



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Web Site: portal.ct.gov/csc

VIA ELECTRONIC MAIL

September 16, 2022

Denise Sabo
Northeast Site Solutions
420 Main Street, Unit 3
Sturbridge, MA 01566-1359
denise@northeastsitesolutions.com

RE: **PETITION NO. 1537** – T-Mobile petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed extension and modifications to an existing telecommunications facility located at 1 Fairfield Avenue, Danbury, Connecticut.

Dear Denise Sabo:

The Connecticut Siting Council (Council) requests your responses to the enclosed questions no later than October 6, 2022. Please submit an original and 15 copies to the Council's office and an electronic copy to siting.council@ct.gov. In accordance with the State Solid Waste Management Plan and in accordance with Section 16-50j-12 of the Regulations of Connecticut State Agencies, the Council requests all filings be submitted on recyclable paper, primarily regular weight white office paper. Please avoid using heavy stock paper, colored paper, and metal or plastic binders and separators. Fewer copies of bulk material may be provided as appropriate.

Please be advised that the original and 15 copies are required to be submitted to the Council's office on or before the October 6, 2022, deadline.

Copies of your responses are required to be provided to all parties and intervenors listed in the service list, which can be found on the Council's website under the "Pending Matters" link.

Any request for an extension of time to submit responses to interrogatories shall be submitted to the Council in writing pursuant to §16-50j-22a of the Regulations of Connecticut State Agencies.

Sincerely,

A handwritten signature in black ink, appearing to read "Melanie Bachman".

Melanie Bachman
Executive Director

MB/IN

c: Service List dated August 19, 2022

**Petition No. 1537
T-Mobile Northeast, LLC
1 Fairfield Avenue
Danbury, Connecticut
Interrogatories**

Notice

1. Referencing Section V, p. 3 and Attachment 5 of the Petition, has the City of Danbury or abutters provided comments to T-Mobile since the Petition filing? If so, please summarize the comments.

No, we have not received any responses to the abutter's letters or from the City of Danbury.

Project Development

2. What is the estimated cost of the proposed project?

\$48,000.00

3. Is the project, or any portion of the project, proposed to be undertaken by state departments, institutions or agencies, or to be funded in whole or in part by the state through any contract or grant?

No.

4. Is the proposed facility modification needed for improved coverage, capacity or both? Explain.

T-Mobile site CT11862C located at 1 Fairfield Avenue, Danbury, CT is currently operating on the 700 MHz, 1900 MHz, and 2100 MHz T-Mobile frequency bands. The proposed upgrade modification will allow for the deployment of the new 600 MHz and 2500 MHz bands for both LTE and 5G. In its current configuration, CT11862C is not equipped to transmit 5G. It is important to mention both LTE and 5G for those T-Mobile customer's which may have devices and equipment which do not support 5G and may only be LTE compatible. The Low Band 600 MHz LTE and 5G deployment, defined as the coverage layer, will improve coverage to the surrounding area as well as in-building enhancement to the southeast portion of Danbury toward the Town of Bethel. The 2500 MHz LTE and 5G deployment will provide for LTE and 5G speed increases and latency improvements to the surrounding areas.

5. What areas in the vicinity of the proposed site would benefit from the improved coverage/capacity?

Upon full deployment, CT11862C will be operating as an Anchor site transmitting all T-Mobile bands which will provide for additional capacity and coverage enhancement to the area. Enhancement area examples would be to the main roads of Rt. 53 - South St, Memorial Drive, Mansfield St, Mountainville Rd, and the surrounding commercial and residential areas.

Proposed Site

6. Provide pictures of the existing facility and a photographic simulation of the proposed modification.

A large tree blocks all angles of visibility for photo sim, a Lease Exhibit with photo simulation was provided in 2020, please see attached. Please see attached.

7. Provide typical construction workdays and hours, and the anticipated duration of construction.

Monday- Friday during normal business hours, or as Landlord allows.

8. Provide the size/dimensions of the existing equipment concrete pad located within the existing fenced compound.

The proposed concrete pad is 10'x21', the construction drawings has been revised to call out the new proposed pad size. Please see attached.

Public Safety

9. Provide a value for the percentage structural capacity of the modified faux chimney tower and building to support the proposed equipment loading.

FRP Chimney*: The proposed FRP chimney extension members are stressed to 23% of their structural capacity for the proposed loading.

Existing Building Chimney*: The existing timber rafters are stressed to 39% of their structural capacity for the proposed loading.

10. Section IV item 1 on p. 2 of the Petition states “The installation will alter an existing disturbed area immediately adjacent to the existing compound.” However, the construction plans do not show any ground disturbance. Please explain.

This seems to be a typo from a previous filing, please see attached revised cover letter. Please see attached.

11. Provide the distance and direction to the nearest publicly accessible area. from the proposed antennas. What percentage maximum permissible exposure (%MPE) values are expected within the nearest publicly accessible area?

Predicted power densities are calculated 6 feet above the ground level and are displayed as a percentage of the applicable FCC standards. For this facility, the closest location that the general population can access around the antennas is at the fenced equipment area approximately 10 feet from the base of the antenna enclosure structure at ground level. For this site, calculations were run on a radial out 200 feet from the site to locate the maximum emissions within this area surrounding the facility. Please see attached revised Power Density report.

Backup Power

12. Is an emergency backup power source (i.e. battery backup or a generator) already installed at the site? If yes, what is the fuel source and run time of the generator under full load conditions? If not, is an emergency backup power source proposed for the site? If yes, provide detail, backup power fuel source and anticipated run time under full load conditions based on its battery or fuel tank capacity.

No, at this time T-Mobile does not have a generator proposed for this site.

13. If T-Mobile's emergency backup power source is a diesel or propane generator:

- a. would the backup generator run periodically for maintenance purposes? If so, at what frequency and duration? Would this be scheduled for daytime hours?; *N/A*
- b. Would the backup generator have containment measures to protect against fluid leakage? *N/A*
- c. What would be the fuel tank capacity and how often would refueling be required? *N/A*

14. Would a battery backup (if applicable) be used to provide uninterrupted power. How long could the battery backup alone supply power to the facility?

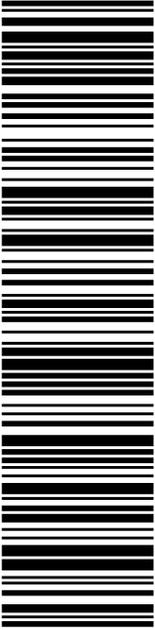
8 hours

15. If the duration of a power outage exceeds the battery's capacity, would a temporary generator be brought to the site?
- d. If yes, what would be the fuel source? ***Yes, diesel would be the fuel source.***
 - e. Provide the location of the generator hookup. ***Dictated by the landlord at that time.***



DEAN ESPOSITO
MAYOR- DANBURY
155 DEER HILL AVE
DANBURY CT 06810-7726

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 MAYOR- DANBURY
 155 DEER HILL AVE
 DANBURY CT 06810-7726

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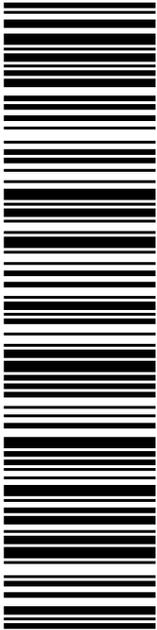


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SHARON CALITRO
DIRECTOR OF PLANNING & ZONING
155 DEER HILL AVE
DANBURY CT 06810-7726

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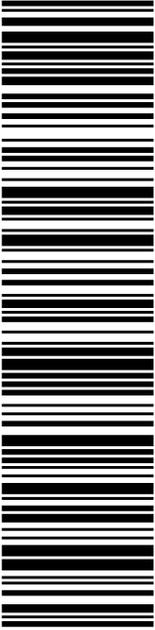
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MAYOR- DANBURY
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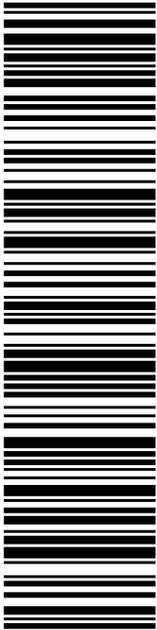
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DIRECTOR OF PLANNING & ZONING
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STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE: :
: :
A PETITION FOR A DECLARATORY : PETITION NO. _____
RULING ON THE NEED TO OBTAIN A :
SITING COUNCIL CERTIFICATE FOR THE :
PROPOSED MODIFICATION OF AN :
EXISTING WIRELESS :
TELECOMMUNICATIONS FACILITY AT 1 :
FAIRFIELD AVENUE, DANBURY, : AUGUST 5, 2022
CONNECTICUT :

PETITION FOR A DECLARATORY RULING:
INSTALLATION HAVING NO
SUBSTANTIAL ADVERSE ENVIRONMENTAL EFFECT

I. Introduction

Pursuant to Sections 16-50j-38 and 16-50j-39 of the Regulations of Connecticut State Agencies (“R.C.S.A.”), T-Mobile Northeast, LLC (“T-Mobile”) hereby petitions the Connecticut Siting Council (the “Council”) for a declaratory ruling (“Petition”) that no Certificate of Environmental Compatibility and Public Need (“Certificate”) is required under Section 16-50k(a) of the Connecticut General Statutes (“C.G.S.”) for the modification of an existing wireless telecommunications facility at 1 Fairfield Avenue, Danbury, Connecticut (the “Existing Facility”).

II. Existing Facility

The Existing Facility is located on an approximately 1.35-acre parcel owned by Tall Oaks LLC. The Facility consists of a 39-foot pole within an approximately 40-foot false chimney. **Attachment 1** contains the owner’s authorization permitting T-Mobile to file this Petition. The Facility was originally approved for T-Mobile’s use by the Council on December 14, 2005, as documented in **Attachment 2**.

III. T-Mobile Facility

T-Mobile’s proposed modification to its facility is illustrated on the plans submitted as **Attachment 3**. T-Mobile proposes to extend the height of the existing pole and false chimney by 5-feet, to a total height of approximately 45 feet above ground level. T-Mobile will make the following changes to its tower mounted antenna equipment at the Modified Facility.

T-Mobile Planned Modifications:

Remove:

- (6) TMA
- (3) Smart BIAS-T
- (1) 6x12 HCS Line

Remove and Replace at Existing 37' Level

- (3) RV4PX306R Antennas (REMOVE) - (3) APXVAA4L18_43-U-NA20 Antennas (REPLACE)

Install New:

- (3) ERICSSON AIR6449 B41 Antennas (at 42' 6" AGL)
- (1) 6x12 HCS Line
- (11) 7/8" Coax

Existing to Remain:

- (25) 7/8" Coax

T-Mobile has confirmed that the Modified Facility is capable of supporting the additional antennas and other changes to the tower mounted equipment once the pole and chimney are extended, as documented in the Structural Analysis Report annexed hereto as **Attachment 4**. No changes are proposed to the existing footprint of T-Mobile's ground equipment at the Facility.

IV. The Proposed Modification Will Not Have A Substantial Adverse Environmental Effect

1. Physical Environmental Effects

The modification of T-Mobile's Facility will not involve a significant alteration to the physical and environmental characteristics of the Property. No native trees will need to be removed and no on-site or off-site wetlands or watercourses will be impacted by the proposed facility expansion.

2. Visual Effects

Given the height of the existing stealth chimney, 40' AGL, T-Mobile's proposed height extension of 5-feet would have a minimal visual impact. The extended stealth chimney will be disguised in the same manner as the existing chimney structure and will have a minimal visual impact when viewed from the public right-of-way or adjacent private properties.

3. FCC Compliance

Radio frequency ("RF") emissions resulting from T-Mobile's proposed modification of the Existing Facility will be well below the standards adopted by the Federal Communications Commission ("FCC"). Included in **Attachment 6** is a Radio Frequency Emissions Analysis Report prepared by Fox Hill Telecom. This report confirms that the modified facility will operate well within the RF emission standards established by the FCC.

V. Notice to the Municipality, Property Owner and Abutting Landowners

On August 5, 2022, a copy of this Petition was sent to Danbury Mayor Dean Esposito and Sharon Calitro, Director of Planning & Zoning. A notice of T-Mobile's intent to file this Petition was also sent to the owners of land that may be considered to abut the Property or are within 200-feet. Included in **Attachment 5** is a sample abutter's letter and the list of those abutting landowners who were sent notice.

VI. Conclusion

Based on the information provided above, the Petitioners respectfully requests that the Council issue a determination in the form of a declaratory ruling that the installation of a temporary tower at the Property will not have a substantial adverse environmental effect and does not require the issuance of a Certificate of Environmental Compatibility and Public Need pursuant to § 16-50k of the General Statutes.

Respectfully submitted,

Denise Sabo
Northeast Site Solutions
Agent for T-Mobile
(860) 209-4690
denise@northeastsitesolutions.com

Attachments

Cc: Mayor Dean Esposito
Danbury City Hall
155 Deer Hill Ave.
Danbury, CT 06810

Sharon Calitro, Director of Planning & Zoning
Danbury City Hall
155 Deer Hill Ave.
Danbury, CT 06810

ATTACHMENT 1

Letter of Authorization

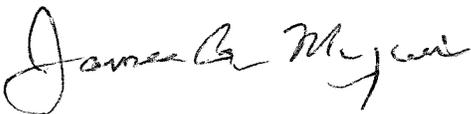
February 15, 2022

T-Mobile Site ID: CT11862C

Site Address: 1 Fairfield Ave, Danbury CT

RE: Application for CT Siting Council

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 upgrading and maintaining telecommunications equipment located at 1 Fairfield Ave, Danbury CT.

By: 

Name: JAMES A MORAWSKI

Title: MANAGING MEMBER
TAIL CREEK LLC

Date: 5/13/22

1 FAIRFIELD AV #A1

Location 1 FAIRFIELD AV #A1

Mblu J16/ / 138/ A1/

Acct#

Owner TALL OAKS LLC

Assessment \$85,200

Appraisal \$121,700

PID 124375

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2020	\$121,700	\$0	\$121,700

Assessment			
Valuation Year	Improvements	Land	Total
2020	\$85,200	\$0	\$85,200

Owner of Record

Owner TALL OAKS LLC
Co-Owner
Address 5 CORPORATE DR
DANBURY, CT 06810

Sale Price \$0
Book & Page 1533/ 331
Sale Date 04/28/2003
Instrument 06

Ownership History

Ownership History				
Owner	Sale Price	Book & Page	Instrument	Sale Date
TALL OAKS LLC	\$0	1533/ 331	06	04/28/2003
TALL OAKS ASSOCIATION	\$1,236,842	681/ 933		06/30/1983

Building Information

Building 1 : Section 1

Year Built: 1983
Living Area: 630
Replacement Cost: \$162,288
Building Percent Good: 75
Replacement Cost
Less Depreciation: \$121,700

Building Attributes

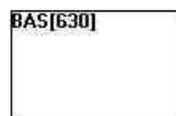
Field	Description
STYLE	Condominium
MODEL	Res Condo
Stories:	1
Grade	Good
Occupancy	1
Interior Wall 1:	Drywall/Sheet
Interior Wall 2:	
Interior Floor 1	Carpet
Interior Floor 2	
Heat Fuel:	Electric
Heat Type:	Electr Basebrd
AC Type:	Unit/AC
Ttl Bedrms:	1 Bedroom
Ttl Bathrms:	1 Full
Ttl Half Bths:	
Xtra Fixtres	
Total Rooms:	3
Bath Style:	
Kitchen Style:	
Fireplaces	
Whirlpool	
Add'l Kitchen	
Bsmt Gar	
FIn Bsmt Area	
FBM Quality	
Phase	
Grade	Good
Stories:	2
Residential Units:	26
Exterior Wall 1:	Pre-Fab Wood
Exterior Wall 2:	
Roof Structure	Gable
Roof Cover	Asphalt Shngl.
Cmrcl Units:	0
Res/Com Units:	0
Section #:	0
Parking Spaces	0
Section Style:	0
Foundation	

Building Photo



(<http://images.vgsi.com/photos2/DanburyCTPhotos//00\02\76\20.jpg>)

Building Layout



(http://images.vgsi.com/photos2/DanburyCTPhotos//Sketches/124375_124)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	630	630
WDK	Deck, Wood	80	0
		710	630

Security:	
Cmplx Cnd	
Xtra Field 1:	
Remodel Ext:	
Super	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 105
Description Condo
Zone RMF4
Neighborhood
Alt Land Appr Category No

Land Line Valuation

Size (Acres) 0
Frontage
Depth
Assessed Value \$0
Appraised Value \$0

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2019	\$121,700	\$0	\$121,700
2018	\$121,700	\$0	\$121,700
2017	\$121,700	\$0	\$121,700

Assessment			
Valuation Year	Improvements	Land	Total
2019	\$85,200	\$0	\$85,200
2018	\$85,200	\$0	\$85,200
2017	\$85,200	\$0	\$85,200



1 FAIRFIELD AVE

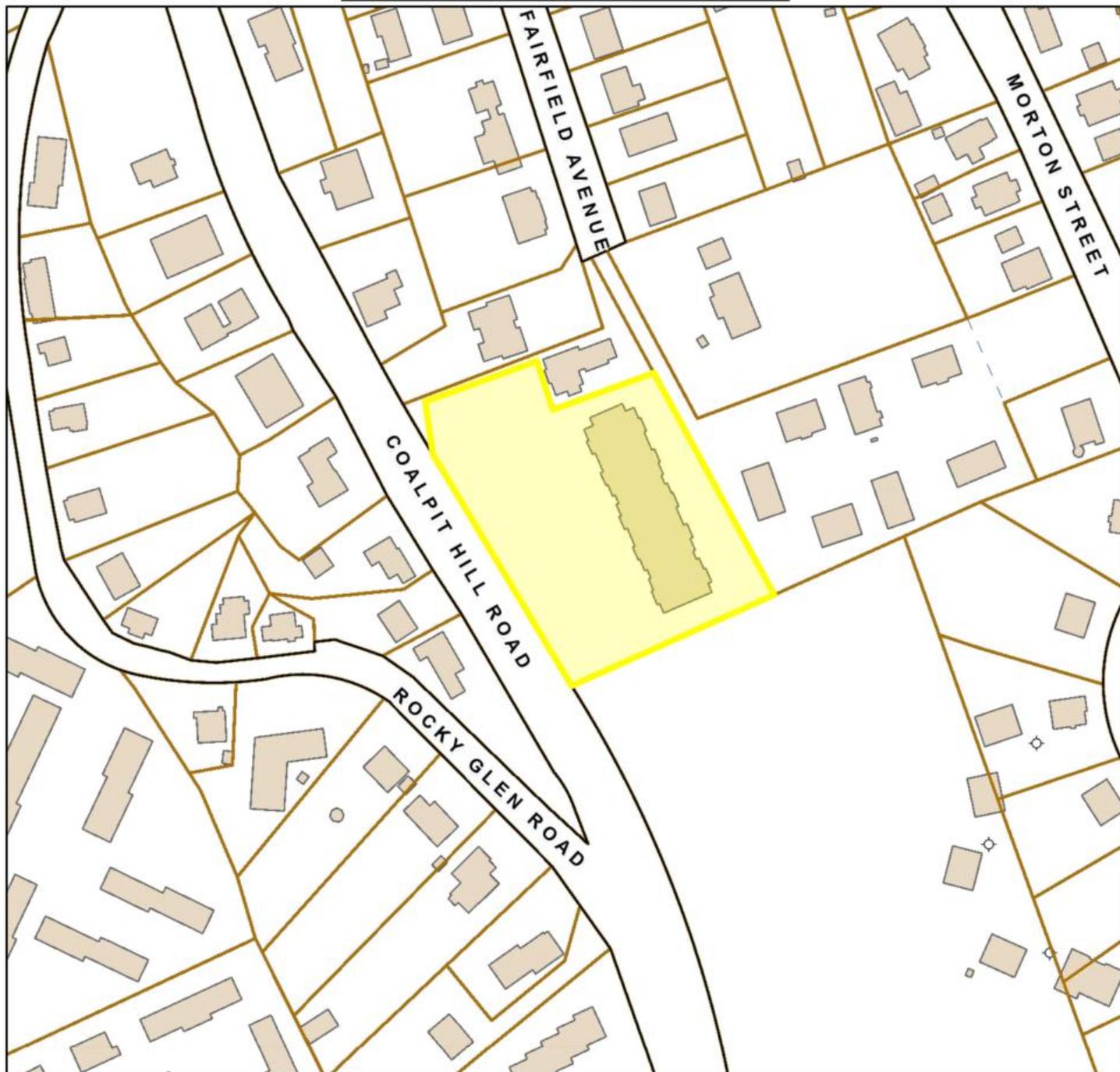
Danbury, CT

1 inch = 150 Feet



www.cai-tech.com

August 3, 2022



Stream	Parcel
Building	Public Right of Way
Light Pole	TownLine
Historic Parcel Lines	

Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.

ATTACHMENT 2

Connecticut Siting Council^(/CSC)

[CT.gov Home](#) [\(/\)](#) [Connecticut Siting Council](#) [\(/CSC\)](#) PE 748 SR

[Decisions \(/CSC/Decisions/Decisions\)](#)



[Meetings and Minutes \(/CSC/Common-Elements/v4-template/Council-Activity\)](#)



[Pending Matters \(/CSC/1_Applications-and-Other-Pending-Matters/Pending-Matters\)](#)



[About Us \(/CSC/Common-Elements/Common-Elements/Connecticut-Siting-Council---Description\)](#)



[Contact Us \(/CSC/Common-Elements/Common-Elements/Contact-Us\)](#)



Search Connecticut Siting Council



Petition No. 748

Omnipoint Communications, Inc.

1 Fairfield Avenue

Danbury, Connecticut

Staff Report

December 14, 2005

On November 10, 2005, Omnipoint Communications, Inc. (T-Mobile) submitted a petition to the Connecticut Siting Council (Council) for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for installation of a 39-foot pole within a false chimney at a condominium building located at 1 Fairfield Avenue in Danbury, Connecticut. On December 8, 2005, Council member Edward S. Wilensky and Council staff member Robert Mercier met T-Mobile representatives Christine Farrell and Gregory Piecuch at the proposed site to review this petition.

T-Mobile proposes to construct a 40-foot wood false chimney at the south end of a wood frame condominium building. T-Mobile would install a 39-foot pole within the false chimney to accommodate three flush mounted antennas. Three equipment cabinets would be installed at the base of the chimney, surrounded by a wood frame fence that matches existing building construction.

The false chimney, designed to match existing building construction, would extend 15 feet above the south end of the condominium roof. The south end of the building is screened from adjacent properties by existing ridges and trees. An adjacent building to the north is screened by the existing

condominium building which has a peak roof height of 33 feet at the north end.

T-Mobile notified all condominium residents, adjacent property owners and City officials of the proposal. No comment was received from the City, condominium residents, or adjacent landowners.

ATTACHMENT 3

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MODIFICATION OF EXISTING WIRELESS FACILITY BY



T-MOBILE NORTHEAST LLC

PROJECT TITLE: ANCHOR

SITE NUMBER: CT11862C

SITE NAME: CT862/TALL OAKS_STEALTH

SITE ADDRESS: 1 FAIRFIELD AVE.

DANBURY, CT 06810

RF CONFIGURATION:CT11862C_ANCHOR_8_DRAFT_2020-08-20

APPLICANT:

T-MOBILE NORTHEAST LLC
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002
 860-692-7100

PROJECT MANAGER

 420 MAIN STREET, BLDG 4
 STURBRIDGE, MA 01566
 203-275-6669

CONSULTANT:

 Architects . Engineers . Surveyors
 462 WALNUT STREET, SUITE 1
 NEWTON, MA 02460
 617-212-3123

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PROJECT NOTES:

1. THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS IS NOT REQUIRED. POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED. NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
2. DEVELOPMENT AND USE OF THE SITE WILL CONFORM TO ALL APPLICABLE CODES, ORDINANCES AND SPECIFICATIONS.

CODE COMPLIANCE:

ALL WORK SHALL COMPLY WITH THE CURRENT NATIONAL AND CONNECTICUT STATE BUILDING AND LIFE SAFETY CODES, SUPPLEMENTS AND AMENDMENTS INCLUDING BUT NOT LIMITED TO THE LATEST EDITION OF:

CONNECTICUT STATE BUILDING CODE (CSBC).
 ANSI/TIA-222-G STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.
 NATIONAL ELECTRICAL CODE (NEC) FOR POWER AND GROUNDING REQUIREMENTS.
 OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA).
 NFPA - NATIONAL FIRE PROTECTION ASSOCIATION.

CONTRACTOR'S NOTES:

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACES THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.

REFER TO STRUCTURAL REPORT:
 STRUCTURAL ANALYSIS REPORT - DATED AUGUST 9, 2021 PREPARED BY VECTOR ENGINEERS.

APPROVALS:

FSA CM	DATE
RF ENGINEER	DATE
FOPS	DATE
T-MOBILE ENGINEERING AND DEVELOPMENT	DATE
	DATE
	DATE

SITE IMAGE:



SITE VICINITY :



PROJECT SCOPE:

THE PROPOSED PROJECT SCOPE WILL INCLUDE THE FOLLOWING EQUIPMENT MODIFICATIONS:
CHIMNEY: EXTEND THE EXISTING CHIMNEY HOUSING THE EXISTING ANTENNAS BY 5'.
CABINETS: UPGRADE EXISTING RBS 6102 CABINET INTERNALLY.
 ADD (1) 6160 AND (1) B160 CABINETS ON EXISTING CONCRETE PAD ON GRADE.
ANTENNAS: REPLACE (3) EXISTING ANTENNAS WITH (6) NEW ANTENNAS ON TOWER FOR A TOTAL OF (6).
RRU AND TMA: REMOVE (6) EXISTING TMA AND (3) SMART BIAS T AT ANTENNAS.
 REPLACE (3) OF (6) EXISTING RRUS AND ADD (3) NEW RRUS FOR A TOTAL OF (9) AT THE CABINET.
CABLES: REMOVE EXISTING 6X12 HCS, ADD (11) COAXIAL LINES FOR TOTAL OF (36), INSTALL (1) NEW 6X12 HCS FOR NEW AIR6449 AT NEW RAD CENTER.

PROJECT INFORMATION:

ADDRESS: 1 FAIRFIELD AVE.
 DANBURY, CT 06810

MBLU: J16// 138/
 PARCEL ID: 124375
 USE CODE: 105 - CONDO
 ZONING DISTRICT: RMF4
 COORDINATES: 41° 22' 58.56" N 73° 26' 08.56" W
 GROUND ELEV: 492± (AMSL)

PROJECT TEAM:

APPLICANT: T-MOBILE NORTHEAST, LLC.
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002
 860-692-7100

PROPERTY OWNER: TALL OAKS LLC
 5 CORPORATE DRIVE
 DANBURY, CT 06810

PROJECT MANAGER: NORTHEAST SITE SOLUTIONS
 420 MAIN STREET, BLDG 4
 STURBRIDGE, MA 01566
 SHELDON FREINCLE
 SHELDON@NORTHEASTSITESOLUTIONS.COM
 201-776-8521

ENGINEERING CONSULTANTS: FORESITE LLC
 462 WALNUT ST
 NEWTON, MA 02460
 SAEED MOSSAVAT
 SMOSSAVAT@FORESITELLC.COM
 617-212-3123

SHEET INDEX:

- T-1: TITLE SHEET
- GN-1: GENERAL NOTES
- Z-1: 200' RADIUS MAP
- Z-2: 200' SITE IMAGERY
- Z-3: 200' ABUTTER'S LIST
- A-1: PLANS
- A-2: ELEVATION
- A-3: EQUIPMENT SPECIFICATIONS
- E-1: ELECTRICAL AND GROUNDING DETAILS
- N-1: NOTES
- S-1 TO S-4: STRUCTURAL DETAILS

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SITE NUMBER: CT11862C
 SITE NAME: CT862/TALL OAKS_STEALTH
 SITE ADDRESS: 1 FAIRFIELD AVE.
 DANBURY, CT 06810

SHEET TITLE:
 T-1: TITLE SHEET

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GENERAL NOTES:

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAS MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE CLIENT'S REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S / VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
7. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS DURING CONSTRUCTION.
8. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT SECTIONS OF THE BASIC STATE BUILDING CODE, LATEST EDITION, AND ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJEC
9. THE CONTRACTOR SHALL NOTIFY THE CLIENT'S REPRESENTATIVE IN WRITING WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE CLIENT'S REPRESENTATIVE.
10. THE WORK SHALL CONFORM TO THE CODES AND STANDARDS OF THE FOLLOWING AGENCIES AS FURTHER CITED HEREIN:
 - A. ASTM: AMERICAN SOCIETY FOR TESTING AND MATERIALS, AS PUBLISHED IN "COMPILATION OF ASTM STANDARDS BUILDING CODES" OR LATEST EDITION.
 - B. AWS: AMERICAN WELDING SOCIETY INC. AS PUBLISHED IN "STANDARD D1.1-08, STRUCTURAL WELDING CODE" OR LATEST EDITION.
 - C. AISC: AMERICAN INSTITUTE FOR STEEL CONSTRUCTION AS PUBLISHED IN "CODE FOR STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"; "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" (LATEST EDITION).
11. BOLTING:
 - A. BOLTS SHALL BE CONFORMING TO ASTM A325 HIGH STRENGTH, HOT DIP GALVANIZED WITH ASTM A153 HEAVY HEX TYPE NUTS.
 - B. BOLTS SHALL BE 3/4"Ø MINIMUM (UNLESS OTHERWISE NOTED)
 - C. ALL CONNECTIONS SHALL BE 2 BOLTS MINIMUM.
12. FABRICATION:
 - A. FABRICATION OF STEEL SHALL CONFORM TO THE AISC AND AWS STANDARDS AND CODES (LATEST EDITION).
 - B. ALL STRUCTURAL STEEL SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 (LATEST EDITION), UNLESS OTHERWISE NOTED.
13. ERECTION OF STEEL:
 - A. PROVIDE ALL ERECTION EQUIPMENT, BRACING, PLANKING, FIELD BOLTS, NUTS, WASHERS, DRIFT PINS, AND SIMILAR MATERIALS WHICH DO NOT FORM A PART OF THE COMPLETED CONSTRUCTION BUT ARE NECESSARY FOR ITS PROPER ERECTION.
 - B. ERECT AND ANCHOR ALL STRUCTURAL STEEL IN ACCORDANCE WITH AISC REFERENCE STANDARDS. ALL WORK SHALL BE ACCURATELY SET TO ESTABLISHED LINES AND ELEVATIONS AND RIGIDLY FASTENED IN PLACE WITH SUITABLE ATTACHMENTS TO THE CONSTRUCTION OF THE BUILDING.
 - C. TEMPORARY BRACING, GUYING AND SUPPORT SHALL BE PROVIDED TO KEEP THE STRUCTURE SAFE AND ALIGNED AT ALL TIMES DURING CONSTRUCTION, AND TO PREVENT DANGER TO PERSONS AND PROPERTY. CHECK ALL TEMPORARY LOADS AND STAY WITHIN SAFE CAPACITY OF ALL BUILDING COMPONENTS.
14. ANTENNA INSTALLATION:
 - A. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND CLIENT'S REPRESENTATIVE SPECIFICATIONS.
 - B. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.

- C. INSTALL COAXIAL / FIBER CABLES AND TERMINATIONS BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTORS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS.
15. ANTENNA AND COAXIAL / FIBER CABLE GROUNDING:
 - A. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH ANDREWS CONNECTOR/SPLICE WEATHERPROOFING KIT TYPE #221213 OR EQUAL.
 - B. ALL COAXIAL / FIBER CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL / FIBER CABLE (NOT WITHIN BENDS).
16. RELATED WORK, FURNISH THE FOLLOWING WORK AS SPECIFIED UNDER CONSTRUCTION DOCUMENTS, BUT COORDINATE WITH OTHER TRADES PRIOR TO BID:
 - A. FLASHING OF OPENING INTO OUTSIDE WALLS
 - B. SEALING AND CAULKING ALL OPENINGS
 - C. PAINTING
 - D. CUTTING AND PATCHING
17. REQUIREMENTS OF REGULATORY AGENCIES:
 - A. FURNISH U.L. LISTED EQUIPMENT WHERE SUCH LABEL IS AVAILABLE. INSTALL IN CONFORMANCE WITH U.L. STANDARDS WHERE APPLICABLE.
 - B. INSTALL ANTENNA, ANTENNA CABLES, GROUNDING SYSTEM IN ACCORDANCE WITH DRAWINGS AND SPECIFICATION IN EFFECT AT PROJECT LOCATION AND RECOMMENDATIONS OF STATE AND LOCAL BUILDING CODES, AND SPECIAL CODES HAVING JURISDICTION OVER SPECIFIC PORTIONS OF WORK. THIS WORK INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:
 - C. TIA-EIA - 222 (LATEST EDITION). STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.
 - D. FAA - FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR AC 70/7460-IH, OBSTRUCTION MARKING AND LIGHTING.
 - E. FCC - FEDERAL COMMUNICATIONS COMMISSION RULES AND REGULATIONS FORM 715, OBSTRUCTION MARKING AND LIGHTING SPECIFICATION FOR ANTENNA STRUCTURES AND FORM 715A, HIGH INTENSITY OBSTRUCTION LIGHTING SPECIFICATIONS FOR ANTENNA STRUCTURES.
 - F. AISC - AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 BOLTS (LATEST EDITION).
 - G. NEC - NATIONAL ELECTRICAL CODE - ON TOWER LIGHTING KITS.
 - H. UL - UNDERWRITER'S LABORATORIES APPROVED ELECTRICAL PRODUCTS.
 - I. IN ALL CASES, PART 77 OF THE FAA RULES AND PARTS 17 AND 22 OF THE FCC RULES ARE APPLICABLE AND IN THE EVENT OF CONFLICT, SUPERSEDE ANY OTHER STANDARDS OR SPECIFICATIONS.
 - J. 2018 LIFE SAFETY CODE NFPA - 101.

APPLICANT:

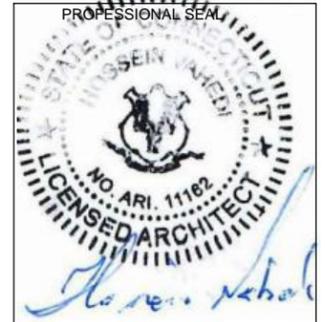
T-MOBILE NORTHEAST LLC
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002
 860-692-7100

PROJECT MANAGER

 420 MAIN STREET, BLDG 4
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 203-275-6669

CONSULTANT:

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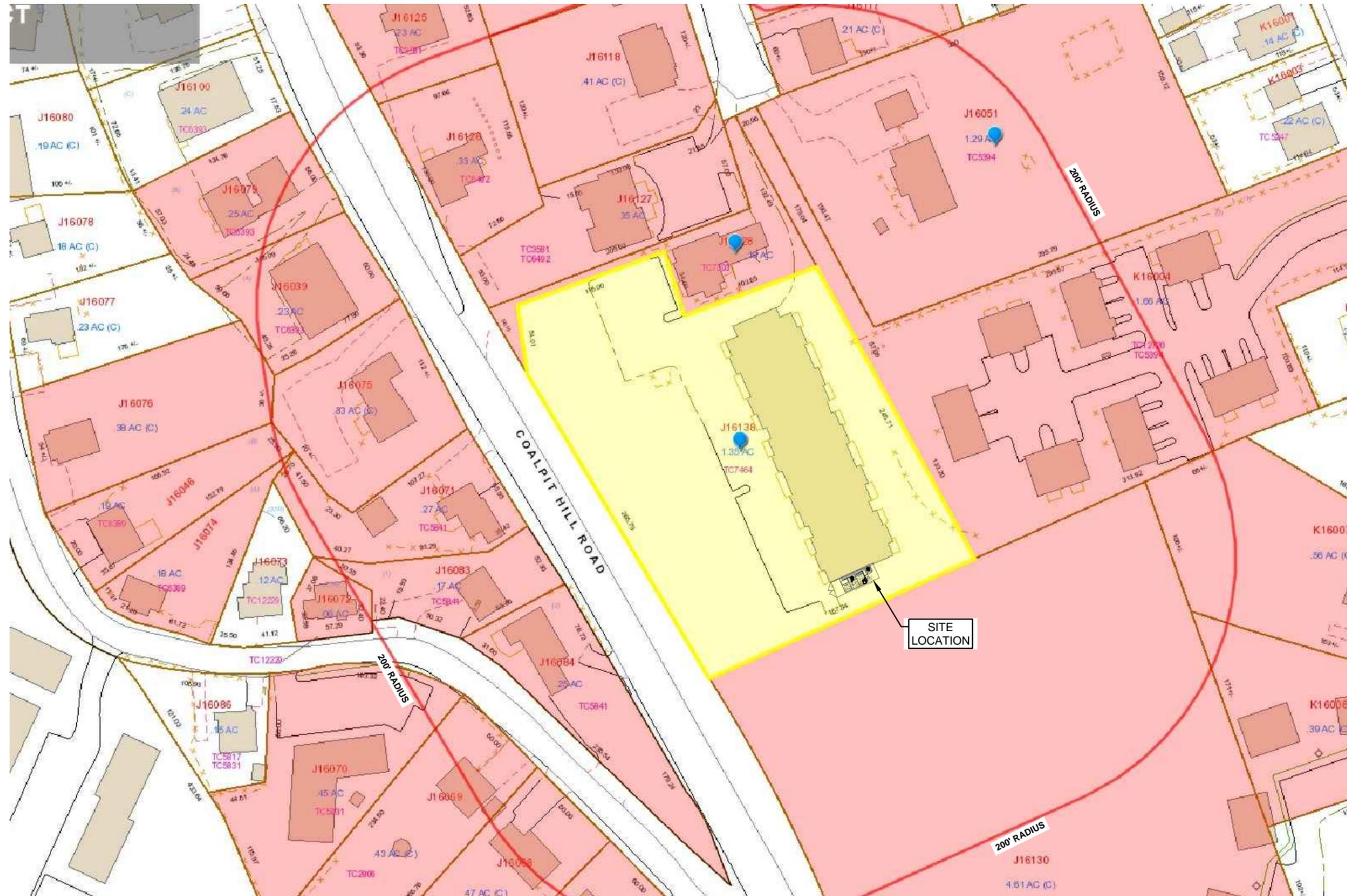
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 SITE NAME: CT862/TALL OAKS_STEALTH
 SITE ADDRESS: 1 FAIRFIELD AVE.
 DANBURY, CT 06810

SHEET TITLE:
 GN-1: GENERAL NOTES

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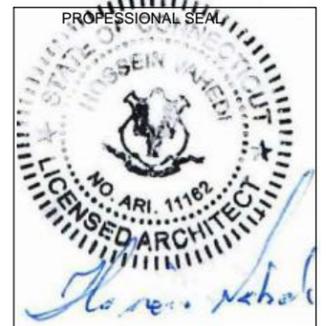
200' RADIUS MAP
 SCALE: 1" = 80' 1
Z-1

APPLICANT:
T-Mobile
T-MOBILE NORTHEAST LLC
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002
 860-692-7100

PROJECT MANAGER

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 Z-1: 200' RADIUS MAP

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SITE IMAGERY
SCALE: 1" = 100'

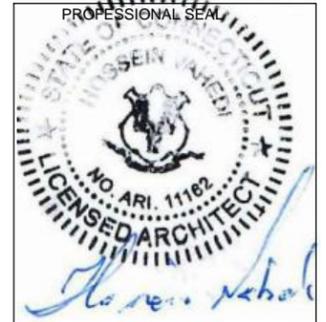
2
Z-2

APPLICANT:
T-Mobile
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER

420 MAIN STREET, BLDG 4
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SHEET TITLE:
Z-2: 200' SITE IMAGERY

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200' ABUTTER'S LIST

Parcel Number	GIS Number	Cama Number	Property Address	Owner Name	Co-Owner Name	Owner Address	Owner City	Owner State	Owner Zip
J160390000	J160390000	J16039-0000	55 COALPIT HILL	WILLIAMS COAL PIT HILL	INVESTMENTS LLC	11 WESTMINSTER RD	DANBURY	CT	06811
J160460000	J160460000	J16046-0000	35A ROCKY GLEN	US BANK NATIONAL ASSOCIATION TR	C/O WELLS FARGO BANK NA	3476 STATEVIEW BL	FORT MILL	SC	29715
J160510000	J160510000	J16051-0000	1 FAIRFIELD	WOCEK MADELINE C		PO BOX 85	BETHEL	CT	06801
J160660000	J160660000	J16066-0000	69 COALPIT HILL	EASTERN STATES	DEVELOPMENT CORP	PO BOX 2120	DANBURY	CT	06813
J160670000	J160670000	J16067-0000	19 ROCKY GLEN	MENDES MARIO M	MARIA DELOURDES	19 ROCKY GLEN RD	DANBURY	CT	06810
J160680000	J160680000	J16068-0000	30 ROCKY GLEN	HAFERL RUDY P & LAURIE A		30 ROCKY GLEN RD	DANBURY	CT	06810-8004
J160690000	J160690000	J16069-0000	32 ROCKY GLEN	ANDREWS JOSEPH D & LESLIE M		PO BOX 841	BETHEL	CT	06801
J160700000	J160700000	J16070-0000	34 ROCKY GLEN	AMOS HOUSE INC		34 ROCKY GLEN RD	DANBURY	CT	06810-8004
J160710000	J160710000	J16071-0000	61 COALPIT HILL	VEIGA MAXIMINO L &	MARIA CECILIA	61 COALPIT HILL RD	DANBURY	CT	06810
J160720000	J160720000	J16072-0000	ROCKY GLEN	OLIVEIRA JAIRO & CARLA S		31 ROCKY GLEN RD	DANBURY	CT	06810
J160740000	J160740000	J16074-0000	35 ROCKY GLEN	RIVERA-GONZALEZ LUIS J		35 ROCKY GLEN RD	DANBURY	CT	06810
J160750000	J160750000	J16075-0000	57 COALPIT HILL	ESPITIA MARIA T &	ESPITIA MORENO JUAN	57 COALPIT HILL RD	DANBURY	CT	06810
J160760000	J160760000	J16076-0000	33 ROCKY GLEN	PICKEL CLARA		33 ROCKY GLEN RD	DANBURY	CT	06810
J160790000	J160790000	J16079-0000	53 COALPIT HILL	WILLIAMS COAL PIT HILL	INVESTMENTS LLC	11 WESTMINSTER RD	DANBURY	CT	06811
J160830000	J160830000	J16083-0000	63 COALPIT HILL	LAWRENIA PETER A & IRENE F		63 COALPIT HILL RD	DANBURY	CT	06810
J160840000	J160840000	J16084-0000	65 COALPIT HILL	KY SEAN BY & BOPTA		65 COALPIT HILL RD	DANBURY	CT	06810
J161160000	J161160000	J16116-0000	5 FAIRFIELD	LARIVIERE LUCIEN		28 KELLOGG ST	BROOKFIELD	CT	06804
J161170000	J161170000	J16117-0000	3 FAIRFIELD	GARCES HENNRRI R		3 FAIRFIELD AVE	DANBURY	CT	06810
J161180000	J161180000	J16118-0000	2-4 FAIRFIELD	BOA JOSEPH A		17 CHESTER ST	BROOKFIELD	CT	06804
J161190000	J161190000	J16119-0000	6 FAIRFIELD	RUIZ BARBARA J-TR & RUIZ	ROLANDO G-TR	11590 EAST CAVEDALE DR	SCOTTSDALE	AZ	85262
J161250000	J161250000	J16125-0000	50 COALPIT HILL	DEGRAZIA MARISA & ROSEMARIE L &	CLAUDIA M & CHRISTINA A	5 DEER HILL AVE	DANBURY	CT	06810
J161260000	J161260000	J16126-0000	54 COALPIT HILL	DEGRAZIA MARISA & ROSEMARIE L &	CLAUDIA M & CHRISTINA A	5 DEER HILL AVE	DANBURY	CT	06810
J161270000	J161270000	J16127-0000	FAIRFIELD	DEGRAZIA MARISA & ROSEMARIE L &	CLAUDIA M & CHRISTINA A	5 DEER HILL AVE	DANBURY	CT	06810
J161280000	J161280000	J16128-0000	1 FAIRFIELD	TALL OAKS LLC		5 CORPORATE DR	DANBURY	CT	06810
J161280000	J161280000	J16128-0001	1 FAIRFIELD 1	VELASQUEZ MARICEL P		1 FAIRFIELD AVE #1	DANBURY	CT	06810
J161280000	J161280000	J16128-0002	1 FAIRFIELD 2	OSTAPENKO ALEXANDER D		1 FAIRFIELD AV #2	DANBURY	CT	06810
J161280000	J161280000	J16128-0003	1 FAIRFIELD 3	MAULLON CRISTINA		1 FAIRFIELD AVE #3	DANBURY	CT	06810
J161300000	J161300000	J16130-0000	68-84 COALPIT HILL	HOUSING AUTHORITY OF THE CITY OF DANBURY		2 MILL RIDGE RD	DANBURY	CT	06811-5231
J161300000	J161300000	J16130-0001	FAIRFIELD RIDGE	FAIRFIELD RIDGE/MILL RIDGE	LIMITED PARTNERSHIP	2 MILL RIDGE RD	DANBURY	CT	06811-5231
K160040000	K160040000	K16004-0000	14 MORTON	MADELINE RIDGE LLC	C/O RRS MANAGEMENT	PO BOX 2636	DANBURY	CT	06813
K160040000	K160040000	K16004-0001	14 MORTON 1	CRUZ TATIANA		14 MORTON ST #1	DANBURY	CT	06810
K160040000	K160040000	K16004-0002	14 MORTON 2	QUEZADA JUAN J & DEQUEZADA	JUANA M M & MORONTA REYFOR F	14 MORTON ST #2	DANBURY	CT	06810
K160040000	K160040000	K16004-0003	14 MORTON 3	LAMOUR ACHILLE		14 MORTON ST #3	DANBURY	CT	06810
K160040000	K160040000	K16004-0004	14 MORTON 4	CHETAL SUSHIL & RADHIKA		14 MORTON ST #4	DANBURY	CT	06810
K160040000	K160040000	K16004-0005	14 MORTON 5	PEGUERO BELKYS		14 MORTON ST #5	DANBURY	CT	06810
K160040000	K160040000	K16004-0006	14 MORTON 6	SO KRISTINE M & JEANETTE LAO		14 MORTON ST #6	DANBURY	CT	06810
K160040000	K160040000	K16004-0007	14 MORTON 7	SMITH NICHOLAS		14 MORTON ST #7	DANBURY	CT	06810
K160040000	K160040000	K16004-0008	14 MORTON 8	TALARICO LISA A & ASHLEY L		14 MORTON ST #8	DANBURY	CT	06810
K160040000	K160040000	K16004-0009	14 MORTON 9	HEERING JOHN JR		14 MORTON ST #9	DANBURY	CT	06810
K160040000	K160040000	K16004-0010	14 MORTON 10	LANGER KAREN A & ARTHUR L		14 MORTON ST #10	DANBURY	CT	06810
K160040000	K160040000	K16004-0011	14 MORTON 11	MOREL MARIA M & YAMAILYN CASTRO		14 MORTON ST #11	DANBURY	CT	06810
K160040000	K160040000	K16004-0012	14 MORTON 12	DEL ROSARIO ILIANA M & BUTLER	CLIFFORD J	14 MORTON ST #12	DANBURY	CT	06810
K160040000	K160040000	K16004-0013	14 MORTON 13	POIDEVIN ANTONELLA & FRATTO	CARMINE LU FRATTO ANTONIO & MARIA	14 MORTON ST #13	DANBURY	CT	06810
K160040000	K160040000	K16004-0014	14 MORTON 14	COSTELLO KRISTINA		14 MORTON ST #14	DANBURY	CT	06810
K160070000	K160070000	K16007-0000	3-5 FAIRFIELD RIDGE	HOUSING AUTHORITY OF THE CITY OF DANBURY		2 MILL RIDGE RD	DANBURY	CT	06811-5231
K160080000	K160080000	K16008-0000	7 FAIRFIELD RIDGE	HOUSING AUTHORITY OF THE CITY OF DANBURY		2 MILL RIDGE RD	DANBURY	CT	06811-5231

APPLICANT:

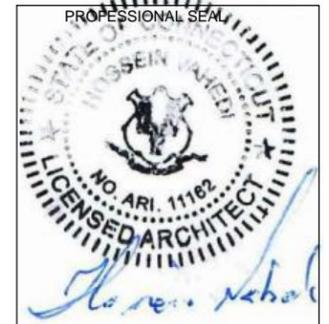
T-MOBILE NORTHEAST LLC
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002
 860-692-7100

PROJECT MANAGER

 420 MAIN STREET, BLDG 4
 STURBRIDGE, MA 01566
 203-275-6669

CONSULTANT:

 Architects . Engineers . Surveyors
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 617-212-3123



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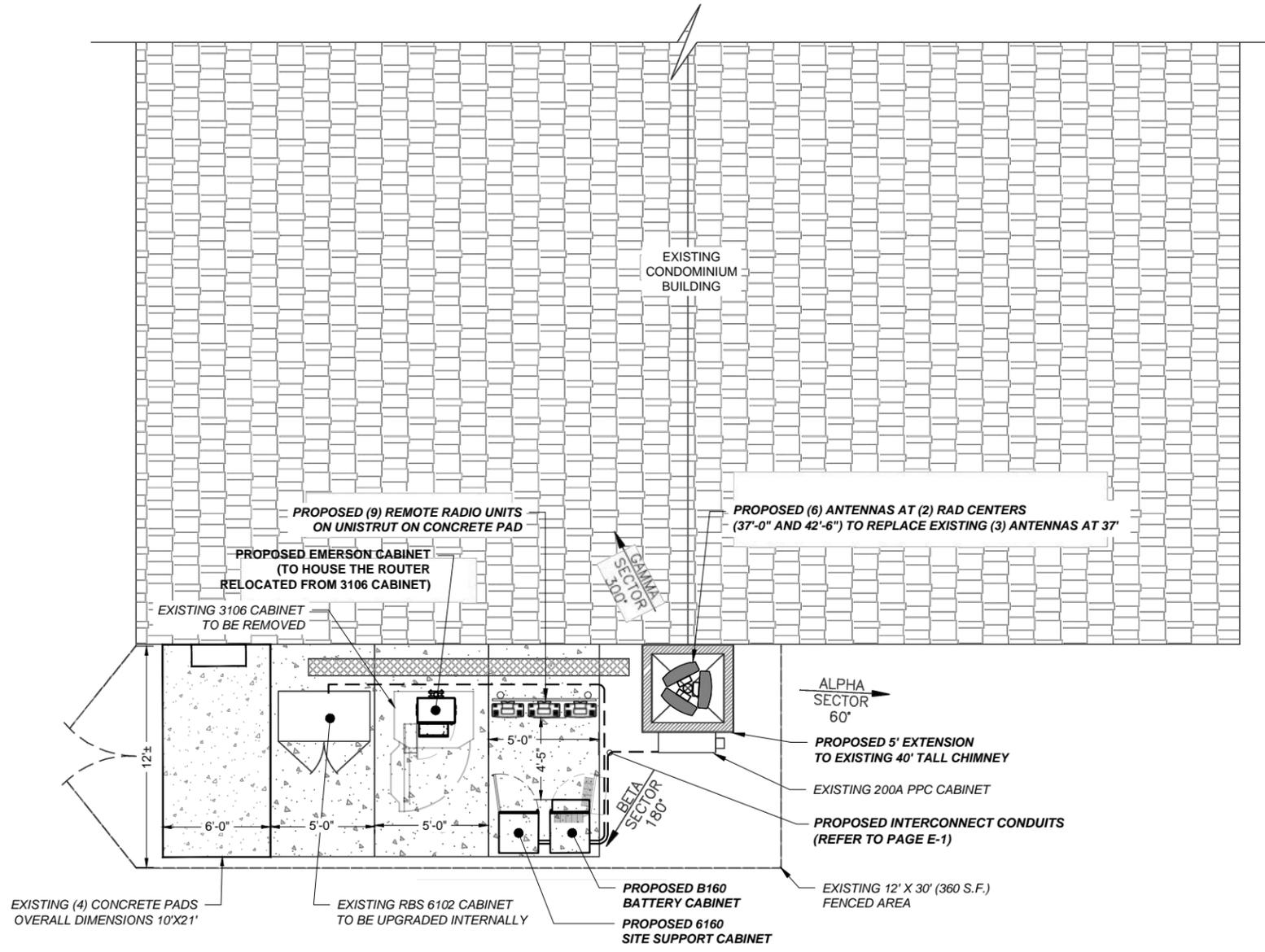
SITE NUMBER: CT11862C
 SITE NAME: CT862/TALL OAKS_STEALTH
 SITE ADDRESS: 1 FAIRFIELD AVE.
 DANBURY, CT 06810

SHEET TITLE:
 Z-3: 200' ABUTTER'S LIST

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EXISTING
PARKING LOT



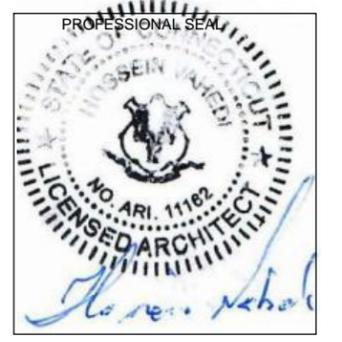
SITE PLAN
SCALE: 1" = 10'-0"

1
A-1

APPLICANT:
T-Mobile
T-MOBILE NORTHEAST LLC
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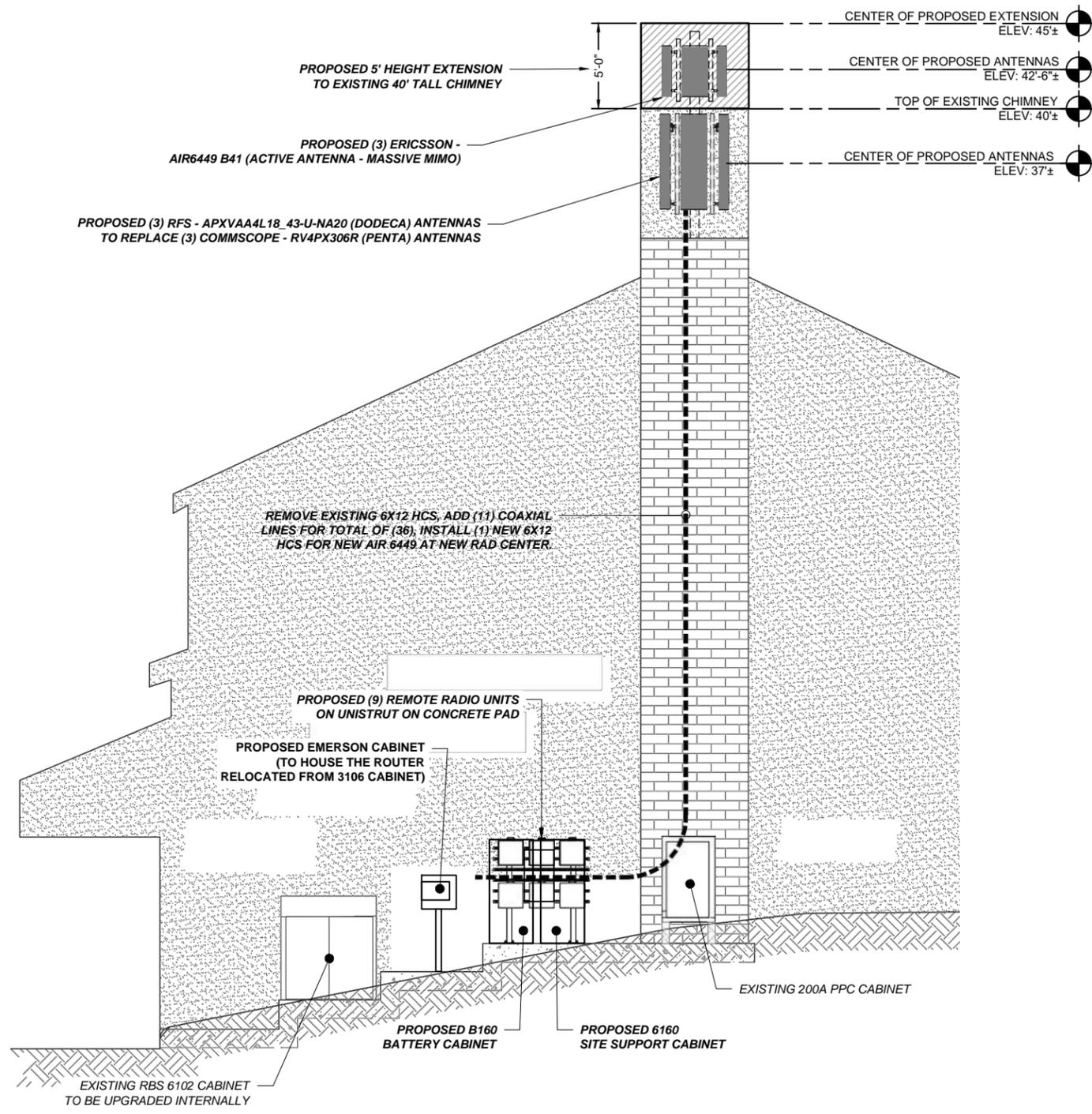
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SHEET TITLE:
A-1: PLANS

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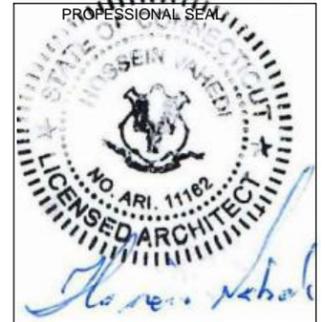


ELEVATION 1
SCALE: 1/8" = 1'-0" A-2

APPLICANT:
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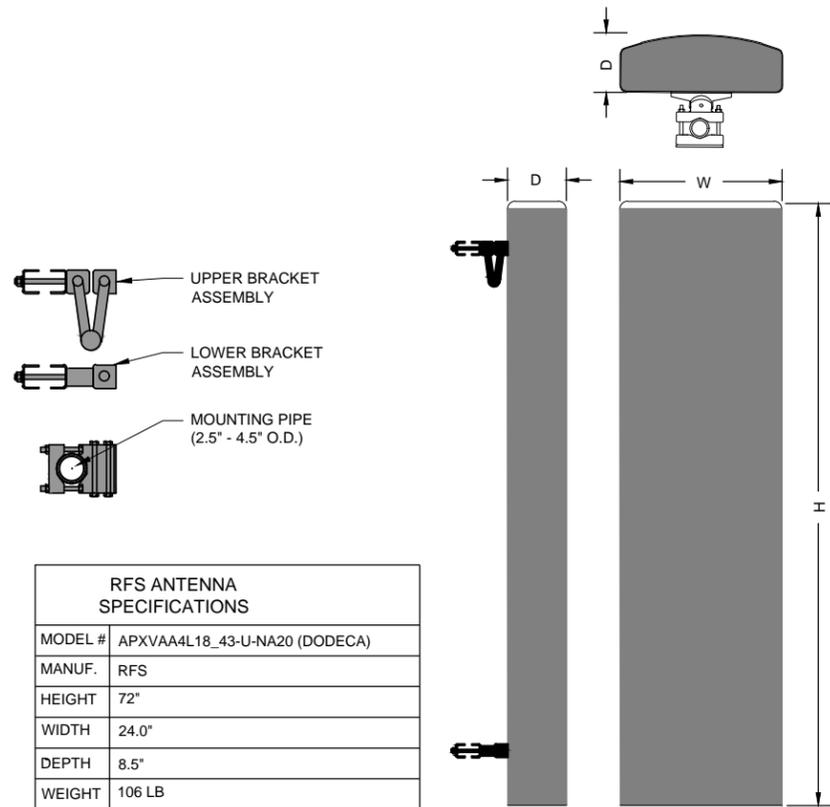
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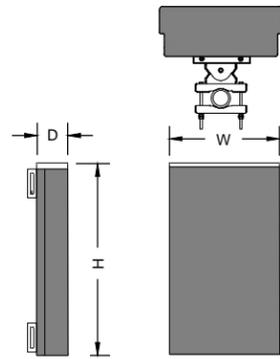
SHEET TITLE:
 A-2: ELEVATION AND ANTENNA PLANS

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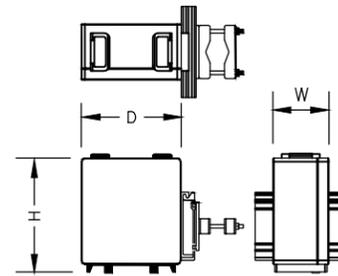
RFS ANTENNA SPECIFICATIONS	
MODEL #	APXVAA4L18_43-U-NA20 (DODECA)
MANUF.	RFS
HEIGHT	72"
WIDTH	24.0"
DEPTH	8.5"
WEIGHT	106 LB

RFS ANTENNA
N.T.S. 1
A-3



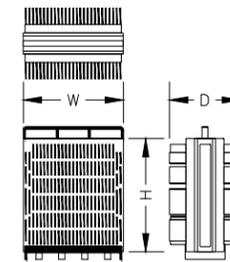
ERICSSON ANTENNA SPECIFICATIONS	
MODEL #	AIR6449 B41
MANUF.	ERICSSON
HEIGHT	33.1"
WIDTH	20.5"
DEPTH	8.3"
WEIGHT	103 LB

ERICSSON ANTENNA
N.T.S. 2
A-3



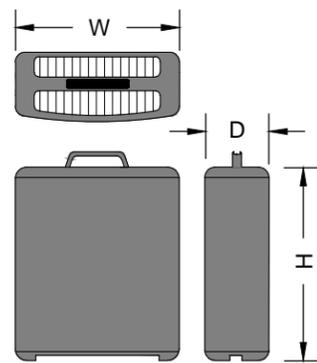
REMOTE RADIO UNIT SPECIFICATIONS	
MODEL #	RADIO 4415 B66A
MANUF.	ERICSSON
HEIGHT	14.9"
WIDTH	13.2"
DEPTH	5.4"
WEIGHT	46.3 LB

REMOTE RADIO UNIT
N.T.S. 3
A-3



REMOTE RADIO UNIT SPECIFICATIONS	
MODEL #	RADIO 4449 B71+B85
MANUF.	ERICSSON
HEIGHT	14.9"
WIDTH	13.2"
DEPTH	9.3"
WEIGHT	74 LB

REMOTE RADIO UNIT
N.T.S. 4
A-3



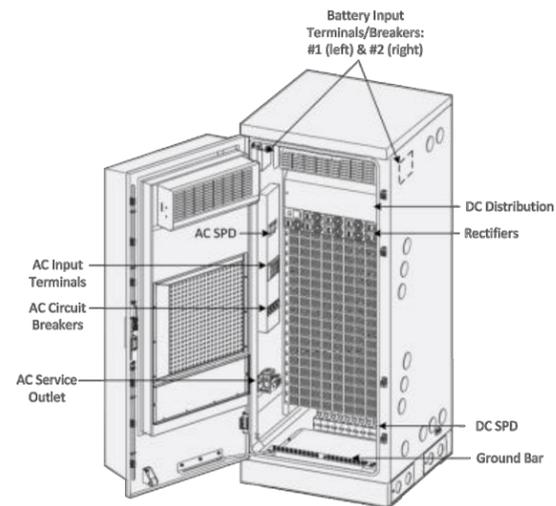
REMOTE RADIO UNIT SPECIFICATIONS	
MODEL	RADIO 4424 B25
MANUF.	ERICSSON
HEIGHT	16.5"
WIDTH	13.5"
DEPTH	9.6"
WEIGHT	88 LB

REMOTE RADIO UNIT
N.T.S. 5
A-3



BATTERY CABINET SPECIFICATIONS	
MODEL #	B160
MANUF.	ERICSSON
HEIGHT	63"
WIDTH	26"
DEPTH	26"
WEIGHT	1883 lbs

BATTERY CABINET
N.T.S. 6
A-3



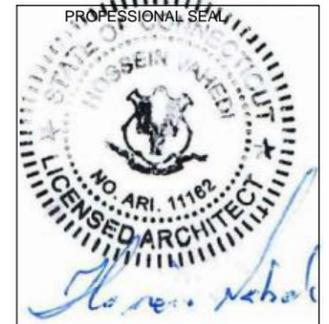
SITE SUPPORT CABINET SPECIFICATIONS	
MODEL #	6160
MANUF.	ERICSSON
HEIGHT	63"
WIDTH	25.6"
DEPTH	33.5"
WEIGHT	605 lbs

SITE SUPPORT CABINET
N.T.S. 7
A-3

APPLICANT:
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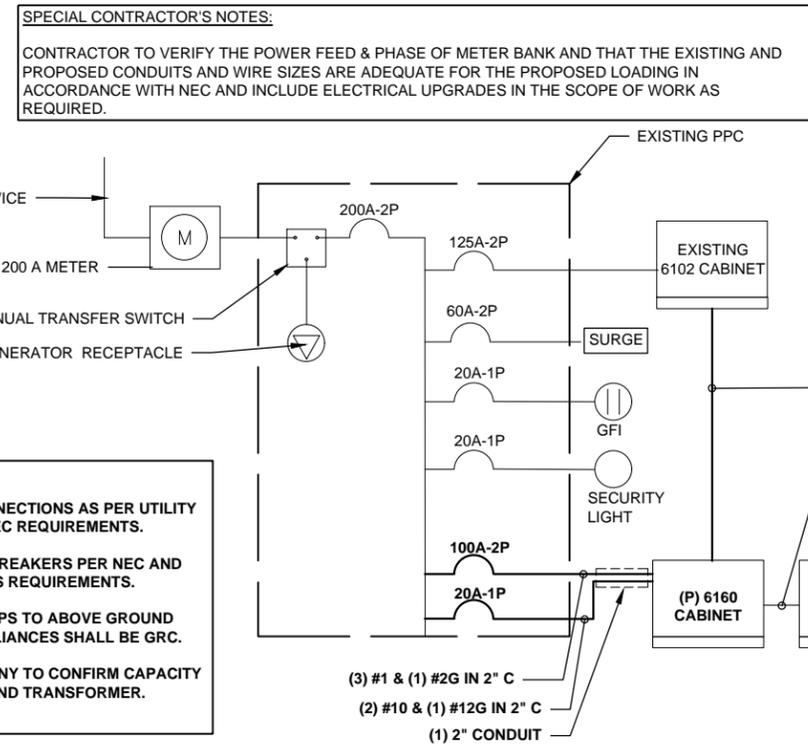
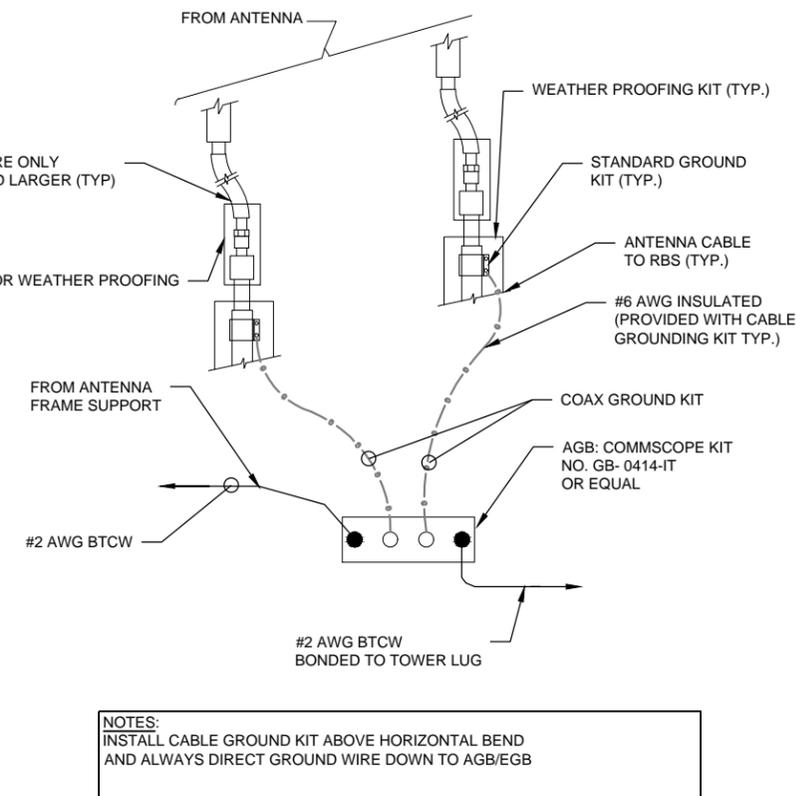
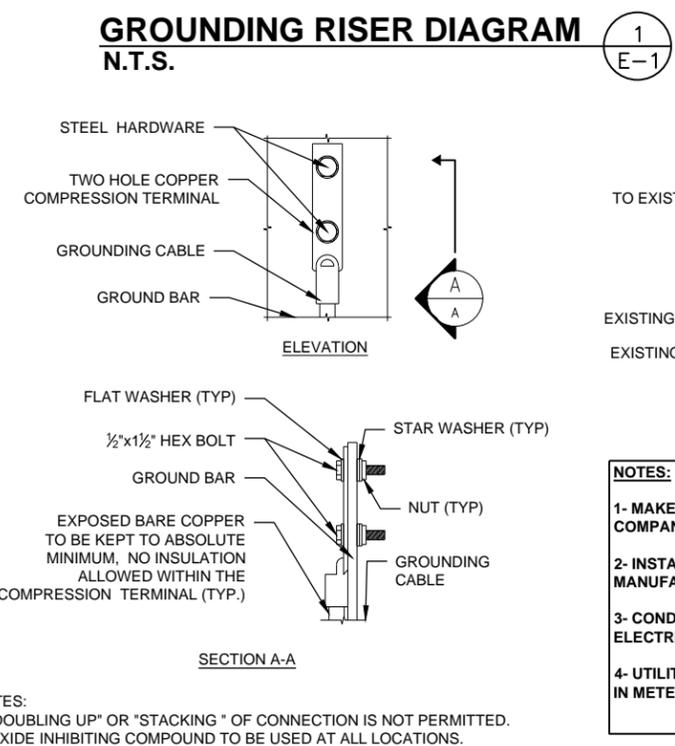
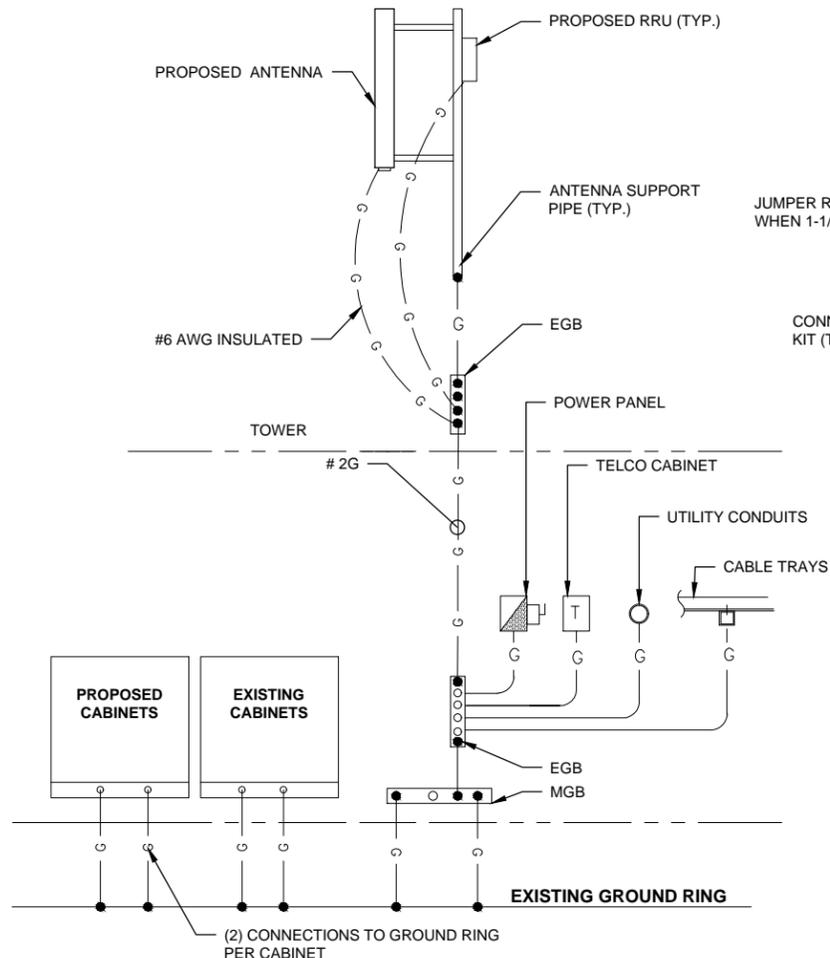
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SITE NAME: CT862/TALL OAKS_STEALTH
SITE ADDRESS: 1 FAIRFIELD AVE.
DANBURY, CT 06810

SHEET TITLE:
A-3: EQUIPMENT SPECIFICATIONS

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ELECTRICAL & GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PRODUCED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) ND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
6. RIGID STEEL CONDUITS SHALL BE GROUNDED AT BOTH ENDS.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THIN INSULATION.
8. RUN ELECTRICAL CONDUIT OR CABLING BETWEEN ELECTRICAL ROOM AND PROPOSED CELL SITE ARE PEDESTAL AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROPOSED CELL SITE TELECOM CABINET AND RBS CABINET AS INDICATED ON DRAWING A -1. PROVIDE FULL LENGTH PULL ROPE INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NAME 3R ENCLOSURE.
11. GROUNDING SHALL COMPLY WITH NEC ART. 250.
12. GROUNDING COAX CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURES COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
13. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSTALLATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE GROUND.
14. ALL GROUND CONNECTION TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
15. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AS RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY BOND ANY METER OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
16. CONNECTIONS TO MGB SHALL BE ARRANGED IN THREE MAIN GROUPS: SURGE PROCEDURES (COAXIAL CABLE GROUND KITS, TELCO AND POWER PANEL GROUND); (GROUNDING ELECTRODE RING OR BUILDING STEEL); NON-SURGING OBJECTS (EGB GROUND IN RBS UNIT).
17. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
18. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTION.
19. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.
20. BOND ANTENNA EGB'S AND MGB TO WATER MAIN.
21. TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.
22. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
23. VERIFY PROPOSED SERVICE UPGRADE WITH LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.



APPLICANT:
T-Mobile
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER
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420 MAIN STREET, BLDG 4
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CONSULTANT:
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PROFESSIONAL SEAL
NO. ARI. 11162
LICENSED ARCHITECT

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SITE NAME: CT862/TALL OAKS_STEALTH
SITE ADDRESS: 1 FAIRFIELD AVE.
DANBURY, CT 06810

SHEET TITLE:
E-1: ELECTRICAL & GROUNDING DETAIL

GENERAL NOTES

- CONTRACTOR SHALL FIELD VERIFY SITE OR LAYOUT RESTRICTIONS, SITE CONDITIONS, DIMENSIONS, AND ELEVATIONS BEFORE START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF VECTOR STRUCTURAL ENGINEERING, LLC PRIOR TO BEGINNING PROJECT. ALL WORK SHALL BE PERFORMED USING ACCEPTED CONSTRUCTION PRACTICES.
- NO FIELD MODIFICATIONS MAY BE MADE WITHOUT EXPRESS WRITTEN CONSENT FROM THE ENGINEER OF RECORD. ENGINEER OF RECORD ASSUMES NO RESPONSIBILITY FOR THE STRUCTURE IF ALTERATIONS AND/OR ADDITIONS ARE MADE TO THE DESIGN AS SHOWN IN THESE DRAWINGS.
- THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL COMPLY WITH ALL LOCAL CODES, REGULATIONS, AND ORDINANCES AS WELL AS STATE DEPARTMENT OF INDUSTRIAL REGULATIONS AND DIVISION OF INDUSTRIAL SAFETY (OSHA) REQUIREMENTS.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT ALL WORK TO THE BEST OF HIS/HER ABILITY AND SKILL. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES, AND SEQUENCES, AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR SHALL VERIFY, COORDINATE, AND PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS, OR OTHER SUPPORTS FOR ALL ITEMS REQUIRING SAME, WHETHER SHOWN OR NOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING, SHORING, FORMWORK, ETC., AND SHALL CONFORM TO ALL NATIONAL, STATE, AND LOCAL ORDINANCES AND CODES, IN ORDER TO SAFELY EXECUTE ALL STAGES OF WORK TO COMPLETE THIS PROJECT.
- IT IS THE INTENT OF THESE DRAWINGS TO SHOW THE COMPLETED INSTALLATION OF THE STRUCTURE SHOWN.
- CONTRACTOR ASSUMES RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES. THIS REQUIREMENT APPLIES CONTINUOUSLY, AND IS NOT LIMITED TO NORMAL WORKING HOURS.
- CONTRACTOR TO HOLD ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN. THE CONTRACTOR IS FINANCIALLY RESPONSIBLE FOR REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED IN CONJUNCTION WITH THE EXECUTION OF WORK ON THIS PROJECT.
- WEATHER PROOFING AND/OR FLASHING TO BE PROVIDED BY CONTRACTOR AS REQUIRED.
- CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE ARCHITECT/ ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED.
- THESE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKERS, AND PEDESTRIANS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, TEMPORARY STRUCTURES, AND PARTIALLY COMPLETED WORK, ETC. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT/ ENGINEER SHALL NOT INCLUDE INSPECTION OF SUCH ITEMS.
- ALL STRUCTURAL MEMBERS, HARDWARE, & FASTENERS TO BE STEEL, U.N.O.
- ALL ASPECTS OF THE EXISTING STRUCTURE ARE TO REMAIN UNDISTURBED U.N.O. CONTRACTOR TO VERIFY ALL ASPECTS AND DIMENSIONS OF THE EXISTING STRUCTURE FOR CONFORMITY WITH THE VALUES SHOWN IN THESE PLANS. CONTRACTOR TO NOTIFY VECTOR OF ANY DISCREPANCIES BETWEEN THE VALUES SHOWN ON THESE PLANS AND THE EXISTING STRUCTURE.
- ALL ASPECTS OF THE EXISTING STRUCTURE ARE ASSUMED TO BE IN GOOD CONDITION, FREE FROM DAMAGE OR DETERIORATION. CONTRACTOR TO VERIFY CONDITION OF STRUCTURE AND INFORM VECTOR OF ANY DAMAGED STRUCTURAL MEMBERS.
- ALL STRUCTURAL COMPONENTS TO BE CONNECTED TOGETHER SHALL BE COMPLETELY FIT UP ON THE GROUND OR OTHERWISE VERIFIED FOR COMPATIBILITY PRIOR TO LIFTING ANY COMPONENT INTO PLACE. REPAIRS REQUIRED DUE TO FIT-UP OR CONNECTION COMPATIBILITY PROBLEMS AFTER PARTIAL ERECTION ARE THE FINANCIAL RESPONSIBILITY OF THE CONTRACTOR.

DESIGN CRITERIA

- STRUCTURAL DESIGN IS BASED ON THE INTERNATIONAL BUILDING CODE, 2015 EDITION AND THE ASCE 7-10 STANDARD
- DESIGN LOADS:**
 - WIND SPEED = 120 MPH (3-SEC GUST) PER THE ASCE 7-10 STANDARD
 - RISK CATEGORY: II
 - EXPOSURE: C
 - SEISMIC:
 - IMPORTANCE FACTOR: 1.00
 - RISK CATEGORY: II
 - MAPPED SPECTRAL RESPONSE ACCELERATIONS:
 - S_s = 0.217g, S₁ = 0.067g
 - SITE CLASS: D
 - SPECTRAL RESPONSE COEFFICIENTS:
 - S_{DS} = 0.231g, S_{D1} = 0.107g
 - SEISMIC DESIGN CATEGORY: B
 - ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE

STRUCTURAL STEEL

- ALL STEEL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION. STEEL SECTIONS SHALL BE IN ACCORDANCE WITH ASTM AS INDICATED BELOW:

WIDE FLANGE:	ASTM A992 GR. 50
RECT/SQ. HSS:	ASTM A500 GR B (46 ksi)
PIPE:	ASTM A53 GR. B
ANGLES, CHANNELS, PLATES:	ASTM A36
STEEL TO STEEL BOLTS	ASTM F3125 GR. A325N
FRP TO STEEL BOLTS:	ASTM A307
BOLTS FOR GRATING CLIPS:	ASTM A307
SCREWS:	SAE GR. 5 (OR EQUIVALENT)
- ALL STEEL SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM F2329. FIELD MODIFICATIONS ARE TO BE COATED WITH ZINC ENRICHED PAINT.
- ALL WELDING TO BE PERFORMED USING E70XX ELECTRODES AND SHALL CONFORM TO AISC. WHERE FILLET WELDS SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC MANUAL OF STEEL CONSTRUCTION. PAINTED SURFACES SHALL BE TOUCHED UP. ALL WELDING SHALL BE PERFORMED IN AN APPROVED SHOP, U.N.O., BY WELDERS CERTIFIED IN ACCORDANCE WITH AWS D1.1.
- ALL STRUCTURAL BOLTS SHALL BE TIGHTENED PER THE "TURN OF THE NUT" METHOD AS DEFINED BY AISC. HOLES TO RECEIVE BOLTS SHALL BE 1/16" LARGER THAN NOMINAL BOLT DIAMETER, U.N.O.

POST-INSTALLED ANCHORS

- USE, INSTALLATION, EMBEDMENT DEPTH, AND DIAMETER OF EXPANSION/WEDGE OR ADHESIVE ANCHORS IN HARDENED CONCRETE OR CMU SHALL CONFORM TO ICC REPORT & MANUFACTURER'S RECOMMENDATIONS.
- MAINTAIN CRITICAL EDGE DISTANCE SPECIFIED IN ICC REPORT AS A MINIMUM, U.N.O. IN THESE DRAWINGS
- LOCATE AND AVOID CUTTING EXISTING REBAR OR TENDONS WHEN DRILLING HOLES IN ELEVATED CONCRETE SLABS, CONCRETE WALLS, OR CMU.

STRUCTURAL FRP/RF FRIENDLY PANELS

- ALL FRP STRUCTURAL SHAPES SHALL BE BEDFORD SERIES 1525, MANUFACTURED USING THE PULTRUSION PROCESS.
- ALL FRP MEMBERS AND PANELS TO BE SUPPLIED BY THE CONTRACTOR.
- ALL CUT EDGES AND HOLES SHALL BE SEALED WITH A RESIN COMPATIBLE WITH THE RESIN MATRIX USED IN THE STRUCTURAL SHAPE.
- THE FABRICATOR AND CONTRACTOR SHALL EXERCISE PRECAUTIONS NECESSARY TO PROTECT THE FIBERGLASS PULTRUDED STRUCTURAL SHAPES FROM ABUSE TO PREVENT BREAKAGE, NICKS, GOUGES, ETC. DURING FABRICATION, HANDLING, AND INSTALLATION.
- STRUCTURAL SHAPES SHALL BE FABRICATED AND ASSEMBLED AS INDICATED ON THESE DRAWINGS.
- FRP BOLTS SHOULD BE TIGHTENED 1/2 TURN PAST SNUG AND LOCKED WITH EPOXY.
- FRP OR STEEL BOLTS THROUGH FRP MEMBERS SHALL MEET THE FOLLOWING SPACING AND EDGE DISTANCE REQUIREMENTS, MEASURED FROM BOLT CENTERS:
 - MIN. BOLT SPACING = 4 TIMES BOLT DIA.
 - MIN. EDGE DISTANCE = 3 TIMES BOLT DIA. IN DIRECTION OF PULTRUSION
 - MIN. EDGE DISTANCE = 2 TIMES BOLT DIA. PERPENDICULAR TO DIRECTION OF PULTRUSION
- NO FIELD MODIFICATIONS MAY BE MADE TO FRP MEMBERS OR RF FRIENDLY PANELS WITHOUT THE EXPRESS WRITTEN CONSENT FROM THE ENGINEER OF RECORD AND MANUFACTURER. ENGINEER OF RECORD ASSUME NO RESPONSIBILITY FOR THE STRUCTURE IF ALTERATIONS AND/OR ADDITIONS ARE MADE TO THE DESIGN AS SHOWN IN THESE DRAWINGS.
- RF FRIENDLY PANELS AND THEIR CONNECTIONS TO THE SUPPORTING STRUCTURE TO BE DESIGNED BY THE MANUFACTURER FOR THE LOADS SHOWN ON THE DRAWINGS. SUBMIT CALCULATIONS AND SHOP DRAWINGS TO ENGINEER OF RECORD FOR REVIEW AND APPROVAL.

STRUCTURAL WOOD MEMBERS

- FRAMING LUMBER:
 - DOUGLAS FIR LARCH NO. 2 GRADE IDENTIFIED BY THE GRADING OR INSPECTION AGENCY THAT HAS BEEN APPROVED BY AN ACCREDITATION BODY THAT COMPLIES WITH DOC PS 20. GRADING PRACTICES AND IDENTIFICATION SHALL COMPLY WITH RULES PUBLISHED BY AN AGENCY APPROVED IN ACCORDANCE WITH THE PROCEDURES OF DOC PS 20
- BOLT HOLES SHALL BE 1/16" MAXIMUM LARGER THAN THE BOLT SIZE. RE-TIGHTEN ALL NUTS PRIOR TO CLOSING IN.
- ALL SILLS OR PLATES RESTING ON CONCRETE OR MASONRY SHALL BE PRESSURE TREATED DOUGLAS FIR. BOLTS SHALL BE PLACED 9 INCHES FROM THE END OF A PLATE, OR FROM A NOTCH GREATER THAN 1/2 THE WIDTH OF THE PLATE, AND SPACED AT INTERVALS NOTED.
- DO NOT NOTCH JOISTS, RAFTERS OR BEAMS EXCEPT WHERE SHOWN IN DETAILS. OBTAIN ENGINEER'S APPROVAL FOR ANY HOLES OR NOTCHES NOT DETAILED.
- CONNECTION HARDWARE SHALL BE BY SIMPSON STRONG-TIE, OR ICC APPROVED EQUAL. ALL HARDWARE TO BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
- FASTENING SCHEDULE PER 2016 EDITION OF THE CALIFORNIA BUILDING CODE, TABLE NO. 2304.9.1. UNLESS NOTED OTHERWISE.
- ALL NAILS, BOLTS, HOLDOWNS, STRAPS OR OTHER STEEL FASTENERS IN CONTACT WITH PRESSURE TREATED TIMBER SHALL BE HOT-DIPPED GALVANIZED, STAINLESS STEEL OR OTHERWISE TREATED OR ISOLATED TO PREVENT CHEMICAL ATTACK. CONTRACTOR SHALL VERIFY TREATMENT METHOD AND CONFIRM APPROPRIATE CORROSION RESISTANCE BE PROVIDED IN ACCORDANCE WITH HARDWARE SUPPLIER RECOMMENDATIONS.

STRUCTURAL WOOD PANELS

- ALL WOOD STRUCTURAL PANELS SHALL BE PLYWOOD OR APA RATED ORIENTED STRAND BOARD. PANELS SHALL BEAR THE STAMP OF AN APPROVED AGENCY. SPAN/INDEX RATING: 24/0. FASTENING SHALL BE INDICATED ON THE PLANS.
- WOOD STRUCTURAL PANELS SHALL CONFORM TO THE REQUIREMENTS FOR THEIR TYPE IN DOC PS 1 OR DOC PS 2. EACH PANEL SHALL BE IDENTIFIED FOR GRADE, BOND CLASSIFICATION, AND PERFORMANCE CATEGORY BY THE TRADEMARKS OF AN APPROVED TESTING AND GRADING AGENCY.
- ALL PLYWOOD SHALL BE C-D INTERIOR SHEATHING WITH EXTERIOR GLUE. PLYWOOD SHALL BE 4-PLY, MINIMUM.

SPECIAL INSPECTION

- CONTRACTOR SHALL PROVIDE REQUIRED SPECIAL INSPECTIONS PERFORMED BY AN INDEPENDENT INSPECTOR, APPROVED BY CARRIER AND THE GOVERNING JURISDICTION, AS REQUIRED BY CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE FOR THE FOLLOWING:
 - PERIODIC FOR HIGH STRENGTH BOLT INSTALLATIONS (IF UTILIZED)
 - PERIODIC FOR POST-INSTALLED ANCHORS IN HARDENED CONCRETE
 - PERIODIC/CONTINUOUS FOR FIELD WELDING (IF UTILIZED)
- PROVIDE SPECIAL INSPECTIONS FOR OTHER ITEMS NOTED ON DRAWINGS TO CONFIRM COMPLIANCE WITH CONTRACT DOCUMENTS.
- STEEL FABRICATION SHALL BE DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION.
- SPECIAL INSPECTION IS NOT REQUIRED FOR WORK OF A MINOR NATURE OR AS WARRANTED BY CONDITIONS IN THE JURISDICTION AS APPROVED BY THE BUILDING OFFICIAL. THUS, SPECIAL INSPECTION ITEMS ABOVE MAY BE WAIVED AS DEEMED APPROPRIATE BY THE BUILDING OFFICIAL.
- THE SPECIAL INSPECTOR SHALL PROVIDE A COPY OF THE REPORT TO THE OWNER, ARCHITECT, STRUCTURAL ENGINEER, CONTRACTOR, AND BUILDING OFFICIAL.
- STRUCTURAL OBSERVATION NOT REQUIRED.

ABBREVIATIONS

A.B.	ANCHOR BOLT
AGL	ABOVE GRADE LEVEL
ARCH'L	ARCHITECTURAL DRAWINGS
B.C.	BOLT CIRCLE
BLDG	BUILDING
BLK	BLOCK
BLK'G	BLOCKING
BM	BEAM
BRN'G	BEARING
CANT'L	CANTILEVERED
C.L.	CENTER LINE
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONT	CONTINUOUS
DBL	DOUBLE
∅	DIAMETER
DTL	DETAIL
(E)	EXISTING
EA.	EACH
EL	ELEVATION
EOR	ENGINEER OF RECORD
FND	FOUNDATION
FTG	FOOTING
GL or GLB	GLUE LAMINATED (BEAM)
HDR	HEADER
HORIZ.	HORIZONTAL
H.D.	HOLD DOWN
I.D.	INNER DIAMETER
MFR	MANUFACTURER/MANUFACTURED
(N)	NEW
N.T.S.	NOT TO SCALE
o/	OVER
O.C.	ON CENTER
O.D.	OUTER DIAMETER
OPT'L	OPTIONAL
O.S.B.	ORIENTED STRAND BOARD
(P)	PROPOSED
PL	PLATE
REQ'D	REQUIRED
SHTH'G	SHEATHING
SHT	SHEET
SIM.	SIMILAR
STL	STEEL
THK	THICK
t/	TOP OF
T.O.F.	TOP OF FOOTING
T.O.W.	TOP OF WALL
T&B	TOP AND BOTTOM
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
w/	WITH
u/	UNDER



DATE: 8/9/2021	DESIGNED: BRF	DRAFTER: DKF
REVISIONS		
REV	DATE	DESCRIPTION

T-MOBILE

STRUCTURAL NOTES

CT11862C

5'-0" ENCLOSURE EXTENSION

1 FAIRFIELD AVENUE
DANBURY, CT 06810
FAIRFIELD COUNTY



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N1

REV
0

REVISIONS		
REV	DATE	DESCRIPTION

T-MOBILE

OVERALL ELEVATION VIEW

CT11862C

5'-0" ENCLOSURE EXTENSION

1 FAIRFIELD AVENUE
DANBURY, CT 06810
FAIRFIELD COUNTY

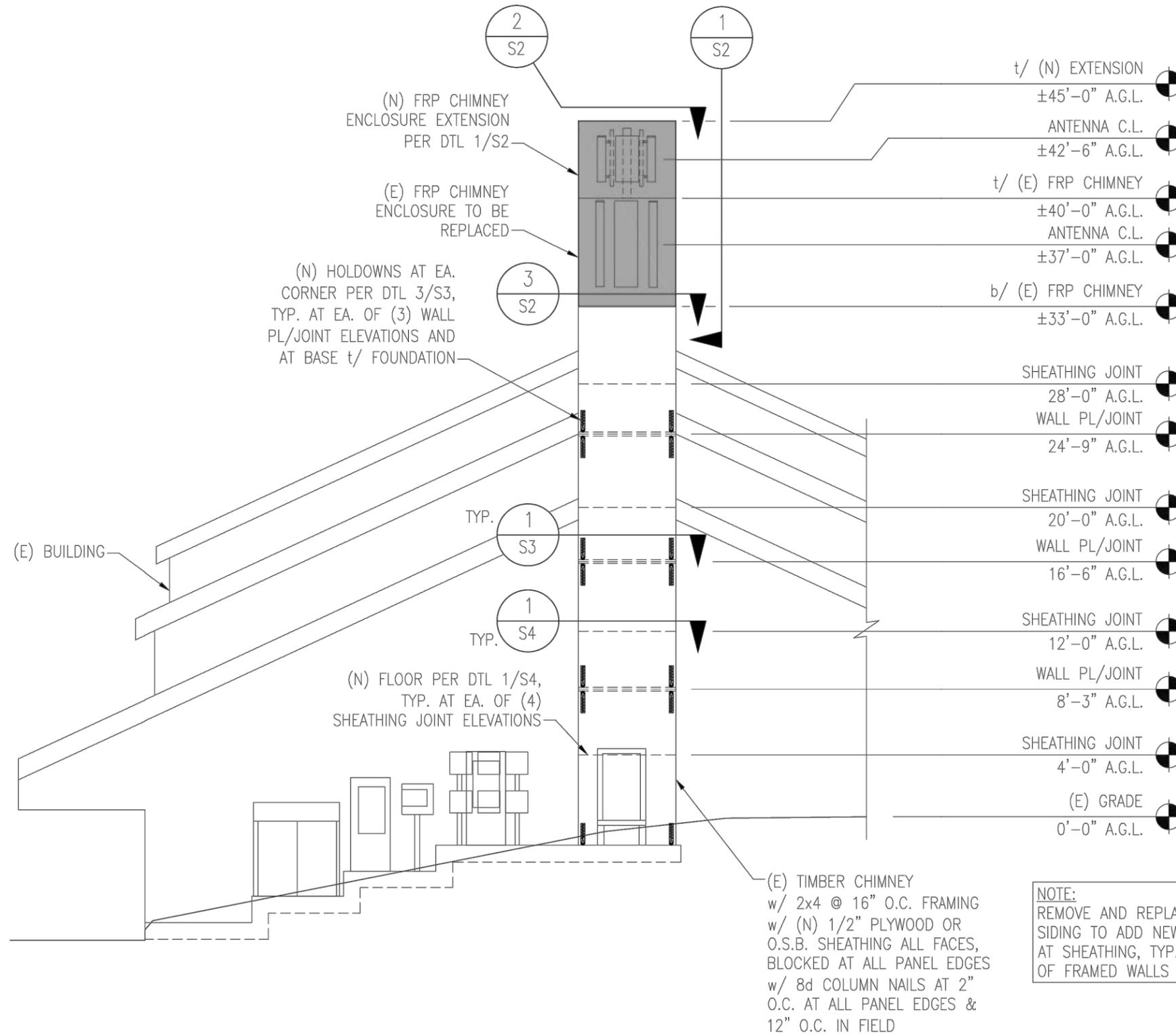


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S1

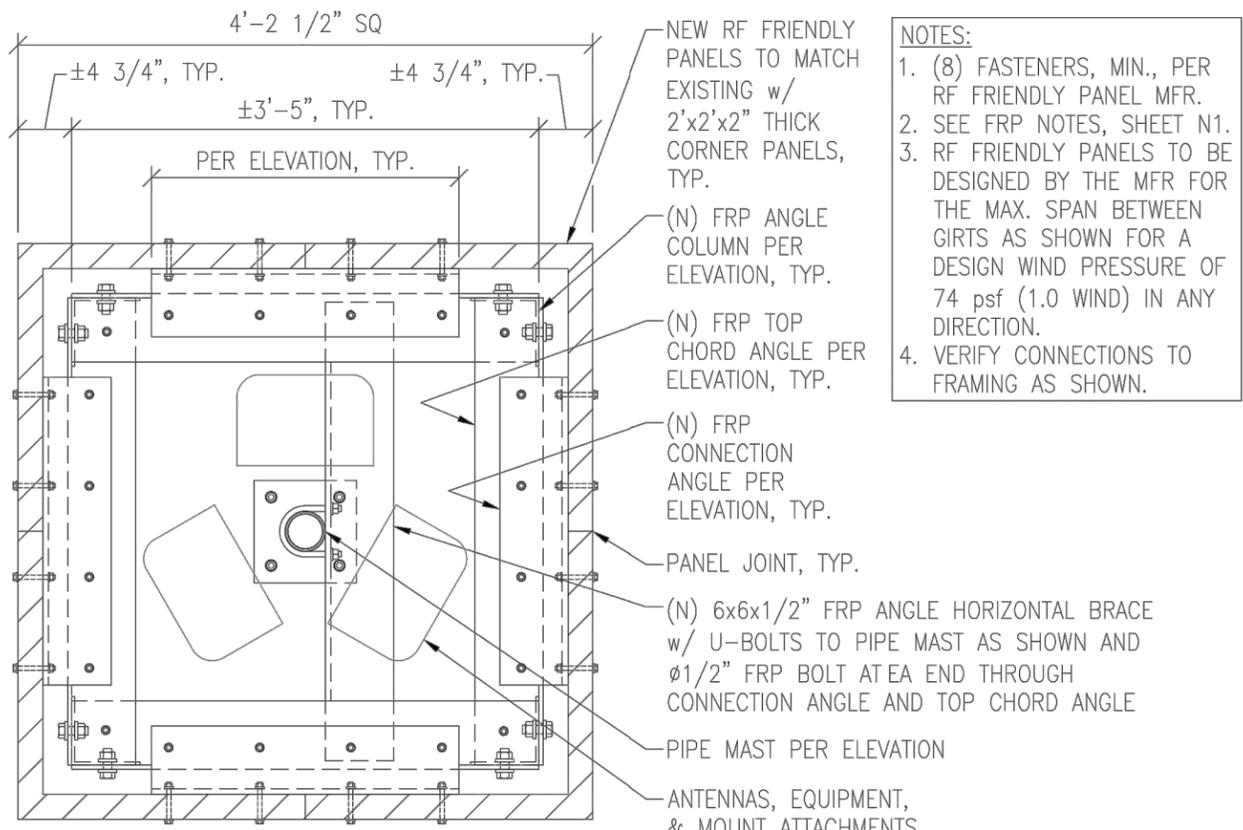
REV
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NOTE:
REMOVE AND REPLACE EXISTING
SIDING TO ADD NEW EDGE NAILING
AT SHEATHING, TYP. ALL FACES
OF FRAMED WALLS AT CHIMNEY.

OVERALL ELEVATION VIEW

N.T.S. 1

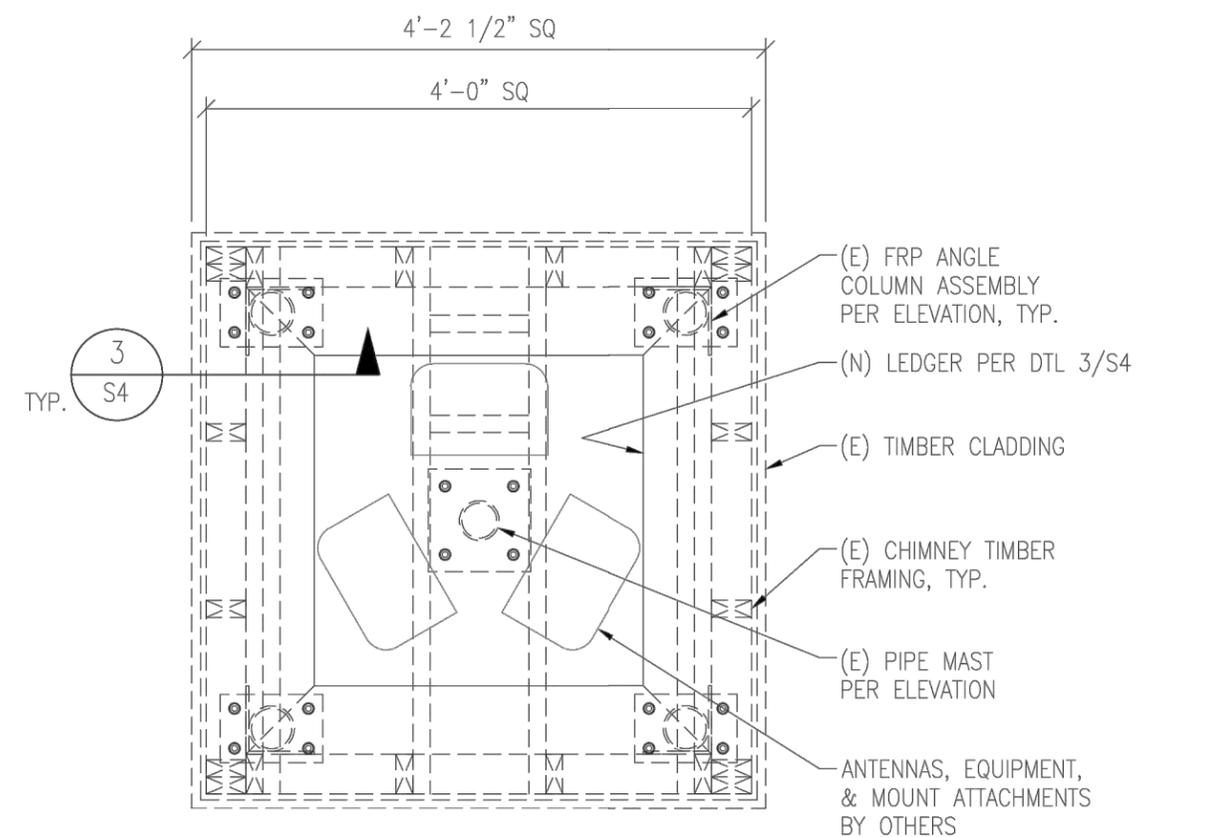


CHIMNEY PLAN VIEW - TOP

N.T.S.

2

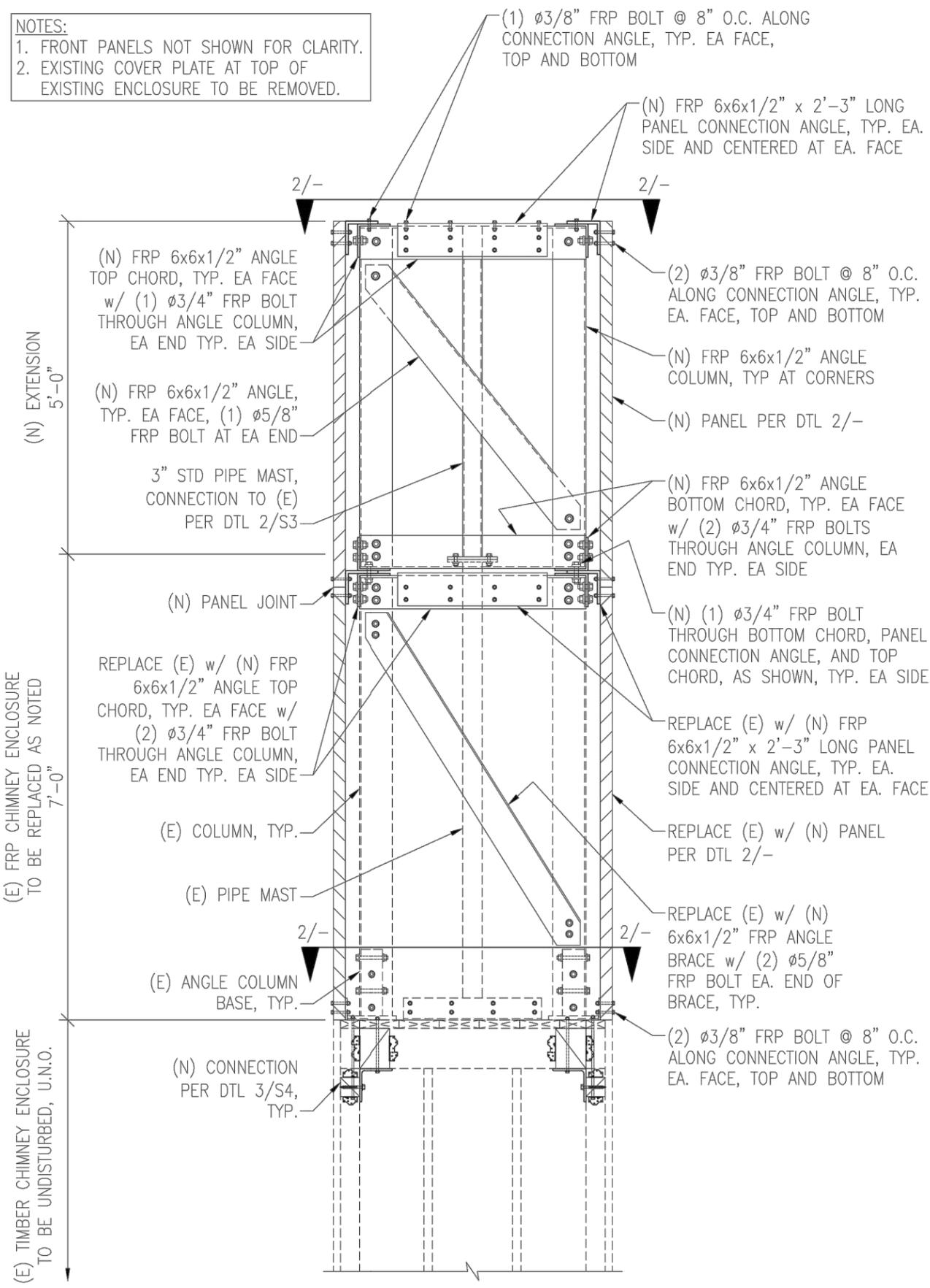
- NOTES:
- (8) FASTENERS, MIN., PER RF FRIENDLY PANEL MFR.
 - SEE FRP NOTES, SHEET N1.
 - RF FRIENDLY PANELS TO BE DESIGNED BY THE MFR FOR THE MAX. SPAN BETWEEN GIRTS AS SHOWN FOR A DESIGN WIND PRESSURE OF 74 psf (1.0 WIND) IN ANY DIRECTION.
 - VERIFY CONNECTIONS TO FRAMING AS SHOWN.



CHIMNEY SECTION VIEW

N.T.S.

3



CHIMNEY ELEVATION VIEW

N.T.S.

1

- NOTES:
- FRONT PANELS NOT SHOWN FOR CLARITY.
 - EXISTING COVER PLATE AT TOP OF EXISTING ENCLOSURE TO BE REMOVED.

(E) FRP CHIMNEY ENCLOSURE TO BE REPLACED AS NOTED

(E) TIMBER CHIMNEY ENCLOSURE TO BE UNDISTURBED, U.N.O.

REVISIONS		
REV	DATE	DESCRIPTION

T-MOBILE

CHIMNEY PLAN & ELEVATION VIEWS

CT11862C

5'-0" ENCLOSURE EXTENSION

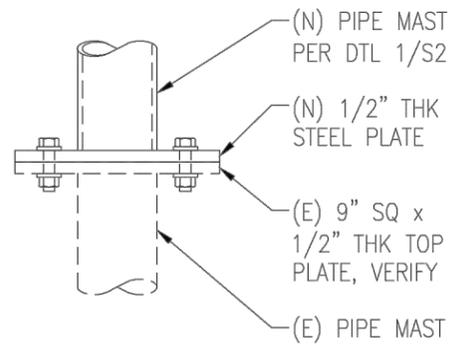
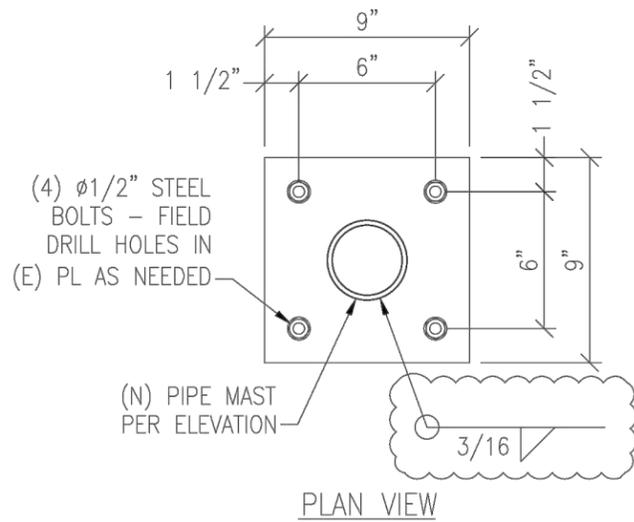
1 FAIRFIELD AVENUE
 DANBURY, CT 06810
 FAIRFIELD COUNTY



8/9/2021

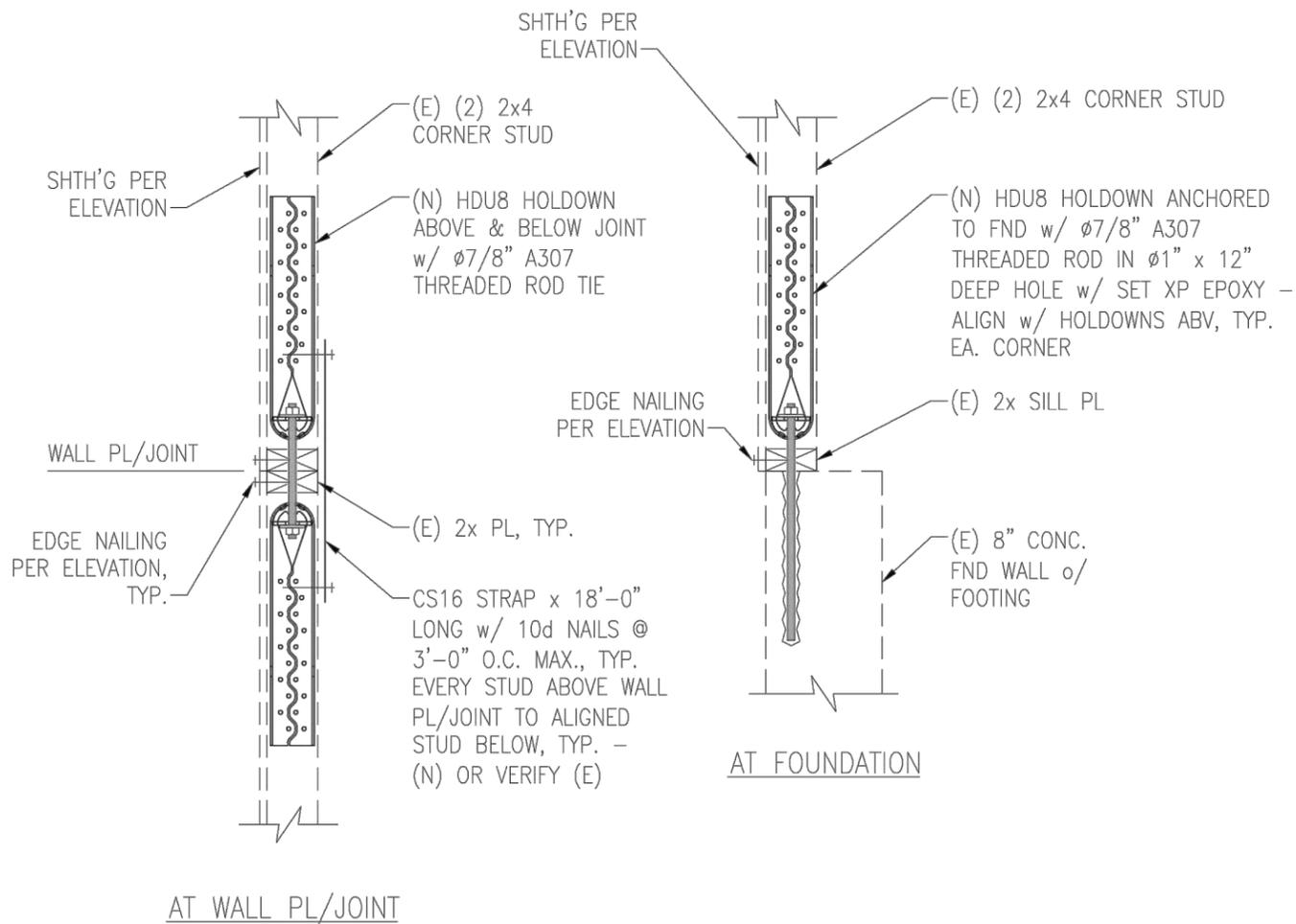
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S2 REV 0



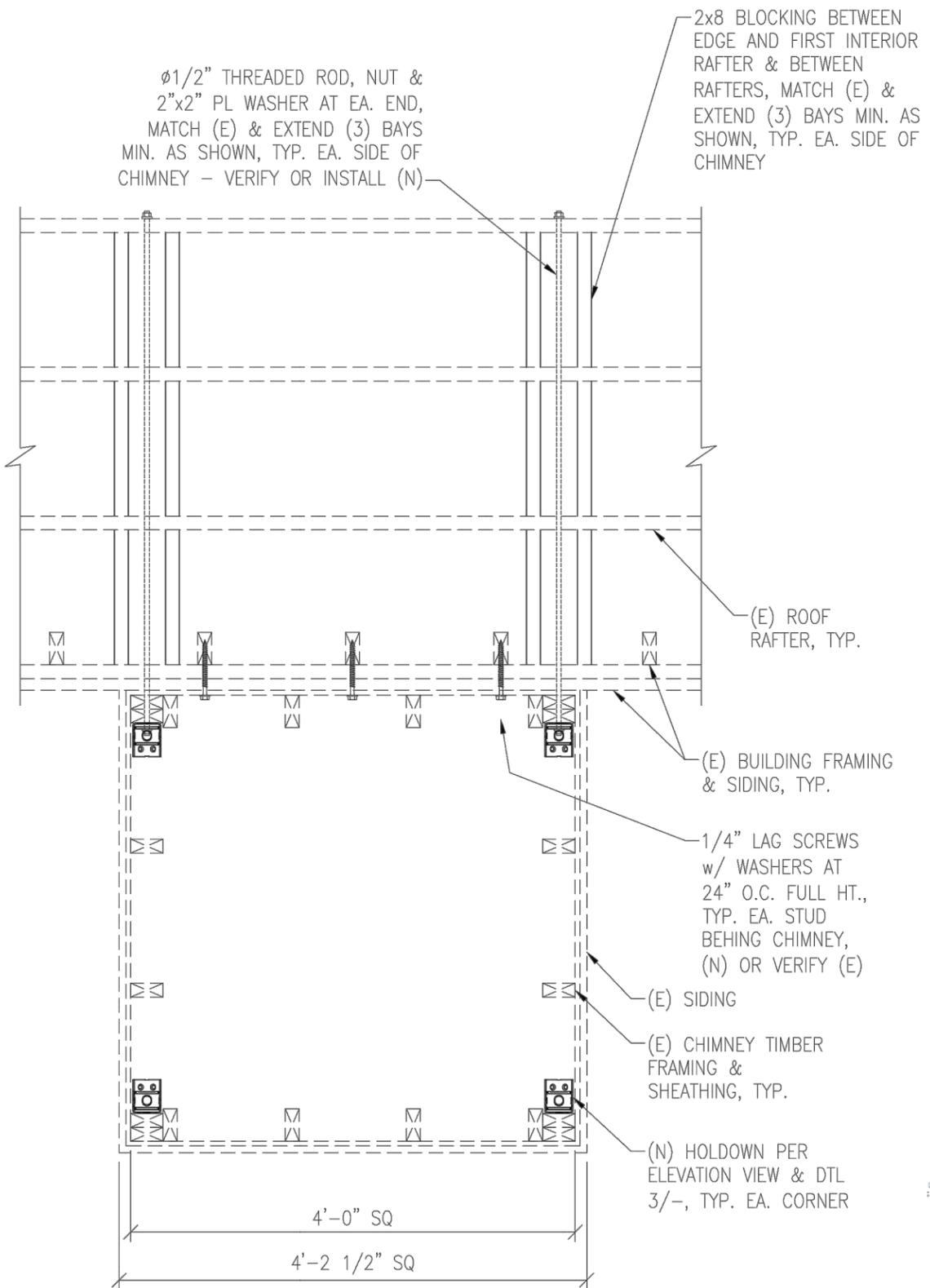
PIPE MAST CONNECTION
N.T.S.

2



HOLDOWN
N.T.S.

3



(E) CHIMNEY SECTION VIEW - TIMBER
N.T.S.

1

DATE: 8/9/2021	DESIGNED: BRJ	DRAFTER: DKF
REVISIONS		
REV	DATE	DESCRIPTION

T-MOBILE

STRUCTURAL DETAILS
CT11862C
5'-0" ENCLOSURE EXTENSION
1 FAIRFIELD AVENUE
DANBURY, CT 06810
FAIRFIELD COUNTY



8/9/2021
U4506.002.211

S3 REV 0

REVISIONS		
REV	DATE	DESCRIPTION

T-MOBILE

STRUCTURAL DETAILS

CT11862C

5'-0" ENCLOSURE EXTENSION

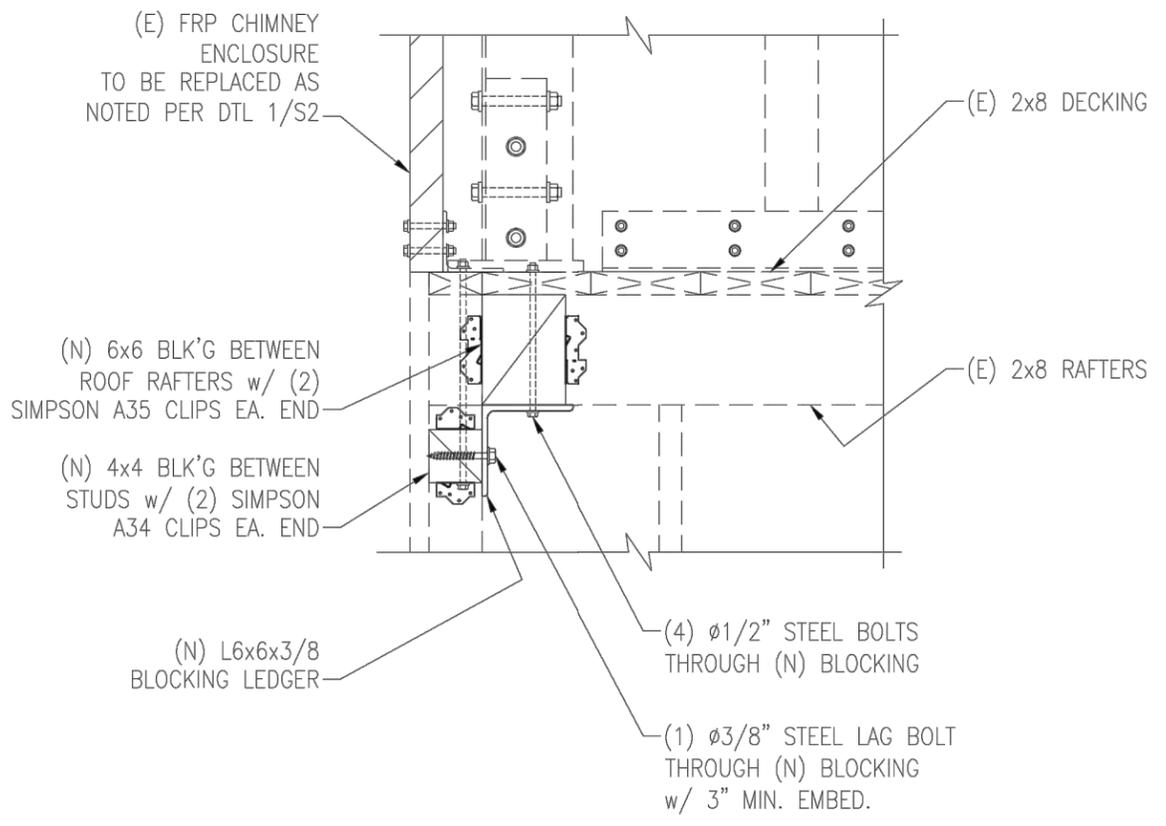
1 FAIRFIELD AVENUE
 DANBURY, CT 06810
 FAIRFIELD COUNTY



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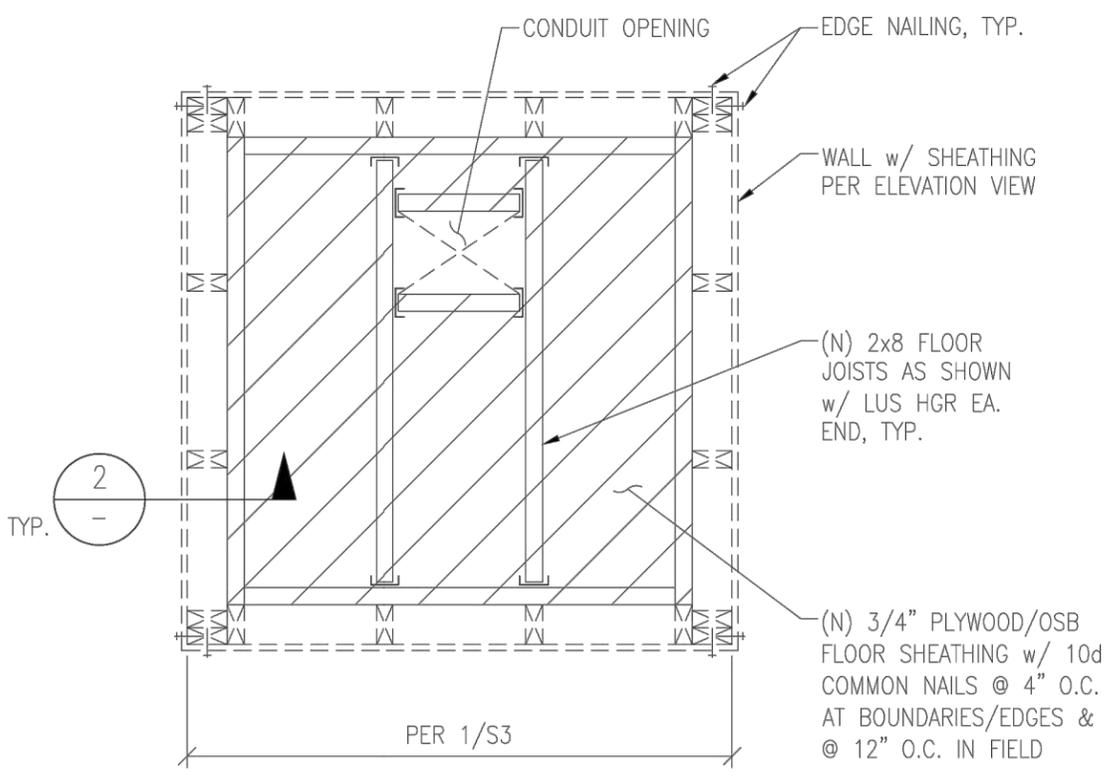
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S4	REV
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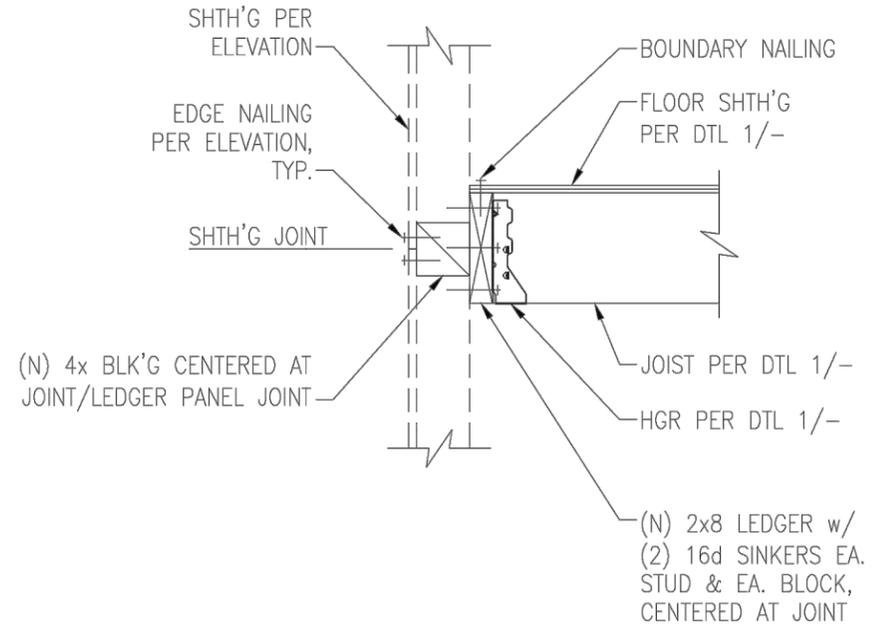
BLOCKING LEDGER CONNECTION
 N.T.S.

3



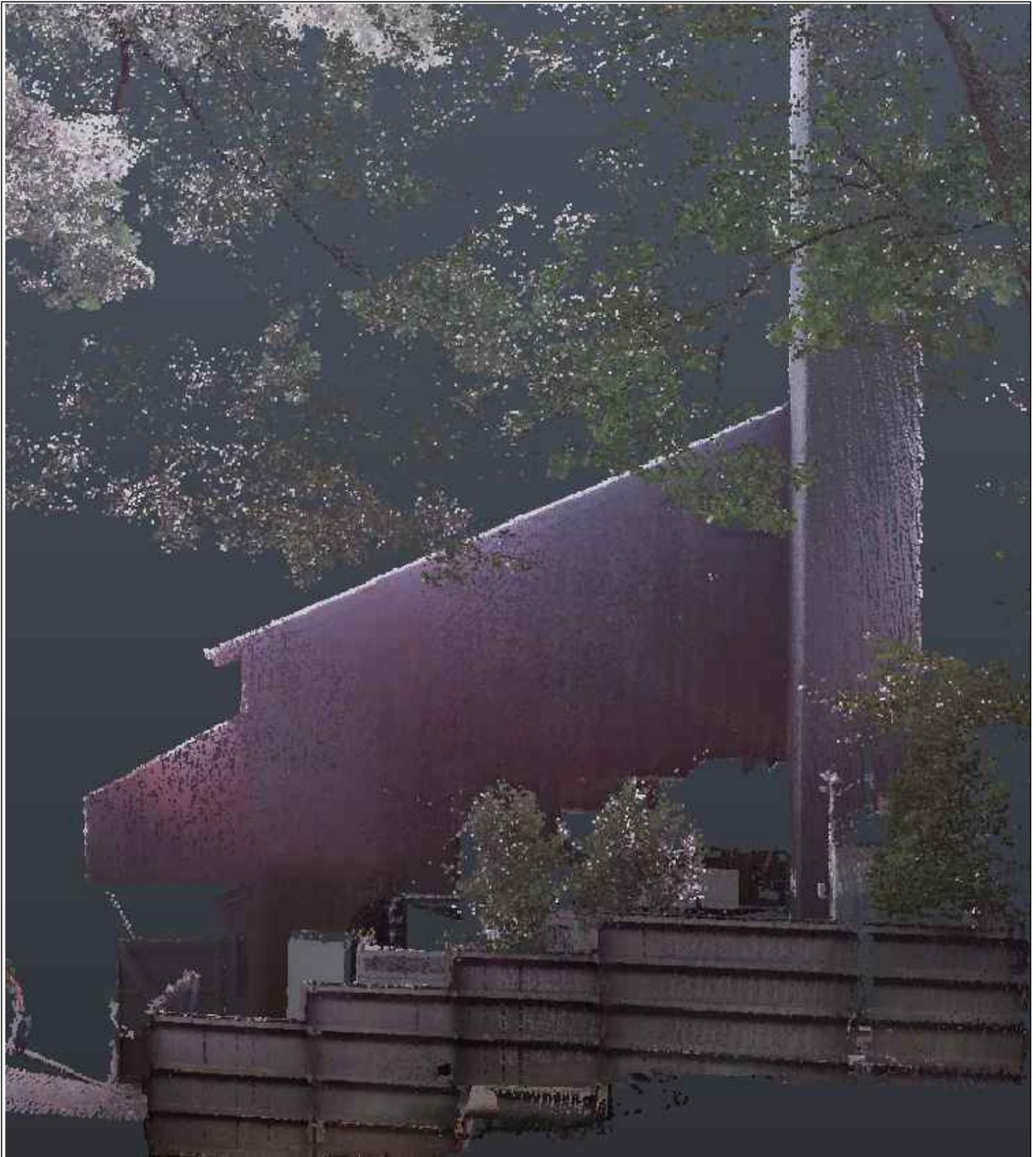
(E) CHIMNEY SECTION VIEW - FLOOR
 N.T.S.

1



WALL SECTION VIEW
 N.T.S.

2



SUBMITTALS

REV A	PRELIMINARY	11.09.20
REV B	EMERSON CAB.	11.10.20

FORESITE LLC
 Architects . Engineers . Surveyors
 462 WALNUT STREET
 NEWTON, MA 02460
 617-212-3123

PAGE LE - 3: SCAN IMAGE 1

LEASE EXHIBIT
 SITE NUMBER:
 CT11862C
 SITE NAME:
 CT862/TALL OAKS_STEALTH
 SITE ADDRESS:
 1 FAIRFIELD AVE.
 DANBURY, CT 06810

T-Mobile
T-MOBILE NORTHEAST LLC
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002
 860-692-7100


NORTHEAST
 SITE SOLUTIONS
Turnkey Wireless Development
 www.northeastitesolutions.com
 420 MAIN STREET, BLDG 4
 STURBRIDGE, MA 01566
 203-275-6669



SUBMITTALS			PAGE LE - 4: SCAN IMAGE 2		 T-MOBILE NORTHEAST LLC	 NORTHEAST SITE SOLUTIONS <i>Turnkey Wireless Development</i>
REV A	PRELIMINARY	11.09.20	LEASE EXHIBIT SITE NUMBER: CT11862C SITE NAME: CT862/TALL OAKS_STEALTH SITE ADDRESS: 1 FAIRFIELD AVE. DANBURY, CT 06810			
REV B	EMERSON CAB.	11.10.20				
 Architects . Engineers . Surveyors 462 WALNUT STREET NEWTON, MA 02460 617-212-3123			35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 860-692-7100		420 MAIN STREET, BLDG 4 STURBRIDGE, MA 01566 203-275-6669	



SUBMITTALS

REV A	PRELIMINARY	11.09.20
REV B	EMERSON CAB.	11.10.20

FORESITE LLC
 Architects . Engineers . Surveyors
 462 WALNUT STREET
 NEWTON, MA 02460
 617-212-3123

PAGE LE - 6: SCAN IMAGE 4

LEASE EXHIBIT
 SITE NUMBER:
 CT11862C
 SITE NAME:
 CT862/TALL OAKS_STEALTH
 SITE ADDRESS:
 1 FAIRFIELD AVE.
 DANBURY, CT 06810

T-Mobile
T-MOBILE NORTHEAST LLC

35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002
 860-692-7100



420 MAIN STREET, BLDG 4
 STURBRIDGE, MA 01566
 203-275-6669



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REV A	PRELIMINARY	11.09.20
REV B	EMERSON CAB.	11.10.20

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 462 WALNUT STREET
 NEWTON, MA 02460
 617-212-3123

PAGE LE - 7: SCAN IMAGE 5

LEASE EXHIBIT
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 CT11862C
 SITE NAME:
 CT862/TALL OAKS_STEALTH
 SITE ADDRESS:
 1 FAIRFIELD AVE.
 DANBURY, CT 06810

T-Mobile
T-MOBILE NORTHEAST LLC
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002
 860-692-7100


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SUBMITTALS

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REV B	EMERSON CAB.	11.10.20

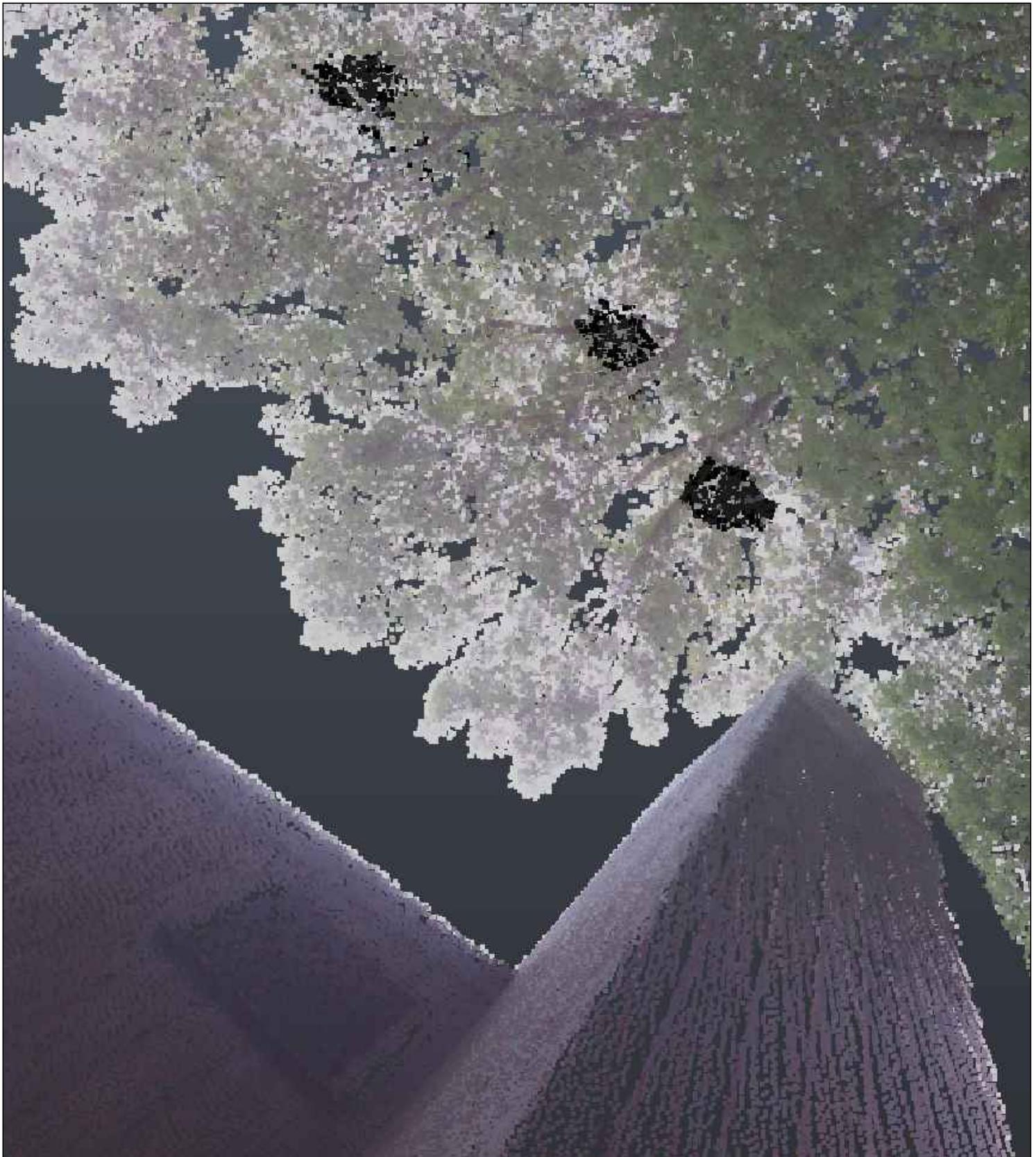
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 462 WALNUT STREET
 NEWTON, MA 02460
 617-212-3123

PAGE LE - 8: SCAN IMAGE 6

LEASE EXHIBIT
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 SITE NAME:
 CT862/TALL OAKS_STEALTH
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T-Mobile
T-MOBILE NORTHEAST LLC
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REV B	EMERSON CAB.	11.10.20

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PAGE LE - 10: SCAN IMAGE 8

LEASE EXHIBIT
 SITE NUMBER:
 CT11862C
 SITE NAME:
 CT862/TALL OAKS_STEALTH
 SITE ADDRESS:
 1 FAIRFIELD AVE.
 DANBURY, CT 06810

T-Mobile
T-MOBILE NORTHEAST LLC
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002
 860-692-7100


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ATTACHMENT 4



Project Number: U4506-002-211
 October 5, 2021

Structural Analysis report with upgrades

Prepared for:



T-Mobile Northeast, LLC
35 Griffin Road South
Bloomfield, CT 06002

T-Mobile Site Number: CT11862C

Site Location: 1 Fairfield Ave., Danbury, CT 06810

Subject And Reference:

The purpose of this analysis is to evaluate the structural capacity of the wireless telecommunication installation on the existing concealed monopole located at 1 Fairfield Ave., Danbury, CT 06810, for the additions and alterations proposed by T-Mobile, see Table 1 and 2. The structural analysis is based on the following information provided to Vector Engineers:

- Lease Exhibit prepared by Foresite LLC dated 11/10/2020.
- Structural opinion letter prepared by Vertical Resources Group, Inc. dated 02/17/2017.
- Construction documents prepared by Clough Harbour & Associates LLP, dated 12/30/2005.
- Chimney Design Computations prepared by Clough Harbour & Associates LLP, dated 12/30/2005.

Table 1. Existing Configuration of T-Mobile Appurtenances:

Sector	Rad Center (ft.)	Antennas & Equipment	Cables
Alpha, Beta, & Gamma	37	(3) Commscope - RV4PX306R (PENTA) Antennas (3) Generic Twin Style 1A-PCS TMAs (3) Generic Twin Style 1B - AWS TMAs (3) Ericsson Andrew Smart Bias Ts	(25) 7/8" coax (1) 6x12 HCS

Table 2. Proposed Configuration of T-Mobile Appurtenances:

Sector	Rad Center (ft.)	Antennas & Equipment	Cables
Alpha, Beta, & Gamma	37	(3) RFS - APXVAA4L18 43-U-NA20 (DoDeca) Antennas	(36) 7/8" coax
	42.5	(3) Ericsson AIR6449 B41 (Active Antenna - Massive MIMO) Antennas	

U4506-002-211
CT11862C

Please be advised as follows:

Based upon our calculations and review of the documents noted above, we conclude that the existing building chimney with upgrades and FRP enclosure extension, as shown in the structural drawings, are adequate to support the loads associated with the proposed equipment. Supporting calculations for the gravity and lateral loading on the existing chimney and FRP enclosure are attached.

The recommendations above are provided based upon calculations prepared by our office and information the client provided. A representative from Vector has not visited the site. The analysis and conclusions described above are limited to those elements of the structure included in this report only and are based on the assumption that the structure was properly designed and constructed. Mount analysis for the proposed antenna equipment and cabinet anchorage design are not part of this scope and are by others. Vector Structural Engineering makes no claim as to the correctness of the original design or the current condition of the structure, which is assumed to be in good condition, free of damage or deterioration. The contractor shall notify Vector Structural Engineering immediately should any damage, deterioration or discrepancies between the as-built condition of the existing structure and the assumed condition described in this report and on the drawings be found.

We hope this meets your needs. If you have any further questions regarding this matter, please call this office at your convenience.

Very truly yours,

VECTOR STRUCTURAL ENGINEERING, LLC

Wells L. Holmes, P.E.
Project Engineer

WLH/brf
Enclosures



8/9/2021



JOB NO.: U4506.002.211

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PROJECT: CT11862C

Design Criteria:

Code: Structural design is based on the International Building Code, 2015 Edition and the ASCE 7-10 standard.

Wind: Basic wind speed = 120 mph (3-second gust) per the ASCE 7-10 standard
 Risk Category: II
 Wind exposure: C

Seismic: Component Importance Factor, $I_p = 1.0$

Risk Category: II

Mapped spectral response accelerations: $S_s = 0.217g$ $S_1 = 0.067g$

Site class: D

Spectral response coefficients: $S_{DS} = 0.231g$ $S_{D1} = 0.107g$

Seismic design category: B

Analysis procedure: Equivalent Lateral Force

General Notes:

- 1 The contractor shall verify dimensions, conditions and elevations before starting work. The engineer shall be notified immediately if any discrepancies are found.
- 2 The typical notes and details shall apply in all cases unless specifically detailed elsewhere. Where no detail is shown, the construction shall be as shown for other similar work and as required by the building code.
- 3 These calculations are limited to the structural members shown in these calculations only.
- 4 The contractor shall be responsible for compliance with local construction safety orders. Approval of shop drawings by the architect or structural engineer shall not be construed as accepting this responsibility.
- 5 All structural framing members shall be adequately shored and braced during erection and until full lateral and vertical support is provided by adjoining members.

Structural Steel:

- 1 All structural steel code checks based on the AISC, 14th Edition per the ASCE 7 standard
- 2 All steel pipe to be per ASTM A53 GR. B (35 KSI), U.N.O.
- 3 All steel round tubes (HSS) to be per ASTM A500 GR. B (42 KSI), U.N.O.
- 4 All steel rectangular tubes (HSS) to be per ASTM A500 GR. B (46 KSI), U.N.O.
- 5 All other structural steel shapes & plates shall be per ASTM A36, U.N.O.
- 6 All bolts for steel-to-steel connections shall be per ASTM F3125 GR. A325 U.N.O.
- 7 All bolted connections shall be tightened per the "turn-of-nut" method as defined by AISC.
- 8 All welding shall be performed by certified welders in accordance with the latest edition of the American Welding Society (AWS) D1.1
- 9 All steel surfaces shall be galvanized in accordance with ASTM A123 and ASTM F2329 standards, thoroughly coated with a zinc-rich primer, or otherwise protected as noted on the structural drawings.



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PROJECT: CT11862C

Fiberglass Reinforced Plastic (FRP):

- 1 All structural shapes shall be Bedford Reinforced Plastics produced using the pultrusion process.
- 2 All cut edges and holes shall be sealed with a resin compatible with the resin matrix used in the structural shape.
- 3 The fabricator and contractor shall exercise precautions necessary to protect the fiberglass pultruded structural shapes from abuse to prevent breakage, nicks, gouges, etc. during fabrication, handling, and installation.
- 4 Structural shapes shall be fabricated and assembled as indicated on the design drawings.
- 5 FRP threaded rods and nuts shall be tightened to snug tight and turned an additional 1/2 turn and locked with epoxy



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PROJECT: CT11862C

DESIGN WIND LOADS ON OTHER STRUCTURES:

(Chimneys, Tanks, Rooftop Equipment, & Similar Structures)

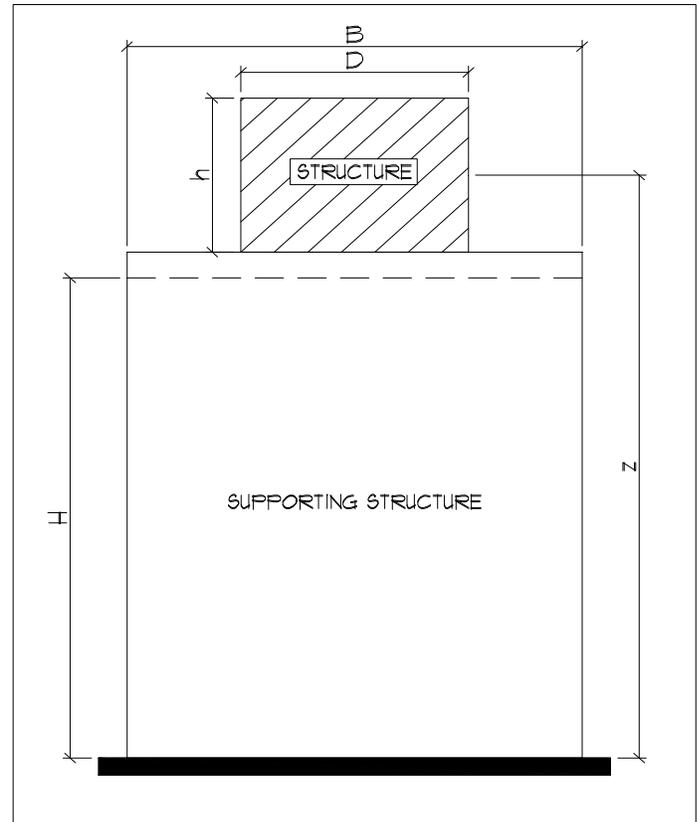
Label: Enclosure Wind

INPUT DATA:

Basic Wind Speed, V [mph]:	120
Exposure Category:	C
Importance Factor, I:	1.00
Structure:	
Cross-Section:	Square
Height, h [ft]:	12.0
Least Horizontal Dimension, D [ft]:	4.2
Average Elevation, z [ft]:	39.0
For Non-Rooftop, Flexible Structures, (if $n_1 < 1$ Hz):	
Depth, L [ft]:	
Natural Frequency, n_1 [Hz]:	
Damping Ratio, ζ :	0.005
Rooftop Structure?	Yes
Supporting Structure (of Rooftop Structure):	
Height, H [ft]:	30.0
Minimum Width, B [ft]:	55.0
For Flexible Supporting Structures, (if $n_1 < 1$ Hz):	
Depth, L [ft]:	
Natural Frequency, n_1 [Hz]:	
Damping Ratio, ζ :	0.005

DESIGN SUMMARY:

Design Wind Pressure, p [psf]:	74.0
Design Wind Pressure - Diagonal, p_d [psf]:	57.3





JOB NO.: U4506.002.211
PROJECT: CT11862C
SUBJECT: Appurtenance Mounting Systems
 (TIA-222-H Chapter 16)

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Location: Antenna Mount (Enclosed)
 On a: building at 42.5 ft A.G.L.

Wind per: Indoor/Enclosed
 Seismic per: ASCE 7

Appurtenances

	(P) Ericsson AIR6449	(P) RFS APXVAA4L18_43-U								
Unit Weight (lbs)	105	131.3								
Quantity	3	3								
Height (Y) (in)	33.1	72								
Width/Diameter (X) (in)	20.6	24								
Depth (Z) (in)	8.6	8.5								
Shape:	Flat	Flat								

Wind Force per Unit:

(EPA) _N (ft ²)	5.68	14.67
(EPA) _T (ft ²)	2.49	6.16
Factored (LRFD): (1.0W)		
Normal Force (K _a *q _z *G _h *(EPA) _N)	28.4	73.3
Tangential Force (K _a *q _z *G _h *(EPA) _T)	12.5	30.8

Seismic Force per Unit:

Factored (LRFD): (1.0E)		
Lateral (lbs)	11.7	14.6
Vertical (lbs)	4.9	6.1

Dead Load, D:

Weight of Structure:	W _S =	<input type="text" value="191"/>	lb	(1.05 x Material Weight from RISA Model)
Weight of Appurtenances:	W _A =	<input type="text" value="709"/>	lb	
Total Weight:	W _P =	<input type="text" value="900"/>	lb	

Wind Load, W:

(5 psf 'Indoor/Enclosed' Wind Pressure)

Indoor/Enclosed Wind Pressure:	<input type="text" value="5.0"/>	psf	
Total Factored X-Direction Wind (Appurt. & Structure):	F _{WX} =	<input type="text" value="305"/>	lb
Total Factored Z-Direction Wind (Appurt. & Structure):	F _{WZ} =	<input type="text" value="130"/>	lb

Wind Controls
Wind Controls



JOB NO.: U4506.002.211
PROJECT: CT11862C
SUBJECT: Appurtenance Mounting Systems
 (TIA-222-H Chapter 16)

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Seismic Load, E:

(ASCE 7, Section 13.3: Seismic Demands on Non-Structural Components)

Risk Category / Structure Class:	<input type="text" value="II"/>	
Seismic Design Category:	<input type="text" value="B"/>	
Component Importance Factor:	$I_p =$ <input type="text" value="1.00"/>	(ASCE 7, Section 13.1.3)
Site Class:	<input type="text" value="D"/>	
Mapped Spectral Response Acc. Parameter (Short Periods):	$S_s =$ <input type="text" value="0.217"/>	(ASCE 7, Section 11.4.1)
Mapped Spectral Response Acc. Parameter (1 s Period):	$S_1 =$ <input type="text" value="0.067"/>	(ASCE 7, Section 11.4.1)
Design Spectral Response Acc. Parameter (Short Periods):	$S_{DS} =$ <input type="text" value="0.231"/>	(ASCE 7, Section 11.4.4)
Design Spectral Response Acc. Parameter (1 s Period):	$S_{D1} =$ <input type="text" value="0.107"/>	(ASCE 7, Section 11.4.4)
Component Response Modification Factor:	$R_p =$ <input type="text" value="2.5"/>	(ASCE 7, Table 13.6-1: Communication Equipment)
Component Amplification Factor:	$a_p =$ <input type="text" value="1.0"/>	(ASCE 7, Table 13.6-1: Communication Equipment)
Overstrength Factor (req'd for anchorage to concrete):	$\Omega_o =$ <input type="text" value="2.0"/>	(ASCE 7, Table 13.6-1: Communication Equipment)
Component Attachment Height (Above Base of Structure):	$z =$ <input type="text" value="1.0"/> ft	
Average Height of Top of Structure (Above Base):	$h =$ <input type="text" value="1.0"/> ft	
	$z/h =$ <input type="text" value="1.0"/>	(ASCE 7, Equation 13.3-1)
Lateral Seismic Design Force Weight Multiplier:	$F_p/W =$ <input type="text" value="0.111"/>	(ASCE 7, Section 13.3.1.1)
Vertical Seismic Design Force Weight Multiplier:	$F_v/W =$ <input type="text" value="0.046"/>	(ASCE 7, Section 13.3.1.2)
Unfactored X-Direction Seismic Design Force:	$F_{p,x} =$ <input type="text" value="100"/> lb	(ASCE 7, Section 13.3.1.1)
Unfactored Z-Direction Seismic Design Force:	$F_{p,z} =$ <input type="text" value="100"/> lb	(ASCE 7, Section 13.3.1.1)
Unfactored Vertical Seismic Design Force:	$F_v =$ <input type="text" value="42"/> lb	(ASCE 7, Section 13.3.1.2)
Total Factored (LRFD) X-Dir Seismic Design Force:	$1.0 \cdot F_{p,x} =$ <input type="text" value="100"/> lb	
Total Factored (LRFD) Z-Dir Seismic Design Force:	$1.0 \cdot F_{p,z} =$ <input type="text" value="100"/> lb	
Total Factored (LRFD) Vertical Seismic Design Force:	$1.0 \cdot F_v =$ <input type="text" value="42"/> lb	

Ice Load, Di & Wi:

(TIA-222-G, Section 2.6: Wind and Ice Loads)

Does Ice Need to be Considered?:	<input type="text" value="No"/>	
Design Ice Thickness:	$t_i =$ <input type="text" value="0"/> in	(TIA-222-H, Section 2.6.10)

Live Loads, L:

Maintenance Load at Mount Pipe:	$L_M =$ <input type="text" value="N/A"/> lbs	(TIA-222-H, Section 16.3) - Apply at worst-case mount pipe
Maintenance Load at Center of Horizontal Beam:	$L_V =$ <input type="text" value="N/A"/> lbs	(TIA-222-H, Section 16.3) - Apply for beam supported at each end
Area Load:	<input type="text" value="N/A"/> psf	
Affected Area:	<input type="text" value="N/A"/> ft ²	

Snow Loads, S:

Design Roof Snow Load:	$S =$ <input type="text" value="N/A"/> psf	(ASCE 7, Chapter 7)
------------------------	--	---------------------

Summary:

Vertical Loads Controlled By:	"1.4 Dead" Load Combo
X-Direction Horizontal Loads Controlled By:	Wind Load Combos
Z-Direction Horizontal Loads Controlled By:	Wind Load Combos



JOB NO.: U4506.002.211

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PROJECT: CT11862C

LOADS SUMMARY

Label: FRP: Bedford

Dead Load, D:

Component:	Weight							
6x6x1/2 FRP Angle:	4.80	plf	Length =	143.5	ft	Total =	689	lb
3" STD Steel Pipe:	7.58	plf	Length =	12	ft	Total =	91	lb
3-1/2" STD Steel Pipe:	9.11	plf	Length =	4	ft	Total =	36	lb
3/8" FRP Plate:	3.56	psf	Area =	202	ft^2	Total =	720	lb
L4x4x1/4Steel Angle:	6.60	plf	Length =	8.3	ft	Total =	55	lb
Misc:	967.9856	lb	Number =	1		Total =	968	lb
						W _p =	2559	lb

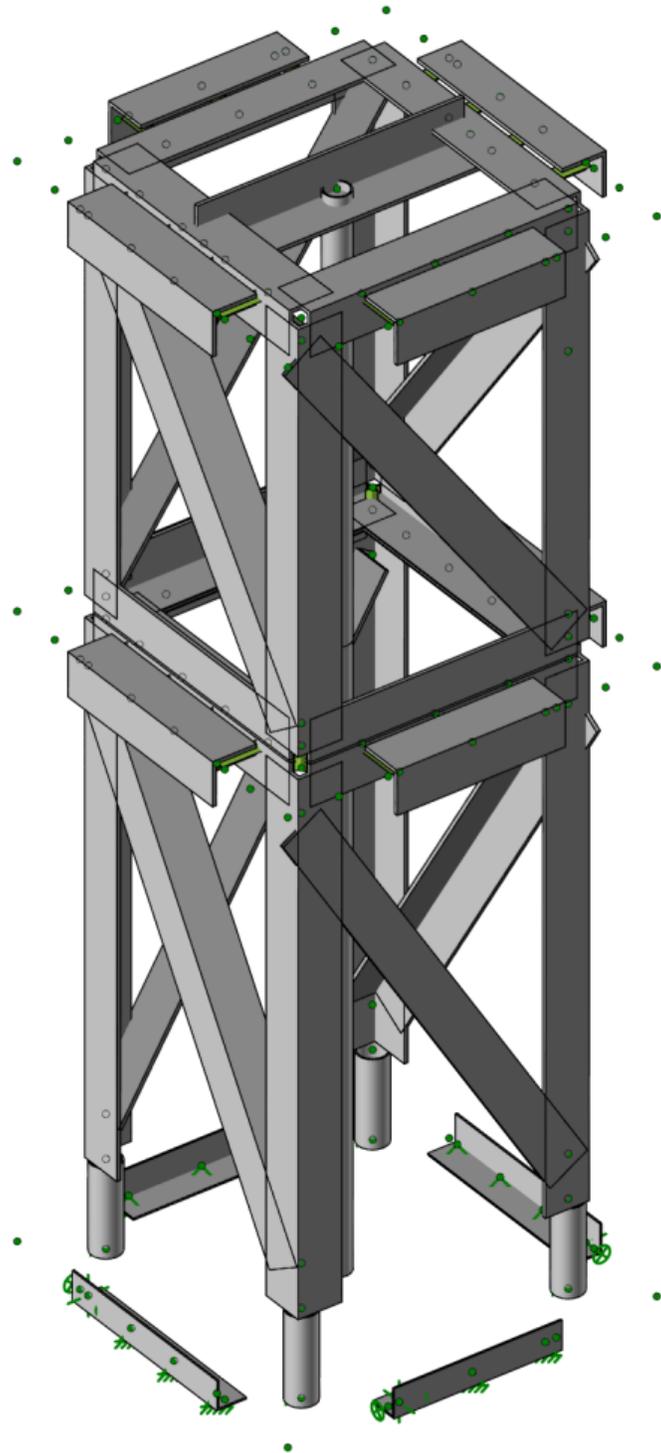
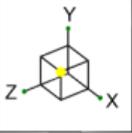
Wind Load, W:

p = psf (ASD pressure - see wind calcs)
 Height, h: ft
 Max. Horiz. Dim.: ft V_{trans}: lb **Controls**
 Min. Horiz. Dim.: ft V_{long}: lb **Controls**

Seismic Load, E: Consider Seismic:

Architectural Component:

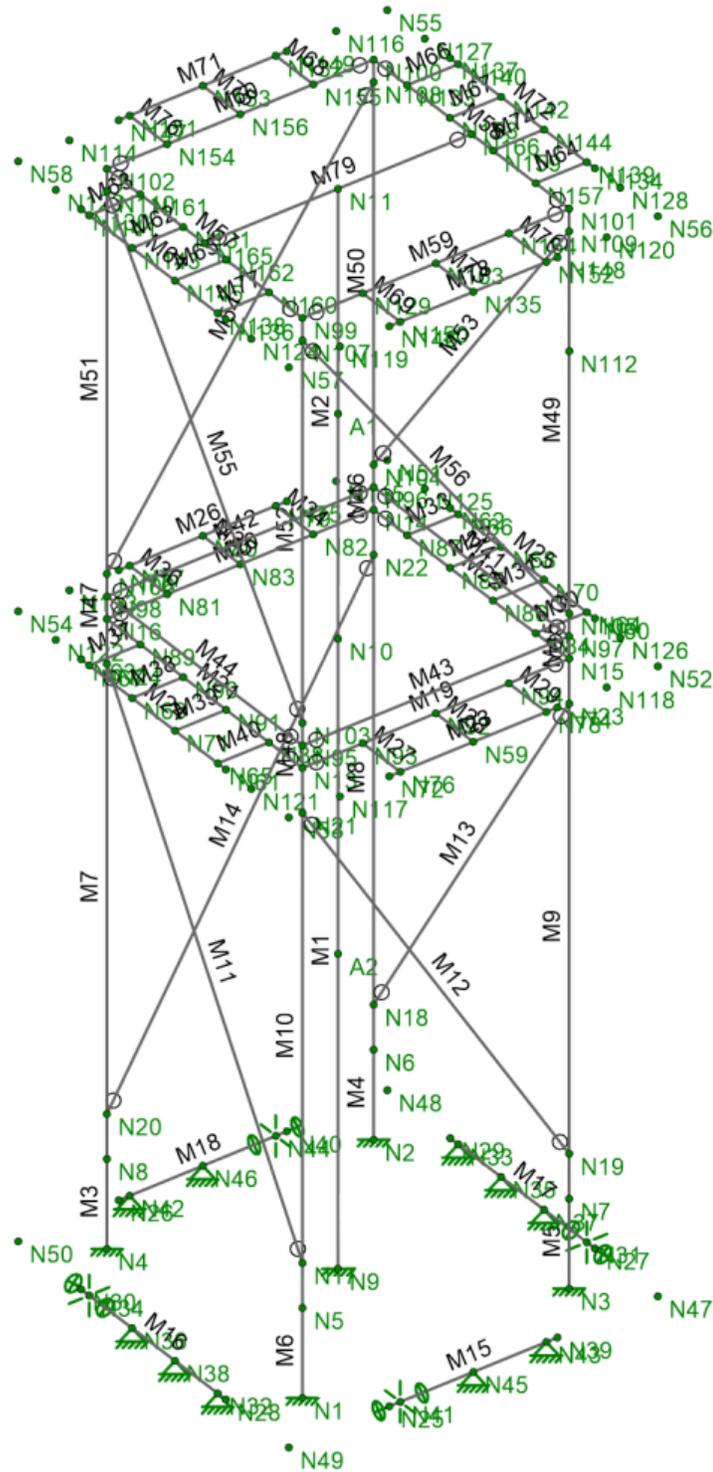
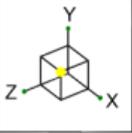
Risk Category:	<input type="text" value="II"/>	F _a =	<input type="text" value="1.6"/>
Seismic Design Category:	<input type="text" value="B"/>	F _v =	<input type="text" value="2.4"/>
I _p =	<input type="text" value="1.0"/>	S _{MS} =	<input type="text" value="0.347"/>
Site Class:	<input type="text" value="D"/>	S _{M1} =	<input type="text" value="0.161"/>
R _p =	<input type="text" value="2.5"/>	S _{DS} =	<input type="text" value="0.231"/>
S _s =	<input type="text" value="0.217"/>	S _{D1} =	<input type="text" value="0.107"/>
S ₁ =	<input type="text" value="0.067"/>		
a _p =	<input type="text" value="2.5"/>	0.7 * F _{p,min} =	<input type="text" value="124"/> lb
z =	<input type="text" value="1.0"/> ft	0.7 * F _{p,max} =	<input type="text" value="663"/> lb
h =	<input type="text" value="1.0"/> ft	0.7 * F _{p,trans} =	<input type="text" value="498"/> lb
z/h =	<input type="text" value="1.0"/>	0.7 * F _{p,long} =	<input type="text" value="498"/> lb
		0.7 * F _{p,vert} =	<input type="text" value="83"/> lb



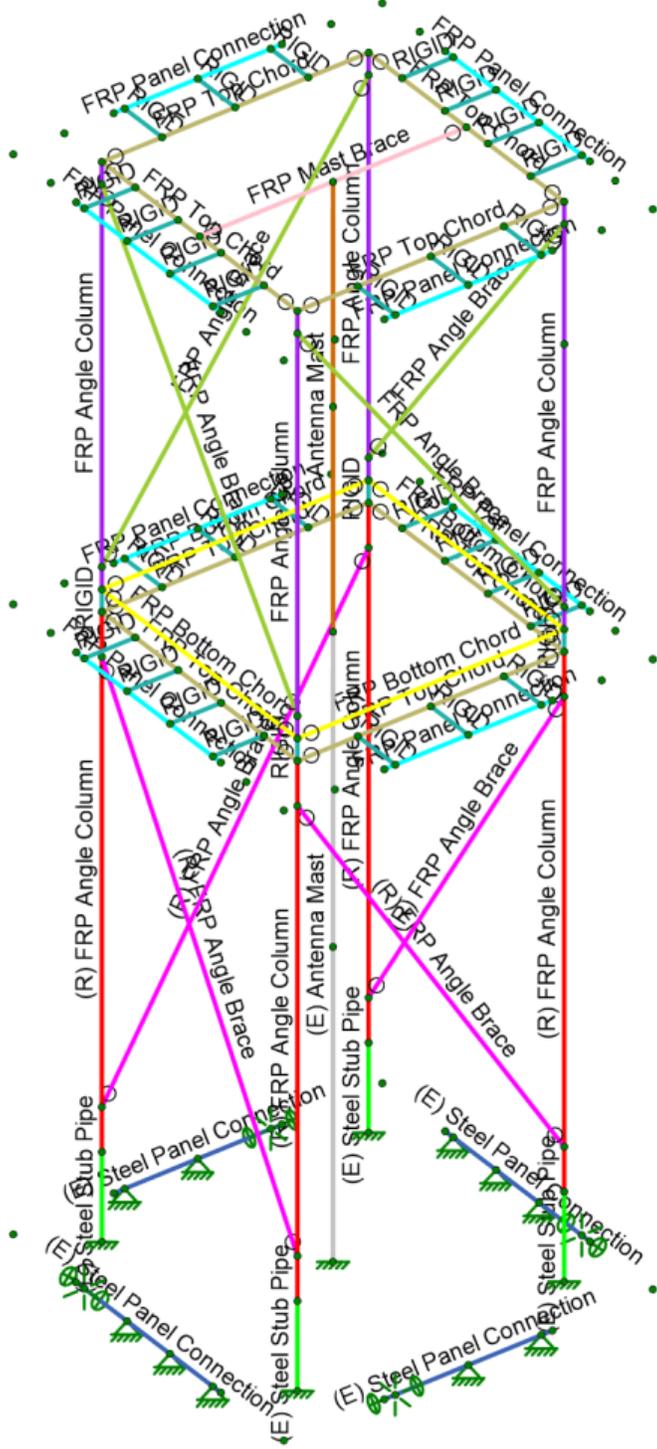
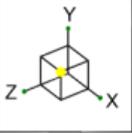
VSE
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U4506.002.211

CT11862C

SK-1
Aug 05, 2021
Enclosure.r3d

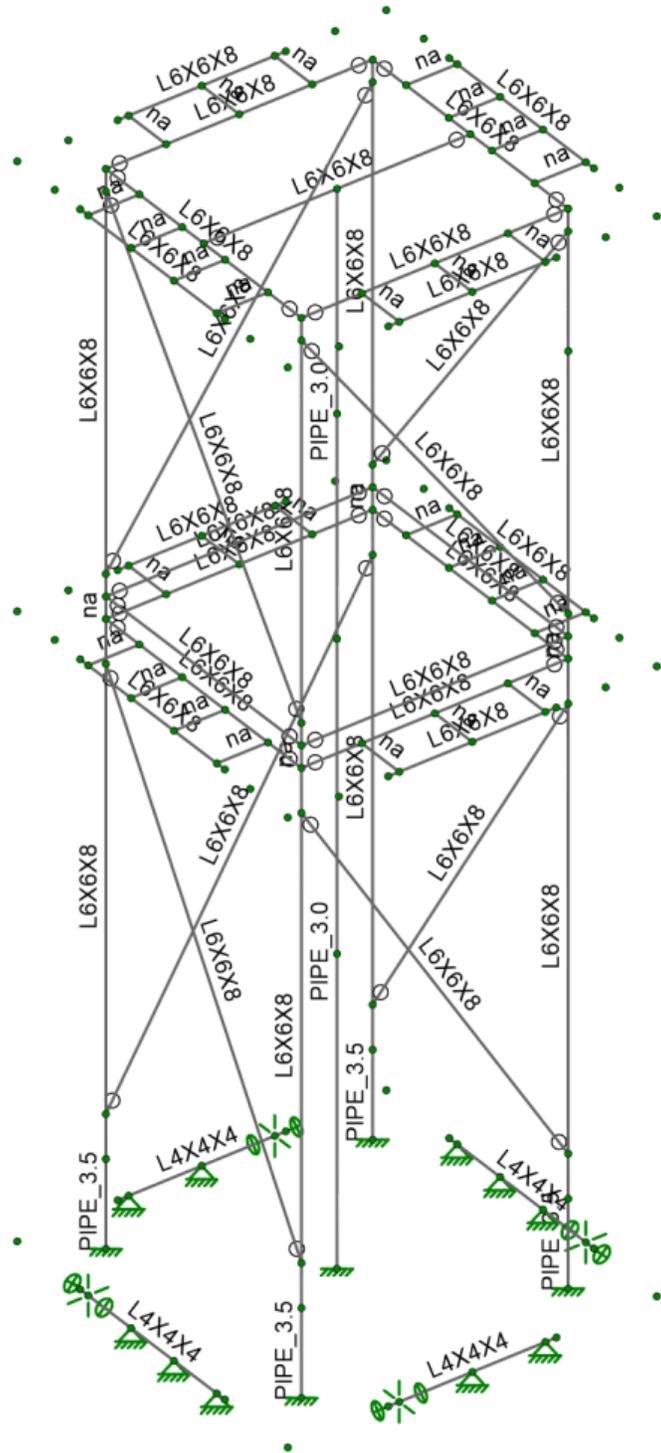
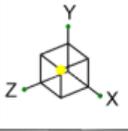


VSE	CT11862C	SK-2
BRF		Aug 05, 2021
U4506.002.211		Enclosure.r3d



Section Sets	
[Blue Box]	(E) Steel Panel Connection
[Green Box]	(E) Steel Stub Pipe
[Red Box]	(R) FRP Angle Column
[Grey Box]	(E) Antenna Mast
[Magenta Box]	(R) FRP Angle Brace
[Cyan Box]	FRP Panel Connection
[Brown Box]	Antenna Mast
[Yellow Box]	FRP Bottom Chord
[Purple Box]	FRP Angle Column
[Light Green Box]	FRP Top Chord
[Olive Box]	FRP Angle Brace
[Pink Box]	FRP Mast Brace
[Teal Box]	RIGID

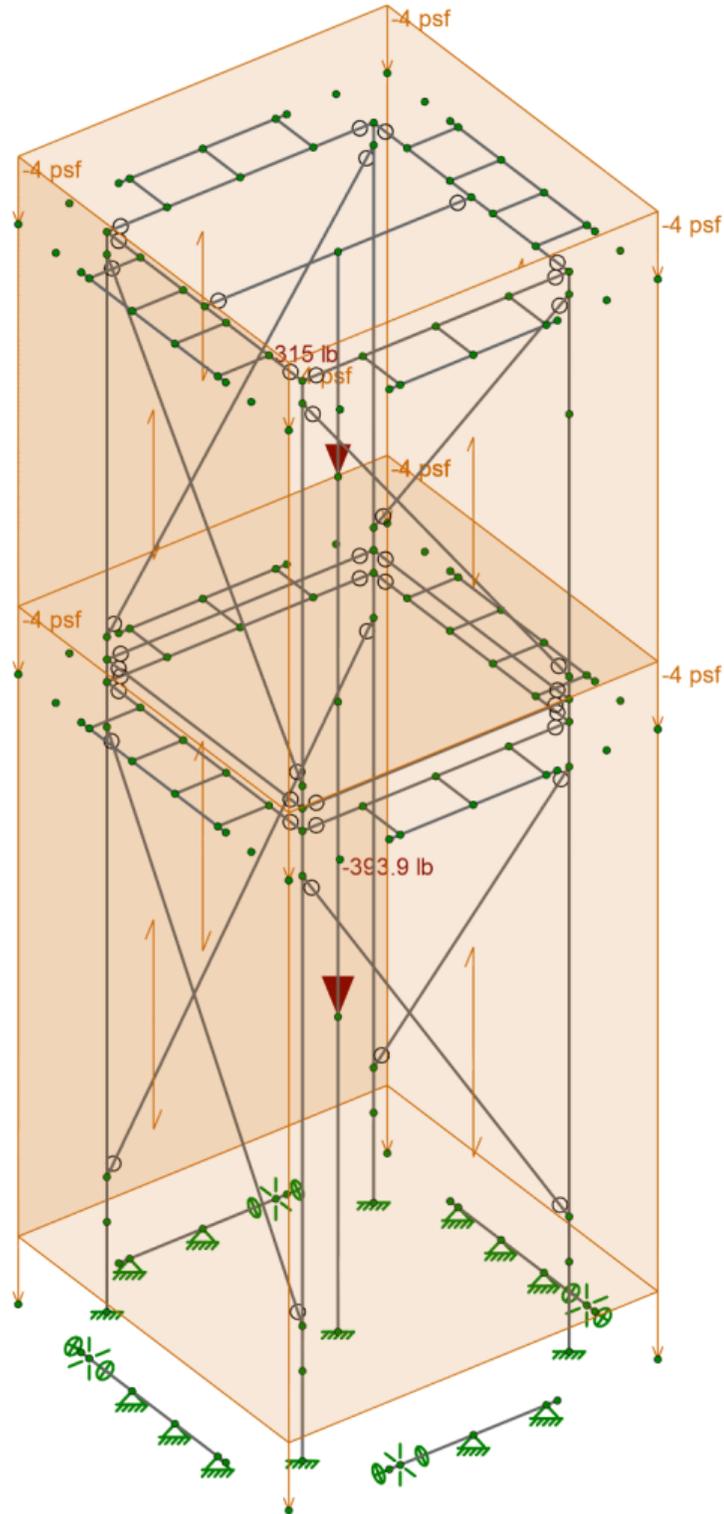
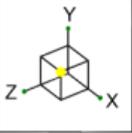
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BRF		Aug 05, 2021
U4506.002.211		Enclosure.r3d



VSE
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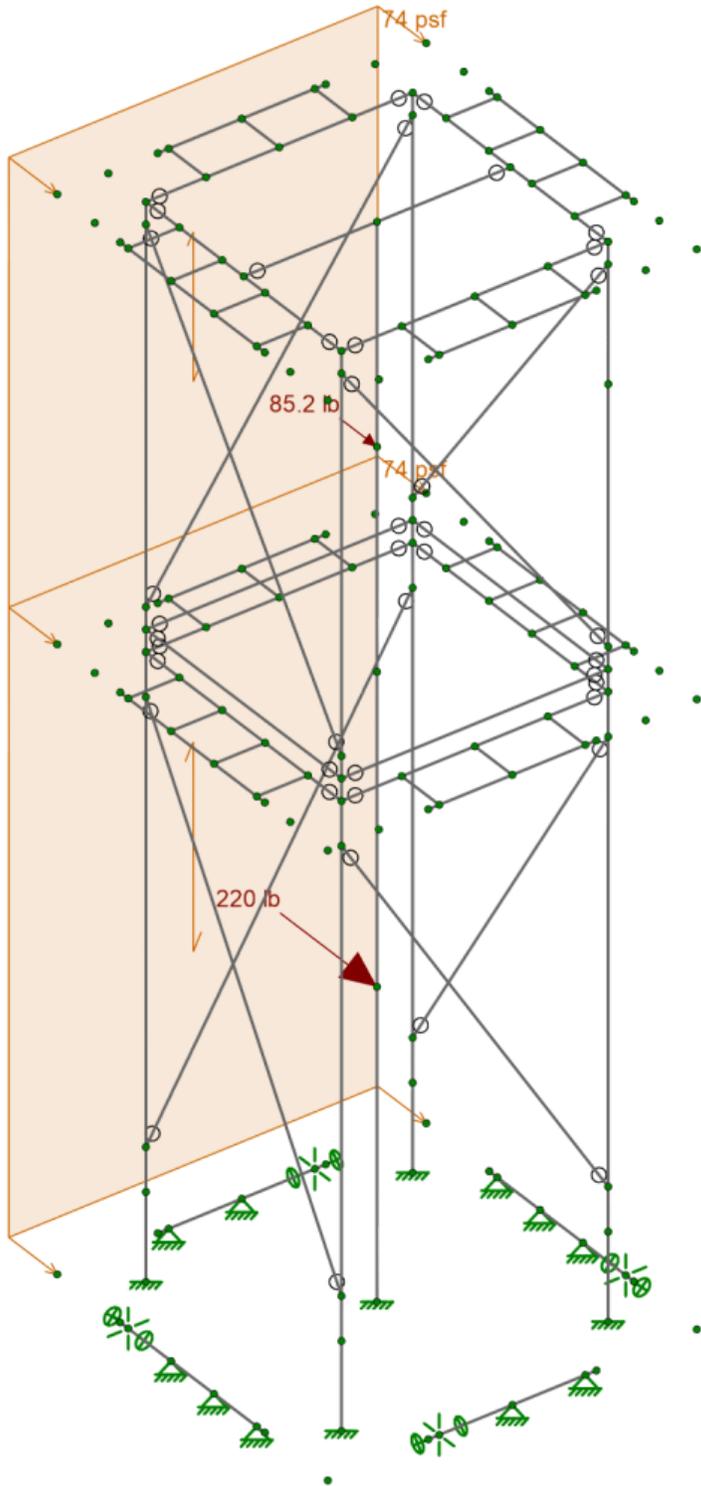
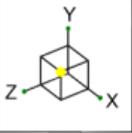
CT11862C

SK-4
Aug 05, 2021
Enclosure.r3d



Loads: LC 1, D

VSE	CT11862C	SK-6
BRF		Aug 05, 2021
U4506.002.211		Enclosure.r3d

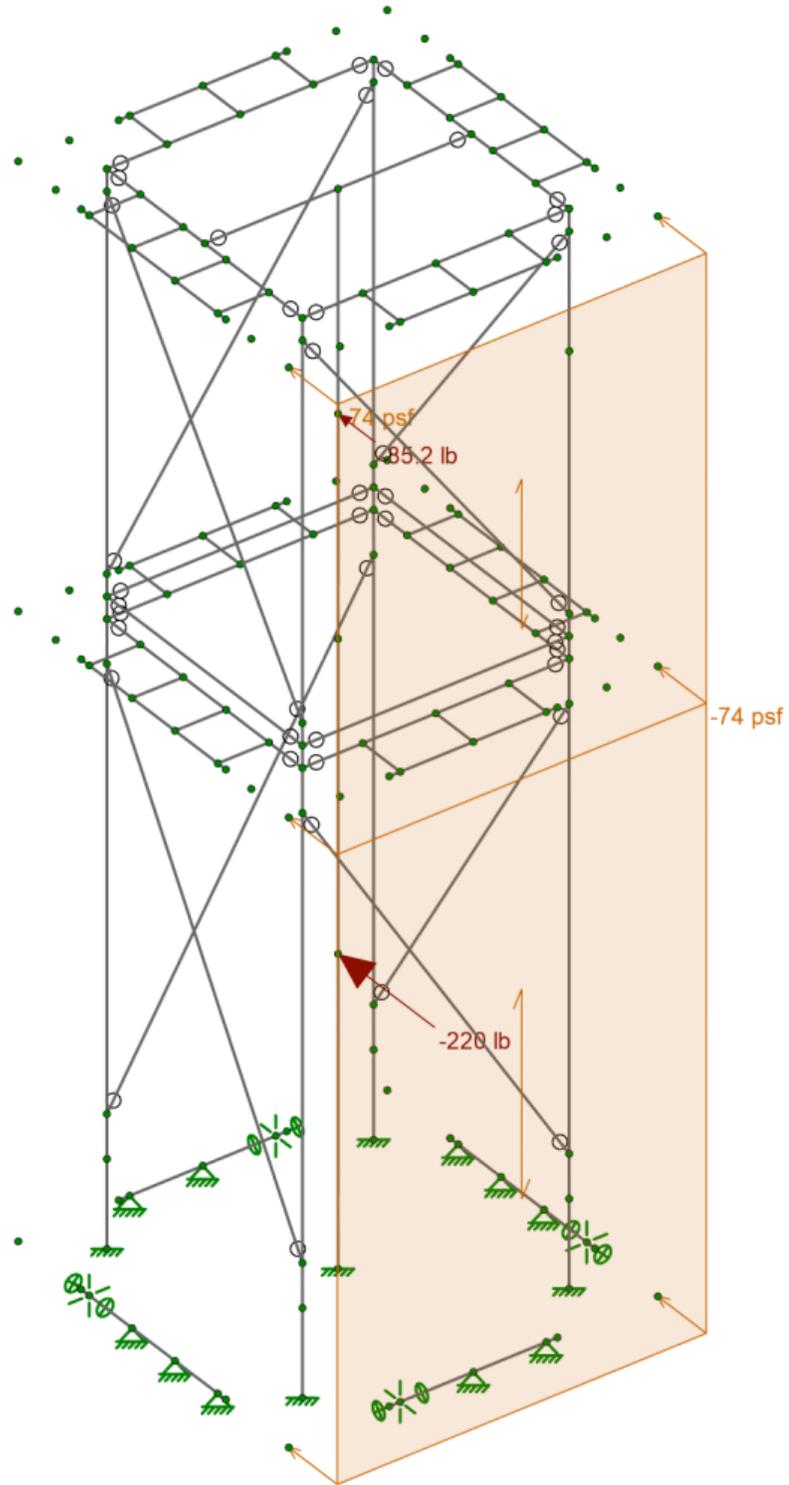
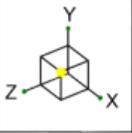


Loads: BLC 2, WL+X

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BRF
U4506.002.211

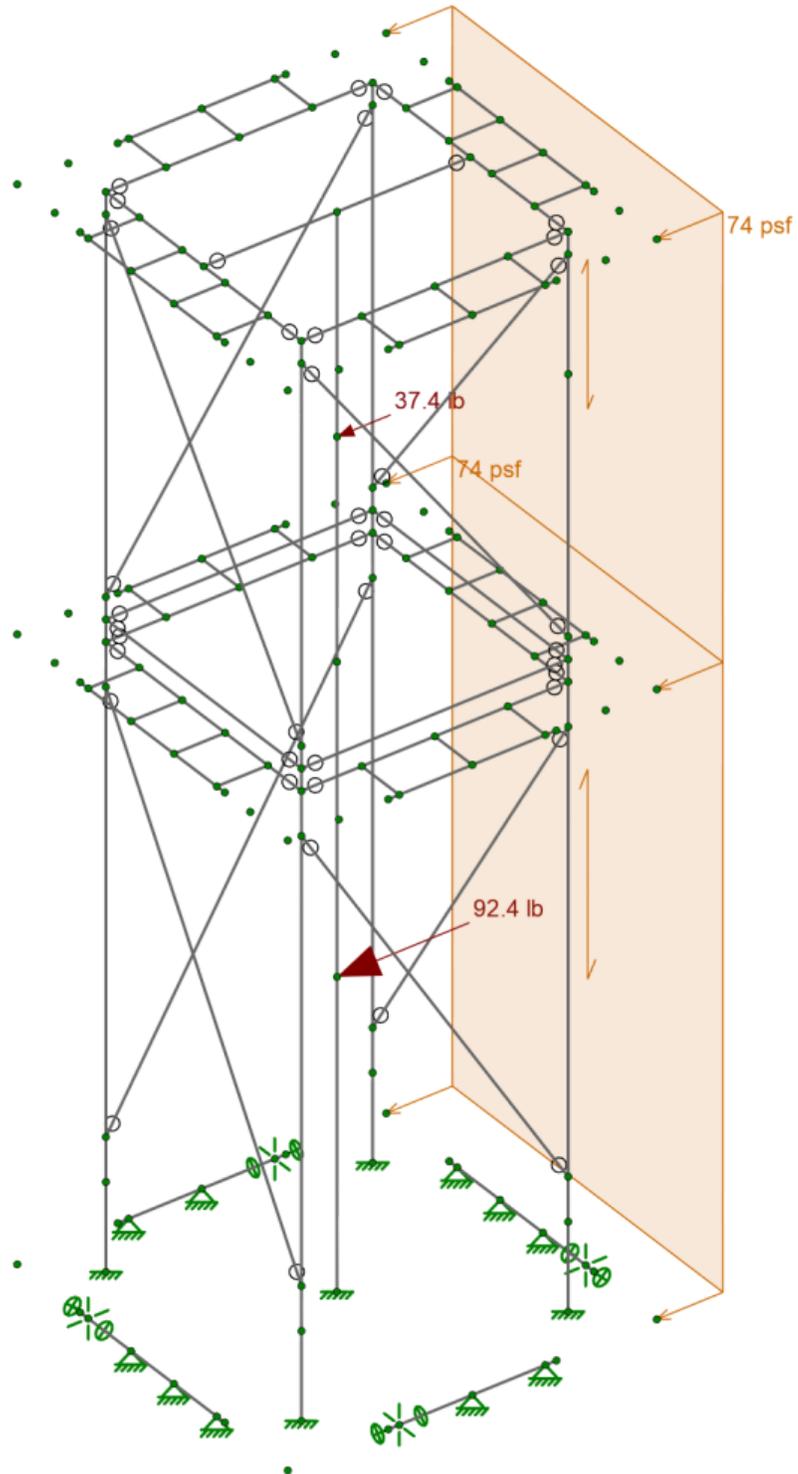
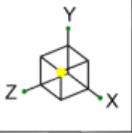
CT11862C

SK-7
Aug 05, 2021
Enclosure.r3d

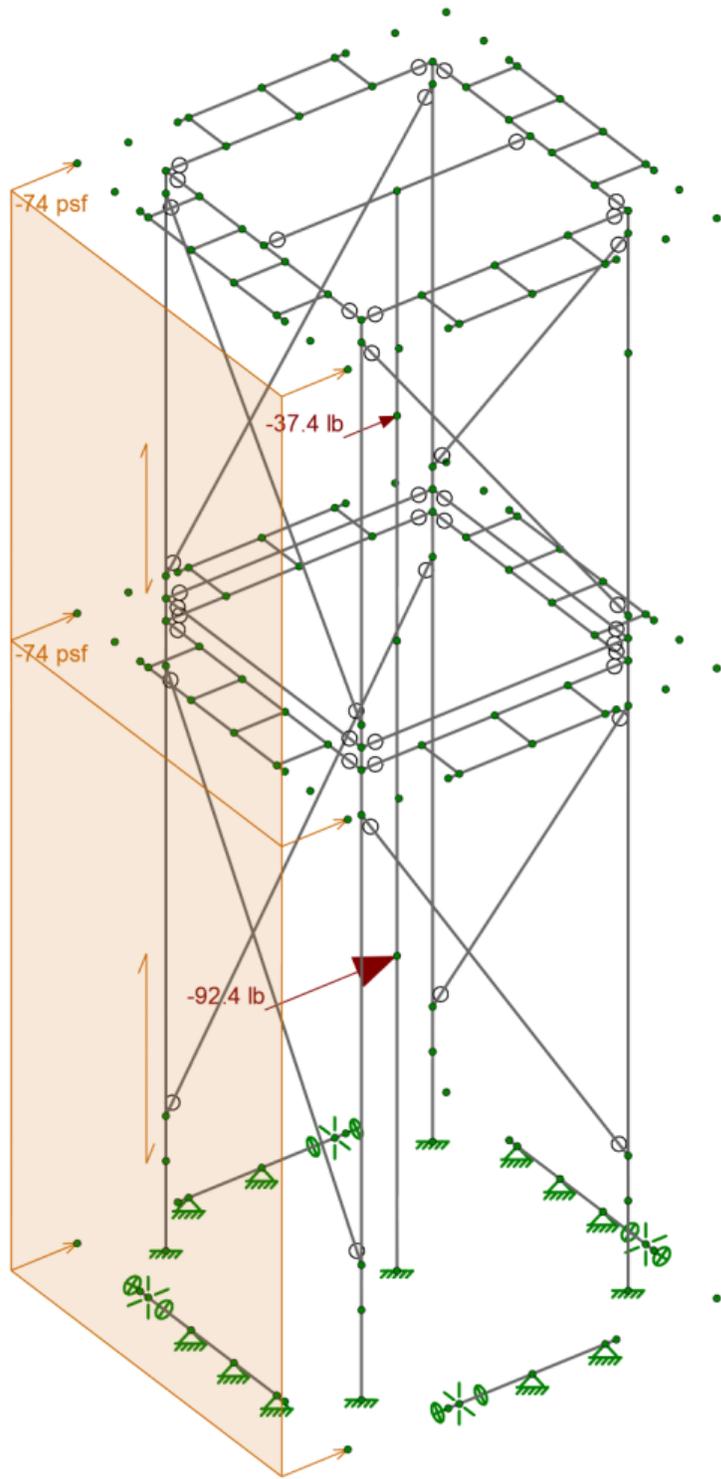
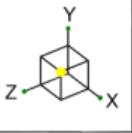


Loads: BLC 3, WL-X

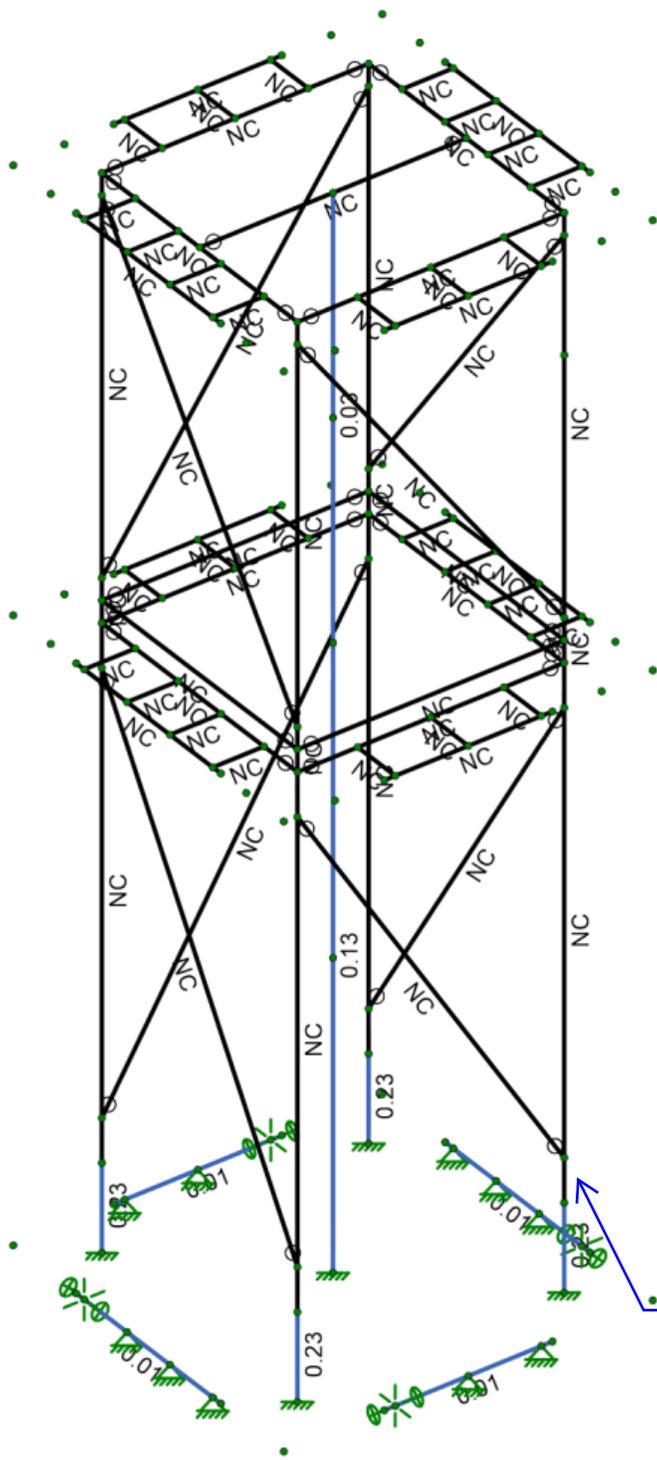
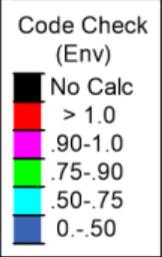
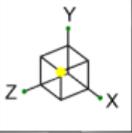
VSE	CT11862C	SK-8
BRF		Aug 05, 2021
U4506.002.211		Enclosure.r3d



Loads: BLC 4, WL+Z		
VSE	CT11862C	SK-9
BRF		Aug 05, 2021
U4506.002.211		Enclosure.r3d

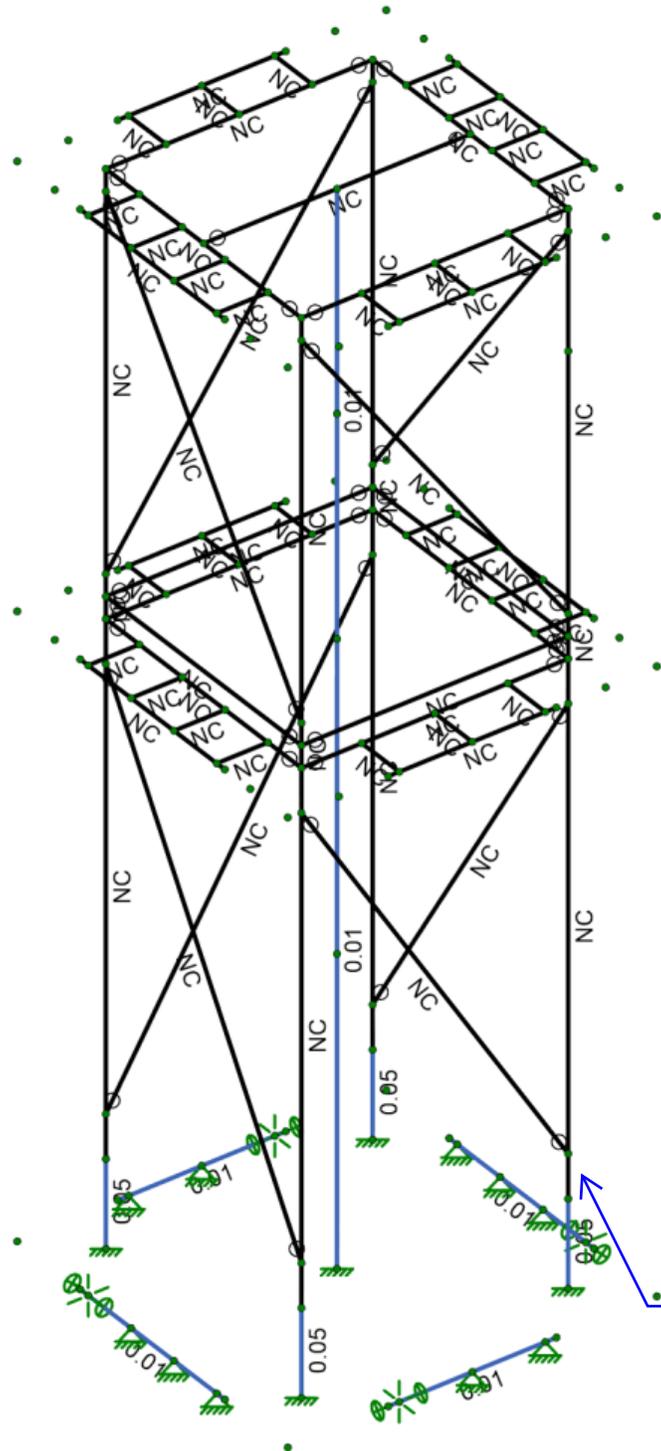
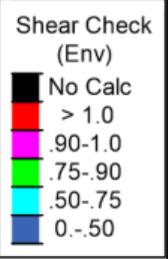
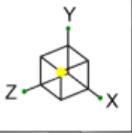


Loads: BLC 5, WL-Z		
VSE	CT11862C	SK-10
BRF		Aug 05, 2021
U4506.002.211		Enclosure.r3d



FRP member check calculations per pages 27-40 of this report

Member Code Checks Displayed (Enveloped)		
VSE	CT11862C	SK-11
BRF		Aug 05, 2021
U4506.002.211		Enclosure.r3d



FRP member check calculations per pages 27-40 of this report

Member Shear Checks Displayed (Enveloped)

VSE	CT11862C	SK-12
BRF		Aug 05, 2021
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Company : VSE
 Designer : BRF
 Job Number : U4506.002.211
 Model Name : CT11862C

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 Checked By : BDV

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [$1e^{-5}F^{-1}$]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B RECT	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A500 Gr.C RND	29000	11154	0.3	0.65	0.527	46	1.4	62	1.3
7	A500 Gr.C RECT	29000	11154	0.3	0.65	0.527	50	1.4	62	1.3
8	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
9	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3
10	A913 Gr.65	29000	11154	0.3	0.65	0.49	65	1.1	80	1.1
11	FRP	2800	450	0.35	0.44	0.12	10	1.5	30	1.2
12	SAE J429 Gr 2	29000	11154	0.3	0.65	0.49	57	1.5	74	1.2

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	N41	Reaction	Reaction	Reaction			Reaction
2	N45	Reaction	Reaction	Reaction			
3	N43	Reaction	Reaction	Reaction			
4	N31	Reaction	Reaction	Reaction	Reaction		
5	N32	Reaction	Reaction	Reaction			
6	N33	Reaction	Reaction	Reaction			
7	N34	Reaction	Reaction	Reaction	Reaction		
8	N42	Reaction	Reaction	Reaction			
9	N35	Reaction	Reaction	Reaction			
10	N44	Reaction	Reaction	Reaction			Reaction
11	N36	Reaction	Reaction	Reaction			
12	N9	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
13	N37	Reaction	Reaction	Reaction			
14	N1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
15	N38	Reaction	Reaction	Reaction			
16	N2	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
17	N3	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
18	N4	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
19	N46	Reaction	Reaction	Reaction			

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	(E) Steel Panel Connection	L4X4X4	Beam	Single Angle	A36 Gr.36	Typical	1.93	3	3	0.044
2	(E) Steel Stub Pipe	PIPE_3.5	Column	Pipe	A53 Gr.B	Typical	2.5	4.52	4.52	9.04
3	(R) FRP Angle Column	L6X6X8	Column	Single Angle	FRP	Typical	5.77	19.9	19.9	0.501
4	(E) Antenna Mast	PIPE_3.0	Column	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
5	(R) FRP Angle Brace	L6X6X8	VBrace	Single Angle	FRP	Typical	5.77	19.9	19.9	0.501
6	FRP Panel Connection	L6X6X8	Beam	Single Angle	FRP	Typical	5.77	19.9	19.9	0.501
7	Antenna Mast	PIPE_3.0	Column	HSS Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
8	FRP Bottom Chord	L6X6X8	Beam	Single Angle	FRP	Typical	5.77	19.9	19.9	0.501
9	FRP Angle Column	L6X6X8	Column	Single Angle	FRP	Typical	5.77	19.9	19.9	0.501
10	FRP Top Chord	L6X6X8	Beam	Single Angle	FRP	Typical	5.77	19.9	19.9	0.501
11	FRP Angle Brace	L6X6X8	VBrace	Single Angle	FRP	Typical	5.77	19.9	19.9	0.501
12	FRP Mast Brace	L6X6X8	HBrace	Single Angle	FRP	Typical	5.77	19.9	19.9	0.501

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M1	N9	N10		(E) Antenna Mast	Column	Pipe	A53 Gr.B	Typical
2	M2	N10	N11		Antenna Mast	Column	HSS Pipe	A53 Gr.B	Typical



Company : VSE
 Designer : BRF
 Job Number : U4506.002.211
 Model Name : CT11862C

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 Checked By : BDV

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
3	M3	N4	N8		(E) Steel Stub Pipe	Column	Pipe	A53 Gr.B	Typical
4	M4	N2	N6		(E) Steel Stub Pipe	Column	Pipe	A53 Gr.B	Typical
5	M5	N3	N7		(E) Steel Stub Pipe	Column	Pipe	A53 Gr.B	Typical
6	M6	N1	N5		(E) Steel Stub Pipe	Column	Pipe	A53 Gr.B	Typical
7	M7	N8	N16	180	(R) FRP Angle Column	Column	Single Angle	FRP	Typical
8	M8	N6	N14	90	(R) FRP Angle Column	Column	Single Angle	FRP	Typical
9	M9	N7	N15		(R) FRP Angle Column	Column	Single Angle	FRP	Typical
10	M10	N5	N13	270	(R) FRP Angle Column	Column	Single Angle	FRP	Typical
11	M11	N24	N17	180	(R) FRP Angle Brace	VBrace	Single Angle	FRP	Typical
12	M12	N21	N19	180	(R) FRP Angle Brace	VBrace	Single Angle	FRP	Typical
13	M13	N23	N18	180	(R) FRP Angle Brace	VBrace	Single Angle	FRP	Typical
14	M14	N22	N20	180	(R) FRP Angle Brace	VBrace	Single Angle	FRP	Typical
15	M15	N39	N25		(E) Steel Panel Connection	Beam	Single Angle	A36 Gr.36	Typical
16	M16	N28	N30		(E) Steel Panel Connection	Beam	Single Angle	A36 Gr.36	Typical
17	M17	N27	N29	270	(E) Steel Panel Connection	Beam	Single Angle	A36 Gr.36	Typical
18	M18	N40	N26	270	(E) Steel Panel Connection	Beam	Single Angle	A36 Gr.36	Typical
19	M19	N13	N15	180	FRP Top Chord	Beam	Single Angle	FRP	Typical
20	M20	N16	N14	90	FRP Top Chord	Beam	Single Angle	FRP	Typical
21	M21	N13	N16	90	FRP Top Chord	Beam	Single Angle	FRP	Typical
22	M22	N15	N14	180	FRP Top Chord	Beam	Single Angle	FRP	Typical
23	M23	N74	N72	90	FRP Panel Connection	Beam	Single Angle	FRP	Typical
24	M24	N61	N63	90	FRP Panel Connection	Beam	Single Angle	FRP	Typical
25	M25	N60	N62	180	FRP Panel Connection	Beam	Single Angle	FRP	Typical
26	M26	N75	N73	180	FRP Panel Connection	Beam	Single Angle	FRP	Typical
27	M27	N93	N76		RIGID	None	None	RIGID	Typical
28	M28	N92	N59		RIGID	None	None	RIGID	Typical
29	M29	N94	N78		RIGID	None	None	RIGID	Typical
30	M30	N84	N64		RIGID	None	None	RIGID	Typical
31	M31	N86	N70		RIGID	None	None	RIGID	Typical
32	M32	N85	N68		RIGID	None	None	RIGID	Typical
33	M33	N87	N66		RIGID	None	None	RIGID	Typical
34	M34	N82	N79		RIGID	None	None	RIGID	Typical
35	M35	N83	N80		RIGID	None	None	RIGID	Typical
36	M36	N81	N77		RIGID	None	None	RIGID	Typical
37	M37	N89	N67		RIGID	None	None	RIGID	Typical
38	M38	N90	N69		RIGID	None	None	RIGID	Typical
39	M39	N91	N71		RIGID	None	None	RIGID	Typical
40	M40	N88	N65		RIGID	None	None	RIGID	Typical
41	M41	N97	N96	270	FRP Bottom Chord	Beam	Single Angle	FRP	Typical
42	M42	N98	N96		FRP Bottom Chord	Beam	Single Angle	FRP	Typical
43	M43	N95	N97	270	FRP Bottom Chord	Beam	Single Angle	FRP	Typical
44	M44	N95	N98		FRP Bottom Chord	Beam	Single Angle	FRP	Typical
45	M45	N15	N97		RIGID	None	None	RIGID	Typical
46	M46	N14	N96		RIGID	None	None	RIGID	Typical
47	M47	N16	N98		RIGID	None	None	RIGID	Typical
48	M48	N13	N95		RIGID	None	None	RIGID	Typical
49	M49	N97	N101		FRP Angle Column	Column	Single Angle	FRP	Typical
50	M50	N96	N100	90	FRP Angle Column	Column	Single Angle	FRP	Typical
51	M51	N98	N102	180	FRP Angle Column	Column	Single Angle	FRP	Typical
52	M52	N95	N99	270	FRP Angle Column	Column	Single Angle	FRP	Typical
53	M53	N109	N104	180	FRP Angle Brace	VBrace	Single Angle	FRP	Typical
54	M54	N108	N106	180	FRP Angle Brace	VBrace	Single Angle	FRP	Typical
55	M55	N110	N103	180	FRP Angle Brace	VBrace	Single Angle	FRP	Typical
56	M56	N107	N105	180	FRP Angle Brace	VBrace	Single Angle	FRP	Typical
57	M57	N102	N99	180	FRP Top Chord	Beam	Single Angle	FRP	Typical
58	M58	N100	N101	90	FRP Top Chord	Beam	Single Angle	FRP	Typical
59	M59	N101	N99	90	FRP Top Chord	Beam	Single Angle	FRP	Typical
60	M60	N100	N102	180	FRP Top Chord	Beam	Single Angle	FRP	Typical



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Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
61	M61	N136	N130	90	FRP Panel Connection	Beam	Single Angle	FRP	Typical
62	M62	N131	N143		RIGID	None	None	RIGID	Typical
63	M63	N161	N141		RIGID	None	None	RIGID	Typical
64	M64	N157	N139		RIGID	None	None	RIGID	Typical
65	M65	N162	N145		RIGID	None	None	RIGID	Typical
66	M66	N133	N140		RIGID	None	None	RIGID	Typical
67	M67	N158	N142		RIGID	None	None	RIGID	Typical
68	M68	N155	N132		RIGID	None	None	RIGID	Typical
69	M69	N129	N150		RIGID	None	None	RIGID	Typical
70	M70	N164	N152		RIGID	None	None	RIGID	Typical
71	M71	N149	N147	180	FRP Panel Connection	Beam	Single Angle	FRP	Typical
72	M72	N134	N137	180	FRP Panel Connection	Beam	Single Angle	FRP	Typical
73	M73	N163	N135		RIGID	None	None	RIGID	Typical
74	M74	N159	N144		RIGID	None	None	RIGID	Typical
75	M75	N156	N153		RIGID	None	None	RIGID	Typical
76	M76	N154	N151		RIGID	None	None	RIGID	Typical
77	M77	N160	N138		RIGID	None	None	RIGID	Typical
78	M78	N148	N146	90	FRP Panel Connection	Beam	Single Angle	FRP	Typical
79	M79	N165	N166		FRP Mast Brace	HBrace	Single Angle	FRP	Typical

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Distributed	Area(Member)
1	DL	DL	-1.05	2		8
2	WL+X	WL+X		2		2
3	WL-X	WL-X		2		2
4	WL+Z	WL+Z		2		2
5	WL-Z	WL-Z		2		2
6	BLC 1 Transient Area Loads	None			66	
7	BLC 2 Transient Area Loads	None			18	
8	BLC 3 Transient Area Loads	None			18	
9	BLC 4 Transient Area Loads	None			15	
10	BLC 5 Transient Area Loads	None			15	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor
1	D	Yes	Y	DL	1				
2	D + 0.6Wx	Yes	Y	DL	1	WL+X	0.6		
3	D - 0.6Wx	Yes	Y	DL	1	WL-X	0.6		
4	D + 0.6Wz	Yes	Y	DL	1	WL+Z	0.6		
5	D - 0.6Wz	Yes	Y	DL	1	WL-Z	0.6		
6	D + diag(0.6Wx + 0.6Wz)	Yes	Y	DL	1	WL+X	0.424	WL+Z	0.424
7	D + diag(0.6Wx - 0.6Wz)	Yes	Y	DL	1	WL+X	0.424	WL-Z	0.424
8	D + diag(-0.6Wx - 0.6Wz)	Yes	Y	DL	1	WL-X	0.424	WL-Z	0.424
9	D + diag(-0.6Wx + 0.6Wz)	Yes	Y	DL	1	WL-X	0.424	WL+Z	0.424
10	0.6D + 0.6Wx	Yes	Y	DL	0.6	WL+X	0.6		
11	0.6D - 0.6Wx	Yes	Y	DL	0.6	WL-X	0.6		
12	0.6D + 0.6Wz	Yes	Y	DL	0.6	WL+Z	0.6		
13	0.6D - 0.6Wz	Yes	Y	DL	0.6	WL-Z	0.6		
14	0.6D + diag(0.6Wx + 0.6Wz)	Yes	Y	DL	0.6	WL+X	0.424	WL+Z	0.424
15	0.6D + diag(0.6Wx - 0.6Wz)	Yes	Y	DL	0.6	WL+X	0.424	WL-Z	0.424
16	0.6D + diag(-0.6Wx - 0.6Wz)	Yes	Y	DL	0.6	WL-X	0.424	WL-Z	0.424
17	0.6D + diag(-0.6Wx + 0.6Wz)	Yes	Y	DL	0.6	WL-X	0.424	WL+Z	0.424



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Envelope AISC 14TH (360-10): ASD Member Steel Code Checks

Member	Shape	Code	Check	Loc[ft]	LC	Shear	Check	Loc[ft]	Dir	LC	Pnc/om [lb]	Pnt/om [lb]	Mnyy/om [lb-ft]	Mnzz/om [lb-ft]	Cb	Eqn
1	M1	PIPE 3.0	0.126	0	3	0.013	3.465	2		2	33373.787	43383.234	3824.85	3824.85	2.567	H1-1b
2	M2	PIPE 3.0	0.034	2.475	3	0.006	5	2		2	37949.083	43383.234	3824.85	3824.85	1.165	H1-1b
3	M3	PIPE 3.5	0.229	0	4	0.052	1	13		13	52182.058	52395.21	5291.916	5291.916	1.127	H1-1b
4	M4	PIPE 3.5	0.234	0	3	0.053	1	3		3	52182.058	52395.21	5291.916	5291.916	1.408	H1-1b
5	M5	PIPE 3.5	0.229	0	5	0.052	1	12		12	52182.058	52395.21	5291.916	5291.916	1.127	H1-1b
6	M6	PIPE 3.5	0.235	0	2	0.053	1	2		2	52182.058	52395.21	5291.916	5291.916	1.408	H1-1b
7	M15	L4X4X4	0.009	0.968	11	0.01	0.136	z		3	37629.736	41604.79	2087.556	4467.655	1.037	H2-1
8	M16	L4X4X4	0.006	1.841	13	0.008	2.114	z		5	37735.732	41604.79	2087.556	4467.655	1.211	H2-1
9	M17	L4X4X4	0.006	1.841	12	0.008	2.114	y		4	37735.732	41604.79	2087.556	4588.849	1.5	H2-1
10	M18	L4X4X4	0.009	0.968	10	0.01	0.136	y		2	37629.736	41604.79	2087.556	4467.655	1.329	H2-1

Envelope Node Reactions

Node Label	X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N41	max	211.851	3	24.836	3	0	17	0	17	0	17
2		min	0.172	10	13.369	10	0	1	0	1	0	1
3	N45	max	230.408	11	27.562	7	0	17	0	17	0	17
4		min	-0.574	1	11.428	11	0	1	0	1	0	1
5	N43	max	211.962	3	24.846	3	0	17	0	17	0	17
6		min	0.172	10	13.375	10	0	1	0	1	0	1
7	N31	max	0	17	18.216	4	-0.06	16	0	17	0	17
8		min	0	1	10.423	10	-161.415	4	0	1	0	1
9	N32	max	0	17	18.216	5	161.415	5	0	17	0	17
10		min	0	1	10.423	10	0.06	10	0	1	0	1
11	N33	max	0	17	18.221	4	-0.06	16	0	17	0	17
12		min	0	1	10.423	10	-161.382	4	0	1	0	1
13	N34	max	0	17	18.221	5	161.382	5	0	17	0	17
14		min	0	1	10.423	10	0.06	10	0	1	0	1
15	N42	max	-0.172	17	24.834	2	0	17	0	17	0	17
16		min	-211.84	2	13.368	11	0	1	0	1	0	1
17	N35	max	0	17	19.836	8	0.101	8	0	17	0	17
18		min	0	1	11.046	12	-165.501	12	0	1	0	1
19	N44	max	-0.172	17	24.841	2	0	17	0	17	0	17
20		min	-211.918	2	13.372	11	0	1	0	1	0	1
21	N36	max	0	17	19.836	9	165.501	13	0	17	0	17
22		min	0	1	11.046	13	-0.101	1	0	1	0	1
23	N9	max	139.632	11	851.081	3	66.8	13	248.411	5	7.557	2
24		min	-139.712	10	485.684	10	-66.858	12	-248.853	4	2.015	13
25	N37	max	0	17	19.832	8	0.099	8	0	17	0	17
26		min	0	1	11.061	12	-165.522	12	0	1	0	1
27	N1	max	827.936	11	2987.091	6	14.464	17	70.332	16	0.034	11
28		min	-824.647	2	-2457.987	16	-16.737	7	-76.267	6	-0.04	2
29	N38	max	0	17	19.832	9	165.522	13	0	17	0	17
30		min	0	1	11.061	13	-0.099	1	0	1	0	1
31	N2	max	823.325	3	2978.222	8	16.697	9	76.11	8	0.034	10
32		min	-826.685	10	-2449.208	14	-14.453	15	-70.149	14	-0.039	3
33	N3	max	14.1	14	2972.398	7	805.335	5	1105.821	13	0.034	4
34		min	-16.541	8	-2466.846	17	-812.566	12	-1131.211	4	-0.037	13
35	N4	max	16.601	6	2968.423	9	812.728	13	1131.509	5	0.033	5
36		min	-14.152	16	-2462.871	15	-805.416	4	-1105.998	12	-0.037	12
37	N46	max	0.574	9	27.555	9	0	17	0	17	0	17
38		min	-230.326	10	11.425	10	0	1	0	1	0	1
39	Totals:	max	2425.148	3	2423.428	5	2320.069	13				
40		min	-2425.147	10	1454.052	12	-2320.069	4				



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Envelope Maximum Member Section Forces

Member	Axial[lb]	Loc[ft]	LCy	Shear[lb]	Loc[ft]	LCz	Shear[lb]	Loc[ft]	LC Torque[lb-ft]	Loc[ft]	LCy-y	Moment[lb-ft]	Loc[ft]	LCz-z	Moment[lb-ft]	Loc[ft]	LC			
1	M1	max	851.081	0	3	140.868	3.465	2	67.41	3.465	5	7.557	7	2	248.853	0	4	433.484	0	2
2		min	218.281	7	10	-140.805	0	3	-67.521	0	4	2.015	0	13	-248.411	0	5	-432.597	0	3
3	M2	max	405.409	0	3	43.691	5	3	11.666	2.475	13	7.557	5	2	57.408	2.525	5	108.171	2.475	3
4		min	7.094	5	10	-43.585	2.525	2	-11.727	0	4	2.015	0	13	-58.023	2.525	4	-107.93	2.475	2
5	M3	max	2968.423	0	9	14.146	1	16	811.05	1	13	0.033	1	5	1105.998	0	12	69.747	0	15
6		min	-2468.23	1	15	-16.599	0	6	-807.556	0	4	-0.037	0	12	-1131.509	0	5	-76.086	0	9
7	M4	max	2978.222	0	8	824.943	1	10	16.695	1	9	0.034	1	10	70.149	0	14	1149.314	0	2
8		min	-2454.568	1	14	-825.571	0	3	-14.449	0	15	-0.039	0	3	-76.11	0	8	-1129.395	0	11
9	M5	max	2972.398	0	7	16.539	1	8	807.476	1	5	0.034	1	4	1131.211	0	4	76.202	0	7
10		min	-2472.206	1	17	-14.094	0	14	-810.886	0	12	-0.037	0	13	-1105.821	0	13	-69.892	0	17
11	M6	max	2987.091	0	6	826.909	1	2	14.46	1	17	0.034	1	11	76.267	0	6	1131.089	0	10
12		min	-2463.347	1	16	-826.18	0	11	-16.735	0	7	-0.04	0	2	-70.332	0	16	-1150.847	0	3
13	M15	max	0	1.917	17	17.011	0.136	3	135.302	1.781	3	0	1.917	17	12.817	0.968	11	12.054	0.968	3
14		min	0	0	1	-17.005	1.781	3	-135.367	0.136	3	0	0	1	-10.151	0.426	11	-13.367	0.445	3
15	M16	max	0	2.25	17	12.326	0.136	5	106.5	2.114	5	0	2.25	17	6.391	1.455	13	6.799	1.455	5
16		min	0	0	1	-12.336	2.114	5	-106.474	0.136	5	0	0	1	-8.311	1.841	13	-10.226	1.841	5
17	M17	max	0	2.25	17	106.5	2.114	4	12.326	0.136	4	0	2.25	17	6.391	1.455	12	10.226	1.841	4
18		min	0	0	1	-106.474	0.136	4	-12.336	2.114	4	0	0	1	-8.311	1.841	12	-6.799	1.455	4
19	M18	max	0	1.917	17	135.284	1.781	2	17.007	0.136	2	0	1.917	17	12.813	0.968	10	13.363	0.445	2
20		min	0	0	1	-135.334	0.136	2	-17.003	1.781	2	0	0	1	-10.148	0.426	10	-12.05	0.968	2
21	M27	max	490.446	0.583	11	68.614	0.583	3	11.724	0.583	13	-9.67	0.583	15	391.5	0	3	40.065	0	3
22		min	-1.172	0	7	32.196	0	12	-723.576	0	3	-17.85	0	4	-40.594	0.583	9	0.015	0.583	17
23	M28	max	142.797	0.583	3	0.347	0.583	3	1.434	0.583	3	1.468	0.583	7	0.612	0.583	3	0.101	0	3
24		min	1.093	0	10	0.158	0	10	0.046	0	13	-1.699	0	9	-0.273	0	9	-0.101	0.583	3
25	M29	max	488.775	0.583	11	71.252	0.583	3	721.742	0.583	3	18.122	0.583	7	39.808	0.583	9	41.624	0	3
26		min	-1.105	0	4	31.345	0	15	-11.771	0	13	9.295	0	11	-391.386	0	3	0.012	0.583	15
27	M30	max	428.574	0.583	12	64.524	0.583	4	16.547	0.583	11	-6.204	0.583	16	316.51	0	4	37.709	0	4
28		min	-1.446	0	8	32.383	0	10	-612.336	0	4	-12.111	0	2	-47.421	0.583	6	0.032	0.583	14
29	M31	max	132.921	0.583	4	0.278	0.583	4	-4.75	0.583	10	5.073	0.583	8	40.497	0	4	0.081	0	4
30		min	0.717	0	13	0.137	0	10	-120.992	0	4	0.763	0	14	-30.082	0.583	4	-0.081	0.583	4
31	M32	max	132.904	0.583	4	0.277	0.583	4	120.516	0.583	4	-0.475	0.583	16	29.653	0.583	4	0.081	0	4
32		min	0.719	0	13	0.137	0	15	4.739	0	10	-5.58	0	6	-40.649	0	4	-0.081	0.583	4
33	M33	max	428.127	0.583	12	67.904	0.583	4	612.386	0.583	4	12.472	0.583	8	47.293	0.583	6	39.702	0	4
34		min	-1.389	0	2	31.22	0	16	-16.536	0	11	5.888	0	12	-316.626	0	4	0.026	0.583	16
35	M34	max	489.679	0.583	10	68.605	0.583	2	11.773	0.583	12	-9.668	0.583	17	391.353	0	2	40.06	0	2
36		min	-1.182	0	9	32.201	0	13	-722.075	0	2	-17.845	0	5	-40.075	0.583	7	0.015	0.583	15
37	M35	max	142.836	0.583	2	0.347	0.583	2	-0.047	0.583	13	1.594	0.583	9	0.252	0	9	0.101	0	2
38		min	1.093	0	11	0.158	0	11	-1.636	0	2	-1.606	0	15	-1.054	0.583	2	-0.101	0.583	2
39	M36	max	489.557	0.583	10	71.267	0.583	2	723.317	0.583	2	18.125	0.583	9	40.339	0.583	7	41.632	0	2
40		min	-1.095	0	5	31.347	0	17	-11.726	0	12	9.296	0	10	-391.57	0	2	0.012	0.583	17
41	M37	max	428.862	0.583	13	64.522	0.583	5	16.629	0.583	10	-6.2	0.583	14	316.598	0	5	37.708	0	5
42		min	-1.448	0	6	32.371	0	11	-612.629	0	5	-12.119	0	3	-47.501	0.583	8	0.031	0.583	16
43	M38	max	132.982	0.583	5	0.278	0.583	5	-4.741	0.583	11	5.066	0.583	6	40.448	0	5	0.081	0	5
44		min	0.719	0	12	0.136	0	12	-120.73	0	5	0.744	0	16	-29.978	0.583	5	-0.081	0.583	5
45	M39	max	132.845	0.583	5	0.276	0.583	5	120.778	0.583	5	-0.478	0.583	14	29.758	0.583	5	0.08	0	5
46		min	0.717	0	12	0.136	0	11	4.749	0	11	-5.604	0	8	-40.696	0	5	-0.081	0.583	5
47	M40	max	427.839	0.583	13	67.906	0.583	5	612.156	0.583	5	12.472	0.583	6	47.264	0.583	8	39.703	0	5
48		min	-1.389	0	3	31.209	0	14	-16.636	0	10	5.886	0	13	-316.557	0	5	0.026	0.583	14
49	M45	max	797.161	0.25	7	217.739	0.25	17	462.187	0.25	13	0.112	0.25	16	119.751	0	9	294.886	0	11
50		min	-598.82	0	17	-324.659	0	5	-491.04	0	6	-0.111	0	14	-94.314	0	13	-329.442	0	2
51	M46	max	800.288	0.25	8	498.85	0.25	7	231.369	0.25	14	0.111	0.25	17	324.414	0	5	124.057	0	6
52		min	-590.513	0	14	-473.841	0	11	-329.568	0	3	-0.111	0	15	-290.178	0	12	-99.284	0	11
53	M47	max	792.151	0.25	9	324.726	0.25	4	491.226	0.25	8	0.112	0.25	14	94.283	0	12	329.87	0	3
54		min	-593.587	0	15	-218.086	0	15	-462.244	0	12	-0.112	0	16	-119.784	0	7	-295.27	0	10
55	M48	max	807.182	0.25	6	474.911	0.25	10	329.594	0.25	2	0.111	0.25	15	290.127	0	13	99.571	0	10
56		min	-597.27	0	16	-498.844	0	9	-231.225	0	16	-0.111	0	17	-324.328	0	4	-124.313	0	8
57	M62	max	90.305	0.583	5	0.241	0.583	8	51.006	0.583	4	4.831	0.583	8	8.78	0.583	4	0.07	0	8
58		min	-3.752	0	10	0.014	0	14	-10.434	0	10	-0.093	0	14	-20.974	0	4	-0.07	0.583	8



Company : VSE
 Designer : BRF
 Job Number : U4506.002.211
 Model Name : CT11862C

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 Checked By : BDV

Envelope Maximum Member Section Forces (Continued)

Member		Axial[lb]	Loc[ft]	Lcy	Shear[lb]	Loc[ft]	Lcz	Shear[lb]	Loc[ft]	LC	Torque[lb-ft]	Loc[ft]	Lcy-y	Moment[lb-ft]	Loc[ft]	Lcz-z	Moment[lb-ft]	Loc[ft]	LC	
59	M63	max	144.497	0.583	13	28.242	0.583	5	77.661	0.583	12	1.034	0.583	16	86.873	0	5	16.536	0	5
60		min	-38.519	0	4	15.97	0	10	-162.739	0	5	-7.596	0	6	-41.904	0	12	0.005	0.583	14
61	M64	max	144.436	0.583	12	28.242	0.583	4	77.602	0.583	13	-0.158	0.583	12	86.812	0	4	16.536	0	4
62		min	-38.536	0	5	15.891	0	11	-162.504	0	4	-5.976	0	5	-41.891	0	13	0.016	0.583	13
63	M65	max	90.128	0.583	5	0.237	0.583	8	8.85	0.583	10	0.378	0.583	14	21.049	0	4	0.069	0	8
64		min	-3.644	0	10	0.016	0	14	-51.113	0	4	-5.271	0	8	-8.767	0.583	4	-0.069	0.583	8
65	M66	max	144.245	0.583	12	28.77	0.583	4	162.595	0.583	4	6.126	0.583	5	41.934	0	13	16.848	0	4
66		min	-38.424	0	5	15.673	0	13	-77.692	0	13	-0.034	0	12	-86.816	0	4	0.013	0.583	13
67	M67	max	90.279	0.583	4	0.217	0.583	4	7.302	0.583	10	-0.44	0.583	13	21.05	0	5	0.063	0	4
68		min	-4.047	0	11	0.05	0	13	-51.1	0	5	-4.691	0	4	-8.759	0.583	5	-0.063	0.583	4
69	M68	max	209.198	0.583	10	28.193	0.583	2	-6.349	0.583	12	-5.671	0.583	11	162.382	0	2	16.459	0	2
70		min	-0.345	0	3	15.444	0	12	-296.919	0	2	-9.701	0	7	-12.447	0.583	7	0.007	0.583	10
71	M69	max	209.955	0.583	11	28.19	0.583	3	-6.394	0.583	13	-5.674	0.583	10	162.561	0	3	16.456	0	3
72		min	-0.338	0	2	15.445	0	13	-298.53	0	3	-9.708	0	9	-12.992	0.583	9	0.006	0.583	11
73	M70	max	208.908	0.583	11	28.719	0.583	3	296.87	0.583	3	9.771	0.583	2	12.422	0.583	9	16.77	0	3
74		min	-0.324	0	5	15.221	0	10	6.348	0	13	5.558	0	11	-162.384	0	3	0.006	0.583	10
75	M73	max	48.412	0.583	3	0.102	0.583	3	1.495	0.583	3	0.198	0.583	10	0.775	0.583	3	0.03	0	3
76		min	0.37	0	10	0.053	0	10	0.046	0	13	-0.383	0	3	-0.097	0	3	-0.03	0.583	3
77	M74	max	90.206	0.583	4	0.217	0.583	4	51.131	0.583	5	4.221	0.583	4	8.819	0.583	5	0.063	0	4
78		min	-4.131	0	11	0.05	0	13	-8.183	0	11	0.846	0	13	-21.008	0	5	-0.063	0.583	4
79	M75	max	48.437	0.583	2	0.102	0.583	2	-0.045	0.583	11	0.309	0.583	3	0.063	0	3	0.03	0	2
80		min	0.37	0	11	0.054	0	12	-1.594	0	2	-0.278	0	10	-0.898	0.583	2	-0.03	0.583	2
81	M76	max	209.726	0.583	10	28.726	0.583	2	298.352	0.583	2	9.777	0.583	3	12.924	0.583	7	16.774	0	2
82		min	-0.314	0	4	15.22	0	11	6.397	0	12	5.562	0	10	-162.55	0	2	0.006	0.583	11
83	M77	max	144.207	0.583	13	28.774	0.583	5	162.778	0.583	5	7.59	0.583	6	41.908	0	12	16.849	0	5
84		min	-38.41	0	4	15.648	0	17	-77.613	0	12	-1.088	0	16	-86.884	0	5	0.004	0.583	14



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PROJECT: CT11862C

ENCLOSURE CALCULATIONS

FRP Member Design for Compression:

Label: (R) FRP Angle Column

INPUT:

Unbraced Length, L [ft]: 7.0
 Axial, C [lb]: 2,978
 K: 1.0

Notes:

Worst Case - Member M10

Column: 6x6x1/2 Angle

r [in]: 1.17
 E [psi]: 2,800,000
 A [in²]: 5.72

OUTPUT:

f_a [psi]: 521 < F_a [psi]: 1,460 **OK**

Select 6x6x1/2 Angle FRP column

FRP Member Design for Bending & Shear:

Label: (R) FRP Angle Column

Beam assumed to be simply supported.

Note: The force is horizontal.

INPUT:

Moment, M [lb-ft]: 255
 Shear, V [lb]: 860

Notes:

Worst Case - Member M10

Beam: 6x6x1/2 Angle

I [in⁴]: 19.38 A_w [in²]: 5.72
 S [in³]: 4.46 E [psi]: 2,800,000
 A [in²]: 5.72 G [psi]: 450,000

OUTPUT:

f_b [psi]: 686 < F_b [psi]: 10,000 **OK**
 f_v [psi]: 150 < F_v [psi]: 1,500 **OK**

Select 6x6x1/2 Angle FRP beam



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PROJECT: CT11862C

FRP Shear Connection w/ FRP Bolts:

Label: (R) FRP Angle Column to Sleeve

INPUT:

Design Force, P [lb]:	1,489
FRP Bolt Diameter, d_b [in]:	5/8
# Bolts, n_b :	(2)
FRP Web Thickness, t_w [in]:	1/2
Double Shear:	No
Bearing Stress:	Lengthwise
Factor of Safety, FS:	4

Notes:

Worst Case - Member M10

OUTPUT:

f_{brg} [psi]:	2,382	<	F_{brg} [psi]:	7,500	OK
p_{bolt} [lb]:	745	<	P_{bolt} [lb]:	1,250	OK

Select (2) 5/8" diameter FRP bolts



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PROJECT: CT11862C

FRP Member Design for Compression:

Label: (R) FRP Angle Brace

INPUT:

Unbraced Length, L [ft]: 5.9
 Axial, C [lb]: 1,686
 K: 1.0

Notes:

Wost Case - Member M11

Column: 6x6x1/2 Angle

r [in]: 1.17
 E [psi]: 2,800,000
 A [in²]: 5.72

OUTPUT:

f_a [psi]: 295 < F_a [psi]: 1,676 **OK**

Select 6x6x1/2 Angle FRP column**FRP Shear Connection w/ FRP Bolts:**

Label: (R) FRP Angle Brace to Column

INPUT:

Design Force, P [lb]: 1,686
 FRP Bolt Diameter, d_b [in]: 5/8
 # Bolts, n_b : (2)
 FRP Web Thickness, t_w [in]: 1/2
 Double Shear: No
 Bearing Stress: Angle
 Factor of Safety, FS: 4

Notes:

Wost Case - Member M11

Angle: 23 degrees

OUTPUT:

f_{brg} [psi]: 2,698 < F_{brg} [psi]: 6,507 **OK**
 p_{bolt} [lb]: 843 < P_{bolt} [lb]: 1,250 **OK**

Select (2) 5/8" diameter FRP bolts



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PROJECT: CT11862C

FRP Member Design for Compression:

Label: FRP Panel Connection Angle

INPUT:

Unbraced Length, L [ft]: 2.3
 Axial, C [lb]: 735
 K: 1.0

Notes:

Worst Case - Member M24

Column: 6x6x1/2 Angle

r [in]: 1.17
 E [psi]: 2,800,000
 A [in²]: 5.72

OUTPUT:

f_a [psi]: 128 < F_a [psi]: 2,382 **OK**

Select 6x6x1/2 Angle FRP column

FRP Member Design for Bending & Shear:

Label: FRP Panel Connection Angle

Beam assumed to be simply supported.

Note: The force is horizontal.**INPUT:**

Moment, M [lb-ft]: 55
 Shear, V [lb]: 350

Notes:

Worst Case - Member M25

Beam: 6x6x1/2 Angle

I [in⁴]: 19.38 A_w [in²]: 5.72
 S [in³]: 4.46 E [psi]: 2,800,000
 A [in²]: 5.72 G [psi]: 450,000

OUTPUT:

f_b [psi]: 148 < F_b [psi]: 10,000 **OK**
 f_v [psi]: 61 < F_v [psi]: 1,500 **OK**

Select 6x6x1/2 Angle FRP beam



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PROJECT: CT11862C**FRP Shear Connection w/ FRP Bolts:**

Label: FRP Panel Connection to Girt

INPUT:

Design Force, P [lb]:	350
FRP Bolt Diameter, d_b [in]:	3/8
# Bolts, n_b :	(1)
FRP Web Thickness, t_w [in]:	1/2
Double Shear:	No
Bearing Stress:	Crosswise
Factor of Safety, FS:	4

Notes:

Wost Case - Member M25

OUTPUT:

f_{brg} [psi]:	1,867	<	F_{brg} [psi]:	3,750	OK
p_{bolt} [lb]:	350	<	P_{bolt} [lb]:	525	OK

Select (1) 3/8" diameter FRP bolt



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PROJECT: CT11862C

FRP Member Design for Compression:

Label: Bottom Chord

INPUT:

Unbraced Length, L [ft]: 3.1
 Axial, C [lb]: 330
 K: 1.0

Notes:

Wost Case - Member M44

Column: 6x6x1/2 Angle

r [in]: 1.17
 E [psi]: 2,800,000
 A [in²]: 5.72

OUTPUT:

f_a [psi]: 58 < F_a [psi]: 2,225 **OK**

Select 6x6x1/2 Angle FRP column

FRP Member Design for Bending & Shear:

Label: Bottom Chord

Beam assumed to be simply supported.

Note: The force is horizontal.**INPUT:**

Moment, M [lb-ft]: 10
 Shear, V [lb]: 10

Notes:

Wost Case - Member M41

Beam: 6x6x1/2 Angle

I [in⁴]: 19.38 A_w [in²]: 5.72
 S [in³]: 4.46 E [psi]: 2,800,000
 A [in²]: 5.72 G [psi]: 450,000

OUTPUT:

f_b [psi]: 27 < F_b [psi]: 10,000 **OK**
 f_v [psi]: 2 < F_v [psi]: 1,500 **OK**

Select 6x6x1/2 Angle FRP beam



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PROJECT: CT11862C

FRP Shear Connection w/ FRP Bolts:

Label: Bottom Chord

INPUT:

Design Force, P [lb]:	330
FRP Bolt Diameter, d_b [in]:	3/4
# Bolts, n_b :	(3)
FRP Web Thickness, t_w [in]:	1/2
Double Shear:	No
Bearing Stress:	Crosswise
Factor of Safety, FS:	4

Notes:

Worst Case - Member M41

OUTPUT:

f_{brg} [psi]:	293	<	F_{brg} [psi]:	3,750	OK
p_{bolt} [lb]:	110	<	P_{bolt} [lb]:	1,675	OK

Select (3) 3/4" diameter FRP bolts



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PROJECT: CT11862C

FRP Member Design for Compression:

Label: FRP Angle Column

INPUT:

Unbraced Length, L [ft]: 5.0
 Axial, C [lb]: 792
 K: 1.0

Notes:

Worst Case - Member M52

Column: 6x6x1/2 Angle

r [in]: 1.17
 E [psi]: 2,800,000
 A [in²]: 5.72

OUTPUT:

f_a [psi]: 138 < F_a [psi]: 1,852 **OK**

Select 6x6x1/2 Angle FRP column**FRP Member Design for Bending & Shear:**

Label: FRP Angle Column

Beam assumed to be simply supported.

Note: The force is horizontal.**INPUT:**

Moment, M [lb-ft]: 270
 Shear, V [lb]: 335

Notes:

Worst Case - Member M50

Beam: 6x6x1/2 Angle

I [in⁴]: 19.38 A_w [in²]: 5.72
 S [in³]: 4.46 E [psi]: 2,800,000
 A [in²]: 5.72 G [psi]: 450,000

OUTPUT:

f_b [psi]: 726 < F_b [psi]: 10,000 **OK**
 f_v [psi]: 59 < F_v [psi]: 1,500 **OK**

Select 6x6x1/2 Angle FRP beam



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PROJECT: CT11862C

FRP Shear Connection w/ FRP Bolts:

Label: FRP Angle Column to Bot Girt

INPUT:

Design Force, P [lb]:	936
FRP Bolt Diameter, d_b [in]:	3/4
# Bolts, n_b :	(2)
FRP Web Thickness, t_w [in]:	1/4
Double Shear:	No
Bearing Stress:	Lengthwise
Factor of Safety, FS:	4

Notes:

Worst Case - Member M50

OUTPUT:

f_{brg} [psi]:	2,496	<	F_{brg} [psi]:	7,500	OK
P_{bolt} [lb]:	468	<	P_{bolt} [lb]:	1,675	OK

Select (2) 3/4" diameter FRP bolts



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PROJECT: CT11862C**FRP Shear Connection w/ FRP Bolts:**

Label: FRP Angle Column to Top Girt

INPUT:

Design Force, P [lb]:	300
FRP Bolt Diameter, d_b [in]:	3/4
# Bolts, n_b :	(1)
FRP Web Thickness, t_w [in]:	1/4
Double Shear:	No
Bearing Stress:	Lengthwise
Factor of Safety, FS:	4

Notes:

Wost Case - Member M50

OUTPUT:

f_{brg} [psi]:	1,600	<	F_{brg} [psi]:	7,500	OK
p_{bolt} [lb]:	300	<	P_{bolt} [lb]:	1,675	OK

Select (1) 3/4" diameter FRP bolt



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PROJECT: CT11862C

FRP Member Design for Compression:

Label: Top Chord

INPUT:

Unbraced Length, L [ft]: 3.1
 Axial, C [lb]: 1,012
 K: 1.0

Notes:

Worst Case - Member M21

Column: 6x6x1/2 Angle

r [in]: 1.17
 E [psi]: 2,800,000
 A [in²]: 5.72

OUTPUT:

f_a [psi]: 177 < F_a [psi]: 2,225 **OK**

Select 6x6x1/2 Angle FRP column**FRP Member Design for Bending & Shear:**

Label: Top Chord

Beam assumed to be simply supported.

Note: The force is horizontal.**INPUT:**

Moment, M [lb-ft]: 300
 Shear, V [lb]: 65

Notes:

Worst Case - Member M20

Beam: 6x6x1/2 Angle

I [in⁴]: 19.38 A_w [in²]: 5.72
 S [in³]: 4.46 E [psi]: 2,800,000
 A [in²]: 5.72 G [psi]: 450,000

OUTPUT:

f_b [psi]: 807 < F_b [psi]: 10,000 **OK**

f_v [psi]: 11 < F_v [psi]: 1,500 **OK**

Select 6x6x1/2 Angle FRP beam



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PROJECT: CT11862C

FRP Shear Connection w/ FRP Bolts:

Label: Top Chord

INPUT:

Design Force, P [lb]:	1,012
FRP Bolt Diameter, d_b [in]:	3/4
# Bolts, n_b :	(1)
FRP Web Thickness, t_w [in]:	1/2
Double Shear:	No
Bearing Stress:	Crosswise
Factor of Safety, FS:	4

Notes:

Wost Case - Member M21

OUTPUT:

f_{brg} [psi]:	2,699	<	F_{brg} [psi]:	3,750	OK
p_{bolt} [lb]:	1,012	<	P_{bolt} [lb]:	1,675	OK

Select (1) 3/4" diameter FRP bolt



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PROJECT: CT11862C

FRP Member Design for Compression:

Label: FRP Angle Brace

INPUT:

Unbraced Length, L [ft]: 5.3
 Axial, C [lb]: 610
 K: 1.0

Notes:

Wost Case - Member M55

Column: 6x6x1/2 Angle

r [in]: 1.17
 E [psi]: 2,800,000
 A [in²]: 5.72

OUTPUT:

f_a [psi]: 107 < F_a [psi]: 1,794 **OK**

Select 6x6x1/2 Angle FRP column**FRP Shear Connection w/ FRP Bolts:**

Label: (E) FRP Angle Brace to Column

INPUT:

Design Force, P [lb]: 610
 FRP Bolt Diameter, d_b [in]: 5/8
 # Bolts, n_b : (1)
 FRP Web Thickness, t_w [in]: 1/2
 Double Shear: No
 Bearing Stress: Crosswise
 Factor of Safety, FS: 4

Notes:

Wost Case - Member M55

OUTPUT:

f_{brg} [psi]: 1,952 < F_{brg} [psi]: 3,750 **OK**
 p_{bolt} [lb]: 610 < P_{bolt} [lb]: 1,250 **OK**

Select (1) 5/8" diameter FRP bolt



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PROJECT: CT11862C

FRP Shear Connection w/ FRP Bolts:

Label: FRP Panel To Connection Angle

INPUT:

Design Force, P [lb]:	735
FRP Bolt Diameter, d_b [in]:	3/8
# Bolts, n_b :	(2)
FRP Web Thickness, t_w [in]:	3/8
Double Shear:	No
Bearing Stress:	Crosswise
Factor of Safety, FS:	4

Notes:

Wost Case - Member M24

OUTPUT:

f_{brg} [psi]:	2,613	<	F_{brg} [psi]:	3,750	OK
p_{bolt} [lb]:	368	<	P_{bolt} [lb]:	525	OK

Select (2) 3/8" diameter FRP bolts**FRP Shear Connection w/ FRP Bolts:**

Label: FRP Panel To BOT Connection

INPUT:

Design Force, P [lb]:	140
FRP Bolt Diameter, d_b [in]:	3/8
# Bolts, n_b :	(2)
FRP Web Thickness, t_w [in]:	3/8
Double Shear:	No
Bearing Stress:	Crosswise
Factor of Safety, FS:	4

Notes:

Wost Case - Member M15

OUTPUT:

f_{brg} [psi]:	498	<	F_{brg} [psi]:	3,750	OK
p_{bolt} [lb]:	70	<	P_{bolt} [lb]:	525	OK

Select (2) 3/8" diameter FRP bolts



JOB NO.: U4506.002.211

PROJECT: CT11862C

SUBJECT: CONNECTION ANALYSIS

FOUR-BOLT CONNECTION SUBJECT TO COMBINED LOADING

Description: (E) Mast to Deck

Geometry

Column Shape: Round
 Diameter (in) = 3.5

Socketed? No

Bolt spacing 1 (in) = 6 (parallel to x-axis)
 Bolt spacing 2 (in) = 6 (parallel to y-axis)

Bolt diameter (in) = 0.5

Bolt grade: A307

Bolt compression: Consider

Tensile strength (lbs): 4418

Shear strength (lbs): 2356

Plate width (in) = 9 (parallel to x-axis)

Plate height (in) = 9 (parallel to y-axis)

Thickness (in) = 0.5

Plate Grade: A36

Effective Width: 45° spread plus nut
 3.50 in

Compression location: Edge of column

XX lever arm (in) = 4.75

YY lever arm (in) = 4.75

Moment arm (in) = 2.492641

Loads

Load Type: ASD

Axial_(z) (lb) = 847.881Shear_x (lb) = 48.706Shear_y (lb) = -99.819Moment_{xx} (ft-lb) = -309.745Moment_{yy} (ft-lb) = -176.753Torque_(zz) (ft-lb) = 5.397Weld

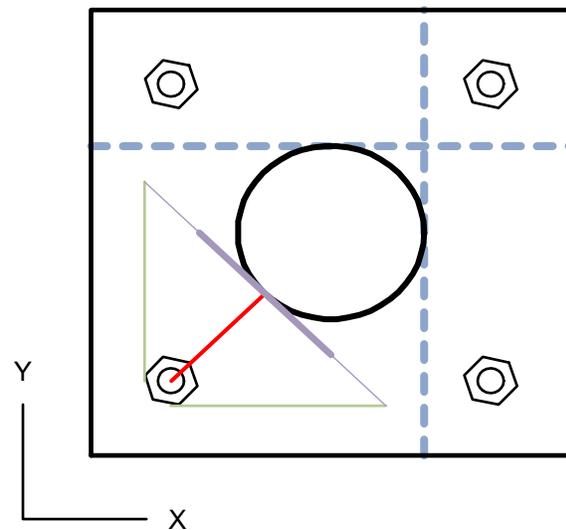
Type: Fillet

Electrode Class Number (ksi): 70

Directional Strength Increase? No

Required fillet leg size (in) = 0.046

Actual fillet leg size (in) = 3/16

Results

Worst LC

Maximum Bolt Tension (lbs) = 826

Maximum Bolt Shear (lbs) = 31

Bolt Stress Ratio: 18.7%

Plate Bending Stress Ratio: 43.7%

Plate Bearing Stress Ratio: 0.2%

Weld stress ratio: 24.6%

Nut size across corners (in): Heavy Hex 1.01

Washer diameter (in): F436 Standard 1.06

Rect. column corner radius (in):

Gap size / fit check (in): 1.77



JOB NO.: U4506.002.211

PROJECT: CT11862C

SUBJECT: CONNECTION ANALYSIS

FOUR-BOLT CONNECTION SUBJECT TO COMBINED LOADING

Description: (N) Mast to (E) Mast Top Flange

Geometry

Column Shape: Round
 Diameter (in) = 3.5

Socketed? No

Bolt spacing 1 (in) = 6 (parallel to x-axis)
 Bolt spacing 2 (in) = 6 (parallel to y-axis)

Bolt diameter (in) = 0.5

Bolt grade: A307

Bolt compression: Consider

Tensile strength (lbs): 4418

Shear strength (lbs): 2356

Plate width (in) = 9 (parallel to x-axis)

Plate height (in) = 9 (parallel to y-axis)

Thickness (in) = 0.5

Plate Grade: A36

Effective Width: 45° spread plus nut
 3.50 in

Compression location: Edge of column

XX lever arm (in) = 4.75

YY lever arm (in) = 4.75

Moment arm (in) = 2.492641

Loads

Load Type: ASD

Axial_(z) (lb) = 405.409

Shear_x (lb) = 1.424

Shear_y (lb) = -7.793

Moment_{xx} (ft-lb) = 88.885

Moment_{yy} (ft-lb) = 8.711

Torque_(zz) (ft-lb) = 6.869

Weld

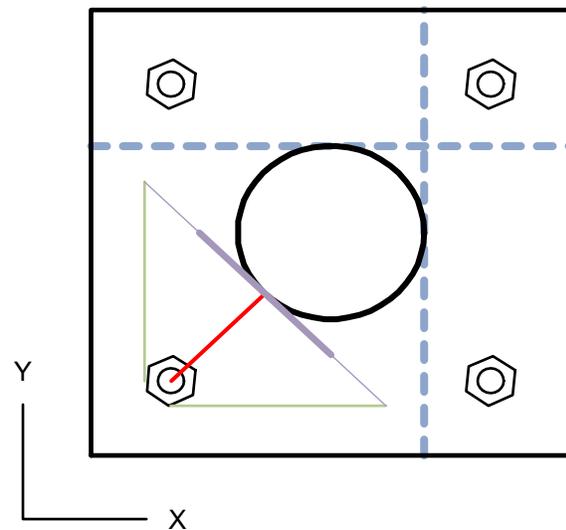
Type: Fillet

Electrode Class Number (ksi): 70

Directional Strength Increase? No

Required fillet leg size (in) = 0.011

Actual fillet leg size (in) = 3/16

Results

Worst LC

Maximum Bolt Tension (lbs) = 225

Maximum Bolt Shear (lbs) = 7

Bolt Stress Ratio: 5.1%

Plate Bending Stress Ratio: 11.9%

Plate Bearing Stress Ratio: 0.0%

Weld stress ratio: 5.7%

Nut size across corners (in): Heavy Hex 1.01

Washer diameter (in): F436 Standard 1.06

Rect. column corner radius (in):

Gap size / fit check (in): 1.77



JOB NO.: U4506.002.211

PROJECT: CT11862C

SUBJECT: CONNECTION ANALYSIS

FOUR-BOLT CONNECTION SUBJECT TO COMBINED LOADING

Description: (E) Pipe Stub to New Blocking

Geometry

Column Shape: Round
 Diameter (in) = 4

Socketed? No

Bolt spacing 1 (in) = 6.5 (parallel to x-axis)

Bolt spacing 2 (in) = 3.5 (parallel to y-axis)

Bolt diameter (in) = 0.5

Bolt grade: A307

Bolt compression: Consider

Tensile strength (lbs): 4418

Shear strength (lbs): 2356

Plate width (in) = 9 (parallel to x-axis)

Plate height (in) = 6 (parallel to y-axis)

Thickness (in) = 0.75

Plate Grade: A36

Effective Width: 45° spread plus nut
3.41 in

Compression location: Edge of column

XX lever arm (in) = 3.75

YY lever arm (in) = 5.25

Moment arm (in) = 1.691206

Loads

Load Type: ASD

Axial_(z) (lb) = 2205.791Shear_x (lb) = -16.067Shear_y (lb) = 826.909Moment_{xx} (ft-lb) = 1129.791Moment_{yy} (ft-lb) = 56.554Torque_(zz) (ft-lb) = -0.04Weld

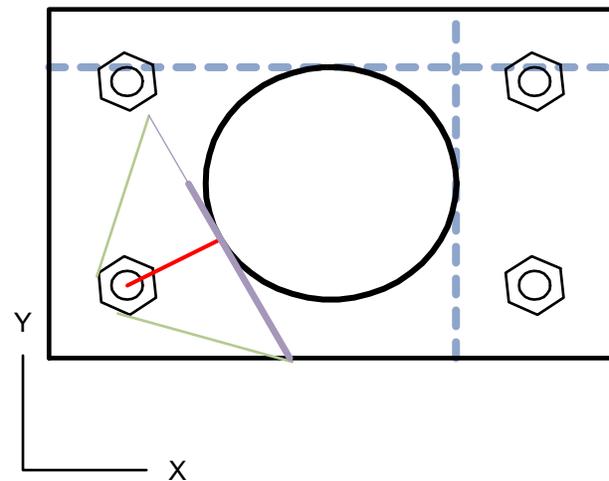
Type: Fillet

Electrode Class Number (ksi): 70

Directional Strength Increase? No

Required fillet leg size (in) = 0.088

Actual fillet leg size (in) = 5/16

Results

Worst LC

Maximum Bolt Tension (lbs) = 2424

Maximum Bolt Shear (lbs) = 207

Bolt Stress Ratio: 54.9%

Plate Bending Stress Ratio: 39.7%

Plate Bearing Stress Ratio: 0.8%

Weld stress ratio: 28.2%

Nut size across corners (in): Heavy Hex 1.01

Washer diameter (in): F436 Standard 1.06

Rect. column corner radius (in):

Gap size / fit check (in): 0.85



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PROJECT: CT11862C

JOB NO.: U4506.002.211

SUBJECT: GRAVITY LOADS

		Increase due to pitch	Original loading
ROOF			
ROOF PITCH/12		0	
ASPHALT SHINGLES		4.00	4.00
1/2" PLYWOOD		1.50	1.50
FRAMING		3.00	
INSULATION		2.00	
1/2" GYPSUM CLG.		2.20	
M, E & MISC		2.30	
OTHER		0.00	
	DL	15.00	
	LL	20.00	
	SNOW	30.00	
SNOW INCLUDED IN LATERAL		0.0	

2ND FLOOR (WHERE OCCURS)

FLOOR COVERING		1.00
3/4" T&G PLYWOOD		2.30
MFG TRUSSES / FRAMING		2.00
INSULATION		1.00
1/2" GYPSUM CEILING		2.20
PARTITION		2.00
M, E & MISC.		1.50
OTHER		0.00
	DL	12.00
	LL	40.00

EXTERIOR WALLS

STUCCO/SIDING		3.50
2x4 FRAMING W/3 PLATES		1.30
INSULATION		1.00
1/2" GYPSUM		2.20
1/2" PLYWOOD		1.50
OTHER		0.50
	DL	10.00

OVERFILL

ASPHALT SHINGLES		4.00
1/2" PLYWOOD		1.50
RAFTERS & MISC		3.50
OTHER		0.00
	DL	9.00
	LL	20.00

TYPICAL ROOF OVERBUILD MAX SPAN TABLE

Grade	Size	Spacing (ft)	L _{max} (ft)
DFL#2	2X4	2	5.80
DFL#2	2X6	2	8.50
DFL#2	2X8	2	10.80
DFL#2	2X10	2	13.20

C _r	C _D	C _{F,V}	M _{allow} (ft-lb)	V _{allow} (lb)	Ctrl'g factor
1.15	1.00	1.50	385	382	Moment
1.15	1.00	1.30	824	601	Moment
1.15	1.00	1.20	1322	792	Moment
1.15	1.00	1.10	1973	1011	Moment

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Wood Beam

File: Beam.ec6
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VECTOR STRUCTURAL ENGINEERS

Lic. #: KW-06004714

DESCRIPTION: 2x8 Raters Supporting Mast (2 Rafters)

Load Combination Segment Length	Span #	Max Stress Ratios		C _d	C _{F/V}	C _i	C _r	C _m	C _t	C _L	Moment Values			Shear Values					
		M	V								M	fb	F'b	V	fv	F'v			
+D+0.60W+H Length = 4.0 ft	1	0.216	0.152	1.60	1.200	1.00	1.15	1.00	1.00	1.00	0.46	418.12	1932.00	0.00	0.00	0.00	0.24	32.79	216.00
+D+0.750Lr+0.750L+0.450W+H Length = 4.0 ft	1	0.235	0.170	1.60	1.200	1.00	1.15	1.00	1.00	1.00	0.50	454.55	1932.00	0.00	0.00	0.00	0.27	36.65	216.00
+D+0.750L+0.750S+0.450W+H Length = 4.0 ft	1	0.245	0.179	1.60	1.200	1.00	1.15	1.00	1.00	1.00	0.52	472.77	1932.00	0.00	0.00	0.00	0.28	38.58	216.00
+0.60D+0.60W+0.60H Length = 4.0 ft	1	0.130	0.091	1.60	1.200	1.00	1.15	1.00	1.00	1.00	0.27	250.87	1932.00	0.00	0.00	0.00	0.14	19.67	216.00
+D+0.70E+0.60H Length = 4.0 ft	1	0.216	0.152	1.60	1.200	1.00	1.15	1.00	1.00	1.00	0.46	418.12	1932.00	0.00	0.00	0.00	0.24	32.79	216.00
+D+0.750L+0.750S+0.5250E+H Length = 4.0 ft	1	0.245	0.179	1.60	1.200	1.00	1.15	1.00	1.00	1.00	0.52	472.77	1932.00	0.00	0.00	0.00	0.28	38.58	216.00
+0.60D+0.70E+H Length = 4.0 ft	1	0.130	0.091	1.60	1.200	1.00	1.15	1.00	1.00	1.00	0.27	250.87	1932.00	0.00	0.00	0.00	0.14	19.67	216.00

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+S+H	1	0.0198	2.015		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1

Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	0.331	0.331
Overall MINimum	0.080	0.080
+D+H	0.251	0.251
+D+L+H	0.251	0.251
+D+Lr+H	0.304	0.304
+D+S+H	0.331	0.331
+D+0.750Lr+0.750L+H	0.291	0.291
+D+0.750L+0.750S+H	0.311	0.311
+D+0.60W+H	0.251	0.251
+D+0.750Lr+0.750L+0.450W+H	0.291	0.291
+D+0.750L+0.750S+0.450W+H	0.311	0.311
+0.60D+0.60W+0.60H	0.151	0.151
+D+0.70E+0.60H	0.251	0.251
+D+0.750L+0.750S+0.5250E+H	0.311	0.311
+0.60D+0.70E+H	0.151	0.151
D Only	0.251	0.251
Lr Only	0.053	0.053
S Only	0.080	0.080
H Only		

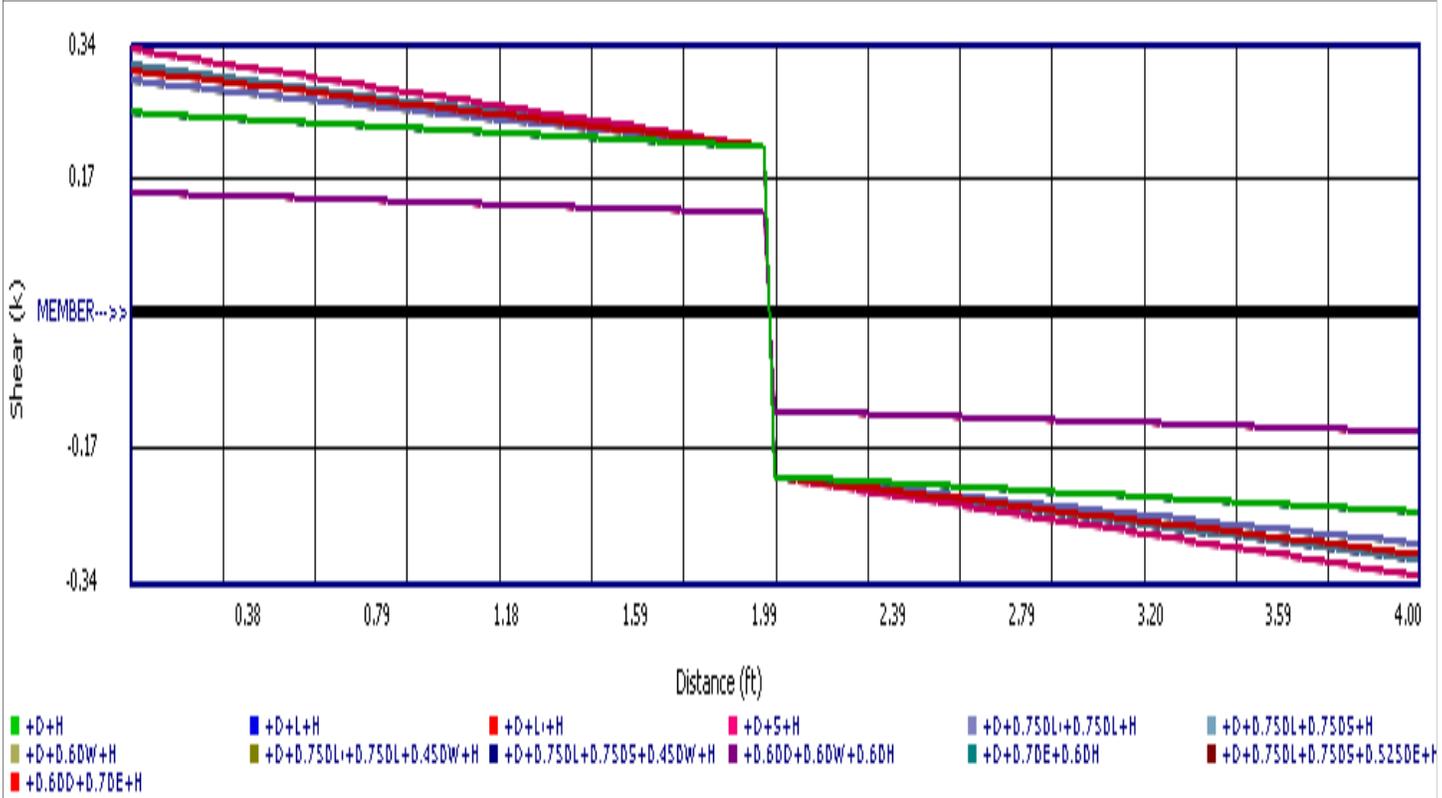
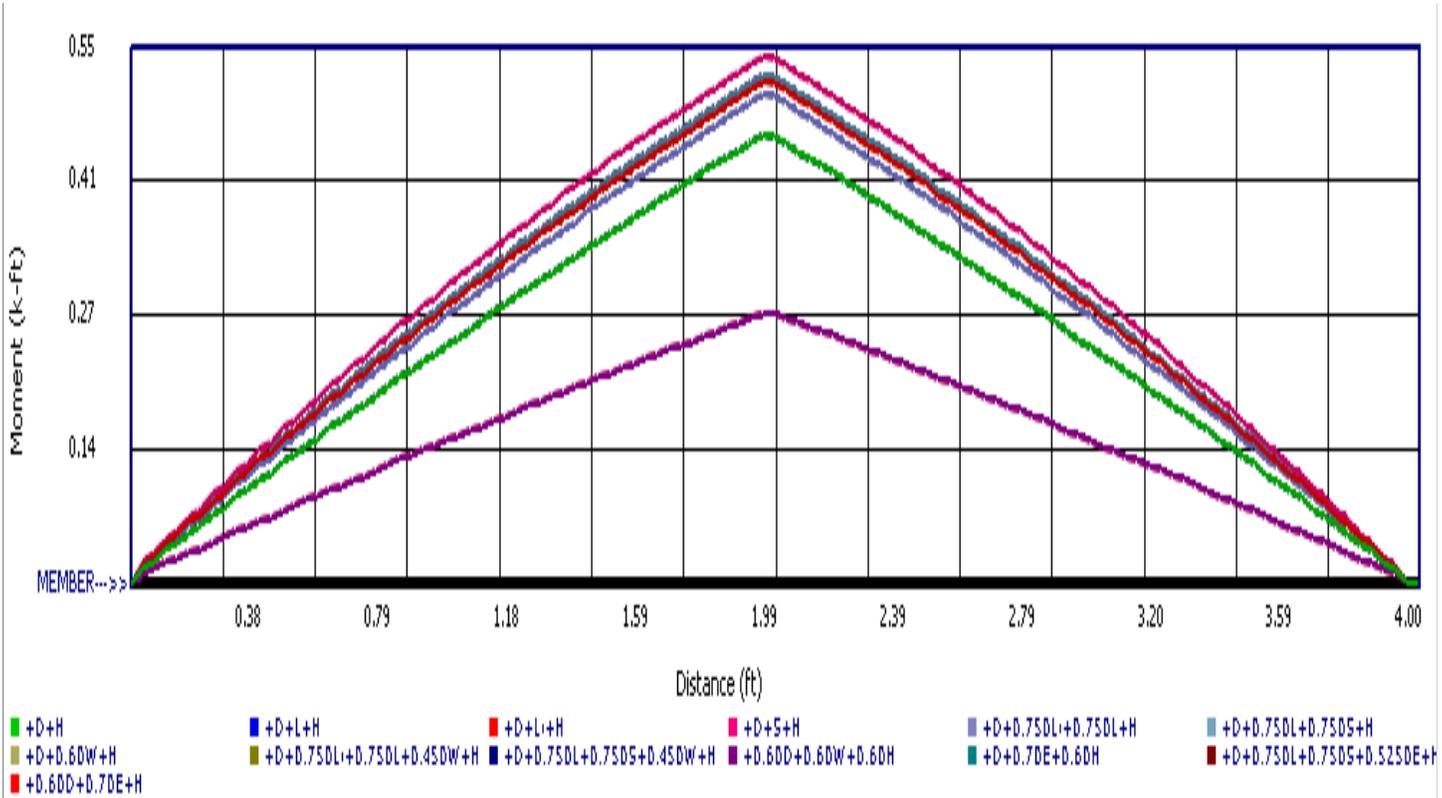
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Engineer:
Project ID:
Project Descr:

Wood Beam

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DESCRIPTION: 2x8 Raters Supporting Mast (2 Rafters)



Project Title:
 Engineer:
 Project ID:
 Project Descr:

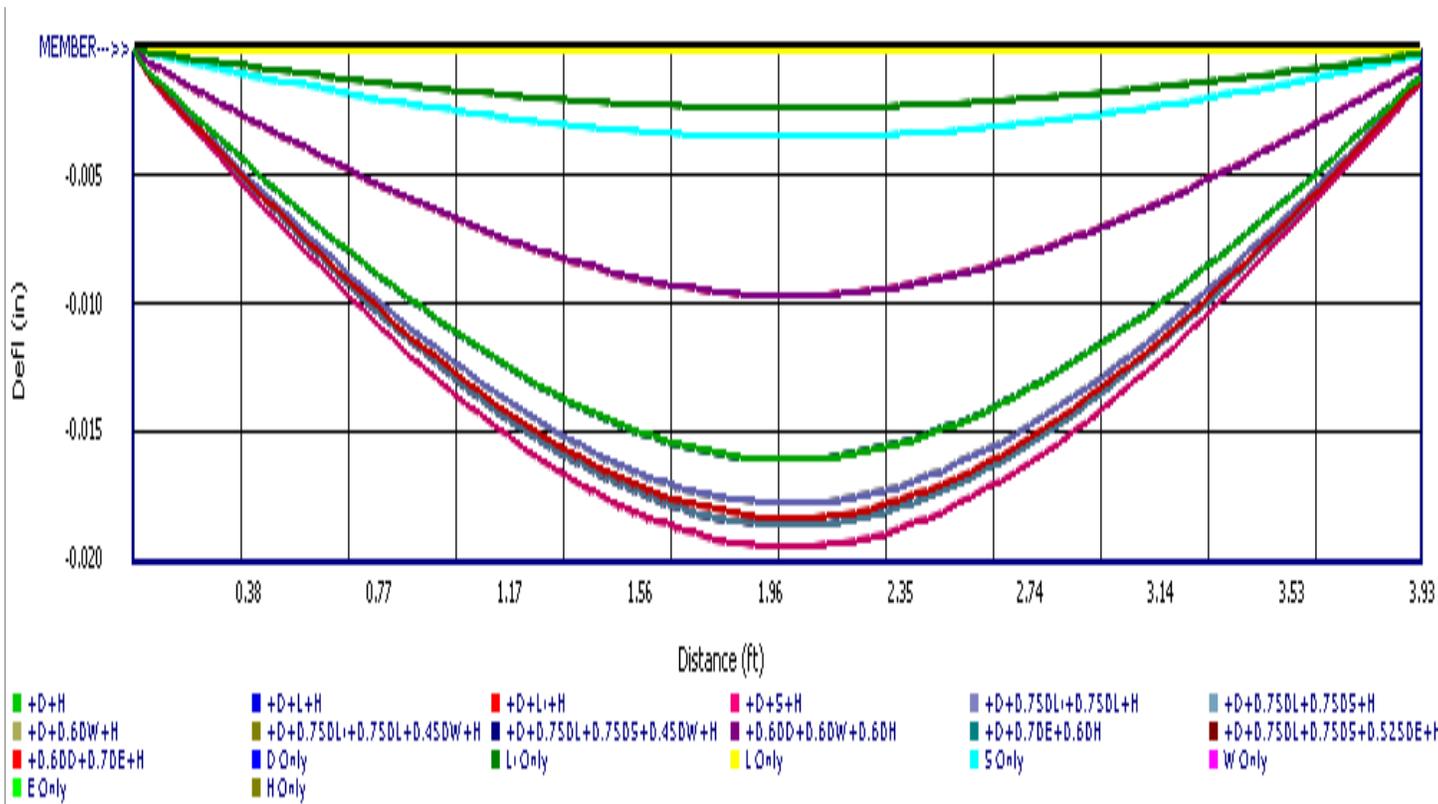
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VECTOR STRUCTURAL ENGINEERS

DESCRIPTION: 2x8 Raters Supporting Mast (2 Rafters)





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PROJECT: CT11862C

JOB NO.: U4506.002.211

SUBJECT: LATERAL LOADS

DESIGN OF ENCLOSED SIMPLE DIAPHRAGM LOW-RISE BUILDINGS FOR LATERAL LOADS

Seismic Parameters (ASCE 7-10 Chapters 11, 12, & 22)

Site Class: D	S. 11.4.2	N = 4	S. 12.8.2.1
R = 6.5	T. 12.2-1	C _t = 0.02	T. 12.8-2
S _s = 0.231	F. 22-1	h _n (ft) = 45	S. 12.8.2.1
S ₁ = 0.107	F. 22-2	x = 0.75	T. 12.8-2
F _a = 1.6	T. 11.4-1	T _a = 0.35	E. 12.8-7
F _v = 2.372	T. 11.4-2	T ₀ = 0.14	S. 11.4.5
S _{MS} = 0.37	E. 11.4-1	T _S = 0.69	S. 11.4.5
S _{M1} = 0.25	E. 11.4-2	C _U = 1.56	T. 12.8-1
S _{DS} = 0.246	E. 11.4-3	T _L = 8	F. 22-12
S _{D1} = 0.169	E. 11.4-4	S _a = 0.246	S. 11.4.5

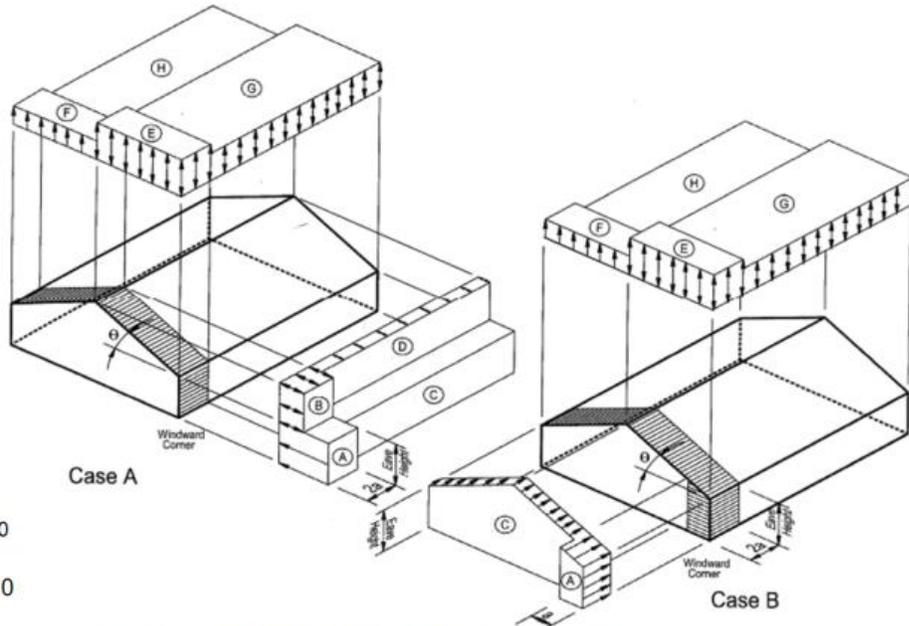
Determination of SDC:

Per Table 11.6-1:	B
Per Table 11.6-2:	C
SDC:	C S. 11.6
I _E =	1.00 T. 1.5-2
C _{SMAX} =	0.075 E. 12.8-3,4
C _S =	0.038 E. 12.8-2
C _{SMIN} =	0.011 E. 12.8-5,6
C _{SCONTROL} =	0.038 S. 12.8.1.1
C _{SCONTROL} * .7 =	0.027 S. 2.4.1

Seismic Analysis Req'd? No IBC 1613.1
 Perform Seismic Analysis? No

Wind Parameters (ASCE 7-10 Chapter 26)

Wind areas labeled C and D are used for calculating line loads on the following sheet.



Risk Category: II
 Basic Wind Speed (mph): 120
 Exposure Category: C
 K_{zt}: 1.00

MAIN WIND FORCE RESISTING SYSTEM - METHOD 2 FIGURE 28.6-1
SIMPLIFIED DESIGN WIND PRESSURE, P_{s30} (psf) (Exposure B at h=30 feet)

BASIC WIND SPEED (mph)	ROOF ANGLE (degrees)	LOAD CASE	ZONES									
			HORIZONTAL PRESSURES				VERTICAL PRESSURES				OVERHANGS	
			A	B	C	D	E	F	G	H	E _{OH}	G _{OH}
120	0 to 5°	1	22.9	-11.8	15.1	-7.0	-27.5	-15.5	-19.1	-12.2	-38.5	-30.1
	10°	1	25.7	-10.8	17.1	-6.2	-27.5	-16.7	-19.1	-13.0	-38.5	-30.1
	15°	1	28.7	-9.6	19.1	-5.4	-27.5	-17.9	-19.1	-13.8	-38.5	-30.1
	20°	1	31.7	-8.4	21.1	-4.6	-27.5	-19.1	-19.1	-14.5	-38.5	-30.1
	25°	1	28.7	4.6	20.7	4.8	-12.8	-17.3	-9.2	-14.0	-23.7	-20.1
		2					-4.8	-9.4	-1.4	-6.0		
	30° to 45°	1	25.7	17.5	20.3	14.0	2.0	-15.5	0.6	-13.4	-9.0	-10.4
		2	25.7	17.5	20.3	14.0	10.0	-7.8	8.6	-5.6	-9.0	-10.4

Note: Wind load determined from pressures below will be multiplied by 0.6 (ASD load factor on wind loads)



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PROJECT: PROJECT NAME

Global p value applied

Calculated p values and controlling locations

SUBJECT: SHEAR WALL SHEET EXPLANATION

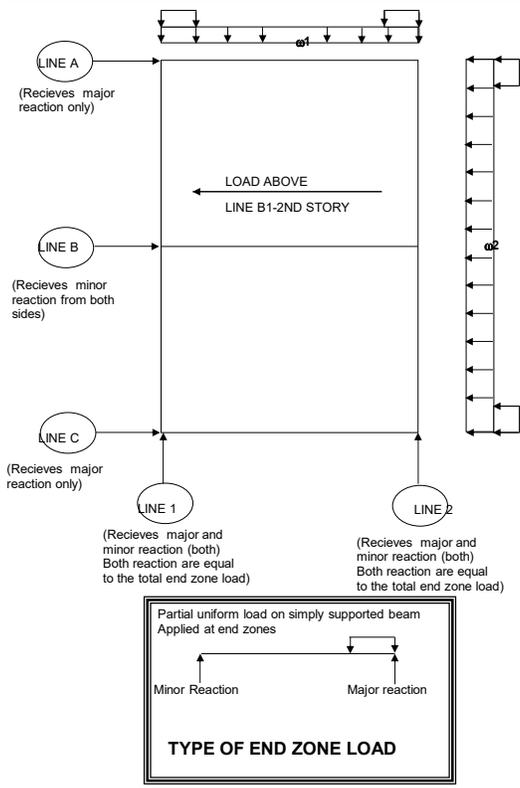
Roof DL (psf) = 44	(includes seismic snow where occurs)
Floor DL (psf) = 12	
Section 12.3.4.1	
PERF/ FTAO wall calcs where applicable	

LINE: A 2ND STORY																													
Line Loads (plf)					Loads from above					Actual Applied Loads (plf unless noted otherwise)					Diaphragm Shear (plf)					Perf/FTAO Wall Info									
Load	Trib w (ft)	E.Z. Appl*	Span (ft)	Line	%	Location	Seis (lbs)	Wind (lbs)	p*Seis	Wind	E.Z. Wind	2a (ft)	E.Z. P (lb)	Drag (ft)	Seis (Load vs. Allow.)	(Not Applicable)													
ω	10	Major	20		1.00	Offset			91.6	113.0	145.5	6	166	8	114	166													
		None			1.00	Offset								8															
					1.00	Above																							
					1.00	Above	916	1296																					
Plate h (ft)= 10										Include for irregularities (above)?										Wind (Load vs. Allow.)									
Max opening height (ft)= 10																				162 232									
Apply 2w/l reduction? Yes																													
Opening elevation																													
100% Perforated SW? No										Shear Length (ft)= 8										Story V (K)= 1831									
Force Transfer @ Openings? No										Wall DL (psf)= 10										Max allow. drift (in) 3									
																				Total seismic shear applied at level, for calculating p									

Type of wind zone reaction, see below		Selection of wall type, 'No' for both means a segmented wall		HD Capacity (Stem 'w'-edge dist)	OTM (wind, seismic) (ft-lb)	6"RM (ft-lb)	Aspect Ratio	2w/l Reduct.	Seis. Shear (plf)	Seis. Wall Cap. (plf)	Wind Shear (plf)	Wind Wall Cap. (plf)	Sill Plate Cap. (plf)	Tension (lb)	HD Capacity	Max Shear-Wall (in)			
Shear-Wall Length (ft)	Roof _{DL} 'w' (ft)	Floor _{DL} 'w' (ft)	Other _{DL} 'w' (plf)	Tension From Above (lb)	Wall Type	Sill Type	Strap												
3	2				P1	S1	CS16	4859	351	3.33	0.60	114	156	162	365	372	1502	1705	0.19
5	2				P1	S1	CS16	8098	976	2.00	1.00	114	260	162	365	372	1424	1705	0.18
Information on individual wall piers										Applied unit shears and unit shear capacities (reduced where appropriate)									
Add'l Comments: Max: 0.19																			

LINE: A 1ST STORY																													
Line Loads (plf)					Loads from above					Actual Applied Loads (plf unless noted otherwise)					Perforated or FTAO calculations					Perf/FTAO Wall Info									
Load	Trib w (ft)	E.Z. Appl*	Span (ft)	Line	%	Location	Seis (lbs)	Wind (lbs)	p*Seis	Wind	E.Z. Wind	2a (ft)	E.Z. P (lb)	Drag (ft)	Seis (Load vs. Allow.)	(Not Applicable)													
ω	10	Major	20		1.00	Offset			99.9	100.9	152.5	6	198	198	198														
		None			1.00	Offset																							
					1.00	A-2ND Above	916	1296																					
					1.00	Above	1915	2305																					
Plate h (ft)= 10										Include for irregularities (above)?										In-Shear (plf) is (Load vs. Allow.)									
Max opening height (ft)= 4																				126 276									
Apply 2w/l reduction? Yes																													
Opening elevation																													
50% Perforated SW? No										Shear Length (ft)= 8										Story V (K)= 383									
Force Transfer @ Openings? Yes										Wall DL (psf)= 10										Max allow. drift (in) 3									
																				Hold down information for global wall overturning									

Shear-Wall Length (ft)	Roof _{DL} 'w' (ft)	Floor _{DL} 'w' (ft)	Other _{DL} 'w' (plf)	Tension From Above (lb)	Wall Type	Sill Type	Strap	HD Capacity (Stem 'w'-edge dist)	OTM (wind, seismic) (ft-lb)	6"RM (ft-lb)	Aspect Ratio	2w/l Reduct.	Seis. Shear (plf)	Seis. Wall Cap. (plf)	Wind Shear (plf)	Wind Wall Cap. (plf)	Sill Plate Cap. (plf)	Tension (lb)	HD Capacity	Max Shear-Wall (in)
3					PERF/FTAO SHEAR-WALL CALCULATIONS APPLY - SEE ABOVE															
5											1.33	1.00								
Required only for FTAO method																				
Maximum unit shear and strap forces calculated by Diekmann method for FTAO walls																				
Add'l Comments: Max: 0.00																				





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PROJECT: CT11862C

JOB NO.: U4506.002.211

SUBJECT: SHEAR WALLS

$p_{Applied} = 1.3$	USE MAX RHO	p_i	Loc	F_p/F_x	Roof DL (psf) = 15	(includes seismic snow where occurs)
Min Diaphragm Width (ft) = 4.20833				4.20	Floor DL (psf) = 12	
Allowable Seismic Aspect Ratio = 3.5		1.00	2-2ND	2.25	p calculated in accordance with:	
Allowable Wind Aspect Ratio = 3.5				1.66	ASCE7-10 Section 12.3.4.2	
Comb. Overstrength Factors: $(0.5)/1.2 = 2.08$		1.00	1-4TH	1.00	No Exception in ASCE 7 12.3.4.2b met?	

LINE: 1		4TH STORY		Timber Framed Shearwall Calculations													
Line Loads (plf)				Loads from above				Actual Applied Loads (plf unless noted otherwise)				Diaphragm Shear (plf)		Perf/FTAO Wall Info			
Load	Trib w (ft)	E.Z. Appl*	Span (ft)	Line	%	Location	0.7E (lbs)	0.6W (lbs)	p^*Seis	Wind	E.Z. Wind	2a (ft)	E.Z. P (lb)	Drag (ft)	Seis (Load vs. Allow.)	(Not Applicable)	
ω	2.104167	Major	4.208333		1.00	Offset				337.9	510.2	6	297	4	166		
		None			1.00	Offset								4			
					1.00	Above									252	232	
						Total		1008									
Plate h (ft) =	8.25									Include for irregularities (above)?		No					
Max opening height (ft) =	8.25									Shear Length (ft) =	4	Story V (K) =					
Apply aspect ratio reduction?	Yes				100%	Perforated SW?	No			Wall DL (psf) =	10	Max allow. drift (in)	1.98				
Opening elevation						Force Transfer @ Openings?	No										

Shear-Wall Length (ft)	Roof _{DL} 'w' (ft)	Floor _{DL} 'w' (ft)	Other _{DL} 'w' (plf)	Tension From Above (lb)	Wall Type	Sill Type	Holdown Strap	HD Capacity (Stem/floor config)	OTM (wind, seismic) (ft-lb)	(0.6-.2SDs) *RM (ft-lb)	Aspect Ratio	Seis. Shear (plf)	Seis. Wall Cap. (plf)	Wind Shear (plf)	Wind Wall Cap. (plf)	Sill Plate Cap. (plf)	Tension (lb)	HD Capacity	Max Shear-Wall Δ 1.0E (in)
4	1				P1		HDU8		8314	468	2.06	0.97	252	252	354		1962	7870	0.23

Add'l Comments: Max: 0.23

LINE: 2		2ND STORY		Timber Framed Shearwall Calculations													
Line Loads (plf)				Loads from above				Actual Applied Loads (plf unless noted otherwise)				Diaphragm Shear (plf)		Perf/FTAO Wall Info			
Load	Trib w (ft)	E.Z. Appl*	Span (ft)	Line	%	Location	0.7E (lbs)	0.6W (lbs)	p^*Seis	Wind	E.Z. Wind	2a (ft)	E.Z. P (lb)	Drag (ft)	Seis (Load vs. Allow.)	(Not Applicable)	
ω	2.104167	Major	4.208333		1.00	Offset				45.2	68.3	6	40	4	198		
		None			1.00	Offset								4			
					1.00	Above									34	276	
						Total		135									
Plate h (ft) =	8.25									Include for irregularities (above)?		No					
Max opening height (ft) =	8.25									Shear Length (ft) =	4	Story V (K) =					
Apply aspect ratio reduction?	Yes				100%	Perforated SW?	No			Wall DL (psf) =	10	Max allow. drift (in)	1.98				
Opening elevation						Force Transfer @ Openings?	No										

Shear-Wall Length (ft)	Roof _{DL} 'w' (ft)	Floor _{DL} 'w' (ft)	Other _{DL} 'w' (plf)	Tension From Above (lb)	Wall Type	Sill Type	Holdown Strap	HD Capacity (Stem/floor config)	OTM (wind, seismic) (ft-lb)	(0.6-.2SDs) *RM (ft-lb)	Aspect Ratio	Seis. Shear (plf)	Seis. Wall Cap. (plf)	Wind Shear (plf)	Wind Wall Cap. (plf)	Sill Plate Cap. (plf)	Tension (lb)	HD Capacity	Max Shear-Wall Δ 1.0E (in)
4	1				P1	S1	HDU8		1113	468	2.06	0.97	252	34	354	372	161	7870	0.02

Add'l Comments: Max: 0.02

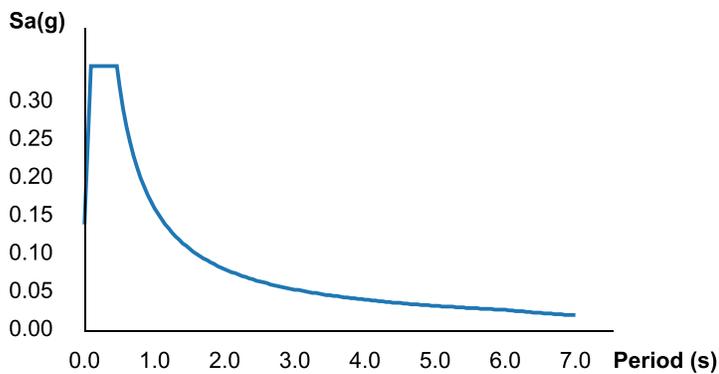
ATC Hazards by Location

Search Information

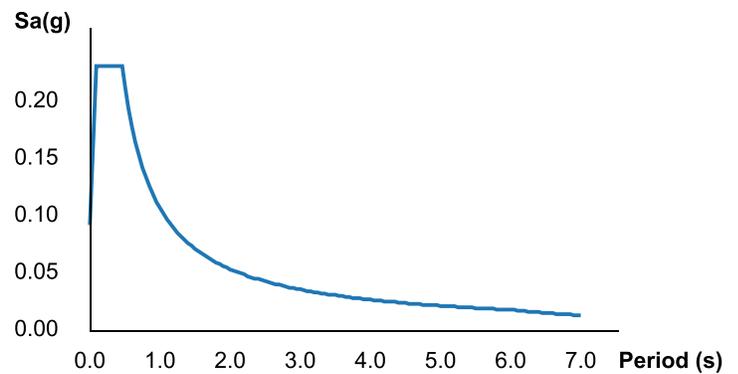
Coordinates: 41.38294444, -73.43569444
Elevation: 491 ft
Timestamp: 2021-07-27T23:04:17.560Z
Hazard Type: Seismic
Reference Document: ASCE7-10
Risk Category: II
Site Class: D



MCE_R Horizontal Response Spectrum



Design Horizontal Response Spectrum



Basic Parameters

Name	Value	Description
S_S	0.217	MCE _R ground motion (period=0.2s)
S_1	0.067	MCE _R ground motion (period=1.0s)
S_{MS}	0.347	Site-modified spectral acceleration value
S_{M1}	0.16	Site-modified spectral acceleration value
S_{DS}	0.231	Numeric seismic design value at 0.2s SA
S_{D1}	0.107	Numeric seismic design value at 1.0s SA

Additional Information

Name	Value	Description
SDC	B	Seismic design category
F_a	1.6	Site amplification factor at 0.2s
F_v	2.4	Site amplification factor at 1.0s
CR_S	0.89	Coefficient of risk (0.2s)

CR ₁	0.9	Coefficient of risk (1.0s)
PGA	0.118	MCE _G peak ground acceleration
F _{PGA}	1.563	Site amplification factor at PGA
PGA _M	0.185	Site modified peak ground acceleration
T _L	6	Long-period transition period (s)
SsRT	0.217	Probabilistic risk-targeted ground motion (0.2s)
SsUH	0.243	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.067	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.074	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey [Seismic Design Web Services](#).

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ATTACHMENT 5

CERTIFICATION OF SERVICE

I hereby certify that on the 5th day of August 2022, T-Mobile Northeast, LLC provided notice of its intent to file a Petition for a declaratory ruling that a Certificate of Environmental Compatibility and Public Need is not required for the modification of a wireless telecommunications facility at 1 Fairfield Avenue, Danbury, Connecticut, to the following:

Abutters

SEE ATTACHED SHEET

Owner

TALL OAKS LLC
5 CORPORATE DRIVE
DANBURY, CT 06810

Respectfully Submitted,

Victoria Masse
Northeast Site Solutions
420 Main Street #2
Sturbridge, MA 01566

August 5, 2022

**VIA USPS CERTIFIED MAIL/
RETURN RECEIPT REQUESTED**

TALL OAKS LLC
5 CORPORATE DRIVE
DANBURY, CT 06810

**RE: Proposed Modification to Existing Wireless Telecommunications Facility at 1
Fairfield Avenue, Danbury, Connecticut**

To Whom It May Concern:

I am writing to you on behalf of T-Mobile Northeast, LLC (“T-Mobile”). T-Mobile intends to file with the Connecticut Siting Council (“Council”) a petition for declaratory ruling (“Petition”) that a Certificate of Environmental Compatibility and Public Need is not required.

The Petition will provide details of the Existing Facility modification and explain why it will have no significant adverse environmental effect. T-Mobile proposes to extend the height of the existing false chimney by 5-feet, to a total height of approximately 45 feet above ground level.

This letter serves as notice to you as an abutting property owner pursuant to § 16-50j-40 of the Regulations of Connecticut State Agencies. T-Mobile will file the Petition on or about August 5, 2022, and will request that the Council place the Petition on some future agenda.

You may review the Petition at the office of the Council, which is located at Ten Franklin Square, New Britain, Connecticut, 06051, or at the Office of the City Clerk at the Danbury City Hall. All inquiries should be addressed to Council or to the undersigned.

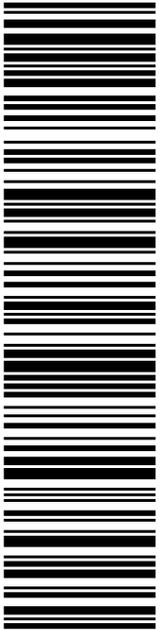
Sincerely,

Victoria Masse
Northeast Site Solutions
420 Main Street #2
Sturbridge, MA 01566



DEAN ESPOSITO
MAYOR - DANBURY
155 DEER HILL AVE
DANBURY CT 06810-7726

USPS TRACKING #



9405 5036 9930 0314 6237 96

DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

C005

Expected Delivery Date: 08/08/22
Ref#: CT11862-PT
0000

P

08/04/2022

PRIORITY MAIL®

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Flat Rate Env

9405 5036 9930 0314 6237 96 0089 5000 0020 6810

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

Click-N-Ship® Label Record

USPS TRACKING # :	
9405 5036 9930 0314 6237 96	
Trans. #:	569102858
Print Date:	08/04/2022
Ship Date:	08/04/2022
Expected Delivery Date:	08/08/2022
Priority Mail® Postage:	\$8.95
Total:	\$8.95
From:	DEBORAH CHASE NORTHEAST SITE SOLUTIONS STE 1 420 MAIN ST STURBRIDGE MA 01566-1359
To:	DEAN ESPOSITO MAYOR - DANBURY 155 DEER HILL AVE DANBURY CT 06810-7726
Ref#:	CT11862-PT
<p>* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.</p>	

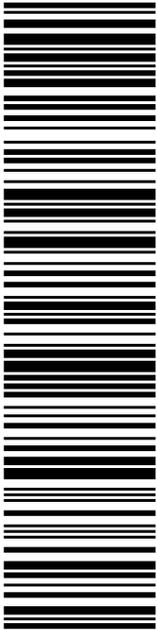


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SHARON CALITRO
DIRECTOR OF PLANNING & ZONING
155 DEER HILL AVE
DANBURY CT 06810-7726

USPS TRACKING #



9405 5036 9930 0314 6238 33

DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

C005

Expected Delivery Date: 08/08/22
Ref#: CT11862-PT
0000

USPS.com 9405 5036 9930 0314 6238 33 0089 5000 0020 6810
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- Place your label so it does not wrap around the edge of the package.
- Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
- To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
- Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0314 6238 33

<p>Trans. #: 569102858 Print Date: 08/04/2022 Ship Date: 08/04/2022 Expected Delivery Date: 08/08/2022</p>	<p>Priority Mail® Postage: \$8.95 Total: \$8.95</p>
--	---

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
STE 1
420 MAIN ST
STURBRIDGE MA 01566-1359

Ref#: CT11862-PT

To: SHARON CALITRO
DIRECTOR OF PLANNING & ZONING
155 DEER HILL AVE
DANBURY CT 06810-7726

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Old Greenwich, CT 06870

Certified Mail Fee	\$4.00
Extra Services & Fees (check box, add fee as appropriate)	\$3.25
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.60
Total Postage and Fees	\$7.85



Sent To Sushil / Radhika Chotal
 Street and Apt. No., or PO Box No. 14 Marten St # 4
 City, State, ZIP+4® Danbury CT 06810

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Extra Services & Fees (check box, add fee as appropriate)	\$3.25
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.60
Total Postage and Fees	\$7.85



Sent To Achille Lamour
 Street and Apt. No., or PO Box No. 14 Marten St # 3
 City, State, ZIP+4® Danbury CT 06810

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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Extra Services & Fees (check box, add fee as appropriate)	\$3.25
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.60
Total Postage and Fees	\$7.85



Sent To Juan Quezada
 Street and Apt. No., or PO Box No. 14 Marten St # 2
 City, State, ZIP+4® Danbury CT 06810

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<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
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<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.60
Total Postage and Fees	\$7.85



Sent To Kristen Costello
 Street and Apt. No., or PO Box No. 14 Marten St # 14
 City, State, ZIP+4® Danbury CT 06810

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Extra Services & Fees (check box, add fee as appropriate)	\$3.25
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<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.60
Total Postage and Fees	\$7.85



Sent To Antonella / Fratto Poidven
 Street and Apt. No., or PO Box No. 14 Marten St # 13
 City, State, ZIP+4® Danbury CT 06810

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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Extra Services & Fees (check box, add fee as appropriate)	\$3.25
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
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<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.60
Total Postage and Fees	\$7.85



Sent To JOHN HEERING
 Street and Apt. No., or PO Box No. 14 MORTON ST #9
 City, State, ZIP+4® DANBURY CT 06810

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\$	\$3.25
Extra Services & Fees (check box, add fee as appropriate)	\$0.00
<input type="checkbox"/> Return Receipt (hardcopy)	\$
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$



Postage	\$0.60
\$	\$
Total Postage and Fees	\$7.85
\$	\$

Sent To Belys Peguero
 Street and Apt. No., or PO Box No. 14 Morton Ave #5
 City, State, ZIP+4® Danbury Ct 06810

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\$	\$3.25
Extra Services & Fees (check box, add fee as appropriate)	\$0.00
<input type="checkbox"/> Return Receipt (hardcopy)	\$
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<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$



Postage	\$0.60
\$	\$
Total Postage and Fees	\$7.85
\$	\$

Sent To Lisa / Ashley Talarico
 Street and Apt. No., or PO Box No. 14 Morton St #8
 City, State, ZIP+4® Danbury Ct 06810

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Extra Services & Fees (check box, add fee as appropriate)	\$0.00
<input type="checkbox"/> Return Receipt (hardcopy)	\$
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
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Postage	\$0.60
\$	\$
Total Postage and Fees	\$7.85
\$	\$

Sent To Nicolas Smith
 Street and Apt. No., or PO Box No. 14 Morton St #7
 City, State, ZIP+4® Danbury Ct 06810

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\$	\$3.25
Extra Services & Fees (check box, add fee as appropriate)	\$0.00
<input type="checkbox"/> Return Receipt (hardcopy)	\$
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
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<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$



Postage	\$0.60
\$	\$
Total Postage and Fees	\$7.85
\$	\$

Sent To Kristine So / Jeanette Lao
 Street and Apt. No., or PO Box No. 14 Morton St #6
 City, State, ZIP+4® Danbury Ct 06810

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LINCOLN MALL
560 LINCOLN ST STE 8
WORCESTER, MA 01605-1925
(800)275-8777

08/04/2022

09:39 AM

Product	Qty	Unit Price	Price
First-Class Mail® Letter	1		\$0.60
Old Greenwich, CT 06870			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110996808			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9831 65			
Total			\$7.85
First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110996792			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9831 58			
Total			\$7.85
First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110996785			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9831 41			
Total			\$7.85
First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110996778			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9831 34			
Total			\$7.85
First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
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Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9831 10			
Total			\$7.85
First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110996853			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9832 19			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110996846			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9832 02			
Total			\$7.85
First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110996839			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9831 96			
Total			\$7.85
First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110996822			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9831 89			
Total			\$7.85
First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110996815			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9831 72			
Total			\$7.85



LINCOLN MALL
560 LINCOLN ST STE 8
WORCESTER, MA 01605-1925
(800)275-8777

08/04/2022 09:39 AM

Product	Qty	Unit Price	Price
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First-Class Mail® Letter	1		\$0.60
Old Greenwich, CT 06870 Weight: 0 lb 0.40 oz Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996808			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9831 65			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810 Weight: 0 lb 0.40 oz Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996792			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9831 58			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810 Weight: 0 lb 0.40 oz Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996785			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9831 41			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810 Weight: 0 lb 0.40 oz Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996778			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9831 34			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810 Weight: 0 lb 0.40 oz Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996761			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9831 10			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810 Weight: 0 lb 0.40 oz Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996853			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9832 19			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810 Weight: 0 lb 0.40 oz Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996846			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9832 02			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810 Weight: 0 lb 0.40 oz Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996839			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9831 96			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810 Weight: 0 lb 0.40 oz Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996822			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9831 89			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810 Weight: 0 lb 0.40 oz Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996815			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9831 72			
Total			\$7.85

7022 0410 0001 1099 6679

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Danbury, CT 06810

Certified Mail Fee	\$4.00
\$	\$3.25
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00



Postage	\$0.60
\$	\$7.85
Total Postage and Fees	\$7.85
\$	

Sent To
Alexander Ostapenko
Street and Apt. No., or PO Box No.
1 Fairfield Ave #2
City, State, ZIP+4®
Danbury CT 06810

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7022 0410 0001 1099 6677

U.S. Postal Service™
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Danbury, CT 06810

Certified Mail Fee	\$4.00
\$	\$3.25
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00



Postage	\$0.60
\$	\$7.85
Total Postage and Fees	\$7.85
\$	

Sent To
Mario Mendes
Street and Apt. No., or PO Box No.
17 Rocky Glen Rd
City, State, ZIP+4®
Danbury CT 06810

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7022 0410 0001 1099 6684

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Danbury, CT 06810

Certified Mail Fee	\$4.00
\$	\$3.25
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00



Postage	\$0.60
\$	\$7.85
Total Postage and Fees	\$7.85
\$	

Sent To
Fairfield Ridge Mill Ridge
Street and Apt. No., or PO Box No.
2 Mill Ridge Rd
City, State, ZIP+4®
Danbury CT 06811-5231

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7022 0410 0001 1099 6660

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Danbury, CT 06810

Certified Mail Fee	\$4.00
\$	\$3.25
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00



Postage	\$0.60
\$	\$7.85
Total Postage and Fees	\$7.85
\$	

Sent To
Joseph Bora
Street and Apt. No., or PO Box No.
17 Chester St
City, State, ZIP+4®
Brookfield CT 06804

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7022 0410 0001 1099 6691

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Danbury, CT 06810

Certified Mail Fee	\$4.00
\$	\$3.25
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00



Postage	\$0.60
\$	\$7.85
Total Postage and Fees	\$7.85
\$	

Sent To
Housing Authority - Danbury
Street and Apt. No., or PO Box No.
2 Mill Ridge Rd
City, State, ZIP+4®
Danbury CT 06811-5235

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7022 0410 0001 1099 6754

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Danbury, CT 06810

Certified Mail Fee	\$4.00
\$	\$3.25
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00



Postage	\$0.60
\$	\$7.85
Total Postage and Fees	\$7.85
\$	

Sent To
Iliana Rosario/Clifford Butler
Street and Apt. No., or PO Box No.
14 Marten St #12
City, State, ZIP+4®
Danbury CT 06810

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7022 0410 0001 1099 6747

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Danbury, CT 06810

Certified Mail Fee	\$4.00
Extra Services & Fees (check box, add fee as appropriate)	\$3.25
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$0.60
Total Postage and Fees	\$7.85

1106
17
Postmark Here
08/04/2022

Sent To Maria Motel / Yamailyn Castro
Street and Apt. No., or PO Box No.
14 Morton St # 11
City, State, ZIP+4®
Danbury CT 06810

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7022 0410 0001 1099 6730

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Danbury, CT 06810

Certified Mail Fee	\$4.00
Extra Services & Fees (check box, add fee as appropriate)	\$3.25
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$0.60
Total Postage and Fees	\$7.85

1106
17
Postmark Here
08/04/2022

Sent To Arthur - Karen Langer
Street and Apt. No., or PO Box No.
14 Morton St # 10
City, State, ZIP+4®
Danbury CT 06810

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7022 0410 0001 1099 6723

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Danbury, CT 06810

Certified Mail Fee	\$4.00
Extra Services & Fees (check box, add fee as appropriate)	\$3.25
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$0.60
Total Postage and Fees	\$7.85

1106
17
Postmark Here
08/04/2022

Sent To Tatiana Cruz
Street and Apt. No., or PO Box No.
14 Morton St # 1
City, State, ZIP+4®
Danbury CT 06810

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7022 0410 0001 1099 6716

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Scottsdale, AZ 85262

Certified Mail Fee	\$4.00
Extra Services & Fees (check box, add fee as appropriate)	\$3.25
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$0.60
Total Postage and Fees	\$7.85

1106
17
Postmark Here
08/04/2022

Sent To Barbara Ruiz
Street and Apt. No., or PO Box No.
11540 East Cavedale Dr
City, State, ZIP+4®
Scottsdale AZ 85267

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7022 0410 0001 1099 6709

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Danbury, CT 06811

Certified Mail Fee	\$4.00
Extra Services & Fees (check box, add fee as appropriate)	\$3.25
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$0.60
Total Postage and Fees	\$7.85

1106
17
Postmark Here
08/04/2022

Sent To Williams Coal Pit Hill Rd Inst.
Street and Apt. No., or PO Box No.
11 Westminster Rd
City, State, ZIP+4®
Danbury CT 06811

7022 0410 0001 1099 6693

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Danbury, CT 06811

Certified Mail Fee	\$4.00
Extra Services & Fees (check box, add fee as appropriate)	\$3.25
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$0.60
Total Postage and Fees	\$7.85

1106
17
Postmark Here
08/04/2022

Sent To Cristina Maulon
Street and Apt. No., or PO Box No.
1 Fairfield Ave # 3
City, State, ZIP+4®
Danbury CT 06810



LINCOLN MALL
560 LINCOLN ST STE 8
WORCESTER, MA 01605-1925
(800) 275-8777

08/04/2022 09:49 AM

Product	Qty	Unit Price	Price
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First-Class Mail® Letter	1		\$0.60
Danbury, CT 06811			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996884			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9834 62			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996877			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9834 55			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Brookfield, CT 06804			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996860			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9834 48			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06811			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996891			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9834 79			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996754			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9831 03			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996747			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9830 97			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996730			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9830 80			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996723			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9830 73			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Scottsdale, AZ 85262			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date Tue 08/09/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996716			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9837 21			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06811			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996709			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9830 28			
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #: 70220410000110996693			
Return Receipt			\$3.25
Tracking #: 9590 9402 7596 2098 9830 35			
Total			\$7.85

7022 0410 0001 1099 6686

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 Danbury, CT 06810

OFFICIAL USE

Certified Mail Fee	\$4.00
\$	\$3.25
Extra Services & Fees (check box, add fees as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$ 0.00
<input type="checkbox"/> Return Receipt (electronic)	\$ 0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$ 0.00
<input type="checkbox"/> Adult Signature Required	\$ 0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$ 0.00
Postage	\$0.60
\$	
Total Postage and Fees	\$7.85
\$	

1106
17
STATION
2022
Postmark Here
08/04/2022

Sent To Manuel P. Velasquez
 Street and Apt. No., or PO Box No. 1 Fairfield Ave #1
 City, State, ZIP+4® Danbury CT 06810

PS Form 3800, April 2015 PSN 7530-02-001-9047 See Reverse for Instructions

First-Class Mail® 1 \$0.60
 Letter
 Danbury, CT 06810
 Weight: 0 lb 0.40 oz
 Estimated Delivery Date
 Mon 08/08/2022
 Certified Mail® \$4.00
 Tracking #: 70220410000110996686
 Return Receipt \$3.25
 Tracking #: 9590 9402 7596 2098 9830 42
 Total \$7.85

First-Class Mail® 1 \$0.60
 Letter
 Danbury, CT 06810
 Weight: 0 lb 0.40 oz
 Estimated Delivery Date
 Mon 08/08/2022
 Certified Mail® \$4.00
 Tracking #: 70220410000110996679
 Return Receipt \$3.25
 Tracking #: 9590 9402 7596 2098 9830 59
 Total \$7.85

Grand Total: \$102.05

Credit Card Remitted \$102.05
 Card Name: VISA
 Account #: XXXXXXXXXXXXX7594
 Approval #: 08051G
 Transaction #: 762
 AID: A0000000031010 Chip
 AL: VISA CREDIT
 PIN: Not Required CHASE VISA

7022 0410 0001 1099 7003

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For delivery information, visit our website at www.usps.com®.
Danbury, CT 06810

OFFICIAL USE

Certified Mail Fee	\$4.00	1106
Extra Services & Fees (check box, add fee as appropriate)	\$3.25	17
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.60	
Total Postage and Fees	\$7.85	

Sent To
 Street and Apt. No., or PO Box No. Maria / Juan Moreno Espitia
 St Coalpit Hill Rd
 City, State, ZIP+4® Danbury CT 06810
 PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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For delivery information, visit our website at www.usps.com®.
Bethel, CT 06801

OFFICIAL USE

Certified Mail Fee	\$4.00	1106
Extra Services & Fees (check box, add fee as appropriate)	\$3.25	17
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.60	
Total Postage and Fees	\$7.85	

Sent To
 Street and Apt. No., or PO Box No. Madeline Wachek
 PO Box 85
 City, State, ZIP+4® Bethel CT 06801
 PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7022 0410 0001 1099 7171

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only

For delivery information, visit our website at www.usps.com®.
Bethel, CT 06801

OFFICIAL USE

Certified Mail Fee	\$4.00	1106
Extra Services & Fees (check box, add fee as appropriate)	\$3.25	17
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.60	
Total Postage and Fees	\$7.85	

Sent To
 Street and Apt. No., or PO Box No. JOSEPH / LESLIE ANDREWS
 P.O. BOX 841
 City, State, ZIP+4® BETHEL CT 06801
 PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only

For delivery information, visit our website at www.usps.com®.
Danbury, CT 06813

OFFICIAL USE

Certified Mail Fee	\$4.00	1106
Extra Services & Fees (check box, add fee as appropriate)	\$3.25	17
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.60	
Total Postage and Fees	\$7.85	

Sent To
 Street and Apt. No., or PO Box No. Madeline Ridge c/o RDS Mngmnt
 PO BOX 2636
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7022 0410 0001 1099 7157

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Extra Services & Fees (check box, add fee as appropriate)	\$3.25	17
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.60	
Total Postage and Fees	\$7.85	

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 Street and Apt. No., or PO Box No. Eastern States Development Corp
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Extra Services & Fees (check box, add fee as appropriate)	\$3.25	17
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.60	
Total Postage and Fees	\$7.85	

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 Street and Apt. No., or PO Box No. Peter & Irene Lawrenia
 03 Coalpit Hill Rd
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<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
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<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.60	
Total Postage and Fees	\$7.85	08/04/2022

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Danbury CT 06810

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\$	\$3.25	17
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<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.60	
Total Postage and Fees	\$7.85	08/04/2022

Sent To
Street and Apt. No., or PO Box No.
City, State, ZIP+4®

MARISA-ROSEMARIE DEGRAZIA
5 DEER HILL AVE
DANBURY CT 06810

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\$	\$3.25	17
Extra Services & Fees (check box, add fee as appropriate)		
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
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<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.60	
Total Postage and Fees	\$7.85	08/04/2022

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City, State, ZIP+4®

Maximino/Cecilia Vieg
5 Coalpit Hill Rd
Danbury CT 06810

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\$	\$3.25	17
Extra Services & Fees (check box, add fee as appropriate)		
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.60	
Total Postage and Fees	\$7.85	08/04/2022

Sent To
Street and Apt. No., or PO Box No.
City, State, ZIP+4®

Tall Oaks LLC
5 Corporate Drive
Danbury CT 06810

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Fort Mill, SC 29715

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\$	\$3.25	17
Extra Services & Fees (check box, add fee as appropriate)		
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.60	
Total Postage and Fees	\$7.85	08/04/2022

Sent To
Street and Apt. No., or PO Box No.
City, State, ZIP+4®

US Bank Nat'l Assoc. % Wells Fargo
3476 Stateview Blvd
Fort Mill SC 29715

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Danbury, CT 06810

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Certified Mail Fee	\$4.00	1106
\$	\$3.25	17
Extra Services & Fees (check box, add fee as appropriate)		
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
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Postage	\$0.60	
Total Postage and Fees	\$7.85	08/04/2022

Sent To
Street and Apt. No., or PO Box No.
City, State, ZIP+4®

AMOS House Inc
34 Rocky Glen Rd
Danbury CT 06810-8007

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Certified Mail Fee	\$4.00
Extra Services & Fees (check box, add fee as appropriate)	\$3.25
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.60
Total Postage and Fees	\$7.85

Sent To Carla Pickel
 Street and Apt. No., or PO Box No. 33 Rocky Glen Rd
 City, State, ZIP+4® Danbury CT 06810

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Certified Mail Fee	\$4.00
Extra Services & Fees (check box, add fees as appropriate)	\$3.25
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
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<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.60
Total Postage and Fees	\$7.85

Sent To Jairo / Carla Oliveira
 Street and Apt. No., or PO Box No. 31 Rocky Glen Rd
 City, State, ZIP+4® Danbury CT 06810

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Danbury, CT 06810

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Certified Mail Fee	\$4.00
Extra Services & Fees (check box, add fee as appropriate)	\$3.25
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.60
Total Postage and Fees	\$7.85

Sent To Rudy + Laurie Hafert
 Street and Apt. No., or PO Box No. 30 Rocky Glen Rd
 City, State, ZIP+4® Danbury CT 06810-8007

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Brookfield, CT 06804

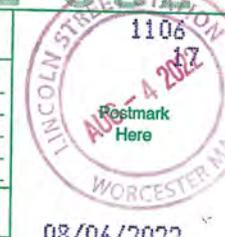
OFFICIAL USE

Certified Mail Fee	\$4.00
Extra Services & Fees (check box, add fee as appropriate)	\$3.25
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.60
Total Postage and Fees	\$7.85

Sent To Lucien Lapiniere
 Street and Apt. No., or PO Box No. 28 Kellogg St
 City, State, ZIP+4® Brookfield CT 06804

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LINCOLN MALL
560 LINCOLN ST STE 8
WORCESTER, MA 01605-1925
(800)275-8777

08/04/2022

12:24 PM

Product	Qty	Unit Price	Price
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First-Class Mail® Letter	1		\$0.60
Bethel, CT 06801			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110997188			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9833	56		
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Bethel, CT 06801			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110997171			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9833	63		
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06813			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110997164			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9833	49		
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06813			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110997157			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9833	32		
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110997140			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9833	25		
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110997027			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9832	26		
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110997010			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9834	86		
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110997003			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9834	93		
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110996990			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9835	16		
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110996983			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9835	23		
Total			\$7.85

First-Class Mail® Letter	1		\$0.60
Danbury, CT 06810			
Weight: 0 lb 0.40 oz			
Estimated Delivery Date			
Mon 08/08/2022			
Certified Mail®			\$4.00
Tracking #:			
70220410000110996976			
Return Receipt			\$3.25
Tracking #:			
9590 9402 7596 2098 9835	30		
Total			\$7.85

First-Class Mail® 1 \$0.60
 Letter
 Fort Mill, SC 29715
 Weight: 0 lb 0.40 oz
 Estimated Delivery Date
 Mon 08/08/2022
 Certified Mail® 4.00
 Tracking #: 70220410000110996969
 Return Receipt 3.25
 Tracking #: 9590 9402 7596 2098 9832 88
 Total \$7.85

First-Class Mail® 1 \$0.60
 Letter
 Danbury, CT 06810
 Weight: 0 lb 0.40 oz
 Estimated Delivery Date
 Mon 08/08/2022
 Certified Mail® 4.00
 Tracking #: 70220410000110996952
 Return Receipt 3.25
 Tracking #: 9590 9402 7596 2098 9832 95
 Total \$7.85

First-Class Mail® 1 \$0.60
 Letter
 Danbury, CT 06810
 Weight: 0 lb 0.40 oz
 Estimated Delivery Date
 Mon 08/08/2022
 Certified Mail® 4.00
 Tracking #: 70220410000110996945
 Return Receipt 3.25
 Tracking #: 9590 9402 7596 2098 9833 01
 Total \$7.85

First-Class Mail® 1 \$0.60
 Letter
 Danbury, CT 06810
 Weight: 0 lb 0.40 oz
 Estimated Delivery Date
 Mon 08/08/2022
 Certified Mail® 4.00
 Tracking #: 70220410000110996938
 Return Receipt 3.25
 Tracking #: 9590 9402 7596 2098 9833 18
 Total \$7.85

Circle 13
 INSURING BY POST DELIVERED TO YOUR DOOR
 BY REGISTERED MAIL



First-Class Mail® 1 \$0.60
 Letter
 Danbury, CT 06810
 Weight: 0 lb 0.40 oz
 Estimated Delivery Date
 Mon 08/08/2022
 Certified Mail® 4.00
 Tracking #: 70220410000110996921
 Return Receipt 3.25
 Tracking #: 9590 9402 7596 2098 9832 57
 Total \$7.85

First-Class Mail® 1 \$0.60
 Letter
 Danbury, CT 06810
 Weight: 0 lb 0.40 oz
 Estimated Delivery Date
 Mon 08/08/2022
 Certified Mail® 4.00
 Tracking #: 70220410000110996914
 Return Receipt 3.25
 Tracking #: 9590 9402 7596 2098 9832 64
 Total \$7.85

First-Class Mail® 1 \$0.60
 Letter
 Brookfield, CT 06804
 Weight: 0 lb 0.40 oz
 Estimated Delivery Date
 Mon 08/08/2022
 Certified Mail® 4.00
 Tracking #: 70220410000110996907
 Return Receipt 3.25
 Tracking #: 9590 9402 7596 2098 9832 71
 Total \$7.85

CT11862C Anchor



FARMINGTON
210 MAIN ST
FARMINGTON, CT 06032-9998
(800)275-8777

08/05/2022 02:56 PM

Product	Qty	Unit Price	Price
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Prepaid Mail	1		\$0.00
Danbury, CT 06810			
Weight: 0 lb 10.40 oz			
Acceptance Date:			
Fri 08/05/2022			
Tracking #:			
9405 5036 9930 0314 6238 33			

Prepaid Mail	1		\$0.00
Danbury, CT 06810			
Weight: 0 lb 10.40 oz			
Acceptance Date:			
Fri 08/05/2022			
Tracking #:			
9405 5036 9930 0314 6237 96			

Grand Total:			\$0.00
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 Track your Packages
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or call 1-800-410-7420.

UFN: 082618-0132
 Receipt #: 840-50600020-1-4858822-1
 Clerk: 9

ATTACHMENT 6



FOX HILL TELECOM

Radio Frequency Emissions Analysis Report

T Mobile™

Site ID: CT11862C

CT862/Tall Oaks_Stealth
1 Fairfield Avenue
Danbury, CT 06810

October 27, 2022

Fox Hill Telecom Project Number: 221908

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	4.62 %



October 27, 2022

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

Emissions Analysis for Site: **CT11862C – CT862/Tall Oaks_Stealth**

Fox Hill Telecom, Inc (“Fox Hill”) was directed to analyze the proposed upgrades to the T-MOBILE facility located at **1 Fairfield Avenue, Danbury, 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 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ 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 persons in a nearby residential area.

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



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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 **1 Fairfield Avenue, Danbury, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65.

In OET-65, plane wave power densities in the Far Field of an antenna may be estimated by considering the additional factors of antenna gain and reflective waves that would contribute to exposure.

The radiation pattern of an antenna has developed in the Far Field region and the power gain needs to be considered in exposure predictions. Also, since the vertical radiation pattern of the antenna is considered, the exposure predictions would most likely be reduced significantly at ground level, resulting in a more realistic estimate of the actual exposure levels.

Additionally, to model a truly "worst case" prediction of exposure levels at or near a surface, such as at ground-level or on a rooftop, reflection off the surface of antenna radiation power can be assumed, resulting in a potential four-fold increase in power density.

These additional factors are considered, and the Far Field prediction model is determined by the following equation:

$$S = EIRP \times Rc \div 4\pi R^2$$

S = Power Density

EIRP = Effective Radiated Power from antenna

Rc = Reflection Coefficient (2.56)

R = Distance from the antenna

Predicted power densities are calculated 6 feet above the ground level and are displayed as a percentage of the applicable FCC standards. For this facility, the closest location that the general population can access around the antennas is at the fenced equipment area approximately 10 feet from the base of the antenna enclosure structure at ground level. For this site, calculations were run on a radial out 200 feet from the site to locate the maximum emissions within this area surrounding the facility.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves.

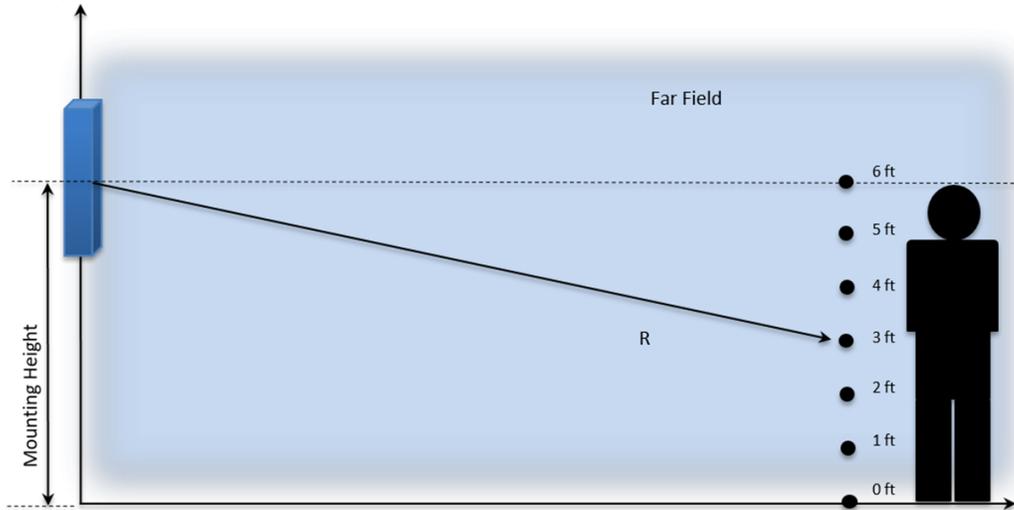


Figure 2 Far Field Model Implementation.

Predicted power densities are displayed as a percentage of the applicable FCC standards.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves



FOX HILL TELECOM

For each 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	2	40
LTE	700 MHz	2	20
LTE	1900 MHz (PCS)	4	40
GSM	1900 MHz (PCS)	1	15
LTE	2100 MHz (AWS)	4	40
UMTS	2100 MHz (AWS)	1	40
LTE / 5G NR	2500 MHz (BRS)	8	20

Table 1: Channel Data Table



FOX HILL TELECOM

The following 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	RFS APXVAA4L18_43-U-NA20	37
A	2	Ericsson AIR6449 B41	42.5
B	1	RFS APXVAA4L18_43-U-NA20	37
B	2	Ericsson AIR6449 B41	42.5
C	1	RFS APXVAA4L18_43-U-NA20	37
C	2	Ericsson AIR6449 B41	42.5

Table 2: Antenna Data

All calculations were done 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	RFS APXVAA4L18_43-U-NA20	600 MHz / 700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	12.15 / 12.25 / 15.85 / 16.75	14	495	18,177.37	3.82
Antenna A2	Ericsson AIR6449 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	0.80
Sector A Composite MPE%							4.62
Antenna B1	RFS APXVAA4L18_43-U-NA20	600 MHz / 700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	12.15 / 12.25 / 15.85 / 16.75	14	495	18,177.37	3.82
Antenna B2	Ericsson AIR6449 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	0.80
Sector B Composite MPE%							4.62
Antenna C1	RFS APXVAA4L18_43-U-NA20	600 MHz / 700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	12.15 / 12.25 / 15.85 / 16.75	14	495	18,177.37	3.82
Antenna C2	Ericsson AIR6449 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	0.80
Sector C Composite MPE%							4.62

Table 3: T-MOBILE Emissions Levels



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The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility 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 sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each T-MOBILE Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE%
T-MOBILE – Max Per Sector Value	4.62 %
No Additional Carriers on Site	NA
Site Total MPE %:	4.62 %

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	4.62 %
T-MOBILE Sector B Total:	4.62 %
T-MOBILE Sector C Total:	4.62 %
Site Total:	4.62 %

Table 5: Site MPE Summary



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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. *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 sectors have the same configuration yielding the same results on all three sectors.

T-MOBILE _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 600 MHz LTE / 5G NR	2	656.24	37	6.84	600 MHz	400	1.71%
T-Mobile 700 MHz LTE	2	335.76	37	4.06	700 MHz	467	0.87%
T-Mobile 1900 MHz (PCS) LTE	4	1,538.37	37	4.10	1900 MHz (PCS)	1000	0.41%
T-Mobile 1900 MHz (PCS) GSM	1	576.89	37	1.00	1900 MHz (PCS)	1000	0.10%
T-Mobile 2100 MHz (AWS) LTE	4	1,892.61	37	4.30	2100 MHz (AWS)	1000	0.43%
T-Mobile 2100 MHz (AWS) UMTS	1	1,892.61	37	3.00	2100 MHz (AWS)	1000	0.30%
T-Mobile 2500 MHz (BRS) LTE / 5G NR	8	2,825.08	42.5	8.00	2500 MHz (BRS)	1000	0.80%
						Total:	4.62 %

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 value with regards 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:	4.62 %
Sector B:	4.62 %
Sector C:	4.62 %
T-MOBILE Maximum Total (per sector):	4.62 %
Site Total:	4.62 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **4.62 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

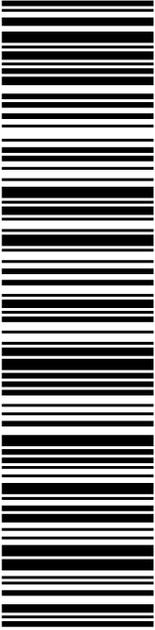
FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100%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

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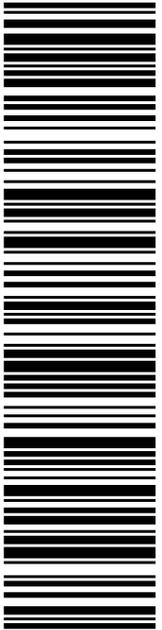
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