

Filed by:

G. Scott Shepherd, Sr. Property Specialist - SBA Communications 134 Flanders Rd., Suite 125, Westborough, MA 01581 508.251.0720 x 3807 - GShepherd@sbasite.com

December 10, 2021

Melanie A. Bachman **Executive Director Connecticut Siting Council** Ten Franklin Square New Britain, CT 06051

**Notice of Exempt Modification** 

270 Hubbard Rd., Higganum, CT 06441

Latitude: 41.464089 Longitude: -72.541994

T-Mobile Site #: CTHA523A\_Hardening

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 157-foot level of the existing 160-foot Monopole Tower at 270 Hubbard Rd, Higganum, CT. The tower is owned by SBA Towers II, LLC. The property is owned by Richard J. and Beverly A. Watral. T-Mobile now intends to add one (1) Generac RD025 Diesel generator and 4' x 10' concrete pad, within a 69' 9" x 69' 10" fenced compound lease area. The proposed generator and concrete pad will sit fully within the leased area of the compound and will not require additional space for the supplementary tank.

#### Ground

#### Install New:

- (1) Generac RD0 25kw Diesel generator
- (1) 4' x 10' concrete pad
- (1) 2" RGS conduit for Ethernet cable for generator & Alarms from exist. Equip. cabinet to prop. generator
- (1) 2" RGS conduit for emergency power from prop. generator to prop. ATS
- (1) 1-1/2" RGS conduit for generator heater & Battery from exist. PPC to prop. generator
- (1) 2" RGS conduit for Emergency power from proposed ATS to existing PPC
- Generac 200A, 120/240v automatic transfer switch mounted to existing H-Frame



#### Remaining:

- T-Mobile Emerson Nextend Compact 2416 fiber cabinet
- T-Mobile GPS antenna mounted to exist. Ice bridge
- PTS 8003 190AH Battery
- 5' x 6' concrete pad
- T-Mobile Radios mounted to existing H-Frame
- Existing 3' x 3' concrete pad
- T-Mobile PPC
- Ericsson RBS6201 ODE equipment cabinet

#### Reason for Request / Change in Generator Size and Fuel

In an effort to further enhance network reliability, T-Mobile is proposing to install a diesel-based backup generator, the Generac RD025 25kw Diesel Generator. T-Mobile is currently in the middle of a National Hardening Project.

The proposed diesel generator measures  $84.2'' \times 35'' \times 91.7''$  (w/fuel tank:  $103.4'' \times 35'' \times 91.7''$ ). It will sit fully within the leased area of the compound and will not require additional space for the supplementary tank.

Generac's RD025 25kw Diesel Generator carries up to 98 hours of run time with 100% load, 125 hours of run time with a 75% load and 161 hours of run time with a 50% load. It can operate in temperatures of 122 degrees Fahrenheit.

#### **Monitoring, Prevention and Containment Measures**

It will be filled by a licensed fuel filling company. The Generac's RD025 25kw Diesel Generator is fuel efficient, rodent and corrosion resistant, and has a sound attenuated aluminum enclosure with a Rated Load Sound Output at 23ft. of -65dB. It further supports advanced, remote monitoring for diagnostics and control and is installed with a tank alarm system. The Town of Haddam (Higganum) does not have a noise ordinance/regulation per the Connecticut River Area Health District.

The proposed modification will remain within the existing  $69' \ 9'' \ x \ 69' \ 10''$  fenced compound. The new generator and tank will be surrounded by the existing security fence and  $12' \ 6''$  wide double leaf gate and will be placed on a plinth secured to a proposed  $4' \ x \ 10'$  concrete pad.

#### Additional safety specifications:

- Automatic Voltage Regulation with Over and Under Protection
- Overspeed Shutdown
- High Tempature Shutdown
- Meets ANSI/IEEE C62.41, SA CSA 22.2, SAE J1349, NFPA 37, 70 99

Revised Construction Drawings and Full Spec Sheets referencing the above are attached herewith.



The revised ground configuration continues to meet all requirements for a Notice of Exempt Modifications. The request remains technically, legally, environmentally, and economically feasible and meets public safety concerns per Connecticut General Statute Section 16-50aa.

There is no environmental impact associated with the revised ground configuration, including, but not limited to, visibility, wetlands and water resources, air quality or noise.

T-Mobile's revised ground configuration:

- Will not have any significant adverse visual impact on the surrounding areas
- Does not affect or alter the existing site with regard to wetlands, water resources or air quality
- The generator would only be used in cases of emergency and would provide backup time of approximately 60 hours in time of need.

The proposed work is not thought to have any substantial adverse environmental impact. Public Need for the additional coverage outweighs any minor environmental effects that would result from the construction, operation, and maintenance of the proposed collocation.

#### A Map of the Site Showing Nearest Wetlands, depicted in feet, is attached herewith.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16.50j-72(b)(2). In accordance with R.C.S.A. § 16.50j-73, a copy of this letter is being sent to the Town of Haddam's First Selectman, Robert McGary, Chairman of Planning Zoning Comm., Edward Wallor, as well as to the property owners, Richard J. and Beverly A. Watral. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

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 modification 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 modification 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 telecommunication facility constitute an exempt modifications under R.C.S.A. § 16-50j-72(b)(2).



#### Sincerely,

G. Scott Shepherd
Sr. Property Specialist
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3807 + T
508.366.2610 + F
508.868.6000 + C
GShepherd@sbasite.com

#### Attachments

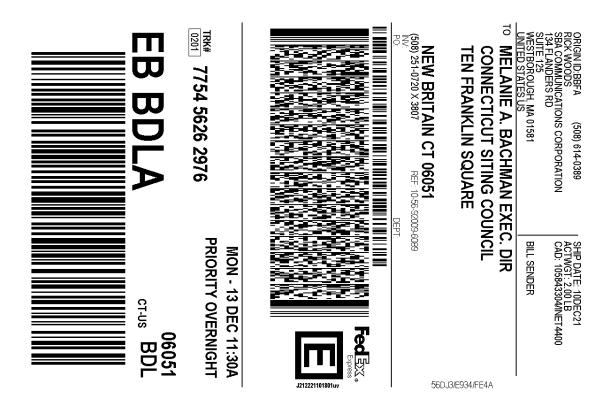
#### **Exhibit List**

Exhibit 1	Check Copy	х
Exhibit 2	FedEx Labels	х
Exhibit 3	Property Card	х
Exhibit 4	Property Map	х
Exhibit 5	Zoning Documents	Haddam P & Z Special Permit (10/16/00)
Exhibit 6	Construction Drawings	Chappell 12/7/21
Exhibit 7	Generator Specifications	х
Exhibit 8	Wetlands Map	х

# EXHIBIT 1 Copy of Check for filing fee.

# EXHIBIT 2

FedEx Labels



#### After printing this label:

- 1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
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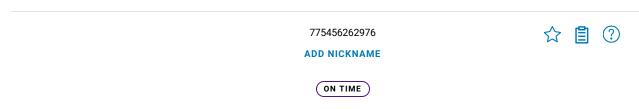
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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Detailed Tracking Page 1 of 2



#### TRACK ANOTHER SHIPMENT



#### Scheduled delivery: Monday, 12/13/2021 before 11:30 am



#### GET STATUS UPDATES

# FROM SBA COMMUNICATIONS CORPORATION Rick Woods

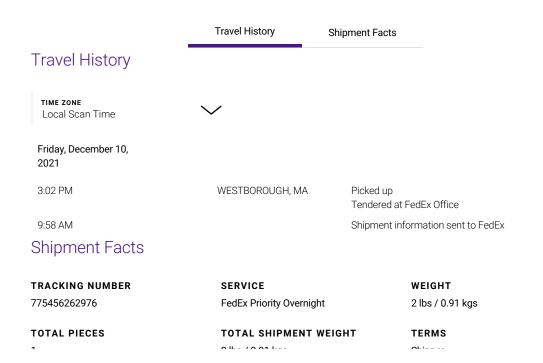
134 Flanders Rd Suite 125 WESTBOROUGH, MA US 01581 508-614-0389

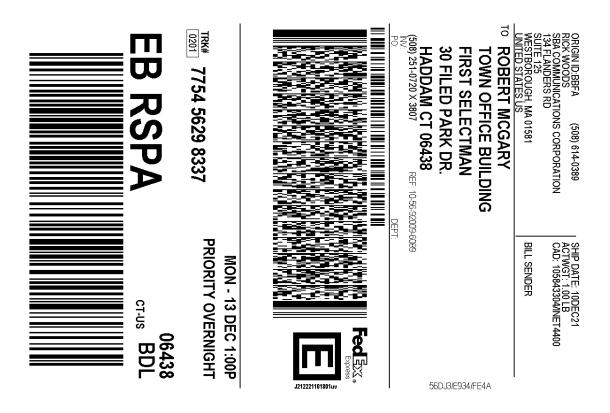
#### TO

Melanie A. Bachman Exec. Dir Connecticut Siting Council

> Ten Franklin Square NEW BRITAIN, CT US 06051 508-251-0720

MANAGE DELIVERY ✓





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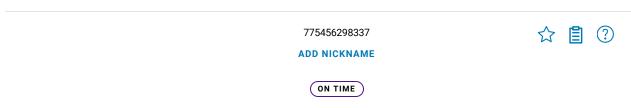
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134 Flanders Rd Suite 125 WESTBOROUGH, MA US 01581 508-614-0389

# **To**Robert McGary Town Office Building

First Selectman 30 Filed Park Dr. HADDAM, CT US 06438 508-251-0720

MANAGE DELIVERY ✓

	Travel History	Shipment Facts
Travel History		
TIME ZONE Local Scan Time	~	
Friday, December 10, 2021		
3:02 PM	WESTBOROUGH, MA	Picked up Tendered at FedEx Office
10:00 AM		Shipment information sent to FedEx
Shipment Facts		
TRACKING NUMBER	SERVICE	WEIGHT
775456298337	FedEx Priority Overnight	0.5 lbs / 0.23 kgs
TOTAL PIECES	TOTAL SHIPMENT W	EIGHT TERMS



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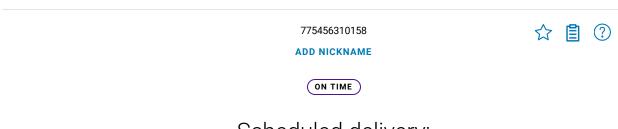
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Detailed Tracking Page 1 of 2



#### TRACK ANOTHER SHIPMENT



#### Scheduled delivery: Monday, 12/13/2021 before 1:00 pm



#### GET STATUS UPDATES

# SBA COMMUNICATIONS CORPORATION Rick Woods

134 Flanders Rd Suite 125 WESTBOROUGH, MA US 01581 508-614-0389

# **To**Edward Wallor Town Office Building

Chairman P & Z Comm. 30 Filed Park Dr. HADDAM, CT US 06438 508-251-0720

MANAGE DELIVERY ✓

	Travel History	Shipment Facts
Travel History		
TIME ZONE Local Scan Time	~	
Friday, December 10, 2021		
3:02 PM	WESTBOROUGH, MA	Picked up Tendered at FedEx Office
10:01 AM		Shipment information sent to FedEx
Shipment Facts		
TRACKING NUMBER	SERVICE	WEIGHT
775456310158	FedEx Priority Overnigh	0.5 lbs / 0.23 kgs
TOTAL PIECES	TOTAL SHIPMENT	NEIGHT TERMS



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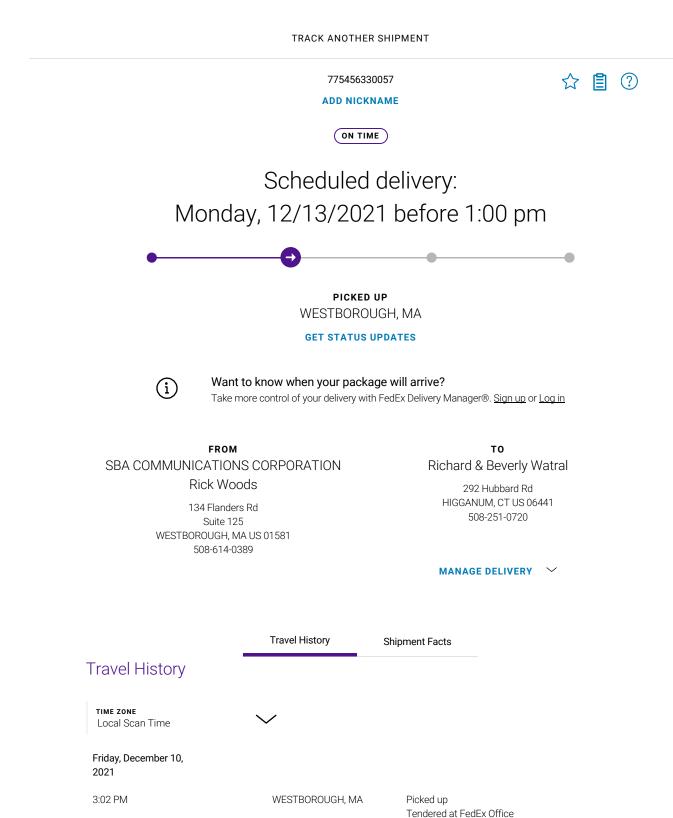
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Detailed Tracking Page 1 of 2



10:02 AM



Shipment information sent to FedEx

Detailed Tracking Page 2 of 2

#### Shipment Facts

TRACKING NUMBER

775456330057

TOTAL PIECES

1

SHIPPER REFERENCE

10-56-92009-6089

ACTUAL PICK UP

12/10/21 🕐

SERVICE

FedEx Priority Overnight

TOTAL SHIPMENT WEIGHT

0.5 lbs / 0.23 kgs

PACKAGING

FedEx Envelope

STANDARD TRANSIT

12/13/21 before 1:00 pm ?

WEIGHT

0.5 lbs / 0.23 kgs

TERMS

Shipper

SPECIAL HANDLING SECTION

Deliver Weekday

SCHEDULED DELIVERY

12/13/21 before 1:00 pm

All (0)

Inbound (0)

Outbound (0)

Watch list (0)

# **EXHIBIT 3**

# Property Card

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2020.





Information on the Property Records for the Municipality of Haddam was last updated on 12/9/2021.

#### **Property Summary Information**

Parcel Data And Values

Sales

#### **Parcel Information**

Location:	270 HUBBARD RD	Property Use:	Vacant Land	Primary Use:	Residential Vacant Land
Unique ID:	H0246400	Map Block Lot:	33 010	Acres:	6.00
490 Acres:	6.00	Zone:	R-2	Volume / Page:	0216/0533
Developers Map / Lot:		Census:	5901		

#### **Value Information**

	Appraised Value	Assessed Value
Land	88,420	1,410
Buildings	0	0

	Appraised Value	Assessed Value
Detached Outbuildings	0	0
Total	88,420	1,410

#### **Owner's Information**

#### Owner's Data

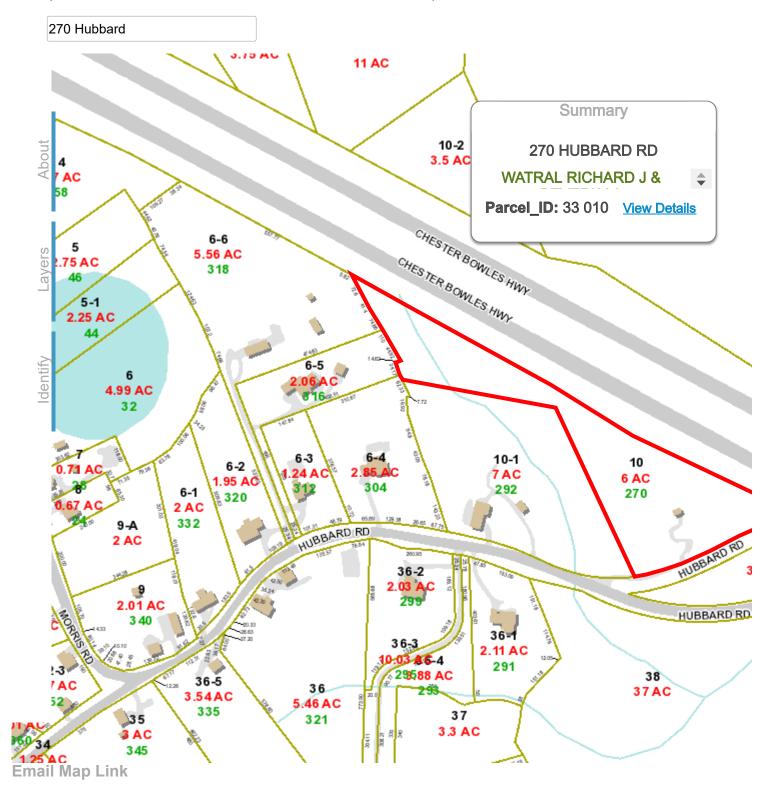
WATRAL RICHARD J & BEVERLY A 292 HUBBARD RD HIGGANUM, CT 06441

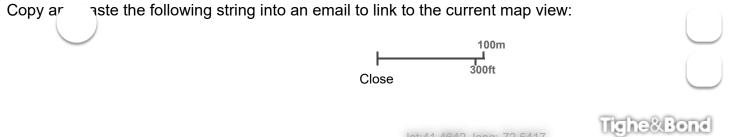
Back To Search (JavaScript:window.history.back(1);)

Print View (PrintPage.aspx?towncode=061&uniqueid=H0246400)

Information Published With Permission From The Assessor

# EXHIBIT 4 Property Map





lat:41.4642, long:-72.5417

#### Google Maps 41°27'50.7"N 72°32'31.2"W



Imagery ©2021 Maxar Technologies, U.S. Geological Survey, USDA Farm Service Agency, Map data ©2021 100 ft ⊾

# EXHIBIT 5 Zoning Documents

SITE ID #4275-024

SITE NAME: Haddam

CT01700-S

JOB COST #001722 00 100-5

#### ZONING/PERMITTING COMPLETION FORM

Zoning Classification for Site: R-2A

Special Relief (setback, height variance, special use permit, wetlands permit etc.):

Special Permit Approval

\* Date of Zoning Decision: 10/16/00 ( 0xp . 10 16 02)

Summary of zoning conditions (Include details of any conditions relative to time restrictions, expiration dates, renewal obligations, monetary obligations, performance obligation, inspection fees).

See attached.

Submitted by: Esther McNany

Title: Territory Manager

Territory Manager Approval:

\* Attach a copy of the Zoning decision and forward to the Regional Compliance Manager as soon as possible, after the decision.

#### HADDAM PLANNING AND ZONING COMMISSION

Hurwitz & Sagarin, LLC Attn. Julic Cashin, Esq. 147 North Broad Street P.O. Box 112 Milford, Ct. 06460-0112

RE: Special Permit Map 44 Lot 38

Issued: 10-16-2000 Expires: 10-16-2002

This permit is authorized and in reference to your application to conduct regulated activities in the Town of Haddam.

The Haddam Planning & Zoning Commission has considered your application with duc regard for the matters enumerated in Section 8-3c of the Connecticut General Statutes and in accordance with the Haddam Planning & Zoning Regulations, in particular Section 15 of said regulations and has found that the proposed use, as specified and conditioned below, is in conformance with said regulations.

The following activities are authorized: To allow the construction of a wireless telecommunications facility consisting of a 160 ft. monopole tower, and appurtenant equipment within a 70' x 70' fenced compound on a 100' x 100' leased parcel, access and utilities routing, subject to the following conditions:

- 1. Standard Special Permit Conditions (see attached)
- 2. Revise Site plan to show suitable plantings along route 9
- 3. No timbering of the balance of the site
- Tower be made available for siting town's emergency services radio and communication facilities.

Geoffery Colegrove, Town Planner

# TOWN OF HADDAM PLANNING & ZONING COMMISSION 30 FIELD PARK DRIVE HADDAM, CT., 06438

#### MOTION SHEET

×.
DATE: 10/16/2000
APPLICANT: SBA Inc
OWNER: Richard and Beverly Watral
PROPERTY ADDRESS: 292 Hubbard Road
ASSESSOR MAP NO. 44 ASSESSOR LOT NO. 34
MOTION BY COMMISSIONER Bybois
SECOND BY COMMISSIONER BOYS UNG
Oppme the opplication as submitted
W/ Standard Conditions ( special Permit
Plan & Show Conditions: (1) Neine Site Plan & Show Confidence plantings along Rute #9 boundary of Screen is the (2) No timbering of AGAINST ABSTAIN
plan to show touter plantings along the
FOR AGAINST ABSTAIN
AM SAMEWELLY.
Baker X1. Lung
S. W. John coch
heite A Debros
Coleda Daranff
clance of the site:

FAX NO. : 8603453730

Nov. 01 2000 12:11PM



MADDAIL TO MYOT Planning and Zoning Commission Haddam, Conn. 06438

#### STANDARD CONDITIONS

#### (SPECIAL PERMIT)

- Prior to Construction, the Applicant/Developer shall schedule a preconstruction conference with the Town Planner, Zoning Enforcement Officer and Town Engineer, applicant's engineer and a representative of the developer at which all aspects of the the improvements shall be discussed and agreed upon. At this meeting the developer will be committed to a construction sequence and schedule for construction.
- The Applicant/Developer shall provide the Land Use Department with the 2. name, address and telephone number of an agent who shall be responsible for supervising the construction and maintaining the Erosion & Sedimentation Control meassures. (Such person shall submit a weekly, or at such other interval as required by the staff, inspection report on the status of the Erosion & Sedimentation Control measures to the Zoning Enforcement Officer.)
- Prior to the commencent of any construction activity, the Applicant/ Developer shall:
  - Submit a list of required site improvements and estimated costs of each item to the Town Engineer for approval.
  - ь. Submit to the Land Use Office a cash surety bond based on the approved estimates by the Town Engineer. Said Bond shall be for not less than five (5) years.
  - Submit an estimate of the cost of Erosion & Sedimentation Control measures to the Town Engineer for approval.
  - Post an Erosion & Sedimentation Control cash bond with the Land −₫, Use Department in an amount to be determined by the Town Engineer.
  - Install Erosion & Sedimentation Control measures on the site · ·C. before any construction activity is begun.
  - Ŧ. Obtain verification from the Town Engineer that all required Erosion & Sedimentation Control bonds have been posted and the measures have been completed to his satisfaction and he has authorized the beginning of work.

FRX ND. : 8683453732

Nov. 01 2000 12:11PM P2

If the applicant or his successor in title fails to respond immediately to to orders from the Zoning Enforcement Officer to remedy problems or make repairs to the Erosion & Sedimentation Control measures, the Town Engineer shall be authorized to have the work done on an emergency basis and the applicant shall be responsible for reimbursement to the Town of Haddam for such expenses.

- The well, if required, shall be drilled, tested and approved by the Town Engineer prior to the issuance of a building permit. On site blasting shall be allowed, if necessary, before a well is drilled.
- 6. Prior to the commencement of construction activity, the property owner, if different from the applicant/developer, shall:
  - Aprise himself of the required Erosion & Sedimentation Control measures.
  - b. Discuss with the staff of the Land Use Department the requirements and obtain approvals where necessary for the Erosion & Sedimentation Control measures.
  - c. Install such Erosion and Sedimentation Control measures and maintain the same throughout the construction phase of the project. (If additional Erosion & Sedimentation Control measures are deemed necessary by the Zoning Enforcement Officer or the Town Engineer, said measures shall be immediately installed pursuant to the order for their installation.)
- 7. The applicant or his successor in title shall comply with all conditions in the Wetland Commission approvals or Permits, if any, and all orders issued by the Wetlands Enforcement Officer to protect the wetlands and watercourses.
- 8. If blasting is necessary for public or private lot improvements, a pre-blasting survey and post-blasting survey shall be conducted on appropriate nearby structures and wells. Proof of insurance and /or the ability to pay for damages due to any blasting shall be demonstrated prior to any blasting activity. A certificate of insurance shall be provided to the Land Use Office for recording in the applicant's file.

HURWITZ & SAGARIN

FAX NO. : 8603453730

**2**004/004

Nov. 01 2000 12:120M 03

9. If the development involves easements, conservation restrictions, open spaces or other restrictions on the use of property, maintenance agreements, or or any similar or related documents, copies of all of said documents shall be provided to the staff of the Land Use Department. Said documents shall be reviewed by the Town Attorney and modified in accordance with said review and approval. Final revised documents shall be submitted to the staff of the Land Use Department before recording of the Site Plan in the Town of Haddam Land Records.

# **EXHIBIT 6**

**Constrcution Drawings** 

# SBA HIGGANUM MONOPOLE

270 HUBBARD ROAD

HIGGANUM, CT 06441

MIDDLESEX COUNTY

SITE NO.: CTHA523A

SITE TYPE: 160'± MONOPOLE

PROJECT TYPE: NATIONAL HARDENING PROJECT

SHEET INDEX

DESCRIPTION

TITLE SHEET

GENERAL NOTES

GENERATOR DETAILS

COMPOUND & EQUIPMENT PLANS

GENERATOR SPECIFICATIONS 1

GENERATOR SPECIFICATIONS 2

ELECTRIC & GROUNDING DETAILS

GN-1

A-2

#### **APPROVALS** ZONING/SITE ACQ .: **PROJECT MANAGER:** DATE: DATE: **CONSTRUCTION:** DATE: **OPERATIONS:** DATE: **RF ENGINEERING:** DATE: DATE: TOWER OWNER:

## -MOBILE TECHNICIAN SITE SAFETY NOTES

**LOCATION** SPECIAL RESTRICTIONS SECTOR A: ACCESS BY CERTIFIED CLIMBER SECTOR B: ACCESS BY CERTIFIED CLIMBER SECTOR C: ACCESS BY CERTIFIED CLIMBER SECTOR D: ACCESS BY CERTIFIED CLIMBER GPS/LMU: UNRESTRICTED

RADIO CABINETS: UNRESTRICTED PPC DISCONNECT: UNRESTRICTED MAIN CIRCUIT D/C: UNRESTRICTED NIU/T DEMARC: UNRESTRICTED

OTHER/SPECIAL: NONE

GENERAL NOTES

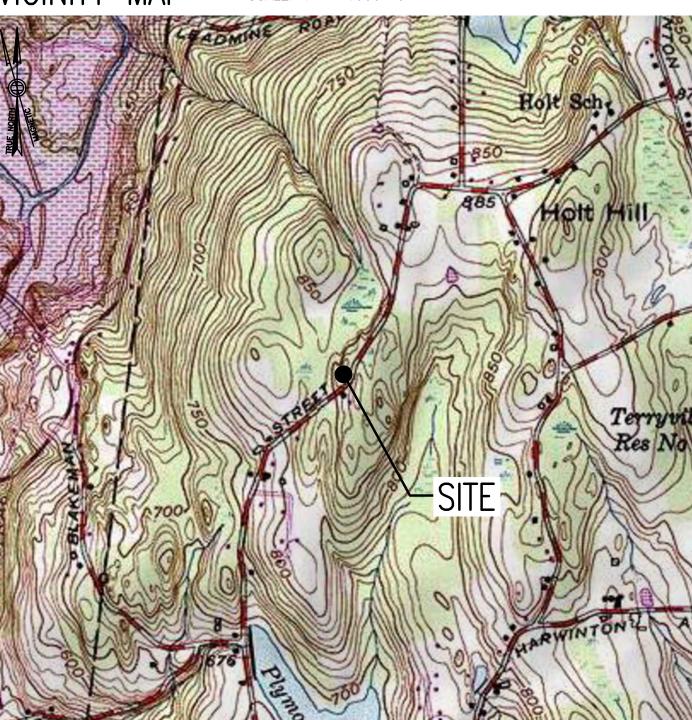
- LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
- THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
- THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE OMNIPOINT REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
- THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED
- THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
- THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR

- CONSTRUCTION ON OR ABOUT THE PROPERTY.
- 13. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF
- 14. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
- 15. THE CONTRACTOR SHALL NOTIFY THE PROJECT OWNER'S REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE LESSEE/LICENSEE
- 16. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. ELEVATIONS. PROPERTY LINES, ETC. ON THE JOB.
- 17. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK.

AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811



# SCALE: 1" = 1000' - 0"



# **DIRECTIONS**

TURN LEFT ONTO S WASHINGTON ST. TURN RIGHT ONTO MA-123 E. TURN LEFT TO MERGE ONTO I-495 NORTH TOWARD MANSFIELD/MARLBORO. MERGE ONTO I-495 NORTH. TAKE EXIT 33B TO MERGE ONTO I-95 SOUTH TOWARD PROVIDENCE RI. TAKE EXIT 69 FOR CT-9 NORTH TOAWRD ESSEX/HARTFORD. CONTINUE CT-9 NORTH. TAKE EXIT 8 FOR BEAVER MEADOW ROAD. TURN RIGHT ONTO BEAVER MEADOW ROAD. TURN LEFT ONTO HUBBARD ROAD. SITE WILL BE ON THE RIGHT.

## SCOPE OF WORK

REMOVE:

NONE 1 GENERATOR 1 AUTOMATIC TRANSFER SWITCH • 2 20A-1P BREAKERS

## SITE NOTES

- THIS IS AN UNMANNED AND RESTRICTED ACCESS TELECOMMUNICATION FACILITY, AND IS NOT FOR HUMAN HABITATION. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
- ADA COMPLIANCE NOT REQUIRED.
- POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
- NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
- CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
- NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
- BUILDING CODE: 2018 CONNECTICUT STATE BUILDING CODE

PROJECT SUMMARY

- ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
- STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING

#### STRUCTURES AND ANTÉNNAS.

NO.

SITE NUMBER: SBA HIGGANUM MONOPOLE SBA SITE NUMBER: CT01700-S HADDAM SBA SITE NAME: SITE ADDRESS: 270 HUBBARD ROAD

HIGGANUM, CT 06441 PROPERTY OWNER:

RICHARD J. & BEVERLY A. WATRAL 292 HUBBARD ROAD HIGGANUM, CT 06441

TOWER OWNER: SBA TOWERS II, LLC

8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523 MIDDLESEX COUNTY

COUNTY: **ZONING DISTRICT:** RESIDENTIAL STRUCTURE TYPE: **MONOPOLE** 

STRUCTURE HEIGHT: **APPLICANT:** T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B

NORTON, MA 02766 ARCHITECT: CHAPPELL ENGINEERING ASSOCIATES, LLC.

201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752

STRUCTURAL ENGINEER: CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752

SITE CONTROL POINT: LATITUDE: N.41.464100° N.41°27'50.76" LONGITUDE W.72.542000° W.72°32'31.20"

# DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN <u>ELIGIBLE FACILITY</u> UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE FACILITY REQUEST, EXPEDITED REVIEW, AND LIMITED/PARTIAL ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW, OR ADMINISTRATIVE REVIEW).

# T-MOBILE NORTHEAST LLC

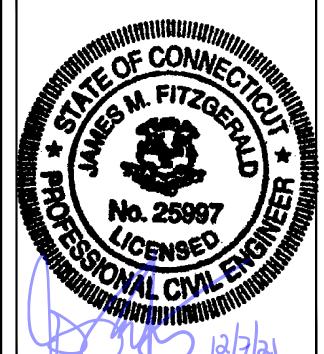
15 COMMERCE WAY, SUITE B NORTON, MA 02766 (508) 286-2700



SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125 WESTBOROUGH, MA 01581



R.K. EXECUTIVE CENTRE 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752 (508) 481-7400 www.chappellengineering.com



CHECKED BY:

APPROVED BY:

1	12/07/21	ISSUED	FOR	CONSTRUCTION	JR
				·	
REV.	DATE		DESC	RIPTION	BY
	,	<u>UBM</u>	ITT	TALS	

#### SITE NUMBER: CTHA523A

0 | 10/29/21 ISSUED FOR REVIEW

SITE ADDRESS: 270 HUBBARD ROAD HIGGANUM, CT 06441

SHEET TITLE

TITLE SHEET

SHEET NUMBER

#### **GENERAL NOTES:**

- 1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY: CONTRACTOR - T-MOBILE SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
  - OWNER T-MOBILE OEM - ORIGINAL EQUIPMENT MANUFACTURER
- 2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
- 3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS. AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
- 4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL, STATE AND FEDERAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- 5. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- 6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES. AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- 7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- 8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
- 9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, T1 CABLES AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY, SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR AND/OR LANDLORD PRIOR TO CONSTRUCTION.
- 10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- 11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.
- 12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.
- 13. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- 14. SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS AND POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.
- 15. CONSTRUCTION SHALL COMPLY WITH ALL T-MOBILE STANDARDS AND SPECIFICATIONS.
- 16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- 17. THE EXISTING CELL SITES ARE IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR, ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- 18. IF THE EXISTING CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

#### SITE WORK GENERAL NOTES:

- 1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- 2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION.
- 3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- 4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- 5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
- 6. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- 7. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- 8. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.
- 9. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- 10. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- 11. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T-MOBILE SPECIFICATION FOR SITE SIGNAGE.

#### **CONCRETE AND REINFORCING STEEL NOTES:**

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.

2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (400PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE

3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615. GRADE 60. DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.

4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

CONCRETE CAST AGAINST EARTH.......3 IN. CONCRETE EXPOSED TO EARTH OR WEATHER: #6 AND LARGER ......2 IN.

CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND: SLAB AND WALL .....

BEAMS AND COLUMNS ......1½ IN.

5. A CHAMFER 34" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION

- 6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.
- 7. CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
- (A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
- (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED. FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
- 8. AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.

9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

#### STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND T-MOBILE SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM-A-36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".

2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1 WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.

3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (3/4"0) AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.

4. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE %" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.

5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL

6. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

#### SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.

2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.

3. AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT". LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.

- 4. COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.
- 5. AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND-OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL-GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

#### **COMPACTION EQUIPMENT:**

1. HAND OPERATED DOUBLE DRUN, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

#### **CONSTRUCTION NOTES:**

1. FIELD VERIFICATION:

SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T-MOBILE ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.

2. COORDINATION OF WORK:

SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.

#### 3. CABLE LADDER RACK:

SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY AND/OR ICE BRIDGE, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

#### **ELECTRICAL INSTALLATION NOTES:**

1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.

2. SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.

- 3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND
- 4. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
- 5. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA, AND MATCH INSTALLATION REQUIREMENTS.
- 6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA.
- 7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
- 8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
- 9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.

10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE

11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.

13. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.

14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY HARGER (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).

15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE

20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.

21. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION—TYPE AND APPROVED FOR THE LOCATION

23. CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA,

UL, ANSI/IEEE AND NEC. 24. CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.

25. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER. DESIGNED TO SWING OPEN DOWNWARD: SHALL BE PANDUIT TYPE E (OR EQUAL): AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

27. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

30. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

31. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.

32. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

# T-MOBILE NORTHEAST LLC

15 COMMERCE WAY, SUITE B NORTON, MA 02766 (508) 286-2700



SBA COMMUNICATIONS CORP. 134 FLANDERS ROAD, SUITE 125 WESTBOROUGH, MA 01581 (508) 251-0720



R.K. EXECUTIVE CENTRE 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752 (508) 481-7400 www.chappellengineering.com



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APPROVED BY:

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SITE NUMBER: CTHA523A

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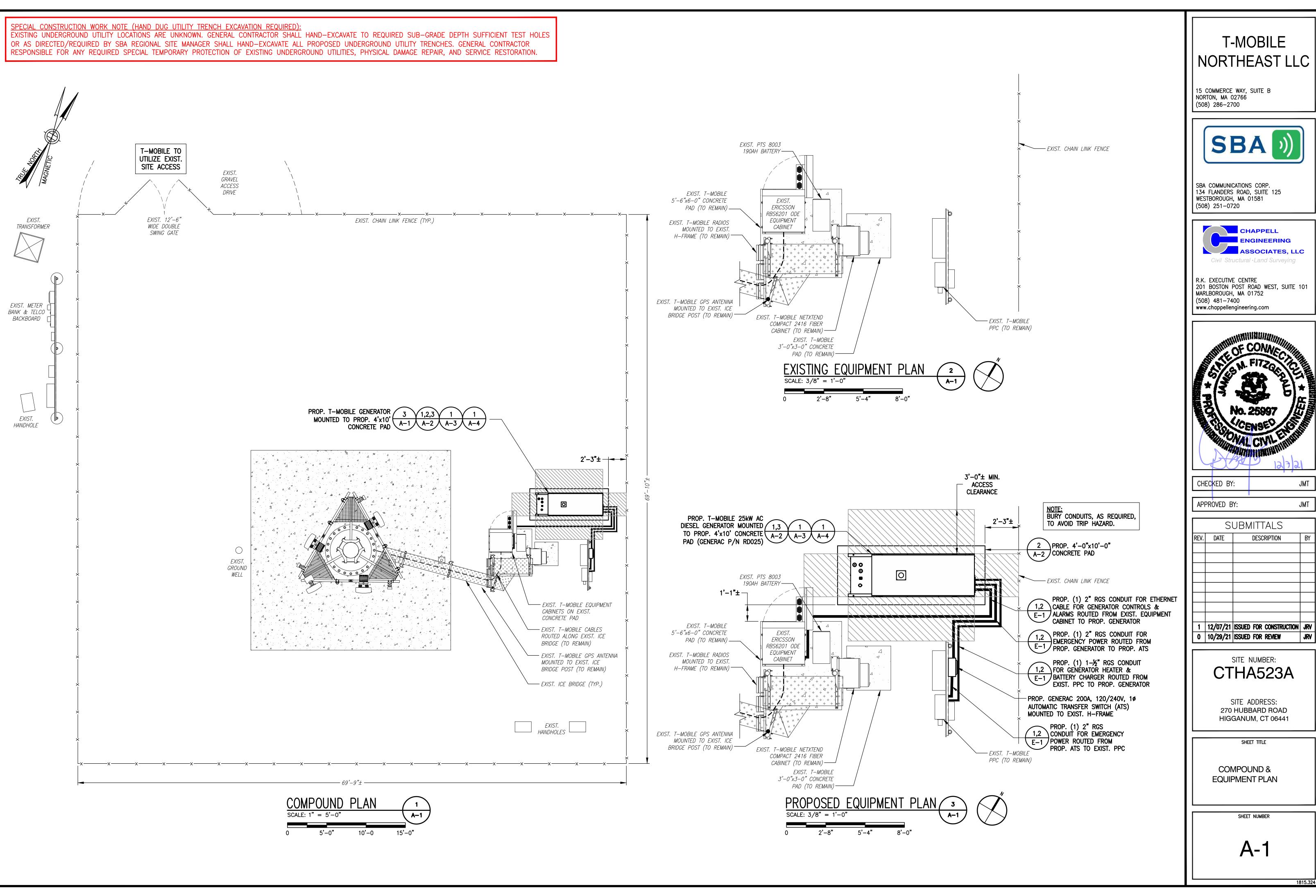
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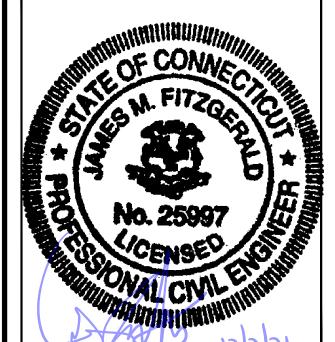
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**GENERAL NOTES** 

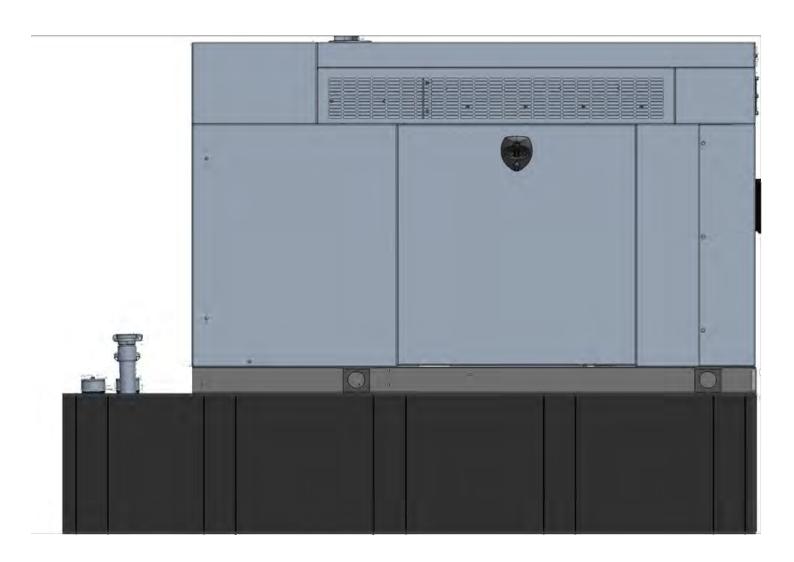
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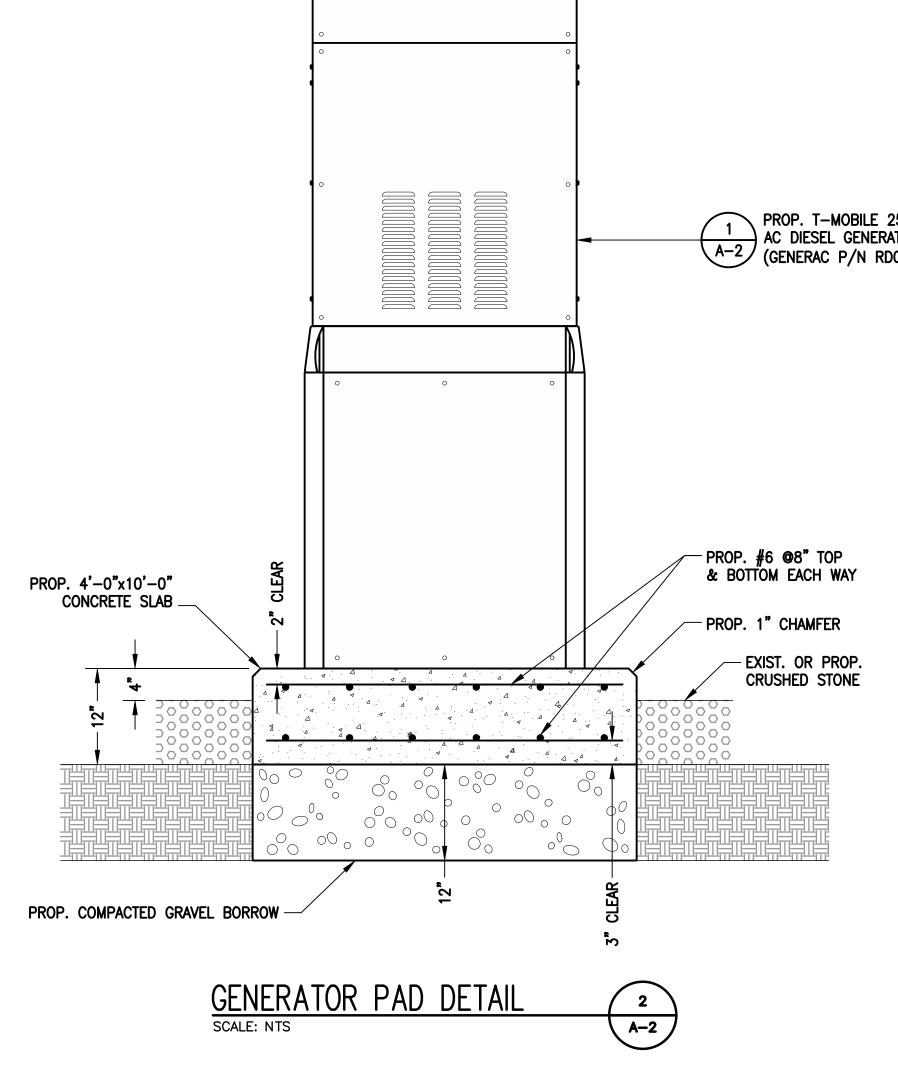


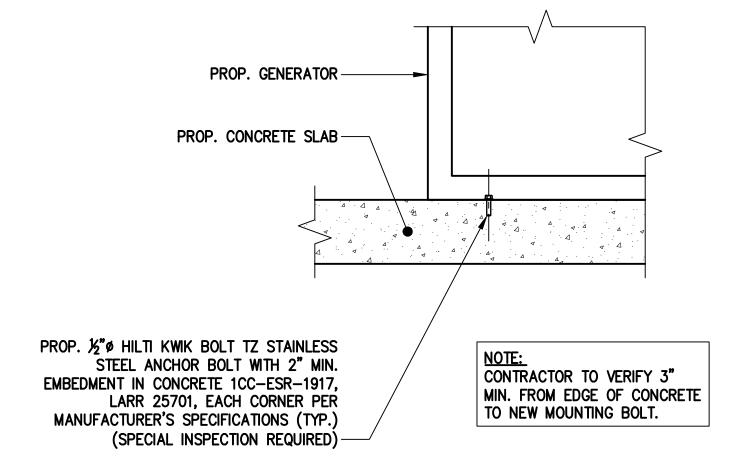


NOTE:
GENERATOR DIESEL TANK TO
BE FILLED BY CONTRACTOR

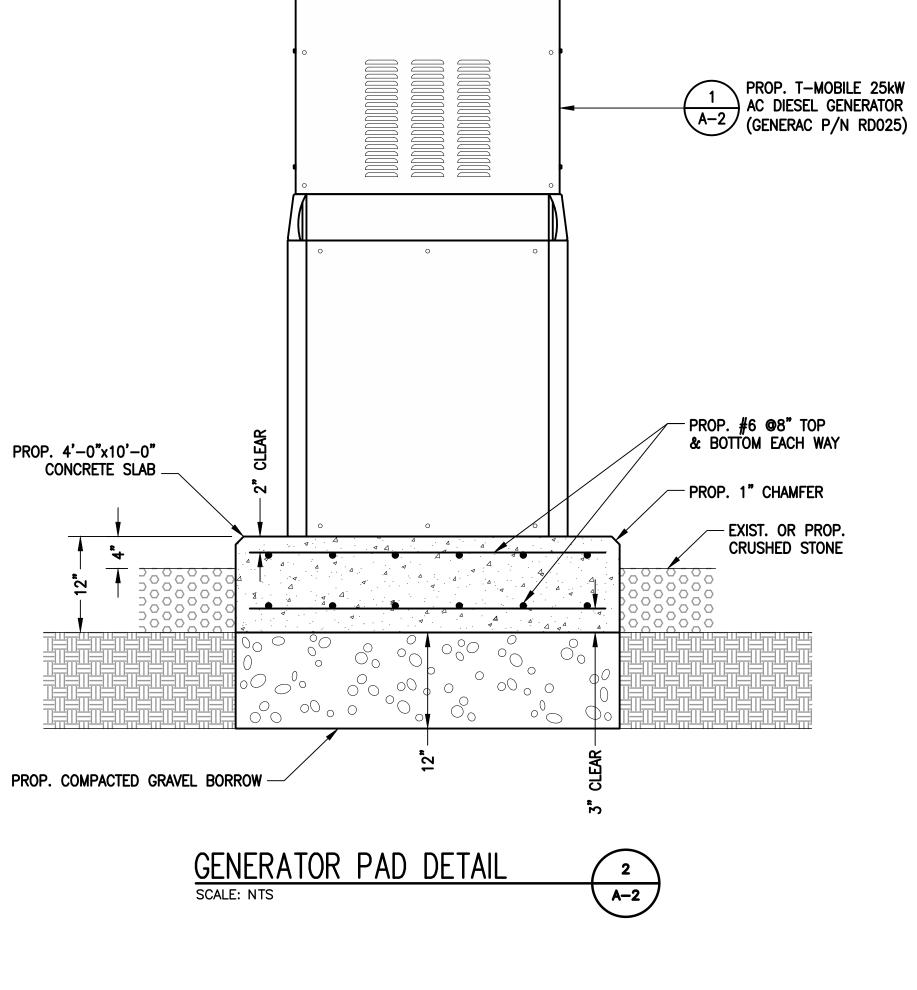


GENERAC RD025 25kW AC DIESEL GENERATOR DIMENSIONS: 103.4"L x 35.0"W x 91.7"H WEIGHT: 2,946 lbs QUANTITY: TOTAL OF 1









T-MOBILE NORTHEAST LLC

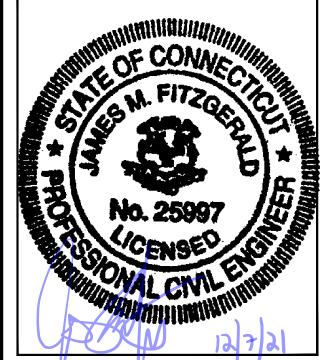
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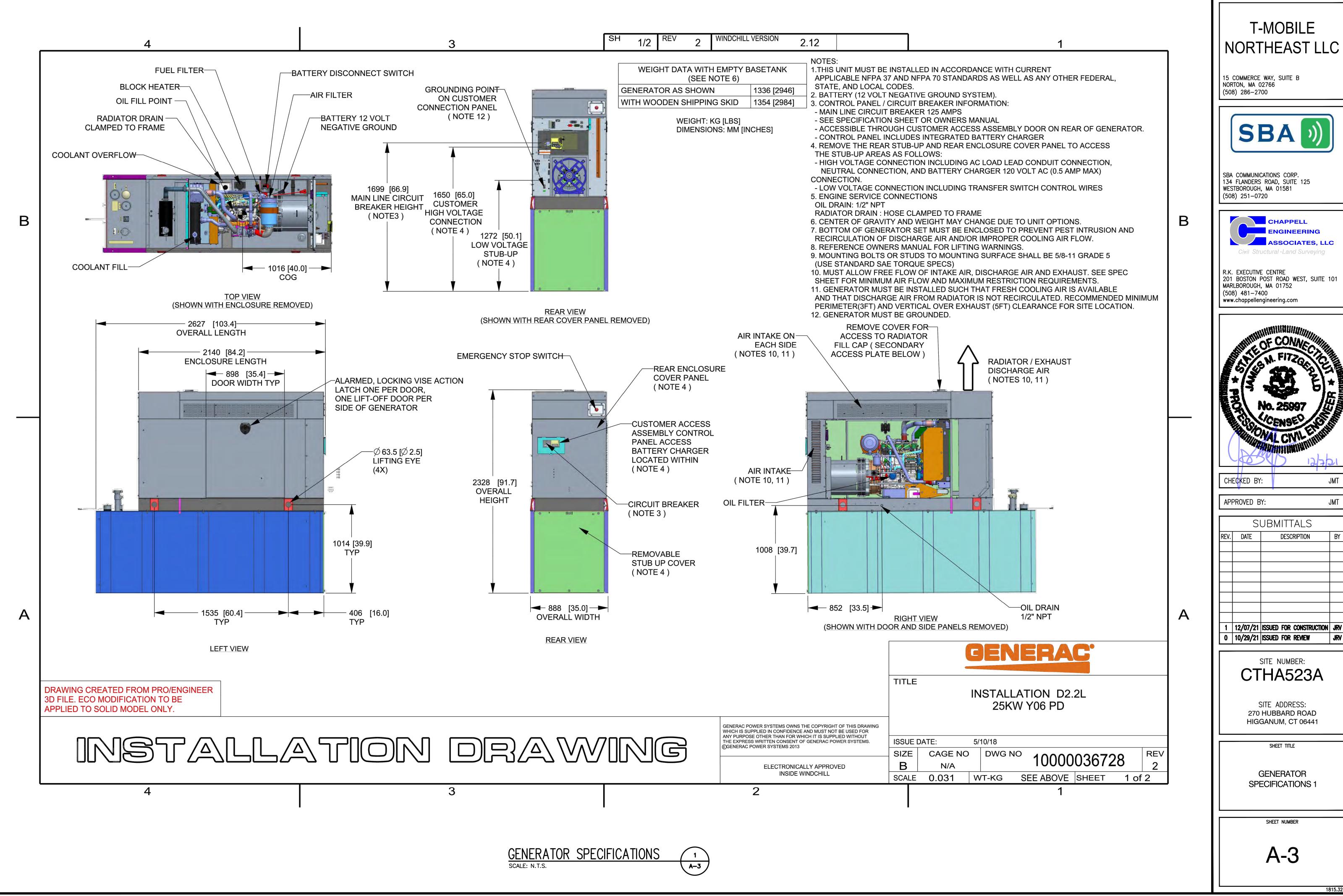
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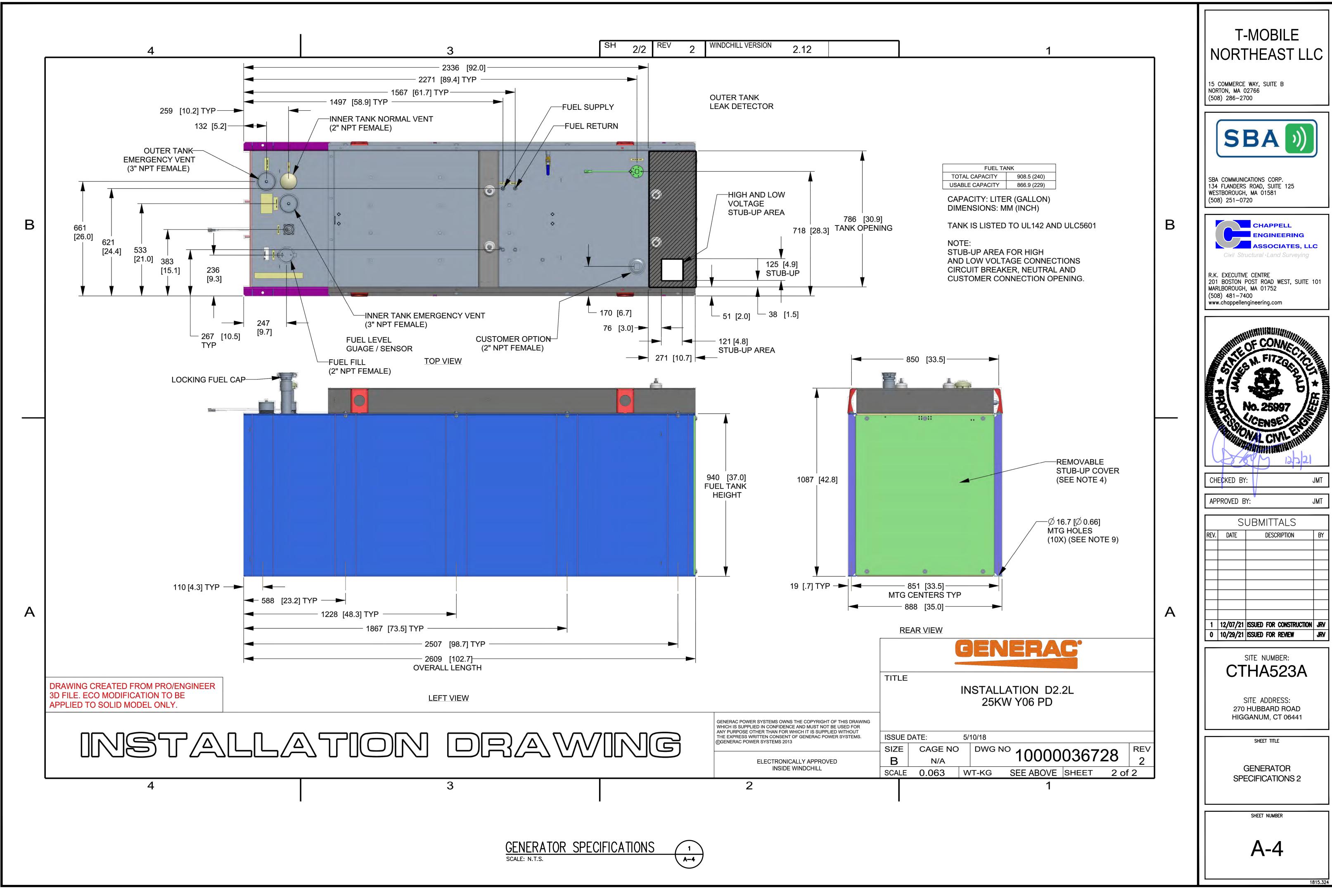
**GENERATOR DETAILS** 

SHEET NUMBER

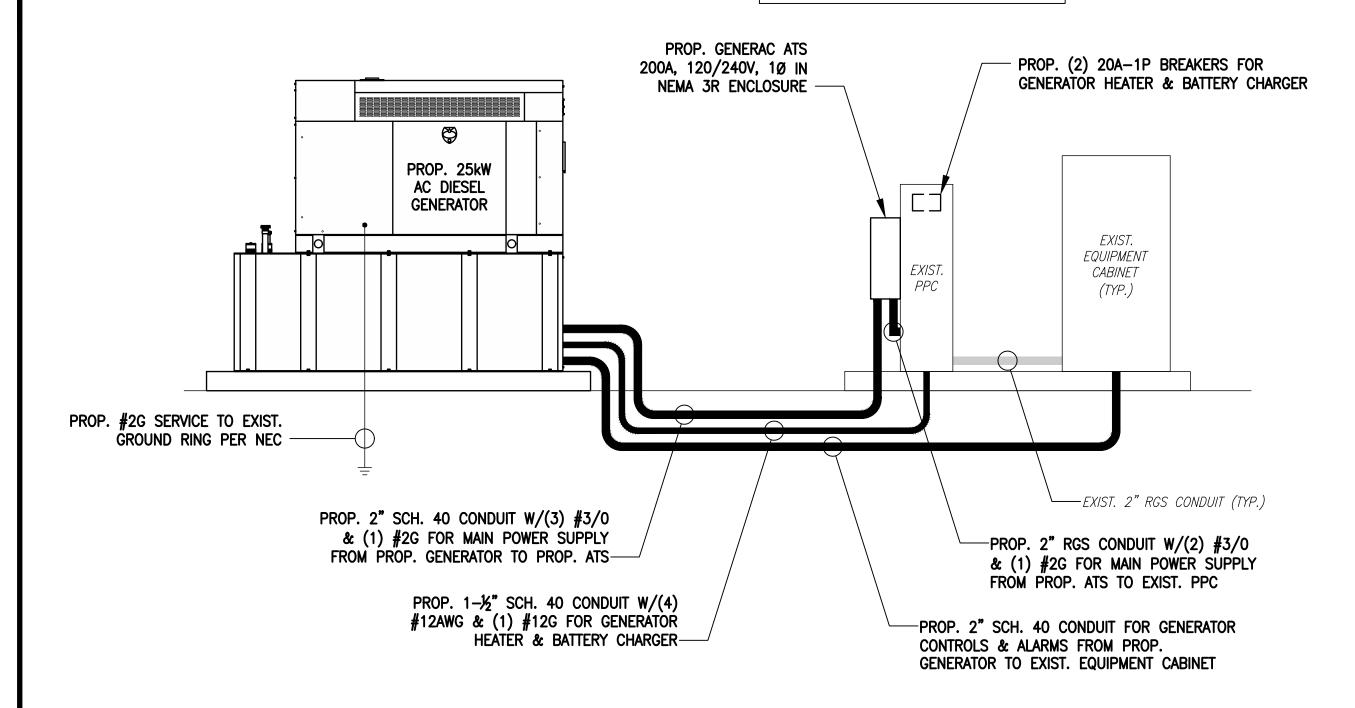




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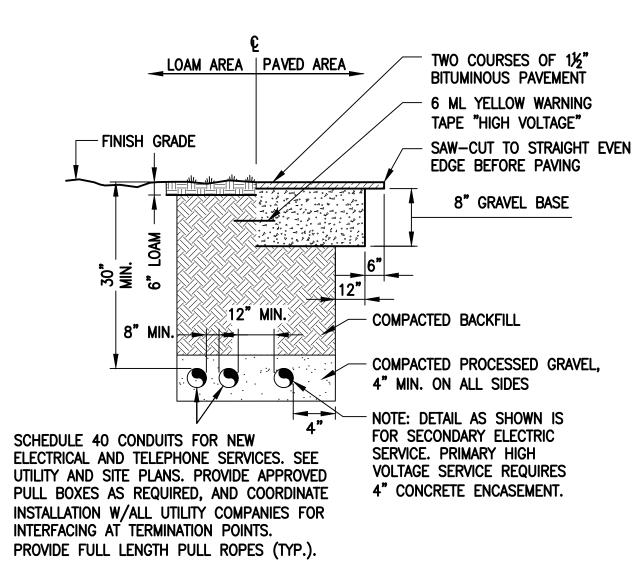


#### NOTE: CUT BACK (E) MAIN POWER CONDUIT, AS REQUIRED, & RECOONECT TO (P) ATS.



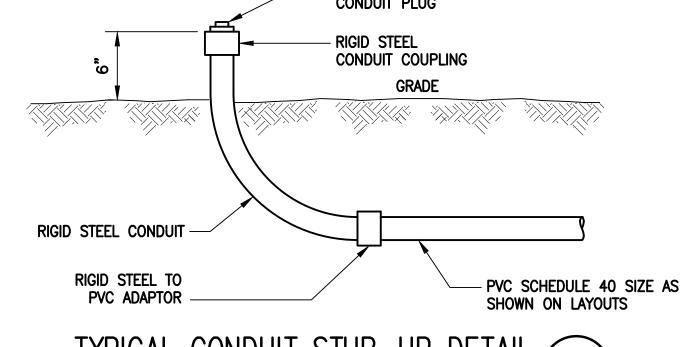
ONE-LINE POWER DIAGRAM

SCALE: NOT TO SCALE



SCALE: NOT TO SCALE

E-1



TYPICAL CONDUIT STUB-UP DETAIL SCALE: NONE

# RIGID STEEL CONDUIT PLUG

## ELECTRICAL AND GROUNDING NOTES

- 1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
- 2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
- 3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
- 4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
- 5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
- 6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
- 7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THININSULATION.
- 8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
- 9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
- 10. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
- 11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
- 12. PPC SUPPLIED BY PROJECT OWNER.
- 13. GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
- 14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT
- 15. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2
- 16. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
- 17. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING
- 18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO
- ALL LOCATIONS. 19. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.

SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.

- 20. CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXIST. TOWER/ MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
- 21. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMNS MINIMUM RESISTANCE REQUIRED.
- 22. CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.

# T-MOBILE NORTHEAST LLC

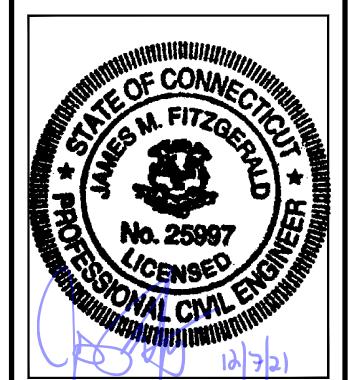
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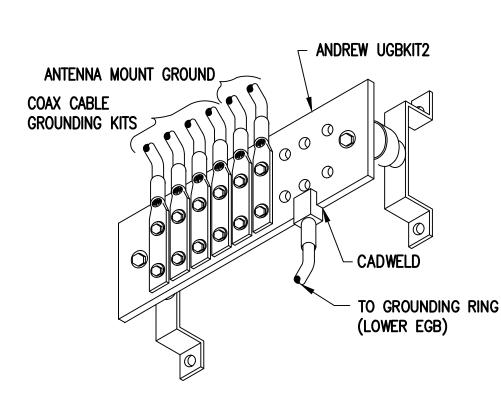
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SITE ADDRESS: 270 HUBBARD ROAD HIGGANUM, CT 06441

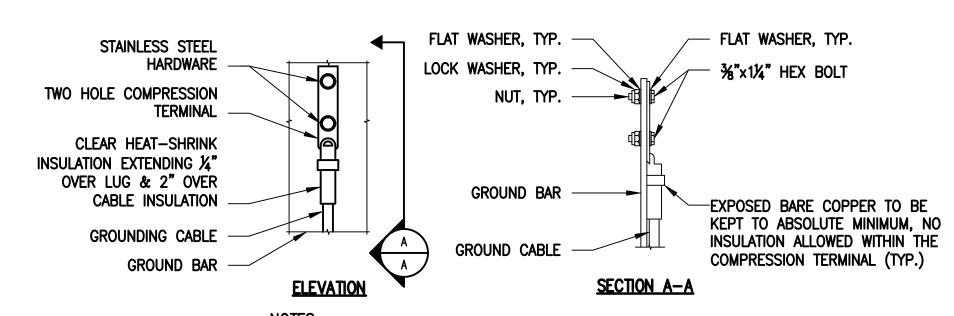
SHEET TITLE

**ELECTRIC & GROUNDING** DETAILS

SHEET NUMBER







"DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS. 3. CADWELL DOWNLEADS FROM UPPER EGB, LOWER EGB AND MGB.



# EXHIBIT 7

Generac RD025 25 KW 25kw Diesel Specifications

**Standby Power Rating** 25 kW, 31.25 kVA, 60 Hz







Image used for illustration purposes only

#### **Codes and Standards**

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



UL2200, UL508, UL489, UL142



CSA 22.2





BS5514 and DIN 6271



**SAE J1349** 



NFPA 37, 70, 99



ISO 3046, 8528, 9001



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



an National Standards Institute ANSI/IEEE C62.41

#### **Powering Ahead**

For over 50 years, Generac has led the industry with innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac's gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial application under adverse conditions.

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

#### RD025 | 2.2L | 25 kW

#### INDUSTRIAL DIESEL GENERATOR SET

**EPA Certified Stationary Emergency** 

#### **Standard Features**

#### **ENGINE SYSTEM**

- Cold Weather Kit
- Oil Drain Extension
- Heavy Duty Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- · Factory Filled Oil & Coolant
- Critical Exhaust Silencer

#### **GENERATOR SET**

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

#### **Electrical System**

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

#### **ALTERNATOR SYSTEM**

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

#### **Cooling System**

**GENERAC**<sup>®</sup>

**INDUSTRIAL** 

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

#### **Fuel System**

- · Fuel Lockoff Solenoid
- · Primary Fuel Filter
- Stainless Steel Fuel Lines

#### **TANKS**

- 24 Hour Run Time Tank
- UL142 Listed Tank

#### **CONTROL SYSTEM**



#### **Evolution ™ Controller**

- Two-Line Plain Text LCD Display
- Programmable Start Delay Between 10-30 seconds
- 10 second Engine Start Sequence
- 5 second Engine Warm Up
- 1 minute Engine Cool-Down
- Starter Lock-Out
- Smart Battery Charger
- Automatic Voltage Regulation with Over and Under Protection
- Automatic Low Oil Pressure Shutdown
- Overspeed Shutdown
- High Temperature Shutdown

- Overcrank Protection
- · Safety Fused
- · Failure to Transfer Protection
- Low Battery Protection
- 50 Even Run Log
- Future Set Capable Exerciser
- Incorrect Wiring Protection
- Internal Fault Protection
- Common External Fault Capability
- · Governor Failure Protection

#### **Optional Shipped Loose and Field Install Kits**

#### **ENGINE SYSTEM**

Base Plug Kit

#### **GENERATOR SET**

- O Paint Kit
- O Scheduled Maintance Kit

#### **CONTROL SYSTEM**

○ Mobile Link <sup>TM</sup> and Adapter Kit

#### **TANKS**

- O Spill Box
- O 90% Fuel Alarm
- Tank Risers
- O Spill Box Drainback Kit
- O Vent Extension Support Kit
- O 5 Day Run Time Tank

#### RD025 | 2.2L | 25 kW

#### INDUSTRIAL DIESEL GENERATOR SET

**EPA Certified Stationary Emergency** 



#### **APPLICATION AND ENGINEERING DATA**

#### **ENGINE SPECIFICATIONS**

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Make	Perkins
EPA Emission Compliance	Tier 4 Interim
Cylinder #	4
Туре	In-Line
Displacement - in <sup>3</sup> (L)	2.22 (135)
Bore - in (mm)	3.3 (84.0)
Stroke - in (mm)	3.9 (100.0)
Compression Ratio	23.3:1
Intake Air Method	Turbocharged/Aftercooled
Piston Type	Aluminum
Crankshaft Type	Forged Steel
Engine Block Type	Cast Iron

#### Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	±0.25%

#### Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full Flow Cartridge
Crankcase Capacity with Filters- qt (L)	11.2 (10.6)

#### Cooling System

Cooling System Type	Closed Recovery
Fan Type	Pusher
Fan Speed- rpm	1,980
Fan Diameter - in (mm)	18.0 (457.2)

#### Fuel System

Fuel Type Ultra Low Sulfur Diesel Fuel		
Fuel Specification	ASTM	
Fuel Pump Type	Mechanical Engine Driven Gear	
Injector Type	Mechanical	
Fuel Supply Lin (mm/in)	7.94/0.31 (ID)	
Fuel Return Line (mm/in)	4.76/.19 (ID)	
Fuel Filtering (microns)	25	

#### Engine Electrical System

System Voltage	12 VDC
Battery Charger Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

#### **ALTERNATOR SPECIFICATIONS**

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

Standard Excitation	Direct
Bearings	Single Sealed
Coupling	Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Full Digital
Number of Sensed Phases	2
Regulation Accuracy (Steady State)	±1%

#### RD025 | 2.2L | 25 kW

#### INDUSTRIAL DIESEL GENERATOR SET

**EPA Certified Stationary Emergency** 

#### **OPERATING DATA**

#### **POWER RATINGS**

Standby

GENERAC\* | INDUSTRIAL

		•	
Single-Phase 120/480 VAC @0.1pf	25 kW	Amps: 104	
Three-Phase 120/208 VAC @0.8pf	25 kW	Amps: 87	
Three-Phase 120/240 VAC @0.8pf	25 kW	Amps: 75	
Three-Phase 277/480 VAC @0.8pf	25 kW	Amps: 37	

#### **MOTOR STARTING CAPABILITIES (sKVA)**

#### sKVA vs. Voltage Dip at 30%

120/240 V, Single-Phase at 0.4pf	168
120/208 V, Three-Phase at 0.4pf	144
120/240 V, Three-Phase at 0.4pf	125
120/240 V, Three-Phase at 0.4pf	64

#### **FUEL CONSUMPTION RATES\***

Percent Load	Diesel gal/hr (L/hr)
25%	0.97 (3.67)
50%	1.37 (5.19)
75%	1.97 (7.46)
100%	2.77 (10.49)

<sup>\*</sup> Fuel supply installation must accommodate fuel consumption rates at 100% load.

#### **COOLING**

		Standby
Air Flow (Radiator and Alternator)	ft³/min (m³/min)	2800 (79)
Coolant System Capacity	gal (L)	2.5 (9.5)
Heat Rejection to Coolant	BTU/hr (MJ/hr)	128,638 (135.7)
Max. Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin No. 0199270SSD	
Maximum Radiator Backpressure	in H <sub>2</sub> O (kPa)	0.50 (0.12)

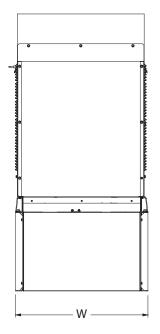
#### **COMBUSTION AIR REQUIREMENTS**

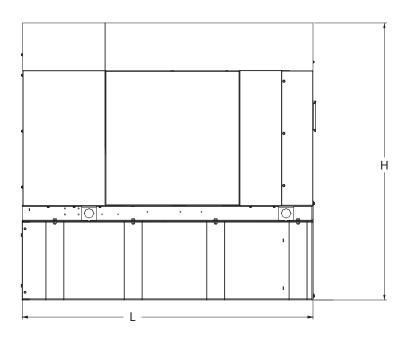
	Standby
Flow at Rated Power ft <sup>3</sup> /min	(m <sup>3</sup> /min) 88 (2.5)

ENGINE			EXHAUST		
		Standby			Standby
Rated Engine Speed	rpm	1,800	Exhaust Flow (Rated Output)	ft³/min (m³/min)	296.6 (8.4)
			Exhaust Temp (Rated Output - Post Silencer)	°F (°C)	930 (499)

**EPA Certified Stationary Emergency** 

#### **DIMENSIONS AND WEIGHTS\***





#### Weights and Dimensions

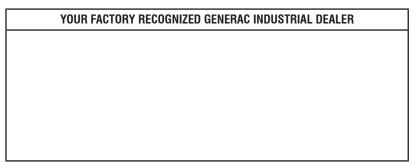
Unit Weight - Ibs	Unit Weight with Skid - Ibs	Dimensions (L x W x H) in
2,811	2,849	84.2 x 35.0 x 91.7

25kW Fuel Consumption	with fuel tank 103.4" 35" x 91.7"
Fuel Tank Gross Total Capacity	240 103.4 33 X 91.7
Fuel Tank Gross Usable Capacity	229
Fuel Tank Net Usable Capacity (Run Hours Based on Net Usable Capacity)	206
Run Hours 100% Load	98
Run Hours 75% Load	125
Run Hours 50% Load	161

Sound Emission Data

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

<sup>\*</sup> All measurements are approximate and for estimation purposes only. Drawing is for illustration purposes only, not to scale.



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

# EXHIBIT 8

Map showing nearest wetlands

