 CONNECTICUT SUPPLEMENT, INCLUDING THE TIA/EIA-222 REVISION "G" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES." 2017 CONNECTICUT FIRE SAFETY CODE, NATIONAL ELECTRICAL CODE AND LOCAL CODES.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- CONTRACTOR SHALL COMPLY WITH OWNERS ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.

SITE DIRECTIONS

FROM:	TO:
35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002	890 EVERGREEN AVE HAMDEN, CT 06518
1. HEAD NORTH ON GRIFFIN ROAD S. TOWARD HARTMAN RD.	0.30 MI.
2. TAKE THE 2ND RIGHT ONTO DAY HILL RD.	3.64 MI.
3. MERGE ONTO I-91 S TOWARD HARTFORD.	39.33 MI.
4. MERGE ONTO CT-40 N VIA EXIT 10 TOWARD MT CARMEL/HAMDEN.	2.69 MI.
5. MERGE ONTO WHITNEY AVE/CT-10 N TOWARD MT CARMEL/CHESHIRE.	0.64 MI.
6. TURN LEFT ONTO EVERGREEN AVE.	0.26 MI.

VICINITY MAP

SCALE: 1" = 1000'



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 ON A PROPOSED 9'-0" x 4'-0" CONCRETE PAD
 - INSTALL (1) AUTOMATIC TRANSFER SWITCH

PROJECT INFORMATION

SITE NAME:	CT HAMDEN NORTH CAC
SITE ID:	CT116861
SITE ADDRESS:	890 EVERGREEN AVENUE HAMDEN, CT 06518
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:	CENTEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT 06405
PROJECT COORDINATES:	LATITUDE: 41°-24'-23.8" N LONGITUDE: 72°-54'-21.6" W GROUND ELEVATION: 204± AMSL
	SITE COORDINATES AND GROUND ELEVATION REFERENCED FROM GOOGLE EARTH.

SHEET INDEX

SHT. NO.	DESCRIPTION	REV.
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C-1	COMPOUND AND EQUIPMENT PLAN	3
C-2	TYPICAL EQUIPMENT DETAILS	3
E-1	ELECTRICAL RISER DIAGRAM AND CONDUIT ROUTING	3
E-2	ELECTRICAL SPECIFICATIONS	3

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
1	09/01/22	JLD	TJR	CONSTRUCTION DRAWINGS - REISED PER NEW GENERATOR MODEL
2	09/11/22	RFS	TJR	CONSTRUCTION DRAWINGS - REISED PER NEW LEASE AREA
0	06/12/21	RFS	TJR	CONSTRUCTION DRAWINGS - REISED PER NEW GENERATOR
0	06/12/21	KAW/B	CAG	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION

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TRANSCEND WIRELESS

CENTEK engineering
Centek on Solutions
(203) 488-0380
(203) 488-8587 Fax
632 North Branford Road
Branford, CT 06405
www.CentekEng.com

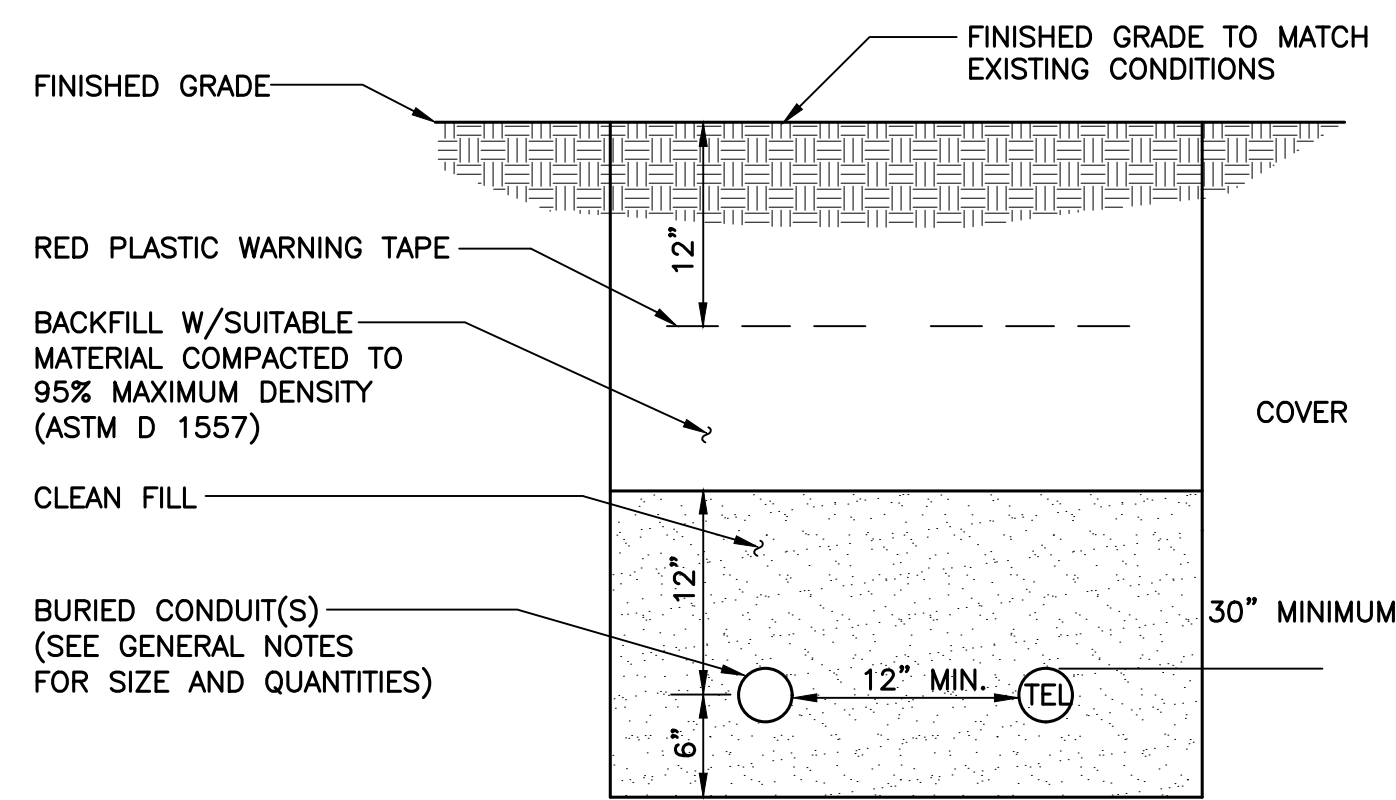
T-MOBILE NORTHEAST LLC
CT HAMDEN NORTH CAC
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HAMDEN, CT 06518

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TITLE SHEET

T-1

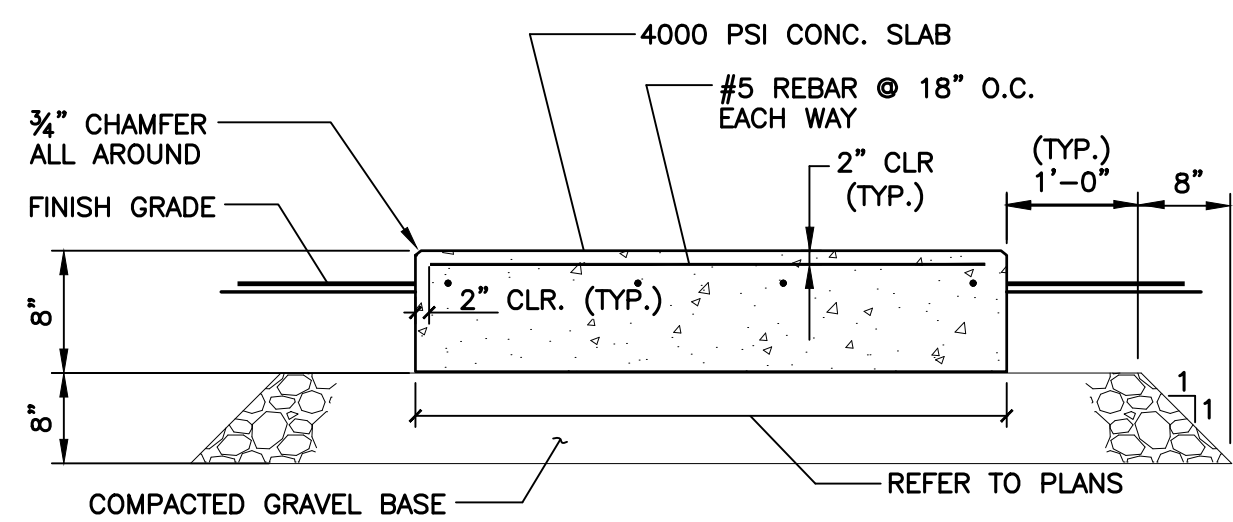
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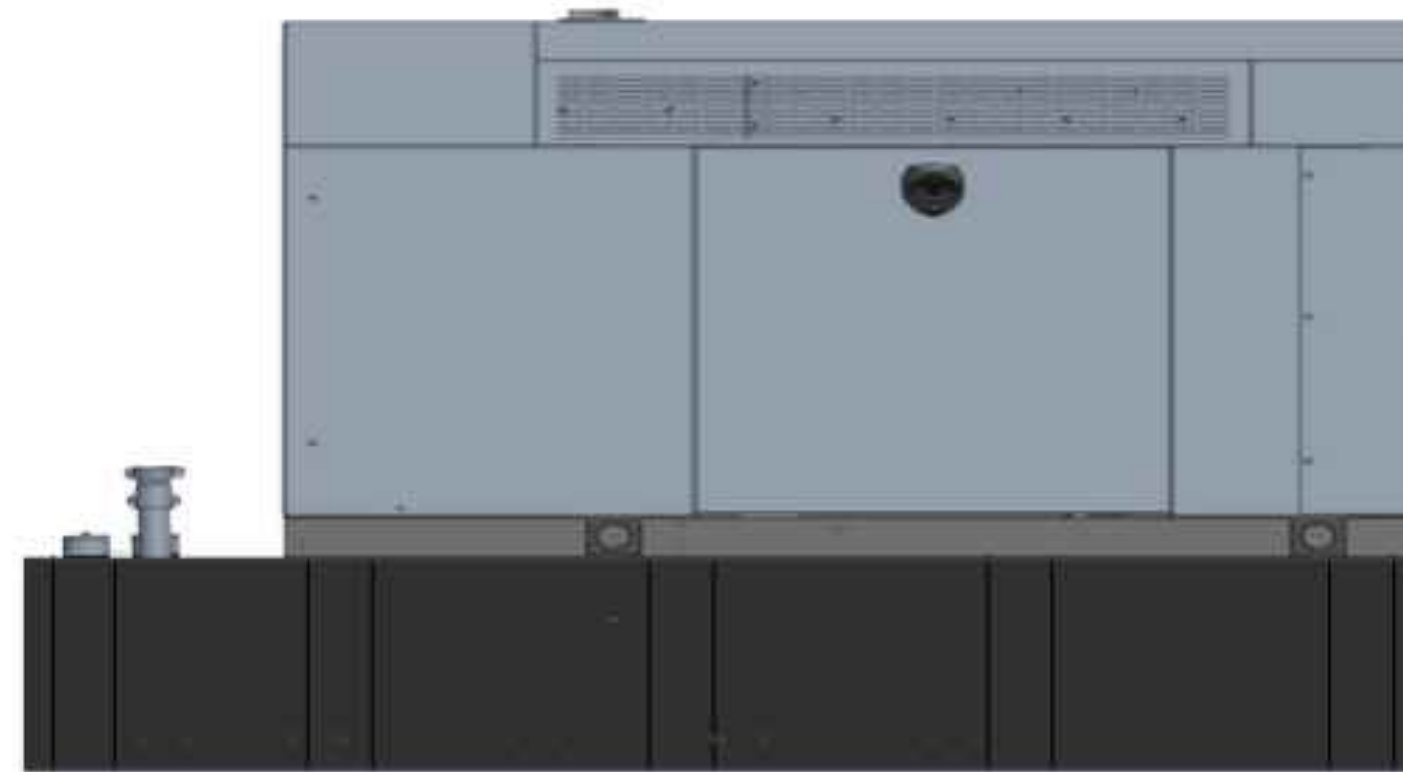
NOTES:

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.

1
C-2 **TYPICAL ELECTRICAL/TEL TRENCH DETAIL**
SCALE: NOT TO SCALE



2
C-2 **TYPICAL CONCRETE PAD DETAIL**
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	229	103.4"L x 35.0"W x 91.7"H	2915 LBS.

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

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

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 SIDERS OF FLOOR OR WALL.

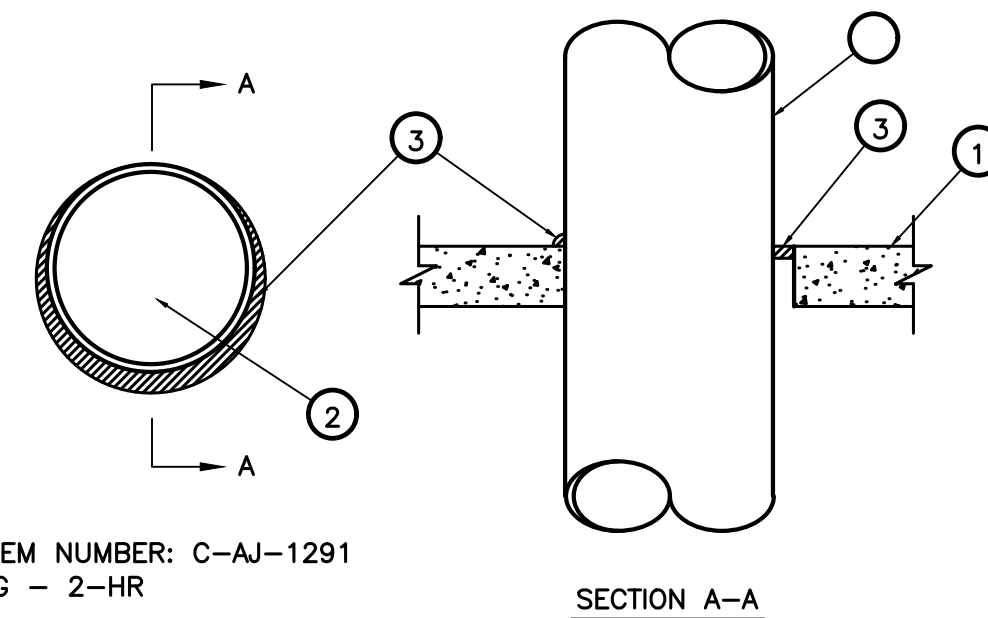
FORMING MATERIAL SHALL BE A MIN. OF 1 1/2" THICK OF MIN. 4.0 PCF MINERAL WOOL BATT INSULATION FIRMLY PACKED IN OPENING, USG INTERIORS-TYPE SAF

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

UL SYSTEM NUMBER: CAJ1020

F RATING - 3 HR.

4
C-2 **PIPE AND CONDUIT PENETRATION DETAIL IN CONCRETE OR MASONRY**
N.T.S.



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

5
C-2 **METAL PIPE THROUGH CONCRETE FLOOR/ WALL OR BLOCK WALL**
N.T.S.

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 SIDERS 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.

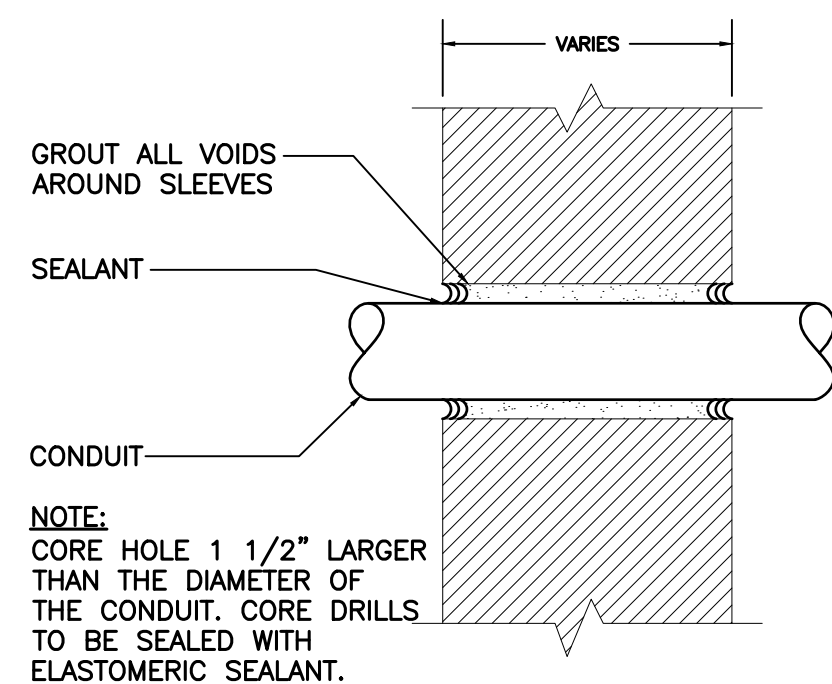
MAX. DIA. OF THROUGH PENETRANT	NOMINAL ANNULAR SPACE IN.	FILL MATERIAL TYPE
1"	1/2"	FSP 1100 PUTTY
2"	1"	FS 1900 SEALANT

ONE 2" SCHEDULE 40 PVC PIPE TO BE CENTERED WITHIN FIRESTOP SYSTEM. PIPE SHALL BE RIGIDLY SUPPORTED ON BOTH SIDERS 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.

6
C-2 **PVC CONDUIT PENETRATION DETAIL IN GYPSUM WALLBOARD**
N.T.S.



7
C-2 **PIPE AND CONDUIT PENETRATION DETAIL IN NON-RATED PARTITION**
N.T.S.

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

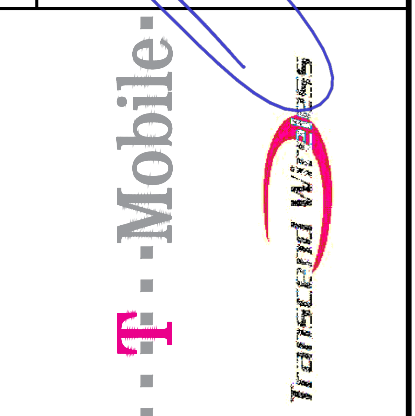
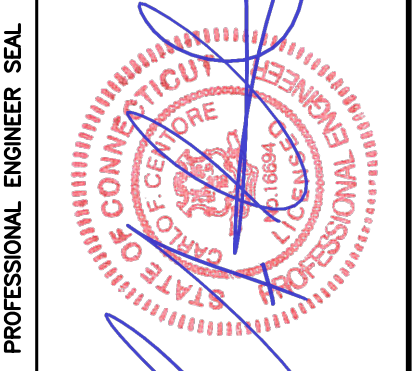
ONE 2" METALLIC PIPE OR CONDUIT TO BE CENTERED WITHIN FIRESTOP SYSTEM. PIPE SHALL BE RIGIDLY SUPPORTED ON BOTH SIDERS OF WALL/FLOOR ASSEMBLY

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.

8
C-2 **PIPE AND CONDUIT PENETRATION DETAIL IN GYPSUM WALLBOARD**
N.T.S.

REV.	DATE	BY	CHK'D BY	DESCRIPTION
1	09/01/22	JLD		
2	09/30/21	RFS		
3	12/09/20	RFS		
0	06/13/18	KAWB		



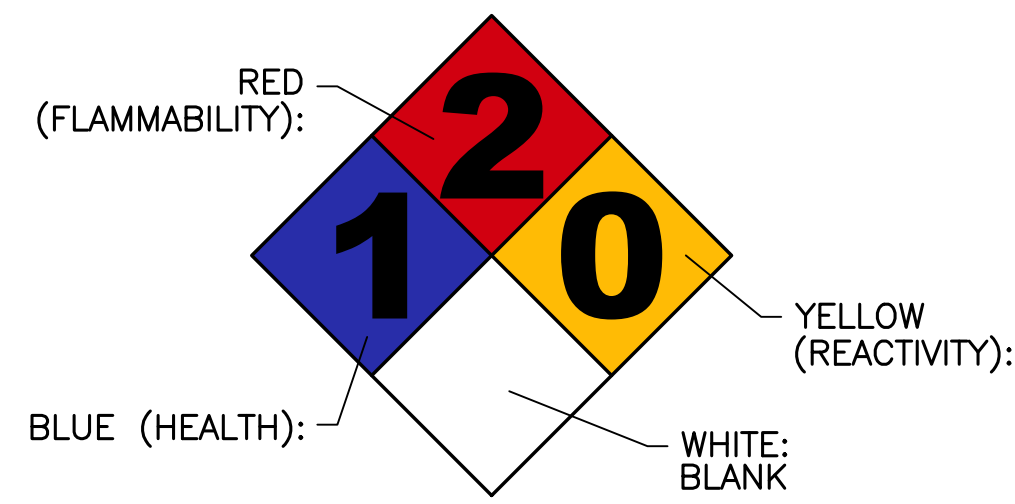
CENTEK engineering
Center on Solutions
(203) 488-0380
(203) 488-8587 Fax
652 North Branford Road
Branford, CT 06405
www.CentekEng.com

T-MOBILE NORTHEAST LLC
CT HAMDEN NORTH CAC
SITE ID: CT16861
890 EVERGREEN AVENUE
HAMDEN, CT 06518

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TYPICAL EQUIPMENT DETAILS

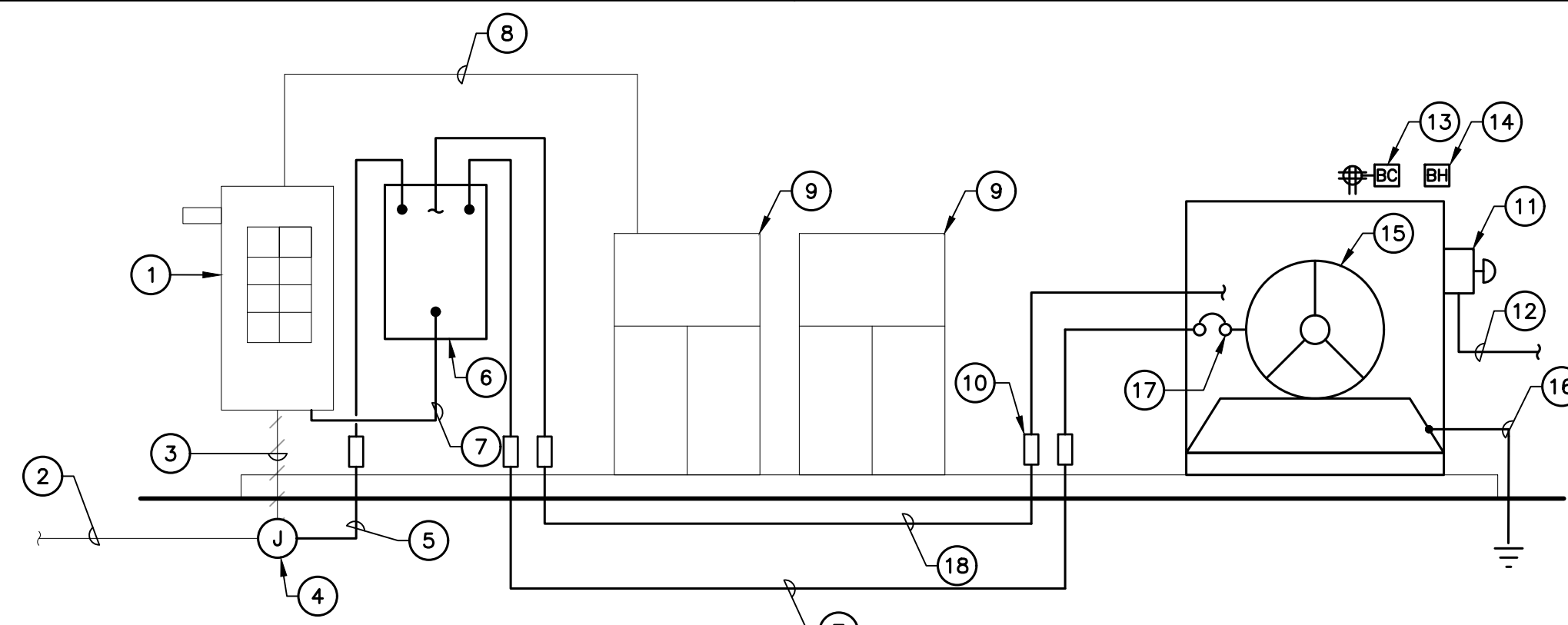
C-2



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.

1 NFPA 704 DIAMOND SIGNAGE DETAIL
 E-1 SCALE: NOT TO SCALE

RISER DIAGRAM NOTES	RISER DIAGRAM NOTES
<ol style="list-style-type: none"> 1 EXISTING PPC CABINET TO REMAIN. 2 EXISTING POWER CONDUIT AND CONDUCTORS PREVIOUSLY SERVING EXISTING PANEL. 3 SECTION OF CONDUIT AND CONDUCTORS TO BE REMOVED. 4 JUNCTION BOX SIZED PER NEC. 5 EXTEND EXISTING CONDUITS AND CONDUCTORS TO NEW ATS. 6 NEW 200A, 2 SOURCE AUTOMATIC TRANSFER SWITCH. 7 (3) #3/0 AWG, (1) #6 AWG GROUND, 2-1/2" CONDUIT. 8 EXISTING CONDUITS AND CONDUCTORS TO REMAIN 9 EXISTING EQUIPMENT CABINETS TO REMAIN. 10 EXPANSION COUPLING TYPICAL. 	<ol style="list-style-type: none"> 11 REMOTE GENERATOR SHUT OFF SWITCH IN BREAK GLASS ENCLOSURE MOUNTED TO EXTERIOR OF GENERATOR ENCLOSURE PER 2019 NFPA 110 5.6.5.6.1. 12 3/4" CONDUIT AND CONDUCTORS REQUIRED FOR PROPER OPERATION OF EMERGENCY GENERATOR SHUT OFF SWITCH. 13 GENERATOR BATTERY CHARGER AND CONVENIENCE GFCI OUTLET WIRED TO EXISTING PANEL. OUTLET TO BE MOUNTED IN WEATHERPROOF ENCLOSURE. 14 GENERATOR BLOCK HEATER WIRED TO EXISTING PANEL SERVING. 15 EMERGENCY BACK UP GENERATOR. 16 GENERATOR GROUNDING PER NEC AND MANUFACTURER'S REQUIREMENTS. BOND TO EXISTING GROUNDING SYSTEM. (MINIMUM OF (1) #2 AWG GROUND) 17 GENERATOR OUTPUT CIRCUIT BREAKER. 18 1" CONDUIT FOR GENERATOR CONTROL AND SIGNAL WIRING.



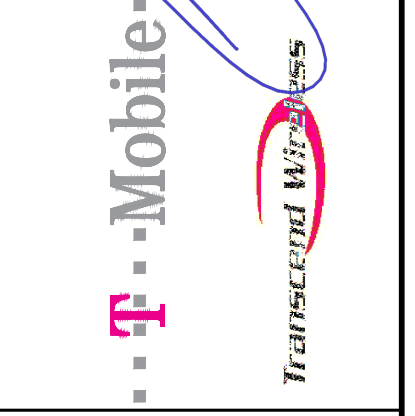
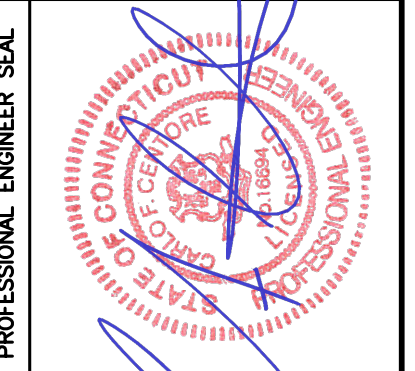
2 ELECTRICAL RISER DIAGRAM
 E-1 SCALE: NOT TO SCALE



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

3 AUTOMATIC TRANSFER SWITCH DETAIL
 E-1 SCALE: NOT TO SCALE

REV.	DATE	BY	CHK'D BY	DESCRIPTION
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CEN TEK engineering
 Centek on Solutions
 (203) 488-0380
 (203) 488-8587 Fax
 652 North Branford Road
 Branford, CT 06405
 www.CentekEng.com

T-MOBILE NORTHEAST LLC
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ELECTRICAL
 DETAILS

ELECTRICAL SPECIFICATIONS

SECTION 16010

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.

SECTION 16111

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.

Table with 4 columns: CONDUIT TYPE, NEC REFERENCE, APPLICATION, MIN. BURIAL DEPTH (PER NEC TABLE 300.5) 23. Rows include EMT, RMC, RIGID GALV. STEEL, PVC, SCHEDULE 40, PVC, SCHEDULE 80, LIQUID TIGHT FLEX. METAL, FLEX. METAL.

1 PHYSICAL DAMAGE IS SUBJECT TO THE AUTHORITY HAVING JURISDICTION.
2 UNDERGROUND CONDUIT INSTALLED UNDER ROADS, HIGHWAYS, DRIVEWAYS, PARKING LOTS SHALL HAVE MINIMUM DEPTH OF 24".
3 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:
Table with 3 columns: LINE, COLOR, COLOR. Rows A-G with corresponding colors.
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.

Table with 10 columns: CONSTRUCTION DRAWINGS - REEDED PER NEW GENERATOR MODEL, CONSTRUCTION DRAWINGS - REEDED PER NEW LEASE AREA, CONSTRUCTION DRAWINGS - REEDED PER NEW GENERATOR, CONSTRUCTION DRAWINGS - REEDED PER NEW GENERATOR, CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION, and columns for TIR, JLD, RFS, KAWIB, DATE, and REV.

Professional Engineer Seal for CENTEK engineering, Inc. with name T-Mobile and contact information for Hamden, CT.

CENTEK engineering logo and contact information: (203) 488-0380, 652 North Branford Road, Branford, CT 06405, www.CentekEng.com.

T-MOBILE NORTHEAST LLC
CT HAMDEN NORTH CAC
SITE ID: CT16861
890 EVERGREEN AVENUE
HAMDEN, CT 06518

Table with 2 columns: DATE: 06/12/18, SCALE: AS NOTED, JOB NO.: 18079.37

ELECTRICAL SPECIFICATIONS

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

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)

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

		kW (Standby)	Amp (Standby)	CB Size
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

		Voltage Dip @ < .4 pf	
		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

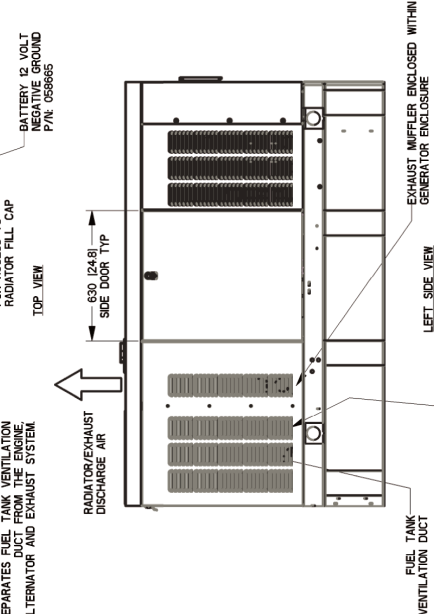
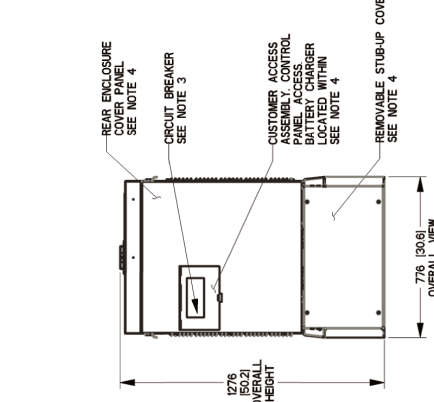
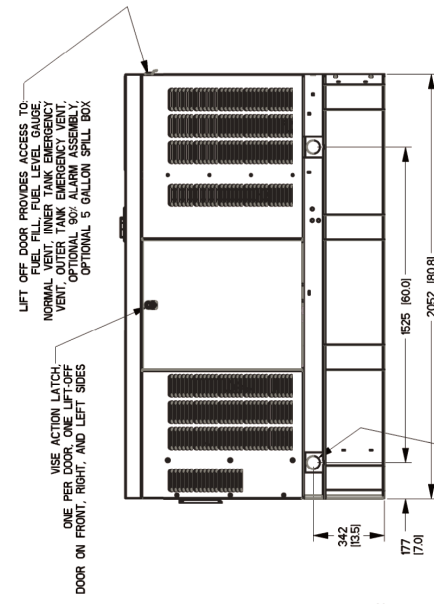
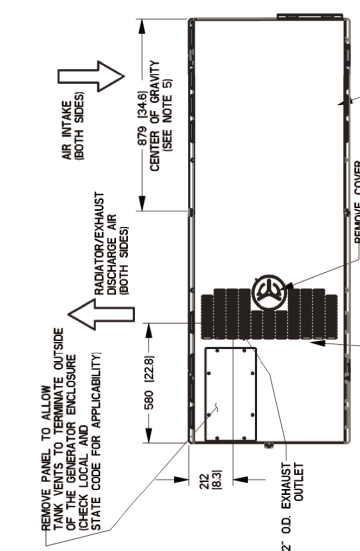
15 & 20 kW

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 STATE AND LOCAL CODES.
 - CONTROL PANEL / CIRCUIT BREAKER INFORMATION
 - SEE SPECIFICATION SHEET OR OWNERS MANUAL
 - SEE SPECIFICATION SHEET OR OWNERS MANUAL FOR ACCESS TO 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 THE REAR STUBUP AND REAR ENCLOSURE COVER PANEL TO ACCESS THE STUBUP AREAS AS FOLLOWS:
 - TRIP UNIT AND ACCESSORY RELAY CONNECTION (DTY 4)
 - AND ACCESSORY RELAY CONNECTION (DTY 4)
 - BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND EXHAUST SYSTEM MANUFACTURER'S PRESSURE REQUIREMENTS (SEE OWNERS MANUAL FOR LIFTING WARNINGS)
 - 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	WEIGHT DATA WITH EMPTY BASE TANK (SEE NOTE 5)
OIL FILL CAP	RIGHT SIDE	GENERATOR AS SHOWN 626 (1360)
OIL DIP STICK	RIGHT SIDE	WITH WOODEN SHIPPING SKID 666 (1468)
OIL FILTER	RIGHT SIDE	
OIL DRAIN HOSE	RIGHT SIDE	
RADIATOR DRAIN HOSE	LEFT SIDE	WEIGHT: KG (LBS)
COOLANT RECOVERY BOTTLE	LEFT SIDE	DIMENSIONS: MM (INCH)
RADIATOR FILL CAP ACCESS	ROOF TOP	
AIR CLEANER ELEMENT	EITHER SIDE	
MUFFLER	FRONT	
FAN BELT	EITHER SIDE	
BATTERY	LEFT SIDE	

REFERENCE OWNERS MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS



REMOVE PANEL TO ALLOW FRESH AIR INTAKE FROM OUTSIDE OF THE GENERATOR ENCLOSURE (CHECK LOCAL AND STATE CODE FOR APPLICABILITY)

INTERNAL DIVIDER PANEL SEPARATES FUEL TANK VENTILATION FROM EXHAUST SYSTEM

RADIATOR/EXHAUST DISCHARGE AIR

REMOVE COVER FOR ACCESS TO RADIATOR FILL CAP

BATTERY 12 VOLT (12V/65) GROUND P/N: US6665

AIR INTAKE (BOTH SIDES)

776 (30.6) OVERALL HEIGHT

REAR VIEW

DOOR ON FRONT, RIGHT, AND LEFT SIDES

442 (18.5)

177 (7.0)

525 (16.0)

2052 (80.8) OVERALL LENGTH

LIFT OFF DOOR PROVIDES ACCESS TO REAR ENCLOSURE COVER PANEL TO ACCESS THE STUBUP AREAS AS FOLLOWS:

- NORMAL VENT, INNER TANK EMERGENCY VENT, OUTER TANK EMERGENCY VENT, OPTIONAL 90° ALARM ASSEMBLY, OPTIONAL 5 GALLON SPILL BOX

SEE NOTE 4 PLACES CENTER OF GRAVITY DIMENSIONS

REAR ENCLOSURE COVER PANEL SEE NOTE 4

CIRCUIT BREAKER SEE NOTE 3

CUSTOMER ACCESS PANEL ACCESS BATTERY CHARGER BATTERY WITHIN SEE NOTE 4

REMOVABLE STUB-UP COVER SEE NOTE 4

FUEL TANK VENTILATION DUCT

EXHAUST MUFFLER ENCLOSED WITHIN GENERATOR ENCLOSURE

OPEN PUNCHED LOUVERS TYPICAL ON BOTH SIDES OF FUEL TANK VENTILATION DUCT TO PROVIDE ADEQUATE CROSS-FLOW OF AIR VENTILATION

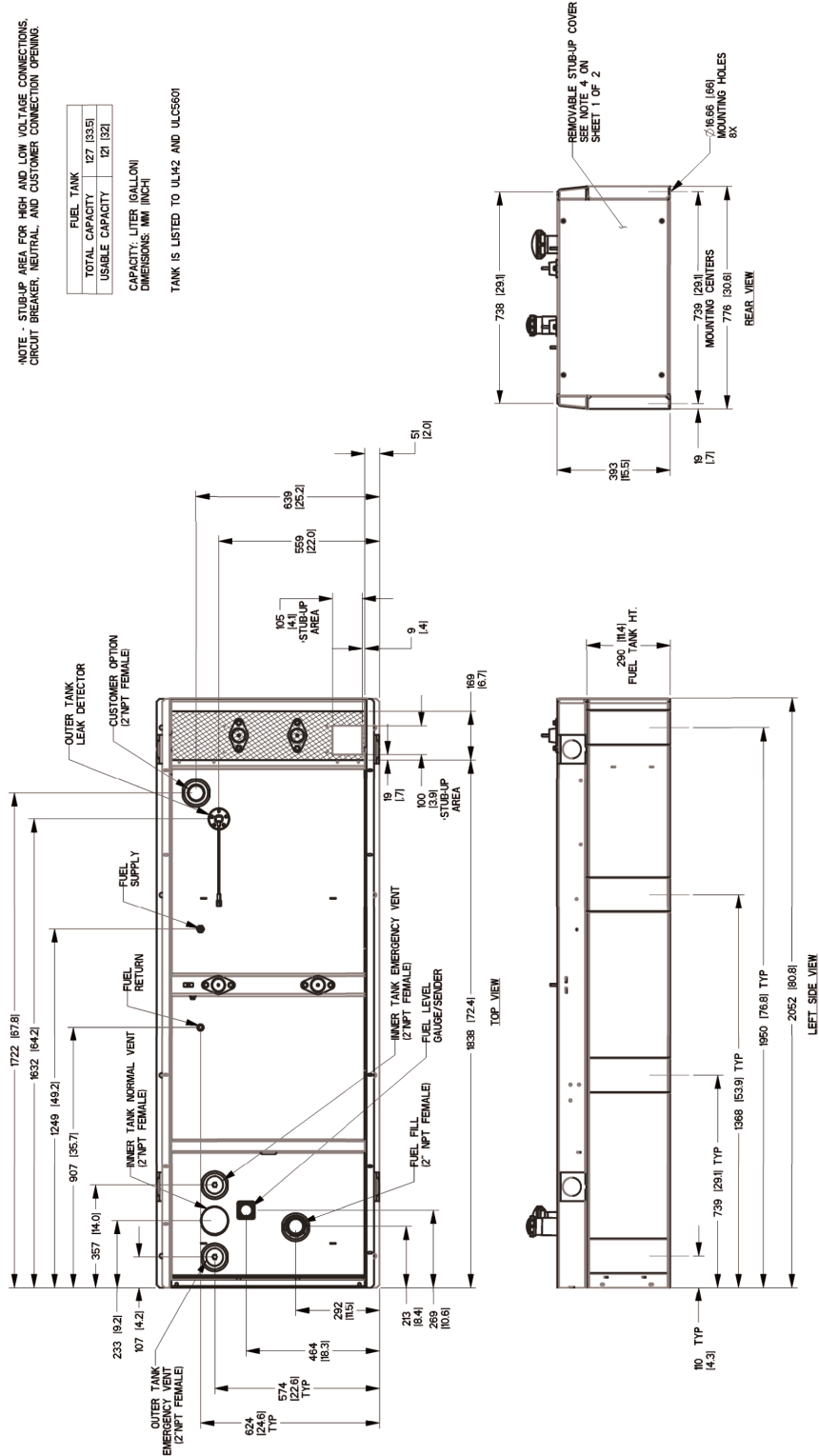
15 & 20 kW

NOTE - STUBUP 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]

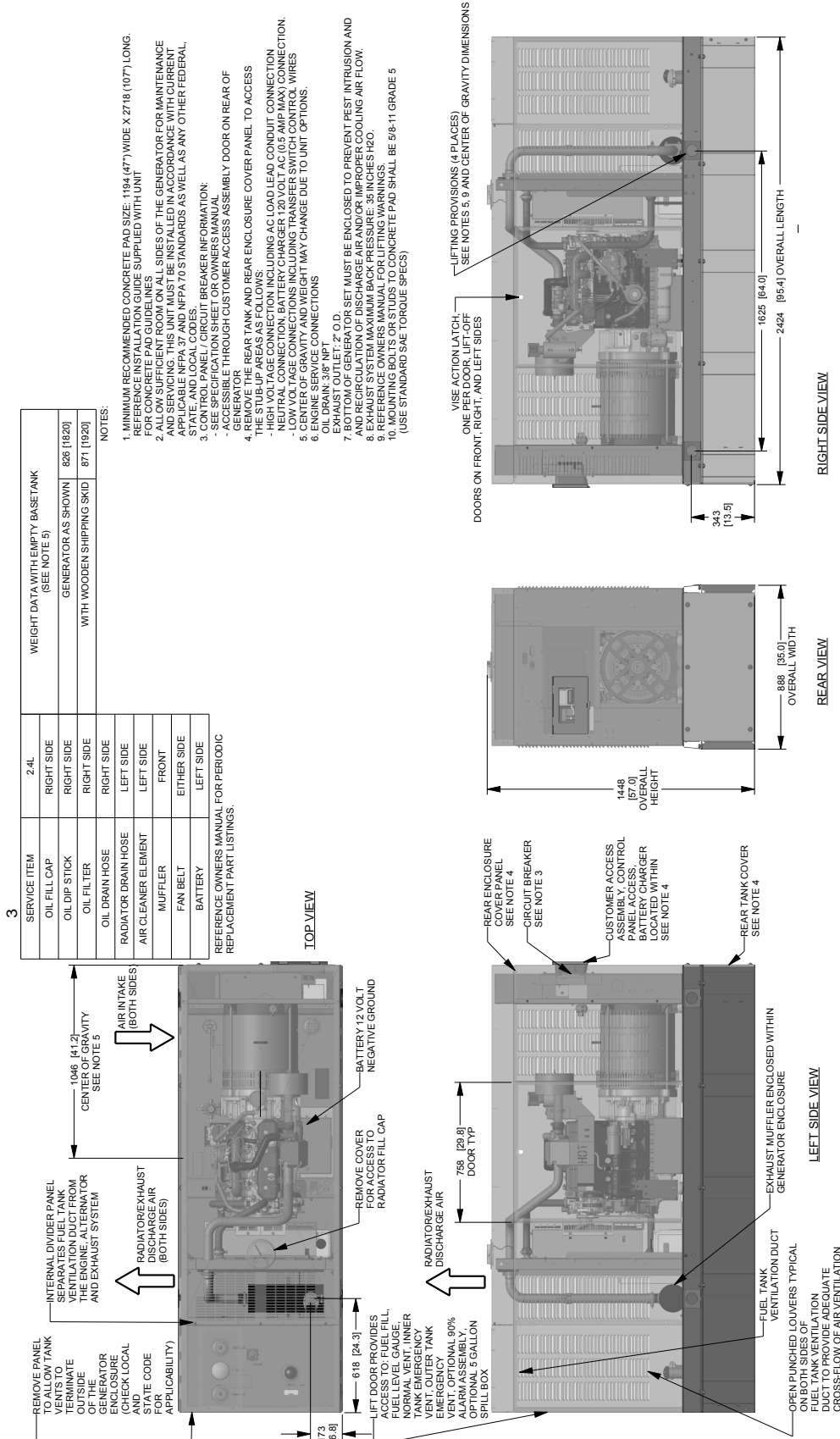
CAPACITY: LITER (GALLON)
DIMENSIONS: MM (INCH)

TANK IS LISTED TO UL142 AND ULCS601



30 kW

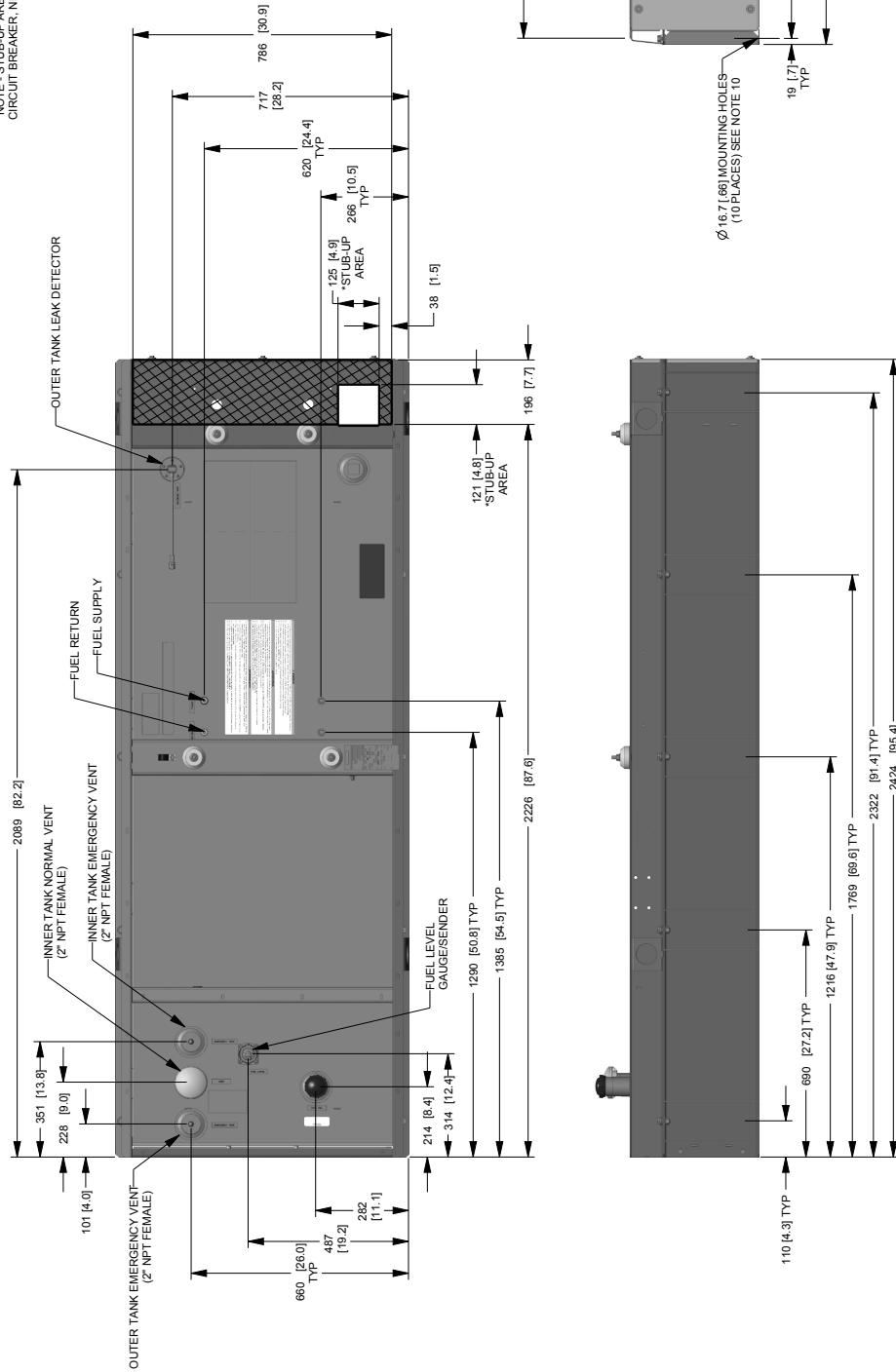
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30 kW

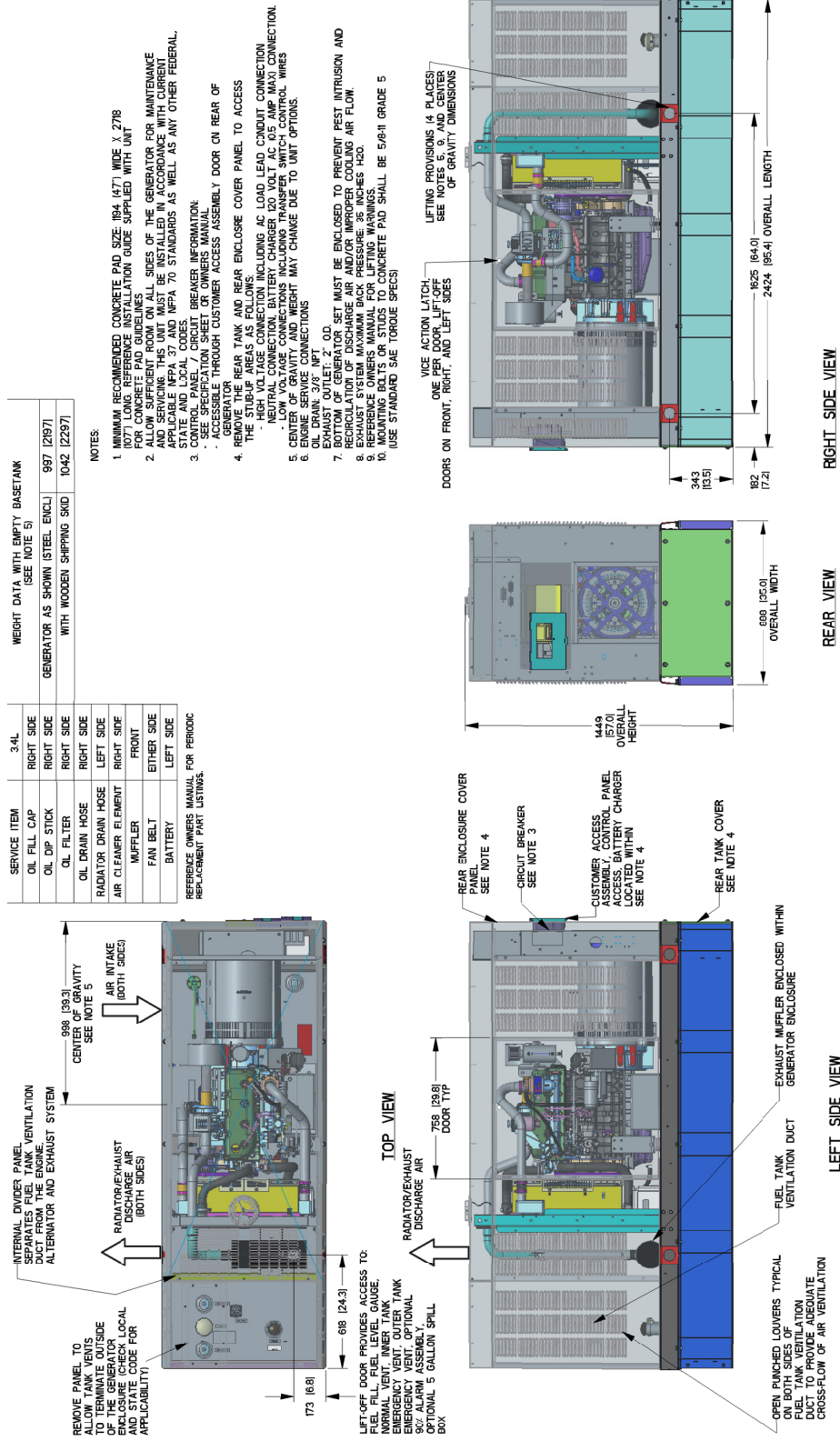
*NOTE - STUB-UP AREA FOR HIGH AND LOW VOLTAGE CONNECTIONS, CIRCUIT BREAKER, NEUTRAL AND CUSTOMER CONNECTION OPENING.

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



48 & 50 kW

Drawing #0K6968-C (1 of 2)



SERVICE ITEM	34.9	WEIGHT DATA WITH EMPTY BASETANK (SEE NOTE 5)
OIL FILL CAP	RIGHT SIDE	GENERATOR AS SHOWN (STEEL ENCL. WITH WOODEN SHIPPING SKID)
OIL DIP STICK	RIGHT SIDE	997 (219.7)
OIL FILTER	RIGHT SIDE	1042 (229.7)
OIL DRAIN HOSE	RIGHT SIDE	
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 REDUCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
 - SEE SPECIFICATION SHEET OR OWNERS MANUAL FOR LIFTING DIMENSIONS AND WEIGHT.
 - REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
 - MOUNTING BOLTS OR STUDS TO CONCRETE PAD SHALL BE 5/8"-11 GRADE 5 (USE STANDARD SAE TORQUE SPECS)

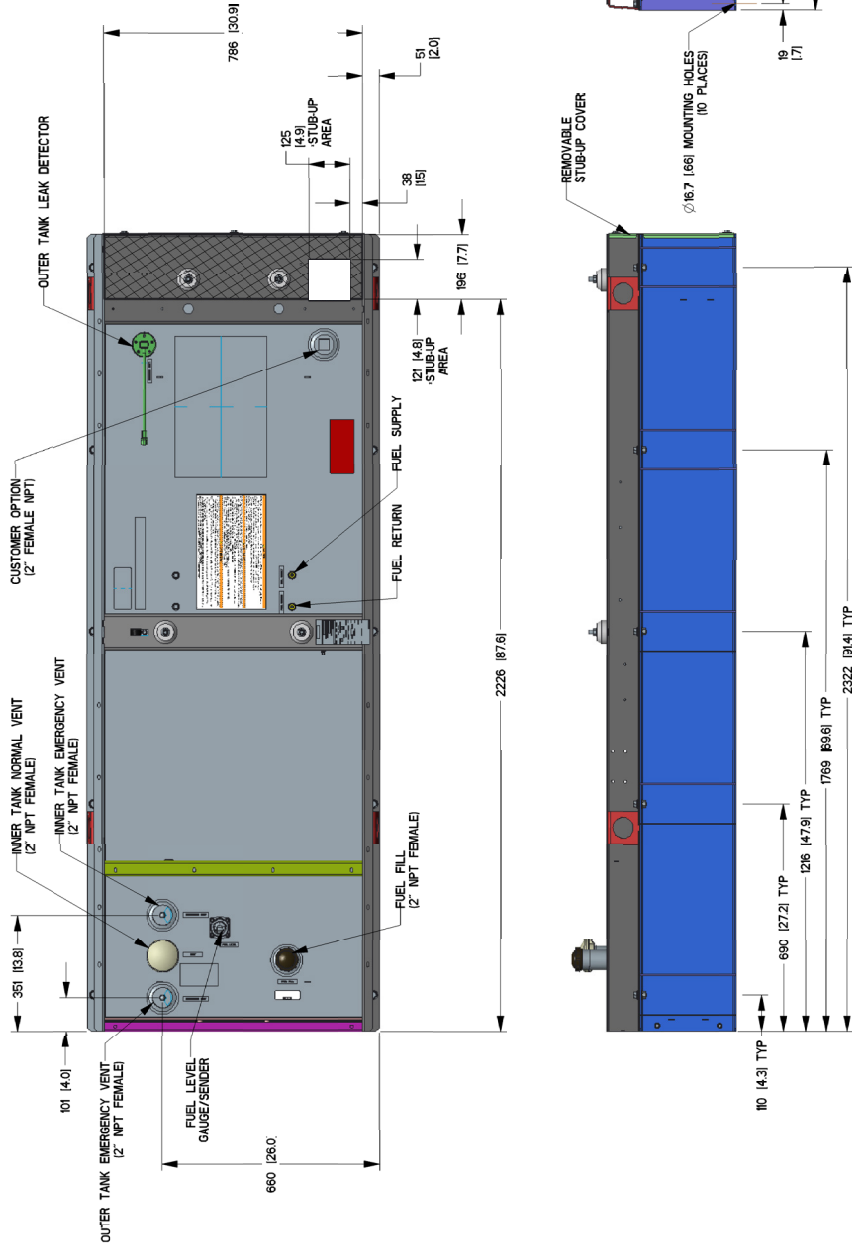
48 & 50 kW

installation layout

Drawing #0K6968-A (2 of 2)

FUEL TANK	
TOTAL CAPACITY	233 [61]
USABLE CAPACITY	209 [55]
CAPACITY: LITER (GALLONS)	
DIMENSIONS: MM (INCH)	
THIS TANK IS LISTED TO UL142 AND ULCS907	

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.