Northeast Site Solutions
Victoria Masse
5 Melrose Drive
Farmington, CT 06032
victoria@northeastsitesolutions.com

April 8, 2025

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

RE: Tower Share Application
345 Fan Hill Road, Monroe CT 06468
Latitude: 41.34576344 N
Longitude: -73.23507244 W
Site#: CTFF218A_Replacement

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of T-Mobile. T-Mobile plans to install antennas and related equipment to the tower site located at 345 Fan Hill Road, Monroe, Connecticut.

T-Mobile proposes to install six (6) 600/700/1900/2100/2500 5G MHz antenna and six (6) RRUs at the 150-foot level of the existing 176-foot monopole, two (2) hybrid cable will also be installed. T-Mobile equipment cabinets will be placed on a new 10'x20' concrete pad within the existing compound along with a 48kw diesel generator. Included are plans by Elevated, dated February 4, 2025, Exhibit C. Also included is a structural analysis prepared by Aria Services, dated February 6, 2025, confirming that the existing tower is structurally capable of supporting the proposed equipment. Attached as Exhibit D. This facility was approved by the Town of Monroe, per the Special Exception Permit Approval on October 21, 2021. Please see attached Exhibit A.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of T-Mobile intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A., a copy of this letter is being sent to Terrence P. Rooney, First Selectman, Thomas Noonan, Zoning Enforcement Officer, as well as the property owner and tower owner.

The planned modifications of the facility fall squarely within those activities explicitly provided for in R.C.S.A. 16-50j-89.

1. The proposed modifications will not result in an increase in the height of the existing structure. The top of the tower is 176-feet; T-Mobile proposed antennas will be located at a center line height of 150-feet.

2.The proposed modification will not result in the increase of the site boundary as depicted on the attached site plan.

3.The proposed modification will not increase the noise levels at the facility by six decibels or more, or to levels that exceed local and state criteria. The incremental effect of the proposed changes will be negligent.

4.The operation of the proposed antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. As indicated in the attached power density calculations, the combined site operations will result in a total density of 0.62% as evidenced by Exhibit F.

Connecticut General Statutes 16-50-aa indicates that the Council must approve the shared use of a telecommunications facility provided it finds the shared use is technically, legally, environmentally, and economically feasible and meets public safety concerns. As demonstrated in this letter, T-Mobile respectfully indicates that the shared use of this facility satisfies these criteria.

A. Technical Feasibility. The existing monopole has been deemed structurally capable of supporting T-Mobile proposed loading. The structural analysis is included in Exhibit D.

B. Legal Feasibility. As referenced above, C.G.S. 16-50aa has been authorized to issue orders approving the shared use of an existing tower such as this monopole in Monroe. Under the authority granted to the Council, an order of the Council approving the requested shared use would permit T-Mobile to obtain a building permit for the proposed installation. Further, a letter of Authorization is included as Exhibit G, authorizing T-Mobile to file this application for shared use.

C. Environmental Feasibility. The proposed shared use of this facility would have a minimal environmental impact. The installation of T-Mobile equipment at the 150-foot level of the existing 176-foot monopole would have an insignificant visual impact on the area around the monopole. T-Mobile ground equipment would be installed within the existing facility compound. T-Mobile shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by Exhibit F, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

D. Economic Feasibility. T-Mobile will be entering into an agreement with the owner of this facility to mutually agreeable terms. As previously mentioned, the Letter of Authorization has been provided by the owner to assist T-Mobile with this tower share application.

E. Public Safety Concerns. As discussed above, the tower is structurally capable of supporting T-Mobile proposed loading. T-Mobile is not aware of any public safety concerns relative to the proposed sharing of the existing monopole. T-Mobile intentions of providing new and improved wireless service through the shared use of this facility is expected to enhance the safety and welfare of local residents and individuals traveling through Monroe.

Sincerely,

Victoria Masse
Mobile: 860-306-2326
Fax: 413-521-0558
Office: 5 Melrose Drive, Farmington, CT 06032
Email: victoria@northeastsitesolutions.com

Attachments
Cc:
Terrence P. Rooney, First Selectman
Monroe Town Hall
7 Fan Hill Road
Monroe, CT 06468

Thomas Noonan, Zoning Enforcement Officer
Monroe Town Hall
7 Fan Hill Road
Monroe, CT 06468

Town of Monroe, Property Owner
FAWN HOLLOW+JOCKY HOLLOW+CHALK HILL
7 Fan Hill Road
Monroe, CT 06468

ARX Wireless, Tower Owner
110 Washington Ave
North Haven, CT 06473

Exhibit A

Original Facility Approval

TOWN OF MONROE
PLANNING and ZONING COMMISSION
7 Fan Hill Road
Monroe, CT 06468
Phone: 203-452-2812
www.monroect.org

SPECIAL EXCEPTION PERMIT APPROVAL
SEP-2021-11 – File #1636A

345 FAN HILL ROAD
176 FOOT MONOPOLE TOWER WITHIN A 75' X 75' AREA THAT INCLUDES A 50' X 50' GRAVEL BASED FENCED EQUIPMENT COMPOUND
Assessor Map 96, Lot 16– Residential RF-1 District (RF-1)

OWNER / APPLICANT
Town of Monroe/ARX Wireless Infrastructure, LLC

Date of Approval	October 21, 2021
Date Final Plans to be Signed by	January 21, 2022
Site Plan 5-Year Expiration*	October 21, 2026

**** If conditions of approval are not completed accordingly***

WHEREAS, the Monroe Planning and Zoning Commission (hereinafter "Commission") is considering an application for Special Exception Permit Approval for the construction of a 176 foot monopole tower within a 75' x 75' area that includes a 50' x 50' gravel based fenced equipment compound located on a wooded area of the town schools campus:

Whereas the property consist of 72.1 acres; and

WHEREAS, Planning and Zoning Commission is required per Zoning §6.8.1 and 8.1 as well as subsequent administrative Zoning and Building Permits per Zoning §9.4; and

WHEREAS, in the course of its review of the application, the Commission has noted the following:

- The site is not within 500 feet of a Town boundary;
- The site is not located within a public watershed area;
- The site is not subject to a Conservation Easement and does not include areas of 100-year floodplain;
- The site does contain wetlands/watercourses but all activity is outside the 100/150-foot upland review areas;
- The Commission provided a favorable 8-24 Referral to the Town Council
- Landscaping will be provided along the fencing for adequate buffering.

WHEREAS, the Commission has considered the proposed application at a duly noticed public hearing opened and closed on October 21, 2021; and

NOW THEREFORE BE IT RESOLVED, the Commission, in accordance with §6.8.1 and 8.1.1 of the Zoning Regulations, hereby finds the following in respect to the **Supplemental Regulations** (*numbering sequence follows that in the Zoning Regulations*):

A. The purpose, location, height and design of the proposed monopole structure is in compliance with the standards of 6.8.1 thru 6.8.4;

BE IT FURTHER RESOLVED, the Commission, in accordance with §6.8.1 and 8.1.1 of the Zoning Regulations hereby finds, upon motion by **Westlund** and seconded by **Paniccia**, following deliberations conducted on **October 21, 2021**, voted (**5**) in favor and **(0)** in opposition to **APPROVE Special Exception Permit Application SEP-2021-11, File #1636A**, subject to the conditions (modifications and requirements) as set forth below, as follows:

Vote:	**MICHAEL O'REILLY**	**aye**	*For the Commission:*
	DOMENIC PANICCIA	**aye**	
	LEON AMBROSEY	**aye**	
	RYAN CONDON	**aye**	
	ROBERT WESTLUND	**aye**	*Michael O'Reilly, Chair*

1. *Adherence to the recommendations of C, D and E of the Town Engineer in his report dated 10/4/2021 ; and.*

BE IT FURTHER RESOLVED, this Approval is specific solely to that detailed herein and the associated Site Development Plans as required to be revised and signed by the Commission Chair; and

BE IT FURTHER RESOLVED, the Commission hereby authorizes the publishing and filing of a Notice of Decision consistent with the requirements set forth in CGS §8-3c(b); and

BE IT FURTHER RESOLVED, as set forth above, this Approval shall be subject to the following conditions (modifications and requirements):

MODIFICATIONS AND REQUIREMENTS OF APPROVAL

A. TO BE COMPLETED WITHIN 180 DAYS (EXPIRATION TERM DATE of January 21, 2022)

Prior to authorized endorsement of final Site Plans by the Commission Chair, the following shall be completed within one-hundred-eighty (180) days of the date of this Approval, unless a written request for an extension is submitted prior thereto (the Commission shall consider said request at its next available meeting, which may be past the date of expiration), or this Approval shall become null and void without further notice:

1. **Required Revision of Final Site Plans**

A **SINGLE (1)** complete set of final Site Plans (see list above) shall be submitted, revised as set forth and required below, subject to acceptance by the Planning and Zoning Administrator:

a. Each plan set sheet shall be signed and sealed providing live certification thereof by the professional(s) responsible for the preparation thereof.

b. Each plan set sheet shall include a common revision date of March 4, 2021 or later.

c. Each plan set sheet shall include the following signature block with original signature of the applicant/owner affixed thereon:

The owner/applicant acknowledges that all work shown on these Site Plans shall be completed in compliance with the Planning and Zoning Commission approval relating thereto, and in accordance with all applicable Town of Monroe Codes and Regulations, as well as other applicable State and Federal laws, requirements and regulations.

Town of Monroe
Owner:
{INSERT PRINTED OWNER NAME}
{INSERT PRINTED ADDRESS} 7 Fan Hill Rd Monroe, CT 06468

Arx Wireless Infrastructure, LLC
Applicant:
{INSERT PRINTED APPLICANT NAME
{INSERT PRINTED ADDRESS} 110 Washington Ave North Haven, CT 06473

d. The following notes shall be added to the Cover Sheet and Sheet L-1.2:

- ***Reference is hereby made to the corresponding Special Exception Permit / Site Development Plan Approval as issued by the Monroe Planning and Zoning Commission (SEP-2021-05, File #1630A, approved on April 8, 2021) and these corresponding Site Plans on file with the Monroe Planning and Zoning Department.***

2. **Endorsement of Final Site Plans**

a. Upon satisfactory completion of **Conditions A1** above, the applicant shall submit **One (1)** complete plan set (full size 24"x 36" collated, **unbound** and **rolled**), for the authorized endorsement of same by the Commission Chair.

b. Following endorsement above, the applicant will be provided with a digital copy for purposes of providing **Six (6)** full sized, **printed to scale** (24" x36" collated, **bound** and **folded**) **color copies** showing the endorsement thereon accordingly.

B. PRIOR TO AUTHORIZED ISSUANCE OF ZONING AND BUILDING PERMITS

Prior to the authorized commencement of any approved work or construction and the authorized issuance of Zoning and Building Permits the applicant shall complete the following:

1. **Procurement of Involved Agency Permits and Approvals** – The applicant/owner shall be responsible for the procurement of all applicable local, State and Federal permits and approvals prior to the commencement of site or building modification or construction. Any substantive changes to the approved site facilities, use, or to the overall final Site Plans as a result, shall require modified review and approval by the Commission, which review may include the submission of a new application and/or the holding of a Public Hearing.

2. **Required Recording of Approval** – Upon satisfactory completion of all **Section A Conditions** above, the applicant shall record an ***original*** copy of this Approval document ***(as provided by the Planning and Zoning Department)*** in the Monroe Land Records. The applicant shall be responsible for providing a copy of said recording, showing all marks of recording to the Planning and Zoning Department.

3. No **Zoning Permit or Building Permit** relating to this Approval shall be authorized or issued until the recording as set forth in **Condition B2** above has been completed and copies thereof as recorded have been provided to the Planning and Zoning Department. Consistent with CGS §8-3c(b) and Zoning §7.4.1A and §8.1.6(A), this Approval shall be effective for the purpose of obtaining zoning and building permits upon the recording of this Resolution as signed by the Commission Chair in the Monroe Land Records as set forth herein.

4. Prior to the authorized issuance of a **Zoning Permit (Provisional Certificate of Zoning Compliance)**, the following shall be provided to the Zoning Enforcement Officer (ZEO) (**no site activity shall commence and no Building Permit shall be issued prior to obtaining a duly issued Zoning Permit** – *Zoning and Building Permits are not issued until the required pre-construction meeting is held*):

    - Submission of a complete Application for a Provisional Certificate of Zoning Compliance (Zoning Permit) based on this Approval and the signed Site Plans.
    - Verification of recordings on the Monroe Land Records as required per **Condition B2** Above.
    - Verification of Town of Monroe Health Department approval for the final design and construction of the septic disposal system.
    - Administrative Town of Monroe Inland Wetlands, Fire and Health Department approvals, as may be required.
    - Verification of State of Connecticut DEEP approval/acceptance of the removal of the existing oil/water separator and holding tank, and approval for the installation of a new oil/water separator connection of floor drains to the stormwater drainage system.

5. **Pre-Construction Meeting** – A pre-construction meeting shall be held with the applicant/owner, general contractor, excavator, builder and other project consultants and the land use and building officials of the Town of Monroe. The pre-construction meeting shall not be scheduled until all requirements set forth above have been completed by the applicant/owner. Additional construction meetings may be called as deemed necessary throughout construction.

C. DURING SITE CONSTRUCTION

The following shall be addressed during construction:

1. There shall be no clearing, excavation or filling, grading, removal of vegetation or other site or building construction inconsistent with that shown on the signed Site Plans, except reasonable field changes as approved by the Planning and Zoning Administrator and Town Engineer. Field changes may only be permitted where they do not substantively alter the intent or design of the signed Site Plans or increase the size of the footprint of any structure or use of land. All other changes shall require the prior review and approval of the Commission as a change pursuant to **Section F** below.

2. Erosion and sedimentation controls and temporary stormwater management measures as approved shall be properly maintained until construction is completed and all disturbed areas have been stabilized. Said controls and measures shall be periodically inspected, continually maintained throughout the construction phase and supplemented to ensure their proper installation and functions. The ZEO, Building Inspector, Inland Wetlands Agent and Town Engineer or their duly authorized representatives may require additional controls as deemed necessary or appropriate based on changing site conditions during construction.

3. Pursuant to Zoning §6.4.9(M), hours of excavation/filling/grading operations shall be limited to between the hours of 8:00 am to 5:00 pm, Monday through Friday.

4. Pursuant to Zoning §6.4.9(P), there shall be no blasting, nor any onsite material sorting, crushing or processing.

5. The applicant/owner shall be responsible for the following:

   - Notifying the Planning and Zoning Department of changes in the status of ownership and/or contractor(s) and/or professional design or inspection consultants involved in the construction and/or subsequent facility operations;
   - Notifying any new owner and/or contractor(s) and/or consultants of all construction requirements including all job meeting notes and inspection notes produced up to the date of any such change in project related personnel;
   - Notifying and informing its contractors, employees, agents and assigns of their responsibility to comply with the modifications and requirements set forth in this Approval; and
   - Adherence with the standards and requirements per the pre-construction meeting (Report of Pre-Construction Meeting) and any subsequent construction meetings and inspections.

D. PRIOR TO ISSUANCE OF PERMANENT CERTIFICATE OF ZONING COMPLIANCE

The following shall be completed prior to the authorized issuance of a Permanent Zoning Certificate of Compliance (or a Building Department Certificate of Occupancy/Completion):

1. Use and/or occupancy of approved site improvements shall not be authorized until the applicant/owner obtains a Permanent Certificate of Zoning Compliance and Building Department Certificate of Occupancy/Completion. It shall be the applicant's/owner's responsibility to coordinate and request all inspections, and to request and obtain a Permanent Certificate of Zoning Compliance and Building Department Certificate of Occupancy/Completion.

2. Prior to the authorized issuance of a **Permanent Certificate of Zoning Compliance and/or a Building Department Certificate of Occupancy/Completion**, the applicant shall complete the following consistent with the signed Site Plans:

   - An As-Built Plan detailing and certifying completed improvements, including a second copy of same superimposed on the original approved layout plan (to be shown in red or varied shading), including adequate information to verify that all work is completed in compliance with this Approval, in quantities as specified by the Planning and Zoning Department.
   - Verification that the facility water supply and subsurface septic disposal system are constructed, operational and compliant to the satisfaction of the Monroe Health Department.
   - Verification of State of Connecticut DEEP completion acceptance of the removal of the existing oil/water separator and holding tank and completion acceptance of the installation of a new oil/water separator connection of floor drains to the stormwater drainage system.
   - Professional Engineer Certification that all drainage system improvements have been installed in accordance with the approved final signed Site Plans and are built and functioning as designed.
   - Verification and submission of a Wetland Permit Certificate of Completion.
   - Verification of satisfactory completion and operation of all utility connections (electric, telecommunications, natural gas, water, septic, stormwater).
   - Verification that all disturbed areas are stabilized and exhibit healthy vegetative cover.
   - Verification that the site is clean of construction related equipment, materials and debris; and all erosion controls have been appropriately removed and disposed of.

- All site improvements and landscaping, consistent with the signed final Site Plans, as well as all related requirements as set forth and agreed to during the pre-construction meeting and any subsequent construction meetings or inspections, shall be determined to be complete.

E. CONTINUING CONDITIONS OF OPERATION FOLLOWING AUTHORIZED OCCUPANCY/USE

The following shall be adhered to as conditions of operation following acceptance pursuant to a ZEO Permanent Certificate of Zoning Compliance and Building Department Certificate of Occupancy/Completion:

1. All related permits and approvals shall be maintained as current throughout the duration of use. The premises and improvements shall be maintained in good working order and shall be regularly maintained to function as designed in a neat and orderly manner, free of debris, sediment and litter.

2. Appropriate measures shall be maintained to ensure snow removal so there is no plowed snow stored within travel lanes, parking spaces or over landscaping to its detriment. No snow shall be plowed into or upon any abutting street right-of-way.

3. Permitted parking and loading shall occur completely on-site, and shall be restricted to designated areas of the site. No unauthorized on-site parking or storage shall be permitted.

4. No driveway, parking or landscape area shall be utilized for outdoor storage, sale or display of merchandise, equipment, refuse, recycling, donations or other purposes.

5. There shall be no construction vehicle or equipment parking or storage on the premises, nor any storage of building or construction materials beyond that used to complete the project; upon completion any such storage shall be removed. All parking and loading areas shall be maintained to ensure an adequate surface treatment and positive drainage.

6. No new or changes to exterior signs, lighting or other materials or devices shall be permitted to be installed, supported, hung, flown or otherwise attached to site buildings, structures, lights or site grounds or vegetation without prior authorized approval and permit.

7. Consistent with the signed Site Plans, site landscaping and vegetation shall be maintained in a healthy growing condition; and dead, damaged or diseased landscaping shall be replaced promptly.

8. Subsequent changes to the appearance, coloring or physical dimensions, rooflines, materials, trim or facades of the site buildings, accessory uses and structures, fencing, signs, lights and other accessory site improvements relating to the operations and functions of the site use shall require separate prior authorized review and permit.

9. All pavement paint markings shall be maintained and periodically repainted to ensure adequate visibility and delineation at all times.

F. ACCEPTANCE / CHANGES / COMPLIANCE / EXPIRATION

1. **Applicant/Owner Acceptance.**

   - All representations by the applicant/owner and their representatives and discussion reflected in the Commission meetings record shall be binding upon this Approval and are incorporated herein by reference, except to the extent as may have been modified herein by the Commission in the issuance of this Approval.

- This Approval and all required modifications and requirements specified herein shall be binding upon the applicant/owner, and any heirs, assigns and/or successors, as well as the subject property and premises, unless otherwise amended by a subsequent act of the Commission.
- The acceptance of this Approval by the applicant/owner shall be evidenced by completion of the required recordings and filings set forth herein, indicating agreement that said Approval is contingent upon strict compliance with Town Regulations and all modifications and requirements as well as time/expiration periods, as set forth herein and on the signed Site Plans.

2. **Changes**. Any additions or changes to the approved land uses, site activities, occupants, occupancy, tenancy, the Site Plans, the site and site improvements, systems or facilities thereon, shall require prior review and authorized approval and permit.

3. **Approval Compliance**. Failure to maintain compliance with any specified requirement of this Approval shall constitute a violation of the terms of this Approval and a violation of the Zoning Regulations enforceable and subject to any and all remedies prescribed by applicable State and local laws, including but not limited to the ordered suspension of the use of the premises in full or part until such time as the failure or noncompliance has been satisfactorily resolved, and/or the revocation of said Approval or the revocation of any issued Zoning or Building Permits or Certificate of Zoning Compliance or Certificate of Occupancy/Completion.

4. **Expiration**. This Approval shall expire and be null and void without further written notice as set forth above on **Page 1** unless all building and site improvements, including site stabilization and landscaping, are completed consistent with the signed final Site Plans. The Commission may grant one of more extensions of time to complete said improvements, not to exceed an additional five (5) years. Any request for an extension shall be submitted to the Commission in writing in a timely manner prior to the expiration date for which an extension is requested (a minimum of forty-five (45) days prior is recommended) and shall state the reasons and circumstances for the requested extension. In considering any such request, the Commission may require a public hearing and shall review the adequacy of any held bond. This project will be deemed complete when a Permanent Certificate of Zoning Compliance and Certificate of Occupancy/Use have been obtained consistent with this Resolution of Approval and the signed final Site Plans, provided continual zoning, building, health and fire safety code compliance are maintained.

BUILDING PERMIT

Town of Monroe,
Building Department **Phone: 203-452-2805** Permit Number

DATE OF ISSUE 1/31/2022 17156

Applicant : Monroe Town Of (schools) Roberts Douglas
To Build or Erect:
176' Tall Monopole And Foundation Installed Within A 50' X 50' Fenced Compound, New Underground Utilities From An Existing Utility Pole To The Compound.
A New Equipment Shelter And Antennas For The Town Of Monroe Emergency Communications.

LOCATION : 346 Fan Hill Road

Use Group Zone 096/016/00 Lot Number Square Footage

PERMIT MUST BE DISPLAYED ON WORK SITE AT ALL TIMES

INSPECTION APPROVALS		
FOOTINGS	PLUMBING	OIL TANK
FOUNDATION	HEATING	ELEC SERVICE
FRAMING	CHIMNEY	HEARTH
ELEC. WIRING	INSULATION	FINAL

No building or structure hereafter erected shall be used or occupied in whole or part until the CERTIFICATE OF USE AND OCCUPANCY has been issued by the Building Official.
Certified Plot Plan of New Structures' Foundation Required Prior to Framing.

BUILDING OFFICIAL : DATE: 3.31.2022

INSPECTORS' COMMENTS:

Exhibit B

Property Card

345 FAN HILL RD

Location	345 FAN HILL RD	**Map/Lot**	096/ 016/ 00/ /
Acct#	09601600	**Owner**	MONROE TOWN OF (SCHOOLS)
Assessment	$24,463,340	**Appraisal**	$34,947,600
PID	12811	**Building Count**	3
Survey	3309 EASE,3275	**Affordable**	

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2024	$31,954,400	$2,993,200	$34,947,600
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2024	$22,368,100	$2,095,240	$24,463,340

Owner of Record

Owner	MONROE TOWN OF (SCHOOLS)	**Sale Price**	$0
Co-Owner	FAWN HOLLOW+ JOCKEY HOLLOW + CHALK HILL	**Certificate**	1
Address	7 FAN HILL RD MONROE, CT 06468-1800	**Book & Page**	0088/0090
		Sale Date	08/02/1967
		Instrument	

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
MONROE TOWN OF (SCHOOLS)	$0	1	0088/0090		08/02/1967
MARJORIE HARRIETT SAPEI	$0	3	0080/0425		06/21/1965
MARJORIE HARRIETT SAPEI	$0	3	0080/0425		06/21/1965
MARJORIE HARRIETT SAPEI	$0	3	0080/0425		06/21/1965

Building Information

Building 1 : Section 1

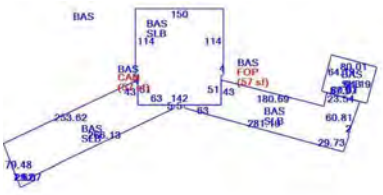
Year Built: 1965
Living Area: 64,656

Building Attributes	
Field	**Description**
Style:	School
Model	Commercial
Stories:	1
Occupancy	1.00
Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	T+G/Rubber
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Vinyl
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Hw/Steam
AC Type	None
Struct Class	
Bldg Use	Municipal
Total Rooms	
Total Bedrms	
Total Baths	
Fireplace	
Xtra Fireplaces	
1st Floor Use:	903C
Heat/AC	Heat/AC Split
Frame Type	Fireproof
Baths/Plumbing	Normal
Ceiling/Wall	Sus Ceil and W
Rooms/Prtns	Average
Wall Height	14.00
% Comn Wall	

Building Photo

(https://images.vgsi.com/photos/MonroeCTPhotos///0024/P1050022_24418

Building Layout



(ParcelSketch.ashx?pid=12811&bid=12811)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	64,656	64,656
CAN	Canopy	57	0
FOP	Open Porch	57	0
SLB	Slab	64,854	0
		129,624	64,656

Building 2 : Section 1

Year Built: 1968
Living Area: 87,507

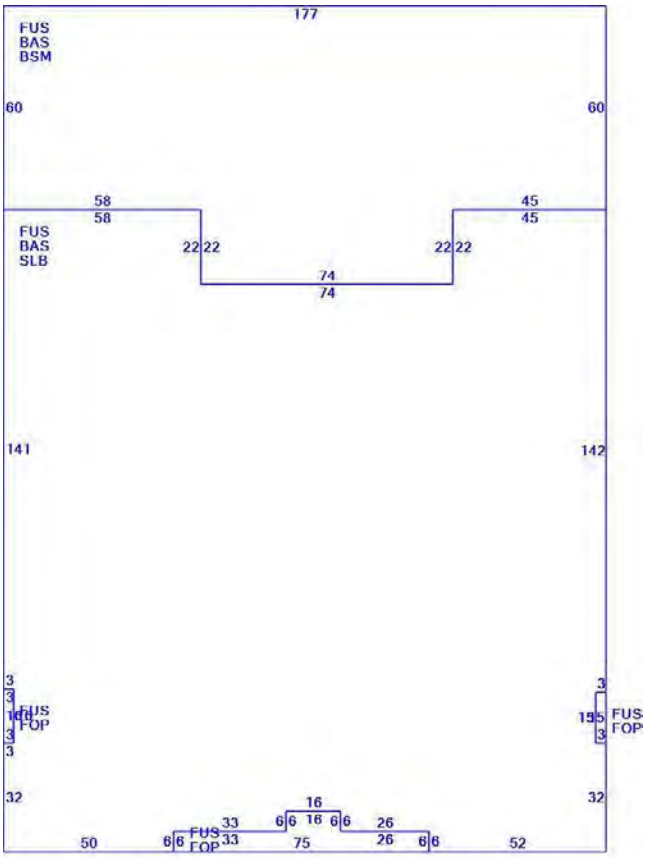
Building Attributes : Bldg 2 of 3

Field	Description
Style:	School
Model	Commercial
Stories:	2
Occupancy	1.00
Exterior Wall 1	Pre-cast Concr
Exterior Wall 2	Brick/Masonry
Roof Structure	Flat
Roof Cover	T+G/Rubber
Interior Wall 1	Drywall
Interior Wall 2	
Interior Floor 1	Vinyl
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Hw/Steam
AC Type	None
Struct Class	
Bldg Use	Municipal
Total Rooms	
Total Bedrms	
Total Baths	
Fireplace	
Xtra Fireplaces	
1st Floor Use:	903C
Heat/AC	Heat/AC Pkgs
Frame Type	Fireresist
Baths/Plumbing	Normal
Ceiling/Wall	Sus Ceil and W
Rooms/Prtns	Average
Wall Height	10.00
% Comn Wall	

Building Photo

(https://images.vgsi.com/photos/MonroeCTPhotos///0024/P1050023_24419

Building Layout



(ParcelSketch.ashx?pid=12811&bid=16726)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
FUS	Finished Upper Story	44,073	44,073
BAS	First Floor	43,434	43,434
BSM	Basement	12,248	0
FOP	Open Porch	639	0
SLB	Slab	31,186	0
		131,580	87,507

Building 3 : Section 1

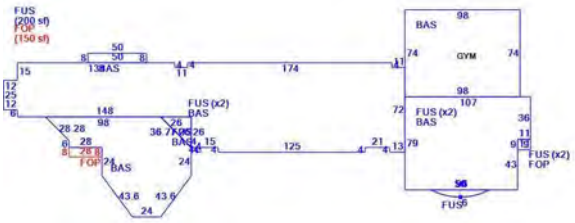
Year Built: 1997
Living Area: 101,084

Building Attributes : Bldg 3 of 3	
Field	**Description**
Style:	School
Model	Commercial
Stories:	3
Occupancy	1.00
Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	T+G/Rubber
Interior Wall 1	Drywall
Interior Wall 2	Minim/Masonry
Interior Floor 1	Vinyl
Interior Floor 2	Carpet
Heating Fuel	Gas
Heating Type	Unit Heat
AC Type	Partial
Struct Class	
Bldg Use	Municipal
Total Rooms	
Total Bedrms	
Total Baths	
Fireplace	
Xtra Fireplaces	
1st Floor Use:	903C
Heat/AC	Heat/AC Pkgs
Frame Type	Fireproof
Baths/Plumbing	Normal
Ceiling/Wall	Sus Ceil and W
Rooms/Prtns	Average
Wall Height	12.00
% Comn Wall	

Building Photo

(https://images.vgsi.com/photos/MonroeCTPhotos///0024/P1050024_2442(

Building Layout



(ParcelSketch.ashx?pid=12811&bid=16727)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
FUS	Finished Upper Story	58,282	58,282
BAS	First Floor	42,802	42,802
FOP	Open Porch	473	0
		101,557	101,084

Extra Features

Extra Features					Legend
Code	**Description**	**Size**	**Value**	**Bldg #**	**Comment**

ELEV	Elevator	3.00 STOP	$45,000	3	
SPR1	Sprinklers Wet	101084.00 S.F.	$60,700	3	
CRS2	UTIL METAL	360.00 S.F.	$2,600	1	
CCP8	CANOPY AVG	400.00 S.F.	$3,700	1	
SPR1	Sprinklers Wet	64656.00 S.F.	$31,600	1	

Parcel Information

Use Code 903C
Description Municipal
Deeded Acres 71.97

Land

Land Use

Use Code 903C
Description Municipal
Zone RF2
Neighborhood
Alt Land Approved No
Category

Land Line Valuation

Size (Acres) 71.97
Appraised Value $2,993,200

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
PA1	ASPHALT PAVING			7500.00 S.F.	$7,500	3
LT3	LIGHT POLE MOUNTED			21.00 UNITS	$12,600	3
PA1	ASPHALT PAVING			75000.00 S.F.	$45,000	1
LT3	LIGHT POLE MOUNTED			8.00 UNITS	$4,800	1
PA1	ASPHALT PAVING			63600.00 S.F.	$38,200	2
LT3	LIGHT POLE MOUNTED			6.00 UNITS	$3,600	2

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2023	$29,154,900	$2,796,900	$31,951,800
2022	$29,154,900	$2,796,900	$31,951,800
2021	$29,154,900	$2,798,200	$31,953,100

Assessment			
Valuation Year	Improvements	Land	Total
2023	$20,408,400	$1,957,800	$22,366,200
2022	$20,408,400	$1,957,800	$22,366,200
2021	$20,408,400	$1,958,700	$22,367,100

Town of Monroe

Map Title

Legend

- Parcels
- Streetname
- Roadways
  - Local
  - Collector
  - Minor Collector
  - Minor Arterial
  - Major Collector
  - PA Other
  - PA Other Expwy
  - PA Interstate

567.8 0 283.90 567.8 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Created by Greater Bridgeport Regional Council

METROCOG
Connecticut Metropolitan Council of Governments

Exhibit C

Construction Drawings

Approved - Dave Deraleau
11:26 AM, Feb 5, 2025

APPROVED
By Kenneth Zink at 2:36 pm, Feb 05, 2025

APPROVED
By Jorge Labayo at 9:57 am, Feb 24, 2025

CONSTRUCTION DRAWINGS
ALL SCALES RELATIVE TO 24"X36" PAGE SIZE

T-MOBILE NORTHEAST LLC

NSD

SITE ID: CTFF218A
SITE NAME: CTFF218A_ARX_MONOPOLE_MONROE
345 FAN HILL ROAD
MONROE, CT 06468
FAIRFIELD COUNTY

RAN CONFIGURATION: 67E5D998E 6160

A&L CONFIGURATION: 67E5998E_1xAIR+1OP (LRP)

KEY MAP
SCALE = N.T.S.

SITE LOCATION INFORMATION

SITE NUMBER:	CTFF218A
SITE ADDRESS:	345 FAN HILL ROAD MONROE, CT 06468
JURISDICTION:	TOWN OF MONROE
COUNTY:	FAIRFIELD COUNTY
BLOCK / LOT:	BLOCK 1 / LOT 39.2
PROPERTY OWNER:	ARX WIRELESS 110 WASHINGTON AVENUE NORTH HAVEN, CT 06473
APPLICANT:	T-MOBILE NORTHEAST LLC 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002

SITE CHARACTERISTICS

LATITUDE:	41.34576344°
LONGITUDE:	-73.23507244°
STRUCTURE TYPE:	MONOPOLE
LOCATION OF PROPOSED EQUIPMENT:	PROPOSED CONCRETE PAD (AT GRADE)
STRUCTURE HEIGHT:	±176'-0" AGL (TOP OF MONOPOLE)
GROUND ELEVATION:	421'-0" (AMSL)
ANTENNA (RAD CENTER):	ALPHA - ±150'-0" AGL BETA - ±150'-0" AGL GAMMA - ±150'-0" AGL

SCOPE OF WORK

T-MOBILE PROPOSES TO MODIFY AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY AS FOLLOWS:

- INSTALL (1) NEW ANTENNA MOUNT ON NEW MONOPOLE
- INSTALL (6) NEW ANTENNAS.
- INSTALL (6) NEW RRUs.
- INSTALL (1) NEW CONCRETE PAD (WITH ICE CANOPY) AT GRADE.
- INSTALL (2) NEW CABINETS.
- INSTALL (1) NEW PPC AND (1) NEW TELCO ENCLOSURE ON NEW H-FRAME.
- INSTALL (1) NEW DIESEL GENERATOR.
- INSTALL NEW ICE BRIDGE.
- INSTALL NEW UNDERGROUND UTILITY CONDUIT.
- INSTALL (2) NEW CABLES.

SHEET INDEX

UNDERGROUND SERVICE ALERT

811 Know what's below. Call before you dig.

CALL TOLL FREE: 800-922-4455

T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

ELEVATED ENGINEERING
99 FANNY ROAD
BOONTON, NEW JERSEY 07005
862-242-8050

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DRAWN BY:	CJT
CHECKED BY:	NDB
SCALE:	AS NOTED
JOB NO:	24046-NSS

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NICHOLAS D. BARILE
PROFESSIONAL ENGINEER, CT LIC. No. 28643

SITE ID: CTFF218A
SITE NAME: CTFF218A
345 FAN HILL ROAD
MONROE, CT 06468
FAIRFIELD COUNTY

DRAWING TITLE:

TITLE SHEET

DRAWING SHEET:

T-1

GENERAL NOTES

1. FOR THE PURPOSE OF THE CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

   CONTRACTORS – TO BE DETERMINED
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – T–MOBILE

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR.

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. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE PROVIDED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSED AND ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, 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.

10. THE SUBCONTRACTOR SHALL PROTECT THE EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTORS EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIAL SUCH AS COAXIAL CABLE AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNERS DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

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

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

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

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

17. SUBCONTRACTORS 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.

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

19. APPLICABLE BUILDING CODES:

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

    - BUILDING CODE: 2022 CONNECTICUT STATE BUILDING CODE
    - ELECTRICAL CODE: NFPA 70 NATIONAL ELECTRICAL CODE, 2017 EDITION
    - LIGHTNING CODE: NFPA 780–2014 LIGHTNING PROTECTION CODE
    - EIA/TIA–222–H OR LATEST EDITION

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

    - AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENT FOR STRUCTURAL CONCRETE
    - AMERICAN INSTITUTE FOR STEEL CONSTRUCTION (AISC)
    - MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION
    - TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222–H, STRUCTURAL STANDARDS FOR STEEL
    - ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

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

ELECTRICAL & GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE SPECIFIC (UL, LPI, OR NFPA) LIGHTNING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO LIGHTNING PROTECTION AND AS POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL–OF–POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO THE BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATING (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON–ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

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

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

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

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

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

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

17. 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.

18. RIGID STEEL CONDUITS SHALL BE GROUNDED AT BOTH ENDS.

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

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

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

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

23. GROUNDING SHALL COMPLY WITH NEW ART. 250.

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

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

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

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

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

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

30. BOND ANTENNA MOUNTING BRACKETS. COAXIAL CABLE GROUND KITS AND ALNA TO EGB PLACES NEAR THE ANTENNA LOCATION.

31. BOND ANTENNA EGB'S AND MGB TO WATER MAIN.

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

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

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

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW	TBR	TO BE REMOVED
EXISTING	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE	TYP	TYPICAL
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED		

T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

ELEVATED ENGINEERING
99 FANNY ROAD
BOONTON, NEW JERSEY 07005
862–242–8050

SCHEDULE OF REVISIONS

REV. NO.	DATE	DESCRIPTION OF CHANGES
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5		
4		
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DRAWN BY:	CJT
CHECKED BY:	NDB
SCALE:	AS NOTED
JOB NO:	24046-NSS

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NICHOLAS D. BARILE
PROFESSIONAL ENGINEER, CT LIC. No. 28643

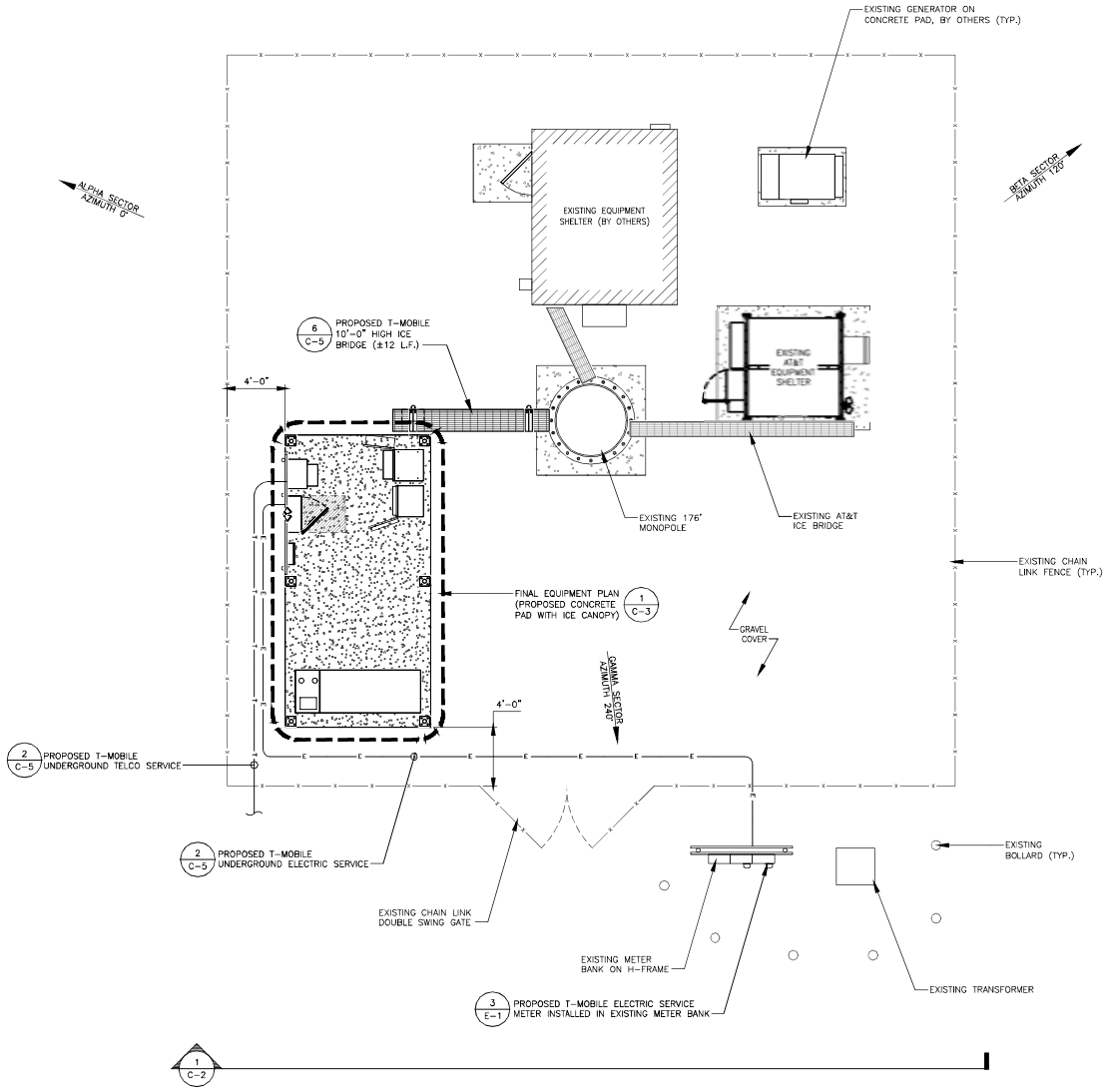
SITE ID: CTFF218A
SITE NAME: CTFF218A
345 FAN HILL ROAD
MONROE, CT 06468
FAIRFIELD COUNTY

DRAWING TITLE:

GENERAL NOTES

DRAWING SHEET:

GN-1



1 C-1 COMPOUND PLAN
SCALE: 1/4"=1'-0"

GRAPHIC SCALE: 1/4"=1'-0"

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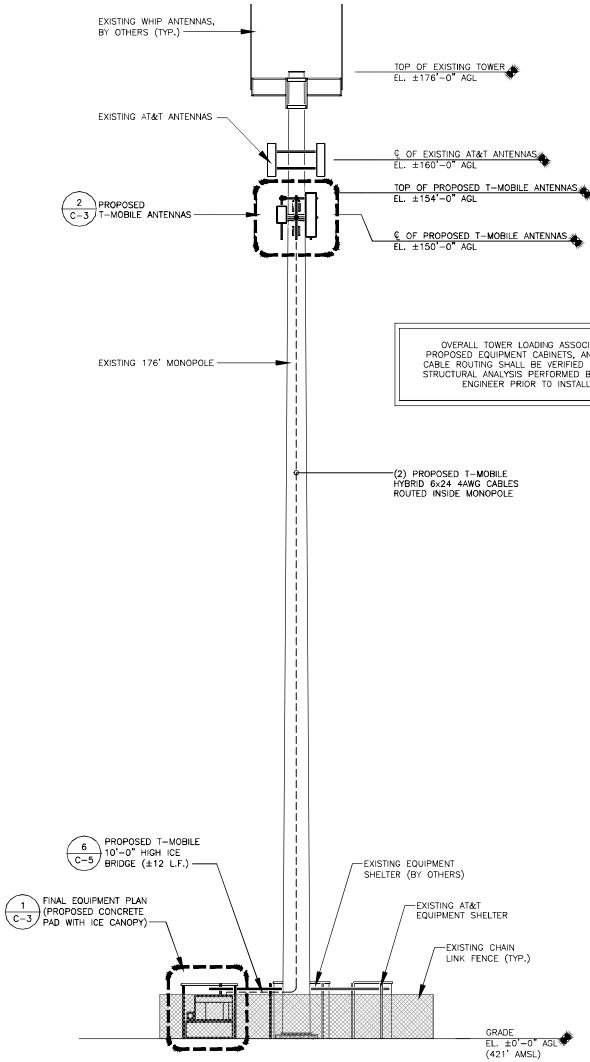
COMPOUND PLAN

DRAWING SHEET:

C-1



1 C-2 ELEVATION
SCALE: 3/32"=1'-0"

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FAIRFIELD COUNTY

DRAWING TITLE:

ELEVATION

DRAWING SHEET:

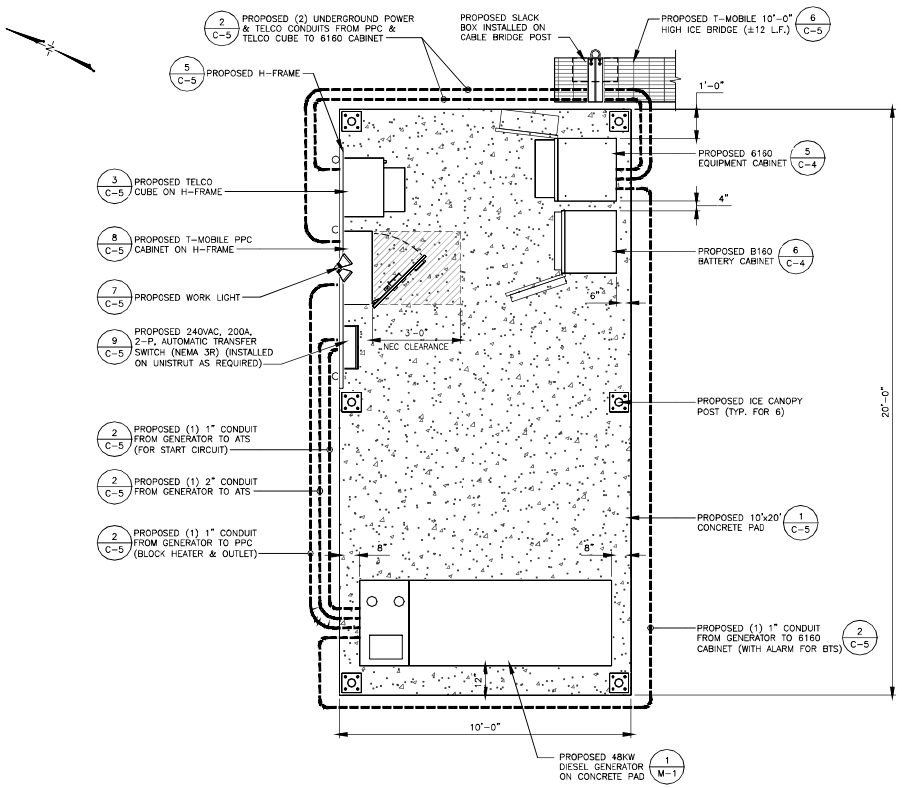
C-2

ANTENNA INFORMATION

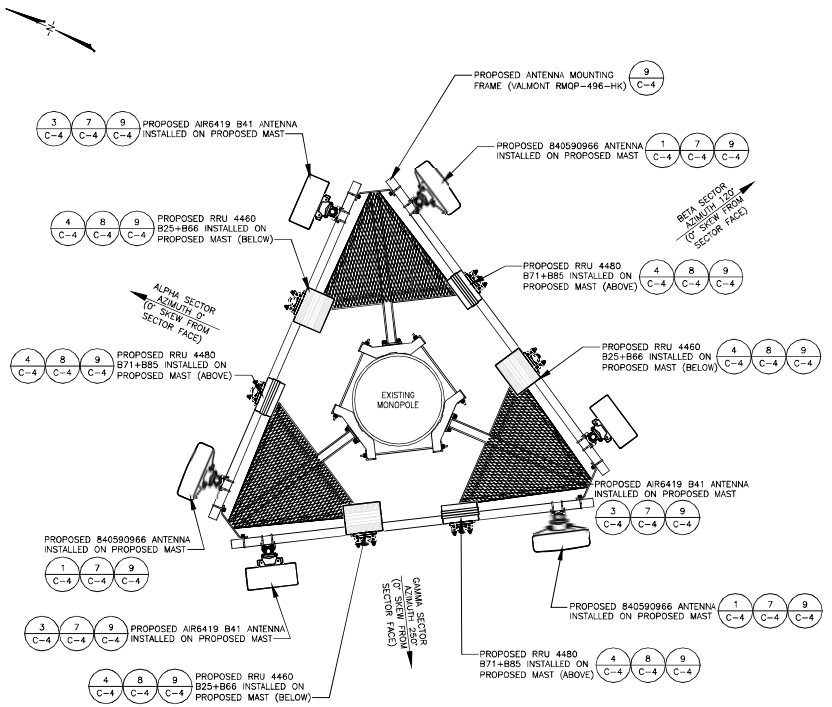
SECTOR	POSITION (FROM REAR LEFT TO RIGHT)	PROPOSED MODEL	ANT. C.L.	SECTOR MARK	QTY.	E-TILT	M-TILT	RRH MODEL/QUANTITY	TMA	DIPLEXER/ COMBINER	COAX/ FIBER QUANTITY	COAX/ FIBER SIZE	COAX/ FIBER LENGTH	HCS QTY. / TYPE / LENGTH
ALPHA 0°	R1	840590966	150'-0"	N600/L700/ L1900/N1900/ L2100	1	0/0/0/0	0	(1) 4480 B71+B85 (1) 4460 B25+B66	–	–	8	COAX JUMPER	15'	(9) (1) 6x24 HCS – ±200'
	R2	AIR 6419 B41	150'-0"	N2500	1	0/0	0	–	–	–	–	–	–	
BETA 120°	B1	840590966	150'-0"	N600/L700/ L1900/N1900/ L2100	1	0/0/0/0	0	(1) 4480 B71+B85 (1) 4460 B25+B66	–	–	8	COAX JUMPER	15'	(9) (1) 6x24 HCS – ±200'
	B2	AIR 6419 B41	150'-0"	N2500	1	0/0	0	–	–	–	–	–	–	
GAMMA 240°	C1	840590966	150'-0"	N600/L700/ L1900/N1900/ L2100	1	0/0/0/0	0	(1) 4480 B71+B85 (1) 4460 B25+B66	–	–	8	COAX JUMPER	15'	
	C2	AIR 6419 B41	150'-0"	N2500	1	0/0	0	–	–	–	–	–	–	

INFORMATION SHOWN PROVIDED ON T-MOBILE RFDS DATED 12/03/24

AT TIME OF CONSTRUCTION, CONTRACTOR TO VERIFY AZIMUTHS OF EXISTING ANTENNAS. IF DIFFERENT FROM RFDS, PLEASE NOTIFY THE RF ENGINEER AND CONSTRUCTION MANAGER WITH ACTUAL AZIMUTH TO ENSURE T-MOBILE'S DATABASE IS ACCURATE AND UP-TO-DATE.



1 C-3 FINAL EQUIPMENT PLAN
SCALE: 1/2"=1'-0"
GRAPHIC SCALE: 1/2"=1'-0"



Current RFDS has 240 Deg.

2 C-3 FINAL ANTENNA PLAN
SCALE: 1/2"=1'-0"
GRAPHIC SCALE: 1/2"=1'-0"

ANTENNA LOADING SHOWN WITHIN THIS SET OF DRAWINGS IS BASED ON THE MOUNT ANALYSIS PERFORMED BY ELEVATED ENGINEERING, DATED JANUARY 7, 2025. CONTRACTOR TO NOTIFY ENGINEER AND CARRIER IN THE EVENT SITE CONDITIONS DIFFER FROM WHAT IS REPRESENTED IN THE STRUCTURAL ANALYSIS. NO SUBSTITUTIONS ARE PERMITTED WITHOUT ADDITIONAL ANALYSIS.

T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

ELEVATED ENGINEERING
99 FANNY ROAD
BOONTON, NEW JERSEY 07005
862-242-8050

SCHEDULE OF REVISIONS

REV. NO.	DATE	DESCRIPTION OF CHANGES
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DRAWN BY:	CJT
CHECKED BY:	NDB
SCALE:	AS NOTED
JOB NO:	24046-NSS

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NICHOLAS D. BARILE
PROFESSIONAL ENGINEER, CT LIC. No. 28643

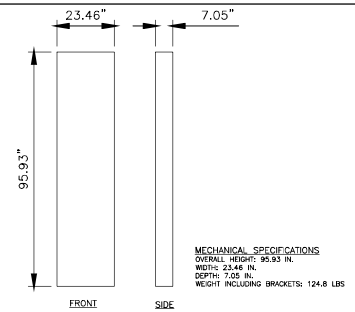
SITE ID: CTFF218A
SITE NAME: CTFF218A
345 FAN HILL ROAD
MONROE, CT 06468
FAIRFIELD COUNTY

DRAWING TITLE:

FINAL EQUIPMENT PLAN & ANTENNA PLAN

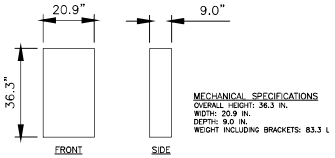
DRAWING SHEET:

C-3

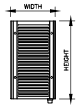


1 C-4 ERICSSON: 840590966
SCALE: N.T.S.

2 C-4 DETAIL NOT USED
SCALE: N.T.S.

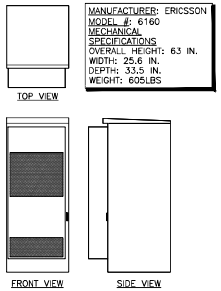


3 C-4 ERICSSON: AIR6419 B41
SCALE: N.T.S.

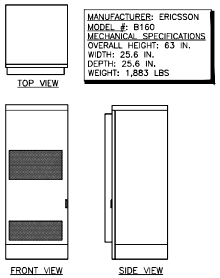


RRH	HEIGHT	WIDTH	DEPTH	WEIGHT
RADIO 4460 B25+B66	17.0"	15.1"	11.9"	104 LBS.
RADIO 4480 B71+B85	19.2"	15.1"	7.5"	93 LBS.

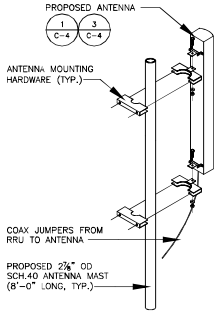
4 C-4 RRU DETAILS
SCALE: N.T.S.



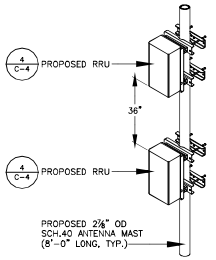
5 C-4 ERICSSON 6160 CABINET
SCALE: N.T.S.



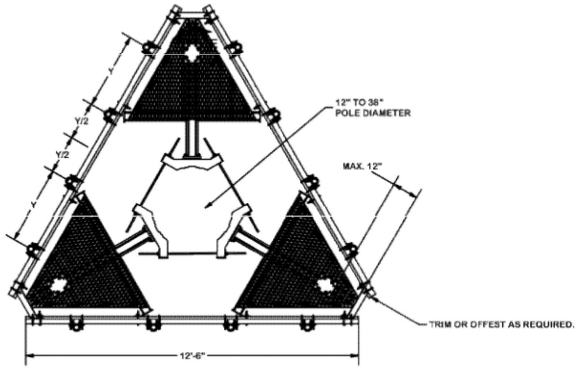
6 C-4 ERICSSON B160 CABINET
SCALE: N.T.S.



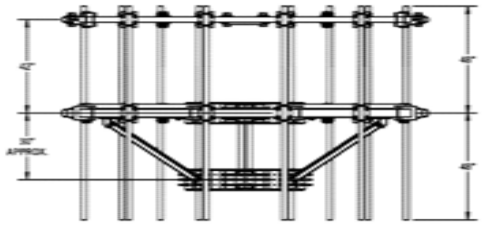
7 C-4 TYPICAL ANTENNA INSTALLATION DETAIL
SCALE: N.T.S.



8 C-4 TYPICAL RRU INSTALLATION DETAIL
SCALE: N.T.S.

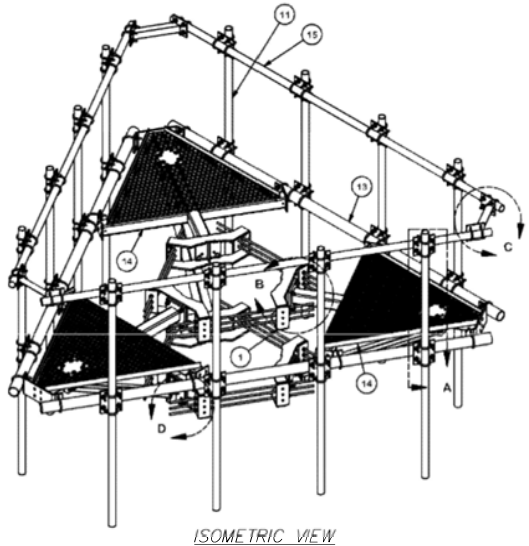


PLAN VIEW



ELEVATION

VALMONT / SITEPRO
PLATFORM PLATFORM RMQP-496-HK



ISOMETRIC VIEW

9 C-4 ANTENNA MOUNT DETAILS
SCALE: N.T.S.

T-MOBILE NORTHEAST LLC
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862-242-8050

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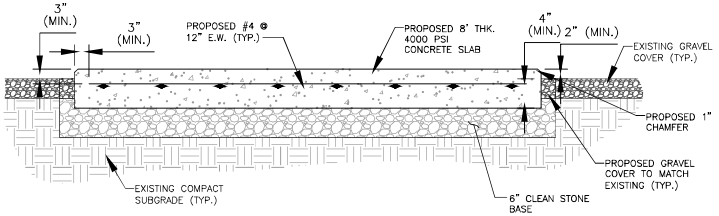
SITE NAME: CTFF218A
345 FAN HILL ROAD
MONROE, CT 06468
FAIRFIELD COUNTY

DRAWING TITLE:

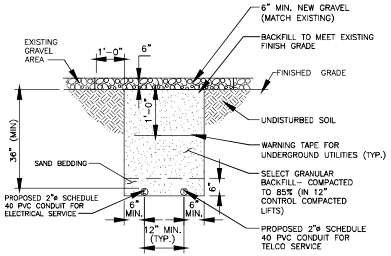
DETAILS

DRAWING SHEET:

C-4

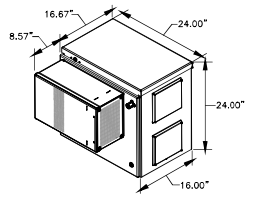


1 C-5 CONCRETE PAD DETAIL
SCALE: N.T.S.



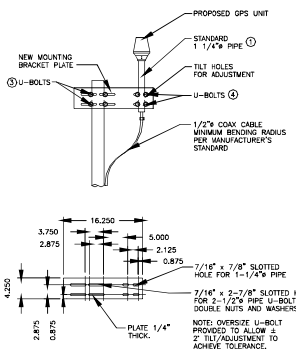
NOTE:
1. EXCAVATE EXISTING SUBGRADE AS REQUIRED TO INSTALL CONDUITS IN ACCORDANCE WITH OSHA AND ALL APPLICABLE CODES.

2 C-5 UTILITY CONDUIT TRENCH DETAIL
SCALE: N.T.S.



MANUFACTURER: VERTIV
MODEL #: F2014025
MECHANICAL SPECIFICATIONS
OVERALL HEIGHT: 24 IN.
WIDTH: 24.0 IN.
DEPTH: 25.24 IN.
WEIGHT: 100 LBS (LOADED)

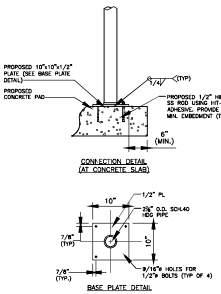
3 C-5 EMERSON CUBE DETAIL
SCALE: N.T.S.

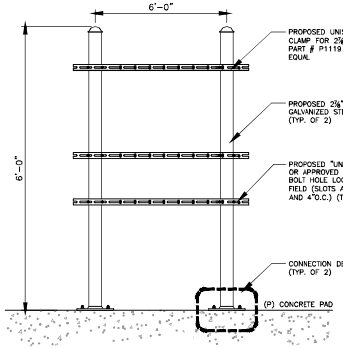


NOTES:
1. THE ELEVATION AND LOCATION OF THE GPS UNIT SHALL BE IN ACCORDANCE WITH THE FINAL RF REPORT.
2. THE GPS UNIT MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1-1/4" DIAMETER, SCHEDULE 40, GALVANIZED STEEL OR STAINLESS STEEL PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH (MINIMUM OF 18 INCHES) USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. A HACK SAW THE CUT PIPE END SHALL BE DEBURRED AND SMOOTH IN SHALL NOT BE USED. ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNA MOUNT.
3. THE MOUNTING PLATE SHALL BE FABRICATED AS SHOWN AND ATTACHED TO THE APPROPRIATE SUPPORT STRUCTURE USING U-BOLTS. THE SUPPORT PIPE SHALL THEN BE ATTACHED TO THE MOUNTING PLATE USING THE OVERSIZE U-BOLTS IT IS CRITICAL THAT THE GPS ANTENNA IS PROVIDED TO ALLOW ADJUSTMENT, MOUNTED SUCH THAT IT IS WITHIN 2 DEGREES OF VERTICAL AND THE BASE OF THE ANTENNA IS WITHIN 2 DEGREES OF LEVEL.

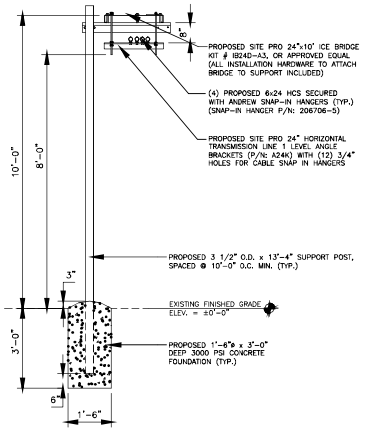
BILL OF MATERIALS		
ITEM#	DESCRIPTION	QUANTITY (EACH)
①	1-1/4"ø SCH. 40 x 18" LG. GALV. PIPE (A-53)	1
②	PLATE 1/4 x 4-1/4 x 16-1/4" LG. GALV. (A-36)	1
③	STD. U-BOLT FOR 2-1/2"ø PIPE WITH DOUBLE HEX NUTS AND WASHER, GALV.	2
④	STD. U-BOLT FOR 1-1/4"ø PIPE WITH DOUBLE HEX NUTS AND WASHER, GALV.	2

4 C-5 GPS UNIT DETAIL
SCALE: N.T.S.

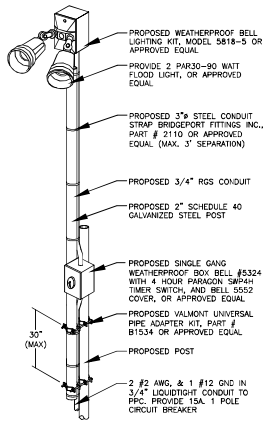




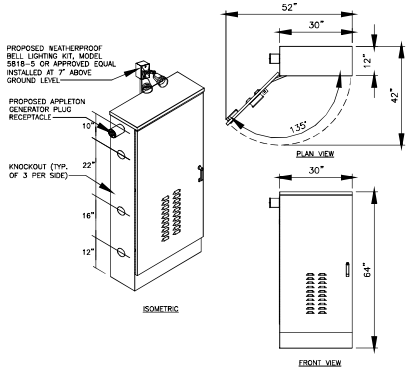
5 C-5 H-FRAME DETAIL
SCALE: N.T.S.



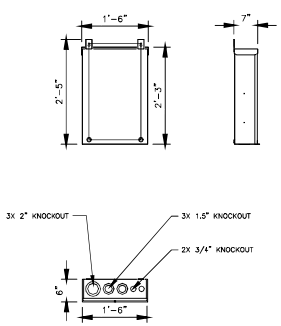
6 C-5 ICE BRIDGE DETAIL
SCALE: N.T.S.



7 C-5 WORK LIGHT DETAIL
SCALE: N.T.S.



8 C-5 PPC CABINET DETAIL
SCALE: N.T.S.



9 C-5 PROPOSED ATS - MODEL RXSC200A3
SCALE: N.T.S.

T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
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ELEVATED ENGINEERING
99 FANNY ROAD
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862-242-8050

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SITE ID: CTFF218A
SITE NAME: CTFF218A
345 FAN HILL ROAD
MONROE, CT 06468
FAIRFIELD COUNTY

DRAWING TITLE:

DETAILS

DRAWING SHEET:

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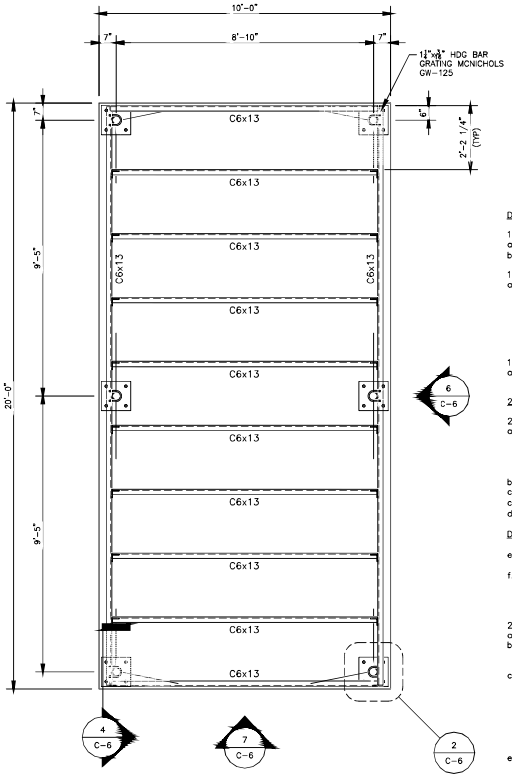


1 C-6 ICE CANOPY FRAMING PLAN
SCALE: 1/2"=1'-0"

NOTE:
- ATTACH BAR GRATING TO PLATFORM FRAMING WITH ⅜"ø BOLTS THROUGH ⅜"ø GALVANIZED SADDLE CLIPS AT 1'-0" O.C. MAX.
- ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD PRIOR TO STEEL FABRICATION AND ERECTION.

DESIGN INFORMATION AND GENERAL REQUIREMENTS

1.1 CODES
a. DESIGN CONFORMS TO THE 2022 CONNECTICUT BUILDING CODE.
b. SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, ANSI/AISC 360-05.

1.2 SEISMIC DESIGN DATA
a. AS PER MODIFICATIONS TO 1990 UNIFORM BUILDING CODE OUTLINED IN THE TITLE 27 VOLUME 2 REFERENCE STANDARD RS 9-6 EARTHQUAKE LOADS, THIS PROPOSED CONSTRUCTION IS EXEMPT FROM CONSIDERATION OF SEISMIC LOADING. IT REQUIRES NO NEW FOUNDATION OR MODIFICATIONS TO EXISTING FOUNDATIONS WITH THE TOTAL PROPOSED ENLARGEMENTS NOT EXCEEDING MORE THAN 60% OF THE VALUE OF THE BUILDING.

1.3 MISCELLANEOUS
a. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS PRIOR TO PROCEEDING WITH THE WORK.

2. STRUCTURAL STEEL

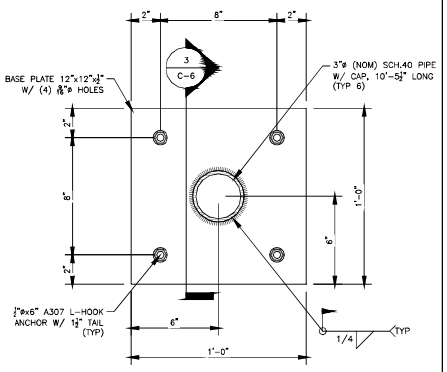
2.1 MATERIALS
a. WIDE FLANGE SHAPES . . . . . ASTM A992
ALL OTHER SECTIONS AND PLATE . . . . . ASTM A36
HSS (REC) . . . . . ASTM A500 GR. B, 46 KSI
HSS (RND) . . . . . ASTM A500 GR. B, 42 KSI
PIPES . . . . . ASTM A53 GR. B, 35 KSI
b. BOLTS . . . . . ASTM A325 U.N.O.
c. ANCHOR RODS . . . . . ASTM A307
c. WELDING ELECTRODES . . . . . AWS A5.1 (E70XX)
d. STEEL CONSTRUCTION SHALL CONFORM TO "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, ANSI/AISC 360-05"

DESIGN INFORMATION AND GENERAL REQUIREMENTS

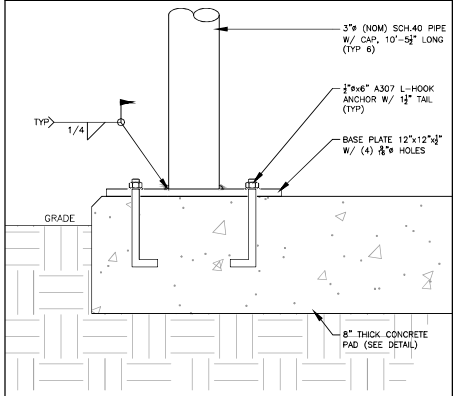
e. WELDING SHALL CONFORM TO "STRUCTURAL WELDING CODE – STEEL, AWS D1.1-04"
f. THE FABRICATOR SHALL FURNISH CHECKED SHOP AND ERECTION DRAWINGS TO THE ENGINEER, AND OBTAIN APPROVAL PRIOR TO FABRICATING ANY STRUCTURAL STEEL. SHOP DRAWINGS SHALL CONFORM TO "DETAILING FOR STEEL CONSTRUCTION, 2ND EDITION"

2.2 CONNECTIONS
a. SHOP CONNECTIONS MAY BE BOLTED OR WELDED.
b. FIELD CONNECTIONS SHALL BE BOLTED WITH A325-N BOLTS AND HARDENED WASHERS, (INSTALLED SNUG TIGHT) UNLESS OTHERWISE SPECIFIED OR IF WELDED CONNECTIONS ARE NOTED ON DRAWINGS.
c. CONNECTIONS NOT SHOWN ON DRAWINGS SHALL BE DESIGNED BY THE STEEL FABRICATOR AND SHALL BE DESIGNED IN ACCORDANCE WITH AISC "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS" AND "AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES." ALL "FRAMED BEAM CONNECTIONS" SHALL BE SIZED FOR ONE HALF THE MAXIMUM TOTAL UNIFORM LOAD AS PUBLISHED IN "STEEL CONSTRUCTION MANUAL, 13TH EDITION, AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
e. DO NOT FIELD CUT OR ALTER STRUCTURAL MEMBERS WITHOUT PRIOR WRITTEN APPROVAL OF ENGINEER.

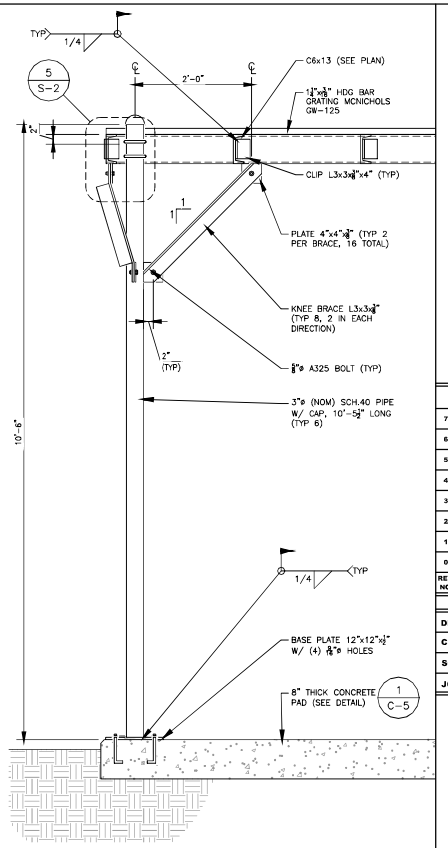
2.3 FINISHES
a. STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED AFTER FABRICATION PER ASTM A123.
b. BOLTS AND NUTS SHALL BE HOT DIP GALVANIZED PER ASTM A153.
c. ALL SURFACES DAMAGED BY FIELD WELDING OR CUTTING SHALL BE PAINTED WITH ZINC RICH PAINTS.



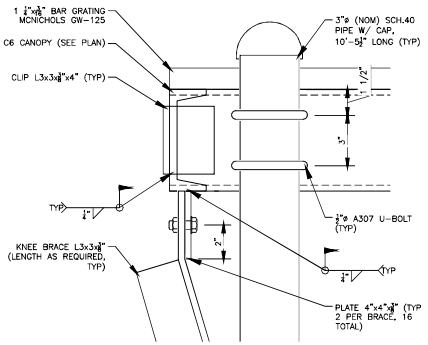
2 C-6 BASE PLATE CONNECTION PLAN VIEW
SCALE: 3"=1'-0"



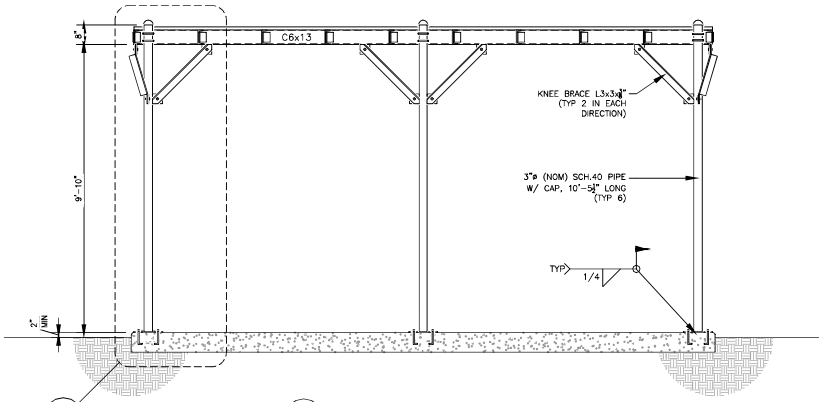
3 C-6 BASE PLATE CONNECTION SECTION VIEW
SCALE: 3"=1'-0"



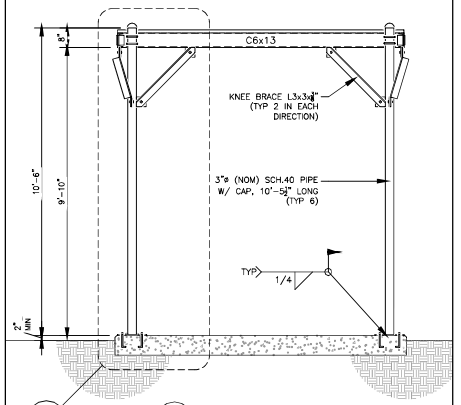
4 C-6 ICE CANOPY SECTION VIEW
SCALE: 3"=1'-0"



5 C-6 CONNECTION DETAIL
SCALE: 3"=1'-0"



6 C-6 ELEVATION VIEW
SCALE: 3"=1'-0"



7 C-6 ELEVATION VIEW
SCALE: 3"=1'-0"

T-Mobile
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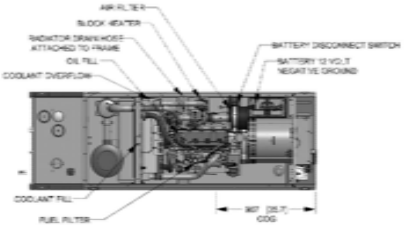
FAIRFIELD COUNTY

DRAWING TITLE:

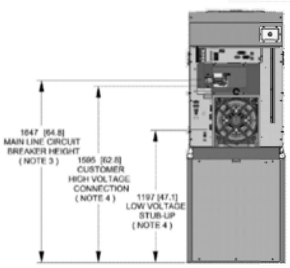
ICE CANOPY DETAILS & NOTES

DRAWING SHEET:

C-6



TOP VIEW
(SHOWN WITH ENCLOSURE REMOVED)

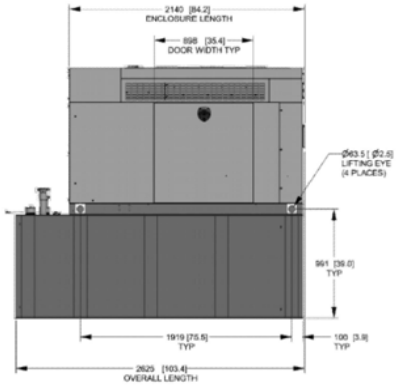


REAR VIEW
(SHOWN WITH REAR COVER PANEL REMOVED)

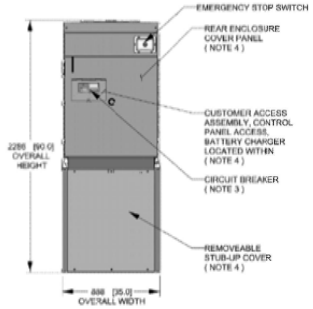
WEIGHT DATA WITH DAIRY SHEETTANK (SEE NOTE 12)	
GENERATOR AS SHOWN	1,322 [3,215]
WITH WOODEN SHIPPING SKID	1,342 [2,959]

WEIGHT KG [LBS]
DIMENSIONS MM [INCH]

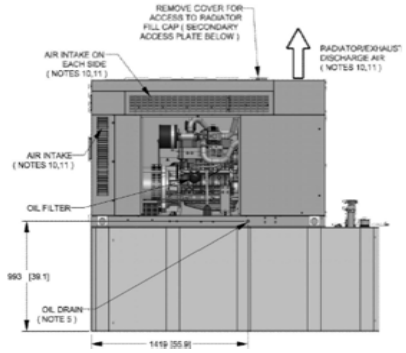
NOTES:
1. THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT APPLICABLE NFPA 37 AND NFPA 70 STANDARDS AS WELL AS ANY OTHER FEDERAL, STATE, AND LOCAL CODES.
2. BATTERY (12 VOLT NEGATIVE GROUND SYSTEM).
3. CONTROL PANEL / CIRCUIT BREAKER INFORMATION:
- MAIN LINE CIRCUIT BREAKER 200 AMPS.
- SEE SPECIFICATION SHEET OR OWNERS MANUAL.
- ACCESSIBLE THROUGH CUSTOMER ACCESS ASSEMBLY DOOR ON REAR OF GENERATOR.
- CONTROL PANEL INCLUDES INTEGRATED BATTERY CHARGER.
4. REMOVE THE REAR STUB-UP AND REAR ENCLOSURE COVER PANEL TO ACCESS THE STUB-UP AREAS AS FOLLOWS:
- HIGH VOLTAGE CONNECTION INCLUDING AC LOAD LEAD CONDUIT CONNECTION, NEUTRAL CONNECTION, AND BATTERY CHARGER 120 VOLT AC (8.5 AMP MAX.) CONNECTION.
- LOW VOLTAGE CONNECTION INCLUDING TRANSFER SWITCH CONTROL WIRES.
5. ENGINE SERVICE CONNECTIONS:
OIL DRAIN = 1/2" NPT
RADIATOR DRAIN = HOSE CLAMPED TO FRAME
6. CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.
7. BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT REST INTRUSION AND RECIRCULATION. TOP DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
8. REFERENCE OWNERS MANUAL FOR LIFTING INFORMATION.
9. MOUNTING BOLTS OR STUDS TO MOUNTING SURFACE SHALL BE 5/8-11 GRADE 5 (USE STANDARD SAE TORQUE SPECS).
10. MUST ALLOW FREE FLOW OF INTAKE AIR, DISCHARGE AIR AND EXHAUST. SEE SPEC SHEET FOR MINIMUM AIR FLOW AND MAXIMUM RESTRICTION REQUIREMENTS.
11. GENERATOR MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE AND THAT DISCHARGE AIR FROM RADIATOR IS NOT RECIRCULATED. RECOMMENDED MINIMUM PER MEITER (3FT) AND VERTICAL OVER EXHAUST (5FT) CLEARANCE FOR SITE LOCATION.
12. GENERATOR MUST BE GROUNDED.



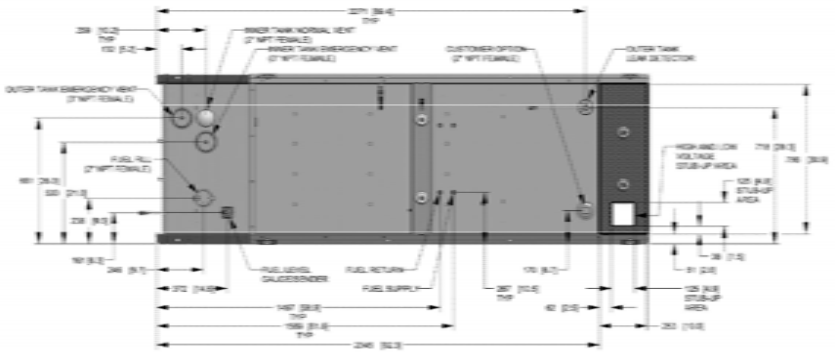
LEFT VIEW



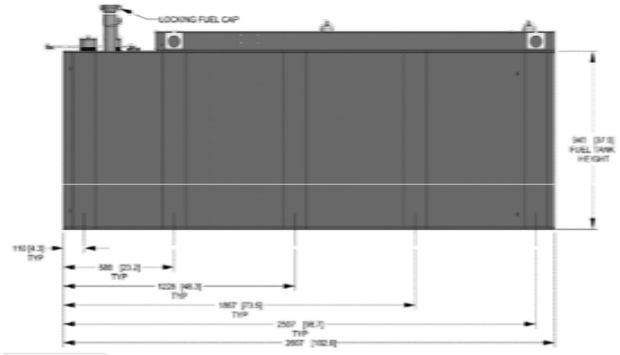
REAR VIEW



RIGHT VIEW
(SHOWN WITH DOOR REMOVED)



FUEL TANK - TOP VIEW



FUEL TANK - LEFT VIEW

GENERATOR DETAILS – GENERAC RD048

T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

ELEVATED ENGINEERING
99 FANNY ROAD
BOONTON, NEW JERSEY 07005
862-242-8050

SCHEDULE OF REVISIONS

REV. NO.	DATE	DESCRIPTION OF CHANGES
7		
6		
5		
4		
3		
2	02/04/25	REVISED PER ICE CANOPY DESIGN
1	01/07/25	ISSUED AS FINALS
0	12/19/24	INITIAL SUBMISSION

DRAWN BY:	CJT
CHECKED BY:	NDB
SCALE:	AS NOTED
JOB NO:	24046-NSS

INFORMATION ON THIS SET OF DRAWINGS IS NOT FOR OFFICIAL USE UNLESS ACCOMPANIED BY THE STAMPED SEAL & SIGNATURE OF A PROFESSIONAL ENGINEER

NICHOLAS D. BARILE
PROFESSIONAL ENGINEER, CT LIC. No. 28643

SITE ID: CTFF218A
SITE NAME: CTFF218A
345 FAN HILL ROAD
MONROE, CT 06468
FAIRFIELD COUNTY

DRAWING TITLE:

GENERATOR DETAILS

DRAWING SHEET:

M-1

1. GENERAL REQUIREMENTS:

1.1 THE WORK TO BE DONE UNDER THIS PROJECT INCLUDES PROVIDING ALL EQUIPMENT, MATERIALS, LABOR AND SERVICES, AND PERFORMING ALL OPERATIONS FOR COMPLETE AND OPERATING SYSTEMS. ANY WORK NOT SPECIFICALLY COVERED BUT NECESSARY TO COMPLETE THIS INSTALLATION, SHALL BE PROVIDED. ALL EQUIPMENT AND WIRING TO BE NEW AND PROVIDED UNDER THIS CONTRACT UNLESS OTHERWISE NOTED.

1.2 ENTIRE INSTALLATION, INCLUDING MATERIALS, EQUIPMENT AND WORKMANSHIP, SHALL CONFORM TO THE 2011 EDITION OF THE NATIONAL ELECTRIC CODE (NEC) AS WELL AS ALL APPLICABLE LAWS AND REGULATIONS AND REGULATORY BODIES HAVING JURISDICTION OVER THIS WORK:

1.3 THE TERM "FURNISH" SHALL MEAN TO OBTAIN AND SUPPLY TO THE JOB SITE. THE TERM "INSTALL" SHALL MEAN TO FIX IN POSITION AND CONNECT FOR USE. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL. THE TERM "CONTRACTOR" SHALL MEAN ELECTRICAL CONTRACTOR.

1.4 ONLY WRITTEN CHANGES AND/OR MODIFICATIONS APPROVED BY THE ENGINEER, CONSULTING ENGINEER OR OWNER'S REPRESENTATIVE WILL BE RECOGNIZED.

1.5 THE ELECTRICAL CONTRACTOR SHALL SUBMIT, FOR THE ENGINEER'S APPROVAL, DETAILED SHOP DRAWINGS OF ALL EQUIPMENT SPECIFIED.

1.6 CONTRACTOR SHALL COORDINATE WITH SPECIFICATIONS PROVIDED BY OTHER TRADES.

1.7 PROVIDE OPERATING AND MAINTENANCE MANUALS, PER SPECIFICATIONS, AND GIVE INSTRUCTIONS TO USER FOR ALL EQUIPMENT AND SYSTEMS PROVIDED UNDER THIS CONTRACT AFTER ALL ARE CLEANED AND OPERATING.

1.8 KEEP PREMISES FREE FROM RUBBISH. REMOVE ALL ELECTRICAL RUBBISH FROM SITE.

1.9 ALL WORK SHALL BE INSTALLED CONCEALED UNLESS OTHERWISE NOTED.

1.10 THE WORK SHALL INCLUDE ALL PANELS, DEVICES, FEEDERS AND BRANCH CIRCUIT WIRING AS REQUIRED FOR THE DISTRIBUTION SYSTEM INDICATED AND CALLED FOR ON THE DRAWINGS, REQUIRED BY SPECIFICATIONS AND AS NECESSARY FOR COMPLETE FUNCTIONAL SYSTEMS PRESENTED AND INTENDED.

1.11 THE CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR, TOOLS, EQUIPMENT, CONSUMABLES AND SERVICES REQUIRED FOR OBTAINING, DELIVERY, INSTALLATION, CONNECTION, DISCONNECTION, REMOVAL, RELOCATION, REPAIR, REPLACEMENT, TESTING AND COMMISSIONING OF ALL EQUIPMENT AND DEVICES INCLUDED IN OR NECESSARY FOR THE WORK, AS APPLICABLE. THIS INCLUDES SCAFFOLDING, LADDERS, RIGGING, HOISTING, ETC.

1.12 ELECTRICAL WORK SHALL INCLUDE ALL REQUIRED CUTTING, PATCHING AND THE FULL RESTORATION OF WALL AND FLOOR STRUCTURE AND SURFACES. ALL EQUIPMENT, WALLS, FLOORS, ETC., DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER, AT THE CONTRACTORS EXPENSE.

1.13 BEFORE SUBMITTING HIS BID, THE CONTRACTOR SHALL FULLY ACQUAINT HIMSELF/HERSELF WITH THE JOB CONDITIONS AND DIFFICULTIES THAT WILL PERTAIN TO THE EXECUTION OF THIS WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.

1.14 THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING UTILITIES.

1.15 UPON COMPLETION OF THE ELECTRICAL WORK, THE CONTRACTOR SHALL TEST THE COMPLETE ELECTRICAL SYSTEM FOR SHORTS, GROUNDS, AND PROPER OPERATION, IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.

1.16 UPON COMPLETION OF WORK, THE CONTRACTOR SHALL CLEAN AND ADJUST ALL EQUIPMENT AND LIGHTING AND TEST SYSTEMS TO THE SATISFACTION OF OWNER AND ENGINEER. RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

1.17 THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS OF FINISHED CONSTRUCTION PRIOR TO FABRICATION AND INSTALLATION OF FIXTURES AND EQUIPMENT.

1.18 EXACT ROUTING OF CONDUITS AND "MC" CABLES SHALL BE DETERMINED IN THE FIELD.

1.19 IF THE OWNER AND/OR HIS REPRESENTATIVE CONSIDERS ANY WORK TO BE INFERIOR, THE RESPECTIVE CONTRACTOR SHALL REPLACE SAME WITH CONTRACT STANDARD WORK WITHOUT ADDITIONAL CHARGE. ALL WORK SHALL BE DONE IN A NEAT, WORKMANLIKE MANNER, LEFT CLEAN AND FREE FROM DEFECTS, AND COMPLETELY OPERABLE.

1.20 THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AS SHOWN ON THE DRAWINGS AND/OR AS SPECIFIED. ALL MATERIALS SHALL BE NEW, AND BEAR THE UL LABEL. ALL WORK SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER.

1.21 DRAWINGS ARE TO BE CONSIDERED DIAGRAMMATIC, AND SHALL BE FOLLOWED AS CLOSELY AS CONDITIONS ALLOW TO COMPLETE THE INTENT OF THE CONTRACT. THE DRAWINGS AND SPECIFICATIONS COMPLIMENT ONE ANOTHER, AND WHAT IS SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, AND VICE VERSA, IS TO BE INCLUDED IN THE SCOPE OF WORK.

1.22 ALL EQUIPMENT CONNECTIONS SHALL BE INSTALLED PER APPLICABLE SEISMIC REQUIREMENTS.

1.23 ENGINEER WILL MAKE A FINAL INSPECTION WITH THE OWNER AND CONTRACTOR AND WILL NOTIFY THE CONTRACTOR IN WRITING OF ALL PARTICULARS IN WHICH THIS INSPECTION REVEALS THAT THE WORK IS INCOMPLETE OR DEFECTIVE. THE CONTRACTOR SHALL IMMEDIATELY TAKE SUCH MEASURES AS ARE NECESSARY TO COMPLETE SUCH WORK OR REMEDY SUCH DEFICIENCIES.

1.24 THE CONTRACTOR SHALL PERFORM ALL EXCAVATION, TRENCHING AND BACKFILL REQUIRED FOR ELECTRICAL WORK. BACKFILL SHALL BE SUITABLE MATERIAL PROPERLY COMPACTED TO 95% DENSITY IN EACH LAYER OF SIX (6) INCH DEPTH. CONDUIT SHALL BE MINIMUM 36" BELOW FINISHED GRADE.

2. PROJECT COORDINATION:

2.1 THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS AT THE SITE AND NOTIFY THE OWNER OF ANY DISCREPANCIES, PRIOR TO COMMENCING WITH THE WORK.

2.2 THE CONTRACTOR SHALL REVIEW AND COORDINATE WITH THE DOCUMENTS OF ALL TRADES.

2.3 THE CONTRACTOR SHALL FURNISH A SCHEDULE INDICATING HIS PORTION OF TIME, WITHIN THE OVERALL SCHEDULE, REQUIRED TO COMPLETE THE WORK, IN CONJUNCTION WITH ALL TRADES. ALL WORK THAT MAY AFFECT OPERATION OF BUILDING SYSTEMS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE.

2.4 SHUT DOWN OF POWER SHALL BE COORDINATED WITH THE OWNER, ARCHITECT AND PROJECT MANAGER AT LEAST 14 WORKING DAYS PRIOR TO SHUT DOWN. SHUT DOWNS LONGER THAN 2 DAYS SHALL BE COORDINATED WITH THE ABOVE PERSONNEL AT LEAST ONE MONTH IN ADVANCE. TEMPORARY POWER FOR CONSTRUCTION SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR FOR SHUT DOWNS OVER 2 DAYS.

2.5 ALL CONDUITS AND DEVICE BOXES SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR, INCLUDING ALL TECHNOLOGY CONDUITS AND BOXES.

2.6 THE CONTRACTOR SHALL CONTACT THE BUILDING MANAGER TO OBTAIN A COPY OF THE GENERAL REQUIREMENTS AND/OR CONDITIONS TO BE USED FOR THIS PROJECT.

2.7 INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES. ALARM AND EMERGENCY SYSTEMS SHALL NOT BE INTERRUPTED. TEMPORARY SHUT DOWNS OF ANY SYSTEM SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER AND ARCHITECT.

3. PROTECTION OF WORK:

3.1 EFFECTIVELY PROTECT ALL MATERIALS AND EQUIPMENT FROM ENVIRONMENTAL AND PHYSICAL DAMAGE UNTIL FINAL ACCEPTANCE. CLOSE AND PROTECT ALL OPENINGS DURING CONSTRUCTION. PROVIDE NEW MATERIALS AND EQUIPMENT TO REPLACE ITEMS DAMAGED.

4. WARRANTIES AND BONDS:

4.1 ALL MATERIALS, EQUIPMENT AND WORKMANSHIP SHALL BE GUARANTEED IN WRITING FOR A MINIMUM OF ONE YEAR AFTER FINAL ACCEPTANCE BY OWNER.

4.2 OBTAIN AND DELIVER TO THE OWNER'S REPRESENTATIVE ALL GUARANTEES AND CERTIFICATES OF COMPLIANCE.

5. PERMITS:

5.1 CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTION FEES FOR ELECTRICAL WORK.

6. RACEWAYS:

6.1 ALL CONDUIT SHALL BE MINIMUM SIZE OF 3/4" FOR POWER CIRCUITS AND CONTROL CIRCUITS EXCEPT WHERE FLEXIBLE CONDUIT IS CALLED FOR ON PROJECT DOCUMENTS. ALL EXTERIOR EXPOSED CONDUIT SHALL BE GRC (GALVANIZED RIGID METAL CONDUIT). ALL UNDERGROUND, IN SLAB OR UNDER SLAB SHALL BE RNC (RIGID NONMETALLIC CONDUIT). CHANGE TO RIGID METALLIC CONDUIT OR INTERMEDIATE METALLIC CONDUIT BEFORE EXITING OUT OF CONCRETE OR PENETRATING A WALL, FLOOR OR ROOF. EMT IS ALLOWED IN INTERIOR DRY LOCATIONS WHERE NOT SUBJECT TO DAMAGE.

6.2 ALL FLEXIBLE CONDUIT IN WET OR DRY AREAS SHALL BE LIQUID TIGHT CONDUIT. NONMETALLIC FLEXIBLE CONDUIT IS SPECIFICALLY PROHIBITED.

6.3 CONDUIT SHALL BE RUN AT RIGHT ANGLES AND PARALLEL TO BUILDING LINES, SHALL BE NEATLY RACKED AND SECURELY FASTENED. JUNCTION BOXES SHALL BE PROVIDED WHERE REQUIRED TO FACILITATE INSTALLATION OF WIRES.

6.4 ALL CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN AN APPROVED MANNER.

6.5 ALL EMPTY RACEWAYS SHALL BE FURNISHED WITH A 200 LB. TEST NYLON DRAG LINE.

6.6 ARRANGEMENT OF CONDUIT AND EQUIPMENT SHALL BE AS INDICATED, UNLESS MODIFICATION IS REQUIRED TO AVOID INTERFERENCES.

6.7 ALL RACEWAY AND WIRING SHALL BE CONCEALED IN FINISHED AREAS. RACEWAY N MECHANICAL ROOMS, BASEMENTS AND CRAWL SPACES MAY BE SURFACE MOUNTED.

6.8 FOR CONDUITS CROSSING EXPANSION JOINTS, PROVIDE EXPANSION FITTINGS FOR SIZE 1-1/4", AND LARGER. PROVIDE SECTIONS OF FLEXIBLE CONDUIT WITH GROUNDING JUMPERS FOR SIZES 1" AND SMALLER.

6.9 THE CONTRACTOR SHALL SEAL ALL PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS WITH APPROVED FIRE RATED SEALANT. ALL PENETRATIONS THROUGH ALL WALLS AND FLOORS SHALL BE SEALED. FOR ALL SLAB PENETRATIONS THE METHOD, DEPTHS AND LOCATIONS SHALL BE PRE-APPROVED BY THE BUILDING ENGINEER PRIOR TO THE START OF WORK.

6.10 THE CONTRACTOR SHALL INSTALL DETECTABLE UNDERGROUND TAPES FOR THE PROTECTION, LOCATION AND IDENTIFICATION OF UNDERGROUND CONDUIT INSTALLATION.

6.11 EXACT ROUTING OF CONDUITS AND CABLES SHALL BE DETERMINED IN FIELD.

6.12 ALL PENETRATIONS THROUGH FLOORS SHALL BE FIRE STOPPED AND SEALED WITH APPROVED SEALANT.

6.13 ELECTRICAL RACEWAY CONNECTIONS TO VIBRATING EQUIPMENT AND MACHINERY SUCH AS MOTORS, TRANSFORMERS, ETC., SHALL BE MADE WITH FLEXIBLE LIQUID TIGHT METALLIC CONDUIT.

6.14 SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS IN HOLLOW MASONRY, EXPANSION SHIELDS OR INSERTS IN CONCRETE AND BRICK. MACHINE SCREWS IN METAL, BEAM CLAMPS IN FRAMEWORK AND WOOD SCREWS IN WOOD. NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO BUILDING LINES.

6.15 DO NOT RUN RACEWAYS CLOSER THAN 6 INCHES WHEN PARALLEL TO HOT WATER OR STEAM PIPES. WHEN CROSSING WATER OR STEAM PIPES CROSS A MINIMUM OF 3 INCHES ABOVE. IF CROSSING BELOW IS UNAVOIDABLE, PROVIDE DRIP SHIELDS EXTENDING 6 INCHES BEYOND THE WATER OR STEAMPIPE. BOXES INSTALLED IN PROXIMITY TO WATER OR STEAM PIPE SHALL BE RATED NEMA 4X.

7. GROUNDING:

7.1 PROVIDE A COMPLETE EQUIPMENT GROUND SYSTEM FOR THE ELECTRICAL SYSTEM AS REQUIRED BY ARTICLE 250, OF THE NEC, AND AS SPECIFIED HEREIN.

7.2 ALL BRANCH CIRCUITS FOR POWER WIRING SHALL CONTAIN A COPPER GROUND WIRE. NO FLEXIBLE METAL CONDUIT OF ANY KIND OR LENGTH SHALL BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR.

8. WIRING:

8.1 ALL WIRE SHALL BE COPPER WITH TYPE THHN/THWN 600 VOLT INSULATION, MINIMUM #12 AWG FOR POWER AND LIGHTING CIRCUITS AND #16 AWG FOR CONTROL CIRCUITS.

8.2 UNDER NO CIRCUMSTANCES SHALL FEEDERS BE SPLICED.

8.3 ALL COMPUTER CIRCUITS SHALL HAVE SEPARATE NEUTRAL CONDUCTORS. ALL OTHER CIRCUITS MAY SHARE GROUND AND NEUTRAL CONDUCTORS.

8.4 WHERE EQUIPMENT, LIGHTING FIXTURES AND WIRING DEVICES ARE SHOWN WITH CIRCUIT NUMBERS ONLY, THE MINIMUM BRANCH CIRCUITING REQUIREMENTS SHALL BE AS FOLLOWS:
A. BRANCH CIRCUIT BREAKERS (120 VOLT) – 1P, 20A
B. HOMERUNS TO PANEL BOARDS SHALL CONTAIN NO MORE THAN THREE CIRCUITS.

8.5 CONTRACTOR SHALL INCREASE SIZE OF CIRCUIT WIRING/CONDUCTORS TO COMPENSATE FOR VOLTAGE DROP.

8.6 WIRE SIZES SHALL BE INCREASED TO COMPENSATE FOR VOLTAGE DROP AS FOLLOWS:
A. 120V AND 208V CIRCUITS LONGER THAN 80' SHALL UTILIZE MIN. #10 AWG.
B. 208V CIRCUITS LONGER THAN 150' SHALL UTILIZE MIN. #10 AWG.

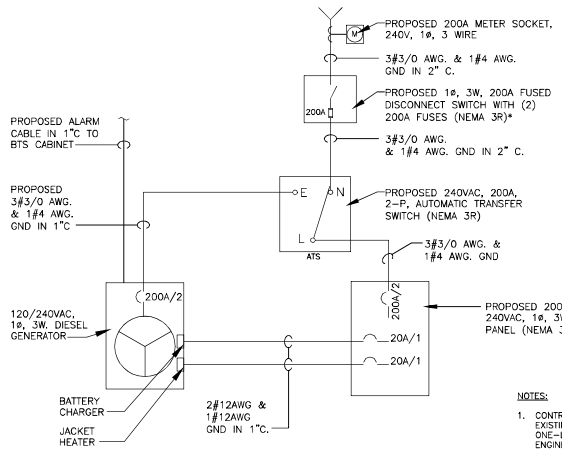
9. PANELBOARDS:

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

9.2 PROVIDE A NEW TYPE WRITTEN CIRCUIT DIRECTORY FOR EACH PANEL AFFECTED BY THIS PROJECT.

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

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

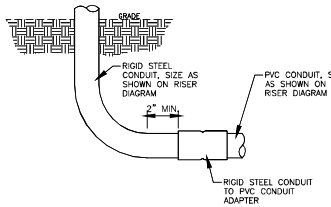


1 E-1 TYPICAL ONE-LINE DIAGRAM
SCALE: N.T.S.

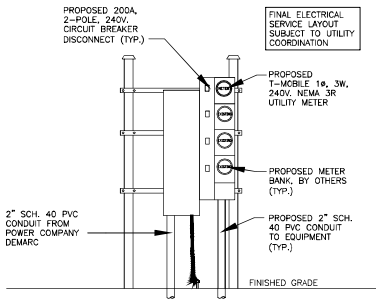
NOTES:

1. CONTRACTOR IS TO FIELD VERIFY ALL EXISTING ITEMS SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
2. ALL NEW CONDUCTOR WIRE TO BE INSTALLED SHALL BE COPPER. ALL WIRE LARGER THAN #10 SHALL BE THWN-2, THW-2, RHW-2, OR XHHW-2 WIRE UNLESS NOTED OTHERWISE.

FINAL ELECTRICAL SERVICE LAYOUT SUBJECT TO UTILITY COORDINATION



2 E-1 PVC TO RGS DETAIL
SCALE: N.T.S.



3 E-1 TYPICAL UTILITY FRAME DETAIL
SCALE: N.T.S.

T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

ELEVATED ENGINEERING
99 FANNY ROAD
BOONTON, NEW JERSEY 07005
862-242-8050

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NICHOLAS D. BARILE
PROFESSIONAL ENGINEER, CT LIC. No. 28643

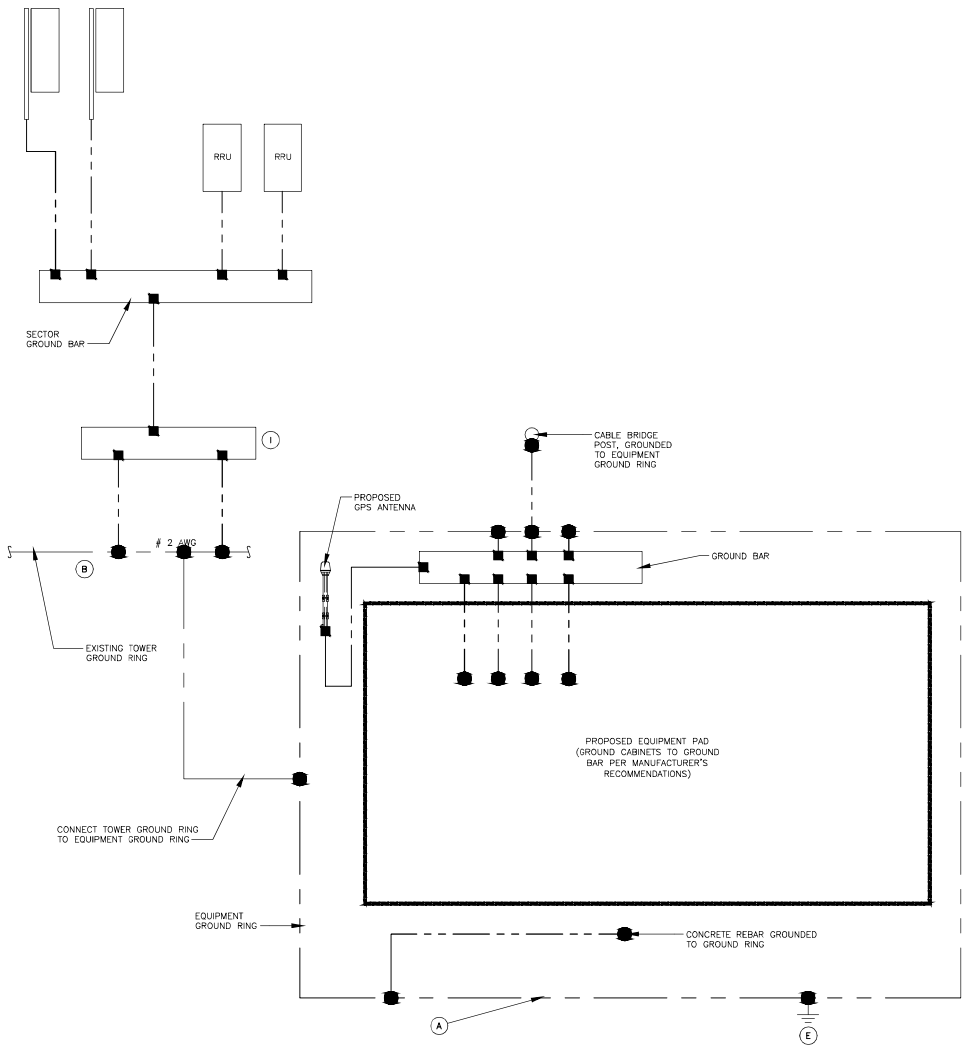
SITE ID: CTFF218A
SITE NAME: CTFF218A
345 FAN HILL ROAD
MONROE, CT 06468
FAIRFIELD COUNTY

DRAWING TITLE:

ELECTRICAL NOTES & ONE-LINE DIAGRAM

DRAWING SHEET:

E-1



1 E-2 GROUNDING SCHEMATIC N.T.S.

ANTENNA SITE:

NOTES:
1. GROUNDING IS SHOWN DIAGRAMMATICALLY ONLY.
2. CONTRACTOR SHALL GROUND ALL EQUIPMENT AS A COMPLETE SYSTEM. GROUNDING SHALL BE IN COMPLIANCE WITH NEC SECTION 250 AND T-MOBILE GROUNDING AND BONDING REQUIREMENTS AND MANUFACTURER'S SPECIFICATIONS.
3. ALL GROUNDING CONDUCTORS SHALL BE COPPER; NO ALUMINUM CONDUCTORS SHALL BE USED.

GROUNDING KEY NOTES:

(A) EXTERIOR GROUND RING: #2 AWG SOLID COPPER, BURIED AT A DEPTH OF AT LEAST 36 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE AND APPROXIMATELY 24 INCHES FROM THE EXTERIOR WALL OR FOOTING.

(B) EXISTING TOWER GROUND RING: AT LEAST TWO BONDS SHALL BE MADE BETWEEN THE TOWER RING GROUND SYSTEM AND THE BUILDING RING GROUND SYSTEM USING MINIMUM #2 AWG SOLID COPPER CONDUCTORS.

(C) INTERIOR GROUND RING: #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR EXTENDED AROUND THE PERIMETER OF THE EQUIPMENT AREA. ALL NON-TELECOMMUNICATIONS RELATED METALLIC OBJECTS FOUND WITHIN A SITE SHALL BE GROUNDED TO THE INTERIOR GROUND RING WITH #6 AWG STRANDED GREEN INSULATED CONDUCTOR.

(D) BOND TO INTERIOR GROUND RING: #2 AWG SOLID TINNED COPPER WIRE PRIMARY BONDS SHALL BE PROVIDED AT LEAST AT FOUR POINTS ON THE INTERIOR GROUND RING, LOCATED AT THE CORNERS OF THE BUILDING.

(E) GROUND ROD: UL LISTED COPPER CLAD STEEL. MINIMUM 5/8" DIAMETER BY EIGHT FEET LONG. ALL GROUND RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES. GROUND RODS SHALL BE DRIVEN TO THE DEPTH OF GROUND RING CONDUCTOR.

(F) CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUCTORS.

(G) HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CRGB MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS.

(H) EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTORS WITH AND EXOTHERMIC WELD AND INSPECTION SLEEVE.

(I) TOWER EXIT GROUND BAR: #2 AWG SOLID TINNED COPPER BOND TO THE TOWER GROUND RING.

(J) TELCO GROUND BAR: BOND TO BOTH CELL REFERENCE GROUND BAR AND EXTERIOR GROUND RING.

(K) FRAME BONDING: THE BONDING POINT FOR TELECOM EQUIPMENT FRAMES SHALL BE THE GROUND BUS THAT IS NOT ISOLATED FROM THE EQUIPMENTS METAL FRAMEWORK. BOND THE FRAME GROUND BUS TO THE "I" SECTION OF THE CELL REFERENCE GROUND BAR.

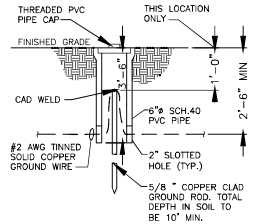
(L) INTERIOR UNIT BONDS: METAL FRAMES, CABINETS AND INDIVIDUAL METALLIC UNITS LOCATED WITH THE AREA OF THE INTERIOR GROUND RING REQUIRE A #6 AWG STRANDED GREEN INSULATED COPPER BOND TO THE INTERIOR GROUND RING.

(M) EXTERIOR UNIT BONDS: METALLIC OBJECTS, EXTERNAL TO OR MOUNTED TO THE BUILDING, SHALL BE BONDED TO THE EXTERIOR GROUND RING.

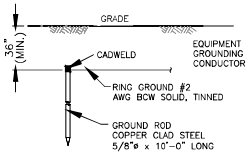
(N) ICE BRIDGE SUPPORTS: EACH ICE BRIDGE LEG SHALL BE BONDED TO THE GROUND RING WITH #2 AWG BARE TINNED COPPER CONDUCTOR. PROVIDE EXOTHERMIC WELDS AT BOTH THE ICE BRIDGE LEG AND BURIED GROUND RING.

GROUNDING NOTES:

1. THE EQUIPMENT BONDING JUMPER SHALL BE PERMITTED TO BE INSTALLED INSIDE OR OUTSIDE OF A RACEWAY OR ENCLOSURE. WHERE INSTALLED ON OUTSIDE, THE LENGTH OF THE EQUIPMENT BONDING JUMPER SHALL NOT EXCEED 6 FEET AND SHALL BE ROUTED WITH THE RACEWAY OR ENCLOSURE. REFER TO NEC 2008 – 250.102 (E)
2. ALL GROUNDING DEVICES SHALL BE U.L. APPROVED OR LISTED FOR THEIR INTENDED USE.
3. ALL WIRES SHALL BE AWG THHN/THWN COPPER UNLESS NOTED OTHERWISE.
4. GROUNDING CONNECTIONS TO GROUND RODS, GROUND RING WIRE, TOWER BASE AND FENCE POSTS SHALL BE EXOTHERMIC ("CADWELDS") UNLESS NOTED OTHERWISE. CLEAN SURFACES TO SHINY METAL. WHERE GROUND WIRES ARE CADWELDED TO GALVANIZED SURFACES, SPRAY CADWELD WITH GALVANIZING PAINT.
5. GROUNDING CONNECTIONS TO GROUND BARS ARE TO BE TWO-HOLE BRASS MECHANICAL CONNECTORS WITH STAINLESS STEEL HARDWARE (INCLUDING SCREW SET.) CLEAN GROUND BAR TO SHINY METAL AFTER MECHANICAL CONNECTION, TREAT WITH PROTECTIVE ANTIOXIDANT COATING.
6. GROUND COAXIAL CABLE SHIELDS AT BOTH ENDS WITH MANUFACTURER'S GROUNDING KITS.
7. ROUTE GROUNDING CONDUCTORS THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 12" RADIUS.
8. INSTALL #2 AWG GREEN-INSULATED STRANDED WIRE FOR ABOVE GRADE GROUNDING AND #2 BARE TINNED COPPER WIRE FOR BELOW GRADE GROUNDING UNLESS OTHERWISE NOTED.
9. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE ("CADWELDS") TO ANTENNA MOUNTS AND GROUND RING. REMAINING GROUNDING CONNECTIONS SHALL BE COMPRESSION FITTINGS. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO-HOLE LUGS.
10. EXOTHERMIC WELDS SHALL BE MADE IN ACCORDANCE WITH ERICO PRODUCTS BULLETIN A-AT.
11. CONSTRUCTION OF GROUND RING AND CONNECTIONS TO EXISTING GROUND RING SYSTEM SHALL BE DOCUMENTED WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PROVIDE PHOTOS TO CARRIER'S CONSTRUCTION MANAGER.
12. ALL GROUND LEADS EXCEPT THOSE TO THE EQUIPMENT ARE TO BE #2/0 TINNED. ALL EXTERIOR GROUND BARS TINNED COPPER.
13. PRIOR TO INSTALLING LUGS ON GROUND WIRES, APPLY THOMAS & BETTS KOPR-SHIELD (TM OF JET LUBE INC.). PRIOR TO BOLTING GROUND WIRE LUGS TO GROUND BARS, APPLY KOPR-SHIELD OR EQUAL.
14. ENGAGE AN INDEPENDENT ELECTRICAL TESTING FIRM TO TEST AND VERIFY THAT IMPEDANCE DOES NOT EXCEED FIVE OHMS TO GROUND BY MEANS OF "FALL OF POTENTIAL TEST". TEST SHALL BE WITNESSED BY T-MOBILE REPRESENTATIVE, AND RECORDED ON CARRIER'S "GROUND RESISTANCE TEST" FORM.
15. WHERE BARE COPPER GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO GROUND RING, INSTALL WIRE IN 3/4" PVC SLEEVE, FROM 1' BELOW GRADE AND SEAL TOP WITH SILICONE MATERIAL.
16. PREPARE ALL BONDING SURFACES FOR GROUNDING CONNECTIONS BY REMOVING ALL PAINT AND CORROSION DOWN TO SHINY METAL. FOLLOWING CONNECTION, APPLY APPROPRIATE ANTI-OXIDIZATION PAINT.
17. ANY SITE WHERE THE EQUIPMENT (BTS, CABLE BRIDGE, PPC, GENERATOR, ETC.) IS LOCATED WITHIN 6 FEET OF METAL FENCING, THE BGR SHALL BE BONDED TO THE NEAREST FENCE POST USING (2) RUNS OF #2 BARE TINNED COPPER WIRE.



2 E-2 GROUND ROD INSPECTION WELL DETAIL N.T.S.



3 E-2 GROUND ROD DETAIL N.T.S.

T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

ELEVATED ENGINEERING
99 FANNY ROAD
BOONTON, NEW JERSEY 07005
862-242-8050

SCHEDULE OF REVISIONS

REV. NO.	DATE	DESCRIPTION OF CHANGES
7		
6		
5		
4		
3		
2	02/04/25	REVISED PER ICE CANOPY DESIGN
1	01/07/25	ISSUED AS FINALS
0	12/19/24	INITIAL SUBMISSION

DRAWN BY:	CJT
CHECKED BY:	NDB
SCALE:	AS NOTED
JOB NO:	24046-NSS

INFORMATION ON THIS SET OF DRAWINGS IS NOT FOR OFFICIAL USE UNLESS ACCOMPANIED BY THE STAMPED SEAL & SIGNATURE OF A PROFESSIONAL ENGINEER

NICHOLAS D. BARILE
PROFESSIONAL ENGINEER, CT LIC. No. 28643

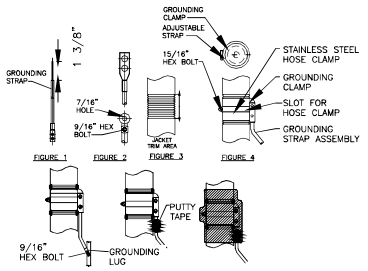
SITE ID: CTFF218A
SITE NAME: CTFF218A
345 FAN HILL ROAD
MONROE, CT 06468
FAIRFIELD COUNTY

DRAWING TITLE:

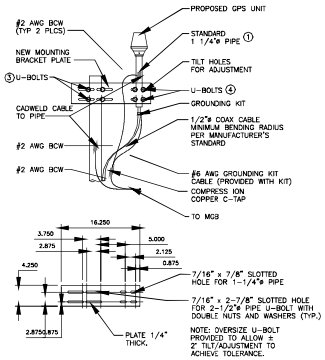
GROUNDING PLAN, DETAILS & NOTES

DRAWING SHEET:

E-2



1 / E-3 TYPICAL GROUNDING CONNECTIONS
N.T.S.



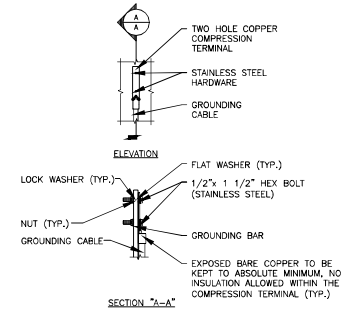
NOTE:

1. THE ELEVATION AND LOCATION OF THE GPS UNIT SHALL BE IN ACCORDANCE WITH THE FINAL RF REPORT.
2. THE GPS UNIT MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1-1/4" DIAMETER, SCHEDULE 40, GALVANIZED STEEL OR STAINLESS STEEL PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH (MINIMUM OF 18 INCHES) USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. A HACK SAW THE CUT PIPE END SHALL BE DEBURRED AND SMOOTH IN SHALL NOT BE USED. ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNA MOUNT.
3. THE MOUNTING PLATE SHALL BE FABRICATED AS SHOWN AND ATTACHED TO THE APPROPRIATE SUPPORT STRUCTURE USING U-BOLTS. THE SUPPORT PIPE SHALL THEN BE ATTACHED TO THE MOUNTING PLATE USING THE OVERSIZE U-BOLTS IT IS CRITICAL THAT THE GPS ANTENNA IS PROVIDED TO ALLOW ADJUSTMENT. MOUNTED SUCH THAT IT IS WITHIN 2 DEGREES OF VERTICAL AND THE BASE OF THE ANTENNA IS WITHIN 2 DEGREES OF LEVEL.

BILL OF MATERIALS

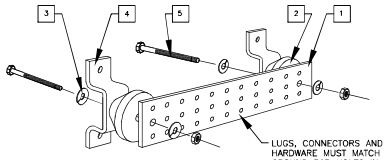
ITEM#	DESCRIPTION	QUANTITY (EACH)
①	1-1/4"ø SCH. 40 x 18" LG. GALV. PIPE (A-53)	1
②	PLATE 1/4 x 4-1/4 x 16-1/4" LG. GALV. (A-36)	1
③	STD. U-BOLT FOR 2-1/2"ø PIPE WITH DOUBLE HEX NUTS AND WASHER, GALV.	2
④	STD. U-BOLT FOR 1-1/4"ø PIPE WITH DOUBLE HEX NUTS AND WASHER, GALV.	2

2 / E-3 GPS GROUNDING DETAIL
N.T.S.



NOTE:
1. "DOUBLING UP" OR "STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

4 / E-3 TYPICAL GROUNDING CONNECTIONS
N.T.S.



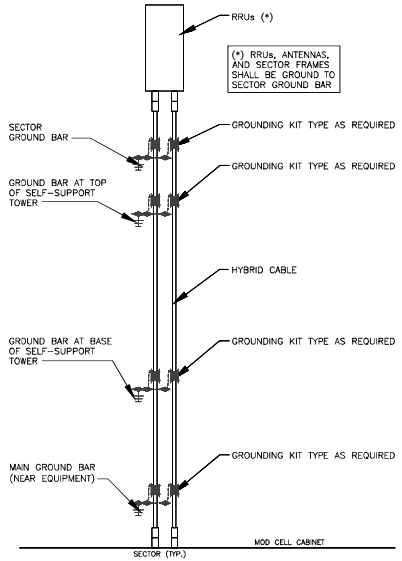
LEGEND

1. COPPER GROUND BAR, 7/16"X 4" X 20", NEWTON INSTRUMENT CO. CAT. NO. B-6142. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
2. INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4.
3. 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8.
4. WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056.
5. 5/8-11 X 1" H.H.C.S.BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1

GROUND BAR SCHEDULE

TYPE	QTY.	MANUFACTURER	CAT. NO.	REMARKS
MGB	2	HARGER	GB14420TMGB	OR EQUAL
CGB	3	HARGER	GB14412TMGB	OR EQUAL

5 / E-3 TYPICAL GROUND BAR DETAIL
N.T.S.



NOTES:

1. SEE LAYOUT DRAWINGS FOR ANTENNA LOCATION.
2. DO NOT INSTALL ANTENNA GROUND KIT ON CABLE BEND.

3 / E-3 ANTENNA GROUNDING DETAIL
N.T.S.

T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

ELEVATED ENGINEERING
99 FANNY ROAD
BOONTON, NEW JERSEY 07005
862-242-8050

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NICHOLAS D. BARILE
PROFESSIONAL ENGINEER, CT LIC. No. 28643

SITE ID: CTFF218A
SITE NAME: CTFF218A
345 FAN HILL ROAD
MONROE, CT 06468
FAIRFIELD COUNTY

DRAWING TITLE:

GROUNDING DETAILS

DRAWING SHEET:

E-3

RD048 | 3.4L | 48 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

Standby Power Rating

48 kW, 60 kVA, 60 Hz

*Built in the USA using domestic and foreign parts

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
- 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.

RD048 | 3.4L | 48 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

Standard Features

ENGINE SYSTEM

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

Fuel System

- Primary Fuel Filter

Cooling System

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

Electrical System

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

ALTERNATOR SYSTEM

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

GENERATOR SET

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

TANKS

- 48 Hour Run Time Tank
- UL 142 Listed Tank

CONTROL SYSTEM

Evolution ™ Controller

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

Optional Shipped Loose and Field Install Kits

GENERATOR SET

- ○ Paint Kit
- ○ Scheduled Maintance Kit

CONTROL SYSTEM

- ○ Mobile Link ™ and Adapter Kit

TANKS

- ○ Spill Box
- ○ 90% Fuel Alarm
- ○ Tank Risers
- ○ Spill Box Drainback Kit
- ○ Vent Extension Support Kit
- ○ 5 Day Run Time Tank
- ○ Overfill Prevention Valve
- ○ Fuel Fill Drop Tube
- ○ Lockable Fuel Cap

RD048 | 3.4L | 48 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC® | INDUSTRIAL POWER

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	4
Type	In-Line
Displacement - in^3 (L)	3.4 (207.48)
Bore - in (mm)	3.86 (98)
Stroke - in (mm)	4.45 (113)
Compression Ratio	18.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head	Cast Iron OHV
Piston Type	Aluminum

Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	±0.25%

Lubrication System

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

Cooling System

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

Fuel System

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

Engine Electrical System

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

ALTERNATOR SPECIFICATIONS

Standard Model	Generac
Poles	4
Field Type	Rotating
Insulation Class - Rotor	H
Insulation Class - Stator	H
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)	±1.0%

RD048 | 3.4L | 48 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

OPERATING DATA

POWER RATINGS

		Standby
Single-Phase 120/480 VAC @0.1pf	48 kW	Amps: 200

MOTOR STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip at 30%

120/240 V, Single-Phase at 0.4pf	189

FUEL CONSUMPTION RATES*

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

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

COOLING

		Standby
Air Flow (Radiator and Alternator)	ft^3/min (m^3/min)	2824 (80)
Coolant System Capacity	gal (L)	2.8 (10.6)
Heat Rejection to Coolant	BTU/hr (MJ/hr)	135,900 (143.4)
Temperature Deration	3% for every 5°C above 25°C or 1.7% for every 5°F over 77°F	
Altitude Deration	1% for every 100 m above 915 or 3% for every 1000 ft over 3000 ft	
Maximum Radiator Backpressure	in H_2O (kPa)	0.50 (0.12)

COMBUSTION AIR REQUIREMENTS

	Standby
Flow at Rated Power ft^3/min (m^3/min)	190 (5.38)

ENGINE

		Standby
Rated Engine Speed	rpm	1,800
Horsepower at rated kW	HP	85

EXHAUST

		Standby
Exhaust Flow (Rated Output)	ft^3/min (m^3/min)	448 (12.7)
Exhaust Temp (Rated Output - Post Silencer)	°F (°C)	1120 (604.4)

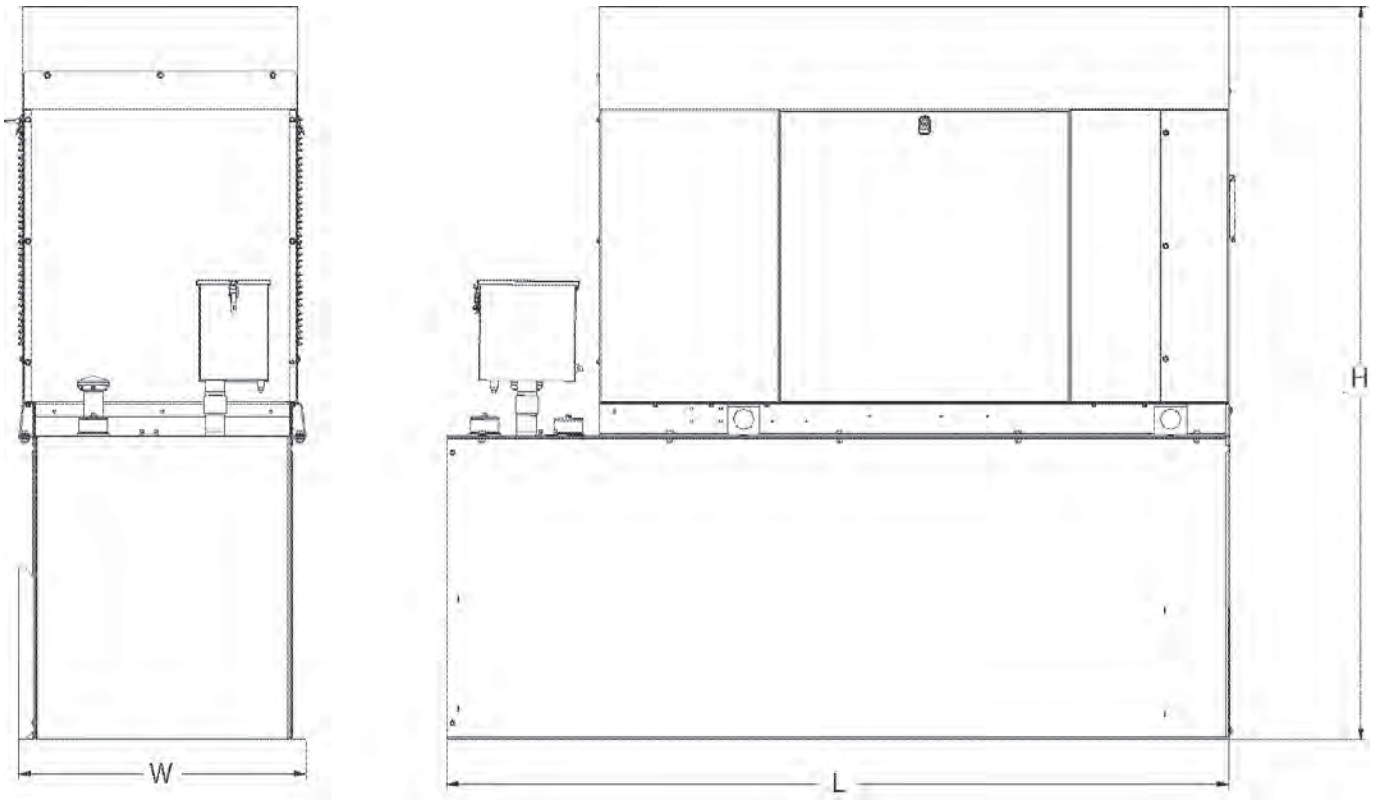
Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.
Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards.
Standby - See Bulletin 0187500SSB

RD048 | 3.4L | 48 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

DIMENSIONS AND WEIGHTS*



ENCLOUSED UNIT with 48hour Tank

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

* All measurements are approximate and for estimation purposes only.

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

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.

SPEC SHEET

Generac Power Systems, Inc. | P.O.Box 8 | Waukesha, WI 53189
P: (262) 544-4811

Part No 10000032700
Rev. B 04/06/18

Protector™ Series

GENERAC®

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)

Intertek QUIET TEST

USA ENGINEERED & BUILT* *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.

- **TEST CRITERIA:**
  - √ **PROTOTYPE TESTED**
  - √ **SYSTEM TORSIONAL TESTED**
  - √ **NEMA MG1-22 EVALUATION**
  - √ **MOTOR STARTING ABILITY**

- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine. Digital voltage regulation at ±1%.

- **SINGLE SOURCE SERVICE RESPONSE** from Generac's extensive dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.

- **GENERAC TRANSFER SWITCHES.** Long life and reliability are synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems and controls for total system compatibility.

GENERAC® ISO 9001:2008

GENERAC®

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

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-seating
Fan Speed (rpm)	1800 - 15 & 20 kW 2061 - 30 kW 2029 - 48 & 50 kW
Fan Diameter (in/mm)	18.11/460 (15 & 20 kW) 22/559 (30, 48 & 50 kW)
Fan Mode	Pusher

FUEL SYSTEM

Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Pump Type	Mechanical Engine Driven Gear
Injector Type	Mechanical
Fuel Supply Line (mm/in)	7.94/0.31 (ID)
Fuel Return Line (mm/in)	7.94/0.31(ID)
Fuel Specification	ASTM
Fuel Filtering (microns)	5 - 15, 20 & 30 kW 10 - 48 & 50 kW

TANK SPECIFICATIONS

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

WEIGHTS AND DIMENSIONS

	15 kW	20 kW	30 kW	48 kW	50 kW
Weight (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		

GENERAC®

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.

GENERAC®

15 • 20 • 30 • 48 • 50 kW

operating data

ENGINE COOLING

	15 kW	20 kW	30 kW	48/50 kW
Air flow (inlet air including alternator and combustion air in cfm/cmm)	2824/80	2824/80	3038/86	2824/80
System coolant capacity (gal/liters)	2.8/10.6	2.8/10.6	2.8/10.6	2.8/10.6
Heat rejection to coolant (BTU per hr/MJ per hr)	63,535/67	63,535/67	111,000/117.1	135,900/143.4
Maximum operation air temperature on radiator (°C/°F)	50/122			
Maximum ambient temperature (°C/°F)	50/122			

COMBUSTION REQUIREMENTS

Flow at rated power (cfm/cmm)	84.76/2.4	84.76/2.4	90/2.55	190/5.38

SOUND EMISSIONS

Sound output in dB(A) at 23 ft (7 m) with generator in exercise mode*	65
Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load*	70

*Sound levels are taken from the front of the generator. Sound levels taken from other sides of the 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

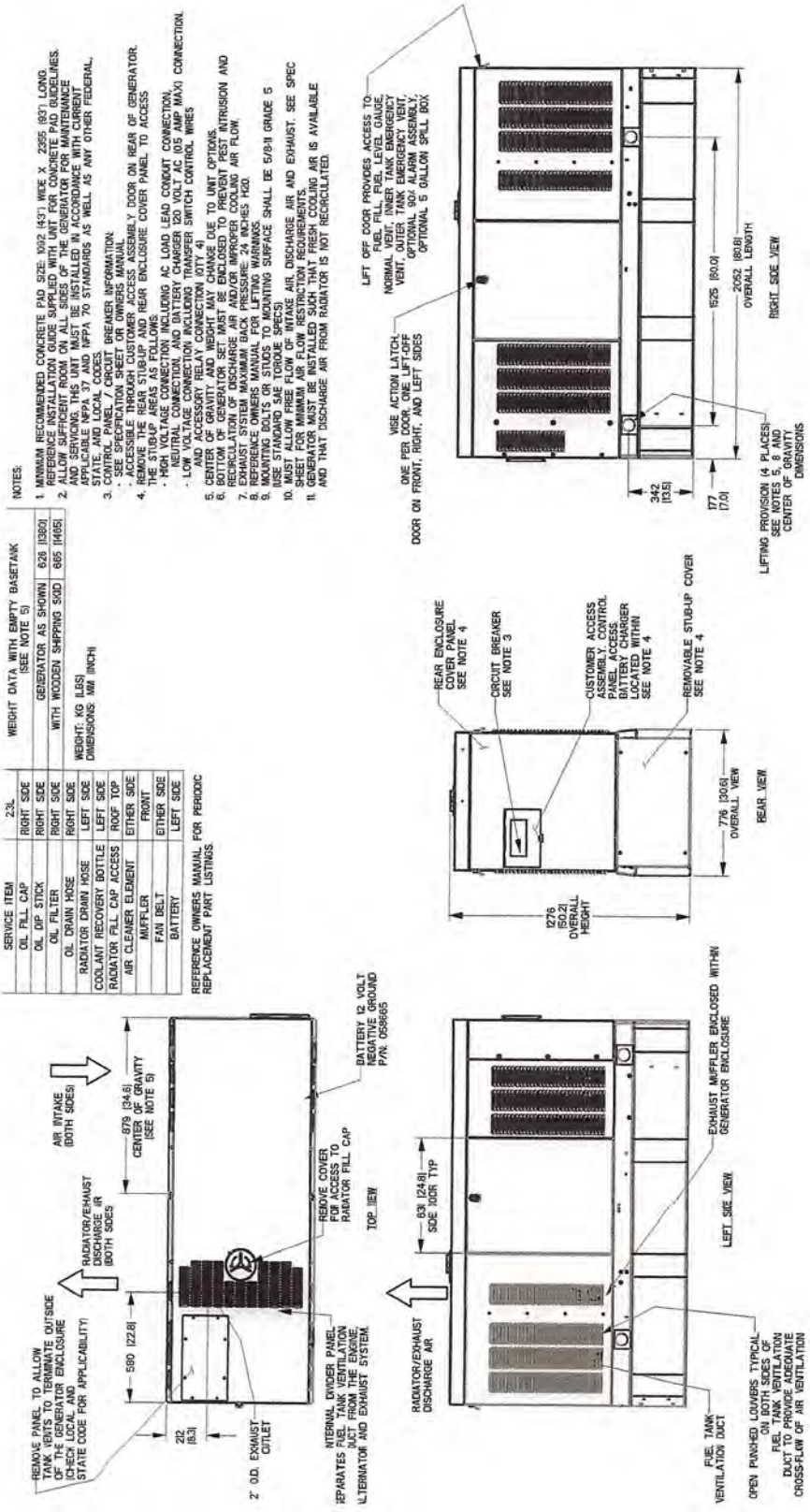
2-Line Plain Text Multilingual LCD Display ..... Simple user interface for ease of operation.
Mode Buttons: Auto ..... Automatic Start on Utility failure. Programmable 7 day exerciser.
Manual ..... Start with starter control, unit stays on. If utility fails, transfer to load takes place.
Off ..... Stops 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

GENERAC®

installation layout

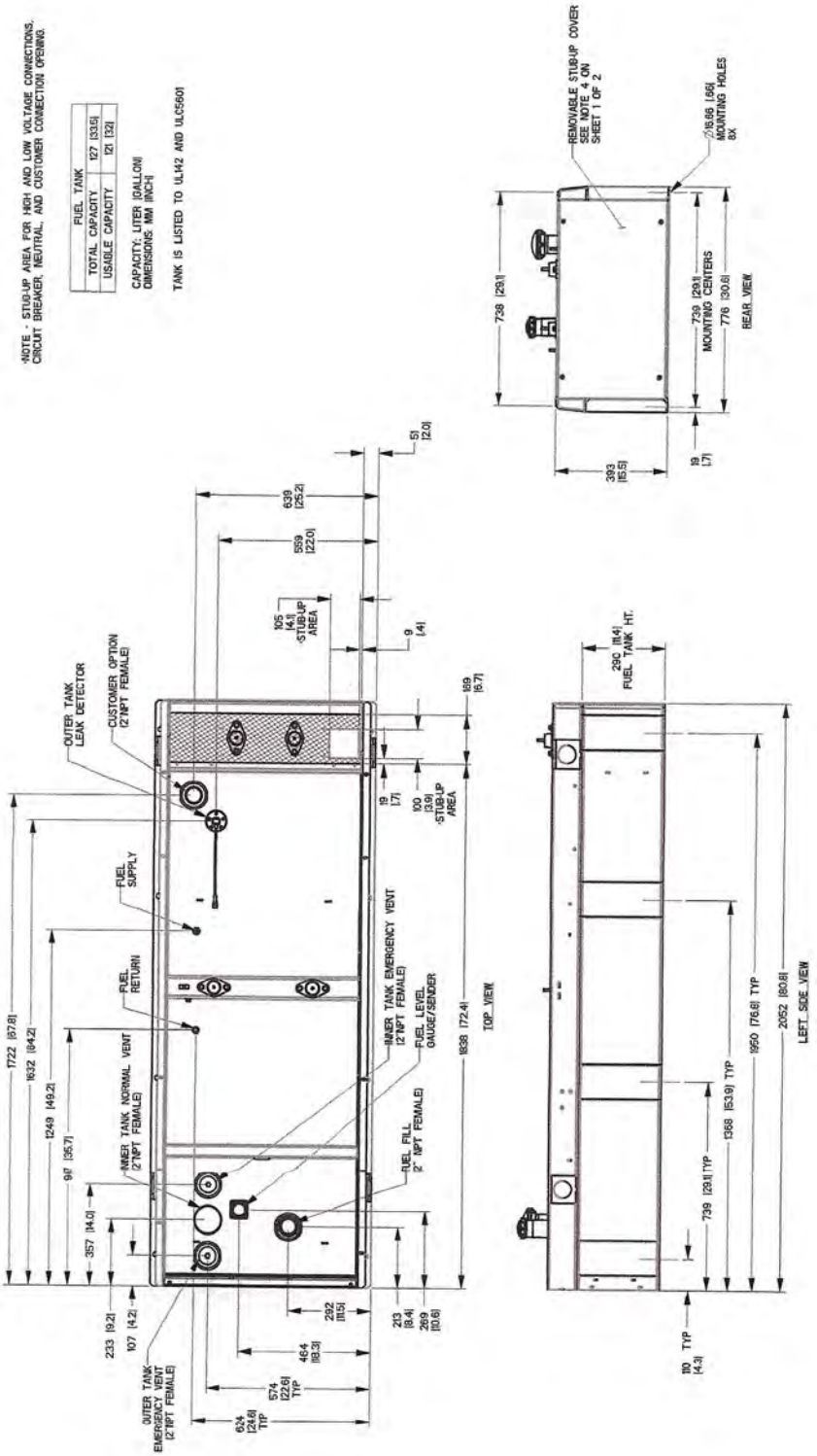
Drawing #0K7025-C (1 of 2)



GENERAC®

installation layout

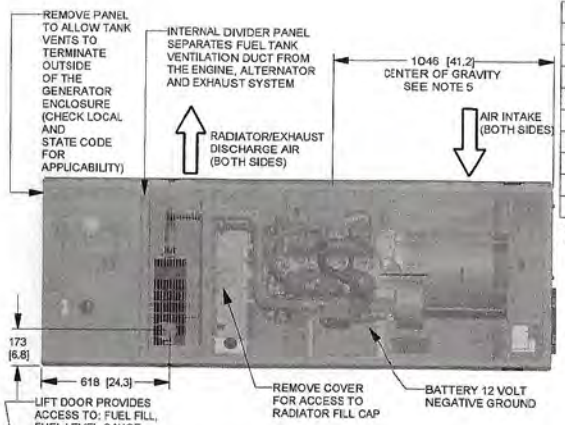
Drawing #0K7025-C (2 of 2)



30 kW

Drawing #0K7002-C (1 of 2)

installation layout



TOP VIEW

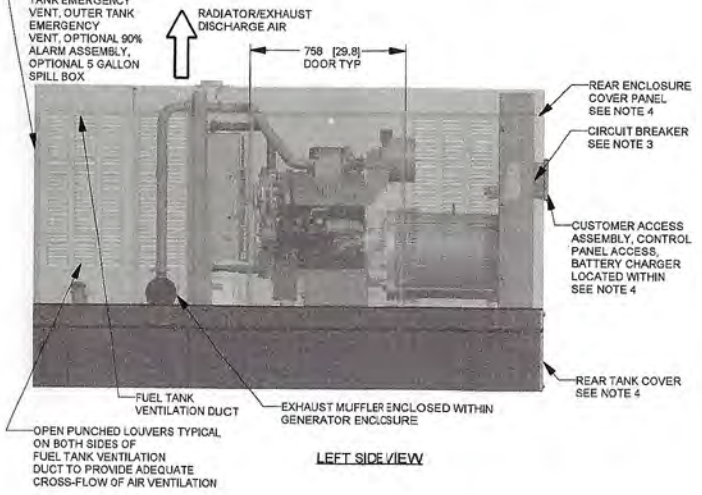
SERVICE ITEM	2.4L
OIL FILL CAP	RIGHT SIDE
OIL DIP STICK	RIGHT SIDE
OIL FILTER	RIGHT SIDE
OIL DRAIN HOSE	RIGHT SIDE
RADIATOR DRAIN HOSE	LEFT SIDE
AIR CLEANER ELEMENT	LEFT SIDE
MUFFLER	FRONT
FAN BELT	EITHER SIDE
BATTERY	LEFT SIDE

REFERENCE OWNERS MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS.

WEIGHT DATA WITH EMPTY BASETANK (SEE NOTE 5)	
GENERATOR AS SHOWN	826 [1820]
WITH WOODEN SHIPPING SKID	871 [1920]

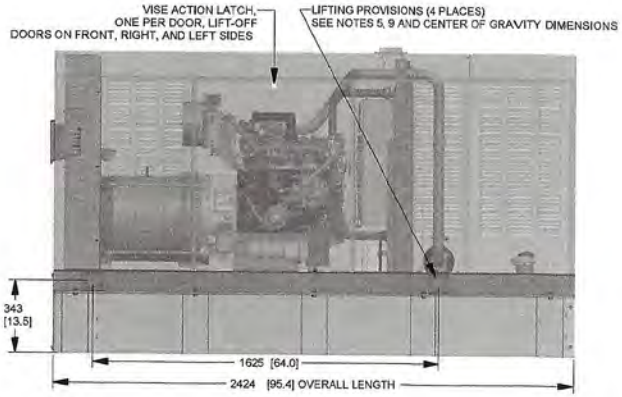
NOTES:

1. MINIMUM RECOMMENDED CONCRETE PAD SIZE: 1194 (47") WIDE X 2718 (107") LONG. REFERENCE INSTALLATION GUIDE SUPPLIED WITH UNIT FOR CONCRETE PAD GUIDELINES
2. ALLOW SUFFICIENT ROOM ON ALL SIDES OF THE GENERATOR FOR MAINTENANCE AND SERVICING. THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT APPLICABLE NFPA 37 AND NFPA 70 STANDARDS AS WELL AS ANY OTHER FEDERAL, STATE, AND LOCAL CODES.
3. CONTROL PANEL / CIRCUIT BREAKER INFORMATION:
   - SEE SPECIFICATION SHEET OR OWNERS MANUAL
   - ACCESSIBLE THROUGH CUSTOMER ACCESS ASSEMBLY DOOR ON REAR OF GENERATOR
4. REMOVE THE REAR TANK AND REAR ENCLOSURE COVER PANEL TO ACCESS THE STUB-UP AREAS AS FOLLOWS:
   - HIGH VOLTAGE CONNECTION INCLUDING AC LOAD LEAD CONDUIT CONNECTION NEUTRAL CONNECTION, BATTERY CHARGER 120 VOLT AC (0.5 AMP MAX) CONNECTION.
   - LOW VOLTAGE CONNECTIONS INCLUDING TRANSFER SWITCH CONTROL WIRES
5. CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.
6. ENGINE SERVICE CONNECTIONS
   OIL DRAIN: 3/8" NPT
   EXHAUST OUTLET: 2" O.D.
7. BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND AND RECIRCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
8. EXHAUST SYSTEM MAXIMUM BACK PRESSURE: 35 INCHES H2O.
9. REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
10. MOUNTING BOLTS OR STUDS TO CONCRETE PAD SHALL BE 5/8-11 GRADE 5 (USE STANDARD SAE TORQUE SPECS)



LEFT SIDE VIEW

REAR VIEW

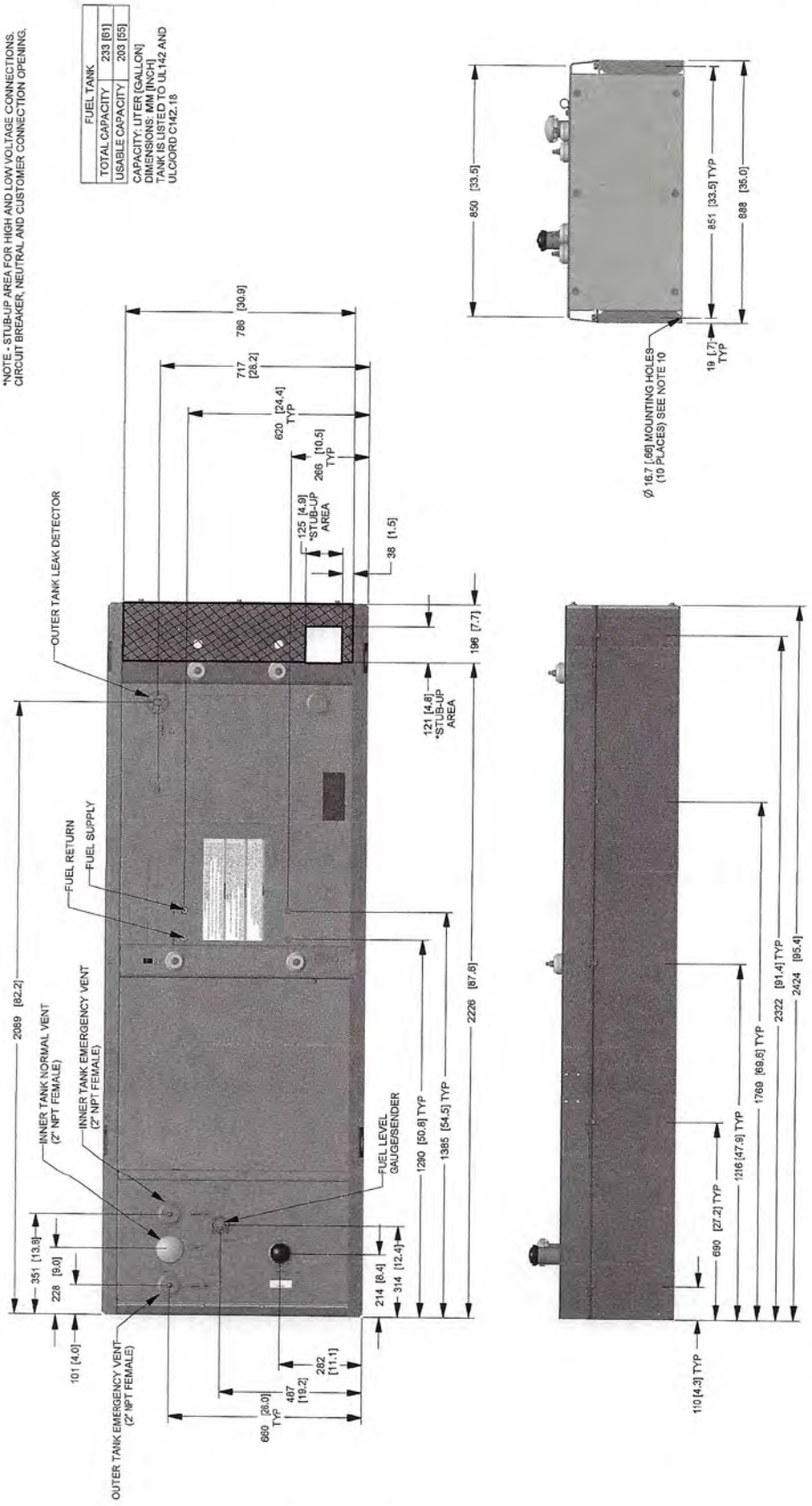


RIGHT SIDE VIEW

30 kW

installation layout

Drawing #0K7002-B (2 of 2)

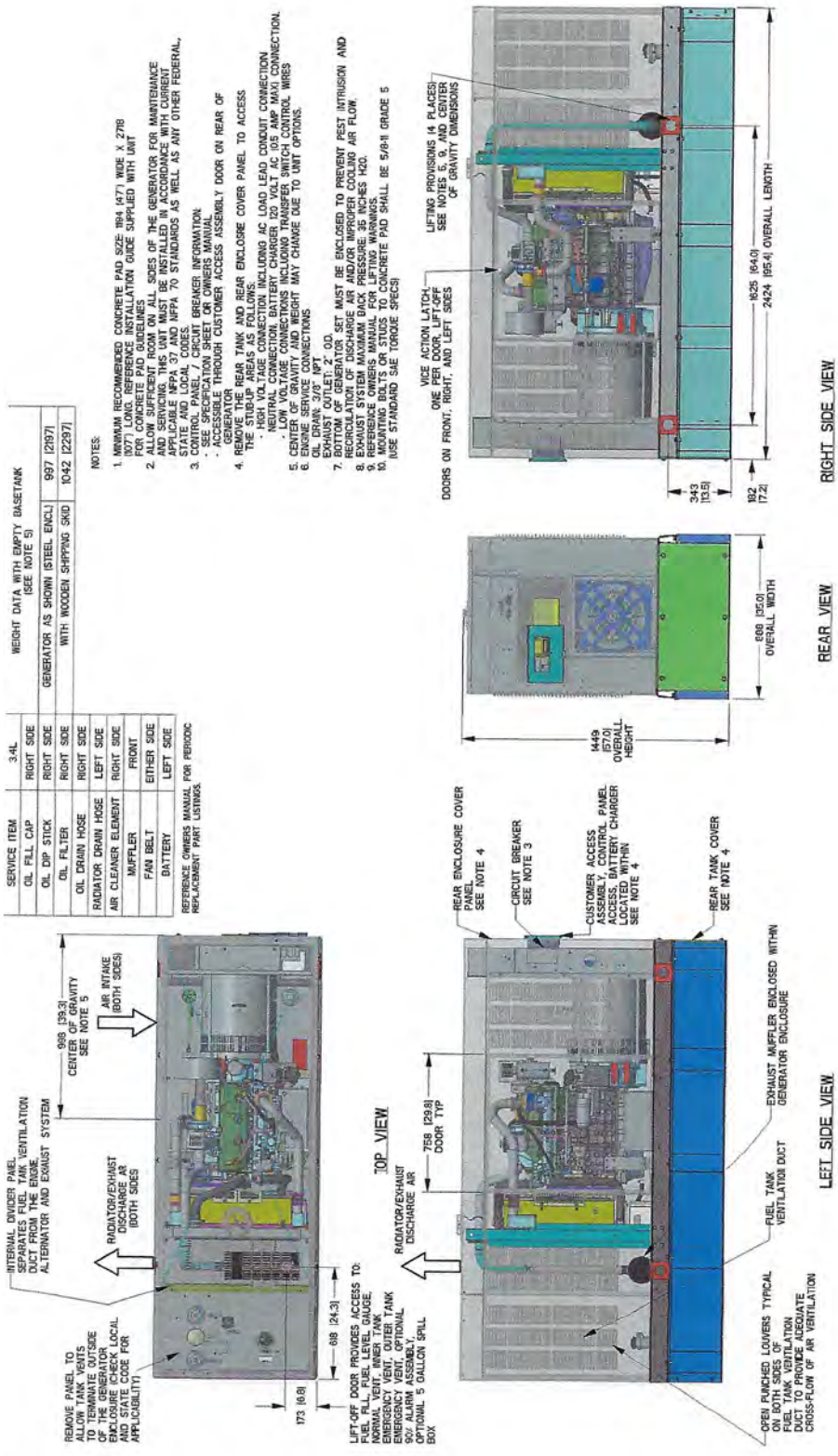


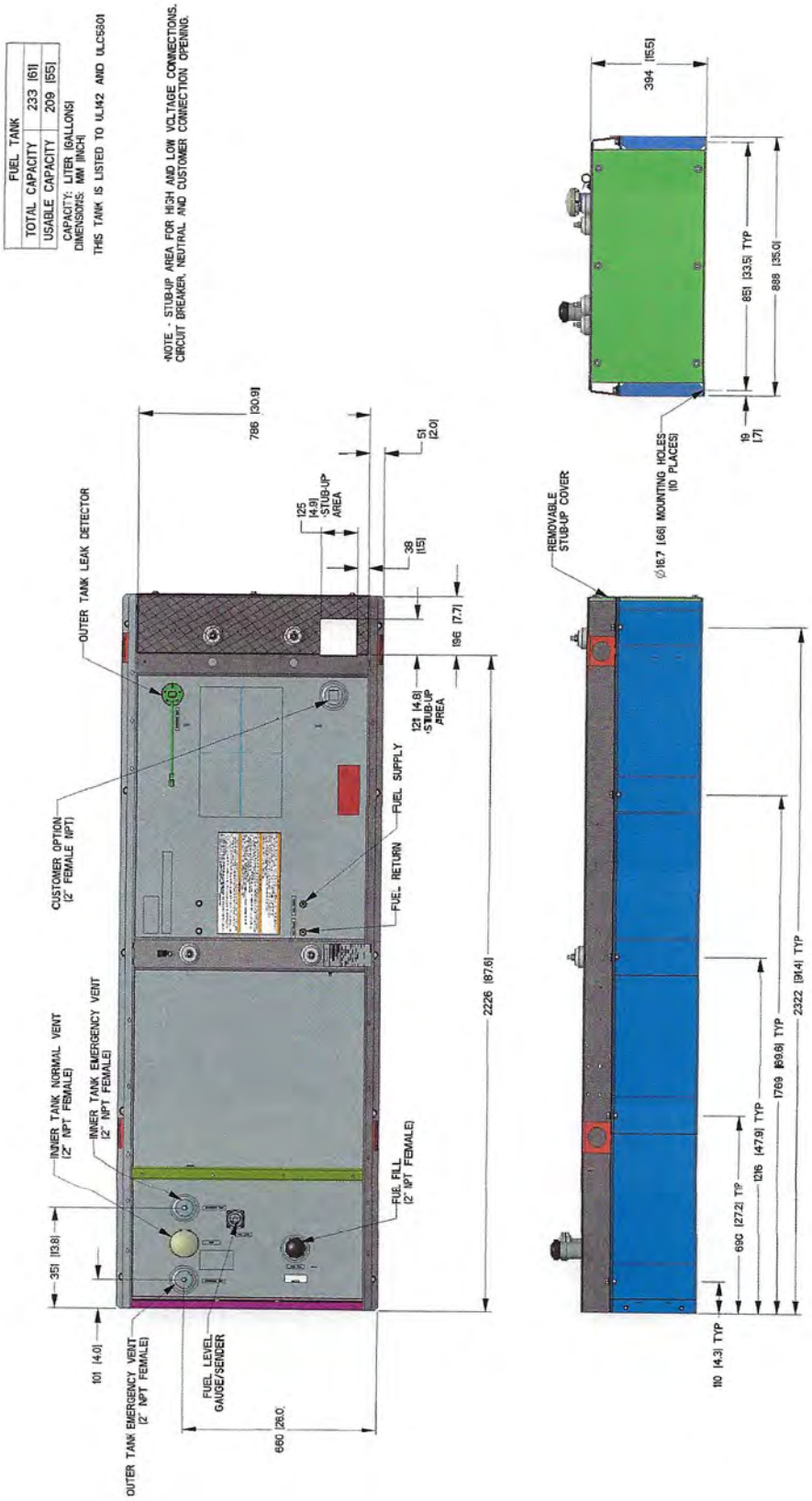
48 & 50 kW

GENERAC®

installation layout

Drawing #0K6968-C (1 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 ULC-S601
*NOTE - STUB-UP AREA FOR HIGH AND LOW VOLTAGE CONNECTIONS, CIRCUIT BREAKER, NEUTRAL AND CUSTOMER CONNECTION OPENING.
786 [30.9]
51 [2.0]
125 [4.9] *STUB-UP AREA
38 [1.5]
196 [7.7]
121 [4.8] *STUB-UP AREA
OUTER TANK LEAK DETECTOR
CUSTOMER OPTION (2" FEMALE NPT)
FUEL SUPPLY
FUEL RETURN
INNER TANK NORMAL VENT (2" NPT FEMALE)
INNER TANK EMERGENCY VENT (2" NPT FEMALE)
FUEL FILL (2" NPT FEMALE)
2226 [87.6]
351 [13.8]
101 [4.0]
OUTER TANK EMERGENCY VENT (2" NPT FEMALE)
FUEL LEVEL GAUGE/SENDER
660 [26.0]
394 [15.5]
851 [33.5] TYP
888 [35.0]
19 [.7]
Ø16.7 [.66] MOUNTING HOLES (10 PLACES)
REMOVABLE STUB-UP COVER
690 [27.2] TYP
1216 [47.9] TYP
1769 [69.6] TYP
2322 [91.4] TYP
110 [4.3] TYP

GENERAC

15 • 20 • 30 • 48 • 50 kW

available accessories

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

Exhibit D

Structural Analysis Report

ARIA SERVICES, INC.
10006 Lynbrook Dr.
Houston, TX 77042-1558
(281) 797-4387 – info@aria-corp.com
www.aria-corp.com Firm Reg# F-13104

February 06, 2025

ARX Wireless, LLC
110 Washington Avenue
North Haven, CT 06473

Subject: **Structural Analysis Report - Revision 0**
Site Information: **CT0005, Monroe**
345 Fan Hill Road, Monroe, Fairfield County, CT 06468
Latitude: 41° 20' 44.73"/ Longitude: -73° 14' 06.26" /Altitude: 416.554 ft AMSL
Carrier Site Information: **CTFF218A, T-Mobile & CT1156, AT&T**
Structure Type: **176'-0" Monopole**

Aria Services, Inc. is pleased to submit this report to determine the structural integrity of the aforementioned monopole tower to support the proposed loads as shown in the Section 4 with the following results:

Tower:	**Sufficient Capacity**	**79.7%**
Foundation:	**Sufficient Capacity**	**72.3%**

The enclosed calculation for the above condition has been executed in accordance with:

- 2018 ANSI/TIA-222-H standard, 2021 IBC, ASCE 7-16 and local adopted building code.
- Ultimate wind speed 127 mph 3-second gust with 0" ice and 50 mph wind speed in combination with 1.0" ice for Fairfield County, CT, at tower location. Serviceability basic wind speed 60 mph.
- Exposure Category C, Risk Category III, Topographic Category I with crest height 0'.

Please refer to appendix for analysis results and tower loading. Should you need any further assistance, please do not hesitate to contact us.

Sincerely,

STATE OF CONNECTICUT
DMITRIY V. ALBUL
No. 26725
LICENSED PROFESSIONAL ENGINEER
02-07-25

1. INTRODUCTION

ARIA has analyzed the existing monopole tower to determine if the tower complies with required building codes and design standards for the proposed loading configuration. The results are summarized in Section 5. The finite element program "tnxTower 8.2.4.3" has been used in this report to facilitate modeling and analysis.

2. INFORMATION USED IN THIS ANALYSIS

Data	Document	Author	Date	Source
Tower	Tower Design Drawings Job # 23521-315	TAPP	1/13/2022	ARX
Loading	CT1156 ATT Colocation Application	SAI	-	
	CTFF218A T-Mobile Colocation Application	Northeast Site Solutions	1/2/2025	
Soil	-	-	-	
Foundation	Tower Design Drawings Job # 23521-315	TAPP	1/13/2022	

3. ASSUMPTIONS MADE

The following assumptions were made in order to complete the analysis. These assumptions must be checked. If they do not accurately represent the existing or proposed tower, foundation, soil, and loading conditions, ARIA must be notified within 48 hours of receipt of this report so that appropriate changes can be made to the analysis, conclusions, and recommendations.

a. The tower and foundation are constructed as shown in the provided drawings, previous structural analysis reports, mapping reports, photos and/or other documents.
b. The tower and foundation are in good condition with no corrosion or damage and there have been no fatiguing issues with the tower, base plate or anchor bolts which may reduce the carrying capacity of the tower.
c. The tower and foundation have been properly maintained in accordance with industry standards.
d. The tower and foundation have not been modified except as indicated in the provided information or in this report.
e. The foundation was correctly designed and installed in accordance with applicable codes and standards for the modified design and drawings.
f. The provided documents listed in Table 2 contain accurate and valid information.
g. The steel is 65 ksi yield for pole shaft, 50 ksi for base plate. Anchor bolt type is A615-Grade 75.

4. FINAL LOADING CONFIGURATION

The following antennas, mounts, transmission lines and other appurtenances were considered for the structural analysis.

Rad. Center (ft) (1)	Model/Appurtenance	Line	Coax Layout (2)	Notes
176	(1) Lightning Rod (1) Flash Beacon	(1) Power Conduit	Inside	Existing
160	(6) KMW EPBQ-654L8H8-L2 Antennas (3) CCI HPA-65R-BU8A Antennas (3) Ericsson 4478-B14 (3) Ericsson RRUS-E2 (3) Ericsson 4415-B30 (3) Ericsson 4449 (3) Ericsson RRUS-8843 (2) Raycap DC9-48-60-24-8C-EV OVP (1) Raycap DC6-48-60-18-8C-EV OVP (3) SitePro1 VFA12-M3-WLL Sector Frames	(1) 0.4" Fiber Trunk (5) 0.92" DC Trunks	Inside	Existing AT&T
150	**(3) Ericsson 840590966 Antennas (3) Ericsson AIR_6419-B41 Massive MIMO Antennas (3) Ericsson Radio 4460 B25+ B66 (3) Ericsson Radio 4480 B71+ B85 (1) SitePro1 platform # RMQP-496 w/ handrail**	**(2) Hybrid 6/24 Commscope FDH1204**	**Inside**	**Proposed T-Mobile**

NOTES:

1. Elevations reference centerline of panel, yagi, and dish antennas and whip antennas in relation to the base of the tower.
2. Coax Layout designates whether the lines are placed inside or outside of the monopole. Contact ARIA for further analysis if the lines cannot be placed as indicated.

5. RESULTS

5.1 TOWER MEMBER STRESS LEVELS

The existing monopole tower has the following stress ratios in its structural components:

Elevation (ft)	Member	Maximum Stress Ratio
176	Pole Shaft	48.0%
	Base Plate	79.7%
	Anchor Bolt	46.5%

Note:
Stress ratio (SR) criteria:
SR ≤ 100% is completely within code limits.
SR < 105% is considered within acceptable tolerance of code limits
SR ≥ 105% is outside acceptable tolerance of code limits and requires structural modifications.

5.2 FOUNDATION REACTIONS

Tower Base	Previous Analysis Reactions [1]	Current Reactions [2]	Status [3]
Axial (kips)	65	47	**72.3%**
Moment (kips-ft)	6653	3348	**50.3%**

Note:
(1) Refer to Tower Drawings by TAPP Job # 23521-315, dated 1/13/2022.
(2) All loads are factored.
(3) Stress ratio (SR) criteria:
SR ≤ 100% is completely within code limits.
SR < 105% is considered within acceptable tolerance of code limits.
SR ≥ 105% is outside acceptable tolerance of code limits and requires structural modifications

5.3 TOWER DEFLECTION

The deflections are listed below for key tower elevations using serviceability wind speed listed in Section 3.

Elev. (ft)	Displacement (in)	Sway (deg)	Twist (deg)
150	11.6070	0.736	0.006

6. CONCLUSIONS

The existing monopole tower and its foundation **satisfy** the structural strength requirements of the standards and codes listed. No reinforcements are required.

DISCLAIMER OF WARRANTIES

a. This is not a condition assessment of the building rooftop. Only the existing antenna pipe mounts and rooftop steel platform were analyzed. Insufficient structural data on the building rooftop was provided to provide an in-depth analysis of the building rooftop. This report does not replace a rooftop inspection. Aria Services, Inc. has not performed a site visit to the tower to verify the member sizes or antenna/coax loading.
b. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy.
c. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.
d. The engineering services rendered by Aria Services, Inc. in connection with this Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. All tower components have been assumed to only resist dead loads when no other loads are applied. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.
e. Aria Services, Inc. does not analyze the fabrication of the structure (including welding). It is not possible to have all the detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. We provide a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the feasibility of adding appurtenances usually accompanied by transmission lines to the structure.
f. It is the owner's responsibility to determine the amount of ice accumulation in excess of the specified code recommended amount, if any, that should be considered in the structural analysis.
g. The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document.
h. Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.
i. Aria Services, Inc. makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. Aria Services, Inc. will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of Aria Services, Inc. pursuant to this report will be limited to the total fee received for preparation of this report.

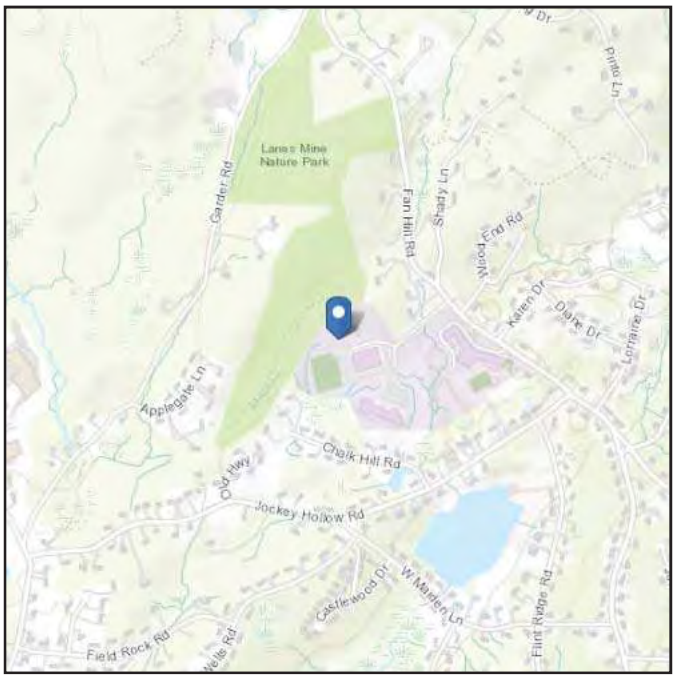
APPENDIX – A

Analysis Reference Documents

ASCE Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	41.345758
Risk Category:	III	**Longitude:**	-73.235072
Soil Class:	D - Default (see Section 11.4.3)	**Elevation:**	416.55444179102784 ft (NAVD 88)



Wind

Results:

Wind Speed	127 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	90 Vmph
100-year MRI	97 Vmph

Data Source:	ASCE/SEI 7-16, Fig. 26.5-1C and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed:	Thu Feb 06 2025

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 3% probability of exceedance in 50 years (annual exceedance probability = 0.000588, MRI = 1,700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

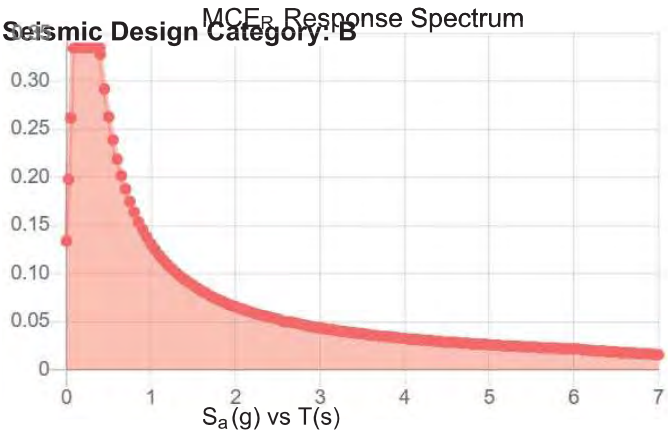
Seismic

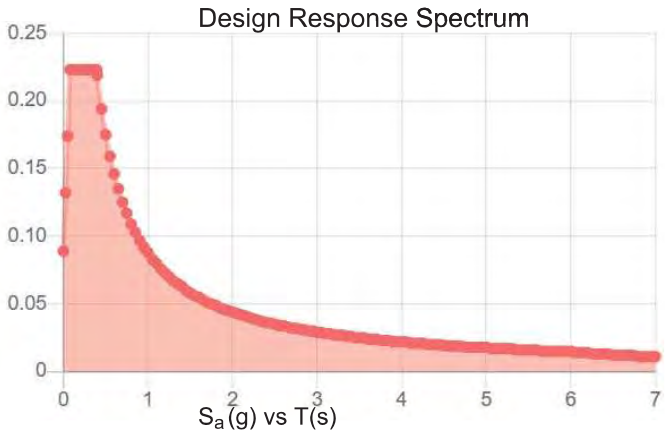
Site Soil Class: D - Default (see Section 11.4.3)

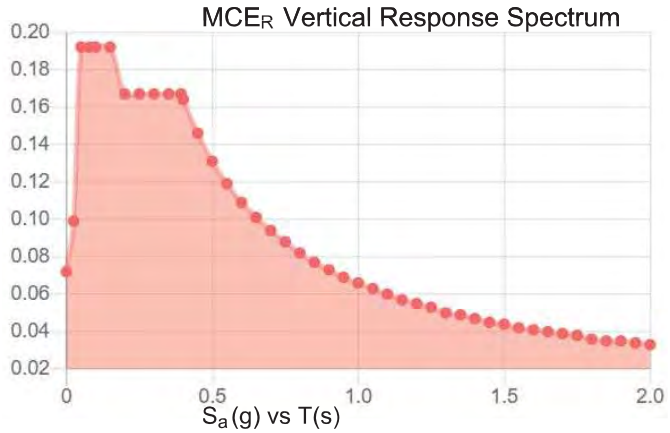
Results:

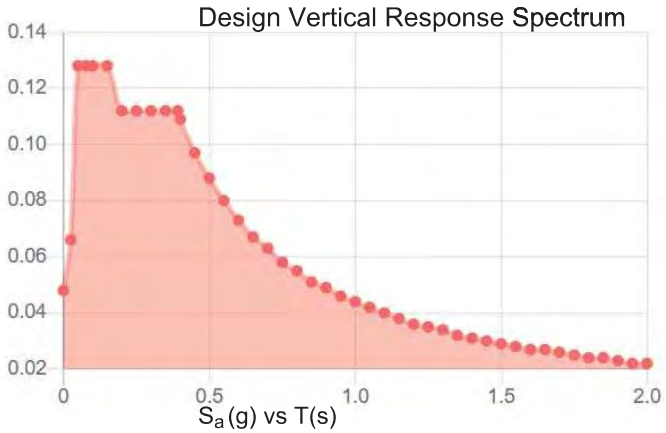
S_S :	0.209	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.118
F_v :	2.4	PGA_M :	0.185
S_{MS} :	0.335	F_{PGA} :	1.563
S_{M1} :	0.131	I_e :	1.25
S_{DS} :	0.223	C_v :	0.718

Seismic Design Category: B









Data Accessed: Thu Feb 06 2025

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

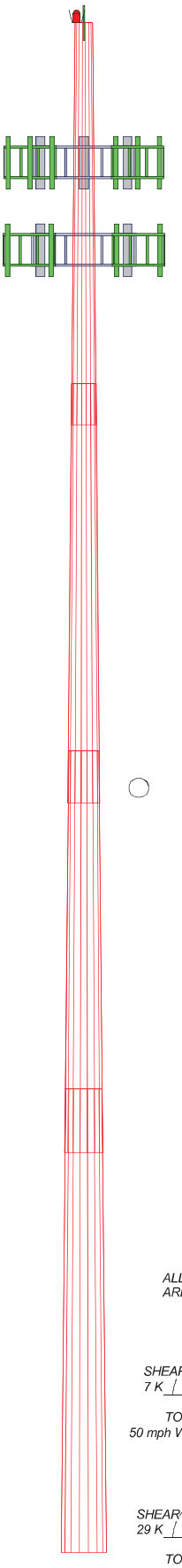
Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Thu Feb 06 2025

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Section	1	2	3	4
Length (ft)	46.000	48.000	46.000	53.000
Number of Sides	18	18	18	18
Thickness (in)	0.1875	0.3125	0.3750	0.4375
Socket Length (ft)	4.750	6.000	7.250	
Top Dia (in)	24.0000	32.9947	41.9096	49.9614
Bot Dia (in)	34.4486	43.8975	52.3582	62.0000
Grade	A572-65			
Weight (K)	2.7	6.2	8.7	13.9

177.0 ft
176.0 ft
130.0 ft
86.8 ft
46.8 ft
1.0 ft



ALL REACTIONS ARE FACTORED

AXIAL 69 K
SHEAR 7 K
MOMENT 825 kip-ft
TORQUE 1 kip-ft
50 mph WIND - 1.0000 in ICE

AXIAL 47 K
SHEAR 29 K
MOMENT 3348 kip-ft
TORQUE 5 kip-ft
REACTIONS - 127 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	176	Ericsson 4478-B14	160
Large Beacon	176	Ericsson RRUS-E2	160
KMW EPBQ-654L8H8-L2 w/mount pipe	160	Ericsson 4415 B30	160
KMW EPBQ-654L8H8-L2 w/mount pipe	160	Ericsson 4449	160
CCI HPA 65R-BU8A w/mount pipe	160	Ericsson RRUS-8843	160
Ericsson 4478-B14	160	Raycap DC6-48-60-18-8C-EV	160
Ericsson RRUS-E2	160	SitePro1 Sector Frame	160
Ericsson 4415 B30	160	SitePro1 Sector Frame	160
Ericsson 4449	160	SitePro1 Sector Frame	160
Ericsson RRUS-8843	160	Ericsson 4460 B25+B66 Radio	150
Raycap DC9-48-60-24-8C-EV	160	Ericsson 4480 B71+B85 Radio	150
KMW EPBQ-654L8H8-L2 w/mount pipe	160	Ericsson 840590966 w/mount pipe	150
KMW EPBQ-654L8H8-L2 w/mount pipe	160	Ericsson AIR 6419 B41 w/mount pipe	150
CCI HPA 65R-BU8A w/mount pipe	160	Ericsson 4460 B25+B66 Radio	150
Ericsson 4478-B14	160	Ericsson 4480 B71+B85 Radio	150
Ericsson RRUS-E2	160	SitePro1 RMQP-496 Platform w/handrails (Monopole)	150
Ericsson 4415 B30	160		
Ericsson 4449	160	Ericsson 840590966 w/mount pipe	150
Ericsson RRUS-8843	160	Ericsson AIR 6419 B41 w/mount pipe	150
Raycap DC9-48-60-24-8C-EV	160	Ericsson 4460 B25+B66 Radio	150
KMW EPBQ-654L8H8-L2 w/mount pipe	160	Ericsson 4480 B71+B85 Radio	150
KMW EPBQ-654L8H8-L2 w/mount pipe	160	Ericsson 840590966 w/mount pipe	150
CCI HPA 65R-BU8A w/mount pipe	160	Ericsson AIR 6419 B41 w/mount pipe	150

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 127 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category III.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TOWER RATING: 79.7%

Aria Services, Inc.
10006 Lynbrook Dr.
Houston, TX 77042-1558
Phone: (281) 797-4387
FAX:
www.aria-corp.com

Job:	176' Monopole @ Fairfield County, CT		
Project:	CT0005-Monroe		
Client:	ATX Wireless, LLC	Drawn by: VD	App'd:
Code:	TIA-222-H	Date: 02/06/25	Scale: NTS
Path:	H:\tnx-Risk III\CT0005.eri		Dwg No. E-1

Tower Input Data

The tower is a monopole.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

1. Tower is located in Fairfield County, Connecticut.
2. Tower base elevation above sea level: 417.554 ft.
3. Basic wind speed of 127 mph.
4. Risk Category III.
5. Exposure Category C.
6. Simplified Topographic Factor Procedure for wind speed-up calculations is used.
7. Topographic Category: 1.
8. Crest Height: 0.000 ft.
9. Nominal ice thickness of 1.0000 in.
10. Ice thickness is considered to increase with height.
11. Ice density of 56 pcf.
12. A wind speed of 50 mph is used in combination with ice.
13. Deflections calculated using a wind speed of 60 mph.
14. A non-linear (P-delta) analysis was used.
15. Pressures are calculated at each section.
16. Stress ratio used in pole design is 1.
17. Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	176.000-130.000	46.000	4.750	18	24.0000	34.4486	0.1875	0.7500	A572-65 (65 ksi)
L2	130.000-86.750	48.000	6.000	18	32.9947	43.8975	0.3125	1.2500	A572-65 (65 ksi)
L3	86.750-46.750	46.000	7.250	18	41.9096	52.3582	0.3750	1.5000	A572-65 (65 ksi)
L4	46.750-1.000	53.000		18	49.9614	62.0000	0.4375	1.7500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	24.3413	14.1714	1015.2211	8.4534	12.1920	83.2694	2031.7780	7.0871	3.8940	20.768
	34.9511	20.3896	3023.7756	12.1627	17.4999	172.7883	6051.5299	10.1968	5.7330	30.576
L2	34.5510	32.4166	4374.4854	11.6022	16.7613	260.9874	8754.7268	16.2114	5.2571	16.823
	44.5265	43.2309	10375.4166	15.4727	22.2999	465.2668	20764.4855	21.6195	7.1760	22.963
L3	43.8822	49.4366	10774.7495	14.7448	21.2901	506.0920	21563.6766	24.7230	6.7161	17.91
	53.1081	61.8730	21123.4413	18.4540	26.5980	794.1751	42274.6773	30.9424	8.5550	22.813
L4	52.3369	68.7701	21309.2121	17.5810	25.3804	839.5932	42646.4633	34.3916	8.0232	18.339
	62.8890	85.4872	40932.7736	21.8547	31.4960	1299.6182	81919.4076	42.7517	10.1420	23.182

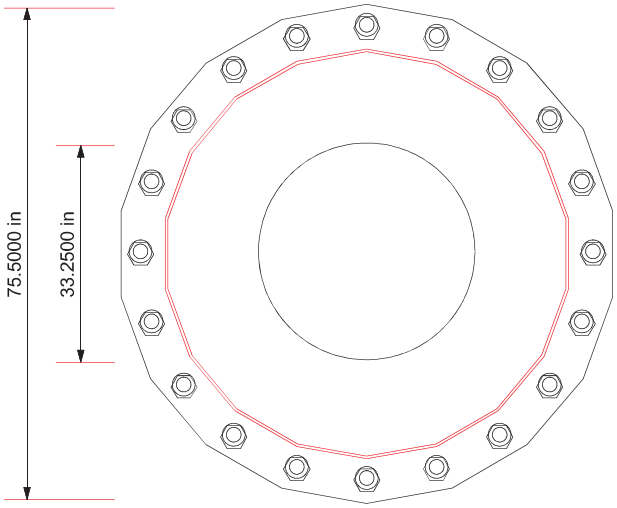
Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 176.000-130.000				1	1	1			
L2 130.000-86.750				1	1	1			
L3 86.750-46.750				1	1	1			
L4 46.750-1.000				1	1	1			

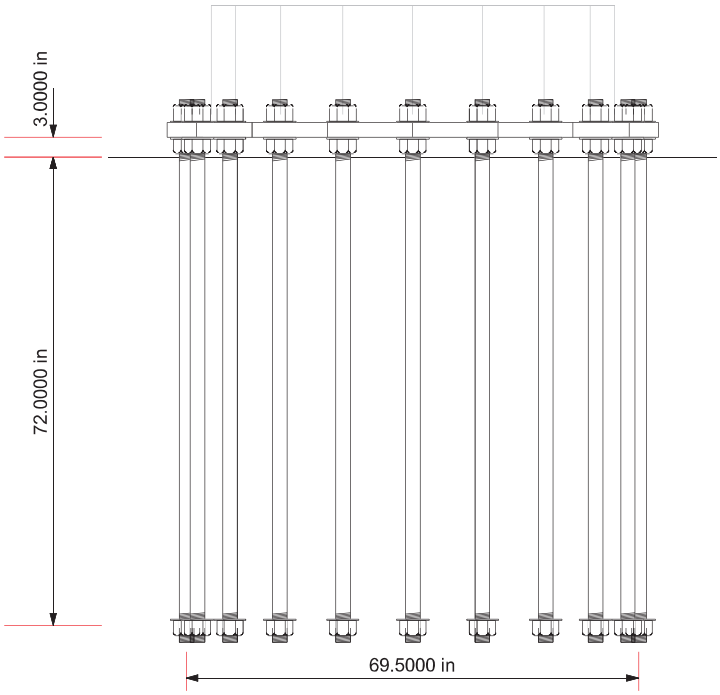
Monopole Base Plate Data

Base Plate Data	
Base plate is square	
Base plate is grouted	
Anchor bolt grade	A615-75
Anchor bolt size	2.2500 in
Number of bolts	20
Embedment length	72.0000 in
f'_c	4.500 ksi
Grout space	3.0000 in
Base plate grade	A572-50
Base plate thickness	2.2500 in
Bolt circle diameter	69.5000 in
Outer diameter	75.5000 in
Inner diameter	33.2500 in
Base plate type	Plain Plate

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft²/ft	Weight klf
* T-Mobile Cable * Hybrid Trunk 6/24 FDH1204	B	No	No	Inside Pole	150.000 - 1.000	2	No Ice	0.000	0.002
							1/2" Ice	0.000	0.002
							1" Ice	0.000	0.002
** Other Cables ** Power Conduit	C	No	No	Inside Pole	176.000 - 1.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
* Reinforced Sections * ** AT&T Cables ** 0.4" Fiber Trunk	A	No	No	Inside Pole	160.000 - 1.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000





FOUNDATION NOTES

1. Plate thickness is 2.2500 in.
2. Plate grade is A572-50.
3. Anchor bolt grade is A615-75.
4. f'c is 5 ksi.

Aria Services, Inc.
10006 Lynbrook Dr.
Houston, TX 77042-1558
www.aria-corp.com
Phone: (281) 797-4387
FAX:

Job: ***176' Monopole @ Fairfield County, CT***			
Project: ***CT0005-Monroe***			
Client: ATX Wireless, LLC	Drawn by: VD	App'd:	
Code: TIA-222-H	Date: 02/06/25	Scale: NTS	
Path: H:\tnx-Risk III\CT0005.eri		Dwg No. F-1	

Colocation Application

RETURN THIS APPLICATION TO: (E-MAIL IS PREFERRED)			Date Rec by Arx:	
Arx Wireless, LLC			Revision Dates:	
110 Washington Avenue	**e-mail:**	**kcoppins@arxwireless.com**		
North Haven, CT 06473	**mobile:**	**(203) 623-3287**	Arx Site Name:	
	office:	**(866) 744-9686**	Arx Site Number:	

ARX SITE INFORMATION

Latitude:	N	41	20	44.73	Existing Structure Type:	Proposed Monopole
Longitude:	W	73	14	06.26	Existing Structure Height (ft AGL):	176'
Site Address: 375 Fan Hill Rd., Monroe, CT 06468					County: State:	

APPLICANT INFORMATION

Applicant (Carrier):	AT&T	Primary Contact Name:	Dan Bilezikian
Applicant Site Name:	Monroe CT	Company Name:	SAI
Applicant Site Number:	CT1156	Primary Contact Number:	401-368-0006
Req. Date For Receipt of Agreement:	8/12/20	Primary Contact Fax:	
Desired Installation Date:	2nd Qtr 2021	Primary Contact Address:	PO Box 246 Rehoboth, MA 02769
Desired ON AIR Date:			
Applicant Entity Name on Agreement:	New Cingular Wireless PCS, LLC	Primary Contact Email:	dbilezikian@saigrp.com
Notice Address for Lease:	1025 Lenox Park Blvd. NE, 3rd Fl., Atlanta, GA 30319		
	New Cingular Wireless PCS, LLC Attn: Network Real Estate Administration		
Billing Address:	1025 Lenox Park Blvd. NE, 3rd Fl.		
	Atlanta GA 30319		

ADDITIONAL CARRIER INFORMATION

Leasing Contact Name/Number/Email	Lynn Brady, 508-494-6078, sb368e@att.com
RF Contact Name/Number/Email	Martin Lavin, C Squared – 603-644-2820
Legal Review Contact Name/Number:	Same as Primary
Zoning Contact Name/Number	Same as Primary
Construction Contact Name/Number:	Steve Mele, Empire Telecom845-664-5480
Site Tech Contact Name/Number:	
Emergency Contact Name/Number:	MRCT NOC 800-638-2822
Is FirstNet being added to this site?	☒ ***YES*** ☐ ***NO***

ANTENNAS

Sector	**Sector 1**	**Sector 2**	**Sector 3**	**AUX**
Desired Rad Center (ft AGL)	160'	160'	160'	
Antenna Quantity	2 / 1	2 / 1	2 / 1	
Antenna Manufacturer	KMW/CCI	KMW/CCI	KMW/CCI	
Antenna Model (Attach Spec Sheet)	EPBQ-654L8H8-L2 / HPA65R-BU8A	EPBQ-654L8H8-L2 / HPA65R-BU8A	EPBQ-654L8H8-L2 / HPA65R-BU8A	
Weight (lbs per antenna)	86 /54	86 /54	86 /54	
Antenna Dimensions (HxWxD) (in)	96x21x6.3 / 96x11.7x7.7	96x21x6.3 / 96x11.7x7.7	96x21x6.3 / 96x11.7x7.7	
ERP (watts)				
Antenna Gain (dB)				
Orientation/Azimuth (Degrees)	0	120	240	
Mechanical Tilt	N/A	N/A	N/A	
RRU Quantity	1/1/1/1/1	1/1/1/1/1	1/1/1/1/1	
RRU Manufacturer & Model	Ericsson 4478-B14 / Ericsson RRUS-E2 / Ericsson 4415 B30 / Ericsson 4449 / Ericsson RRUS-8843	Ericsson 4478-B14 / Ericsson RRUS-E2 / Ericsson 4415 B30 / Ericsson 4449 / Ericsson RRUS-8843	Ericsson 4478-B14 / Ericsson RRUS-E2 / Ericsson 4415 B30 / Ericsson 4449 / Ericsson RRUS-8843	

Colocation Application

RRU Dimensions (HxWxD) (in)	18.1x13.4x8.26 / 20.4x18.5x7.5 / 16.5x13.4x5.9 / 17.9x13.19x9.44 / 14.96x13.19x11.1	18.1x13.4x8.26 / 20.4x18.5x7.5 / 16.5x13.4x5.9 / 17.9x13.19x9.44 / 14.96x13.19x11.1	18.1x13.4x8.26 / 20.4x18.5x7.5 / 16.5x13.4x5.9 / 17.9x13.19x9.44 / 14.96x13.19x11.1	
RRU Weight	59.4 / 60 / 47.4 / 71 / 75	59.4 / 60 / 47.4 / 71 / 75	59.4 / 60 / 47.4 / 71 / 75	
OVP Quantity	2	1		
OVP Manufacturer & Model	Raycap DC9-48-60-24-8C-EV	DC6-48-60-18-8C-EV		
OVP Dimensions (HxWxD)	32x10.5x10.5	32x10.5x10.5		
RET Quantity				
RET Manufacturer & Model				
RET Dimensions (HxWxD)				
RET Cable Quantity				
Diameter of RET Control Cable				
Mount Mfg and Model	SITE PRO VFA12-M3-WLL			
Tower Mount Mounting Height	160			
Other Equipment				
Transmit Frequency (MHz)				
Receive Frequency (MHz)				
Number of Transmission Lines (**Specify Per 'ANTENNA' or Per 'SECTOR'**)	1 Total	5 Total		
Type of Transmission Lines	Fiber Trunk	DC Trunk		
Diameter of Transmission Lines (in)	0.40"	0.92"	Lines to be run within three (3) 2-inch flex conduits	
Type of Service(s) (i.e.: LTE, AWS, HSPA+, 5G): UMTS, LTE, PCS, AWS, WCS, 5G				

Please Note: "AUX" can be used for Microwave, GPS or other additional antenna information

GROUND SPACE REQUIREMENTS

Equipment Enclosure Type:	__ BTS Cabinets/Number of BTS Cabinets: _X_ Outdoor Shelter __ Other:
Leased Area Dimensions (WxD) (ft)	12' x 21' (Total – includes generator pad and required separation)
Cabinet/BTS/Shelter Dimensions (HxWxD)(ft):	9.5 x 6.5 x 6.5
Concrete Pad Dimensions (WxD)(ft):	8.5 x 8.5
Cabinet/Shelter Manufacturer/Model:	Vertiv XTE 801 Series Walk-in Cabinet (WIC)

POWER REQUIREMENTS

AC Power:	200 Amps	Required Voltage and Total Amperage:	

GENERATOR INFORMATION

Generator Ground Space Requirement (HxWxD)(ft):	6 x 4 pad (included in lease area)	Fuel Type	___ **Propane** _X__ **Diesel**
Fuel Tank Size (Gallons):	92	Fuel Tank Location:	**_X_Attached __Separate __None**
Capacity (KW):	25kW		

ADDITIONAL INFORMATION/COMMENTS

AT&T requires minimum 12' vertical envelope for proper antenna separation.
AT&T requires minimum 3' tip-to-tip separation from any whip antennas (municipal, etc.)

Colocation Application

- Ground lessor consent may be required as a condition to the execution of your lease.
- Modifications to the tower site may be subject to local zoning approval.
- If available, attach manufacturer's equipment specifications for antennas, mounts, cabinets, shelters, etc.
- When requesting ground space, do not include a buffer around your desired physical footprint. Arx Wireless, at its sole discretion, will provide a non-exclusive buffer between your installation and other proposed and/or existing tenants to allow for access and maintenance

Colocation Application

RETURN THIS APPLICATION TO: (E-MAIL IS PREFERRED)			Date Rec by ARX:	1/2/2025
ARX Wireless			Revision Dates:	
Infrastructure, LLC				
110 Washington Avenue	**e-mail:**	**kcoppins@arxwireless.com**		
North Haven, CT 06473	**mobile:**	**(203) 623-3287**	ARX Site Name:	**Monroe**
	office:		ARX Site Number:	**CT0005**

ARX SITE INFORMATION

Latitude:	41°	20	44.74		Existing Structure Type:	Monopole	
Longitude:	-73°	14	06.26		Existing Structure Height (ft AGL):	176'	
Site Address:	345 Fan Hill Road, Monroe				County: Fairfield	State: CT	

APPLICANT INFORMATION

Applicant (Carrier):	T-Mobile	Primary Contact Name:	Phillip Sipe
Applicant Site Name:	CTFF218A_ARX_Monopole_Monroe	Company Name:	Northeast Site Solutions
Applicant Site Number:	CTFF218A	Primary Contact Number:	860-305-3841
Req. Date For Receipt of Agreement:		Primary Contact Fax:	413-521-0558
Desired Installation Date:	**2/19/2026**	Primary Contact Address:	5 Melrose Drive, Farmington, CT 06032
Desired ON AIR Date:	**4/08/2026**		
Applicant Entity Name on Agreement:	T-Mobile Northeast LLC	Primary Contact Email:	Phillip@northeastsitesolutions.com
Notice Address for Lease:	12920 S.E. 38th Street, Bellevue, WA 98006		
Billing Address:	12920 S.E. 38th Street, Bellevue, WA 98006		

ADDITIONAL CARRIER INFORMATION

Leasing Contact Name/Number/Email	Phillip Sipe / 860-305-3841 / Phillip@northeastsitesolutions.com
RF Contact Name/Number/Email	Ryan MonteDeRamos – Ryan.MonteDeRamos@T-Mobile.com
Legal Review Contact Name/Number:	T-Mobile Property Management – Propertymanagement@T-Mobile.com
Zoning Contact Name/Number	Victoria Masse – Victoria@northeastsitesolutions.com
Construction Contact Name/Number:	Dave Deraleau – dderaleau@northeastsitesolutions.com
Site Tech Contact Name/Number:	N/A – Not Available
Emergency Contact Name/Number:	T-Mobile Property Management – Propertymanagement@T-Mobile.com

Is FirstNet being added to this site? ☐ ***YES*** ☒ ***NO***

ANTENNAS

Sector	**Sector 1**	**Sector 2**	**Sector 3**	**AUX**
Desired Rad Center (ft AGL)	150'	150'	150'	
Antenna Quantity	1/1	1/1	1/1	
Antenna Manufacturer	Ericsson/Ericsson	Ericsson/Ericsson	Ericsson/Ericsson	
Antenna Model (Attach Spec Sheet)	840590966 / AIR6419 B41	840590966 / AIR6419 B41	840590966 / AIR6419 B41	
Weight (lbs per antenna)	112.4 / 83.3	112.4 / 83.3	112.4 / 83.3	
Antenna Dimensions (HxWxD) (in)	95.9" x 23.5" x 7.1" | 36.3" x 20.9" x 9.0"	95.9" x 23.5" x 7.1" | 36.3" x 20.9" x 9.0"	95.9" x 23.5" x 7.1" | 36.3" x 20.9" x 9.0"	
ERP (watts)				
Antenna Gain (dB)				
Orientation/Azimuth (Degrees)	0	120	240	
Mechanical Tilt				
RRU Quantity	1/1	1/1	1/1	
RRU Manufacturer & Model	Ericsson- Radio 4480 B71 + B85 /Ericsson Radio 4460 B25+B66	Ericsson- Radio 4480 B71 + B85 /Ericsson Radio 4460 B25+B66	Ericsson- Radio 4480 B71 + B85 /Ericsson Radio 4460 B25+B66	

Colocation Application

RRU Dimensions (HxWxD) (in)	21.65" x 15.74" x 5.7" / 19.6" x 15.1" x 11.9"	21.65" x 15.74" x 5.7" / 19.6" x 15.1" x 11.9"	21.65" x 15.74" x 5.7" / 19.6" x 15.1" x 11.9"	
RRU Weight	70.54 / 109.0	70.54 / 109.0	70.54 / 109.0	
OVP Quantity	0			
OVP Manufacturer & Model	NA			
OVP Dimensions (HxWxD)	NA			
RET Quantity	0			
RET Manufacturer & Model	NA			
RET Dimensions (HxWxD)	NA			
RET Cable Quantity	NA			
Diameter of RET Control Cable	NA			
Mount Mfg and Model	Site Pro Platform M ount #RMQP-496 With HRK12 (handrail kit)			
Tower Mount Mounting Height	150'			
Other Equipment				
Transmit Frequency (MHz)	2496 – 2690; 617-698; 698-746 MHz			
Receive Frequency (MHz)	2496 – 2690; 617-698; 698-746 MHz			
Number of Transmission Lines (**Specify Per 'ANTENNA' or Per 'SECTOR'**)	2 total			
Type of Transmission Lines	Hybrid-6/24-CommScope – FDH1204			
Diameter of Transmission Lines (in)	1.76"			
Type of Service(s) (i.e.: LTE, AWS, HSPA+, 5G):				

Please Note: "AUX" can be used for Microwave, GPS or other additional antenna information

GROUND SPACE REQUIREMENTS	
Equipment Enclosure Type:	_x_ BTS Cabinets/Number of BTS Cabinets: Enclosure 6160_v2, B160 __ Outdoor Shelter __ Other:
Leased Area Dimensions (WxD) (ft) 10x 20	
Cabinet/BTS/Shelter Dimensions (HxWxD)(ft):	10' x 20' (200 S.F.) Lease area
Concrete Pad Dimensions (WxD)(ft):10 x 20	
Cabinet/Shelter Manufacturer/Model:	6160 (63 x26 x 26) B160 (63.25 x 26.0 x 26.0)

POWER REQUIREMENTS			
AC Power:		Required Voltage and Total Amperage:	200 AMP

GENERATOR INFORMATION			
Generator Ground Space Requirement (HxWxD)(ft):	Inside lease space	Fuel Type	___ **Propane X Diesel**
Fuel Tank Size (Gallons):	240	Fuel Tank Location:	__**Attached** __**Separate** __**None**
Capacity (KW):	48KW		

ADDITIONAL INFORMATION/COMMENTS

Colocation Application

- Ground lessor consent may be required as a condition to the execution of your lease.
- Modifications to the tower site may be subject to local zoning approval.
- If available, attach manufacturer's equipment specifications for antennas, mounts, cabinets, shelters, etc.
- When requesting ground space, do not include a buffer around your desired physical footprint. Phoenix Wireless, at its sole discretion, will provide a non-exclusive buffer between your installation and other proposed and/or existing tenants to allow for access and maintenance

Exhibit E

Mount Analysis

ELEVATED ENGINEERING
99 Fanny Road, Boonton, NJ 07005
State of NJ Certificate of Authorization #24GA28326800

CTFF218A
CTFF218A-ARX-MONOPOLE-MONROE

345 Fan Hill Road, Monroe, CT 06468 (Fairfield County)

Mount Analysis

January 7, 2025

Item	Pass/Fail	Capacity
Antenna Platform	Pass	60.5%
Platform Plates & Bolts	Pass	24.8%

Nicholas D. Barile, PE
CT PE License No.: 28643
Elevated Engineering Project No.: 24046-NSS

ELEVATED ENGINEERING

99 Fanny Road, Boonton, NJ 07005
State of NJ Certificate of Authorization #24GA28326800

Summary

At the request of T-Mobile, ELEVATED ENGINEERING has performed a structural analysis of the antenna mount for proposed antenna equipment loading under the *2022 Connecticut Building Code, ASCE 7, ANSI/TIA-222-H, and AISC (LRFD14).* Information pertaining to the antenna mounts was obtained from:

- Design visit notes by Elevated Engineering dated 11/14/2024.
- Construction drawings by Elevated Engineering dated 01/07/2025.
- RFDS Version-1 last modified 12/03/2024.
- Valmont Platform RMQP-496-HK with Handrail Kit HRK12.

Loading Criteria

	Wind Factors		
	Basic Wind Speed; Vult	117	mph
	Risk Category	II	
	Exposure	B	
	Flat Terrain		
	Ground Elevation	405	ft
	Ice Thickness	1”	
	Wi	50	mph
	Seismic Factors		
	Ss:	0.209	
	S1:	0.055	
	Loading Combinations at (12) 30° Intervals		

Conclusions

Per our analysis, the antenna mounting system can support the proposed loading under the *2022 Connecticut Building Code*.

General Comments

If there are substantial modifications to be made or the assumptions made in this analysis are not accurate, ELEVATED ENGINEERING should be notified immediately to perform a revised analysis. This report is not a condition assessment and assumes good workmanship will be used and systems will be properly maintained.

Limitations

ELEVATED ENGINEERING
99 Fanny Road, Boonton, NJ 07005
State of NJ Certificate of Authorization #24GA28326800

Attachment A

Final Equipment Configuration

Final Alpha Sector Antenna Configuration
Rad Center 150'-0"
(1) Ericsson 840590966 Antenna
(1) Ericsson AIR6419 B41 Antenna
(1) Ericsson Radio 4480 B71+B85 RRH
(1) Ericsson Radio 4460 B25+B66 RRH

Final Beta Sector Antenna Configuration
Rad Center 150'-0"
(1) Ericsson 840590966 Antenna
(1) Ericsson AIR6419 B41 Antenna
(1) Ericsson Radio 4480 B71+B85 RRH
(1) Ericsson Radio 4460 B25+B66 RRH

Final Gamma Sector Antenna Configuration
Rad Center 150'-0"
(1) Ericsson 840590966 Antenna
(1) Ericsson AIR6419 B41 Antenna
(1) Ericsson Radio 4480 B71+B85 RRH
(1) Ericsson Radio 4460 B25+B66 RRH

Wind Analysis F = qz x Gh x (EPA) per TIA-222-H

Kz=2.01 (Z/Zg)^(2/α) =	1.110		
Zg =	1200	Table 2-4	Exposure B
Alpha (α) =	7	Table 2-4	
Z=	150	ft	
Terrain Category	I		
Kzt = (1+KcKt/Kh)^2	1.00	for Category I	
Kc=	1.00	Table 2-4	
Kt=	0.53	Table 2-5	
Kh=e^(f * Z/H) =	0.000	for H=0	
f=	2.00	Table 2-5	
H =Height of Crest Surrounding Terrain	0.00	ft	
Kz =	1.110		
Kzt =	1.0		
Kd =	0.95		
Importance Factor Table 2-3 = I =	1.0	Use Class II	
Zs =	**405**	ft	
Ke= e^(-0.0000362xZs) =	**0.99**		
Vult =	117	mph	
qz=0.00256xKzxKztxKdxKsxKexV^2xI =	36.4	psf	
Gh =	1.00		
qz Gh =	**36.4**	**psf**	

	Equipment Loading	CaAa (sf or sf/lf)	Wind (psf)	Ka	Wind Load (lb)	Weight (lb)
F_{N1}	840590966	19.86	36.4	0.9	650.7	124.8
F_{N2}	AIR6419 B41	6.32	36.4	0.9	207.1	83.3
F_{N3}	4480 B71+B85	2.45	36.4	0.9	80.3	93
F_{N4}	4460 B25+B66	2.14	36.4	0.9	70.1	104
F_{N5}						
	5/8"Φ threaded rod	0.063	36.4	0.9	2.0	
	2" std. pipe	0.238	36.4	0.9	7.8	
	3" std. pipe	0.350	36.4	0.9	11.5	
	HSS4x4	0.667	36.4	0.9	21.8	
	2"x2" Angle	0.333	36.4	0.9	10.9	
	6" plate	1.000	36.4	0.9	32.8	
F_{T1}	840590966	7.61	36.4	0.9	249.3	124.8
F_{T2}	AIR6419 B41	2.88	36.4	0.9	94.4	83.3
F_{T3}	4480 B71+B85	1.27	36.4	0.9	41.6	93
F_{T4}	4460 B25+B66	1.69	36.4	0.9	55.4	104
F_{T5}						

1" Ice - Wind Analysis F = qz x Gh x (EPA) per TIA-222-H

Kz=2.01 (Z/Zg)^(2/α) =	1.110		
Zg =	1200	Table 2-4	Exposure B
Alpha (α) =	7	Table 2-4	
Z=	150	ft	
Terrain Category	I		
Kzt = (1+KcKt/Kh)^2	1.00	for Category I	
Kc=	1.00	Table 2-4	
Kt=	0.53	Table 2-5	
Kh=e^(f * Z/H) =	0.000	for H=0	
f=	2.00	Table 2-5	
H =Height of Crest Surrounding Terrain	0.00	ft	
Kz =	1.110		
Kzt =	1.0		
Kd =	0.95		
Importance Factor Table 2-3 = I =	1.0	Use Class II	
Zs =	**405**	ft	
Ke= e^(-0.0000362xZs) =	**0.99**		
Vult =	50	mph	
qz=0.00256xKzxKztxKdxKsxKexV^2xI =	6.6	psf	
Gh =	1.00		
qz Gh =	**6.6**	**psf**	

	Equipment Loading	CaAa (sf or sf/lf)	Wind (psf)	Ka	Wind Load (lb)	Weight (lb)
F_{N1}	840590966	22.00	6.6	0.9	131.6	217.1
F_{N2}	AIR6419 B41	7.31	6.6	0.9	43.7	174.7
F_{N3}	4480 B71+B85	3.06	6.6	0.9	18.3	129.3
F_{N4}	4460 B25+B66	2.71	6.6	0.9	16.2	151.4
F_{T1}	840590966	9.97	6.6	0.9	59.7	217.1
F_{T2}	AIR6419 B41	3.71	6.6	0.9	22.2	174.7
F_{T3}	4480 B71+B85	1.76	6.6	0.9	10.5	129.3
F_{T4}	4460 B25+B66	2.20	6.6	0.9	13.2	151.4

Weld Check - Standoff to Base Plate

Rox =	29,304.1	in-lb	
d =	4.0	in	
Exx =	70	ksi - Assumed	
ϕ =	0.8		
ϕFw = 0.6ϕExx =	33.60	ksi	
Weld =	0.3750	in	
t =.707 x Weld =	0.2651	in	
do = d + 2t =	4.530	in	
Sx = (do^4-d^4)/(6xdo) =	6.078	in^3	
ϕMw= ϕFw x Sx =	204,210	in-lb	
Weld Capacity = Roz/ϕMw x 100% =	**14.3%**		**OK**

Connection Plate to HSS4x4

8"x8"x3/4" Steel Plate w/ (4) 5/8" bolts (A325N) (Assumed)

Bolt Analysis

Φ =	0.9		
ΦP_{bolt} =	20,700.0	lb	
Bolt Separation = L =	7	in	
$\Phi M_n = \Phi P_n$ x L x 2 sets of bolts =	289,800	in-lb	
Stand-off = D =	3.5	in	
Capacity = M/ ΦMn x 100% =	**10.1%**		**OK**

Plate Analysis

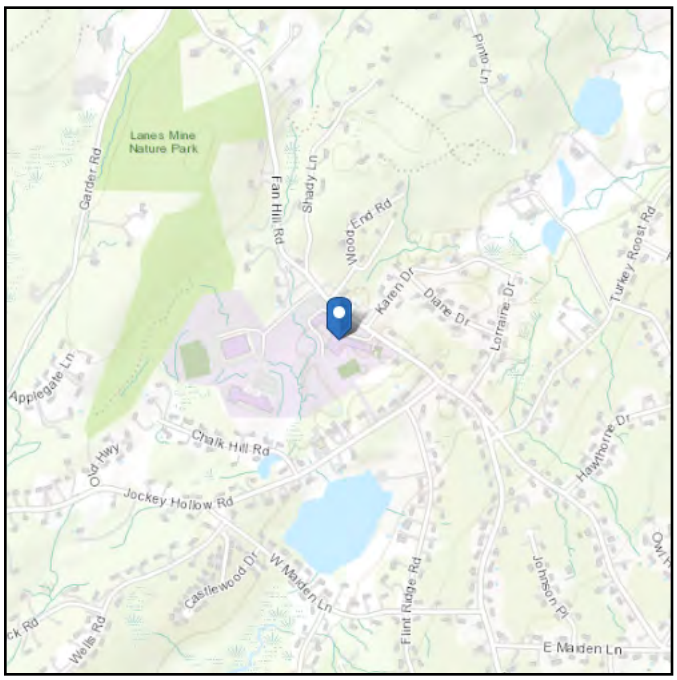
FY =	35,000	psi - Plate	
c = (L - 0.8D)/2 =	2.10	in	
Pbolt = M/L =	4,186	lb	
b = plate width =	8	in	
h = thickness =	0.75	in	
M_{pl} = Pbolt x c =	8,791	in-lb	
$Z_x = (bh^2/4)$ =	1.1250	in^3	
$\Phi M_{n,plate} = \Phi$ x Z_x x FY =	35,438	in-lb	
Plate Capacity = Roy / $\Phi M_{n,plate}$ x100 %=	**24.8%**		**OK**

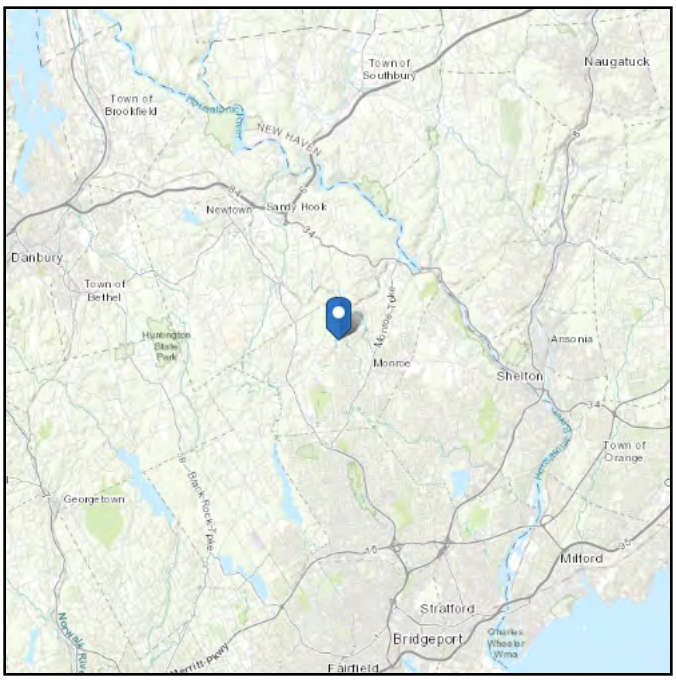
ASCE Hazards Report

Address:
345 Fan Hill Rd
Monroe, Connecticut
06468

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Stiff Soil

Latitude: 41.345401
Longitude: -73.230382
Elevation: 405.25582876871107 ft (NAVD 88)





Wind

Results:

Wind Speed	117 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	90 Vmph
100-year MRI	97 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Thu Jan 02 2025

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Seismic

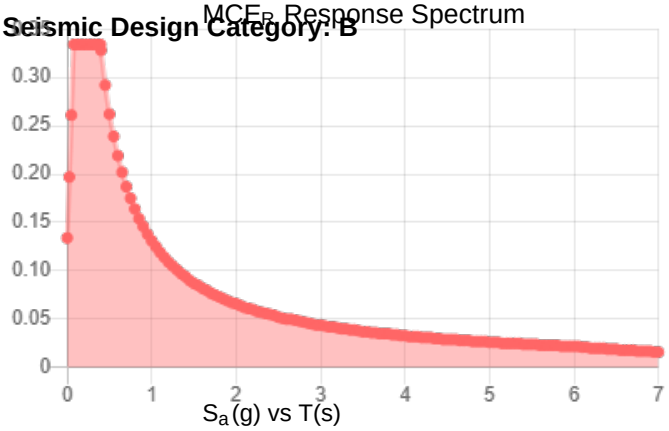
Site Soil Class: D - Stiff Soil

Results:

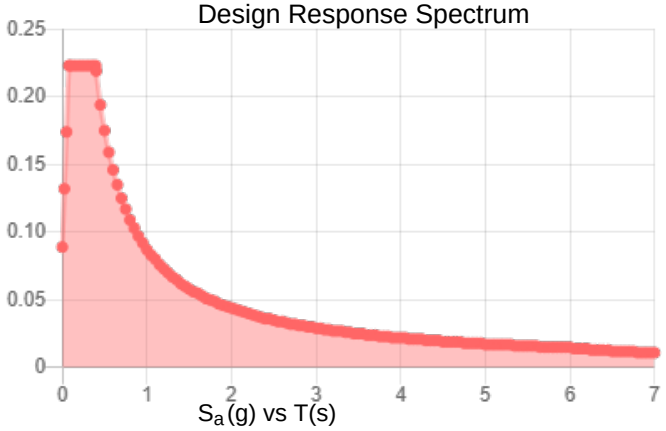
S_S :	0.209	S_{D1} :	0.087
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.118
F_v :	2.4	PGA_M :	0.185
S_{MS} :	0.334	F_{PGA} :	1.563
S_{M1} :	0.131	I_e :	1
S_{DS} :	0.223	C_v :	0.718

Seismic Design Category: B

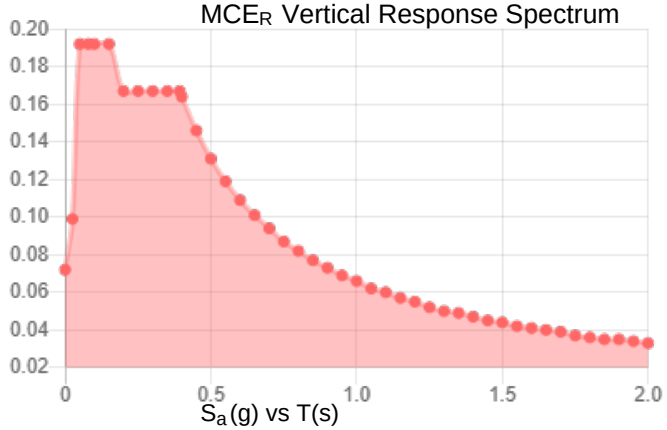
MCE_R Response Spectrum



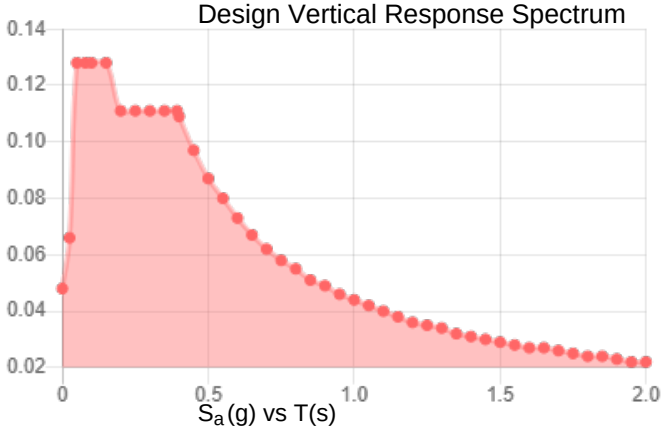
Design Response Spectrum



MCE_R Vertical Response Spectrum



Design Vertical Response Spectrum



Data Accessed: **Thu Jan 02 2025**

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Thu Jan 02 2025

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Exhibit F

Power Density/RF Emissions Report

FOX HILL TELECOM

Radio Frequency Emissions Analysis Report

T-Mobile

Site ID: CTFF218A

ARX_Monopole_Monroe
345 Fan Hill Road
Monroe, CT 06468

March 24, 2025

Fox Hill Telecom Project Number: 250114

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	0.62 %

March 24, 2025

T-MOBILE
Attn: RF Manager
35 Griffin Road South
Bloomfield, CT 06009

Emissions Analysis for Site: **CTFF218A – ARX_Monopole_Monroe**

Fox Hill Telecom, Inc ("Fox Hill") was directed to analyze the proposed T-MOBILE installation at the existing monopole facility located at **345 Fan Hill Road, Monroe, CT**, for the purpose of determining whether the emissions from the Proposed T-MOBILE Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes people in a nearby residential area.

General population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 600 MHz & 700 MHz bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2500 MHz (BRS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report the percentage of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were performed for the proposed upgrades to the T-MOBILE antenna facility located at **345 Fan Hill Road, Monroe, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65 for far field modeling calculations.

In OET-65, power density values in the Far Field of an antenna are calculated by considering the transmit power in each band specified and multiplied by the antenna gain values per the antenna manufacturer specifications.

Since the radiation pattern of an antenna has developed in the **Far Field** region, the power gain in specific directions needs to be considered in exposure predictions to yield an Effective Radiated Power (ERP) in each specific direction from the antenna. Also, since the vertical radiation pattern of the antenna is considered, the exposure calculations would most likely be reduced at ground level, when compared to an isotropic model, resulting in a more realistic estimate of the actual exposure levels.

A worst-case **Far Field** prediction is described in OET-65 where field strength may double due to 100% reflection of the incoming radiation. Considering an EPA recommendation that a multiplier of 1.6 is a more realistically representation of this effect is rewritten as follows:

$$S_{FF} = \frac{33.4 \cdot P_{in} \cdot G_{dBd}}{R^2} \quad (\mu W/cm^2)$$

- S_{FF} = Power Density (in $\mu W/cm^2$)
- P_{in} is Watts
- R is meters to study point
- G is gain to study point as specified in manufacturer horizontal and vertical patterns

This model calculates the power density at a single point in space. In order to determine the spatial power density for comparison to the FCC limits, the average of several points calculated within the human profile (0 to 6 feet) must be conducted. Seven power density values, between 0 and 6 feet above the specified study plane at each point, were calculated and a linear spatial average of these values was used to create the spatially averaged result for that point on the plane.

For each T-Mobile sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE / 5G NR	600 MHz	4	40
LTE	700 MHz	2	20
LTE / 5G NR	1900 MHz (PCS)	4	40
LTE / 5G NR	2100 MHz (AWS)	4	40
LTE / 5G NR	2500 MHz (BRS)	8	30

Table 1: Channel Data Table

The following T-Mobile antennas listed in *Table 2* were used in the modeling for transmission in the 600 MHz, 700 MHz, 1900 MHz (PCS), 2100 MHz (AWS) and 2500 MHz (BRS) frequency bands. This is

based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Ericsson 840590966	150
A	2	Ericsson AIR6419 B41	150
B	1	Ericsson 840590966	150
B	2	Ericsson AIR6419 B41	150
C	1	Ericsson 840590966	150
C	2	Ericsson AIR6419 B41	150

Table 2: Antenna Data

All calculations were made with respect to uncontrolled / general population threshold limits.

RESULTS

Per the calculations completed for the proposed T-MOBILE configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Ericsson 840590966	600 MHz / 700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	12.95 / 13.65 / 15.5 / 15.45	14	520	15,371.88	0.08
Antenna A2	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	240	33,900.90	0.22
						Sector A Composite MPE%	**0.30**
Antenna B1	Ericsson 840590966	600 MHz / 700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	12.95 / 13.65 / 15.5 / 15.45	14	520	15,371.88	0.08
Antenna B2	Ericsson AIR6419 B41	600 MHz / 700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	12.95 / 13.65 / 15.5 / 15.45	8	240	33,900.90	0.22
						Sector B Composite MPE%	**0.30**
Antenna C1	Ericsson 840590966	600 MHz / 700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	12.95 / 13.65 / 15.5 / 15.45	14	520	15,371.88	0.08
Antenna C2	Ericsson AIR6419 B41	600 MHz / 700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	12.95 / 13.65 / 15.5 / 15.45	8	240	33,900.90	0.22
						Sector C Composite MPE%	**0.30**

Table 3: T-MOBILE Emissions Levels

The Following table (*table 4*) shows all additional identified carriers on site and their emissions contribution estimates, along with the newly calculated maximum T-MOBILE MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three T-Mobile sectors have the same configuration, yielding the same results for all three sectors. *Table 5* below shows a summary for each T-MOBILE Sector as well as the composite estimated MPE value for the site.

Site Composite MPE%	
Carrier	**MPE%**
T-MOBILE – Max Per Sector Value	**0.30 %**
AT&T	0.32 %
Site Total MPE %:	**0.62 %**

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	0.30 %
T-MOBILE Sector B Total:	0.30 %
T-MOBILE Sector C Total:	0.30 %
Site Total:	0.62 %

Table 5: Site MPE Summary

Table 6 below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated T-MOBILE sector(s). For this site, all three T-Mobile sectors have the same configuration, yielding the same results for all three sectors.

T-MOBILE _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile 600 MHz LTE / 5G NR	4	788.97	150	0.20	600 MHz	400	0.05%
T-Mobile 700 MHz LTE	2	463.48	150	0.05	700 MHz	467	0.01%
T-Mobile 1900 MHz (PCS) LTE / 5G NR	4	1,419.25	150	0.10	1900 MHz (PCS)	1000	0.01%
T-Mobile 2100 MHz (AWS) LTE / 5G NR	4	1,403.01	150	0.10	2100 MHz (AWS)	1000	0.01%
T-Mobile 2500 MHz (BRS) LTE / 5G NR	8	4,237.61	150	2.20	2500 MHz (BRS)	1000	0.22%
						Total:	**0.30 %**

Table 6: T-MOBILE Maximum Sector MPE Power Values

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the T-MOBILE facility as well as the site composite emissions estimates value with regard to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

T-MOBILE Sector	Power Density Value (%)
Sector A:	0.30 %
Sector B:	0.30 %
Sector C:	0.30 %
T-MOBILE Maximum Total (per sector):	0.30 %
Site Total:	0.62 %
Site Compliance Status:	**COMPLIANT**

The estimated composite MPE value for this site assuming all carriers present is **0.62 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon the far-field calculations performed for all carriers identified in this report.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite estimated values calculated were well within the allowable 100% threshold standard per the federal government.

Scott Heffernan
Principal RF Engineer
Fox Hill Telecom, Inc
Worcester, MA 01609
(978)660-3998

Exhibit G

Letter of Authorization

Letter of Authorization

February 27, 2025

T-Mobile Site ID: CTFF218A

Site Address: 345 Fan Hill Road Monroe, CT

RE: Zoning and Permitting Application

This letter authorizes T-Mobile, LLC and its authorized agents from Northeast Site Solutions, LLC to file all necessary administrative approvals, zoning approvals and building permits for the purposes of building, upgrading and maintaining telecommunications equipment located at 3345 Fan Hill Road Milford, CT.

By: ARX Wireless Infrastructure, LLC

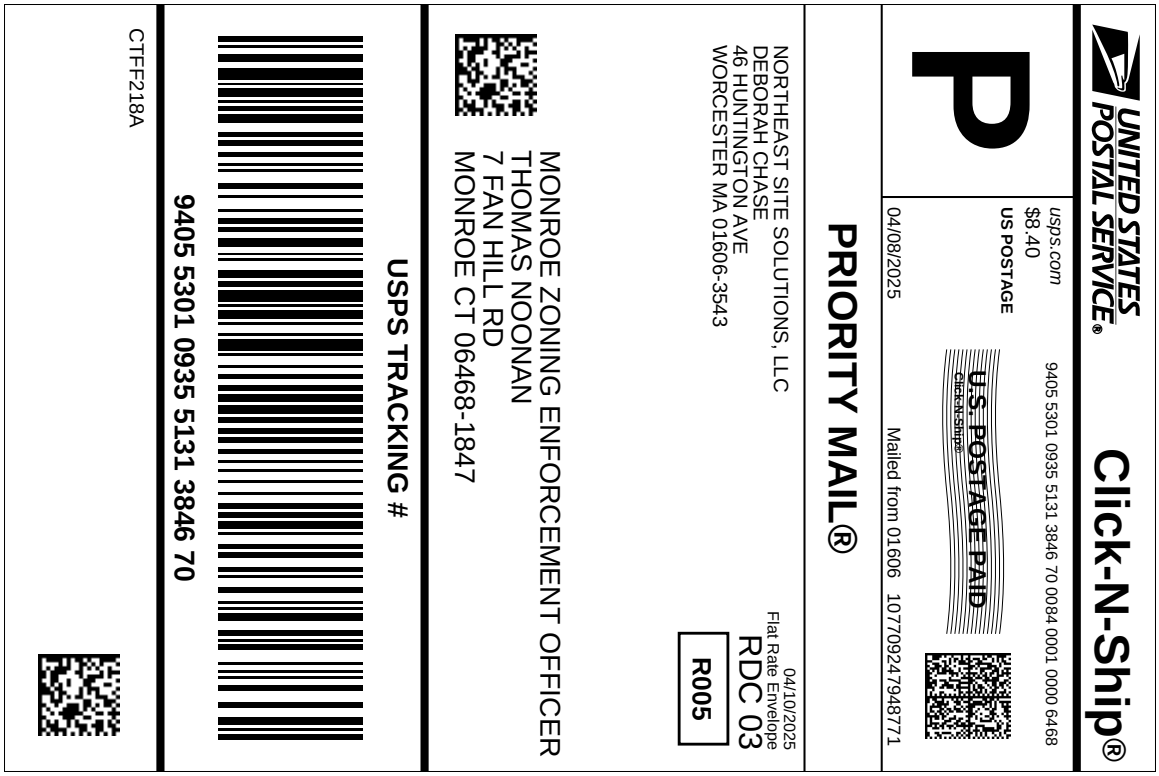
Name: Keith Coppins

Title: Chief Executive Officer

Date: February 27, 2025

Exhibit H

Recipient Mailings



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6. **If a mailing receipt is required, present the article and Online e-Label Record at a Post Office for postmark.**

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	Fees:	**$0.00**
	Total:	**$8.40**

From: **NORTHEAST SITE SOLUTIONS, LLC**
DEBORAH CHASE
46 HUNTINGTON AVE
WORCESTER MA 01606-3543

To:
MONROE ZONING ENFORCEMENT OFFICER
THOMAS NOONAN
7 FAN HILL RD
MONROE CT 06468-1847

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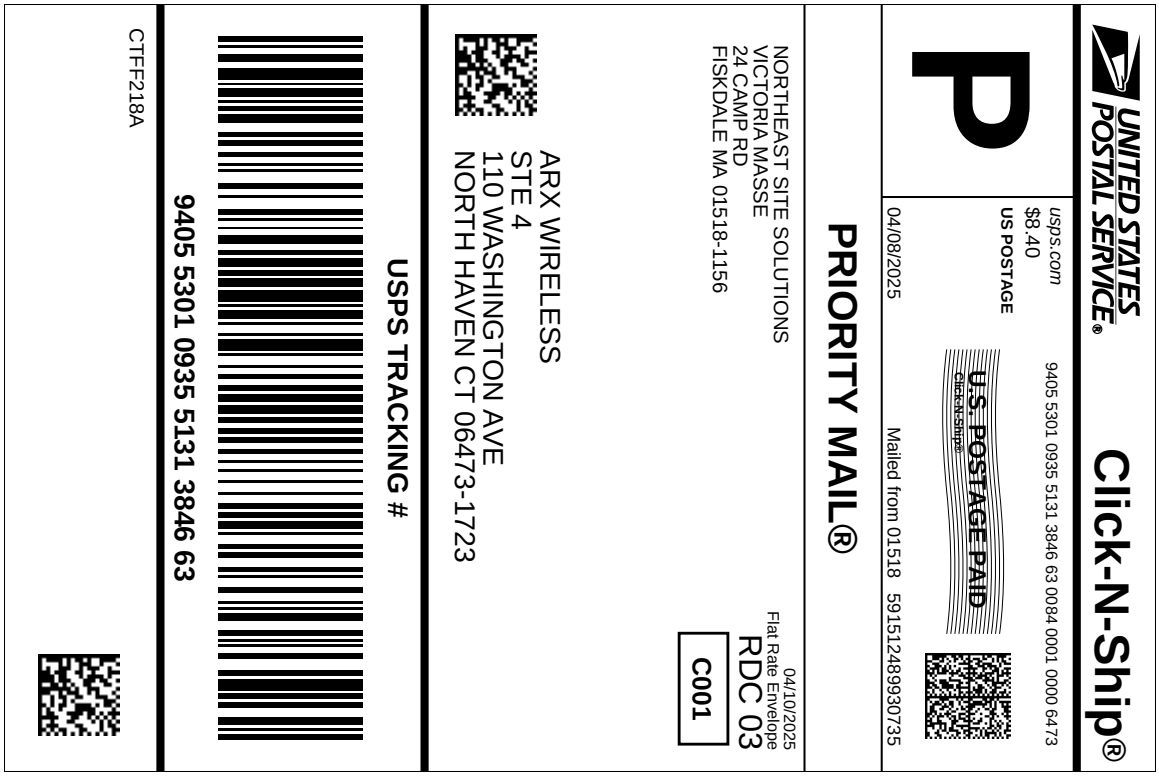

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	Total:	**$8.40**

From: **NORTHEAST SITE SOLUTIONS**
VICTORIA MASSE
24 CAMP RD
FISKDALE MA 01518-1156

To:
ARX WIRELESS
STE 4
110 WASHINGTON AVE
NORTH HAVEN CT 06473-1723

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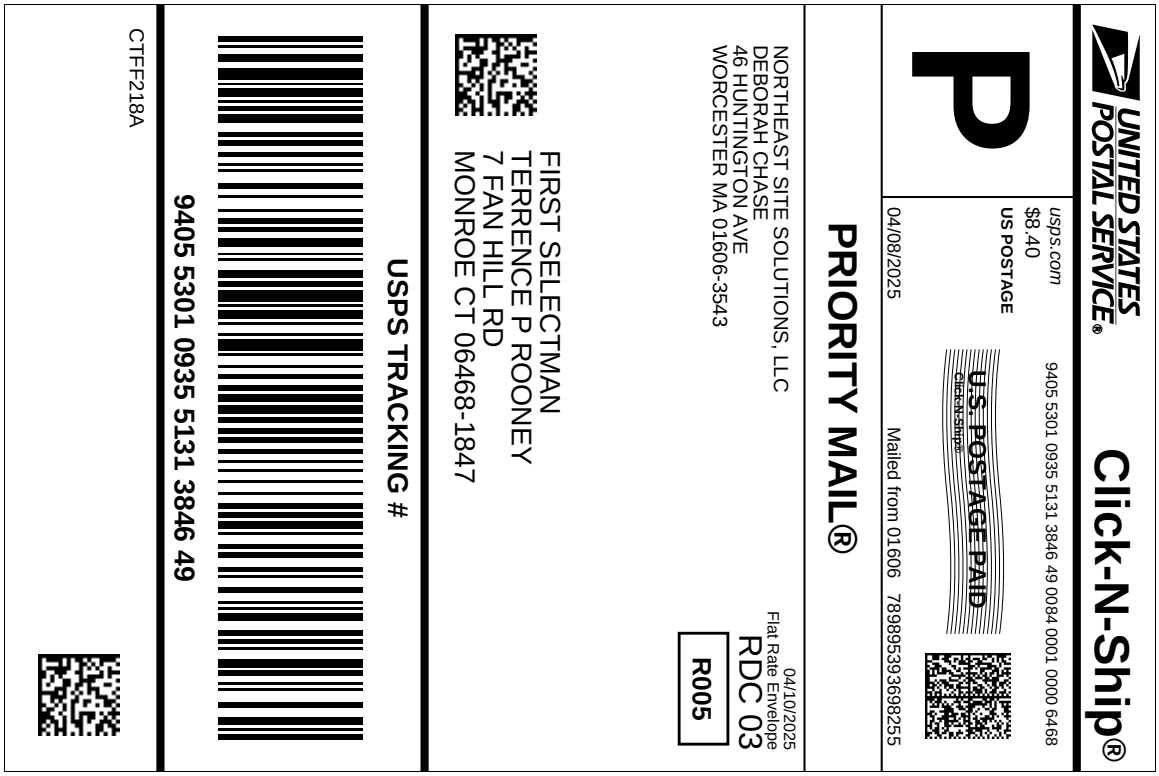

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	Total:	**$8.40**

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DEBORAH CHASE
46 HUNTINGTON AVE
WORCESTER MA 01606-3543

To:
FIRST SELECTMAN
TERRENCE P ROONEY
7 FAN HILL RD
MONROE CT 06468-1847

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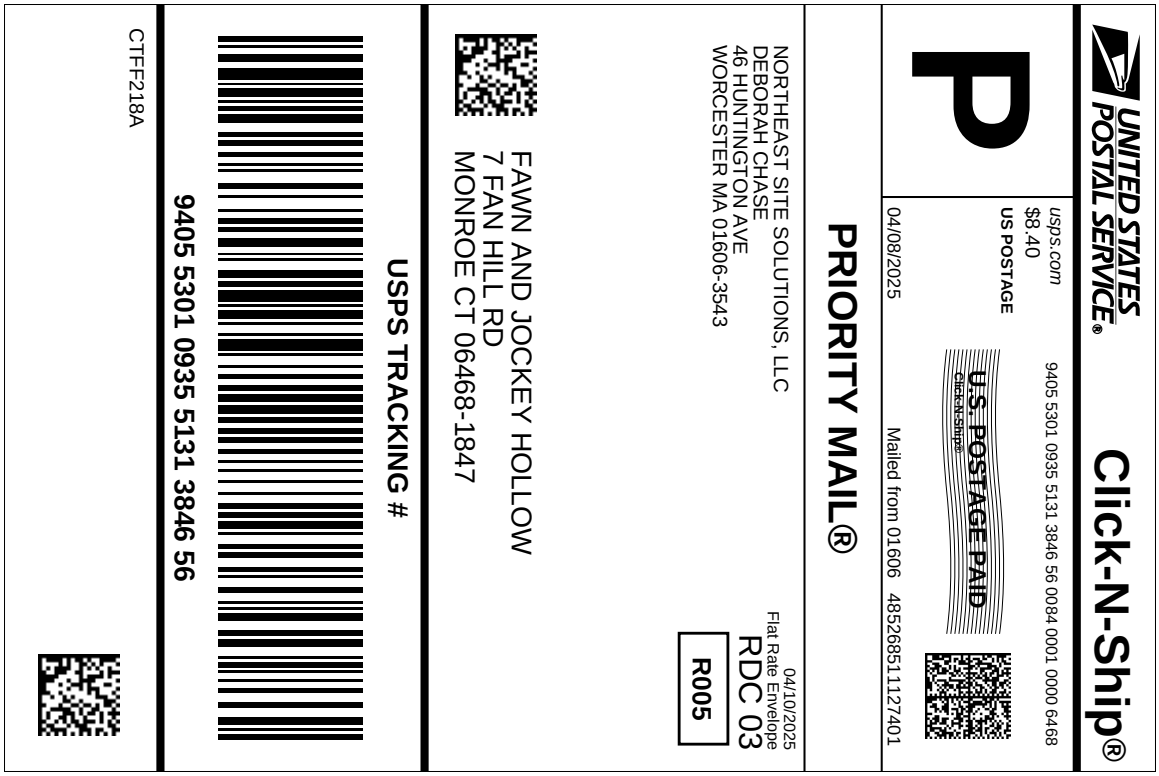

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	Fees:	**$0.00**
	Total:	**$8.40**

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46 HUNTINGTON AVE
WORCESTER MA 01606-3543

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FAWN AND JOCKEY HOLLOW
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Prepaid Mail Monroe, CT 06468 Weight: 0 lb 9.60 oz Acceptance Date: Wed 04/09/2025 Tracking #: 9405 5301 0935 5131 3846 56	1		$0.00
Prepaid Mail Monroe, CT 06468 Weight: 0 lb 9.60 oz Acceptance Date: Wed 04/09/2025 Tracking #: 9405 5301 0935 5131 3846 70	1		$0.00
Prepaid Mail North Haven, CT 06473 Weight: 0 lb 9.60 oz Acceptance Date: Wed 04/09/2025 Tracking #: 9405 5301 0935 5131 3846 63	1		$0.00
Prepaid Mail Monroe, CT 06468 Weight: 0 lb 9.60 oz Acceptance Date: Wed 04/09/2025 Tracking #: 9405 5301 0935 5131 3846 49	1		$0.00
Grand Total:			$0.00

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