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

December 22, 2021

Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Tower Share Application
723 Farmington Ave, New Britain, CT 06053
Latitude: 41.698414
Longitude: -72.785944
Dish Sit# BOBDL00123A

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of Dish Wireless LLC. Dish Wireless LLC plans to install antennas and related equipment to the tower site located at 723 Farmington Ave, New Britain, Connecticut.

Dish Wireless LLC proposes to install three (3) 600/1900/2100 MHz antennas and six (6) RRUs, at the 78-foot level of the existing 119-foot monopole tower, one (1) Fiber cable will also be installed. Dish Wireless LLC equipment cabinets will be placed within 7' x 5' lease area. Included are plans by B & T Group, dated October 19, 2021 Exhibit 10. Also included is a structural analysis prepared by TES, dated Sept. 9, 2021, confirming that the existing tower is structurally capable of supporting the proposed equipment, attached as Exhibit 8. This facility was approved by the Connecticut Siting Council under Docket No. 303 on July 5, 2005. Please see attached Exhibit 6.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of Dish Wireless LLC intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A., a copy of this letter is being sent to The Honorable Erin E. Stewart for the City of New Britain, Steven P. Schiller, City Planner, AICP, as well as the Property owner Nest Polish Falcons Alliance of America, Inc. Separate notice is not being sent to the Tower owner, as it belongs to SBA.

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

1. The proposed modification will not result in an increase in the height of the existing structure. The top of the tower is 119-feet; Dish Wireless LLC proposed antennas will be located at a center line height of 78-feet.

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

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

4. The operation of the proposed antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. As indicated in the attached power density calculations, the combined site operations will result in a total power density of 63.99% as evidenced by Exhibit 7.

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

A. Technical Feasibility. The existing monopole has been deemed structurally capable of supporting Dish Wireless LLC proposed loading. The structural analysis is included as Exhibit 8.

B. Legal Feasibility. As referenced above, C.G.S. 16-50aa has been authorized to issue orders approving the shared use of an existing tower such as this support tower in New Britain. Under the authority granted to the Council, an order of the Council approving the requested shared use would permit Dish Wireless LLC to obtain a building permit for the proposed installation. Further, a Letter of Authorization is included as Exhibit 2, authorizing Dish Wireless LLC to file this application for shared use.

C. Environmental Feasibility. The proposed shared use of this facility would have a minimal environmental impact. The installation of Dish Wireless LLC equipment at the 78-foot level of the existing 119-foot tower would have an insignificant visual impact on the area around the tower. Dish Wireless LLC ground equipment would be installed within the existing facility compound. Dish Wireless LLC shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by Exhibit 7, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

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

E. Public Safety Concerns. As discussed above, the tower is structurally capable of supporting Dish Wireless LLC proposed loading.

Dish Wireless LLC is not aware of any public safety concerns relative to the proposed sharing of the existing guyed tower. Dish Wireless LLC intentions of providing new and improved wireless service through the shared use of this facility is expected to enhance the safety and welfare of local residents and individuals traveling through Westbrook.

Sincerely,

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

Attachments:

cc: The Honorable Erin E. Stewart / with attachments
City of New Britain, 27 West Main St., New Britain, CT 06051
Steven P. Schiller, City Planner, AICP / with attachments
City of New Britain, 27 West Main St., New Britain, CT 06051
Nest Polish Falcons Alliance of America, Inc / with attachments
c/o Andrew Mechlinski, 201 Washington St., New Britain, CT 06051 (SBA address on file)

EXHIBIT LIST

Exhibit 1	Copy of Check	X
Exhibit 2	Letter of Intent to Allow Shared Use of the Existing SBA Telecommunications Site	X
Exhibit 3	Notification Receipts	x
Exhibit 4	Property Card	x
Exhibit 5	Property Map	x
Exhibit 6	Original Zoning Approval	CSC Docket No. 303 (6/28/05)
Exhibit 7	EME Report	EBI Consulting 12/21/21
Exhibit 8	Structural Analysis	TES 9/9/21
Exhibit 9	Mount Analysis	B+T Group 9/2/21
Exhibit 10	Construction Drawings	B+T Group 10/26/21

EXHIBIT 1

Copy of check

EXHIBIT 2
Letter of Intent

December 23, 2021

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

RE: **Notice of Intent to Allow Shared Use of the Existing SBA Telecommunications Site**
Location: 723 Farmington Ave., New Britain, CT
Dish Wireless Site No: BOBDL00123A
Site No: CT08558-B

Dear Ms. Bachman:

Please let the following serve as Evidence of Intent to allow Dish Wireless' shared use of the existing SBA telecommunications site at **723 Farmington Ave., New Britain, CT**.

SBA Towers, LLC ("Owner") and Dish Wireless ("Tenant") are entering into a Site Lease Agreement. Tenant will be provided ground space within the existing site compound for its base station equipment and space at the height of 78' for antennas and associated equipment.

Thank you,

Rick Woods
Site Development Manager
SBA COMMUNICATIONS CORPORATION
134 Flanders Road, Suite 125
Westboro, MA 01581

508.251.0720 x3800 + T
508.366.2610 + F
508.614.0389 + C
rwoods@sbasite.com

EXHIBIT 3

Fedex Labels

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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

FedEx

TRACK ANOTHER SHIPMENT

775581424183

ADD NICKNAME

ON TIME

Scheduled delivery:
Thursday, 12/23/2021 before 11:30 am

PICKED UP
WESTBOROUGH, MA

GET STATUS UPDATES

FROM
SBA COMMUNICATIONS CORPORATION
Rick Woods

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

TO
Melanie A. Bachman Exec. Dir
Connecticut Siting Council

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

MANAGE DELIVERY

Travel History | Shipment Facts

Travel History

TIME ZONE
Local Scan Time

Wednesday, December 22, 2021

3:39 PM	WESTBOROUGH, MA	Picked up Tendered at FedEx Office
12:55 PM		Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER	SERVICE	WEIGHT
775581424183	FedEx Priority Overnight	2 lbs / 0.91 kgs
TOTAL PIECES	**TOTAL SHIPMENT WEIGHT**	**TERMS**
1	2 lbs / 0.91 kgs	Shipper

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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

FedEx

TRACK ANOTHER SHIPMENT

775581463798

ADD NICKNAME

ON TIME

Scheduled delivery:
Thursday, 12/23/2021 before 11:30 am

PICKED UP
WESTBOROUGH, MA

GET STATUS UPDATES

FROM
SBA COMMUNICATIONS CORPORATION
Rick Woods
134 Flanders Rd
Suite 125
WESTBOROUGH, MA US 01581
508-614-0389

TO
Erin E. Stewart
City of New Britain
Mayor
27 West Main St.
NEW BRITAIN, CT US 06051
508-251-0720

MANAGE DELIVERY

Travel History | Shipment Facts

Travel History

TIME ZONE
Local Scan Time

Wednesday, December 22, 2021

3:39 PM	WESTBOROUGH, MA	Picked up Tendered at FedEx Office
12:57 PM		Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER	**SERVICE**	**WEIGHT**
775581463798	FedEx Priority Overnight	1 lbs / 0.45 kgs
TOTAL PIECES	**TOTAL SHIPMENT WEIGHT**	**TERMS**
1	1 lbs / 0.45 kgs	Shipper

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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

FedEx

TRACK ANOTHER SHIPMENT

775581487637

ADD NICKNAME

ON TIME

Scheduled delivery:
Thursday, 12/23/2021 before 11:30 am

PICKED UP
WESTBOROUGH, MA

GET STATUS UPDATES

FROM
SBA COMMUNICATIONS CORPORATION
Rick Woods

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

TO
Steven P. Schiller
City of New Britain

City Planner, AICP
27 West Main St.
NEW BRITAIN, CT US 06051
508-251-0720

MANAGE DELIVERY

Travel History | Shipment Facts

Travel History

TIME ZONE
Local Scan Time

Wednesday, December 22, 2021

3:39 PM	WESTBOROUGH, MA	Picked up Tendered at FedEx Office
12:58 PM		Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER	SERVICE	WEIGHT
775581487637	FedEx Priority Overnight	1 lbs / 0.45 kgs
TOTAL PIECES	**TOTAL SHIPMENT WEIGHT**	**TERMS**
1	1 lbs / 0.45 kgs	Shipper

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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

FedEx

TRACK ANOTHER SHIPMENT

775581518630

ADD NICKNAME

ON TIME

Scheduled delivery:
Thursday, 12/23/2021 before 11:30 am

PICKED UP
WESTBOROUGH, MA

GET STATUS UPDATES

FROM
SBA COMMUNICATIONS CORPORATION
Rick Woods
134 Flanders Rd
Suite 125
WESTBOROUGH, MA US 01581
508-614-0389

TO
Andrew Mechlinski
Nest Polish Falcons Alliance
201 Washington St
NEW BRITAIN, CT US 06051
508-251-0720

MANAGE DELIVERY

Travel History | Shipment Facts

Travel History

TIME ZONE
Local Scan Time

Wednesday, December 22, 2021

3:39 PM	WESTBOROUGH, MA	Picked up Tendered at FedEx Office
1:00 PM		Shipment information sent to FedEx

Shipment Facts

TRACKING NUMBER	**SERVICE**	**WEIGHT**
775581518630	FedEx Priority Overnight	1 lbs / 0.45 kgs
TOTAL PIECES	**TOTAL SHIPMENT WEIGHT**	**TERMS**
1	1 lbs / 0.45 kgs	Shipper

EXHIBIT 4

Property Card

City of New Britain, CT

Property Listing Report

Map Block Lot	C3A 1	Building #	1	PID	597	Account	37500723

Property Information

Property Location	723 FARMINGTON AVE
Owner	FALCONS ACADEMIC + ATHLETIC ASSOC INC
Co-Owner	
Mailing Address	PO BOX 897 ESSEX CT 06426
Land Use	3531 Fratnl Org Lnd
Land Class	C
Zoning Code	T
Census Tract	417500

Neighborhood	103
Acreage	25.69
Utilities	All Public
Lot Setting/Desc	Level,Rolling,Wood
Fire District	
Book / Page	2025/628

Photo

Sketch

Primary Construction Details

Year Built	0
Building Desc.	Fratnl Org Lnd
Building Style	UNKNOWN
Building Grade	
Stories	
Occupancy	
Exterior Walls	
Exterior Walls 2	NA
Roof Style	
Roof Cover	
Interior Walls	
Interior Walls 2	NA
Interior Floors 1	
Interior Floors 2	NA

Heating Fuel	
Heating Type	
AC Type	
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Rec Rm Area	0
Rec Rm Quality	NA
Bsmt Gar	0
Fireplaces	0

(*Industrial / Commercial Details)

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

Report Created On 11/9/2021

City of New Britain, CT

Property Listing Report | Map Block Lot C3A 1 | Building # 1 | PID 597 | Account 37500723

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	0	0
Extras	0	0
Improvements		
Outbuildings	208000	145600
Land	279400	195580
Total	487400	341180

Outbuilding and Extra Features

Type	Description
Fence-6' Chain	300 L.F.
PreCastConcCel	100 S.F.
PreCastConcCel	360 S.F.

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	0	0

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
FALCONS ACADEMIC + ATHLETIC ASSOC INC	2025/628	2019-07-29	
NEST 88 POLISH FALCONS ALLIANCE	1412/0329	2002-05-30	0
NEST 88 POLISH FALCONS ALLIANC	0474/0342	1958-12-22	0
NEST 88 POLISH FALCONS	0327/0077	1948-06-14	0
EDWARD SZCZEPANIK	0324/0597	1948-05-21	0
SEBASTIANO & VINCENZA FORMICA	0305/0273	1945-10-09	0
JOSEPHINE BURGIO	0302/0276	1944-10-11	0
MARY FALLETTI &	0295/0251	1943-09-01	0

Report Created On 11/9/2021

EXHIBIT 5

Property Map

City of New Britain, Connecticut - Assessment Parcel Map

MBL: C3A 1 **Address:** 723 FARMINGTON AVE

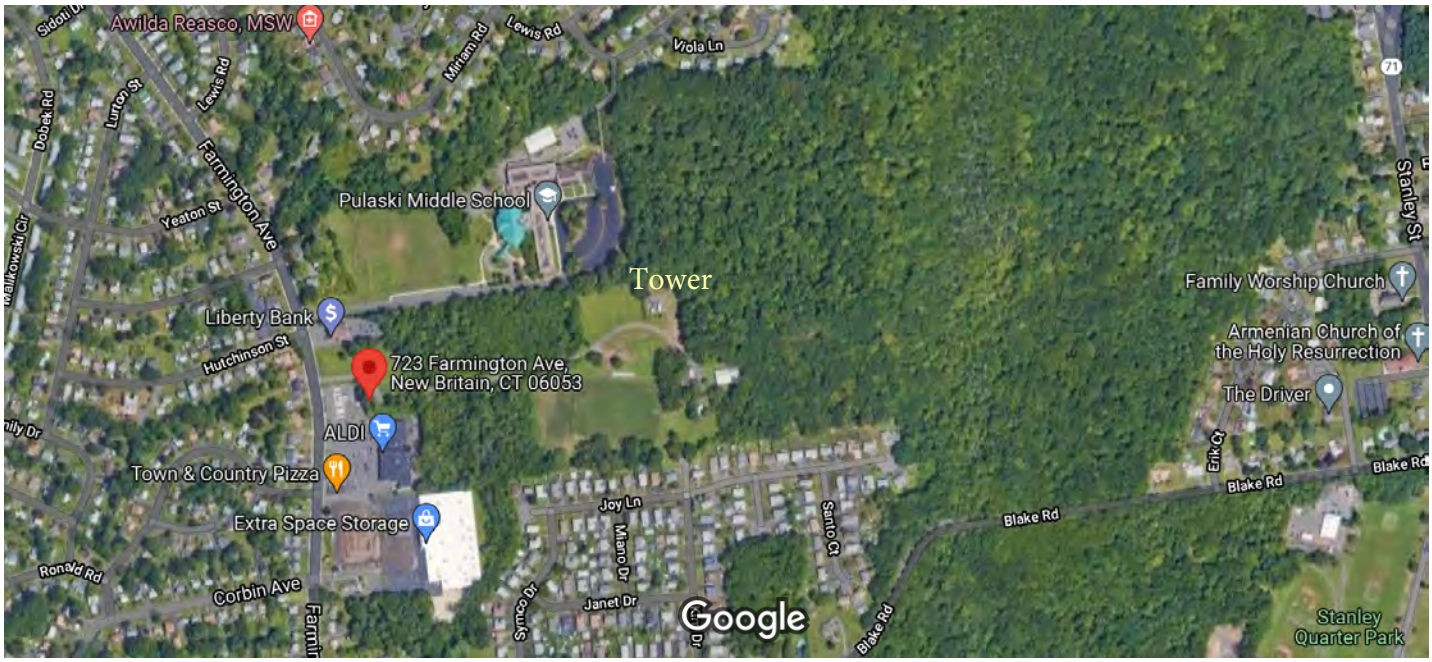
Approximate Scale:

1 inch = 400 feet

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

Map Produced April 2020

Google Maps 723 Farmington Ave



Imagery ©2021 CNES / Airbus, Maxar Technologies, U.S. Geological Survey, USDA Farm Service Agency, Map data ©2021 500 ft

EXHIBIT 6

Zoning Approval

8558

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@po.state.ct.us
Web Site: www.ct.gov/csc

July 5, 2005

Thomas J. Regan, Esq.
Brown Rudnick Berlack Israels LLP
CityPlace I, 38th Floor
185 Asylum Street
Hartford, CT 06103-3402

RE: **DOCKET NO. 303** – Sprint Spectrum, L.P. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 723 Farmington Avenue, New Britain, Connecticut.

Dear Attorney Regan:

By its Decision and Order dated June 28, 2005, the Connecticut Siting Council (Council) granted a Certificate of Environmental Compatibility and Public Need (Certificate) to Sprint Spectrum, L.P. for the construction, maintenance and operation of a telecommunications facility located at 723 Farmington Avenue, New Britain, Connecticut.

Enclosed are the Council's Certificate, Findings of Fact, Opinion, and Decision and Order.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/cm

Enclosures (4)

G:\DOCKETS\303\CERTPKG303.DOC

CSC
CONNECTICUT SITING COUNCIL

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@po.state.ct.us
www.ct.gov/csc

CERTIFICATE

OF

ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED

DOCKET NO. 303

Pursuant to General Statutes § 16-50k, as amended, the Connecticut Siting Council hereby issues a Certificate of Environmental Compatibility and Public Need to Sprint Spectrum, L.P. for the construction, maintenance and operation of a telecommunications facility located at 723 Farmington Avenue, New Britain, Connecticut. This Certificate is issued in accordance with and subject to the terms and conditions set forth in the Decision and Order of the Council on June 28, 2005.

By order of the Council,

Pamela B. Katz, P.E., Chairman

June 28, 2005

DOCKET NO. 303 – Sprint Spectrum, L.P. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 723 Farmington Avenue, New Britain, Connecticut.	}	Connecticut Siting Council June 28, 2005

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Sprint Spectrum, L.P., hereinafter referred to as the Certificate Holder, for a telecommunications facility at 723 Farmington Avenue, New Britain, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Sprint Spectrum, L.P and other entities, both public and private, but such tower shall not exceed a height of 110 feet above ground level. The height at the top of the antennas shall not exceed a height of 110 feet above ground level, including antennas.

2. Panel antennas shall be installed on the monopole using a flush or T-arm mounting configuration. T-arm antenna mounts shall be designed to reduce the visual profile of the antenna configuration to the greatest extent possible without compromising coverage objectives.

3. Landscaping shall include the addition of deciduous tree plantings between the existing paved driveway and the compound site, preferably along the north edge of the existing driveway.

4. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the City of New Britain for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
   a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment building, access road, utility line, and landscaping; and
   b) construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

5. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of electromagnetic radio frequency power density is submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

6. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

7. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

8. The Certificate Holder shall provide reasonable space on the tower for no compensation for any City of New Britain public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.

9. If the facility does not initially provide wireless services within one year of completion of construction or within two years from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), whichever is earlier, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating these deadlines.

10. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

11. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.

12. Any request for extension of the period referred to in Condition 9 shall be filed with the Council not later than sixty days prior to the expiration date of this Certificate and shall be served on all parties and intervenors and the City of New Britain, as listed in the service list. Any proposed modifications to this Decision and Order shall likewise be so served.

13. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction and the commencement of site operation.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The Hartford Courant and The New Britain Herald.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant
Sprint Spectrum, L.P.
d/b/a Sprint PCS

Its Representative
Thomas J. Regan, Esq.
Brown Rudnick Berlack Israels LLP
CityPlace I, 38th Floor
185 Asylum Street
Hartford, CT 06103-3402

Intervenor
New Cingular Wireless, PCS, LLC

Its Representative
Wendell G. Davis
Blackwell, Davis & Spadaccini, LLC
158 East Center Street
Manchester, CT 06040

CERTIFICATION

The undersigned members of the Connecticut Siting Council (Council) hereby certify that they have heard this case, or read the record thereof, in **DOCKET NO. 303** – Sprint Spectrum, L.P. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 723 Farmington Avenue, New Britain, Connecticut., and voted as follows to approve the proposed site located at 723 Farmington Avenue, New Britain, Connecticut:

Council Members	Vote Cast
Pamela B. Katz, P.E., Chairman	Yes
Commissioner Donald W. Downes Designee: Gerald J. Heffernan	Yes
Commissioner Gina McCarthy Designee: Brian J. Emerick	Yes
Philip T. Ashton	Yes
Daniel P. Lynch, Jr.	Absent
James J. Murphy, Jr.	Yes
Brian F. O'Neill	Yes
Colin C. Tait	Absent
Edward S. Wilensky	Yes

Dated at New Britain, Connecticut June 28, 2005.

STATE OF CONNECTICUT)

ss. New Britain, Connecticut :

COUNTY OF HARTFORD)

I hereby certify that the foregoing is a true and correct copy of the Findings of Fact, Opinion, and Decision and Order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:

S. Derek Phelps
Executive Director
Connecticut Siting Council

I certify that a copy of the Findings of Fact, Opinion, and Decision and Order in Docket No. 303 has been forwarded by Certified First Class Return Receipt Requested mail on July 5, 2005, to all parties and intervenors of record as listed on the attached service list, dated March 4, 2005.

ATTEST:

Carriann Mulcahy
Secretary
Connecticut Siting Council

Date: March 4, 2005

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	Sprint Spectrum, L.P. d/b/a Sprint PCS	Thomas J. Regan, Esq. Brown Rudnick Berlack Israels LLP CityPlace I, 38th Floor 185 Asylum Street Hartford, CT 06103-3402 (860) 509-6522 (860) 509-6501 tregan@brownrudknick.com
Intervenor (Approved 3/3/05)	New Cingular Wireless, PCS, LLC	Wendell G. Davis Blackwell, Davis & Spadaccini, LLC 158 East Center Street Manchester, CT 06040 (860) 432-0676 x13 (860) 432-2926 –f

EXHIBIT 7

EME Report

EBI Consulting

environmental | engineering | due diligence

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

Dish Wireless Existing Facility

Site ID: BOBDL00123A

BOBDL00123A
723 Farmington Avenue
New Britain, Connecticut 06051

December 20, 2021

EBI Project Number: 6221007645

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**63.99%**

December 20, 2021

Dish Wireless

Emissions Analysis for Site: BOBDL00123A - BOBDL00123A

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **723 Farmington Avenue** in **New Britain, Connecticut** for the purpose of determining whether the emissions from the Proposed Dish Wireless Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed Dish Wireless Wireless antenna facility located at 723 Farmington Avenue in New Britain, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since Dish Wireless is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 20 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 4 n71 channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 4 n70 channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

3) 4 n66 channels (AWS Band - 2190 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

4) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

5) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 20 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative

estimate as gain reductions for these particular antennas are typically much higher in this direction.

6) The antennas used in this modeling are the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector A, the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector B, the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 20 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

7) The antenna mounting height centerline of the proposed antennas is 78 feet above ground level (AGL).

8) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

9) All calculations were done with respect to uncontrolled / general population threshold limits.

Dish Wireless Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21
Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz
Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd
Height (AGL):	78 feet	Height (AGL):	78 feet	Height (AGL):	78 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts
ERP (W):	5,236.31	ERP (W):	5,236.31	ERP (W):	5,236.31
Antenna A1 MPE %:	**4.56%**	Antenna B1 MPE %:	**4.56%**	Antenna C1 MPE %:	**4.56%**

Site Composite MPE %	
Carrier	**MPE %**
Dish Wireless (Max at Sector A):	4.56%
Sprint	0.03%
Clearwire	0.17%
Metro PCS	2.35%
AT&T	6.25%
T-Mobile	36.37%
Verizon	14.26%
Site Total MPE % :	63.99%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	4.56%
Dish Wireless Sector B Total:	4.56%
Dish Wireless Sector C Total:	4.56%
Site Total MPE % :	63.99%

Dish Wireless Maximum MPE Power Values (Sector A)

Dish Wireless Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
Dish Wireless 600 MHz n71	4	223.68	78.0	6.20	600 MHz n71	400	1.55%
Dish Wireless 1900 MHz n70	4	542.70	78.0	15.05	1900 MHz n70	1000	1.51%
Dish Wireless 2190 MHz n66	4	542.70	78.0	15.05	2190 MHz n66	1000	1.51%
						Total:	**4.56%**

• NOTE: Totals may vary by approximately 0.01% due to summation of remainders in calculations.

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 Dish Wireless 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:

Dish Wireless Sector	Power Density Value (%)
Sector A:	4.56%
Sector B:	4.56%
Sector C:	4.56%
Dish Wireless Maximum MPE % (Sector A):	4.56%
Site Total:	63.99%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **63.99%** 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.

EXHIBIT 8

Structural Analysis

Tower Engineering Solutions
Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

Existing 119 ft SABRE Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT08558-B

Customer Site Name: New Britain 3, CT

Carrier Name: Dish Wireless (App#: 169643-1)

Carrier Site ID / Name: BOBDL00123A / SBA - Farmington Ave.

Site Location: 723 Farmington Ave

New Britain, Connecticut

Hartford County

Latitude: 41.698414

Longitude: -72.785944

Analysis Result:

Max Structural Usage: 98.1% [Pass]

Max Foundation Usage: 92.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By: Changzhi Zang

Introduction

The purpose of this report is to summarize the analysis results on the 119 ft SABRE Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Original Tower drawings by Sabre, Job# 06-08008, dated 08/1/2005
Foundation Drawing	Original Foundation drawings by Sabre, Job# 06-08008, dated 08/1/2005
Geotechnical Report	Geotechnical Report prepared by DR. Clarence Welti, dated 07/7/2005
Modification Drawings	N/A
Mount Analysis	Verizon MA by Maser Consulting Connecticut #: 20777623A, dated 04/28/2021

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the TIA-222-G-2**.** In accordance with this standard, the structure was analyzed using **TESPoles,** a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed V_{ult} = 125.0 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 97.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.192, S_1 = 0.055

This structural analysis is based upon the tower being classified as a Structure Class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	118.0	6	Commscope NHH-65B-R2B – Panel	(3) Modified T-Arms W/ (3) Valmont Site Pro VZWSMART-SFK4 (T-Arm kit), (3) Commscope BASMNT-SBS-1-2 (side-by-side mounts), (1) Valmont Site Pro VZWSMART-PLK7 (Collar Mount), (12) Valmont Site Pro VZWSMART-MSK2 (Crossover Plates) (3) Site Pro P30150 (P3.0 STD pipe)	(11) 1 5/8" (2) 1 5/8" Hybrid	Verizon
2		3	Samsung MT6407-77A – Panel			
3		3	Amphenol BXA-70063-6BF- Panel			
4		3	Samsung B5/B13 RRH-BR04C (RFV01U-D2A)			
5		3	Samsung B2/B66A RRH-BR049 (RFV01U-D1A)			
6		1	Raycap RVZDC-6627-PF-48-OVP			
7	108.0	2	RFS APXVSPP18-C-A20 Panels	(3) T-Arm	(4) 1-1/4" Hybrid (3) 1/2" (6) 5/16"	Clearwire/ Sprint
8		3	RFS APXVTM14-C-120 Panels			
9		1	Powerwave P40-16-XLPP-RR-A Panels			
10		3	Kathrein 840 10054 Panels			
11		4	RFS ACU-A20-N RET's			
12		3	ALU 1900MHz RRU's			
13		3	ALU 800 MHz Filters			
14		3	ALU 800 MHz RRU's			
15		2	DragonwaveHorizon ODU Radios			
16		3	ALU TD-RRH8x20-25 RRU's			
17		2	Andrew VHLP2.5 Dishes			
18	98.0	3	Cci OPA-65R-LCUU-H6 - Panel	(3) Commscope T-Arms	(12) 1 5/8" (4) 3/4" DC Power (2) 3/8" Fiber	AT&T
19		3	Powerwave 7770 w/Mount Pipe - Panel			
20		3	Quintel QS66512-2 - Panel			
21		3	Ericsson RRUS 11 RRU			
22		6	Powerwave LGP13519 Diplexer			
23		2	Raycap DC6-48-60-0-8F COVP			
24		3	Ericsson RRUS 8843 B25/B66A RRU			
25		3	Ericsson RRUS 32 RRU			
26		9	Powerwave LGP21402 TMA			
27	88.0	3	Ericsson AIR6449 B41 - Panel	(3) T-Arm w/ mod	(11) 1 5/8" Coax (3) 1-1/4" Hybrid	T-Mobile
28		3	Ericsson AIR32 KRD901146-1_B66A (Octa) - Panel			
29		3	RFS APXVAARR24_43-U-NA20 (Octa) - Panel			
30		3	Ericsson KRY 112 144/2			
31		3	Commscope SDX1926Q-43			
32		3	Ericsson 4415 B25			
33		3	Ericsson 4449 B71 + B85			

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
34	78.0	3	JMA Wireless MX08FRO665-21 - Panel	Platform w/ Handrails [MC-PK8-DSH]	(1) 1.411" Hybrid	Dish Wireless
35		3	Fujitsu TA08025-B605 - RRU			
36		3	Fujitsu TA08025-B604 - RRU			
37		1	Raycap RDIDC-9181-PF-48 - COVP			

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	**98.1%**	**85.0%**	**69.9%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	2836.5	31.4	36.2

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.1612 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222 Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.

3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 98.08% at 0.0ft

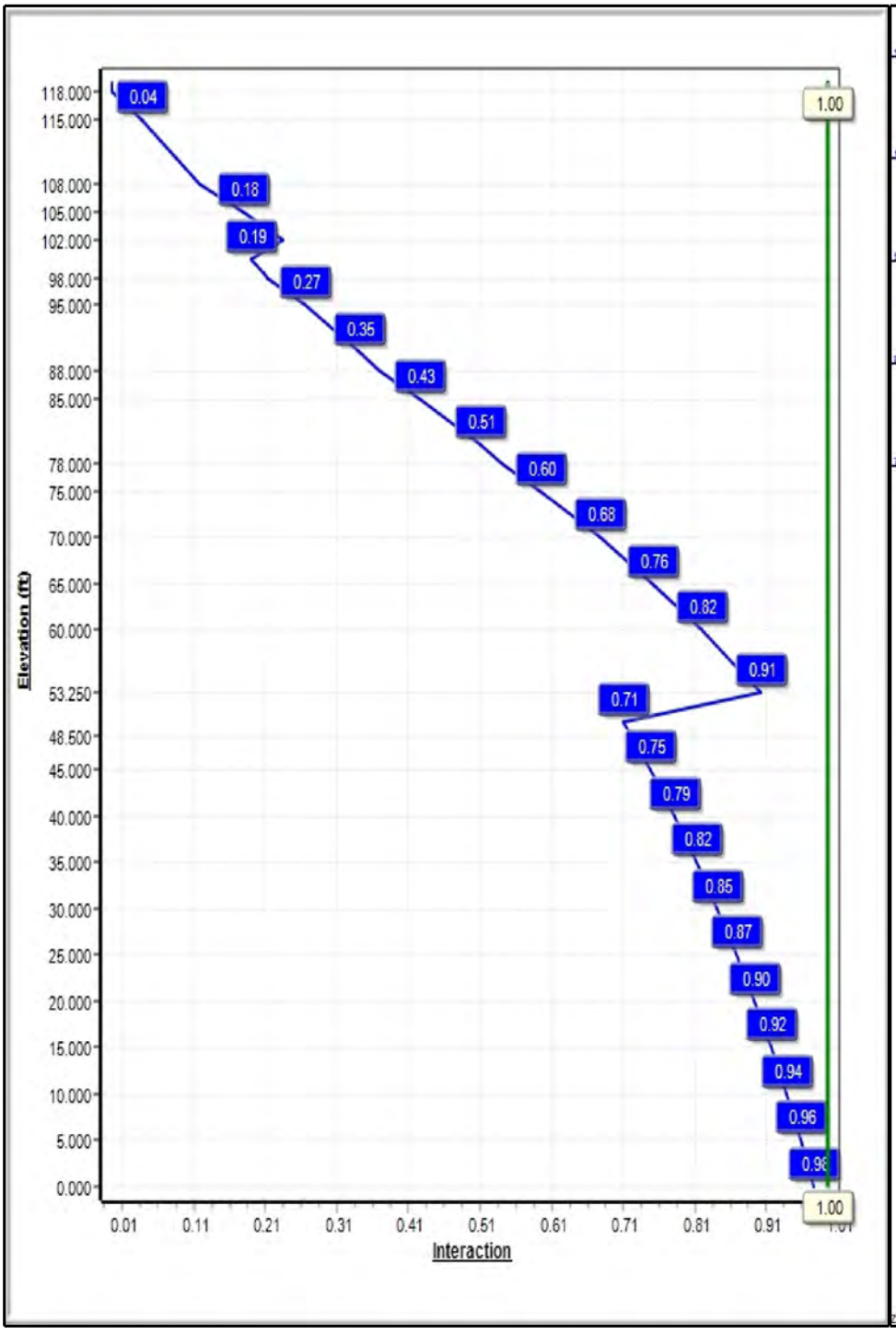
Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021
Site Name:	New Britain 3, CT	**Exposure:**	C	
Height:	119.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

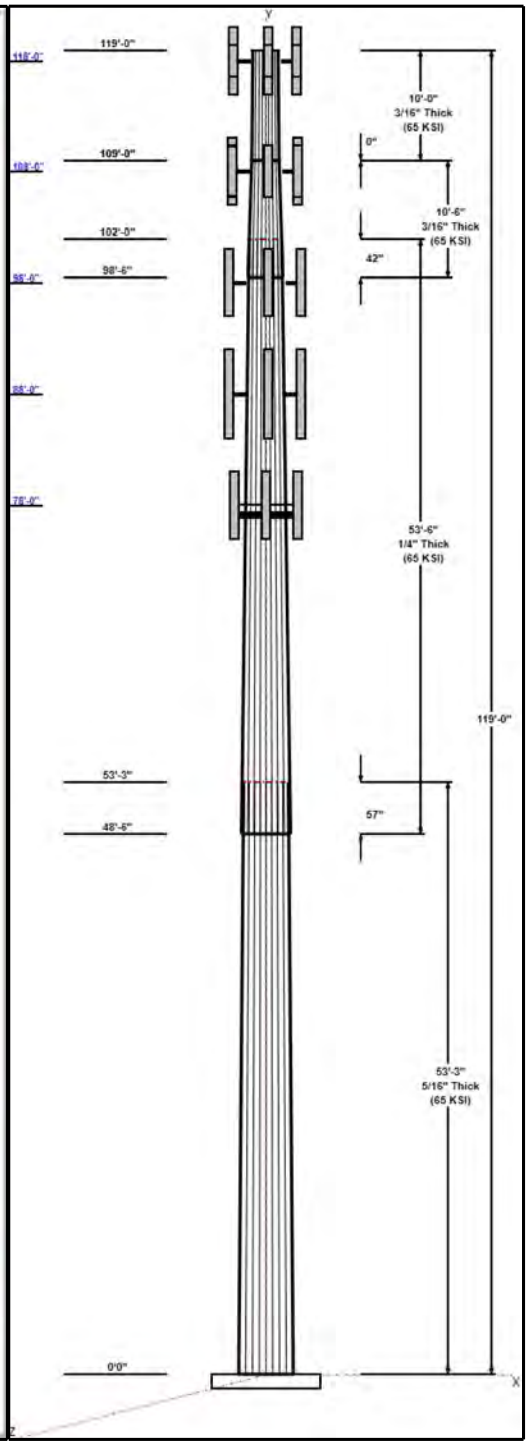
Tower Engineering Solutions

Dead Load Factor:	1.20
Wind Load Factor:	1.60

Load Case : 1.2D + 1.6W 97 mph Wind

Iterations: 24





Structure: CT08558-B-SBA

Type: Tapered
Site Name: New Britain 3, CT
Height: 119.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.22164

9/9/2021

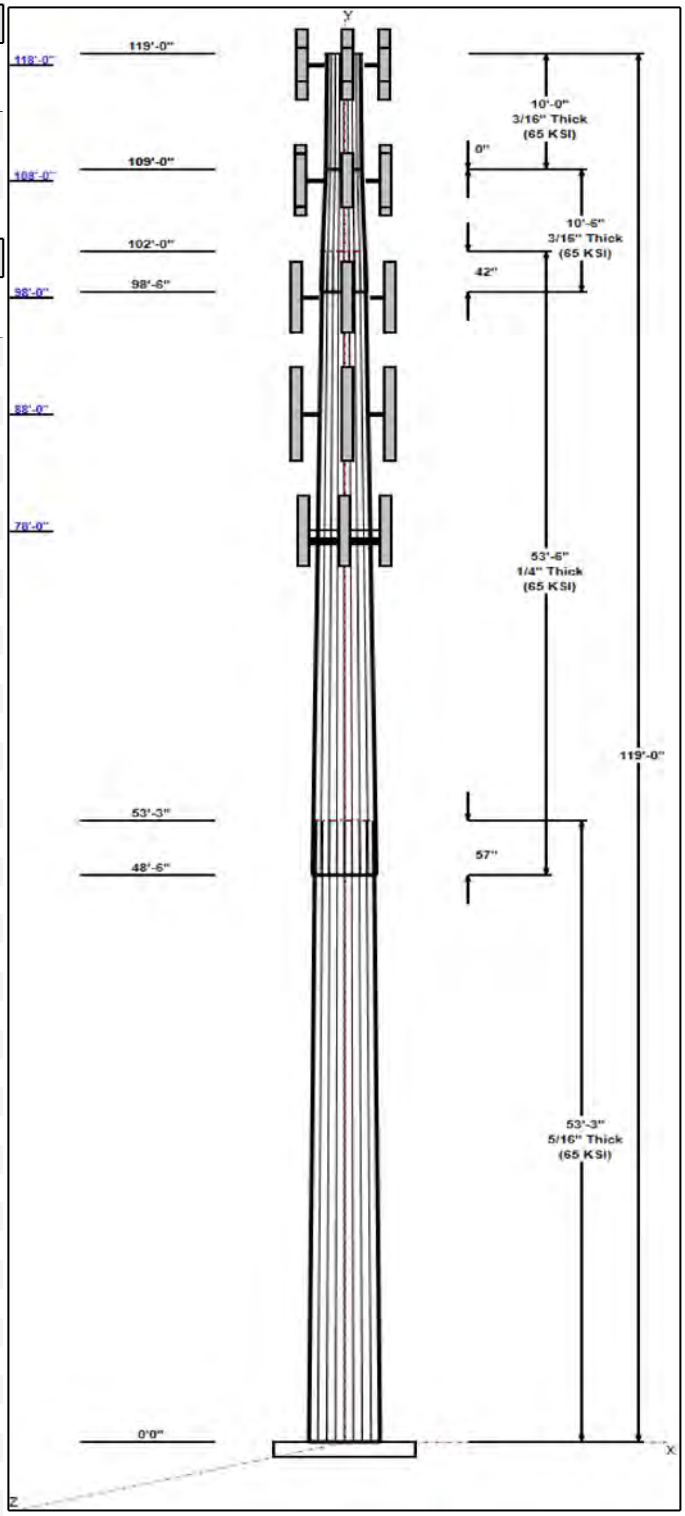
Tower Engineering Solutions

Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	35.70	47.50	0.313		0.22164	65
2	53.50	25.39	37.25	0.250	Slip	0.22164	65
3	10.50	24.22	26.54	0.188	Slip	0.22164	65
4	10.00	22.00	24.22	0.188	Butt	0.22164	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
118.00	118.00	3	BXA-70063-6BF	Verizon
118.00	118.00	3	T-Arm	Verizon
118.00	118.00	6	Commscope	Verizon
118.00	118.00	3	Samsung MT6407-77A	Verizon
118.00	118.00	1	(3) T-Arm Kit	Verizon
118.00	118.00	3	BSAMNT-SBS-1-2	Verizon
118.00	118.00	1	Collar	Verizon
118.00	118.00	3	Samsung B5/B13	Verizon
118.00	118.00	1	Raycap	Verizon
118.00	118.00	3	B2/B66A RRH-BR049	Verizon
108.00	108.00	3	1900MHz RRH	Clearwire
108.00	108.00	3	800 MHz Filters	Clearwire
108.00	108.00	3	800 MHz	Clearwire
108.00	108.00	3	840 10054	Clearwire
108.00	108.00	4	ACU-A20-N	Clearwire
108.00	108.00	2	APXVSPP18-C-A20	Clearwire
108.00	108.00	3	APXVTM14-C-120	Clearwire
108.00	108.00	2	Horizon	Clearwire
108.00	108.00	1	P40-16-XLPP-RR-A	Clearwire
108.00	108.00	3	TD-RRH8x20-25	Clearwire
108.00	108.00	2	VHLP2.5	Clearwire
108.00	108.00	3	T-Arm	Clearwire
98.00	98.00	3	Cci OPA-65R-LCUU-H6	AT&T
98.00	98.00	3	Powerwave 7770 w/Mount	AT&T
98.00	98.00	9	Powerwave LGP21402	AT&T
98.00	98.00	3	Ericsson RRUS 11	AT&T
98.00	98.00	6	Powerwave LGP13519	AT&T
98.00	98.00	2	Raycap DC6-48-60-0-8F	AT&T
98.00	98.00	3	T-Arm	AT&T
98.00	98.00	3	Ericsson RRUS 8843	AT&T
98.00	98.00	3	Ericsson RRUS 32	AT&T
98.00	98.00	3	Quintel QS66512-2	AT&T
88.00	88.00	3	AIR32	T-Mobile
88.00	88.00	3	AIR6449 B41	T-Mobile
88.00	88.00	3	SDX1926Q-43	T-Mobile
88.00	88.00	3	RRUS 4415 B25	T-Mobile
88.00	88.00	3	APXVAARR24_43-U-NA20	T-Mobile
88.00	88.00	3	KRY 112 144/2	T-Mobile
88.00	88.00	3	4449 B71 + B85	T-Mobile
88.00	88.00	3	T-Arm w/ mod	T-Mobile
78.00	78.00	3	JMA Wireless	Dish Wireless
78.00	78.00	3	Fujitsu TA08025-B605	Dish Wireless
78.00	78.00	3	Fujitsu TA08025-B604	Dish Wireless
78.00	78.00	1	Raycap	Dish Wireless
78.00	78.00	1	MC-PK8-DSH	Dish Wireless



Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	118.00	Inside	1 5/8" Coax	Verizon
0.00	118.00	Outside	1 5/8" Hybrid	Verizon
0.00	108.00	Inside	1-1/4" Hybrid	Clearwire/Sprint
0.00	108.00	Inside	1/2" Coax	Clearwire/Sprint
0.00	108.00	Inside	5/16" Coax	Clearwire/Sprint
0.00	98.00	Inside	1 5/8" Coax	AT&T
0.00	98.00	Inside	3/4" DC Power	AT&T
0.00	98.00	Inside	3/8" Fiber	AT&T
0.00	88.00	Inside	1 5/8" Coax	T-Mobile
0.00	88.00	Inside	1-1/4" Hybrid	T-Mobile
0.00	78.00	Outside	1.411" Hybrid	Dish Wireless

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
12	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	52.0	60.0	Clipped

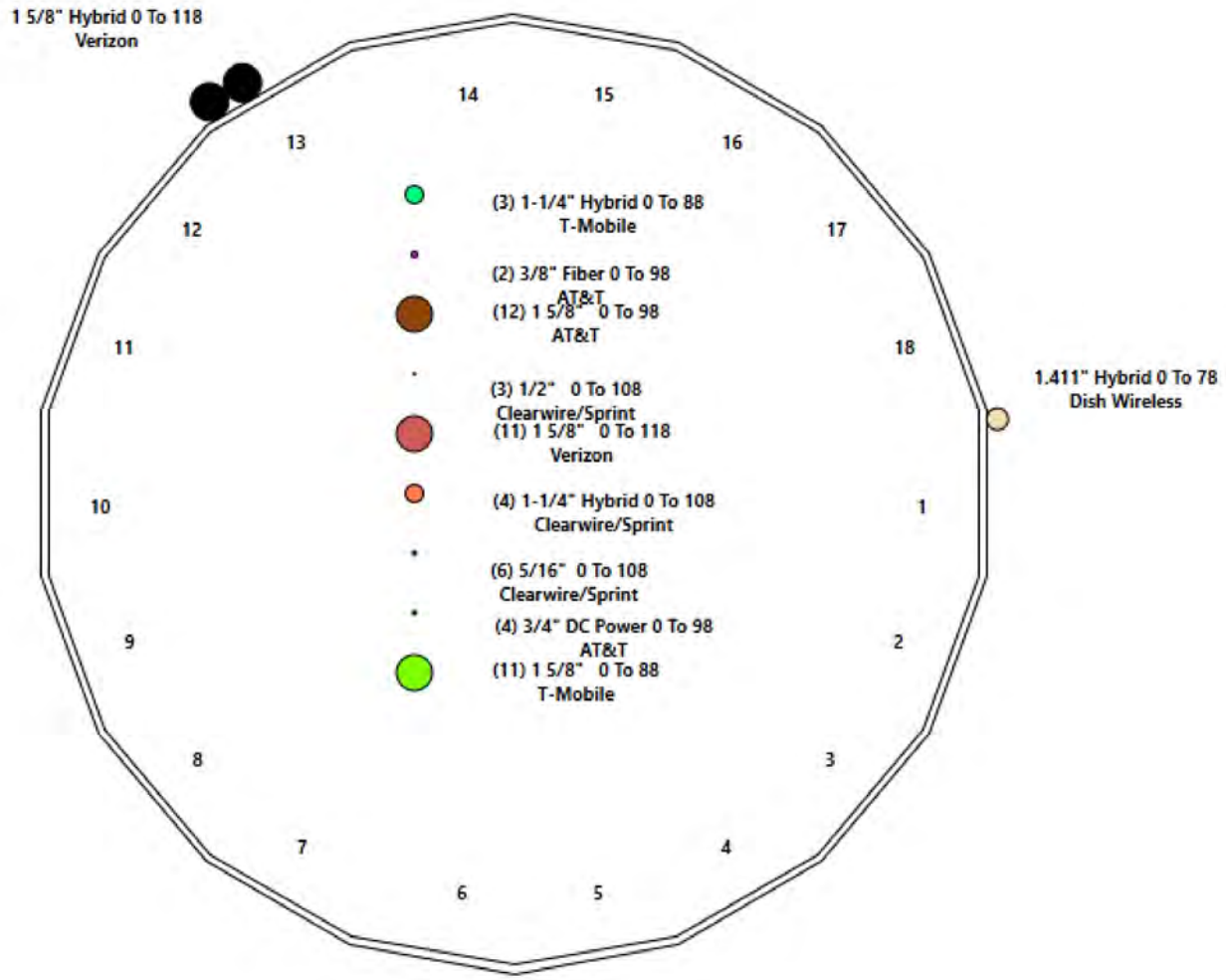
Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 97 mph Wind	2836.5	31.4	36.2
0.9D + 1.6W 97 mph Wind	2805.2	31.4	27.1
1.2D + 1.0Di + 1.0Wi 50 mph Wind	842.8	9.1	69.3
1.2D + 1.0E	151.9	1.5	36.3
0.9D + 1.0E	150.1	1.5	27.2
1.0D + 1.0W 60 mph Wind	674.4	7.5	30.2

Structure: CT08558-B-SBA - Coax Line Placement

Type: Monopole
Site Name: New Britain 3, CT
Height: 119.00 (ft)

9/9/2021



Shaft Properties

Structure:	CT08558-B-SBA		**Code:**	EIA/TIA-222-G	9/9/2021
Site Name:	New Britain 3, CT		**Exposure:**	C	
Height:	119.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	53.250	0.3125	65		0.00	7,420
2	18	53.500	0.2500	65	Slip	57.00	4,488
3	18	10.500	0.1875	65	Slip	42.00	536
4	18	10.000	0.1875	65	Flange	0.00	464
					Total Shaft Weight:		**12,908**

	Bottom						Top						
Sec. No.	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Dia (in)**	**Elev (ft)**	**Area (sqin)**	**Ix (in^4)**	**W/t Ratio**	**D/t Ratio**	**Taper**
1	47.50	0.00	46.80	13166.65	25.39	152.00	35.70	53.25	35.10	5552.15	18.73	114.2	0.221639
2	37.25	48.50	29.36	5078.18	24.86	149.00	25.39	102.00	19.95	1593.41	16.50	101.5	0.221639
3	26.54	98.50	15.68	1376.54	23.55	141.57	24.22	109.00	14.30	1043.15	21.36	129.1	0.221639
4	24.22	109.0	14.30	1043.15	21.36	129.15	22.00	119.00	12.98	780.30	19.28	117.3	0.221639

Load Summary

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 6	

Discrete Appurtenances

				No Ice			Ice				
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	118.00	BXA-70063-6BF	3	17.00	7.57	0.70	201.47	11.168	0.70	0.00	0.00
2	118.00	T-Arm	3	350.00	10.00	0.75	668.05	21.359	0.75	0.00	0.00
3	118.00	Commscope NHH-65B-R2B	6	43.70	8.08	0.83	321.49	9.797	0.83	0.00	0.00
4	118.00	Samsung MT6407-77A	3	79.40	4.69	0.70	245.05	5.940	0.70	0.00	0.00
5	118.00	(3) T-Arm Kit VZWSMART-SFK4	1	500.00	16.50	1.00	1272.41	37.491	1.00	0.00	0.00
6	118.00	BSAMNT-SBS-1-2	3	25.35	0.00	1.00	48.39	0.000	1.00	0.00	0.00
7	118.00	Collar Mount-VZWSMART-PLK7	1	150.60	2.50	1.00	424.30	5.908	1.00	0.00	0.00
8	118.00	Samsung B5/B13 RRH-BR04C	3	70.30	1.88	0.67	133.61	2.598	0.67	0.00	0.00
9	118.00	Raycap RVZDC-6627-PF-48-OVP	1	32.00	3.79	1.00	206.22	4.867	1.00	0.00	0.00
10	118.00	B2/B66A RRH-BR049	3	84.40	1.87	0.67	191.50	2.638	0.67	0.00	0.00
11	108.00	1900MHz RRH	3	44.00	3.80	0.67	184.85	5.593	0.67	0.00	0.00
12	108.00	800 MHz Filters	3	64.00	2.40	0.67	163.61	3.844	0.67	0.00	0.00
13	108.00	800 MHz	3	53.00	2.49	0.67	148.43	3.966	0.67	0.00	0.00
14	108.00	840 10054	3	35.00	4.59	0.61	143.73	6.748	0.61	0.00	0.00
15	108.00	ACU-A20-N	4	1.00	0.14	0.67	6.54	0.523	0.67	0.00	0.00
16	108.00	APXVSPP18-C-A20	2	57.00	8.02	0.83	280.02	11.625	0.83	0.00	0.00
17	108.00	APXVTM14-C-120	3	56.00	6.34	0.79	275.27	7.803	0.79	0.00	0.00
18	108.00	Horizon	2	10.60	0.43	1.00	39.67	1.090	1.00	0.00	0.00
19	108.00	P40-16-XLPP-RR-A	1	53.00	9.08	1.00	336.69	10.719	1.00	0.00	0.00
20	108.00	TD-RRH8x20-25	3	70.00	4.05	0.67	221.31	5.123	0.67	0.00	0.00
21	108.00	VHLP2.5	2	47.60	8.43	1.00	270.41	10.632	1.00	0.00	0.00
22	108.00	T-Arm	3	350.00	8.00	0.75	665.25	17.007	0.75	0.00	0.00
23	98.00	Cci OPA-65R-LCUU-H6	3	80.00	9.66	0.79	390.45	11.434	0.79	0.00	0.00
24	98.00	Powerwave 7770 w/Mount Pipe	3	27.00	5.54	0.72	173.04	8.268	0.72	0.00	0.00
25	98.00	Powerwave LGP21402 TMA	9	14.10	1.29	1.00	46.05	2.358	1.00	0.00	0.00
26	98.00	Ericsson RRUS 11	3	44.00	2.52	0.67	123.67	3.329	0.67	0.00	0.00
27	98.00	Powerwave LGP13519 Diplexer	6	5.30	0.34	1.00	17.44	0.920	1.00	0.00	0.00
28	98.00	Raycap DC6-48-60-0-8F	2	31.80	0.92	1.00	110.80	1.480	1.00	0.00	0.00
29	98.00	T-Arm	3	350.00	10.00	0.75	662.20	21.150	0.75	0.00	0.00
30	98.00	Ericsson RRUS 8843 B25/B66A	3	75.00	1.65	0.67	177.07	2.358	0.67	0.00	0.00
31	98.00	Ericsson RRUS 32	3	53.00	2.74	0.67	173.05	3.691	0.67	0.00	0.00
32	98.00	Quintel QS66512-2	3	111.00	8.13	0.92	415.64	9.820	0.92	0.00	0.00
33	88.00	AIR32 KRD901146-1_B66A	3	132.20	6.51	0.87	376.67	8.012	0.87	0.00	0.00
34	88.00	AIR6449 B41	3	103.00	5.65	0.71	276.33	6.852	0.71	0.00	0.00
35	88.00	SDX1926Q-43	3	5.50	0.23	0.67	15.22	0.695	0.67	0.00	0.00
36	88.00	RRUS 4415 B25	3	46.00	1.64	0.67	97.96	2.291	0.67	0.00	0.00
37	88.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	674.18	22.666	0.75	0.00	0.00
38	88.00	KRY 112 144/2	3	11.00	0.41	0.70	24.63	1.011	0.75	0.00	0.00
39	88.00	4449 B71 + B85	3	74.00	2.57	0.67	195.46	3.386	0.67	0.00	0.00
40	88.00	T-Arm w/ mod	3	350.00	14.00	0.75	658.86	29.443	0.75	0.00	0.00
41	78.00	JMA Wireless MX08FRO665-21	3	64.50	12.49	0.74	427.78	14.319	0.74	0.00	0.00
42	78.00	Fujitsu TA08025-B605	3	75.00	1.96	0.67	140.32	2.661	0.67	0.00	0.00
43	78.00	Fujitsu TA08025-B604	3	63.90	1.96	0.67	127.13	2.661	0.67	0.00	0.00
44	78.00	Raycap RDIDC-9181-PF-48	1	21.90	2.01	1.00	88.40	2.720	1.00	0.00	0.00
45	78.00	MC-PK8-DSH	1	1727.00	37.59	1.00	3834.99	96.582	1.00	0.00	0.00
		Totals:	**132**	**12,478.05**			**35,299.47**				

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	118.00	(11) 1 5/8" Coax	0.00	Inside
0.00	118.00	(2) 1 5/8" Hybrid	1.63	Outside
0.00	108.00	(4) 1-1/4" Hybrid	0.00	Inside
0.00	108.00	(3) 1/2" Coax	0.00	Inside
0.00	108.00	(6) 5/16" Coax	0.00	Inside
0.00	98.00	(12) 1 5/8" Coax	0.00	Inside
0.00	98.00	(4) 3/4" DC Power	0.00	Inside
0.00	98.00	(2) 3/8" Fiber	0.00	Inside
0.00	88.00	(11) 1 5/8" Coax	0.00	Inside
0.00	88.00	(3) 1-1/4" Hybrid	0.00	Inside
0.00	78.00	(1) 1.411" Hybrid	1.41	Outside

Shaft Section Properties

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

Increment Length: **5 (ft)**

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.3125	47.500	46.802	13166.7	25.39	152.00	71.5	546.0	0.0
5.00		0.3125	46.392	45.703	12260.6	24.77	148.45	72.3	520.5	786.9
10.00		0.3125	45.284	44.604	11397.1	24.14	144.91	73.0	495.7	768.2
15.00		0.3125	44.175	43.505	10575.2	23.52	141.36	73.7	471.5	749.5
20.00		0.3125	43.067	42.406	9793.7	22.89	137.82	74.5	447.9	730.8
25.00		0.3125	41.959	41.307	9051.7	22.26	134.27	75.2	424.9	712.1
30.00		0.3125	40.851	40.208	8348.2	21.64	130.72	75.9	402.5	693.4
35.00		0.3125	39.743	39.108	7682.1	21.01	127.18	76.7	380.7	674.7
40.00		0.3125	38.634	38.009	7052.4	20.39	123.63	77.4	359.5	656.0
45.00		0.3125	37.526	36.910	6458.1	19.76	120.08	78.2	339.0	637.3
48.50	Bot - Section 2	0.3125	36.751	36.141	6062.6	19.33	117.60	78.7	324.9	435.0
50.00		0.3125	36.418	35.811	5898.2	19.14	116.54	78.9	319.0	332.8
53.25	Top - Section 1	0.2500	36.198	28.524	4656.9	24.12	144.79	0.0	0.0	710.7
55.00		0.2500	35.810	28.216	4507.8	23.85	143.24	73.4	247.9	168.9
60.00		0.2500	34.702	27.336	4099.4	23.06	138.81	74.3	232.7	472.6
65.00		0.2500	33.593	26.457	3716.4	22.28	134.37	75.2	217.9	457.6
70.00		0.2500	32.485	25.578	3358.0	21.50	129.94	76.1	203.6	442.7
75.00		0.2500	31.377	24.698	3023.4	20.72	125.51	77.0	189.8	427.7
78.00		0.2500	30.712	24.171	2833.8	20.25	122.85	77.6	181.7	249.4
80.00		0.2500	30.269	23.819	2711.9	19.94	121.08	77.9	176.5	163.3
85.00		0.2500	29.161	22.940	2422.5	19.16	116.64	78.9	163.6	397.8
88.00		0.2500	28.496	22.412	2259.2	18.69	113.98	79.4	156.2	231.5
90.00		0.2500	28.053	22.061	2154.5	18.38	112.21	79.8	151.3	151.3
95.00		0.2500	26.944	21.181	1907.0	17.59	107.78	80.7	139.4	367.9
98.00		0.2500	26.279	20.654	1768.0	17.12	105.12	81.3	132.5	213.5
98.50	Bot - Section 3	0.2500	26.169	20.566	1745.5	17.05	104.67	81.4	131.4	35.1
100.00		0.2500	25.836	20.302	1679.2	16.81	103.34	81.6	128.0	183.8
102.00	Top - Section 2	0.1875	25.768	15.223	1258.5	22.82	137.43	0.0	0.0	241.5
105.00		0.1875	25.103	14.827	1162.9	22.20	133.88	75.3	91.2	153.4
108.00		0.1875	24.438	14.432	1072.3	21.57	130.34	76.0	86.4	149.3
109.00	Top - Section 3	0.1875	24.216	14.300	1043.1	21.36	129.15	76.3	84.8	48.9
109.00	Bot - Section 4	0.1875	24.216	14.300	1043.1	21.36	129.15	76.3	84.8	
110.00		0.1875	23.995	14.168	1014.5	21.15	127.97	76.5	83.3	48.4
115.00		0.1875	22.887	13.508	879.4	20.11	122.06	77.7	75.7	235.4
118.00		0.1875	22.222	13.113	804.3	19.49	118.52	78.5	71.3	135.9
119.00		0.1875	22.000	12.981	780.3	19.28	117.33	78.7	69.9	44.4
										12908.1

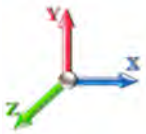
Wind Loading - Shaft

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	19.450	21.40	359.45	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	19.450	21.40	351.07	0.650	0.000	5.00	19.863	12.91	442.0	0.0	944.3
10.00		1.00	0.85	19.450	21.40	342.68	0.650	0.000	5.00	19.394	12.61	431.5	0.0	921.9
15.00		1.00	0.85	19.450	21.40	334.29	0.650	0.000	5.00	18.925	12.30	421.1	0.0	899.4
20.00		1.00	0.90	20.638	22.70	335.71	0.650	0.000	5.00	18.456	12.00	435.7	0.0	877.0
25.00		1.00	0.95	21.630	23.79	334.84	0.650	0.000	5.00	17.987	11.69	445.1	0.0	854.6
30.00		1.00	0.98	22.477	24.72	332.32	0.650	0.000	5.00	17.518	11.39	450.4	0.0	832.1
35.00		1.00	1.01	23.218	25.54	328.59	0.650	0.000	5.00	17.049	11.08	452.9	0.0	809.7
40.00		1.00	1.04	23.880	26.27	323.95	0.650	0.000	5.00	16.580	10.78	453.0	0.0	787.2
45.00		1.00	1.07	24.479	26.93	318.58	0.650	0.000	5.00	16.112	10.47	451.2	0.0	764.8
48.50	Bot - Section 2	1.00	1.09	24.869	27.36	314.47	0.650	0.000	3.50	10.999	7.15	312.9	0.0	522.0
50.00		1.00	1.09	25.029	27.53	312.62	0.650	0.000	1.50	4.707	3.06	134.8	0.0	399.4
53.25	Top - Section 1	1.00	1.11	25.363	27.90	308.48	0.650	0.000	3.25	10.054	6.53	291.7	0.0	852.8
55.00		1.00	1.12	25.536	28.09	310.50	0.650	0.000	1.75	5.332	3.47	155.8	0.0	202.7
60.00		1.00	1.14	26.008	28.61	303.66	0.650	0.000	5.00	14.917	9.70	443.8	0.0	567.1
65.00		1.00	1.16	26.450	29.09	296.45	0.650	0.000	5.00	14.448	9.39	437.2	0.0	549.1
70.00		1.00	1.17	26.866	29.55	288.92	0.650	0.000	5.00	13.979	9.09	429.6	0.0	531.2
75.00		1.00	1.19	27.259	29.98	281.09	0.650	0.000	5.00	13.510	8.78	421.3	0.0	513.2
78.00	Appurtenance(s)	1.00	1.20	27.485	30.23	276.28	0.650	0.000	3.00	7.881	5.12	247.8	0.0	299.3
80.00		1.00	1.21	27.632	30.39	273.01	0.650	0.000	2.00	5.160	3.35	163.1	0.0	196.0
85.00		1.00	1.22	27.987	30.79	264.70	0.650	0.000	5.00	12.572	8.17	402.5	0.0	477.3
88.00	Appurtenance(s)	1.00	1.23	28.192	31.01	259.61	0.650	0.000	3.00	7.318	4.76	236.0	0.0	277.8
90.00		1.00	1.24	28.325	31.16	256.18	0.650	0.000	2.00	4.785	3.11	155.1	0.0	181.6
95.00		1.00	1.25	28.650	31.51	247.46	0.650	0.000	5.00	11.634	7.56	381.3	0.0	441.4
98.00	Appurtenance(s)	1.00	1.26	28.838	31.72	242.15	0.650	0.000	3.00	6.756	4.39	222.9	0.0	256.2
98.50	Bot - Section 3	1.00	1.26	28.869	31.76	241.26	0.650	0.000	0.50	1.110	0.72	36.6	0.0	42.1
100.00		1.00	1.27	28.961	31.86	238.57	0.650	0.000	1.50	3.348	2.18	110.9	0.0	220.6
102.00	Top - Section 2	1.00	1.27	29.082	31.99	234.97	0.650	0.000	2.00	4.398	2.86	146.3	0.0	289.8
105.00		1.00	1.28	29.260	32.19	232.99	0.650	0.000	3.00	6.457	4.20	216.1	0.0	184.1
108.00	Appurtenance(s)	1.00	1.29	29.434	32.38	227.50	0.650	0.000	3.00	6.288	4.09	211.7	0.0	179.2
109.00	Top - Section 3	1.00	1.29	29.491	32.44	225.65	0.650	0.000	1.00	2.059	1.34	69.5	0.0	58.7
110.00		1.00	1.29	29.548	32.50	223.80	0.650	0.000	1.00	2.040	1.33	69.0	0.0	58.1
115.00		1.00	1.30	29.826	32.81	214.47	0.650	0.000	5.00	9.918	6.45	338.4	0.0	282.5
118.00	Appurtenance(s)	1.00	1.31	29.988	32.99	208.80	0.650	0.000	3.00	5.726	3.72	196.4	0.0	163.1
119.00		1.00	1.31	30.041	33.05	206.90	0.650	0.000	1.00	1.871	1.22	64.3	0.0	53.3
								Totals:	**119.00**			**9,877.9**		**15,489.7**

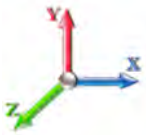
Discrete Appurtenance Forces

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	118.00	(3) T-Arm Kit	1	29.988	32.986	0.75	0.75	12.38	600.00	0.000	0.000	653.13	0.00	0.00
2	118.00	BXA-70063-6BF	3	29.988	32.986	0.56	0.80	12.72	61.20	0.000	0.000	671.21	0.00	0.00
3	118.00	T-Arm	3	29.988	32.986	0.56	0.75	16.88	1260.00	0.000	0.000	890.63	0.00	0.00
4	118.00	Commscope	6	29.988	32.986	0.66	0.80	32.19	314.64	0.000	0.000	1698.97	0.00	0.00
5	118.00	Samsung MT6407-77A	3	29.988	32.986	0.56	0.80	7.88	285.84	0.000	0.000	415.85	0.00	0.00
6	118.00	B2/B66A RRH-BR049	3	29.988	32.986	0.54	0.80	3.01	303.84	0.000	0.000	158.70	0.00	0.00
7	118.00	BSAMNT-SBS-1-2	3	29.988	32.986	0.75	0.75	0.00	91.26	0.000	0.000	0.00	0.00	0.00
8	118.00	Collar	1	29.988	32.986	0.75	0.75	1.88	180.72	0.000	0.000	98.96	0.00	0.00
9	118.00	Samsung B5/B13	3	29.988	32.986	0.54	0.80	3.02	253.08	0.000	0.000	159.55	0.00	0.00
10	118.00	Raycap	1	29.988	32.986	0.80	0.80	3.03	38.40	0.000	0.000	160.02	0.00	0.00
11	108.00	840 10054	3	29.434	32.377	0.49	0.80	6.72	126.00	0.000	0.000	348.11	0.00	0.00
12	108.00	800 MHz	3	29.434	32.377	0.54	0.80	4.00	190.80	0.000	0.000	207.42	0.00	0.00
13	108.00	ACU-A20-N	4	29.434	32.377	0.54	0.80	0.30	4.80	0.000	0.000	15.55	0.00	0.00
14	108.00	APXVSPP18-C-A20	2	29.434	32.377	0.66	0.80	10.65	136.80	0.000	0.000	551.74	0.00	0.00
15	108.00	800 MHz Filters	3	29.434	32.377	0.54	0.80	3.86	230.40	0.000	0.000	199.92	0.00	0.00
16	108.00	1900MHz RRH	3	29.434	32.377	0.54	0.80	6.11	158.40	0.000	0.000	316.54	0.00	0.00
17	108.00	T-Arm	3	29.434	32.377	0.56	0.75	13.50	1260.00	0.000	0.000	699.35	0.00	0.00
18	108.00	APXVTM14-C-120	3	29.434	32.377	0.63	0.80	12.02	201.60	0.000	0.000	622.71	0.00	0.00
19	108.00	Horizon	2	29.434	32.377	0.80	0.80	0.69	25.44	0.000	0.000	35.64	0.00	0.00
20	108.00	P40-16-XLPP-RR-A	1	29.434	32.377	0.80	0.80	7.26	63.60	0.000	0.000	376.30	0.00	0.00
21	108.00	TD-RRH8x20-25	3	29.434	32.377	0.54	0.80	6.51	252.00	0.000	0.000	337.37	0.00	0.00
22	108.00	VHLP2.5	2	29.434	32.377	1.00	1.00	16.86	114.24	0.000	0.000	873.41	0.00	0.00
23	98.00	Quintel QS66512-2	3	28.838	31.722	0.74	0.80	17.95	399.60	0.000	0.000	911.10	0.00	0.00
24	98.00	Ericsson RRUS 11	3	28.838	31.722	0.54	0.80	4.05	158.40	0.000	0.000	205.67	0.00	0.00
25	98.00	Cci OPA-65R-LCUU-H6	3	28.838	31.722	0.63	0.80	18.32	288.00	0.000	0.000	929.59	0.00	0.00
26	98.00	Powerwave 7770 w/Mount	3	28.838	31.722	0.58	0.80	9.57	97.20	0.000	0.000	485.88	0.00	0.00
27	98.00	Powerwave LGP21402	9	28.838	31.722	0.80	0.80	9.29	152.28	0.000	0.000	471.41	0.00	0.00
28	98.00	Ericsson RRUS 32	3	28.838	31.722	0.54	0.80	4.41	190.80	0.000	0.000	223.62	0.00	0.00
29	98.00	Powerwave LGP13519	6	28.838	31.722	0.80	0.80	1.63	38.16	0.000	0.000	82.83	0.00	0.00
30	98.00	Raycap DC6-48-60-0-8F	2	28.838	31.722	0.80	0.80	1.47	76.32	0.000	0.000	74.71	0.00	0.00
31	98.00	T-Arm	3	28.838	31.722	0.56	0.75	16.88	1260.00	0.000	0.000	856.48	0.00	0.00
32	98.00	Ericsson RRUS 8843	3	28.838	31.722	0.54	0.80	2.65	270.00	0.000	0.000	134.66	0.00	0.00
33	88.00	4449 B71 + B85	3	28.192	31.011	0.54	0.80	4.13	266.40	0.000	0.000	205.05	0.00	0.00
34	88.00	KRY 112 144/2	3	28.192	31.011	0.56	0.80	0.69	39.60	0.000	0.000	34.18	0.00	0.00
35	88.00	T-Arm w/ mod	3	28.192	31.011	0.56	0.75	23.63	1260.00	0.000	0.000	1172.21	0.00	0.00
36	88.00	APXVAARR24_43-U-NA2	3	28.192	31.011	0.56	0.80	34.00	460.80	0.000	0.000	1687.15	0.00	0.00
37	88.00	RRUS 4415 B25	3	28.192	31.011	0.54	0.80	2.64	165.60	0.000	0.000	130.85	0.00	0.00
38	88.00	AIR6449 B41	3	28.192	31.011	0.57	0.80	9.63	370.80	0.000	0.000	477.70	0.00	0.00
39	88.00	SDX1926Q-43	3	28.192	31.011	0.54	0.80	0.37	19.80	0.000	0.000	18.35	0.00	0.00
40	88.00	AIR32	3	28.192	31.011	0.70	0.80	13.59	475.92	0.000	0.000	674.44	0.00	0.00
41	78.00	MC-PK8-DSH	1	27.485	30.233	1.00	1.00	37.59	2072.40	0.000	0.000	1818.35	0.00	0.00
42	78.00	Raycap	1	27.485	30.233	0.75	0.75	1.51	26.28	0.000	0.000	72.92	0.00	0.00
43	78.00	Fujitsu TA08025-B604	3	27.485	30.233	0.50	0.75	2.95	230.04	0.000	0.000	142.93	0.00	0.00
44	78.00	Fujitsu TA08025-B605	3	27.485	30.233	0.50	0.75	2.95	270.00	0.000	0.000	142.93	0.00	0.00
45	78.00	JMA Wireless	3	27.485	30.233	0.55	0.75	20.80	232.20	0.000	0.000	1005.96	0.00	0.00
							Totals:		**14,973.66**			**21,450.06**		

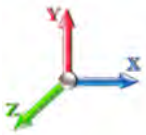
Total Applied Force Summary

Structure:	CT08558-B-SBA		**Code:**	EIA/TIA-222-G	9/9/2021
Site Name:	New Britain 3, CT		**Exposure:**	C	
Height:	119.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 11

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		441.96	1232.74	0.00	0.00
10.00		431.53	1210.30	0.00	0.00
15.00		421.10	1187.85	0.00	0.00
20.00		435.73	1165.41	0.00	0.00
25.00		445.09	1142.97	0.00	0.00
30.00		450.45	1120.53	0.00	0.00
35.00		452.85	1098.09	0.00	0.00
40.00		452.96	1075.65	0.00	0.00
45.00		451.20	1053.21	0.00	0.00
48.50		312.92	723.89	0.00	0.00
50.00		134.78	485.89	0.00	0.00
53.25		291.71	1040.29	0.00	0.00
55.00		155.75	303.67	0.00	0.00
60.00		443.81	855.50	0.00	0.00
65.00		437.17	837.55	0.00	0.00
70.00		429.63	819.60	0.00	0.00
75.00		421.29	801.64	0.00	0.00
78.00	(11) attachments	3430.89	3303.29	0.00	0.00
80.00		163.12	308.56	0.00	0.00
85.00		402.52	758.84	0.00	0.00
88.00	(24) attachments	4635.95	3505.61	0.00	0.00
90.00		155.06	259.88	0.00	0.00
95.00		381.32	637.12	0.00	0.00
98.00	(38) attachments	4598.82	3304.42	0.00	0.00
98.50		36.64	53.13	0.00	0.00
100.00		110.92	253.77	0.00	0.00
102.00		146.33	333.96	0.00	0.00
105.00		216.13	250.36	0.00	0.00
108.00	(32) attachments	4795.78	3009.59	0.00	0.00
109.00		69.45	75.03	0.00	0.00
110.00		68.95	74.49	0.00	0.00
115.00		338.39	364.37	0.00	0.00
118.00	(27) attachments	5103.46	3601.14	0.00	0.00
119.00		64.30	53.27	0.00	0.00
	Totals:	**31,327.97**	**36,301.59**	**0.00**	**0.00**

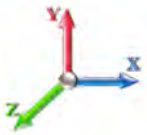
Linear Appurtenance Segment Forces (Factored)

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.064	0.000	19.450	0.00	13.20
5.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.064	0.000	19.450	0.00	6.90
10.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.065	0.000	19.450	0.00	13.20
10.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.065	0.000	19.450	0.00	6.90
15.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.067	0.000	19.450	0.00	13.20
15.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.067	0.000	19.450	0.00	6.90
20.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.069	0.000	20.638	0.00	13.20
20.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.069	0.000	20.638	0.00	6.90
25.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.070	0.000	21.630	0.00	13.20
25.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.070	0.000	21.630	0.00	6.90
30.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.072	0.000	22.477	0.00	13.20
30.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.072	0.000	22.477	0.00	6.90
35.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.074	0.000	23.218	0.00	13.20
35.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.074	0.000	23.218	0.00	6.90
40.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.076	0.000	23.880	0.00	13.20
40.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.076	0.000	23.880	0.00	6.90
45.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.079	0.000	24.479	0.00	13.20
45.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.079	0.000	24.479	0.00	6.90
48.50	1 5/8" Hybrid	Yes	3.50	0.000	1.63	0.48	0.00	0.081	0.000	24.869	0.00	9.24
48.50	1.411" Hybrid	Yes	3.50	0.000	1.41	0.41	0.00	0.081	0.000	24.869	0.00	4.83
50.00	1 5/8" Hybrid	Yes	1.50	0.000	1.63	0.20	0.00	0.082	0.000	25.029	0.00	3.96
50.00	1.411" Hybrid	Yes	1.50	0.000	1.41	0.18	0.00	0.082	0.000	25.029	0.00	2.07
53.25	1 5/8" Hybrid	Yes	3.25	0.000	1.63	0.44	0.00	0.083	0.000	25.363	0.00	8.58
53.25	1.411" Hybrid	Yes	3.25	0.000	1.41	0.38	0.00	0.083	0.000	25.363	0.00	4.48
55.00	1 5/8" Hybrid	Yes	1.75	0.000	1.63	0.24	0.00	0.083	0.000	25.536	0.00	4.62
55.00	1.411" Hybrid	Yes	1.75	0.000	1.41	0.21	0.00	0.083	0.000	25.536	0.00	2.42
60.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.085	0.000	26.008	0.00	13.20
60.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.085	0.000	26.008	0.00	6.90
65.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.088	0.000	26.450	0.00	13.20
65.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.088	0.000	26.450	0.00	6.90
70.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.091	0.000	26.866	0.00	13.20
70.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.091	0.000	26.866	0.00	6.90
75.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.094	0.000	27.259	0.00	13.20
75.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.094	0.000	27.259	0.00	6.90
78.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.096	0.000	27.485	0.00	7.92
78.00	1.411" Hybrid	Yes	3.00	0.000	1.41	0.35	0.00	0.096	0.000	27.485	0.00	4.14
80.00	1 5/8" Hybrid	Yes	2.00	0.000	1.63	0.27	0.00	0.053	0.000	27.632	0.00	5.28
85.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.054	0.000	27.987	0.00	13.20
88.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.056	0.000	28.192	0.00	7.92
90.00	1 5/8" Hybrid	Yes	2.00	0.000	1.63	0.27	0.00	0.057	0.000	28.325	0.00	5.28
95.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.058	0.000	28.650	0.00	13.20
98.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.060	0.000	28.838	0.00	7.92
98.50	1 5/8" Hybrid	Yes	0.50	0.000	1.63	0.07	0.00	0.061	0.000	28.869	0.00	1.32
100.00	1 5/8" Hybrid	Yes	1.50	0.000	1.63	0.20	0.00	0.062	0.000	28.961	0.00	3.96
102.00	1 5/8" Hybrid	Yes	2.00	0.000	1.63	0.27	0.00	0.063	0.000	29.082	0.00	5.28
105.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.063	0.000	29.260	0.00	7.92
108.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.065	0.000	29.434	0.00	7.92

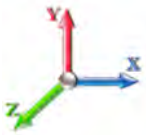
Linear Appurtenance Segment Forces (Factored)

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
109.00	1 5/8" Hybrid	Yes	1.00	0.000	1.63	0.14	0.00	0.066	0.000	29.491	0.00	2.64
110.00	1 5/8" Hybrid	Yes	1.00	0.000	1.63	0.14	0.00	0.067	0.000	29.548	0.00	2.64
115.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.068	0.000	29.826	0.00	13.20
118.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.071	0.000	29.988	0.00	7.92
										Totals:	**0.0**	**419.2**

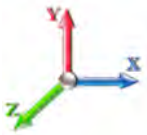
Calculated Forces

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 24

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-36.22	-31.42	0.00	-2836.5	0.00	2836.53	3013.27	1506.63	5849.73	2929.21	0.00	0.000	0.000	0.981
5.00	-34.82	-31.16	0.00	-2679.4	0.00	2679.42	2972.75	1486.38	5634.65	2821.52	0.16	-0.298	0.000	0.962
10.00	-33.45	-30.90	0.00	-2523.6	0.00	2523.61	2930.78	1465.39	5420.60	2714.33	0.63	-0.600	0.000	0.942
15.00	-32.11	-30.63	0.00	-2369.1	0.00	2369.12	2887.35	1443.68	5207.78	2607.76	1.43	-0.905	0.000	0.920
20.00	-30.79	-30.34	0.00	-2215.9	0.00	2215.95	2842.47	1421.24	4996.39	2501.91	2.54	-1.214	0.000	0.897
25.00	-29.49	-30.03	0.00	-2064.2	0.00	2064.24	2796.14	1398.07	4786.62	2396.87	3.98	-1.524	0.000	0.872
30.00	-28.22	-29.70	0.00	-1914.0	0.00	1914.08	2748.35	1374.17	4578.69	2292.75	5.74	-1.837	0.000	0.846
35.00	-26.98	-29.36	0.00	-1765.5	0.00	1765.56	2699.10	1349.55	4372.78	2189.64	7.84	-2.150	0.000	0.817
40.00	-25.77	-29.01	0.00	-1618.7	0.00	1618.76	2648.40	1324.20	4169.10	2087.65	10.26	-2.464	0.000	0.786
45.00	-24.60	-28.62	0.00	-1473.7	0.00	1473.73	2596.25	1298.12	3967.85	1986.88	13.01	-2.776	0.000	0.752
48.50	-23.82	-28.34	0.00	-1373.5	0.00	1373.56	2558.87	1279.44	3828.53	1917.11	15.12	-2.995	0.000	0.726
50.00	-23.27	-28.24	0.00	-1331.0	0.00	1331.05	2542.63	1271.32	3769.24	1887.42	16.08	-3.090	0.000	0.715
53.25	-22.17	-27.95	0.00	-1239.2	0.00	1239.28	1874.80	937.40	2771.76	1387.94	18.25	-3.292	0.000	0.906
55.00	-21.76	-27.86	0.00	-1190.3	0.00	1190.37	1862.74	931.37	2724.01	1364.03	19.48	-3.401	0.000	0.885
60.00	-20.77	-27.49	0.00	-1051.0	0.00	1051.05	1827.31	913.65	2588.34	1296.09	23.23	-3.754	0.000	0.823
65.00	-19.81	-27.12	0.00	-913.58	0.00	913.58	1790.42	895.21	2453.92	1228.78	27.35	-4.095	0.000	0.755
70.00	-18.87	-26.73	0.00	-778.00	0.00	778.00	1752.08	876.04	2320.96	1162.21	31.81	-4.419	0.000	0.681
75.00	-18.00	-26.32	0.00	-644.35	0.00	644.35	1712.28	856.14	2189.66	1096.46	36.60	-4.720	0.000	0.599
78.00	-14.94	-22.66	0.00	-565.39	0.00	565.39	1687.70	843.85	2111.76	1057.45	39.62	-4.891	0.000	0.544
80.00	-14.58	-22.52	0.00	-520.07	0.00	520.07	1671.02	835.51	2060.22	1031.64	41.69	-5.000	0.000	0.514
85.00	-13.79	-22.09	0.00	-407.48	0.00	407.48	1628.32	814.16	1932.84	967.86	47.06	-5.243	0.000	0.430
88.00	-10.70	-17.17	0.00	-341.20	0.00	341.20	1601.99	801.00	1857.49	930.12	50.39	-5.375	0.000	0.374
90.00	-10.41	-17.02	0.00	-306.86	0.00	306.86	1584.15	792.08	1807.72	905.20	52.66	-5.457	0.000	0.346
95.00	-9.78	-16.60	0.00	-221.77	0.00	221.77	1538.53	769.27	1685.06	843.78	58.46	-5.631	0.000	0.270
98.00	-6.94	-11.70	0.00	-171.98	0.00	171.98	1510.46	755.23	1612.73	807.56	62.02	-5.719	0.000	0.218
98.50	-6.88	-11.66	0.00	-166.13	0.00	166.13	1505.73	752.87	1600.77	801.57	62.62	-5.733	0.000	0.212
100.00	-6.63	-11.53	0.00	-148.63	0.00	148.63	1491.46	745.73	1565.06	783.69	64.43	-5.772	0.000	0.194
102.00	-6.30	-11.36	0.00	-125.57	0.00	125.57	1021.50	510.75	1074.26	537.93	66.85	-5.818	0.000	0.240
105.00	-6.07	-11.12	0.00	-91.50	0.00	91.50	1004.76	502.38	1028.99	515.26	70.52	-5.876	0.000	0.184
108.00	-3.56	-6.05	0.00	-58.13	0.00	58.13	987.50	493.75	984.13	492.79	74.23	-5.931	0.000	0.122
109.00	-3.49	-5.97	0.00	-52.08	0.00	52.08	981.63	490.81	969.27	485.35	75.47	-5.946	0.000	0.111
109.00	-3.49	-5.97	0.00	-52.08	0.00	52.08	981.63	490.81	969.27	485.35	75.47	-5.946	0.000	0.111
110.00	-3.42	-5.90	0.00	-46.11	0.00	46.11	975.70	487.85	954.46	477.94	76.72	-5.959	0.000	0.100
115.00	-3.09	-5.52	0.00	-16.64	0.00	16.64	945.18	472.59	881.23	441.27	82.97	-6.003	0.000	0.041
118.00	-0.05	-0.07	0.00	-0.07	0.00	0.07	926.18	463.09	838.01	419.63	86.74	-6.011	0.000	0.000
119.00	0.00	-0.06	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48	88.00	-6.011	0.000	0.000

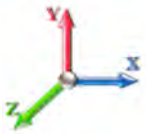
Wind Loading - Shaft

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	19.450	21.40	359.45	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	19.450	21.40	351.07	0.650	0.000	5.00	19.863	12.91	442.0	0.0	708.2
10.00		1.00	0.85	19.450	21.40	342.68	0.650	0.000	5.00	19.394	12.61	431.5	0.0	691.4
15.00		1.00	0.85	19.450	21.40	334.29	0.650	0.000	5.00	18.925	12.30	421.1	0.0	674.6
20.00		1.00	0.90	20.638	22.70	335.71	0.650	0.000	5.00	18.456	12.00	435.7	0.0	657.8
25.00		1.00	0.95	21.630	23.79	334.84	0.650	0.000	5.00	17.987	11.69	445.1	0.0	640.9
30.00		1.00	0.98	22.477	24.72	332.32	0.650	0.000	5.00	17.518	11.39	450.4	0.0	624.1
35.00		1.00	1.01	23.218	25.54	328.59	0.650	0.000	5.00	17.049	11.08	452.9	0.0	607.3
40.00		1.00	1.04	23.880	26.27	323.95	0.650	0.000	5.00	16.580	10.78	453.0	0.0	590.4
45.00		1.00	1.07	24.479	26.93	318.58	0.650	0.000	5.00	16.112	10.47	451.2	0.0	573.6
48.50	Bot - Section 2	1.00	1.09	24.869	27.36	314.47	0.650	0.000	3.50	10.999	7.15	312.9	0.0	391.5
50.00		1.00	1.09	25.029	27.53	312.62	0.650	0.000	1.50	4.707	3.06	134.8	0.0	299.5
53.25	Top - Section 1	1.00	1.11	25.363	27.90	308.48	0.650	0.000	3.25	10.054	6.53	291.7	0.0	639.6
55.00		1.00	1.12	25.536	28.09	310.50	0.650	0.000	1.75	5.332	3.47	155.8	0.0	152.0
60.00		1.00	1.14	26.008	28.61	303.66	0.650	0.000	5.00	14.917	9.70	443.8	0.0	425.3
65.00		1.00	1.16	26.450	29.09	296.45	0.650	0.000	5.00	14.448	9.39	437.2	0.0	411.9
70.00		1.00	1.17	26.866	29.55	288.92	0.650	0.000	5.00	13.979	9.09	429.6	0.0	398.4
75.00		1.00	1.19	27.259	29.98	281.09	0.650	0.000	5.00	13.510	8.78	421.3	0.0	384.9
78.00	Appurtenance(s)	1.00	1.20	27.485	30.23	276.28	0.650	0.000	3.00	7.881	5.12	247.8	0.0	224.5
80.00		1.00	1.21	27.632	30.39	273.01	0.650	0.000	2.00	5.160	3.35	163.1	0.0	147.0
85.00		1.00	1.22	27.987	30.79	264.70	0.650	0.000	5.00	12.572	8.17	402.5	0.0	358.0
88.00	Appurtenance(s)	1.00	1.23	28.192	31.01	259.61	0.650	0.000	3.00	7.318	4.76	236.0	0.0	208.3
90.00		1.00	1.24	28.325	31.16	256.18	0.650	0.000	2.00	4.785	3.11	155.1	0.0	136.2
95.00		1.00	1.25	28.650	31.51	247.46	0.650	0.000	5.00	11.634	7.56	381.3	0.0	331.1
98.00	Appurtenance(s)	1.00	1.26	28.838	31.72	242.15	0.650	0.000	3.00	6.756	4.39	222.9	0.0	192.2
98.50	Bot - Section 3	1.00	1.26	28.869	31.76	241.26	0.650	0.000	0.50	1.110	0.72	36.6	0.0	31.6
100.00		1.00	1.27	28.961	31.86	238.57	0.650	0.000	1.50	3.348	2.18	110.9	0.0	165.5
102.00	Top - Section 2	1.00	1.27	29.082	31.99	234.97	0.650	0.000	2.00	4.398	2.86	146.3	0.0	217.3
105.00		1.00	1.28	29.260	32.19	232.99	0.650	0.000	3.00	6.457	4.20	216.1	0.0	138.0
108.00	Appurtenance(s)	1.00	1.29	29.434	32.38	227.50	0.650	0.000	3.00	6.288	4.09	211.7	0.0	134.4
109.00	Top - Section 3	1.00	1.29	29.491	32.44	225.65	0.650	0.000	1.00	2.059	1.34	69.5	0.0	44.0
110.00		1.00	1.29	29.548	32.50	223.80	0.650	0.000	1.00	2.040	1.33	69.0	0.0	43.6
115.00		1.00	1.30	29.826	32.81	214.47	0.650	0.000	5.00	9.918	6.45	338.4	0.0	211.9
118.00	Appurtenance(s)	1.00	1.31	29.988	32.99	208.80	0.650	0.000	3.00	5.726	3.72	196.4	0.0	122.3
119.00		1.00	1.31	30.041	33.05	206.90	0.650	0.000	1.00	1.871	1.22	64.3	0.0	40.0
								Totals:	**119.00**			**9,877.9**		**11,617.3**

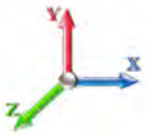
Discrete Appurtenance Forces

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	118.00	(3) T-Arm Kit	1	29.988	32.986	0.75	0.75	12.38	450.00	0.000	0.000	653.13	0.00	0.00
2	118.00	BXA-70063-6BF	3	29.988	32.986	0.56	0.80	12.72	45.90	0.000	0.000	671.21	0.00	0.00
3	118.00	T-Arm	3	29.988	32.986	0.56	0.75	16.88	945.00	0.000	0.000	890.63	0.00	0.00
4	118.00	Commscope	6	29.988	32.986	0.66	0.80	32.19	235.98	0.000	0.000	1698.97	0.00	0.00
5	118.00	Samsung MT6407-77A	3	29.988	32.986	0.56	0.80	7.88	214.38	0.000	0.000	415.85	0.00	0.00
6	118.00	B2/B66A RRH-BR049	3	29.988	32.986	0.54	0.80	3.01	227.88	0.000	0.000	158.70	0.00	0.00
7	118.00	BSAMNT-SBS-1-2	3	29.988	32.986	0.75	0.75	0.00	68.45	0.000	0.000	0.00	0.00	0.00
8	118.00	Collar	1	29.988	32.986	0.75	0.75	1.88	135.54	0.000	0.000	98.96	0.00	0.00
9	118.00	Samsung B5/B13	3	29.988	32.986	0.54	0.80	3.02	189.81	0.000	0.000	159.55	0.00	0.00
10	118.00	Raycap	1	29.988	32.986	0.80	0.80	3.03	28.80	0.000	0.000	160.02	0.00	0.00
11	108.00	840 10054	3	29.434	32.377	0.49	0.80	6.72	94.50	0.000	0.000	348.11	0.00	0.00
12	108.00	800 MHz	3	29.434	32.377	0.54	0.80	4.00	143.10	0.000	0.000	207.42	0.00	0.00
13	108.00	ACU-A20-N	4	29.434	32.377	0.54	0.80	0.30	3.60	0.000	0.000	15.55	0.00	0.00
14	108.00	APXVSPP18-C-A20	2	29.434	32.377	0.66	0.80	10.65	102.60	0.000	0.000	551.74	0.00	0.00
15	108.00	800 MHz Filters	3	29.434	32.377	0.54	0.80	3.86	172.80	0.000	0.000	199.92	0.00	0.00
16	108.00	1900MHz RRH	3	29.434	32.377	0.54	0.80	6.11	118.80	0.000	0.000	316.54	0.00	0.00
17	108.00	T-Arm	3	29.434	32.377	0.56	0.75	13.50	945.00	0.000	0.000	699.35	0.00	0.00
18	108.00	APXVTM14-C-120	3	29.434	32.377	0.63	0.80	12.02	151.20	0.000	0.000	622.71	0.00	0.00
19	108.00	Horizon	2	29.434	32.377	0.80	0.80	0.69	19.08	0.000	0.000	35.64	0.00	0.00
20	108.00	P40-16-XLPP-RR-A	1	29.434	32.377	0.80	0.80	7.26	47.70	0.000	0.000	376.30	0.00	0.00
21	108.00	TD-RRH8x20-25	3	29.434	32.377	0.54	0.80	6.51	189.00	0.000	0.000	337.37	0.00	0.00
22	108.00	VHLP2.5	2	29.434	32.377	1.00	1.00	16.86	85.68	0.000	0.000	873.41	0.00	0.00
23	98.00	Quintel QS66512-2	3	28.838	31.722	0.74	0.80	17.95	299.70	0.000	0.000	911.10	0.00	0.00
24	98.00	Ericsson RRUS 11	3	28.838	31.722	0.54	0.80	4.05	118.80	0.000	0.000	205.67	0.00	0.00
25	98.00	Cci OPA-65R-LCUU-H6	3	28.838	31.722	0.63	0.80	18.32	216.00	0.000	0.000	929.59	0.00	0.00
26	98.00	Powerwave 7770 w/Mount	3	28.838	31.722	0.58	0.80	9.57	72.90	0.000	0.000	485.88	0.00	0.00
27	98.00	Powerwave LGP21402	9	28.838	31.722	0.80	0.80	9.29	114.21	0.000	0.000	471.41	0.00	0.00
28	98.00	Ericsson RRUS 32	3	28.838	31.722	0.54	0.80	4.41	143.10	0.000	0.000	223.62	0.00	0.00
29	98.00	Powerwave LGP13519	6	28.838	31.722	0.80	0.80	1.63	28.62	0.000	0.000	82.83	0.00	0.00
30	98.00	Raycap DC6-48-60-0-8F	2	28.838	31.722	0.80	0.80	1.47	57.24	0.000	0.000	74.71	0.00	0.00
31	98.00	T-Arm	3	28.838	31.722	0.56	0.75	16.88	945.00	0.000	0.000	856.48	0.00	0.00
32	98.00	Ericsson RRUS 8843	3	28.838	31.722	0.54	0.80	2.65	202.50	0.000	0.000	134.66	0.00	0.00
33	88.00	4449 B71 + B85	3	28.192	31.011	0.54	0.80	4.13	199.80	0.000	0.000	205.05	0.00	0.00
34	88.00	KRY 112 144/2	3	28.192	31.011	0.56	0.80	0.69	29.70	0.000	0.000	34.18	0.00	0.00
35	88.00	T-Arm w/ mod	3	28.192	31.011	0.56	0.75	23.63	945.00	0.000	0.000	1172.21	0.00	0.00
36	88.00	APXVAARR24_43-U-NA2	3	28.192	31.011	0.56	0.80	34.00	345.60	0.000	0.000	1687.15	0.00	0.00
37	88.00	RRUS 4415 B25	3	28.192	31.011	0.54	0.80	2.64	124.20	0.000	0.000	130.85	0.00	0.00
38	88.00	AIR6449 B41	3	28.192	31.011	0.57	0.80	9.63	278.10	0.000	0.000	477.70	0.00	0.00
39	88.00	SDX1926Q-43	3	28.192	31.011	0.54	0.80	0.37	14.85	0.000	0.000	18.35	0.00	0.00
40	88.00	AIR32	3	28.192	31.011	0.70	0.80	13.59	356.94	0.000	0.000	674.44	0.00	0.00
41	78.00	MC-PK8-DSH	1	27.485	30.233	1.00	1.00	37.59	1554.30	0.000	0.000	1818.35	0.00	0.00
42	78.00	Raycap	1	27.485	30.233	0.75	0.75	1.51	19.71	0.000	0.000	72.92	0.00	0.00
43	78.00	Fujitsu TA08025-B604	3	27.485	30.233	0.50	0.75	2.95	172.53	0.000	0.000	142.93	0.00	0.00
44	78.00	Fujitsu TA08025-B605	3	27.485	30.233	0.50	0.75	2.95	202.50	0.000	0.000	142.93	0.00	0.00
45	78.00	JMA Wireless	3	27.485	30.233	0.55	0.75	20.80	174.15	0.000	0.000	1005.96	0.00	0.00
							Totals:		**11,230.25**			**21,450.06**		

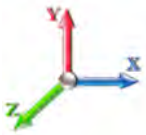
Total Applied Force Summary

Structure:	CT08558-B-SBA		**Code:**	EIA/TIA-222-G	9/9/2021
Site Name:	New Britain 3, CT		**Exposure:**	C	
Height:	119.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 17

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		441.96	924.55	0.00	0.00
10.00		431.53	907.72	0.00	0.00
15.00		421.10	890.89	0.00	0.00
20.00		435.73	874.06	0.00	0.00
25.00		445.09	857.23	0.00	0.00
30.00		450.45	840.40	0.00	0.00
35.00		452.85	823.57	0.00	0.00
40.00		452.96	806.74	0.00	0.00
45.00		451.20	789.91	0.00	0.00
48.50		312.92	542.92	0.00	0.00
50.00		134.78	364.42	0.00	0.00
53.25		291.71	780.22	0.00	0.00
55.00		155.75	227.75	0.00	0.00
60.00		443.81	641.63	0.00	0.00
65.00		437.17	628.16	0.00	0.00
70.00		429.63	614.70	0.00	0.00
75.00		421.29	601.23	0.00	0.00
78.00	(11) attachments	3430.89	2477.47	0.00	0.00
80.00		163.12	231.42	0.00	0.00
85.00		402.52	569.13	0.00	0.00
88.00	(24) attachments	4635.95	2629.20	0.00	0.00
90.00		155.06	194.91	0.00	0.00
95.00		381.32	477.84	0.00	0.00
98.00	(38) attachments	4598.82	2478.31	0.00	0.00
98.50		36.64	39.85	0.00	0.00
100.00		110.92	190.33	0.00	0.00
102.00		146.33	250.47	0.00	0.00
105.00		216.13	187.77	0.00	0.00
108.00	(32) attachments	4795.78	2257.19	0.00	0.00
109.00		69.45	56.27	0.00	0.00
110.00		68.95	55.87	0.00	0.00
115.00		338.39	273.27	0.00	0.00
118.00	(27) attachments	5103.46	2700.85	0.00	0.00
119.00		64.30	39.96	0.00	0.00
	Totals:	**31,327.97**	**27,226.19**	**0.00**	**0.00**

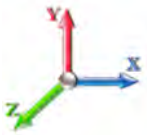
Linear Appurtenance Segment Forces (Factored)

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.064	0.000	19.450	0.00	9.90
5.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.064	0.000	19.450	0.00	5.17
10.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.065	0.000	19.450	0.00	9.90
10.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.065	0.000	19.450	0.00	5.17
15.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.067	0.000	19.450	0.00	9.90
15.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.067	0.000	19.450	0.00	5.17
20.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.069	0.000	20.638	0.00	9.90
20.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.069	0.000	20.638	0.00	5.17
25.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.070	0.000	21.630	0.00	9.90
25.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.070	0.000	21.630	0.00	5.17
30.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.072	0.000	22.477	0.00	9.90
30.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.072	0.000	22.477	0.00	5.17
35.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.074	0.000	23.218	0.00	9.90
35.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.074	0.000	23.218	0.00	5.17
40.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.076	0.000	23.880	0.00	9.90
40.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.076	0.000	23.880	0.00	5.17
45.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.079	0.000	24.479	0.00	9.90
45.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.079	0.000	24.479	0.00	5.17
48.50	1 5/8" Hybrid	Yes	3.50	0.000	1.63	0.48	0.00	0.081	0.000	24.869	0.00	6.93
48.50	1.411" Hybrid	Yes	3.50	0.000	1.41	0.41	0.00	0.081	0.000	24.869	0.00	3.62
50.00	1 5/8" Hybrid	Yes	1.50	0.000	1.63	0.20	0.00	0.082	0.000	25.029	0.00	2.97
50.00	1.411" Hybrid	Yes	1.50	0.000	1.41	0.18	0.00	0.082	0.000	25.029	0.00	1.55
53.25	1 5/8" Hybrid	Yes	3.25	0.000	1.63	0.44	0.00	0.083	0.000	25.363	0.00	6.44
53.25	1.411" Hybrid	Yes	3.25	0.000	1.41	0.38	0.00	0.083	0.000	25.363	0.00	3.36
55.00	1 5/8" Hybrid	Yes	1.75	0.000	1.63	0.24	0.00	0.083	0.000	25.536	0.00	3.47
55.00	1.411" Hybrid	Yes	1.75	0.000	1.41	0.21	0.00	0.083	0.000	25.536	0.00	1.81
60.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.085	0.000	26.008	0.00	9.90
60.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.085	0.000	26.008	0.00	5.17
65.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.088	0.000	26.450	0.00	9.90
65.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.088	0.000	26.450	0.00	5.17
70.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.091	0.000	26.866	0.00	9.90
70.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.091	0.000	26.866	0.00	5.17
75.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.094	0.000	27.259	0.00	9.90
75.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.094	0.000	27.259	0.00	5.17
78.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.096	0.000	27.485	0.00	5.94
78.00	1.411" Hybrid	Yes	3.00	0.000	1.41	0.35	0.00	0.096	0.000	27.485	0.00	3.10
80.00	1 5/8" Hybrid	Yes	2.00	0.000	1.63	0.27	0.00	0.053	0.000	27.632	0.00	3.96
85.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.054	0.000	27.987	0.00	9.90
88.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.056	0.000	28.192	0.00	5.94
90.00	1 5/8" Hybrid	Yes	2.00	0.000	1.63	0.27	0.00	0.057	0.000	28.325	0.00	3.96
95.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.058	0.000	28.650	0.00	9.90
98.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.060	0.000	28.838	0.00	5.94
98.50	1 5/8" Hybrid	Yes	0.50	0.000	1.63	0.07	0.00	0.061	0.000	28.869	0.00	0.99
100.00	1 5/8" Hybrid	Yes	1.50	0.000	1.63	0.20	0.00	0.062	0.000	28.961	0.00	2.97
102.00	1 5/8" Hybrid	Yes	2.00	0.000	1.63	0.27	0.00	0.063	0.000	29.082	0.00	3.96
105.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.063	0.000	29.260	0.00	5.94
108.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.065	0.000	29.434	0.00	5.94

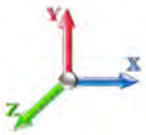
Linear Appurtenance Segment Forces (Factored)

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
109.00	1 5/8" Hybrid	Yes	1.00	0.000	1.63	0.14	0.00	0.066	0.000	29.491	0.00	1.98
110.00	1 5/8" Hybrid	Yes	1.00	0.000	1.63	0.14	0.00	0.067	0.000	29.548	0.00	1.98
115.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.068	0.000	29.826	0.00	9.90
118.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.071	0.000	29.988	0.00	5.94
										Totals:	**0.0**	**314.4**

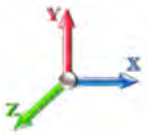
Calculated Forces

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-27.14	-31.40	0.00	-2805.2	0.00	2805.21	3013.27	1506.63	5849.73	2929.21	0.00	0.000	0.000	0.967
5.00	-26.06	-31.09	0.00	-2648.2	0.00	2648.22	2972.75	1486.38	5634.65	2821.52	0.16	-0.295	0.000	0.948
10.00	-24.99	-30.78	0.00	-2492.7	0.00	2492.78	2930.78	1465.39	5420.60	2714.33	0.63	-0.593	0.000	0.927
15.00	-23.95	-30.48	0.00	-2338.8	0.00	2338.87	2887.35	1443.68	5207.78	2607.76	1.41	-0.894	0.000	0.906
20.00	-22.92	-30.15	0.00	-2186.4	0.00	2186.49	2842.47	1421.24	4996.39	2501.91	2.51	-1.199	0.000	0.882
25.00	-21.92	-29.80	0.00	-2035.7	0.00	2035.76	2796.14	1398.07	4786.62	2396.87	3.93	-1.505	0.000	0.858
30.00	-20.93	-29.44	0.00	-1886.7	0.00	1886.76	2748.35	1374.17	4578.69	2292.75	5.67	-1.814	0.000	0.831
35.00	-19.97	-29.07	0.00	-1739.5	0.00	1739.57	2699.10	1349.55	4372.78	2189.64	7.74	-2.123	0.000	0.802
40.00	-19.02	-28.68	0.00	-1594.2	0.00	1594.24	2648.40	1324.20	4169.10	2087.65	10.13	-2.431	0.000	0.771
45.00	-18.13	-28.28	0.00	-1450.8	0.00	1450.82	2596.25	1298.12	3967.85	1986.88	12.84	-2.738	0.000	0.738
48.50	-17.53	-27.99	0.00	-1351.8	0.00	1351.84	2558.87	1279.44	3828.53	1917.11	14.93	-2.954	0.000	0.712
50.00	-17.10	-27.88	0.00	-1309.8	0.00	1309.86	2542.63	1271.32	3769.24	1887.42	15.87	-3.048	0.000	0.701
53.25	-16.26	-27.59	0.00	-1219.2	0.00	1219.26	1874.80	937.40	2771.76	1387.94	18.02	-3.246	0.000	0.888
55.00	-15.93	-27.48	0.00	-1170.9	0.00	1170.98	1862.74	931.37	2724.01	1364.03	19.23	-3.353	0.000	0.868
60.00	-15.16	-27.09	0.00	-1033.5	0.00	1033.57	1827.31	913.65	2588.34	1296.09	22.93	-3.701	0.000	0.807
65.00	-14.41	-26.70	0.00	-898.12	0.00	898.12	1790.42	895.21	2453.92	1228.78	26.98	-4.036	0.000	0.740
70.00	-13.69	-26.30	0.00	-764.64	0.00	764.64	1752.08	876.04	2320.96	1162.21	31.38	-4.355	0.000	0.667
75.00	-13.02	-25.88	0.00	-633.16	0.00	633.16	1712.28	856.14	2189.66	1096.46	36.10	-4.651	0.000	0.586
78.00	-10.78	-22.28	0.00	-555.52	0.00	555.52	1687.70	843.85	2111.76	1057.45	39.08	-4.819	0.000	0.532
80.00	-10.49	-22.13	0.00	-510.96	0.00	510.96	1671.02	835.51	2060.22	1031.64	41.12	-4.926	0.000	0.502
85.00	-9.89	-21.71	0.00	-400.29	0.00	400.29	1628.32	814.16	1932.84	967.86	46.40	-5.165	0.000	0.420
88.00	-7.67	-16.87	0.00	-335.15	0.00	335.15	1601.99	801.00	1857.49	930.12	49.69	-5.294	0.000	0.366
90.00	-7.45	-16.72	0.00	-301.41	0.00	301.41	1584.15	792.08	1807.72	905.20	51.92	-5.374	0.000	0.338
95.00	-6.97	-16.31	0.00	-217.83	0.00	217.83	1538.53	769.27	1685.06	843.78	57.64	-5.546	0.000	0.263
98.00	-4.95	-11.49	0.00	-168.92	0.00	168.92	1510.46	755.23	1612.73	807.56	61.14	-5.632	0.000	0.213
98.50	-4.90	-11.45	0.00	-163.17	0.00	163.17	1505.73	752.87	1600.77	801.57	61.73	-5.646	0.000	0.207
100.00	-4.72	-11.33	0.00	-145.99	0.00	145.99	1491.46	745.73	1565.06	783.69	63.51	-5.683	0.000	0.190
102.00	-4.47	-11.16	0.00	-123.34	0.00	123.34	1021.50	510.75	1074.26	537.93	65.90	-5.729	0.000	0.234
105.00	-4.30	-10.93	0.00	-89.85	0.00	89.85	1004.76	502.38	1028.99	515.26	69.51	-5.786	0.000	0.179
108.00	-2.53	-5.93	0.00	-57.06	0.00	57.06	987.50	493.75	984.13	492.79	73.16	-5.840	0.000	0.118
109.00	-2.48	-5.86	0.00	-51.13	0.00	51.13	981.63	490.81	969.27	485.35	74.38	-5.854	0.000	0.108
109.00	-2.48	-5.86	0.00	-51.13	0.00	51.13	981.63	490.81	969.27	485.35	74.38	-5.854	0.000	0.108
110.00	-2.43	-5.79	0.00	-45.27	0.00	45.27	975.70	487.85	954.46	477.94	75.61	-5.868	0.000	0.097
115.00	-2.19	-5.42	0.00	-16.34	0.00	16.34	945.18	472.59	881.23	441.27	81.77	-5.911	0.000	0.039
118.00	-0.03	-0.07	0.00	-0.07	0.00	0.07	926.18	463.09	838.01	419.63	85.48	-5.919	0.000	0.000
119.00	0.00	-0.06	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48	86.72	-5.919	0.000	0.000

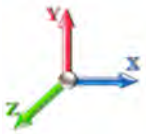
Wind Loading - Shaft

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.656	5.00	21.243	25.49	144.9	498.4	1442.7
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.775	5.00	20.873	25.05	142.4	523.1	1445.0
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.848	5.00	20.465	24.56	139.6	532.8	1432.2
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.902	5.00	20.041	24.05	145.1	535.7	1412.7
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.945	5.00	19.608	23.53	148.8	534.8	1389.4
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.981	5.00	19.169	23.00	151.1	531.4	1363.5
35.00		1.00	1.01	6.169	6.79	0.00	1.200	2.012	5.00	18.726	22.47	152.5	526.0	1335.7
40.00		1.00	1.04	6.345	6.98	0.00	1.200	2.039	5.00	18.279	21.94	153.1	519.3	1306.5
45.00		1.00	1.07	6.504	7.15	0.00	1.200	2.063	5.00	17.831	21.40	153.1	511.4	1276.2
48.50	Bot - Section 2	1.00	1.09	6.608	7.27	0.00	1.200	2.079	3.50	12.212	14.65	106.5	353.7	875.8
50.00		1.00	1.09	6.650	7.32	0.00	1.200	2.085	1.50	5.228	6.27	45.9	152.7	552.1
53.25	Top - Section 1	1.00	1.11	6.739	7.41	0.00	1.200	2.098	3.25	11.190	13.43	99.5	327.0	1179.8
55.00		1.00	1.12	6.785	7.46	0.00	1.200	2.105	1.75	5.945	7.13	53.2	174.9	377.6
60.00		1.00	1.14	6.910	7.60	0.00	1.200	2.123	5.00	16.686	20.02	152.2	489.5	1056.6
65.00		1.00	1.16	7.028	7.73	0.00	1.200	2.140	5.00	16.231	19.48	150.6	478.8	1028.0
70.00		1.00	1.17	7.138	7.85	0.00	1.200	2.156	5.00	15.776	18.93	148.6	467.6	998.8
75.00		1.00	1.19	7.243	7.97	0.00	1.200	2.171	5.00	15.319	18.38	146.5	456.0	969.2
78.00	Appurtenance(s)	1.00	1.20	7.303	8.03	0.00	1.200	2.180	3.00	8.971	10.76	86.5	269.3	568.6
80.00		1.00	1.21	7.342	8.08	0.00	1.200	2.185	2.00	5.889	7.07	57.1	177.6	373.5
85.00		1.00	1.22	7.436	8.18	0.00	1.200	2.198	5.00	14.404	17.29	141.4	431.6	908.9
88.00	Appurtenance(s)	1.00	1.23	7.491	8.24	0.00	1.200	2.206	3.00	8.421	10.11	83.3	254.4	532.2
90.00		1.00	1.24	7.526	8.28	0.00	1.200	2.211	2.00	5.522	6.63	54.9	167.5	349.1
95.00		1.00	1.25	7.612	8.37	0.00	1.200	2.223	5.00	13.487	16.18	135.5	405.9	847.3
98.00	Appurtenance(s)	1.00	1.26	7.662	8.43	0.00	1.200	2.230	3.00	7.871	9.44	79.6	238.8	495.0
98.50	Bot - Section 3	1.00	1.26	7.671	8.44	0.00	1.200	2.231	0.50	1.295	1.55	13.1	39.7	81.7
100.00		1.00	1.27	7.695	8.46	0.00	1.200	2.234	1.50	3.907	4.69	39.7	119.4	340.0
102.00	Top - Section 2	1.00	1.27	7.727	8.50	0.00	1.200	2.239	2.00	5.145	6.17	52.5	157.0	446.7
105.00		1.00	1.28	7.774	8.55	0.00	1.200	2.245	3.00	7.580	9.10	77.8	230.6	414.7
108.00	Appurtenance(s)	1.00	1.29	7.821	8.60	0.00	1.200	2.252	3.00	7.414	8.90	76.5	225.7	404.9
109.00	Top - Section 3	1.00	1.29	7.836	8.62	0.00	1.200	2.254	1.00	2.434	2.92	25.2	74.7	133.3
110.00		1.00	1.29	7.851	8.64	0.00	1.200	2.256	1.00	2.416	2.90	25.0	74.1	132.2
115.00		1.00	1.30	7.925	8.72	0.00	1.200	2.266	5.00	11.806	14.17	123.5	356.7	639.2
118.00	Appurtenance(s)	1.00	1.31	7.968	8.76	0.00	1.200	2.272	3.00	6.861	8.23	72.2	208.9	372.0
119.00		1.00	1.31	7.982	8.78	0.00	1.200	2.274	1.00	2.250	2.70	23.7	69.1	122.3
								Totals:	**119.00**			**3,400.9**		**26,603.8**

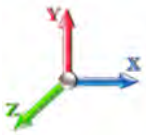
Discrete Appurtenance Forces

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	118.00	(3) T-Arm Kit	1	7.968	8.765	0.75	0.75	28.12	1222.41	0.000	0.000	246.45	0.00	0.00
2	118.00	BXA-70063-6BF	3	7.968	8.765	0.56	0.80	18.76	492.80	0.000	0.000	164.44	0.00	0.00
3	118.00	T-Arm	3	7.968	8.765	0.56	0.75	36.04	1824.15	0.000	0.000	315.90	0.00	0.00
4	118.00	Commscope	6	7.968	8.765	0.66	0.80	39.03	1981.40	0.000	0.000	342.09	0.00	0.00
5	118.00	Samsung MT6407-77A	3	7.968	8.765	0.56	0.80	9.98	782.78	0.000	0.000	87.47	0.00	0.00
6	118.00	B2/B66A RRH-BR049	3	7.968	8.765	0.54	0.80	4.24	625.15	0.000	0.000	37.18	0.00	0.00
7	118.00	BSAMNT-SBS-1-2	3	7.968	8.765	0.75	0.75	0.00	156.92	0.000	0.000	0.00	0.00	0.00
8	118.00	Collar	1	7.968	8.765	0.75	0.75	4.43	388.12	0.000	0.000	38.83	0.00	0.00
9	118.00	Samsung B5/B13	3	7.968	8.765	0.54	0.80	4.18	408.20	0.000	0.000	36.61	0.00	0.00
10	118.00	Raycap	1	7.968	8.765	0.80	0.80	3.89	212.62	0.000	0.000	34.12	0.00	0.00
11	108.00	840 10054	3	7.821	8.603	0.49	0.80	9.88	379.88	0.000	0.000	84.99	0.00	0.00
12	108.00	800 MHz	3	7.821	8.603	0.54	0.80	6.38	413.78	0.000	0.000	54.86	0.00	0.00
13	108.00	ACU-A20-N	4	7.821	8.603	0.54	0.80	1.12	21.77	0.000	0.000	9.64	0.00	0.00
14	108.00	APXVSPP18-C-A20	2	7.821	8.603	0.66	0.80	15.44	483.84	0.000	0.000	132.80	0.00	0.00
15	108.00	800 MHz Filters	3	7.821	8.603	0.54	0.80	6.18	462.93	0.000	0.000	53.17	0.00	0.00
16	108.00	1900MHz RRH	3	7.821	8.603	0.54	0.80	8.99	487.34	0.000	0.000	77.38	0.00	0.00
17	108.00	T-Arm	3	7.821	8.603	0.56	0.75	28.70	1995.74	0.000	0.000	246.89	0.00	0.00
18	108.00	APXVTM14-C-120	3	7.821	8.603	0.63	0.80	14.79	859.41	0.000	0.000	127.28	0.00	0.00
19	108.00	Horizon	2	7.821	8.603	0.80	0.80	1.74	70.78	0.000	0.000	15.00	0.00	0.00
20	108.00	P40-16-XLPP-RR-A	1	7.821	8.603	0.80	0.80	8.57	347.29	0.000	0.000	73.77	0.00	0.00
21	108.00	TD-RRH8x20-25	3	7.821	8.603	0.54	0.80	8.24	705.92	0.000	0.000	70.86	0.00	0.00
22	108.00	VHLP2.5	2	7.821	8.603	1.00	1.00	21.26	461.07	0.000	0.000	182.93	0.00	0.00
23	98.00	Quintel QS66512-2	3	7.662	8.429	0.74	0.80	21.68	1313.53	0.000	0.000	182.76	0.00	0.00
24	98.00	Ericsson RRUS 11	3	7.662	8.429	0.54	0.80	5.35	354.22	0.000	0.000	45.12	0.00	0.00
25	98.00	Cci OPA-65R-LCUU-H6	3	7.662	8.429	0.63	0.80	21.68	1219.36	0.000	0.000	182.73	0.00	0.00
26	98.00	Powerwave 7770 w/Mount	3	7.662	8.429	0.58	0.80	14.29	437.23	0.000	0.000	120.42	0.00	0.00
27	98.00	Powerwave LGP21402	9	7.662	8.429	0.80	0.80	16.98	375.89	0.000	0.000	143.09	0.00	0.00
28	98.00	Ericsson RRUS 32	3	7.662	8.429	0.54	0.80	5.94	550.96	0.000	0.000	50.03	0.00	0.00
29	98.00	Powerwave LGP13519	6	7.662	8.429	0.80	0.80	4.42	94.77	0.000	0.000	37.23	0.00	0.00
30	98.00	Raycap DC6-48-60-0-8F	2	7.662	8.429	0.80	0.80	2.37	198.92	0.000	0.000	19.95	0.00	0.00
31	98.00	T-Arm	3	7.662	8.429	0.56	0.75	35.69	1986.59	0.000	0.000	300.82	0.00	0.00
32	98.00	Ericsson RRUS 8843	3	7.662	8.429	0.54	0.80	3.79	576.21	0.000	0.000	31.96	0.00	0.00
33	88.00	4449 B71 + B85	3	7.491	8.240	0.54	0.80	5.45	659.28	0.000	0.000	44.87	0.00	0.00
34	88.00	KRY 112 144/2	3	7.491	8.240	0.60	0.80	1.82	71.19	0.000	0.000	14.99	0.00	0.00
35	88.00	T-Arm w/ mod	3	7.491	8.240	0.56	0.75	49.68	1976.57	0.000	0.000	409.39	0.00	0.00
36	88.00	APXVAARR24_43-U-NA2	3	7.491	8.240	0.60	0.80	40.80	2099.33	0.000	0.000	336.16	0.00	0.00
37	88.00	RRUS 4415 B25	3	7.491	8.240	0.54	0.80	3.68	293.27	0.000	0.000	30.36	0.00	0.00
38	88.00	AIR6449 B41	3	7.491	8.240	0.57	0.80	11.68	795.69	0.000	0.000	96.20	0.00	0.00
39	88.00	SDX1926Q-43	3	7.491	8.240	0.54	0.80	1.12	42.36	0.000	0.000	9.21	0.00	0.00
40	88.00	AIR32	3	7.491	8.240	0.70	0.80	16.73	1209.32	0.000	0.000	137.84	0.00	0.00
41	78.00	MC-PK8-DSH	1	7.303	8.033	1.00	1.00	96.58	3807.39	0.000	0.000	775.85	0.00	0.00
42	78.00	Raycap	1	7.303	8.033	0.75	0.75	2.04	80.08	0.000	0.000	16.39	0.00	0.00
43	78.00	Fujitsu TA08025-B604	3	7.303	8.033	0.50	0.75	4.01	383.44	0.000	0.000	32.22	0.00	0.00
44	78.00	Fujitsu TA08025-B605	3	7.303	8.033	0.50	0.75	4.01	428.17	0.000	0.000	32.22	0.00	0.00
45	78.00	JMA Wireless	3	7.303	8.033	0.55	0.75	23.84	1120.44	0.000	0.000	191.52	0.00	0.00
							Totals:		**34,858.53**			**5,673.98**		

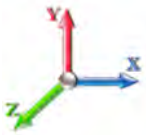
Total Applied Force Summary

Structure:	CT08558-B-SBA		**Code:**	EIA/TIA-222-G	9/9/2021
Site Name:	New Britain 3, CT		**Exposure:**	C	
Height:	119.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 23

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		144.91	1803.63	0.00	0.00
10.00		142.39	1813.42	0.00	0.00
15.00		139.61	1805.42	0.00	0.00
20.00		145.06	1789.56	0.00	0.00
25.00		148.75	1769.13	0.00	0.00
30.00		151.11	1745.68	0.00	0.00
35.00		152.49	1720.06	0.00	0.00
40.00		153.10	1692.78	0.00	0.00
45.00		153.09	1664.19	0.00	0.00
48.50		106.51	1148.11	0.00	0.00
50.00		45.89	668.98	0.00	0.00
53.25		99.54	1433.64	0.00	0.00
55.00		53.25	514.46	0.00	0.00
60.00		152.20	1448.96	0.00	0.00
65.00		150.57	1421.55	0.00	0.00
70.00		148.65	1393.57	0.00	0.00
75.00		146.46	1365.08	0.00	0.00
78.00	(11) attachments	1134.68	6626.03	0.00	0.00
80.00		57.07	512.75	0.00	0.00
85.00		141.39	1257.48	0.00	0.00
88.00	(24) attachments	1162.29	7888.52	0.00	0.00
90.00		54.86	454.46	0.00	0.00
95.00		135.52	1111.09	0.00	0.00
98.00	(38) attachments	1193.70	7761.14	0.00	0.00
98.50		13.12	99.63	0.00	0.00
100.00		39.68	393.70	0.00	0.00
102.00		52.47	518.46	0.00	0.00
105.00		77.78	522.40	0.00	0.00
108.00	(32) attachments	1206.11	7202.55	0.00	0.00
109.00		25.18	163.59	0.00	0.00
110.00		25.04	162.52	0.00	0.00
115.00		123.50	790.99	0.00	0.00
118.00	(27) attachments	1375.26	8557.75	0.00	0.00
119.00		23.71	122.35	0.00	0.00
	Totals:	**9,074.92**	**69,343.63**	**0.00**	**0.00**

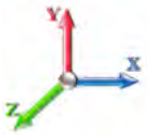
Linear Appurtenance Segment Forces (Factored)

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 24	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	2.06	0.00	0.064	0.000	5.168	0.00	59.05
5.00	1.411" Hybrid	Yes	5.00	0.000	1.41	1.97	0.00	0.064	0.000	5.168	0.00	33.56
10.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	2.16	0.00	0.065	0.000	5.168	0.00	63.39
10.00	1.411" Hybrid	Yes	5.00	0.000	1.41	2.07	0.00	0.065	0.000	5.168	0.00	36.71
15.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	2.22	0.00	0.067	0.000	5.168	0.00	66.16
15.00	1.411" Hybrid	Yes	5.00	0.000	1.41	2.13	0.00	0.067	0.000	5.168	0.00	38.73
20.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	2.26	0.00	0.069	0.000	5.483	0.00	68.24
20.00	1.411" Hybrid	Yes	5.00	0.000	1.41	2.17	0.00	0.069	0.000	5.483	0.00	40.27
25.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	2.30	0.00	0.070	0.000	5.747	0.00	69.91
25.00	1.411" Hybrid	Yes	5.00	0.000	1.41	2.21	0.00	0.070	0.000	5.747	0.00	41.51
30.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	2.33	0.00	0.072	0.000	5.972	0.00	71.33
30.00	1.411" Hybrid	Yes	5.00	0.000	1.41	2.24	0.00	0.072	0.000	5.972	0.00	42.57
35.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	2.36	0.00	0.074	0.000	6.169	0.00	72.56
35.00	1.411" Hybrid	Yes	5.00	0.000	1.41	2.26	0.00	0.074	0.000	6.169	0.00	43.48
40.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	2.38	0.00	0.076	0.000	6.345	0.00	73.65
40.00	1.411" Hybrid	Yes	5.00	0.000	1.41	2.29	0.00	0.076	0.000	6.345	0.00	44.30
45.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	2.40	0.00	0.079	0.000	6.504	0.00	74.63
45.00	1.411" Hybrid	Yes	5.00	0.000	1.41	2.31	0.00	0.079	0.000	6.504	0.00	45.04
48.50	1 5/8" Hybrid	Yes	3.50	0.000	1.63	1.69	0.00	0.081	0.000	6.608	0.00	52.68
48.50	1.411" Hybrid	Yes	3.50	0.000	1.41	1.62	0.00	0.081	0.000	6.608	0.00	31.86
50.00	1 5/8" Hybrid	Yes	1.50	0.000	1.63	0.72	0.00	0.082	0.000	6.650	0.00	22.66
50.00	1.411" Hybrid	Yes	1.50	0.000	1.41	0.70	0.00	0.082	0.000	6.650	0.00	13.71
53.25	1 5/8" Hybrid	Yes	3.25	0.000	1.63	1.58	0.00	0.083	0.000	6.739	0.00	49.44
53.25	1.411" Hybrid	Yes	3.25	0.000	1.41	1.52	0.00	0.083	0.000	6.739	0.00	29.98
55.00	1 5/8" Hybrid	Yes	1.75	0.000	1.63	0.85	0.00	0.083	0.000	6.785	0.00	26.72
55.00	1.411" Hybrid	Yes	1.75	0.000	1.41	0.82	0.00	0.083	0.000	6.785	0.00	16.22
60.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	2.45	0.00	0.085	0.000	6.910	0.00	77.10
60.00	1.411" Hybrid	Yes	5.00	0.000	1.41	2.36	0.00	0.085	0.000	6.910	0.00	46.91
65.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	2.46	0.00	0.088	0.000	7.028	0.00	77.81
65.00	1.411" Hybrid	Yes	5.00	0.000	1.41	2.37	0.00	0.088	0.000	7.028	0.00	47.45
70.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	2.48	0.00	0.091	0.000	7.138	0.00	78.48
70.00	1.411" Hybrid	Yes	5.00	0.000	1.41	2.38	0.00	0.091	0.000	7.138	0.00	47.95
75.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	2.49	0.00	0.094	0.000	7.243	0.00	79.11
75.00	1.411" Hybrid	Yes	5.00	0.000	1.41	2.40	0.00	0.094	0.000	7.243	0.00	48.43
78.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	1.50	0.00	0.096	0.000	7.303	0.00	47.68
78.00	1.411" Hybrid	Yes	3.00	0.000	1.41	1.44	0.00	0.096	0.000	7.303	0.00	29.22
80.00	1 5/8" Hybrid	Yes	2.00	0.000	1.63	1.00	0.00	0.053	0.000	7.342	0.00	31.88
85.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	2.51	0.00	0.054	0.000	7.436	0.00	80.26
88.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	1.51	0.00	0.056	0.000	7.491	0.00	48.35
90.00	1 5/8" Hybrid	Yes	2.00	0.000	1.63	1.01	0.00	0.057	0.000	7.526	0.00	32.32
95.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	2.53	0.00	0.058	0.000	7.612	0.00	81.31
98.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	1.52	0.00	0.060	0.000	7.662	0.00	48.96
98.50	1 5/8" Hybrid	Yes	0.50	0.000	1.63	0.25	0.00	0.061	0.000	7.671	0.00	8.17
100.00	1 5/8" Hybrid	Yes	1.50	0.000	1.63	0.76	0.00	0.062	0.000	7.695	0.00	24.54
102.00	1 5/8" Hybrid	Yes	2.00	0.000	1.63	1.02	0.00	0.063	0.000	7.727	0.00	32.79
105.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	1.53	0.00	0.063	0.000	7.774	0.00	49.36
108.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	1.53	0.00	0.065	0.000	7.821	0.00	49.52

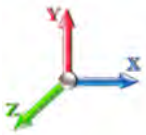
Linear Appurtenance Segment Forces (Factored)

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
109.00	1 5/8" Hybrid	Yes	1.00	0.000	1.63	0.51	0.00	0.066	0.000	7.836	0.00	16.53
110.00	1 5/8" Hybrid	Yes	1.00	0.000	1.63	0.51	0.00	0.067	0.000	7.851	0.00	16.54
115.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	2.57	0.00	0.068	0.000	7.925	0.00	83.15
118.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	1.54	0.00	0.071	0.000	7.968	0.00	50.04
										Totals:	**0.0**	**2,462.2**

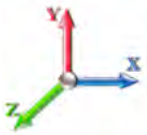
Calculated Forces

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 23

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-69.34	-9.13	0.00	-842.77	0.00	842.77	3013.27	1506.63	5849.73	2929.21	0.00	0.000	0.000	0.311
5.00	-67.52	-9.09	0.00	-797.13	0.00	797.13	2972.75	1486.38	5634.65	2821.52	0.05	-0.089	0.000	0.305
10.00	-65.69	-9.05	0.00	-751.69	0.00	751.69	2930.78	1465.39	5420.60	2714.33	0.19	-0.178	0.000	0.299
15.00	-63.87	-9.00	0.00	-706.46	0.00	706.46	2887.35	1443.68	5207.78	2607.76	0.42	-0.269	0.000	0.293
20.00	-62.07	-8.95	0.00	-661.46	0.00	661.46	2842.47	1421.24	4996.39	2501.91	0.76	-0.361	0.000	0.286
25.00	-60.29	-8.88	0.00	-616.74	0.00	616.74	2796.14	1398.07	4786.62	2396.87	1.18	-0.454	0.000	0.279
30.00	-58.53	-8.81	0.00	-572.33	0.00	572.33	2748.35	1374.17	4578.69	2292.75	1.71	-0.548	0.000	0.271
35.00	-56.80	-8.73	0.00	-528.27	0.00	528.27	2699.10	1349.55	4372.78	2189.64	2.33	-0.641	0.000	0.262
40.00	-55.09	-8.65	0.00	-484.60	0.00	484.60	2648.40	1324.20	4169.10	2087.65	3.06	-0.735	0.000	0.253
45.00	-53.42	-8.55	0.00	-441.35	0.00	441.35	2596.25	1298.12	3967.85	1986.88	3.88	-0.829	0.000	0.243
48.50	-52.26	-8.47	0.00	-411.43	0.00	411.43	2558.87	1279.44	3828.53	1917.11	4.51	-0.894	0.000	0.235
50.00	-51.59	-8.45	0.00	-398.72	0.00	398.72	2542.63	1271.32	3769.24	1887.42	4.80	-0.923	0.000	0.232
53.25	-50.15	-8.37	0.00	-371.26	0.00	371.26	1874.80	937.40	2771.76	1387.94	5.45	-0.983	0.000	0.294
55.00	-49.63	-8.37	0.00	-356.61	0.00	356.61	1862.74	931.37	2724.01	1364.03	5.81	-1.016	0.000	0.288
60.00	-48.17	-8.28	0.00	-314.78	0.00	314.78	1827.31	913.65	2588.34	1296.09	6.93	-1.122	0.000	0.269
65.00	-46.73	-8.18	0.00	-273.40	0.00	273.40	1790.42	895.21	2453.92	1228.78	8.16	-1.224	0.000	0.249
70.00	-45.33	-8.07	0.00	-232.51	0.00	232.51	1752.08	876.04	2320.96	1162.21	9.50	-1.321	0.000	0.226
75.00	-43.96	-7.95	0.00	-192.15	0.00	192.15	1712.28	856.14	2189.66	1096.46	10.93	-1.411	0.000	0.201
78.00	-37.36	-6.67	0.00	-168.32	0.00	168.32	1687.70	843.85	2111.76	1057.45	11.84	-1.462	0.000	0.181
80.00	-36.84	-6.64	0.00	-154.97	0.00	154.97	1671.02	835.51	2060.22	1031.64	12.45	-1.494	0.000	0.172
85.00	-35.58	-6.50	0.00	-121.79	0.00	121.79	1628.32	814.16	1932.84	967.86	14.06	-1.567	0.000	0.148
88.00	-27.73	-5.13	0.00	-102.30	0.00	102.30	1601.99	801.00	1857.49	930.12	15.06	-1.606	0.000	0.127
90.00	-27.27	-5.08	0.00	-92.04	0.00	92.04	1584.15	792.08	1807.72	905.20	15.74	-1.631	0.000	0.119
95.00	-26.16	-4.93	0.00	-66.63	0.00	66.63	1538.53	769.27	1685.06	843.78	17.47	-1.683	0.000	0.096
98.00	-18.44	-3.51	0.00	-51.83	0.00	51.83	1510.46	755.23	1612.73	807.56	18.54	-1.709	0.000	0.076
98.50	-18.34	-3.50	0.00	-50.08	0.00	50.08	1505.73	752.87	1600.77	801.57	18.72	-1.714	0.000	0.075
100.00	-17.94	-3.45	0.00	-44.83	0.00	44.83	1491.46	745.73	1565.06	783.69	19.26	-1.725	0.000	0.069
102.00	-17.43	-3.39	0.00	-37.92	0.00	37.92	1021.50	510.75	1074.26	537.93	19.98	-1.739	0.000	0.088
105.00	-16.91	-3.30	0.00	-27.75	0.00	27.75	1004.76	502.38	1028.99	515.26	21.08	-1.757	0.000	0.071
108.00	-9.74	-1.88	0.00	-17.85	0.00	17.85	987.50	493.75	984.13	492.79	22.19	-1.773	0.000	0.046
109.00	-9.58	-1.85	0.00	-15.97	0.00	15.97	981.63	490.81	969.27	485.35	22.56	-1.778	0.000	0.043
109.00	-9.58	-1.85	0.00	-15.97	0.00	15.97	981.63	490.81	969.27	485.35	22.56	-1.778	0.000	0.043
110.00	-9.42	-1.82	0.00	-14.13	0.00	14.13	975.70	487.85	954.46	477.94	22.94	-1.782	0.000	0.039
115.00	-8.63	-1.67	0.00	-5.04	0.00	5.04	945.18	472.59	881.23	441.27	24.81	-1.795	0.000	0.021
118.00	-0.12	-0.03	0.00	-0.03	0.00	0.03	926.18	463.09	838.01	419.63	25.94	-1.798	0.000	0.000
119.00	0.00	-0.02	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48	26.32	-1.798	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT08558-B-SBA		**Code:**	EIA/TIA-222-G	9/9/2021
Site Name:	New Britain 3, CT		**Exposure:**	C	
Height:	119.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 27

Load Case:	1.2D + 1.0E							**Iterations**	21
Gust Response Factor	1.10				**Sds**	0.20		**Ss**	0.19
Dead Load Factor	1.20	**Seismic Load Factor**	1.00		**Sd1**	0.09		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.38		**SA**	0.03	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		786.94	0.00	0.04	0.02	18.87	
10.00		768.24	0.01	0.06	0.03	25.05	
15.00		749.54	0.03	0.07	0.04	27.10	
20.00		730.84	0.05	0.07	0.04	27.67	
25.00		712.14	0.08	0.07	0.04	27.82	
30.00		693.44	0.12	0.07	0.03	27.92	
35.00		674.74	0.16	0.07	0.03	27.85	
40.00		656.04	0.21	0.06	0.02	27.12	
45.00		637.33	0.27	0.05	0.01	24.94	
48.50	Bot - Section 2	435.01	0.31	0.04	0.01	15.34	
50.00		332.81	0.33	0.04	0.01	10.93	
53.25	Top - Section 1	710.69	0.38	0.02	0.01	18.27	
55.00		168.94	0.40	0.02	0.01	3.51	
60.00		472.58	0.48	-0.01	0.01	1.41	
65.00		457.62	0.56	-0.04	0.01	-7.77	
70.00		442.66	0.65	-0.07	0.02	-14.78	
75.00		427.70	0.75	-0.10	0.04	-18.04	
78.00	Appurtenance(s)	2608.5	0.81	-0.11	0.06	-112.53	
80.00		163.30	0.85	-0.12	0.07	-6.85	
85.00		397.78	0.96	-0.12	0.11	-13.09	
88.00	Appurtenance(s)	2780.5	1.03	-0.10	0.15	-64.96	
90.00		151.33	1.08	-0.08	0.18	-2.32	
95.00		367.85	1.20	0.01	0.26	3.94	
98.00	Appurtenance(s)	2655.8	1.28	0.10	0.32	80.60	
98.50	Bot - Section 3	35.06	1.29	0.11	0.33	1.19	
100.00		183.85	1.33	0.17	0.37	8.30	
102.00	Top - Section 2	241.47	1.39	0.26	0.42	14.81	
105.00		153.38	1.47	0.43	0.51	13.53	
108.00	Appurtenance(s)	2452.7	1.56	0.65	0.61	290.11	
109.00	Top - Section 3	48.88	1.59	0.73	0.65	6.31	
110.00		48.43	1.61	0.83	0.69	6.79	
115.00		235.44	1.77	1.38	0.92	47.36	
118.00	Appurtenance(s)	2960.0	1.86	1.82	1.08	717.11	
119.00		44.39	1.89	1.98	1.14	11.40	
	Totals:	**25,386.1**				**1,244.9**	**Total Wind:** **31,328.0**

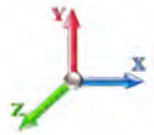
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 28	

Tower Engineering Solutions

Load Case: 1.2D + 1.0E



Gust Response Factor	1.10			**Sds**	0.20			**Iterations**	21
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.09			**Ss**	0.19
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.38	**SA**	0.03			**S1**	0.06
								Seismic Importance Factor	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-36.30	-1.49	0.00	-151.92	0.00	151.92	3013.27	1506.63	5849.73	2929.21		0.00	0.00	0.064
5.00	-35.07	-1.48	0.00	-144.47	0.00	144.47	2972.75	1486.38	5634.65	2821.52		0.01	-0.02	0.063
10.00	-33.86	-1.46	0.00	-137.07	0.00	137.07	2930.78	1465.39	5420.60	2714.33		0.03	-0.03	0.062
15.00	-32.67	-1.45	0.00	-129.75	0.00	129.75	2887.35	1443.68	5207.78	2607.76		0.08	-0.05	0.061
20.00	-31.50	-1.43	0.00	-122.52	0.00	122.52	2842.47	1421.24	4996.39	2501.91		0.14	-0.07	0.060
25.00	-30.36	-1.41	0.00	-115.38	0.00	115.38	2796.14	1398.07	4786.62	2396.87		0.22	-0.08	0.059
30.00	-29.24	-1.39	0.00	-108.35	0.00	108.35	2748.35	1374.17	4578.69	2292.75		0.31	-0.10	0.058
35.00	-28.14	-1.36	0.00	-101.42	0.00	101.42	2699.10	1349.55	4372.78	2189.64		0.43	-0.12	0.057
40.00	-27.06	-1.34	0.00	-94.60	0.00	94.60	2648.40	1324.20	4169.10	2087.65		0.56	-0.14	0.056
45.00	-26.01	-1.32	0.00	-87.88	0.00	87.88	2596.25	1298.12	3967.85	1986.88		0.71	-0.16	0.054
48.50	-25.29	-1.31	0.00	-83.25	0.00	83.25	2558.87	1279.44	3828.53	1917.11		0.83	-0.17	0.053
50.00	-24.80	-1.30	0.00	-81.28	0.00	81.28	2542.63	1271.32	3769.24	1887.42		0.89	-0.17	0.053
53.25	-23.76	-1.28	0.00	-77.05	0.00	77.05	1874.80	937.40	2771.76	1387.94		1.01	-0.19	0.068
55.00	-23.46	-1.29	0.00	-74.80	0.00	74.80	1862.74	931.37	2724.01	1364.03		1.08	-0.19	0.067
60.00	-22.60	-1.29	0.00	-68.37	0.00	68.37	1827.31	913.65	2588.34	1296.09		1.29	-0.22	0.065
65.00	-21.76	-1.30	0.00	-61.92	0.00	61.92	1790.42	895.21	2453.92	1228.78		1.53	-0.24	0.063
70.00	-20.94	-1.30	0.00	-55.44	0.00	55.44	1752.08	876.04	2320.96	1162.21		1.80	-0.26	0.060
75.00	-20.14	-1.30	0.00	-48.94	0.00	48.94	1712.28	856.14	2189.66	1096.46		2.08	-0.28	0.056
78.00	-16.84	-1.29	0.00	-45.04	0.00	45.04	1687.70	843.85	2111.76	1057.45		2.26	-0.30	0.053
80.00	-16.53	-1.29	0.00	-42.46	0.00	42.46	1671.02	835.51	2060.22	1031.64		2.39	-0.31	0.051
85.00	-15.77	-1.29	0.00	-36.00	0.00	36.00	1628.32	814.16	1932.84	967.86		2.72	-0.33	0.047
88.00	-12.26	-1.27	0.00	-32.12	0.00	32.12	1601.99	801.00	1857.49	930.12		2.93	-0.34	0.042
90.00	-12.00	-1.28	0.00	-29.57	0.00	29.57	1584.15	792.08	1807.72	905.20		3.07	-0.35	0.040
95.00	-11.37	-1.27	0.00	-23.20	0.00	23.20	1538.53	769.27	1685.06	843.78		3.44	-0.36	0.035
98.00	-8.06	-1.17	0.00	-19.39	0.00	19.39	1510.46	755.23	1612.73	807.56		3.68	-0.37	0.029
98.50	-8.01	-1.17	0.00	-18.80	0.00	18.80	1505.73	752.87	1600.77	801.57		3.71	-0.37	0.029
100.00	-7.75	-1.16	0.00	-17.05	0.00	17.05	1491.46	745.73	1565.06	783.69		3.83	-0.38	0.027
102.00	-7.42	-1.14	0.00	-14.74	0.00	14.74	1021.50	510.75	1074.26	537.93		3.99	-0.38	0.035
105.00	-7.17	-1.13	0.00	-11.31	0.00	11.31	1004.76	502.38	1028.99	515.26		4.24	-0.39	0.029
108.00	-4.16	-0.82	0.00	-7.92	0.00	7.92	987.50	493.75	984.13	492.79		4.48	-0.40	0.020
109.00	-4.09	-0.81	0.00	-7.11	0.00	7.11	981.63	490.81	969.27	485.35		4.57	-0.40	0.019
109.00	-4.09	-0.81	0.00	-7.11	0.00	7.11	981.63	490.81	969.27	485.35		4.57	-0.40	0.019
110.00	-4.01	-0.80	0.00	-6.30	0.00	6.30	975.70	487.85	954.46	477.94		4.65	-0.40	0.017
115.00	-3.65	-0.75	0.00	-2.27	0.00	2.27	945.18	472.59	881.23	441.27		5.08	-0.41	0.009
118.00	-0.05	-0.01	0.00	-0.01	0.00	0.01	926.18	463.09	838.01	419.63		5.33	-0.41	0.000
119.00	0.00	-0.01	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48		5.42	-0.41	0.000

Seismic Segment Forces (Factored)

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 29	

Load Case:	0.9D + 1.0E							**Iterations**	21
Gust Response Factor	1.10				**Sds**	0.20		**Ss**	0.19
Dead Load Factor	0.90	**Seismic Load Factor**	1.00		**Sd1**	0.09		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.38		**SA**	0.03	**Seismic Importance Factor**		1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		786.94	0.00	0.04	0.02	18.87	
10.00		768.24	0.01	0.06	0.03	25.05	
15.00		749.54	0.03	0.07	0.04	27.10	
20.00		730.84	0.05	0.07	0.04	27.67	
25.00		712.14	0.08	0.07	0.04	27.82	
30.00		693.44	0.12	0.07	0.03	27.92	
35.00		674.74	0.16	0.07	0.03	27.85	
40.00		656.04	0.21	0.06	0.02	27.12	
45.00		637.33	0.27	0.05	0.01	24.94	
48.50	Bot - Section 2	435.01	0.31	0.04	0.01	15.34	
50.00		332.81	0.33	0.04	0.01	10.93	
53.25	Top - Section 1	710.69	0.38	0.02	0.01	18.27	
55.00		168.94	0.40	0.02	0.01	3.51	
60.00		472.58	0.48	-0.01	0.01	1.41	
65.00		457.62	0.56	-0.04	0.01	-7.77	
70.00		442.66	0.65	-0.07	0.02	-14.78	
75.00		427.70	0.75	-0.10	0.04	-18.04	
78.00	Appurtenance(s)	2608.5	0.81	-0.11	0.06	-112.53	
80.00		163.30	0.85	-0.12	0.07	-6.85	
85.00		397.78	0.96	-0.12	0.11	-13.09	
88.00	Appurtenance(s)	2780.5	1.03	-0.10	0.15	-64.96	
90.00		151.33	1.08	-0.08	0.18	-2.32	
95.00		367.85	1.20	0.01	0.26	3.94	
98.00	Appurtenance(s)	2655.8	1.28	0.10	0.32	80.60	
98.50	Bot - Section 3	35.06	1.29	0.11	0.33	1.19	
100.00		183.85	1.33	0.17	0.37	8.30	
102.00	Top - Section 2	241.47	1.39	0.26	0.42	14.81	
105.00		153.38	1.47	0.43	0.51	13.53	
108.00	Appurtenance(s)	2452.7	1.56	0.65	0.61	290.11	
109.00	Top - Section 3	48.88	1.59	0.73	0.65	6.31	
110.00		48.43	1.61	0.83	0.69	6.79	
115.00		235.44	1.77	1.38	0.92	47.36	
118.00	Appurtenance(s)	2960.0	1.86	1.82	1.08	717.11	
119.00		44.39	1.89	1.98	1.14	11.40	
	Totals:	**25,386.1**				**1,244.9**	**Total Wind:** **31,328.0**

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT08558-B-SBA		**Code:**	EIA/TIA-222-G	9/9/2021
Site Name:	New Britain 3, CT		**Exposure:**	C	
Height:	119.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 30

Load Case:	0.9D + 1.0E							**Iterations**	21
Gust Response Factor	1.10			**Sds**	0.20			**Ss**	0.19
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.09			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.38	**SA**	0.03	**Seismic Importance Factor**			1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-27.23	-1.49	0.00	-150.07	0.00	150.07	3013.27	1506.63	5849.73	2929.21		0.00	0.00	0.060
5.00	-26.30	-1.48	0.00	-142.63	0.00	142.63	2972.75	1486.38	5634.65	2821.52		0.01	-0.02	0.059
10.00	-25.39	-1.46	0.00	-135.25	0.00	135.25	2930.78	1465.39	5420.60	2714.33		0.03	-0.03	0.058
15.00	-24.50	-1.44	0.00	-127.96	0.00	127.96	2887.35	1443.68	5207.78	2607.76		0.08	-0.05	0.058
20.00	-23.63	-1.42	0.00	-120.77	0.00	120.77	2842.47	1421.24	4996.39	2501.91		0.14	-0.07	0.057
25.00	-22.77	-1.39	0.00	-113.69	0.00	113.69	2796.14	1398.07	4786.62	2396.87		0.21	-0.08	0.056
30.00	-21.93	-1.37	0.00	-106.72	0.00	106.72	2748.35	1374.17	4578.69	2292.75		0.31	-0.10	0.055
35.00	-21.10	-1.35	0.00	-99.86	0.00	99.86	2699.10	1349.55	4372.78	2189.64		0.42	-0.12	0.053
40.00	-20.30	-1.33	0.00	-93.12	0.00	93.12	2648.40	1324.20	4169.10	2087.65		0.55	-0.13	0.052
45.00	-19.51	-1.30	0.00	-86.49	0.00	86.49	2596.25	1298.12	3967.85	1986.88		0.70	-0.15	0.051
48.50	-18.96	-1.29	0.00	-81.92	0.00	81.92	2558.87	1279.44	3828.53	1917.11		0.82	-0.17	0.050
50.00	-18.60	-1.28	0.00	-79.99	0.00	79.99	2542.63	1271.32	3769.24	1887.42		0.88	-0.17	0.050
53.25	-17.82	-1.26	0.00	-75.82	0.00	75.82	1874.80	937.40	2771.76	1387.94		1.00	-0.18	0.064
55.00	-17.59	-1.26	0.00	-73.61	0.00	73.61	1862.74	931.37	2724.01	1364.03		1.06	-0.19	0.063
60.00	-16.95	-1.27	0.00	-67.29	0.00	67.29	1827.31	913.65	2588.34	1296.09		1.28	-0.21	0.061
65.00	-16.32	-1.27	0.00	-60.96	0.00	60.96	1790.42	895.21	2453.92	1228.78		1.51	-0.24	0.059
70.00	-15.71	-1.27	0.00	-54.60	0.00	54.60	1752.08	876.04	2320.96	1162.21		1.77	-0.26	0.056
75.00	-15.10	-1.28	0.00	-48.23	0.00	48.23	1712.28	856.14	2189.66	1096.46		2.05	-0.28	0.053
78.00	-12.63	-1.27	0.00	-44.40	0.00	44.40	1687.70	843.85	2111.76	1057.45		2.23	-0.29	0.049
80.00	-12.39	-1.27	0.00	-41.87	0.00	41.87	1671.02	835.51	2060.22	1031.64		2.35	-0.30	0.048
85.00	-11.83	-1.27	0.00	-35.53	0.00	35.53	1628.32	814.16	1932.84	967.86		2.68	-0.32	0.044
88.00	-9.20	-1.25	0.00	-31.73	0.00	31.73	1601.99	801.00	1857.49	930.12		2.89	-0.33	0.040
90.00	-9.00	-1.26	0.00	-29.22	0.00	29.22	1584.15	792.08	1807.72	905.20		3.03	-0.34	0.038
95.00	-8.52	-1.25	0.00	-22.94	0.00	22.94	1538.53	769.27	1685.06	843.78		3.39	-0.36	0.033
98.00	-6.04	-1.16	0.00	-19.18	0.00	19.18	1510.46	755.23	1612.73	807.56		3.62	-0.37	0.028
98.50	-6.00	-1.15	0.00	-18.61	0.00	18.61	1505.73	752.87	1600.77	801.57		3.66	-0.37	0.027
100.00	-5.81	-1.15	0.00	-16.88	0.00	16.88	1491.46	745.73	1565.06	783.69		3.78	-0.37	0.025
102.00	-5.56	-1.13	0.00	-14.59	0.00	14.59	1021.50	510.75	1074.26	537.93		3.93	-0.38	0.033
105.00	-5.38	-1.12	0.00	-11.20	0.00	11.20	1004.76	502.38	1028.99	515.26		4.17	-0.39	0.027
108.00	-3.12	-0.81	0.00	-7.85	0.00	7.85	987.50	493.75	984.13	492.79		4.42	-0.39	0.019
109.00	-3.06	-0.80	0.00	-7.04	0.00	7.04	981.63	490.81	969.27	485.35		4.50	-0.39	0.018
109.00	-3.06	-0.80	0.00	-7.04	0.00	7.04	981.63	490.81	969.27	485.35		4.50	-0.39	0.018
110.00	-3.01	-0.80	0.00	-6.24	0.00	6.24	975.70	487.85	954.46	477.94		4.58	-0.40	0.016
115.00	-2.74	-0.75	0.00	-2.25	0.00	2.25	945.18	472.59	881.23	441.27		5.00	-0.40	0.008
118.00	-0.04	-0.01	0.00	-0.01	0.00	0.01	926.18	463.09	838.01	419.63		5.26	-0.40	0.000
119.00	0.00	-0.01	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48		5.34	-0.40	0.000

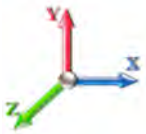
Wind Loading - Shaft

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 31	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	222.34	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	217.15	0.650	0.000	5.00	19.863	12.91	105.7	0.0	786.9
10.00		1.00	0.85	7.442	8.19	211.97	0.650	0.000	5.00	19.394	12.61	103.2	0.0	768.2
15.00		1.00	0.85	7.442	8.19	206.78	0.650	0.000	5.00	18.925	12.30	100.7	0.0	749.5
20.00		1.00	0.90	7.896	8.69	207.65	0.650	0.000	5.00	18.456	12.00	104.2	0.0	730.8
25.00		1.00	0.95	8.276	9.10	207.12	0.650	0.000	5.00	17.987	11.69	106.4	0.0	712.1
30.00		1.00	0.98	8.600	9.46	205.56	0.650	0.000	5.00	17.518	11.39	107.7	0.0	693.4
35.00		1.00	1.01	8.883	9.77	203.25	0.650	0.000	5.00	17.049	11.08	108.3	0.0	674.7
40.00		1.00	1.04	9.137	10.05	200.38	0.650	0.000	5.00	16.580	10.78	108.3	0.0	656.0
45.00		1.00	1.07	9.366	10.30	197.06	0.650	0.000	5.00	16.112	10.47	107.9	0.0	637.3
48.50	Bot - Section 2	1.00	1.09	9.515	10.47	194.52	0.650	0.000	3.50	10.999	7.15	74.8	0.0	435.0
50.00		1.00	1.09	9.576	10.53	193.37	0.650	0.000	1.50	4.707	3.06	32.2	0.0	332.8
53.25	Top - Section 1	1.00	1.11	9.704	10.67	190.81	0.650	0.000	3.25	10.054	6.53	69.8	0.0	710.7
55.00		1.00	1.12	9.770	10.75	192.06	0.650	0.000	1.75	5.332	3.47	37.2	0.0	168.9
60.00		1.00	1.14	9.951	10.95	187.83	0.650	0.000	5.00	14.917	9.70	106.1	0.0	472.6
65.00		1.00	1.16	10.120	11.13	183.37	0.650	0.000	5.00	14.448	9.39	104.5	0.0	457.6
70.00		1.00	1.17	10.279	11.31	178.71	0.650	0.000	5.00	13.979	9.09	102.7	0.0	442.7
75.00		1.00	1.19	10.430	11.47	173.87	0.650	0.000	5.00	13.510	8.78	100.7	0.0	427.7
78.00	Appurtenance(s)	1.00	1.20	10.516	11.57	170.89	0.650	0.000	3.00	7.881	5.12	59.3	0.0	249.4
80.00		1.00	1.21	10.572	11.63	168.88	0.650	0.000	2.00	5.160	3.35	39.0	0.0	163.3
85.00		1.00	1.22	10.708	11.78	163.73	0.650	0.000	5.00	12.572	8.17	96.3	0.0	397.8
88.00	Appurtenance(s)	1.00	1.23	10.787	11.87	160.59	0.650	0.000	3.00	7.318	4.76	56.4	0.0	231.5
90.00		1.00	1.24	10.838	11.92	158.46	0.650	0.000	2.00	4.785	3.11	37.1	0.0	151.3
95.00		1.00	1.25	10.962	12.06	153.07	0.650	0.000	5.00	11.634	7.56	91.2	0.0	367.9
98.00	Appurtenance(s)	1.00	1.26	11.034	12.14	149.78	0.650	0.000	3.00	6.756	4.39	53.3	0.0	213.5
98.50	Bot - Section 3	1.00	1.26	11.046	12.15	149.23	0.650	0.000	0.50	1.110	0.72	8.8	0.0	35.1
100.00		1.00	1.27	11.081	12.19	147.57	0.650	0.000	1.50	3.348	2.18	26.5	0.0	183.8
102.00	Top - Section 2	1.00	1.27	11.127	12.24	145.34	0.650	0.000	2.00	4.398	2.86	35.0	0.0	241.5
105.00		1.00	1.28	11.195	12.31	144.12	0.650	0.000	3.00	6.457	4.20	51.7	0.0	153.4
108.00	Appurtenance(s)	1.00	1.29	11.262	12.39	140.72	0.650	0.000	3.00	6.288	4.09	50.6	0.0	149.3
109.00	Top - Section 3	1.00	1.29	11.284	12.41	139.58	0.650	0.000	1.00	2.059	1.34	16.6	0.0	48.9
110.00		1.00	1.29	11.305	12.44	138.43	0.650	0.000	1.00	2.040	1.33	16.5	0.0	48.4
115.00		1.00	1.30	11.412	12.55	132.66	0.650	0.000	5.00	9.918	6.45	80.9	0.0	235.4
118.00	Appurtenance(s)	1.00	1.31	11.474	12.62	129.16	0.650	0.000	3.00	5.726	3.72	47.0	0.0	135.9
119.00		1.00	1.31	11.494	12.64	127.98	0.650	0.000	1.00	1.871	1.22	15.4	0.0	44.4
								Totals:	**119.00**			**2,362.1**		**12,908.1**

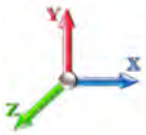
Discrete Appurtenance Forces

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 32	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	118.00	(3) T-Arm Kit	1	11.474	12.621	0.75	0.75	12.38	500.00	0.000	0.000	156.19	0.00	0.00
2	118.00	BXA-70063-6BF	3	11.474	12.621	0.56	0.80	12.72	51.00	0.000	0.000	160.51	0.00	0.00
3	118.00	T-Arm	3	11.474	12.621	0.56	0.75	16.88	1050.00	0.000	0.000	212.98	0.00	0.00
4	118.00	Commscope	6	11.474	12.621	0.66	0.80	32.19	262.20	0.000	0.000	406.28	0.00	0.00
5	118.00	Samsung MT6407-77A	3	11.474	12.621	0.56	0.80	7.88	238.20	0.000	0.000	99.44	0.00	0.00
6	118.00	B2/B66A RRH-BR049	3	11.474	12.621	0.54	0.80	3.01	253.20	0.000	0.000	37.95	0.00	0.00
7	118.00	BSAMNT-SBS-1-2	3	11.474	12.621	0.75	0.75	0.00	76.05	0.000	0.000	0.00	0.00	0.00
8	118.00	Collar	1	11.474	12.621	0.75	0.75	1.88	150.60	0.000	0.000	23.66	0.00	0.00
9	118.00	Samsung B5/B13	3	11.474	12.621	0.54	0.80	3.02	210.90	0.000	0.000	38.15	0.00	0.00
10	118.00	Raycap	1	11.474	12.621	0.80	0.80	3.03	32.00	0.000	0.000	38.27	0.00	0.00
11	108.00	840 10054	3	11.262	12.388	0.49	0.80	6.72	105.00	0.000	0.000	83.24	0.00	0.00
12	108.00	800 MHz	3	11.262	12.388	0.54	0.80	4.00	159.00	0.000	0.000	49.60	0.00	0.00
13	108.00	ACU-A20-N	4	11.262	12.388	0.54	0.80	0.30	4.00	0.000	0.000	3.72	0.00	0.00
14	108.00	APXVSPP18-C-A20	2	11.262	12.388	0.66	0.80	10.65	114.00	0.000	0.000	131.94	0.00	0.00
15	108.00	800 MHz Filters	3	11.262	12.388	0.54	0.80	3.86	192.00	0.000	0.000	47.81	0.00	0.00
16	108.00	1900MHz RRH	3	11.262	12.388	0.54	0.80	6.11	132.00	0.000	0.000	75.70	0.00	0.00
17	108.00	T-Arm	3	11.262	12.388	0.56	0.75	13.50	1050.00	0.000	0.000	167.24	0.00	0.00
18	108.00	APXVTM14-C-120	3	11.262	12.388	0.63	0.80	12.02	168.00	0.000	0.000	148.91	0.00	0.00
19	108.00	Horizon	2	11.262	12.388	0.80	0.80	0.69	21.20	0.000	0.000	8.52	0.00	0.00
20	108.00	P40-16-XLPP-RR-A	1	11.262	12.388	0.80	0.80	7.26	53.00	0.000	0.000	89.99	0.00	0.00
21	108.00	TD-RRH8x20-25	3	11.262	12.388	0.54	0.80	6.51	210.00	0.000	0.000	80.68	0.00	0.00
22	108.00	VHLP2.5	2	11.262	12.388	1.00	1.00	16.86	95.20	0.000	0.000	208.86	0.00	0.00
23	98.00	Quintel QS66512-2	3	11.034	12.137	0.74	0.80	17.95	333.00	0.000	0.000	217.87	0.00	0.00
24	98.00	Ericsson RRUS 11	3	11.034	12.137	0.54	0.80	4.05	132.00	0.000	0.000	49.18	0.00	0.00
25	98.00	Cci OPA-65R-LCUU-H6	3	11.034	12.137	0.63	0.80	18.32	240.00	0.000	0.000	222.30	0.00	0.00
26	98.00	Powerwave 7770 w/Mount	3	11.034	12.137	0.58	0.80	9.57	81.00	0.000	0.000	116.19	0.00	0.00
27	98.00	Powerwave LGP21402	9	11.034	12.137	0.80	0.80	9.29	126.90	0.000	0.000	112.73	0.00	0.00
28	98.00	Ericsson RRUS 32	3	11.034	12.137	0.54	0.80	4.41	159.00	0.000	0.000	53.48	0.00	0.00
29	98.00	Powerwave LGP13519	6	11.034	12.137	0.80	0.80	1.63	31.80	0.000	0.000	19.81	0.00	0.00
30	98.00	Raycap DC6-48-60-0-8F	2	11.034	12.137	0.80	0.80	1.47	63.60	0.000	0.000	17.87	0.00	0.00
31	98.00	T-Arm	3	11.034	12.137	0.56	0.75	16.88	1050.00	0.000	0.000	204.81	0.00	0.00
32	98.00	Ericsson RRUS 8843	3	11.034	12.137	0.54	0.80	2.65	225.00	0.000	0.000	32.20	0.00	0.00
33	88.00	4449 B71 + B85	3	10.787	11.865	0.54	0.80	4.13	222.00	0.000	0.000	49.03	0.00	0.00
34	88.00	KRY 112 144/2	3	10.787	11.865	0.56	0.80	0.69	33.00	0.000	0.000	8.17	0.00	0.00
35	88.00	T-Arm w/ mod	3	10.787	11.865	0.56	0.75	23.63	1050.00	0.000	0.000	280.31	0.00	0.00
36	88.00	APXVAARR24_43-U-NA2	3	10.787	11.865	0.56	0.80	34.00	384.00	0.000	0.000	403.45	0.00	0.00
37	88.00	RRUS 4415 B25	3	10.787	11.865	0.54	0.80	2.64	138.00	0.000	0.000	31.29	0.00	0.00
38	88.00	AIR6449 B41	3	10.787	11.865	0.57	0.80	9.63	309.00	0.000	0.000	114.23	0.00	0.00
39	88.00	SDX1926Q-43	3	10.787	11.865	0.54	0.80	0.37	16.50	0.000	0.000	4.39	0.00	0.00
40	88.00	AIR32	3	10.787	11.865	0.70	0.80	13.59	396.60	0.000	0.000	161.28	0.00	0.00
41	78.00	MC-PK8-DSH	1	10.516	11.568	1.00	1.00	37.59	1727.00	0.000	0.000	434.83	0.00	0.00
42	78.00	Raycap	1	10.516	11.568	0.75	0.75	1.51	21.90	0.000	0.000	17.44	0.00	0.00
43	78.00	Fujitsu TA08025-B604	3	10.516	11.568	0.50	0.75	2.95	191.70	0.000	0.000	34.18	0.00	0.00
44	78.00	Fujitsu TA08025-B605	3	10.516	11.568	0.50	0.75	2.95	225.00	0.000	0.000	34.18	0.00	0.00
45	78.00	JMA Wireless	3	10.516	11.568	0.55	0.75	20.80	193.50	0.000	0.000	240.56	0.00	0.00
							Totals:		**12,478.05**			**5,129.41**		

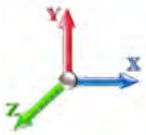
Total Applied Force Summary

Structure:	CT08558-B-SBA		**Code:**	EIA/TIA-222-G	9/9/2021
Site Name:	New Britain 3, CT		**Exposure:**	C	
Height:	119.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 33

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		105.69	1027.28	0.00	0.00
10.00		103.19	1008.58	0.00	0.00
15.00		100.70	989.88	0.00	0.00
20.00		104.20	971.18	0.00	0.00
25.00		106.44	952.48	0.00	0.00
30.00		107.72	933.78	0.00	0.00
35.00		108.29	915.08	0.00	0.00
40.00		108.32	896.38	0.00	0.00
45.00		107.90	877.67	0.00	0.00
48.50		74.83	603.24	0.00	0.00
50.00		32.23	404.91	0.00	0.00
53.25		69.76	866.91	0.00	0.00
55.00		37.25	253.06	0.00	0.00
60.00		106.13	712.92	0.00	0.00
65.00		104.54	697.96	0.00	0.00
70.00		102.74	683.00	0.00	0.00
75.00		100.75	668.04	0.00	0.00
78.00	(11) attachments	820.44	2752.74	0.00	0.00
80.00		39.01	257.14	0.00	0.00
85.00		96.26	632.37	0.00	0.00
88.00	(24) attachments	1108.61	2921.34	0.00	0.00
90.00		37.08	216.56	0.00	0.00
95.00		91.19	530.93	0.00	0.00
98.00	(38) attachments	1099.73	2753.68	0.00	0.00
98.50		8.76	44.27	0.00	0.00
100.00		26.53	211.47	0.00	0.00
102.00		34.99	278.30	0.00	0.00
105.00		51.68	208.63	0.00	0.00
108.00	(32) attachments	1146.83	2507.99	0.00	0.00
109.00		16.61	62.52	0.00	0.00
110.00		16.49	62.07	0.00	0.00
115.00		80.92	303.64	0.00	0.00
118.00	(27) attachments	1220.40	3000.95	0.00	0.00
119.00		15.38	44.39	0.00	0.00
	Totals:	**7,491.54**	**30,251.33**	**0.00**	**0.00**

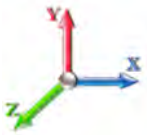
Linear Appurtenance Segment Forces (Factored)

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 34	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.064	0.000	7.442	0.00	11.00
5.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.064	0.000	7.442	0.00	5.75
10.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.065	0.000	7.442	0.00	11.00
10.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.065	0.000	7.442	0.00	5.75
15.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.067	0.000	7.442	0.00	11.00
15.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.067	0.000	7.442	0.00	5.75
20.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.069	0.000	7.896	0.00	11.00
20.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.069	0.000	7.896	0.00	5.75
25.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.070	0.000	8.276	0.00	11.00
25.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.070	0.000	8.276	0.00	5.75
30.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.072	0.000	8.600	0.00	11.00
30.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.072	0.000	8.600	0.00	5.75
35.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.074	0.000	8.883	0.00	11.00
35.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.074	0.000	8.883	0.00	5.75
40.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.076	0.000	9.137	0.00	11.00
40.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.076	0.000	9.137	0.00	5.75
45.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.079	0.000	9.366	0.00	11.00
45.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.079	0.000	9.366	0.00	5.75
48.50	1 5/8" Hybrid	Yes	3.50	0.000	1.63	0.48	0.00	0.081	0.000	9.515	0.00	7.70
48.50	1.411" Hybrid	Yes	3.50	0.000	1.41	0.41	0.00	0.081	0.000	9.515	0.00	4.02
50.00	1 5/8" Hybrid	Yes	1.50	0.000	1.63	0.20	0.00	0.082	0.000	9.576	0.00	3.30
50.00	1.411" Hybrid	Yes	1.50	0.000	1.41	0.18	0.00	0.082	0.000	9.576	0.00	1.72
53.25	1 5/8" Hybrid	Yes	3.25	0.000	1.63	0.44	0.00	0.083	0.000	9.704	0.00	7.15
53.25	1.411" Hybrid	Yes	3.25	0.000	1.41	0.38	0.00	0.083	0.000	9.704	0.00	3.74
55.00	1 5/8" Hybrid	Yes	1.75	0.000	1.63	0.24	0.00	0.083	0.000	9.770	0.00	3.85
55.00	1.411" Hybrid	Yes	1.75	0.000	1.41	0.21	0.00	0.083	0.000	9.770	0.00	2.01
60.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.085	0.000	9.951	0.00	11.00
60.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.085	0.000	9.951	0.00	5.75
65.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.088	0.000	10.120	0.00	11.00
65.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.088	0.000	10.120	0.00	5.75
70.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.091	0.000	10.279	0.00	11.00
70.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.091	0.000	10.279	0.00	5.75
75.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.094	0.000	10.430	0.00	11.00
75.00	1.411" Hybrid	Yes	5.00	0.000	1.41	0.59	0.00	0.094	0.000	10.430	0.00	5.75
78.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.096	0.000	10.516	0.00	6.60
78.00	1.411" Hybrid	Yes	3.00	0.000	1.41	0.35	0.00	0.096	0.000	10.516	0.00	3.45
80.00	1 5/8" Hybrid	Yes	2.00	0.000	1.63	0.27	0.00	0.053	0.000	10.572	0.00	4.40
85.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.054	0.000	10.708	0.00	11.00
88.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.056	0.000	10.787	0.00	6.60
90.00	1 5/8" Hybrid	Yes	2.00	0.000	1.63	0.27	0.00	0.057	0.000	10.838	0.00	4.40
95.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.058	0.000	10.962	0.00	11.00
98.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.060	0.000	11.034	0.00	6.60
98.50	1 5/8" Hybrid	Yes	0.50	0.000	1.63	0.07	0.00	0.061	0.000	11.046	0.00	1.10
100.00	1 5/8" Hybrid	Yes	1.50	0.000	1.63	0.20	0.00	0.062	0.000	11.081	0.00	3.30
102.00	1 5/8" Hybrid	Yes	2.00	0.000	1.63	0.27	0.00	0.063	0.000	11.127	0.00	4.40
105.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.063	0.000	11.195	0.00	6.60
108.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.065	0.000	11.262	0.00	6.60

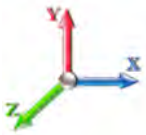
Linear Appurtenance Segment Forces (Factored)

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 35	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
109.00	1 5/8" Hybrid	Yes	1.00	0.000	1.63	0.14	0.00	0.066	0.000	11.284	0.00	2.20
110.00	1 5/8" Hybrid	Yes	1.00	0.000	1.63	0.14	0.00	0.067	0.000	11.305	0.00	2.20
115.00	1 5/8" Hybrid	Yes	5.00	0.000	1.63	0.68	0.00	0.068	0.000	11.412	0.00	11.00
118.00	1 5/8" Hybrid	Yes	3.00	0.000	1.63	0.41	0.00	0.071	0.000	11.474	0.00	6.60
										Totals:	**0.0**	**349.3**

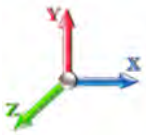
Calculated Forces

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 36	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 22

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-30.25	-7.51	0.00	-674.37	0.00	674.37	3013.27	1506.63	5849.73	2929.21	0.00	0.000	0.000	0.240
5.00	-29.21	-7.44	0.00	-636.82	0.00	636.82	2972.75	1486.38	5634.65	2821.52	0.04	-0.071	0.000	0.236
10.00	-28.19	-7.37	0.00	-599.62	0.00	599.62	2930.78	1465.39	5420.60	2714.33	0.15	-0.143	0.000	0.231
15.00	-27.19	-7.30	0.00	-562.77	0.00	562.77	2887.35	1443.68	5207.78	2607.76	0.34	-0.215	0.000	0.225
20.00	-26.21	-7.23	0.00	-526.27	0.00	526.27	2842.47	1421.24	4996.39	2501.91	0.60	-0.288	0.000	0.220
25.00	-25.25	-7.15	0.00	-490.14	0.00	490.14	2796.14	1398.07	4786.62	2396.87	0.95	-0.362	0.000	0.214
30.00	-24.31	-7.06	0.00	-454.41	0.00	454.41	2748.35	1374.17	4578.69	2292.75	1.37	-0.436	0.000	0.207
35.00	-23.39	-6.98	0.00	-419.09	0.00	419.09	2699.10	1349.55	4372.78	2189.64	1.86	-0.511	0.000	0.200
40.00	-22.48	-6.89	0.00	-384.20	0.00	384.20	2648.40	1324.20	4169.10	2087.65	2.44	-0.585	0.000	0.193
45.00	-21.60	-6.80	0.00	-349.74	0.00	349.74	2596.25	1298.12	3967.85	1986.88	3.09	-0.659	0.000	0.184
48.50	-20.99	-6.73	0.00	-325.95	0.00	325.95	2558.87	1279.44	3828.53	1917.11	3.59	-0.711	0.000	0.178
50.00	-20.58	-6.70	0.00	-315.86	0.00	315.86	2542.63	1271.32	3769.24	1887.42	3.82	-0.734	0.000	0.175
53.25	-19.71	-6.64	0.00	-294.07	0.00	294.07	1874.80	937.40	2771.76	1387.94	4.34	-0.782	0.000	0.222
55.00	-19.45	-6.61	0.00	-282.46	0.00	282.46	1862.74	931.37	2724.01	1364.03	4.63	-0.808	0.000	0.218
60.00	-18.73	-6.52	0.00	-249.39	0.00	249.39	1827.31	913.65	2588.34	1296.09	5.52	-0.891	0.000	0.203
65.00	-18.03	-6.43	0.00	-216.77	0.00	216.77	1790.42	895.21	2453.92	1228.78	6.50	-0.972	0.000	0.187
70.00	-17.34	-6.34	0.00	-184.61	0.00	184.61	1752.08	876.04	2320.96	1162.21	7.56	-1.049	0.000	0.169
75.00	-16.67	-6.24	0.00	-152.90	0.00	152.90	1712.28	856.14	2189.66	1096.46	8.70	-1.121	0.000	0.149
78.00	-13.93	-5.38	0.00	-134.17	0.00	134.17	1687.70	843.85	2111.76	1057.45	9.41	-1.161	0.000	0.135
80.00	-13.67	-5.34	0.00	-123.42	0.00	123.42	1671.02	835.51	2060.22	1031.64	9.91	-1.187	0.000	0.128
85.00	-13.03	-5.24	0.00	-96.71	0.00	96.71	1628.32	814.16	1932.84	967.86	11.18	-1.245	0.000	0.108
88.00	-10.14	-4.07	0.00	-80.98	0.00	80.98	1601.99	801.00	1857.49	930.12	11.97	-1.276	0.000	0.093
90.00	-9.92	-4.04	0.00	-72.84	0.00	72.84	1584.15	792.08	1807.72	905.20	12.51	-1.295	0.000	0.087
95.00	-9.39	-3.94	0.00	-52.65	0.00	52.65	1538.53	769.27	1685.06	843.78	13.89	-1.337	0.000	0.069
98.00	-6.66	-2.78	0.00	-40.83	0.00	40.83	1510.46	755.23	1612.73	807.56	14.74	-1.358	0.000	0.055
98.50	-6.62	-2.77	0.00	-39.44	0.00	39.44	1505.73	752.87	1600.77	801.57	14.88	-1.361	0.000	0.054
100.00	-6.40	-2.74	0.00	-35.29	0.00	35.29	1491.46	745.73	1565.06	783.69	15.31	-1.370	0.000	0.049
102.00	-6.13	-2.70	0.00	-29.81	0.00	29.81	1021.50	510.75	1074.26	537.93	15.89	-1.381	0.000	0.061
105.00	-5.92	-2.64	0.00	-21.72	0.00	21.72	1004.76	502.38	1028.99	515.26	16.76	-1.395	0.000	0.048
108.00	-3.44	-1.43	0.00	-13.80	0.00	13.80	987.50	493.75	984.13	492.79	17.64	-1.408	0.000	0.031
109.00	-3.38	-1.42	0.00	-12.36	0.00	12.36	981.63	490.81	969.27	485.35	17.94	-1.411	0.000	0.029
109.00	-3.38	-1.42	0.00	-12.36	0.00	12.36	981.63	490.81	969.27	485.35	17.94	-1.411	0.000	0.029
110.00	-3.32	-1.40	0.00	-10.95	0.00	10.95	975.70	487.85	954.46	477.94	18.23	-1.415	0.000	0.026
115.00	-3.01	-1.31	0.00	-3.95	0.00	3.95	945.18	472.59	881.23	441.27	19.72	-1.425	0.000	0.012
118.00	-0.04	-0.02	0.00	-0.02	0.00	0.02	926.18	463.09	838.01	419.63	20.62	-1.427	0.000	0.000
119.00	0.00	-0.02	0.00	0.00	0.00	0.00	919.72	459.86	823.73	412.48	20.92	-1.427	0.000	0.000

Final Analysis Summary

Structure:	CT08558-B-SBA	**Code:**	EIA/TIA-222-G	9/9/2021	
Site Name:	New Britain 3, CT	**Exposure:**	C		
Height:	119.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 37	

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 97 mph Wind	31.4	0.00	36.22	0.00	0.00	2836.53
0.9D + 1.6W 97 mph Wind	31.4	0.00	27.14	0.00	0.00	2805.21
1.2D + 1.0Di + 1.0Wi 50 mph Wind	9.1	0.00	69.34	0.00	0.00	842.77
1.2D + 1.0E	1.5	0.00	36.30	0.00	0.00	151.92
0.9D + 1.0E	1.5	0.00	27.23	0.00	0.00	150.07
1.0D + 1.0W 60 mph Wind	7.5	0.00	30.25	0.00	0.00	674.37

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 97 mph Wind	-36.22	-31.42	0.00	-2836.5	0.00	-2836.5	3013.27	1506.6	5849.73	2929.21	0.00	0.981
0.9D + 1.6W 97 mph Wind	-27.14	-31.40	0.00	-2805.2	0.00	-2805.2	3013.27	1506.6	5849.73	2929.21	0.00	0.967
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-69.34	-9.13	0.00	-842.77	0.00	-842.77	3013.27	1506.6	5849.73	2929.21	0.00	0.311
1.2D + 1.0E	-23.76	-1.28	0.00	-77.05	0.00	-77.05	1874.80	937.40	2771.76	1387.94	53.25	0.068
0.9D + 1.0E	-17.82	-1.26	0.00	-75.82	0.00	-75.82	1874.80	937.40	2771.76	1387.94	53.25	0.064
1.0D + 1.0W 60 mph Wind	-30.25	-7.51	0.00	-674.37	0.00	-674.37	3013.27	1506.6	5849.73	2929.21	0.00	0.240

Base Plate Summary

Structure:	CT08558-B-SB		**Code:**	EIA/TIA-222-G	9/9/2021
Site Name:	New Britain 3, CT		**Exposure:**	C	
Height:	119.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 38

Reactions	
Original Design	
Moment (kip-ft):	2356.00
Axial (kip):	27.50
Shear (kip):	24.70
Analysis (1.2D + 1.6W)	
Moment (kip-ft):	2836.53
Axial (kip):	36.22
Shear (kip):	31.42

Base Plate	
Yield (ksi):	60.00
Width (in):	52.00
Style:	Clipped
Polygon Sides:	4.00
Clip Length (in):	9.00
Effective Len (in):	9.84
Moment (kip-in):	701.65
Allow Stress (ksi):	81.00
Applied Stress (ksi):	56.70
Stress Ratio:	0.70

Anchor Bolts	
Bolt Circle:	54.00
Number Bolts:	12.00
Bolt Type:	2.25" 18J
Bolt Diameter (in):	2.25
Yield (ksi):	75.00
Ultimate (ksi):	100.00
Arrangement:	Clustered
Cluster Dist (in):	6.00
Start Angle (deg):	45.00
Compression	
Force (kip):	215.89
Allowable (kip):	260.00
Ratio:	0.85
Tension	
Force (kip):	204.34
Allowable (kip):	260.00
Ratio:	0.81

Monopole Mat Foundation Design

			Date: 9/9/2021
Customer Name:	Dish Wireless	**EIA/TIA Standard:**	EIA-222-G
Site Name:		**Structure Height (Ft.):**	119
Site Number:	CT08558-B-SBA	**Engineer Name:**	S. Hesselbein
Engr. Number:	115159	**Engineer Login ID:**	

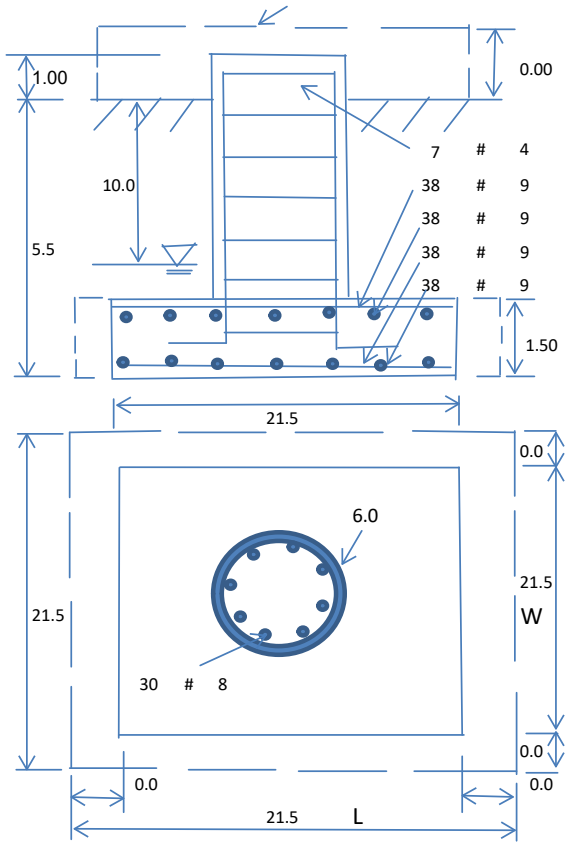
Foundation Info Obtained from:	Drawings/Calculations
Structure Type:	Monopole
Analysis or Design?	Analysis

Base Reactions (Factored):

Axial Load (Kips):	36.2	Shear Force (Kips):	31.4
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2836.5
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	6.0	Depth of Base BG (ft.):	5.5
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	1.50
Length of Pad (ft.):	21.5	Width of Pad (ft.):	21.5
Final Length of pad (ft)	21.5	Final width of pad (ft):	21.5



Material Properties and Reabr Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	40	
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	30	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	38	Qty. of Rebar in Pad (W):	38

Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	38	Qty. of Rebar in Pad (W):	38
Apply 1.35 factor for e/w Per G:	1.35		

Soil Design Parameters:

Soil Unit Weight (pcf):	128.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	10.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	12000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:			1.00	

Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 — Compression Strength Reduction Factor: 0.75

Total Dry Soil Volume (cu. Ft.):	1735.90	Total Dry Soil Weight (Kips):	222.20
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	222.20	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	834.75	Total Dry Concrete Weight (Kips):	125.21
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	125.21	Total Vertical Load on Base (Kips):	383.61

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	3609	<	Allowable Factored Soil Bearing (psf):	9000	0.40	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	3750.3	>	Design Factored Momont (kips-ft):	3041	0.81	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.23	OK!				

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75			
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:	1.00			
					Load/ Capacity Ratio	
(1) Concrete Pier:						
Vertical Steel Rebar Area (sq. in./each):	0.79		Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	3443.6	>	Design Factored Moment (Mu, Kips-F	2993.5	0.87	OK!
Calculated Shear Capacity (Kips):	463.1	>	Design Factored Shear (Kips):	31.4	0.07	OK!
Calculated Tension Capacity (Tn, Kips):	1279.8	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	7156.5	>	Design Factored Axial Load (Pu Kips):	36.2	0.01	OK!
Moment & Axial Strength Combination:	0.87	OK!	Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.006		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	353.4	>	One-Way Factored Shear (L-D. Kips):	222.1	0.63	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	353.4	>	One-Way Factored Shear (W-D., Kips)	222.1	0.63	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	361.6	>	One-Way Factored Shear (C-C, Kips):	236.3	0.65	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0102	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0102		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	2246.6	>	Moment at Bottom (L-Dir. K-Ft):	903.7	0.40	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	2246.6	>	Moment at Bottom (W-Dir. K-Ft):	903.7	0.40	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	3099.9	>	Moment at Bottom (C-C Dir. K-Ft):	1278.1	0.41	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0102	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0102		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	2246.6	>	Moment at the top (L-Dir K-Ft):	463.0	0.21	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	2246.6	>	Moment at the top (W-Dir K-Ft):	463.0	0.21	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	3099.9	>	Moment at the top (C-C Dir. K-Ft):	434.3	0.14	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	1134.6	k-ft.	Max. factored shear stress v_{u_CD}:		6.0	Psi
Max. factored shear stress v_{u_AB}:	21.8	Psi	Factored shear Strength ϕv_n:		189.7	Psi
Max. factored shear stress v_u:	21.8	Psi	Check Usage of Punching Shear Capacity:		0.11	OK!

Pier Foundation Design For Monopole

Date	9/9/2021		
Customer Name:	**Dish Wireless**	**EIA/TIA Standard:**	EIA-222-G
Site Name:		**Structure Height (Ft.):**	119
Site Number:	CT08558-B-SBA	**Engineer Name:**	S. Hesselbein
Engr. Number:	115159	**Manager Login Req'd:**	

Foundation Info Obtained from: Drawings/Calculations

Acceptable overstress (5.0%

Structure Type: Monopole

Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	36.2	Shear Force (Kips):	31.4
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2836.5

Foundation Geometries:

Diameter of Pier (ft.):	6.0	Depth of Base B. G. S. :	24.0	ft.
Pier Height A. G. (ft.):	1.00			

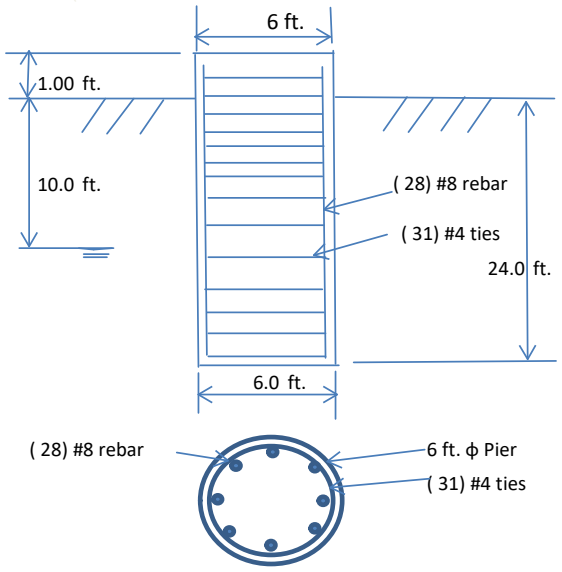
Material Properties and Reabr Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield strength:	60	ksi
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	28	Tie Spacing:	12.0	in.
Concrete Cover (in.):	3	Concrete unit weight:	150.0	pcf

Soil Design Parameters:

Water Table B.G.S. (ft):	10.0	Unit weight of water:	62.4	psf
Ratio of Uplift/Axial Skin Friction:	1.0	Pullout failure Angle:	30	(°)

Skin Frictions are to be obtained from: Soil Report



Monopole Pier Foundation

Sand
5000

Depth of Layers (ft) Top	Bottom	γ_{soil} (pcf)	ϕ (°)	Cohesion (psf)	Ultimate Skin Friction (psf)	Ultimate Bearing (psf)	Soil Types					
0.0	2.0	135	0	0	0	0	Sand					
2.0	10.0	135	34	0	0	0	Sand					
10.0	25.0	137	34	0	0	0	Sand					
25.0	30.0	137	34	0	0	0	Sand					

Soil weight Increase Factor for bouyant soils (1.0 to 1.15): 1.1

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Soil Bearing Strength Reduction Factor:	0.75	
Total Dry Soil Volume from Conical Failure (cu. Ft.):	5907	Dry Soil Weight from Conical Failure:	797	Kips
Total Buoyant Soil Volume from Conical Failure (cu. Ft.):	2024	Buoyant Soil Weight from Conical Failure (Ki	193	Kips
Total Dry Concrete Volume (cu. Ft.):	311	Total Dry Concrete Weight:	46.7	Kips
Total Buoyant Concrete Volume (cu. Ft.):	395.8	Total Buoyant Concrete Weight:	34.68	Kips
Total Effective Concrete Weight (Kips):	81.3	Total Effective Soil Weight:	990.1	Kips
Total Effective Vertical Load on Base (Kips):	41.7			

Check Soil Capacities:

					Usage	
Allowable Foundation Overturning Resistance (kips-ft.):	6316.4	>	Design Factored Momont (kips-ft):	3356	0.53	OK!
Factor of Safety of Passive Soil Resistance against Moment:	1.88	OK!				

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:	1.00

Reinforcing Concrete Pier:

					Usage	
Vertical Steel Rebar Area (sq. in./each):	0.79		Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	3222.1	>	Design Factored Moment (Mu, K-Ft):	2974.2	0.92	OK!
Calculated Shear Capacity (Kips):	740.2	>	Design Factored Shear (Kips):	272.3	0.37	OK!
Calculated Tension Capacity (Tn, Kips):	1194.5	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	7159	>	Design Factored Axial Load (Pu Kips):	36.2	0.01	OK!
Moment & Axial Strength Combination:	0.92	OK!	Max. Allowable Tie/Stirrup Spacing:	12.00	in.	
Pier Reinforcement Ratio:	0.005	Reinforcement Ratio is satisfied per ACI				

EXHIBIT 9

Antenna Mount Analysis

September 2, 2021

Sherri Knapik
SBA Network Services, LLC
134 Flanders Road, Suite 125
Westborough, MA 01581
(508) 251-0720 x 3805

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
towersupport@btgrp.com

Subject:	**Appurtenance Mount Analysis Report**	
Carrier Designation:	***Dish Wireless* Co-Locate**	
	Site Number:	BOBDL00123A
	Site Name:	SBA - Farmington Ave.
***SBA Network Services Designation*:**	**Site Number:**	CT08558-B
	Site Name:	New Britain 3, CT
	Application Number:	169643, v1
Engineering Firm Designation:	**B+T Group Project Number:**	149449.003.01
Site Data:	**723 Farmington Ave., New Britain, CT, 06051, Hartford County**	
	Latitude *41.69841*°, Longitude *-72.78594*°	
	Monopole	
	8' Platform Mount	

Dear Ms. Knapik,

B+T Group is pleased to submit this **"Appurtenance Mount Analysis Report"** to determine the structural integrity of the antenna mount on the above-mentioned structure.

The purpose of the analysis is to determine acceptability of the mount's stress level. Based on our analysis we have determined the stress level for the mount under the following load case to be:

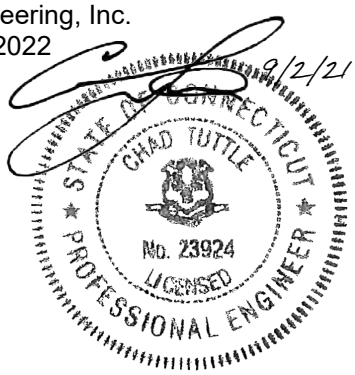
Proposed Equipment Note: See Table 1 for the final loading configuration	**Sufficient Capacity** **(Passing at 67.2%)**

This analysis has been performed in accordance with the 2018 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 125 mph converted to a nominal 3-second gust wind speed of 97 mph per Section 1609.3 and Appendix N as required for use in the ANSI/TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category C and Risk Category II were used in this analysis.

We at *B+T Group* appreciate the opportunity of providing our continuing professional services to you and *SBA Network Services, LLC.* If you have any questions or need further assistance on this or any other projects, please give us a call.

Mount structural analysis prepared by: Anne Delice

Respectfully submitted by: B&T Engineering, Inc.
COA: PEC.0001564 Expires: 02/10/2022



Chad E. Tuttle, P.E.

TABLE OF CONTENTS

1) INTRODUCTION

The mount consists of Commscope platform mounts (Part# MC-PK8-DSH) at 78 ft., attached to monopole at 723 Farmington Ave., New Britain, CT, 06051, Hartford County. The proposed antenna loading information was obtained from SBA Network Services, LLC. All information provided to B+T Group was assumed accurate and complete.

2) ANALYSIS CRITERIA

The structural analysis was performed for this mount in accordance with the ANSI/TIA-222-G-2-2005 Structural Standard for Antenna Supporting Structures and Antennas – Addendum 2 using a 3-second gust wind speed of 97 mph with no ice and 50 mph with 1 inch escalated ice thickness. Exposure Category C, Topographic Category 1 and Risk Category II were used in this analysis. In addition, the platform mount has been analyzed for various live loading conditions consisting of a 250-lb man live load applied individually at the midpoint and cantilevered ends of horizontal members as well as a 500-pound man live load applied individually at mount pipe locations using a 3-second gust of 30 mph. The mount was analyzed under 30º increments in the wind direction. The analyzed loading is detailed in Table 1.

Table 1 – Proposed Equipment Information

Loading	RAD Center Elev. (ft.)	Position	Qty.	Description	Note
Proposed	78	1	3	JMA Wireless MX08FRO665-21	1
			3	Fujitsu TA08025-B605	2
			3	Fujitsu TA08025-B604	
		--	1	Raycap RDIDC-9181-PF-48	3

Note:
(1) Proposed Antenna to be installed on the proposed Mount Pipe.
(2) Proposed Equipment to be installed directly behind the Antenna.
(3) Proposed Equipment to be installed on the Mount.

Table 2 - Documents Provided

Documents	Remarks	Reference	Source
SBA Application	Proposed Loading	Date: 08/15/2021	SBA Network Services, LLC
RFDS		Date: 08/11/2021	

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 19.0.4), a commercially available analysis software package, was used to create a three-dimensional model of the mount and calculate member stresses and deflections for various loading cases. Selected output from the analysis is included in Appendix A.

Manufacturers drawing were used to create the model.

3.2) Assumptions

1. The mount was built in accordance with the manufacturer's specifications.
2. The mount has been maintained in accordance with the manufacturer's specifications and is free of damage.
3. The configuration of antennas and other appurtenances are as specified in Table 1.
4. All mount components have been assumed to be in sufficient condition to carry their full design capacity for the analysis.
5. Mount areas and weights are determined from field measurements, standard material properties, and/or manufacturer product data.

6. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
7. All prior structural modifications, if any are assumed to be correctly installed and fully effective.
8. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
9. The following material grades were assumed (Unless Noted Otherwise):
   a) Connection Bolts : ASTM A325
   b) Steel Pipe : ASTM A53 (GR. 35)
   c) HSS (Round) : ASTM 500 (GR. B-42)
   d) HSS (Rectangular) : ASTM 500 (GR. B-46)
   e) Channel : ASTM A36 (GR. 36)
   f) Steel Solid Rod : ASTM A36 (GR. 36)
   g) Steel Plate : ASTM A36 (GR. 36)
   h) Steel Angle : ASTM A36 (GR. 36)
   i) UNISTRUT : ASTM A570 (GR. 33)

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 – Mount Component Stresses vs. Capacity

Notes	Component	Elevation (ft.)	% Capacity	Pass / Fail
-	Main Horizontals	78	9.8	Pass
-	Support Rails	78	17.4	Pass
-	Support Tubes	78	67.2	Pass
-	Support Channels	78	50.5	Pass
-	Support Angles	78	34.7	Pass
-	Mount Pipes	78	19.2	Pass
-	Connection Plates	78	27.8	Pass
-	Connection Angles	78	46.4	Pass
-	Connection Bolts	78	36.4	Pass

5) RECOMMENDATIONS

The Commscope platform mount (Part# MC-PK8-DSH) has sufficient capacity to carry the proposed loads and is in compliance with the ANSI/TIA-222-G standard for the proposed loading. (Refer to the RISA output for the specific members).

APPENDIX A

(RISA-3D Output)

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-10	**Elevation:**	313.54 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.698414
Soil Class:	D - Stiff Soil	**Longitude:**	-72.785944

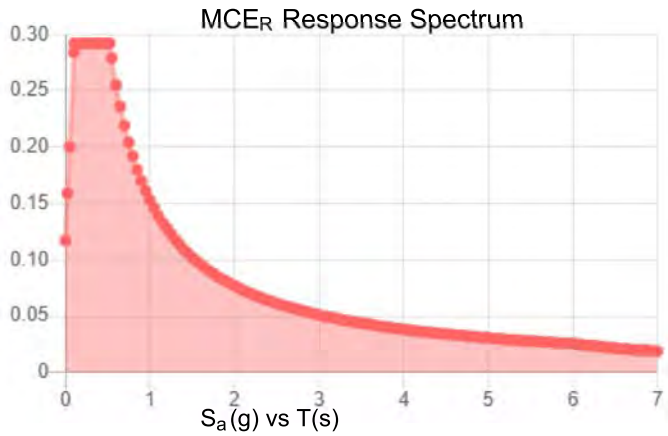
Seismic

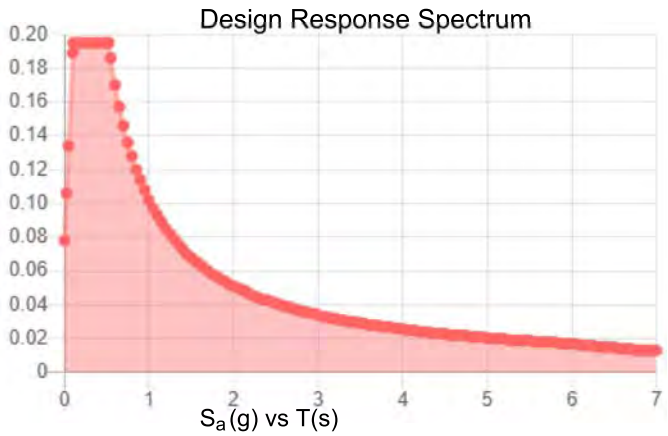
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.183	S_{DS} :	0.195
S_1 :	0.064	S_{D1} :	0.102
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.093
S_{MS} :	0.292	PGA_M :	0.148
S_{M1} :	0.153	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Thu Sep 02 2021

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	5 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Thu Sep 02 2021

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

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

PROJECT	**149449.003.01 - New Britain**		**KSC**
SUBJECT	**Platform Mount Analysis**		
DATE	**09/02/21**	PAGE	OF

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74159
(918) 587-4630

Tower Type		:	Monopole		
Ground Elevation	z_s	:	314	ft	[ASCE7 Hazard Tool]
Tower Height		:	119.00	ft	
Mount Elevation		:	78.00	ft	
Antenna Elevation		:	78.00	ft	
Crest Height		:	0	ft	
Risk Category		:	II		[Table 2-1]
Exposure Category		:	C		[Sec. 2.6.5.1.2]
Topography Category		:	1.00		[Sec. 2.6.6.2]
Wind Velocity	V	:	97	mph	[ASCE7 Hazard Tool]
Ice wind Velocity	V_i	:	50	mph	[ASCE7 Hazard Tool]
Service Velocity	V_s	:	30	mph	[ASCE7 Hazard Tool]
Base Ice thickness	t_i	:	1.00	in	[ASCE7 Hazard Tool]
Seismic Design Cat.		:	C		[ASCE7 Hazard Tool]
	S_S	:	0.18		
	S_1	:	0.06		
	S_{DS}	:	0.20		
	S_{D1}	:	0.10		

Gust Factor	G_h	:	1.00		[Sec. 16.6]
Pressure Coefficient	K_z	:	1.20		[Sec. 2.6.5.2]
Topography Factor	K_{zt}	:	1.00		[Sec. 2.6.6]
Elevation Factor	K_e	:	0.99		[Sec. 2.6.8]
Directionality Factor	K_d	:	0.95		[Sec. 16.6]
Shielding Factor	K_a	:	0.90		[Sec. 16.6]
Design Ice Thickness	t_{iz}	:	1.09	in	[Sec. 2.6.10]

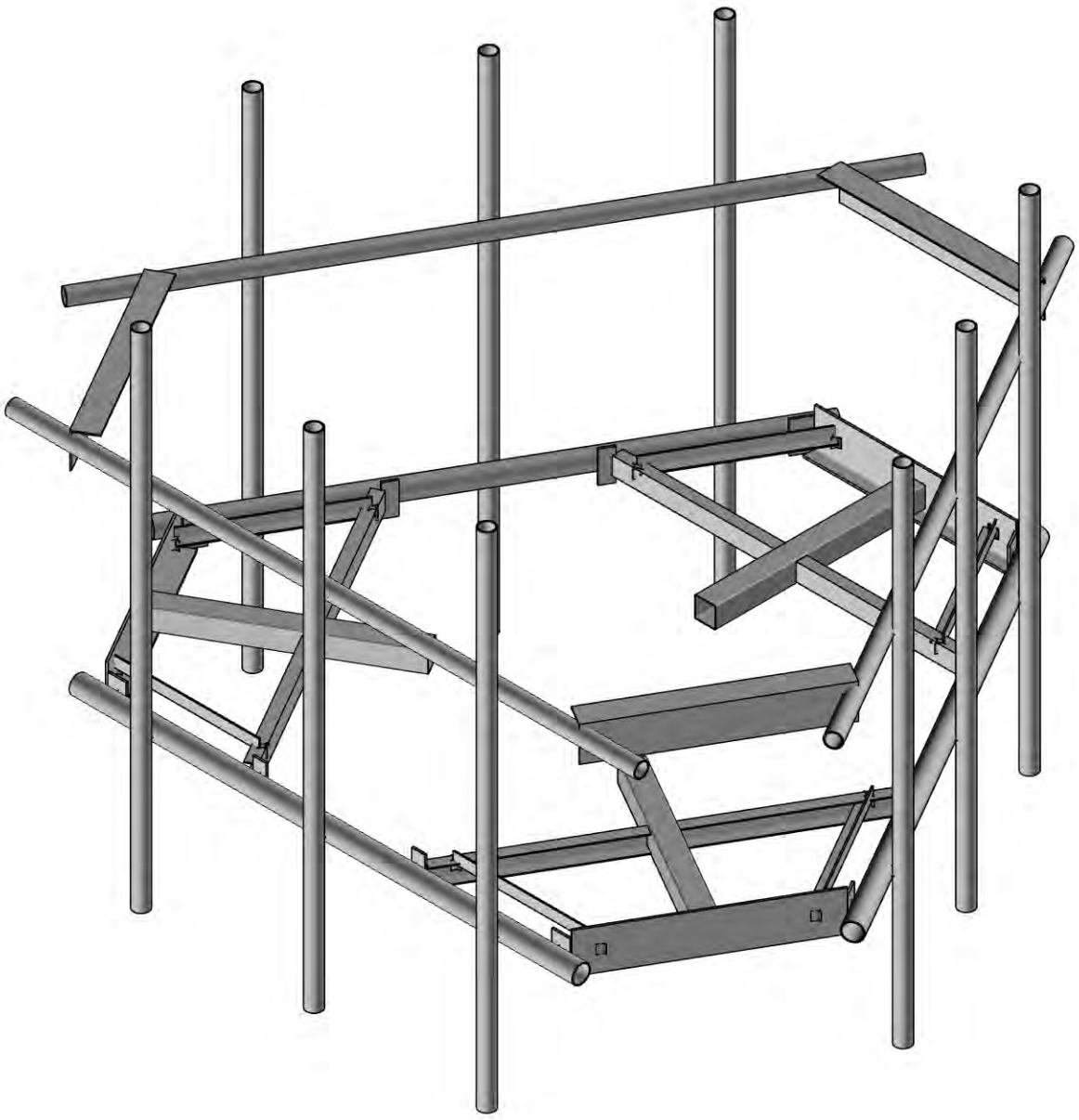
Importance Factor	I_e	:	1		[Table 2-3]
Response Coefficient	C_s	:	0.098		[Sec. 2.7.7.1]
Amplification	A_s	:	1.621849		[Sec. 16.7]

	q_z	:	27.17	psf

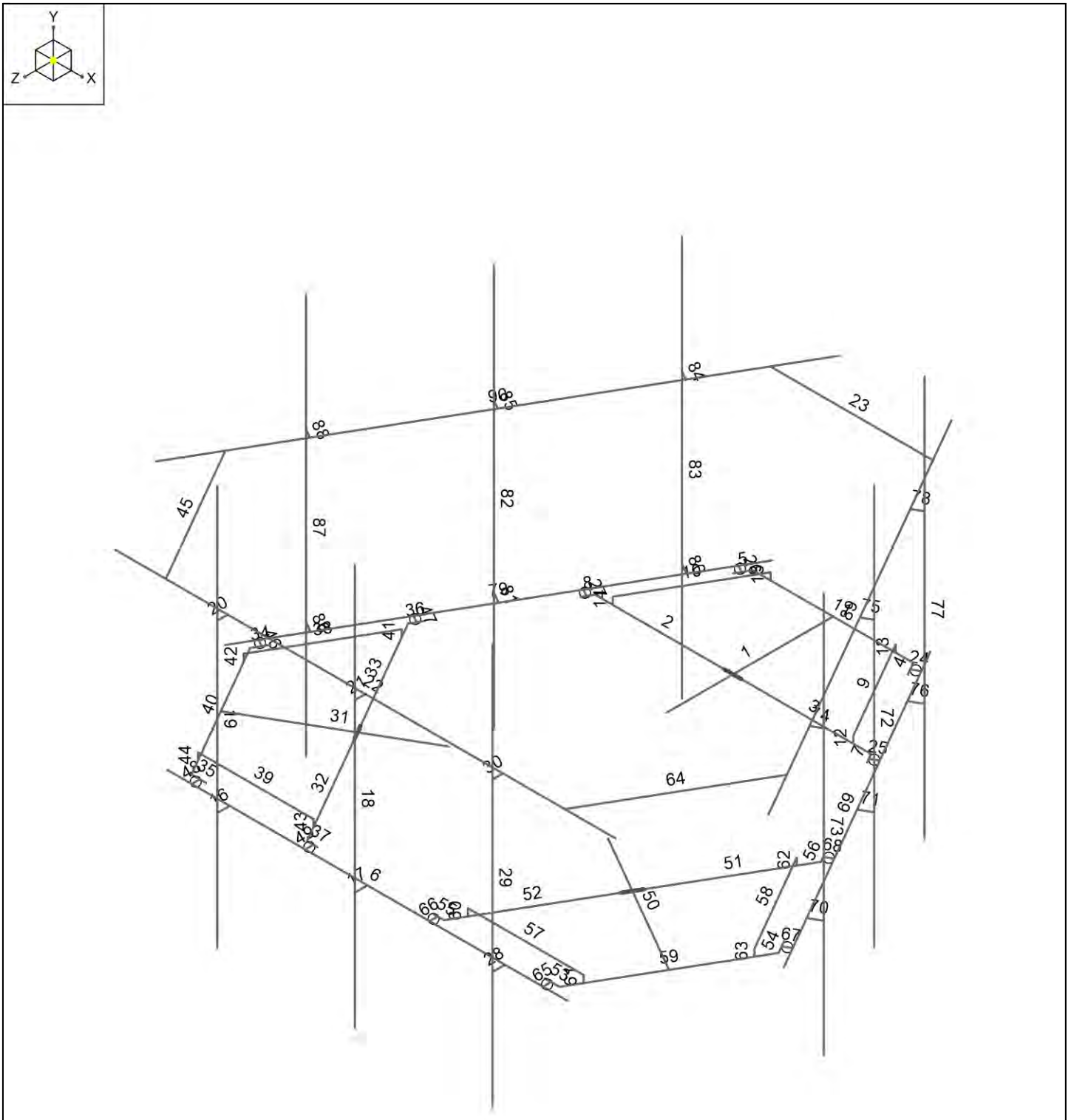
PROJECT	**149449.003.01 - New Britain**		**KSC**
SUBJECT	**Platform Mount Analysis**		
DATE	**09/02/21**	PAGE	OF

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74159
(918) 587-4630

Manufacturer	Model	Qty	Aspect Ratio	C_a flat/round	EPA_N (ft^2)	EPA_T (ft^2)	$EPA_{N\text{-}Ice}$ (ft^2)	$EPA_{T\text{-}Ice}$ (ft^2)	$F_{A\ No\ Ice\ (N)}$	$F_{A\ No\ Ice\ (T)}$	$F_{A\ Ice\ (N)}$	$F_{A\ Ice\ (T)}$
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.11	0.04	0.03	0.01
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.11	0.04	0.03	0.01
Fujitsu	TA08025-B605	1	1.05	1.20	1.64	0.99	2.13	1.40	0.05	0.03	0.01	0.01
Fujitsu	TA08025-B604	1	1.05	1.20	1.64	0.86	2.13	1.25	0.05	0.03	0.01	0.01
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.11	0.04	0.03	0.01
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.11	0.04	0.03	0.01
Fujitsu	TA08025-B605	1	1.05	1.20	1.64	0.99	2.13	1.40	0.05	0.03	0.01	0.01
Fujitsu	TA08025-B604	1	1.05	1.20	1.64	0.86	2.13	1.25	0.05	0.03	0.01	0.01
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.11	0.04	0.03	0.01
JMA Wireless	MX08FRO665-21	0.5	3.60	1.25	4.01	1.61	4.53	2.06	0.11	0.04	0.03	0.01
Fujitsu	TA08025-B605	1	1.05	1.20	1.64	0.99	2.13	1.40	0.05	0.03	0.01	0.01
Fujitsu	TA08025-B604	1	1.05	1.20	1.64	0.86	2.13	1.25	0.05	0.03	0.01	0.01
Raycap	RDIDC-9181-PF-48	1	1.14	1.20	1.68	0.97	2.18	1.39	0.05	0.03	0.01	0.01

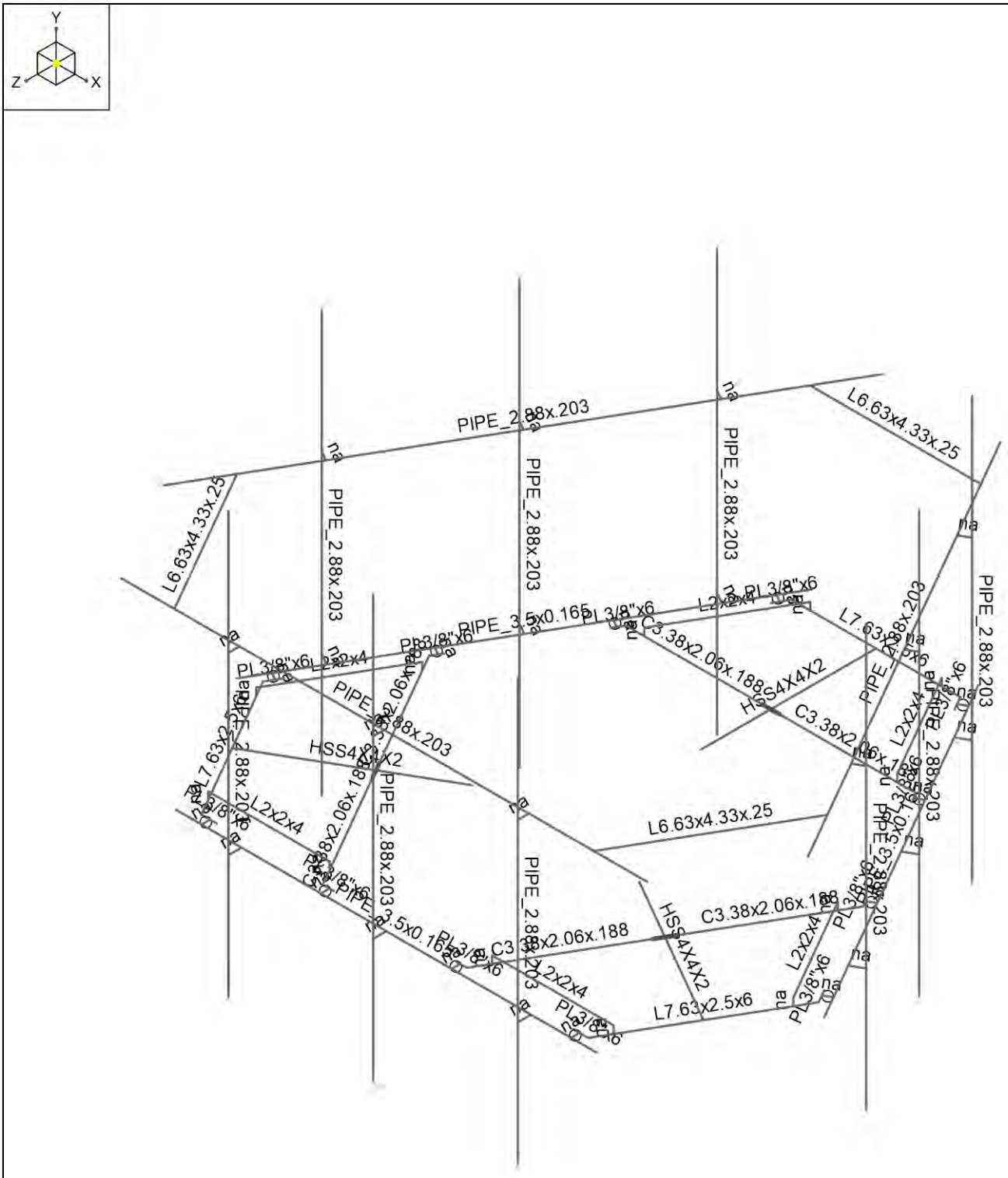


B+T Group	CT08558-B - New Britain 3, CT	SK-1
KP		Sep 02, 2021
149449.003.01		149449_003_01_New Britain 3, C…



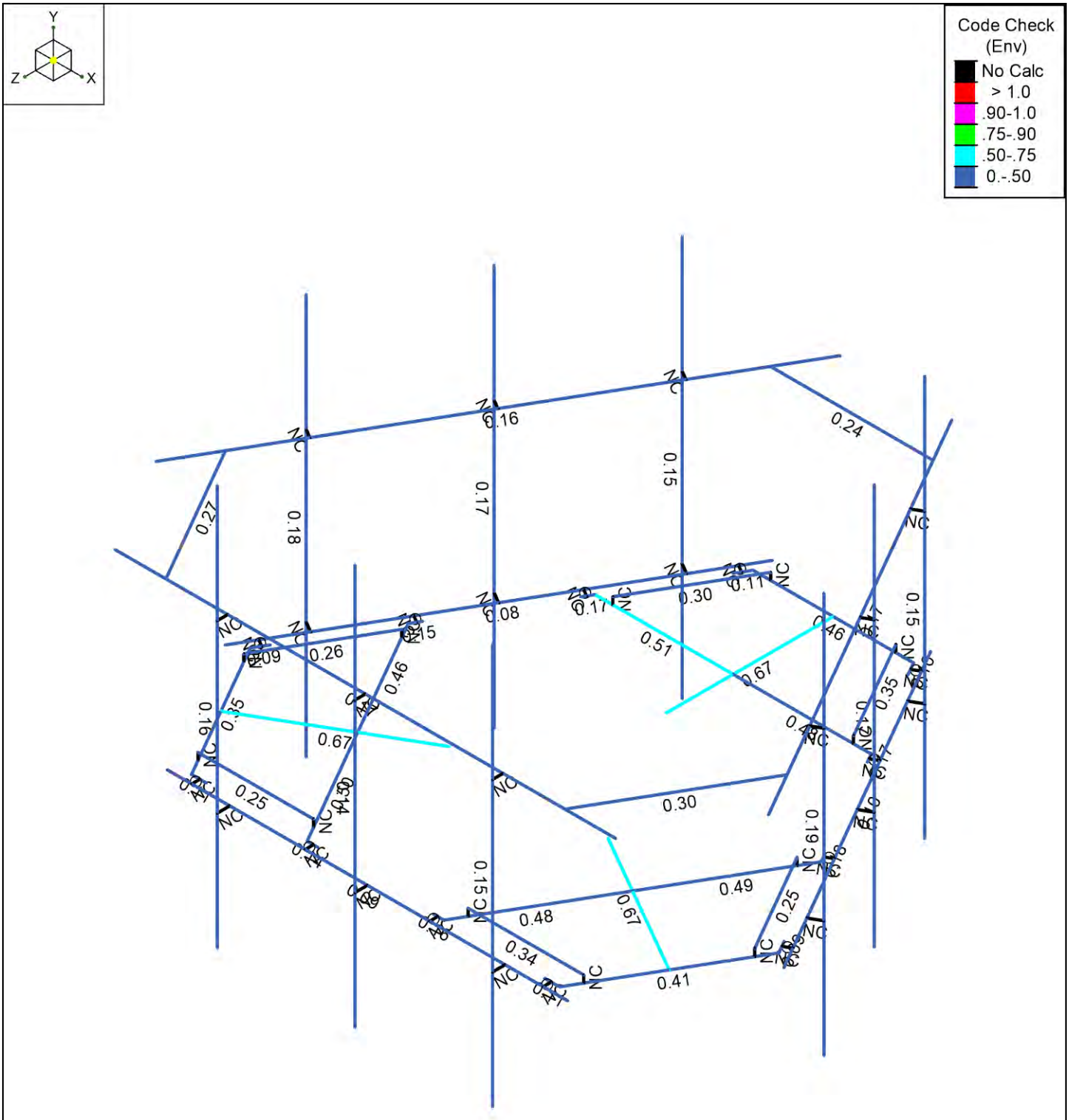
Envelope Only Solution

B+T Group	CT08558-B - New Britain 3, CT	SK-2
KP		Sep 02, 2021
149449.003.01		149449_003_01_New Britain 3, C…



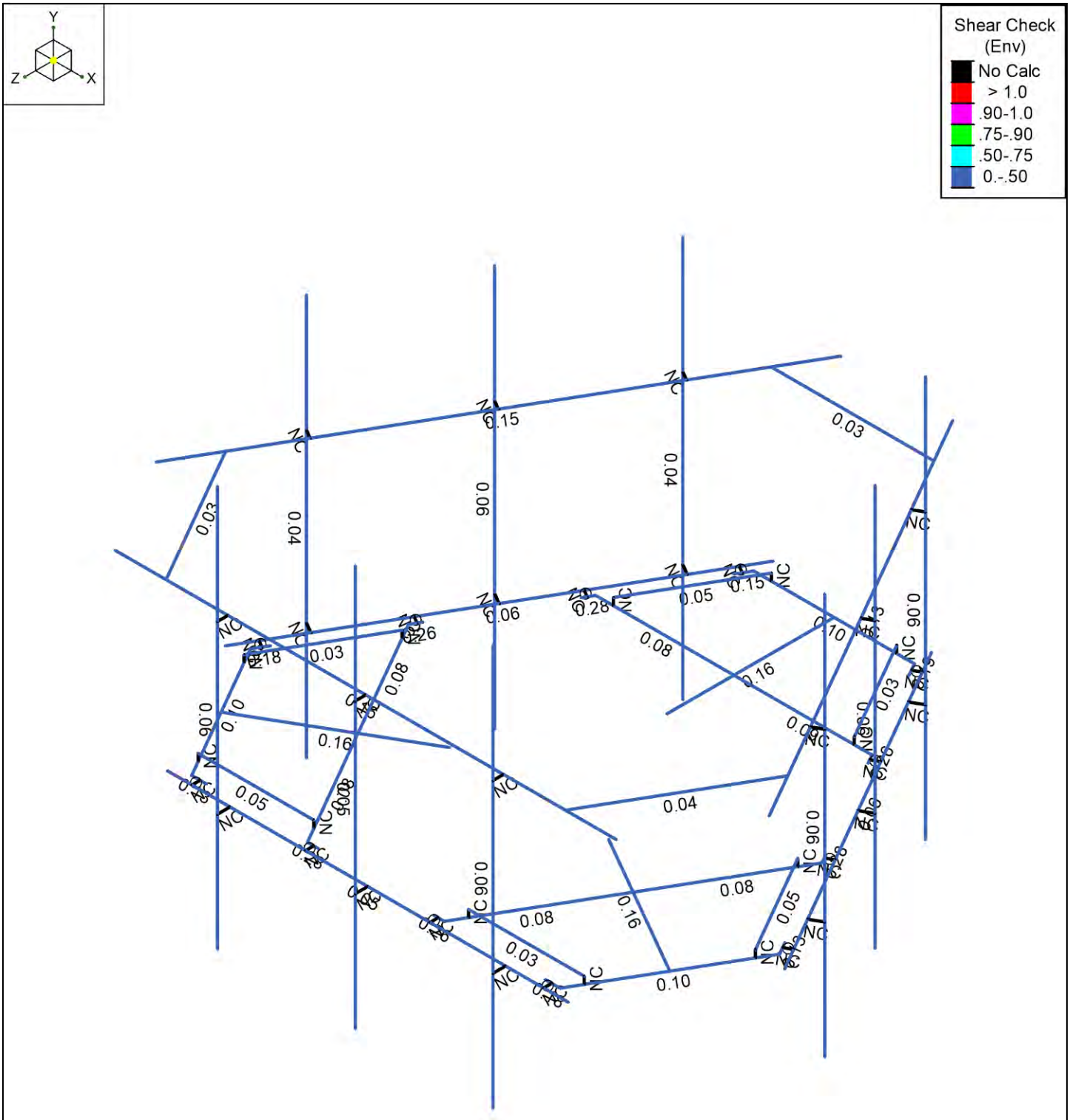
Envelope Only Solution

B+T Group	CT08558-B - New Britain 3, CT	SK-3
KP		Sep 02, 2021
149449.003.01		149449_003_01_New Britain 3, C…



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	CT08558-B - New Britain 3, CT	SK-4
KP		Sep 02, 2021
149449.003.01		149449_003_01_New Britain 3, C…



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	CT08558-B - New Britain 3, CT	SK-5
KP		Sep 02, 2021
149449.003.01		149449_003_01_New Britain 3, C…

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	1	0	0	-1.837936	
2	2	0	0	-5.171269	
3	3	0	0	-3.171269	
4	4	2.758333	0	-3.171269	
5	5	-2.758333	0	-3.171269	
6	6	-1.603633	0	-5.171269	
7	7	1.603633	0	-5.171269	
8	8	1.749466	0	-4.918678	
9	9	-1.749466	0	-4.918678	
10	10	1.686966	0	-5.026932	
11	11	1.826804	0	-5.107667	
12	12	-1.686966	0	-5.026932	
13	13	-1.826804	0	-5.107667	
14	14	-3.999998	0	4.135893	
15	15	3.999998	0	4.135893	
16	16	2.8625	0	-2.990847	
17	17	2.820833	0	-3.063017	
18	18	2.960671	0	-3.143753	
19	19	-2.8625	0	-2.990847	
20	20	-2.820833	0	-3.063017	
21	21	-2.960671	0	-3.143753	
22	22	-1.25	0.140833	-5.171269	
23	23	-2.404701	0.140833	-3.171269	
24	24	2.404701	0.140833	-3.171269	
25	25	1.25	0.140833	-5.171269	
26	26	-1.25	0	-5.171269	
27	27	-2.404701	0	-3.171269	
28	28	2.404701	0	-3.171269	
29	29	1.25	0	-5.171269	
30	30	-2.749998	0	4.135893	
31	31	0.000002	0	4.135893	
32	32	-2.749998	0	4.385893	
33	33	0.000002	0	4.385893	
34	34	-2.749998	-2.333333	4.385893	
35	35	0.000002	-2.333333	4.385893	
36	36	-2.749998	5.666668	4.385893	
37	37	0.000002	5.666668	4.385893	
38	38	-2.749998	3.333337	4.385893	
39	39	0.000002	3.333337	4.385893	
40	40	-2.749998	3.333337	4.177559	
41	41	0.000002	3.333337	4.177559	
42	42	-5	3.333337	4.177559	
43	43	5	3.333337	4.177559	
44	44	1.625017	3.333337	-5.540507	
45	45	-1.625017	3.333337	-5.540507	
46	46	2.749998	0	4.135893	
47	47	2.749998	0	4.385893	
48	48	2.749998	-2.333333	4.385893	
49	49	2.749998	5.666668	4.385893	
50	50	2.749998	3.333337	4.385893	
51	51	2.749998	3.333337	4.177559	
52	52	0	0	0	
53	53	-1.591699	0	0.918968	
54	54	-4.478451	0	2.585635	
55	55	-2.7464	0	1.585635	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	56	-4.125566	0	-0.803152	
57	57	-1.367233	0	3.974421	
58	58	-3.676634	0	3.974421	
59	59	-5.280267	0	1.196848	
60	60	-5.134434	0	0.944257	
61	61	-3.384967	0	3.974421	
62	62	-5.196934	0	1.05251	
63	63	-5.336772	0	0.971775	
64	64	-3.509967	0	3.974421	
65	65	-3.509967	0	4.135893	
66	66	-4.0214	0	-0.983574	
67	67	-4.063067	0	-0.911404	
68	68	-4.202905	0	-0.99214	
69	69	-1.1589	0	3.974421	
70	70	-1.242234	0	3.974421	
71	71	-1.242234	0	4.135893	
72	72	-3.853451	0.140833	3.668166	
73	73	-1.544049	0.140833	3.668166	
74	74	-3.94875	0.140833	-0.496897	
75	75	-5.103451	0.140833	1.503103	
76	76	-3.853451	0	3.668166	
77	77	-1.544049	0	3.668166	
78	78	-3.94875	0	-0.496897	
79	79	-5.103451	0	1.503103	
80	80	-5.610729	3.333337	1.362948	
81	81	-3.985712	3.333337	4.177559	
82	82	1.591699	0	0.918968	
83	83	4.478451	0	2.585635	
84	84	2.7464	0	1.585635	
85	85	1.367233	0	3.974421	
86	86	4.125566	0	-0.803152	
87	87	5.280267	0	1.196848	
88	88	3.676634	0	3.974421	
89	89	3.384967	0	3.974421	
90	90	5.134434	0	0.944257	
91	91	3.509967	0	3.974421	
92	92	3.509967	0	4.135893	
93	93	5.196934	0	1.05251	
94	94	5.336772	0	0.971775	
95	95	1.1589	0	3.974421	
96	96	1.242234	0	3.974421	
97	97	1.242234	0	4.135893	
98	98	4.0214	0	-0.983574	
99	99	4.063067	0	-0.911404	
100	100	4.202905	0	-0.99214	
101	101	5.103451	0.140833	1.503103	
102	102	3.94875	0.140833	-0.496897	
103	103	1.544049	0.140833	3.668166	
104	104	3.853451	0.140833	3.668166	
105	105	5.103451	0	1.503103	
106	106	3.94875	0	-0.496897	
107	107	1.544049	0	3.668166	
108	108	3.853451	0	3.668166	
109	109	3.985712	3.333337	4.177559	
110	110	5.610729	3.333337	1.362948	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
111	111	5.581787	0	1.396154	
112	112	1.581789	0	-5.532046	
113	113	4.956787	0	0.313622	
114	114	3.581787	0	-2.067948	
115	115	5.173294	0	0.188622	
116	116	3.798294	0	-2.192948	
117	117	5.173294	-2.333333	0.188622	
118	118	3.798294	-2.333333	-2.192948	
119	119	5.173294	5.666668	0.188622	
120	120	3.798294	5.666668	-2.192948	
121	121	5.173294	3.333337	0.188622	
122	122	3.798294	3.333337	-2.192948	
123	123	4.992872	3.333337	0.292788	
124	124	3.617872	3.333337	-2.088781	
125	125	2.206789	0	-4.449515	
126	126	2.423296	0	-4.574515	
127	127	2.423296	-2.333333	-4.574515	
128	128	2.423296	5.666668	-4.574515	
129	129	2.423296	3.333337	-4.574515	
130	130	2.242874	3.333337	-4.470348	
131	131	-1.581789	0	-5.532046	
132	132	-5.581787	0	1.396154	
133	133	-2.206789	0	-4.449515	
134	134	-3.581789	0	-2.067945	
135	135	-2.423296	0	-4.574515	
136	136	-3.798296	0	-2.192945	
137	137	-2.423296	-2.333333	-4.574515	
138	138	-3.798296	-2.333333	-2.192945	
139	139	-2.423296	5.666668	-4.574515	
140	140	-3.798296	5.666668	-2.192945	
141	141	-2.423296	3.333337	-4.574515	
142	142	-3.798296	3.333337	-2.192945	
143	143	-2.242874	3.333337	-4.470348	
144	144	-3.617874	3.333337	-2.088778	
145	145	-4.956787	0	0.313622	
146	146	-5.173294	0	0.188622	
147	147	-5.173294	-2.333333	0.188622	
148	148	-5.173294	5.666668	0.188622	
149	149	-5.173294	3.333337	0.188622	
150	150	-4.992872	3.333337	0.292788	
151	151	5.617873	3.333337	1.375322	
152	152	6.117873	3.333337	2.241347	
153	153	1.117873	3.333337	-6.418907	
154	154	-1.117873	3.333337	-6.418907	
155	155	-6.117873	3.333337	2.241347	

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	1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	2						
3	3						
4	4						
5	5						
6	16						
7	17						

Node Boundary Conditions (Continued)

	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]
8	19						
9	20						
10	22						
11	25						
12	26						
13	29						
14	53	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
15	54						
16	55						
17	56						
18	57						
19	66						
20	67						
21	69						
22	70						
23	72						
24	75						
25	76						
26	79						
27	82	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
28	83						
29	84						
30	85						
31	86						
32	95						
33	96						
34	98						
35	99						
36	101						
37	104						
38	105						
39	108						

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	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3
8	A500 Gr.C	29000	11154	0.3	0.65	0.49	46	1.4	62	1.3

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	MF-H1	PIPE_3.5x0.165	Beam	Pipe	A500 Gr.C	Typical	1.729	2.409	2.409	4.819
2	MF-H2	PIPE_2.88x.203	Beam	Pipe	A500 Gr.C	Typical	1.707	1.538	1.538	3.076
3	SF-H1	HSS4X4X2	Beam	Tube	A500 Gr.B Rect	Typical	1.77	4.4	4.4	6.91
4	SF-H2	C3.38x2.06x.188	Beam	Channel	A36 Gr.36	Typical	1.339	0.562	2.4	0.015
5	SF-H3	L2x2x4	Beam	Single Angle	A36 Gr.36	Typical	0.944	0.346	0.346	0.021
6	SF-H4	L7.63x2.5x6	Beam	Single Angle	A36 Gr.36	Typical	3.658	1.307	22.092	0.163
7	MF-P1	PIPE_2.88x.203	Column	Pipe	A500 Gr.C	Typical	1.707	1.538	1.538	3.076

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
8	MF-CP1	PL3/8"x6	Beam	RECT	A36 Gr.36	Typical	2.25	0.026	6.75	0.101
9	MF-H3	L6.63x4.33x.25	Beam	Single Angle	A36 Gr.36	Typical	2.678	4.383	12.502	0.054

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	1	1	2		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
2	2	5	3	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
3	3	3	4	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
4	4	7	8		MF-CP1	Beam	RECT	A36 Gr.36	Typical
5	5	6	9		MF-CP1	Beam	RECT	A36 Gr.36	Typical
6	6	14	15		MF-H1	Beam	Pipe	A500 Gr.C	Typical
7	7	16	4		MF-CP1	Beam	RECT	A36 Gr.36	Typical
8	8	5	19		MF-CP1	Beam	RECT	A36 Gr.36	Typical
9	9	25	24		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
10	10	23	22		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
11	11	6	7		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
12	12	28	24		RIGID	None	None	RIGID	Typical
13	13	29	25		RIGID	None	None	RIGID	Typical
14	14	27	23		RIGID	None	None	RIGID	Typical
15	15	26	22		RIGID	None	None	RIGID	Typical
16	16	32	30		RIGID	None	None	RIGID	Typical
17	17	33	31		RIGID	None	None	RIGID	Typical
18	18	37	35		MF-P1	Column	Pipe	A500 Gr.C	Typical
19	19	36	34		MF-P1	Column	Pipe	A500 Gr.C	Typical
20	20	38	40		RIGID	None	None	RIGID	Typical
21	21	39	41		RIGID	None	None	RIGID	Typical
22	22	42	43		MF-H2	Beam	Pipe	A500 Gr.C	Typical
23	23	44	45	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
24	24	11	10		RIGID	None	None	RIGID	Typical
25	25	18	17		RIGID	None	None	RIGID	Typical
26	26	13	12		RIGID	None	None	RIGID	Typical
27	27	21	20		RIGID	None	None	RIGID	Typical
28	28	47	46		RIGID	None	None	RIGID	Typical
29	29	49	48		MF-P1	Column	Pipe	A500 Gr.C	Typical
30	30	50	51		RIGID	None	None	RIGID	Typical
31	31	53	54		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
32	32	57	55	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
33	33	55	56	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
34	34	59	60		MF-CP1	Beam	RECT	A36 Gr.36	Typical
35	35	58	61		MF-CP1	Beam	RECT	A36 Gr.36	Typical
36	36	66	56		MF-CP1	Beam	RECT	A36 Gr.36	Typical
37	37	57	69		MF-CP1	Beam	RECT	A36 Gr.36	Typical
38	38	75	74		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
39	39	73	72		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
40	40	58	59		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
41	41	78	74		RIGID	None	None	RIGID	Typical
42	42	79	75		RIGID	None	None	RIGID	Typical
43	43	77	73		RIGID	None	None	RIGID	Typical
44	44	76	72		RIGID	None	None	RIGID	Typical
45	45	80	81	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
46	46	63	62		RIGID	None	None	RIGID	Typical
47	47	68	67		RIGID	None	None	RIGID	Typical
48	48	65	64		RIGID	None	None	RIGID	Typical
49	49	71	70		RIGID	None	None	RIGID	Typical
50	50	82	83		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
51	51	86	84	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
52	52	84	85	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
53	53	88	89		MF-CP1	Beam	RECT	A36 Gr.36	Typical
54	54	87	90		MF-CP1	Beam	RECT	A36 Gr.36	Typical
55	55	95	85		MF-CP1	Beam	RECT	A36 Gr.36	Typical
56	56	86	98		MF-CP1	Beam	RECT	A36 Gr.36	Typical
57	57	104	103		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
58	58	102	101		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
59	59	87	88		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
60	60	107	103		RIGID	None	None	RIGID	Typical
61	61	108	104		RIGID	None	None	RIGID	Typical
62	62	106	102		RIGID	None	None	RIGID	Typical
63	63	105	101		RIGID	None	None	RIGID	Typical
64	64	109	110	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
65	65	92	91		RIGID	None	None	RIGID	Typical
66	66	97	96		RIGID	None	None	RIGID	Typical
67	67	94	93		RIGID	None	None	RIGID	Typical
68	68	100	99		RIGID	None	None	RIGID	Typical
69	69	111	112		MF-H1	Beam	Pipe	A500 Gr.C	Typical
70	70	115	113		RIGID	None	None	RIGID	Typical
71	71	116	114		RIGID	None	None	RIGID	Typical
72	72	120	118		MF-P1	Column	Pipe	A500 Gr.C	Typical
73	73	119	117		MF-P1	Column	Pipe	A500 Gr.C	Typical
74	74	121	123		RIGID	None	None	RIGID	Typical
75	75	122	124		RIGID	None	None	RIGID	Typical
76	76	126	125		RIGID	None	None	RIGID	Typical
77	77	128	127		MF-P1	Column	Pipe	A500 Gr.C	Typical
78	78	129	130		RIGID	None	None	RIGID	Typical
79	79	131	132		MF-H1	Beam	Pipe	A500 Gr.C	Typical
80	80	135	133		RIGID	None	None	RIGID	Typical
81	81	136	134		RIGID	None	None	RIGID	Typical
82	82	140	138		MF-P1	Column	Pipe	A500 Gr.C	Typical
83	83	139	137		MF-P1	Column	Pipe	A500 Gr.C	Typical
84	84	141	143		RIGID	None	None	RIGID	Typical
85	85	142	144		RIGID	None	None	RIGID	Typical
86	86	146	145		RIGID	None	None	RIGID	Typical
87	87	148	147		MF-P1	Column	Pipe	A500 Gr.C	Typical
88	88	149	150		RIGID	None	None	RIGID	Typical
89	89	152	153		MF-H2	Beam	Pipe	A500 Gr.C	Typical
90	90	154	155		MF-H2	Beam	Pipe	A500 Gr.C	Typical

Member Advanced Data

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
1	1				Yes	N/A	None
2	2			2	Yes	N/A	None
3	3		2		Yes	N/A	None
4	4				Yes	N/A	None
5	5				Yes	N/A	None
6	6				Yes	N/A	None
7	7				Yes	N/A	None
8	8				Yes	N/A	None
9	9				Yes	N/A	None
10	10				Yes	N/A	None
11	11				Yes	N/A	None
12	12				Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
13	13				Yes	** NA **	None
14	14				Yes	** NA **	None
15	15				Yes	** NA **	None
16	16				Yes	** NA **	None
17	17				Yes	** NA **	None
18	18				Yes	** NA **	None
19	19				Yes	** NA **	None
20	20				Yes	** NA **	None
21	21				Yes	** NA **	None
22	22				Yes	N/A	None
23	23				Yes	N/A	None
24	24	OOOOOX			Yes	** NA **	None
25	25	OOOOOX			Yes	** NA **	None
26	26	OOOOOX			Yes	** NA **	None
27	27	OOOOOX			Yes	** NA **	None
28	28				Yes	** NA **	None
29	29				Yes	** NA **	None
30	30				Yes	** NA **	None
31	31				Yes	N/A	None
32	32			2	Yes	N/A	None
33	33		2		Yes	N/A	None
34	34				Yes	N/A	None
35	35				Yes	N/A	None
36	36				Yes	N/A	None
37	37				Yes	N/A	None
38	38				Yes	N/A	None
39	39				Yes	N/A	None
40	40				Yes	N/A	None
41	41				Yes	** NA **	None
42	42				Yes	** NA **	None
43	43				Yes	** NA **	None
44	44				Yes	** NA **	None
45	45				Yes	N/A	None
46	46	OOOOOX			Yes	** NA **	None
47	47	OOOOOX			Yes	** NA **	None
48	48	OOOOOX			Yes	** NA **	None
49	49	OOOOOX			Yes	** NA **	None
50	50				Yes	N/A	None
51	51			2	Yes	N/A	None
52	52		2		Yes	N/A	None
53	53				Yes	N/A	None
54	54				Yes	N/A	None
55	55				Yes	N/A	None
56	56				Yes	N/A	None
57	57				Yes	N/A	None
58	58				Yes	N/A	None
59	59				Yes	N/A	None
60	60				Yes	** NA **	None
61	61				Yes	** NA **	None
62	62				Yes	** NA **	None
63	63				Yes	** NA **	None
64	64				Yes	N/A	None
65	65	OOOOOX			Yes	** NA **	None
66	66	OOOOOX			Yes	** NA **	None
67	67	OOOOOX			Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
68	68	OOOOOX			Yes	** NA **	None
69	69				Yes	N/A	None
70	70				Yes	** NA **	None
71	71				Yes	** NA **	None
72	72				Yes	** NA **	None
73	73				Yes	** NA **	None
74	74				Yes	** NA **	None
75	75				Yes	** NA **	None
76	76				Yes	** NA **	None
77	77				Yes	** NA **	None
78	78				Yes	** NA **	None
79	79				Yes	N/A	None
80	80				Yes	** NA **	None
81	81				Yes	** NA **	None
82	82				Yes	** NA **	None
83	83				Yes	** NA **	None
84	84				Yes	** NA **	None
85	85				Yes	** NA **	None
86	86				Yes	** NA **	None
87	87				Yes	** NA **	None
88	88				Yes	** NA **	None
89	89				Yes	N/A	None
90	90				Yes	N/A	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
1	1	SF-H1	3.333	Lbyy	Lateral
2	2	SF-H2	2.758	Lbyy	Lateral
3	3	SF-H2	2.758	Lbyy	Lateral
4	4	MF-CP1	0.292	Lbyy	Lateral
5	5	MF-CP1	0.292	Lbyy	Lateral
6	6	MF-H1	8	Lbyy	Lateral
7	7	MF-CP1	0.208	Lbyy	Lateral
8	8	MF-CP1	0.208	Lbyy	Lateral
9	9	SF-H3	2.309	Lbyy	Lateral
10	10	SF-H3	2.309	Lbyy	Lateral
11	11	SF-H4	3.207	Lbyy	Lateral
12	18	MF-P1	8	Lbyy	Lateral
13	19	MF-P1	8	Lbyy	Lateral
14	22	MF-H2	10	Lbyy	Lateral
15	23	MF-H3	3.25	Lbyy	Lateral
16	29	MF-P1	8	Lbyy	Lateral
17	31	SF-H1	3.333	Lbyy	Lateral
18	32	SF-H2	2.758	Lbyy	Lateral
19	33	SF-H2	2.758	Lbyy	Lateral
20	34	MF-CP1	0.292	Lbyy	Lateral
21	35	MF-CP1	0.292	Lbyy	Lateral
22	36	MF-CP1	0.208	Lbyy	Lateral
23	37	MF-CP1	0.208	Lbyy	Lateral
24	38	SF-H3	2.309	Lbyy	Lateral
25	39	SF-H3	2.309	Lbyy	Lateral
26	40	SF-H4	3.207	Lbyy	Lateral
27	45	MF-H3	3.25	Lbyy	Lateral
28	50	SF-H1	3.333	Lbyy	Lateral
29	51	SF-H2	2.758	Lbyy	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
30	52	SF-H2	2.758	Lbyy	Lateral
31	53	MF-CP1	0.292	Lbyy	Lateral
32	54	MF-CP1	0.292	Lbyy	Lateral
33	55	MF-CP1	0.208	Lbyy	Lateral
34	56	MF-CP1	0.208	Lbyy	Lateral
35	57	SF-H3	2.309	Lbyy	Lateral
36	58	SF-H3	2.309	Lbyy	Lateral
37	59	SF-H4	3.207	Lbyy	Lateral
38	64	MF-H3	3.25	Lbyy	Lateral
39	69	MF-H1	8	Lbyy	Lateral
40	72	MF-P1	8	Lbyy	Lateral
41	73	MF-P1	8	Lbyy	Lateral
42	77	MF-P1	8	Lbyy	Lateral
43	79	MF-H1	8	Lbyy	Lateral
44	82	MF-P1	8	Lbyy	Lateral
45	83	MF-P1	8	Lbyy	Lateral
46	87	MF-P1	8	Lbyy	Lateral
47	89	MF-H2	10	Lbyy	Lateral
48	90	MF-H2	10	Lbyy	Lateral

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	29	Y	-0.032	%15
2	29	Y	-0.032	%85
3	29	Y	-0.075	%20
4	29	Y	-0.064	%50
5	29	Y	0	0
6	87	Y	-0.032	%15
7	87	Y	-0.032	%85
8	87	Y	-0.075	%20
9	87	Y	-0.064	%50
10	87	Y	0	0
11	77	Y	-0.032	%15
12	77	Y	-0.032	%85
13	77	Y	-0.075	%20
14	77	Y	-0.064	%50
15	77	Y	0	0
16	31	Y	-0.022	%20
17	31	Y	0	0
18	31	Y	0	0
19	31	Y	0	0
20	31	Y	0	0

Member Point Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	29	Z	-0.172	%15
2	29	Z	-0.172	%85
3	29	Z	-0.054	%20
4	29	Z	-0.054	%50
5	29	Z	0	0
6	87	Z	-0.172	%15
7	87	Z	-0.172	%85
8	87	Z	-0.054	%20

Member Point Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
9	87	Z	-0.054	%50
10	87	Z	0	0
11	77	Z	-0.172	%15
12	77	Z	-0.172	%85
13	77	Z	-0.054	%20
14	77	Z	-0.054	%50
15	77	Z	0	0
16	31	Z	-0.055	%20
17	31	Z	0	0
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0

Member Point Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	29	X	-0.069	%15
2	29	X	-0.069	%85
3	29	X	-0.033	%20
4	29	X	-0.028	%50
5	29	X	0	0
6	87	X	-0.069	%15
7	87	X	-0.069	%85
8	87	X	-0.033	%20
9	87	X	-0.028	%50
10	87	X	0	0
11	77	X	-0.069	%15
12	77	X	-0.069	%85
13	77	X	-0.033	%20
14	77	X	-0.028	%50
15	77	X	0	0
16	31	X	-0.032	%20
17	31	X	0	0
18	31	X	0	0
19	31	X	0	0
20	31	X	0	0

Member Point Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	29	Z	-0.058	%15
2	29	Z	-0.058	%85
3	29	Z	-0.024	%20
4	29	Z	-0.024	%50
5	29	Z	0	0
6	87	Z	-0.058	%15
7	87	Z	-0.058	%85
8	87	Z	-0.024	%20
9	87	Z	-0.024	%50
10	87	Z	0	0
11	77	Z	-0.058	%15
12	77	Z	-0.058	%85
13	77	Z	-0.024	%20
14	77	Z	-0.024	%50
15	77	Z	0	0

Member Point Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
16	31	Z	-0.024	%20
17	31	Z	0	0
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0

Member Point Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	29	X	-0.03	%15
2	29	X	-0.03	%85
3	29	X	-0.016	%20
4	29	X	-0.015	%50
5	29	X	0	0
6	87	X	-0.03	%15
7	87	X	-0.03	%85
8	87	X	-0.016	%20
9	87	X	-0.015	%50
10	87	X	0	0
11	77	X	-0.03	%15
12	77	X	-0.03	%85
13	77	X	-0.016	%20
14	77	X	-0.015	%50
15	77	X	0	0
16	31	X	-0.016	%20
17	31	X	0	0
18	31	X	0	0
19	31	X	0	0
20	31	X	0	0

Member Point Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	29	Z	-0.016	%15
2	29	Z	-0.016	%85
3	29	Z	-0.005	%20
4	29	Z	-0.005	%50
5	29	Z	0	0
6	87	Z	-0.016	%15
7	87	Z	-0.016	%85
8	87	Z	-0.005	%20
9	87	Z	-0.005	%50
10	87	Z	0	0
11	77	Z	-0.016	%15
12	77	Z	-0.016	%85
13	77	Z	-0.005	%20
14	77	Z	-0.005	%50
15	77	Z	0	0
16	31	Z	-0.005	%20
17	31	Z	0	0
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0

Member Point Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	29	X	-0.007	%15
2	29	X	-0.007	%85
3	29	X	-0.003	%20
4	29	X	-0.003	%50
5	29	X	0	0
6	87	X	-0.007	%15
7	87	X	-0.007	%85
8	87	X	-0.003	%20
9	87	X	-0.003	%50
10	87	X	0	0
11	77	X	-0.007	%15
12	77	X	-0.007	%85
13	77	X	-0.003	%20
14	77	X	-0.003	%50
15	77	X	0	0
16	31	X	-0.003	%20
17	31	X	0	0
18	31	X	0	0
19	31	X	0	0
20	31	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	29	Y	-0.19	%15
2	29	Y	-0.19	%85
3	29	Y	-0.069	%20
4	29	Y	-0.067	%50
5	29	Y	0	0
6	87	Y	-0.19	%15
7	87	Y	-0.19	%85
8	87	Y	-0.069	%20
9	87	Y	-0.067	%50
10	87	Y	0	0
11	77	Y	-0.19	%15
12	77	Y	-0.19	%85
13	77	Y	-0.069	%20
14	77	Y	-0.067	%50
15	77	Y	0	0
16	31	Y	-0.07	%20
17	31	Y	0	0
18	31	Y	0	0
19	31	Y	0	0
20	31	Y	0	0

Member Point Loads (BLC 13 : Maint LL 1)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	6	Y	-0.25	%5

Member Point Loads (BLC 14 : Maint LL 2)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	22	Y	-0.25	%5

Member Point Loads (BLC 15 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	69	Y	-0.25	%5

Member Point Loads (BLC 16 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	89	Y	-0.25	%5

Member Point Loads (BLC 17 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	79	Y	-0.25	%5

Member Point Loads (BLC 18 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	90	Y	-0.25	%5

Member Point Loads (BLC 19 : Maint LL 7)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	6	Y	-0.25	%95

Member Point Loads (BLC 20 : Maint LL 8)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	22	Y	-0.25	%95

Member Point Loads (BLC 21 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	69	Y	-0.25	%95

Member Point Loads (BLC 22 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	89	Y	-0.25	%95

Member Point Loads (BLC 23 : Maint LL 11)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	79	Y	-0.25	%95

Member Point Loads (BLC 24 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	90	Y	-0.25	%95

Member Point Loads (BLC 25 : Maint LL 13)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	31	Y	-0.25	%95

Member Point Loads (BLC 26 : Maint LL 14)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	50	Y	-0.25	%95

Member Point Loads (BLC 27 : Maint LL 15)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	1	Y	-0.25	%95

Member Distributed Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.013	-0.013	0	%100
2	2	Z	-0.011	-0.011	0	%100
3	3	Z	-0.011	-0.011	0	%100
4	4	Z	-0.017	-0.017	0	%100
5	5	Z	-0.017	-0.017	0	%100
6	6	Z	-0.01	-0.01	0	%100
7	7	Z	-0.017	-0.017	0	%100
8	8	Z	-0.017	-0.017	0	%100
9	9	Z	-0.007	-0.007	0	%100
10	10	Z	-0.007	-0.007	0	%100
11	11	Z	-0.023	-0.023	0	%100
12	18	Z	-0.008	-0.008	0	%100
13	19	Z	-0.008	-0.008	0	%100
14	22	Z	-0.008	-0.008	0	%100
15	23	Z	-0.02	-0.02	0	%100
16	29	Z	-0.008	-0.008	0	%100
17	31	Z	-0.013	-0.013	0	%100
18	32	Z	-0.011	-0.011	0	%100
19	33	Z	-0.011	-0.011	0	%100
20	34	Z	-0.017	-0.017	0	%100
21	35	Z	-0.017	-0.017	0	%100
22	36	Z	-0.017	-0.017	0	%100
23	37	Z	-0.017	-0.017	0	%100
24	38	Z	-0.007	-0.007	0	%100
25	39	Z	-0.007	-0.007	0	%100
26	40	Z	-0.023	-0.023	0	%100
27	45	Z	-0.02	-0.02	0	%100
28	50	Z	-0.013	-0.013	0	%100
29	51	Z	-0.011	-0.011	0	%100
30	52	Z	-0.011	-0.011	0	%100
31	53	Z	-0.017	-0.017	0	%100
32	54	Z	-0.017	-0.017	0	%100
33	55	Z	-0.017	-0.017	0	%100

Member Distributed Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
34	56	Z	-0.017	-0.017	0	%100
35	57	Z	-0.007	-0.007	0	%100
36	58	Z	-0.007	-0.007	0	%100
37	59	Z	-0.023	-0.023	0	%100
38	64	Z	-0.02	-0.02	0	%100
39	69	Z	-0.01	-0.01	0	%100
40	72	Z	-0.008	-0.008	0	%100
41	73	Z	-0.008	-0.008	0	%100
42	77	Z	-0.008	-0.008	0	%100
43	79	Z	-0.01	-0.01	0	%100
44	82	Z	-0.008	-0.008	0	%100
45	83	Z	-0.008	-0.008	0	%100
46	87	Z	-0.008	-0.008	0	%100
47	89	Z	-0.008	-0.008	0	%100
48	90	Z	-0.008	-0.008	0	%100

Member Distributed Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.013	-0.013	0	%100
2	2	X	-0.011	-0.011	0	%100
3	3	X	-0.011	-0.011	0	%100
4	4	X	-0.017	-0.017	0	%100
5	5	X	-0.017	-0.017	0	%100
6	6	X	-0.01	-0.01	0	%100
7	7	X	-0.017	-0.017	0	%100
8	8	X	-0.017	-0.017	0	%100
9	9	X	-0.007	-0.007	0	%100
10	10	X	-0.007	-0.007	0	%100
11	11	X	-0.023	-0.023	0	%100
12	18	X	-0.008	-0.008	0	%100
13	19	X	-0.008	-0.008	0	%100
14	22	X	-0.008	-0.008	0	%100
15	23	X	-0.02	-0.02	0	%100
16	29	X	-0.008	-0.008	0	%100
17	31	X	-0.013	-0.013	0	%100
18	32	X	-0.011	-0.011	0	%100
19	33	X	-0.011	-0.011	0	%100
20	34	X	-0.017	-0.017	0	%100
21	35	X	-0.017	-0.017	0	%100
22	36	X	-0.017	-0.017	0	%100
23	37	X	-0.017	-0.017	0	%100
24	38	X	-0.007	-0.007	0	%100
25	39	X	-0.007	-0.007	0	%100
26	40	X	-0.023	-0.023	0	%100
27	45	X	-0.02	-0.02	0	%100
28	50	X	-0.013	-0.013	0	%100
29	51	X	-0.011	-0.011	0	%100
30	52	X	-0.011	-0.011	0	%100
31	53	X	-0.017	-0.017	0	%100
32	54	X	-0.017	-0.017	0	%100
33	55	X	-0.017	-0.017	0	%100
34	56	X	-0.017	-0.017	0	%100
35	57	X	-0.007	-0.007	0	%100
36	58	X	-0.007	-0.007	0	%100
37	59	X	-0.023	-0.023	0	%100

Member Distributed Loads (BLC 3 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
38	64	X	-0.02	-0.02	0	%100
39	69	X	-0.01	-0.01	0	%100
40	72	X	-0.008	-0.008	0	%100
41	73	X	-0.008	-0.008	0	%100
42	77	X	-0.008	-0.008	0	%100
43	79	X	-0.01	-0.01	0	%100
44	82	X	-0.008	-0.008	0	%100
45	83	X	-0.008	-0.008	0	%100
46	87	X	-0.008	-0.008	0	%100
47	89	X	-0.008	-0.008	0	%100
48	90	X	-0.008	-0.008	0	%100

Member Distributed Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.008	-0.008	0	%100
2	2	Z	-0.008	-0.008	0	%100
3	3	Z	-0.008	-0.008	0	%100
4	4	Z	-0.017	-0.017	0	%100
5	5	Z	-0.017	-0.017	0	%100
6	6	Z	-0.003	-0.003	0	%100
7	7	Z	-0.021	-0.021	0	%100
8	8	Z	-0.021	-0.021	0	%100
9	9	Z	-0.007	-0.007	0	%100
10	10	Z	-0.007	-0.007	0	%100
11	11	Z	-0.011	-0.011	0	%100
12	18	Z	-0.003	-0.003	0	%100
13	19	Z	-0.003	-0.003	0	%100
14	22	Z	-0.003	-0.003	0	%100
15	23	Z	-0.01	-0.01	0	%100
16	29	Z	-0.003	-0.003	0	%100
17	31	Z	-0.008	-0.008	0	%100
18	32	Z	-0.008	-0.008	0	%100
19	33	Z	-0.008	-0.008	0	%100
20	34	Z	-0.017	-0.017	0	%100
21	35	Z	-0.017	-0.017	0	%100
22	36	Z	-0.021	-0.021	0	%100
23	37	Z	-0.021	-0.021	0	%100
24	38	Z	-0.007	-0.007	0	%100
25	39	Z	-0.007	-0.007	0	%100
26	40	Z	-0.011	-0.011	0	%100
27	45	Z	-0.01	-0.01	0	%100
28	50	Z	-0.008	-0.008	0	%100
29	51	Z	-0.008	-0.008	0	%100
30	52	Z	-0.008	-0.008	0	%100
31	53	Z	-0.017	-0.017	0	%100
32	54	Z	-0.017	-0.017	0	%100
33	55	Z	-0.021	-0.021	0	%100
34	56	Z	-0.021	-0.021	0	%100
35	57	Z	-0.007	-0.007	0	%100
36	58	Z	-0.007	-0.007	0	%100
37	59	Z	-0.011	-0.011	0	%100
38	64	Z	-0.01	-0.01	0	%100
39	69	Z	-0.003	-0.003	0	%100
40	72	Z	-0.003	-0.003	0	%100
41	73	Z	-0.003	-0.003	0	%100

Member Distributed Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
42	77	Z	-0.003	-0.003	0	%100
43	79	Z	-0.003	-0.003	0	%100
44	82	Z	-0.003	-0.003	0	%100
45	83	Z	-0.003	-0.003	0	%100
46	87	Z	-0.003	-0.003	0	%100
47	89	Z	-0.003	-0.003	0	%100
48	90	Z	-0.003	-0.003	0	%100

Member Distributed Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.008	-0.008	0	%100
2	2	X	-0.008	-0.008	0	%100
3	3	X	-0.008	-0.008	0	%100
4	4	X	-0.017	-0.017	0	%100
5	5	X	-0.017	-0.017	0	%100
6	6	X	-0.003	-0.003	0	%100
7	7	X	-0.021	-0.021	0	%100
8	8	X	-0.021	-0.021	0	%100
9	9	X	-0.007	-0.007	0	%100
10	10	X	-0.007	-0.007	0	%100
11	11	X	-0.011	-0.011	0	%100
12	18	X	-0.003	-0.003	0	%100
13	19	X	-0.003	-0.003	0	%100
14	22	X	-0.003	-0.003	0	%100
15	23	X	-0.01	-0.01	0	%100
16	29	X	-0.003	-0.003	0	%100
17	31	X	-0.008	-0.008	0	%100
18	32	X	-0.008	-0.008	0	%100
19	33	X	-0.008	-0.008	0	%100
20	34	X	-0.017	-0.017	0	%100
21	35	X	-0.017	-0.017	0	%100
22	36	X	-0.021	-0.021	0	%100
23	37	X	-0.021	-0.021	0	%100
24	38	X	-0.007	-0.007	0	%100
25	39	X	-0.007	-0.007	0	%100
26	40	X	-0.011	-0.011	0	%100
27	45	X	-0.01	-0.01	0	%100
28	50	X	-0.008	-0.008	0	%100
29	51	X	-0.008	-0.008	0	%100
30	52	X	-0.008	-0.008	0	%100
31	53	X	-0.017	-0.017	0	%100
32	54	X	-0.017	-0.017	0	%100
33	55	X	-0.021	-0.021	0	%100
34	56	X	-0.021	-0.021	0	%100
35	57	X	-0.007	-0.007	0	%100
36	58	X	-0.007	-0.007	0	%100
37	59	X	-0.011	-0.011	0	%100
38	64	X	-0.01	-0.01	0	%100
39	69	X	-0.003	-0.003	0	%100
40	72	X	-0.003	-0.003	0	%100
41	73	X	-0.003	-0.003	0	%100
42	77	X	-0.003	-0.003	0	%100
43	79	X	-0.003	-0.003	0	%100
44	82	X	-0.003	-0.003	0	%100
45	83	X	-0.003	-0.003	0	%100

Member Distributed Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
46	87	X	-0.003	-0.003	0	%100
47	89	X	-0.003	-0.003	0	%100
48	90	X	-0.003	-0.003	0	%100

Member Distributed Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.001	-0.001	0	%100
2	2	Z	-0.001	-0.001	0	%100
3	3	Z	-0.001	-0.001	0	%100
4	4	Z	-0.002	-0.002	0	%100
5	5	Z	-0.002	-0.002	0	%100
6	6	Z	-0.0005	-0.0005	0	%100
7	7	Z	-0.002	-0.002	0	%100
8	8	Z	-0.002	-0.002	0	%100
9	9	Z	-0.0007	-0.0007	0	%100
10	10	Z	-0.0007	-0.0007	0	%100
11	11	Z	-0.002	-0.002	0	%100
12	18	Z	-0.0004	-0.0004	0	%100
13	19	Z	-0.0004	-0.0004	0	%100
14	22	Z	-0.0004	-0.0004	0	%100
15	23	Z	-0.002	-0.002	0	%100
16	29	Z	-0.0004	-0.0004	0	%100
17	31	Z	-0.001	-0.001	0	%100
18	32	Z	-0.001	-0.001	0	%100
19	33	Z	-0.001	-0.001	0	%100
20	34	Z	-0.002	-0.002	0	%100
21	35	Z	-0.002	-0.002	0	%100
22	36	Z	-0.002	-0.002	0	%100
23	37	Z	-0.002	-0.002	0	%100
24	38	Z	-0.0007	-0.0007	0	%100
25	39	Z	-0.0007	-0.0007	0	%100
26	40	Z	-0.002	-0.002	0	%100
27	45	Z	-0.002	-0.002	0	%100
28	50	Z	-0.001	-0.001	0	%100
29	51	Z	-0.001	-0.001	0	%100
30	52	Z	-0.001	-0.001	0	%100
31	53	Z	-0.002	-0.002	0	%100
32	54	Z	-0.002	-0.002	0	%100
33	55	Z	-0.002	-0.002	0	%100
34	56	Z	-0.002	-0.002	0	%100
35	57	Z	-0.0007	-0.0007	0	%100
36	58	Z	-0.0007	-0.0007	0	%100
37	59	Z	-0.002	-0.002	0	%100
38	64	Z	-0.002	-0.002	0	%100
39	69	Z	-0.0005	-0.0005	0	%100
40	72	Z	-0.0004	-0.0004	0	%100
41	73	Z	-0.0004	-0.0004	0	%100
42	77	Z	-0.0004	-0.0004	0	%100
43	79	Z	-0.0005	-0.0005	0	%100
44	82	Z	-0.0004	-0.0004	0	%100
45	83	Z	-0.0004	-0.0004	0	%100
46	87	Z	-0.0004	-0.0004	0	%100
47	89	Z	-0.0004	-0.0004	0	%100
48	90	Z	-0.0004	-0.0004	0	%100

Member Distributed Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.001	-0.001	0	%100
2	2	X	-0.001	-0.001	0	%100
3	3	X	-0.001	-0.001	0	%100
4	4	X	-0.002	-0.002	0	%100
5	5	X	-0.002	-0.002	0	%100
6	6	X	-0.0005	-0.0005	0	%100
7	7	X	-0.002	-0.002	0	%100
8	8	X	-0.002	-0.002	0	%100
9	9	X	-0.0007	-0.0007	0	%100
10	10	X	-0.0007	-0.0007	0	%100
11	11	X	-0.002	-0.002	0	%100
12	18	X	-0.0004	-0.0004	0	%100
13	19	X	-0.0004	-0.0004	0	%100
14	22	X	-0.0004	-0.0004	0	%100
15	23	X	-0.002	-0.002	0	%100
16	29	X	-0.0004	-0.0004	0	%100
17	31	X	-0.001	-0.001	0	%100
18	32	X	-0.001	-0.001	0	%100
19	33	X	-0.001	-0.001	0	%100
20	34	X	-0.002	-0.002	0	%100
21	35	X	-0.002	-0.002	0	%100
22	36	X	-0.002	-0.002	0	%100
23	37	X	-0.002	-0.002	0	%100
24	38	X	-0.0007	-0.0007	0	%100
25	39	X	-0.0007	-0.0007	0	%100
26	40	X	-0.002	-0.002	0	%100
27	45	X	-0.002	-0.002	0	%100
28	50	X	-0.001	-0.001	0	%100
29	51	X	-0.001	-0.001	0	%100
30	52	X	-0.001	-0.001	0	%100
31	53	X	-0.002	-0.002	0	%100
32	54	X	-0.002	-0.002	0	%100
33	55	X	-0.002	-0.002	0	%100
34	56	X	-0.002	-0.002	0	%100
35	57	X	-0.0007	-0.0007	0	%100
36	58	X	-0.0007	-0.0007	0	%100
37	59	X	-0.002	-0.002	0	%100
38	64	X	-0.002	-0.002	0	%100
39	69	X	-0.0005	-0.0005	0	%100
40	72	X	-0.0004	-0.0004	0	%100
41	73	X	-0.0004	-0.0004	0	%100
42	77	X	-0.0004	-0.0004	0	%100
43	79	X	-0.0005	-0.0005	0	%100
44	82	X	-0.0004	-0.0004	0	%100
45	83	X	-0.0004	-0.0004	0	%100
46	87	X	-0.0004	-0.0004	0	%100
47	89	X	-0.0004	-0.0004	0	%100
48	90	X	-0.0004	-0.0004	0	%100

Member Distributed Loads (BLC 8 : Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Y	-0.021	-0.021	0	%100
2	2	Y	-0.016	-0.016	0	%100
3	3	Y	-0.016	-0.016	0	%100

Member Distributed Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
4	4	Y	-0.022	-0.022	0	%100
5	5	Y	-0.022	-0.022	0	%100
6	6	Y	-0.015	-0.015	0	%100
7	7	Y	-0.022	-0.022	0	%100
8	8	Y	-0.022	-0.022	0	%100
9	9	Y	-0.013	-0.013	0	%100
10	10	Y	-0.013	-0.013	0	%100
11	11	Y	-0.027	-0.027	0	%100
12	18	Y	-0.013	-0.013	0	%100
13	19	Y	-0.013	-0.013	0	%100
14	22	Y	-0.013	-0.013	0	%100
15	23	Y	-0.027	-0.027	0	%100
16	29	Y	-0.013	-0.013	0	%100
17	31	Y	-0.021	-0.021	0	%100
18	32	Y	-0.016	-0.016	0	%100
19	33	Y	-0.016	-0.016	0	%100
20	34	Y	-0.022	-0.022	0	%100
21	35	Y	-0.022	-0.022	0	%100
22	36	Y	-0.022	-0.022	0	%100
23	37	Y	-0.022	-0.022	0	%100
24	38	Y	-0.013	-0.013	0	%100
25	39	Y	-0.013	-0.013	0	%100
26	40	Y	-0.027	-0.027	0	%100
27	45	Y	-0.027	-0.027	0	%100
28	50	Y	-0.021	-0.021	0	%100
29	51	Y	-0.016	-0.016	0	%100
30	52	Y	-0.016	-0.016	0	%100
31	53	Y	-0.022	-0.022	0	%100
32	54	Y	-0.022	-0.022	0	%100
33	55	Y	-0.022	-0.022	0	%100
34	56	Y	-0.022	-0.022	0	%100
35	57	Y	-0.013	-0.013	0	%100
36	58	Y	-0.013	-0.013	0	%100
37	59	Y	-0.027	-0.027	0	%100
38	64	Y	-0.027	-0.027	0	%100
39	69	Y	-0.015	-0.015	0	%100
40	72	Y	-0.013	-0.013	0	%100
41	73	Y	-0.013	-0.013	0	%100
42	77	Y	-0.013	-0.013	0	%100
43	79	Y	-0.015	-0.015	0	%100
44	82	Y	-0.013	-0.013	0	%100
45	83	Y	-0.013	-0.013	0	%100
46	87	Y	-0.013	-0.013	0	%100
47	89	Y	-0.013	-0.013	0	%100
48	90	Y	-0.013	-0.013	0	%100

Member Distributed Loads (BLC 28 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	39	Y	-0.018	-0.016	0.231	2.309
2	57	Y	-0.018	-0.016	0	2.078
3	58	Y	0.0006164	-0.016	0	1.155
4	58	Y	-0.016	-0.035	1.155	2.309
5	9	Y	-0.015	-0.015	0	2.078
6	10	Y	-0.014	-0.02	0.231	1.27
7	10	Y	-0.02	-0.026	1.27	2.309

Member Distributed Loads (BLC 28 : BLC 1 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
8	38	Y	-0.035	-0.016	0	1.155
9	38	Y	-0.016	0.0006163	1.155	2.309

Member Distributed Loads (BLC 29 : BLC 8 Transient Area Loads)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	9	Y	-0.016	-0.016	0	2.078
2	10	Y	-0.015	-0.021	0.231	1.27
3	10	Y	-0.021	-0.027	1.27	2.309
4	38	Y	-0.035	-0.016	0	1.155
5	38	Y	-0.016	0.0006163	1.155	2.309
6	39	Y	-0.018	-0.016	0.231	2.309
7	57	Y	-0.018	-0.016	0	2.078
8	58	Y	0.0006164	-0.016	0	1.155
9	58	Y	-0.016	-0.035	1.155	2.309

Member Area Loads (BLC 1 : Dead)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	23	22	25	24	Y	Two Way	-0.01
2	73	72	75	74	Y	Two Way	-0.01
3	102	101	104	103	Y	Two Way	-0.01

Member Area Loads (BLC 8 : Ice)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	23	22	25	24	Y	Two Way	-0.01
2	73	72	75	74	Y	Two Way	-0.01
3	102	101	104	103	Y	Two Way	-0.01

Node Loads and Enforced Displacements (BLC 9 : Live Load a)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	30	L	Y	-0.5
2	113	L	Y	-0.5
3	133	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 10 : Live Load b)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	31	L	Y	-0.5
2	114	L	Y	-0.5
3	134	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 11 : Live Load c)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	46	L	Y	-0.5
2	125	L	Y	-0.5
3	145	L	Y	-0.5

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
1	Dead	DL	-1		20		3
2	0 Wind - No Ice	WLZ			20	48	
3	90 Wind - No Ice	WLX			20	48	
4	0 Wind - Ice	WLZ			20	48	
5	90 Wind - Ice	WLX			20	48	
6	0 Wind - Service	WLZ			20	48	
7	90 Wind - Service	WLX			20	48	
8	Ice	OL1			20	48	3
9	Live Load a	LL		3			
10	Live Load b	LL		3			
11	Live Load c	LL		3			
12	Live Load d	LL					
13	Maint LL 1	LL			1		
14	Maint LL 2	LL			1		
15	Maint LL 3	LL			1		
16	Maint LL 4	LL			1		
17	Maint LL 5	LL			1		
18	Maint LL 6	LL			1		
19	Maint LL 7	LL			1		
20	Maint LL 8	LL			1		
21	Maint LL 9	LL			1		
22	Maint LL 10	LL			1		
23	Maint LL 11	LL			1		
24	Maint LL 12	LL			1		
25	Maint LL 13	LL			1		
26	Maint LL 14	LL			1		
27	Maint LL 15	LL			1		
28	BLC 1 Transient Area Loads	None				9	
29	BLC 8 Transient Area Loads	None				9	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4 Dead	Yes	Y	1	1.4						
2	0.9 D + 1.6 - 0 W	Yes	Y	1	0.9	2	1.6				
3	0.9 D + 1.6 - 30 W	Yes	Y	1	0.9	2	1.386	3	0.8		
4	0.9 D + 1.6 - 60 W	Yes	Y	1	0.9	3	1.386	2	0.8		
5	0.9 D + 1.6 - 90 W	Yes	Y	1	0.9	3	1.6				
6	0.9 D + 1.6 - 120 W	Yes	Y	1	0.9	3	1.386	2	-0.8		
7	0.9 D + 1.6 - 150 W	Yes	Y	1	0.9	2	-1.386	3	0.8		
8	0.9 D + 1.6 - 180 W	Yes	Y	1	0.9	2	-1.6				
9	0.9 D + 1.6 - 210 W	Yes	Y	1	0.9	2	-1.386	3	-0.8		
10	0.9 D + 1.6 - 240 W	Yes	Y	1	0.9	3	-1.386	2	-0.8		
11	0.9 D + 1.6 - 270 W	Yes	Y	1	0.9	3	-1.6				
12	0.9 D + 1.6 - 300 W	Yes	Y	1	0.9	3	-1.386	2	0.8		
13	0.9 D + 1.6 - 330 W	Yes	Y	1	0.9	2	1.386	3	-0.8		
14	1.2 D + 1.6 - 0 W	Yes	Y	1	1.2	2	1.6				
15	1.2 D + 1.6 - 30 W	Yes	Y	1	1.2	2	1.386	3	0.8		
16	1.2 D + 1.6 - 60 W	Yes	Y	1	1.2	3	1.386	2	0.8		
17	1.2 D + 1.6 - 90 W	Yes	Y	1	1.2	3	1.6				
18	1.2 D + 1.6 - 120 W	Yes	Y	1	1.2	3	1.386	2	-0.8		
19	1.2 D + 1.6 - 150 W	Yes	Y	1	1.2	2	-1.386	3	0.8		
20	1.2 D + 1.6 - 180 W	Yes	Y	1	1.2	2	-1.6				
21	1.2 D + 1.6 - 210 W	Yes	Y	1	1.2	2	-1.386	3	-0.8		
22	1.2 D + 1.6 - 240 W	Yes	Y	1	1.2	3	-1.386	2	-0.8		

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
23	1.2 D + 1.6 - 270 W	Yes	Y	1	1.2	3	-1.6				
24	1.2 D + 1.6 - 300 W	Yes	Y	1	1.2	3	-1.386	2	0.8		
25	1.2 D + 1.6 - 330 W	Yes	Y	1	1.2	2	1.386	3	-0.8		
26	0.9 D + 1.6 - 0 W/Ice	Yes	Y	1	0.9	4	1.6			8	1
27	0.9 D + 1.6 - 30 W/Ice	Yes	Y	1	0.9	4	1.386	5	0.8	8	1
28	0.9 D + 1.6 - 60 W/Ice	Yes	Y	1	0.9	5	1.386	4	0.8	8	1
29	0.9 D + 1.6 - 90 W/Ice	Yes	Y	1	0.9	5	1.6			8	1
30	0.9 D + 1.6 - 120 W/Ice	Yes	Y	1	0.9	5	1.386	4	-0.8	8	1
31	0.9 D + 1.6 - 150 W/Ice	Yes	Y	1	0.9	4	-1.386	5	0.8	8	1
32	0.9 D + 1.6 - 180 W/Ice	Yes	Y	1	0.9	4	-1.6			8	1
33	0.9 D + 1.6 - 210 W/Ice	Yes	Y	1	0.9	4	-1.386	5	-0.8	8	1
34	0.9 D + 1.6 - 240 W/Ice	Yes	Y	1	0.9	5	-1.386	4	-0.8	8	1
35	0.9 D + 1.6 - 270 W/Ice	Yes	Y	1	0.9	5	-1.6			8	1
36	0.9 D + 1.6 - 300 W/Ice	Yes	Y	1	0.9	5	-1.386	4	0.8	8	1
37	0.9 D + 1.6 - 330 W/Ice	Yes	Y	1	0.9	4	1.386	5	-0.8	8	1
38	1.2 D + 1.0 - 0 W/Ice	Yes	Y	1	1.2	4	1			8	1
39	1.2 D + 1.0 - 30 W/Ice	Yes	Y	1	1.2	4	0.866	5	0.5	8	1
40	1.2 D + 1.0 - 60 W/Ice	Yes	Y	1	1.2	5	0.866	4	0.5	8	1
41	1.2 D + 1.0 - 90 W/Ice	Yes	Y	1	1.2	5	1			8	1
42	1.2 D + 1.0 - 120 W/Ice	Yes	Y	1	1.2	5	0.866	4	-0.5	8	1
43	1.2 D + 1.0 - 150 W/Ice	Yes	Y	1	1.2	4	-0.866	5	0.5	8	1
44	1.2 D + 1.0 - 180 W/Ice	Yes	Y	1	1.2	4	-1			8	1
45	1.2 D + 1.0 - 210 W/Ice	Yes	Y	1	1.2	4	-0.866	5	-0.5	8	1
46	1.2 D + 1.0 - 240 W/Ice	Yes	Y	1	1.2	5	-0.866	4	-0.5	8	1
47	1.2 D + 1.0 - 270 W/Ice	Yes	Y	1	1.2	5	-1			8	1
48	1.2 D + 1.0 - 300 W/Ice	Yes	Y	1	1.2	5	-0.866	4	0.5	8	1
49	1.2 D + 1.0 - 330 W/Ice	Yes	Y	1	1.2	4	0.866	5	-0.5	8	1
50	1.2 D + 1.5 LL a + Service - 0 W	Yes	Y	1	1.2	6	1			9	1.5
51	1.2 D + 1.5 LL a + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	9	1.5
52	1.2 D + 1.5 LL a + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	9	1.5
53	1.2 D + 1.5 LL a + Service - 90 W	Yes	Y	1	1.2	7	1			9	1.5
54	1.2 D + 1.5 LL a + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	9	1.5
55	1.2 D + 1.5 LL a + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	9	1.5
56	1.2 D + 1.5 LL a + Service - 180 W	Yes	Y	1	1.2	6	-1			9	1.5
57	1.2 D + 1.5 LL a + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	9	1.5
58	1.2 D + 1.5 LL a + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	9	1.5
59	1.2 D + 1.5 LL a + Service - 270 W	Yes	Y	1	1.2	7	-1			9	1.5
60	1.2 D + 1.5 LL a + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	9	1.5
61	1.2 D + 1.5 LL a + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	9	1.5
62	1.2 D + 1.5 LL b + Service - 0 W	Yes	Y	1	1.2	6	1			10	1.5
63	1.2 D + 1.5 LL b + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	10	1.5
64	1.2 D + 1.5 LL b + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	10	1.5
65	1.2 D + 1.5 LL b + Service - 90 W	Yes	Y	1	1.2	7	1			10	1.5
66	1.2 D + 1.5 LL b + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	10	1.5
67	1.2 D + 1.5 LL b + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	10	1.5
68	1.2 D + 1.5 LL b + Service - 180 W	Yes	Y	1	1.2	6	-1			10	1.5
69	1.2 D + 1.5 LL b + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	10	1.5
70	1.2 D + 1.5 LL b + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	10	1.5
71	1.2 D + 1.5 LL b + Service - 270 W	Yes	Y	1	1.2	7	-1			10	1.5
72	1.2 D + 1.5 LL b + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	10	1.5
73	1.2 D + 1.5 LL b + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	10	1.5
74	1.2 D + 1.5 LL c + Service - 0 W	Yes	Y	1	1.2	6	1			11	1.5
75	1.2 D + 1.5 LL c + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	11	1.5
76	1.2 D + 1.5 LL c + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	11	1.5
77	1.2 D + 1.5 LL c + Service - 90 W	Yes	Y	1	1.2	7	1			11	1.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
78	1.2 D + 1.5 LL c + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	11	1.5
79	1.2 D + 1.5 LL c + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	11	1.5
80	1.2 D + 1.5 LL c + Service - 180 W	Yes	Y	1	1.2	6	-1			11	1.5
81	1.2 D + 1.5 LL c + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	11	1.5
82	1.2 D + 1.5 LL c + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	11	1.5
83	1.2 D + 1.5 LL c + Service - 270 W	Yes	Y	1	1.2	7	-1			11	1.5
84	1.2 D + 1.5 LL c + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	11	1.5
85	1.2 D + 1.5 LL c + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	11	1.5
86	1.2 D + 1.5 LL d + Service - 0 W	Yes	Y	1	1.2	6	1			12	1.5
87	1.2 D + 1.5 LL d + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	12	1.5
88	1.2 D + 1.5 LL d + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	12	1.5
89	1.2 D + 1.5 LL d + Service - 90 W	Yes	Y	1	1.2	7	1			12	1.5
90	1.2 D + 1.5 LL d + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	12	1.5
91	1.2 D + 1.5 LL d + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	12	1.5
92	1.2 D + 1.5 LL d + Service - 180 W	Yes	Y	1	1.2	6	-1			12	1.5
93	1.2 D + 1.5 LL d + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	12	1.5
94	1.2 D + 1.5 LL d + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	12	1.5
95	1.2 D + 1.5 LL d + Service - 270 W	Yes	Y	1	1.2	7	-1			12	1.5
96	1.2 D + 1.5 LL d + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	12	1.5
97	1.2 D + 1.5 LL d + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	12	1.5
98	1.2 D + 1.5 LL Maint (1)	Yes	Y	1	1.2					13	1.5
99	1.2 D + 1.5 LL Maint (2)	Yes	Y	1	1.2					14	1.5
100	1.2 D + 1.5 LL Maint (3)	Yes	Y	1	1.2					15	1.5
101	1.2 D + 1.5 LL Maint (4)	Yes	Y	1	1.2					16	1.5
102	1.2 D + 1.5 LL Maint (5)	Yes	Y	1	1.2					17	1.5
103	1.2 D + 1.5 LL Maint (6)	Yes	Y	1	1.2					18	1.5
104	1.2 D + 1.5 LL Maint (7)	Yes	Y	1	1.2					19	1.5
105	1.2 D + 1.5 LL Maint (8)	Yes	Y	1	1.2					20	1.5
106	1.2 D + 1.5 LL Maint (9)	Yes	Y	1	1.2					21	1.5
107	1.2 D + 1.5 LL Maint (10)	Yes	Y	1	1.2					22	1.5
108	1.2 D + 1.5 LL Maint (11)	Yes	Y	1	1.2					23	1.5
109	1.2 D + 1.5 LL Maint (12)	Yes	Y	1	1.2					24	1.5
110	1.2 D + 1.5 LL Maint (13)	Yes	Y	1	1.2					25	1.5
111	1.2 D + 1.5 LL Maint (14)	Yes	Y	1	1.2					26	1.5
112	1.2 D + 1.5 LL Maint (15)	Yes	Y	1	1.2					27	1.5

Envelope Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	1	max	1.342	5	2.621	38	1.674	2	5.301	26	1.358	11	0.339	24
2		min	-1.345	23	-0.544	8	-1.786	20	-1.756	8	-1.359	17	-0.221	6
3	53	max	1.4	5	2.676	42	1.734	14	0.681	13	1.696	3	0.935	12
4		min	-1.494	23	-0.281	12	-1.676	8	-2.418	43	-1.696	21	-4.65	42
5	82	max	1.329	17	2.575	46	1.916	14	0.72	3	1.714	7	4.347	46
6		min	-1.232	11	-0.307	4	-1.862	8	-2.821	45	-1.716	25	-0.984	4
7	Totals:	max	4.058	17	7.146	48	5.309	14						
8		min	-4.058	11	1.797	6	-5.309	8						

Envelope AISC 13TH (360-05): LRFD Member Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	1	HSS4X4X2	0.672	0	37	0.16	0	y	49	70.173	73.278	8.24	8.24	2.145	H1-1b
2	2	C3.38x2.06x.188	0.505	2.592	39	0.082	0.351	y	41	38.433	43.394	1.694	4.483	1.631	H1-1b
3	3	C3.38x2.06x.188	0.479	0	37	0.086	2.241	z	20	38.433	43.394	1.694	4.483	1.627	H1-1b
4	4	PL3/8"x6	0.104	0	14	0.194	0	y	14	68.856	72.9	0.57	9.113	2.378	H1-1b

Envelope AISC 13TH (360-05): LRFD Member Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
5	5	PL3/8"x6	0.111	0	15	0.154	0	y	14	68.856	72.9	0.57	9.113	1.983	H1-1b
6	6	PIPE_3.5x0.165	0.089	6.75	19	0.046	4		16	45.872	71.57	6.336	6.336	1.922	H1-1b
7	7	PL3/8"x6	0.174	0.208	20	0.264	0.208	y	38	70.733	72.9	0.57	9.113	1.356	H1-1b
8	8	PL3/8"x6	0.173	0	25	0.278	0	y	39	70.733	72.9	0.57	9.113	2.837	H1-1b
9	9	L2x2x4	0.347	0	20	0.035	2.309	z	43	23.349	30.586	0.691	1.577	1.5	H2-1
10	10	L2x2x4	0.298	2.309	20	0.048	0	y	40	23.349	30.586	0.691	1.577	1.5	H2-1
11	11	L7.63x2.5x6	0.464	1.604	8	0.101	0.334	y	38	73.845	118.523	1.798	13.659	1.229	H2-1
12	18	PIPE_2.88x.203	0.135	5.667	17	0.05	5.667		18	35.519	70.68	5.029	5.029	3	H1-1b
13	19	PIPE_2.88x.203	0.16	2.333	21	0.055	5.667		21	35.519	70.68	5.029	5.029	3	H1-1b
14	22	PIPE_2.88x.203	0.174	7.813	25	0.163	8.958		14	24.131	70.68	5.029	5.029	2.48	H1-1b
15	23	L6.63x4.33x.25	0.24	3.25	6	0.029	3.25	z	24	49.975	86.751	2.311	6.976	1.5	H2-1
16	29	PIPE_2.88x.203	0.147	2.333	19	0.055	2.333		20	35.519	70.68	5.029	5.029	3	H1-1b
17	31	HSS4X4X2	0.67	0	31	0.164	0	y	41	70.173	73.278	8.24	8.24	2.17	H1-1b
18	32	C3.38x2.06x.188	0.505	2.592	43	0.082	0.351	y	45	38.433	43.394	1.694	4.483	1.631	H1-1b
19	33	C3.38x2.06x.188	0.462	0	29	0.078	2.241	y	48	38.433	43.394	1.694	4.483	1.627	H1-1b
20	34	PL3/8"x6	0.088	0	18	0.176	0	y	30	68.856	72.9	0.57	9.113	2.374	H1-1b
21	35	PL3/8"x6	0.11	0	19	0.127	0	y	18	68.856	72.9	0.57	9.113	1.901	H1-1b
22	36	PL3/8"x6	0.151	0.208	19	0.263	0.208	y	42	70.733	72.9	0.57	9.113	2.691	H1-1b
23	37	PL3/8"x6	0.138	0	17	0.278	0	y	43	70.733	72.9	0.57	9.113	2.92	H1-1b
24	38	L2x2x4	0.265	0	23	0.034	0	y	40	23.349	30.586	0.691	1.577	1.5	H2-1
25	39	L2x2x4	0.255	2.309	25	0.048	0	y	44	23.349	30.586	0.691	1.577	1.5	H2-1
26	40	L7.63x2.5x6	0.351	1.604	12	0.102	0.334	y	43	73.845	118.523	1.798	13.709	1.239	H2-1
27	45	L6.63x4.33x.25	0.272	0	2	0.032	3.25	y	21	49.975	86.751	2.311	6.976	1.5	H2-1
28	50	HSS4X4X2	0.671	0	33	0.163	0	y	45	70.173	73.278	8.24	8.24	2.147	H1-1b
29	51	C3.38x2.06x.188	0.494	2.592	47	0.082	0.351	y	49	38.433	43.394	1.694	4.483	1.63	H1-1b
30	52	C3.38x2.06x.188	0.477	0	33	0.078	2.241	y	39	38.433	43.394	1.694	4.483	1.628	H1-1b
31	53	PL3/8"x6	0.112	0.164	15	0.179	0	y	34	68.856	72.9	0.57	9.113	2.413	H1-1b
32	54	PL3/8"x6	0.088	0	23	0.129	0	y	21	68.856	72.9	0.57	9.113	1.888	H1-1b
33	55	PL3/8"x6	0.155	0.085	14	0.262	0.208	y	45	70.733	72.9	0.57	9.113	1.467	H1-1b
34	56	PL3/8"x6	0.175	0	21	0.276	0	y	47	70.733	72.9	0.57	9.113	2.846	H1-1b
35	57	L2x2x4	0.337	0	15	0.034	2.309	z	39	23.349	30.586	0.691	1.577	1.5	H2-1
36	58	L2x2x4	0.247	2.309	16	0.048	2.309	y	48	23.349	30.586	0.691	1.577	1.5	H2-1
37	59	L7.63x2.5x6	0.414	1.604	3	0.1	0.334	y	46	73.845	118.523	1.798	13.929	1.288	H2-1
38	64	L6.63x4.33x.25	0.3	3.25	14	0.037	3.25	z	20	49.975	86.751	2.311	6.976	1.5	H2-1
39	69	PIPE_3.5x0.165	0.098	1.25	14	0.061	4		20	45.872	71.57	6.336	6.336	1.753	H1-1b
40	72	PIPE_2.88x.203	0.17	5.667	21	0.057	5.667		21	35.519	70.68	5.029	5.029	3	H1-1b
41	73	PIPE_2.88x.203	0.192	2.333	14	0.055	5.667		25	35.519	70.68	5.029	5.029	3	H1-1b
42	77	PIPE_2.88x.203	0.153	5.667	21	0.057	2.333		25	35.519	70.68	5.029	5.029	3	H1-1b
43	79	PIPE_3.5x0.165	0.084	4	14	0.058	2.833		25	45.872	71.57	6.336	6.336	1.438	H1-1b
44	82	PIPE_2.88x.203	0.169	5.667	25	0.064	5.667		25	35.519	70.68	5.029	5.029	3	H1-1b
45	83	PIPE_2.88x.203	0.152	2.333	18	0.042	5.667		17	35.519	70.68	5.029	5.029	3	H1-1b
46	87	PIPE_2.88x.203	0.176	5.667	14	0.04	2.333		17	35.519	70.68	5.029	5.029	3	H1-1b
47	89	PIPE_2.88x.203	0.165	2.188	25	0.134	2.188		25	24.131	70.68	5.029	5.029	2.234	H1-1b
48	90	PIPE_2.88x.203	0.161	7.813	21	0.147	8.958		21	24.131	70.68	5.029	5.029	2.472	H1-1b

APPENDIX B

(Additional Calculations)

PROJECT	**154220.003.01 - Robleswoods (N. Valp AD**				
SUBJECT	**Platform Mount Analysis Beta**				
DATE	**09/02/21**	PAGE	1	OF	1

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

[REF: AISC 360-05]

Reactions at Bolted Connection

Tension	:	1.674	k
Vertical Shear	:	2.621	k
Horizontal Shear	:	1.342	k
Torsion	:	0.339	k.ft
Moment from Horizontal Forces	:	1.358	k.ft
Moment from Vertical Forces	:	5.301	k.ft

Bolt Parameters

Bolt Grade	:	A325	
Bolt Diameter	:	0.625	in
Nominal Bolt Area	:	0.307	in^2
Bolt spacing, Horizontal	:	6	in
Bolt spacing, Vertical	:	6	in
Bolt edge distance, plate height	:	1.5	in
Bolt edge distance, plate width	:	1.5	in
Total Number of Bolts	:	4	bolts

Summary of Forces

Shear Resultant Force	:	2.94	k
Force from Horz. Moment	:	2.46	k
Force from Vert. Moment	:	9.60	k
Shear Load / Bolt	:	0.74	k
Tension Load / Bolt	:	0.42	k
Resultant from Moments / Bolt	:	4.96	k

Bolt Checks

Nominal Tensile Stress, F_{nt}	:	90.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	20.72	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	**25.94%**		**OKAY**
Nominal Shear Stress, F_{nv}	:	48.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	11.05	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	**10.45%**		**OKAY**
Unity Check, Combined	:	**36.38%**		**OKAY**
Available Bearing Strength, ΦR_n	:	52.00	k/bolt	
Unity Check, Bolt Bearing	:	**1.42%**		**OKAY**

PROJECT	**154220.003.01 - Robleswoods (N. Valp AD**				
SUBJECT	**Platform Mount Analysis**				
DATE	**09/02/21**	PAGE	1	OF	1

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

[REF: AISC 360-05]

Connecting Member Parameters

Plate Yield Strength, F_y	:	36.00	ksi	[AISC Table 2-5]
Plate Tensile Strength, F_u	:	58.00	ksi	[AISC Table 2-5]
Plate Height	:	8.00	in	
Plate Width	:	8.00	in	
Plate Thickness	:	0.75	in	
Edge Distance	:	1.06	in	
Gross Tension Area, A_{gt}	:	6.00	in^2	
Gross Shear Area, A_{gv}	:	1.125	in^2	
Net Area for tension, A_{nv}	:	5.48	in^2	
Net Area for shear, A_{nt}	:	4.50	in^2	

Plate Check

Available Tensile Yield	:	194.40	k	[Eq. J4-1]
Available Tensile Rupture	:	238.57	k	[Eq. J4-2]
Unity Check, Plate Tension	:	**2.76%**		**OKAY**
Available Shear Yield	:	24.30	k	[Eq. J4-3]
Available Shear Rupture	:	156.60	k	[Eq. J4-4]
Unity Check, Plate Shear	:	**12.12%**		**OKAY**
Available Block Shear, ΦRn	:	116.10	k	[Eq. J4-5]
Unity Check, Block Shear	:	**2.54%**		**OKAY**

EXHIBIT 10

Construction Drawings

DISH Wireless L.L.C. SITE ID:

BOBDL00123A

DISH Wireless L.L.C. SITE ADDRESS:

723 FARMINGTON AVE
NEW BRITAIN,CT 06051

SBA APPROVED

By Stephen Roth at 6:08:33 AM, 10/26/2021

SCOPE OF WORK

THIS IS NOT AN ALL INCLUSIVE LIST. CONTRACTOR SHALL UTILIZE SPECIFIED EQUIPMENT PART OR ENGINEER APPROVED EQUIVALENT. CONTRACTOR SHALL VERIFY ALL NEEDED EQUIPMENT TO PROVIDE A FUNCTIONAL SITE. THE PROJECT GENERALLY CONSISTS OF THE FOLLOWING:

TOWER SCOPE OF WORK:
- INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)
- INSTALL (1) PROPOSED ANTENNA PLATFORM MOUNT
- INSTALL PROPOSED JUMPERS
- INSTALL (6) PROPOSED RRUs (2 PER SECTOR)
- INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
- INSTALL (1) PROPOSED HYBRID CABLE

GROUND SCOPE OF WORK:
- INSTALL (1) PROPOSED METAL PLATFORM
- INSTALL (1) PROPOSED ICE BRIDGE
- INSTALL (1) PROPOSED PPC CABINET
- INSTALL (1) PROPOSED EQUIPMENT CABINET
- INSTALL (1) PROPOSED POWER CONDUIT
- INSTALL (1) PROPOSED TELCO CONDUIT
- INSTALL (1) PROPOSED TELCO-FIBER BOX
- INSTALL (1) PROPOSED GPS UNIT
- INSTALL (1) PROPOSED SAFETY SWITCH (IF REQUIRED)
- INSTALL (1) PROPOSED FIBER NID (IF REQUIRED)
- INSTALL (1) PROPOSED METER SOCKET

SITE INFORMATION

PROPERTY OWNER:	FALCONS ACADEMIC + ATHLETIC ASSOC INC
ADDRESS:	201 WASHINGTON ST NEW BRITAIN,CT 06051
TOWER TYPE:	MONOPOLE
TOWER CO SITE ID:	CT08558-B
TOWER APP NUMBER:	169643
COUNTY:	HARTFORD
LATITUDE (NAD 83):	41° 41' 54.29" N 41.69841356 N
LONGITUDE (NAD 83):	72° 47' 9.4" W 72.78594411 W
ZONING JURISDICTION:	CITY OF HARTFORD
ZONING DISTRICT:	T
PARCEL NUMBER:	09003089-C3A1
OCCUPANCY GROUP:	U
CONSTRUCTION TYPE:	II-B
POWER COMPANY:	CONNECTICUT LIGHT & POWER CO
TELEPHONE COMPANY:	XFINITY

PROJECT DIRECTORY

APPLICANT:	DISH Wireless L.L.C. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
TOWER OWNER:	SBA COMMUNICATAIONS CORP. 8051 CONGRESS AVENUE BOCA RATON, FL 33487 (800) 487-7483
SITE DESIGNER:	B+T GROUP 1717 S. BOULDER AVE, SUITE 300 TULSA, OK 74119 (918) 587-4630
SITE ACQUISITION:	RYAN LYNCH RYAN.LYNCH@DISH.COM
CONST. MANAGER:	JAVIER SOTO JAVIER.SOTO@DISH.COM
RF ENGINEER:	BOSSENER CHARLES BOSSENER.CHARLES@DISH.COM

CONNECTICUT CODE OF COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES

CODE TYPE	CODE
BUILDING	2018 CT STATE BUILDING CODE/2015 IBC W/ CT AMENDMENTS
MECHANICAL	2018 CT STATE BUILDING CODE/2015 IMC W/ CT AMENDMENTS
ELECTRICAL	2018 CT STATE BUILDING CODE/2017 NEC W/ CT AMENDMENTS

SITE PHOTO

DIRECTIONS

DIRECTIONS FROM ROBERTSON AIRPORT:

HEAD NORTH TURN LEFT ONTO JOHNSON AVE TURN RIGHT AT THE 1ST CROSS STREET ONTO PERRON RD TURN RIGHT ONTO NORTHWEST DR TAKE HYDE RD TO US-6 E IN FARMINGTON TURN LEFT ONTO JOHNSON AVE TURN RIGHT ONTO HYDE RD CONTINUE ON US-6 E TO NEW BRITAIN TURN RIGHT ONTO US-6 E TURN RIGHT ONTO FIENEMANN RD CONTINUE ONTO FARMINGTON AVE TURN LEFT ARRIVE AT BOBDL00123A

SHEET INDEX

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
LS1	SITE SURVEY
A-1	OVERALL AND ENLARGED SITE PLAN
A-2	ELEVATION, ANTENNA LAYOUT AND SCHEDULE
A-3	EQUIPMENT PLATFORM AND H-FRAME DETAILS
A-4	EQUIPMENT DETAILS
A-5	EQUIPMENT DETAILS
A-6	EQUIPMENT DETAILS
E-1	ELECTRICAL/FIBER ROUTE PLAN AND NOTES
E-2	ELECTRICAL DETAILS
E-3	ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE
G-1	GROUNDING PLANS AND NOTES
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
RF-1	RF CABLE COLOR CODE
GN-1	LEGEND AND ABBREVIATIONS
GN-2	GENERAL NOTES
GN-3	GENERAL NOTES
GN-4	GENERAL NOTES

UNDERGROUND SERVICE ALERT CBYD 811
UTILITY NOTIFICATION CENTER OF CONNECTICUT
(800) 922-4455
WWW.CBYD.COM

CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION

811

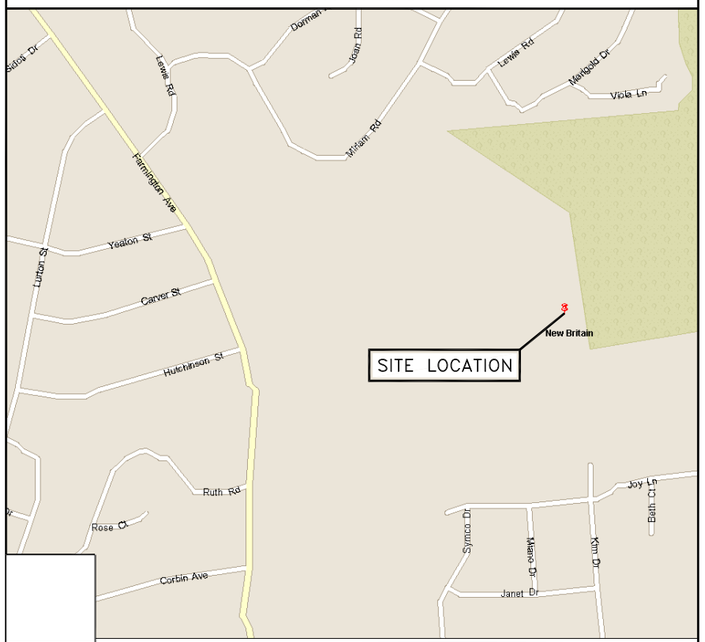
GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE. NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

VICINITY MAP



NO SCALE

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

10/19/21

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

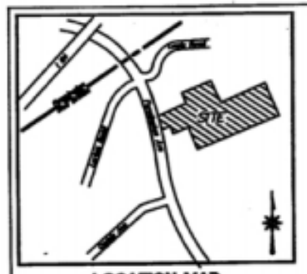
SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

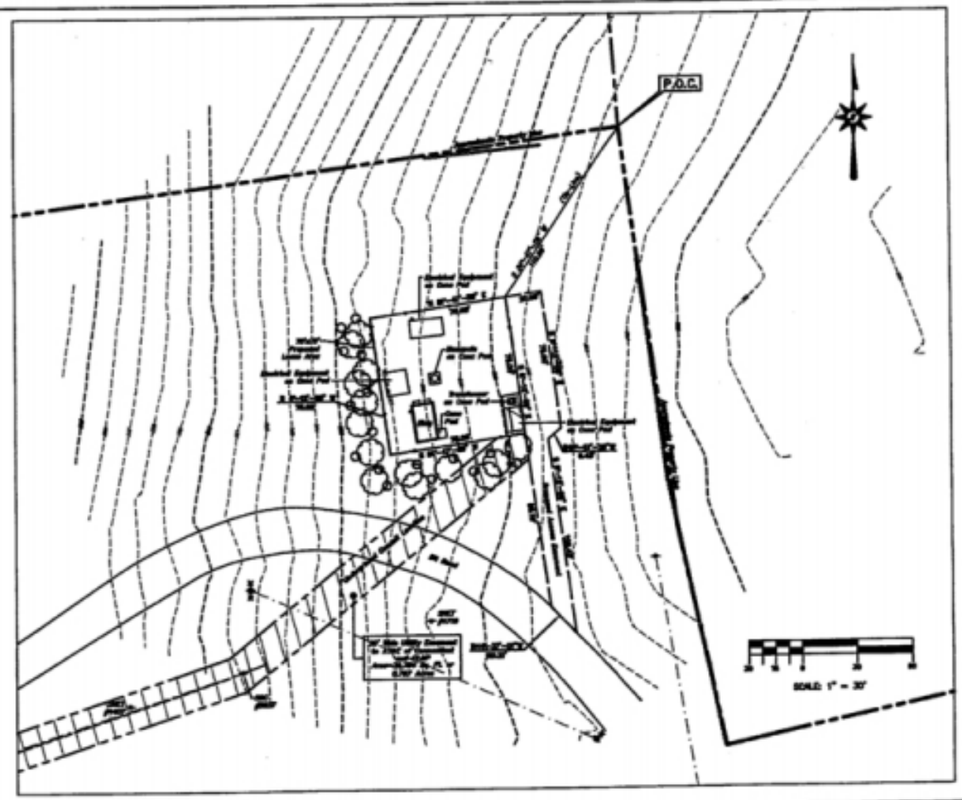
CT 8558-S

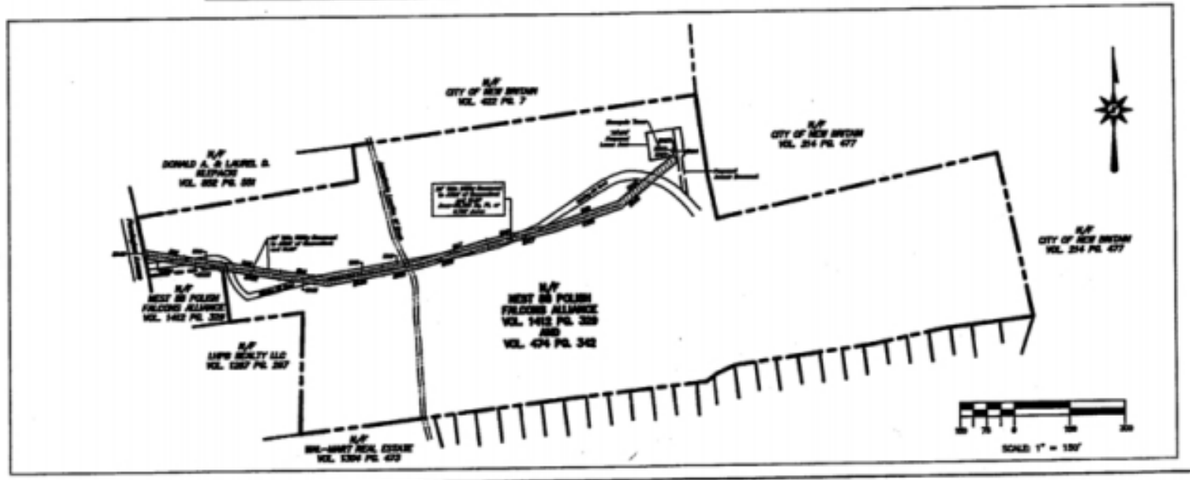


LOCATION MAP

LEGEND

LINE TABLE





GENERAL NOTES

LEGAL DESCRIPTION - LEASE AREA

LEGAL DESCRIPTION - ACCESS EASEMENT

LEGAL DESCRIPTION - UTILITY EASEMENT

STATE OF CONNECTICUT
ROBERT L. ROPER
No. 18469
LICENSED LAND SURVEYOR

BL Companies

UTILITY EASEMENT TO AT&T OF CONNECTICUT AND CONNECTICUT LIGHT & POWER GRANTED BY NEST 69 POLISH FALCONS ALLIANCE 723 FARMINGTON AVENUE, NEW BRITAIN, CONNECTICUT

IMPROVEMENT LOCATION SURVEY

AB-1

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP

1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

STATE OF CONNECTICUT
ROBERT L. ROPER
No. 27504
LICENSED PROFESSIONAL ENGINEER
10/19/21

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

SHEET TITLE

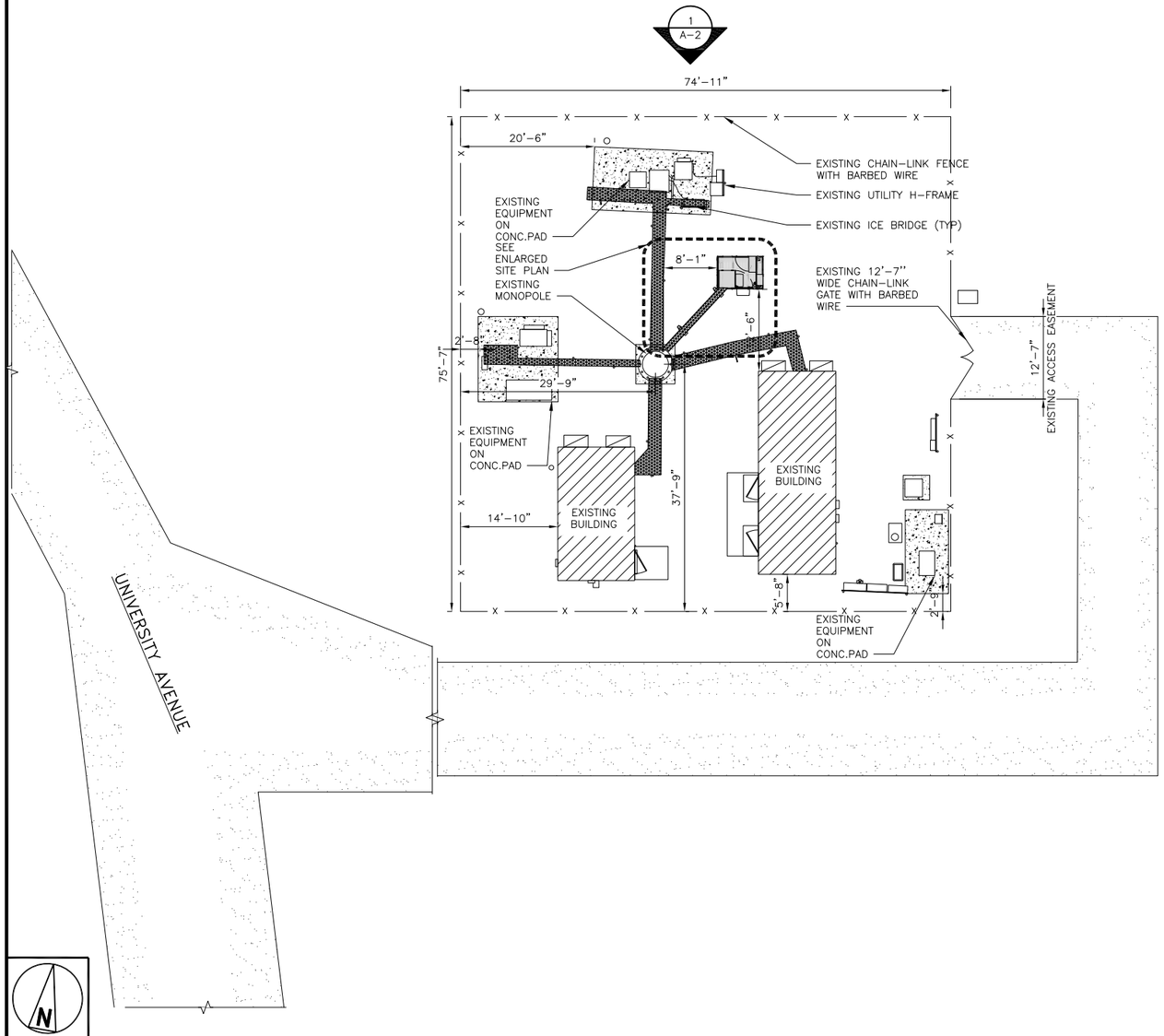
TITLE SHEET

SHEET NUMBER

LS-1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



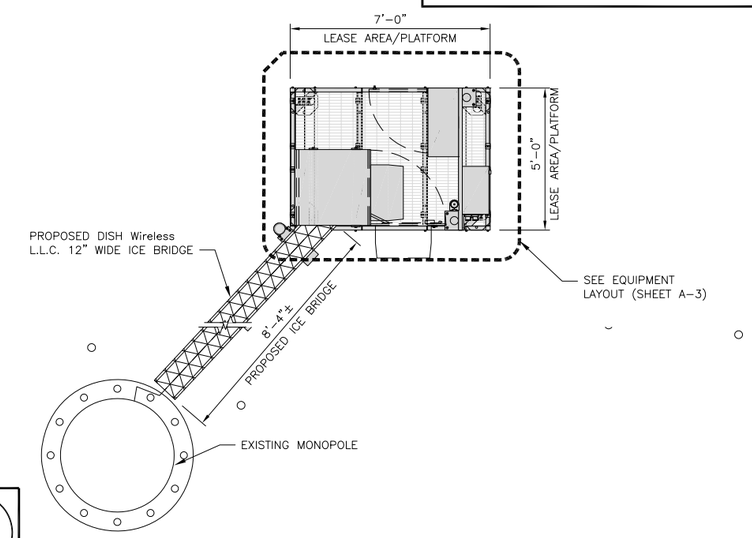
OVERALL SITE PLAN

12' 8' 4' 0 10' 20'
3/32"=1'-0"

1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS UNIT, TRANSMITTING ANTENNAS AND EXISTING GPS UNITS.
3. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



ENLARGED SITE PLAN

12" 6" 0 1' 2' 3' 4' 5' 6' 7"
3/8"=1'-0"

2

NOT USED

3

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

SHEET TITLE

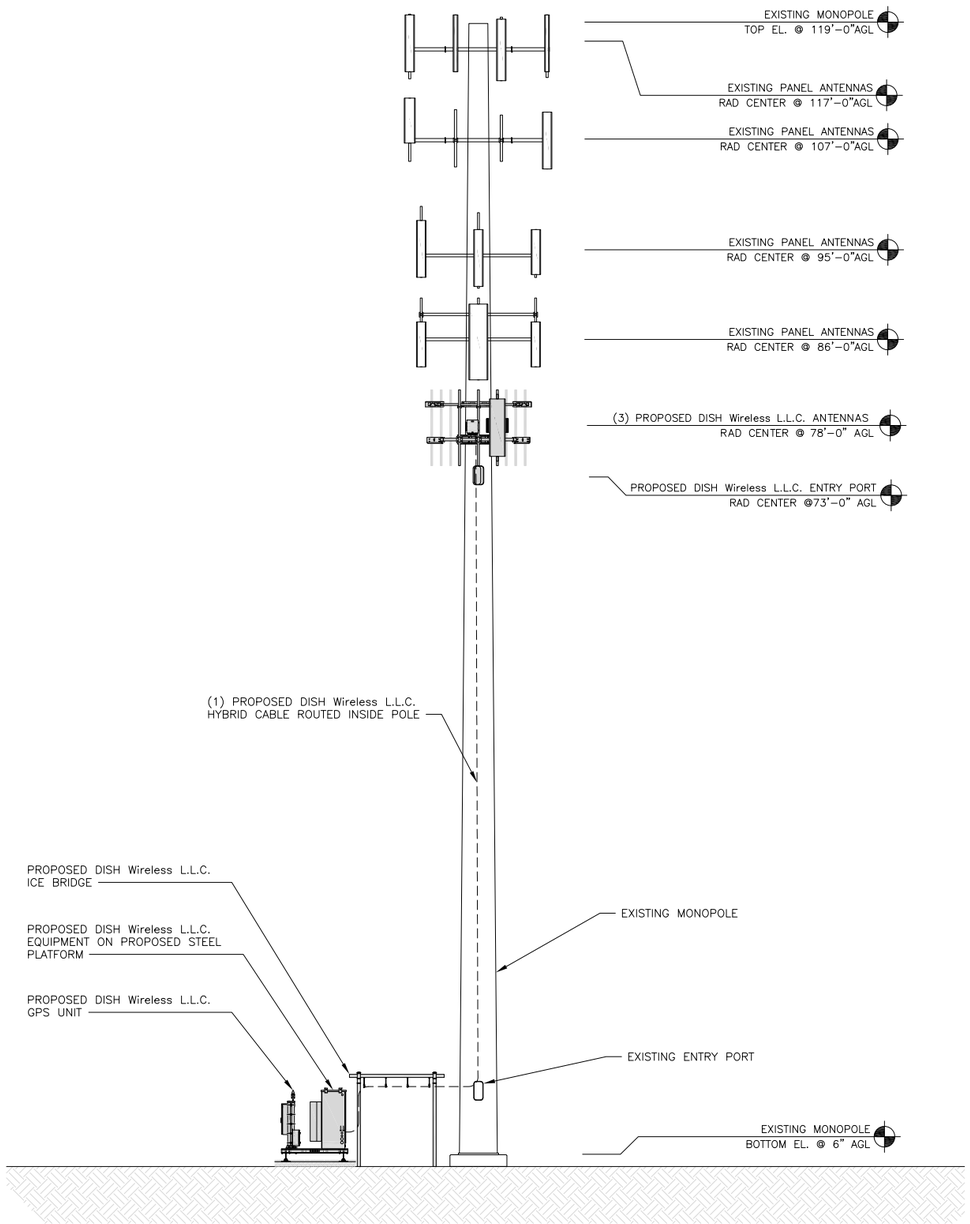
OVERALL AND ENLARGED SITE PLAN

SHEET NUMBER

A-1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.



PROPOSED NORTH ELEVATION

8' 4' 0 8' 16'
1/8"=1'-0"

1

N

ANTENNA LAYOUT

12" 6" 0 1' 2' 3'
3/4"=1'-0"

2

SECTOR	POSITION	ANTENNA						TRANSMISSION CABLE
		EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	TECHNOLOGY	SIZE (HxW)	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH
ALPHA	A1	PROPOSED	JMA WIRELESS-MX08FRO665-21	5G	72" x 20"	0°	78'-0"	(1) HIGH-CAPACITY HYBRID CABLE (109' LONG)
BETA	B1	PROPOSED	JMA WIRELESS-MX08FRO665-21	5G	72" x 20"	120°	78'-0"	
GAMMA	C1	PROPOSED	JMA WIRELESS-MX08FRO665-21	5G	72" x 20"	240°	78'-0"	

ANTENNA SCHEDULE

NO SCALE

3

SECTOR	POSITION	RRH	
		MANUFACTURER – MODEL NUMBER	TECHNOLOGY
ALPHA	A1	FUJITSU – TA08025-B604	5G
	A1	FUJITSU – TA08025-B605	5G
BETA	B1	FUJITSU – TA08025-B604	5G
	B1	FUJITSU – TA08025-B605	5G
GAMMA	C1	FUJITSU – TA08025-B604	5G
	C1	FUJITSU – TA08025-B605	5G

NOTES

1. CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.
2. ANTENNA AND RRH MODELS MAY CHANGE DUE TO EQUIPMENT AVAILABILITY. ALL EQUIPMENT CHANGES MUST BE APPROVED AND REMAIN IN COMPLIANCE WITH THE PROPOSED DESIGN AND STRUCTURAL ANALYSES.

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP

1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

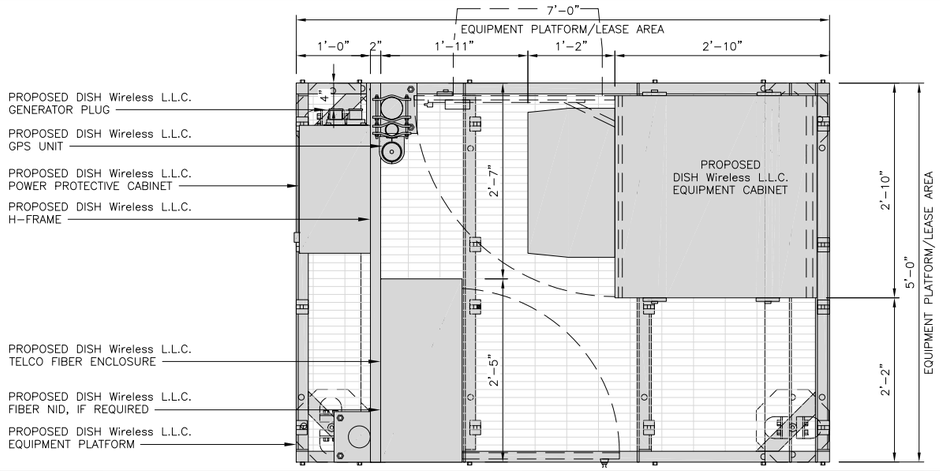
BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

SHEET TITLE

ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER

A-2



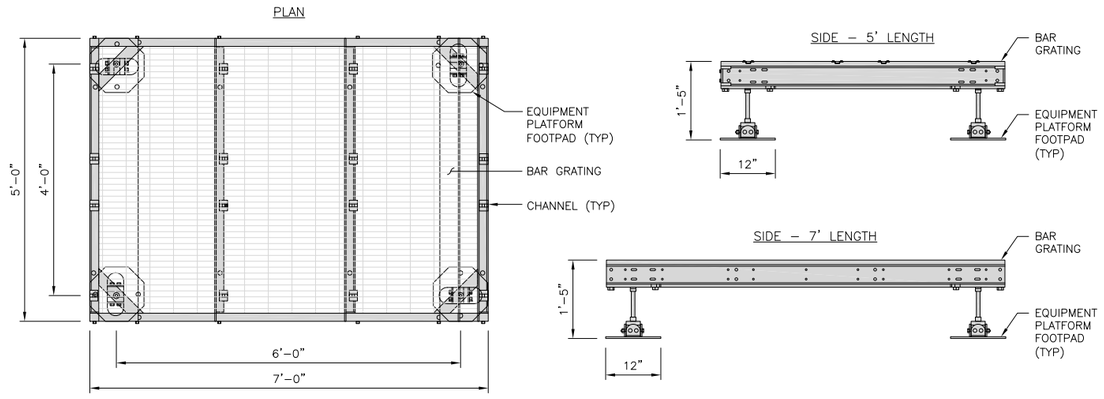
PLATFORM EQUIPMENT PLAN

12" 9" 6" 3" 0 1' 2"
1"=1'-0"

1

COMMSCOPE MTC4045LP 5X7 PLATFORM	
DIMENSIONS (HxWxD)	16"x84"x60"
TOTAL WEIGHT	423 LBS

NOTE:
GC TO PROVIDE EXTENDED THREAD FOR PLATFORM IF REQUIRED HEIGHT EXCEEDS 17"



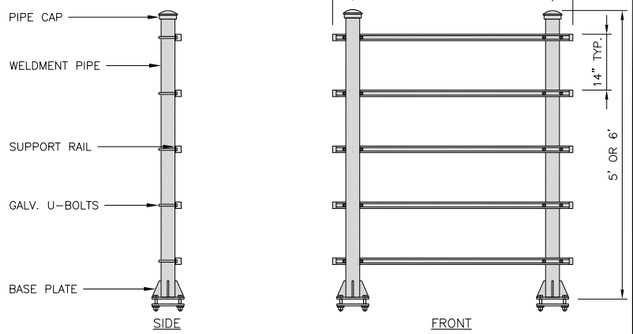
PLATFORM DETAIL

NO SCALE

2

COMMSCOPE MTC4045HFLD H-FRAME	
UNISTRUT/SUPPORT RAILS QTY	5
WEIGHT	59.74 lbs

NOTE:
OR DISH Wireless L.L.C. APPROVED EQUIVALENT



H-FRAME DETAIL

NO SCALE

3

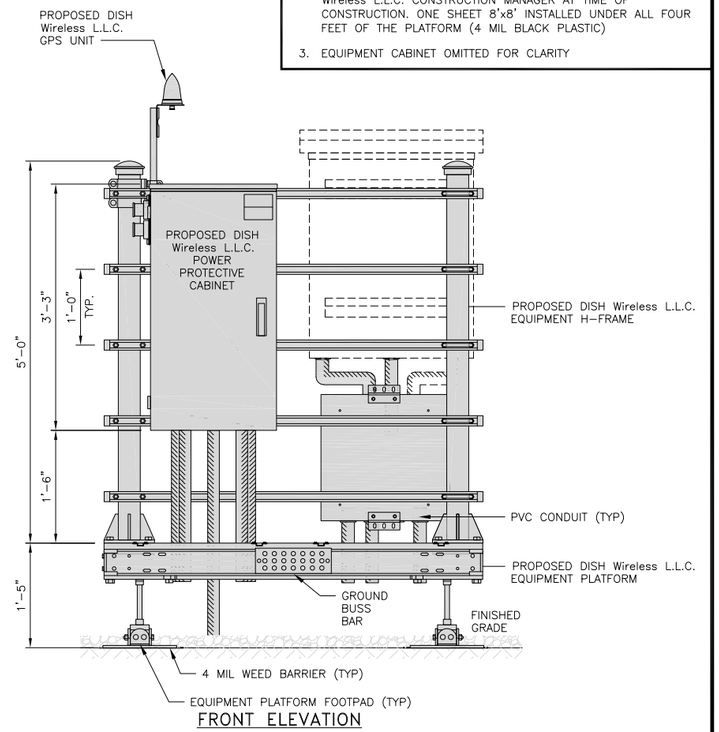
NOT USED

NO SCALE

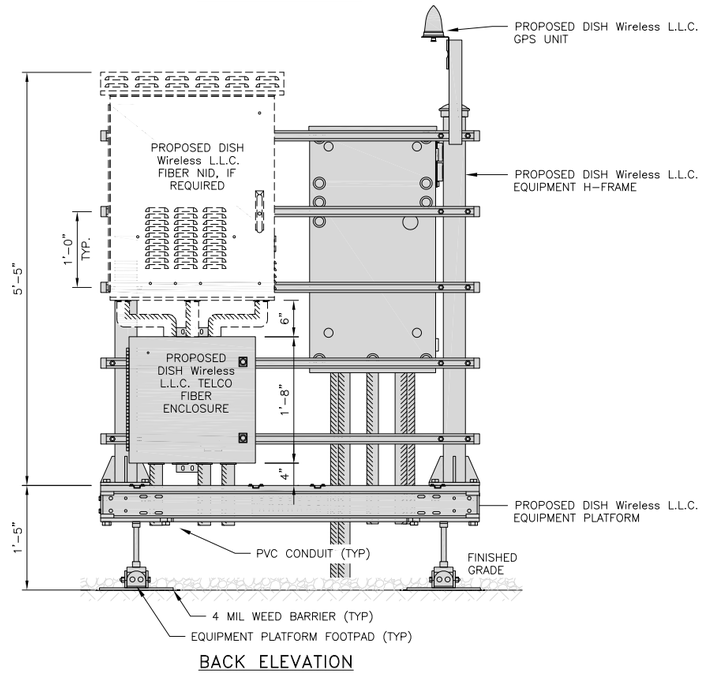
4

NOTES

1. CONTRACTOR TO BURY PLATFORM FEET WITH A MINIMUM OF 2" OF FILL PER EXISTING SITE SURFACE
2. WEED BARRIER FABRIC TO BE ADDED AT DISCRETION OF DISH Wireless L.L.C. CONSTRUCTION MANAGER AT TIME OF CONSTRUCTION. ONE SHEET 8'x8' INSTALLED UNDER ALL FOUR FEET OF THE PLATFORM (4 MIL BLACK PLASTIC)
3. EQUIPMENT CABINET OMITTED FOR CLARITY



FRONT ELEVATION



BACK ELEVATION

H-FRAME EQUIPMENT ELEVATION

12" 9" 6" 3" 0 1' 2"
1"=1'-0"

5

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

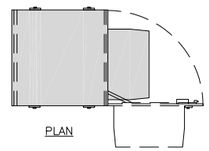
SHEET TITLE

EQUIPMENT PLATFORM AND H-FRAME DETAILS

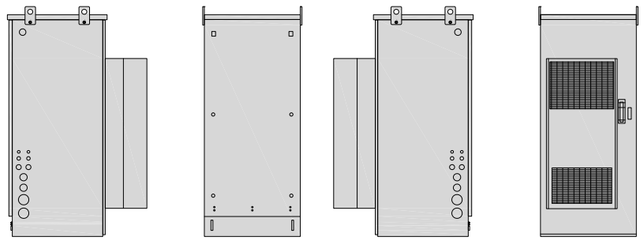
SHEET NUMBER

A-3

CHARLES INDUSTRY HEX CUBE–PM639155N4	
DIMENSIONS (HxWxD):	74"x32"x32"
POWER PLANT:	–48VDC ABB/600W
TOTAL WEIGHT (EMPTY)	408 LBS



PLAN

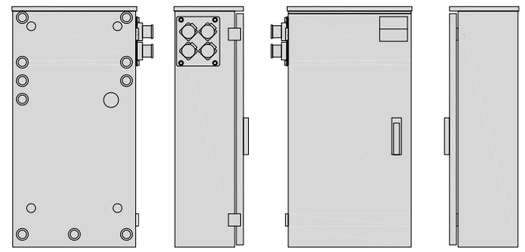


SIDE BACK SIDE FRONT

CABINET DETAIL | NO SCALE | 1

RAYCAP PPC RDIAC–2465–P–240–MTS	
ENCLOSURE DIMENSIONS (HxWxD):	39"x22.855"x12.593
WEIGHT:	80 lbs
OPERATING AC VOLTAGE	240/120 1 PHASE 3W+G

TOP

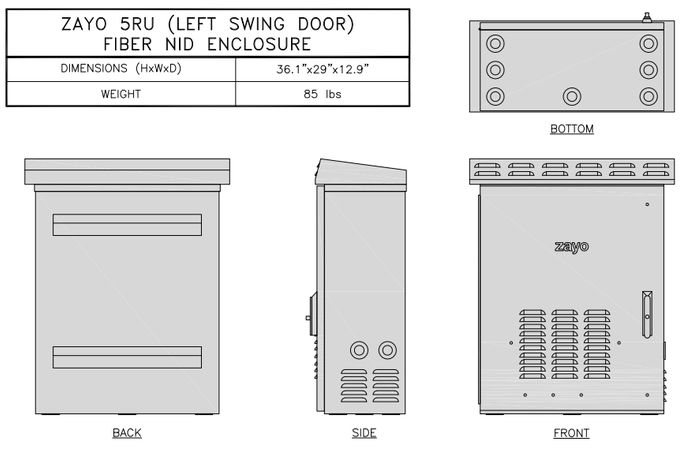


BACK SIDE FRONT SIDE

POWER PROTECTION CABINET (PPC) DETAIL | NO SCALE | 2

NOT USED | NO SCALE | 3

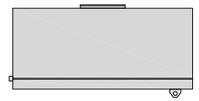
ZAYO 5RU (LEFT SWING DOOR) FIBER NID ENCLOSURE	
DIMENSIONS (HxWxD)	36.1"x29"x12.9"
WEIGHT	85 lbs



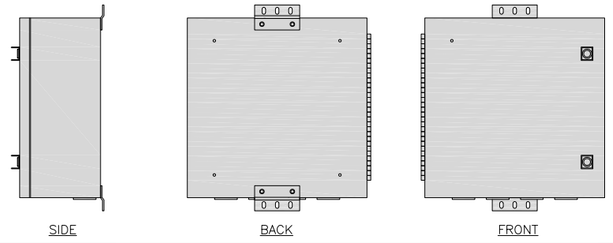
BOTTOM BACK SIDE FRONT

FIBER NID ENCLOSURE DETAIL | NO SCALE | 5

CHARLES CFIT–PF2020DSH1 FIBER TELCO ENCLOSURE	
ENCLOSURE DIMS (HxWxD)	20"x20"x9"
ENCLOSURE WEIGHT	20 lbs
MOUNTING	WALL
COMPLIANCE	TYPE 4



FRONT



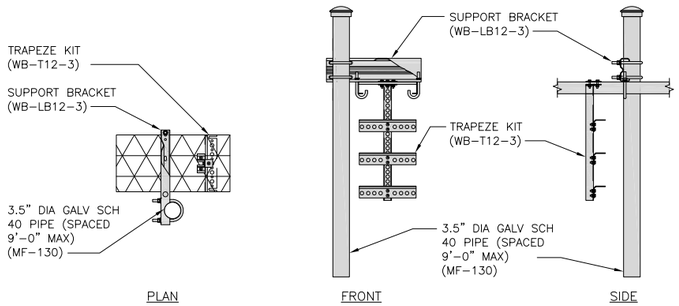
SIDE BACK FRONT

FIBER TELCO ENCLOSURE DETAIL | NO SCALE | 6

NOT USED | NO SCALE | 4

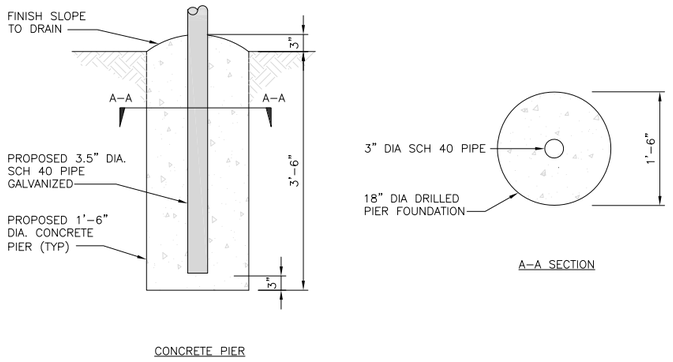
COMMSCOPE WB–K110–B WAVEGUIDE BRIDGE KIT	
DIMENSIONS (HxL)	160"x10'
WEIGHT/ VOLUME	325.0 LBS
CABLE RUN (QTY)	12

INCLUDED PRODUCTS:	WB–T12–3 TRAPEZE KIT, 3 RUNGS
	WB–LB12–3 SUPPORT BRACKET
	MF–130 DIRECT BURIAL PIPE COLUMN, 13'–4"



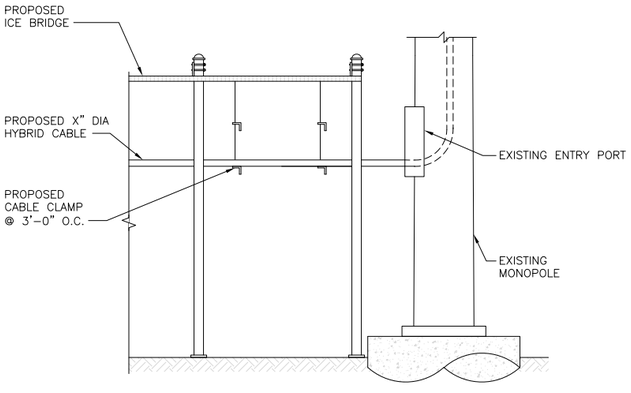
PLAN FRONT SIDE

ICE BRIDGE DETAIL | NO SCALE | 7



CONCRETE PIER A–A SECTION

TYPICAL ICE BRIDGE CONCRETE PIER DETAIL | NO SCALE | 8



HYBRID CABLE RUN | NO SCALE | 9

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

10/19/21

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

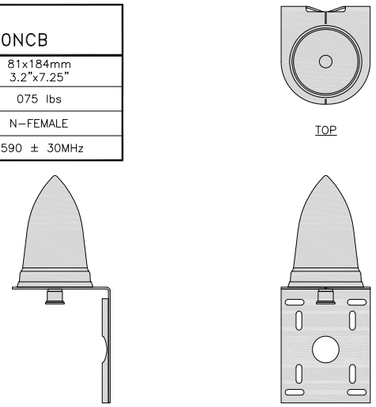
SHEET TITLE

EQUIPMENT DETAILS

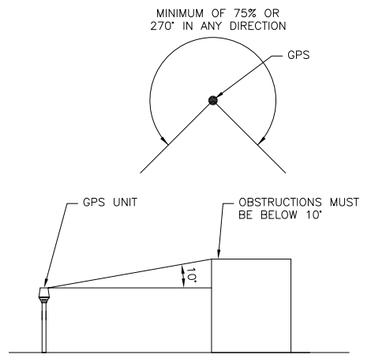
SHEET NUMBER

A-4

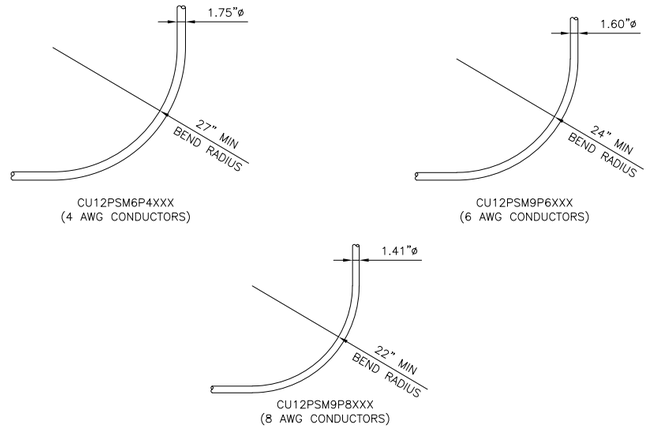
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



GPS DETAIL | NO SCALE | 1



GPS MINIMUM SKY VIEW REQUIREMENTS | NO SCALE | 2



CABLES UNLIMITED HYBRID CABLE
MINIMUM BEND RADIUSES | NO SCALE | 3

NOT USED | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

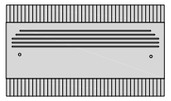
SHEET TITLE

EQUIPMENT DETAILS

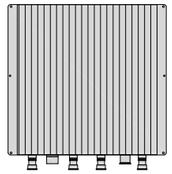
SHEET NUMBER

A-5

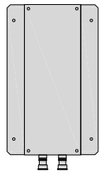
FUJITSU TRIPLE BAND TA08025-B605	
DIMENSIONS (HxWxD)	14.9"x15.7"x9"
WEIGHT	74.95 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



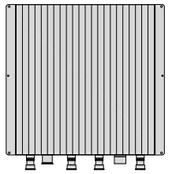
PLAN



BACK



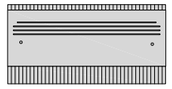
SIDE



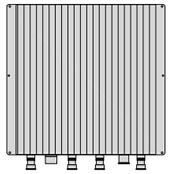
FRONT

RRH DETAIL | NO SCALE | 1

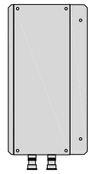
FUJITSU DUAL BAND TA08025-B604	
DIMENSIONS (HxWxD)	14.9"x15.7"x7.8"
WEIGHT	63.9 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



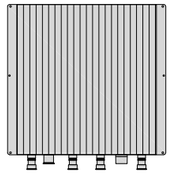
PLAN



BACK



SIDE



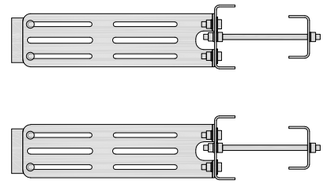
FRONT

RRH DETAIL | NO SCALE | 2

COMMSCOPE RR-FA2 LARGE STABILIZER	
DIMENSIONS (HxWxD)	16.4"x8.5"x18"
WEIGHT	39.2 lbs

DESIGN NOTES:
MOUNT WILL FIT LEGS UP TO:
- 5.6" ROUND
- 6.0" 60° ANGLE
- 4.5" 90° ANGLE

PLAN



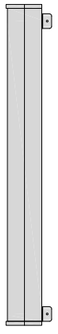
SIDE

NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

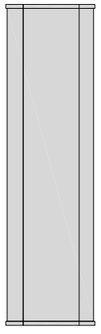
RRH MOUNT DETAIL | NO SCALE | 3

JMA MX08FRO665-21	
DIMENSIONS (HxWxD)	72"x20.0"x8.0"
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE
WEIGHT	64.5 lbs
WEIGHT WITH BRACKETS	82.5 lbs

PLAN



SIDE



FRONT

ANTENNA DETAIL | NO SCALE | 4

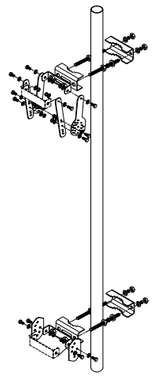
NOT USED | NO SCALE | 5

JMA ANTENNA MOUNT BRACKET #91900318	
TOTAL WEIGHT (WITH BRACKETS)	18 lbs (8.18 Kg)
POLE DIAMETER RANGE	2.5" TO 4.5"

NOTE:
KIT #91900318: TOP AND BOTTOM BRACKETS FOR 4-,6-, AND 8-FOOT ANTENNAS

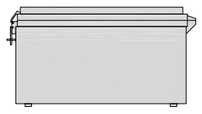
ANTENNA BRACKET NOT PART OF KIT

NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

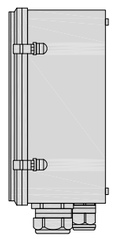


ANTENNA BRACKET DETAIL | NO SCALE | 6

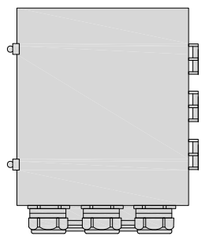
RAYCAP RDIDC-9181-PF-48 DC SURGE PROTECTION (OVP)	
DIMENSIONS (HxWxD)	18.98"x14.39"x8.15"
WEIGHT	21.82 LBS



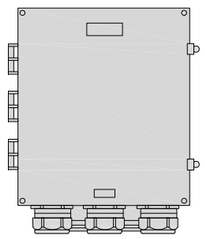
PLAN



SIDE



BACK

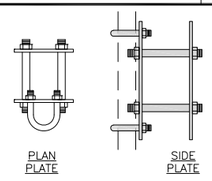


FRONT

SURGE SUPPRESSION DETAIL (OVP) | NO SCALE | 7

COMMSCOPE XP-2040 CROSSOVER PLATE	
DIMENSIONS (HxW)	10"x12"
WEIGHT	11 lbs

NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

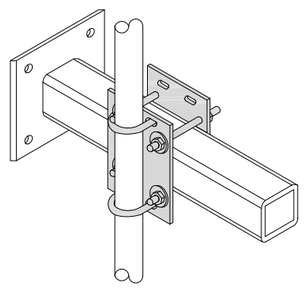


PLAN PLATE

SIDE PLATE

PLAN U-BOLT

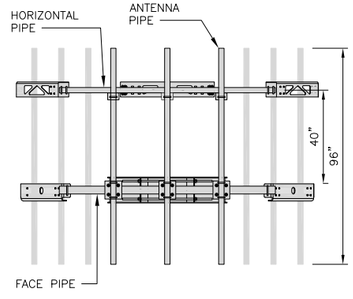
SIDE U-BOLT

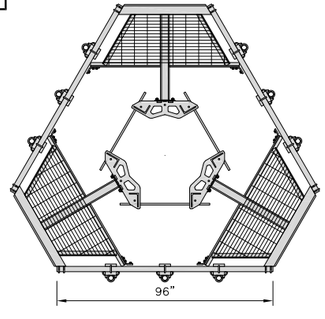


RRH/OVP MOUNT DETAIL | NO SCALE | 8

COMMSCOPE MC-PK8-DSH	
FACE WIDTH	96"
WEIGHT	1373.08 lbs
NOTE: 15" TO 38" O.D.	

NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT





ANTENNA PLATFORM DETAIL | NO SCALE | 9

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP

1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

SHEET TITLE

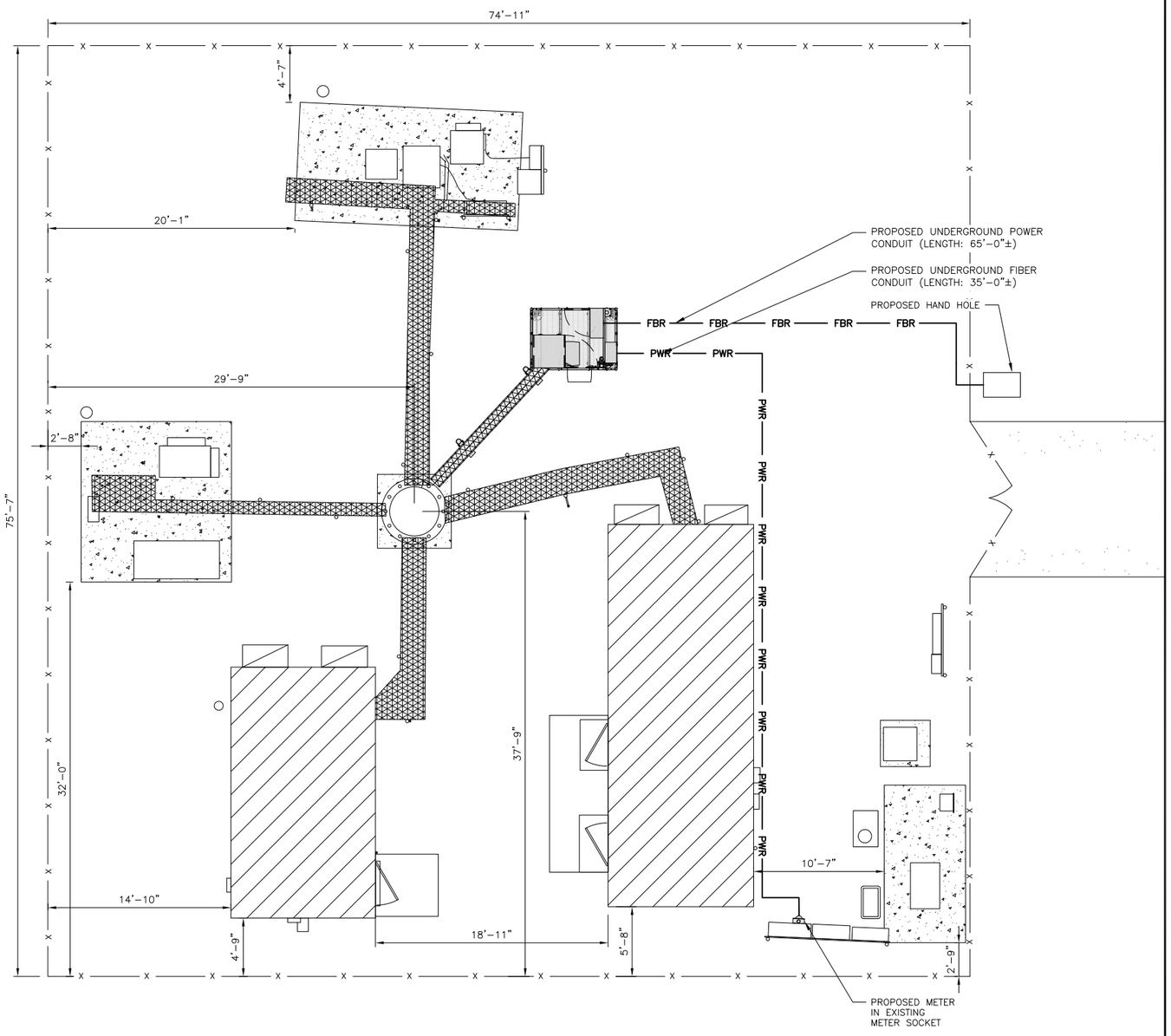
EQUIPMENT DETAILS

SHEET NUMBER

A-6

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



N

UTILITY ROUTE PLAN

6' 4' 2' 0 5' 10'
3/16"=1'-0"

1

DC POWER WIRING SHALL BE COLOR CODED AT EACH END FOR IDENTIFYING +24V AND −48V CONDUCTORS. RED MARKINGS SHALL IDENTIFY +24V AND BLUE MARKINGS SHALL IDENTIFY −48V.

1. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING A BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTOR'S FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
2. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL ELECTRICAL CODES AND ALL STATE AND LOCAL CODES, LAWS, AND ORDINANCES. PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC STANDARDS.
3. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO CONSTRUCTION.
4. CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION CONFLICTS. VERIFY WITH THE MECHANICAL EQUIPMENT CONTRACTOR AND COMPLY AS REQUIRED.
5. CONTRACTOR SHALL PROVIDE ALL BREAKERS, CONDUITS AND CIRCUITS AS REQUIRED FOR A COMPLETE SYSTEM.
6. CONTRACTOR SHALL PROVIDE PULL BOXES AND JUNCTION BOXES AS REQUIRED BY THE NEC ARTICLE 314.
7. CONTRACTOR SHALL PROVIDE ALL STRAIN RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
8. ALL DISCONNECTS AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED PHENOLIC NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL FIELD LOCATIONS FED FROM.
9. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC 250. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULL BOXES, AND ALL DISCONNECT SWITCHES, AND EQUIPMENT CABINETS.
10. ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
11. PANEL SCHEDULE LOADING AND CIRCUIT ARRANGEMENTS REFLECT POST-CONSTRUCTION EQUIPMENT.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR AS-BUILT PANEL SCHEDULE AND SITE DRAWINGS.
13. ALL TRENCHES IN COMPOUND TO BE HAND DUG.

ELECTRICAL NOTES

NO SCALE

2

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

SHEET TITLE

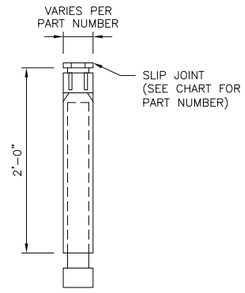
ELECTRICAL/FIBER ROUTE PLAN AND NOTES

SHEET NUMBER

E-1

CARLON EXPANSION FITTINGS

COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"
E945M	E945MX	3 1/2"	5	8"
E945N	E945NX	4"	5	8"
E945P	E945PX	5"	1	8"
E945R	E945RX	6"	1	8"

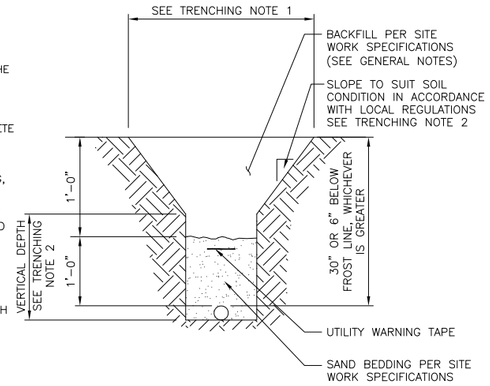


NOTE:
CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

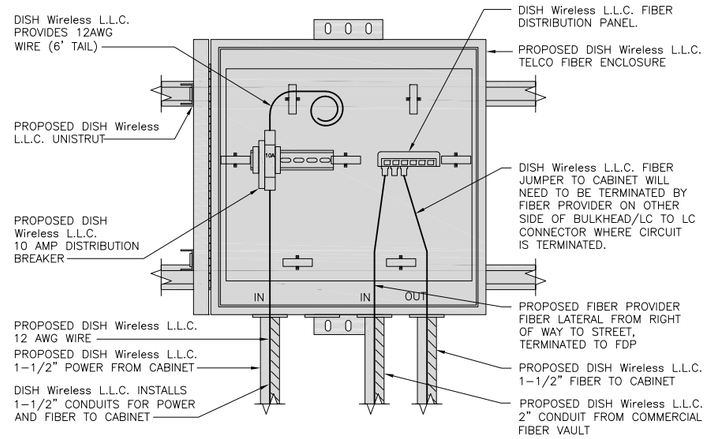
EXPANSION JOINT DETAIL | NO SCALE | 1

TRENCHING NOTES

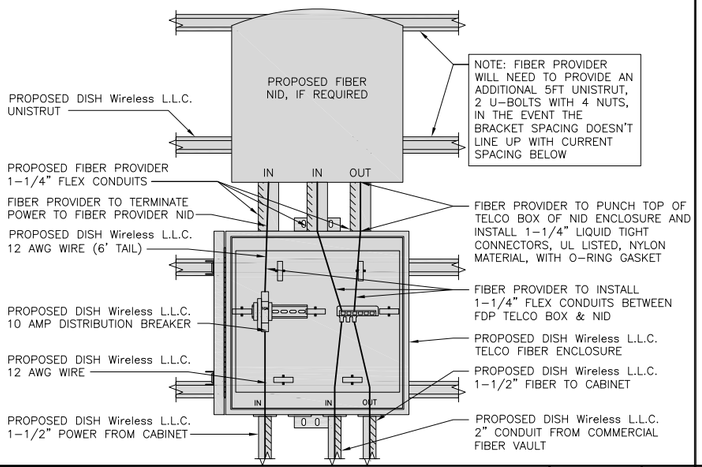
1. CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
2. TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT OSHA TRENCHING AND EXCAVATION SAFETY STANDARDS.
3. ALL CONDUITS SHALL BE INSTALLED IN COMPLIANCE WITH THE CURRENT NATIONAL ELECTRIC CODE (NEC) OR AS REQUIRED BY THE LOCAL JURISDICTION, WHICHEVER IS THE MOST STRINGENT.



TYPICAL UNDERGROUND TRENCH DETAIL | NO SCALE | 2



DARK TELCO BOX – INTERIOR WIRING LAYOUT | NO SCALE | 3



LIT TELCO BOX – INTERIOR WIRING LAYOUT (OPTIONAL) | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

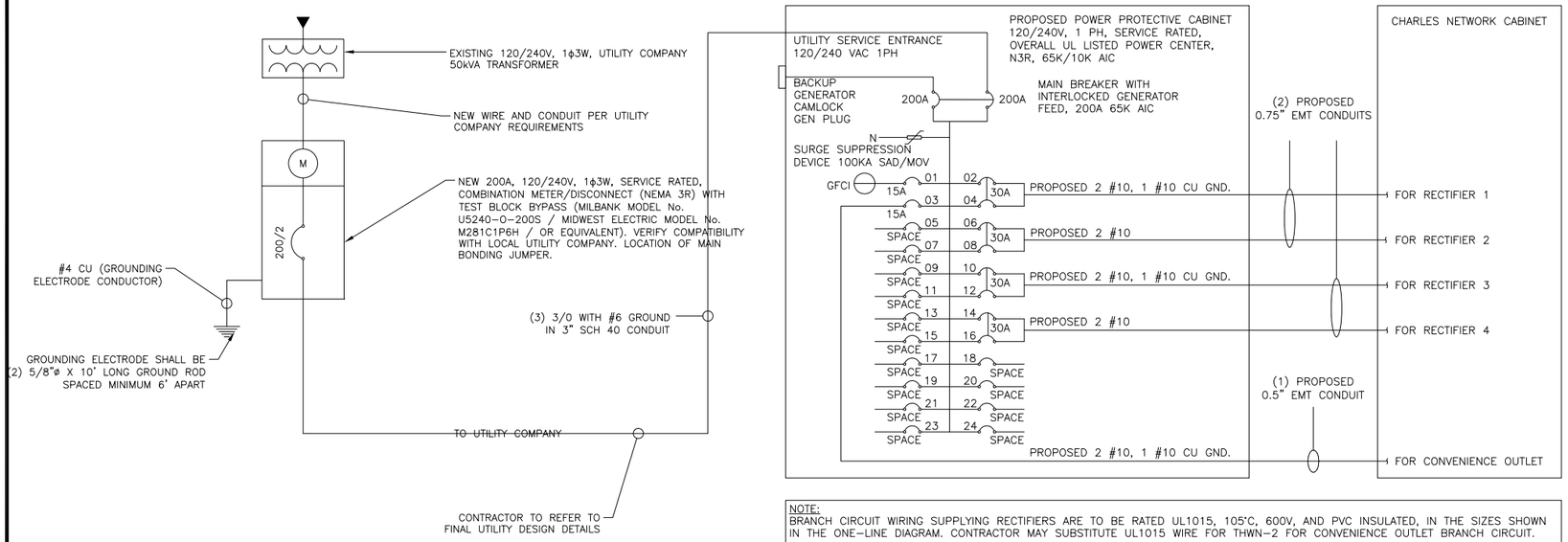
BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

SHEET TITLE

ELECTRICAL DETAILS

SHEET NUMBER

E-2



NOTE:
BRANCH CIRCUIT WIRING SUPPLYING RECTIFIERS ARE TO BE RATED UL1015, 105°C, 600V, AND PVC INSULATED, IN THE SIZES SHOWN IN THE ONE-LINE DIAGRAM. CONTRACTOR MAY SUBSTITUTE UL1015 WIRE FOR THWN-2 FOR CONVENIENCE OUTLET BRANCH CIRCUIT.

BREAKERS REQUIRED:
(4) 30A, 2P BREAKER - SQUARE D P/N:QO230
(1) 15A, 1P BREAKER - SQUARE D P/N:QO115

NOTES

THE (2) CONDUITS WITH (4) CURRENT CARRYING CONDUCTORS EACH, SHALL APPLY THE ADJUSTMENT FACTOR OF 80% PER 2014/17 NEC TABLE 310.15(B)(3)(a) OR 2020 NEC TABLE 310.15(C)(1) FOR UL1015 WIRE.

#12 FOR 15A-20A/1P BREAKER: 0.8 x 30A = 24.0A
#10 FOR 25A-30A/2P BREAKER: 0.8 x 40A = 32.0A
#8 FOR 35A-40A/2P BREAKER: 0.8 x 55A = 44.0A
#6 FOR 45A-60A/2P BREAKER: 0.8 x 75A = 60.0A

CONDUIT SIZING: AT 40% FILL PER NEC CHAPTER 9, TABLE 4, ARTICLE 358.
0.5" CONDUIT - 0.122 SQ. IN AREA
0.75" CONDUIT - 0.213 SQ. IN AREA
2.0" CONDUIT - 1.316 SQ. IN AREA
3.0" CONDUIT - 2.907 SQ. IN AREA

CABINET CONVENIENCE OUTLET CONDUCTORS (1 CONDUIT): USING THWN-2, CU.

#10 - 0.0211 SQ. IN X 2 = 0.0422 SQ. IN
#10 - 0.0211 SQ. IN X 1 = 0.0211 SQ. IN <GROUND
TOTAL = 0.0633 SQ. IN

0.5" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (3) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

RECTIFIER CONDUCTORS (2 CONDUITS): USING UL1015, CU.

#10 - 0.0266 SQ. IN X 4 = 0.1064 SQ. IN
#10 - 0.0082 SQ. IN X 1 = 0.0082 SQ. IN <BARE GROUND
TOTAL = 0.1146 SQ. IN

0.75" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (5) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

PPC FEED CONDUCTORS (1 CONDUIT): USING THWN, CU.

3/0 - 0.2679 SQ. IN X 3 = 0.8037 SQ. IN
#6 - 0.0507 SQ. IN X 1 = 0.0507 SQ. IN <GROUND
TOTAL = 0.8544 SQ. IN

3.0" SCH 40 PVC CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (4) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

PPC ONE-LINE DIAGRAM — NO SCALE — 1

PROPOSED CHARLES PANEL SCHEDULE

LOAD SERVED	VOLT AMPS (WATTS) L1	VOLT AMPS (WATTS) L2	TRIP	CKT #	PHASE	CKT #	TRIP	VOLT AMPS (WATTS) L1	VOLT AMPS (WATTS) L2	LOAD SERVED
PPC GFCI OUTLET	180		15A	1	A	2	30A	2880		ABB/GE INFINITY RECTIFIER 1
CHARLES GFCI OUTLET		180	15A	3	B	4			2880	
-SPACE-				5	A	6	30A	2880		ABB/GE INFINITY RECTIFIER 2
-SPACE-				7	B	8			2880	
-SPACE-				9	A	10	30A	2880		ABB/GE INFINITY RECTIFIER 3
-SPACE-				11	B	12			2880	
-SPACE-				13	A	14	30A	2880		ABB/GE INFINITY RECTIFIER 4
-SPACE-				15	B	16			2880	
-SPACE-				17	A	18				-SPACE-
-SPACE-				19	B	20				-SPACE-
-SPACE-				21	A	22				-SPACE-
-SPACE-				23	B	24				-SPACE-
VOLTAGE AMPS	180	180						11520	11520	
200A MCB, 1ϕ, 24 SPACE, 120/240V			L1		L2					
MB RATING: 65,000 AIC			11700		11700		VOLTAGE AMPS			
			98		98		AMPS			
			98				MAX AMPS			
			123				MAX 125%			

PANEL SCHEDULE — NO SCALE — 2

NOT USED — NO SCALE — 3

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

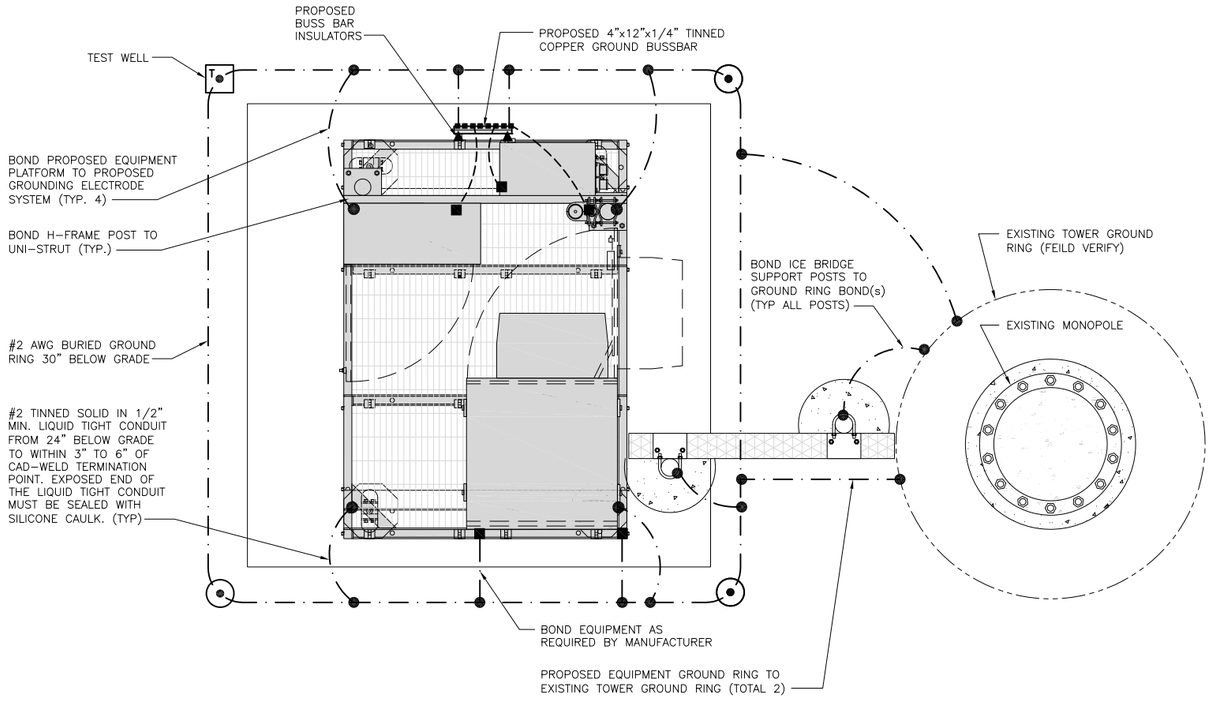
BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

SHEET TITLE

ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE

SHEET NUMBER

E-3

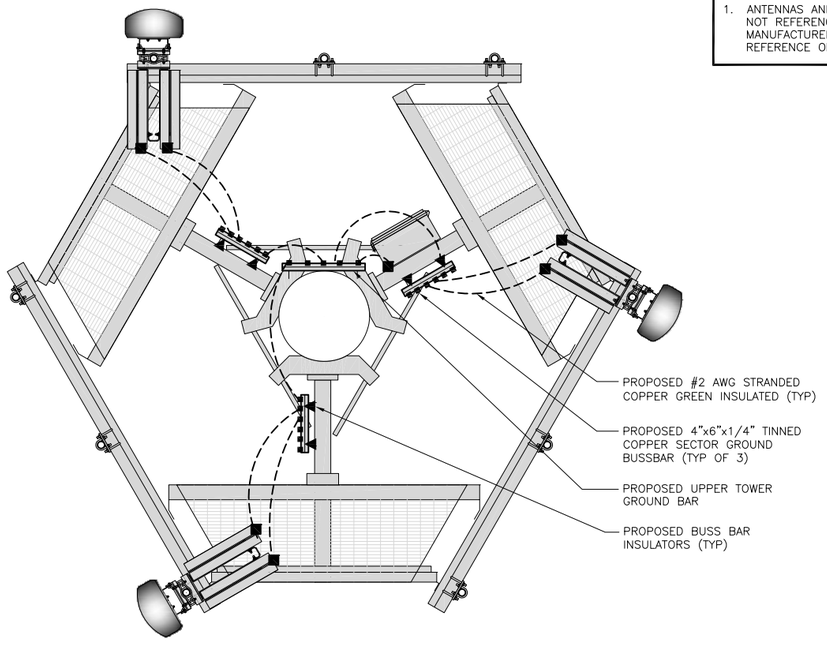


TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE | 1

NOTES

1. ANTENNAS AND OVP SHOWN ARE GENERIC AND NOT REFERENCING TO A SPECIFIC MANUFACTURER. THIS LAYOUT IS FOR REFERENCE ONLY



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE | 2

EXOTHERMIC CONNECTION
MECHANICAL CONNECTION
GROUND BUS BAR
GROUND ROD
TEST GROUND ROD WITH INSPECTION SLEEVE
#6 AWG STRANDED & INSULATED
#2 AWG SOLID COPPER TINNED
BUSS BAR INSULATOR

GROUNDING LEGEND

1. GROUNDING IS SHOWN DIAGRAMMATICALLY ONLY.
2. CONTRACTOR SHALL GROUND ALL EQUIPMENT AS A COMPLETE SYSTEM. GROUNDING SHALL BE IN COMPLIANCE WITH NEC SECTION 250 AND DISH Wireless L.L.C. GROUNDING AND BONDING REQUIREMENTS AND MANUFACTURER'S SPECIFICATIONS.
3. ALL GROUND CONDUCTORS SHALL BE COPPER; NO ALUMINUM CONDUCTORS SHALL BE USED.

GROUNDING KEY NOTES

(A) EXTERIOR GROUND RING: #2 AWG SOLID COPPER, BURIED AT A DEPTH OF AT LEAST 30 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE AND APPROXIMATELY 24 INCHES FROM THE EXTERIOR WALL OR FOOTING.

(B) TOWER GROUND RING: THE GROUND RING SYSTEM SHALL BE INSTALLED AROUND AN ANTENNA TOWER'S LEGS, AND/OR GUY ANCHORS. WHERE SEPARATE SYSTEMS HAVE BEEN PROVIDED FOR THE TOWER AND THE BUILDING, AT LEAST TWO BONDS SHALL BE MADE BETWEEN THE TOWER RING GROUND SYSTEM AND THE BUILDING RING GROUND SYSTEM USING MINIMUM #2 AWG SOLID COPPER CONDUCTORS.

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

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

(E) GROUND ROD: UL LISTED COPPER CLAD STEEL. MINIMUM 1/2" DIAMETER BY EIGHT FEET LONG. GROUND RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES. GROUND RODS SHALL BE DRIVEN TO THE DEPTH OF GROUND RING CONDUCTOR.

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

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

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

(I) TELCO GROUND BAR: BOND TO BOTH CELL REFERENCE GROUND BAR OR EXTERIOR GROUND RING.

(J) FRAME BONDING: THE BONDING POINT FOR TELECOM EQUIPMENT FRAMES SHALL BE THE GROUND BUS THAT IS NOT ISOLATED FROM THE EQUIPMENTS METAL FRAMEWORK.

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

(L) FENCE AND GATE GROUNDING: METAL FENCES WITHIN 7 FEET OF THE EXTERIOR GROUND RING OR OBJECTS BONDED TO THE EXTERIOR GROUND RING SHALL BE BONDED TO THE GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTOR AT AN INTERVAL NOT EXCEEDING 25 FEET. BONDS SHALL BE MADE AT EACH GATE POST AND ACROSS GATE OPENINGS.

(M) EXTERIOR UNIT BONDS: METALLIC OBJECTS, EXTERNAL TO OR MOUNTED TO THE BUILDING, SHALL BE BONDED TO THE EXTERIOR GROUND RING. USING #2 TINNED SOLID COPPER WIRE

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

(O) DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICE CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH A MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR

(P) TOWER TOP COLLECTOR BUSS BAR IS TO BE MECHANICALLY BONDED TO PROPOSED ANTENNA MOUNT COLLAR.

REFER TO DISH Wireless L.L.C. GROUNDING NOTES.

GROUNDING KEY NOTES

NO SCALE | 3

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

SHEET TITLE

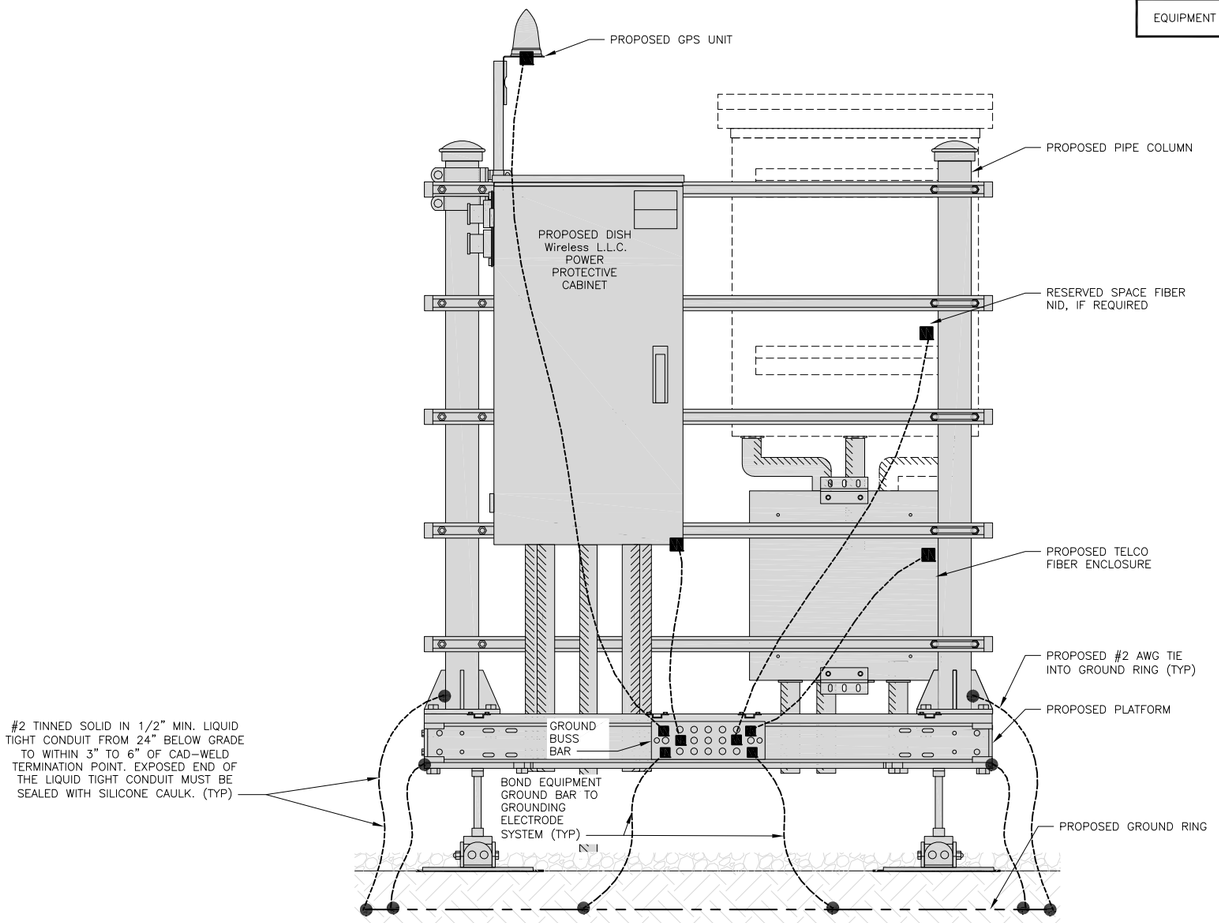
GROUNDING PLANS AND NOTES

SHEET NUMBER

G-1

NOTES

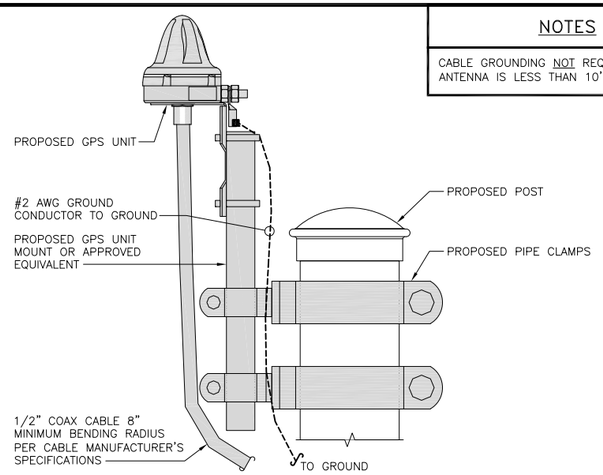
EQUIPMENT CABINET OMITTED FOR CLARITY



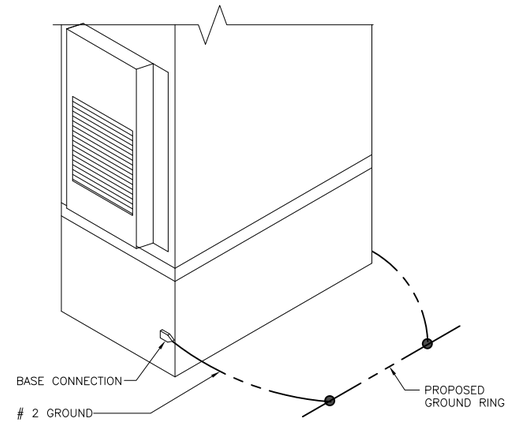
H-FRAME GROUNDING DETAIL | NO SCALE | 1

NOTES

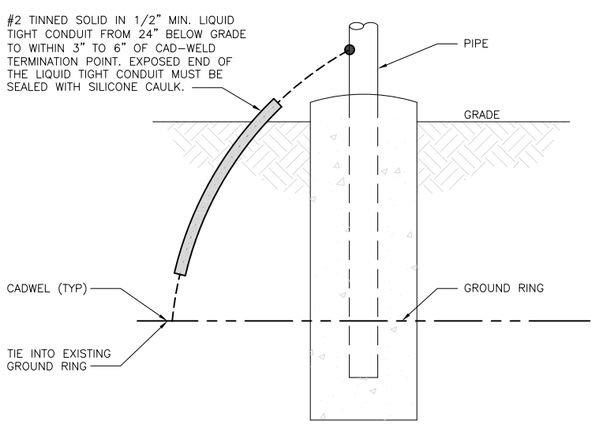
CABLE GROUNDING NOT REQUIRED WHEN ANTENNA IS LESS THAN 10' FROM CABINET



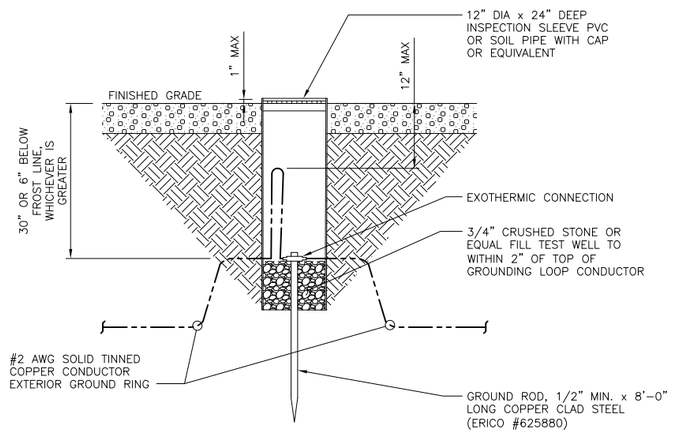
TYPICAL GPS UNIT GROUNDING | NO SCALE | 2



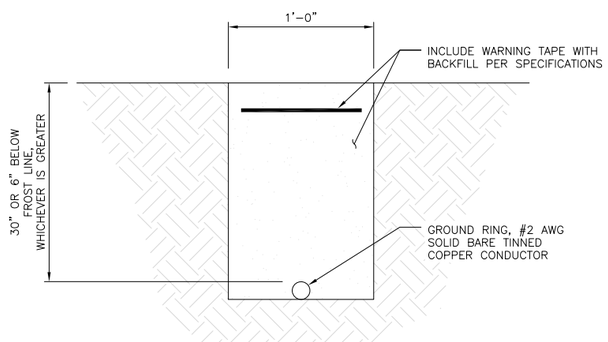
OUTDOOR CABINET GROUNDING | NO SCALE | 3



TRANSITIONING GROUND DETAIL | NO SCALE | 4



TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE | NO SCALE | 5



TYPICAL GROUND RING TRENCH | NO SCALE | 6

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

SHEET TITLE

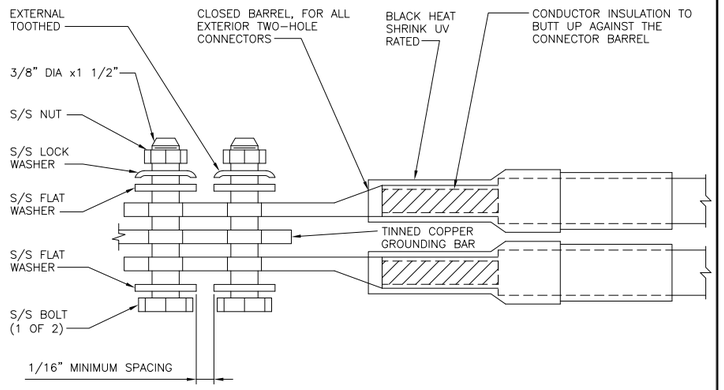
GROUNDING DETAILS

SHEET NUMBER

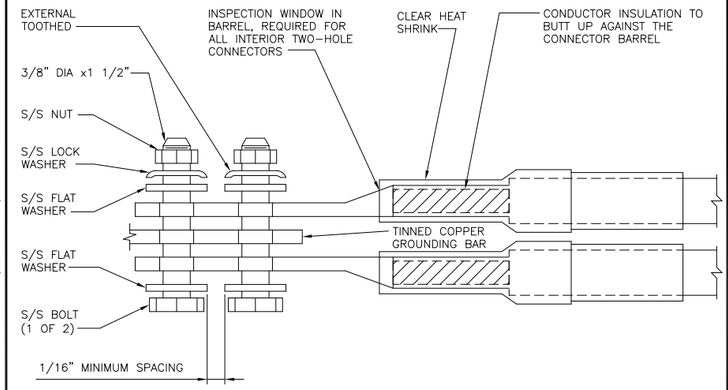
G-2

1. EXOTHERMIC WELD (2) TWO, #2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUND BAR, ROUTE CONDUCTORS TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. ALL EXTERIOR GROUNDING HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
3. FOR GROUND BOND TO STEEL ONLY: COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
4. DO NOT INSTALL CABLE GROUNDING KIT AT A BEND AND ALWAYS DIRECT GROUND CONDUCTOR DOWN TO GROUNDING BUS.
5. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUND BAR AND BOLTED ON THE BACK SIDE.
6. ALL GROUNDING PARTS AND EQUIPMENT TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUND BAR AS REQUIRED.
8. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).

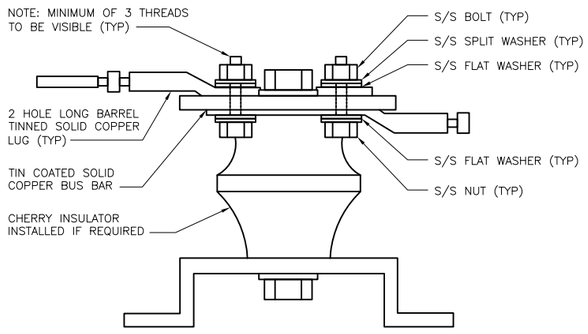
TYPICAL GROUNDING NOTES | NO SCALE | 1



TYPICAL EXTERIOR TWO HOLE LUG | NO SCALE | 2



TYPICAL INTERIOR TWO HOLE LUG | NO SCALE | 3



LUG DETAIL | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

SHEET TITLE

GROUNDING DETAILS

SHEET NUMBER

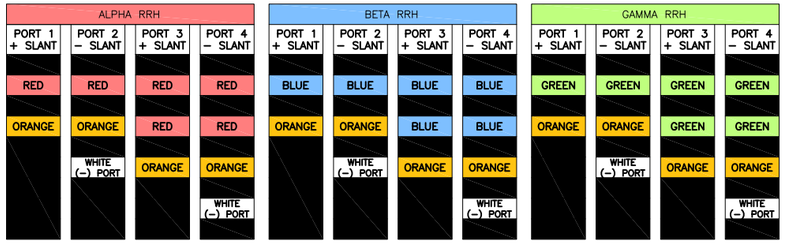
G-3

RF JUMPER COLOR CODING

3/4" TAPE WIDTHS WITH 3/4" SPACING

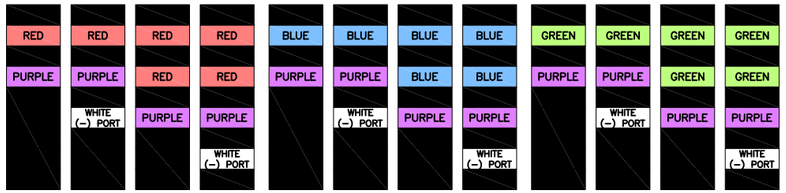
LOW-BAND RRH –
(600MHz N71 BASEBAND) +
(850MHz N26 BAND) +
(700MHz N29 BAND) – OPTIONAL PER MARKET

ADD FREQUENCY COLOR TO SECTOR BAND
(CBRS WILL USE YELLOW BANDS)



MID-BAND RRH –
(AWS BANDS N66+N70)

ADD FREQUENCY COLOR TO SECTOR BAND
(CBRS WILL USE YELLOW BANDS)

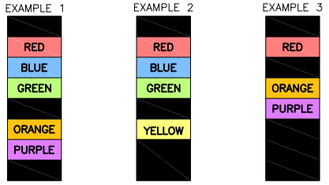


HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED
ALONG WITH FREQUENCY BANDS

EXAMPLE 1 – HYBRID, OR DISCREET, SUPPORTS
ALL SECTORS, BOTH LOW-BANDS AND MID-BANDS

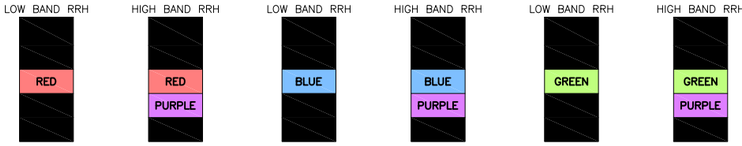
EXAMPLE 2 – HYBRID, OR DISCREET, SUPPORTS
CBRS ONLY, ALL SECTORS



CONTRACTOR TO REFER TO FINAL
CONSTRUCTION RFDS FOR ALL RD DETAILS.
FINAL RFDS IS IN NEXSYSONE.

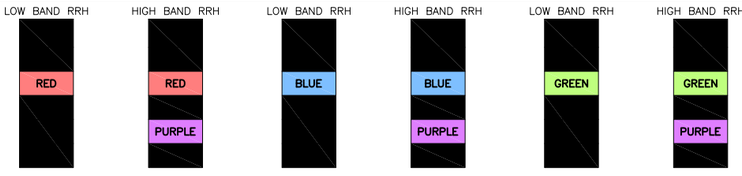
FIBER JUMPERS TO RRHs

LOW-BAND RRH FIBER CABLES HAVE SECTOR
STRIPE ONLY

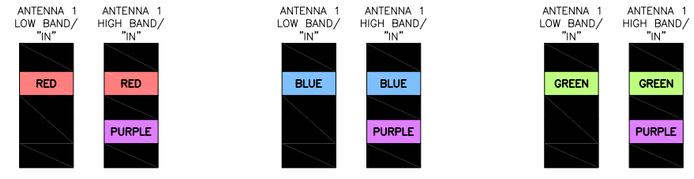


POWER CABLES TO RRHs

LOW-BAND RRH POWER CABLES HAVE SECTOR
STRIPE ONLY



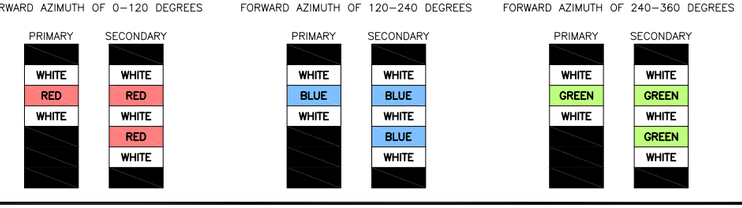
RET MOTORS AT ANTENNAS



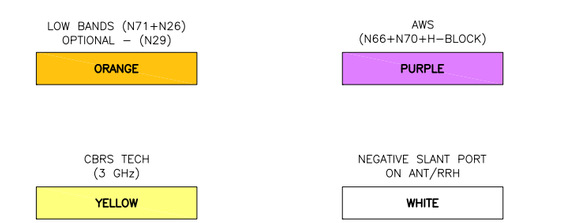
MICROWAVE RADIO LINKS

LINKS WILL HAVE A 1.5-2 INCH WHITE WRAP WITH
THE AZIMUTH COLOR OVERLAPPING IN THE MIDDLE.
ADD ADDITIONAL SECTOR COLOR BANDS FOR EACH
ADDITIONAL MW RADIO.

MICROWAVE CABLES WILL REQUIRE P-TOUCH
LABELS INSIDE THE CABINET TO IDENTIFY THE
LOCAL AND REMOTE SITE ID'S



RF CABLE COLOR CODES | NO SCALE | 1



COLOR IDENTIFIER | NO SCALE | 2

NOT USED | NO SCALE | 3

NOT USED | NO SCALE | 4

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA
8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

SHEET TITLE

RF
CABLE COLOR CODES

SHEET NUMBER

RF-1

EXOTHERMIC CONNECTION

MECHANICAL CONNECTION

BUSS BAR INSULATOR

CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

EXOTHERMIC WITH INSPECTION SLEEVE

GROUNDING BAR

GROUND ROD

TEST GROUND ROD WITH INSPECTION SLEEVE

SINGLE POLE SWITCH

DUPLEX RECEPTACLE

DUPLEX GFCI RECEPTACLE

FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48–T8

SMOKE DETECTION (DC)

EMERGENCY LIGHTING (DC)

SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW LED–1–25A400/51K–SR4–120–PE–DDBTXD

CHAIN LINK FENCE

WOOD/WROUGHT IRON FENCE

WALL STRUCTURE

LEASE AREA

PROPERTY LINE (PL)

SETBACKS

ICE BRIDGE

CABLE TRAY

WATER LINE

UNDERGROUND POWER

UNDERGROUND TELCO

OVERHEAD POWER

OVERHEAD TELCO

UNDERGROUND TELCO/POWER

ABOVE GROUND POWER

ABOVE GROUND TELCO

ABOVE GROUND TELCO/POWER

WORKPOINT

W.P.

SECTION REFERENCE

DETAIL REFERENCE

LEGEND

AB	ANCHOR BOLT
ABV	ABOVE
AC	ALTERNATING CURRENT
ADDL	ADDITIONAL
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AGL	ABOVE GROUND LEVEL
AIC	AMPERAGE INTERRUPTION CAPACITY
ALUM	ALUMINUM
ALT	ALTERNATE
ANT	ANTENNA
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BATT	BATTERY
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BTC	BARE TINNED COPPER CONDUCTOR
BOF	BOTTOM OF FOOTING
CAB	CABINET
CANT	CANTILEVERED
CHG	CHARGING
CLG	CEILING
CLR	CLEAR
COL	COLUMN
COMM	COMMON
CONC	CONCRETE
CONSTR	CONSTRUCTION
DBL	DOUBLE
DC	DIRECT CURRENT
DEPT	DEPARTMENT
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DWG	DRAWING
DWL	DOWEL
EA	EACH
EC	ELECTRICAL CONDUCTOR
EL.	ELEVATION
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ENG	ENGINEER
EQ	EQUAL
EXP	EXPANSION
EXT	EXTERIOR
EW	EACH WAY
FAB	FABRICATION
FF	FINISH FLOOR
FG	FINISH GRADE
FIF	FACILITY INTERFACE FRAME
FIN	FINISH(ED)
FLR	FLOOR
FDN	FOUNDATION
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FS	FINISH SURFACE
FT	FOOT
FTG	FOOTING
GA	GAUGE
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GLB	GLUE LAMINATED BEAM
GLV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
GSM	GLOBAL SYSTEM FOR MOBILE
HDG	HOT DIPPED GALVANIZED
HDR	HEADER
HGR	HANGER
HVAC	HEAT/VENTILATION/AIR CONDITIONING
HT	HEIGHT
IGR	INTERIOR GROUND RING
IN	INCH
INT	INTERIOR
LB(S)	POUND(S)
LF	LINEAR FEET
LTE	LONG TERM EVOLUTION
MAS	MASONRY
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
MTS	MANUAL TRANSFER SWITCH
MW	MICROWAVE
NEC	NATIONAL ELECTRIC CODE
NM	NEWTON METERS
NO.	NUMBER
#	NUMBER
NTS	NOT TO SCALE
OC	ON–CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OPNG	OPENING
P/C	PRECAST CONCRETE
PCS	PERSONAL COMMUNICATION SERVICES
PCU	PRIMARY CONTROL UNIT
PRC	PRIMARY RADIO CABINET
PP	POLARIZING PRESERVING
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PWR	POWER CABINET
QTY	QUANTITY
RAD	RADIUS
RECT	RECTIFIER
REF	REFERENCE
REINF	REINFORCEMENT
REQ'D	REQUIRED
RET	REMOTE ELECTRIC TILT
RF	RADIO FREQUENCY
RMC	RIGID METALLIC CONDUIT
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
RWY	RACEWAY
SCH	SCHEDULE
SHT	SHEET
SIAD	SMART INTEGRATED ACCESS DEVICE
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
TEMP	TEMPORARY
THK	THICKNESS
TMA	TOWER MOUNTED AMPLIFIER
TN	TOE NAIL
TOA	TOP OF ANTENNA
TOC	TOP OF CURB
TOF	TOP OF FOUNDATION
TOP	TOP OF PLATE (PARAPET)
TOS	TOP OF STEEL
TOW	TOP OF WALL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
UPS	UNITERRUPTIBLE POWER SYSTEM (DC POWER PLANT)
VIF	VERIFIED IN FIELD
W	WIDE
W/	WITH
WD	WOOD
WP	WEATHERPROOF
WT	WEIGHT

ABBREVIATIONS

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP

1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

SHEET TITLE

LEGEND AND ABBREVIATIONS

SHEET NUMBER

GN-1

SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED – NO WORK SHALL COMMENCE PRIOR TO CONTRACTOR RECEIVING A WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE DISH Wireless L.L.C. AND TOWER OWNER NOC & THE DISH Wireless L.L.C. AND TOWER OWNER CONSTRUCTION MANAGER.

2. "LOOK UP" – DISH Wireless L.L.C. AND TOWER OWNER SAFETY CLIMB REQUIREMENT:

THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR DISH Wireless L.L.C. AND DISH Wireless L.L.C. AND TOWER OWNER POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.

3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.

4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND DISH Wireless L.L.C. AND TOWER OWNER STANDARDS, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).

5. ALL SITE WORK TO COMPLY WITH DISH Wireless L.L.C. AND TOWER OWNER INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON DISH Wireless L.L.C. AND TOWER OWNER TOWER SITE AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."

6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY DISH Wireless L.L.C. AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.

7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES INCLUDING PRIVATE LOCATES SERVICES PRIOR TO THE START OF CONSTRUCTION.

10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.

11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND DISH PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.

12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF DISH Wireless L.L.C. AND TOWER OWNER, AND/OR LOCAL UTILITIES.

14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.

15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.

16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.

18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS AND RADIOS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

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

CONTRACTOR:GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION

CARRIER:DISH Wireless L.L.C.

TOWER OWNER:TOWER OWNER

2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.

3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.

4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.

5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.

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

7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

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

9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.

11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION, BEFORE SUBMITTING BIDS, TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.

12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF DISH Wireless L.L.C. AND TOWER OWNER

13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP

1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-2

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.

3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.

4. CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.

5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:

#4 BARS AND SMALLER 40 ksi

#5 BARS AND LARGER 60 ksi

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

- CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
- CONCRETE EXPOSED TO EARTH OR WEATHER:
- #6 BARS AND LARGER 2"
- #5 BARS AND SMALLER 1-1/2"
- CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
- SLAB AND WALLS 3/4"
- BEAMS AND COLUMNS 1-1/2"

7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.

2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.

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

4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.

4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.

4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.

5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.

6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).

7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.

8. TIE WRAPS ARE NOT ALLOWED.

9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.

12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).

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

15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

16. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.

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

19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.

20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.

21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).

22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).

23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.

24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3 (OR BETTER) FOR EXTERIOR LOCATIONS.

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

26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.

27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR DISH Wireless L.L.C. AND TOWER OWNER BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

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

29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "DISH Wireless L.L.C.".

30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP

1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-3

GROUNDING NOTES:

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

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

3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.

4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

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

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

7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.

8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.

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

10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.

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

12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.

13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.

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

15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.

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

18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.

19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.

20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).

21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY). DO NOT ATTACH GROUNDING TO FIRE SPRINKLER SYSTEM PIPES.

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLJ	BLJ	BLJ

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	9/14/21	ISSUED FOR REVIEW
0	10/19/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

149449.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00123A
723 FARMINGTON AVE
NEW BRITAIN,CT 06051

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-4