



Northeast Site Solutions
Denise Sabo
4 Angela's Way, Burlington CT 06013
203-435-3640
denise@northeastsitesolutions.com

May 10, 2022

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

RE: Tower Share Application
770 Long Cove Road, Ledyard, CT 06335
Latitude: 41.416875
Longitude: -72.044266
Site #: CT02720-S_BOBOS00047A_SBA_DISH

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 770 Long Cove Road, Ledyard, Connecticut.

Dish Wireless LLC proposes to install three (3) 600/1900 MHz 5G antennas and six (6) RRUs, at the 152-foot level of the existing 165-foot monopole tower, one (1) Fiber cable will also be installed. Dish Wireless LLC equipment cabinets will be placed within a 7' x 5' lease area within the fenced compound. Included are plans by B+T, dated September 27, 2021, Exhibit C. Also included is a structural analysis prepared by TES, dated February 25, 2022, confirming that the existing tower is structurally capable of supporting the proposed equipment once the proposed Tower Modifications are completed. Attached as Exhibit D. The facility was approved by the Town of Ledyard on November 21, 2000. Please see attached Exhibit A.

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 Mayor Fred Allyn, III and Juliet Hodge, Planning Director for the Town of Ledyard, as well as the tower owner (SBA) and property owner (Nathaniel Woody & Julie Dupont).

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 existing tower is 165-feet and the Dish Wireless LLC antennas will be located at a center line height of 152-feet.
2. The proposed modifications will not result in an increase of the site boundary as depicted on the attached site plan.



NSS **NORTHEAST**
SITE SOLUTIONS

Turnkey Wireless Development

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. The combined site operations will result in a total power density of 4.05% as evidenced by Exhibit F.

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 submits that the shared use of this facility satisfies these criteria.

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

B. Legal Feasibility. As referenced above, C.G.S. 16-50aa has been authorized to issue orders approving the shared use of an existing tower such as this tower in Ledyard. 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 G, 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 152-foot level of the existing 165-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 F, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

D. Economic Feasibility. 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 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 Ledyard.

Sincerely,

Denise Sabo

Denise Sabo

Mobile: 203-435-3640

Fax: 413-521-0558

Office: 4 Angela's Way, Burlington CT 06013

Email: denise@northeastsitesolutions.com



NSS

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Turnkey Wireless Development

Attachments

Cc: Mayor Fred Allyn, III
Town of Ledyard
741 Colonel Ledyard Highway
Ledyard, CT 06339-1511

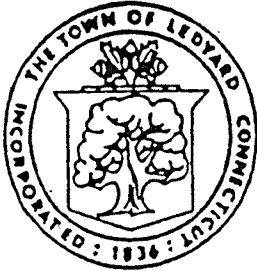
Juliet Hodge, Planning Director
Town of Ledyard
741 Colonel Ledyard Highway
Ledyard, CT 06339-1511

Nathaniel Woody & Julie Dupont – Property Owners
770 Long Cove Road
Gales Ferry, CT 06335

SBA - Tower Owner

Exhibit A

Original Facility Approval



TOWN OF LEDYARD CONNECTICUT

BUILDING OFFICIAL
Ledyard, Connecticut

741 Colonel Ledyard Highway
Ledyard, CT 06339

CERTIFICATE OF OCCUPANCY

OWNER/APPLICANT SBA, INC.

This is to certify the building at 770 Long Cove Road

on Permit No. 00-379, Use Group U Type Construction 2C
conforms substantially to the requirements of the Connecticut Basic Building Code,
and is hereby approved for Occupancy as Indicated below.

Approved for occupancy Install 165' communication tower.

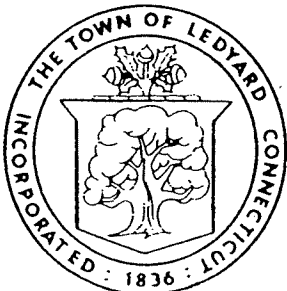
5-9-02

DATE

Randy H. Dalton

BUILDING OFFICIAL

See Certificate of Compliance.



TOWN OF LEDYARD CONNECTICUT

ZONING COMMISSION
Ledyard, Connecticut

741 Colonel Ledyard Hwy.
Ledyard, Conn. 06339

CERTIFICATE OF USE AND COMPLIANCE

OWNER/APPLICANT SBA, INC.

BUILDING PERMIT NO. 00-379

This is to certify that the building(s) at _____

use _____, conform to the Approved Site Plan as
required by the Ledyard Zoning Regulations. This Certificate is issued, as required
by, and, in accordance with, Section 17.3.3 of the Zoning Regulations with the

following stipulations: SECTION 14.9 "A WIRELESS TELECOM-

MUNICATIONS FACILITY NOT IN USE FOR 12 CONSECUTIVE

MONTHS SHALL BE REMOVED BY THE FACILITY OWNER AT ITS EXPENSE"

4/29/02

DATE

S. J. J. J.

ZONING AUTHORITY

FEE STRUCTURE

\$10/First \$1,000 est. cost 10
\$4/Ea. add. \$1,000 or part of 596
\$.16/\$1,000 est. cost State Fee 24.00

**TOWN OF LEDYARD
PERMIT**PERMIT #: 00-379 NTDNon ResEST. COST: \$150,000.00FEE: \$630.00 (Y/N)APPL. DATE: 11-20-00TYPE: BuildingISSUE DATE: 11-21-00

USE GROUP: _____

TYPE CONST: _____ ZONING DIST: R-60LOCATION OF JOB: 770 Long Cove Road, Ledyard CTOWNER: SBA, INC. Dorothy Atkinson TELE. #: (860) 659-9101

ADDRESS (IF OTHER THAN ABOVE): _____

CONTRACTOR: DICIN Electric CO. INC.
ADDRESS: 156 CROSS Road, Waterford CT 06385
TELEPHONE: (860) 442-0826
LICENSE NUMBER: 900247

DESCRIPTION OF WORK TO BE PERFORMED: Installation of one 165' monopole communication towerSIZE/LENGTH: 165'WIDTH: 60"HEIGHT: 165'# BATHS: N/A# BEDROOMS: N/A

ATTACHED GARAGE

YES _____

NO _____

GARAGE UNDER

YES _____

NO _____

SIGNATURE OF OWNER/AGENT X [Signature] I HAVE BEEN AUTHORIZED
BY THE OWNER TO MAKE THIS APPLICATION AS HIS AUTHORIZED AGENT.

BUILDING OFFICIAL [Signature]

REVIEWED _____

APPROVED 11-21-00

DENIED _____

REASON OR REASONS FOR DENIAL _____

ZONING OFFICIAL [Signature]APPROVED 11-21-00

DENIED _____

REASON _____

ADDITIONAL PLANS AND SPECS. ARE TO BE PROVIDED BY THE APPLICANT FOR THE
FIRE MARSHAL FOR PROJECTS OVER TWO FAMILY AND ALL COMMERCIAL USES.

FIRE MARSHAL _____

APPROVED _____

DENIED _____

SANITARIAN _____

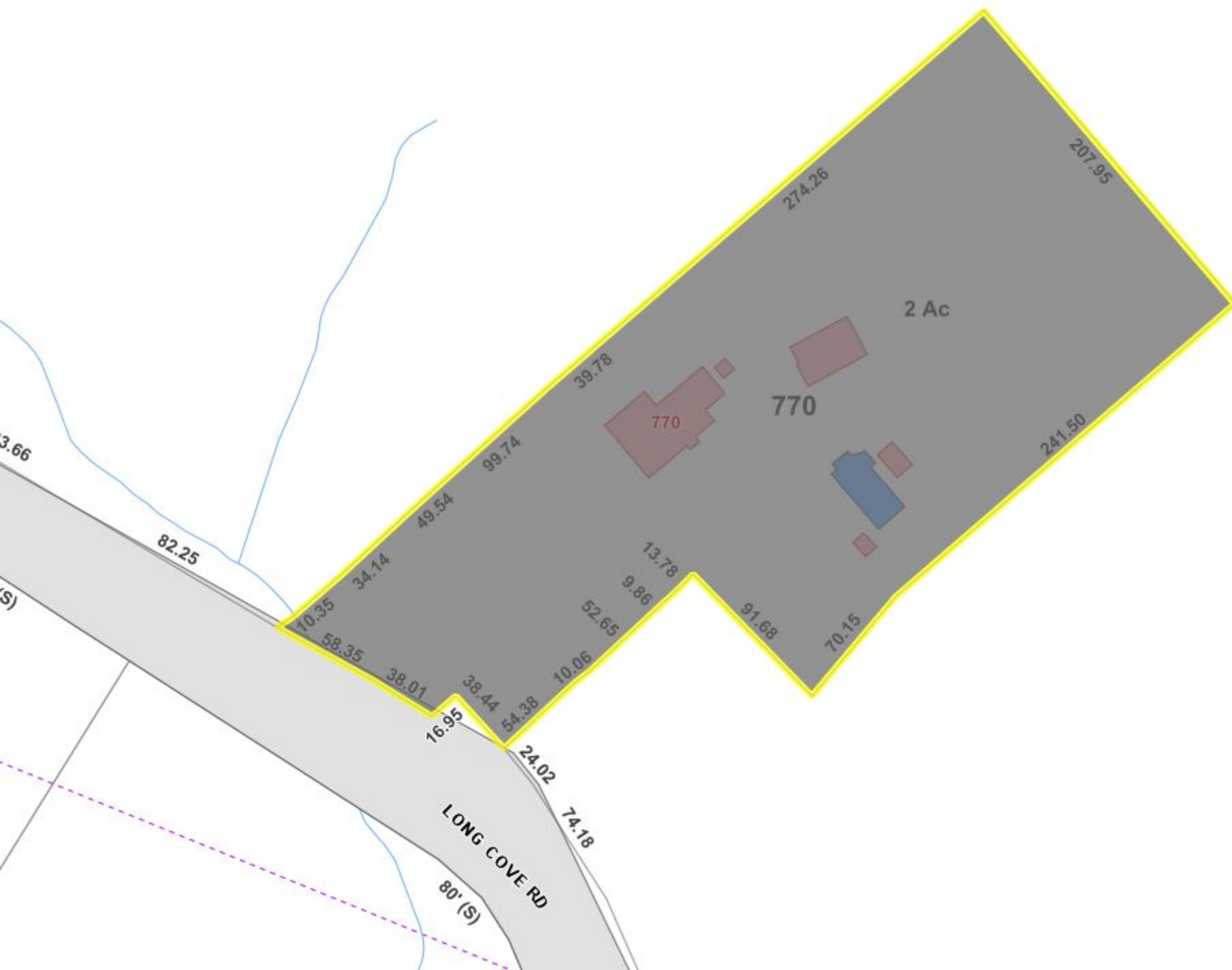
APPROVED _____

DENIED _____

Exhibit B

Property Card

184.92 AcC



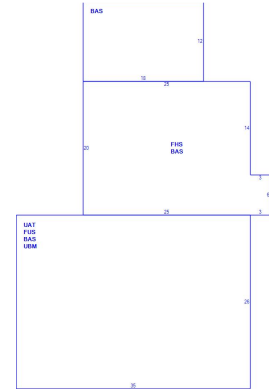
Town of Ledyard Property Summary Report

770 LONG COVE RD

PARCEL ID:	109-1340-770
LOCATION:	770 LONG COVE RD
OWNER NAME:	WOODY NATHANIEL + JULIE DUPONT-



OWNER OF RECORD
WOODY NATHANIEL + JULIE DUPONT-
770 LONG COVE RD
GALES FERRY, CT 06335



LIVING AREA:	2865	ZONING:	R60	ACREAGE:	2.00
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SALES HISTORY

OWNER	BOOK / PAGE	SALE DATE	SALE PRICE
WOODY NATHANIEL + JULIE DUPONT-	494/ 269	21-Feb-2012	\$270,000.00
ATKINSON DOROTHY SANTIN + WILLIAM G JR T	373/ 818	09-Jan-2004	\$0.00
ATKINSON DOROTHY SANTIN	257/ 519	28-Feb-1996	\$0.00
ATKINSON WILLIAM G	0128/0879	09-May-1983	\$0.00
ATKINSON WILLIAM G ATKINSON MARTHA L	0102/0187	14-Oct-1976	\$0.00

CURRENT ASSESSED VALUE

TOTAL:	\$270,480.00	IMPROVEMENTS:	\$215,810.00	LAND:	\$54,670.00
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ASSESSING HISTORY

FISCAL YEAR	TOTAL VALUE	IMPROVEMENT VALUE	LAND VALUE
2020	\$270,480.00	\$215,810.00	\$54,670.00
2019	\$266,630.00	\$214,760.00	\$51,870.00
2018	\$266,630.00	\$214,760.00	\$51,870.00
2017	\$266,630.00	\$214,760.00	\$51,870.00
2016	\$266,630.00	\$214,760.00	\$51,870.00

Town of Ledyard Property Summary Report

770 LONG COVE RD

PARCEL ID:	109-1340-770
LOCATION:	770 LONG COVE RD
OWNER NAME:	WOODY NATHANIEL + JULIE DUPONT-

BUILDING # 1

YEAR BUILT	1790	ROOF STRUCTURE	Gable/Hip
STYLE	Antique	ROOF COVER	Asphalt Shingl
MODEL	Residential	FLOOR COVER 1	Hardwood
GRADE	Very Good	FLOOR COVER 2	Pine/Soft Wood
STORIES	2	HEAT FUEL	Oil
OCCUPANCY	Single Fam M01	HEAT TYPE	Hot Water
EXT WALL 1	Clapboard	AC TYPE	None
EXT WALL 2	NULL	BEDROOMS	3 Bedrooms
INT WALLS 1	Drywall/Sheet	FULL BATHS	2
INT WALLS 2	Plastered	HALF BATHS	0
		TOT ROOMS	10



EXTRA FEATURES

DESCRIPTION	CODE	UNITS
2ST Fireplace	FPL3	NULLxNULL (2.00 UNITS)

EXTRA FEATURES

DESCRIPTION	CODE	UNITS
Carport- Ave	FCP	NULLxNULL (350.00 S.F.)
Shed	SHD1	NULLxNULL (420.00 S.F.)
Inground Pool	SPL2	NULLxNULL (612.00 S.F.)
Shed	SHD1	NULLxNULL (48.00 S.F.)
SOLAR PANELS	MSC40	0xNULL (.00 UNIT)
Shed	SHD1	NULLxNULL (100.00 S.F.)

Exhibit C

Construction Drawings



DISH Wireless L.L.C. SITE ID:

BOBOS00047A

DISH Wireless L.L.C. SITE ADDRESS:

**770 LONG COVE ROAD
LEDYARD, CT 06339**

CONNECTICUT CODE 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

SHEET INDEX

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
LS-1	SITE SURVEY
LS-2	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

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 TOWER 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 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 FIBER NID (IF REQUIRED)

SITE PHOTO



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



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.

SITE INFORMATION

PROPERTY OWNER: E AVALONIA LAND CONSERVANCY IN
ADDRESS: P.O. BOX 49
OLD MYSTIC, CT, 06372
TOWER TYPE: MONOPOLE
TOWER CO SITE ID: CT02720-S
TOWER APP NUMBER: 163258
COUNTY: NEW LONDON
LATITUDE (NAD 83): 41° 25' 0.74" N
41.41687156 N
LONGITUDE (NAD 83): 72° 2' 39.48" W
72.04429967 W
ZONING JURISDICTION: NEW LONDON COUNTY
ZONING DISTRICT: R60
PARCEL NUMBER: 109-1340-760
OCCUPANCY GROUP: U
CONSTRUCTION TYPE: II-B
POWER COMPANY: CONNECTICUT LIGHT & POWER CO
TELEPHONE COMPANY: XFINITY

PROJECT DIRECTORY

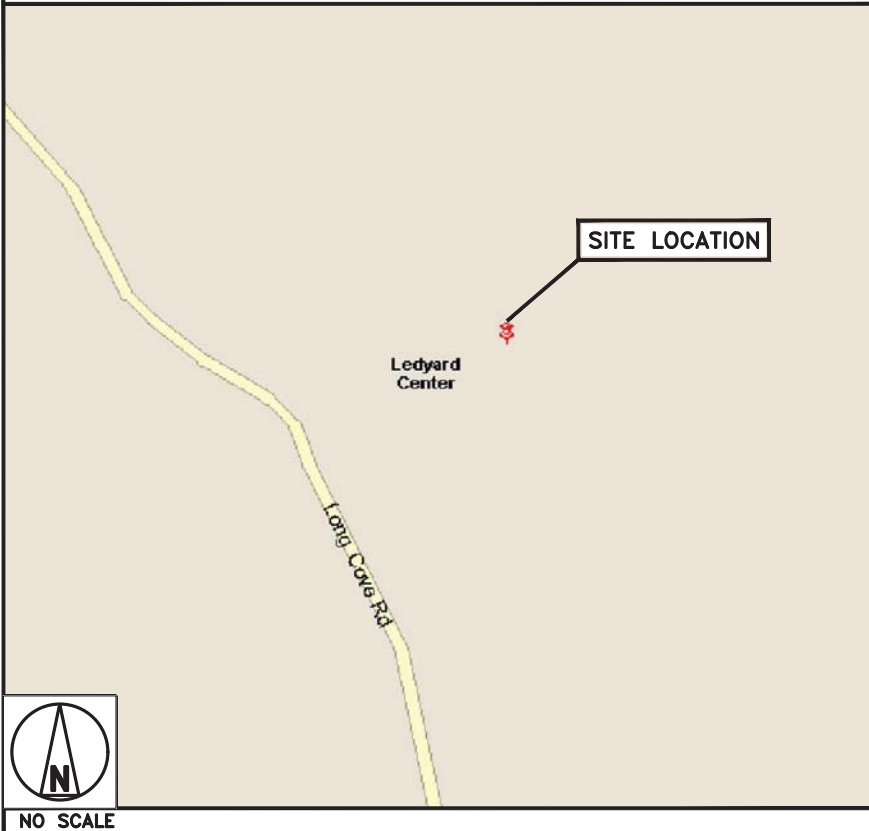
APPLICANT: DISH Wireless L.L.C.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120
TOWER OWNER: SBA COMMUNICATAIONS CORP.
8051 CONGRESS AVENUE
BOCA RATON, FL 33487
(800) 487-7483
SITE DESIGNER: B+T GROUP
1717 S. BOULDER AVE, SUITE 300
TULSA, OK 74119
(918) 587-4630
SITE ACQUISITION: RYAN LYNCH
RYAN.LYNCH@DISH.COM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

DIRECTIONS

DIRECTIONS GROTON - NEW LONDON AIRPORT:

DEPART GROTON-NEW LONDON AIRPORT ON TOWER AVE. ROAD NAME CHANGES TO SOUTH RD. TURN RIGHT ONTO US-1 [FORT HILL RD]. TURN LEFT ONTO CT-117 [NEWTOWN RD]. KEEP STRAIGHT ONTO CT-117 [NORTH RD]. TURN LEFT ONTO GALES FERRY RD. ROAD NAME CHANGES TO LONG COVE RD. TURN RIGHT ONTO ACCESS ROAD. ARRIVE AT BOBOS00047A.

VICINITY MAP



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



8051 CONGRESS AVENUE
BOCA RATON, FL 33487



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

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

BLJ BLJ MP

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	7/28/21	ISSUED FOR REVIEW
0	9/27/21	CONSTRUCTION

A&E PROJECT NUMBER

149440.001.01

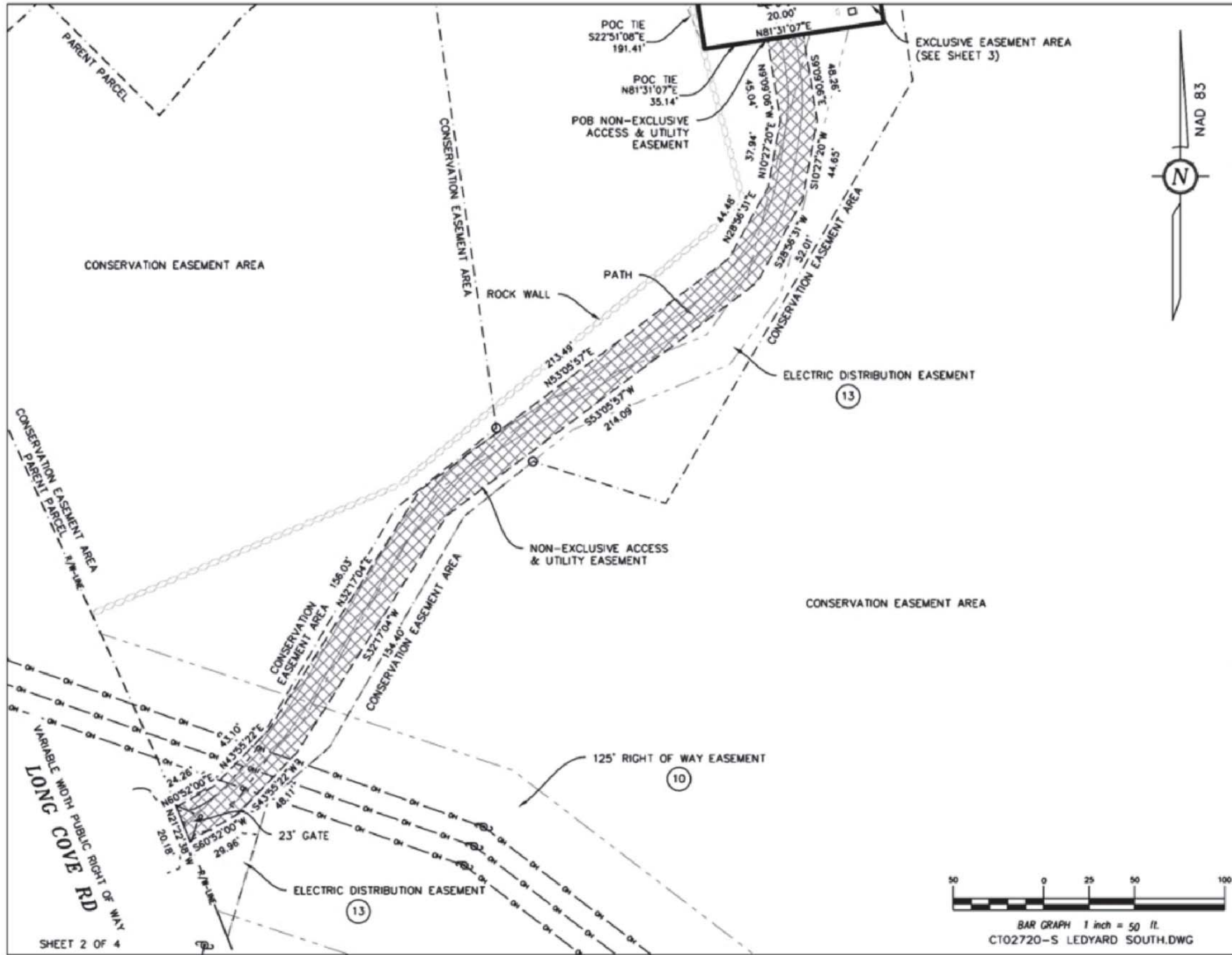
DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00047A
770 LONG COVE ROAD
LEDYARD, CT 06339

SHEET TITLE
TITLE SHEET

SHEET NUMBER

T-1



AS-BUILT SURVEY
PREPARED FOR



SITE: LEDYARD SOUTH
ID: CT02720-S
ADDRESS: 770 LONG COVE RD.,
LEDYARD, CT 06335
NEW LONDON COUNTY

NATIONAL SURVEY SERVICES COORDINATION BY:

GEOLINE
SURVEYING, INC.

13430 NW 104th Terrace, Alachua, FL 32615
Office: (386) 418-0500 Fax: (386) 462-9996
WWW.GEOLINEINC.COM

SURVEY WORK PERFORMED BY:

JONATHAN
MURPHY

Professional Land Surveying
10505 Leafwood Place (919) 280-8189
Raleigh NC 27613 FAX 919-9616
E-MAIL: jonathan@murphygeomatics.com FIRM C-2757

SURVEYOR'S NOTES

1. BASIS OF BEARING:
CT GRID NAD83
2. NO SUBSURFACE INVESTIGATION WAS
PERFORMED TO LOCATE UNDERGROUND UTILITIES.
UTILITIES SHOWN HEREON ARE LIMITED TO AND
ARE PER OBSERVED EVIDENCE ONLY.
3. THIS SURVEY DOES NOT REPRESENT A
BOUNDARY SURVEY OF THE PARENT PARCEL.
4. ALL VISIBLE TOWER EQUIPMENT AND
IMPROVEMENTS ARE CONTAINED WITHIN THE
DESCRIBED AREA, UNLESS OTHERWISE SHOWN
HEREON. THERE ARE NO ENCROACHMENTS INTO
OR BEYOND THE DESCRIBED SBA EXCLUSIVE
EASEMENT AREA.
5. ALL SYMBOLS SHOWN HEREON NOT DEPICTED
TO SCALE.

SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY TO:
SBA TOWERS, LLC, A FLORIDA LIMITED
LIABILITY COMPANY AND OLD REPUBLIC
NATIONAL TITLE INSURANCE COMPANY AS
TO COMMITMENT NUMBER 01-20119309-01T
COMMITMENT DATE: 09/24/2020 AT 7:00
AM

MURPHY GEOMATICS

WILLIAM J. NAGLE
LAND SURVEYOR - CT - 70269
DATE: 11/19/2020



CERTIFICATION NOTE: THE WORD CERTIFY IS UNDERSTOOD
TO BE AN EXPRESSION OF PROFESSIONAL OPINION BY
THE LAND SURVEYOR WHICH IS BASED UPON THEIR
KNOWLEDGE AND BELIEF AND DOES NOT CONSTITUTE A
GUARANTEE OR WARRANTY.
FIELD DATE: 09/30/2020



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



8051 CONGRESS AVENUE
BOCA RATON, FL 33487



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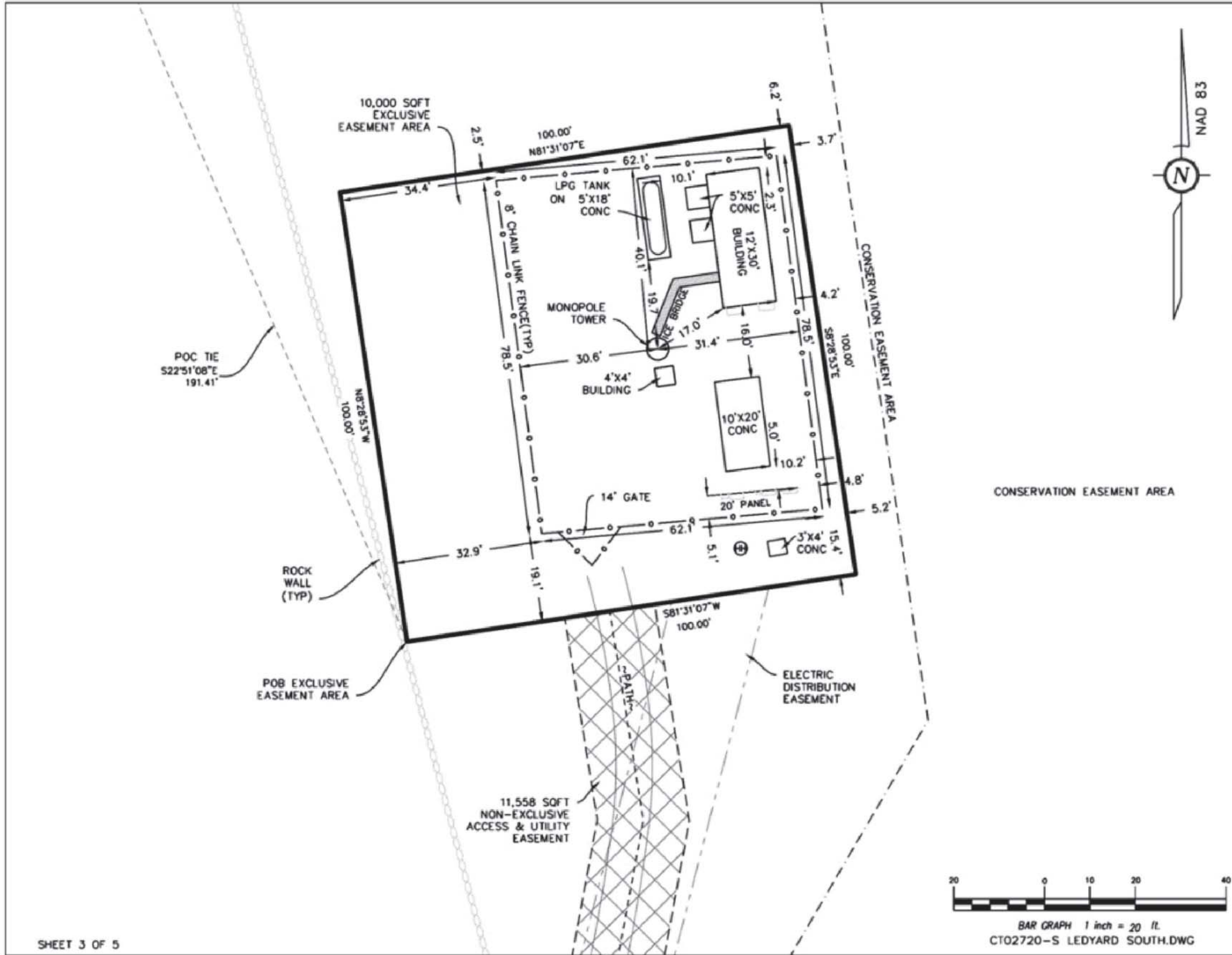
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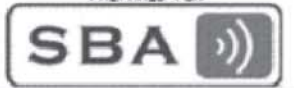
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LEDYARD, CT 06339

SHEET TITLE
SITE SURVEY

SHEET NUMBER
LS-1



AS-BUILT SURVEY



SITE: LEDYARD SOUTH
ID: CT02720-S
ADDRESS: 770 LONG COVE RD.,
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JONATHAN MURPHY
Professional Land Surveying
10505 Leafwood Place (919) 280-8189
Raleigh NC 27613 FAX 919-9616
E-MAIL: jonathan@murphygeomatics.com FIRM C-3757

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5. ALL SYMBOLS SHOWN HEREON NOT DEPICTED TO SCALE.

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SBA TOWERS, LLC, A FLORIDA LIMITED LIABILITY COMPANY AND OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY AS TO COMMITMENT NUMBER 01-20119309-01T
COMMITMENT DATE: 09/24/2020 AT 7:00 AM

MURPHY GEOMATICS
WILLIAM J. NAGLE
LAND SURVEYOR - CT - 70269
DATE: 11/19/2020



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LITTLETON, CO 80120



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0	9/27/21	CONSTRUCTION

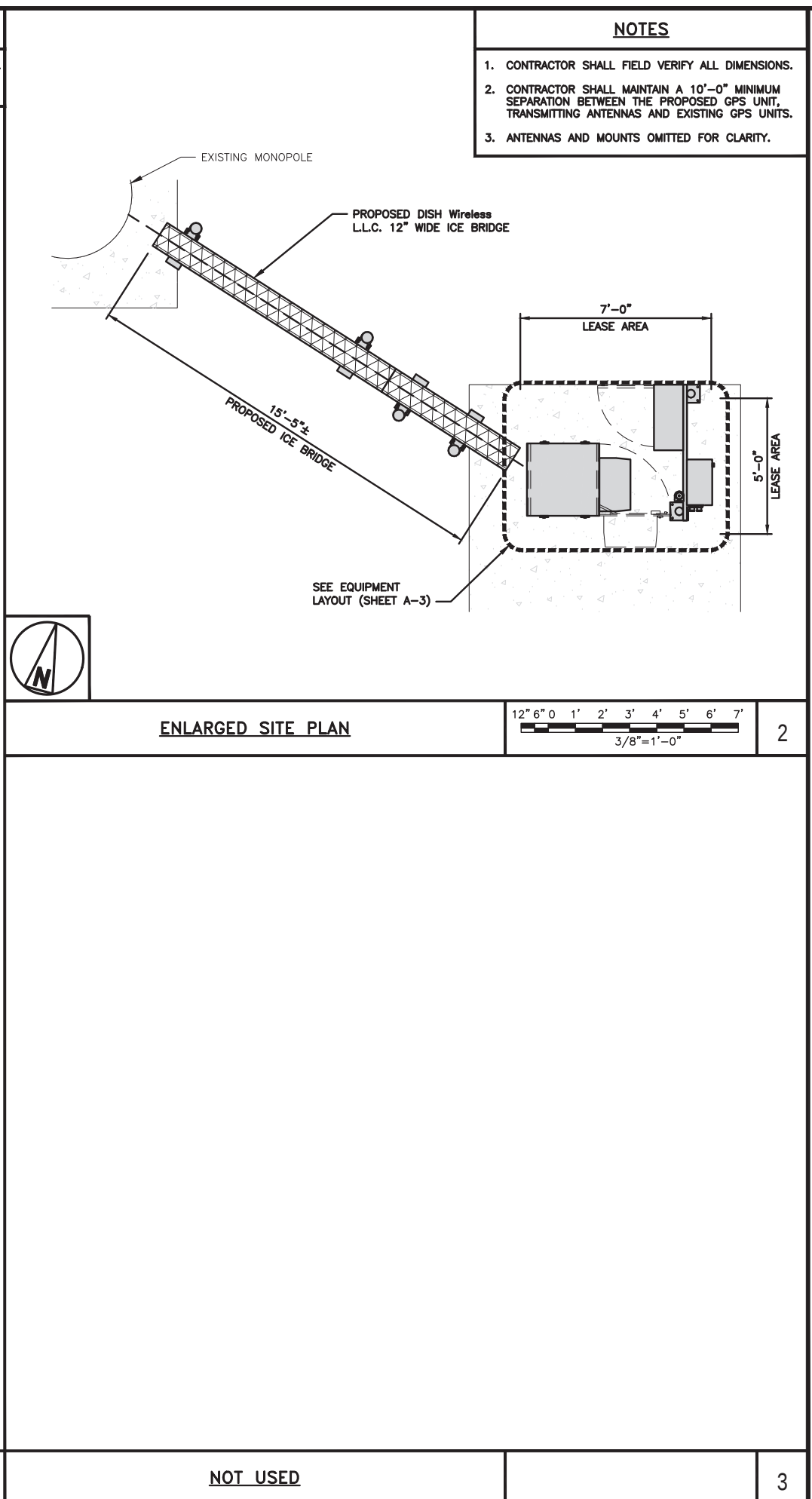
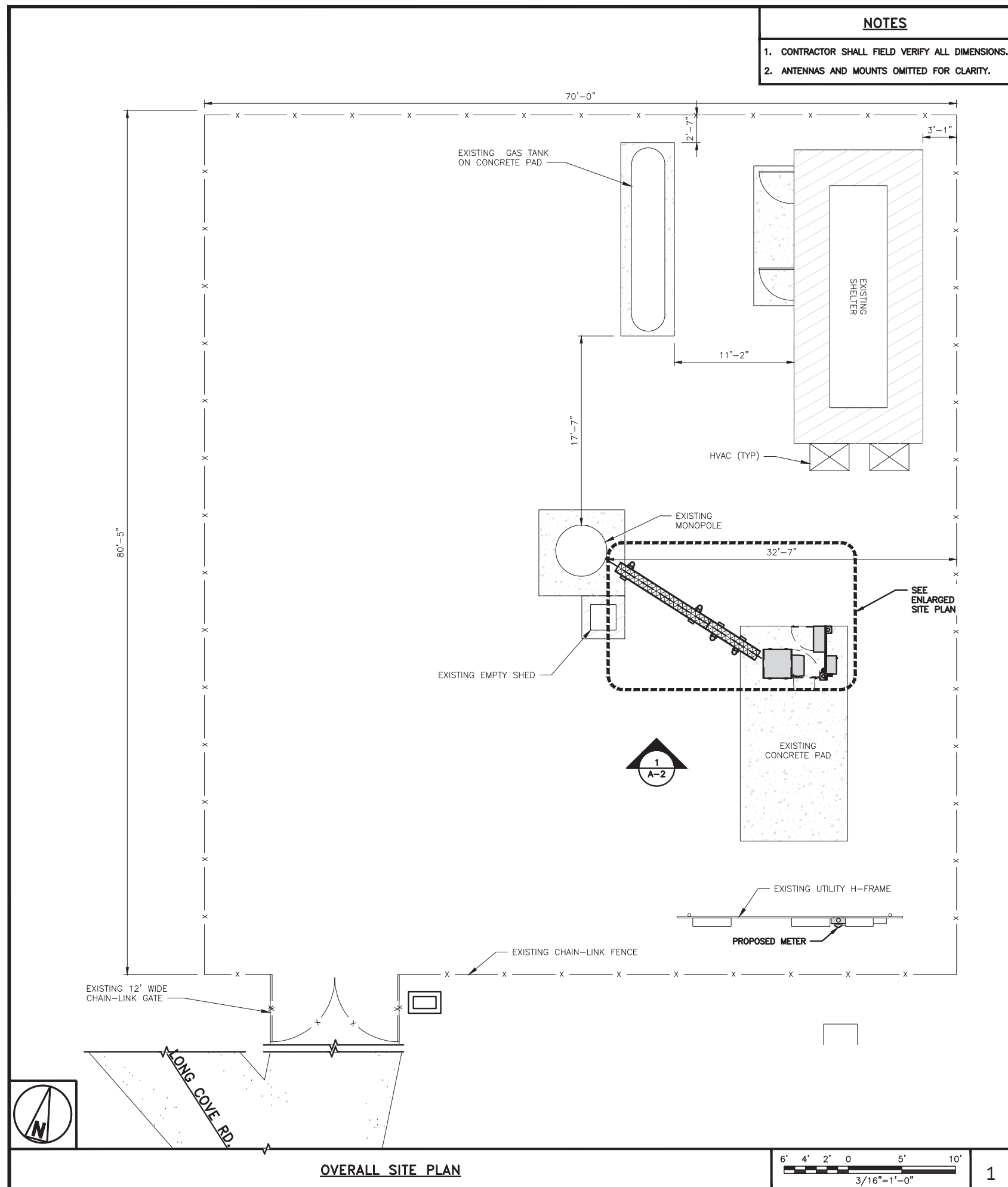
A&E PROJECT NUMBER
149440.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00047A
770 LONG COVE ROAD
LEDYARD, CT 06339

SHEET TITLE
SITE SURVEY

SHEET NUMBER
LS-2





5701 SOUTH SANTA FE DRIVE
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SUITE 300
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www.btgrp.com



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CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	7/28/21	ISSUED FOR REVIEW
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A&E PROJECT NUMBER

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DISH Wireless L.L.C.
PROJECT INFORMATION

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770 LONG COVE ROAD
LEDYARD, CT 06339

SHEET TITLE

OVERALL AND ENLARGED
SITE PLAN

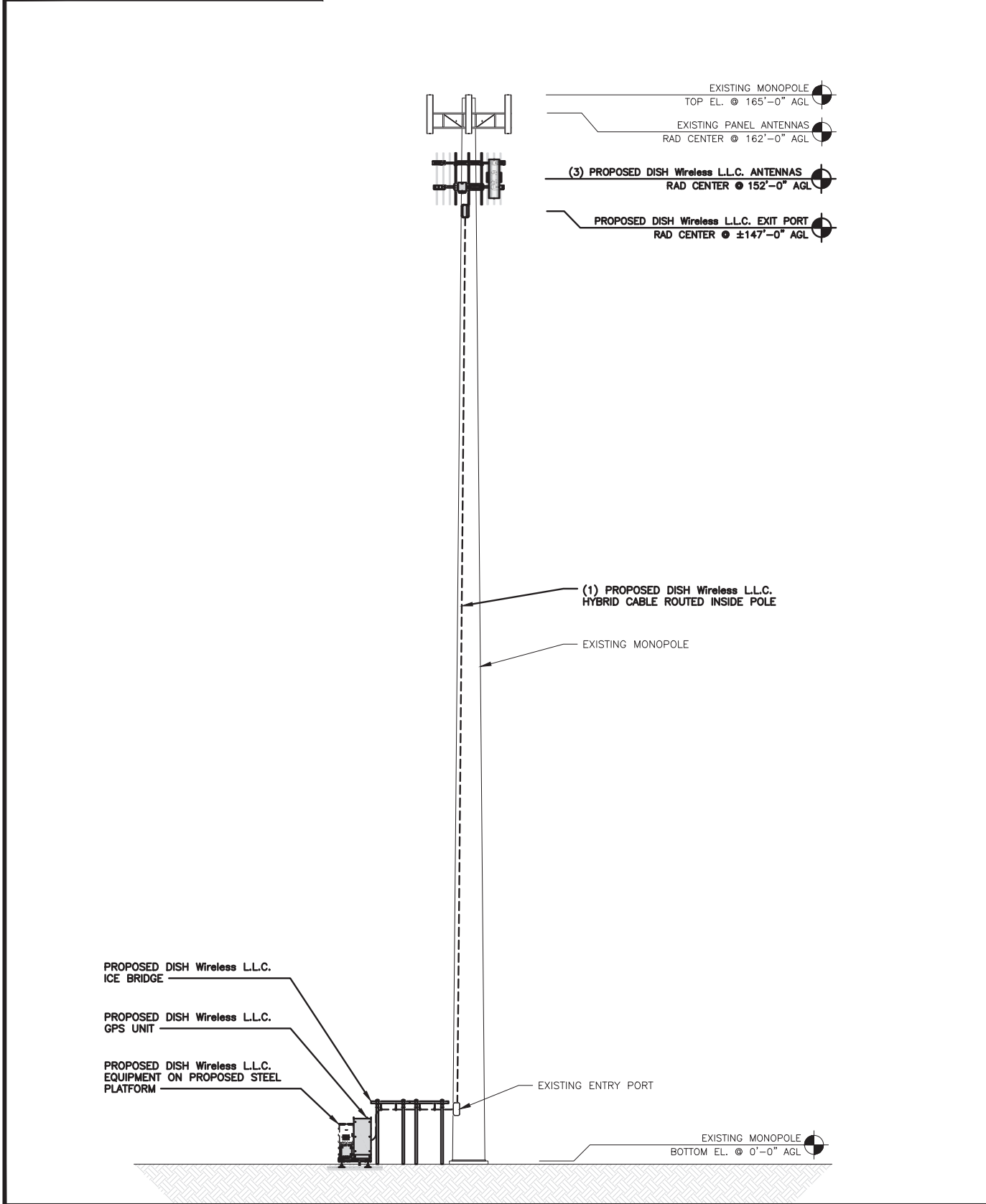
SHEET NUMBER

A-1

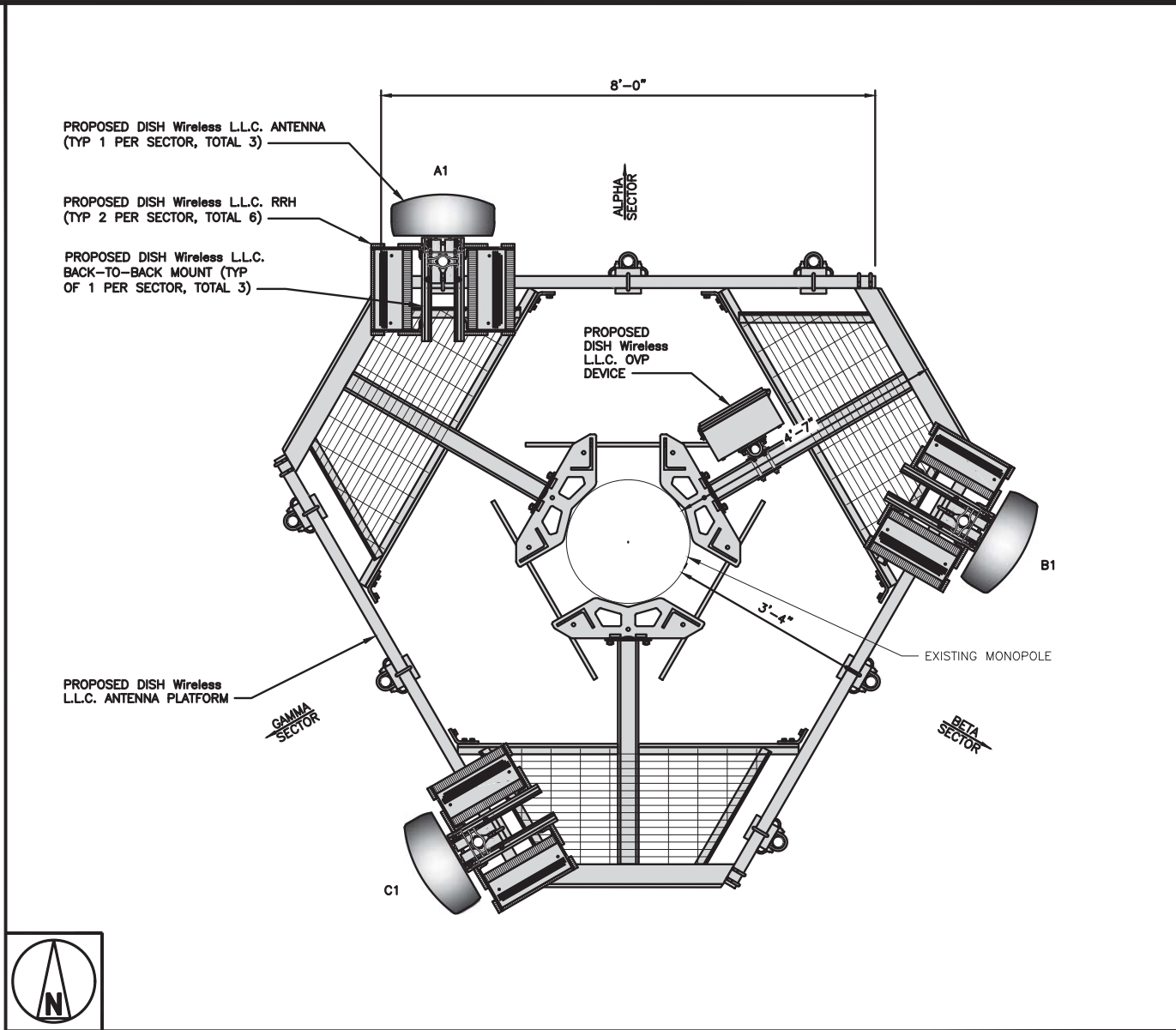
- NOTES
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.

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 SOUTH ELEVATION



ANTENNA LAYOUT

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 – MX08FR0665–21	5G	72.0" x 20.0"	0°	152'–0"	(1) HIGH-CAPACITY HYBRID CABLE (185' LONG)
BETA	B1	PROPOSED	JMA – MX08FR0665–21	5G	72.0" x 20.0"	120°	152'–0"	
GAMMA	C1	PROPOSED	JMA – MX08FR0665–21	5G	72.0" x 20.0"	240°	152'–0"	

SECTOR	POSITION	RRH		NOTES
		MANUFACTURER – MODEL NUMBER	TECHNOLOGY	
ALPHA	A1	FUJITSU – TA08025–B604	5G	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.
	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	

ANTENNA SCHEDULE

dish
wireless.

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SBA

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CONSTRUCTION DOCUMENTS

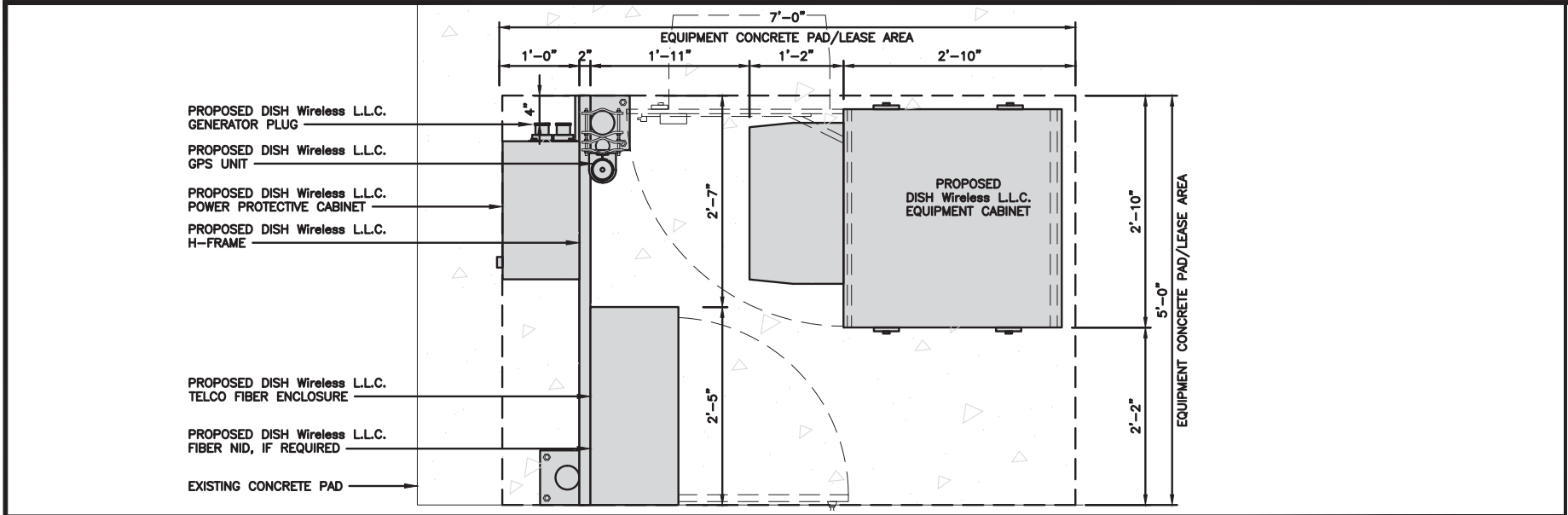
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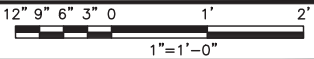
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00047A
770 LONG COVE ROAD
LEDYARD, CT 06339

SHEET TITLE
ELEVATION, ANTENNA
LAYOUT AND SCHEDULE

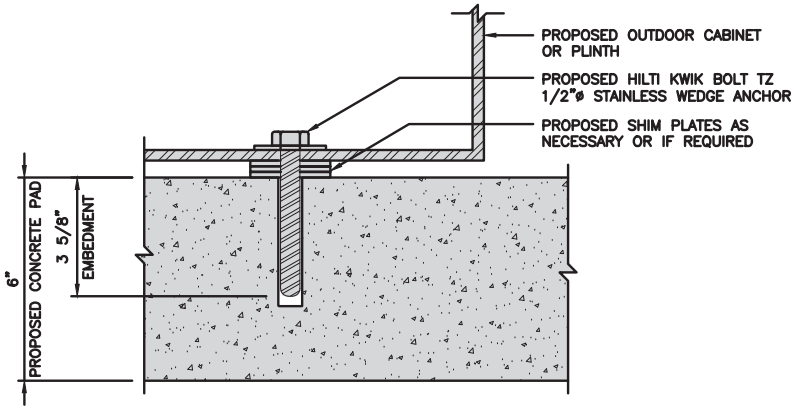
SHEET NUMBER
A-2



PLATFORM EQUIPMENT PLAN



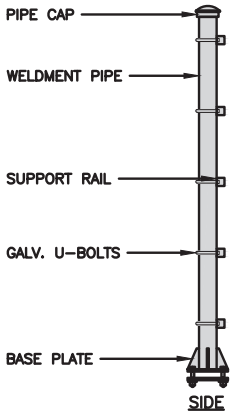
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TYPICAL OUTDOOR EQUIPMENT TO CONCRETE SLAB ANCHORAGE

2

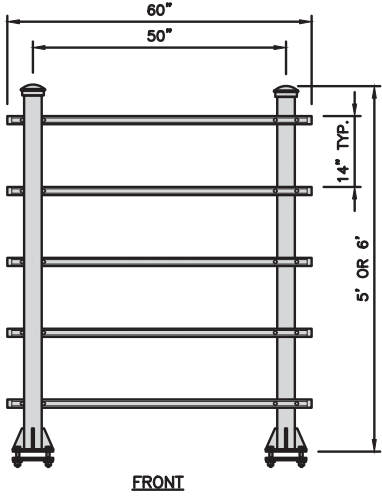
COMMSCOPE MTC4045HFLD H-FRAME	
UNISTRUT/SUPPORT RAILS QTY	5
WEIGHT	59.74 lbs



H-FRAME DETAIL

NO SCALE

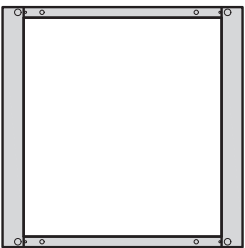
3



CHARLES INDUSTRY LT-97-002422 PLINTH KIT	
DIMENSIONS (HxWxD):	6"x 32"x 32"
NOTE: GASKET AND MOUNTING HARDWARE INCLUDED	



FRONT/BACK



PLAN

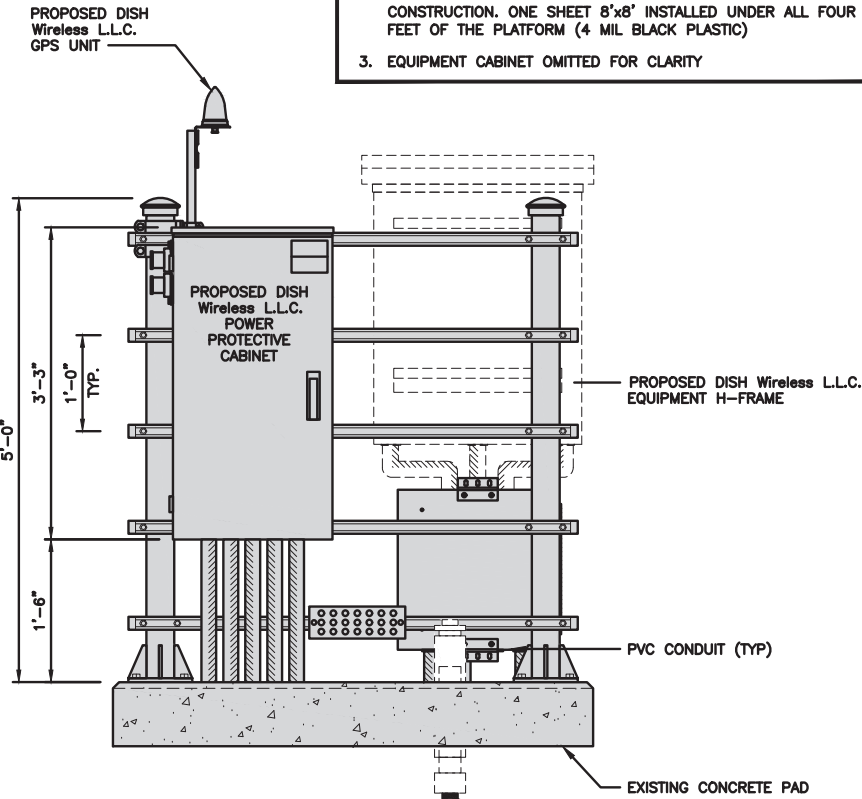


SIDE

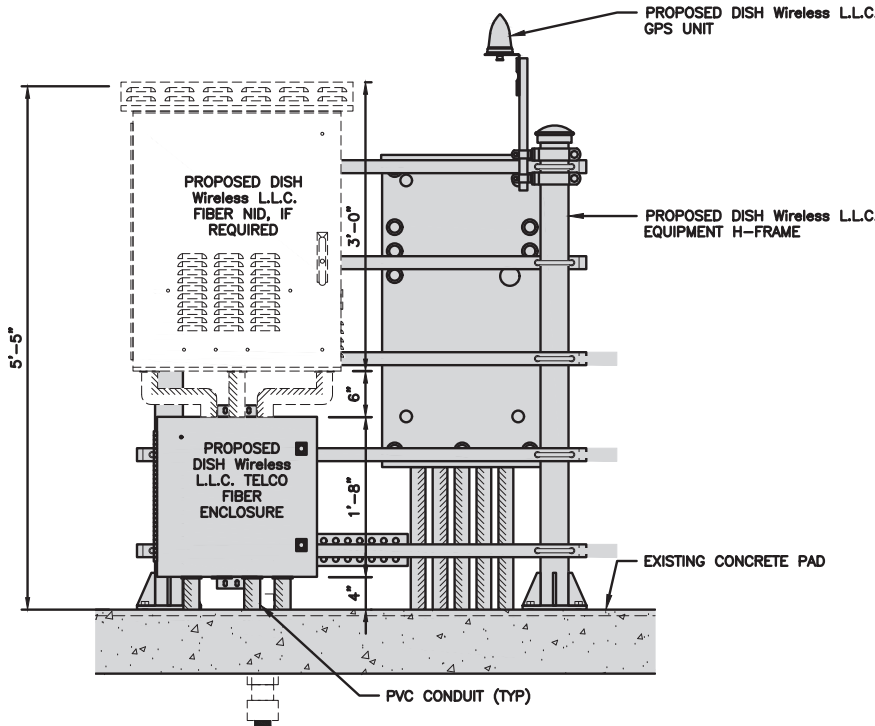
PLINTH DETAIL

NO SCALE

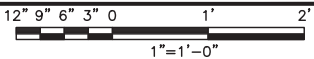
4



FRONT ELEVATION



BACK ELEVATION



5

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



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DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00047A
770 LONG COVE ROAD
LEDYARD, CT 06339

SHEET TITLE
EQUIPMENT PLATFORM AND
H-FRAME DETAILS

SHEET NUMBER

A-3

<table><tr><td colspan="2">PCTEL GPSGL-TMG-SPI-40NCB</td></tr><tr><td>DIMENSIONS (DIAxH) MM/INCH</td><td>81x184mm 3.2"x7.25"</td></tr><tr><td>WEIGHT W/ACCESSORIES</td><td>075 lbs</td></tr><tr><td>CONNECTOR</td><td>N-FEMALE</td></tr><tr><td>FREQUENCY RANGE</td><td>1590 ± 30MHz</td></tr></table>			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						
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 RADIUS			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				

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DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00047A
770 LONG COVE ROAD
LEDYARD, CT 06339

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

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

RRH DETAIL

NO SCALE

2

SABRE DOUBLE Z-BRACKET
C10123155

DIMENSIONS (HxWxD) (1 BRACKET)	5"x20"x1-13/16"
WEIGHT (FULL ASSEMBLY)	35.79 lbs
PACKAGE QUANTITY	4

#	DESCRIPTION
1	PLATE, CHANNEL BRACKET
2	RRH Z BRACKET, 3/16"
3	THREADED ROD ASSEMBLY 1/2"x12"

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

RRH MOUNT DETAIL

NO SCALE

3

JMA
MX08FR0665-21

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

ANTENNA DETAIL

NO SCALE

4

NOT USED

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

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

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 L.L.C. TEMPLATE VERSION 37 - 07/09/2021

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CONSTRUCTION
DOCUMENTS

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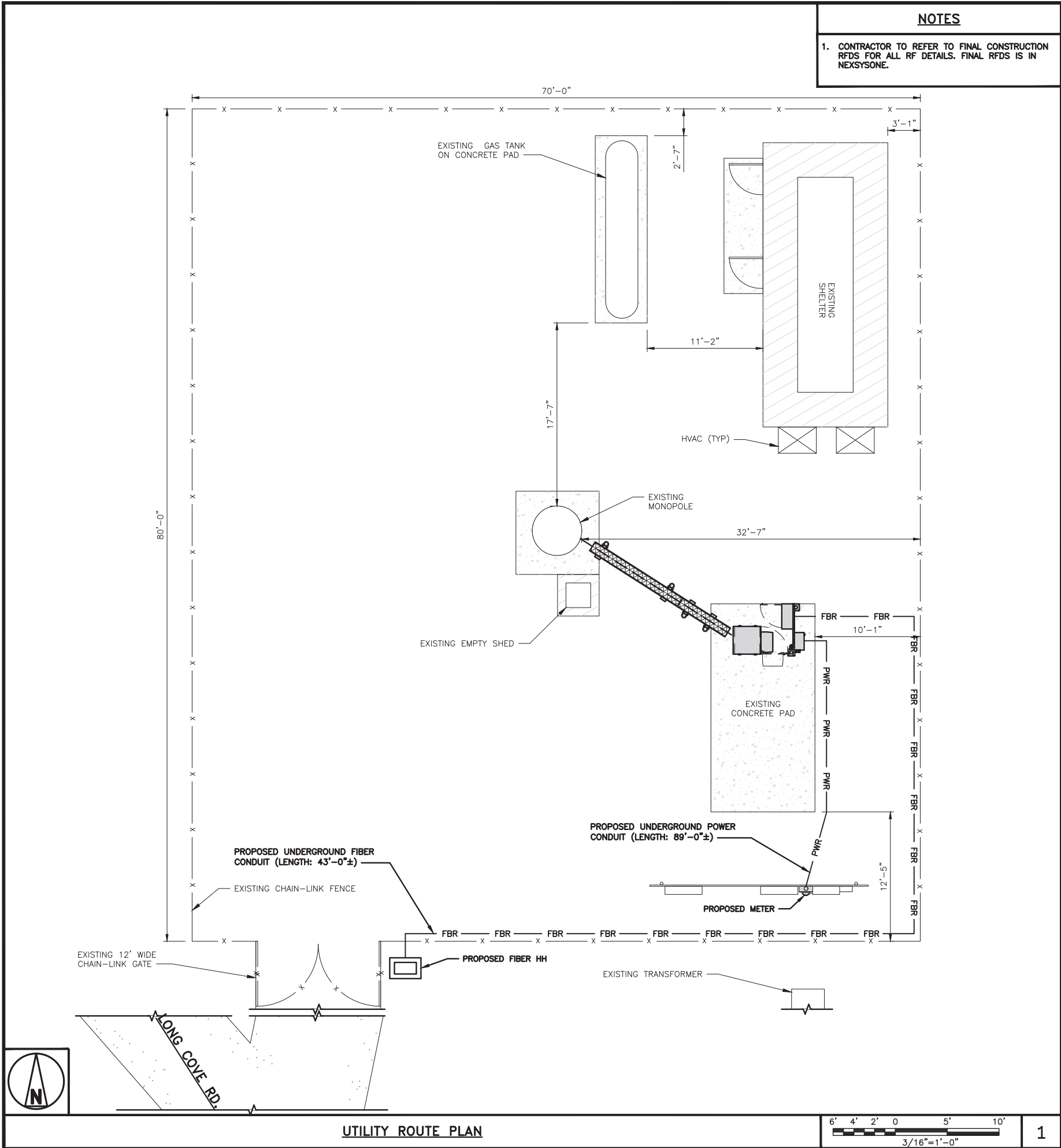
DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00047A
770 LONG COVE ROAD
LEDYARD, CT 06339

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER

A-6



- 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

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wireless.

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Professional Engineer
No. 22824
9/27/2021

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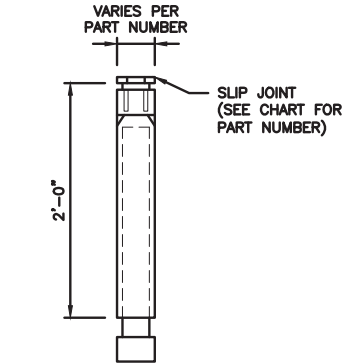
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DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00047A
770 LONG COVE ROAD
LEDYARD, CT 06339

SHEET TITLE
ELECTRICAL/FIBER ROUTE
PLAN AND NOTES

SHEET NUMBER
E-1

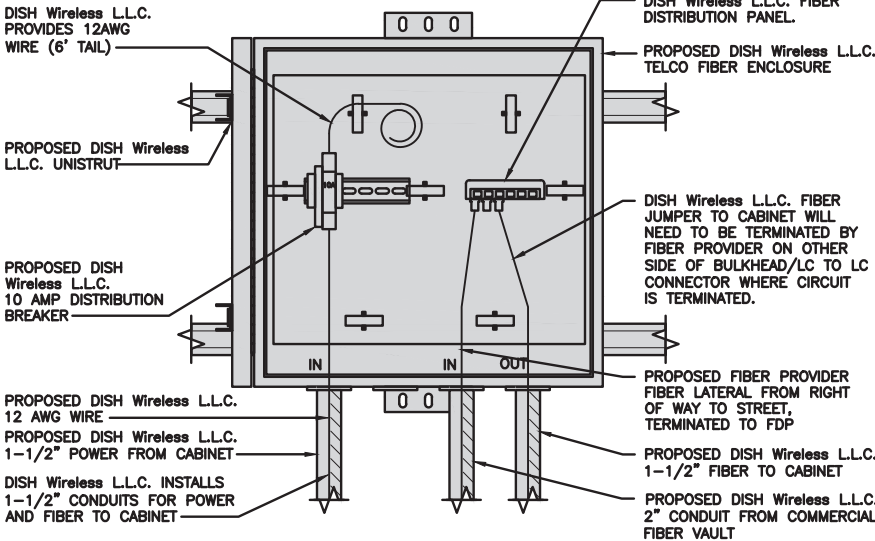
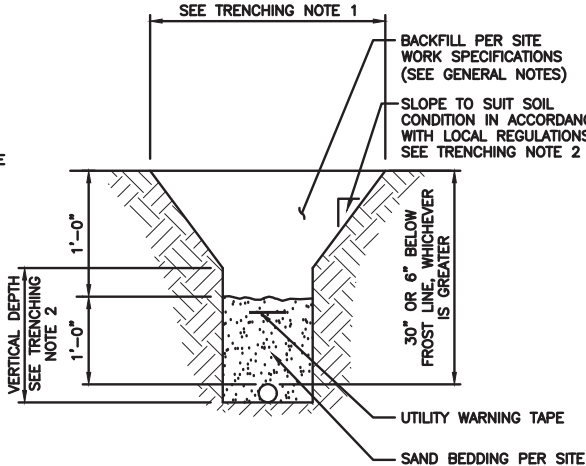
CARLON EXPANSION FITTINGS				
COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"
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.

TRENCHING NOTES

- 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.
- TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT OSHA TRENCHING AND EXCAVATION SAFETY STANDARDS.
- 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.



EXPANSION JOINT DETAIL

NO SCALE

1

TYPICAL UNDERGROUND TRENCH DETAIL

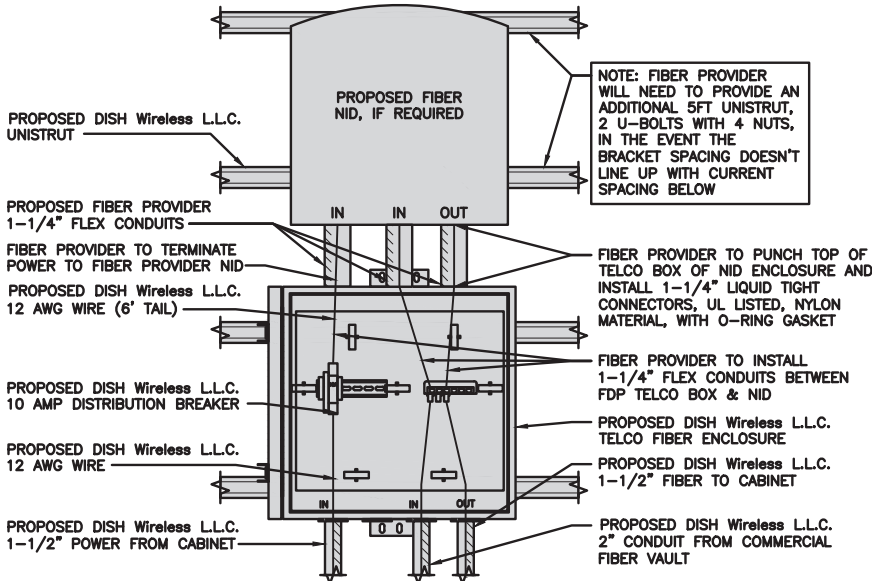
NO SCALE

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



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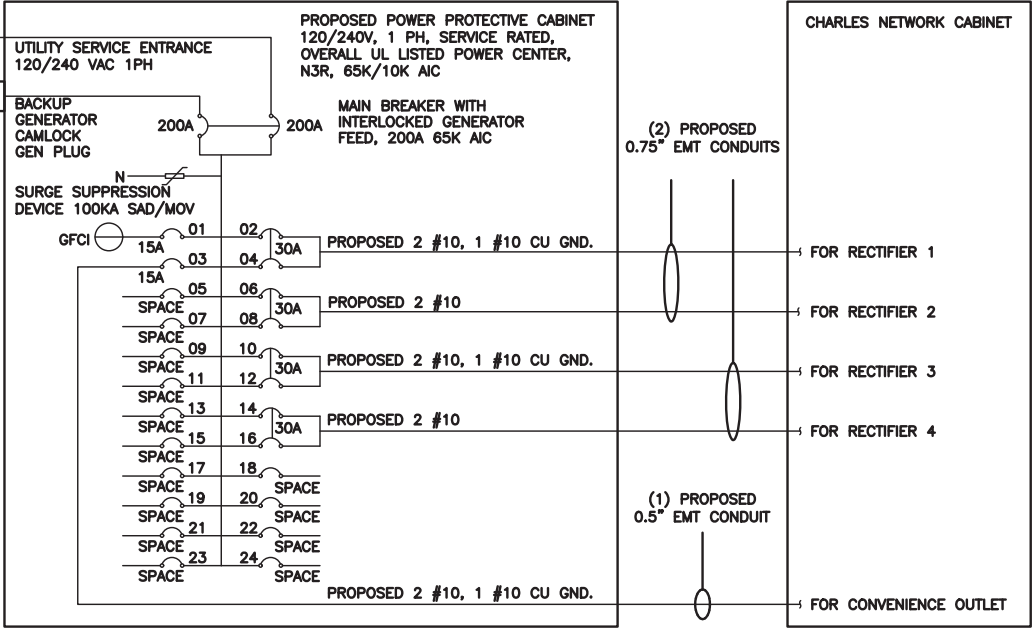
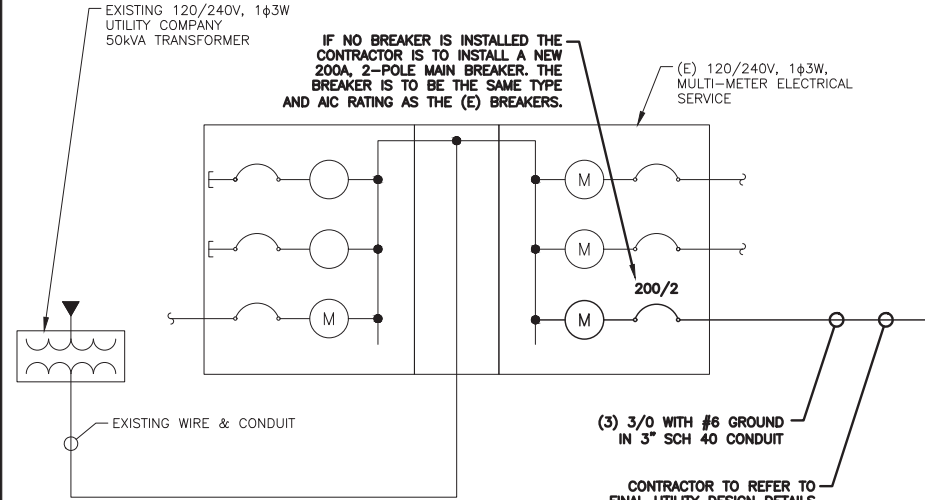
DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00047A
770 LONG COVE ROAD
LEDYARD, CT 06339

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:Q0230
(1) 15A, 1P BREAKER - SQUARE D P/N:Q0115

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.



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0	9/27/21	CONSTRUCTION

A&E PROJECT NUMBER

149440.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00047A
770 LONG COVE ROAD
LEDYARD, CT 06339

SHEET TITLE
ELECTRICAL ONE-LINE, FAULT
CALCS & PANEL SCHEDULE

SHEET NUMBER

E-3

PPC ONE-LINE DIAGRAM

NO SCALE

1

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

PANEL SCHEDULE

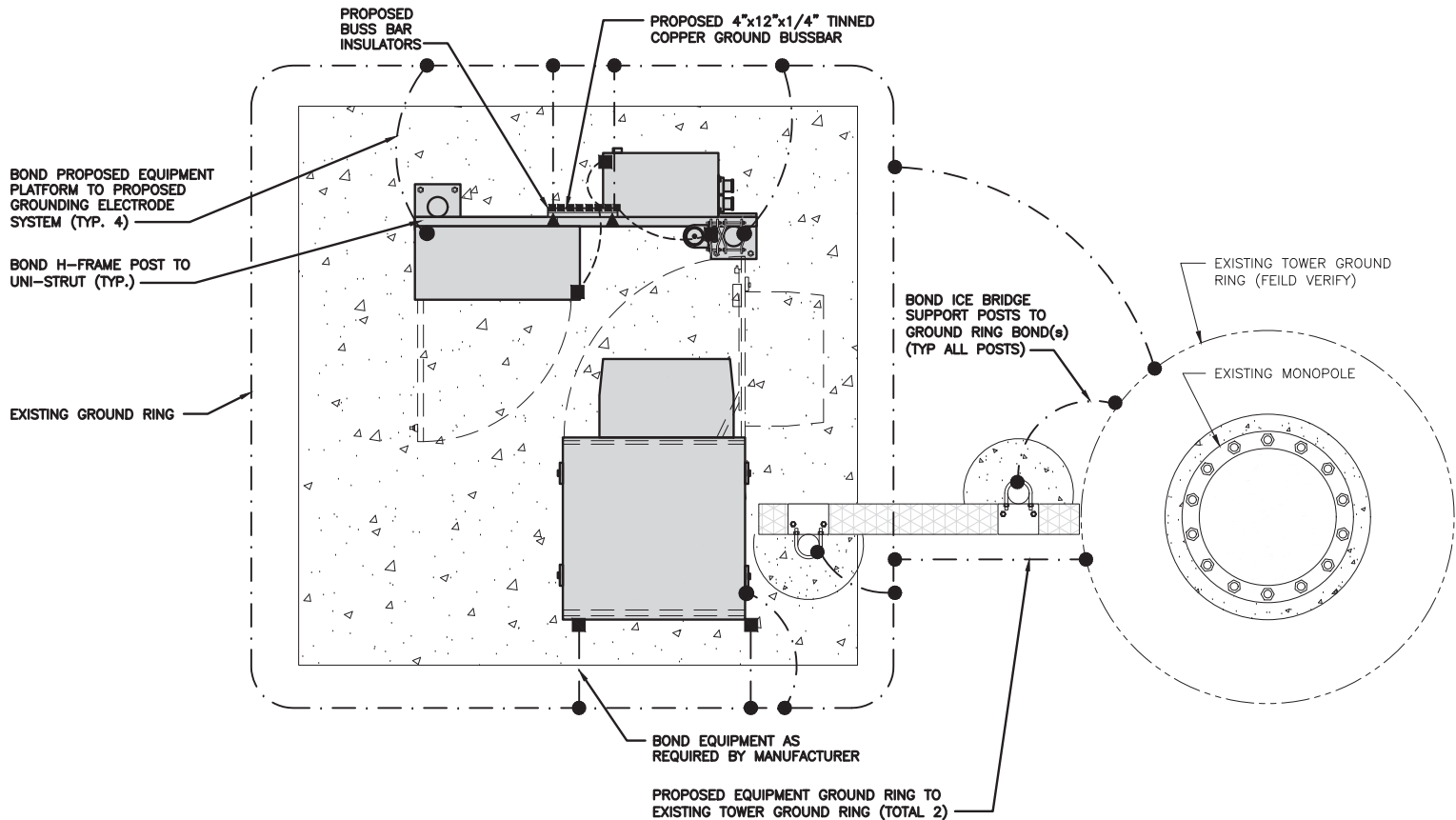
NO SCALE

2

NOT USED

NO SCALE

3

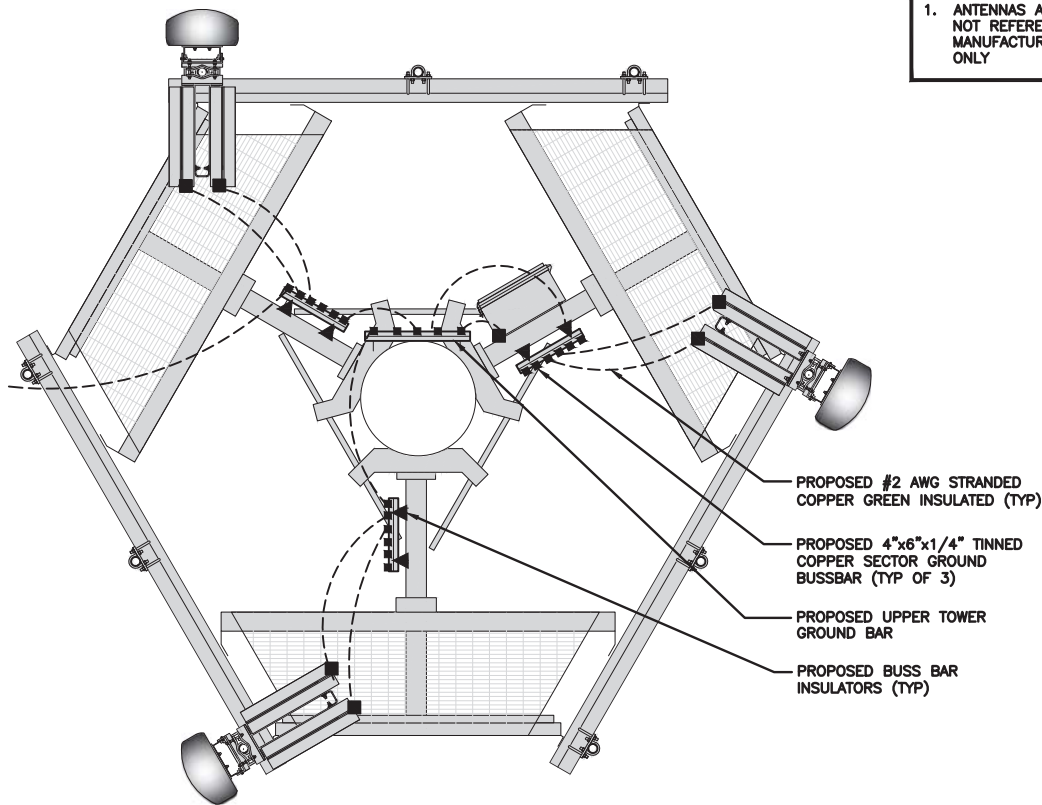


TYPICAL EQUIPMENT GROUNDING PLAN

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
- ⬢T

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



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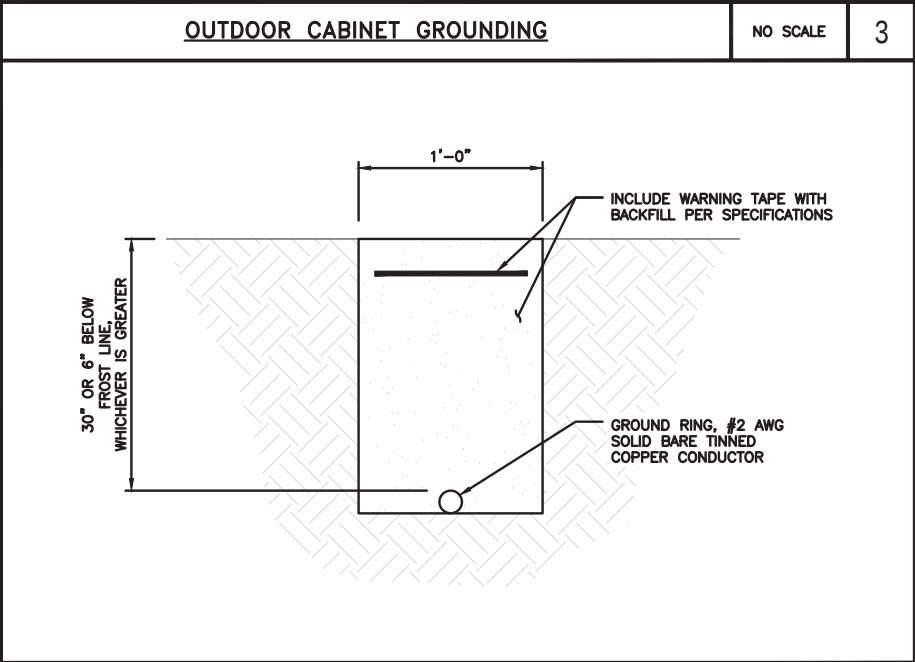
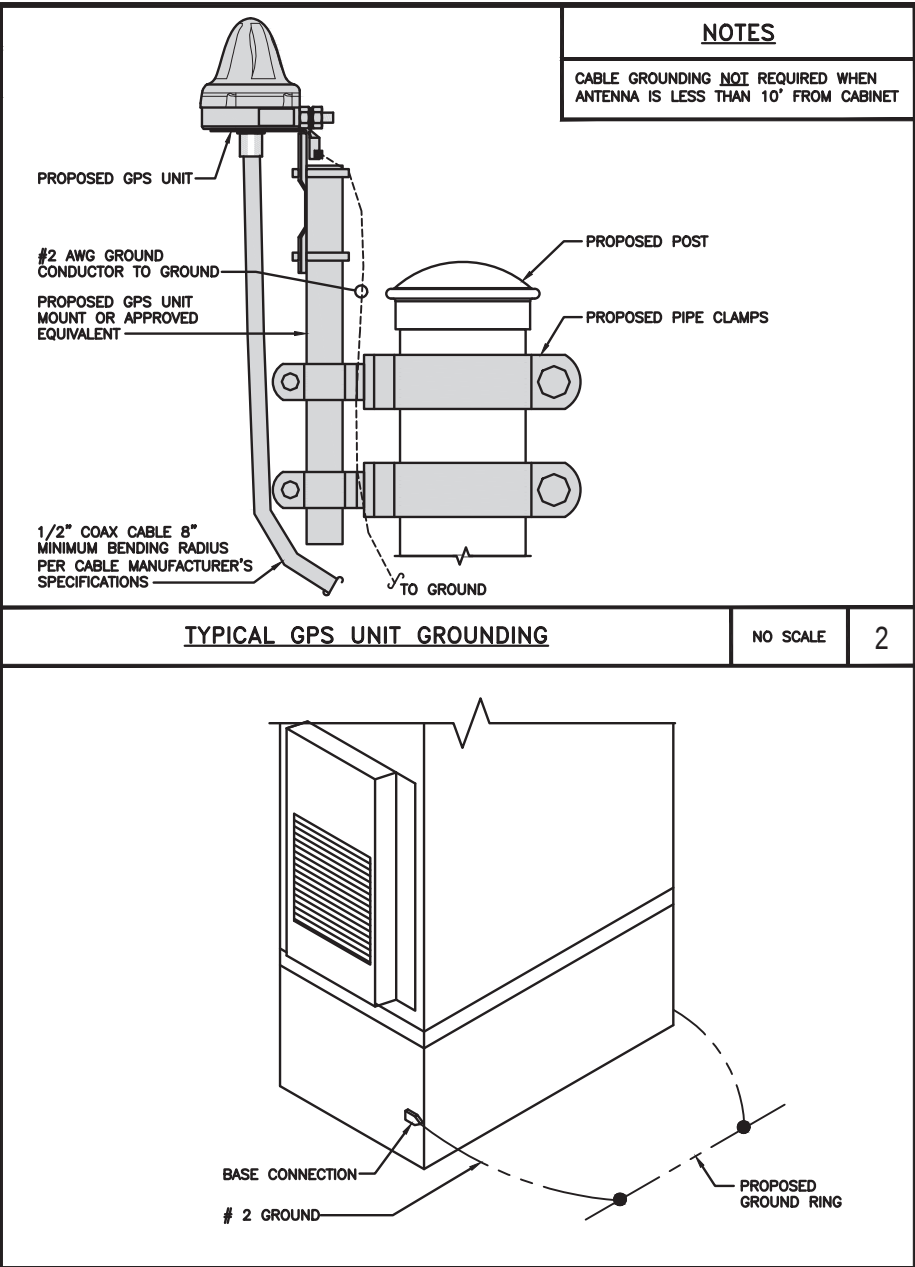
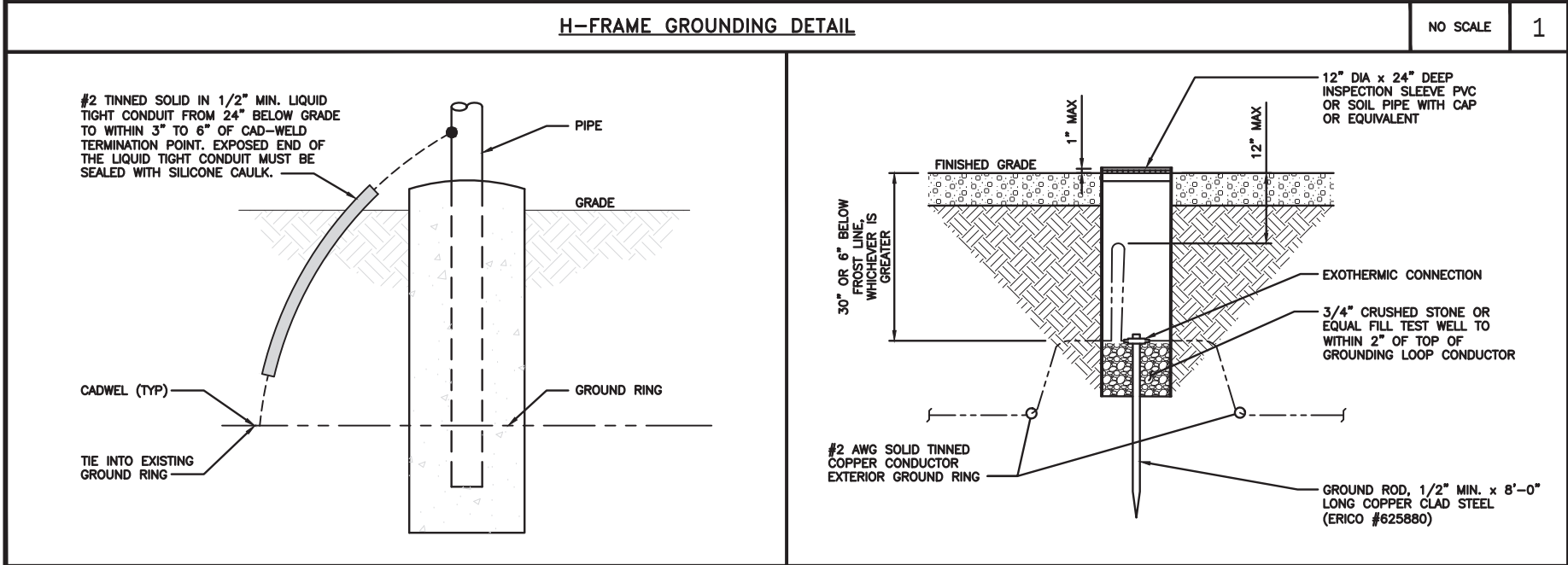
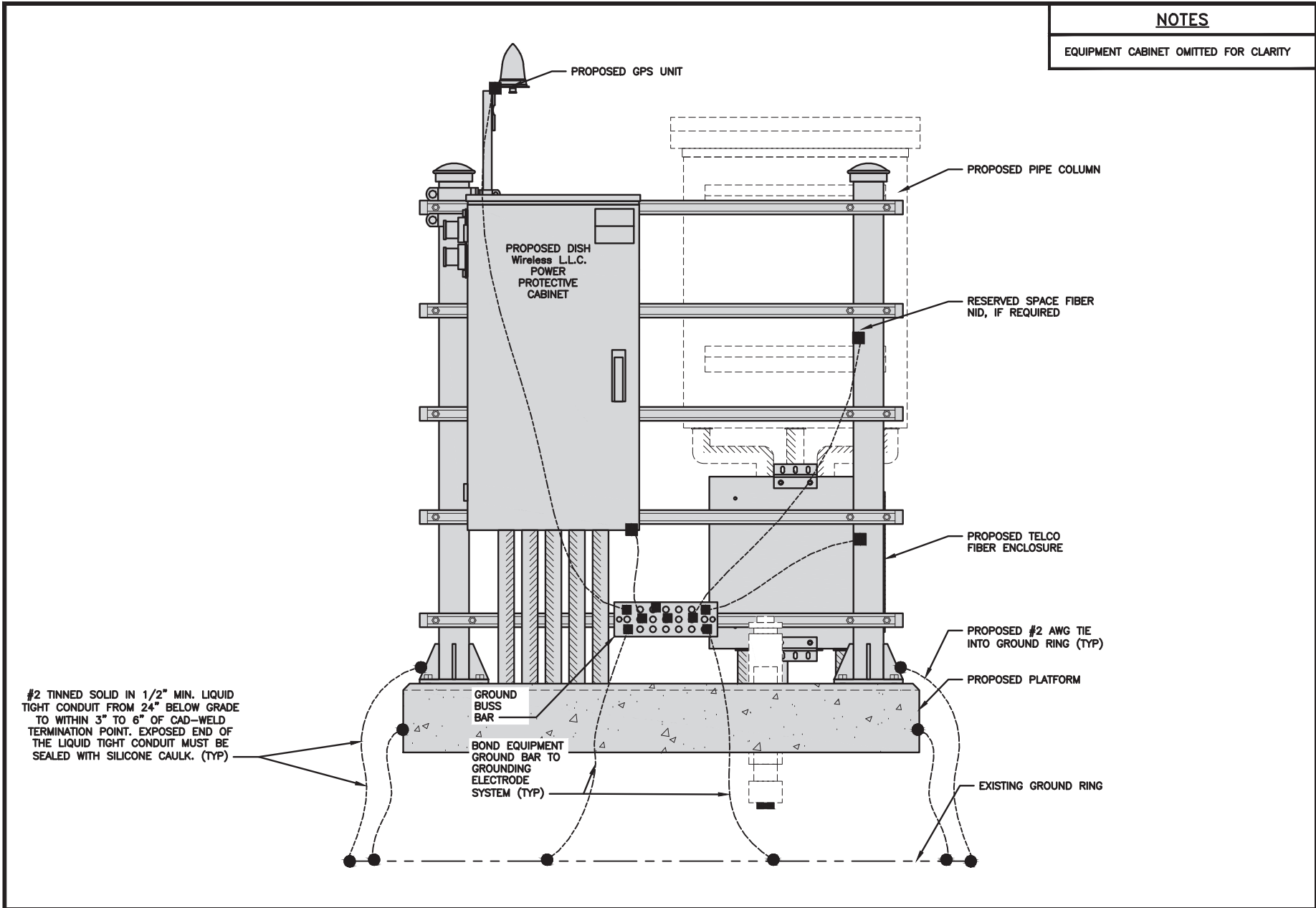
DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00047A
770 LONG COVE ROAD
LEDYARD, CT 06339

SHEET TITLE
GROUNDING PLANS
AND NOTES

SHEET NUMBER

G-1



dish
wireless.

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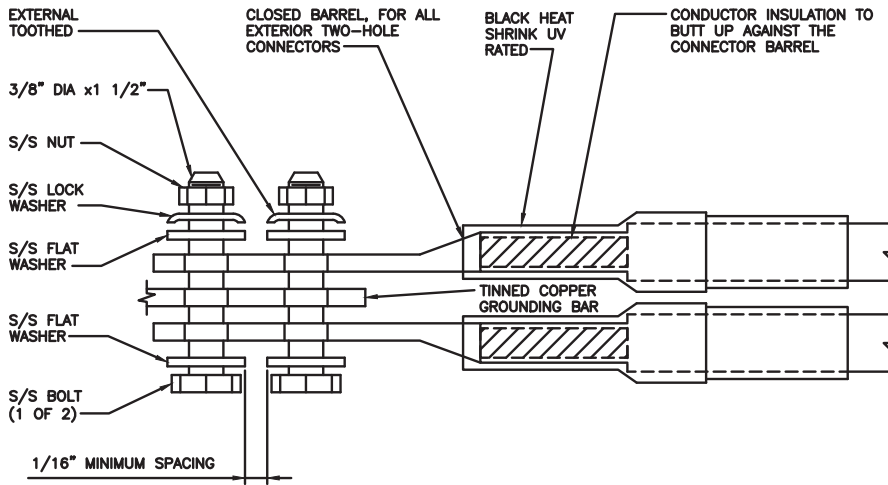
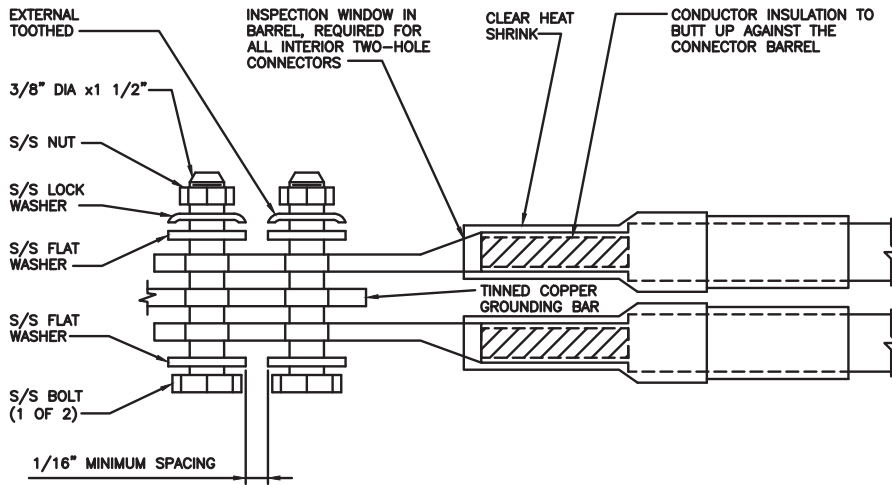
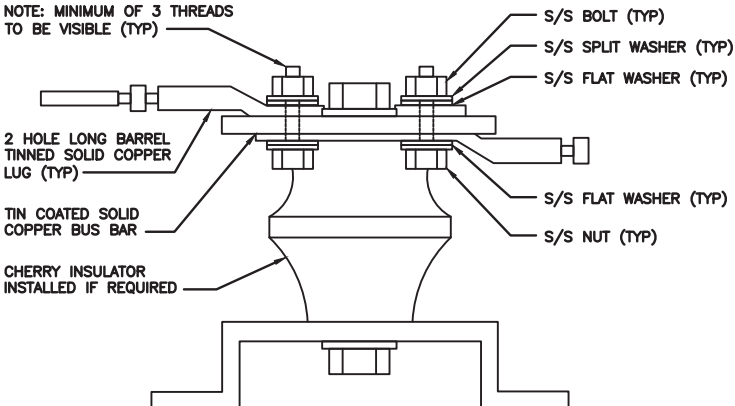
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SHEET TITLE
GROUNDING DETAILS

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.

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SBA

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Professional Engineer

No. 22824

EXPIRES 2/27/2021

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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	ALPHA RRH				BETA RRH				GAMMA RRH			
	PORT 1 + SLANT	PORT 2 – SLANT	PORT 3 + SLANT	PORT 4 – SLANT	PORT 1 + SLANT	PORT 2 – SLANT	PORT 3 + SLANT	PORT 4 – SLANT	PORT 1 + SLANT	PORT 2 – SLANT	PORT 3 + SLANT	PORT 4 – SLANT
	RED	RED	RED	RED	BLUE	BLUE	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN
	ORANGE	ORANGE	RED	RED	ORANGE	ORANGE	BLUE	BLUE	ORANGE	ORANGE	GREEN	GREEN
		WHITE (-) PORT	ORANGE	ORANGE		WHITE (-) PORT	ORANGE	ORANGE		WHITE (-) PORT	ORANGE	ORANGE
				WHITE (-) PORT				WHITE (-) PORT				WHITE (-) PORT
MID-BAND RRH – (AWS BANDS N66+N70)	RED	RED	RED	RED	BLUE	BLUE	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN
	PURPLE	PURPLE	RED	RED	PURPLE	PURPLE	BLUE	BLUE	PURPLE	PURPLE	GREEN	GREEN
		WHITE (-) PORT	PURPLE	PURPLE		WHITE (-) PORT	PURPLE	PURPLE		WHITE (-) PORT	PURPLE	PURPLE
				WHITE (-) PORT				WHITE (-) PORT				WHITE (-) PORT
HYBRID/DISCREET CABLES	EXAMPLE 1		EXAMPLE 2		EXAMPLE 3							
	RED		RED		RED							
	BLUE		BLUE		ORANGE							
	GREEN		GREEN		PURPLE							
	ORANGE		YELLOW									
PURPLE												
FIBER JUMPERS TO RRHs	LOW BAND RRH		HIGH BAND RRH		LOW BAND RRH		HIGH BAND RRH		LOW BAND RRH		HIGH BAND RRH	
	RED		RED		BLUE		BLUE		GREEN		GREEN	
			PURPLE				PURPLE				PURPLE	
POWER CABLES TO RRHs	LOW BAND RRH		HIGH BAND RRH		LOW BAND RRH		HIGH BAND RRH		LOW BAND RRH		HIGH BAND RRH	
	RED		RED		BLUE		BLUE		GREEN		GREEN	
			PURPLE				PURPLE				PURPLE	
RET MOTORS AT ANTENNAS	ANTENNA 1 LOW BAND/ "IN"		ANTENNA 1 HIGH BAND/ "IN"		ANTENNA 1 LOW BAND/ "IN"		ANTENNA 1 HIGH BAND/ "IN"		ANTENNA 1 LOW BAND/ "IN"		ANTENNA 1 HIGH BAND/ "IN"	
	RED		RED		BLUE		BLUE		GREEN		GREEN	
			PURPLE				PURPLE				PURPLE	
MICROWAVE RADIO LINKS	FORWARD AZIMUTH OF 0–120 DEGREES				FORWARD AZIMUTH OF 120–240 DEGREES				FORWARD AZIMUTH OF 240–360 DEGREES			
	PRIMARY		SECONDARY		PRIMARY		SECONDARY		PRIMARY		SECONDARY	
	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
	RED	RED	BLUE	BLUE	GREEN	GREEN	WHITE	WHITE	GREEN	GREEN	WHITE	WHITE
	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
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

NOT USED

NO SCALE

4

LOW BANDS (N71+N26)
OPTIONAL – (N29)

ORANGE

AWS
(N66+N70+H-BLOCK)

PURPLE

CBRS TECH
(3 GHz)

YELLOW

NEGATIVE SLANT PORT
ON ANT/RRH

WHITE

ALPHA SECTOR

RED

BETA SECTOR

BLUE

GAMMA SECTOR

GREEN

COLOR IDENTIFIER

NO SCALE

2

NOTES

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

NOT USED

NO SCALE

3



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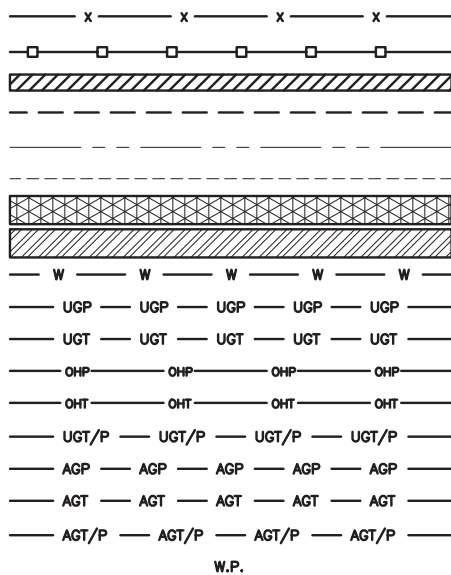
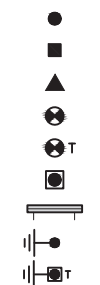
BOBOS00047A
770 LONG COVE ROAD
LEDYARD, CT 06339

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



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

LEGEND

ABBREVIATIONS



5701 SOUTH SANTA FE DRIVE
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B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

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

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	7/28/21	ISSUED FOR REVIEW
0	9/27/21	CONSTRUCTION

A&E PROJECT NUMBER

149440.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00047A
770 LONG COVE ROAD
LEDYARD, CT 06339

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.



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DRAWN BY: CHECKED BY:APPROVED BY:

BLJ BLJ MP

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	7/28/21	ISSUED FOR REVIEW
0	9/27/21	CONSTRUCTION

A&E PROJECT NUMBER

149440.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00047A
770 LONG COVE ROAD
LEDYARD, CT 06339

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.



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

IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

BLJ	BLJ	MP
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RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	7/28/21	ISSUED FOR REVIEW
0	9/27/21	CONSTRUCTION

A&E PROJECT NUMBER

149440.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00047A
770 LONG COVE ROAD
LEDYARD, CT 06339

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.



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149440.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00047A
770 LONG COVE ROAD
LEDYARD, CT 06339

SHEET TITLE
GENERAL NOTES

SHEET NUMBER

GN-4

Exhibit D

Structural Analysis Report



Tower Engineering Solutions

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

Post-Mod Structural Analysis Report

Existing 165 ft Nudd Corporation Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT02720-S

Customer Site Name: Ledyard South

Carrier Name: Dish Wireless (App#: 163258, v1)

Carrier Site ID / Name: BOBOS00047A / 0

Site Location: 770 Long Cove Road

Ledyard, Connecticut

New London County

Latitude: 41.416872

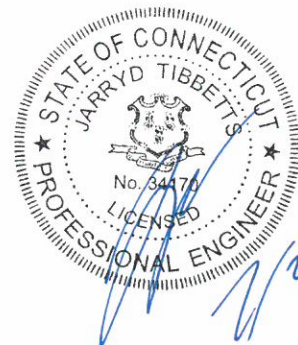
Longitude: -72.044300

Analysis Result:

Max Structural Usage: 66.1% [Pass]

Max Foundation Usage: 33.0% [Pass]

Report Prepared By : Cesar Rojas





Tower Engineering Solutions

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Analysis Result:

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Report Prepared By : Cesar Rojas

Introduction

The purpose of this report is to summarize the analysis results on the 165 ft Nudd Corporation Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any existing modification listed under Sources of Information was assumed completed and was included in this analysis.

The proposed modification by **TES** listed under Sources of Information was considered completed and was included in this analysis.

Sources of Information

Tower Drawings	Fred A. Nudd Corporation, Project # 7489; Ledyard South, dated August 2000
Foundation Drawing	Fred A. Nudd Corporation, Project # 7489; Ledyard South, dated August 2000
Geotechnical Report	FDH, Project # 1302621600, dated April 05, 2013
Existing Modification	N/A
Proposed Modification	TES Job # 113402

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 $V_{ult} = 135.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 105.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" 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:	$S_S = 0.163$, $S_1 = 0.059$

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	162.0	6	JMA Wireless - MX06FRO660-03 - Panel	(1) 12.5' Low Profile Platform (Valmont P/N: RMQP-463)	(2) 1 5/8" Hybrid	Verizon
2		3	Samsung - VZS01 - Panel			
3		3	Antel - BXA-70063-6CF-EDIN-5 - Panel			
4		3	Samsung - B2/B66A RRH-BR049 - RRU			
5		3	Samsung - B5/B13 RRH-BR04C - RRU			
6		1	Commscope - FE-16148-OVP-B12 COVP			

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
7	152.0	3	JMA Wireless MX08FRO665-21 - Panel	Platform w/ Handrails Commscope MC-PK8-DSH	(1) 1.75" Hybrid	Dish Wireless
8		3	Fujitsu TA08025-B605 - RRU			
9		3	Fujitsu TA08025-B604 - RRU			
10		1	Raycap RDIDC-9181-PF-48 - OVP			

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:	61.6%	46.4%	66.1%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	3325.1	30.7	60.7

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 1.0023 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the structure and its foundation will be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222-G-2 Standard after the following proposed modification is successfully completed.

- Proposed modification design drawing by TES Job # 113402

Pre-Mod Installation Determination

We have also checked this tower to determine if the proposed Dish Wireless equipment loading can be installed prior to the completion of the required modifications. We ran a reduced wind loading case as required by TIA-322 considering a construction period of no more than 6 months.

The tower and foundations passed, so the Carrier can proceed and install their proposed loading prior to the mods completion. Please be aware that this approval is being provided and is based on the method outlined in TIA-322. This approval is not a blanket approval and there is still a risk that the tower will experience a wind event that cannot be predicted by TIA-322 or our Engineers. In the event of an unforeseen wind event, Tower Engineering Solutions will not be liable nor responsible for damage to the tower or the Carriers equipment. Additionally, the tower cannot go beyond the 6 month construction period without the modifications being completed. If the modifications cannot be completed within 6 months from the completed installation of the Carrier's proposed equipment, TES must be notified immediately for further review.

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 EIA/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 61.56% at 0.0ft

Structure: CT02720-S-SBA
Site Name: Ledyard South
Height: 165.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-G
Exposure: C
Gh: 1.1

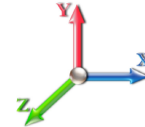
2/25/2022

Page: 1



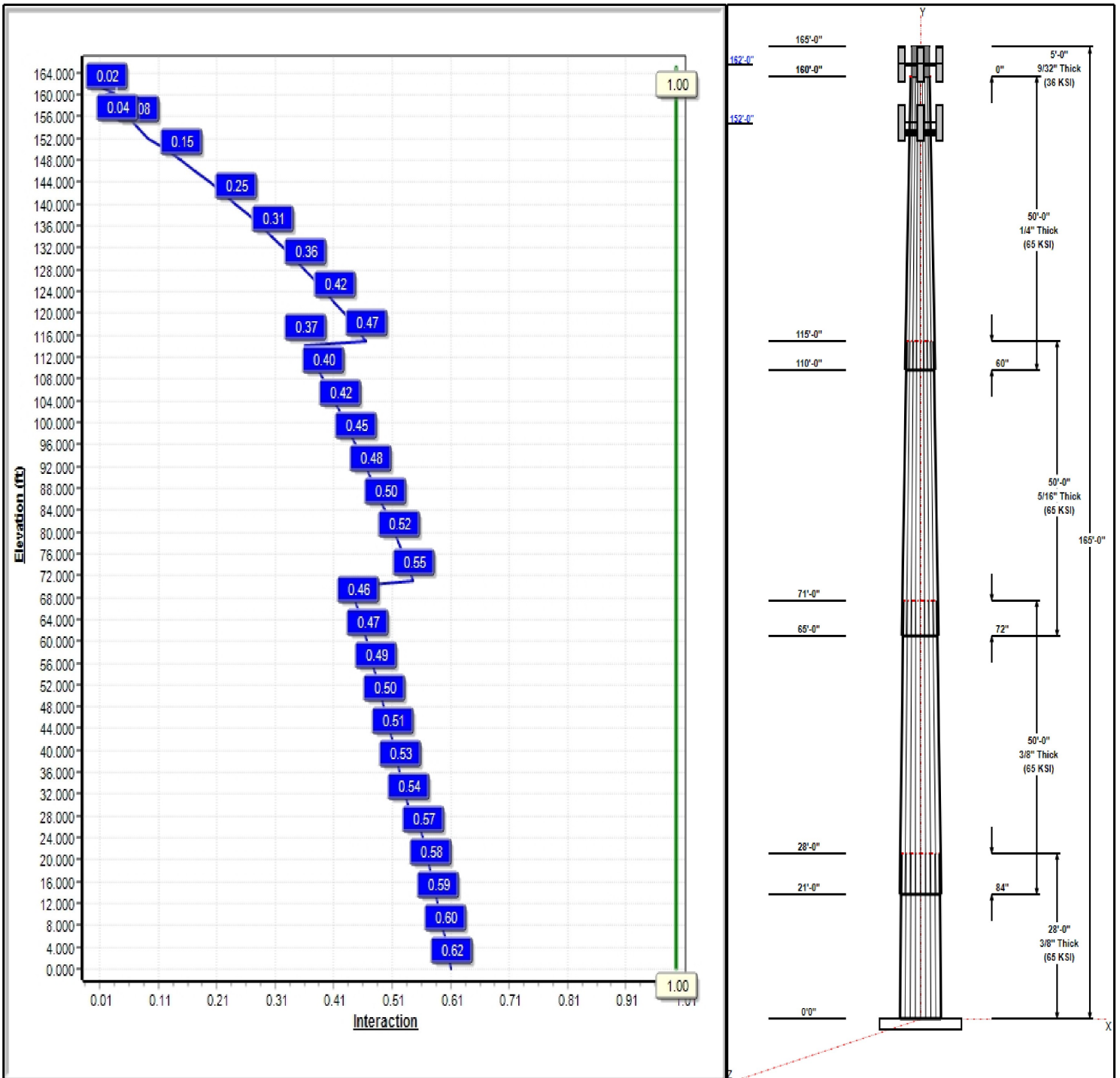
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 105 mph Wind



Iterations: 27

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Structure: CT02720-S-SBA

Type: Custom
Site Name: Ledyard South
Height: 165.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23672

2/25/2022

Page: 2



Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	28.00	53.37	60.00	0.375		0.23672	65
2	50.00	43.94	55.78	0.375	Slip	0.23672	65
3	50.00	34.15	45.99	0.313	Slip	0.23672	65
4	50.00	24.00	35.84	0.250	Slip	0.23672	65
5	5.00	24.00	24.00	0.281	Butt	0.00000	36

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
162.00	162.00	6	MX06FRO660-03	Verizon
162.00	163.50	3	VZS01	Verizon
162.00	162.00	3	B2/B66A RRH-BR049	Verizon
162.00	162.00	3	B5/B13 RRH-BR04C	Verizon
162.00	162.00	1	FE-16148-OVP-B12	Verizon
162.00	162.00	1	RMQP-463 (LPP)	Verizon
162.00	162.00	3	BXA-70063-6CF-EDIN-5	Verizon
152.00	152.00	3	TA08025-B605	Dish Wireless
152.00	152.00	3	TA08025-B604	Dish Wireless
152.00	152.00	1	RDIDC-9181-OF-48	Dish Wireless
152.00	152.00	1	MC-PK8-DSH	Dish Wireless
152.00	152.00	3	MX08FRO665-21	Dish Wireless

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	162.00	Inside	1 5/8" Hybrid	Verizon
0.00	162.00	Inside	1.75" Hybrid	Dish Wireless

Anchor Bolts

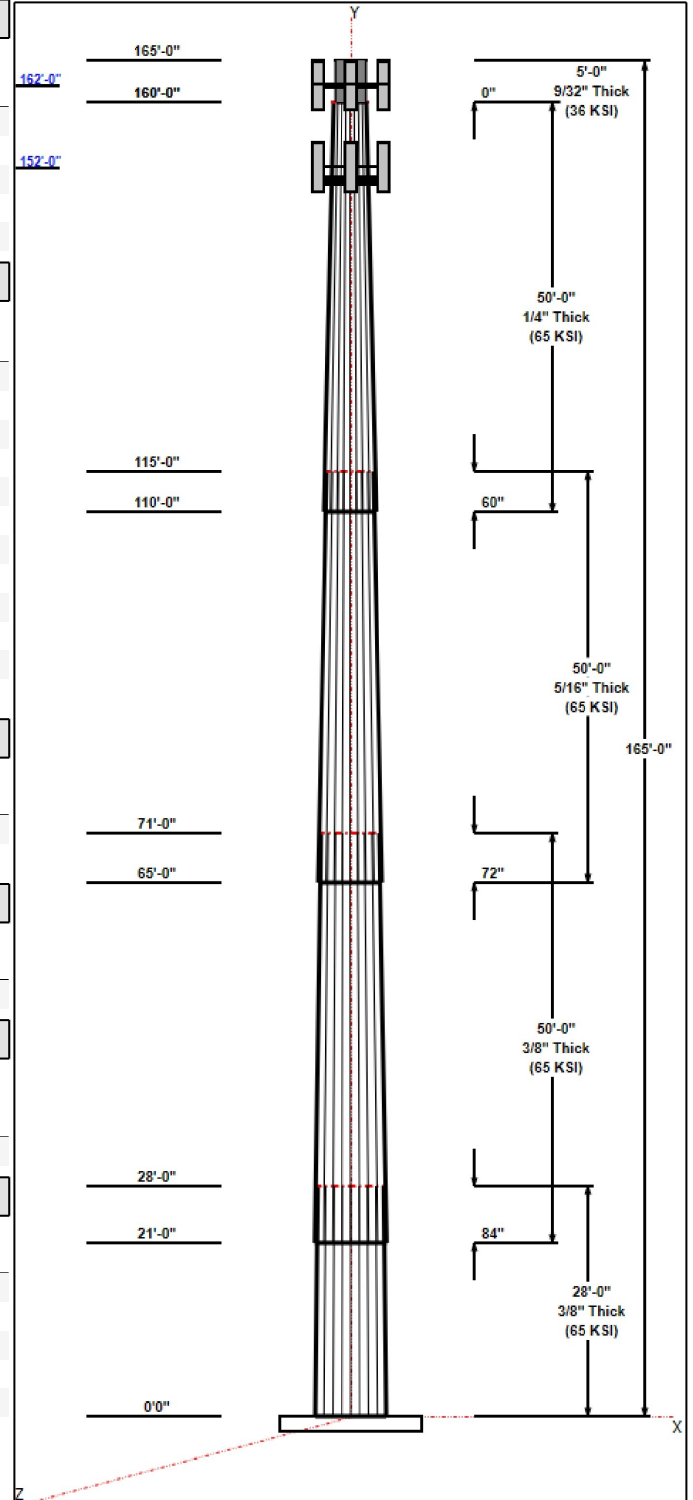
Qty	Specifications	Grade (ksi)	Arrangement
18	2.00" A687	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.5000	73.0	50.0	Round

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 105 mph Wind	3325.1	30.7	40.3
0.9D + 1.6W 105 mph Wind	3299.0	30.7	30.2
1.2D + 1.0Di + 1.0Wi 50 mph Wind	833.1	7.9	60.7
1.2D + 1.0E	204.8	1.6	40.3
0.9D + 1.0E	203.0	1.6	30.2
1.0D + 1.0W 60 mph Wind	675.6	6.3	33.6



Structure: CT02720-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Ledyard South
Height: 165.00 (ft)

2/25/2022

Page: 3



Shaft Properties

Structure: CT02720-S-SBA	Code: TIA-222-G	2/25/2022
Site Name: Ledyard South	Exposure: C	
Height: 165.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 4

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	28.000	0.3750	65		0.00	6,386
2	18	50.000	0.3750	65	Slip	84.00	10,021
3	18	50.000	0.3125	65	Slip	72.00	6,709
4	18	50.000	0.2500	65	Slip	60.00	4,005
5	R	5.000	0.2813	36	Flange	0.00	357
Total Shaft Weight:							27,478

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	60.00	0.00	70.97	31875.78	26.80	160.00	53.37	28.00	63.08	22383.4	23.69	142.3	0.236719
2	55.78	21.00	65.94	25573.89	24.82	148.74	43.94	71.00	51.85	12435.9	19.25	117.1	0.236719
3	45.99	65.00	45.30	11941.32	24.54	147.16	34.15	115.00	33.56	4856.01	17.86	109.2	0.236719
4	35.84	110.0	28.24	4517.72	23.86	143.34	24.00	160.00	18.84	1343.00	15.52	96.00	0.236719
5	24.00	160.0	20.96	1474.89	0.00	85.33	24.00	165.00	20.96	1474.89	0.00	85.33	0.000000

Load Summary

Structure: CT02720-S-SBA	Code: TIA-222-G	2/25/2022
Site Name: Ledyard South	Exposure: C	
Height: 165.00 (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

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	162.00	MX06FRO660-03	6	46.00	9.87	0.87	317.37	11.257	0.87	0.00	0.00
2	162.00	VZS01	3	87.10	4.30	0.69	199.17	5.191	0.69	0.00	1.50
3	162.00	B2/B66A RRH-BR049	3	84.40	1.87	0.50	161.69	2.448	0.67	0.00	0.00
4	162.00	B5/B13 RRH-BR04C	3	70.30	1.87	0.50	140.33	2.448	0.67	0.00	0.00
5	162.00	FE-16148-OVP-B12	1	18.90	4.80	0.50	140.92	5.813	0.67	0.00	0.00
6	162.00	RMQP-463 (LPP)	1	2000.00	24.80	1.00	3758.70	29.724	1.00	0.00	0.00
7	162.00	BXA-70063-6CF-EDIN-5	3	17.00	7.57	0.73	192.82	8.841	0.73	0.00	0.00
8	152.00	TA08025-B605	3	75.00	1.96	0.67	127.37	2.522	0.67	0.00	0.00
9	152.00	TA08025-B604	3	63.90	1.96	0.67	114.60	2.522	0.67	0.00	0.00
10	152.00	RDIDC-9181-OF-48	1	21.90	2.01	1.00	75.22	2.579	1.00	0.00	0.00
11	152.00	MC-PK8-DSH	1	1727.00	37.59	1.00	3417.07	84.886	1.00	0.00	0.00
12	152.00	MX08FRO665-21	3	64.50	12.49	0.74	355.76	13.957	0.74	0.00	0.00
Totals:			31	5,430.40			13,171.38				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	162.00	(2) 1 5/8" Hybrid	0.00	Inside
0.00	162.00	(1) 1.75" Hybrid	0.00	Inside

Shaft Section Properties

Structure: CT02720-S-SBA	Code: TIA-222-G	2/25/2022
Site Name: Ledyard South	Exposure: C	
Height: 165.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 2 (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		0.3750	60.000	70.966	31875.8	26.80	160.00	69.9	1046.	0.0
2.00		0.3750	59.527	70.403	31122.5	26.58	158.74	70.1	1029.	481.0
4.00		0.3750	59.053	69.839	30381.2	26.36	157.47	70.4	1013.	477.2
6.00		0.3750	58.580	69.276	29651.7	26.13	156.21	70.7	997.0	473.4
8.00		0.3750	58.106	68.712	28934.0	25.91	154.95	70.9	980.8	469.5
10.00		0.3750	57.633	68.149	28228.0	25.69	153.69	71.2	964.7	465.7
12.00		0.3750	57.159	67.585	27533.5	25.47	152.42	71.4	948.8	461.9
14.00		0.3750	56.686	67.022	26850.6	25.24	151.16	71.7	933.0	458.0
16.00		0.3750	56.212	66.458	26179.0	25.02	149.90	72.0	917.3	454.2
18.00		0.3750	55.739	65.895	25518.8	24.80	148.64	72.2	901.7	450.4
20.00		0.3750	55.266	65.331	24869.7	24.58	147.38	72.5	886.3	446.5
21.00	Bot - Section 2	0.3750	55.029	65.049	24549.3	24.46	146.74	72.6	878.7	221.8
22.00		0.3750	54.792	64.768	24231.7	24.35	146.11	72.8	871.1	444.8
24.00		0.3750	54.319	64.204	23604.7	24.13	144.85	73.0	855.9	883.8
26.00		0.3750	53.845	63.641	22988.7	23.91	143.59	73.3	840.9	876.1
28.00	Top - Section 1	0.3750	54.122	63.970	23347.2	24.04	144.32	0.0	0.0	868.5
30.00		0.3750	53.648	63.406	22735.7	23.82	143.06	73.4	834.7	433.4
32.00		0.3750	53.175	62.843	22134.9	23.59	141.80	73.7	819.9	429.6
34.00		0.3750	52.702	62.279	21544.8	23.37	140.54	73.9	805.2	425.8
36.00		0.3750	52.228	61.716	20965.3	23.15	139.28	74.2	790.6	421.9
38.00		0.3750	51.755	61.152	20396.2	22.92	138.01	74.4	776.2	418.1
40.00		0.3750	51.281	60.589	19837.6	22.70	136.75	74.7	761.9	414.3
42.00		0.3750	50.808	60.025	19289.2	22.48	135.49	75.0	747.8	410.4
44.00		0.3750	50.334	59.462	18751.1	22.26	134.22	75.2	733.7	406.6
46.00		0.3750	49.861	58.899	18223.0	22.03	132.96	75.5	719.9	402.8
48.00		0.3750	49.387	58.335	17705.0	21.81	131.70	75.7	706.1	398.9
50.00		0.3750	48.914	57.772	17196.9	21.59	130.44	76.0	692.5	395.1
52.00		0.3750	48.441	57.208	16698.6	21.37	129.17	76.3	679.0	391.2
54.00		0.3750	47.967	56.645	16210.0	21.14	127.91	76.5	665.6	387.4
56.00		0.3750	47.494	56.081	15731.0	20.92	126.65	76.8	652.4	383.6
58.00		0.3750	47.020	55.518	15261.6	20.70	125.39	77.1	639.3	379.7
60.00		0.3750	46.547	54.954	14801.6	20.48	124.13	77.3	626.3	375.9
62.00		0.3750	46.073	54.391	14350.9	20.25	122.86	77.6	613.5	372.1
64.00		0.3750	45.600	53.827	13909.5	20.03	121.60	77.8	600.8	368.2
65.00	Bot - Section 3	0.3750	45.363	53.545	13692.2	19.92	120.97	78.0	594.5	182.7
66.00		0.3750	45.127	53.264	13477.2	19.81	120.34	78.1	588.2	335.5
68.00		0.3750	44.653	52.700	13054.0	19.59	119.07	78.4	575.8	665.7
70.00		0.3750	44.180	52.137	12639.7	19.36	117.81	78.6	563.5	658.7
71.00	Top - Section 2	0.3125	44.568	43.894	10861.6	23.74	142.62	0.0	0.0	326.7
72.00		0.3125	44.331	43.660	10688.3	23.60	141.86	73.6	474.9	149.0
74.00		0.3125	43.858	43.190	10347.1	23.34	140.34	74.0	464.7	295.5
76.00		0.3125	43.384	42.720	10013.3	23.07	138.83	74.3	454.6	292.3
78.00		0.3125	42.911	42.251	9686.7	22.80	137.31	74.6	444.6	289.1
80.00		0.3125	42.438	41.781	9367.3	22.53	135.80	74.9	434.8	285.9
82.00		0.3125	41.964	41.312	9055.0	22.27	134.28	75.2	425.0	282.7
84.00		0.3125	41.491	40.842	8749.7	22.00	132.77	75.5	415.4	279.6
86.00		0.3125	41.017	40.373	8451.4	21.73	131.25	75.8	405.8	276.4
88.00		0.3125	40.544	39.903	8159.9	21.47	129.74	76.2	396.4	273.2
90.00		0.3125	40.070	39.433	7875.2	21.20	128.22	76.5	387.1	270.0
92.00		0.3125	39.597	38.964	7597.2	20.93	126.71	76.8	377.9	266.8

Increment Length: 2 (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)
94.00		0.3125	39.123	38.494	7325.8	20.66	125.20	77.1	368.8	263.6
96.00		0.3125	38.650	38.025	7061.0	20.40	123.68	77.4	359.8	260.4
98.00		0.3125	38.177	37.555	6802.6	20.13	122.17	77.7	351.0	257.2
100.00		0.3125	37.703	37.085	6550.6	19.86	120.65	78.0	342.2	254.0
102.00		0.3125	37.230	36.616	6304.9	19.60	119.13	78.4	333.6	250.8
104.00		0.3125	36.756	36.146	6065.5	19.33	117.62	78.7	325.0	247.6
106.00		0.3125	36.283	35.677	5832.1	19.06	116.10	79.0	316.6	244.4
108.00		0.3125	35.809	35.207	5604.9	18.79	114.59	79.3	308.3	241.2
110.00	Bot - Section 4	0.3125	35.336	34.738	5383.6	18.53	113.08	79.6	300.1	238.0
112.00		0.3125	34.862	34.268	5168.2	18.26	111.56	79.9	292.0	425.7
114.00		0.3125	34.389	33.798	4958.6	17.99	110.05	80.2	284.0	419.9
115.00	Top - Section 3	0.2500	34.652	27.297	4081.8	23.03	138.61	0.0	0.0	207.8
116.00		0.2500	34.416	27.109	3998.1	22.86	137.66	74.5	228.8	92.6
118.00		0.2500	33.942	26.734	3834.2	22.53	135.77	74.9	222.5	183.2
120.00		0.2500	33.469	26.358	3674.8	22.20	133.88	75.3	216.3	180.7
122.00		0.2500	32.995	25.982	3519.9	21.86	131.98	75.7	210.1	178.1
124.00		0.2500	32.522	25.607	3369.4	21.53	130.09	76.1	204.1	175.5
126.00		0.2500	32.048	25.231	3223.3	21.19	128.19	76.5	198.1	173.0
128.00		0.2500	31.575	24.855	3081.5	20.86	126.30	76.9	192.2	170.4
130.00		0.2500	31.102	24.480	2943.9	20.53	124.41	77.3	186.4	167.9
132.00		0.2500	30.628	24.104	2810.4	20.19	122.51	77.7	180.7	165.3
134.00		0.2500	30.155	23.729	2681.0	19.86	120.62	78.0	175.1	162.8
136.00		0.2500	29.681	23.353	2555.7	19.52	118.72	78.4	169.6	160.2
138.00		0.2500	29.208	22.977	2434.3	19.19	116.83	78.8	164.2	157.7
140.00		0.2500	28.734	22.602	2316.9	18.86	114.94	79.2	158.8	155.1
142.00		0.2500	28.261	22.226	2203.3	18.52	113.04	79.6	153.6	152.5
144.00		0.2500	27.788	21.850	2093.4	18.19	111.15	80.0	148.4	150.0
146.00		0.2500	27.314	21.475	1987.3	17.85	109.26	80.4	143.3	147.4
148.00		0.2500	26.841	21.099	1884.8	17.52	107.36	80.8	138.3	144.9
150.00		0.2500	26.367	20.723	1785.9	17.19	105.47	81.2	133.4	142.3
152.00		0.2500	25.894	20.348	1690.6	16.85	103.58	81.6	128.6	139.8
154.00		0.2500	25.420	19.972	1598.6	16.52	101.68	82.0	123.9	137.2
156.00		0.2500	24.947	19.596	1510.1	16.18	99.79	82.4	119.2	134.6
158.00		0.2500	24.473	19.221	1424.9	15.85	97.89	82.5	114.7	132.1
160.00	Top - Section 4	0.2500	24.000	18.845	1343.0	15.52	96.00	82.5	110.2	129.5
160.00	Bot - Section 5	0.2813	24.000	20.957	1474.9	13.79	85.33	36.0	122.9	
162.00		0.2813	24.000	20.957	1474.9	0.00	85.33	36.0	122.9	142.6
164.00		0.2813	24.000	20.957	1474.9	0.00	85.33	36.0	122.9	142.6
165.00		0.2813	24.000	20.957	1474.9	0.00	85.33	36.0	122.9	71.3

27477.5

Wind Loading - Shaft

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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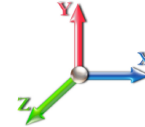


Load Case: 1.2D + 1.6W 105 mph Wind

Iterations 27

Dead Load Factor 1.20

Wind Load Factor 1.60



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	22.791	25.07	491.49	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	22.791	25.07	487.61	0.650	0.000	2.00	10.114	6.57	263.7	0.0	577.3
4.00		1.00	0.85	22.791	25.07	483.74	0.650	0.000	2.00	10.034	6.52	261.6	0.0	572.7
6.00		1.00	0.85	22.791	25.07	479.86	0.650	0.000	2.00	9.954	6.47	259.5	0.0	568.1
8.00		1.00	0.85	22.791	25.07	475.98	0.650	0.000	2.00	9.874	6.42	257.4	0.0	563.5
10.00		1.00	0.85	22.791	25.07	472.10	0.650	0.000	2.00	9.794	6.37	255.3	0.0	558.8
12.00		1.00	0.85	22.791	25.07	468.22	0.650	0.000	2.00	9.714	6.31	253.3	0.0	554.2
14.00		1.00	0.85	22.791	25.07	464.35	0.650	0.000	2.00	9.633	6.26	251.2	0.0	549.6
16.00		1.00	0.86	23.072	25.38	463.30	0.650	0.000	2.00	9.553	6.21	252.2	0.0	545.0
18.00		1.00	0.88	23.652	26.02	465.13	0.650	0.000	2.00	9.473	6.16	256.3	0.0	540.4
20.00		1.00	0.90	24.182	26.60	466.32	0.650	0.000	2.00	9.393	6.11	259.9	0.0	535.8
21.00	Bot - Section 2	1.00	0.91	24.432	26.87	466.72	0.650	0.000	1.00	4.667	3.03	130.4	0.0	266.2
22.00		1.00	0.92	24.672	27.14	466.99	0.650	0.000	1.00	4.710	3.06	132.9	0.0	533.7
24.00		1.00	0.94	25.128	27.64	467.22	0.650	0.000	2.00	9.360	6.08	269.1	0.0	1060.6
26.00		1.00	0.95	25.555	28.11	467.06	0.650	0.000	2.00	9.280	6.03	271.3	0.0	1051.4
28.00	Top - Section 1	1.00	0.97	25.957	28.55	466.58	0.650	0.000	2.00	9.200	5.98	273.2	0.0	1042.2
30.00		1.00	0.98	26.337	28.97	472.42	0.650	0.000	2.00	9.119	5.93	274.8	0.0	520.1
32.00		1.00	1.00	26.697	29.37	471.44	0.650	0.000	2.00	9.039	5.88	276.1	0.0	515.5
34.00		1.00	1.01	27.040	29.74	470.23	0.650	0.000	2.00	8.959	5.82	277.1	0.0	510.9
36.00		1.00	1.02	27.367	30.10	468.82	0.650	0.000	2.00	8.879	5.77	278.0	0.0	506.3
38.00		1.00	1.03	27.681	30.45	467.22	0.650	0.000	2.00	8.799	5.72	278.6	0.0	501.7
40.00		1.00	1.04	27.981	30.78	465.46	0.650	0.000	2.00	8.719	5.67	279.1	0.0	497.1
42.00		1.00	1.05	28.270	31.10	463.53	0.650	0.000	2.00	8.639	5.62	279.4	0.0	492.5
44.00		1.00	1.06	28.548	31.40	461.47	0.650	0.000	2.00	8.559	5.56	279.5	0.0	487.9
46.00		1.00	1.07	28.817	31.70	459.27	0.650	0.000	2.00	8.478	5.51	279.5	0.0	483.3
48.00		1.00	1.08	29.076	31.98	456.95	0.650	0.000	2.00	8.398	5.46	279.4	0.0	478.7
50.00		1.00	1.09	29.327	32.26	454.52	0.650	0.000	2.00	8.318	5.41	279.1	0.0	474.1
52.00		1.00	1.10	29.570	32.53	451.98	0.650	0.000	2.00	8.238	5.35	278.7	0.0	469.5
54.00		1.00	1.11	29.806	32.79	449.35	0.650	0.000	2.00	8.158	5.30	278.2	0.0	464.9
56.00		1.00	1.12	30.035	33.04	446.62	0.650	0.000	2.00	8.078	5.25	277.6	0.0	460.3
58.00		1.00	1.13	30.258	33.28	443.80	0.650	0.000	2.00	7.998	5.20	276.8	0.0	455.7
60.00		1.00	1.14	30.475	33.52	440.91	0.650	0.000	2.00	7.918	5.15	276.0	0.0	451.1
62.00		1.00	1.14	30.686	33.75	437.93	0.650	0.000	2.00	7.837	5.09	275.1	0.0	446.5
64.00		1.00	1.15	30.892	33.98	434.88	0.650	0.000	2.00	7.757	5.04	274.1	0.0	441.9
65.00	Bot - Section 3	1.00	1.16	30.993	34.09	433.33	0.650	0.000	1.00	3.849	2.50	136.5	0.0	219.2
66.00		1.00	1.16	31.092	34.20	431.76	0.650	0.000	1.00	3.881	2.52	138.1	0.0	402.6
68.00		1.00	1.17	31.288	34.42	428.58	0.650	0.000	2.00	7.703	5.01	275.7	0.0	798.8
70.00		1.00	1.17	31.480	34.63	425.33	0.650	0.000	2.00	7.623	4.95	274.5	0.0	790.4
71.00	Top - Section 2	1.00	1.18	31.574	34.73	423.68	0.650	0.000	1.00	3.781	2.46	136.6	0.0	392.0
72.00		1.00	1.18	31.667	34.83	428.06	0.650	0.000	1.00	3.761	2.44	136.3	0.0	178.8
74.00		1.00	1.19	31.850	35.04	424.71	0.650	0.000	2.00	7.462	4.85	271.9	0.0	354.6
76.00		1.00	1.19	32.030	35.23	421.30	0.650	0.000	2.00	7.382	4.80	270.5	0.0	350.8
78.00		1.00	1.20	32.205	35.43	417.85	0.650	0.000	2.00	7.302	4.75	269.0	0.0	347.0
80.00		1.00	1.21	32.377	35.62	414.34	0.650	0.000	2.00	7.222	4.69	267.5	0.0	343.1
82.00		1.00	1.21	32.546	35.80	410.78	0.650	0.000	2.00	7.142	4.64	265.9	0.0	339.3
84.00		1.00	1.22	32.712	35.98	407.18	0.650	0.000	2.00	7.062	4.59	264.3	0.0	335.5
86.00		1.00	1.23	32.874	36.16	403.53	0.650	0.000	2.00	6.982	4.54	262.6	0.0	331.6

Wind Loading - Shaft

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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88.00	1.00	1.23	33.034	36.34	399.84	0.650	0.000	2.00	6.902	4.49	260.8	0.0	327.8
90.00	1.00	1.24	33.190	36.51	396.11	0.650	0.000	2.00	6.821	4.43	259.0	0.0	324.0
92.00	1.00	1.24	33.344	36.68	392.34	0.650	0.000	2.00	6.741	4.38	257.2	0.0	320.1
94.00	1.00	1.25	33.496	36.85	388.52	0.650	0.000	2.00	6.661	4.33	255.3	0.0	316.3
96.00	1.00	1.25	33.644	37.01	384.67	0.650	0.000	2.00	6.581	4.28	253.3	0.0	312.5
98.00	1.00	1.26	33.791	37.17	380.79	0.650	0.000	2.00	6.501	4.23	251.3	0.0	308.6
100.00	1.00	1.27	33.935	37.33	376.86	0.650	0.000	2.00	6.421	4.17	249.3	0.0	304.8
102.00	1.00	1.27	34.077	37.48	372.91	0.650	0.000	2.00	6.341	4.12	247.2	0.0	300.9
104.00	1.00	1.28	34.216	37.64	368.92	0.650	0.000	2.00	6.261	4.07	245.1	0.0	297.1
106.00	1.00	1.28	34.354	37.79	364.90	0.650	0.000	2.00	6.180	4.02	242.9	0.0	293.3
108.00	1.00	1.29	34.489	37.94	360.85	0.650	0.000	2.00	6.100	3.97	240.7	0.0	289.4
110.00 Bot - Section 4	1.00	1.29	34.623	38.08	356.76	0.650	0.000	2.00	6.020	3.91	238.5	0.0	285.6
112.00	1.00	1.30	34.754	38.23	352.65	0.650	0.000	2.00	6.025	3.92	239.5	0.0	510.8
114.00	1.00	1.30	34.884	38.37	348.51	0.650	0.000	2.00	5.945	3.86	237.2	0.0	503.9
115.00 Top - Section 3	1.00	1.30	34.948	38.44	346.43	0.650	0.000	1.00	2.942	1.91	117.6	0.0	249.4
116.00	1.00	1.31	35.012	38.51	349.42	0.650	0.000	1.00	2.922	1.90	117.0	0.0	111.1
118.00	1.00	1.31	35.138	38.65	345.23	0.650	0.000	2.00	5.784	3.76	232.5	0.0	219.9
120.00	1.00	1.32	35.263	38.79	341.02	0.650	0.000	2.00	5.704	3.71	230.1	0.0	216.8
122.00	1.00	1.32	35.386	38.92	336.78	0.650	0.000	2.00	5.624	3.66	227.7	0.0	213.7
124.00	1.00	1.32	35.507	39.06	332.52	0.650	0.000	2.00	5.544	3.60	225.2	0.0	210.7
126.00	1.00	1.33	35.627	39.19	328.23	0.650	0.000	2.00	5.464	3.55	222.7	0.0	207.6
128.00	1.00	1.33	35.745	39.32	323.92	0.650	0.000	2.00	5.384	3.50	220.2	0.0	204.5
130.00	1.00	1.34	35.862	39.45	319.58	0.650	0.000	2.00	5.304	3.45	217.6	0.0	201.5
132.00	1.00	1.34	35.977	39.58	315.22	0.650	0.000	2.00	5.223	3.40	215.0	0.0	198.4
134.00	1.00	1.35	36.091	39.70	310.84	0.650	0.000	2.00	5.143	3.34	212.4	0.0	195.3
136.00	1.00	1.35	36.204	39.82	306.44	0.650	0.000	2.00	5.063	3.29	209.7	0.0	192.2
138.00	1.00	1.35	36.316	39.95	302.02	0.650	0.000	2.00	4.983	3.24	207.0	0.0	189.2
140.00	1.00	1.36	36.426	40.07	297.57	0.650	0.000	2.00	4.903	3.19	204.3	0.0	186.1
142.00	1.00	1.36	36.535	40.19	293.11	0.650	0.000	2.00	4.823	3.13	201.6	0.0	183.0
144.00	1.00	1.37	36.642	40.31	288.62	0.650	0.000	2.00	4.743	3.08	198.8	0.0	180.0
146.00	1.00	1.37	36.749	40.42	284.12	0.650	0.000	2.00	4.663	3.03	196.0	0.0	176.9
148.00	1.00	1.37	36.854	40.54	279.59	0.650	0.000	2.00	4.583	2.98	193.2	0.0	173.8
150.00	1.00	1.38	36.959	40.65	275.05	0.650	0.000	2.00	4.502	2.93	190.4	0.0	170.8
152.00 Appurtenance(s)	1.00	1.38	37.062	40.77	270.49	0.650	0.000	2.00	4.422	2.87	187.5	0.0	167.7
154.00	1.00	1.39	37.164	40.88	265.91	0.650	0.000	2.00	4.342	2.82	184.6	0.0	164.6
156.00	1.00	1.39	37.265	40.99	261.31	0.650	0.000	2.00	4.262	2.77	181.7	0.0	161.6
158.00	1.00	1.39	37.365	41.10	256.69	0.650	0.000	2.00	4.182	2.72	178.8	0.0	158.5
160.00 Top - Section 4	1.00	1.40	37.464	41.21	252.06	0.650	0.000	2.00	4.102	2.67	175.8	0.0	155.4
162.00 Appurtenance(s)	1.00	1.40	37.562	41.32	248.56	0.600	0.000	2.00	4.000	2.40	158.7	0.0	171.2
164.00	1.00	1.40	37.660	41.43	248.88	0.600	0.000	2.00	4.000	2.40	159.1	0.0	171.2
165.00	1.00	1.41	37.708	41.48	249.04	0.600	0.000	1.00	2.000	1.20	79.6	0.0	85.6
Totals:								165.00			20,235.6		32,973.0

Discrete Appurtenance Forces

Structure: CT02720-S-SBA	Code: TIA-222-G	2/25/2022
Site Name: Ledyard South	Exposure: C	
Height: 165.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

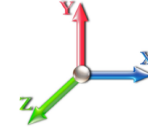


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Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 27

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	162.00	VZS01	3	37.635	41.399	0.55	0.80	7.12	313.56	0.000	1.500	471.67	0.00	707.50
2	162.00	RMQP-463 (LPP)	1	37.562	41.319	1.00	1.00	24.80	2400.00	0.000	0.000	1639.52	0.00	0.00
3	162.00	FE-16148-OVP-B12	1	37.562	41.319	0.40	0.80	1.92	22.68	0.000	0.000	126.93	0.00	0.00
4	162.00	B5/B13 RRH-BR04C	3	37.562	41.319	0.40	0.80	2.24	253.08	0.000	0.000	148.35	0.00	0.00
5	162.00	B2/B66A RRH-BR049	3	37.562	41.319	0.40	0.80	2.24	303.84	0.000	0.000	148.35	0.00	0.00
6	162.00	BXA-70063-6CF-EDIN-5	3	37.562	41.319	0.58	0.80	13.26	61.20	0.000	0.000	876.79	0.00	0.00
7	162.00	MX06FRO660-03	6	37.562	41.319	0.70	0.80	41.22	331.20	0.000	0.000	2724.86	0.00	0.00
8	152.00	MX08FRO665-21	3	37.062	40.768	0.55	0.75	20.80	232.20	0.000	0.000	1356.49	0.00	0.00
9	152.00	MC-PK8-DSH	1	37.062	40.768	1.00	1.00	37.59	2072.40	0.000	0.000	2451.96	0.00	0.00
10	152.00	RDIDC-9181-OF-48	1	37.062	40.768	0.75	0.75	1.51	26.28	0.000	0.000	98.33	0.00	0.00
11	152.00	TA08025-B604	3	37.062	40.768	0.50	0.75	2.95	230.04	0.000	0.000	192.73	0.00	0.00
12	152.00	TA08025-B605	3	37.062	40.768	0.50	0.75	2.95	270.00	0.000	0.000	192.73	0.00	0.00
Totals:									6,516.48			10,428.72		

Total Applied Force Summary

Structure: CT02720-S-SBA	Code: TIA-222-G	2/25/2022
Site Name: Ledyard South	Exposure: C	
Height: 165.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

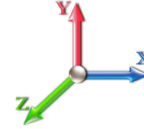


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Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 27

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
2.00		263.71	587.31	0.00	0.00
4.00		261.62	582.71	0.00	0.00
6.00		259.53	578.11	0.00	0.00
8.00		257.44	573.51	0.00	0.00
10.00		255.35	568.91	0.00	0.00
12.00		253.26	564.30	0.00	0.00
14.00		251.17	559.70	0.00	0.00
16.00		252.16	555.10	0.00	0.00
18.00		256.32	550.50	0.00	0.00
20.00		259.85	545.90	0.00	0.00
21.00		130.43	271.22	0.00	0.00
22.00		132.94	538.76	0.00	0.00
24.00		269.06	1070.62	0.00	0.00
26.00		271.29	1061.42	0.00	0.00
28.00		273.18	1052.21	0.00	0.00
30.00		274.76	530.18	0.00	0.00
32.00		276.07	525.58	0.00	0.00
34.00		277.14	520.97	0.00	0.00
36.00		277.99	516.37	0.00	0.00
38.00		278.63	511.77	0.00	0.00
40.00		279.09	507.17	0.00	0.00
42.00		279.38	502.57	0.00	0.00
44.00		279.52	497.97	0.00	0.00
46.00		279.50	493.36	0.00	0.00
48.00		279.35	488.76	0.00	0.00
50.00		279.08	484.16	0.00	0.00
52.00		278.68	479.56	0.00	0.00
54.00		278.17	474.96	0.00	0.00
56.00		277.56	470.35	0.00	0.00
58.00		276.84	465.75	0.00	0.00
60.00		276.03	461.15	0.00	0.00
62.00		275.13	456.55	0.00	0.00
64.00		274.14	451.95	0.00	0.00
65.00		136.45	224.25	0.00	0.00
66.00		138.06	407.61	0.00	0.00
68.00		275.71	808.88	0.00	0.00
70.00		274.52	800.45	0.00	0.00
71.00		136.58	397.06	0.00	0.00
72.00		136.26	183.78	0.00	0.00
74.00		271.91	364.69	0.00	0.00
76.00		270.50	360.86	0.00	0.00
78.00		269.03	357.02	0.00	0.00
80.00		267.50	353.19	0.00	0.00
82.00		265.92	349.35	0.00	0.00
84.00		264.27	345.52	0.00	0.00
86.00		262.57	341.68	0.00	0.00

Total Applied Force Summary

Structure: CT02720-S-SBA	Code: TIA-222-G	2/25/2022
Site Name: Ledyard South	Exposure: C	
Height: 165.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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88.00		260.82	337.85	0.00	0.00
90.00		259.01	334.01	0.00	0.00
92.00		257.15	330.18	0.00	0.00
94.00		255.25	326.35	0.00	0.00
96.00		253.30	322.51	0.00	0.00
98.00		251.31	318.68	0.00	0.00
100.00		249.27	314.84	0.00	0.00
102.00		247.18	311.01	0.00	0.00
104.00		245.06	307.17	0.00	0.00
106.00		242.90	303.34	0.00	0.00
108.00		240.69	299.50	0.00	0.00
110.00		238.45	295.67	0.00	0.00
112.00		239.54	520.90	0.00	0.00
114.00		237.23	513.99	0.00	0.00
115.00		117.63	254.41	0.00	0.00
116.00		117.05	116.11	0.00	0.00
118.00		232.52	229.92	0.00	0.00
120.00		230.11	226.85	0.00	0.00
122.00		227.67	223.78	0.00	0.00
124.00		225.20	220.71	0.00	0.00
126.00		222.69	217.65	0.00	0.00
128.00		220.15	214.58	0.00	0.00
130.00		217.59	211.51	0.00	0.00
132.00		214.99	208.44	0.00	0.00
134.00		212.36	205.38	0.00	0.00
136.00		209.71	202.31	0.00	0.00
138.00		207.02	199.24	0.00	0.00
140.00		204.31	196.17	0.00	0.00
142.00		201.58	193.10	0.00	0.00
144.00		198.81	190.04	0.00	0.00
146.00		196.02	186.97	0.00	0.00
148.00		193.21	183.90	0.00	0.00
150.00		190.36	180.83	0.00	0.00
152.00	(11) attachments	4479.75	3008.68	0.00	0.00
154.00		184.61	174.70	0.00	0.00
156.00		181.70	171.63	0.00	0.00
158.00		178.76	168.56	0.00	0.00
160.00		175.80	165.49	0.00	0.00
162.00	(20) attachments	6295.14	3866.77	0.00	707.50
164.00		159.07	171.15	0.00	0.00
165.00		79.64	85.58	0.00	0.00
Totals:		30,664.28	40,304.21	0.00	707.50

Calculated Forces

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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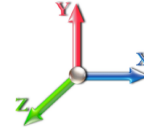


Load Case: 1.2D + 1.6W 105 mph Wind

Iterations 27

Dead Load Factor 1.20

Wind Load Factor 1.60



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	-40.29	-30.68	0.00	-3325.1	0.00	3325.15	4463.02	2231.51	10951.4	5483.88	0.00	0.000	0.000	0.616
2.00	-39.67	-30.46	0.00	-3263.7	0.00	3263.78	4444.18	2222.09	10818.1	5417.09	0.01	-0.059	0.000	0.612
4.00	-39.06	-30.24	0.00	-3202.8	0.00	3202.86	4425.06	2212.53	10684.8	5350.35	0.05	-0.118	0.000	0.608
6.00	-38.45	-30.02	0.00	-3142.3	0.00	3142.39	4405.68	2202.84	10551.6	5283.67	0.11	-0.177	0.000	0.604
8.00	-37.84	-29.80	0.00	-3082.3	0.00	3082.35	4386.04	2193.02	10418.6	5217.05	0.20	-0.237	0.000	0.600
10.00	-37.24	-29.58	0.00	-3022.7	0.00	3022.76	4366.13	2183.07	10285.7	5150.50	0.31	-0.297	0.000	0.596
12.00	-36.65	-29.36	0.00	-2963.6	0.00	2963.60	4345.95	2172.98	10152.9	5084.04	0.45	-0.357	0.000	0.592
14.00	-36.06	-29.14	0.00	-2904.8	0.00	2904.88	4325.51	2162.76	10020.4	5017.66	0.61	-0.418	0.000	0.587
16.00	-35.48	-28.93	0.00	-2846.5	0.00	2846.59	4304.81	2152.40	9888.06	4951.38	0.80	-0.479	0.000	0.583
18.00	-34.90	-28.70	0.00	-2788.7	0.00	2788.74	4283.84	2141.92	9755.90	4885.20	1.02	-0.540	0.000	0.579
20.00	-34.33	-28.46	0.00	-2731.3	0.00	2731.34	4262.60	2131.30	9623.96	4819.13	1.26	-0.602	0.000	0.575
21.00	-34.05	-28.35	0.00	-2702.8	0.00	2702.87	4251.88	2125.94	9558.08	4786.14	1.39	-0.633	0.000	0.573
22.00	-33.49	-28.24	0.00	-2674.5	0.00	2674.52	4241.09	2120.55	9492.26	4753.19	1.52	-0.664	0.000	0.571
24.00	-32.39	-27.99	0.00	-2618.0	0.00	2618.05	4219.33	2109.66	9360.82	4687.37	1.82	-0.726	0.000	0.566
26.00	-31.30	-27.74	0.00	-2562.0	0.00	2562.07	4197.29	2098.65	9229.64	4621.68	2.13	-0.789	0.000	0.562
28.00	-30.22	-27.48	0.00	-2506.5	0.00	2506.59	4210.19	2105.10	9306.23	4660.03	2.48	-0.851	0.000	0.545
30.00	-29.67	-27.23	0.00	-2451.6	0.00	2451.62	4188.05	2094.02	9175.18	4594.41	2.85	-0.914	0.000	0.541
32.00	-29.12	-26.98	0.00	-2397.1	0.00	2397.15	4165.64	2082.82	9044.41	4528.93	3.24	-0.975	0.000	0.536
34.00	-28.57	-26.72	0.00	-2343.1	0.00	2343.19	4142.96	2071.48	8913.95	4463.60	3.67	-1.036	0.000	0.532
36.00	-28.03	-26.47	0.00	-2289.7	0.00	2289.75	4120.02	2060.01	8783.81	4398.44	4.11	-1.097	0.000	0.528
38.00	-27.50	-26.21	0.00	-2236.8	0.00	2236.81	4096.81	2048.41	8654.02	4333.44	4.59	-1.159	0.000	0.523
40.00	-26.97	-25.95	0.00	-2184.4	0.00	2184.40	4073.34	2036.67	8524.57	4268.62	5.09	-1.220	0.000	0.519
42.00	-26.45	-25.69	0.00	-2132.5	0.00	2132.51	4049.60	2024.80	8395.50	4203.99	5.61	-1.282	0.000	0.514
44.00	-25.93	-25.42	0.00	-2081.1	0.00	2081.14	4025.60	2012.80	8266.81	4139.55	6.16	-1.344	0.000	0.509
46.00	-25.41	-25.16	0.00	-2030.2	0.00	2030.29	4001.33	2000.67	8138.53	4075.31	6.74	-1.407	0.000	0.505
48.00	-24.91	-24.90	0.00	-1979.9	0.00	1979.97	3976.80	1988.40	8010.66	4011.28	7.34	-1.469	0.000	0.500
50.00	-24.40	-24.63	0.00	-1930.1	0.00	1930.18	3952.00	1976.00	7883.22	3947.47	7.97	-1.532	0.000	0.495
52.00	-23.90	-24.36	0.00	-1880.9	0.00	1880.92	3926.93	1963.46	7756.23	3883.88	8.63	-1.595	0.000	0.491
54.00	-23.41	-24.10	0.00	-1832.1	0.00	1832.19	3901.60	1950.80	7629.71	3820.52	9.31	-1.658	0.000	0.486
56.00	-22.92	-23.83	0.00	-1784.0	0.00	1784.00	3876.00	1938.00	7503.66	3757.41	10.02	-1.722	0.000	0.481
58.00	-22.44	-23.57	0.00	-1736.3	0.00	1736.33	3850.14	1925.07	7378.11	3694.54	10.75	-1.786	0.000	0.476
60.00	-21.96	-23.30	0.00	-1689.2	0.00	1689.20	3824.01	1912.00	7253.07	3631.92	11.51	-1.849	0.000	0.471
62.00	-21.49	-23.04	0.00	-1642.5	0.00	1642.59	3797.62	1898.81	7128.55	3569.57	12.30	-1.913	0.000	0.466
64.00	-21.02	-22.76	0.00	-1596.5	0.00	1596.52	3770.96	1885.48	7004.58	3507.49	13.12	-1.978	0.000	0.461
65.00	-20.79	-22.63	0.00	-1573.7	0.00	1573.76	3757.53	1878.76	6942.80	3476.56	13.54	-2.010	0.000	0.458
66.00	-20.37	-22.50	0.00	-1551.1	0.00	1551.13	3744.03	1872.02	6881.16	3445.70	13.96	-2.043	0.000	0.456
68.00	-19.55	-22.21	0.00	-1506.1	0.00	1506.14	3716.84	1858.42	6758.32	3384.18	14.83	-2.107	0.000	0.450
70.00	-18.74	-21.93	0.00	-1461.7	0.00	1461.71	3689.38	1844.69	6636.06	3322.96	15.73	-2.172	0.000	0.445
71.00	-18.34	-21.78	0.00	-1439.7	0.00	1439.78	2902.90	1451.45	5283.02	2645.43	16.19	-2.204	0.000	0.551
72.00	-18.14	-21.66	0.00	-1418.0	0.00	1418.00	2893.55	1446.77	5237.63	2622.71	16.65	-2.237	0.000	0.547
74.00	-17.76	-21.39	0.00	-1374.6	0.00	1374.69	2874.64	1437.32	5147.04	2577.35	17.60	-2.311	0.000	0.540
76.00	-17.38	-21.13	0.00	-1331.9	0.00	1331.90	2855.47	1427.73	5056.73	2532.12	18.59	-2.386	0.000	0.532
78.00	-17.01	-20.87	0.00	-1289.6	0.00	1289.63	2836.03	1418.01	4966.70	2487.04	19.60	-2.460	0.000	0.525
80.00	-16.64	-20.61	0.00	-1247.8	0.00	1247.89	2816.32	1408.16	4876.98	2442.11	20.65	-2.535	0.000	0.517
82.00	-16.27	-20.35	0.00	-1206.6	0.00	1206.67	2796.35	1398.18	4787.57	2397.34	21.73	-2.609	0.000	0.509
84.00	-15.92	-20.09	0.00	-1165.9	0.00	1165.97	2776.12	1388.06	4698.50	2352.74	22.84	-2.684	0.000	0.502
86.00	-15.56	-19.83	0.00	-1125.7	0.00	1125.79	2755.61	1377.81	4609.77	2308.31	23.98	-2.759	0.000	0.494
88.00	-15.21	-19.57	0.00	-1086.1	0.00	1086.13	2734.85	1367.42	4521.42	2264.07	25.15	-2.833	0.000	0.485

Calculated Forces

Structure: CT02720-S-SBA **Code:** TIA-222-G 2/25/2022
Site Name: Ledyard South **Exposure:** C
Height: 165.00 (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



90.00	-14.87	-19.32	0.00	-1046.9	0.00	1046.98	2713.81	1356.91	4433.44	2220.01	26.35	-2.907	0.000	0.477
92.00	-14.52	-19.06	0.00	-1008.3	0.00	1008.35	2692.52	1346.26	4345.86	2176.16	27.59	-2.982	0.000	0.469
94.00	-14.19	-18.81	0.00	-970.22	0.00	970.22	2670.95	1335.48	4258.69	2132.51	28.85	-3.056	0.000	0.460
96.00	-13.86	-18.56	0.00	-932.60	0.00	932.60	2649.12	1324.56	4171.94	2089.07	30.15	-3.130	0.000	0.452
98.00	-13.53	-18.31	0.00	-895.48	0.00	895.48	2627.03	1313.51	4085.64	2045.86	31.47	-3.203	0.000	0.443
100.00	-13.20	-18.06	0.00	-858.87	0.00	858.87	2604.67	1302.33	3999.80	2002.87	32.83	-3.277	0.000	0.434
102.00	-12.89	-17.81	0.00	-822.76	0.00	822.76	2582.04	1291.02	3914.44	1960.13	34.22	-3.350	0.000	0.425
104.00	-12.57	-17.56	0.00	-787.14	0.00	787.14	2559.15	1279.57	3829.56	1917.63	35.64	-3.422	0.000	0.416
106.00	-12.26	-17.32	0.00	-752.02	0.00	752.02	2535.99	1268.00	3745.19	1875.38	37.09	-3.495	0.000	0.406
108.00	-11.96	-17.07	0.00	-717.39	0.00	717.39	2512.57	1256.28	3661.34	1833.39	38.56	-3.566	0.000	0.396
110.00	-11.65	-16.83	0.00	-683.24	0.00	683.24	2488.88	1244.44	3578.02	1791.67	40.07	-3.637	0.000	0.386
112.00	-11.13	-16.57	0.00	-649.58	0.00	649.58	2464.93	1232.46	3495.26	1750.23	41.61	-3.708	0.000	0.376
114.00	-10.62	-16.31	0.00	-616.44	0.00	616.44	2440.71	1220.35	3413.07	1709.07	43.18	-3.777	0.000	0.365
115.00	-10.36	-16.18	0.00	-600.13	0.00	600.13	1825.70	912.85	2582.32	1293.08	43.97	-3.812	0.000	0.470
116.00	-10.24	-16.07	0.00	-583.95	0.00	583.95	1817.93	908.96	2553.51	1278.65	44.78	-3.847	0.000	0.463
118.00	-10.00	-15.84	0.00	-551.81	0.00	551.81	1802.18	901.09	2496.07	1249.89	46.40	-3.928	0.000	0.447
120.00	-9.77	-15.60	0.00	-520.14	0.00	520.14	1786.18	893.09	2438.88	1221.25	48.07	-4.007	0.000	0.432
122.00	-9.54	-15.37	0.00	-488.93	0.00	488.93	1769.90	884.95	2381.96	1192.75	49.76	-4.085	0.000	0.416
124.00	-9.32	-15.15	0.00	-458.18	0.00	458.18	1753.37	876.68	2325.32	1164.39	51.49	-4.162	0.000	0.399
126.00	-9.10	-14.92	0.00	-427.89	0.00	427.89	1736.56	868.28	2268.99	1136.18	53.25	-4.237	0.000	0.382
128.00	-8.88	-14.70	0.00	-398.05	0.00	398.05	1719.49	859.75	2212.98	1108.13	55.04	-4.310	0.000	0.365
130.00	-8.67	-14.47	0.00	-368.67	0.00	368.67	1702.16	851.08	2157.30	1080.25	56.85	-4.381	0.000	0.347
132.00	-8.46	-14.25	0.00	-339.72	0.00	339.72	1684.56	842.28	2101.96	1052.54	58.70	-4.449	0.000	0.328
134.00	-8.26	-14.03	0.00	-311.22	0.00	311.22	1666.69	833.34	2046.99	1025.02	60.58	-4.515	0.000	0.309
136.00	-8.06	-13.82	0.00	-283.15	0.00	283.15	1648.56	824.28	1992.41	997.68	62.48	-4.578	0.000	0.289
138.00	-7.86	-13.60	0.00	-255.51	0.00	255.51	1630.16	815.08	1938.21	970.55	64.41	-4.638	0.000	0.268
140.00	-7.67	-13.39	0.00	-228.31	0.00	228.31	1611.50	805.75	1884.43	943.61	66.37	-4.694	0.000	0.247
142.00	-7.48	-13.18	0.00	-201.53	0.00	201.53	1592.57	796.28	1831.07	916.90	68.34	-4.747	0.000	0.225
144.00	-7.30	-12.97	0.00	-175.17	0.00	175.17	1573.37	786.69	1778.16	890.40	70.34	-4.796	0.000	0.202
146.00	-7.12	-12.77	0.00	-149.22	0.00	149.22	1553.92	776.96	1725.70	864.13	72.36	-4.840	0.000	0.178
148.00	-6.95	-12.56	0.00	-123.69	0.00	123.69	1534.19	767.09	1673.72	838.10	74.39	-4.879	0.000	0.152
150.00	-6.78	-12.36	0.00	-98.56	0.00	98.56	1514.20	757.10	1622.22	812.32	76.44	-4.913	0.000	0.126
152.00	-4.16	-7.64	0.00	-73.84	0.00	73.84	1493.94	746.97	1571.23	786.78	78.50	-4.940	0.000	0.097
154.00	-4.00	-7.44	0.00	-58.55	0.00	58.55	1473.42	736.71	1520.76	761.51	80.58	-4.962	0.000	0.080
156.00	-3.84	-7.25	0.00	-43.67	0.00	43.67	1452.63	726.32	1470.83	736.51	82.66	-4.981	0.000	0.062
158.00	-3.69	-7.06	0.00	-29.17	0.00	29.17	1427.99	714.00	1417.89	710.00	84.74	-4.994	0.000	0.044
160.00	-3.54	-6.87	0.00	-15.05	0.00	15.05	1400.09	700.04	1362.73	682.38	86.84	-5.003	0.000	0.025
160.00	-3.54	-6.87	0.00	-15.05	0.00	15.05	679.01	339.51	662.80	396.70	86.84	-5.003	0.000	0.044
162.00	-0.23	-0.26	0.00	-0.61	0.00	0.61	679.01	339.51	662.80	396.70	88.93	-5.007	0.000	0.002
164.00	-0.08	-0.09	0.00	-0.09	0.00	0.09	679.01	339.51	662.80	396.70	91.02	-5.007	0.000	0.000
165.00	0.00	-0.08	0.00	0.00	0.00	0.00	679.01	339.51	662.80	396.70	92.07	-5.007	0.000	0.000

Wind Loading - Shaft

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

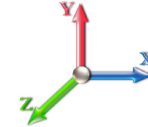
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Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 27

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	22.791	25.07	491.49	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	22.791	25.07	487.61	0.650	0.000	2.00	10.114	6.57	263.7	0.0	432.9
4.00		1.00	0.85	22.791	25.07	483.74	0.650	0.000	2.00	10.034	6.52	261.6	0.0	429.5
6.00		1.00	0.85	22.791	25.07	479.86	0.650	0.000	2.00	9.954	6.47	259.5	0.0	426.0
8.00		1.00	0.85	22.791	25.07	475.98	0.650	0.000	2.00	9.874	6.42	257.4	0.0	422.6
10.00		1.00	0.85	22.791	25.07	472.10	0.650	0.000	2.00	9.794	6.37	255.3	0.0	419.1
12.00		1.00	0.85	22.791	25.07	468.22	0.650	0.000	2.00	9.714	6.31	253.3	0.0	415.7
14.00		1.00	0.85	22.791	25.07	464.35	0.650	0.000	2.00	9.633	6.26	251.2	0.0	412.2
16.00		1.00	0.86	23.072	25.38	463.30	0.650	0.000	2.00	9.553	6.21	252.2	0.0	408.8
18.00		1.00	0.88	23.652	26.02	465.13	0.650	0.000	2.00	9.473	6.16	256.3	0.0	405.3
20.00		1.00	0.90	24.182	26.60	466.32	0.650	0.000	2.00	9.393	6.11	259.9	0.0	401.9
21.00	Bot - Section 2	1.00	0.91	24.432	26.87	466.72	0.650	0.000	1.00	4.667	3.03	130.4	0.0	199.6
22.00		1.00	0.92	24.672	27.14	466.99	0.650	0.000	1.00	4.710	3.06	132.9	0.0	400.3
24.00		1.00	0.94	25.128	27.64	467.22	0.650	0.000	2.00	9.360	6.08	269.1	0.0	795.4
26.00		1.00	0.95	25.555	28.11	467.06	0.650	0.000	2.00	9.280	6.03	271.3	0.0	788.5
28.00	Top - Section 1	1.00	0.97	25.957	28.55	466.58	0.650	0.000	2.00	9.200	5.98	273.2	0.0	781.6
30.00		1.00	0.98	26.337	28.97	472.42	0.650	0.000	2.00	9.119	5.93	274.8	0.0	390.1
32.00		1.00	1.00	26.697	29.37	471.44	0.650	0.000	2.00	9.039	5.88	276.1	0.0	386.6
34.00		1.00	1.01	27.040	29.74	470.23	0.650	0.000	2.00	8.959	5.82	277.1	0.0	383.2
36.00		1.00	1.02	27.367	30.10	468.82	0.650	0.000	2.00	8.879	5.77	278.0	0.0	379.7
38.00		1.00	1.03	27.681	30.45	467.22	0.650	0.000	2.00	8.799	5.72	278.6	0.0	376.3
40.00		1.00	1.04	27.981	30.78	465.46	0.650	0.000	2.00	8.719	5.67	279.1	0.0	372.8
42.00		1.00	1.05	28.270	31.10	463.53	0.650	0.000	2.00	8.639	5.62	279.4	0.0	369.4
44.00		1.00	1.06	28.548	31.40	461.47	0.650	0.000	2.00	8.559	5.56	279.5	0.0	365.9
46.00		1.00	1.07	28.817	31.70	459.27	0.650	0.000	2.00	8.478	5.51	279.5	0.0	362.5
48.00		1.00	1.08	29.076	31.98	456.95	0.650	0.000	2.00	8.398	5.46	279.4	0.0	359.0
50.00		1.00	1.09	29.327	32.26	454.52	0.650	0.000	2.00	8.318	5.41	279.1	0.0	355.6
52.00		1.00	1.10	29.570	32.53	451.98	0.650	0.000	2.00	8.238	5.35	278.7	0.0	352.1
54.00		1.00	1.11	29.806	32.79	449.35	0.650	0.000	2.00	8.158	5.30	278.2	0.0	348.7
56.00		1.00	1.12	30.035	33.04	446.62	0.650	0.000	2.00	8.078	5.25	277.6	0.0	345.2
58.00		1.00	1.13	30.258	33.28	443.80	0.650	0.000	2.00	7.998	5.20	276.8	0.0	341.8
60.00		1.00	1.14	30.475	33.52	440.91	0.650	0.000	2.00	7.918	5.15	276.0	0.0	338.3
62.00		1.00	1.14	30.686	33.75	437.93	0.650	0.000	2.00	7.837	5.09	275.1	0.0	334.9
64.00		1.00	1.15	30.892	33.98	434.88	0.650	0.000	2.00	7.757	5.04	274.1	0.0	331.4
65.00	Bot - Section 3	1.00	1.16	30.993	34.09	433.33	0.650	0.000	1.00	3.849	2.50	136.5	0.0	164.4
66.00		1.00	1.16	31.092	34.20	431.76	0.650	0.000	1.00	3.881	2.52	138.1	0.0	301.9
68.00		1.00	1.17	31.288	34.42	428.58	0.650	0.000	2.00	7.703	5.01	275.7	0.0	599.1
70.00		1.00	1.17	31.480	34.63	425.33	0.650	0.000	2.00	7.623	4.95	274.5	0.0	592.8
71.00	Top - Section 2	1.00	1.18	31.574	34.73	423.68	0.650	0.000	1.00	3.781	2.46	136.6	0.0	294.0
72.00		1.00	1.18	31.667	34.83	428.06	0.650	0.000	1.00	3.761	2.44	136.3	0.0	134.1
74.00		1.00	1.19	31.850	35.04	424.71	0.650	0.000	2.00	7.462	4.85	271.9	0.0	266.0
76.00		1.00	1.19	32.030	35.23	421.30	0.650	0.000	2.00	7.382	4.80	270.5	0.0	263.1
78.00		1.00	1.20	32.205	35.43	417.85	0.650	0.000	2.00	7.302	4.75	269.0	0.0	260.2
80.00		1.00	1.21	32.377	35.62	414.34	0.650	0.000	2.00	7.222	4.69	267.5	0.0	257.3
82.00		1.00	1.21	32.546	35.80	410.78	0.650	0.000	2.00	7.142	4.64	265.9	0.0	254.5
84.00		1.00	1.22	32.712	35.98	407.18	0.650	0.000	2.00	7.062	4.59	264.3	0.0	251.6
86.00		1.00	1.23	32.874	36.16	403.53	0.650	0.000	2.00	6.982	4.54	262.6	0.0	248.7

Wind Loading - Shaft

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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88.00	1.00	1.23	33.034	36.34	399.84	0.650	0.000	2.00	6.902	4.49	260.8	0.0	245.8
90.00	1.00	1.24	33.190	36.51	396.11	0.650	0.000	2.00	6.821	4.43	259.0	0.0	243.0
92.00	1.00	1.24	33.344	36.68	392.34	0.650	0.000	2.00	6.741	4.38	257.2	0.0	240.1
94.00	1.00	1.25	33.496	36.85	388.52	0.650	0.000	2.00	6.661	4.33	255.3	0.0	237.2
96.00	1.00	1.25	33.644	37.01	384.67	0.650	0.000	2.00	6.581	4.28	253.3	0.0	234.3
98.00	1.00	1.26	33.791	37.17	380.79	0.650	0.000	2.00	6.501	4.23	251.3	0.0	231.5
100.00	1.00	1.27	33.935	37.33	376.86	0.650	0.000	2.00	6.421	4.17	249.3	0.0	228.6
102.00	1.00	1.27	34.077	37.48	372.91	0.650	0.000	2.00	6.341	4.12	247.2	0.0	225.7
104.00	1.00	1.28	34.216	37.64	368.92	0.650	0.000	2.00	6.261	4.07	245.1	0.0	222.8
106.00	1.00	1.28	34.354	37.79	364.90	0.650	0.000	2.00	6.180	4.02	242.9	0.0	220.0
108.00	1.00	1.29	34.489	37.94	360.85	0.650	0.000	2.00	6.100	3.97	240.7	0.0	217.1
110.00 Bot - Section 4	1.00	1.29	34.623	38.08	356.76	0.650	0.000	2.00	6.020	3.91	238.5	0.0	214.2
112.00	1.00	1.30	34.754	38.23	352.65	0.650	0.000	2.00	6.025	3.92	239.5	0.0	383.1
114.00	1.00	1.30	34.884	38.37	348.51	0.650	0.000	2.00	5.945	3.86	237.2	0.0	378.0
115.00 Top - Section 3	1.00	1.30	34.948	38.44	346.43	0.650	0.000	1.00	2.942	1.91	117.6	0.0	187.0
116.00	1.00	1.31	35.012	38.51	349.42	0.650	0.000	1.00	2.922	1.90	117.0	0.0	83.3
118.00	1.00	1.31	35.138	38.65	345.23	0.650	0.000	2.00	5.784	3.76	232.5	0.0	164.9
120.00	1.00	1.32	35.263	38.79	341.02	0.650	0.000	2.00	5.704	3.71	230.1	0.0	162.6
122.00	1.00	1.32	35.386	38.92	336.78	0.650	0.000	2.00	5.624	3.66	227.7	0.0	160.3
124.00	1.00	1.32	35.507	39.06	332.52	0.650	0.000	2.00	5.544	3.60	225.2	0.0	158.0
126.00	1.00	1.33	35.627	39.19	328.23	0.650	0.000	2.00	5.464	3.55	222.7	0.0	155.7
128.00	1.00	1.33	35.745	39.32	323.92	0.650	0.000	2.00	5.384	3.50	220.2	0.0	153.4
130.00	1.00	1.34	35.862	39.45	319.58	0.650	0.000	2.00	5.304	3.45	217.6	0.0	151.1
132.00	1.00	1.34	35.977	39.58	315.22	0.650	0.000	2.00	5.223	3.40	215.0	0.0	148.8
134.00	1.00	1.35	36.091	39.70	310.84	0.650	0.000	2.00	5.143	3.34	212.4	0.0	146.5
136.00	1.00	1.35	36.204	39.82	306.44	0.650	0.000	2.00	5.063	3.29	209.7	0.0	144.2
138.00	1.00	1.35	36.316	39.95	302.02	0.650	0.000	2.00	4.983	3.24	207.0	0.0	141.9
140.00	1.00	1.36	36.426	40.07	297.57	0.650	0.000	2.00	4.903	3.19	204.3	0.0	139.6
142.00	1.00	1.36	36.535	40.19	293.11	0.650	0.000	2.00	4.823	3.13	201.6	0.0	137.3
144.00	1.00	1.37	36.642	40.31	288.62	0.650	0.000	2.00	4.743	3.08	198.8	0.0	135.0
146.00	1.00	1.37	36.749	40.42	284.12	0.650	0.000	2.00	4.663	3.03	196.0	0.0	132.7
148.00	1.00	1.37	36.854	40.54	279.59	0.650	0.000	2.00	4.583	2.98	193.2	0.0	130.4
150.00	1.00	1.38	36.959	40.65	275.05	0.650	0.000	2.00	4.502	2.93	190.4	0.0	128.1
152.00 Appurtenance(s)	1.00	1.38	37.062	40.77	270.49	0.650	0.000	2.00	4.422	2.87	187.5	0.0	125.8
154.00	1.00	1.39	37.164	40.88	265.91	0.650	0.000	2.00	4.342	2.82	184.6	0.0	123.5
156.00	1.00	1.39	37.265	40.99	261.31	0.650	0.000	2.00	4.262	2.77	181.7	0.0	121.2
158.00	1.00	1.39	37.365	41.10	256.69	0.650	0.000	2.00	4.182	2.72	178.8	0.0	118.9
160.00 Top - Section 4	1.00	1.40	37.464	41.21	252.06	0.650	0.000	2.00	4.102	2.67	175.8	0.0	116.6
162.00 Appurtenance(s)	1.00	1.40	37.562	41.32	248.56	0.600	0.000	2.00	4.000	2.40	158.7	0.0	128.4
164.00	1.00	1.40	37.660	41.43	248.88	0.600	0.000	2.00	4.000	2.40	159.1	0.0	128.4
165.00	1.00	1.41	37.708	41.48	249.04	0.600	0.000	1.00	2.000	1.20	79.6	0.0	64.2
Totals:								165.00			20,235.6		24,729.8

Discrete Appurtenance Forces

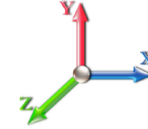
Structure: CT02720-S-SBA	Code: TIA-222-G	2/25/2022
Site Name: Ledyard South	Exposure: C	
Height: 165.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 17



Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 27

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	162.00	VZS01	3	37.635	41.399	0.55	0.80	7.12	235.17	0.000	1.500	471.67	0.00	707.50
2	162.00	RMQP-463 (LPP)	1	37.562	41.319	1.00	1.00	24.80	1800.00	0.000	0.000	1639.52	0.00	0.00
3	162.00	FE-16148-OVP-B12	1	37.562	41.319	0.40	0.80	1.92	17.01	0.000	0.000	126.93	0.00	0.00
4	162.00	B5/B13 RRH-BR04C	3	37.562	41.319	0.40	0.80	2.24	189.81	0.000	0.000	148.35	0.00	0.00
5	162.00	B2/B66A RRH-BR049	3	37.562	41.319	0.40	0.80	2.24	227.88	0.000	0.000	148.35	0.00	0.00
6	162.00	BXA-70063-6CF-EDIN-5	3	37.562	41.319	0.58	0.80	13.26	45.90	0.000	0.000	876.79	0.00	0.00
7	162.00	MX06FRO660-03	6	37.562	41.319	0.70	0.80	41.22	248.40	0.000	0.000	2724.86	0.00	0.00
8	152.00	MX08FRO665-21	3	37.062	40.768	0.55	0.75	20.80	174.15	0.000	0.000	1356.49	0.00	0.00
9	152.00	MC-PK8-DSH	1	37.062	40.768	1.00	1.00	37.59	1554.30	0.000	0.000	2451.96	0.00	0.00
10	152.00	RDIDC-9181-OF-48	1	37.062	40.768	0.75	0.75	1.51	19.71	0.000	0.000	98.33	0.00	0.00
11	152.00	TA08025-B604	3	37.062	40.768	0.50	0.75	2.95	172.53	0.000	0.000	192.73	0.00	0.00
12	152.00	TA08025-B605	3	37.062	40.768	0.50	0.75	2.95	202.50	0.000	0.000	192.73	0.00	0.00
Totals:									4,887.36			10,428.72		

Total Applied Force Summary

Structure: CT02720-S-SBA	Code: TIA-222-G	2/25/2022
Site Name: Ledyard South	Exposure: C	
Height: 165.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

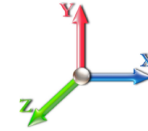


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Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 27

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
2.00		263.71	440.49	0.00	0.00
4.00		261.62	437.03	0.00	0.00
6.00		259.53	433.58	0.00	0.00
8.00		257.44	430.13	0.00	0.00
10.00		255.35	426.68	0.00	0.00
12.00		253.26	423.23	0.00	0.00
14.00		251.17	419.78	0.00	0.00
16.00		252.16	416.33	0.00	0.00
18.00		256.32	412.87	0.00	0.00
20.00		259.85	409.42	0.00	0.00
21.00		130.43	203.42	0.00	0.00
22.00		132.94	404.07	0.00	0.00
24.00		269.06	802.96	0.00	0.00
26.00		271.29	796.06	0.00	0.00
28.00		273.18	789.16	0.00	0.00
30.00		274.76	397.63	0.00	0.00
32.00		276.07	394.18	0.00	0.00
34.00		277.14	390.73	0.00	0.00
36.00		277.99	387.28	0.00	0.00
38.00		278.63	383.83	0.00	0.00
40.00		279.09	380.38	0.00	0.00
42.00		279.38	376.93	0.00	0.00
44.00		279.52	373.47	0.00	0.00
46.00		279.50	370.02	0.00	0.00
48.00		279.35	366.57	0.00	0.00
50.00		279.08	363.12	0.00	0.00
52.00		278.68	359.67	0.00	0.00
54.00		278.17	356.22	0.00	0.00
56.00		277.56	352.77	0.00	0.00
58.00		276.84	349.31	0.00	0.00
60.00		276.03	345.86	0.00	0.00
62.00		275.13	342.41	0.00	0.00
64.00		274.14	338.96	0.00	0.00
65.00		136.45	168.19	0.00	0.00
66.00		138.06	305.70	0.00	0.00
68.00		275.71	606.66	0.00	0.00
70.00		274.52	600.34	0.00	0.00
71.00		136.58	297.79	0.00	0.00
72.00		136.26	137.84	0.00	0.00
74.00		271.91	273.52	0.00	0.00
76.00		270.50	270.64	0.00	0.00
78.00		269.03	267.77	0.00	0.00
80.00		267.50	264.89	0.00	0.00
82.00		265.92	262.02	0.00	0.00
84.00		264.27	259.14	0.00	0.00
86.00		262.57	256.26	0.00	0.00

Total Applied Force Summary

Structure: CT02720-S-SBA	Code: TIA-222-G	2/25/2022
Site Name: Ledyard South	Exposure: C	
Height: 165.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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88.00		260.82	253.39	0.00	0.00
90.00		259.01	250.51	0.00	0.00
92.00		257.15	247.64	0.00	0.00
94.00		255.25	244.76	0.00	0.00
96.00		253.30	241.88	0.00	0.00
98.00		251.31	239.01	0.00	0.00
100.00		249.27	236.13	0.00	0.00
102.00		247.18	233.25	0.00	0.00
104.00		245.06	230.38	0.00	0.00
106.00		242.90	227.50	0.00	0.00
108.00		240.69	224.63	0.00	0.00
110.00		238.45	221.75	0.00	0.00
112.00		239.54	390.67	0.00	0.00
114.00		237.23	385.49	0.00	0.00
115.00		117.63	190.81	0.00	0.00
116.00		117.05	87.08	0.00	0.00
118.00		232.52	172.44	0.00	0.00
120.00		230.11	170.14	0.00	0.00
122.00		227.67	167.84	0.00	0.00
124.00		225.20	165.54	0.00	0.00
126.00		222.69	163.24	0.00	0.00
128.00		220.15	160.93	0.00	0.00
130.00		217.59	158.63	0.00	0.00
132.00		214.99	156.33	0.00	0.00
134.00		212.36	154.03	0.00	0.00
136.00		209.71	151.73	0.00	0.00
138.00		207.02	149.43	0.00	0.00
140.00		204.31	147.13	0.00	0.00
142.00		201.58	144.83	0.00	0.00
144.00		198.81	142.53	0.00	0.00
146.00		196.02	140.23	0.00	0.00
148.00		193.21	137.93	0.00	0.00
150.00		190.36	135.62	0.00	0.00
152.00	(11) attachments	4479.75	2256.51	0.00	0.00
154.00		184.61	131.02	0.00	0.00
156.00		181.70	128.72	0.00	0.00
158.00		178.76	126.42	0.00	0.00
160.00		175.80	124.12	0.00	0.00
162.00	(20) attachments	6295.14	2900.08	0.00	707.50
164.00		159.07	128.36	0.00	0.00
165.00		79.64	64.18	0.00	0.00
Totals:		30,664.28	30,228.16	0.00	707.50

Calculated Forces

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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Load Case: 0.9D + 1.6W 105 mph Wind

Iterations 27

Dead Load Factor 0.90

Wind Load Factor 1.60



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	-30.21	-30.68	0.00	-3299.0	0.00	3299.00	4463.02	2231.51	10951.4	5483.88	0.00	0.000	0.000	0.609
2.00	-29.74	-30.45	0.00	-3237.6	0.00	3237.65	4444.18	2222.09	10818.1	5417.09	0.01	-0.058	0.000	0.605
4.00	-29.27	-30.21	0.00	-3176.7	0.00	3176.76	4425.06	2212.53	10684.8	5350.35	0.05	-0.117	0.000	0.601
6.00	-28.81	-29.98	0.00	-3116.3	0.00	3116.33	4405.68	2202.84	10551.6	5283.67	0.11	-0.176	0.000	0.597
8.00	-28.35	-29.75	0.00	-3056.3	0.00	3056.37	4386.04	2193.02	10418.6	5217.05	0.20	-0.235	0.000	0.592
10.00	-27.89	-29.52	0.00	-2996.8	0.00	2996.87	4366.13	2183.07	10285.7	5150.50	0.31	-0.295	0.000	0.588
12.00	-27.44	-29.30	0.00	-2937.8	0.00	2937.82	4345.95	2172.98	10152.9	5084.04	0.45	-0.354	0.000	0.584
14.00	-26.99	-29.07	0.00	-2879.2	0.00	2879.23	4325.51	2162.76	10020.4	5017.66	0.61	-0.415	0.000	0.580
16.00	-26.55	-28.84	0.00	-2821.0	0.00	2821.08	4304.81	2152.40	9888.06	4951.38	0.80	-0.475	0.000	0.576
18.00	-26.11	-28.61	0.00	-2763.4	0.00	2763.40	4283.84	2141.92	9755.90	4885.20	1.01	-0.536	0.000	0.572
20.00	-25.68	-28.37	0.00	-2706.1	0.00	2706.17	4262.60	2131.30	9623.96	4819.13	1.25	-0.597	0.000	0.568
21.00	-25.46	-28.25	0.00	-2677.8	0.00	2677.80	4251.88	2125.94	9558.08	4786.14	1.38	-0.627	0.000	0.566
22.00	-25.03	-28.13	0.00	-2649.5	0.00	2649.55	4241.09	2120.55	9492.26	4753.19	1.51	-0.658	0.000	0.564
24.00	-24.20	-27.88	0.00	-2593.2	0.00	2593.29	4219.33	2109.66	9360.82	4687.37	1.80	-0.720	0.000	0.559
26.00	-23.38	-27.62	0.00	-2537.5	0.00	2537.53	4197.29	2098.65	9229.64	4621.68	2.12	-0.782	0.000	0.555
28.00	-22.57	-27.36	0.00	-2482.2	0.00	2482.29	4210.19	2105.10	9306.23	4660.03	2.46	-0.844	0.000	0.538
30.00	-22.14	-27.11	0.00	-2427.5	0.00	2427.56	4188.05	2094.02	9175.18	4594.41	2.82	-0.906	0.000	0.534
32.00	-21.73	-26.85	0.00	-2373.3	0.00	2373.35	4165.64	2082.82	9044.41	4528.93	3.22	-0.966	0.000	0.529
34.00	-21.31	-26.59	0.00	-2319.6	0.00	2319.65	4142.96	2071.48	8913.95	4463.60	3.63	-1.027	0.000	0.525
36.00	-20.90	-26.32	0.00	-2266.4	0.00	2266.48	4120.02	2060.01	8783.81	4398.44	4.08	-1.087	0.000	0.521
38.00	-20.50	-26.06	0.00	-2213.8	0.00	2213.84	4096.81	2048.41	8654.02	4333.44	4.55	-1.148	0.000	0.516
40.00	-20.09	-25.79	0.00	-2161.7	0.00	2161.72	4073.34	2036.67	8524.57	4268.62	5.04	-1.209	0.000	0.512
42.00	-19.70	-25.53	0.00	-2110.1	0.00	2110.14	4049.60	2024.80	8395.50	4203.99	5.56	-1.270	0.000	0.507
44.00	-19.30	-25.26	0.00	-2059.0	0.00	2059.09	4025.60	2012.80	8266.81	4139.55	6.11	-1.332	0.000	0.502
46.00	-18.91	-24.99	0.00	-2008.5	0.00	2008.57	4001.33	2000.67	8138.53	4075.31	6.68	-1.394	0.000	0.498
48.00	-18.53	-24.72	0.00	-1958.5	0.00	1958.59	3976.80	1988.40	8010.66	4011.28	7.28	-1.455	0.000	0.493
50.00	-18.14	-24.45	0.00	-1909.1	0.00	1909.14	3952.00	1976.00	7883.22	3947.47	7.90	-1.518	0.000	0.488
52.00	-17.77	-24.19	0.00	-1860.2	0.00	1860.23	3926.93	1963.46	7756.23	3883.88	8.55	-1.580	0.000	0.484
54.00	-17.39	-23.92	0.00	-1811.8	0.00	1811.86	3901.60	1950.80	7629.71	3820.52	9.22	-1.643	0.000	0.479
56.00	-17.02	-23.65	0.00	-1764.0	0.00	1764.03	3876.00	1938.00	7503.66	3757.41	9.93	-1.705	0.000	0.474
58.00	-16.65	-23.38	0.00	-1716.7	0.00	1716.73	3850.14	1925.07	7378.11	3694.54	10.65	-1.768	0.000	0.469
60.00	-16.29	-23.11	0.00	-1669.9	0.00	1669.98	3824.01	1912.00	7253.07	3631.92	11.41	-1.831	0.000	0.464
62.00	-15.93	-22.84	0.00	-1623.7	0.00	1623.76	3797.62	1898.81	7128.55	3569.57	12.19	-1.895	0.000	0.459
64.00	-15.58	-22.57	0.00	-1578.0	0.00	1578.08	3770.96	1885.48	7004.58	3507.49	13.00	-1.958	0.000	0.454
65.00	-15.41	-22.44	0.00	-1555.5	0.00	1555.51	3757.53	1878.76	6942.80	3476.56	13.41	-1.990	0.000	0.452
66.00	-15.09	-22.30	0.00	-1533.0	0.00	1533.07	3744.03	1872.02	6881.16	3445.70	13.83	-2.022	0.000	0.449
68.00	-14.47	-22.02	0.00	-1488.4	0.00	1488.47	3716.84	1858.42	6758.32	3384.18	14.69	-2.086	0.000	0.444
70.00	-13.86	-21.73	0.00	-1444.4	0.00	1444.44	3689.38	1844.69	6636.06	3322.96	15.58	-2.150	0.000	0.439
71.00	-13.56	-21.59	0.00	-1422.7	0.00	1422.71	2902.90	1451.45	5283.02	2645.43	16.03	-2.182	0.000	0.543
72.00	-13.40	-21.46	0.00	-1401.1	0.00	1401.11	2893.55	1446.77	5237.63	2622.71	16.49	-2.215	0.000	0.539
74.00	-13.11	-21.20	0.00	-1358.1	0.00	1358.19	2874.64	1437.32	5147.04	2577.35	17.44	-2.288	0.000	0.532
76.00	-12.83	-20.93	0.00	-1315.7	0.00	1315.79	2855.47	1427.73	5056.73	2532.12	18.41	-2.362	0.000	0.524
78.00	-12.54	-20.67	0.00	-1273.9	0.00	1273.92	2836.03	1418.01	4966.70	2487.04	19.42	-2.435	0.000	0.517
80.00	-12.27	-20.41	0.00	-1232.5	0.00	1232.58	2816.32	1408.16	4876.98	2442.11	20.45	-2.509	0.000	0.509
82.00	-11.99	-20.15	0.00	-1191.7	0.00	1191.77	2796.35	1398.18	4787.57	2397.34	21.52	-2.582	0.000	0.502
84.00	-11.72	-19.88	0.00	-1151.4	0.00	1151.48	2776.12	1388.06	4698.50	2352.74	22.62	-2.656	0.000	0.494
86.00	-11.45	-19.62	0.00	-1111.7	0.00	1111.71	2755.61	1377.81	4609.77	2308.31	23.75	-2.730	0.000	0.486
88.00	-11.18	-19.37	0.00	-1072.4	0.00	1072.46	2734.85	1367.42	4521.42	2264.07	24.91	-2.803	0.000	0.478

Calculated Forces

Structure: CT02720-S-SBA **Code:** TIA-222-G 2/25/2022
Site Name: Ledyard South **Exposure:** C
Height: 165.00 (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



90.00	-10.92	-19.11	0.00	-1033.7	0.00	1033.73	2713.81	1356.91	4433.44	2220.01	26.10	-2.877	0.000	0.470
92.00	-10.66	-18.85	0.00	-995.51	0.00	995.51	2692.52	1346.26	4345.86	2176.16	27.32	-2.950	0.000	0.462
94.00	-10.41	-18.60	0.00	-957.80	0.00	957.80	2670.95	1335.48	4258.69	2132.51	28.57	-3.023	0.000	0.453
96.00	-10.16	-18.35	0.00	-920.60	0.00	920.60	2649.12	1324.56	4171.94	2089.07	29.85	-3.096	0.000	0.445
98.00	-9.91	-18.09	0.00	-883.91	0.00	883.91	2627.03	1313.51	4085.64	2045.86	31.16	-3.169	0.000	0.436
100.00	-9.66	-17.85	0.00	-847.72	0.00	847.72	2604.67	1302.33	3999.80	2002.87	32.50	-3.241	0.000	0.427
102.00	-9.42	-17.60	0.00	-812.03	0.00	812.03	2582.04	1291.02	3914.44	1960.13	33.88	-3.313	0.000	0.418
104.00	-9.19	-17.35	0.00	-776.84	0.00	776.84	2559.15	1279.57	3829.56	1917.63	35.28	-3.385	0.000	0.409
106.00	-8.95	-17.11	0.00	-742.14	0.00	742.14	2535.99	1268.00	3745.19	1875.38	36.71	-3.456	0.000	0.399
108.00	-8.72	-16.86	0.00	-707.93	0.00	707.93	2512.57	1256.28	3661.34	1833.39	38.18	-3.527	0.000	0.390
110.00	-8.50	-16.62	0.00	-674.21	0.00	674.21	2488.88	1244.44	3578.02	1791.67	39.67	-3.597	0.000	0.380
112.00	-8.10	-16.37	0.00	-640.96	0.00	640.96	2464.93	1232.46	3495.26	1750.23	41.19	-3.666	0.000	0.370
114.00	-7.72	-16.11	0.00	-608.23	0.00	608.23	2440.71	1220.35	3413.07	1709.07	42.74	-3.735	0.000	0.359
115.00	-7.53	-15.99	0.00	-592.12	0.00	592.12	1825.70	912.85	2582.32	1293.08	43.52	-3.770	0.000	0.462
116.00	-7.43	-15.87	0.00	-576.13	0.00	576.13	1817.93	908.96	2553.51	1278.65	44.32	-3.804	0.000	0.455
118.00	-7.25	-15.64	0.00	-544.39	0.00	544.39	1802.18	901.09	2496.07	1249.89	45.93	-3.884	0.000	0.440
120.00	-7.08	-15.41	0.00	-513.11	0.00	513.11	1786.18	893.09	2438.88	1221.25	47.57	-3.962	0.000	0.424
122.00	-6.91	-15.18	0.00	-482.30	0.00	482.30	1769.90	884.95	2381.96	1192.75	49.25	-4.039	0.000	0.409
124.00	-6.74	-14.95	0.00	-451.95	0.00	451.95	1753.37	876.68	2325.32	1164.39	50.95	-4.115	0.000	0.392
126.00	-6.57	-14.72	0.00	-422.05	0.00	422.05	1736.56	868.28	2268.99	1136.18	52.69	-4.188	0.000	0.376
128.00	-6.41	-14.50	0.00	-392.60	0.00	392.60	1719.49	859.75	2212.98	1108.13	54.46	-4.260	0.000	0.358
130.00	-6.25	-14.28	0.00	-363.60	0.00	363.60	1702.16	851.08	2157.30	1080.25	56.26	-4.330	0.000	0.341
132.00	-6.09	-14.06	0.00	-335.04	0.00	335.04	1684.56	842.28	2101.96	1052.54	58.09	-4.398	0.000	0.322
134.00	-5.94	-13.84	0.00	-306.92	0.00	306.92	1666.69	833.34	2046.99	1025.02	59.94	-4.463	0.000	0.303
136.00	-5.79	-13.63	0.00	-279.24	0.00	279.24	1648.56	824.28	1992.41	997.68	61.82	-4.525	0.000	0.284
138.00	-5.65	-13.42	0.00	-251.98	0.00	251.98	1630.16	815.08	1938.21	970.55	63.73	-4.584	0.000	0.263
140.00	-5.50	-13.21	0.00	-225.15	0.00	225.15	1611.50	805.75	1884.43	943.61	65.66	-4.640	0.000	0.242
142.00	-5.36	-13.00	0.00	-198.74	0.00	198.74	1592.57	796.28	1831.07	916.90	67.62	-4.692	0.000	0.220
144.00	-5.23	-12.79	0.00	-172.74	0.00	172.74	1573.37	786.69	1778.16	890.40	69.59	-4.740	0.000	0.198
146.00	-5.10	-12.59	0.00	-147.16	0.00	147.16	1553.92	776.96	1725.70	864.13	71.58	-4.783	0.000	0.174
148.00	-4.97	-12.39	0.00	-121.98	0.00	121.98	1534.19	767.09	1673.72	838.10	73.59	-4.822	0.000	0.149
150.00	-4.84	-12.19	0.00	-97.21	0.00	97.21	1514.20	757.10	1622.22	812.32	75.62	-4.855	0.000	0.123
152.00	-2.97	-7.54	0.00	-72.83	0.00	72.83	1493.94	746.97	1571.23	786.78	77.66	-4.882	0.000	0.095
154.00	-2.85	-7.34	0.00	-57.76	0.00	57.76	1473.42	736.71	1520.76	761.51	79.70	-4.904	0.000	0.078
156.00	-2.74	-7.15	0.00	-43.08	0.00	43.08	1452.63	726.32	1470.83	736.51	81.76	-4.922	0.000	0.060
158.00	-2.63	-6.96	0.00	-28.78	0.00	28.78	1427.99	714.00	1417.89	710.00	83.82	-4.935	0.000	0.042
160.00	-2.52	-6.78	0.00	-14.85	0.00	14.85	1400.09	700.04	1362.73	682.38	85.89	-4.944	0.000	0.024
160.00	-2.52	-6.78	0.00	-14.85	0.00	14.85	679.01	339.51	662.80	396.70	85.89	-4.944	0.000	0.042
162.00	-0.17	-0.25	0.00	-0.59	0.00	0.59	679.01	339.51	662.80	396.70	87.96	-4.948	0.000	0.002
164.00	-0.06	-0.08	0.00	-0.08	0.00	0.08	679.01	339.51	662.80	396.70	90.03	-4.948	0.000	0.000
165.00	0.00	-0.08	0.00	0.00	0.00	0.00	679.01	339.51	662.80	396.70	91.07	-4.948	0.000	0.000

Wind Loading - Shaft

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

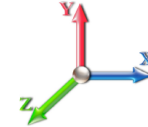
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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
2.00		1.00	0.85	5.168	5.68	0.00	1.200	1.133	2.00	10.492	12.59	71.6	170.5	747.8
4.00		1.00	0.85	5.168	5.68	0.00	1.200	1.215	2.00	10.439	12.53	71.2	181.6	754.2
6.00		1.00	0.85	5.168	5.68	0.00	1.200	1.265	2.00	10.376	12.45	70.8	187.8	755.8
8.00		1.00	0.85	5.168	5.68	0.00	1.200	1.302	2.00	10.308	12.37	70.3	191.8	755.3
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	2.00	10.237	12.28	69.8	194.7	753.5
12.00		1.00	0.85	5.168	5.68	0.00	1.200	1.356	2.00	10.165	12.20	69.3	196.8	751.0
14.00		1.00	0.85	5.168	5.68	0.00	1.200	1.377	2.00	10.092	12.11	68.8	198.3	747.9
16.00		1.00	0.86	5.232	5.76	0.00	1.200	1.395	2.00	10.018	12.02	69.2	199.4	744.4
18.00		1.00	0.88	5.363	5.90	0.00	1.200	1.412	2.00	9.944	11.93	70.4	200.1	740.6
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	2.00	9.869	11.84	71.4	200.6	736.5
21.00	Bot - Section 2	1.00	0.91	5.540	6.09	0.00	1.200	1.434	1.00	4.905	5.89	35.9	100.4	366.6
22.00		1.00	0.92	5.595	6.15	0.00	1.200	1.440	1.00	4.950	5.94	36.6	101.8	635.5
24.00		1.00	0.94	5.698	6.27	0.00	1.200	1.453	2.00	9.844	11.81	74.0	203.7	1264.2
26.00		1.00	0.95	5.795	6.37	0.00	1.200	1.465	2.00	9.768	11.72	74.7	203.6	1255.0
28.00	Top - Section 1	1.00	0.97	5.886	6.47	0.00	1.200	1.476	2.00	9.691	11.63	75.3	203.5	1245.6
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	2.00	9.615	11.54	75.8	203.2	723.3
32.00		1.00	1.00	6.054	6.66	0.00	1.200	1.495	2.00	9.538	11.45	76.2	202.8	718.3
34.00		1.00	1.01	6.132	6.74	0.00	1.200	1.504	2.00	9.461	11.35	76.6	202.3	713.2
36.00		1.00	1.02	6.206	6.83	0.00	1.200	1.513	2.00	9.383	11.26	76.9	201.7	708.0
38.00		1.00	1.03	6.277	6.90	0.00	1.200	1.521	2.00	9.306	11.17	77.1	201.0	702.7
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	2.00	9.228	11.07	77.3	200.3	697.4
42.00		1.00	1.05	6.410	7.05	0.00	1.200	1.537	2.00	9.151	10.98	77.4	199.5	692.0
44.00		1.00	1.06	6.474	7.12	0.00	1.200	1.544	2.00	9.073	10.89	77.5	198.6	686.5
46.00		1.00	1.07	6.534	7.19	0.00	1.200	1.551	2.00	8.995	10.79	77.6	197.7	681.0
48.00		1.00	1.08	6.593	7.25	0.00	1.200	1.557	2.00	8.917	10.70	77.6	196.8	675.5
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	2.00	8.839	10.61	77.6	195.7	669.8
52.00		1.00	1.10	6.705	7.38	0.00	1.200	1.570	2.00	8.761	10.51	77.5	194.7	664.2
54.00		1.00	1.11	6.759	7.43	0.00	1.200	1.576	2.00	8.683	10.42	77.5	193.6	658.5
56.00		1.00	1.12	6.811	7.49	0.00	1.200	1.581	2.00	8.605	10.33	77.4	192.5	652.8
58.00		1.00	1.13	6.861	7.55	0.00	1.200	1.587	2.00	8.527	10.23	77.2	191.3	647.0
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	2.00	8.448	10.14	77.1	190.1	641.2
62.00		1.00	1.14	6.958	7.65	0.00	1.200	1.598	2.00	8.370	10.04	76.9	188.9	635.4
64.00		1.00	1.15	7.005	7.71	0.00	1.200	1.603	2.00	8.292	9.95	76.7	187.6	629.5
65.00	Bot - Section 3	1.00	1.16	7.028	7.73	0.00	1.200	1.605	1.00	4.116	4.94	38.2	93.5	312.7
66.00		1.00	1.16	7.050	7.76	0.00	1.200	1.608	1.00	4.149	4.98	38.6	94.4	497.0
68.00		1.00	1.17	7.095	7.80	0.00	1.200	1.612	2.00	8.240	9.89	77.2	187.5	986.3
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	2.00	8.162	9.79	76.9	186.2	976.6
71.00	Top - Section 2	1.00	1.18	7.160	7.88	0.00	1.200	1.619	1.00	4.051	4.86	38.3	92.7	484.8
72.00		1.00	1.18	7.181	7.90	0.00	1.200	1.622	1.00	4.032	4.84	38.2	92.4	271.2
74.00		1.00	1.19	7.222	7.94	0.00	1.200	1.626	2.00	8.005	9.61	76.3	183.4	538.1
76.00		1.00	1.19	7.263	7.99	0.00	1.200	1.631	2.00	7.926	9.51	76.0	182.0	532.8
78.00		1.00	1.20	7.303	8.03	0.00	1.200	1.635	2.00	7.847	9.42	75.6	180.6	527.5
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	2.00	7.768	9.32	75.3	179.1	522.3
82.00		1.00	1.21	7.380	8.12	0.00	1.200	1.643	2.00	7.690	9.23	74.9	177.7	517.0
84.00		1.00	1.22	7.418	8.16	0.00	1.200	1.647	2.00	7.611	9.13	74.5	176.2	511.6
86.00		1.00	1.23	7.454	8.20	0.00	1.200	1.651	2.00	7.532	9.04	74.1	174.7	506.3

Wind Loading - Shaft

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (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



88.00	1.00	1.23	7.491	8.24	0.00	1.200	1.655	2.00	7.453	8.94	73.7	173.1	500.9
90.00	1.00	1.24	7.526	8.28	0.00	1.200	1.658	2.00	7.374	8.85	73.3	171.6	495.5
92.00	1.00	1.24	7.561	8.32	0.00	1.200	1.662	2.00	7.295	8.75	72.8	170.0	490.2
94.00	1.00	1.25	7.595	8.35	0.00	1.200	1.666	2.00	7.216	8.66	72.4	168.5	484.7
96.00	1.00	1.25	7.629	8.39	0.00	1.200	1.669	2.00	7.137	8.56	71.9	166.9	479.3
98.00	1.00	1.26	7.662	8.43	0.00	1.200	1.672	2.00	7.058	8.47	71.4	165.3	473.9
100.00	1.00	1.27	7.695	8.46	0.00	1.200	1.676	2.00	6.979	8.38	70.9	163.6	468.4
102.00	1.00	1.27	7.727	8.50	0.00	1.200	1.679	2.00	6.900	8.28	70.4	162.0	462.9
104.00	1.00	1.28	7.759	8.53	0.00	1.200	1.682	2.00	6.821	8.19	69.9	160.4	457.5
106.00	1.00	1.28	7.790	8.57	0.00	1.200	1.686	2.00	6.742	8.09	69.3	158.7	452.0
108.00	1.00	1.29	7.821	8.60	0.00	1.200	1.689	2.00	6.663	8.00	68.8	157.0	446.5
110.00 Bot - Section 4	1.00	1.29	7.851	8.64	0.00	1.200	1.692	2.00	6.584	7.90	68.2	155.3	440.9
112.00	1.00	1.30	7.881	8.67	0.00	1.200	1.695	2.00	6.590	7.91	68.6	155.7	666.6
114.00	1.00	1.30	7.910	8.70	0.00	1.200	1.698	2.00	6.511	7.81	68.0	154.0	658.0
115.00 Top - Section 3	1.00	1.30	7.925	8.72	0.00	1.200	1.699	1.00	3.226	3.87	33.7	76.6	326.0
116.00	1.00	1.31	7.939	8.73	0.00	1.200	1.701	1.00	3.206	3.85	33.6	76.2	187.2
118.00	1.00	1.31	7.968	8.76	0.00	1.200	1.704	2.00	6.352	7.62	66.8	150.6	370.4
120.00	1.00	1.32	7.996	8.80	0.00	1.200	1.707	2.00	6.273	7.53	66.2	148.8	365.6
122.00	1.00	1.32	8.024	8.83	0.00	1.200	1.710	2.00	6.194	7.43	65.6	147.1	360.8
124.00	1.00	1.32	8.051	8.86	0.00	1.200	1.712	2.00	6.115	7.34	65.0	145.3	356.0
126.00	1.00	1.33	8.079	8.89	0.00	1.200	1.715	2.00	6.036	7.24	64.4	143.6	351.2
128.00	1.00	1.33	8.105	8.92	0.00	1.200	1.718	2.00	5.956	7.15	63.7	141.8	346.3
130.00	1.00	1.34	8.132	8.95	0.00	1.200	1.720	2.00	5.877	7.05	63.1	140.0	341.4
132.00	1.00	1.34	8.158	8.97	0.00	1.200	1.723	2.00	5.798	6.96	62.4	138.2	336.6
134.00	1.00	1.35	8.184	9.00	0.00	1.200	1.726	2.00	5.719	6.86	61.8	136.4	331.7
136.00	1.00	1.35	8.210	9.03	0.00	1.200	1.728	2.00	5.639	6.77	61.1	134.6	326.8
138.00	1.00	1.35	8.235	9.06	0.00	1.200	1.731	2.00	5.560	6.67	60.4	132.7	321.9
140.00	1.00	1.36	8.260	9.09	0.00	1.200	1.733	2.00	5.481	6.58	59.8	130.9	317.0
142.00	1.00	1.36	8.285	9.11	0.00	1.200	1.736	2.00	5.401	6.48	59.1	129.1	312.1
144.00	1.00	1.37	8.309	9.14	0.00	1.200	1.738	2.00	5.322	6.39	58.4	127.2	307.2
146.00	1.00	1.37	8.333	9.17	0.00	1.200	1.741	2.00	5.243	6.29	57.7	125.4	302.3
148.00	1.00	1.37	8.357	9.19	0.00	1.200	1.743	2.00	5.163	6.20	57.0	123.5	297.3
150.00	1.00	1.38	8.381	9.22	0.00	1.200	1.745	2.00	5.084	6.10	56.2	121.6	292.4
152.00 Appurtenance(s)	1.00	1.38	8.404	9.24	0.00	1.200	1.748	2.00	5.005	6.01	55.5	119.7	287.4
154.00	1.00	1.39	8.427	9.27	0.00	1.200	1.750	2.00	4.925	5.91	54.8	117.8	282.5
156.00	1.00	1.39	8.450	9.30	0.00	1.200	1.752	2.00	4.846	5.82	54.1	115.9	277.5
158.00	1.00	1.39	8.473	9.32	0.00	1.200	1.754	2.00	4.767	5.72	53.3	114.0	272.5
160.00 Top - Section 4	1.00	1.40	8.495	9.34	0.00	1.200	1.757	2.00	4.687	5.62	52.6	112.1	267.6
162.00 Appurtenance(s)	1.00	1.40	8.518	9.37	0.00	1.200	1.759	2.00	4.586	5.50	51.6	110.7	281.8
164.00	1.00	1.40	8.540	9.39	0.00	1.200	1.761	2.00	4.587	5.50	51.7	110.8	282.0
165.00	1.00	1.41	8.551	9.41	0.00	1.200	1.762	1.00	2.294	2.75	25.9	55.5	141.0
Totals:								165.00			5,726.1		46,854.1

Discrete Appurtenance Forces

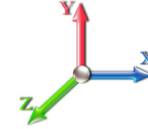
Structure: CT02720-S-SBA	Code: TIA-222-G	2/25/2022
Site Name: Ledyard South	Exposure: C	
Height: 165.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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	162.00	VZS01	3	8.534	9.388	0.55	0.80	8.60	649.77	0.000	1.500	80.70	0.00	121.05
2	162.00	RMQP-463 (LPP)	1	8.518	9.369	1.00	1.00	29.72	3658.70	0.000	0.000	278.49	0.00	0.00
3	162.00	FE-16148-OVP-B12	1	8.518	9.369	0.54	0.80	3.12	117.60	0.000	0.000	29.19	0.00	0.00
4	162.00	B5/B13 RRH-BR04C	3	8.518	9.369	0.54	0.80	3.94	463.18	0.000	0.000	36.88	0.00	0.00
5	162.00	B2/B66A RRH-BR049	3	8.518	9.369	0.54	0.80	3.94	535.72	0.000	0.000	36.88	0.00	0.00
6	162.00	BXA-70063-6CF-EDIN-5	3	8.518	9.369	0.58	0.80	15.49	588.66	0.000	0.000	145.12	0.00	0.00
7	162.00	MX06FRO660-03	6	8.518	9.369	0.70	0.80	47.01	1959.44	0.000	0.000	440.45	0.00	0.00
8	152.00	MX08FRO665-21	3	8.404	9.244	0.55	0.75	23.24	904.37	0.000	0.000	214.82	0.00	0.00
9	152.00	MC-PK8-DSH	1	8.404	9.244	1.00	1.00	84.89	3389.47	0.000	0.000	784.73	0.00	0.00
10	152.00	RDIDC-9181-OF-48	1	8.404	9.244	0.75	0.75	1.93	66.90	0.000	0.000	17.88	0.00	0.00
11	152.00	TA08025-B604	3	8.404	9.244	0.50	0.75	3.80	345.83	0.000	0.000	35.14	0.00	0.00
12	152.00	TA08025-B605	3	8.404	9.244	0.50	0.75	3.80	389.32	0.000	0.000	35.14	0.00	0.00
Totals:								13,068.96				2,135.44		

Total Applied Force Summary

Structure: CT02720-S-SBA	Code: TIA-222-G	2/25/2022
Site Name: Ledyard South	Exposure: C	
Height: 165.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

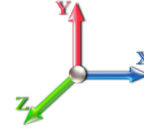


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

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
2.00		71.57	757.83	0.00	0.00
4.00		71.21	764.29	0.00	0.00
6.00		70.78	765.87	0.00	0.00
8.00		70.32	765.33	0.00	0.00
10.00		69.84	763.59	0.00	0.00
12.00		69.35	761.06	0.00	0.00
14.00		68.85	757.97	0.00	0.00
16.00		69.19	754.46	0.00	0.00
18.00		70.40	750.61	0.00	0.00
20.00		71.43	746.51	0.00	0.00
21.00		35.87	371.61	0.00	0.00
22.00		36.56	640.55	0.00	0.00
24.00		74.04	1274.31	0.00	0.00
26.00		74.72	1265.06	0.00	0.00
28.00		75.30	1255.68	0.00	0.00
30.00		75.79	733.34	0.00	0.00
32.00		76.22	728.34	0.00	0.00
34.00		76.57	723.23	0.00	0.00
36.00		76.87	718.05	0.00	0.00
38.00		77.10	712.78	0.00	0.00
40.00		77.29	707.44	0.00	0.00
42.00		77.43	702.05	0.00	0.00
44.00		77.53	696.59	0.00	0.00
46.00		77.59	691.08	0.00	0.00
48.00		77.61	685.51	0.00	0.00
50.00		77.59	679.90	0.00	0.00
52.00		77.55	674.25	0.00	0.00
54.00		77.47	668.56	0.00	0.00
56.00		77.36	662.82	0.00	0.00
58.00		77.22	657.06	0.00	0.00
60.00		77.06	651.25	0.00	0.00
62.00		76.88	645.42	0.00	0.00
64.00		76.67	639.56	0.00	0.00
65.00		38.18	317.73	0.00	0.00
66.00		38.62	502.01	0.00	0.00
68.00		77.17	996.38	0.00	0.00
70.00		76.90	986.61	0.00	0.00
71.00		38.29	489.80	0.00	0.00
72.00		38.21	276.19	0.00	0.00
74.00		76.31	548.11	0.00	0.00
76.00		75.99	542.87	0.00	0.00
78.00		75.64	537.60	0.00	0.00
80.00		75.29	532.32	0.00	0.00
82.00		74.91	527.01	0.00	0.00
84.00		74.52	521.69	0.00	0.00
86.00		74.11	516.34	0.00	0.00

Total Applied Force Summary

Structure: CT02720-S-SBA	Code: TIA-222-G	2/25/2022
Site Name: Ledyard South	Exposure: C	
Height: 165.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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88.00		73.69	510.98	0.00	0.00
90.00		73.26	505.60	0.00	0.00
92.00		72.81	500.21	0.00	0.00
94.00		72.35	494.80	0.00	0.00
96.00		71.88	489.37	0.00	0.00
98.00		71.39	483.93	0.00	0.00
100.00		70.89	478.48	0.00	0.00
102.00		70.38	473.01	0.00	0.00
104.00		69.86	467.52	0.00	0.00
106.00		69.33	462.03	0.00	0.00
108.00		68.79	456.52	0.00	0.00
110.00		68.23	451.00	0.00	0.00
112.00		68.55	676.63	0.00	0.00
114.00		67.98	668.02	0.00	0.00
115.00		33.74	330.99	0.00	0.00
116.00		33.60	192.27	0.00	0.00
118.00		66.81	380.50	0.00	0.00
120.00		66.21	375.69	0.00	0.00
122.00		65.60	370.88	0.00	0.00
124.00		64.99	366.05	0.00	0.00
126.00		64.36	361.21	0.00	0.00
128.00		63.73	356.36	0.00	0.00
130.00		63.09	351.50	0.00	0.00
132.00		62.44	346.64	0.00	0.00
134.00		61.78	341.76	0.00	0.00
136.00		61.11	336.88	0.00	0.00
138.00		60.44	331.98	0.00	0.00
140.00		59.76	327.08	0.00	0.00
142.00		59.07	322.17	0.00	0.00
144.00		58.37	317.25	0.00	0.00
146.00		57.67	312.32	0.00	0.00
148.00		56.96	307.39	0.00	0.00
150.00		56.24	302.45	0.00	0.00
152.00	(11) attachments	1143.24	5393.39	0.00	0.00
154.00		54.79	292.54	0.00	0.00
156.00		54.05	287.58	0.00	0.00
158.00		53.31	282.61	0.00	0.00
160.00		52.56	277.63	0.00	0.00
162.00	(20) attachments	1099.28	8264.97	0.00	121.05
164.00		51.71	281.99	0.00	0.00
165.00		25.89	141.03	0.00	0.00
Totals:		7,861.55	60,737.82	0.00	121.05

Calculated Forces

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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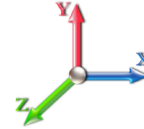


Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 26

Dead Load Factor 1.20

Wind Load 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	-60.74	-7.87	0.00	-833.10	0.00	833.10	4463.02	2231.51	10951.4	5483.88	0.00	0.000	0.000	0.166
2.00	-59.98	-7.81	0.00	-817.37	0.00	817.37	4444.18	2222.09	10818.1	5417.09	0.00	-0.015	0.000	0.164
4.00	-59.21	-7.76	0.00	-801.74	0.00	801.74	4425.06	2212.53	10684.8	5350.35	0.01	-0.030	0.000	0.163
6.00	-58.44	-7.70	0.00	-786.23	0.00	786.23	4405.68	2202.84	10551.6	5283.67	0.03	-0.044	0.000	0.162
8.00	-57.68	-7.64	0.00	-770.83	0.00	770.83	4386.04	2193.02	10418.6	5217.05	0.05	-0.059	0.000	0.161
10.00	-56.91	-7.59	0.00	-755.55	0.00	755.55	4366.13	2183.07	10285.7	5150.50	0.08	-0.074	0.000	0.160
12.00	-56.15	-7.53	0.00	-740.37	0.00	740.37	4345.95	2172.98	10152.9	5084.04	0.11	-0.089	0.000	0.159
14.00	-55.39	-7.48	0.00	-725.31	0.00	725.31	4325.51	2162.76	10020.4	5017.66	0.15	-0.105	0.000	0.157
16.00	-54.63	-7.42	0.00	-710.35	0.00	710.35	4304.81	2152.40	9888.06	4951.38	0.20	-0.120	0.000	0.156
18.00	-53.88	-7.36	0.00	-695.51	0.00	695.51	4283.84	2141.92	9755.90	4885.20	0.25	-0.135	0.000	0.155
20.00	-53.13	-7.30	0.00	-680.79	0.00	680.79	4262.60	2131.30	9623.96	4819.13	0.31	-0.150	0.000	0.154
21.00	-52.76	-7.27	0.00	-673.49	0.00	673.49	4251.88	2125.94	9558.08	4786.14	0.35	-0.158	0.000	0.153
22.00	-52.12	-7.24	0.00	-666.22	0.00	666.22	4241.09	2120.55	9492.26	4753.19	0.38	-0.166	0.000	0.152
24.00	-50.84	-7.18	0.00	-651.73	0.00	651.73	4219.33	2109.66	9360.82	4687.37	0.45	-0.181	0.000	0.151
26.00	-49.57	-7.11	0.00	-637.38	0.00	637.38	4197.29	2098.65	9229.64	4621.68	0.53	-0.197	0.000	0.150
28.00	-48.32	-7.05	0.00	-623.15	0.00	623.15	4210.19	2105.10	9306.23	4660.03	0.62	-0.213	0.000	0.145
30.00	-47.58	-6.98	0.00	-609.06	0.00	609.06	4188.05	2094.02	9175.18	4594.41	0.71	-0.228	0.000	0.144
32.00	-46.85	-6.91	0.00	-595.09	0.00	595.09	4165.64	2082.82	9044.41	4528.93	0.81	-0.243	0.000	0.143
34.00	-46.13	-6.85	0.00	-581.27	0.00	581.27	4142.96	2071.48	8913.95	4463.60	0.92	-0.258	0.000	0.141
36.00	-45.41	-6.78	0.00	-567.57	0.00	567.57	4120.02	2060.01	8783.81	4398.44	1.03	-0.274	0.000	0.140
38.00	-44.69	-6.71	0.00	-554.02	0.00	554.02	4096.81	2048.41	8654.02	4333.44	1.15	-0.289	0.000	0.139
40.00	-43.98	-6.64	0.00	-540.60	0.00	540.60	4073.34	2036.67	8524.57	4268.62	1.27	-0.304	0.000	0.137
42.00	-43.28	-6.57	0.00	-527.32	0.00	527.32	4049.60	2024.80	8395.50	4203.99	1.40	-0.319	0.000	0.136
44.00	-42.58	-6.50	0.00	-514.18	0.00	514.18	4025.60	2012.80	8266.81	4139.55	1.54	-0.335	0.000	0.135
46.00	-41.89	-6.43	0.00	-501.18	0.00	501.18	4001.33	2000.67	8138.53	4075.31	1.68	-0.350	0.000	0.133
48.00	-41.20	-6.36	0.00	-488.32	0.00	488.32	3976.80	1988.40	8010.66	4011.28	1.83	-0.366	0.000	0.132
50.00	-40.52	-6.29	0.00	-475.60	0.00	475.60	3952.00	1976.00	7883.22	3947.47	1.99	-0.381	0.000	0.131
52.00	-39.85	-6.22	0.00	-463.02	0.00	463.02	3926.93	1963.46	7756.23	3883.88	2.15	-0.397	0.000	0.129
54.00	-39.18	-6.15	0.00	-450.59	0.00	450.59	3901.60	1950.80	7629.71	3820.52	2.32	-0.412	0.000	0.128
56.00	-38.51	-6.07	0.00	-438.30	0.00	438.30	3876.00	1938.00	7503.66	3757.41	2.50	-0.428	0.000	0.127
58.00	-37.86	-6.00	0.00	-426.15	0.00	426.15	3850.14	1925.07	7378.11	3694.54	2.68	-0.443	0.000	0.125
60.00	-37.20	-5.93	0.00	-414.15	0.00	414.15	3824.01	1912.00	7253.07	3631.92	2.87	-0.459	0.000	0.124
62.00	-36.56	-5.86	0.00	-402.29	0.00	402.29	3797.62	1898.81	7128.55	3569.57	3.06	-0.475	0.000	0.122
64.00	-35.92	-5.78	0.00	-390.57	0.00	390.57	3770.96	1885.48	7004.58	3507.49	3.27	-0.490	0.000	0.121
65.00	-35.60	-5.75	0.00	-384.79	0.00	384.79	3757.53	1878.76	6942.80	3476.56	3.37	-0.498	0.000	0.120
66.00	-35.10	-5.71	0.00	-379.04	0.00	379.04	3744.03	1872.02	6881.16	3445.70	3.48	-0.506	0.000	0.119
68.00	-34.10	-5.63	0.00	-367.62	0.00	367.62	3716.84	1858.42	6758.32	3384.18	3.69	-0.522	0.000	0.118
70.00	-33.11	-5.56	0.00	-356.35	0.00	356.35	3689.38	1844.69	6636.06	3322.96	3.91	-0.538	0.000	0.116
71.00	-32.62	-5.52	0.00	-350.80	0.00	350.80	2902.90	1451.45	5283.02	2645.43	4.03	-0.546	0.000	0.144
72.00	-32.34	-5.48	0.00	-345.28	0.00	345.28	2893.55	1446.77	5237.63	2622.71	4.14	-0.554	0.000	0.143
74.00	-31.80	-5.41	0.00	-334.31	0.00	334.31	2874.64	1437.32	5147.04	2577.35	4.38	-0.572	0.000	0.141
76.00	-31.25	-5.34	0.00	-323.49	0.00	323.49	2855.47	1427.73	5056.73	2532.12	4.62	-0.590	0.000	0.139
78.00	-30.71	-5.27	0.00	-312.81	0.00	312.81	2836.03	1418.01	4966.70	2487.04	4.87	-0.608	0.000	0.137
80.00	-30.18	-5.20	0.00	-302.27	0.00	302.27	2816.32	1408.16	4876.98	2442.11	5.13	-0.626	0.000	0.135
82.00	-29.65	-5.13	0.00	-291.88	0.00	291.88	2796.35	1398.18	4787.57	2397.34	5.40	-0.644	0.000	0.132
84.00	-29.13	-5.05	0.00	-281.63	0.00	281.63	2776.12	1388.06	4698.50	2352.74	5.67	-0.662	0.000	0.130
86.00	-28.61	-4.98	0.00	-271.52	0.00	271.52	2755.61	1377.81	4609.77	2308.31	5.95	-0.680	0.000	0.128
88.00	-28.10	-4.91	0.00	-261.55	0.00	261.55	2734.85	1367.42	4521.42	2264.07	6.24	-0.698	0.000	0.126

Calculated Forces

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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90.00	-27.60	-4.84	0.00	-251.73	0.00	251.73	2713.81	1356.91	4433.44	2220.01	6.54	-0.716	0.000	0.124
92.00	-27.09	-4.77	0.00	-242.04	0.00	242.04	2692.52	1346.26	4345.86	2176.16	6.84	-0.734	0.000	0.121
94.00	-26.60	-4.70	0.00	-232.50	0.00	232.50	2670.95	1335.48	4258.69	2132.51	7.15	-0.752	0.000	0.119
96.00	-26.11	-4.63	0.00	-223.10	0.00	223.10	2649.12	1324.56	4171.94	2089.07	7.47	-0.769	0.000	0.117
98.00	-25.63	-4.56	0.00	-213.84	0.00	213.84	2627.03	1313.51	4085.64	2045.86	7.80	-0.787	0.000	0.114
100.00	-25.15	-4.49	0.00	-204.72	0.00	204.72	2604.67	1302.33	3999.80	2002.87	8.13	-0.804	0.000	0.112
102.00	-24.67	-4.42	0.00	-195.74	0.00	195.74	2582.04	1291.02	3914.44	1960.13	8.47	-0.822	0.000	0.109
104.00	-24.21	-4.35	0.00	-186.90	0.00	186.90	2559.15	1279.57	3829.56	1917.63	8.82	-0.839	0.000	0.107
106.00	-23.74	-4.28	0.00	-178.20	0.00	178.20	2535.99	1268.00	3745.19	1875.38	9.18	-0.856	0.000	0.104
108.00	-23.29	-4.21	0.00	-169.63	0.00	169.63	2512.57	1256.28	3661.34	1833.39	9.54	-0.873	0.000	0.102
110.00	-22.84	-4.14	0.00	-161.21	0.00	161.21	2488.88	1244.44	3578.02	1791.67	9.91	-0.890	0.000	0.099
112.00	-22.16	-4.07	0.00	-152.92	0.00	152.92	2464.93	1232.46	3495.26	1750.23	10.28	-0.907	0.000	0.096
114.00	-21.49	-4.00	0.00	-144.77	0.00	144.77	2440.71	1220.35	3413.07	1709.07	10.67	-0.923	0.000	0.094
115.00	-21.16	-3.96	0.00	-140.78	0.00	140.78	1825.70	912.85	2582.32	1293.08	10.86	-0.931	0.000	0.120
116.00	-20.97	-3.93	0.00	-136.81	0.00	136.81	1817.93	908.96	2553.51	1278.65	11.06	-0.939	0.000	0.119
118.00	-20.59	-3.86	0.00	-128.95	0.00	128.95	1802.18	901.09	2496.07	1249.89	11.46	-0.958	0.000	0.115
120.00	-20.21	-3.80	0.00	-121.23	0.00	121.23	1786.18	893.09	2438.88	1221.25	11.86	-0.977	0.000	0.111
122.00	-19.84	-3.73	0.00	-113.63	0.00	113.63	1769.90	884.95	2381.96	1192.75	12.27	-0.995	0.000	0.106
124.00	-19.47	-3.67	0.00	-106.17	0.00	106.17	1753.37	876.68	2325.32	1164.39	12.70	-1.013	0.000	0.102
126.00	-19.11	-3.60	0.00	-98.83	0.00	98.83	1736.56	868.28	2268.99	1136.18	13.12	-1.030	0.000	0.098
128.00	-18.76	-3.54	0.00	-91.63	0.00	91.63	1719.49	859.75	2212.98	1108.13	13.56	-1.047	0.000	0.094
130.00	-18.41	-3.47	0.00	-84.56	0.00	84.56	1702.16	851.08	2157.30	1080.25	14.00	-1.063	0.000	0.089
132.00	-18.06	-3.41	0.00	-77.61	0.00	77.61	1684.56	842.28	2101.96	1052.54	14.45	-1.079	0.000	0.084
134.00	-17.72	-3.34	0.00	-70.79	0.00	70.79	1666.69	833.34	2046.99	1025.02	14.90	-1.094	0.000	0.080
136.00	-17.38	-3.28	0.00	-64.11	0.00	64.11	1648.56	824.28	1992.41	997.68	15.37	-1.108	0.000	0.075
138.00	-17.05	-3.22	0.00	-57.54	0.00	57.54	1630.16	815.08	1938.21	970.55	15.83	-1.122	0.000	0.070
140.00	-16.72	-3.16	0.00	-51.11	0.00	51.11	1611.50	805.75	1884.43	943.61	16.31	-1.134	0.000	0.065
142.00	-16.40	-3.09	0.00	-44.79	0.00	44.79	1592.57	796.28	1831.07	916.90	16.78	-1.146	0.000	0.059
144.00	-16.09	-3.03	0.00	-38.61	0.00	38.61	1573.37	786.69	1778.16	890.40	17.27	-1.157	0.000	0.054
146.00	-15.77	-2.97	0.00	-32.54	0.00	32.54	1553.92	776.96	1725.70	864.13	17.75	-1.167	0.000	0.048
148.00	-15.47	-2.91	0.00	-26.60	0.00	26.60	1534.19	767.09	1673.72	838.10	18.24	-1.175	0.000	0.042
150.00	-15.17	-2.85	0.00	-20.78	0.00	20.78	1514.20	757.10	1622.22	812.32	18.74	-1.182	0.000	0.036
152.00	-9.80	-1.60	0.00	-15.08	0.00	15.08	1493.94	746.97	1571.23	786.78	19.23	-1.188	0.000	0.026
154.00	-9.51	-1.54	0.00	-11.89	0.00	11.89	1473.42	736.71	1520.76	761.51	19.73	-1.192	0.000	0.022
156.00	-9.22	-1.48	0.00	-8.82	0.00	8.82	1452.63	726.32	1470.83	736.51	20.23	-1.196	0.000	0.018
158.00	-8.94	-1.42	0.00	-5.87	0.00	5.87	1427.99	714.00	1417.89	710.00	20.74	-1.199	0.000	0.015
160.00	-8.66	-1.36	0.00	-3.04	0.00	3.04	1400.09	700.04	1362.73	682.38	21.24	-1.201	0.000	0.011
160.00	-8.66	-1.36	0.00	-3.04	0.00	3.04	679.01	339.51	662.80	396.70	21.24	-1.201	0.000	0.020
162.00	-0.42	-0.09	0.00	-0.20	0.00	0.20	679.01	339.51	662.80	396.70	21.74	-1.201	0.000	0.001
164.00	-0.14	-0.03	0.00	-0.03	0.00	0.03	679.01	339.51	662.80	396.70	22.24	-1.201	0.000	0.000
165.00	0.00	-0.03	0.00	0.00	0.00	0.00	679.01	339.51	662.80	396.70	22.50	-1.201	0.000	0.000

Seismic Segment Forces (Factored)

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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Load Case: 1.2D + 1.0E

Iterations 24

Gust Response Factor 1.10

Sds 0.17

Ss 0.16

Dead Load Factor 1.20

Seismic Load Factor 1.00

Sd1 0.09

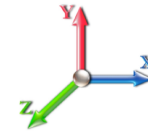
S1 0.06

Wind Load Factor 0.00

Structure Frequency (f1) 0.39

SA 0.04

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	
2.00		481.05	0.00	0.01	0.01	3.33	
4.00		477.21	0.00	0.03	0.01	5.76	
6.00		473.38	0.00	0.03	0.02	7.56	
8.00		469.54	0.00	0.04	0.02	8.91	
10.00		465.71	0.01	0.05	0.03	9.93	
12.00		461.87	0.01	0.05	0.03	10.69	
14.00		458.04	0.01	0.06	0.03	11.26	
16.00		454.20	0.02	0.06	0.04	11.68	
18.00		450.37	0.02	0.07	0.04	11.98	
20.00		446.53	0.03	0.07	0.04	12.19	
21.00	Bot - Section 2	221.83	0.03	0.07	0.04	6.12	
22.00		444.78	0.03	0.07	0.04	12.40	
24.00		883.80	0.04	0.07	0.04	25.05	
26.00		876.13	0.05	0.07	0.04	25.18	
28.00	Top - Section 1	868.46	0.05	0.07	0.04	25.26	
30.00		433.43	0.06	0.07	0.04	12.74	
32.00		429.60	0.07	0.07	0.04	12.75	
34.00		425.76	0.08	0.07	0.04	12.76	
36.00		421.93	0.09	0.07	0.04	12.76	
38.00		418.09	0.10	0.07	0.04	12.76	
40.00		414.26	0.11	0.07	0.04	12.76	
42.00		410.42	0.12	0.07	0.03	12.75	
44.00		406.59	0.13	0.07	0.03	12.73	
46.00		402.75	0.15	0.07	0.03	12.70	
48.00		398.92	0.16	0.07	0.03	12.65	
50.00		395.08	0.17	0.07	0.03	12.58	
52.00		391.25	0.19	0.06	0.02	12.48	
54.00		387.42	0.20	0.06	0.02	12.34	
56.00		383.58	0.22	0.06	0.02	12.16	
58.00		379.75	0.23	0.06	0.02	11.93	
60.00		375.91	0.25	0.06	0.02	11.64	
62.00		372.08	0.27	0.05	0.02	11.28	
64.00		368.24	0.28	0.05	0.01	10.84	
65.00	Bot - Section 3	182.68	0.29	0.05	0.01	5.28	
66.00		335.48	0.30	0.04	0.01	9.50	
68.00		665.69	0.32	0.04	0.01	17.93	
70.00		658.66	0.34	0.04	0.01	16.63	
71.00	Top - Section 2	326.69	0.35	0.03	0.01	7.94	
72.00		148.96	0.36	0.03	0.01	3.46	
74.00		295.53	0.38	0.02	0.01	6.19	
76.00		292.33	0.40	0.02	0.01	5.35	
78.00		289.14	0.42	0.01	0.01	4.44	
80.00		285.94	0.44	0.00	0.01	3.46	
82.00		282.75	0.47	0.00	0.01	2.43	
84.00		279.55	0.49	-0.01	0.01	1.37	

Seismic Segment Forces (Factored)

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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86.00		276.36	0.51	-0.02	0.01	0.29
88.00		273.16	0.54	-0.03	0.01	-0.79
90.00		269.96	0.56	-0.04	0.01	-1.83
92.00		266.77	0.59	-0.05	0.01	-2.82
94.00		263.57	0.61	-0.06	0.02	-3.73
96.00		260.38	0.64	-0.07	0.02	-4.55
98.00		257.18	0.67	-0.08	0.02	-5.26
100.00		253.99	0.69	-0.09	0.03	-5.84
102.00		250.79	0.72	-0.09	0.03	-6.29
104.00		247.59	0.75	-0.10	0.04	-6.60
106.00		244.40	0.78	-0.11	0.05	-6.76
108.00		241.20	0.81	-0.11	0.06	-6.77
110.00	Bot - Section 4	238.01	0.84	-0.12	0.07	-6.65
112.00		425.70	0.87	-0.12	0.08	-11.56
114.00		419.94	0.90	-0.12	0.09	-10.83
115.00	Top - Section 3	207.82	0.92	-0.12	0.09	-5.17
116.00		92.57	0.93	-0.12	0.10	-2.20
118.00		183.22	0.97	-0.12	0.12	-3.88
120.00		180.66	1.00	-0.11	0.13	-3.24
122.00		178.10	1.03	-0.10	0.15	-2.51
124.00		175.55	1.07	-0.09	0.17	-1.70
126.00		172.99	1.10	-0.07	0.19	-0.80
128.00		170.43	1.14	-0.05	0.21	0.19
130.00		167.88	1.17	-0.02	0.24	1.24
132.00		165.32	1.21	0.01	0.26	2.36
134.00		162.76	1.25	0.05	0.29	3.55
136.00		160.21	1.28	0.10	0.32	4.80
138.00		157.65	1.32	0.15	0.36	6.11
140.00		155.09	1.36	0.21	0.39	7.47
142.00		152.54	1.40	0.28	0.43	8.87
144.00		149.98	1.44	0.36	0.47	10.32
146.00		147.42	1.48	0.45	0.52	11.81
148.00		144.87	1.52	0.55	0.57	13.33
150.00		142.31	1.56	0.67	0.62	14.89
152.00	Appurtenance(s)	2498.8	1.60	0.79	0.68	294.44
154.00		137.20	1.65	0.93	0.73	18.07
156.00		134.64	1.69	1.08	0.80	19.69
158.00		132.09	1.73	1.25	0.87	21.32
160.00	Top - Section 4	129.53	1.78	1.44	0.94	22.96
162.00	Appurtenance(s)	3213.9	1.82	1.64	1.02	622.90
164.00		142.63	1.87	1.86	1.10	30.10
165.00		71.31	1.89	1.98	1.14	15.68
Totals:		32,907.9				1,524.5
						Total Wind: 30,664.3

Calculated Forces

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (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: 1.2D + 1.0E

Iterations 24

Gust Response Factor 1.10

Sds 0.17

Ss 0.16

Dead Load Factor 1.20

Seismic Load Factor 1.00

Sd1 0.09

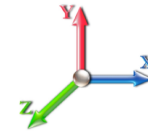
S1 0.06

Wind Load Factor 0.00

Structure Frequency (f1) 0.39

SA 0.04

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	-40.30	-1.62	0.00	-204.76	0.00	204.76	4463.02	2231.51	10951.4	5483.88	0.00	0.00	0.00	0.046
2.00	-39.72	-1.62	0.00	-201.51	0.00	201.51	4444.18	2222.09	10818.1	5417.09	0.00	0.00	0.00	0.046
4.00	-39.13	-1.62	0.00	-198.27	0.00	198.27	4425.06	2212.53	10684.8	5350.35	0.00	-0.01	0.00	0.046
6.00	-38.56	-1.61	0.00	-195.03	0.00	195.03	4405.68	2202.84	10551.6	5283.67	0.01	-0.01	0.00	0.046
8.00	-37.98	-1.61	0.00	-191.81	0.00	191.81	4386.04	2193.02	10418.6	5217.05	0.01	-0.01	0.00	0.045
10.00	-37.41	-1.60	0.00	-188.59	0.00	188.59	4366.13	2183.07	10285.7	5150.50	0.02	-0.02	0.00	0.045
12.00	-36.85	-1.59	0.00	-185.39	0.00	185.39	4345.95	2172.98	10152.9	5084.04	0.03	-0.02	0.00	0.045
14.00	-36.29	-1.58	0.00	-182.21	0.00	182.21	4325.51	2162.76	10020.4	5017.66	0.04	-0.03	0.00	0.045
16.00	-35.73	-1.57	0.00	-179.05	0.00	179.05	4304.81	2152.40	9888.06	4951.38	0.05	-0.03	0.00	0.044
18.00	-35.18	-1.56	0.00	-175.91	0.00	175.91	4283.84	2141.92	9755.90	4885.20	0.06	-0.03	0.00	0.044
20.00	-34.64	-1.55	0.00	-172.78	0.00	172.78	4262.60	2131.30	9623.96	4819.13	0.08	-0.04	0.00	0.044
21.00	-34.37	-1.55	0.00	-171.23	0.00	171.23	4251.88	2125.94	9558.08	4786.14	0.09	-0.04	0.00	0.044
22.00	-33.83	-1.54	0.00	-169.68	0.00	169.68	4241.09	2120.55	9492.26	4753.19	0.09	-0.04	0.00	0.044
24.00	-32.76	-1.51	0.00	-166.61	0.00	166.61	4219.33	2109.66	9360.82	4687.37	0.11	-0.05	0.00	0.043
26.00	-31.69	-1.49	0.00	-163.59	0.00	163.59	4197.29	2098.65	9229.64	4621.68	0.13	-0.05	0.00	0.043
28.00	-30.64	-1.46	0.00	-160.61	0.00	160.61	4210.19	2105.10	9306.23	4660.03	0.15	-0.05	0.00	0.042
30.00	-30.11	-1.45	0.00	-157.69	0.00	157.69	4188.05	2094.02	9175.18	4594.41	0.18	-0.06	0.00	0.042
32.00	-29.59	-1.44	0.00	-154.78	0.00	154.78	4165.64	2082.82	9044.41	4528.93	0.20	-0.06	0.00	0.041
34.00	-29.07	-1.43	0.00	-151.90	0.00	151.90	4142.96	2071.48	8913.95	4463.60	0.23	-0.07	0.00	0.041
36.00	-28.55	-1.42	0.00	-149.04	0.00	149.04	4120.02	2060.01	8783.81	4398.44	0.26	-0.07	0.00	0.041
38.00	-28.04	-1.41	0.00	-146.20	0.00	146.20	4096.81	2048.41	8654.02	4333.44	0.29	-0.07	0.00	0.041
40.00	-27.53	-1.40	0.00	-143.39	0.00	143.39	4073.34	2036.67	8524.57	4268.62	0.32	-0.08	0.00	0.040
42.00	-27.03	-1.38	0.00	-140.59	0.00	140.59	4049.60	2024.80	8395.50	4203.99	0.35	-0.08	0.00	0.040
44.00	-26.53	-1.37	0.00	-137.83	0.00	137.83	4025.60	2012.80	8266.81	4139.55	0.39	-0.09	0.00	0.040
46.00	-26.04	-1.36	0.00	-135.08	0.00	135.08	4001.33	2000.67	8138.53	4075.31	0.42	-0.09	0.00	0.040
48.00	-25.55	-1.35	0.00	-132.36	0.00	132.36	3976.80	1988.40	8010.66	4011.28	0.46	-0.09	0.00	0.039
50.00	-25.06	-1.34	0.00	-129.66	0.00	129.66	3952.00	1976.00	7883.22	3947.47	0.50	-0.10	0.00	0.039
52.00	-24.58	-1.33	0.00	-126.98	0.00	126.98	3926.93	1963.46	7756.23	3883.88	0.54	-0.10	0.00	0.039
54.00	-24.11	-1.32	0.00	-124.33	0.00	124.33	3901.60	1950.80	7629.71	3820.52	0.59	-0.11	0.00	0.039
56.00	-23.64	-1.30	0.00	-121.70	0.00	121.70	3876.00	1938.00	7503.66	3757.41	0.63	-0.11	0.00	0.038
58.00	-23.17	-1.29	0.00	-119.09	0.00	119.09	3850.14	1925.07	7378.11	3694.54	0.68	-0.12	0.00	0.038
60.00	-22.71	-1.28	0.00	-116.51	0.00	116.51	3824.01	1912.00	7253.07	3631.92	0.73	-0.12	0.00	0.038
62.00	-22.25	-1.27	0.00	-113.94	0.00	113.94	3797.62	1898.81	7128.55	3569.57	0.78	-0.12	0.00	0.038
64.00	-21.80	-1.26	0.00	-111.40	0.00	111.40	3770.96	1885.48	7004.58	3507.49	0.83	-0.13	0.00	0.038
65.00	-21.58	-1.26	0.00	-110.14	0.00	110.14	3757.53	1878.76	6942.80	3476.56	0.86	-0.13	0.00	0.037
66.00	-21.17	-1.25	0.00	-108.88	0.00	108.88	3744.03	1872.02	6881.16	3445.70	0.89	-0.13	0.00	0.037
68.00	-20.36	-1.23	0.00	-106.39	0.00	106.39	3716.84	1858.42	6758.32	3384.18	0.95	-0.14	0.00	0.037
70.00	-19.56	-1.21	0.00	-103.93	0.00	103.93	3689.38	1844.69	6636.06	3322.96	1.01	-0.14	0.00	0.037
71.00	-19.16	-1.20	0.00	-102.72	0.00	102.72	2902.90	1451.45	5283.02	2645.43	1.04	-0.14	0.00	0.045
72.00	-18.98	-1.20	0.00	-101.52	0.00	101.52	2893.55	1446.77	5237.63	2622.71	1.07	-0.15	0.00	0.045
74.00	-18.61	-1.20	0.00	-99.11	0.00	99.11	2874.64	1437.32	5147.04	2577.35	1.13	-0.15	0.00	0.045
76.00	-18.25	-1.19	0.00	-96.72	0.00	96.72	2855.47	1427.73	5056.73	2532.12	1.19	-0.16	0.00	0.045
78.00	-17.90	-1.19	0.00	-94.34	0.00	94.34	2836.03	1418.01	4966.70	2487.04	1.26	-0.16	0.00	0.044
80.00	-17.54	-1.18	0.00	-91.97	0.00	91.97	2816.32	1408.16	4876.98	2442.11	1.33	-0.17	0.00	0.044
82.00	-17.19	-1.18	0.00	-89.60	0.00	89.60	2796.35	1398.18	4787.57	2397.34	1.40	-0.17	0.00	0.044
84.00	-16.85	-1.18	0.00	-87.24	0.00	87.24	2776.12	1388.06	4698.50	2352.74	1.48	-0.18	0.00	0.043
86.00	-16.51	-1.18	0.00	-84.87	0.00	84.87	2755.61	1377.81	4609.77	2308.31	1.55	-0.19	0.00	0.043

Calculated Forces

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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88.00	-16.17	-1.18	0.00	-82.51	0.00	82.51	2734.85	1367.42	4521.42	2264.07	1.63	-0.19	0.042
90.00	-15.83	-1.18	0.00	-80.15	0.00	80.15	2713.81	1356.91	4433.44	2220.01	1.71	-0.20	0.042
92.00	-15.50	-1.18	0.00	-77.78	0.00	77.78	2692.52	1346.26	4345.86	2176.16	1.80	-0.20	0.042
94.00	-15.18	-1.18	0.00	-75.41	0.00	75.41	2670.95	1335.48	4258.69	2132.51	1.88	-0.21	0.041
96.00	-14.86	-1.18	0.00	-73.05	0.00	73.05	2649.12	1324.56	4171.94	2089.07	1.97	-0.21	0.041
98.00	-14.54	-1.18	0.00	-70.68	0.00	70.68	2627.03	1313.51	4085.64	2045.86	2.06	-0.22	0.040
100.00	-14.22	-1.18	0.00	-68.31	0.00	68.31	2604.67	1302.33	3999.80	2002.87	2.15	-0.23	0.040
102.00	-13.91	-1.18	0.00	-65.94	0.00	65.94	2582.04	1291.02	3914.44	1960.13	2.25	-0.23	0.039
104.00	-13.60	-1.18	0.00	-63.57	0.00	63.57	2559.15	1279.57	3829.56	1917.63	2.35	-0.24	0.038
106.00	-13.30	-1.19	0.00	-61.20	0.00	61.20	2535.99	1268.00	3745.19	1875.38	2.45	-0.24	0.038
108.00	-13.00	-1.19	0.00	-58.83	0.00	58.83	2512.57	1256.28	3661.34	1833.39	2.55	-0.25	0.037
110.00	-12.70	-1.19	0.00	-56.46	0.00	56.46	2488.88	1244.44	3578.02	1791.67	2.66	-0.25	0.037
112.00	-12.18	-1.18	0.00	-54.09	0.00	54.09	2464.93	1232.46	3495.26	1750.23	2.76	-0.26	0.036
114.00	-11.67	-1.18	0.00	-51.72	0.00	51.72	2440.71	1220.35	3413.07	1709.07	2.88	-0.27	0.035
115.00	-11.41	-1.18	0.00	-50.54	0.00	50.54	1825.70	912.85	2582.32	1293.08	2.93	-0.27	0.045
116.00	-11.30	-1.18	0.00	-49.36	0.00	49.36	1817.93	908.96	2553.51	1278.65	2.99	-0.27	0.045
118.00	-11.07	-1.18	0.00	-46.99	0.00	46.99	1802.18	901.09	2496.07	1249.89	3.10	-0.28	0.044
120.00	-10.84	-1.18	0.00	-44.63	0.00	44.63	1786.18	893.09	2438.88	1221.25	3.22	-0.29	0.043
122.00	-10.62	-1.18	0.00	-42.26	0.00	42.26	1769.90	884.95	2381.96	1192.75	3.34	-0.29	0.041
124.00	-10.40	-1.18	0.00	-39.89	0.00	39.89	1753.37	876.68	2325.32	1164.39	3.47	-0.30	0.040
126.00	-10.18	-1.18	0.00	-37.53	0.00	37.53	1736.56	868.28	2268.99	1136.18	3.59	-0.31	0.039
128.00	-9.96	-1.18	0.00	-35.16	0.00	35.16	1719.49	859.75	2212.98	1108.13	3.72	-0.31	0.038
130.00	-9.75	-1.18	0.00	-32.79	0.00	32.79	1702.16	851.08	2157.30	1080.25	3.86	-0.32	0.036
132.00	-9.54	-1.18	0.00	-30.43	0.00	30.43	1684.56	842.28	2101.96	1052.54	3.99	-0.32	0.035
134.00	-9.34	-1.18	0.00	-28.07	0.00	28.07	1666.69	833.34	2046.99	1025.02	4.13	-0.33	0.033
136.00	-9.14	-1.17	0.00	-25.72	0.00	25.72	1648.56	824.28	1992.41	997.68	4.27	-0.34	0.031
138.00	-8.94	-1.16	0.00	-23.38	0.00	23.38	1630.16	815.08	1938.21	970.55	4.41	-0.34	0.030
140.00	-8.74	-1.16	0.00	-21.05	0.00	21.05	1611.50	805.75	1884.43	943.61	4.55	-0.35	0.028
142.00	-8.55	-1.15	0.00	-18.74	0.00	18.74	1592.57	796.28	1831.07	916.90	4.70	-0.35	0.026
144.00	-8.36	-1.14	0.00	-16.44	0.00	16.44	1573.37	786.69	1778.16	890.40	4.85	-0.36	0.024
146.00	-8.17	-1.12	0.00	-14.17	0.00	14.17	1553.92	776.96	1725.70	864.13	5.00	-0.36	0.022
148.00	-7.99	-1.11	0.00	-11.92	0.00	11.92	1534.19	767.09	1673.72	838.10	5.15	-0.36	0.019
150.00	-7.81	-1.09	0.00	-9.70	0.00	9.70	1514.20	757.10	1622.22	812.32	5.30	-0.37	0.017
152.00	-4.80	-0.78	0.00	-7.51	0.00	7.51	1493.94	746.97	1571.23	786.78	5.46	-0.37	0.013
154.00	-4.62	-0.76	0.00	-5.95	0.00	5.95	1473.42	736.71	1520.76	761.51	5.61	-0.37	0.011
156.00	-4.45	-0.74	0.00	-4.42	0.00	4.42	1452.63	726.32	1470.83	736.51	5.77	-0.37	0.009
158.00	-4.28	-0.72	0.00	-2.94	0.00	2.94	1427.99	714.00	1417.89	710.00	5.93	-0.38	0.007
160.00	-4.12	-0.70	0.00	-1.50	0.00	1.50	1400.09	700.04	1362.73	682.38	6.08	-0.38	0.005
160.00	-4.12	-0.70	0.00	-1.50	0.00	1.50	679.01	339.51	662.80	396.70	6.08	-0.38	0.010
162.00	-0.26	-0.05	0.00	-0.11	0.00	0.11	679.01	339.51	662.80	396.70	6.24	-0.38	0.001
164.00	-0.09	-0.02	0.00	-0.02	0.00	0.02	679.01	339.51	662.80	396.70	6.40	-0.38	0.000
165.00	0.00	-0.02	0.00	0.00	0.00	0.00	679.01	339.51	662.80	396.70	6.48	-0.38	0.000

Seismic Segment Forces (Factored)

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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Load Case: 0.9D + 1.0E

Iterations 24

Gust Response Factor 1.10

Sds 0.17

Ss 0.16

Dead Load Factor 0.90 **Seismic Load Factor** 1.00

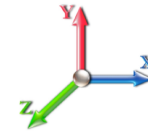
Sd1 0.09

S1 0.06

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.39

SA 0.04

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	
2.00		481.05	0.00	0.01	0.01	3.33	
4.00		477.21	0.00	0.03	0.01	5.76	
6.00		473.38	0.00	0.03	0.02	7.56	
8.00		469.54	0.00	0.04	0.02	8.91	
10.00		465.71	0.01	0.05	0.03	9.93	
12.00		461.87	0.01	0.05	0.03	10.69	
14.00		458.04	0.01	0.06	0.03	11.26	
16.00		454.20	0.02	0.06	0.04	11.68	
18.00		450.37	0.02	0.07	0.04	11.98	
20.00		446.53	0.03	0.07	0.04	12.19	
21.00	Bot - Section 2	221.83	0.03	0.07	0.04	6.12	
22.00		444.78	0.03	0.07	0.04	12.40	
24.00		883.80	0.04	0.07	0.04	25.05	
26.00		876.13	0.05	0.07	0.04	25.18	
28.00	Top - Section 1	868.46	0.05	0.07	0.04	25.26	
30.00		433.43	0.06	0.07	0.04	12.74	
32.00		429.60	0.07	0.07	0.04	12.75	
34.00		425.76	0.08	0.07	0.04	12.76	
36.00		421.93	0.09	0.07	0.04	12.76	
38.00		418.09	0.10	0.07	0.04	12.76	
40.00		414.26	0.11	0.07	0.04	12.76	
42.00		410.42	0.12	0.07	0.03	12.75	
44.00		406.59	0.13	0.07	0.03	12.73	
46.00		402.75	0.15	0.07	0.03	12.70	
48.00		398.92	0.16	0.07	0.03	12.65	
50.00		395.08	0.17	0.07	0.03	12.58	
52.00		391.25	0.19	0.06	0.02	12.48	
54.00		387.42	0.20	0.06	0.02	12.34	
56.00		383.58	0.22	0.06	0.02	12.16	
58.00		379.75	0.23	0.06	0.02	11.93	
60.00		375.91	0.25	0.06	0.02	11.64	
62.00		372.08	0.27	0.05	0.02	11.28	
64.00		368.24	0.28	0.05	0.01	10.84	
65.00	Bot - Section 3	182.68	0.29	0.05	0.01	5.28	
66.00		335.48	0.30	0.04	0.01	9.50	
68.00		665.69	0.32	0.04	0.01	17.93	
70.00		658.66	0.34	0.04	0.01	16.63	
71.00	Top - Section 2	326.69	0.35	0.03	0.01	7.94	
72.00		148.96	0.36	0.03	0.01	3.46	
74.00		295.53	0.38	0.02	0.01	6.19	
76.00		292.33	0.40	0.02	0.01	5.35	
78.00		289.14	0.42	0.01	0.01	4.44	
80.00		285.94	0.44	0.00	0.01	3.46	
82.00		282.75	0.47	0.00	0.01	2.43	
84.00		279.55	0.49	-0.01	0.01	1.37	

Seismic Segment Forces (Factored)

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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86.00		276.36	0.51	-0.02	0.01	0.29
88.00		273.16	0.54	-0.03	0.01	-0.79
90.00		269.96	0.56	-0.04	0.01	-1.83
92.00		266.77	0.59	-0.05	0.01	-2.82
94.00		263.57	0.61	-0.06	0.02	-3.73
96.00		260.38	0.64	-0.07	0.02	-4.55
98.00		257.18	0.67	-0.08	0.02	-5.26
100.00		253.99	0.69	-0.09	0.03	-5.84
102.00		250.79	0.72	-0.09	0.03	-6.29
104.00		247.59	0.75	-0.10	0.04	-6.60
106.00		244.40	0.78	-0.11	0.05	-6.76
108.00		241.20	0.81	-0.11	0.06	-6.77
110.00	Bot - Section 4	238.01	0.84	-0.12	0.07	-6.65
112.00		425.70	0.87	-0.12	0.08	-11.56
114.00		419.94	0.90	-0.12	0.09	-10.83
115.00	Top - Section 3	207.82	0.92	-0.12	0.09	-5.17
116.00		92.57	0.93	-0.12	0.10	-2.20
118.00		183.22	0.97	-0.12	0.12	-3.88
120.00		180.66	1.00	-0.11	0.13	-3.24
122.00		178.10	1.03	-0.10	0.15	-2.51
124.00		175.55	1.07	-0.09	0.17	-1.70
126.00		172.99	1.10	-0.07	0.19	-0.80
128.00		170.43	1.14	-0.05	0.21	0.19
130.00		167.88	1.17	-0.02	0.24	1.24
132.00		165.32	1.21	0.01	0.26	2.36
134.00		162.76	1.25	0.05	0.29	3.55
136.00		160.21	1.28	0.10	0.32	4.80
138.00		157.65	1.32	0.15	0.36	6.11
140.00		155.09	1.36	0.21	0.39	7.47
142.00		152.54	1.40	0.28	0.43	8.87
144.00		149.98	1.44	0.36	0.47	10.32
146.00		147.42	1.48	0.45	0.52	11.81
148.00		144.87	1.52	0.55	0.57	13.33
150.00		142.31	1.56	0.67	0.62	14.89
152.00	Appurtenance(s)	2498.8	1.60	0.79	0.68	294.44
154.00		137.20	1.65	0.93	0.73	18.07
156.00		134.64	1.69	1.08	0.80	19.69
158.00		132.09	1.73	1.25	0.87	21.32
160.00	Top - Section 4	129.53	1.78	1.44	0.94	22.96
162.00	Appurtenance(s)	3213.9	1.82	1.64	1.02	622.90
164.00		142.63	1.87	1.86	1.10	30.10
165.00		71.31	1.89	1.98	1.14	15.68
Totals:		32,907.9				1,524.5
						Total Wind: 30,664.3

Calculated Forces

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (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: 0.9D + 1.0E

Iterations 24

Gust Response Factor 1.10

Sds 0.17

Ss 0.16

Dead Load Factor 0.90

Seismic Load Factor 1.00

Sd1 0.09

S1 0.06

Wind Load Factor 0.00

Structure Frequency (f1) 0.39

SA 0.04

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	-30.23	-1.62	0.00	-202.99	0.00	202.99	4463.02	2231.51	10951.4	5483.88	0.00	0.00	0.00	0.044
2.00	-29.79	-1.62	0.00	-199.74	0.00	199.74	4444.18	2222.09	10818.1	5417.09	0.00	0.00	0.00	0.044
4.00	-29.35	-1.62	0.00	-196.50	0.00	196.50	4425.06	2212.53	10684.8	5350.35	0.00	-0.01	0.043	0.043
6.00	-28.92	-1.61	0.00	-193.27	0.00	193.27	4405.68	2202.84	10551.6	5283.67	0.01	-0.01	0.043	0.043
8.00	-28.49	-1.60	0.00	-190.04	0.00	190.04	4386.04	2193.02	10418.6	5217.05	0.01	-0.01	0.043	0.043
10.00	-28.06	-1.60	0.00	-186.84	0.00	186.84	4366.13	2183.07	10285.7	5150.50	0.02	-0.02	0.043	0.043
12.00	-27.64	-1.59	0.00	-183.64	0.00	183.64	4345.95	2172.98	10152.9	5084.04	0.03	-0.02	0.042	0.042
14.00	-27.22	-1.58	0.00	-180.47	0.00	180.47	4325.51	2162.76	10020.4	5017.66	0.04	-0.03	0.042	0.042
16.00	-26.80	-1.57	0.00	-177.32	0.00	177.32	4304.81	2152.40	9888.06	4951.38	0.05	-0.03	0.042	0.042
18.00	-26.39	-1.56	0.00	-174.18	0.00	174.18	4283.84	2141.92	9755.90	4885.20	0.06	-0.03	0.042	0.042
20.00	-25.98	-1.55	0.00	-171.07	0.00	171.07	4262.60	2131.30	9623.96	4819.13	0.08	-0.04	0.042	0.042
21.00	-25.77	-1.54	0.00	-169.52	0.00	169.52	4251.88	2125.94	9558.08	4786.14	0.09	-0.04	0.041	0.041
22.00	-25.37	-1.53	0.00	-167.98	0.00	167.98	4241.09	2120.55	9492.26	4753.19	0.09	-0.04	0.041	0.041
24.00	-24.57	-1.50	0.00	-164.92	0.00	164.92	4219.33	2109.66	9360.82	4687.37	0.11	-0.05	0.041	0.041
26.00	-23.77	-1.48	0.00	-161.92	0.00	161.92	4197.29	2098.65	9229.64	4621.68	0.13	-0.05	0.041	0.041
28.00	-22.98	-1.46	0.00	-158.95	0.00	158.95	4210.19	2105.10	9306.23	4660.03	0.15	-0.05	0.040	0.040
30.00	-22.58	-1.44	0.00	-156.04	0.00	156.04	4188.05	2094.02	9175.18	4594.41	0.18	-0.06	0.039	0.039
32.00	-22.19	-1.43	0.00	-153.15	0.00	153.15	4165.64	2082.82	9044.41	4528.93	0.20	-0.06	0.039	0.039
34.00	-21.80	-1.42	0.00	-150.29	0.00	150.29	4142.96	2071.48	8913.95	4463.60	0.23	-0.06	0.039	0.039
36.00	-21.41	-1.41	0.00	-147.44	0.00	147.44	4120.02	2060.01	8783.81	4398.44	0.26	-0.07	0.039	0.039
38.00	-21.03	-1.40	0.00	-144.62	0.00	144.62	4096.81	2048.41	8654.02	4333.44	0.28	-0.07	0.039	0.039
40.00	-20.65	-1.39	0.00	-141.83	0.00	141.83	4073.34	2036.67	8524.57	4268.62	0.32	-0.08	0.038	0.038
42.00	-20.27	-1.37	0.00	-139.06	0.00	139.06	4049.60	2024.80	8395.50	4203.99	0.35	-0.08	0.038	0.038
44.00	-19.90	-1.36	0.00	-136.31	0.00	136.31	4025.60	2012.80	8266.81	4139.55	0.38	-0.08	0.038	0.038
46.00	-19.53	-1.35	0.00	-133.58	0.00	133.58	4001.33	2000.67	8138.53	4075.31	0.42	-0.09	0.038	0.038
48.00	-19.16	-1.34	0.00	-130.88	0.00	130.88	3976.80	1988.40	8010.66	4011.28	0.46	-0.09	0.037	0.037
50.00	-18.80	-1.33	0.00	-128.20	0.00	128.20	3952.00	1976.00	7883.22	3947.47	0.50	-0.10	0.037	0.037
52.00	-18.44	-1.32	0.00	-125.55	0.00	125.55	3926.93	1963.46	7756.23	3883.88	0.54	-0.10	0.037	0.037
54.00	-18.08	-1.30	0.00	-122.92	0.00	122.92	3901.60	1950.80	7629.71	3820.52	0.58	-0.11	0.037	0.037
56.00	-17.73	-1.29	0.00	-120.31	0.00	120.31	3876.00	1938.00	7503.66	3757.41	0.63	-0.11	0.037	0.037
58.00	-17.38	-1.28	0.00	-117.73	0.00	117.73	3850.14	1925.07	7378.11	3694.54	0.67	-0.11	0.036	0.036
60.00	-17.03	-1.27	0.00	-115.17	0.00	115.17	3824.01	1912.00	7253.07	3631.92	0.72	-0.12	0.036	0.036
62.00	-16.69	-1.26	0.00	-112.63	0.00	112.63	3797.62	1898.81	7128.55	3569.57	0.77	-0.12	0.036	0.036
64.00	-16.35	-1.25	0.00	-110.11	0.00	110.11	3770.96	1885.48	7004.58	3507.49	0.83	-0.13	0.036	0.036
65.00	-16.18	-1.24	0.00	-108.86	0.00	108.86	3757.53	1878.76	6942.80	3476.56	0.85	-0.13	0.036	0.036
66.00	-15.88	-1.23	0.00	-107.62	0.00	107.62	3744.03	1872.02	6881.16	3445.70	0.88	-0.13	0.035	0.035
68.00	-15.27	-1.22	0.00	-105.15	0.00	105.15	3716.84	1858.42	6758.32	3384.18	0.94	-0.14	0.035	0.035
70.00	-14.67	-1.20	0.00	-102.72	0.00	102.72	3689.38	1844.69	6636.06	3322.96	0.99	-0.14	0.035	0.035
71.00	-14.37	-1.19	0.00	-101.52	0.00	101.52	2902.90	1451.45	5283.02	2645.43	1.02	-0.14	0.043	0.043
72.00	-14.23	-1.19	0.00	-100.33	0.00	100.33	2893.55	1446.77	5237.63	2622.71	1.05	-0.15	0.043	0.043
74.00	-13.96	-1.18	0.00	-97.95	0.00	97.95	2874.64	1437.32	5147.04	2577.35	1.12	-0.15	0.043	0.043
76.00	-13.69	-1.18	0.00	-95.59	0.00	95.59	2855.47	1427.73	5056.73	2532.12	1.18	-0.16	0.043	0.043
78.00	-13.42	-1.17	0.00	-93.23	0.00	93.23	2836.03	1418.01	4966.70	2487.04	1.25	-0.16	0.042	0.042
80.00	-13.16	-1.17	0.00	-90.88	0.00	90.88	2816.32	1408.16	4876.98	2442.11	1.32	-0.17	0.042	0.042
82.00	-12.89	-1.17	0.00	-88.54	0.00	88.54	2796.35	1398.18	4787.57	2397.34	1.39	-0.17	0.042	0.042
84.00	-12.64	-1.17	0.00	-86.21	0.00	86.21	2776.12	1388.06	4698.50	2352.74	1.46	-0.18	0.041	0.041
86.00	-12.38	-1.17	0.00	-83.87	0.00	83.87	2755.61	1377.81	4609.77	2308.31	1.54	-0.18	0.041	0.041

Calculated Forces

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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88.00	-12.13	-1.17	0.00	-81.53	0.00	81.53	2734.85	1367.42	4521.42	2264.07	1.61	-0.19	0.040
90.00	-11.87	-1.17	0.00	-79.20	0.00	79.20	2713.81	1356.91	4433.44	2220.01	1.69	-0.19	0.040
92.00	-11.63	-1.17	0.00	-76.86	0.00	76.86	2692.52	1346.26	4345.86	2176.16	1.78	-0.20	0.040
94.00	-11.38	-1.17	0.00	-74.52	0.00	74.52	2670.95	1335.48	4258.69	2132.51	1.86	-0.21	0.039
96.00	-11.14	-1.17	0.00	-72.18	0.00	72.18	2649.12	1324.56	4171.94	2089.07	1.95	-0.21	0.039
98.00	-10.90	-1.17	0.00	-69.84	0.00	69.84	2627.03	1313.51	4085.64	2045.86	2.04	-0.22	0.038
100.00	-10.66	-1.17	0.00	-67.50	0.00	67.50	2604.67	1302.33	3999.80	2002.87	2.13	-0.22	0.038
102.00	-10.43	-1.17	0.00	-65.16	0.00	65.16	2582.04	1291.02	3914.44	1960.13	2.23	-0.23	0.037
104.00	-10.20	-1.17	0.00	-62.82	0.00	62.82	2559.15	1279.57	3829.56	1917.63	2.32	-0.23	0.037
106.00	-9.97	-1.17	0.00	-60.48	0.00	60.48	2535.99	1268.00	3745.19	1875.38	2.42	-0.24	0.036
108.00	-9.75	-1.17	0.00	-58.14	0.00	58.14	2512.57	1256.28	3661.34	1833.39	2.52	-0.25	0.036
110.00	-9.53	-1.17	0.00	-55.80	0.00	55.80	2488.88	1244.44	3578.02	1791.67	2.63	-0.25	0.035
112.00	-9.14	-1.17	0.00	-53.46	0.00	53.46	2464.93	1232.46	3495.26	1750.23	2.74	-0.26	0.034
114.00	-8.75	-1.17	0.00	-51.12	0.00	51.12	2440.71	1220.35	3413.07	1709.07	2.84	-0.26	0.033
115.00	-8.56	-1.17	0.00	-49.95	0.00	49.95	1825.70	912.85	2582.32	1293.08	2.90	-0.27	0.043
116.00	-8.47	-1.17	0.00	-48.78	0.00	48.78	1817.93	908.96	2553.51	1278.65	2.96	-0.27	0.043
118.00	-8.30	-1.17	0.00	-46.45	0.00	46.45	1802.18	901.09	2496.07	1249.89	3.07	-0.28	0.042
120.00	-8.13	-1.17	0.00	-44.11	0.00	44.11	1786.18	893.09	2438.88	1221.25	3.19	-0.28	0.041
122.00	-7.96	-1.17	0.00	-41.77	0.00	41.77	1769.90	884.95	2381.96	1192.75	3.31	-0.29	0.040
124.00	-7.80	-1.17	0.00	-39.43	0.00	39.43	1753.37	876.68	2325.32	1164.39	3.43	-0.30	0.038
126.00	-7.63	-1.17	0.00	-37.09	0.00	37.09	1736.56	868.28	2268.99	1136.18	3.56	-0.30	0.037
128.00	-7.47	-1.17	0.00	-34.76	0.00	34.76	1719.49	859.75	2212.98	1108.13	3.68	-0.31	0.036
130.00	-7.31	-1.17	0.00	-32.42	0.00	32.42	1702.16	851.08	2157.30	1080.25	3.81	-0.31	0.034
132.00	-7.16	-1.17	0.00	-30.08	0.00	30.08	1684.56	842.28	2101.96	1052.54	3.95	-0.32	0.033
134.00	-7.00	-1.16	0.00	-27.75	0.00	27.75	1666.69	833.34	2046.99	1025.02	4.08	-0.33	0.031
136.00	-6.85	-1.16	0.00	-25.43	0.00	25.43	1648.56	824.28	1992.41	997.68	4.22	-0.33	0.030
138.00	-6.70	-1.15	0.00	-23.11	0.00	23.11	1630.16	815.08	1938.21	970.55	4.36	-0.34	0.028
140.00	-6.55	-1.14	0.00	-20.81	0.00	20.81	1611.50	805.75	1884.43	943.61	4.50	-0.34	0.026
142.00	-6.41	-1.13	0.00	-18.53	0.00	18.53	1592.57	796.28	1831.07	916.90	4.65	-0.35	0.024
144.00	-6.27	-1.12	0.00	-16.26	0.00	16.26	1573.37	786.69	1778.16	890.40	4.80	-0.35	0.022
146.00	-6.13	-1.11	0.00	-14.01	0.00	14.01	1553.92	776.96	1725.70	864.13	4.94	-0.36	0.020
148.00	-5.99	-1.10	0.00	-11.79	0.00	11.79	1534.19	767.09	1673.72	838.10	5.09	-0.36	0.018
150.00	-5.85	-1.08	0.00	-9.60	0.00	9.60	1514.20	757.10	1622.22	812.32	5.25	-0.36	0.016
152.00	-3.60	-0.77	0.00	-7.43	0.00	7.43	1493.94	746.97	1571.23	786.78	5.40	-0.37	0.012
154.00	-3.47	-0.75	0.00	-5.89	0.00	5.89	1473.42	736.71	1520.76	761.51	5.55	-0.37	0.010
156.00	-3.34	-0.73	0.00	-4.38	0.00	4.38	1452.63	726.32	1470.83	736.51	5.71	-0.37	0.008
158.00	-3.21	-0.71	0.00	-2.91	0.00	2.91	1427.99	714.00	1417.89	710.00	5.86	-0.37	0.006
160.00	-3.09	-0.69	0.00	-1.49	0.00	1.49	1400.09	700.04	1362.73	682.38	6.02	-0.37	0.004
160.00	-3.09	-0.69	0.00	-1.49	0.00	1.49	679.01	339.51	662.80	396.70	6.02	-0.37	0.008
162.00	-0.19	-0.05	0.00	-0.11	0.00	0.11	679.01	339.51	662.80	396.70	6.17	-0.37	0.001
164.00	-0.06	-0.02	0.00	-0.02	0.00	0.02	679.01	339.51	662.80	396.70	6.33	-0.37	0.000
165.00	0.00	-0.02	0.00	0.00	0.00	0.00	679.01	339.51	662.80	396.70	6.41	-0.37	0.000

Wind Loading - Shaft

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

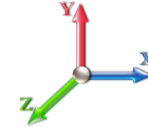
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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

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	280.85	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	7.442	8.19	278.64	0.650	0.000	2.00	10.114	6.57	53.8	0.0	481.0
4.00		1.00	0.85	7.442	8.19	276.42	0.650	0.000	2.00	10.034	6.52	53.4	0.0	477.2
6.00		1.00	0.85	7.442	8.19	274.20	0.650	0.000	2.00	9.954	6.47	53.0	0.0	473.4
8.00		1.00	0.85	7.442	8.19	271.99	0.650	0.000	2.00	9.874	6.42	52.5	0.0	469.5
10.00		1.00	0.85	7.442	8.19	269.77	0.650	0.000	2.00	9.794	6.37	52.1	0.0	465.7
12.00		1.00	0.85	7.442	8.19	267.56	0.650	0.000	2.00	9.714	6.31	51.7	0.0	461.9
14.00		1.00	0.85	7.442	8.19	265.34	0.650	0.000	2.00	9.633	6.26	51.3	0.0	458.0
16.00		1.00	0.86	7.534	8.29	264.74	0.650	0.000	2.00	9.553	6.21	51.5	0.0	454.2
18.00		1.00	0.88	7.723	8.50	265.79	0.650	0.000	2.00	9.473	6.16	52.3	0.0	450.4
20.00		1.00	0.90	7.896	8.69	266.47	0.650	0.000	2.00	9.393	6.11	53.0	0.0	446.5
21.00	Bot - Section 2	1.00	0.91	7.978	8.78	266.70	0.650	0.000	1.00	4.667	3.03	26.6	0.0	221.8
22.00		1.00	0.92	8.056	8.86	266.85	0.650	0.000	1.00	4.710	3.06	27.1	0.0	444.8
24.00		1.00	0.94	8.205	9.03	266.98	0.650	0.000	2.00	9.360	6.08	54.9	0.0	883.8
26.00		1.00	0.95	8.345	9.18	266.89	0.650	0.000	2.00	9.280	6.03	55.4	0.0	876.1
28.00	Top - Section 1	1.00	0.97	8.476	9.32	266.62	0.650	0.000	2.00	9.200	5.98	55.8	0.0	868.5
30.00		1.00	0.98	8.600	9.46	269.95	0.650	0.000	2.00	9.119	5.93	56.1	0.0	433.4
32.00		1.00	1.00	8.717	9.59	269.39	0.650	0.000	2.00	9.039	5.88	56.3	0.0	429.6
34.00		1.00	1.01	8.829	9.71	268.70	0.650	0.000	2.00	8.959	5.82	56.6	0.0	425.8
36.00		1.00	1.02	8.936	9.83	267.90	0.650	0.000	2.00	8.879	5.77	56.7	0.0	421.9
38.00		1.00	1.03	9.039	9.94	266.98	0.650	0.000	2.00	8.799	5.72	56.9	0.0	418.1
40.00		1.00	1.04	9.137	10.05	265.97	0.650	0.000	2.00	8.719	5.67	57.0	0.0	414.3
42.00		1.00	1.05	9.231	10.15	264.88	0.650	0.000	2.00	8.639	5.62	57.0	0.0	410.4
44.00		1.00	1.06	9.322	10.25	263.70	0.650	0.000	2.00	8.559	5.56	57.0	0.0	406.6
46.00		1.00	1.07	9.410	10.35	262.44	0.650	0.000	2.00	8.478	5.51	57.0	0.0	402.8
48.00		1.00	1.08	9.494	10.44	261.12	0.650	0.000	2.00	8.398	5.46	57.0	0.0	398.9
50.00		1.00	1.09	9.576	10.53	259.73	0.650	0.000	2.00	8.318	5.41	57.0	0.0	395.1
52.00		1.00	1.10	9.656	10.62	258.28	0.650	0.000	2.00	8.238	5.35	56.9	0.0	391.2
54.00		1.00	1.11	9.733	10.71	256.77	0.650	0.000	2.00	8.158	5.30	56.8	0.0	387.4
56.00		1.00	1.12	9.807	10.79	255.21	0.650	0.000	2.00	8.078	5.25	56.6	0.0	383.6
58.00		1.00	1.13	9.880	10.87	253.60	0.650	0.000	2.00	7.998	5.20	56.5	0.0	379.7
60.00		1.00	1.14	9.951	10.95	251.95	0.650	0.000	2.00	7.918	5.15	56.3	0.0	375.9
62.00		1.00	1.14	10.020	11.02	250.25	0.650	0.000	2.00	7.837	5.09	56.1	0.0	372.1
64.00		1.00	1.15	10.087	11.10	248.50	0.650	0.000	2.00	7.757	5.04	55.9	0.0	368.2
65.00	Bot - Section 3	1.00	1.16	10.120	11.13	247.62	0.650	0.000	1.00	3.849	2.50	27.8	0.0	182.7
66.00		1.00	1.16	10.153	11.17	246.72	0.650	0.000	1.00	3.881	2.52	28.2	0.0	335.5
68.00		1.00	1.17	10.217	11.24	244.90	0.650	0.000	2.00	7.703	5.01	56.3	0.0	665.7
70.00		1.00	1.17	10.279	11.31	243.05	0.650	0.000	2.00	7.623	4.95	56.0	0.0	658.7
71.00	Top - Section 2	1.00	1.18	10.310	11.34	242.10	0.650	0.000	1.00	3.781	2.46	27.9	0.0	326.7
72.00		1.00	1.18	10.340	11.37	244.60	0.650	0.000	1.00	3.761	2.44	27.8	0.0	149.0
74.00		1.00	1.19	10.400	11.44	242.69	0.650	0.000	2.00	7.462	4.85	55.5	0.0	295.5
76.00		1.00	1.19	10.459	11.50	240.75	0.650	0.000	2.00	7.382	4.80	55.2	0.0	292.3
78.00		1.00	1.20	10.516	11.57	238.77	0.650	0.000	2.00	7.302	4.75	54.9	0.0	289.1
80.00		1.00	1.21	10.572	11.63	236.77	0.650	0.000	2.00	7.222	4.69	54.6	0.0	285.9
82.00		1.00	1.21	10.627	11.69	234.73	0.650	0.000	2.00	7.142	4.64	54.3	0.0	282.7
84.00		1.00	1.22	10.681	11.75	232.67	0.650	0.000	2.00	7.062	4.59	53.9	0.0	279.6
86.00		1.00	1.23	10.734	11.81	230.59	0.650	0.000	2.00	6.982	4.54	53.6	0.0	276.4

Wind Loading - Shaft

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (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



88.00	1.00	1.23	10.787	11.87	228.48	0.650	0.000	2.00	6.902	4.49	53.2	0.0	273.2
90.00	1.00	1.24	10.838	11.92	226.35	0.650	0.000	2.00	6.821	4.43	52.9	0.0	270.0
92.00	1.00	1.24	10.888	11.98	224.19	0.650	0.000	2.00	6.741	4.38	52.5	0.0	266.8
94.00	1.00	1.25	10.937	12.03	222.01	0.650	0.000	2.00	6.661	4.33	52.1	0.0	263.6
96.00	1.00	1.25	10.986	12.08	219.81	0.650	0.000	2.00	6.581	4.28	51.7	0.0	260.4
98.00	1.00	1.26	11.034	12.14	217.59	0.650	0.000	2.00	6.501	4.23	51.3	0.0	257.2
100.00	1.00	1.27	11.081	12.19	215.35	0.650	0.000	2.00	6.421	4.17	50.9	0.0	254.0
102.00	1.00	1.27	11.127	12.24	213.09	0.650	0.000	2.00	6.341	4.12	50.4	0.0	250.8
104.00	1.00	1.28	11.173	12.29	210.81	0.650	0.000	2.00	6.261	4.07	50.0	0.0	247.6
106.00	1.00	1.28	11.218	12.34	208.51	0.650	0.000	2.00	6.180	4.02	49.6	0.0	244.4
108.00	1.00	1.29	11.262	12.39	206.20	0.650	0.000	2.00	6.100	3.97	49.1	0.0	241.2
110.00 Bot - Section 4	1.00	1.29	11.305	12.44	203.87	0.650	0.000	2.00	6.020	3.91	48.7	0.0	238.0
112.00	1.00	1.30	11.348	12.48	201.52	0.650	0.000	2.00	6.025	3.92	48.9	0.0	425.7
114.00	1.00	1.30	11.391	12.53	199.15	0.650	0.000	2.00	5.945	3.86	48.4	0.0	419.9
115.00 Top - Section 3	1.00	1.30	11.412	12.55	197.96	0.650	0.000	1.00	2.942	1.91	24.0	0.0	207.8
116.00	1.00	1.31	11.432	12.58	199.67	0.650	0.000	1.00	2.922	1.90	23.9	0.0	92.6
118.00	1.00	1.31	11.474	12.62	197.28	0.650	0.000	2.00	5.784	3.76	47.5	0.0	183.2
120.00	1.00	1.32	11.514	12.67	194.87	0.650	0.000	2.00	5.704	3.71	47.0	0.0	180.7
122.00	1.00	1.32	11.554	12.71	192.45	0.650	0.000	2.00	5.624	3.66	46.5	0.0	178.1
124.00	1.00	1.32	11.594	12.75	190.01	0.650	0.000	2.00	5.544	3.60	46.0	0.0	175.5
126.00	1.00	1.33	11.633	12.80	187.56	0.650	0.000	2.00	5.464	3.55	45.4	0.0	173.0
128.00	1.00	1.33	11.672	12.84	185.10	0.650	0.000	2.00	5.384	3.50	44.9	0.0	170.4
130.00	1.00	1.34	11.710	12.88	182.62	0.650	0.000	2.00	5.304	3.45	44.4	0.0	167.9
132.00	1.00	1.34	11.748	12.92	180.13	0.650	0.000	2.00	5.223	3.40	43.9	0.0	165.3
134.00	1.00	1.35	11.785	12.96	177.63	0.650	0.000	2.00	5.143	3.34	43.3	0.0	162.8
136.00	1.00	1.35	11.822	13.00	175.11	0.650	0.000	2.00	5.063	3.29	42.8	0.0	160.2
138.00	1.00	1.35	11.858	13.04	172.58	0.650	0.000	2.00	4.983	3.24	42.2	0.0	157.7
140.00	1.00	1.36	11.894	13.08	170.04	0.650	0.000	2.00	4.903	3.19	41.7	0.0	155.1
142.00	1.00	1.36	11.930	13.12	167.49	0.650	0.000	2.00	4.823	3.13	41.1	0.0	152.5
144.00	1.00	1.37	11.965	13.16	164.93	0.650	0.000	2.00	4.743	3.08	40.6	0.0	150.0
146.00	1.00	1.37	12.000	13.20	162.35	0.650	0.000	2.00	4.663	3.03	40.0	0.0	147.4
148.00	1.00	1.37	12.034	13.24	159.77	0.650	0.000	2.00	4.583	2.98	39.4	0.0	144.9
150.00	1.00	1.38	12.068	13.27	157.17	0.650	0.000	2.00	4.502	2.93	38.8	0.0	142.3
152.00 Appurtenance(s)	1.00	1.38	12.102	13.31	154.56	0.650	0.000	2.00	4.422	2.87	38.3	0.0	139.8
154.00	1.00	1.39	12.135	13.35	151.95	0.650	0.000	2.00	4.342	2.82	37.7	0.0	137.2
156.00	1.00	1.39	12.168	13.39	149.32	0.650	0.000	2.00	4.262	2.77	37.1	0.0	134.6
158.00	1.00	1.39	12.201	13.42	146.68	0.650	0.000	2.00	4.182	2.72	36.5	0.0	132.1
160.00 Top - Section 4	1.00	1.40	12.233	13.46	144.03	0.650	0.000	2.00	4.102	2.67	35.9	0.0	129.5
162.00 Appurtenance(s)	1.00	1.40	12.265	13.49	142.03	0.600	0.000	2.00	4.000	2.40	32.4	0.0	142.6
164.00	1.00	1.40	12.297	13.53	142.22	0.600	0.000	2.00	4.000	2.40	32.5	0.0	142.6
165.00	1.00	1.41	12.313	13.54	142.31	0.600	0.000	1.00	2.000	1.20	16.3	0.0	71.3
Totals:								165.00			4,129.7		27,477.5

Discrete Appurtenance Forces

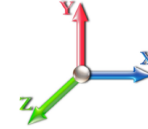
Structure: CT02720-S-SBA	Code: TIA-222-G	2/25/2022
Site Name: Ledyard South	Exposure: C	
Height: 165.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

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	162.00	VZS01	3	12.289	13.518	0.55	0.80	7.12	261.30	0.000	1.500	96.26	0.00	144.39
2	162.00	RMQP-463 (LPP)	1	12.265	13.492	1.00	1.00	24.80	2000.00	0.000	0.000	334.60	0.00	0.00
3	162.00	FE-16148-OVP-B12	1	12.265	13.492	0.40	0.80	1.92	18.90	0.000	0.000	25.90	0.00	0.00
4	162.00	B5/B13 RRH-BR04C	3	12.265	13.492	0.40	0.80	2.24	210.90	0.000	0.000	30.28	0.00	0.00
5	162.00	B2/B66A RRH-BR049	3	12.265	13.492	0.40	0.80	2.24	253.20	0.000	0.000	30.28	0.00	0.00
6	162.00	BXA-70063-6CF-EDIN-5	3	12.265	13.492	0.58	0.80	13.26	51.00	0.000	0.000	178.94	0.00	0.00
7	162.00	MX06FRO660-03	6	12.265	13.492	0.70	0.80	41.22	276.00	0.000	0.000	556.09	0.00	0.00
8	152.00	MX08FRO665-21	3	12.102	13.312	0.55	0.75	20.80	193.50	0.000	0.000	276.84	0.00	0.00
9	152.00	MC-PK8-DSH	1	12.102	13.312	1.00	1.00	37.59	1727.00	0.000	0.000	500.40	0.00	0.00
10	152.00	RDIDC-9181-OF-48	1	12.102	13.312	0.75	0.75	1.51	21.90	0.000	0.000	20.07	0.00	0.00
11	152.00	TA08025-B604	3	12.102	13.312	0.50	0.75	2.95	191.70	0.000	0.000	39.33	0.00	0.00
12	152.00	TA08025-B605	3	12.102	13.312	0.50	0.75	2.95	225.00	0.000	0.000	39.33	0.00	0.00
Totals:									5,430.40			2,128.31		

Total Applied Force Summary

Structure: CT02720-S-SBA	Code: TIA-222-G	2/25/2022
Site Name: Ledyard South	Exposure: C	
Height: 165.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

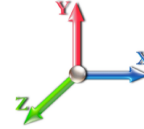


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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 26

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
2.00		53.82	489.43	0.00	0.00
4.00		53.39	485.59	0.00	0.00
6.00		52.96	481.76	0.00	0.00
8.00		52.54	477.92	0.00	0.00
10.00		52.11	474.09	0.00	0.00
12.00		51.69	470.25	0.00	0.00
14.00		51.26	466.42	0.00	0.00
16.00		51.46	462.58	0.00	0.00
18.00		52.31	458.75	0.00	0.00
20.00		53.03	454.91	0.00	0.00
21.00		26.62	226.02	0.00	0.00
22.00		27.13	448.97	0.00	0.00
24.00		54.91	892.18	0.00	0.00
26.00		55.37	884.51	0.00	0.00
28.00		55.75	876.84	0.00	0.00
30.00		56.07	441.82	0.00	0.00
32.00		56.34	437.98	0.00	0.00
34.00		56.56	434.15	0.00	0.00
36.00		56.73	430.31	0.00	0.00
38.00		56.86	426.48	0.00	0.00
40.00		56.96	422.64	0.00	0.00
42.00		57.02	418.81	0.00	0.00
44.00		57.04	414.97	0.00	0.00
46.00		57.04	411.14	0.00	0.00
48.00		57.01	407.30	0.00	0.00
50.00		56.95	403.47	0.00	0.00
52.00		56.87	399.63	0.00	0.00
54.00		56.77	395.80	0.00	0.00
56.00		56.64	391.96	0.00	0.00
58.00		56.50	388.13	0.00	0.00
60.00		56.33	384.29	0.00	0.00
62.00		56.15	380.46	0.00	0.00
64.00		55.95	376.62	0.00	0.00
65.00		27.85	186.87	0.00	0.00
66.00		28.18	339.67	0.00	0.00
68.00		56.27	674.07	0.00	0.00
70.00		56.02	667.04	0.00	0.00
71.00		27.87	330.88	0.00	0.00
72.00		27.81	153.15	0.00	0.00
74.00		55.49	303.91	0.00	0.00
76.00		55.20	300.72	0.00	0.00
78.00		54.91	297.52	0.00	0.00
80.00		54.59	294.32	0.00	0.00
82.00		54.27	291.13	0.00	0.00
84.00		53.93	287.93	0.00	0.00
86.00		53.59	284.74	0.00	0.00

Total Applied Force Summary

Structure: CT02720-S-SBA	Code: TIA-222-G	2/25/2022
Site Name: Ledyard South	Exposure: C	
Height: 165.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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88.00		53.23	281.54	0.00	0.00
90.00		52.86	278.35	0.00	0.00
92.00		52.48	275.15	0.00	0.00
94.00		52.09	271.95	0.00	0.00
96.00		51.69	268.76	0.00	0.00
98.00		51.29	265.56	0.00	0.00
100.00		50.87	262.37	0.00	0.00
102.00		50.45	259.17	0.00	0.00
104.00		50.01	255.98	0.00	0.00
106.00		49.57	252.78	0.00	0.00
108.00		49.12	249.58	0.00	0.00
110.00		48.66	246.39	0.00	0.00
112.00		48.88	434.08	0.00	0.00
114.00		48.41	428.33	0.00	0.00
115.00		24.01	212.01	0.00	0.00
116.00		23.89	96.76	0.00	0.00
118.00		47.45	191.60	0.00	0.00
120.00		46.96	189.04	0.00	0.00
122.00		46.46	186.49	0.00	0.00
124.00		45.96	183.93	0.00	0.00
126.00		45.45	181.37	0.00	0.00
128.00		44.93	178.82	0.00	0.00
130.00		44.41	176.26	0.00	0.00
132.00		43.88	173.70	0.00	0.00
134.00		43.34	171.15	0.00	0.00
136.00		42.80	168.59	0.00	0.00
138.00		42.25	166.03	0.00	0.00
140.00		41.70	163.48	0.00	0.00
142.00		41.14	160.92	0.00	0.00
144.00		40.57	158.36	0.00	0.00
146.00		40.00	155.81	0.00	0.00
148.00		39.43	153.25	0.00	0.00
150.00		38.85	150.69	0.00	0.00
152.00	(11) attachments	914.23	2507.24	0.00	0.00
154.00		37.68	145.58	0.00	0.00
156.00		37.08	143.02	0.00	0.00
158.00		36.48	140.47	0.00	0.00
160.00		35.88	137.91	0.00	0.00
162.00	(20) attachments	1284.72	3222.31	0.00	144.39
164.00		32.46	142.63	0.00	0.00
165.00		16.25	71.31	0.00	0.00
Totals:		6,258.02	33,586.84	0.00	144.39

Calculated Forces

Structure: CT02720-S-SBA

Code: TIA-222-G

2/25/2022

Site Name: Ledyard South

Exposure: C

Height: 165.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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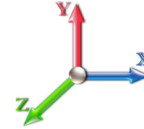


Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 26

Dead Load Factor 1.00

Wind Load 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	-33.59	-6.26	0.00	-675.60	0.00	675.60	4463.02	2231.51	10951.4	5483.88	0.00	0.000	0.000	0.131
2.00	-33.10	-6.21	0.00	-663.08	0.00	663.08	4444.18	2222.09	10818.1	5417.09	0.00	-0.012	0.000	0.130
4.00	-32.61	-6.17	0.00	-650.65	0.00	650.65	4425.06	2212.53	10684.8	5350.35	0.01	-0.024	0.000	0.129
6.00	-32.13	-6.12	0.00	-638.32	0.00	638.32	4405.68	2202.84	10551.6	5283.67	0.02	-0.036	0.000	0.128
8.00	-31.65	-6.07	0.00	-626.08	0.00	626.08	4386.04	2193.02	10418.6	5217.05	0.04	-0.048	0.000	0.127
10.00	-31.17	-6.03	0.00	-613.93	0.00	613.93	4366.13	2183.07	10285.7	5150.50	0.06	-0.060	0.000	0.126
12.00	-30.70	-5.98	0.00	-601.87	0.00	601.87	4345.95	2172.98	10152.9	5084.04	0.09	-0.073	0.000	0.125
14.00	-30.23	-5.94	0.00	-589.91	0.00	589.91	4325.51	2162.76	10020.4	5017.66	0.12	-0.085	0.000	0.125
16.00	-29.77	-5.89	0.00	-578.03	0.00	578.03	4304.81	2152.40	9888.06	4951.38	0.16	-0.097	0.000	0.124
18.00	-29.31	-5.84	0.00	-566.25	0.00	566.25	4283.84	2141.92	9755.90	4885.20	0.21	-0.110	0.000	0.123
20.00	-28.85	-5.80	0.00	-554.56	0.00	554.56	4262.60	2131.30	9623.96	4819.13	0.26	-0.122	0.000	0.122
21.00	-28.63	-5.77	0.00	-548.77	0.00	548.77	4251.88	2125.94	9558.08	4786.14	0.28	-0.129	0.000	0.121
22.00	-28.18	-5.75	0.00	-543.00	0.00	543.00	4241.09	2120.55	9492.26	4753.19	0.31	-0.135	0.000	0.121
24.00	-27.28	-5.70	0.00	-531.50	0.00	531.50	4219.33	2109.66	9360.82	4687.37	0.37	-0.147	0.000	0.120
26.00	-26.40	-5.65	0.00	-520.11	0.00	520.11	4197.29	2098.65	9229.64	4621.68	0.43	-0.160	0.000	0.119
28.00	-25.52	-5.59	0.00	-508.82	0.00	508.82	4210.19	2105.10	9306.23	4660.03	0.50	-0.173	0.000	0.115
30.00	-25.08	-5.54	0.00	-497.63	0.00	497.63	4188.05	2094.02	9175.18	4594.41	0.58	-0.186	0.000	0.114
32.00	-24.64	-5.49	0.00	-486.55	0.00	486.55	4165.64	2082.82	9044.41	4528.93	0.66	-0.198	0.000	0.113
34.00	-24.20	-5.44	0.00	-475.57	0.00	475.57	4142.96	2071.48	8913.95	4463.60	0.74	-0.210	0.000	0.112
36.00	-23.77	-5.38	0.00	-464.70	0.00	464.70	4120.02	2060.01	8783.81	4398.44	0.84	-0.223	0.000	0.111
38.00	-23.34	-5.33	0.00	-453.94	0.00	453.94	4096.81	2048.41	8654.02	4333.44	0.93	-0.235	0.000	0.110
40.00	-22.92	-5.27	0.00	-443.28	0.00	443.28	4073.34	2036.67	8524.57	4268.62	1.03	-0.248	0.000	0.109
42.00	-22.50	-5.22	0.00	-432.73	0.00	432.73	4049.60	2024.80	8395.50	4203.99	1.14	-0.260	0.000	0.108
44.00	-22.08	-5.17	0.00	-422.29	0.00	422.29	4025.60	2012.80	8266.81	4139.55	1.25	-0.273	0.000	0.108
46.00	-21.67	-5.11	0.00	-411.96	0.00	411.96	4001.33	2000.67	8138.53	4075.31	1.37	-0.286	0.000	0.107
48.00	-21.26	-5.06	0.00	-401.73	0.00	401.73	3976.80	1988.40	8010.66	4011.28	1.49	-0.298	0.000	0.106
50.00	-20.86	-5.00	0.00	-391.62	0.00	391.62	3952.00	1976.00	7883.22	3947.47	1.62	-0.311	0.000	0.104
52.00	-20.46	-4.95	0.00	-381.61	0.00	381.61	3926.93	1963.46	7756.23	3883.88	1.75	-0.324	0.000	0.103
54.00	-20.06	-4.89	0.00	-371.71	0.00	371.71	3901.60	1950.80	7629.71	3820.52	1.89	-0.337	0.000	0.102
56.00	-19.67	-4.84	0.00	-361.92	0.00	361.92	3876.00	1938.00	7503.66	3757.41	2.03	-0.350	0.000	0.101
58.00	-19.28	-4.79	0.00	-352.24	0.00	352.24	3850.14	1925.07	7378.11	3694.54	2.18	-0.362	0.000	0.100
60.00	-18.90	-4.73	0.00	-342.67	0.00	342.67	3824.01	1912.00	7253.07	3631.92	2.34	-0.375	0.000	0.099
62.00	-18.52	-4.68	0.00	-333.21	0.00	333.21	3797.62	1898.81	7128.55	3569.57	2.50	-0.388	0.000	0.098
64.00	-18.14	-4.62	0.00	-323.86	0.00	323.86	3770.96	1885.48	7004.58	3507.49	2.66	-0.401	0.000	0.097
65.00	-17.95	-4.59	0.00	-319.24	0.00	319.24	3757.53	1878.76	6942.80	3476.56	2.75	-0.408	0.000	0.097
66.00	-17.61	-4.57	0.00	-314.64	0.00	314.64	3744.03	1872.02	6881.16	3445.70	2.83	-0.415	0.000	0.096
68.00	-16.94	-4.51	0.00	-305.51	0.00	305.51	3716.84	1858.42	6758.32	3384.18	3.01	-0.428	0.000	0.095
70.00	-16.27	-4.45	0.00	-296.49	0.00	296.49	3689.38	1844.69	6636.06	3322.96	3.19	-0.441	0.000	0.094
71.00	-15.94	-4.42	0.00	-292.04	0.00	292.04	2902.90	1451.45	5283.02	2645.43	3.29	-0.447	0.000	0.116
72.00	-15.78	-4.40	0.00	-287.62	0.00	287.62	2893.55	1446.77	5237.63	2622.71	3.38	-0.454	0.000	0.115
74.00	-15.48	-4.34	0.00	-278.83	0.00	278.83	2874.64	1437.32	5147.04	2577.35	3.57	-0.469	0.000	0.114
76.00	-15.18	-4.29	0.00	-270.14	0.00	270.14	2855.47	1427.73	5056.73	2532.12	3.77	-0.484	0.000	0.112
78.00	-14.88	-4.24	0.00	-261.56	0.00	261.56	2836.03	1418.01	4966.70	2487.04	3.98	-0.499	0.000	0.110
80.00	-14.58	-4.18	0.00	-253.09	0.00	253.09	2816.32	1408.16	4876.98	2442.11	4.19	-0.514	0.000	0.109
82.00	-14.29	-4.13	0.00	-244.73	0.00	244.73	2796.35	1398.18	4787.57	2397.34	4.41	-0.530	0.000	0.107
84.00	-14.00	-4.08	0.00	-236.47	0.00	236.47	2776.12	1388.06	4698.50	2352.74	4.64	-0.545	0.000	0.106
86.00	-13.72	-4.02	0.00	-228.32	0.00	228.32	2755.61	1377.81	4609.77	2308.31	4.87	-0.560	0.000	0.104
88.00	-13.44	-3.97	0.00	-220.28	0.00	220.28	2734.85	1367.42	4521.42	2264.07	5.11	-0.575	0.000	0.102

Calculated Forces

Structure: CT02720-S-SBA **Code:** TIA-222-G 2/25/2022
Site Name: Ledyard South **Exposure:** C
Height: 165.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** D - Stiff Soil
Gh: 1.1 **Topography:** 1 **Struct Class:** II **Page:** 43



90.00	-13.16	-3.92	0.00	-212.33	0.00	212.33	2713.81	1356.91	4433.44	2220.01	5.35	-0.590	0.000	0.101
92.00	-12.88	-3.87	0.00	-204.50	0.00	204.50	2692.52	1346.26	4345.86	2176.16	5.60	-0.605	0.000	0.099
94.00	-12.61	-3.81	0.00	-196.77	0.00	196.77	2670.95	1335.48	4258.69	2132.51	5.86	-0.620	0.000	0.097
96.00	-12.34	-3.76	0.00	-189.14	0.00	189.14	2649.12	1324.56	4171.94	2089.07	6.12	-0.635	0.000	0.095
98.00	-12.08	-3.71	0.00	-181.61	0.00	181.61	2627.03	1313.51	4085.64	2045.86	6.39	-0.650	0.000	0.093
100.00	-11.81	-3.66	0.00	-174.19	0.00	174.19	2604.67	1302.33	3999.80	2002.87	6.67	-0.665	0.000	0.092
102.00	-11.55	-3.61	0.00	-166.86	0.00	166.86	2582.04	1291.02	3914.44	1960.13	6.95	-0.680	0.000	0.090
104.00	-11.30	-3.56	0.00	-159.64	0.00	159.64	2559.15	1279.57	3829.56	1917.63	7.24	-0.694	0.000	0.088
106.00	-11.04	-3.51	0.00	-152.52	0.00	152.52	2535.99	1268.00	3745.19	1875.38	7.53	-0.709	0.000	0.086
108.00	-10.79	-3.46	0.00	-145.50	0.00	145.50	2512.57	1256.28	3661.34	1833.39	7.83	-0.724	0.000	0.084
110.00	-10.55	-3.41	0.00	-138.57	0.00	138.57	2488.88	1244.44	3578.02	1791.67	8.14	-0.738	0.000	0.082
112.00	-10.11	-3.36	0.00	-131.75	0.00	131.75	2464.93	1232.46	3495.26	1750.23	8.45	-0.752	0.000	0.079
114.00	-9.69	-3.31	0.00	-125.03	0.00	125.03	2440.71	1220.35	3413.07	1709.07	8.77	-0.766	0.000	0.077
115.00	-9.47	-3.28	0.00	-121.72	0.00	121.72	1825.70	912.85	2582.32	1293.08	8.93	-0.774	0.000	0.099
116.00	-9.38	-3.26	0.00	-118.44	0.00	118.44	1817.93	908.96	2553.51	1278.65	9.09	-0.781	0.000	0.098
118.00	-9.18	-3.21	0.00	-111.92	0.00	111.92	1802.18	901.09	2496.07	1249.89	9.42	-0.797	0.000	0.095
120.00	-8.99	-3.16	0.00	-105.50	0.00	105.50	1786.18	893.09	2438.88	1221.25	9.76	-0.813	0.000	0.091
122.00	-8.81	-3.12	0.00	-99.17	0.00	99.17	1769.90	884.95	2381.96	1192.75	10.10	-0.829	0.000	0.088
124.00	-8.62	-3.07	0.00	-92.93	0.00	92.93	1753.37	876.68	2325.32	1164.39	10.45	-0.844	0.000	0.085
126.00	-8.44	-3.03	0.00	-86.79	0.00	86.79	1736.56	868.28	2268.99	1136.18	10.81	-0.860	0.000	0.081
128.00	-8.26	-2.98	0.00	-80.74	0.00	80.74	1719.49	859.75	2212.98	1108.13	11.17	-0.874	0.000	0.078
130.00	-8.09	-2.94	0.00	-74.78	0.00	74.78	1702.16	851.08	2157.30	1080.25	11.54	-0.889	0.000	0.074
132.00	-7.91	-2.89	0.00	-68.91	0.00	68.91	1684.56	842.28	2101.96	1052.54	11.92	-0.903	0.000	0.070
134.00	-7.74	-2.85	0.00	-63.13	0.00	63.13	1666.69	833.34	2046.99	1025.02	12.30	-0.916	0.000	0.066
136.00	-7.57	-2.80	0.00	-57.44	0.00	57.44	1648.56	824.28	1992.41	997.68	12.69	-0.929	0.000	0.062
138.00	-7.41	-2.76	0.00	-51.83	0.00	51.83	1630.16	815.08	1938.21	970.55	13.08	-0.941	0.000	0.058
140.00	-7.25	-2.72	0.00	-46.31	0.00	46.31	1611.50	805.75	1884.43	943.61	13.48	-0.952	0.000	0.054
142.00	-7.08	-2.67	0.00	-40.88	0.00	40.88	1592.57	796.28	1831.07	916.90	13.88	-0.963	0.000	0.049
144.00	-6.93	-2.63	0.00	-35.54	0.00	35.54	1573.37	786.69	1778.16	890.40	14.28	-0.973	0.000	0.044
146.00	-6.77	-2.59	0.00	-30.27	0.00	30.27	1553.92	776.96	1725.70	864.13	14.69	-0.982	0.000	0.039
148.00	-6.62	-2.55	0.00	-25.09	0.00	25.09	1534.19	767.09	1673.72	838.10	15.11	-0.990	0.000	0.034
150.00	-6.47	-2.51	0.00	-20.00	0.00	20.00	1514.20	757.10	1622.22	812.32	15.52	-0.997	0.000	0.029
152.00	-3.98	-1.55	0.00	-14.98	0.00	14.98	1493.94	746.97	1571.23	786.78	15.94	-1.002	0.000	0.022
154.00	-3.83	-1.51	0.00	-11.88	0.00	11.88	1473.42	736.71	1520.76	761.51	16.36	-1.007	0.000	0.018
156.00	-3.69	-1.47	0.00	-8.86	0.00	8.86	1452.63	726.32	1470.83	736.51	16.78	-1.011	0.000	0.015
158.00	-3.55	-1.43	0.00	-5.92	0.00	5.92	1427.99	714.00	1417.89	710.00	17.21	-1.013	0.000	0.011
160.00	-3.41	-1.39	0.00	-3.05	0.00	3.05	1400.09	700.04	1362.73	682.38	17.63	-1.015	0.000	0.007
160.00	-3.41	-1.39	0.00	-3.05	0.00	3.05	679.01	339.51	662.80	396.70	17.63	-1.015	0.000	0.013
162.00	-0.21	-0.05	0.00	-0.12	0.00	0.12	679.01	339.51	662.80	396.70	18.06	-1.016	0.000	0.001
164.00	-0.07	-0.02	0.00	-0.02	0.00	0.02	679.01	339.51	662.80	396.70	18.48	-1.016	0.000	0.000
165.00	0.00	-0.02	0.00	0.00	0.00	0.00	679.01	339.51	662.80	396.70	18.70	-1.016	0.000	0.000

Final Analysis Summary

Structure: CT02720-S-SBA	Code: TIA-222-G	2/25/2022
Site Name: Ledyard South	Exposure: C	
Height: 165.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 44
	Struct Class: II	



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 105 mph Wind	30.7	0.00	40.29	0.00	0.00	3325.15
0.9D + 1.6W 105 mph Wind	30.7	0.00	30.21	0.00	0.00	3299.00
1.2D + 1.0Di + 1.0Wi 50 mph Wind	7.9	0.00	60.74	0.00	0.00	833.10
1.2D + 1.0E	1.6	0.00	40.30	0.00	0.00	204.76
0.9D + 1.0E	1.6	0.00	30.23	0.00	0.00	202.99
1.0D + 1.0W 60 mph Wind	6.3	0.00	33.59	0.00	0.00	675.60

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 105 mph Wind	-40.29	-30.68	0.00	-3325.1	0.00	-3325.1	4463.02	2231.5	10951.4	5483.88	0.00	0.616
0.9D + 1.6W 105 mph Wind	-30.21	-30.68	0.00	-3299.0	0.00	-3299.0	4463.02	2231.5	10951.4	5483.88	0.00	0.609
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-60.74	-7.87	0.00	-833.10	0.00	-833.10	4463.02	2231.5	10951.4	5483.88	0.00	0.166
1.2D + 1.0E	-40.30	-1.62	0.00	-204.76	0.00	-204.76	4463.02	2231.5	10951.4	5483.88	0.00	0.046
0.9D + 1.0E	-30.23	-1.62	0.00	-202.99	0.00	-202.99	4463.02	2231.5	10951.4	5483.88	0.00	0.044
1.0D + 1.0W 60 mph Wind	-33.59	-6.26	0.00	-675.60	0.00	-675.60	4463.02	2231.5	10951.4	5483.88	0.00	0.131

	Monopole Mat Foundation Design		Date	
			8/2/2021	
	Customer Name:	Dish Wireless	EIA/TIA Standard:	EIA-222-G
	Site Name:		Structure Height (Ft.):	165
	Site Number:	CT02720-S-SBA	Engineer Name:	J. Tibbetts
	Engr. Number:	111940	Engineer Login ID:	

Foundation Info Obtained from:

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	40.3	Shear Force (Kips):	30.7
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3325.1

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.0	Depth of Base BG (ft.):	6.0
Pier Height A. G. (ft.):	0.25	Thickness of Pad (ft):	3.50
Length of Pad (ft.):	31	Width of Pad (ft.):	31

Final Length of pad (ft)	31.0	Final width of pad (ft):	31.0
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Material Properties and Rebar Info:

Concrete Strength (psi):	3500	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	6	
Qty. of Vertical Rebars:	46	Tie Spacing (in):	8.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
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):	35	Qty. of Rebar in Pad (W):	35
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Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	35	Qty. of Rebar in Pad (W):	35
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Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

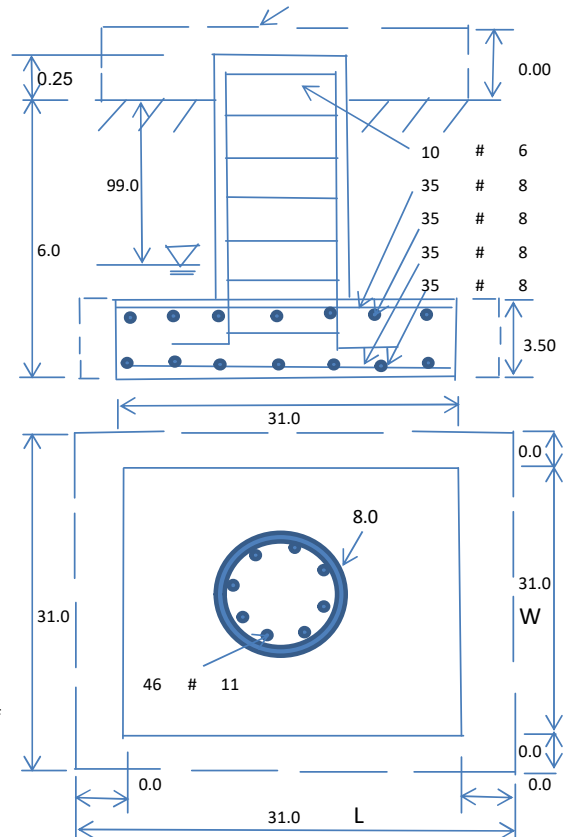
Soil Unit Weight (pcf):	120.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	30000	Ultimate Skin Friction:		Psf
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No	
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:	1.00	
		Angle from Top of Pad:	30	
		Angle from Botm of Pad:	25	
		Angle from Botm of Pad:	25	

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	2276.84	Total Dry Soil Weight (Kips):	273.22
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	273.22	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	3501.73	Total Dry Concrete Weight (Kips):	525.26
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	525.26	Total Vertical Load on Base (Kips):	838.78

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	1377	<	Allowable Factored Soil Bearing (psf):	22500	0.06	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	11763.4	>	Design Factored Momont (kips-ft):	3310	0.28	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	3.55					



Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00		
				Load/ Capacity Ratio	
<u>(1) Concrete Pier:</u>					
Vertical Steel Rebar Area (sq. in./each):	1.56	Tie / Stirrup Area (sq. in./each):	0.44		
Calculated Moment Capacity (Mn,Kips-Ft):	13273.0	> Design Factored Moment (Mu, Kips-F	3409.5	0.26	OK!
Calculated Shear Capacity (Kips):	1149.2	> Design Factored Shear (Kips):	30.7	0.03	OK!
Calculated Tension Capacity (Tn, Kips):	3875.0	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	11086.5	> Design Factored Axial Load (Pu Kips):	40.3	0.00	OK!
Moment & Axial Strength Combination:	0.26	OK! Check Tie Spacing (Design/Required):		0.6667	OK!
Pier Reinforcement Ratio:	0.010	Reinforcement Ratio is satisfied per ACI			
<u>(2).Concrete Pad:</u>					
One-Way Design Shear Capacity (L-Direction, Kips):	1271.0	> One-Way Factored Shear (L-D. Kips):	216.5	0.17	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1271.0	> One-Way Factored Shear (W-D., Kips)	216.5	0.17	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1206.3	> One-Way Factored Shear (C-C, Kips):	196.6	0.16	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0019	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0019		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	4697.1	> Moment at Bottom (L-Dir. K-Ft):	1526.6	0.33	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	4697.1	> Moment at Bottom (W-Dir. K-Ft):	1526.6	0.33	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	6613.3	> Moment at Bottom (C-C Dir. K-Ft):	2158.9	0.33	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0019	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0019		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	4697.1	> Moment at the top (L-Dir K-Ft):	571.1	0.12	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	4697.1	> Moment at the top (W-Dir K-Ft):	571.1	0.12	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	6613.3	> Moment at the top (C-C Dir. K-Ft):	534.4	0.08	OK!
<u>(3).Check Punching Shear Capacity due to Moment in the Pier:</u>					
Moment transferred by punching shear:	1330.0	k-ft. Max. factored shear stress v_{u_CD} :		2.2	Psi
Max. factored shear stress v_{u_AB} :	6.1	Psi Factored shear Strength ϕv_n :		177.5	Psi
Max. factored shear stress v_u :	6.1	Psi Check Usage of Punching Shear Capacity:		0.03	OK!

Exhibit E

Mount Analysis

July 26, 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: BOBOS00047A
Site Name: N/A

SBA Network Services Designation: **Site Number:** CT02720-S
Site Name: Ledyard South
Application Number: 163258, v1

Engineering Firm Designation: **B+T Group Project Number:** 149440.003.01

Site Data: 770 Long Cove Road, Ledyard, CT, 06339, New London County
Latitude 41.41687°, Longitude -72.04429°
Monopole
8 ft. 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 61.6%)**

This analysis has been performed in accordance with the 2018 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 135 mph converted to a nominal 3-second gust wind speed of 105 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.

All the equipment proposed in this report shall be installed in accordance with the drawings for the determined available structural capacity to be effective.

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: Matthew Williams

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

Chad E. Tuttle, P.E.

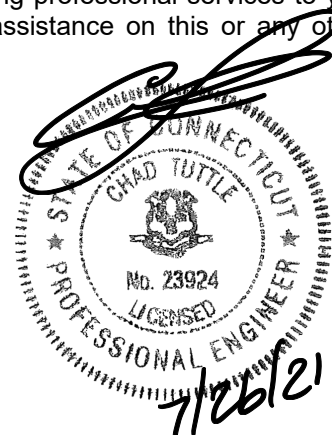


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1) INTRODUCTION

The appurtenance mount consists of Commscope platform mount part# MC-PK8-DSH at 152 ft., attached to monopole at 770 Long Cove Road, Ledyard, CT, 06339, New London 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 105 mph with no ice and 50 mph with 0.75 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 30° 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	152	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 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 Mount Info	Date: 06/24/2021	SBA Network Services, LLC
RFDS	Proposed Loading	Date: 06/09/2021	

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.

Manufacturer's 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

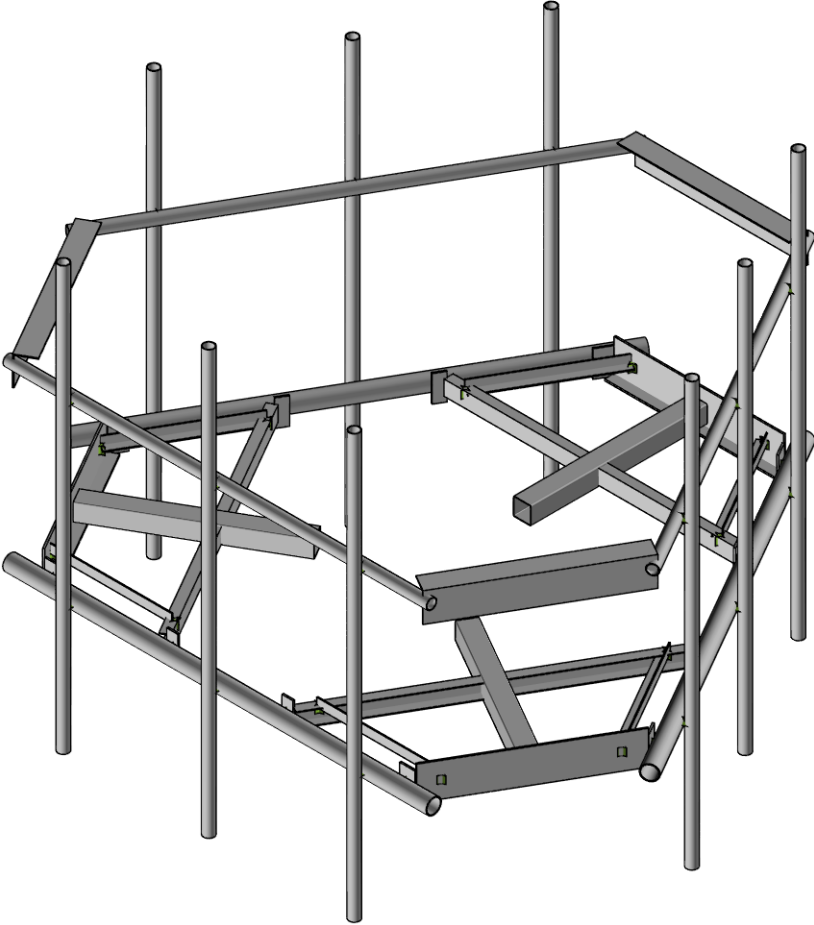
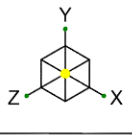
Notes	Component	Elevation (ft.)	% Capacity	Pass / Fail
-	Main Horizontals	152	11.1	Pass
-	Support Rails	152	56.6	Pass
-	Support Tubes	152	61.6	Pass
-	Support Channels	152	36.7	Pass
-	Support Angels	152	45.0	Pass
-	Mount Pipes	152	46.7	Pass
-	Connection Plates	152	21.6	Pass
-	Connection Angles	152	29.2	Pass
-	Connection Bolts	152	32.4	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)

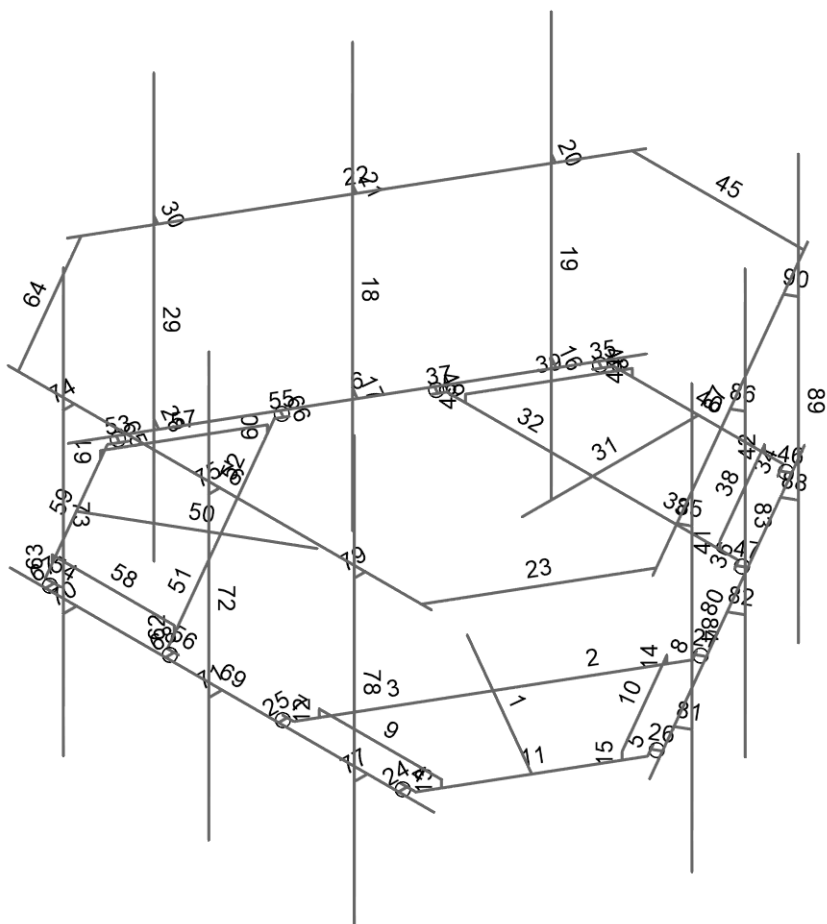
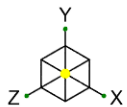


Envelope Only Solution

B+T Group
MP
149440.003.01

CT02720-S - Ledyard South

SK-1
Jul 26, 2021
149440_003_01_Ledyard South_...



Envelope Only Solution

B+T Group

MP

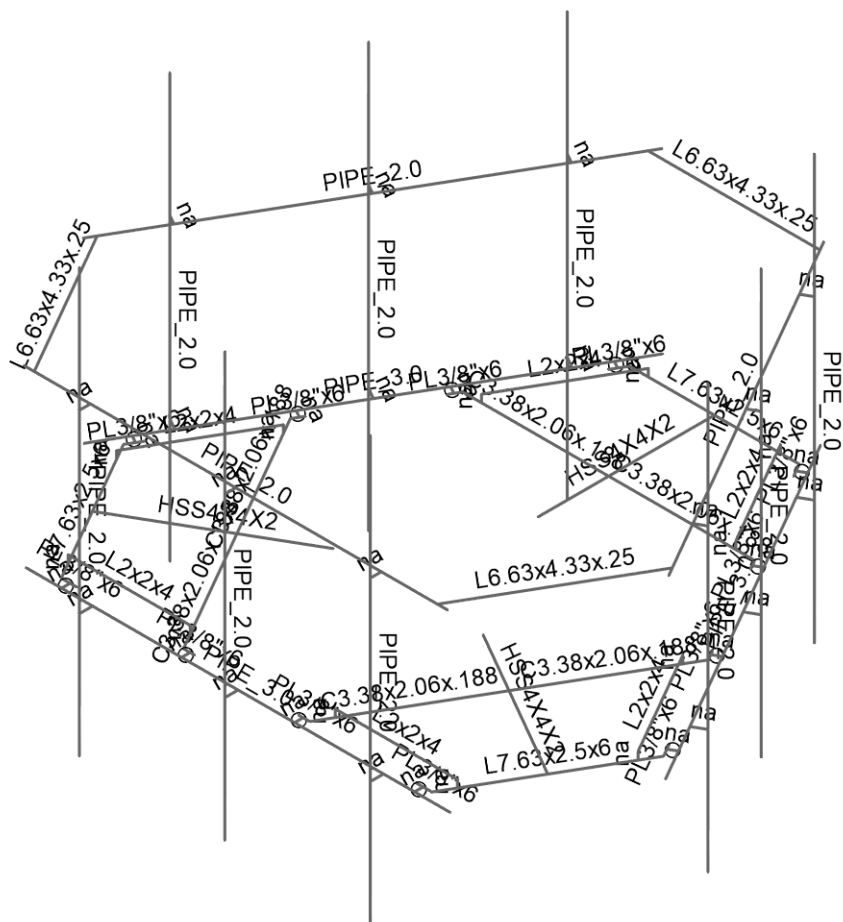
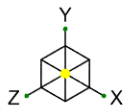
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CT02720-S - Ledyard South

SK-2

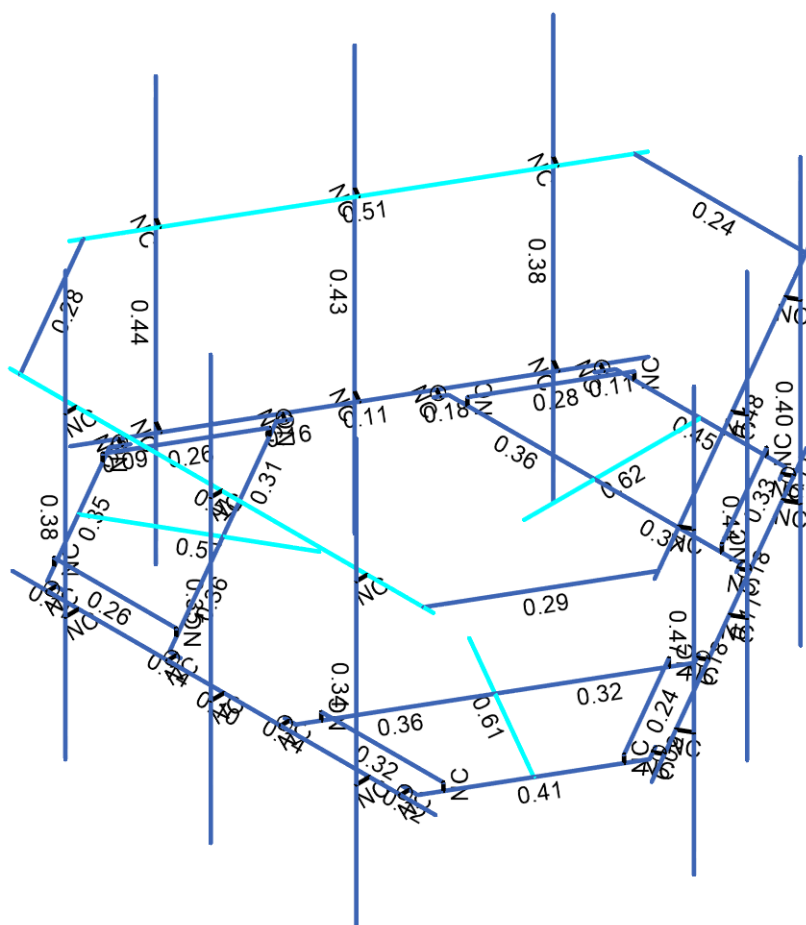
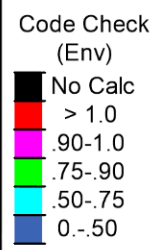
Jul 26, 2021

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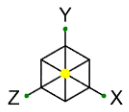


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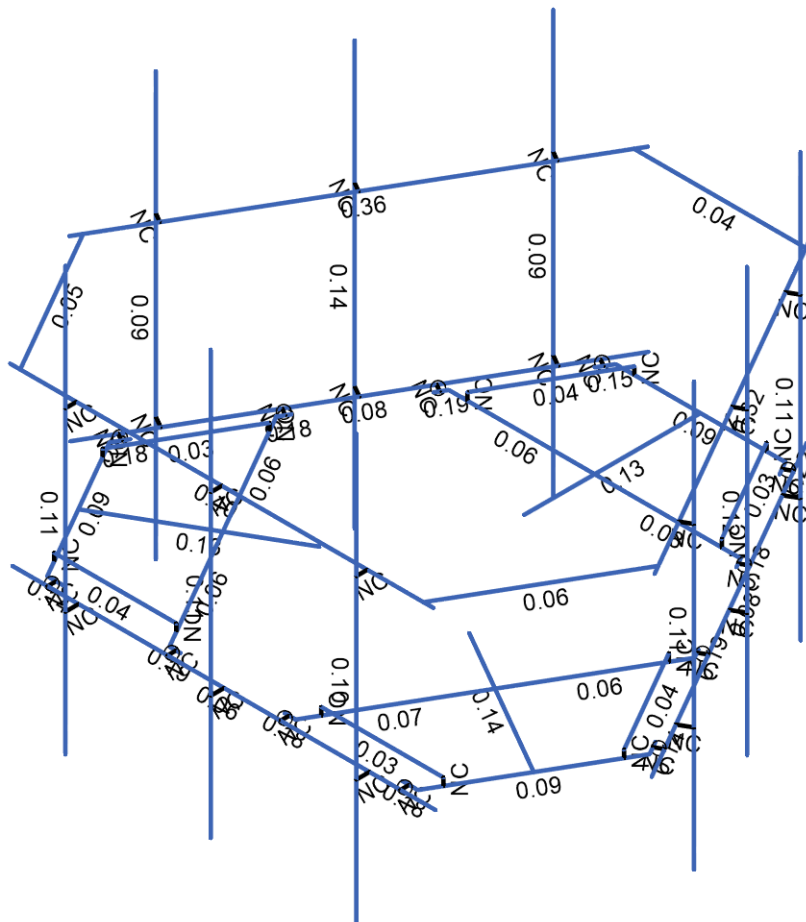


B+T Group	CT02720-S - Ledyard South	SK-4
MP		Jul 26, 2021
149440.003.01		149440_003_01_Ledyard South_...



Shear Check
(Env)

- No Calc
- > 1.0
- .90-1.0
- .75-.90
- .50-.75
- 0-.50



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	CT02720-S - Ledyard South	SK-5
MP		Jul 26, 2021
149440.003.01		149440_003_01_Ledyard South_...

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	1	1.417896	0.167	0.818623	
2	2	4.304647	0.167	2.485289	
3	3	2.572597	0.167	1.485289	
4	4	1.19343	0.167	3.874076	
5	5	3.951763	0.167	-0.903497	
6	6	5.106464	0.167	1.096503	
7	7	3.502831	0.167	3.874076	
8	8	3.211164	0.167	3.874076	
9	9	4.960631	0.167	0.843912	
10	10	3.336164	0.167	3.874076	
11	11	3.336164	0.167	4.035555	
12	12	5.023131	0.167	0.952165	
13	13	5.162975	0.167	0.871426	
14	14	-1.494894	0.167	-5.481877	
15	15	-5.494892	0.167	1.446323	
16	16	0.985097	0.167	3.874076	
17	17	1.068431	0.167	3.874076	
18	18	1.068431	0.167	4.035555	
19	19	3.847597	0.167	-1.083919	
20	20	3.889264	0.167	-1.01175	
21	21	4.029108	0.167	-1.092489	
22	22	4.929647	0.307833	1.402758	
23	23	3.774947	0.307833	-0.597242	
24	24	1.370246	0.307833	3.567821	
25	25	3.679647	0.307833	3.567821	
26	26	4.929647	0.167	1.402758	
27	27	3.774947	0.167	-0.597242	
28	28	1.370246	0.167	3.567821	
29	29	3.679647	0.167	3.567821	
30	30	-2.119894	0.167	-4.399346	
31	31	-3.494894	0.167	-2.017776	
32	32	-2.3364	0.167	-4.524346	
33	33	-3.7114	0.167	-2.142776	
34	34	-2.3364	-2.1667	-4.524346	
35	35	-3.7114	-2.1667	-2.142776	
36	36	-2.3364	5.8333	-4.524346	
37	37	-3.7114	5.8333	-2.142776	
38	38	-2.3364	3.500067	-4.524346	
39	39	-3.7114	3.500067	-2.142776	
40	40	-2.155978	3.500067	-4.420179	
41	41	-3.530978	3.500067	-2.038609	
42	42	-1.530977	3.500067	-5.502712	
43	43	-5.530977	3.500067	1.425491	
44	44	3.811905	3.499967	4.077221	
45	45	5.43693	3.499967	1.262596	
46	46	-4.869892	0.167	0.363791	
47	47	-5.086398	0.167	0.238791	
48	48	-5.086398	-2.1667	0.238791	
49	49	-5.086398	5.8333	0.238791	
50	50	-5.086398	3.500067	0.238791	
51	51	-4.905976	3.500067	0.342957	
52	52	0	0.167	0	
53	53	0	0.167	-1.637245	
54	54	0	0.167	-4.970579	
55	55	0	0.167	-2.970579	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	56	2.758333	0.167	-2.970579	
57	57	-2.758333	0.167	-2.970579	
58	58	-1.603633	0.167	-4.970579	
59	59	1.603633	0.167	-4.970579	
60	60	1.749466	0.167	-4.717988	
61	61	-1.749466	0.167	-4.717988	
62	62	1.686966	0.167	-4.826241	
63	63	1.826811	0.167	-4.90698	
64	64	-1.686966	0.167	-4.826241	
65	65	-1.826811	0.167	-4.90698	
66	66	2.8625	0.167	-2.790157	
67	67	2.820833	0.167	-2.862326	
68	68	2.960677	0.167	-2.943066	
69	69	-2.8625	0.167	-2.790157	
70	70	-2.820833	0.167	-2.862326	
71	71	-2.960677	0.167	-2.943066	
72	72	-1.25	0.307833	-4.970579	
73	73	-2.404701	0.307833	-2.970579	
74	74	2.404701	0.307833	-2.970579	
75	75	1.25	0.307833	-4.970579	
76	76	-1.25	0.167	-4.970579	
77	77	-2.404701	0.167	-2.970579	
78	78	2.404701	0.167	-2.970579	
79	79	1.25	0.167	-4.970579	
80	80	1.625025	3.499967	-5.339817	
81	81	-1.625025	3.500067	-5.339817	
82	82	-1.417896	0.167	0.818623	
83	83	-4.304647	0.167	2.485289	
84	84	-2.572597	0.167	1.485289	
85	85	-3.951763	0.167	-0.903497	
86	86	-1.19343	0.167	3.874076	
87	87	-3.502831	0.167	3.874076	
88	88	-5.106464	0.167	1.096503	
89	89	-4.960631	0.167	0.843912	
90	90	-3.211164	0.167	3.874076	
91	91	-5.023131	0.167	0.952165	
92	92	-5.162975	0.167	0.871426	
93	93	-3.336164	0.167	3.874076	
94	94	-3.336164	0.167	4.035555	
95	95	-3.847597	0.167	-1.083919	
96	96	-3.889264	0.167	-1.01175	
97	97	-4.029108	0.167	-1.092489	
98	98	-0.985097	0.167	3.874076	
99	99	-1.068431	0.167	3.874076	
100	100	-1.068431	0.167	4.035555	
101	101	-3.679647	0.307833	3.567821	
102	102	-1.370246	0.307833	3.567821	
103	103	-3.774947	0.307833	-0.597242	
104	104	-4.929647	0.307833	1.402758	
105	105	-3.679647	0.167	3.567821	
106	106	-1.370246	0.167	3.567821	
107	107	-3.774947	0.167	-0.597242	
108	108	-4.929647	0.167	1.402758	
109	109	-5.43693	3.500067	1.262596	
110	110	-3.811905	3.500067	4.077221	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
111	111	-3.999998	0.167	4.035555	
112	112	3.999998	0.167	4.035555	
113	113	-2.749998	0.167	4.035555	
114	114	0.000002	0.167	4.035555	
115	115	-2.749998	0.167	4.285555	
116	116	0.000002	0.167	4.285555	
117	117	-2.749998	-2.1667	4.285555	
118	118	0.000002	-2.1667	4.285555	
119	119	-2.749998	5.8333	4.285555	
120	120	0.000002	5.8333	4.285555	
121	121	-2.749998	3.500067	4.285555	
122	122	0.000002	3.500067	4.285555	
123	123	-2.749998	3.500067	4.077221	
124	124	0.000002	3.500067	4.077221	
125	125	-4	3.500067	4.077221	
126	126	4	3.500067	4.077221	
127	127	2.749998	0.167	4.035555	
128	128	2.749998	0.167	4.285555	
129	129	2.749998	-2.1667	4.285555	
130	130	2.749998	5.8333	4.285555	
131	131	2.749998	3.500067	4.285555	
132	132	2.749998	3.500067	4.077221	
133	133	5.494892	0.167	1.446323	
134	134	1.494894	0.167	-5.481877	
135	135	4.869892	0.167	0.363791	
136	136	3.494892	0.167	-2.017779	
137	137	5.086398	0.167	0.238791	
138	138	3.711398	0.167	-2.142779	
139	139	5.086398	-2.1667	0.238791	
140	140	3.711398	-2.1667	-2.142779	
141	141	5.086398	5.8333	0.238791	
142	142	3.711398	5.8333	-2.142779	
143	143	5.086398	3.500067	0.238791	
144	144	3.711398	3.500067	-2.142779	
145	145	4.905976	3.500067	0.342957	
146	146	3.530976	3.500067	-2.038612	
147	147	5.530977	3.500067	1.425491	
148	148	1.530977	3.500067	-5.502712	
149	149	2.119894	0.167	-4.399346	
150	150	2.3364	0.167	-4.524346	
151	151	2.3364	-2.1667	-4.524346	
152	152	2.3364	5.8333	-4.524346	
153	153	2.3364	3.500067	-4.524346	
154	154	2.155978	3.500067	-4.420179	

Node Boundary Conditions

	Node Label	X [k/in] Reaction	Y [k/in] Reaction	Z [k/in] Reaction	X Rot [k-ft/rad] Reaction	Y Rot [k-ft/rad] Reaction	Z Rot [k-ft/rad] Reaction
1	1						
2	2						
3	3						
4	4						
5	5						
6	16						
7	17						
8	19						

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]
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						

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [$10^{-6}/^{\circ}\text{F}$]	Density [k/ft ³]	Yield [ksi]	Fu [ksi]
1	A653 SS Gr33	29500	11346	0.3	0.65	0.49	33	45
2	A653 SS Gr50/1	29500	11346	0.3	0.65	0.49	50	65

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [$10^{-6}/^{\circ}\text{F}$]	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

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 3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	MF-H2	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
3	SF-H1	HSS4X4X2	Beam	Tube	A500 Gr.B Rect	Typical	1.77	4.4	4.4	6.91

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
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 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
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

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	CF1	8CU1.25X057	Beam	None	A653 SS Gr33	Typical	0.581	0.057	4.41	0.00063

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	A53 Gr.B	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	A53 Gr.B	Typical
19	19	36	34		MF-P1	Column	Pipe	A53 Gr.B	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	A53 Gr.B	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	A53 Gr.B	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

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
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
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	A53 Gr.B	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	A53 Gr.B	Typical
73	73	119	117		MF-P1	Column	Pipe	A53 Gr.B	Typical
74	74	121	123		RIGID	None	None	RIGID	Typical
75	75	122	124		RIGID	None	None	RIGID	Typical
76	76	125	126		MF-H2	Beam	Pipe	A53 Gr.B	Typical
77	77	128	127		RIGID	None	None	RIGID	Typical
78	78	130	129		MF-P1	Column	Pipe	A53 Gr.B	Typical
79	79	131	132		RIGID	None	None	RIGID	Typical
80	80	133	134		MF-H1	Beam	Pipe	A53 Gr.B	Typical
81	81	137	135		RIGID	None	None	RIGID	Typical
82	82	138	136		RIGID	None	None	RIGID	Typical
83	83	142	140		MF-P1	Column	Pipe	A53 Gr.B	Typical
84	84	141	139		MF-P1	Column	Pipe	A53 Gr.B	Typical
85	85	143	145		RIGID	None	None	RIGID	Typical
86	86	144	146		RIGID	None	None	RIGID	Typical
87	87	147	148		MF-H2	Beam	Pipe	A53 Gr.B	Typical
88	88	150	149		RIGID	None	None	RIGID	Typical
89	89	152	151		MF-P1	Column	Pipe	A53 Gr.B	Typical
90	90	153	154		RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
1	1				Yes	Default	None
2	2			2	Yes	N/A	None

Member Advanced Data (Continued)

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
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
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	Default	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	Default	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	Default	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	Default	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

Member Advanced Data (Continued)

	Label	I Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
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	Default	None
65	65	OOOOOX			Yes	** NA **	None
66	66	OOOOOX			Yes	** NA **	None
67	67	OOOOOX			Yes	** NA **	None
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	N/A	None
77	77				Yes	** NA **	None
78	78				Yes	** NA **	None
79	79				Yes	** NA **	None
80	80				Yes	N/A	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	N/A	None
88	88				Yes	** NA **	None
89	89				Yes	** NA **	None
90	90				Yes	** NA **	None

Cold Formed Steel Design Parameters

No Data to Print...

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	8	Lbyy	Lateral
15	23	MF-H3	3.25	Lbyy	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
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
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	76	MF-H2	8	Lbyy	Lateral
43	78	MF-P1	8	Lbyy	Lateral
44	80	MF-H1	8	Lbyy	Lateral
45	83	MF-P1	8	Lbyy	Lateral
46	84	MF-P1	8	Lbyy	Lateral
47	87	MF-H2	8	Lbyy	Lateral
48	89	MF-P1	8	Lbyy	Lateral

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	-0.016	-0.016	0	%100
2	2	Z	-0.014	-0.014	0	%100
3	3	Z	-0.014	-0.014	0	%100
4	4	Z	-0.02	-0.02	0	%100
5	5	Z	-0.02	-0.02	0	%100
6	6	Z	-0.012	-0.012	0	%100
7	7	Z	-0.02	-0.02	0	%100
8	8	Z	-0.02	-0.02	0	%100
9	9	Z	-0.009	-0.009	0	%100
10	10	Z	-0.009	-0.009	0	%100
11	11	Z	-0.027	-0.027	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	-0.024	-0.024	0	%100
16	29	Z	-0.008	-0.008	0	%100
17	31	Z	-0.016	-0.016	0	%100
18	32	Z	-0.014	-0.014	0	%100
19	33	Z	-0.014	-0.014	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, %)]
20	34	Z	-0.02	-0.02	0	%100
21	35	Z	-0.02	-0.02	0	%100
22	36	Z	-0.02	-0.02	0	%100
23	37	Z	-0.02	-0.02	0	%100
24	38	Z	-0.009	-0.009	0	%100
25	39	Z	-0.009	-0.009	0	%100
26	40	Z	-0.027	-0.027	0	%100
27	45	Z	-0.024	-0.024	0	%100
28	50	Z	-0.016	-0.016	0	%100
29	51	Z	-0.014	-0.014	0	%100
30	52	Z	-0.014	-0.014	0	%100
31	53	Z	-0.02	-0.02	0	%100
32	54	Z	-0.02	-0.02	0	%100
33	55	Z	-0.02	-0.02	0	%100
34	56	Z	-0.02	-0.02	0	%100
35	57	Z	-0.009	-0.009	0	%100
36	58	Z	-0.009	-0.009	0	%100
37	59	Z	-0.027	-0.027	0	%100
38	64	Z	-0.024	-0.024	0	%100
39	69	Z	-0.012	-0.012	0	%100
40	72	Z	-0.008	-0.008	0	%100
41	73	Z	-0.008	-0.008	0	%100
42	76	Z	-0.008	-0.008	0	%100
43	78	Z	-0.008	-0.008	0	%100
44	80	Z	-0.012	-0.012	0	%100
45	83	Z	-0.008	-0.008	0	%100
46	84	Z	-0.008	-0.008	0	%100
47	87	Z	-0.008	-0.008	0	%100
48	89	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	-0.016	-0.016	0	%100
2	2	X	-0.014	-0.014	0	%100
3	3	X	-0.014	-0.014	0	%100
4	4	X	-0.02	-0.02	0	%100
5	5	X	-0.02	-0.02	0	%100
6	6	X	-0.012	-0.012	0	%100
7	7	X	-0.02	-0.02	0	%100
8	8	X	-0.02	-0.02	0	%100
9	9	X	-0.009	-0.009	0	%100
10	10	X	-0.009	-0.009	0	%100
11	11	X	-0.027	-0.027	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	-0.024	-0.024	0	%100
16	29	X	-0.008	-0.008	0	%100
17	31	X	-0.016	-0.016	0	%100
18	32	X	-0.014	-0.014	0	%100
19	33	X	-0.014	-0.014	0	%100
20	34	X	-0.02	-0.02	0	%100
21	35	X	-0.02	-0.02	0	%100
22	36	X	-0.02	-0.02	0	%100
23	37	X	-0.02	-0.02	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, %)]
24	38	X	-0.009	-0.009	0	%100
25	39	X	-0.009	-0.009	0	%100
26	40	X	-0.027	-0.027	0	%100
27	45	X	-0.024	-0.024	0	%100
28	50	X	-0.016	-0.016	0	%100
29	51	X	-0.014	-0.014	0	%100
30	52	X	-0.014	-0.014	0	%100
31	53	X	-0.02	-0.02	0	%100
32	54	X	-0.02	-0.02	0	%100
33	55	X	-0.02	-0.02	0	%100
34	56	X	-0.02	-0.02	0	%100
35	57	X	-0.009	-0.009	0	%100
36	58	X	-0.009	-0.009	0	%100
37	59	X	-0.027	-0.027	0	%100
38	64	X	-0.024	-0.024	0	%100
39	69	X	-0.012	-0.012	0	%100
40	72	X	-0.008	-0.008	0	%100
41	73	X	-0.008	-0.008	0	%100
42	76	X	-0.008	-0.008	0	%100
43	78	X	-0.008	-0.008	0	%100
44	80	X	-0.012	-0.012	0	%100
45	83	X	-0.008	-0.008	0	%100
46	84	X	-0.008	-0.008	0	%100
47	87	X	-0.008	-0.008	0	%100
48	89	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	-0.006	-0.006	0	%100
2	2	Z	-0.005	-0.005	0	%100
3	3	Z	-0.005	-0.005	0	%100
4	4	Z	-0.009	-0.009	0	%100
5	5	Z	-0.009	-0.009	0	%100
6	6	Z	-0.002	-0.002	0	%100
7	7	Z	-0.01	-0.01	0	%100
8	8	Z	-0.01	-0.01	0	%100
9	9	Z	-0.004	-0.004	0	%100
10	10	Z	-0.004	-0.004	0	%100
11	11	Z	-0.008	-0.008	0	%100
12	18	Z	-0.002	-0.002	0	%100
13	19	Z	-0.002	-0.002	0	%100
14	22	Z	-0.002	-0.002	0	%100
15	23	Z	-0.007	-0.007	0	%100
16	29	Z	-0.002	-0.002	0	%100
17	31	Z	-0.006	-0.006	0	%100
18	32	Z	-0.005	-0.005	0	%100
19	33	Z	-0.005	-0.005	0	%100
20	34	Z	-0.009	-0.009	0	%100
21	35	Z	-0.009	-0.009	0	%100
22	36	Z	-0.01	-0.01	0	%100
23	37	Z	-0.01	-0.01	0	%100
24	38	Z	-0.004	-0.004	0	%100
25	39	Z	-0.004	-0.004	0	%100
26	40	Z	-0.008	-0.008	0	%100
27	45	Z	-0.007	-0.007	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, %)]
28	50	Z	-0.006	-0.006	0	%100
29	51	Z	-0.005	-0.005	0	%100
30	52	Z	-0.005	-0.005	0	%100
31	53	Z	-0.009	-0.009	0	%100
32	54	Z	-0.009	-0.009	0	%100
33	55	Z	-0.01	-0.01	0	%100
34	56	Z	-0.01	-0.01	0	%100
35	57	Z	-0.004	-0.004	0	%100
36	58	Z	-0.004	-0.004	0	%100
37	59	Z	-0.008	-0.008	0	%100
38	64	Z	-0.007	-0.007	0	%100
39	69	Z	-0.002	-0.002	0	%100
40	72	Z	-0.002	-0.002	0	%100
41	73	Z	-0.002	-0.002	0	%100
42	76	Z	-0.002	-0.002	0	%100
43	78	Z	-0.002	-0.002	0	%100
44	80	Z	-0.002	-0.002	0	%100
45	83	Z	-0.002	-0.002	0	%100
46	84	Z	-0.002	-0.002	0	%100
47	87	Z	-0.002	-0.002	0	%100
48	89	Z	-0.002	-0.002	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	-0.006	-0.006	0	%100
2	2	X	-0.005	-0.005	0	%100
3	3	X	-0.005	-0.005	0	%100
4	4	X	-0.009	-0.009	0	%100
5	5	X	-0.009	-0.009	0	%100
6	6	X	-0.002	-0.002	0	%100
7	7	X	-0.01	-0.01	0	%100
8	8	X	-0.01	-0.01	0	%100
9	9	X	-0.004	-0.004	0	%100
10	10	X	-0.004	-0.004	0	%100
11	11	X	-0.008	-0.008	0	%100
12	18	X	-0.002	-0.002	0	%100
13	19	X	-0.002	-0.002	0	%100
14	22	X	-0.002	-0.002	0	%100
15	23	X	-0.007	-0.007	0	%100
16	29	X	-0.002	-0.002	0	%100
17	31	X	-0.006	-0.006	0	%100
18	32	X	-0.005	-0.005	0	%100
19	33	X	-0.005	-0.005	0	%100
20	34	X	-0.009	-0.009	0	%100
21	35	X	-0.009	-0.009	0	%100
22	36	X	-0.01	-0.01	0	%100
23	37	X	-0.01	-0.01	0	%100
24	38	X	-0.004	-0.004	0	%100
25	39	X	-0.004	-0.004	0	%100
26	40	X	-0.008	-0.008	0	%100
27	45	X	-0.007	-0.007	0	%100
28	50	X	-0.006	-0.006	0	%100
29	51	X	-0.005	-0.005	0	%100
30	52	X	-0.005	-0.005	0	%100
31	53	X	-0.009	-0.009	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, %)]
32	54	X	-0.009	-0.009	0	%100
33	55	X	-0.01	-0.01	0	%100
34	56	X	-0.01	-0.01	0	%100
35	57	X	-0.004	-0.004	0	%100
36	58	X	-0.004	-0.004	0	%100
37	59	X	-0.008	-0.008	0	%100
38	64	X	-0.007	-0.007	0	%100
39	69	X	-0.002	-0.002	0	%100
40	72	X	-0.002	-0.002	0	%100
41	73	X	-0.002	-0.002	0	%100
42	76	X	-0.002	-0.002	0	%100
43	78	X	-0.002	-0.002	0	%100
44	80	X	-0.002	-0.002	0	%100
45	83	X	-0.002	-0.002	0	%100
46	84	X	-0.002	-0.002	0	%100
47	87	X	-0.002	-0.002	0	%100
48	89	X	-0.002	-0.002	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	-0.0003	-0.0003	0	%100
13	19	Z	-0.0003	-0.0003	0	%100
14	22	Z	-0.0003	-0.0003	0	%100
15	23	Z	-0.002	-0.002	0	%100
16	29	Z	-0.0003	-0.0003	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

Member Distributed Loads (BLC 6 : 0 Wind - Service) (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, %)]
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	-0.0003	-0.0003	0	%100
41	73	Z	-0.0003	-0.0003	0	%100
42	76	Z	-0.0003	-0.0003	0	%100
43	78	Z	-0.0003	-0.0003	0	%100
44	80	Z	-0.0005	-0.0005	0	%100
45	83	Z	-0.0003	-0.0003	0	%100
46	84	Z	-0.0003	-0.0003	0	%100
47	87	Z	-0.0003	-0.0003	0	%100
48	89	Z	-0.0003	-0.0003	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	-0.0003	-0.0003	0	%100
13	19	X	-0.0003	-0.0003	0	%100
14	22	X	-0.0003	-0.0003	0	%100
15	23	X	-0.002	-0.002	0	%100
16	29	X	-0.0003	-0.0003	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

Member Distributed Loads (BLC 7 : 90 Wind - Service) (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, %)]
40	72	X	-0.0003	-0.0003	0	%100
41	73	X	-0.0003	-0.0003	0	%100
42	76	X	-0.0003	-0.0003	0	%100
43	78	X	-0.0003	-0.0003	0	%100
44	80	X	-0.0005	-0.0005	0	%100
45	83	X	-0.0003	-0.0003	0	%100
46	84	X	-0.0003	-0.0003	0	%100
47	87	X	-0.0003	-0.0003	0	%100
48	89	X	-0.0003	-0.0003	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	-0.007	-0.007	0	%100
2	2	Y	-0.005	-0.005	0	%100
3	3	Y	-0.005	-0.005	0	%100
4	4	Y	-0.007	-0.007	0	%100
5	5	Y	-0.007	-0.007	0	%100
6	6	Y	-0.005	-0.005	0	%100
7	7	Y	-0.007	-0.007	0	%100
8	8	Y	-0.007	-0.007	0	%100
9	9	Y	-0.004	-0.004	0	%100
10	10	Y	-0.004	-0.004	0	%100
11	11	Y	-0.01	-0.01	0	%100
12	18	Y	-0.003	-0.003	0	%100
13	19	Y	-0.003	-0.003	0	%100
14	22	Y	-0.003	-0.003	0	%100
15	23	Y	-0.009	-0.009	0	%100
16	29	Y	-0.003	-0.003	0	%100
17	31	Y	-0.007	-0.007	0	%100
18	32	Y	-0.005	-0.005	0	%100
19	33	Y	-0.005	-0.005	0	%100
20	34	Y	-0.007	-0.007	0	%100
21	35	Y	-0.007	-0.007	0	%100
22	36	Y	-0.007	-0.007	0	%100
23	37	Y	-0.007	-0.007	0	%100
24	38	Y	-0.004	-0.004	0	%100
25	39	Y	-0.004	-0.004	0	%100
26	40	Y	-0.01	-0.01	0	%100
27	45	Y	-0.009	-0.009	0	%100
28	50	Y	-0.007	-0.007	0	%100
29	51	Y	-0.005	-0.005	0	%100
30	52	Y	-0.005	-0.005	0	%100
31	53	Y	-0.007	-0.007	0	%100
32	54	Y	-0.007	-0.007	0	%100
33	55	Y	-0.007	-0.007	0	%100
34	56	Y	-0.007	-0.007	0	%100
35	57	Y	-0.004	-0.004	0	%100
36	58	Y	-0.004	-0.004	0	%100
37	59	Y	-0.01	-0.01	0	%100
38	64	Y	-0.009	-0.009	0	%100
39	69	Y	-0.005	-0.005	0	%100
40	72	Y	-0.003	-0.003	0	%100
41	73	Y	-0.003	-0.003	0	%100
42	76	Y	-0.003	-0.003	0	%100
43	78	Y	-0.003	-0.003	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, %)]
44	80	Y	-0.005	-0.005	0 %100
45	83	Y	-0.003	-0.003	0 %100
46	84	Y	-0.003	-0.003	0 %100
47	87	Y	-0.003	-0.003	0 %100
48	89	Y	-0.003	-0.003	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	-0.02	-0.026	1.27 2.309
2	57	Y	-0.014	-0.02	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	-0.017	-0.017	0 2.078
6	10	Y	0.0006164	-0.016	0 1.155
7	10	Y	-0.016	-0.035	1.155 2.309
8	38	Y	-0.014	-0.016	0 2.078
9	39	Y	-0.014	-0.02	0.231 1.27

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	-0.014	-0.014	0 2.078
2	10	Y	0.000511	-0.013	0 1.155
3	10	Y	-0.013	-0.029	1.155 2.309
4	38	Y	-0.012	-0.013	0 2.078
5	39	Y	-0.012	-0.017	0.231 1.27
6	39	Y	-0.017	-0.021	1.27 2.309
7	57	Y	-0.011	-0.017	0 2.078
8	58	Y	0.000511	-0.013	0 1.155
9	58	Y	-0.013	-0.029	1.155 2.309

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	89	Y	-0.032 %15
7	89	Y	-0.032 %85
8	89	Y	-0.075 %20
9	89	Y	-0.064 %50
10	89	Y	0 0
11	78	Y	-0.032 %15
12	78	Y	-0.032 %85
13	78	Y	-0.075 %20
14	78	Y	-0.064 %50
15	78	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	-0.147	%15
2	29	Z	-0.147	%85
3	29	Z	-0.065	%20
4	29	Z	-0.065	%50
5	29	Z	0	0
6	89	Z	-0.147	%15
7	89	Z	-0.147	%85
8	89	Z	-0.065	%20
9	89	Z	-0.065	%50
10	89	Z	0	0
11	78	Z	-0.147	%15
12	78	Z	-0.147	%85
13	78	Z	-0.065	%20
14	78	Z	-0.065	%50
15	78	Z	0	0
16	31	Z	-0.067	%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	-0.059	%15
2	29	X	-0.059	%85
3	29	X	-0.039	%20
4	29	X	-0.034	%50
5	29	X	0	0
6	89	X	-0.059	%15
7	89	X	-0.059	%85
8	89	X	-0.039	%20
9	89	X	-0.034	%50
10	89	X	0	0
11	78	X	-0.059	%15
12	78	X	-0.059	%85
13	78	X	-0.039	%20
14	78	X	-0.034	%50
15	78	X	0	0
16	31	X	-0.037	%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	-0.037	%15
2	29	Z	-0.037	%85
3	29	Z	-0.015	%20
4	29	Z	-0.015	%50
5	29	Z	0	0
6	89	Z	-0.037	%15

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
7	89	Z	-0.037	%85
8	89	Z	-0.015	%20
9	89	Z	-0.015	%50
10	89	Z	0	0
11	78	Z	-0.037	%15
12	78	Z	-0.037	%85
13	78	Z	-0.015	%20
14	78	Z	-0.015	%50
15	78	Z	0	0
16	31	Z	-0.015	%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	-0.016	%15
2	29	X	-0.016	%85
3	29	X	-0.009	%20
4	29	X	-0.008	%50
5	29	X	0	0
6	89	X	-0.016	%15
7	89	X	-0.016	%85
8	89	X	-0.009	%20
9	89	X	-0.008	%50
10	89	X	0	0
11	78	X	-0.016	%15
12	78	X	-0.016	%85
13	78	X	-0.009	%20
14	78	X	-0.008	%50
15	78	X	0	0
16	31	X	-0.008	%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	-0.012	%15
2	29	Z	-0.012	%85
3	29	Z	-0.005	%20
4	29	Z	-0.005	%50
5	29	Z	0	0
6	89	Z	-0.012	%15
7	89	Z	-0.012	%85
8	89	Z	-0.005	%20
9	89	Z	-0.005	%50
10	89	Z	0	0
11	78	Z	-0.012	%15
12	78	Z	-0.012	%85
13	78	Z	-0.005	%20

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
14	78	Z	-0.005	%50
15	78	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	-0.005	%15
2	29	X	-0.005	%85
3	29	X	-0.003	%20
4	29	X	-0.003	%50
5	29	X	0	0
6	89	X	-0.005	%15
7	89	X	-0.005	%85
8	89	X	-0.003	%20
9	89	X	-0.003	%50
10	89	X	0	0
11	78	X	-0.005	%15
12	78	X	-0.005	%85
13	78	X	-0.003	%20
14	78	X	-0.003	%50
15	78	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	-0.098	%15
2	29	Y	-0.098	%85
3	29	Y	-0.026	%20
4	29	Y	-0.025	%50
5	29	Y	0	0
6	89	Y	-0.098	%15
7	89	Y	-0.098	%85
8	89	Y	-0.026	%20
9	89	Y	-0.025	%50
10	89	Y	0	0
11	78	Y	-0.098	%15
12	78	Y	-0.098	%85
13	78	Y	-0.026	%20
14	78	Y	-0.025	%50
15	78	Y	0	0
16	31	Y	-0.026	%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	80	Y	-0.25	%5

Member Point Loads (BLC 16 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	87	Y	-0.25	%5

Member Point Loads (BLC 17 : Maint LL 5)

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

Member Point Loads (BLC 18 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	76	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	80	Y	-0.25	%95

Member Point Loads (BLC 22 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	87	Y	-0.25	%95

Member Point Loads (BLC 23 : Maint LL 11)

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

Member Point Loads (BLC 24 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	76	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	1	Y	-0.25	%95

Member Point Loads (BLC 27 : Maint LL 15)

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

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	

Basic Load Cases (Continued)

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
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		
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

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
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
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

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
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	1.378	17	1.628	22	1.986	14	0.826	3	1.843	7	3.272	22
2		min	-1.293	11	-0.409	4	-1.943	8	-2.205	21	-1.847	25	-1.263	4
3	53	max	1.56	5	1.888	14	1.735	2	4.514	14	1.534	11	0.451	84
4		min	-1.565	23	-0.622	8	-1.833	20	-2.07	8	-1.537	17	-0.251	54
5	82	max	1.392	5	1.625	18	1.775	14	0.767	13	1.791	3	1.213	12
6		min	-1.472	23	-0.401	12	-1.721	8	-1.818	19	-1.792	21	-3.415	18
7	Totals:	max	4.318	5	4.369	72	5.483	2						
8		min	-4.318	11	1.589	6	-5.483	20						

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

Member	Shape	Code	Check	Loc[ft]	LC	Shear	Check	Loc[ft]	DirLC	phi*	Pnc [k]	phi*	Pnt [k]	phi*	Mn y-y [k-ft]	phi*	Mn z-z [k-ft]	Cb	Eqn
1	1	HSS4X4X2	0.607	0	21	0.143	0	z	19	70.173	73.278	8.24		8.24	1.927	H1-1b			
2	2	C3.38x2.06x.188	0.317	2.592	23	0.063	0.351	y	85	38.433	43.394	1.694		4.483	1.597	H1-1b			
3	3	C3.38x2.06x.188	0.363	0	21	0.068	2.241	z	15	38.433	43.394	1.694		4.483	1.589	H1-1b			
4	4	PL3/8"x6	0.119	0.164	15	0.182	0	y	22	68.856	72.9	0.57		9.113	2.619	H1-1b			
5	5	PL3/8"x6	0.087	0	23	0.139	0	y	57	68.856	72.9	0.57		9.113	1.922	H1-1b			
6	6	PIPE 3.0	0.108	4	14	0.08	3		25	46.291	65.205	5.749		5.749	1.434	H1-1b			
7	7	PL3/8"x6	0.142	0.208	22	0.178	0.208	y	69	70.733	72.9	0.57		9.113	2.407	H1-1b			
8	8	PL3/8"x6	0.18	0	21	0.187	0	y	71	70.733	72.9	0.57		9.113	2.857	H1-1b			
9	9	L2x2x4	0.325	0	15	0.031	2.309	y	55	23.349	30.586	0.691		1.577	1.5	H2-1			
10	10	L2x2x4	0.235	2.309	16	0.038	2.309	y	85	23.349	30.586	0.691		1.577	1.5	H2-1			
11	11	L7.63x2.5x6	0.411	1.604	3	0.087	1.604	y	84	73.845	118.523	1.798		14.08	1.324	H2-1			
12	18	PIPE 2.0	0.433	5.583	25	0.136	5.583		14	14.916	32.13	1.872		1.872	3	H1-1b			
13	19	PIPE 2.0	0.379	5.583	19	0.085	5.583		17	14.916	32.13	1.872		1.872	3	H1-1b			
14	22	PIPE 2.0	0.512	6.75	21	0.364	7.75		21	14.916	32.13	1.872		1.872	2.584	H3-6			
15	23	L6.63x4.33x.25	0.293	3.25	2	0.056	3.25	z	20	49.975	86.751	2.311		6.976	1.5	H2-1			
16	29	PIPE 2.0	0.443	5.583	14	0.09	5.583		18	14.916	32.13	1.872		1.872	3	H1-1b			
17	31	HSS4X4X2	0.615	0	25	0.134	0	y	85	70.173	73.278	8.24		8.24	1.934	H1-1b			
18	32	C3.38x2.06x.188	0.359	2.592	15	0.063	0.351	y	76	38.433	43.394	1.694		4.483	1.595	H1-1b			
19	33	C3.38x2.06x.188	0.367	0	25	0.08	2.241	z	20	38.433	43.394	1.694		4.483	1.588	H1-1b			
20	34	PL3/8"x6	0.107	0.164	19	0.218	0	y	14	68.856	72.9	0.57		9.113	2.666	H1-1b			
21	35	PL3/8"x6	0.107	0	15	0.154	0	y	14	68.856	72.9	0.57		9.113	2.047	H1-1b			
22	36	PL3/8"x6	0.18	0.208	20	0.179	0.208	y	62	70.733	72.9	0.57		9.113	1.399	H1-1b			
23	37	PL3/8"x6	0.176	0	25	0.186	0	y	63	70.733	72.9	0.57		9.113	2.884	H1-1b			
24	38	L2x2x4	0.329	0	19	0.031	2.309	y	59	23.349	30.586	0.691		1.577	1.5	H2-1			
25	39	L2x2x4	0.279	2.309	20	0.038	0	y	76	23.349	30.586	0.691		1.577	1.5	H2-1			
26	40	L7.63x2.5x6	0.45	1.604	8	0.087	1.604	y	75	73.845	118.523	1.798		13.716	1.241	H2-1			
27	45	L6.63x4.33x.25	0.241	3.25	6	0.044	3.25	z	24	49.975	86.751	2.311		6.976	1.5	H2-1			
28	50	HSS4X4X2	0.574	0	19	0.133	0	y	77	70.173	73.278	8.24		8.24	1.955	H1-1b			
29	51	C3.38x2.06x.188	0.361	2.592	19	0.063	0.351	y	81	38.433	43.394	1.694		4.483	1.594	H1-1b			
30	52	C3.38x2.06x.188	0.313	0	17	0.064	2.241	y	60	38.433	43.394	1.694		4.483	1.596	H1-1b			
31	53	PL3/8"x6	0.086	0.164	22	0.182	0	y	19	68.856	72.9	0.57		9.113	2.496	H1-1b			
32	54	PL3/8"x6	0.109	0	19	0.138	0	y	54	68.856	72.9	0.57		9.113	1.923	H1-1b			
33	55	PL3/8"x6	0.158	0.208	19	0.177	0.208	y	66	70.733	72.9	0.57		9.113	2.518	H1-1b			
34	56	PL3/8"x6	0.144	0	17	0.188	0	y	67	70.733	72.9	0.57		9.113	2.938	H1-1b			
35	57	L2x2x4	0.258	0	23	0.031	2.309	y	51	23.349	30.586	0.691		1.577	1.5	H2-1			
36	58	L2x2x4	0.255	2.309	25	0.038	2.309	y	80	23.349	30.586	0.691		1.577	1.5	H2-1			
37	59	L7.63x2.5x6	0.349	1.604	12	0.088	1.604	y	80	73.845	118.523	1.798		13.763	1.251	H2-1			
38	64	L6.63x4.33x.25	0.277	0	2	0.047	0	y	15	49.975	86.751	2.311		6.976	1.5	H2-1			
39	69	PIPE 3.0	0.1	2.917	21	0.064	4		17	46.291	65.205	5.749		5.749	1.757	H1-1b			
40	72	PIPE 2.0	0.345	5.583	17	0.107	5.583		18	14.916	32.13	1.872		1.872	3	H1-1b			
41	73	PIPE 2.0	0.378	2.333	22	0.11	5.583		21	14.916	32.13	1.872		1.872	3	H1-1b			
42	76	PIPE 2.0	0.566	6.75	14	0.399	7.75		14	14.916	32.13	1.872		1.872	2.606	H3-6			
43	78	PIPE 2.0	0.344	5.583	18	0.103	5.583		20	14.916	32.13	1.872		1.872	3	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	C	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
44	80	PIPE 3.0	0.112	4	14	0.084	4	21	46.291	65.205	5.749	5.749	1.606	H1-1b
45	83	PIPE 2.0	0.437	5.583	21	0.117	5.583	21	14.916	32.13	1.872	1.872	3	H1-1b
46	84	PIPE 2.0	0.468	2.333	14	0.114	5.583	25	14.916	32.13	1.872	1.872	3	H1-1b
47	87	PIPE 2.0	0.478	1.25	25	0.323	1.25	25	14.916	32.13	1.872	1.872	2.319	H3-6
48	89	PIPE 2.0	0.396	5.583	21	0.112	5.583	14	14.916	32.13	1.872	1.872	3	H1-1b

Envelope NONE Member Cold Formed Steel Code Checks

No Data to Print...														
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APPENDIX B

(Additional Calculations)

PROJECT	149440.003.01 - Ledyard Sou		KSC
SUBJECT	Platform Mount Analysis		
DATE	07/26/21	PAGE	OF



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

Tower Type	:	Monopole	
Ground Elevation	z_s :	230	ft [ASCE7 Hazard Tool]
Tower Height	:	165.00	ft
Mount Elevation	:	152.00	ft
Antenna Elevation	:	152.00	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 :	105	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 :	0.75	in [ASCE7 Hazard Tool]
Seismic Design Cat.	:	B	[ASCE7 Hazard Tool]
	S_s :	0.16	
	S_1 :	0.06	
	S_{DS} :	0.17	
	S_{D1} :	0.09	
Gust Factor	G_h :	1.00	[Sec. 16.6]
Pressure Coefficient	K_z :	1.38	[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} :	0.87	in [Sec. 2.6.10]
Importance Factor	I_e :	1	[Table 2-3]
Response Coefficient	C_s :	0.087	[Sec. 2.7.7.1]
Amplification	A_s :	2.684848	[Sec. 16.7]
	q_z :	36.75	psf

PROJECT	149664.003.01 - Piggy Lane, RI			KSC
SUBJECT	Sector - Mount Analysis			
DATE	07/26/21	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	:	1.735	k
Vertical Shear	:	1.891	k
Horizontal Shear	:	1.561	k
Torsion	:	0.464	k.ft
Moment from Horizontal Forces	:	1.534	k.ft
Moment from Vertical Forces	:	4.522	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	:	2.45	k
Force from Horz. Moment	:	2.78	k
Force from Vert. Moment	:	8.19	k
Shear Load / Bolt	:	0.61	k
Tension Load / Bolt	:	0.43	k
Resultant from Moments / Bolt	:	4.32	k

Bolt Checks

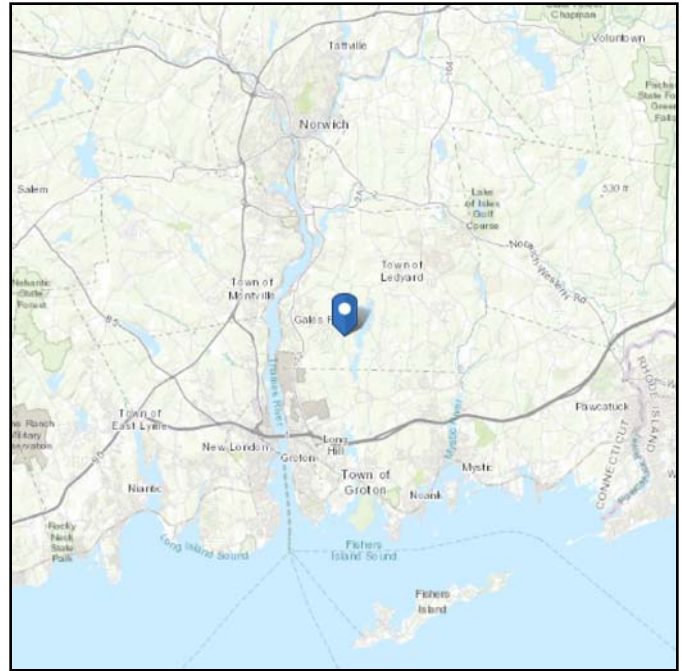
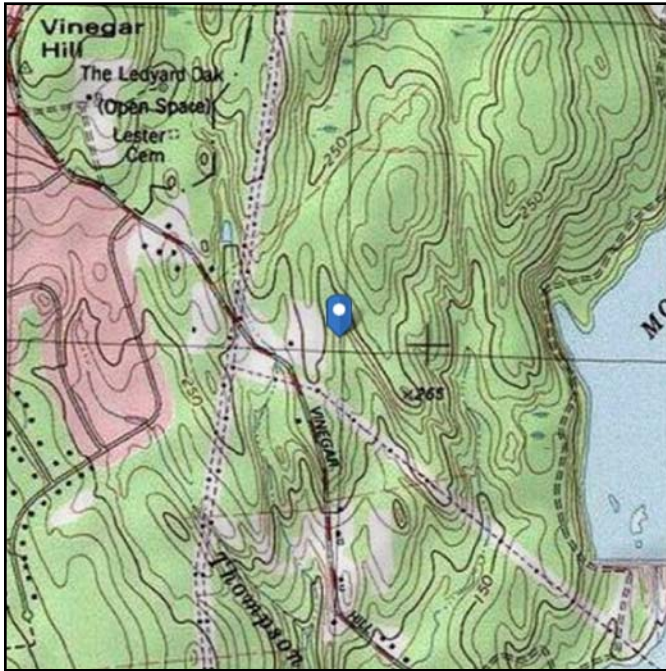
Nominal Tensile Stress, F_{nt}	:	90.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	20.72	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	22.96%		OKAY
Nominal Shear Stress, F_{nv}	:	48.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	11.05	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	9.47%		OKAY
Unity Check, Combined	:	32.43%		OKAY
Available Bearing Strength, ΦR_n	:	34.66	k/bolt	
Unity Check, Bolt Bearing	:	1.77%		OKAY

ASCE 7 Hazards Report

Address:
No Address at This
Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 229.8 ft (NAVD 88)
Latitude: 41.4169
Longitude: -72.0443

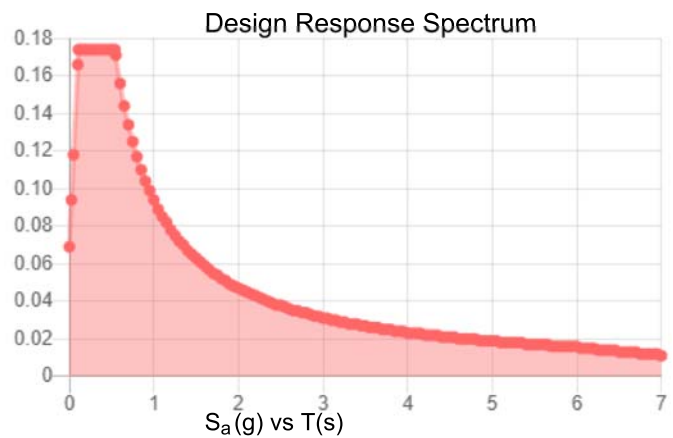
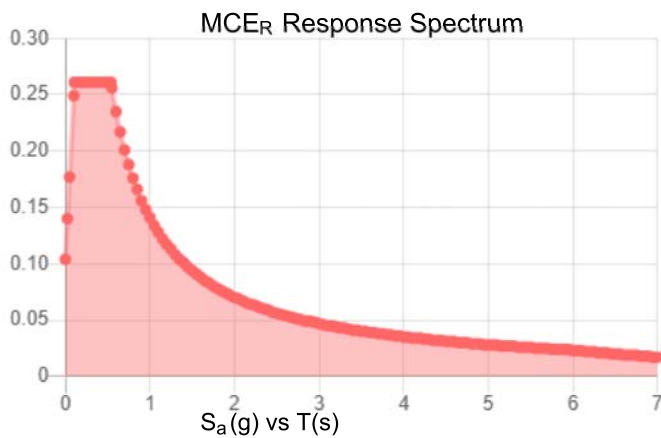


Site Soil Class: D - Stiff Soil

Results:

S_s :	0.163	S_{DS} :	0.174
S_1 :	0.059	S_{D1} :	0.094
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.081
S_{MS} :	0.261	PGA_M :	0.13
S_{M1} :	0.141	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B



Data Accessed:

Thu Jul 22 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: 0.75 in.

Concurrent Temperature: 15 F

Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

Date Accessed: Thu Jul 22 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.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

Exhibit F

Power Density/RF Emissions Report



Fox Hill Telecom

Radio Frequency Emissions Analysis Report



Site ID: BOBOS00047A

SBA - Long Cove Road
770 Long Cove Road
Ledyard, CT 06339

May 3, 2022

Fox Hill Telecom Project Number: 220984

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	4.05 %



May 3, 2022

Dish Wireless
5701 South Santa Fe Drive
Littleton, CO 80120

Emissions Analysis for Site: **BOBOS00047A – SBA - Long Cove Road**

Fox Hill Telecom, Inc (“Fox Hill”) was directed to analyze the proposed radio installation for Dish Wireless, LLC (Dish) facility located at **770 Long Cove Road, Ledyard, CT**, for the purpose of determining whether the emissions from the Proposed Dish radio and antenna installation located on this property are within specified federal limits.

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

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

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

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 600 MHz & 700 MHz bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS / AWS-4) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



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

Additional details can be found in FCC OET 65.



CALCULATIONS

Calculations were performed for the proposed radio system installation for **Dish** on the subject site located at **770 Long Cove Road, Ledyard, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since **Dish** 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 manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.

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. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

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

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

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
5G	n71 (600 MHz)	4	61.5
5G	n70 (AWS-4 / 1995-2020)	4	40
5G	n66 (AWS-4 / 2180-2200)	4	40

Table 1: Channel Data Table



The following antennas listed in *Table 2* were used in the modeling for transmission in the 600 MHz (n71) frequency band, and the 2100 MHz (AWS 4) frequency bands at 1995-2020 MHz (n70) and 2180-2200 MHz (n66). This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Commscope FFVV-65B-R2	152
B	1	Commscope FFVV-65B-R2	152
C	1	Commscope FFVV-65B-R2	152

Table 2: Antenna Data

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



RESULTS

Per the calculations completed for the proposed **Dish** configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Commscope FFVV-65B-R2	n71 (600 MHz) / n70 (AWS-4 / 1995-2020) / n66 (AWS-4 / 2180-2200)	12.15 / 15.95 / 16.25	12	566	17,079.80	3.90
Sector A Composite MPE%							3.90
Antenna B1	Commscope FFVV-65B-R2	n71 (600 MHz) / n70 (AWS-4 / 1995-2020) / n66 (AWS-4 / 2180-2200)	12.15 / 15.95 / 16.25	12	566	17,079.80	3.90
Sector B Composite MPE%							3.90
Antenna C1	Commscope FFVV-65B-R2	n71 (600 MHz) / n70 (AWS-4 / 1995-2020) / n66 (AWS-4 / 2180-2200)	12.15 / 15.95 / 16.25	12	566	17,079.80	3.90
Sector C Composite MPE%							3.90

Table 3: Dish Emissions Levels



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

Site Composite MPE %	
Carrier	MPE %
Dish – Max Per Sector Value	3.90 %
Verizon Wireless	0.15 %
Site Total MPE %:	4.05 %

Table 4: All Carrier MPE Contributions

Dish Sector A Total:	3.90 %
Dish Sector B Total:	3.90 %
Dish Sector C Total:	3.90 %
Site Total:	4.05 %

Table 5: Site MPE Summary



FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated **Dish** sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

Dish _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
Dish n71 (600 MHz) 5G	4	1,008.96	152	6.81	n71 (600 MHz)	400	1.70%
Dish n70 (AWS-4 / 1995-2020) 5G	4	1,574.20	152	10.62	n70 (AWS-4 / 1995-2020)	1000	1.06%
Dish n66 (AWS-4 / 2180-2200) 5G	4	1,686.79	152	11.38	n66 (AWS-4 / 2180-2200)	1000	1.14%
						Total:	3.90%

Table 6: Dish Maximum Sector MPE Power Values



Summary

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

The anticipated maximum composite contributions from the Dish 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 Sector	Power Density Value (%)
Sector A:	3.90 %
Sector B:	3.90 %
Sector C:	3.90 %
Dish Maximum Total (per sector):	3.90 %
Site Total:	4.05 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **4.05 %** 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.

Scott Heffernan
Principal RF Engineer
Fox Hill Telecom, Inc
Holden, MA 01520
(978)660-3998

Exhibit G

Letter of Authorization

SBA Letter of Authorization

CT - CONNECTICUT SITING COUNCIL

Melanie A. Bachman

Executive Director

Connecticut Siting Council

10 Franklin Square

New Britain, CT 06051

Re: Tower Share Application

SBA COMMUNICATIONS CORPORATION hereby authorizes DISH Wireless LLC, including their Agent, to act as our Agent in the processing of all zoning applications, building permits and approvals through the CONNECTICUT SITING COUNCIL for existing wireless communications towers.

Kri Pelletier

Site Development Manager

SBA COMMUNICATIONS CORPORATION

134 Flanders Road, Suite 125

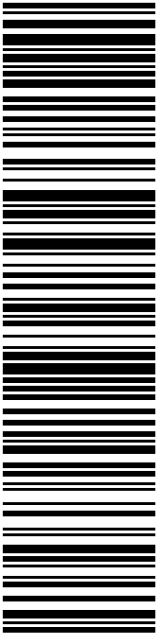
Westboro, MA 01581

SBA

By: _____ Date: _____

Exhibit H

Recipient Mailings

 Click-N-Ship®	
P	usps.com US POSTAGE Flat Rate Env 05/11/2022 Mailed from 01566
9405 5036 9930 0246 7672 47 0089 5000 0010 6339	
U.S. POSTAGE PAID Click-N-Ship®	
PRIORITY MAIL 2-DAY™	
Expected Delivery Date: 05/14/22 Ref#: SBDS-00047 0006	
DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
R010	
SHIP TO: JULIET HODGE PLANNING DIRECTOR-TOWN OF LEDYARD 741 COLONEL LEDYARD HWY LEDYARD CT 06339-1511	
USPS TRACKING #	
	
9405 5036 9930 0246 7672 47	
Electronic Rate Approved #038555749	

— ✂ — Cut on dotted line.

Instructions

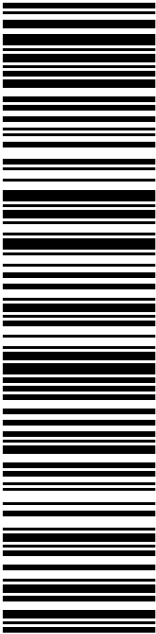
- Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
- Place your label so it does not wrap around the edge of the package.
- Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT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

Click-N-Ship® Label Record

USPS TRACKING # : 9405 5036 9930 0246 7672 47	
Trans. #: 563319304 Print Date: 05/11/2022 Ship Date: 05/11/2022 Expected Delivery Date: 05/14/2022	Priority Mail® Postage: \$8.95 Total: \$8.95
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
Ref#: SBDS-00047	
To: JULIET HODGE PLANNING DIRECTOR-TOWN OF LEDYARD 741 COLONEL LEDYARD HWY LEDYARD CT 06339-1511	
* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.	



Thank you for shipping with the United States Postal Service!
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 Click-N-Ship®	
P	usps.com US POSTAGE Flat Rate Env 05/11/2022 Mailed from 01566
9405 5036 9930 0246 7672 54 0089 5000 0010 6339	
U.S. POSTAGE PAID Click-N-Ship®	
PRIORITY MAIL 2-DAY™	
Expected Delivery Date: 05/14/22 Ref#: SBDS-00047 0006	
DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
R010	
SHIP TO: FRED ALLYN, III MAYOR- TOWN OF LEDYARD 741 COLONEL LEDYARD HWY LEDYARD CT 06339-1511	
USPS TRACKING #	
	
9405 5036 9930 0246 7672 54	
Electronic Rate Approved #038555749	



Cut on dotted line.

Instructions

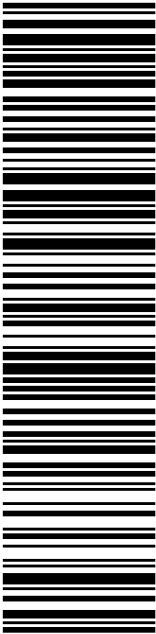
- Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
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Trans. #: 563319304 Print Date: 05/11/2022 Ship Date: 05/11/2022 Expected Delivery Date: 05/14/2022	Priority Mail® Postage: \$8.95 Total: \$8.95
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
Ref#: SBDS-00047	
To: FRED ALLYN, III MAYOR- TOWN OF LEDYARD 741 COLONEL LEDYARD HWY LEDYARD CT 06339-1511	
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P	usps.com US POSTAGE Flat Rate Env 05/11/2022 Mailed from 01566
US POSTAGE PAID Click-N-Ship®	
PRIORITY MAIL 1-DAY™	
Expected Delivery Date: 05/12/22 Ref#: SBDS-00047 0006	
DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
R005	
SHIP TO: SBA COMMUNICATIONS CORPORATION 13 FLANDERS RD STE 125 WESTBOROUGH MA 01581	
USPS TRACKING #  9405 5036 9930 0246 7672 61	
Electronic Rate Approved #038555749	

— ✂ — Cut on dotted line.

Instructions

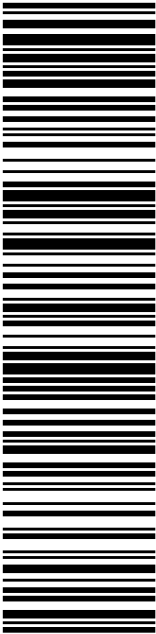
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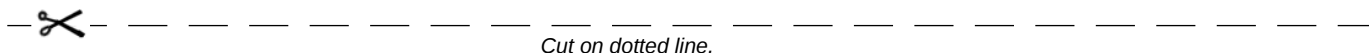
Click-N-Ship® Label Record

USPS TRACKING # : 9405 5036 9930 0246 7672 61	
Trans. #: 563319304 Print Date: 05/11/2022 Ship Date: 05/11/2022 Expected Delivery Date: 05/12/2022	Priority Mail® Postage: \$8.95 Total: \$8.95
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
To: SBA COMMUNICATIONS CORPORATION 13 FLANDERS RD STE 125 WESTBOROUGH MA 01581	
Ref#: SBDS-00047	
* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.	



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P	usps.com US POSTAGE Flat Rate Env 05/11/2022 Mailed from 01566
US POSTAGE PAID Click-N-Ship®	
PRIORITY MAIL 2-DAY™	
Expected Delivery Date: 05/14/22 Ref#: SBDS-00047 0006	
DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
R001	
SHIP TO: NATHANIEL WOODY (AND JULIE DUPONT) 770 LONG COVE RD GALES FERRY CT 06335-2005	
USPS TRACKING #  9405 5036 9930 0246 7672 78	
Electronic Rate Approved #038555749	



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USPS TRACKING # : 9405 5036 9930 0246 7672 78	
Trans. #: 563319304 Print Date: 05/11/2022 Ship Date: 05/11/2022 Expected Delivery Date: 05/14/2022	Priority Mail® Postage: \$8.95 Total: \$8.95
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
To: NATHANIEL WOODY (AND JULIE DUPONT) 770 LONG COVE RD GALES FERRY CT 06335-2005	
Ref#: SBDS-00047	
* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.	



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DISH



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24 MILL ST
UNIONVILLE, CT 06085-9998
(800)275-8777

05/12/2022

11:41 AM

Product	Qty	Unit Price	Price
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Prepaid Mail	1		\$0.00
Westborough, MA 01581			
Weight: 0 lb 2.00 oz			
Acceptance Date:			
Thu 05/12/2022			
Tracking #:			
9405 5036 9930 0246 7672 61			

Prepaid Mail	1		\$0.00
Gales Ferry, CT 06335			
Weight: 0 lb 7.90 oz			
Acceptance Date:			
Thu 05/12/2022			
Tracking #:			
9405 5036 9930 0246 7672 78			

Prepaid Mail	1		\$0.00
Ledyard, CT 06339			
Weight: 0 lb 7.90 oz			
Acceptance Date:			
Thu 05/12/2022			
Tracking #:			
9405 5036 9930 0246 7672 54			

Prepaid Mail	1		\$0.00
Ledyard, CT 06339			
Weight: 0 lb 7.90 oz			
Acceptance Date:			
Thu 05/12/2022			
Tracking #:			
9405 5036 9930 0246 7672 47			

Grand Total:			\$0.00
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of 4 free test kits.
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