

PROJECT NARRATIVE

April 25, 2022

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

Re: Request of DISH Wireless LLC for an Order to Approve the Shared Use of an Existing Tower
438 Bridgeport Avenue, Milford, CT 06460
Latitude: 41°12'23.80" / Longitude: -73°5'36.240"

Dear Ms. Bachman:

Pursuant to Connecticut General Statutes ("C.G.S.") §16-50aa, as amended, DISH Wireless LLC ("DISH") hereby requests an order from the Connecticut Siting Council ("Council") to approve the shared use by DISH of an existing telecommunication tower at 438 Bridgeport Avenue, in Milford (the "Property"). The existing 100-foot monopole is owned by American Tower Corporation ("ATC"). The underlying property is owned by Henry & Genevieve Charchenko. DISH requests that the Council find that the proposed shared use of the ATC tower satisfies the criteria of C.G.S. §16-50aa and issue an order approving the proposed shared use. A copy of this filing is being sent to Benjamin G. Blake, Mayor of the City of Milford, Joseph D. Griffith, City of Milford Building Official and Henry & Genevieve Charchenko as the property owner.

Background

This facility was originally approved by the Council under Docket No. 44 on July 24, 1984. A copy of the Decision and Order is included in this filing. The existing ATC facility consists of a 100-foot self-support tower located within an existing leased area. AT&T Mobility currently maintains antennas at the 104-foot level. T-Mobile currently maintains antennas at the 73-foot level. Sprint / Nextel antennas at the 93 and 83-foot levels are slated for removal. Equipment associated with these antennas are located at various positions within the tower and compound.

DISH is licensed by the Federal Communications Commission ("FCC") to provide wireless services throughout the State of Connecticut. DISH and ATC have agreed to the proposed shared use of the 438 Bridgeport Avenue tower pursuant to mutually acceptable terms and conditions. Likewise, DISH and ATC have agreed to the proposed installation of equipment cabinets on the ground within the existing compound. ATC has authorized DISH to apply for all necessary permits and approvals that may be required to share the existing tower.
(See attached Letter of Authorization)

DISH proposes to install three (3) antennas, (1) Tower platform mount, (6) Remote radio units at the 93-foot level along with, (1) over voltage protection device (OVP) and (1) Hybrid cable. DISH will install an equipment cabinet on a 5'x7' equipment platform. DISH's Construction Drawings provide project specifications for all proposed site improvement locations.

The construction drawings also include specifications for DISH's proposed antenna and groundwork.

C.G.S. § 16-50aa(c)(1) provides that, upon written request for approval of a proposed shared use, "if the Council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns, the council shall issue an order approving such a shared use." DISH respectfully submits that the shared use of the tower satisfies these criteria.

A. Technical Feasibility. The existing ATC tower is structurally capable of supporting DISH's proposed improvements. The proposed shared use of this tower is, therefore, technically feasible. A Feasibility Structural Analysis Report ("Structural Report") prepared for this project confirms that this tower can support DISH's proposed loading. A copy of the Structural Report has been included in this application.

B. Legal Feasibility. Under C.G.S. § 16-50aa, the Council has been authorized to issue order approving the shared use of an existing tower such as the ATC tower. This authority complements the Council's prior-existing authority under C.G.S. § 16-50p to issue orders approving the construction of new towers that are subject to the Council's jurisdiction. In addition, § 16-50x(a) directs the Council to "give such consideration to the other state laws and municipal regulations as it shall deem appropriate" in ruling on requests for the shared use of existing tower facilities. Under the statutory authority vested in the Council, an order by the Council approving the requested shared use would permit the Applicant to obtain a building permit for the proposed installations.

C. Environmental Feasibility. The proposed shared use of the ATC tower would have a minimal environmental effect for the following reasons:

1. The proposed installation will have no visual impact on the area of the tower. DISH's equipment cabinet would be installed within the existing facility compound. DISH's shared use of this tower therefore will not cause any significant change or alteration in the physical or environmental characteristics of the existing site.
2. Operation of DISH's antennas at this site would not exceed the RF emissions standard adopted by the Federal Communications Commission ("FCC"). Included in the EME report of this filing are the approximation tables that demonstrate that DISH's proposed facility will operate well within the FCC RF emissions safety standards.
3. Under ordinary operating conditions, the proposed installation would not require the use of any water or sanitary facilities and would not generate air emissions or discharges to water bodies or sanitary facilities. After construction is complete the proposed installations would not generate any increased traffic to the ATC facility other than periodic maintenance. The proposed shared use of the ATC tower, would, therefore, have a minimal environmental effect, and is environmentally feasible.

D. **Economic Feasibility.** As previously mentioned, DISH has entered into an agreement with ATC for the shared use of the existing facility subject to mutually agreeable terms. The proposed tower sharing is, therefore, economically feasible.

E. **Public Safety Concerns.** As discussed above, the tower is structurally capable of supporting DISH's full array of three (3) antennas, (1) Tower platform mount, (6) Remote radio units, (1) over voltage protection device (OVP) and (1) Hybrid cable and all related equipment. DISH is not aware of any public safety concerns relative to the proposed sharing of the existing ATC tower.

Conclusion

For the reasons discussed above, the proposed shared use of the existing ATC tower at 438 Bridgeport Avenue satisfies the criteria stated in C.G.S. §16-50aa and advances the Council's goal of preventing the unnecessary proliferation of towers in Connecticut. The Applicant, therefore, respectfully requests that the Council issue an order approving the proposed shared use.

Sincerely,

David Hoogasian

David Hoogasian
Project Manager

LETTER OF AUTHORIZATION



AMERICAN TOWER®
CORPORATION
LETTER OF AUTHORIZATION

NETWORK BUILDING AND CONSULTING LLC/ DISH WIRELESS L.L.C.


I, Margaret Robinson, Senior Counsel, US Tower Division on behalf of American Tower*, owner/operator of the tower facility located at the address identified below (the "Tower Facilities"), do hereby authorize NETWORK BUILDING AND CONSULTING LLC, its successors and assigns, to act as American Tower's non-exclusive agent for the purpose of filing and securing any zoning, land-use, building permit and/or electrical permit application(s) and approvals of the applicable jurisdiction for and to conduct the construction of the installation of antennas and related telecommunications equipment on the Tower Facility located at the above address. This installation shall not affect adjoining lands and will occur only within the area leased by American Tower.

American Tower understands that the application may be denied, modified or approved with conditions. The above authorization is limited to the acceptance by American Tower of conditions related to American Tower's installation. Any such conditions of approval or modifications will not be effective unless approved in writing by American Tower.

The above authorization does not permit NETWORK BUILDING AND CONSULTING LLC to modify or alter any existing permit(s) and/or zoning or land-use conditions or impose any additional conditions unrelated to American Tower's installation of telecommunications equipment without the prior written approval of American Tower.

ATC Asset #	Site Name	Customer Site Number	Project Number	Site Address
302484	Branford CT 6	BOHVN00142A	13701211	405 Brushy Plain Rd, Branford
302516	Mlfd - Milford	BOHVN00144A	13702496	438 Bridgeport Ave, Milford
88008	BETHANY CT	BOHVN00151A	13709244	93 Old Amity Road, Bethany
302467	Bilkays Express	BOHVN00140A	13701206	90 North Plains Industrial Rd., Wallingford

Signature: _____


Margaret Robinson, Senior Counsel
US Tower Division

See attached Notary Block



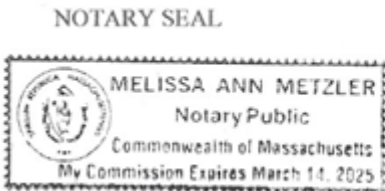
**LETTER OF AUTHORIZATION
NETWORK BUILDING AND CONSULTING LLC/ DISH WIRELESS L.L.C**

NOTARY BLOCK

COMMONWEALTH OF MASSACHUSETTS
County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Senior Counsel of American Tower (Tower Facility owner), personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same.

WITNESS my hand and official seal, this 1st day of December, 2021.



Notary Public 
My Commission Expires: March 14, 2025

*American Tower includes all affiliates and subsidiaries of American Tower Corporation.

ORIGINAL FACILITY APPROVAL

DOCKET NO. 44

AN APPLICATION SUBMITTED BY THE SOUTHERN : CONNECTICUT SITING
NEW ENGLAND TELEPHONE COMPANY FOR A :
CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY : COUNCIL
AND PUBLIC NEED FOR THE CONSTRUCTION,
MAINTENANCE AND OPERATION OF FACILITIES TO
PROVIDE CELLULAR SERVICE IN NEW HAVEN COUNTY : July 24, 1984

D E C I S I O N A N D O R D E R

Pursuant to the foregoing opinion, the Council hereby directs that a certificate of environmental compatibility and public need as required by section 16-50k of the General Statutes of Connecticut, revisions of 1958, revised to 1983, as amended, be issued to the Southern New England Telephone Company for the construction, operation, and maintenance of a telecommunications tower and associated equipment to provide cellular service at each of the following sites:

Jasudowich tract, Brushy Plain Road, Branford, Connecticut;
Town of Guilford tract, Tanner Marsh Road, Guilford, Connecticut;
Bridgeport Avenue, Milford, Connecticut;
Quagliaro tract, Farmdale Drive, Waterbury, Connecticut;
Pease Road, Woodbridge, Connecticut; and
Dwight Street, North Haven, Connecticut.

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

1. The towers including antennas shall be no taller than necessary to provide the proposed service and in no event shall exceed
 - a) 167' at the Branford site,
 - b) 167' at the Guilford site,
 - c) 117' at the Milford site,
 - d) 167' at the Waterbury site,
 - e) 167' at the Woodbridge site,
 - f) 167' at the North Haven site;
2. A fence not lower than eight feet shall surround each tower and its associated equipment;

3. The applicant or its successor shall notify the Council if and when directional antennas or any other equipment is added to any of these facilities;
4. The applicant or its successor shall permit, in accordance with representations made by it during the proceeding, public or private entities to share space on the facilities, for due consideration received, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing;
5. Unless necessary to comply with condition number six, below, no lights shall be installed on any of these towers;
6. The facilities shall be constructed in accordance with all applicable federal, state, and municipal laws and regulations;
7. The applicant shall submit a development and management plan (D&M) for the Branford, Milford, Woodbridge, and North Haven sites pursuant to sections 16-50j-85 through 16-50j-87 of the regulations of state agencies, except that irrelevant items in section 16-50j-86 need only be identified as such. The D&M plans shall include appropriate evergreen screening of the sites, erosion control measures, reseeding plans, and tree removal plans. The applicant shall comply with the reporting requirements of section 16-50j-87 for all sites;
8. Construction activities shall take place during daylight working hours;
9. This decision and order shall be void and the towers and associated equipment approved herein shall be dismantled and removed, or reapplication for any new use shall be made to the Connecticut

Siting Council before any such new use is made, if the towers do not provide or permanently cease to provide cellular service following completion of construction;

10. This decision and order shall be void if all construction authorized is not completed within three years of the issuance of this decision.

Pursuant to section 16-50p of the General Statutes, we hereby direct that a copy of the opinion and decision and order be served on each person listed below. A notice of the issuance shall be published in the Hartford Courant, New Haven Register, and the Waterbury Republican.

The parties to this proceeding are

The Southern New England Telephone Company (Applicant)
Room 314
227 Church Street
New Haven, Connecticut 06506

ATTENTION: Mr. Peter J. Tyrrell (its attorney)
Senior Attorney

Town of Hamden represented by:
Peter F. Villano, Mayor
Shirley Gonzales, Town Planner
Mr. Hugh Manke, Esquire
Office of the Town Attorney
Memorial Town Hall
2372 Whitney Avenue
Hamden, Connecticut 06518

Inland Wetlands Agency represented by:
Town of Woodbridge
Robert J. Klancko
Chairman
Town Hall
11 Meeting House Lane
Woodbridge, Connecticut 06525

Town Plan and Zoning
Commission
Town of Woodbridge

represented by:

Norman Fineberg
Chairman
Town Hall
11 Meeting House Lane
Woodbridge, Connecticut 06525

The Honorable Peter M. Lerner
State Representative
State of Connecticut
House of Representatives
State Capitol
Hartford, Connecticut 06115

John Menta
Felicia Tencza

represented by:

Ms. Felicia Tencza
580 Gaylord Mountain Road
Hamden, Connecticut 06518

Ms. Renee Robinson
265 Blue Trail
Hamden, Connecticut 06518

(service waived)

Irene L. Wong
Edson H. Mount
Dr. & Mrs. H.M. Fiskio
Dr. & Mrs. Alexander Gottschalk

represented by:

Dr. & Mrs. Alexander Gottschalk
230 Six Rod Highway
Hamden, Connecticut 06518

The Sleeping Giant Park Association

represented by:

Mr. Dag Pfeiffer
President
Box 14
Quinnipiac College
Hamden, Connecticut 06518

West Rock Ridge Park Association

represented by:

Mr. William L. Dohney, Jr., D.D.S.
President
220 Mountain Road
Hamden, Connecticut 06514

Sierra Club

represented by:

Ms. M. Kim Yanoshick
Executive Director
Hartford Chapter
118 Oak Street
Hartford, Connecticut 06106

Quinnipiac College

represented by:

Mr. Richard A. Terry
President
Hamden, Connecticut 06518

Guilford Conservation Commission

represented by:

Ms. Carolyn K. Evans
Chairman
Town Hall
Park Street
Guilford, Connecticut 06437

Mrs. Barbara R. Peterson
Mary & Phil Faust
Anita L. & Richard M. Sullivan

represented by:

Anita L. & Richard M. Sullivan
315 Chestnut Lane
Hamden, Connecticut 06518

Mrs. Pauline H. Hoff

represented by:

Herbert L. Emanuelson, Jr.
Emanuelson and Wynne
205 Church Street
New Haven, Connecticut 06510

Hamden League of Women Voters

represented by:

Mrs. Sherrill Zoller
605 West Woods Road
Hamden, Connecticut 06518
(service waived)

Joan Rosenberg
230 Ridewood Avenue
Hamden, Connecticut 06517

Mr. & Mrs. Richard Sykes
110 Blue Trail
Hamden, Connecticut 06518

Thomas & Claudia Sullivan, Jr.
100 Blue Trail
Hamden, Connecticut 06518

Mr. William N. Pantalone
27 Pease Road
Woodbridge, Connecticut 06525

(service waived)

INTERVENORS

Metromedia TeleCommunications
Nutmeg Telecommunications, Inc.
CSI of New Haven
CSI of Stamford
Cellular Communications, Inc.
LIN Cellular Corp.
Cellular Mobile Services
Maxcell TeleCommunications, Inc.
Mobile Cellular Telephone, Inc.
Cellular Dynamics
Connecticut Corridor Cellular
Chase/Post Cellular

represented by:

Dwight A. Johnson
Murtha, Cullina, Richter
and Pinney
101 Pearl Street
P.O. Box 3197
Hartford, Connecticut 06103-0197

C E R T I F I C A T I O N

The undersigned members of the Connecticut Siting Council hereby certify that they have heard this case or read the record thereof, and that we voted as follows:

Dated at New Britain, Connecticut, this 24th day of July, 1984.

<u>Council Members</u>	<u>Vote Cast</u>
_____) Gloria Dibble Pond Chairperson	Absent
_____) Commissioner John Downey Designee: Commissioner Peter G. Boucher	Absent
<i>Brian Emerick</i> _____) Commissioner Stanley Pac Designee: Brian Emerick	Yes Absent Abstain
<i>Owen L. Clark</i> _____) Owen L. Clark	Yes
<i>Fred J. Doocy</i> _____) Fred J. Doocy	Yes
<i>Mortimer A. Gelston</i> _____) Mortimer A. Gelston	Yes
<i>James G. Horsfall</i> _____) James G. Horsfall	Yes
_____) Janet Sitty	Absent
<i>Colin C. Tait</i> _____) Colin C. Tait Acting Chairperson	Yes

STATE OF CONNECTICUT

)

COUNTY OF HARTFORD


:

)

ss. New Britain, July 24, 1984

I hereby certify that the foregoing is a true and correct copy of the decision and order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:


Christopher S. Wood, Executive Director
Connecticut Siting Council

ENGINEERING DRAWINGS



DISH WIRELESS, L.L.C. SITE ID:

BOHVN00144A

DISH WIRELESS, L.L.C. SITE ADDRESS:

**438 BRIDGEPORT AVE
MILFORD, CT 06460**

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:	
<ul style="list-style-type: none"> • INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR) • INSTALL (1) PROPOSED ANTENNA PLATFORM MOUNT • INSTALL PROPOSED JUMPERS • INSTALL (6) PROPOSED RRHs (2 PER SECTOR) • INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP) • INSTALL (1) PROPOSED HYBRID CABLE 	
GROUND SCOPE OF WORK:	
<ul style="list-style-type: none"> • INSTALL (1) PROPOSED METAL PLATFORM • INSTALL (1) PROPOSED PPC CABINET • INSTALL (1) PROPOSED EQUIPMENT CABINET • INSTALL (1) PROPOSED POWER CONDUIT • INSTALL (1) PROPOSED TELCO CONDUIT • INSTALL (1) PROPOSED TELCO-FIBER BOX • INSTALL (1) PROPOSED GPS UNIT • INSTALL (1) PROPOSED SAFETY SWITCH (IF REQUIRED) • INSTALL (1) PROPOSED CIENA BOX (IF REQUIRED) • INSTALL (1) PROPOSED METER SOCKET 	

SITE INFORMATION		PROJECT DIRECTORY	
PROPERTY OWNER:	HENRY & GENEVIEVE CHARCHENKO	APPLICANT:	DISH WIRELESS, L.L.C.
ADDRESS:	438 BRIDGEPORT AVE MILFORD, CT 06460		5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120 (303) 706-5008
TOWER TYPE:	MONOPOLE	TOWER OWNER:	AMERICAN TOWER
TOWER CO SITE ID:	302516		10 PRESIDENTIAL WAY WOBURN, MA 01801
TOWER APP NUMBER:	13702496	ENGINEER:	NB+C ENGINEERING SERVICES, LLC
COUNTY:	NEW HAVEN		8601 SIX FORKS ROAD, SUITE 540 RALEIGH, NC 27615
LATITUDE (NAD 83):	41° 12' 23.800" N 41.20661111	SITE ACQUISITION:	APRIL PARROTT APRIL.PARROTT@DISH.COM
LONGITUDE (NAD 83):	73° 5' 36.240" W -73.0934	CONSTRUCTION MANAGER:	JAVIER SOTO JAVIER.SOTO@DISH.COM
ZONING JURISDICTION:	CONNECTICUT SITING COUNCIL	RF ENGINEER:	SYED ZAIDI SYED.ZAIDI@DISH.COM
ZONING DISTRICT:	CDD3		
PARCEL NUMBER:	024 385 3 A		
OCCUPANCY GROUP:	U		
CONSTRUCTION TYPE:	II-B		
POWER COMPANY:	UNITED ILLUMINATING		
TELEPHONE COMPANY:	FRONTIER COMMUNICATIONS		



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



DRAWN BY:	CHECKED BY:	APPROVED BY:
RDS	BIW	BIW
RFDS REV #:		1

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
0	09/09/2021	ISSUED FOR CONSTRUCTION



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.

A&E PROJECT NUMBER
302516-13702496

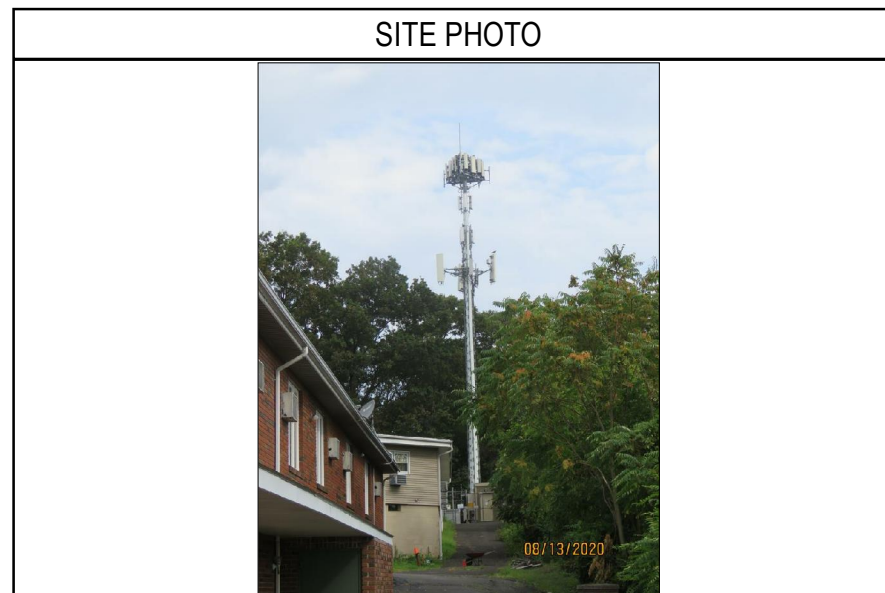
DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOHVN00144A
**438 BRIDGEPORT AVE
MILFORD, CT 06460**

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

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
A-0	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
RF-2	RF PLUMBING DIAGRAM
GN-1	LEGEND AND ABBREVIATIONS
GN-2	GENERAL NOTES
GN-3	GENERAL NOTES
GN-4	GENERAL NOTES



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

CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION

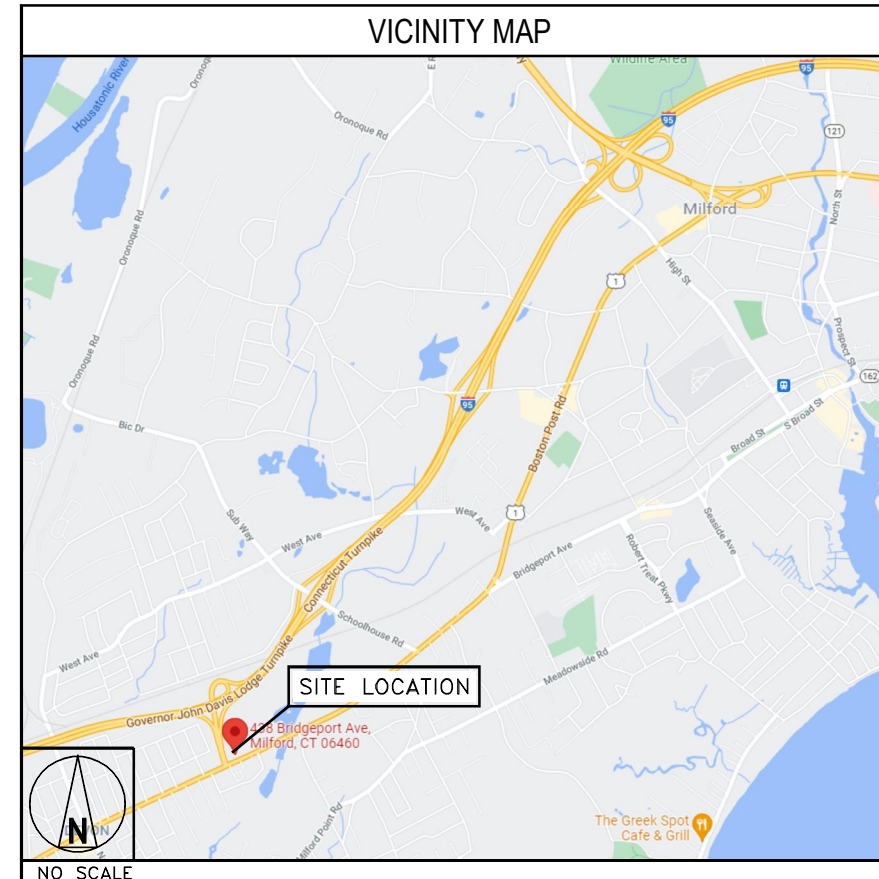
GENERAL NOTES	
THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE, NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.	
THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).	

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.

DIRECTIONS

FROM HARTFORD CT TAKE I-91 SOUTH TO I-95 SOUTH TO EXIT 34. TURN LEFT OFF THE EXIT THEN TAKE IMMEDIATE LEFT INTO THE DEVON MOTEL PARKING LOT. GO TO THE REAR RIGHT OF THE LOT FOR THE BEGINNING OF THE ACCESS ROAD.



PROJECT SUMMARY

FIELD SURVEY DATE: 10/19/2018
SITE ADDRESS: 438 BRIDGEPORT AVENUE, MILFORD, CT 06460

PARCEL INFORMATION
 OWNER: GENEVIEVE CHARCHENKO, AS TO A LIFE ESTATE; AND DONNA WOLNIAKOWSKI AS TO THE REMAINDER INTEREST
 OWNER ADDRESS: 438 BRIDGEPORT AVENUE, MILFORD, CT 06460
 APN: 24/385/3/ (ALTERNATE 4834) & 24/385/3/A/ (ALTERNATE 4835)

TOTAL AREAS:
 PARENT PARCEL: 1.56± ACRES
 ATC LEASE AREA: 2.078± SQ. FT. OR 0.05± ACRES
 ACCESS & UTILITY EASEMENT: 6.864± SQ. FT. OR 0.16± ACRES

GEOGRAPHIC COORDINATES OF TOWER:
 LATITUDE: 41°12'23.75" N LONGITUDE: 73°05'36.18" W
 VERTICAL DATUM: NAVD 1988 HORIZONTAL DATUM: NAD83
 GROUND ELEVATION: 75'

THIS IS TO CERTIFY THAT THE ABOVE INFORMATION IS PROVIDED TO THE FOLLOWING ACCURACY:
 ± TWENTY (20) FEET IN THE HORIZONTAL
 ± THREE (3) FEET IN THE VERTICAL

*MERIDIAN AND COORDINATES REFER TO CONNECTICUT STATE PLANE, NAD 83, CONNECTICUT ZONE AND ARE BASED ON GPS OBSERVATIONS.

FLOODPLAIN:
 PER THE FEMA FLOODPLAIN MAPS, THE SITE IS LOCATED IN AN AREA DESIGNATED AS ZONE X
 COMMUNITY PANEL NO.: 090002529J
 EFFECTIVE DATE: JULY 8, 2013

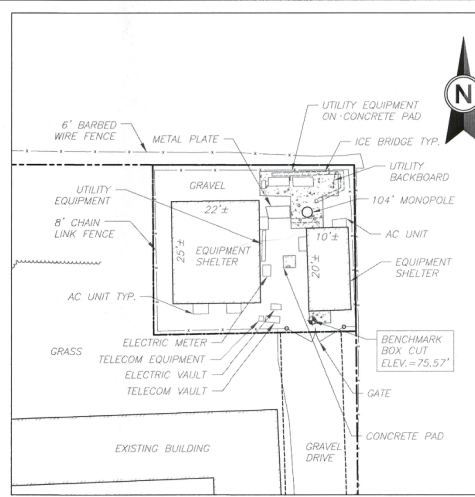
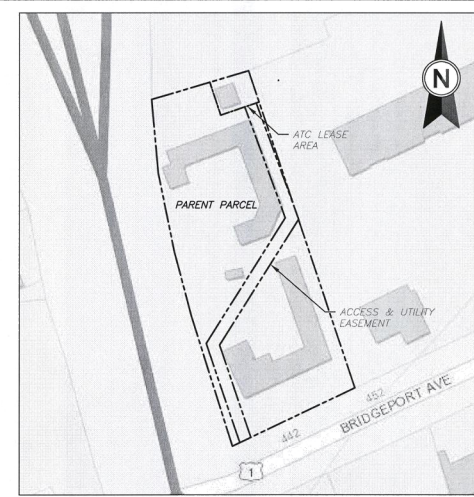
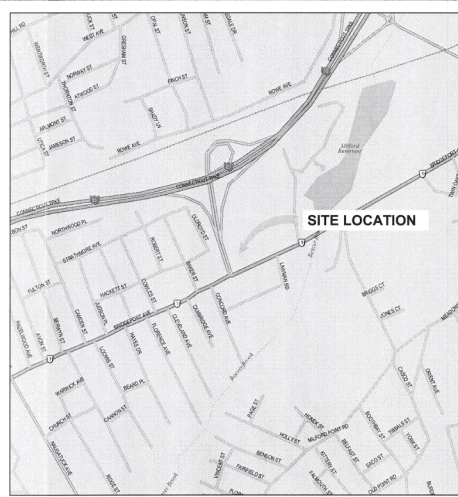
BOUNDARY NOTE
 THIS SURVEY IS THE RESULT OF AN ACTUAL FIELD SURVEY BASED UPON SUFFICIENT RESEARCH AND FIELD EVIDENCE TO VERIFY THE PARENT PARCEL OF THE SUBJECT PROPERTY. HOWEVER, THIS SURVEYOR HAS RELIED UPON THE DEEDS OF RECORD, AS PROVIDED. THIS SURVEYOR MAKES NO GUARANTEE, EITHER EXPRESSED OR IMPLIED AS TO THE QUALITY OF THE DEED REPORT AND REFERENCE DOCUMENTS PROVIDED AND THE DOCUMENTS PROVED AFFECTING THE LEASE AND IMMEDIATE AREA HAVE BEEN PLOTTED. THE BOUNDARY SHOWN HEREON IS PLOTTED FROM THE RECORD INFORMATION PROVIDED AND DOES NOT CONSTITUTE A BOUNDARY SURVEY OF THE PROPERTY.

ENCROACHMENT NOTE
 AT THE TIME OF THE SURVEY, THERE WAS VISIBLE EVIDENCE OF AN ENCROACHMENT AS FOLLOWS:
 1. ACCESS & UTILITY EASEMENT ROAD ENCROACHES OFF OF ASPHALT ACCESS ROAD A MAXIMUM 19" AS SHOWN AND IS LABELED AS AN ENCROACHMENT, WHICH WOULD BE REMEDIED BY THE AS-SURVEYED LEGAL DESCRIPTION SHOWN HEREON.

ATC LEASE AREA IS CONTAINED ENTIRELY ON THE PARENT PARCEL.

SURVEYOR'S NOTES

- THERE IS ACCESS TO THE SUBJECT PROPERTY VIA BRIDGEPORT AVENUE, A PUBLIC RIGHT OF WAY.
- THE LOCATIONS OF ALL UTILITIES SHOWN ON THE SURVEY ARE FROM VISIBLE SURFACE EVIDENCE ONLY.
- AT THE TIME OF THIS SURVEY THERE WAS NO OBSERVABLE SURFACE EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS WITHIN RECENT MONTHS.
- AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF THE SUBJECT PROPERTY BEING USED AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.
- AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF ANY RECENT CHANGES IN STREET RIGHT-OF-WAY LINES EITHER COMPLETED OR PROPOSED, AND AVAILABLE FROM THE CONTROLLING JURISDICTION.
- AT THE TIME OF THIS SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF ANY RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS.
- ANGLES OR BEARINGS SHOWN HEREON ARE FORMATTED IN DEGREES, MINUTES, AND SECONDS. DISTANCES OR ELEVATIONS SHOWN HEREON ARE IN U.S. SURVEY FEET, UNLESS NOTED OTHERWISE.
- UNDERGROUND IMPROVEMENTS IF ANY AND NOT VISIBLE AT THE TIME OF THE SURVEY, HAVE NOT BEEN LOCATED IN THE FIELD OR SHOWN HEREON.
- WETLANDS, IF PRESENT, HAVE NOT BEEN LOCATED OR SHOWN HEREON.
- NOT ALL IMPROVEMENTS ON THE PARENT PARCEL BEING SURVEYED ARE SHOWN HEREON.
- REFERENCES:
 A. DEED: BOOK 3079, PAGE 692
 B. MAP ENTITLED: "TOWER PLAZA" AS FILED IN THE NEW HAVEN COUNTY CLERK'S OFFICE ON 08/28/91 AS MAP #AB1871A.
 C. MAP ENTITLED: "BOUNDARY SURVEY FOR SOUTH CENTRAL CONNECTICUT REGIONAL WATER AUTHORITY" AS FILED IN THE NEW HAVEN COUNTY CLERK'S OFFICE ON 05/21/87 AS MAP #AB1504.
 D. TITLE COMMITMENT PREPARED BY CATIC, EFFECTIVE DATE OCTOBER 19, 2018.



SURVEY LEGEND

---	EXISTING PROPERTY
---	EXISTING ADJ. PROPERTY
---	EXISTING LEASE
---	EXISTING EASEMENT
---	EXISTING CONTOUR (MAJOR)
---	EXISTING CONTOUR (MINOR)
---	EXISTING TREELINE
---	EXISTING CHAINLINK FENCE
---	EXISTING OVERHEAD WIRES
---	EXISTING BUILDING
---	EXISTING ROAD (STONE)
---	EXISTING ROAD (PAVED)
---	SURVEY IRON PIN FOUND
---	SURVEY BENCHMARK
---	EXISTING UTILITY POLE
---	EXISTING QUIV ANCHOR
---	EXISTING TRAFFIC SIGNAL
---	EXISTING STORM DRAIN MANHOLE
---	EXISTING STORM DRAIN INLET
---	EXISTING WATER VALVE
---	EXISTING SIGN
---	CONCRETE MONUMENT
---	ENCROACHMENT REFERENCE #

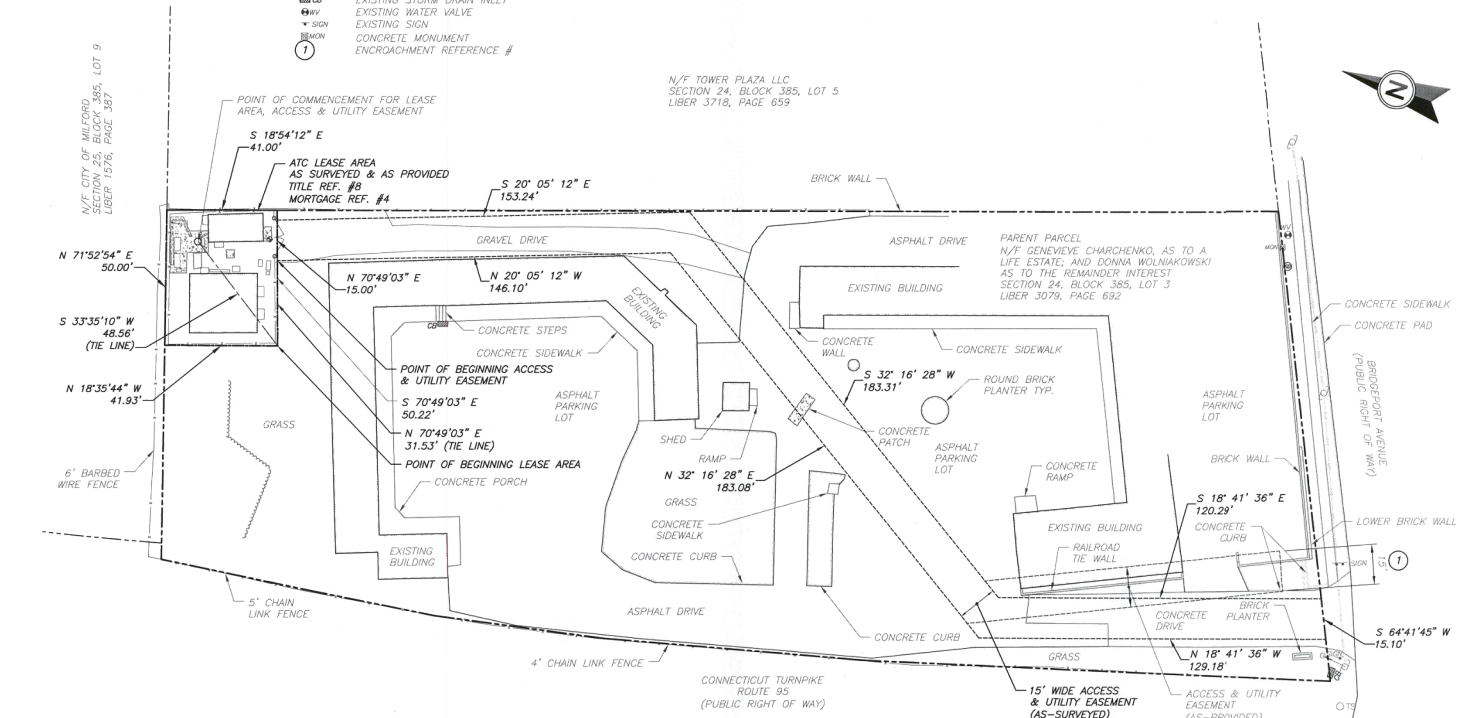
LEGAL DESCRIPTION

PARENT PARCEL - AS PROVIDED:
 THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF NEW HAVEN, CITY OF MILFORD, STATE OF CONNECTICUT, AND IS DESCRIBED AS FOLLOWS:
 ALL THAT CERTAIN PIECE OR PARCEL OF LAND, TOGETHER WITH THE BUILDINGS AND ALL OTHER IMPROVEMENTS THEREON, SITUATED IN THE CITY OF MILFORD, COUNTY OF NEW HAVEN AND STATE OF CONNECTICUT, KNOWN AS NO. 438 BRIDGEPORT AVENUE, AND BOUNDED AND DESCRIBED AS FOLLOWS: TO WIT:
 SOUTHERLY ON LAND CONVEYED TO THE STATE OF CONNECTICUT FOR THE WIDENING OF THE BOSTON POST ROAD, NOW KNOWN AS BRIDGEPORT AVENUE, 167 FEET, MORE OR LESS;
 WESTERLY ON LAND NOW OR FORMERLY OF RUPERT W. BALDWIN, 167 FEET;
 NORTHERLY ON LAND NOW OR FORMERLY OF SAID RUPERT W. BALDWIN, 167 FEET;
 EASTERLY ON LAND FORMERLY OF WILLIAM E. HULL, NOW OR FORMERLY OF ANNIE H. MCGOWAN,
 EXCEPTING THEREFROM THAT CERTAIN TRIANGULAR PARCEL OF LAND, DESCRIBED IN A CERTAIN QUIT-CLAIM DEED FROM THEODORE CHARCHENKO TO THE STATE OF CONNECTICUT, DATED AUGUST 18, 1995, AND RECORDED IN VOLUME 409 AT PAGE 540 OF THE MILFORD LAND RECORDS.
 PARCEL ID NO. 24/385/3/ (ALTERNATE 4834) & 24/385/3/A/ (ALTERNATE 4835)
 THIS BEING THE SAME PROPERTY CONVEYED TO DONNA WOLNIAKOWSKI FROM GENEVIEVE CHARCHENKO, RESERVING A LIFE ESTATE IN A DEED DATED NOVEMBER 10, 2016 AND RECORDED NOVEMBER 21, 2016 IN BOOK 3709 PAGE 692.

ATC LEASE AREA - AS PROVIDED & AS SURVEYED:
 A CERTAIN PIECE OR PARCEL OF LAND SITUATED OFF THE NORTHERLY SIDE OF BRIDGEPORT AVENUE IN THE TOWN OF MILFORD AND STATE OF CONNECTICUT IS DESCRIBED AS FOLLOWS:
 COMMENCING AT A POINT, BEING THE CENTER OF MONOPOLE, THENCE PROCEEDING S 33-35-10 W A DISTANCE OF 48.56 FEET TO THE TRUE POINT OF BEGINNING AT THE SOUTHWESTERLY CORNER OF THE HEREIN DESCRIBED PARCEL.
 THENCE N 18-35-44 W A DISTANCE OF 41.93 FEET, MORE OR LESS, TO A POINT AND LAND NOW OR FORMERLY OF TOWER SHOPPING PLAZA ASSOCIATES, THE LAST COURSE BOUNDED NORTHERLY BY SAID TOWN OF MILFORD.
 THENCE S 18-54-12 E A DISTANCE OF 41.00 FEET TO A POINT, THE LAST COURSE BOUNDED EASTERLY BY SAID TOWER SHOPPING PLAZA ASSOCIATES.
 THENCE S 70-49-03 W A DISTANCE OF 60.22 FEET, MORE OR LESS, TO THE POINT AND PLACE OF BEGINNING.
 SAID PARCEL CONTAINS 2.078 SQUARE FEET OR 0.05 ACRES OF LAND, MORE OR LESS.

ACCESS & UTILITY EASEMENT - AS PROVIDED:
 A CERTAIN EASEMENT, 15 FEET IN WIDTH, FOR PURPOSES INGRESS AND EGRESS SITUATED ON THE NORTHERLY SIDE OF BRIDGEPORT AVENUE IN THE TOWN OF MILFORD AND STATE OF CONNECTICUT IS DESCRIBED AS FOLLOWS:
 COMMENCING AT A POINT, BEING THE CENTER OF MONOPOLE, THENCE PROCEEDING S 33-35-10 W A DISTANCE OF 48.56 FEET TO A POINT, THENCE PROCEEDING N 70-49-03 E A DISTANCE OF 31.53 FEET TO THE TRUE POINT OF BEGINNING AT THE NORTHWESTERLY CORNER OF THE HEREIN DESCRIBED PARCEL.
 THENCE N 70-49-03 E A DISTANCE OF 15.00 FEET TO A POINT,
 THENCE S 20-05-12 E A DISTANCE OF 153.24 FEET TO A POINT,
 THENCE S 32-16-28 W A DISTANCE OF 175.47 FEET TO A POINT,
 THENCE S 24-40-41 E A DISTANCE OF 110.50 FEET MORE OR LESS, TO A POINT IN THE NORTHERLY STREET LINE OF BRIDGEPORT AVENUE,
 THENCE S 88-56-19 W A DISTANCE OF 15.01 FEET TO A POINT, THE LAST COURSE RUNNING BY AND WITH SAID NORTHERLY STREET LINE,
 THENCE N 24-40-41 W A DISTANCE OF 118.21 FEET, MORE OR LESS, TO A POINT,
 THENCE N 32-16-28 E A DISTANCE OF 176.24 FEET TO A POINT,
 THENCE N 20-05-12 W A DISTANCE OF 146.10 FEET TO THE POINT AND PLACE OF BEGINNING.

ACCESS & UTILITY EASEMENT - AS SURVEYED:
 ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE CITY OF MILFORD, COUNTY OF NEW HAVEN, STATE OF CONNECTICUT, BEING MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:
 COMMENCING AT A POINT, BEING THE CENTER OF MONOPOLE, THENCE PROCEEDING S 33-35-10 W A DISTANCE OF 48.56 FEET TO A POINT, THENCE PROCEEDING N 70-49-03 E A DISTANCE OF 31.53 FEET TO THE TRUE POINT OF BEGINNING AT THE NORTHWESTERLY CORNER OF THE HEREIN DESCRIBED PARCEL.
 NORTH 70°49'03" EAST FOR A DISTANCE OF 15.00 FEET TO A POINT; THENCE SOUTH 20°05'12" EAST FOR A DISTANCE OF 153.24 FEET TO A POINT; THENCE SOUTH 32°16'28" WEST FOR A DISTANCE OF 175.47 FEET TO A POINT; THENCE SOUTH 18°54'12" EAST FOR A DISTANCE OF 41.00 FEET TO A POINT; THENCE SOUTH 70°49'03" EAST FOR A DISTANCE OF 129.29 FEET TO A POINT; THENCE SOUTH 64°41'45" WEST FOR A DISTANCE OF 15.10 FEET TO A POINT; THENCE NORTH 18°41'36" WEST FOR A DISTANCE OF 129.18 FEET TO A POINT; THENCE NORTH 32°16'28" EAST FOR A DISTANCE OF 146.10 FEET TO A POINT; THENCE NORTH 20°05'12" WEST FOR A DISTANCE OF 146.10 FEET TO THE POINT OF BEGINNING.
 CONTAINING 0.16± ACRES OR 6.864± SQUARE FEET.



SCALE: 1"=60' (11X17)
 1"=30' (22X34)

AMERICAN TOWER®
ATC TOWER SERVICES, INC
 3533 REGENCY PARKWAY
 SUITE 133
 CARY, NC 27551
 PHONE: (919) 468-0145
 COA: D-0204

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REV.	DESCRIPTION	BY	DATE
0	ISSUED FOR COMMENT	RO	11/13/18

ATC SITE NUMBER:
302516

ATC SITE NAME:
MLFD - MILFORD CT

SITE ADDRESS:
 438 BRIDGEPORT AVENUE
 MILFORD, CT 06460

SURVEY CERTIFICATE:
 TO AMERICAN TOWER CORPORATION:
 THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 6(B) (TO THE EXTENT, GRAPHICALLY DEPICT ON SURVEY DRAWING THE ZONING SETBACK LINES), 7(A), 7(B)(1), 7(C), 8, 9, 11, AND 13 TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON 10/19/18.

DATE OF PLAT OR MAP: 11/13/18

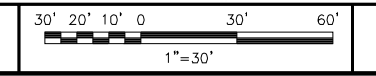
(SIGNED)
 NAME: THEODORE J. WILSON, 1255 70300 CT LICENSED LAND SURVEYOR

Tectonic
 PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.
 Tectonic Engineering & Surveying Consultants P.C.
 Phone: (845) 547-6446
 (860) 829-6531
 www.tectonicengineering.com

DRAWN BY: RO
 APPROVED BY: TJH
 DATE DRAWN: 11/13/18
 ATC JOB NO: 302516

ALTA/NSPS LAND TITLE SURVEY

SHEET NUMBER: **V-101**
 REVISION: **0**



5701 SOUTH SANTA FE DRIVE
 LITTLETON, CO 80120

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 RALEIGH, NC 27615
 (919) 657-9131

DRAWN BY:	CHECKED BY:	APPROVED BY:
RDS	BIW	BIW

CONSTRUCTION DOCUMENTS

REVISIONS

REV	DATE	DESCRIPTION
0	09/09/2021	ISSUED FOR CONSTRUCTION

STATE OF CONNECTICUT
 THEODORE J. WILSON
 1255 70300
 CT LICENSED LAND SURVEYOR
 09/09/21
 PROFESSIONAL ENGINEER

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A&E PROJECT NUMBER
302516-13702496

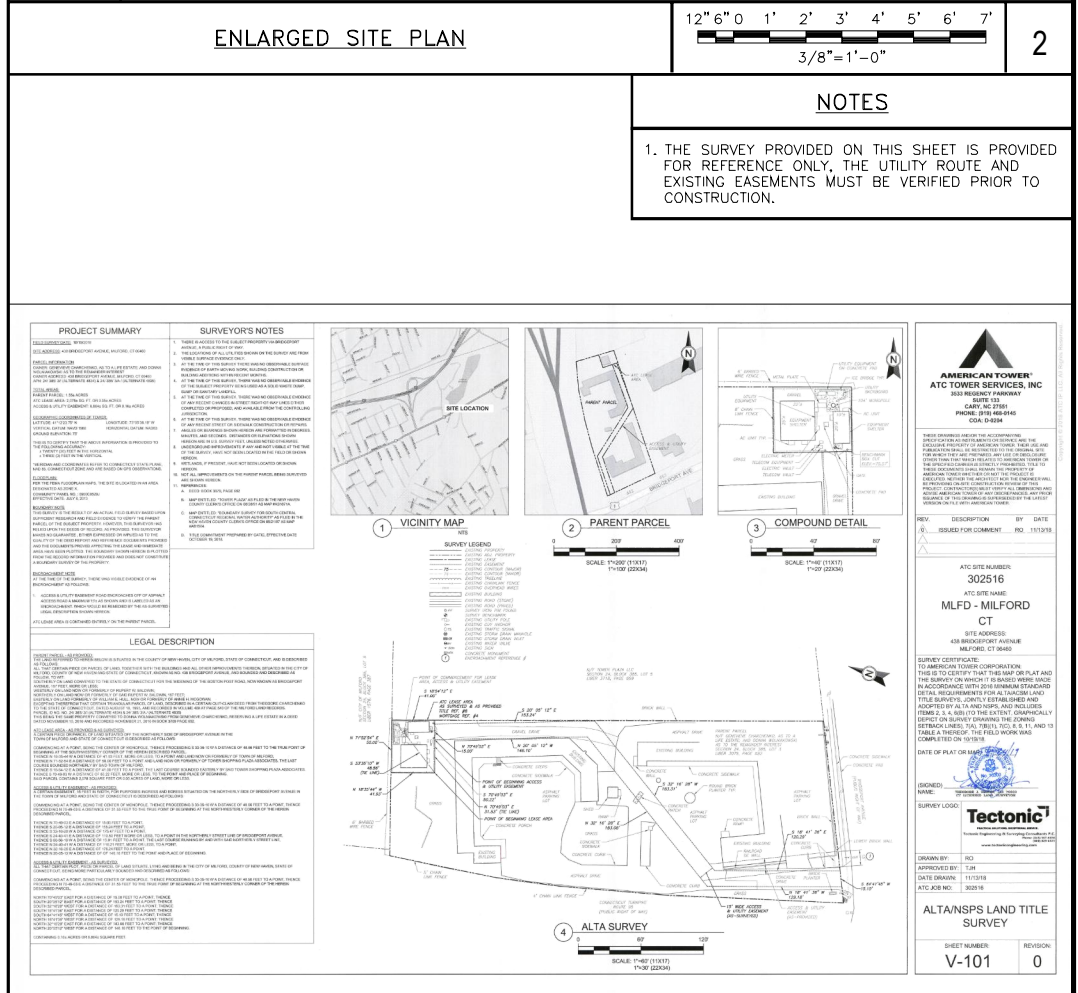
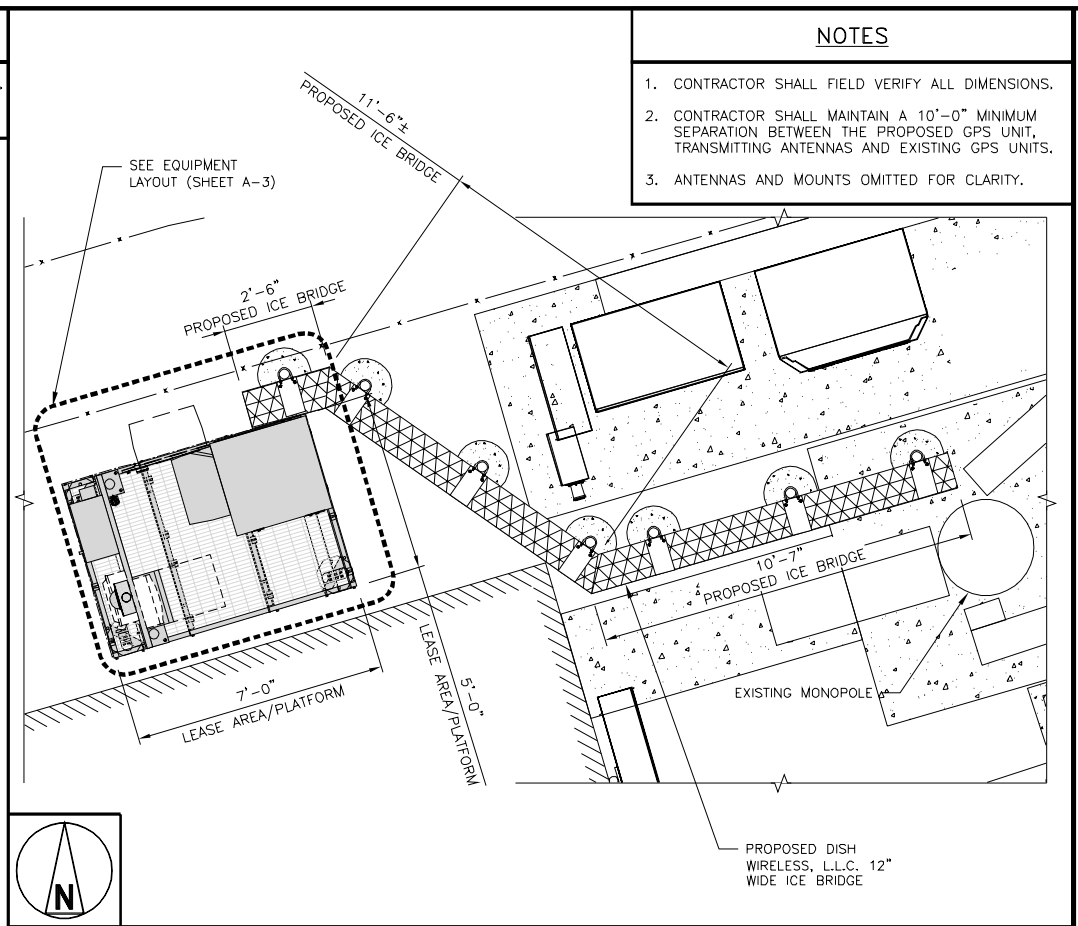
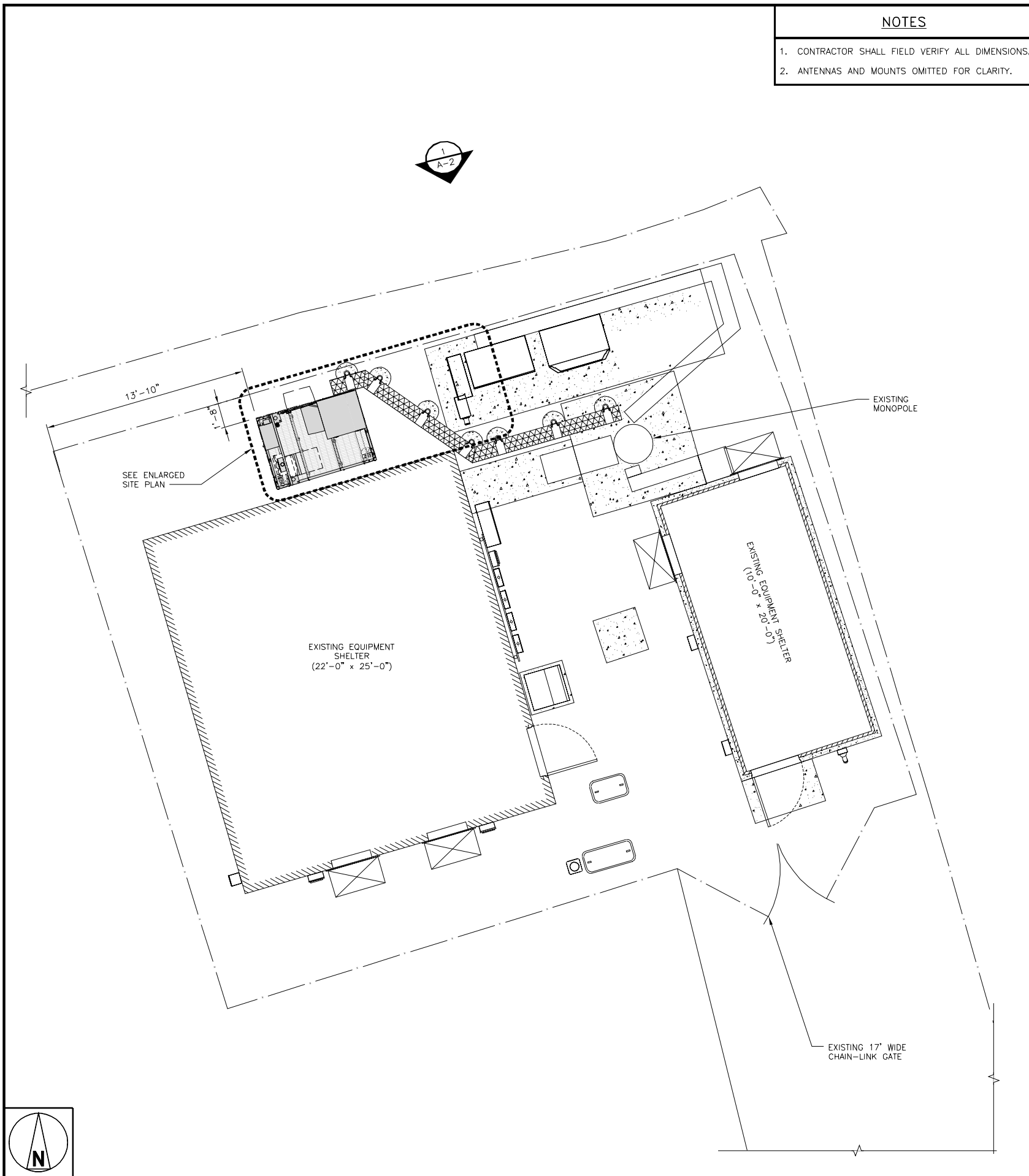
DISH WIRELESS, L.L.C.
 PROJECT INFORMATION
BOHVN00144A
 438 BRIDGEPORT AVE
 MILFORD, CT 06460

SHEET TITLE
SURVEY

SHEET NUMBER
A-0

EXISTING SURVEY (BY OTHERS)

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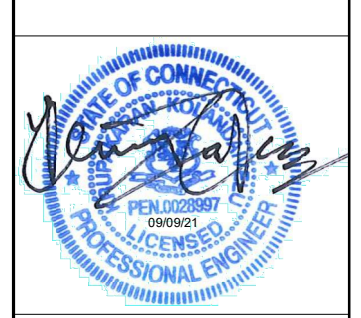
RDS BIW BIW

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
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302516-13702496

DISH WIRELESS, L.L.C.
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MILFORD, CT 06460

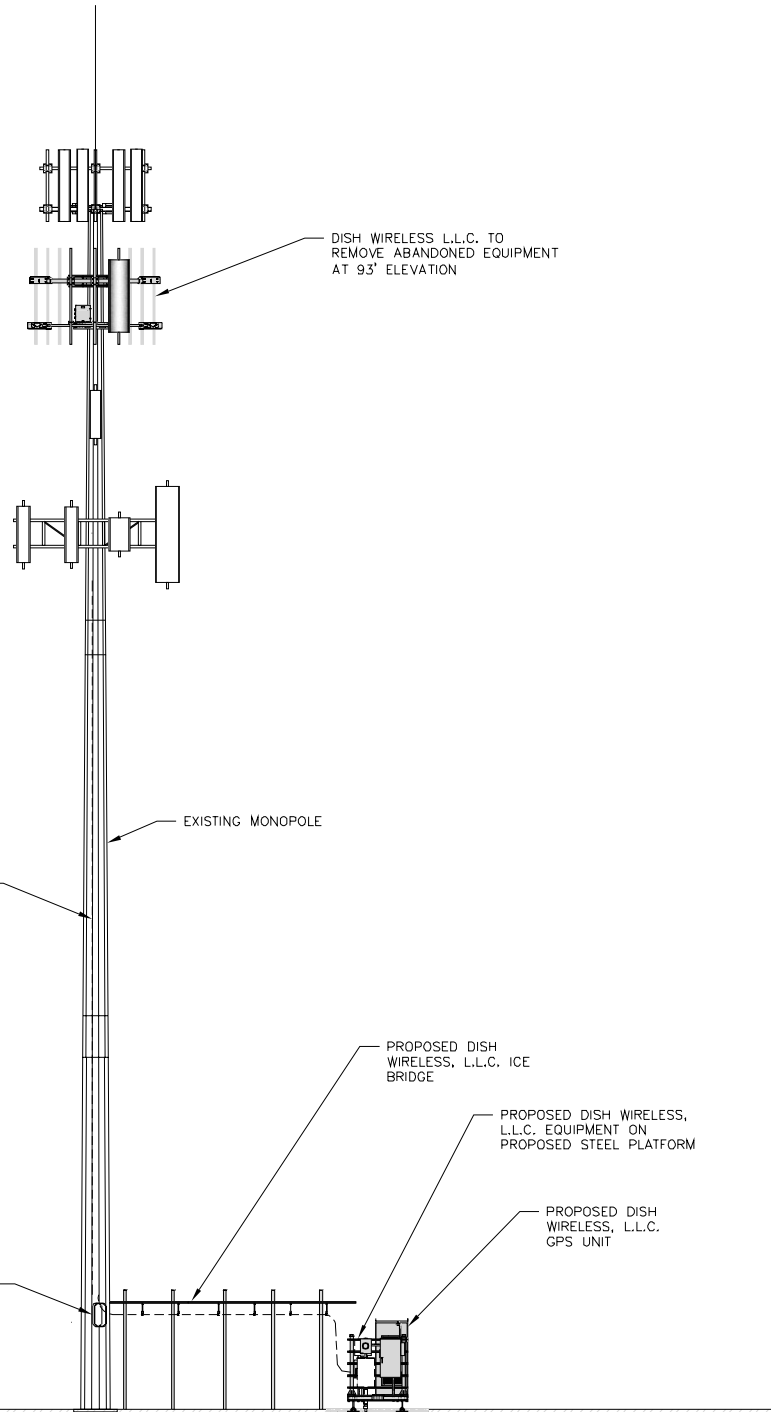
SHEET TITLE
OVERALL AND ENLARGED
SITE PLAN

SHEET NUMBER
A-1

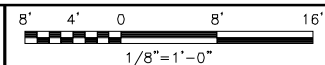
NOTES

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.
4. EXISTING CARRIERS EQUIPMENT @ 93' TO BE REMOVED.

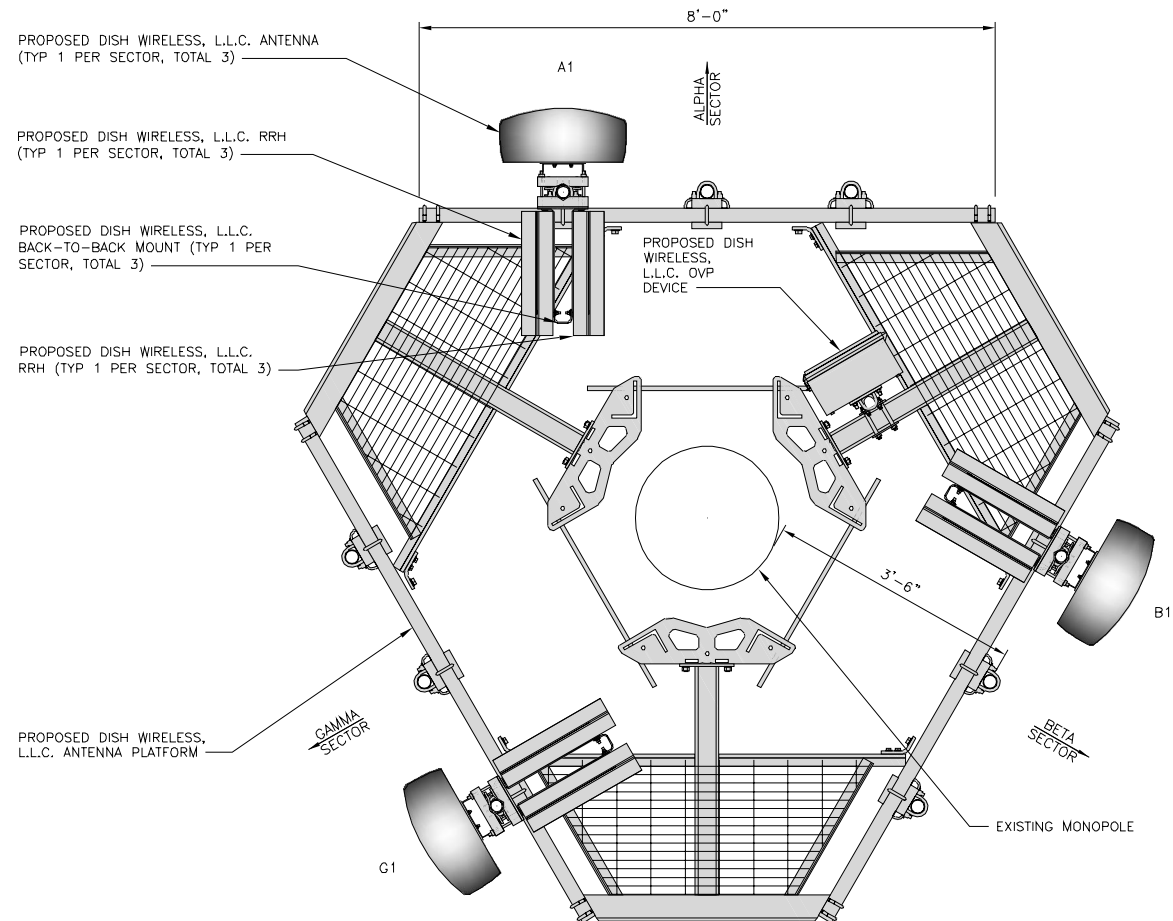
- EXISTING PANEL ANTENNAS
RAD CENTER @ 102'-0" AGL
- EXISTING TOWER
TOP EL. @ 100'-0" AGL
- (3) PROPOSED DISH WIRELESS, L.L.C. ANTENNAS
RAD CENTER @ 93'-0" AGL
- EXISTING PANEL ANTENNAS
RAD CENTER @ 83'-0" AGL
- EXISTING PANEL ANTENNAS
RAD CENTER @ 73'-0" AGL



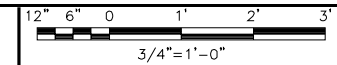
PROPOSED NORTH ELEVATION



1



ANTENNA LAYOUT



2

SECTOR	POSITION	ANTENNA					TRANSMISSION CABLE	
		EXISTING OR PROPOSED	MANUFACTURER - MODEL NUMBER	TECHNOLOGY	SIZE (HxW)	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH
ALPHA	A1	PROPOSED	JMA - MX08FRO665-21	5G	72.0" x 20.0"	0°	93'-0"	(1) HIGH-CAPACITY HYBRID CABLE (148'± LONG)
BETA	B1	PROPOSED	JMA - MX08FRO665-21	5G	72.0" x 20.0"	120°	93'-0"	
GAMMA	C1	PROPOSED	JMA - MX08FRO665-21	5G	72.0" x 20.0"	240°	93'-0"	
SECTOR	POSITION	RRH		NOTES 1. CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS. 2. ANTENNA AND RRH MODELS MAY CHANGE DUE TO EQUIPMENT AVAILABILITY. ALL EQUIPMENT CHANGES MUST BE APPROVED AND REMAIN IN COMPLIANCE WITH THE PROPOSED DESIGN AND STRUCTURAL ANALYSES.				
		MANUFACTURER - MODEL NUMBER	TECHNOLOGY					
ALPHA	A1	FUJITSU - TA08025-B604	N29,N71					
	A1	FUJITSU - TA08025-B605	N66,N70					
BETA	B1	FUJITSU - TA08025-B604	N29,N71					
	B1	FUJITSU - TA08025-B605	N66,N70					
GAMMA	C1	FUJITSU - TA08025-B604	N29,N71					
	C1	FUJITSU - TA08025-B605	N66,N70					
SECTOR	POSITION	OVP						
		MANUFACTURER - MODEL NUMBER	TECHNOLOGY					
ALPHA	N/A	RAYCAP - RDIDC-9181-PF-48	N/A					

ANTENNA SCHEDULE

NO SCALE

3



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LITTLETON, CO 80120



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RALEIGH, NC 27615
(919) 657-9131

DRAWN BY: CHECKED BY: APPROVED BY:

RDS BIW BIW

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	09/09/2021	ISSUED FOR CONSTRUCTION



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A&E PROJECT NUMBER

302516-13702496

DISH WIRELESS, L.L.C. PROJECT INFORMATION

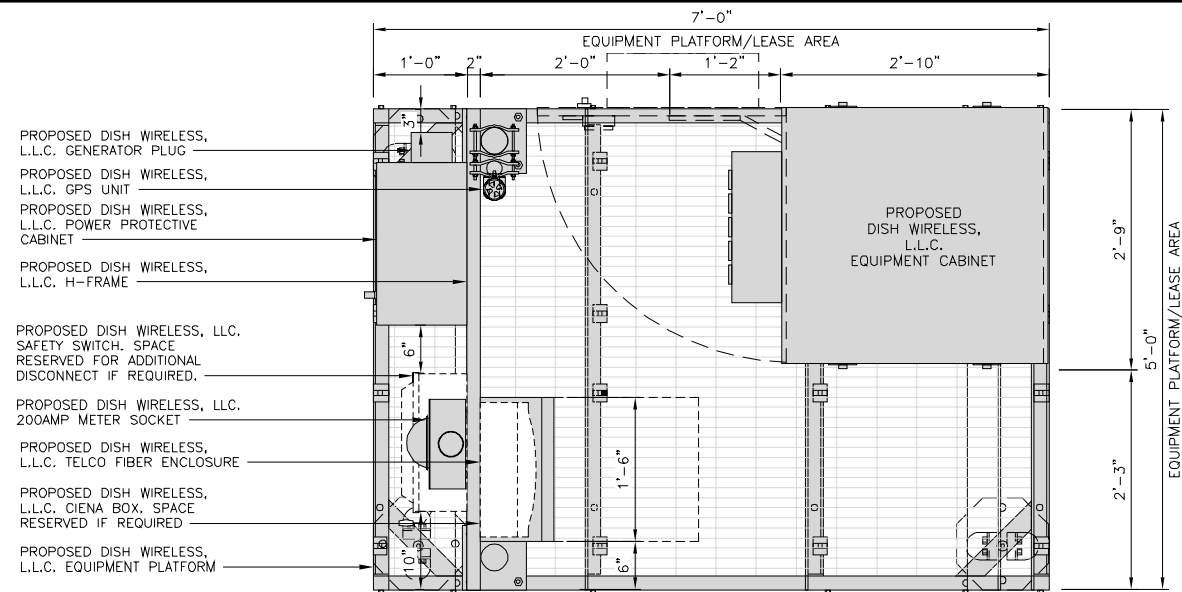
BOHVN00144A

438 BRIDGEPORT AVE
MILFORD, CT 06460

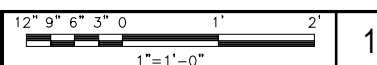
SHEET TITLE
ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER

A-2



PLATFORM EQUIPMENT PLAN



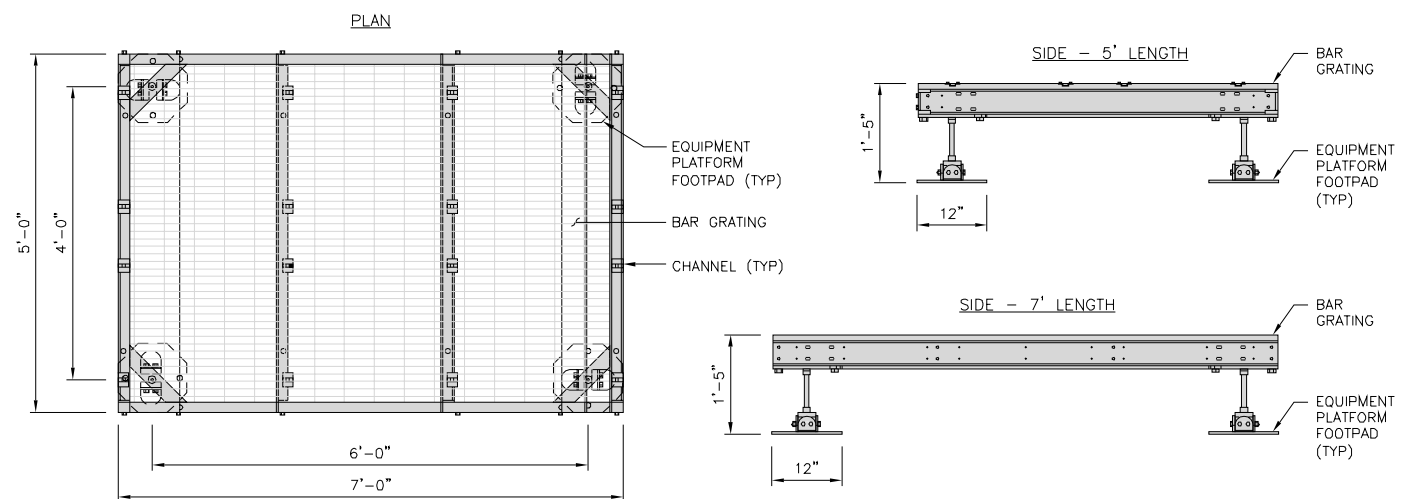
1

COMMSCOPE MTC4045LP
5X7 PLATFORM

DIMENSIONS (HxWxD)	16"x84"x60"
TOTAL WEIGHT	423 LBS

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

NOTE:
PLATFORM MUST BE LEVEL
WITHIN 1 DEGREE

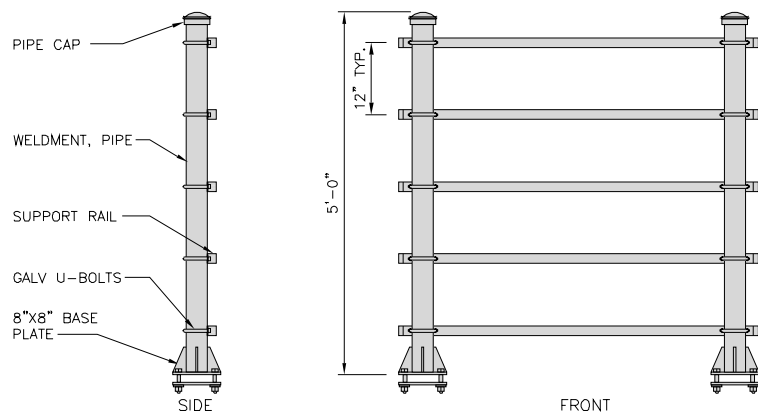


PLATFORM DETAIL

NO SCALE 2

KENWOOD T1701KT5-5S
H-FRAME

UNISTRUT/SUPPORT RAIL	5
WEIGHT/ VOLUME	173.6 LBS



H-FRAME DETAIL

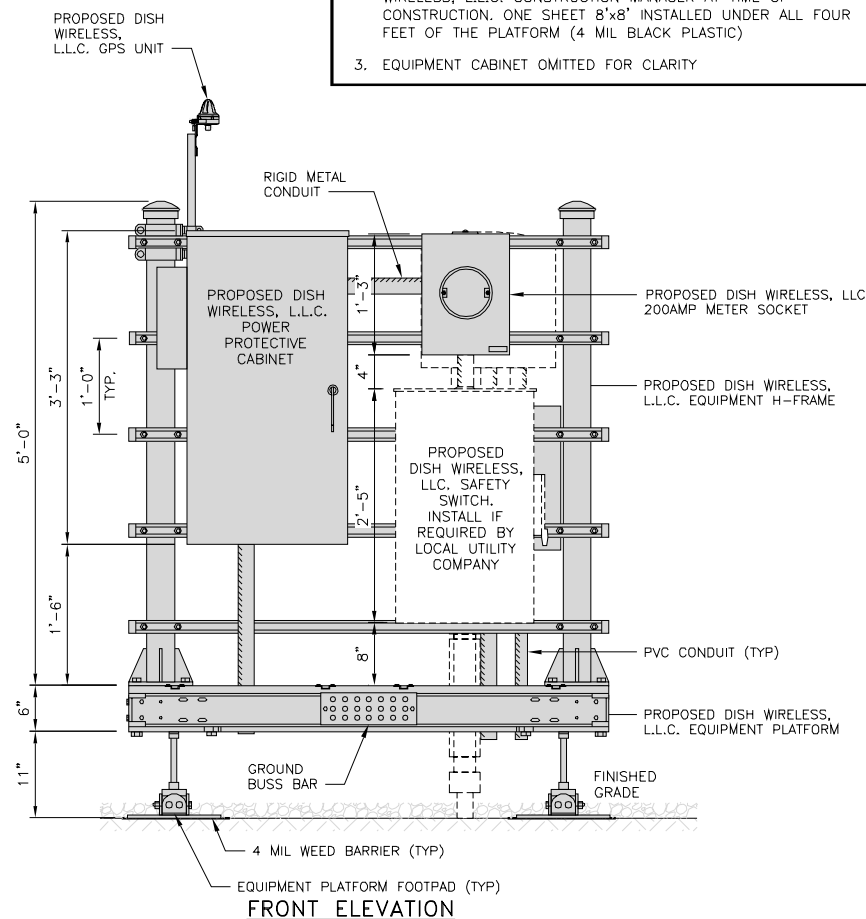
NO SCALE 3

NOT USED

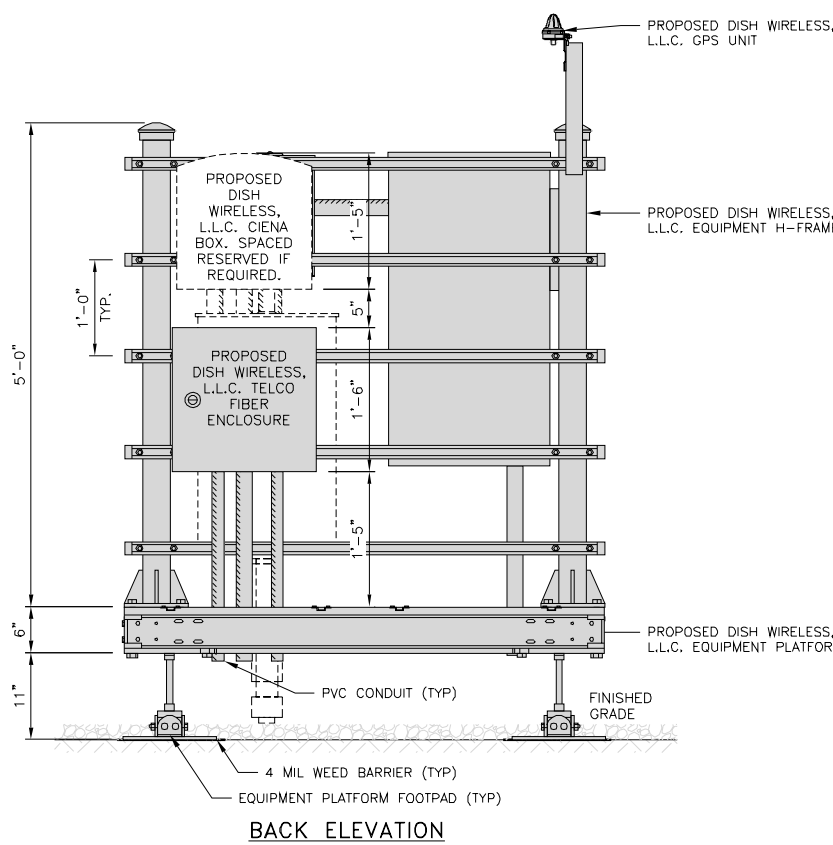
NO SCALE 4

NOTES

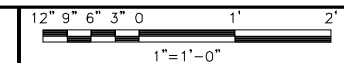
- CONTRACTOR TO BURY PLATFORM FEET WITH A MINIMUM OF 2" OF FILL PER EXISTING SITE SURFACE
- WEED BARRIER FABRIC TO BE ADDED AT DISCRETION OF DISH WIRELESS, L.L.C. CONSTRUCTION MANAGER AT TIME OF CONSTRUCTION. ONE SHEET 8'x8' INSTALLED UNDER ALL FOUR FEET OF THE PLATFORM (4 MIL BLACK PLASTIC)
- EQUIPMENT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



FRONT ELEVATION



BACK ELEVATION



5



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RDS BIW BIW

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS		
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A&E PROJECT NUMBER
302516-13702496

DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOHVN00144A
438 BRIDGEPORT AVE
MILFORD, CT 06460

SHEET TITLE
EQUIPMENT PLATFORM AND
H-FRAME DETAILS

SHEET NUMBER

A-3

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

CABINET DETAIL NO SCALE 1

RAYCAP RDIAC-6512-P-240-MTS POWER & TELCO PROTECTION CABINET	
DIMENSIONS (HxWxD)	40"x20"x10"
WEIGHT/ VOLUME	124 LBS
MANUAL TRANSFER SWITCH	200A
LOAD CENTER	30 POSITION
MAIN BREAKER	200A, 65kA AIC
GENERATOR RECEPTACLE	CAMLOCK
NEMA RATING	3R POWDER COATED ALUMINUM
SURGE PROTECTION DEVICE	UL 1449 4TH EDITION LISTED

POWER PROTECTION CABINET (PPC) DETAIL NO SCALE 2

SQUARE D SAFETY SWITCH D324NRB	
ENCLOSURE DIM (HxWxD)	29.25"x17.25"x8.25"
TOTAL WEIGHT (EMPTY)	45.33 LBS
MAX VOLTAGE/AMPS/WATT	240V/200A/48000W
ENCLOSURE RATING	OUTDOOR NEMA 3R

SAFETY SWITCH NO SCALE 3

EATON METER SOCKET UNRRS213BEUSE	
METER SOCKET TYPE	RING
ENCLOSURE DIM (HxWxD)	16"x12"x6"
MAIN AMPERE RATING	200A
WEIGHT	18 LBS

METER SOCKET DETAIL NO SCALE 4

CIENA 3931 SERVICE DELIVERY SWITCH	
DIMENSIONS (HxWxD)	17.0"x16.8"x7.0" 431x427x178mm
WEIGHT	28.6 LBS/13.0 KG
POWER INPUT	60W MAX

CIENA DETAIL NO SCALE 5

CHARLES FIBER TELCO ENCLOSURE CUBE-MP1818WB-A	
ENCLOSURE DIM (HxWxD)	18.0"x18.0"x9.25"
NEMA RATING	4X
THERMAL	SEALED
MOUNTING BACKBOARD	WOOD

FIBER TELCO ENCLOSURE DETAIL NO SCALE 6

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

INCLUDED PRODUCTS:

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

ICE BRIDGE DETAIL NO SCALE 7

TYPICAL ICE BRIDGE CONCRETE PIER DETAIL NO SCALE 8

HYBRID CABLE RUN NO SCALE 9

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LITTLETON, CO 80120

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(919) 657-9131

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RDS	BIW	BIW
RFDS REV #:		1

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
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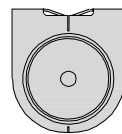
A&E PROJECT NUMBER
302516-13702496

DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOHVN00144A
438 BRIDGEPORT AVE
MILFORD, CT 06460

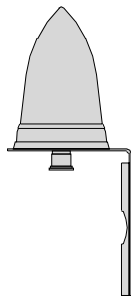
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-4

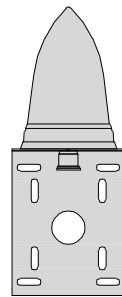
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



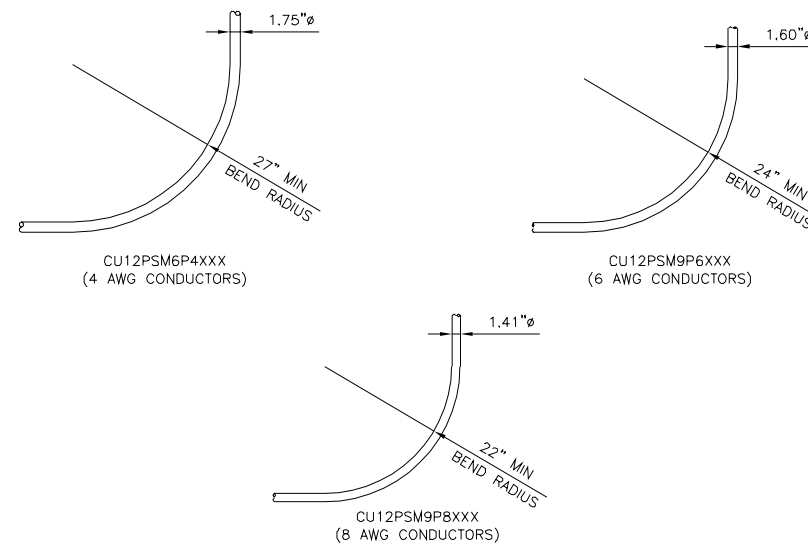
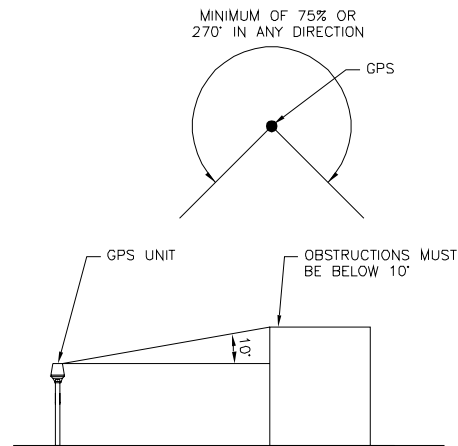
TOP



BACK



SIDE



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

dish
wireless™

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

NB+C
TOTALLY COMMITTED.

NB+C ENGINEERING SERVICES, LLC.
8601 SIX FORKS ROAD, SUITE 540
RALEIGH, NC 27615
(919) 657-9131

DRAWN BY: CHECKED BY: APPROVED BY:

RDS BIW BIW

RFDS REV #: 1

CONSTRUCTION
DOCUMENTS

SUBMITTALS		
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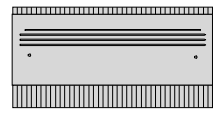
DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOHVN00144A
438 BRIDGEPORT AVE
MILFORD, CT 06460

SHEET TITLE
EQUIPMENT DETAILS

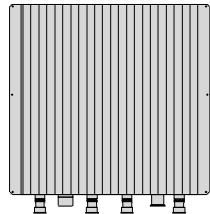
SHEET NUMBER

A-5

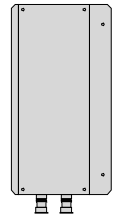
FUJITSU DUAL BAND TA08025-B604	
DIMENSIONS (HxWxD)	14.9"x15.7"x7.8"
WEIGHT	63.9 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



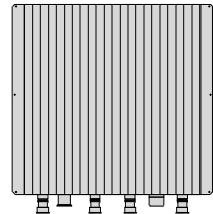
PLAN



BACK



SIDE



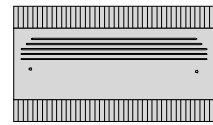
FRONT

RRH_DETAIL

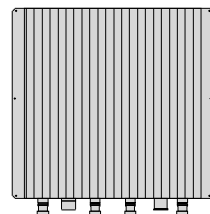
NO SCALE

1

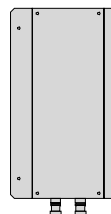
FUJITSU TRIPLE BAND TA08025-B605	
DIMENSIONS (HxWxD)	14.9"x15.7"x9"
WEIGHT	74.95 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



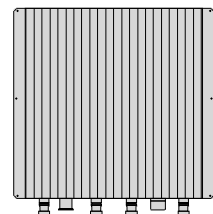
PLAN



BACK



SIDE



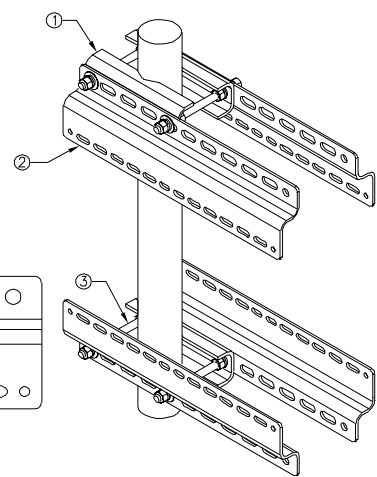
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RRH_DETAIL

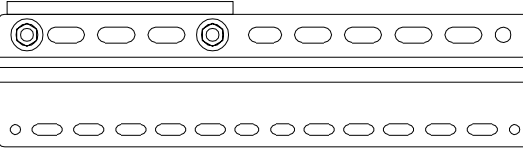
NO SCALE

2

SABRE DOUBLE Z-BRACKET G10123155	
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"



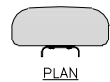
NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

RRH_MOUNT_DETAIL

NO SCALE

3

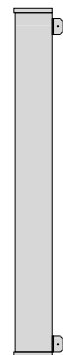
JMA WIRELESS MX08FR0665-21 ANTENNA	
DIMENSIONS (HxWxD)	72.0"x20.0"x8.0"
TOTAL WEIGHT	64.5 LB
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE



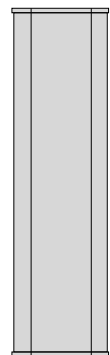
PLAN



BACK



SIDE



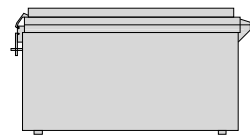
FRONT

ANTENNA_DETAIL

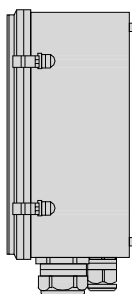
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4

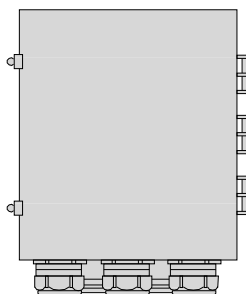
RAYCAP RDIDC-9181-PF-48 DC SURGE PROTECTION (OVP)	
DIMENSIONS (HxWxD)	18.98"x14.39"x8.15"
WEIGHT	21.82 LBS



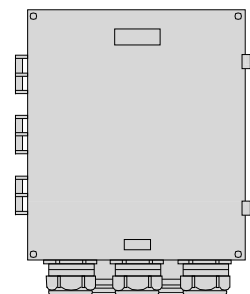
PLAN



SIDE



BACK



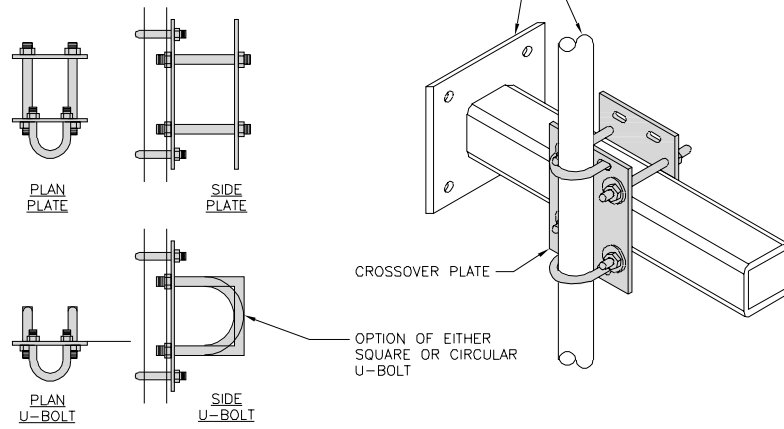
FRONT

SURGE_SUPPRESSION_DETAIL (OVP)

NO SCALE

7

COMMSCOPE XP-2040 CROSSOVER PLATE	
DIMENSIONS (HxW)	10"x12"
WEIGHT	11.023 LBS



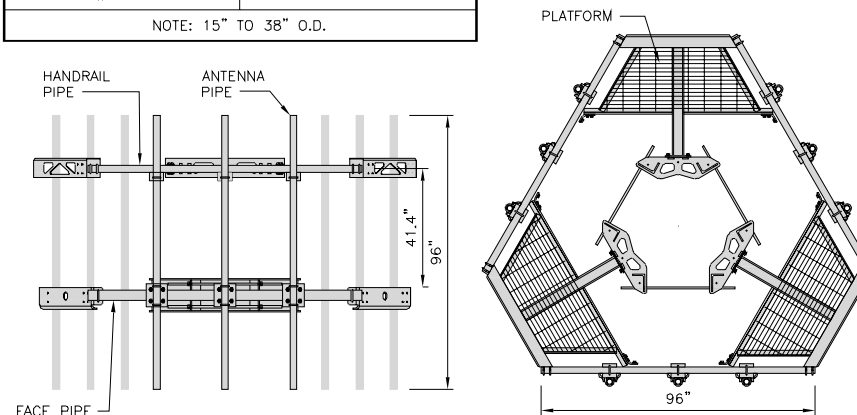
RRH/OVP_MOUNT_DETAIL

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



5701 SOUTH SANTA FE DRIVE
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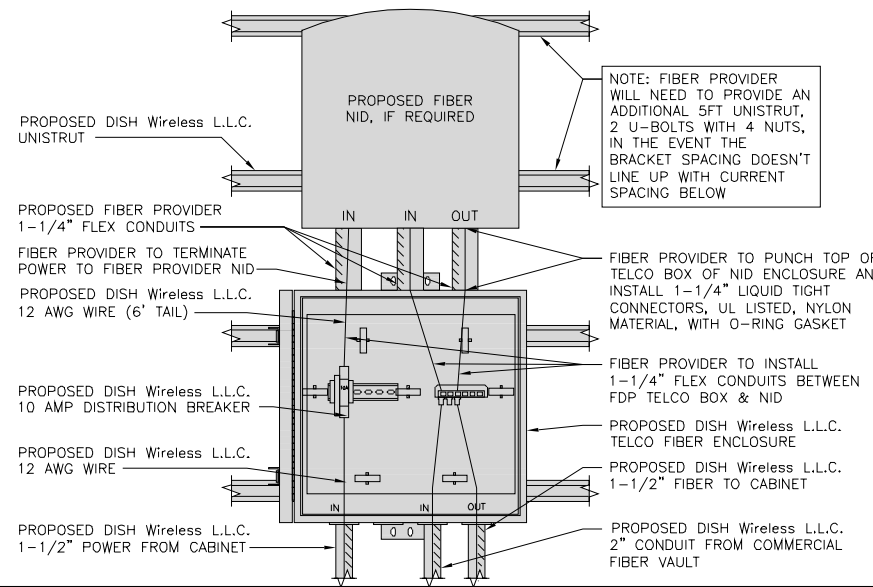
A&E PROJECT NUMBER
302516-13702496

DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOHVN00144A
438 BRIDGEPORT AVE
MILFORD, CT 06460

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER

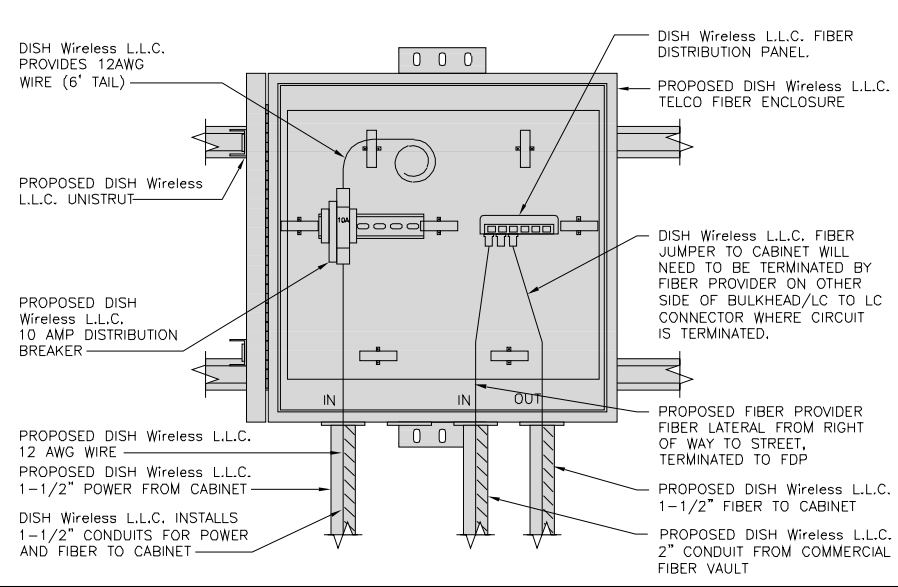
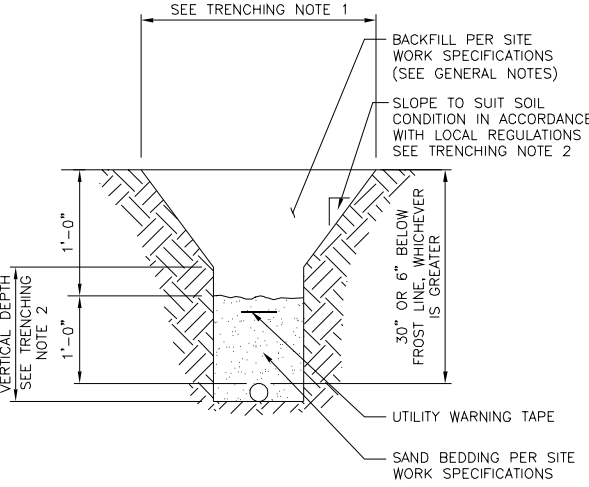
A-6



NOTE: FIBER PROVIDER WILL NEED TO PROVIDE AN ADDITIONAL 5FT UNISTRUT, 2 U-BOLTS WITH 4 NUTS, IN THE EVENT THE BRACKET SPACING DOESN'T LINE UP WITH CURRENT SPACING BELOW

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.



LIT TELCO BOX - INTERIOR WIRING LAYOUT (OPTIONAL)

NO SCALE 1

TYPICAL UNDERGROUND TRENCH DETAIL

NO SCALE 2

DARK TELCO BOX - INTERIOR WIRING LAYOUT

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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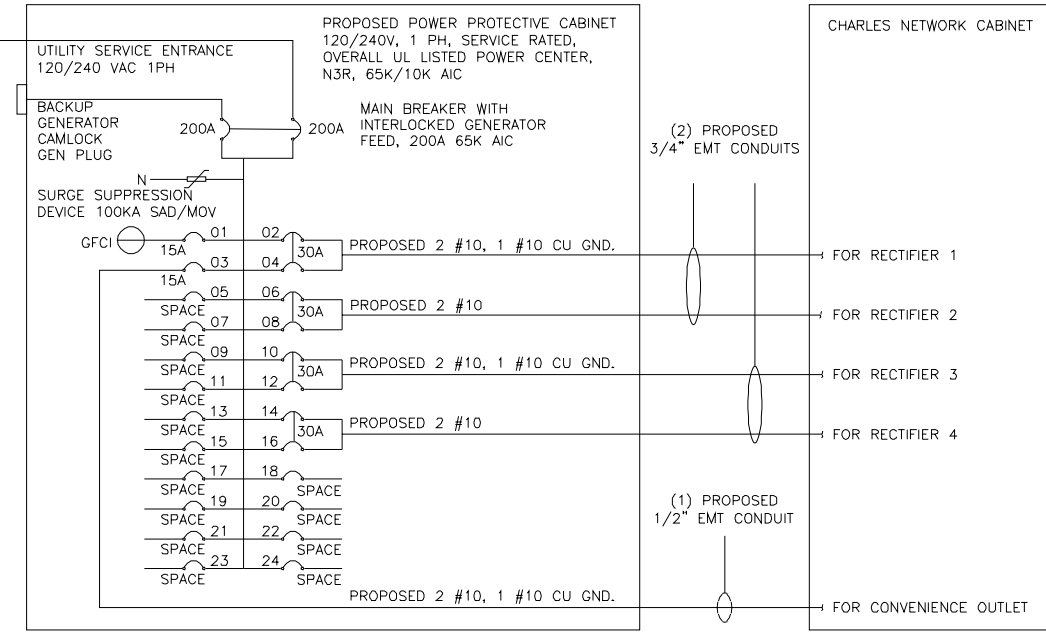
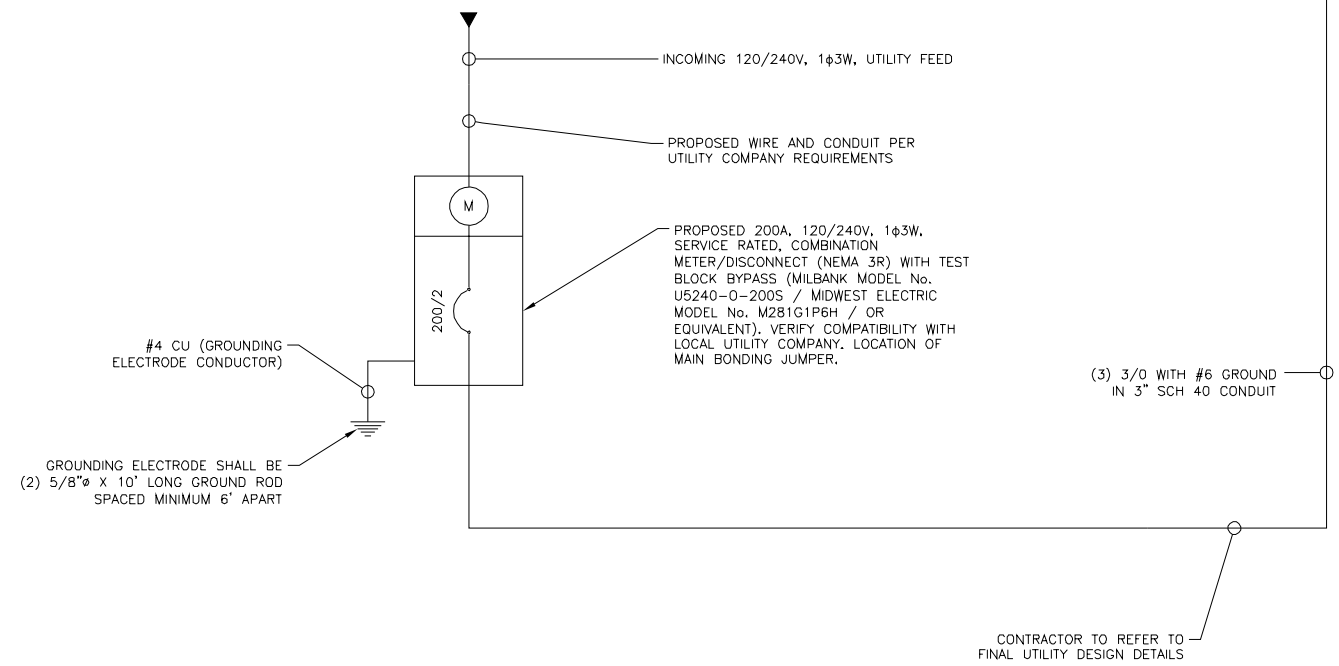
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302516-13702496

DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOHVN00144A
438 BRIDGEPORT AVE
MILFORD, CT 06460

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:00230
(1) 15A, 1P BREAKER - SQUARE D P/N:00115

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		15A	1	A	2	30A	2880	2880	ABB/GE INFINITY RECTIFIER 1
CHARLES GFCI OUTLET		180	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-
-SPACE-				19	B	20				-SPACE-
-SPACE-				21	A	22				-SPACE-
-SPACE-				23	B	24				-SPACE-
VOLTAGE AMPS	180	180						11520	11520	
200A MCB, 1 ϕ , 24 SPACE, 120/240V				L1	L2					
MB RATING: 65,000 AIC				11700	11700			VOLTAGE AMPS		
				98	98			AMPS		
								MAX AMPS		
								MAX 125%		

PANEL SCHEDULE

NO SCALE 2

NOT USED

NO SCALE 3



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LITTLETON, CO 80120



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(919) 657-9131

DRAWN BY: RDS
CHECKED BY: BIW
APPROVED BY: BIW

RFDS REV #: 1

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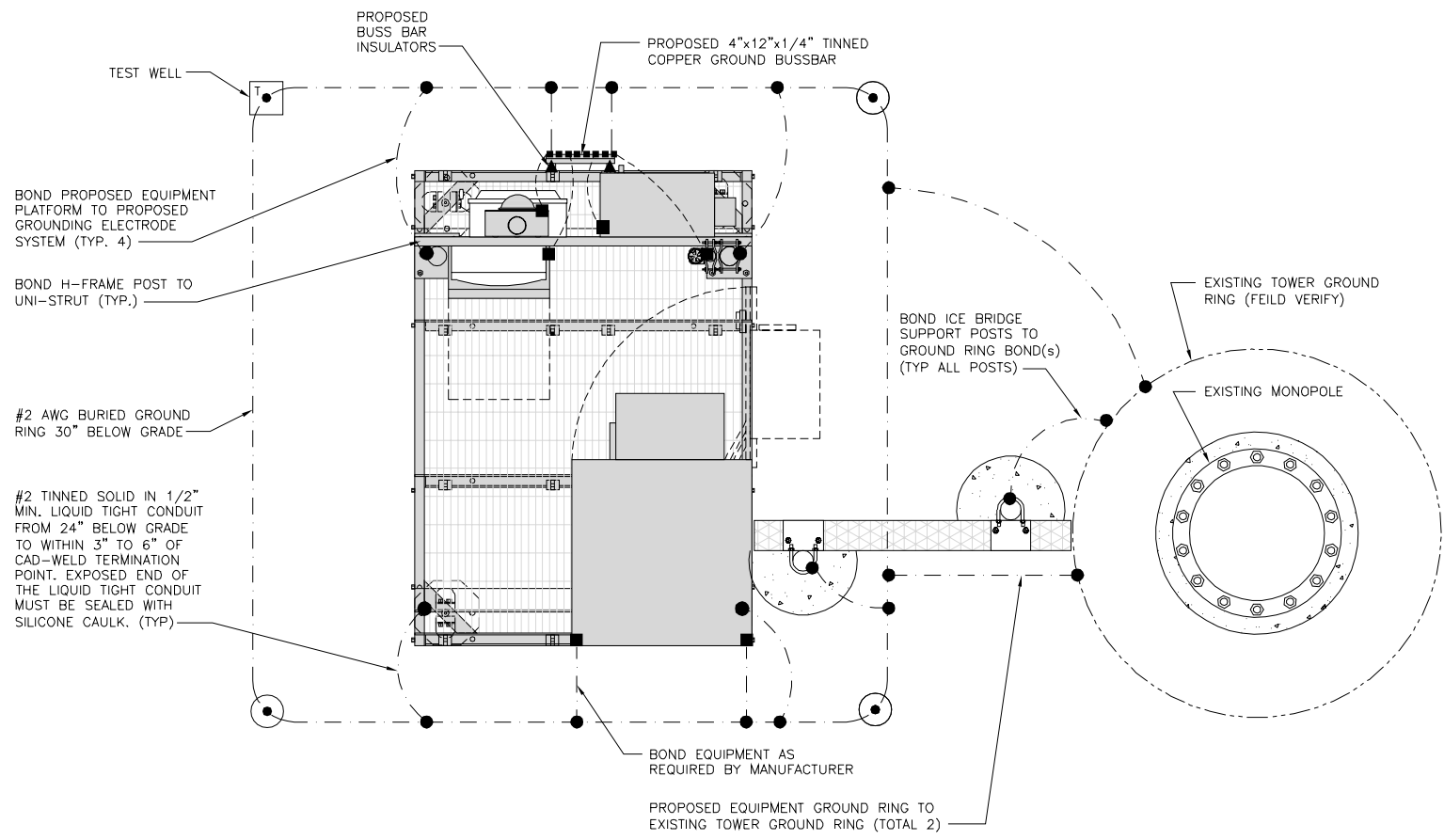
A&E PROJECT NUMBER
302516-13702496

DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOHVN00144A
438 BRIDGEPORT AVE
MILFORD, CT 06460

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

SHEET NUMBER

E-3

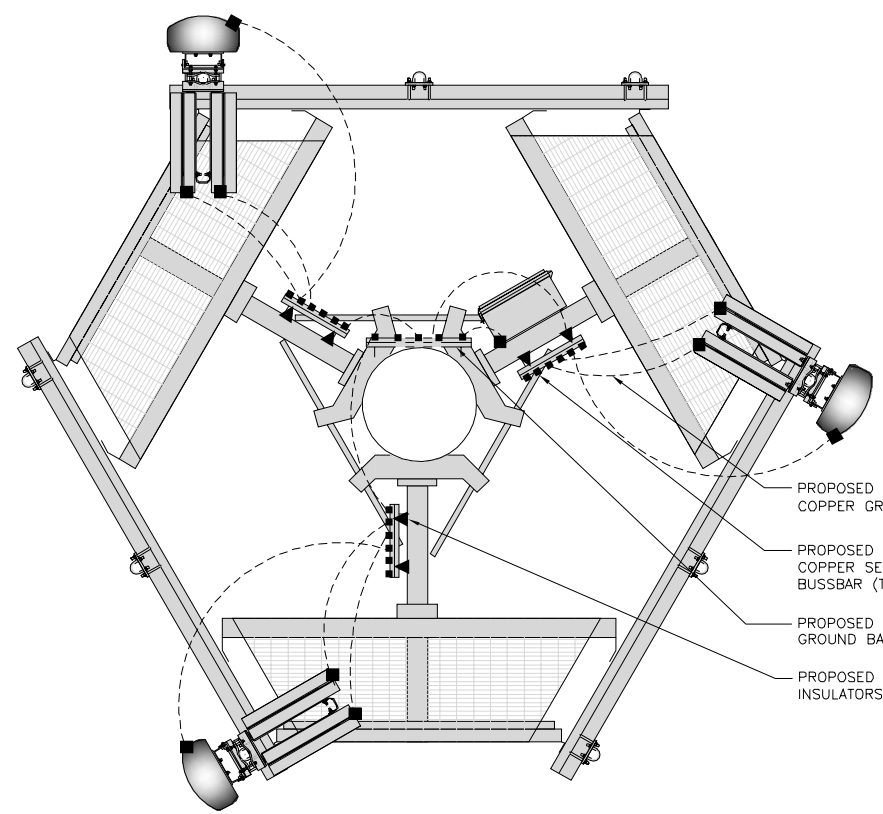


TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE 1

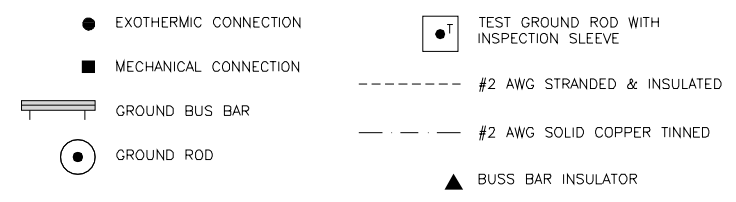
NOTES

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



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE 2



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 5/8" 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.
- (J) TELCO GROUND BAR: BOND TO BOTH CELL REFERENCE GROUND BAR OR EXTERIOR GROUND RING.
- (K) FRAME BONDING: THE BONDING POINT FOR TELECOM EQUIPMENT FRAMES SHALL BE THE GROUND BUS THAT IS NOT ISOLATED FROM THE EQUIPMENTS METAL FRAMEWORK.
- (L) INTERIOR UNIT BONDS: METAL FRAMES, CABINETS AND INDIVIDUAL METALLIC UNITS LOCATED WITH THE AREA OF THE INTERIOR GROUND RING REQUIRE A #6 AWG STRANDED GREEN INSULATED COPPER BOND TO THE INTERIOR GROUND RING.
- (M) 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.
- (N) 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
- (P) 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.
- (Q) 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
- (R) 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



5701 SOUTH SANTA FE DRIVE
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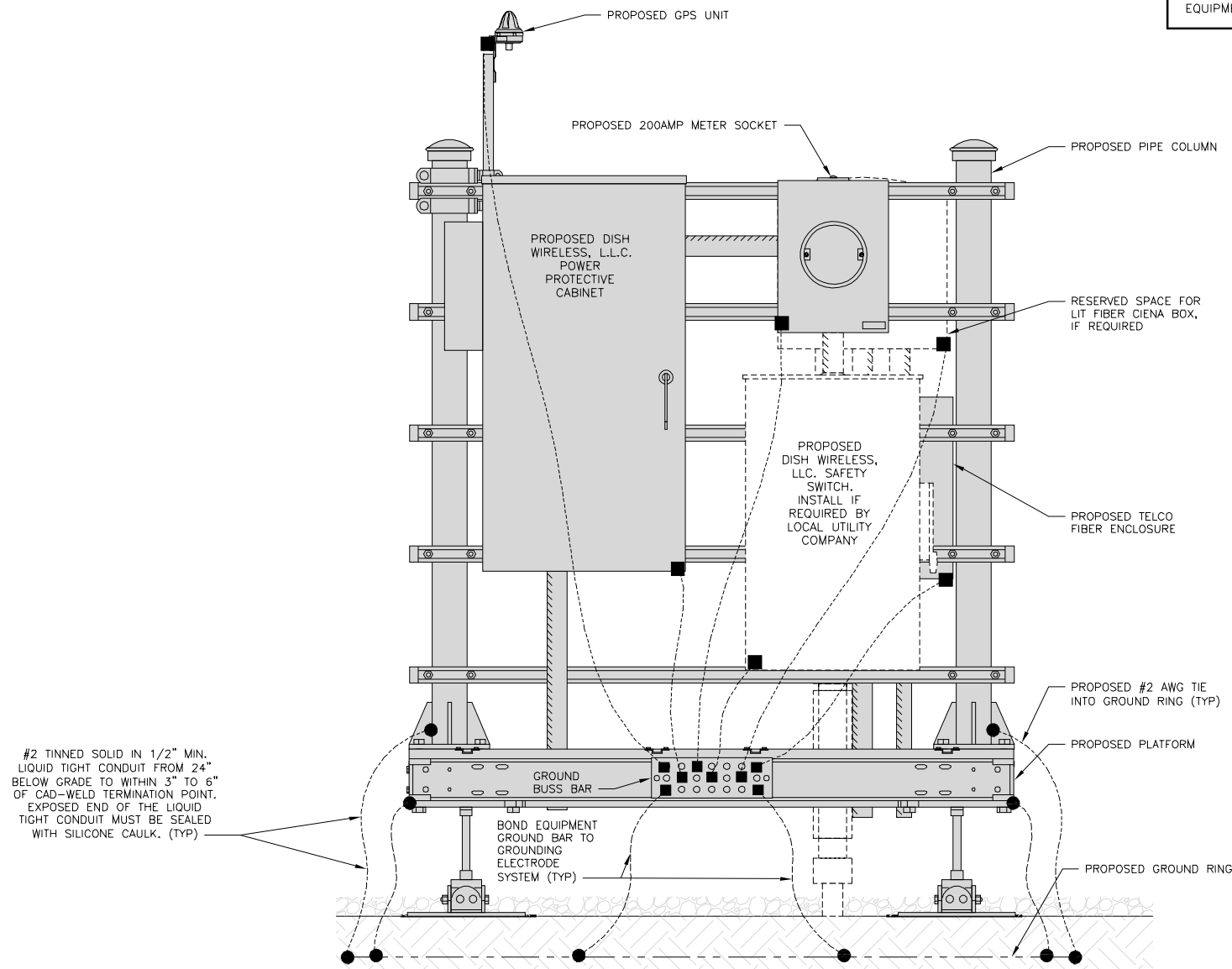
SHEET TITLE
GROUNDING PLANS
AND NOTES

SHEET NUMBER

G-1

NOTES

EQUIPMENT CABINET OMITTED FOR CLARITY

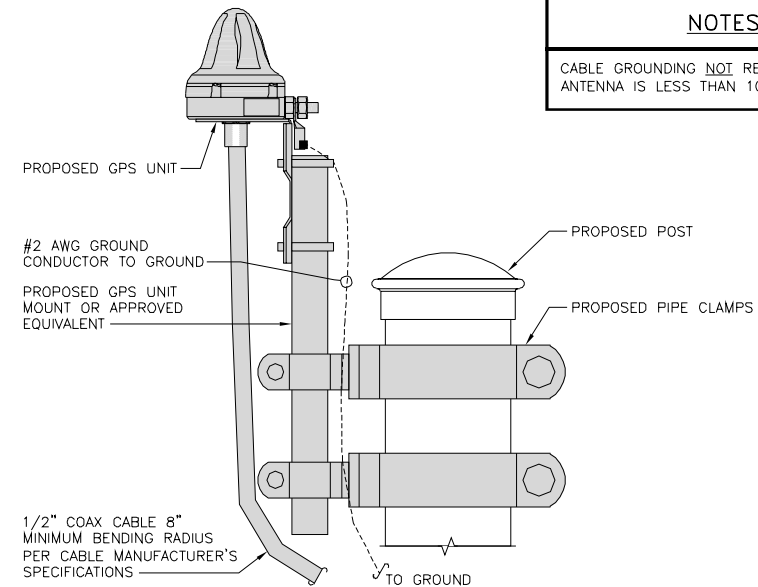


H-FRAME GROUNDING DETAIL

NO SCALE 1

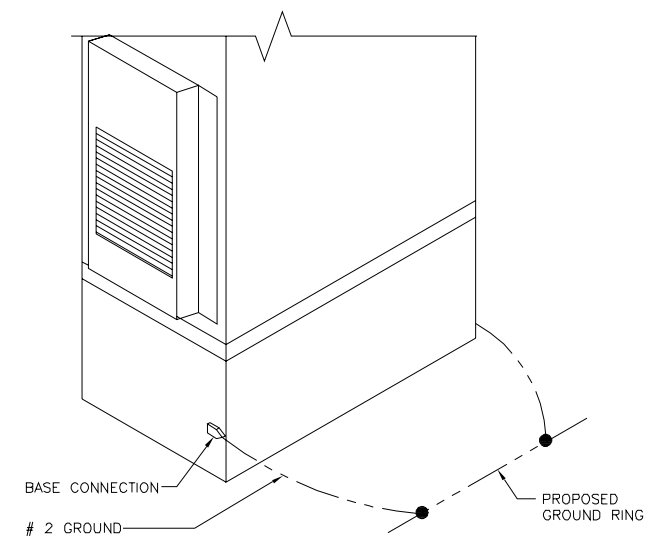
NOTES

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



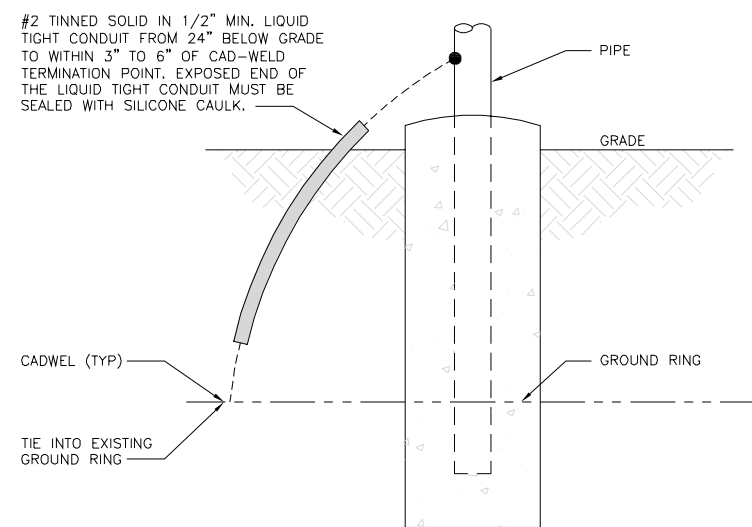
TYPICAL GPS UNIT GROUNDING

NO SCALE 2



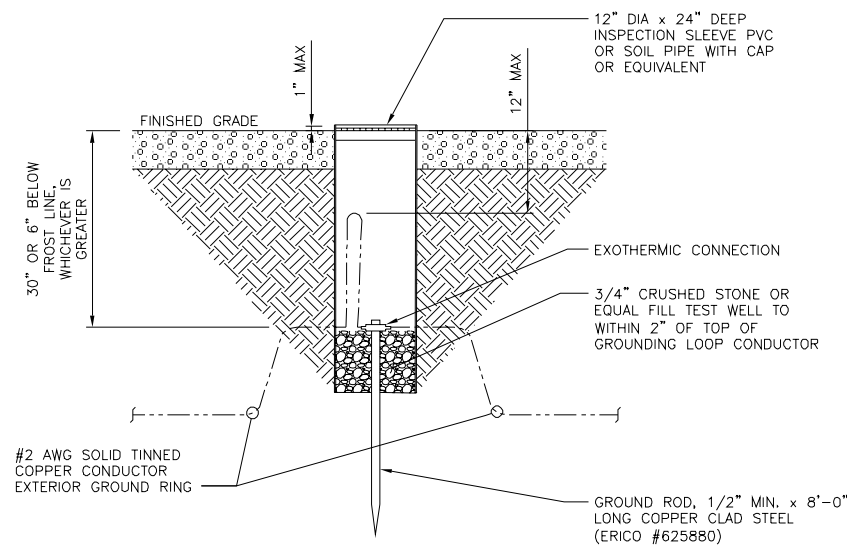
OUTDOOR CABINET GROUNDING

NO SCALE 3



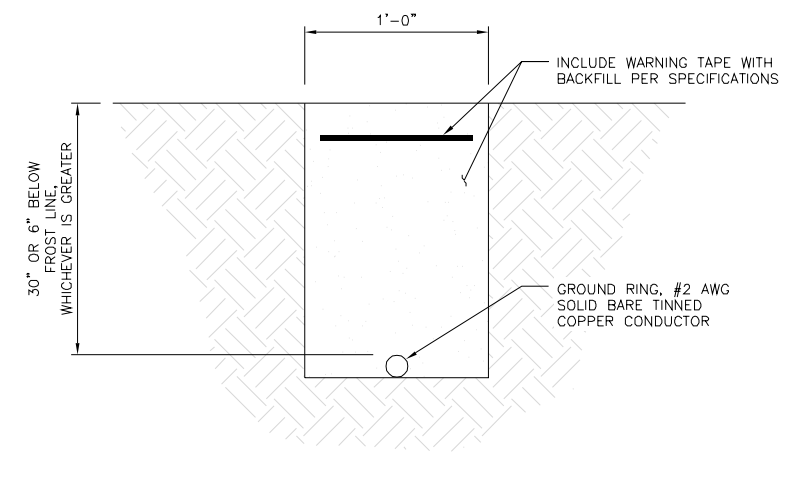
TRANSITIONING GROUND DETAIL

NO SCALE 4



TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE

NO SCALE 5



TYPICAL GROUND RING TRENCH

NO SCALE 6

dish
wireless™

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

NB+C
TOTALLY COMMITTED.

NB+C ENGINEERING SERVICES, L.L.C.
8601 SIX FORKS ROAD, SUITE 540
RALEIGH, NC 27615
(919) 657-9131

DRAWN BY: CHECKED BY: APPROVED BY:

RDS BIW BIW

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS		
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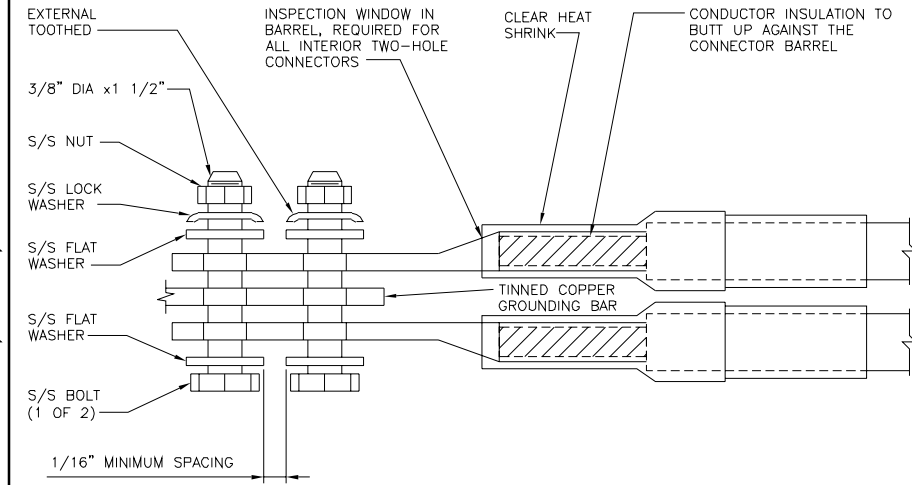
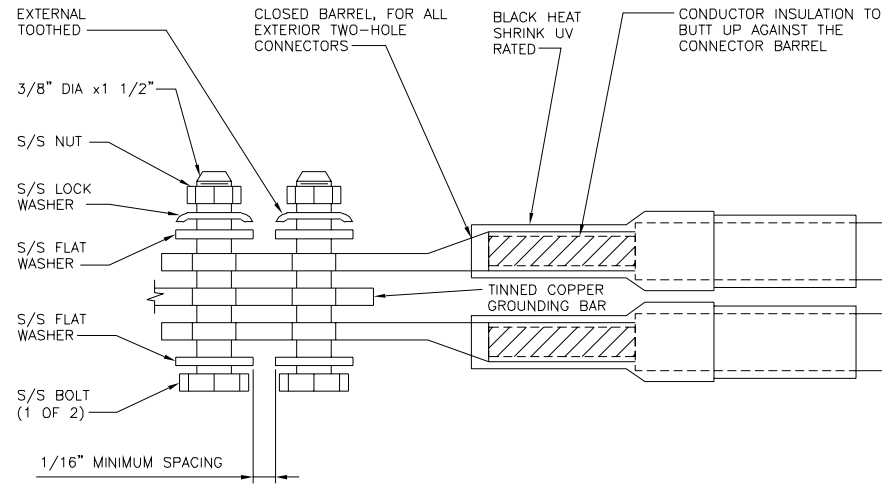
DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOHVN00144A
438 BRIDGEPORT AVE
MILFORD, CT 06460

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).



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SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER

G-3

TYPICAL GROUNDING NOTES

NO SCALE

1

TYPICAL EXTERIOR TWO HOLE LUG

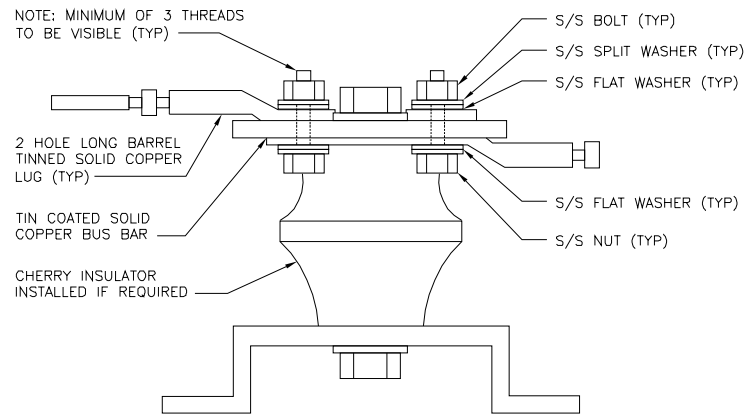
NO SCALE

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

RF JUMPER COLOR CODING

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

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

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

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)

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

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
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

INCLUDE SECTOR BANDS BEING SUPPORTED ALONG WITH FREQUENCY BANDS

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

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

EXAMPLE 1	EXAMPLE 2	EXAMPLE 3
RED	RED	RED
BLUE	BLUE	
GREEN	GREEN	ORANGE
ORANGE	YELLOW	PURPLE
PURPLE		

FIBER JUMPERS TO RRHs

LOW-BAND RRH FIBER CABLES HAVE SECTOR STRIPE ONLY

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 POWER CABLES HAVE SECTOR STRIPE ONLY

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

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

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

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
RED	RED	BLUE	BLUE	GREEN	GREEN
WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
	RED		BLUE		GREEN
	WHITE		WHITE		WHITE

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

BETA SECTOR

GAMMA SECTOR

RED

BLUE

GREEN

COLOR IDENTIFIER

NO SCALE

2

NOT USED

NO SCALE

3



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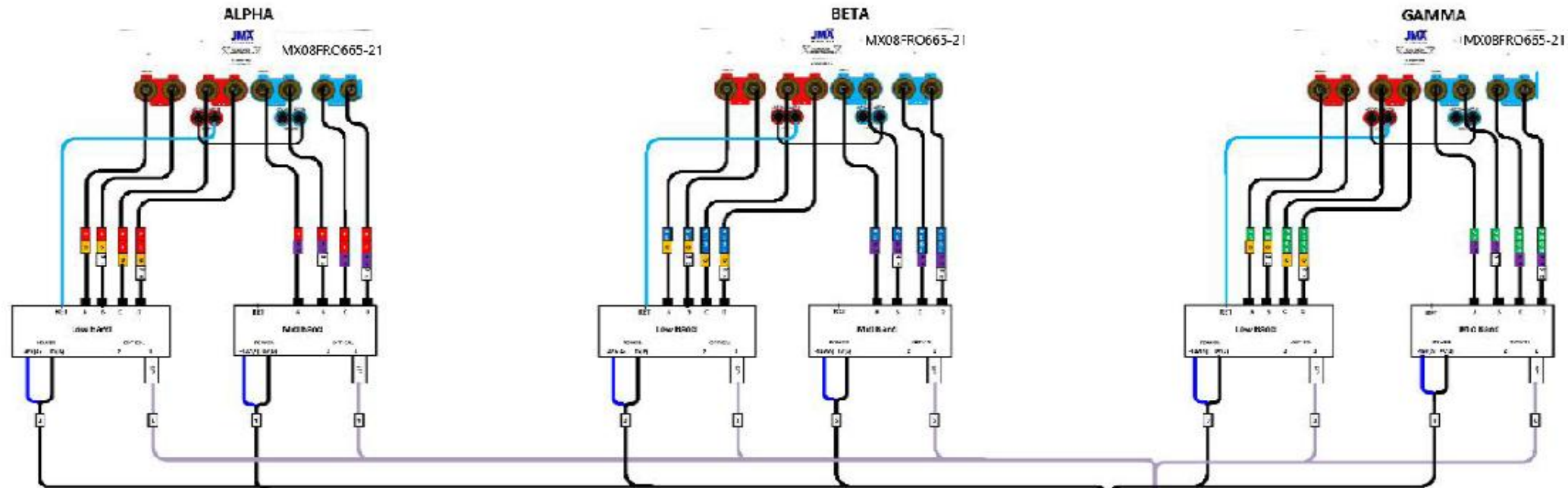
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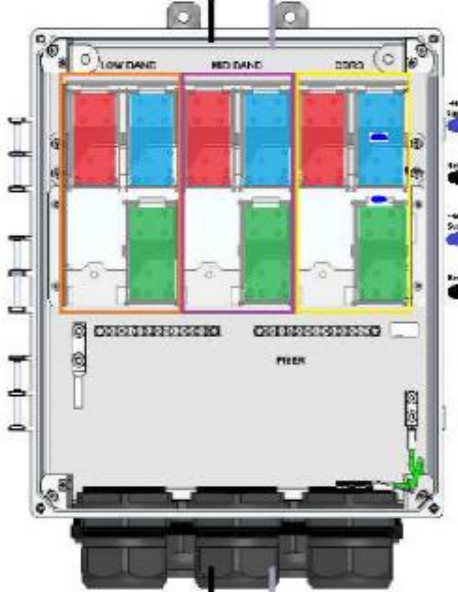
SHEET TITLE
RF
CABLE COLOR CODES

SHEET NUMBER
RF-1



Fiber Patch Panel

Bottom Row	Pair 1	Pair 2	Pair 3	Pair 10	Open	Open
Middle Row	Pair 4	Pair 5	Pair 6	Pair 11	Open	Open
Top Row	Pair 7	Pair 8	Pair 9	Pair 12	Open	Open



CSR NCS540

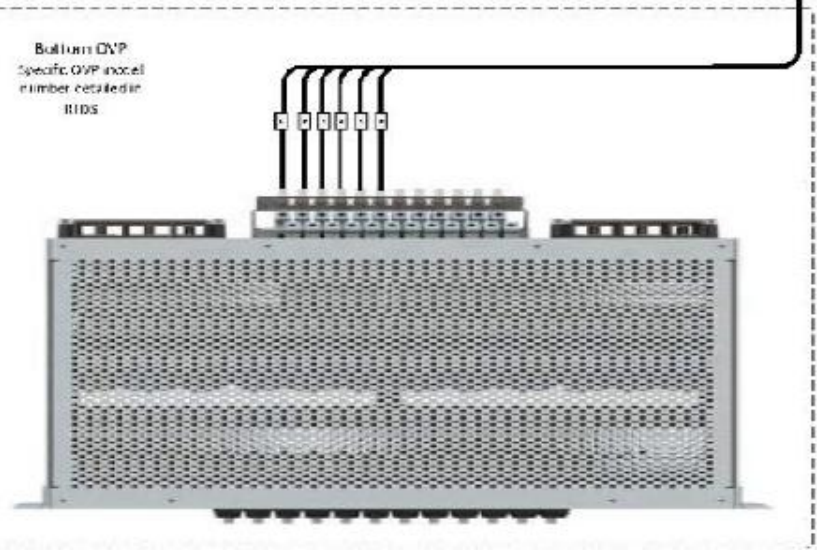
Port	Interface	Description
0	CSR0/0	SwiBox
1	CSR0/01	CSR - Alpha
2	CSR0/02	CSR - Beta
3	CSR0/03	CSR - Gamma
4	Tel0/04	Fiber Low Band RU - Alpha
5	Tel0/05	Fiber Mid Band RU - Alpha
6	Tel0/06	Fiber Low Band RU - Beta
7	Tel0/07	Fiber Mid Band RU - Beta
8	Tel0/08	Fiber Low Band RU - Gamma
9	Tel0/09	Fiber Mid Band RU - Gamma
10	Tel0/10	Fixed W1
11	Tel0/11	Fixed W1
12	Tel0/12	Fixed W1
13	Tel0/13	Fixed W1
14	Tel0/14	CR02
15	Tel0/15	CR02
16	Tel0/16	CR03
17	Tel0/17	NM1 - RML
18	Tel0/18	NM2 - RML
19	Tel0/19	NM1 - Data 1
20	Tel0/20	NM1 - Data 2
21	Tel0/21	NM2 - Data 1
22	Tel0/22	NM2 - Data 2
23	Tel0/23	Reserved Uplink (EDC, LDC)
24	Tel0/24	Blank/Unused
25	Tel0/25	Blank/Unused
26	Tel0/26	Fiber N1
27	Tel0/27	Fiber N1
28	Tel0/28	Blank/Unused
29	Tel0/29	Blank/Unused

top

bottom

Bottom OVP Layout

Circuit 1	Alpha Low Band
Circuit 2	Beta Low Band
Circuit 3	Gamma Low Band
Circuit 4	Alpha Mid Band
Circuit 5	Beta Mid Band
Circuit 6	Gamma Mid Band
Circuit 7	Alpha CRRS
Circuit 8	Beta CRRS
Circuit 9	Gamma CRRS
Circuit 10	Open
Circuit 11	Open
Circuit 12	Open



	SC: plumb diagram MA MX08FRO665-21 Z-2-2(LB+MB)		
	Date:	Drawn:	Check:



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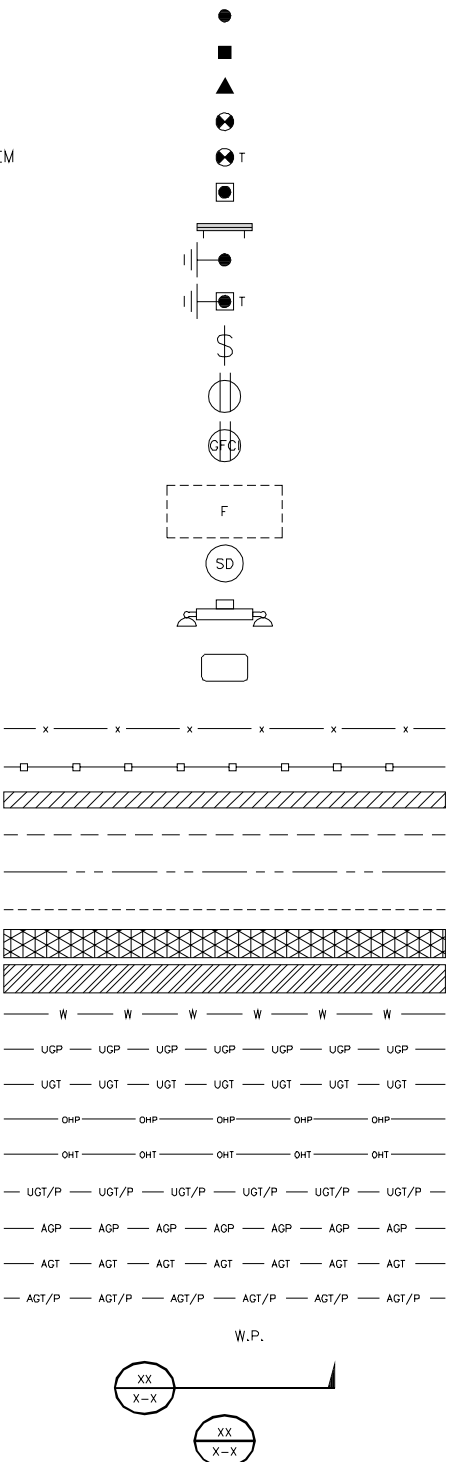
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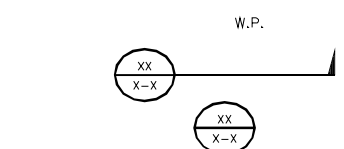
SHEET TITLE
RF
CABLE COLOR CODES

SHEET NUMBER
RF-1

EXOTHERMIC CONNECTION
 MECHANICAL CONNECTION
 BUSS BAR INSULATOR
 CHEMICAL ELECTROLYTIC GROUNDING SYSTEM
 TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM
 EXOTHERMIC WITH INSPECTION SLEEVE
 GROUNDING BAR
 GROUND ROD
 TEST GROUND ROD WITH INSPECTION SLEEVE
 SINGLE POLE SWITCH
 DUPLEX RECEPTACLE
 DUPLEX GFCI RECEPTACLE
 FLUORESCENT LIGHTING FIXTURE
 (2) TWO LAMPS 48-T8
 SMOKE DETECTION (DC)
 EMERGENCY LIGHTING (DC)
 SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW
 LED-1-25A400/51K-SR4-120-PE-DBBTXD



SECTION REFERENCE
 DETAIL REFERENCE



LEGEND

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		

ABBREVIATIONS



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 LITTLETON, CO 80120



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MILFORD, CT 06460

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:
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CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
0	09/09/2021	ISSUED FOR CONSTRUCTION



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.

A&E PROJECT NUMBER
302516-13702496

DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOHVN00144A
438 BRIDGEPORT AVE
MILFORD, CT 06460

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 SPECIMATE 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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LITTLETON, CO 80120



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CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
0	09/09/2021	ISSUED FOR CONSTRUCTION



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.

A&E PROJECT NUMBER
302516-13702496

DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOHVN00144A
438 BRIDGEPORT AVE
MILFORD, CT 06460

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.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
 - A. ASTM A-572, GRADE 50 – ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
 - B. ASTM A-36 – ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
 - C. ASTM A-500, GRADE B – HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
 - D. ASTM A-325, TYPE SC OR N – ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
 - E. ASTM F-1554 07 – ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
 - A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
 - B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
 - C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
 - D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
 - E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
 - F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
 - G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.
 - H. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE REQUIRED DURING CONSTRUCTION UNTIL ALL CONNECTIONS ARE COMPLETE.
 - I. ANY FIELD CHANGES OR SUBSTITUTIONS SHALL HAVE PRIOR APPROVAL FROM THE ENGINEER, AND DISH WIRELESS L.L.C. PROJECT MANAGER IN WRITING



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



NB+C ENGINEERING SERVICES, LLC.
8601 SIX FORKS ROAD, SUITE 540
RALEIGH, NC 27615
(919) 657-9131

DRAWN BY: CHECKED BY: APPROVED BY:

RDS	BIW	BIW
-----	-----	-----

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
0	09/09/2021	ISSUED FOR CONSTRUCTION



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.

A&E PROJECT NUMBER
302516-13702496

DISH WIRELESS, L.L.C.
PROJECT INFORMATION
BOHVN00144A
438 BRIDGEPORT AVE
MILFORD, CT 06460

SHEET TITLE
GENERAL NOTES

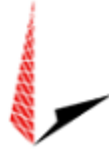
SHEET NUMBER
GN-4

ENGINEERING:
STRUCTURAL ANALYSIS
MOUNT ANALYSIS



AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by



**TOWER
ENGINEERING
PROFESSIONALS**

Structural Analysis Report

Structure : 100 ft Monopole
ATC Site Name : Mlfd - Milford,CT
ATC Site Number : 302516
Engineering Number : 13702496_C3_04
Proposed Carrier : DISH WIRELESS L.L.C.
Carrier Site Name : BOHVN00144A
Carrier Site Number : BOHVN00144A
Site Location : 438 Bridgeport Ave
Milford, CT 06460-4105
41.2066, -73.0934
County : New Haven
Date : September 20, 2021
Max Usage : 89%
Result : Pass

Prepared By:

Jack Davis
TEP

Reviewed By:



09/21/2021

COA : PEC.0001553



Table of Contents

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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 100 ft Monopole to reflect the change in loading by DISH WIRELESS L.L.C..

Supporting Documents

Tower Drawings	ITT Meyer Specification #AT-8935, Type D, dated April 13, 1984 Mapping by Smith Cullum, SpectraSite #CT-0052, dated May 31, 2002
Foundation Drawing	Mapping by FDH Project #02-1210, dated January 9, 2003
Geotechnical Report	AET Job #002GT03, dated January 7, 2003
Modifications	SpectraSite Drawing #CT-0052, dated January 14, 2003 ATC Job #40870132, dated September 28, 2007 American Tower #27094034, dated April 21, 2008

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	120 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.00" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Spectral Response:	$S_s = 0.20$, $S_i = 0.05$
Site Class:	D - Stiff Soil - Default

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



Existing and Reserved Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
108.0	1	10' Omni	Platform with Handrails And Side Arms	(2) 0.39" (10mm) Fiber Trunk (6) 0.78" (19.7mm) 8 AWG 6 (12) 1 1/4" Coax (4) 3" conduit	OTHER
104.0	2	Commscope WCS-IMFQ-AMT			AT&T MOBILITY
	3	Kathrein Scala 80010964			
	3	CCI OPA-65R-LCUU-H4			
	3	Commscope SBNHH-1D65A			
	3	Powerwave Allgon 7770.00			
	3	Ericsson RRUS 32 B2			
	3	Ericsson RRUS 32 B66			
	3	Ericsson RRUS 32 (50.8 lbs)			
	6	Powerwave Allgon LGP21401			
	2	Raycap DC6-48-60-18-8F			
	3	Ericsson RRUS 4478 B14			
	1	Raycap DC6-48-60-18-8C			
	3	Ericsson RRUS 11 (Band 12)			
102.0	3	Kaelus DBC0061F1V51-2			Platform with Handrails
73.0	6	Ericsson KRY 112 144/2			
	3	RFS APX16DWV-16DWVS-E-A20			
	3	Ericsson AIR32 B66Aa/B2a			
	3	Ericsson Air6449 B41			
	3	Ericsson RRUS 4415 B25			
	3	Ericsson Radio 4449 B71 B85A			
3	RFS APXVAARR24_43-U-NA20				

Equipment to be Removed

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
93.0	3	48" x 12" Panel	Flush	(6) 7/8" Coax	SPRINT NEXTEL
83.0	3	48" x 12" Panel	Flush	(6) 7/8" Coax	

Proposed Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
93.0	1	Raycap RDIDC-9181-PF-48	Platform with Handrails	(1) 1.60" (40.6mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B604			
	3	Fujitsu TA08025-B605			
	3	JMA Wireless MX08FRO665-21			

¹ Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines outside the pole shaft. Stacking is not allowed.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	38%	Pass
Shaft	88%	Pass
Base Plate	64%	Pass
Reinforcement	89%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	1,536.2	59%
Axial (Kips)	35.8	3%
Shear (Kips)	20.0	32%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
93.0	Raycap RDIDC-9181-PF-48	DISH WIRELESS L.L.C.	1.030	1.240
	Fujitsu TA08025-B604			
	JMA Wireless MX08FRO665-21			
	Fujitsu TA08025-B605			

*Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-H



Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

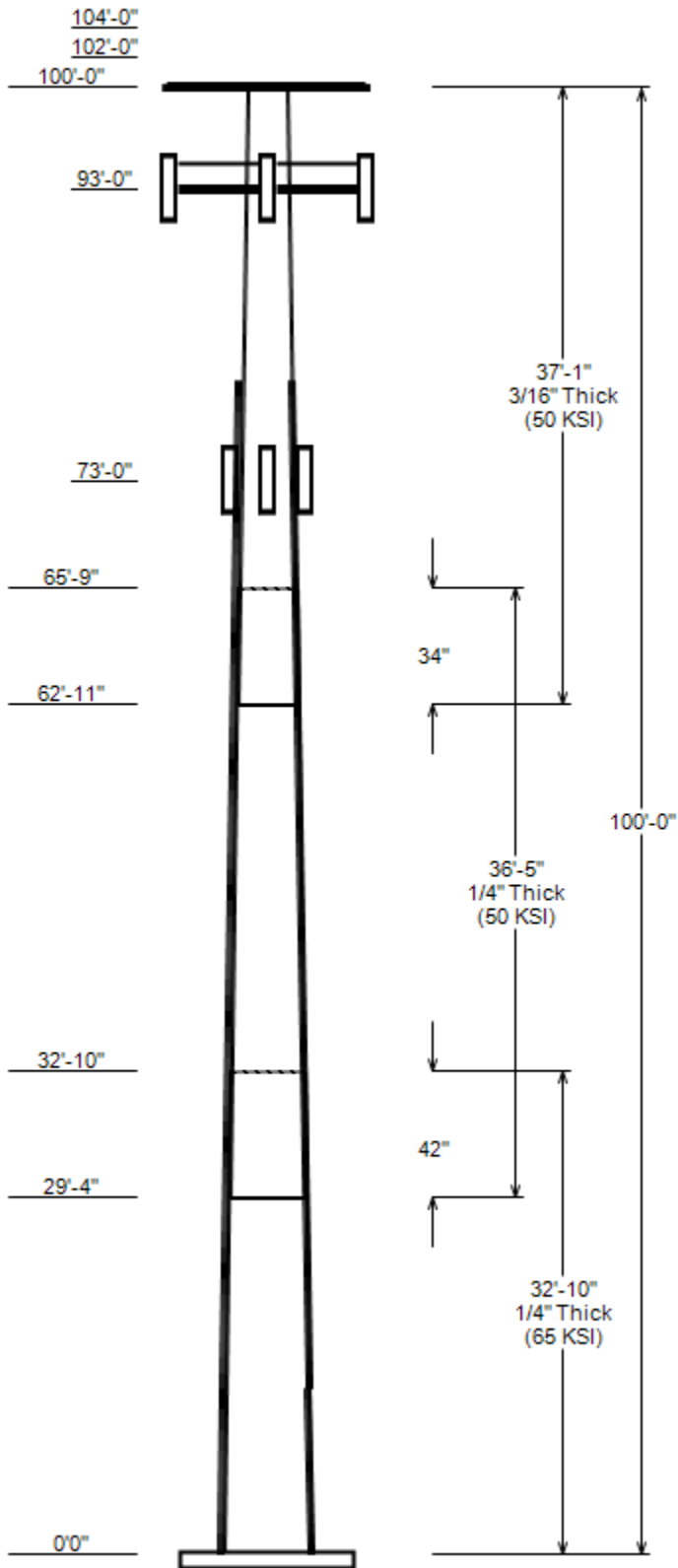
Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

JOB INFORMATION

Asset : 302516, Mlfd - Milford
 Client : DISH WIRELESS L.L.C.
 Code : ANSI/TIA-222-H

Height : 100 ft
 Base Width : 30
 Shape : 12 Sides



SITE PARAMETERS

Base Elev (ft): 0.00 Structure Class: II
 Taper : 0.16400 (In/ft) Exposure : B
 Topographic Category : 1 Topographic Feature:
 Topo Method : Method 1

SECTION PROPERTIES

Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Overlap Length (in)	Steel Grade (ksi)
		Across Flats Top	Across Flats Bottom			
1	32.833	24.62	30.00	0.250	0.000	65
2	36.417	19.73	25.70	0.250	42.000	50
3	37.083	14.50	20.57	0.188	34.000	50

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
108.0	108.0	1	Generic 10' Omni
104.0	106.0	2	Commscope WCS-IMFQ-AMT
104.0	106.0	6	Powerwave Allgon LGP21401
104.0	106.0	2	Raycap DC6-48-60-18-8F
104.0	106.0	3	Ericsson RRUS 4478 B14
104.0	106.0	1	Raycap DC6-48-60-18-8C
104.0	106.0	3	Ericsson RRUS 11 (Band 12)
104.0	106.0	3	Ericsson RRUS 32 (50.8 lbs)
104.0	106.0	3	Ericsson RRUS 32 B66
104.0	106.0	3	Ericsson RRUS 32 B2
104.0	106.0	3	Powerwave Allgon 7770.00
104.0	106.0	3	Commscope SBNHH-1D65A
104.0	106.0	3	CCI OPA-65R-LCUU-H4
104.0	106.0	3	Kathrein Scala 80010964
102.0	102.0	3	Kaelus DBC0061F1V51-2
100.0	100.0	3	Generic Flat Side Arm
100.0	100.0	1	Heavy Platform w/ Handrails
93.0	93.0	1	Raycap RDIDC-9181-PF-48
93.0	93.0	3	Fujitsu TA08025-B604
93.0	93.0	3	Fujitsu TA08025-B605
93.0	93.0	3	JMA Wireless MX08FRO665-21
93.0	93.0	1	Generic Flat Platform with Han
73.0	73.0	6	Ericsson KRY 112 144/2
73.0	73.0	3	Ericsson Radio 4449 B71 B85A
73.0	73.0	3	Ericsson RRUS 4415 B25
73.0	73.0	3	Ericsson Air6449 B41
73.0	73.0	3	Ericsson AIR32 B66Aa/B2a
73.0	73.0	3	RFS APX16DWV-16DWVS-E-A20
73.0	73.0	3	RFS APXVAARR24_43-U-NA20
73.0	73.0	1	Perfect Vison PV-LLP12M-HR-12-

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	104.0	3" conduit	No
0.0	104.0	1 1/4" Coax	No
0.0	104.0	0.78" (19.7mm) 8 AWG 6	No
0.0	104.0	0.39" (10mm) Fiber Trunk	No
0.0	93.0	1.60" (40.6mm) Hybrid	Yes
0.0	85.0	#20 w/ Angle Brackets	Yes
0.0	85.0	#20 w/ Angle Brackets	Yes
0.0	85.0	#20 w/ Angle Brackets	Yes
0.0	85.0	#20 w/ Angle Brackets	Yes
0.0	73.0	7/8" Coax	Yes

JOB INFORMATION

Asset : 302516, Mlfd - Milford
 Client : DISH WIRELESS L.L.C.
 Code : ANSI/TIA-222-H

Height : 100 ft
 Base Width : 30
 Shape : 12 Sides

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	73.0	1 1/4" (1.25"- 31.8mm) Fiber	Yes

LOAD CASES

1.2D + 1.0W	120 mph wind with no ice
0.9D + 1.0W	120 mph wind with no ice
1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

REACTIONS

Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0W	1536.24	19.99	35.78
0.9D + 1.0W	1510.47	19.96	26.82
1.2D + 1.0Di + 1.0Wi	370.48	4.67	48.14
1.2D + 1.0Ev + 1.0Eh	80.41	0.90	35.79
0.9D - 1.0Ev + 1.0Eh	78.63	0.90	24.66
1.0D + 1.0W	340.23	4.47	29.87

DISH DEFLECTIONS

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
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ASSET: 302516, Mlfd - Milford
CUSTOMER: DISH WIRELESS L.L.C.

CODE: ANSI/TIA-222-H
ENG NO: 13702496_C3_04

ANALYSIS PARAMETERS

Location:	New Haven County,CT	Height:	100 ft
Type and Shape:	Taper, 12 Sides	Base Diameter:	30.00 in
Manufacturer:	ITT Meyer	Top Diameter:	14.50 in
K _d (non-service):	0.95	Taper:	0.1640 in/ft
K _e :	1.00	Rotation:	0.000°

ICE & WIND PARAMETERS

Exposure Category:	B	Design Wind Speed w/o Ice:	120 mph
Risk Category:	II	Design Wind Speed w/Ice:	50 mph
Topo Factor Procedure:	Method 1	Operational Wind Speed:	60 mph
Topographic Category:	1	Design Ice Thickness:	1.00 in
Crest Height:	0 ft	HMSL:	77.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil	Period Based on Rayleigh Method (sec):	2.35		
T _L (sec):	6	P:	1	C _s :	0.030
S _s :	0.203	S ₁ :	0.053	C _s Max:	0.030
F _a :	1.600	F _v :	2.400	C _s Min:	0.030
S _{ds} :	0.217	S _{d1} :	0.085		

LOAD CASES

1.2D + 1.0W	120 mph wind with no ice
0.9D + 1.0W	120 mph wind with no ice
1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

ASSET: 302516, Mlfd - Milford
 CUSTOMER: DISH WIRELESS L.L.C.

CODE: ANSI/TIA-222-H
 ENG NO: 13702496_C3_04

SHAFT SECTION PROPERTIES

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint len (in)	Bottom							Top						
						Weight (lb)	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-12	32.83	0.2500	65		0.00	2,434	30.00	-0.003	23.95	2,705.5	29.47	120.00	24.62	32.83	19.62	1,487.8	23.71	98.50	0.1637
2-12	36.42	0.2500	50	Slip	42.00	2,241	25.70	29.333	20.48	1,693.1	24.86	102.79	19.73	65.75	15.68	759.9	18.47	78.93	0.1637
3-12	37.08	0.1875	50	Slip	34.00	1,322	20.57	62.917	12.31	652.8	26.72	109.72	14.50	100.00	8.64	225.9	18.04	77.33	0.1637

Shaft Weight 5,997

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice			Ice												
					Weight (lb)	EPAA (sf)	Orientation Factor	Weight (lb)	EPAA (sf)	Orientation Factor										
108.00	Generic 10' Omni	1	0.75	0.000	25.00	3.000	1.00	73.57	5.303	1.00										
104.00	Powerwave Allgon LGP21401	6	0.75	2.000	14.10	1.104	0.50	30.06	1.561	0.50										
104.00	Raycap DC6-48-60-18-8C	1	0.75	2.000	16.00	2.030	1.00	53.25	2.516	1.00										
104.00	Ericsson RRUS 11 (Band 12)	3	0.75	2.000	50.00	2.566	0.67	93.62	3.236	0.67										
104.00	Ericsson RRUS 32 (50.8 lbs)	3	0.75	2.000	50.80	2.692	0.67	96.57	3.431	0.67										
104.00	Ericsson RRUS 32 B66	3	0.75	2.000	53.00	2.743	0.67	100.06	3.491	0.67										
104.00	Ericsson RRUS 32 B2	3	0.75	2.000	53.00	2.743	0.67	100.06	3.491	0.67										
104.00	Powerwave Allgon 7770.00	3	0.75	2.000	35.00	5.508	0.65	107.74	6.868	0.65										
104.00	Commscope SBNHH-1D65A	3	0.75	2.000	33.50	5.883	0.69	120.11	7.244	0.69										
104.00	CCI OPA-65R-LCUU-H4	3	0.75	2.000	57.00	6.083	0.66	147.02	7.301	0.66										
104.00	Kathrein Scala 80010964	3	0.75	2.000	81.60	9.997	0.62	212.48	11.508	0.62										
104.00	Raycap DC6-48-60-18-8F	2	0.75	2.000	20.00	1.260	1.00	53.69	1.681	1.00										
104.00	Ericsson RRUS 4478 B14	3	0.75	2.000	59.40	2.021	0.67	98.67	2.625	0.67										
104.00	Commscope WCS-IMFQ-AMT	2	0.75	2.000	29.50	0.989	0.50	51.05	1.412	0.50										
102.00	Kaelus DBC0061F1V51-2	3	0.75	0.000	25.50	0.433	0.50	37.32	0.721	0.50										
100.00	Heavy Platform w/ Handrails	1	1.00	0.000	3000.00	59.800	1.00	4377.42	76.594	1.00										
100.00	Generic Flat Side Arm	3	1.00	0.000	187.50	6.300	0.67	272.75	8.294	0.67										
93.00	Raycap RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	1.00	58.08	2.439	1.00										
93.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	3629.51	55.734	1.00										
93.00	JMA Wireless MX08FRO665-21	3	0.75	0.000	64.50	12.489	0.64	227.92	14.276	0.64										
93.00	Fujitsu TA08025-B605	3	0.75	0.000	75.00	1.962	0.50	114.83	2.547	0.50										
93.00	Fujitsu TA08025-B604	3	0.75	0.000	63.90	1.962	0.50	100.98	2.547	0.50										
73.00	Ericsson Radio 4449 B71 B85A	3	0.75	0.000	75.00	1.650	0.50	112.31	2.177	0.50										
73.00	Perfect Vision PV-LLP12M-HR-12-	1	1.00	0.000	2000.00	36.800	1.00	2864.31	52.703	1.00										
73.00	RFS APXVAARR24_43-U-NA20	3	0.75	0.000	127.90	20.243	0.63	371.43	22.544	0.63										
73.00	RFS APX16DWV-16DWVS-E-A20	3	0.75	0.000	40.70	6.586	0.60	113.17	7.929	0.60										
73.00	Ericsson AIR32 B66Aa/B2a	3	0.75	0.000	132.20	6.510	0.71	231.21	7.869	0.71										
73.00	Ericsson KRY 112 144/2	6	0.75	0.000	9.70	0.480	0.50	18.51	0.774	0.50										
73.00	Ericsson RRUS 4415 B25	3	0.75	0.000	46.00	1.842	0.50	76.42	2.398	0.50										
73.00	Ericsson Air6449 B41	3	0.75	0.000	104.00	5.682	0.63	188.54	6.667	0.63										
Totals	Num Loadings: 30				82			12,051.20			20,326.67									

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg) : 70.00_

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Max Flat	Coax/ Row	Dist Between Rows(in)	Dist Between Cols(in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	104.00	12	1 1/4" Coax	1.55	0.63	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	104.00	6	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	104.00	4	3" conduit	3.5	7.58	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	104.00	2	0.39" (10mm) Fiber Tr	0.39	0.06	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	93.00	1	1.60" (40.6mm) Hybrid	1.6	2.34	N	1	1	1	0	1	Y	DISH WIRELESS
0.00	85.00	1	#20 w/ Angle Brackets	4	4.68	N	1	0	0	270	0	Y	
0.00	85.00	1	#20 w/ Angle Brackets	4	4.68	N	1	0	0	180	0	Y	
0.00	85.00	1	#20 w/ Angle Brackets	4	4.68	N	1	0	0	0	0	Y	
0.00	85.00	1	#20 w/ Angle Brackets	4	4.68	N	1	0	0	90	0	Y	
0.00	73.00	12	7/8" Coax	1.09	0.33	N	2	1	1	30	1	Y	T-MOBILE
0.00	73.00	3	1 1/4" (1.25" - 31.8mm)	1.25	1.05	N	2	1	1	35	1	Y	T-MOBILE

ADDITIONAL STEEL

Intermediate Connectors

Elev	Elev	Qty	Description	Fy	Offset	Description	Spacing	Len	Connectors	Continuation?
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ASSET: 302516, Mlfd - Milford
CUSTOMER: DISH WIRELESS L.L.C.

CODE: ANSI/TIA-222-H
ENG NO: 13702496_C3_04

From (ft)	To (ft)			(ksi)	(in)		(in)	(in)		
0.00	11.25	4	SOL #20 All Thread Bar	80	2.19	6" Angle Bracket	39.50	3.13	5/8" A36 U-Bolt	N
11.25	79.94	4	SOL #20 All Thread Bar	80	2.19	6" Angle Bracket	30.00	3.13	5/8" A36 U-Bolt	Y

ASSET: 302516, Mlfd - Milford
 CUSTOMER: DISH WIRELESS L.L.C.

CODE: ANSI/TIA-222-H
 ENG NO: 13702496_C3_04

SEGMENT PROPERTIES

(Max Len: 5.ft)

Additional Reinforcing

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)	Area (in ²)	Ix (in ⁴)	Weight (lb)
0.00		0.2500	30.000	23.949	2,705.50	29.47	120.00	72.6	174.2	0.0	0.0	19.640	3,346.80	0.0
5.00		0.2500	29.181	23.290	2,488.20	28.60	116.73	73.5	164.7	0.0	401.9	19.640	3,200.20	334.0
10.00		0.2500	28.363	22.631	2,282.90	27.72	113.45	74.5	155.5	0.0	390.6	19.640	3,056.90	334.0
11.25	Reinf. Top Reinf Bottom	0.2500	28.158	22.466	2,233.40	27.50	112.63	74.7	153.2	0.0	95.9	19.640	3,021.50	83.5
15.00		0.2500	27.544	21.971	2,089.20	26.84	110.18	75.4	146.5	0.0	283.5	19.640	2,916.80	250.5
20.00		0.2500	26.725	21.312	1,906.70	25.96	106.90	76.4	137.8	0.0	368.2	19.640	2,780.10	334.0
25.00		0.2500	25.906	20.653	1,735.20	25.09	103.63	77.4	129.4	0.0	357.0	19.640	2,646.60	334.0
29.33	Bot - Section 2	0.2500	25.197	20.082	1,595.20	24.33	100.79	78.2	122.3	0.0	300.3	19.640	2,533.70	289.5
30.00		0.2500	25.088	19.994	1,574.40	24.21	100.35	78.3	121.2	0.0	91.8	19.640	2,595.60	44.5
32.83	Top - Section 1	0.2500	25.124	20.023	1,581.20	24.25	100.49	62.7	121.6	0.0	385.8	19.640	2,522.10	189.3
35.00		0.2500	24.769	19.738	1,514.50	23.87	99.08	63	118.1	0.0	146.6	19.640	2,466.70	144.7
40.00		0.2500	23.950	19.079	1,367.80	22.99	95.80	63	110.3	0.0	330.2	19.640	2,341.10	334.0
45.00		0.2500	23.131	18.419	1,230.90	22.11	92.53	63	102.8	0.0	319.0	19.640	2,218.80	334.0
50.00		0.2500	22.313	17.760	1,103.40	21.23	89.25	63	95.5	0.0	307.8	19.640	2,099.80	334.0
55.00		0.2500	21.494	17.101	985.10	20.36	85.98	63	88.5	0.0	296.6	19.640	1,984.10	334.0
60.00		0.2500	20.675	16.442	875.50	19.48	82.70	63	81.8	0.0	285.4	19.640	1,871.70	334.0
62.92	Bot - Section 3	0.2500	20.197	16.058	815.50	18.97	80.79	63	78.0	0.0	161.3	19.640	1,807.60	194.8
65.00		0.2500	19.856	15.783	774.40	18.60	79.43	63	75.3	0.0	199.4	19.640	1,812.10	139.2
65.75	Top - Section 2	0.1875	20.108	12.027	609.20	26.06	107.25	61.4	58.5	0.0	70.9	19.640	1,795.80	50.1
70.00		0.1875	19.413	11.607	547.60	25.06	103.53	62.1	54.5	0.0	170.9	19.640	1,704.80	283.9
73.00		0.1875	18.921	11.311	506.70	24.36	100.91	62.6	51.7	0.0	117.0	19.640	1,642.00	200.4
75.00		0.1875	18.594	11.113	480.60	23.89	99.17	63	49.9	0.0	76.3	19.640	1,600.80	133.6
79.94	Reinf. Top	0.1875	17.785	10.624	419.90	22.74	94.85	63	45.6	0.0	182.7	19.640	1,501.20	330.0
80.00		0.1875	17.775	10.618	419.20	22.72	94.80	63	45.6	0.0	2.2			
85.00		0.1875	16.956	10.124	363.40	21.55	90.43	63	41.4	0.0	176.5			
90.00		0.1875	16.138	9.630	312.70	20.38	86.07	63	37.4	0.0	168.0			
93.00		0.1875	15.646	9.333	284.70	19.68	83.45	63	35.2	0.0	96.8			
95.00		0.1875	15.319	9.135	267.00	19.21	81.70	63	33.7	0.0	62.8			
100.00		0.1875	14.500	8.641	225.90	18.04	77.33	63	30.1	0.0	151.2			
Totals:											5,996.6		5,340.0	

Load Case: 1.2D + 1.0W	120 mph wind with no ice	22 Iterations
Gust Response Factor:	1.10	
Dead load Factor:	1.20	
Wind Load Factor:	1.00	

CALCULATED FORCES

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 (deg)	Ratio
0.00	-35.78	-19.99	0.00	-1,536.2	0.00	1,536.24	1,564.13	420.30	1,179.53	948.21	0	0	0.739
5.00	-34.36	-19.67	0.00	-1,436.3	0.00	1,436.30	1,541.15	408.73	1,115.51	908.35	0.19	-0.35	0.706
10.00	-33.01	-19.42	0.00	-1,337.9	0.00	1,337.94	1,517.03	397.17	1,053.29	868.61	0.74	-0.7	0.673
11.25	-32.63	-19.29	0.00	-1,313.7	0.00	1,313.66	1,510.82	394.27	1,038.01	858.70	0.94	-0.78	0.664
15.00	-31.58	-19.03	0.00	-1,241.3	0.00	1,241.31	1,491.77	385.60	992.85	829.06	1.66	-1.04	0.638
20.00	-30.22	-18.69	0.00	-1,146.2	0.00	1,146.18	1,465.38	374.03	934.19	789.74	2.93	-1.38	0.604
25.00	-28.89	-18.36	0.00	-1,052.7	0.00	1,052.74	1,437.85	362.47	877.32	750.71	4.56	-1.72	0.568
29.33	-27.78	-18.13	0.00	-973.2	0.00	973.19	1,413.08	352.44	829.48	717.18	6.26	-2	0.537
30.00	-27.53	-18.03	0.00	-961.1	0.00	961.10	1,409.19	350.90	822.24	712.04	6.54	-2.05	0.522
32.83	-26.56	-17.84	0.00	-910.0	0.00	910.01	1,130.05	270.31	634.33	571.84	7.81	-2.23	0.629
35.00	-25.98	-17.61	0.00	-871.4	0.00	871.37	1,119.12	266.46	616.37	558.15	8.85	-2.36	0.610
40.00	-24.69	-17.22	0.00	-783.3	0.00	783.32	1,081.75	257.56	575.90	521.31	11.49	-2.66	0.570
45.00	-23.44	-16.80	0.00	-697.2	0.00	697.22	1,044.38	248.66	536.82	485.73	14.43	-2.94	0.528
50.00	-22.20	-16.37	0.00	-613.2	0.00	613.20	1,007.01	239.76	499.10	451.41	17.66	-3.21	0.483
55.00	-20.99	-15.92	0.00	-531.3	0.00	531.34	969.64	230.87	462.76	418.35	21.16	-3.47	0.436
60.00	-19.80	-15.52	0.00	-451.7	0.00	451.73	932.27	221.97	427.79	386.54	24.92	-3.7	0.387
62.92	-19.12	-15.26	0.00	-406.5	0.00	406.47	910.47	216.78	408.02	368.57	27.22	-3.83	0.357
65.00	-18.54	-15.09	0.00	-374.7	0.00	374.68	894.90	213.07	394.19	355.99	28.91	-3.92	0.329
65.75	-18.32	-14.92	0.00	-363.4	0.00	363.36	664.38	162.37	305.14	269.42	29.53	-3.95	0.361
70.00	-17.41	-14.54	0.00	-300.0	0.00	299.97	648.81	156.70	284.20	253.83	33.12	-4.11	0.306
73.00	-12.68	-10.56	0.00	-256.4	0.00	256.36	637.49	152.69	269.87	242.97	35.74	-4.21	0.261
75.00	-12.28	-10.28	0.00	-235.2	0.00	235.24	629.79	150.02	260.52	235.80	37.52	-4.28	0.242
79.94	-11.31	-9.93	0.00	-184.5	0.00	184.48	602.40	143.43	238.13	215.53	42.02	-4.42	0.198
79.94	-11.31	-9.93	0.00	-184.5	0.00	184.48	602.40	143.43	238.13	215.53	42.02	-4.42	0.879
80.00	-11.26	-9.82	0.00	-183.9	0.00	183.88	602.07	143.35	237.86	215.29	42.08	-4.42	0.878
85.00	-10.63	-9.46	0.00	-134.8	0.00	134.76	574.04	136.68	216.24	195.61	47	-4.96	0.712
90.00	-10.13	-9.28	0.00	-87.4	0.00	87.45	546.01	130.00	195.65	176.87	52.44	-5.4	0.518
93.00	-6.35	-6.34	0.00	-59.6	0.00	59.60	529.19	126.00	183.79	166.09	55.9	-5.6	0.373
95.00	-6.18	-6.18	0.00	-46.9	0.00	46.92	517.98	123.33	176.08	159.08	58.26	-5.71	0.309
100.00	0.00	-5.52	0.00	-16.0	0.00	16.03	489.95	116.66	157.55	142.23	64.33	-5.87	0.115

ASSET: 302516, Mlfd - Milford
 CUSTOMER: DISH WIRELESS L.L.C.

CODE: ANSI/TIA-222-H
 ENG NO: 13702496_C3_04

Load Case: 0.9D + 1.0W	120 mph wind with no ice	22 Iterations
Gust Response Factor:	1.10	
Dead load Factor:	0.90	
Wind Load Factor:	1.00	

CALCULATED FORCES

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 (deg)	Ratio
0.00	-26.82	-19.96	0.00	-1,510.5	0.00	1,510.47	1,564.13	420.30	1,179.53	948.21	0	0	0.724
5.00	-25.73	-19.59	0.00	-1,410.7	0.00	1,410.68	1,541.15	408.73	1,115.51	908.35	0.19	-0.34	0.691
10.00	-24.70	-19.31	0.00	-1,312.7	0.00	1,312.74	1,517.03	397.17	1,053.29	868.61	0.73	-0.68	0.657
11.25	-24.40	-19.16	0.00	-1,288.6	0.00	1,288.60	1,510.82	394.27	1,038.01	858.70	0.92	-0.77	0.649
15.00	-23.60	-18.85	0.00	-1,216.8	0.00	1,216.77	1,491.77	385.60	992.85	829.06	1.63	-1.02	0.623
20.00	-22.56	-18.47	0.00	-1,122.5	0.00	1,122.54	1,465.38	374.03	934.19	789.74	2.88	-1.36	0.589
25.00	-21.54	-18.11	0.00	-1,030.2	0.00	1,030.20	1,437.85	362.47	877.32	750.71	4.48	-1.68	0.554
29.33	-20.69	-17.86	0.00	-951.7	0.00	951.74	1,413.08	352.44	829.48	717.18	6.14	-1.96	0.523
30.00	-20.50	-17.75	0.00	-939.8	0.00	939.83	1,409.19	350.90	822.24	712.04	6.42	-2.01	0.508
32.83	-19.77	-17.55	0.00	-889.5	0.00	889.53	1,130.05	270.31	634.33	571.84	7.66	-2.18	0.612
35.00	-19.32	-17.30	0.00	-851.5	0.00	851.52	1,119.12	266.46	616.37	558.15	8.68	-2.32	0.593
40.00	-18.34	-16.89	0.00	-765.0	0.00	765.01	1,081.75	257.56	575.90	521.31	11.27	-2.61	0.554
45.00	-17.39	-16.46	0.00	-680.6	0.00	680.58	1,044.38	248.66	536.82	485.73	14.15	-2.88	0.512
50.00	-16.45	-16.01	0.00	-598.3	0.00	598.29	1,007.01	239.76	499.10	451.41	17.31	-3.15	0.469
55.00	-15.53	-15.56	0.00	-518.2	0.00	518.21	969.64	230.87	462.76	418.35	20.74	-3.39	0.423
60.00	-14.64	-15.15	0.00	-440.4	0.00	440.42	932.27	221.97	427.79	386.54	24.42	-3.62	0.375
62.92	-14.13	-14.90	0.00	-396.2	0.00	396.22	910.47	216.78	408.02	368.57	26.67	-3.75	0.346
65.00	-13.69	-14.74	0.00	-365.2	0.00	365.18	894.90	213.07	394.19	355.99	28.33	-3.84	0.319
65.75	-13.52	-14.56	0.00	-354.1	0.00	354.13	664.38	162.37	305.14	269.42	28.93	-3.87	0.349
70.00	-12.84	-14.18	0.00	-292.3	0.00	292.27	648.81	156.70	284.20	253.83	32.44	-4.02	0.295
73.00	-9.35	-10.30	0.00	-249.7	0.00	249.72	637.49	152.69	269.87	242.97	35	-4.12	0.252
75.00	-9.05	-10.01	0.00	-229.1	0.00	229.13	629.79	150.02	260.52	235.80	36.74	-4.19	0.234
79.94	-8.32	-9.69	0.00	-179.7	0.00	179.67	602.40	143.43	238.13	215.53	41.15	-4.32	0.192
79.94	-8.32	-9.69	0.00	-179.7	0.00	179.67	602.40	143.43	238.13	215.53	41.15	-4.32	0.852
80.00	-8.28	-9.56	0.00	-179.1	0.00	179.09	602.07	143.35	237.86	215.29	41.2	-4.32	0.850
85.00	-7.80	-9.19	0.00	-131.3	0.00	131.28	574.04	136.68	216.24	195.61	46.02	-4.85	0.689
90.00	-7.42	-9.00	0.00	-85.3	0.00	85.34	546.01	130.00	195.65	176.87	51.33	-5.28	0.501
93.00	-4.64	-6.16	0.00	-58.3	0.00	58.33	529.19	126.00	183.79	166.09	54.71	-5.47	0.362
95.00	-4.51	-6.00	0.00	-46.0	0.00	46.02	517.98	123.33	176.08	159.08	57.02	-5.58	0.300
100.00	0.00	-5.52	0.00	-16.0	0.00	16.03	489.95	116.66	157.55	142.23	62.95	-5.74	0.115

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice			21 Iterations
Gust Response Factor: 1.10	Ice Dead Load Factor	1.00		
Dead load Factor: 1.20			Ice Importance Factor	1.00
Wind Load Factor: 1.00				

CALCULATED FORCES

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 (deg)	Ratio
0.00	-48.14	-4.67	0.00	-370.5	0.00	370.48	1,564.13	420.30	1,179.53	948.21	0	0	0.192
5.00	-46.53	-4.64	0.00	-347.1	0.00	347.12	1,541.15	408.73	1,115.51	908.35	0.05	-0.08	0.184
10.00	-44.90	-4.61	0.00	-323.9	0.00	323.93	1,517.03	397.17	1,053.29	868.61	0.18	-0.17	0.175
11.25	-44.50	-4.59	0.00	-318.2	0.00	318.17	1,510.82	394.27	1,038.01	858.70	0.23	-0.19	0.173
15.00	-43.28	-4.56	0.00	-301.0	0.00	300.95	1,491.77	385.60	992.85	829.06	0.4	-0.25	0.167
20.00	-41.66	-4.51	0.00	-278.2	0.00	278.15	1,465.38	374.03	934.19	789.74	0.71	-0.33	0.158
25.00	-40.06	-4.46	0.00	-255.6	0.00	255.59	1,437.85	362.47	877.32	750.71	1.1	-0.42	0.149
29.33	-38.68	-4.42	0.00	-236.2	0.00	236.25	1,413.08	352.44	829.48	717.18	1.51	-0.48	0.141
30.00	-38.41	-4.41	0.00	-233.3	0.00	233.30	1,409.19	350.90	822.24	712.04	1.58	-0.5	0.138
32.83	-37.27	-4.37	0.00	-220.8	0.00	220.82	1,130.05	270.31	634.33	571.84	1.89	-0.54	0.166
35.00	-36.58	-4.33	0.00	-211.3	0.00	211.34	1,119.12	266.46	616.37	558.15	2.14	-0.57	0.161
40.00	-35.01	-4.26	0.00	-189.7	0.00	189.67	1,081.75	257.56	575.90	521.31	2.78	-0.64	0.150
45.00	-33.45	-4.16	0.00	-168.4	0.00	168.39	1,044.38	248.66	536.82	485.73	3.49	-0.71	0.139
50.00	-31.90	-4.04	0.00	-147.6	0.00	147.60	1,007.01	239.76	499.10	451.41	4.28	-0.78	0.128
55.00	-30.38	-3.92	0.00	-127.4	0.00	127.38	969.64	230.87	462.76	418.35	5.13	-0.84	0.116
60.00	-28.87	-3.79	0.00	-107.8	0.00	107.80	932.27	221.97	427.79	386.54	6.04	-0.9	0.103
62.92	-27.99	-3.70	0.00	-96.8	0.00	96.75	910.47	216.78	408.02	368.57	6.59	-0.93	0.096
65.00	-27.27	-3.65	0.00	-89.0	0.00	89.03	894.90	213.07	394.19	355.99	7	-0.95	0.089
65.75	-27.01	-3.60	0.00	-86.3	0.00	86.30	664.38	162.37	305.14	269.42	7.15	-0.95	0.097
70.00	-25.81	-3.47	0.00	-71.0	0.00	70.99	648.81	156.70	284.20	253.83	8.02	-0.99	0.083
73.00	-18.61	-2.52	0.00	-60.6	0.00	60.57	637.49	152.69	269.87	242.97	8.65	-1.02	0.070
75.00	-18.13	-2.45	0.00	-55.5	0.00	55.53	629.79	150.02	260.52	235.80	9.08	-1.03	0.065
79.94	-16.95	-2.35	0.00	-43.4	0.00	43.42	602.40	143.43	238.13	215.53	10.17	-1.07	0.054
79.94	-16.95	-2.35	0.00	-43.4	0.00	43.42	602.40	143.43	238.13	215.53	10.17	-1.07	0.230
80.00	-16.94	-2.34	0.00	-43.3	0.00	43.28	602.07	143.35	237.86	215.29	10.18	-1.07	0.229
85.00	-16.15	-2.24	0.00	-31.6	0.00	31.60	574.04	136.68	216.24	195.61	11.37	-1.19	0.190
90.00	-15.55	-2.20	0.00	-20.4	0.00	20.40	546.01	130.00	195.65	176.87	12.68	-1.29	0.144
93.00	-10.00	-1.50	0.00	-13.8	0.00	13.81	529.19	126.00	183.79	166.09	13.51	-1.34	0.102
95.00	-9.78	-1.46	0.00	-10.8	0.00	10.81	517.98	123.33	176.08	159.08	14.07	-1.37	0.087
100.00	0.00	-1.22	0.00	-3.5	0.00	3.51	489.95	116.66	157.55	142.23	15.53	-1.4	0.025

Load Case: 1.0D + 1.0W	60 mph Wind with No Ice	21 Iterations
Gust Response Factor: 1.10		
Dead load Factor: 1.00		
Wind Load Factor: 1.00		

CALCULATED FORCES

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 (deg)	Ratio
0.00	-29.87	-4.47	0.00	-340.2	0.00	340.23	1,564.13	420.30	1,179.53	948.21	0	0	0.171
5.00	-28.78	-4.39	0.00	-317.9	0.00	317.90	1,541.15	408.73	1,115.51	908.35	0.04	-0.08	0.163
10.00	-27.70	-4.33	0.00	-296.0	0.00	295.96	1,517.03	397.17	1,053.29	868.61	0.16	-0.15	0.156
11.25	-27.43	-4.30	0.00	-290.6	0.00	290.55	1,510.82	394.27	1,038.01	858.70	0.21	-0.17	0.154
15.00	-26.63	-4.23	0.00	-274.4	0.00	274.44	1,491.77	385.60	992.85	829.06	0.37	-0.23	0.148
20.00	-25.57	-4.15	0.00	-253.3	0.00	253.29	1,465.38	374.03	934.19	789.74	0.65	-0.31	0.140
25.00	-24.53	-4.07	0.00	-232.5	0.00	232.54	1,437.85	362.47	877.32	750.71	1.01	-0.38	0.132
29.33	-23.64	-4.02	0.00	-214.9	0.00	214.90	1,413.08	352.44	829.48	717.18	1.38	-0.44	0.124
30.00	-23.45	-3.99	0.00	-212.2	0.00	212.23	1,409.19	350.90	822.24	712.04	1.45	-0.45	0.121
32.83	-22.68	-3.95	0.00	-200.9	0.00	200.91	1,130.05	270.31	634.33	571.84	1.73	-0.49	0.146
35.00	-22.23	-3.90	0.00	-192.4	0.00	192.35	1,119.12	266.46	616.37	558.15	1.96	-0.52	0.141
40.00	-21.22	-3.81	0.00	-172.9	0.00	172.87	1,081.75	257.56	575.90	521.31	2.54	-0.59	0.132
45.00	-20.21	-3.71	0.00	-153.8	0.00	153.84	1,044.38	248.66	536.82	485.73	3.19	-0.65	0.123
50.00	-19.22	-3.61	0.00	-135.3	0.00	135.28	1,007.01	239.76	499.10	451.41	3.9	-0.71	0.113
55.00	-18.24	-3.51	0.00	-117.2	0.00	117.20	969.64	230.87	462.76	418.35	4.68	-0.77	0.102
60.00	-17.27	-3.42	0.00	-99.6	0.00	99.64	932.27	221.97	427.79	386.54	5.51	-0.82	0.091
62.92	-16.71	-3.37	0.00	-89.6	0.00	89.65	910.47	216.78	408.02	368.57	6.02	-0.85	0.084
65.00	-16.23	-3.33	0.00	-82.6	0.00	82.64	894.90	213.07	394.19	355.99	6.39	-0.87	0.078
65.75	-16.05	-3.29	0.00	-80.1	0.00	80.14	664.38	162.37	305.14	269.42	6.53	-0.87	0.085
70.00	-15.30	-3.21	0.00	-66.2	0.00	66.16	648.81	156.70	284.20	253.83	7.32	-0.91	0.073
73.00	-11.15	-2.33	0.00	-56.5	0.00	56.54	637.49	152.69	269.87	242.97	7.9	-0.93	0.061
75.00	-10.82	-2.27	0.00	-51.9	0.00	51.88	629.79	150.02	260.52	235.80	8.3	-0.95	0.057
79.94	-10.00	-2.19	0.00	-40.7	0.00	40.69	602.40	143.43	238.13	215.53	9.29	-0.98	0.047
79.94	-10.00	-2.19	0.00	-40.7	0.00	40.69	602.40	143.43	238.13	215.53	9.29	-0.98	0.206
80.00	-9.99	-2.17	0.00	-40.6	0.00	40.56	602.07	143.35	237.86	215.29	9.3	-0.98	0.205
85.00	-9.50	-2.08	0.00	-29.7	0.00	29.73	574.04	136.68	216.24	195.61	10.39	-1.1	0.169
90.00	-9.11	-2.04	0.00	-19.3	0.00	19.32	546.01	130.00	195.65	176.87	11.59	-1.19	0.126
93.00	-5.76	-1.40	0.00	-13.2	0.00	13.19	529.19	126.00	183.79	166.09	12.36	-1.24	0.090
95.00	-5.61	-1.36	0.00	-10.4	0.00	10.39	517.98	123.33	176.08	159.08	12.88	-1.26	0.076
100.00	0.00	-1.24	0.00	-3.6	0.00	3.59	489.95	116.66	157.55	142.23	14.22	-1.3	0.025

EQUIVALENT LATERAL FORCES METHOD ANALYSIS
(Based on ASCE7-16 Chapters 11, 12 and 15)

Spectral Response Acceleration for Short Period (S_S):	0.203
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.053
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.000
Site Coefficient F_a :	1.600
Site Coefficient F_v :	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.217
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.085
Seismic Response Coefficient (C_s):	0.030
Upper Limit C_s :	0.030
Lower Limit C_s :	0.030
Period based on Rayleigh Method (sec):	2.350
Redundancy Factor (ρ):	1.000
Seismic Force Distribution Exponent (k):	1.930
Total Unfactored Dead Load:	29.870 k
Seismic Base Shear (E):	0.900 k

1.2D + 1.0Ev + 1.0Eh Seismic

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
28	97.5	359	2,430	0.023	21	446
27	94	146	921	0.009	8	181
26	91.5	228	1,368	0.013	12	284
25	87.5	387	2,130	0.020	18	482
24	82.5	489	2,402	0.023	21	609
23	79.97	6	27	0.000	0	7
22	77.47	822	3,573	0.034	31	1,022
21	74	335	1,334	0.013	11	417
20	71.5	527	1,961	0.019	17	655
19	67.875	751	2,531	0.024	22	934
18	65.375	173	543	0.005	5	215
17	63.9583	484	1,454	0.014	12	601
16	61.4583	559	1,557	0.015	13	696
15	57.5	968	2,370	0.023	20	1,203
14	52.5	979	2,012	0.019	17	1,217
13	47.5	990	1,678	0.016	14	1,231
12	42.5	1,002	1,370	0.013	12	1,245
11	37.5	1,013	1,089	0.010	9	1,259
10	33.9167	442	392	0.004	3	550
9	31.4167	773	591	0.006	5	961
8	29.6667	183	125	0.001	1	227
7	27.1667	892	515	0.005	4	1,109
6	22.5	1,040	418	0.004	4	1,292
5	17.5	1,051	260	0.002	2	1,306
4	13.125	795	113	0.001	1	989
3	10.625	267	25	0.000	0	331
2	7.5	1,073	52	0.000	0	1,334
1	2.5	1,084	6	0.000	0	1,348
Generic 10' Omni	100	25	178	0.002	2	31
Commscope WCS-IMFQ-AMT	100	59	419	0.004	4	73
Powerwave Allgon LGP21401	100	85	601	0.006	5	105
Raycap DC6-48-60-18-8F	100	40	284	0.003	2	50
Ericsson RRUS 4478 B14	100	178	1,267	0.012	11	222
Raycap DC6-48-60-18-8C	100	16	114	0.001	1	20

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
Ericsson RRUS 11 (Band 12)	100	150	1,066	0.010	9	186
Ericsson RRUS 32 (50.8 lbs)	100	152	1,083	0.010	9	189
Ericsson RRUS 32 B66	100	159	1,130	0.011	10	198
Ericsson RRUS 32 B2	100	159	1,130	0.011	10	198
Powerwave Allgon 7770.00	100	105	746	0.007	6	131
Commscope SBNHH-1D65A	100	100	714	0.007	6	125
CCI OPA-65R-LCUU-H4	100	171	1,215	0.012	10	213
Kathrein Scala 80010964	100	245	1,740	0.017	15	304
Kaelus DBC0061F1V51-2	100	76	544	0.005	5	95
Generic Flat Side Arm	100	562	3,998	0.038	34	699
Heavy Platform w/ Handrails	100	3,000	21,325	0.204	183	3,730
Raycap RDIDC-9181-PF-48	93	22	135	0.001	1	27
Fujitsu TA08025-B604	93	192	1,185	0.011	10	238
Fujitsu TA08025-B605	93	225	1,391	0.013	12	280
JMA Wireless MX08FRO665-21	93	194	1,196	0.012	10	241
Generic Flat Platform with Handrails	93	2,500	15,453	0.148	133	3,108
Ericsson KRY 112 144/2	73	58	226	0.002	2	72
Ericsson Radio 4449 B71 B85A	73	225	872	0.008	7	280
Ericsson RRUS 4415 B25	73	138	535	0.005	5	172
Ericsson Air6449 B41	73	312	1,210	0.012	10	388
Ericsson AIR32 B66Aa/B2a	73	397	1,538	0.015	13	493
RFS APX16DWV-16DWVS-E-A20	73	122	473	0.004	4	152
RFS APXVAARR24_43-U-NA20	73	384	1,488	0.014	13	477
Perfect Vison PV-LLP12M-HR-12-96 Platform w/ PV-PKKB-M Kicker Kit	73	2,000	7,755	0.074	67	2,487
		29,870	104,262	1.000	896	37,137

0.9D - 1.0Ev + 1.0Eh Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
28	97.5	359	2,430	0.023	21	307
27	94	146	921	0.009	8	125
26	91.5	228	1,368	0.013	12	196
25	87.5	387	2,130	0.020	18	332
24	82.5	489	2,402	0.023	21	419
23	79.97	6	27	0.000	0	5
22	77.47	822	3,573	0.034	31	704
21	74	335	1,334	0.013	11	287
20	71.5	527	1,961	0.019	17	451
19	67.875	751	2,531	0.024	22	643
18	65.375	173	543	0.005	5	148
17	63.9583	484	1,454	0.014	12	414
16	61.4583	559	1,557	0.015	13	479
15	57.5	968	2,370	0.023	20	829
14	52.5	979	2,012	0.019	17	839
13	47.5	990	1,678	0.016	14	848
12	42.5	1,002	1,370	0.013	12	858
11	37.5	1,013	1,089	0.010	9	868
10	33.9167	442	392	0.004	3	379
9	31.4167	773	591	0.006	5	662
8	29.6667	183	125	0.001	1	157
7	27.1667	892	515	0.005	4	764
6	22.5	1,040	418	0.004	4	891
5	17.5	1,051	260	0.002	2	900
4	13.125	795	113	0.001	1	681
3	10.625	267	25	0.000	0	228
2	7.5	1,073	52	0.000	0	919
1	2.5	1,084	6	0.000	0	929
Generic 10' Omni	100	25	178	0.002	2	21
Commscope WCS-IMFQ-AMT	100	59	419	0.004	4	51
Powerwave Allgon LGP21401	100	85	601	0.006	5	72
Raycap DC6-48-60-18-8F	100	40	284	0.003	2	34

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
Ericsson RRUS 4478 B14	100	178	1,267	0.012	11	153
Raycap DC6-48-60-18-8C	100	16	114	0.001	1	14
Ericsson RRUS 11 (Band 12)	100	150	1,066	0.010	9	129
Ericsson RRUS 32 (50.8 lbs)	100	152	1,083	0.010	9	131
Ericsson RRUS 32 B66	100	159	1,130	0.011	10	136
Ericsson RRUS 32 B2	100	159	1,130	0.011	10	136
Powerwave Allgon 7770.00	100	105	746	0.007	6	90
Commscope SBNHH-1D65A	100	100	714	0.007	6	86
CCI OPA-65R-LCUU-H4	100	171	1,215	0.012	10	146
Kathrein Scala 80010964	100	245	1,740	0.017	15	210
Kaelus DBC0061F1V51-2	100	76	544	0.005	5	66
Generic Flat Side Arm	100	562	3,998	0.038	34	482
Heavy Platform w/ Handrails	100	3,000	21,325	0.204	183	2,570
Raycap RDIDC-9181-PF-48	93	22	135	0.001	1	19
Fujitsu TA08025-B604	93	192	1,185	0.011	10	164
Fujitsu TA08025-B605	93	225	1,391	0.013	12	193
JMA Wireless MX08FRO665-21	93	194	1,196	0.012	10	166
Generic Flat Platform with Handrails	93	2,500	15,453	0.148	133	2,142
Ericsson KRY 112 144/2	73	58	226	0.002	2	50
Ericsson Radio 4449 B71 B85A	73	225	872	0.008	7	193
Ericsson RRUS 4415 B25	73	138	535	0.005	5	118
Ericsson Air6449 B41	73	312	1,210	0.012	10	267
Ericsson AIR32 B66Aa/B2a	73	397	1,538	0.015	13	340
RFS APX16DWV-16DWVS-E-A20	73	122	473	0.004	4	105
RFS APXVAARR24_43-U-NA20	73	384	1,488	0.014	13	329
Perfect Vison PV-LLP12M-HR-12-96 Platform w/ PV-PKKB-M Kicker Kit	73	2,000	7,755	0.074	67	1,713
		29,870	104,262	1.000	896	25,589

1.2D + 1.0Ev + 1.0Eh Seismic

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-35.79	-0.90	0.00	-80.41	0.00	80.41	1,564.13	420.30	1,180	948.21	0.00	0.00	0.05
5.00	-34.45	-0.91	0.00	-75.90	0.00	75.90	1,541.15	408.73	1,116	908.35	0.01	-0.02	0.05
10.00	-34.12	-0.92	0.00	-71.34	0.00	71.34	1,517.03	397.17	1,053	868.61	0.04	-0.04	0.05
11.25	-33.13	-0.92	0.00	-70.19	0.00	70.19	1,510.82	394.27	1,038	858.70	0.05	-0.04	0.05
11.25	-33.13	-0.92	0.00	-70.19	0.00	70.19	1,510.82	394.27	1,038	858.70	0.05	-0.04	0.05
15.00	-31.83	-0.93	0.00	-66.74	0.00	66.74	1,491.77	385.60	993	829.06	0.09	-0.06	0.05
20.00	-30.53	-0.93	0.00	-62.10	0.00	62.10	1,465.38	374.03	934	789.74	0.16	-0.07	0.04
25.00	-29.42	-0.94	0.00	-57.43	0.00	57.43	1,437.85	362.47	877	750.71	0.24	-0.09	0.04
29.33	-29.20	-0.94	0.00	-53.38	0.00	53.38	1,413.08	352.44	829	717.18	0.33	-0.11	0.04
30.00	-28.24	-0.93	0.00	-52.76	0.00	52.76	1,409.19	350.90	822	712.04	0.35	-0.11	0.04
32.83	-27.69	-0.93	0.00	-50.11	0.00	50.11	1,130.05	270.31	634	571.84	0.42	-0.12	0.05
35.00	-26.43	-0.93	0.00	-48.09	0.00	48.09	1,119.12	266.46	616	558.15	0.47	-0.13	0.05
40.00	-25.18	-0.92	0.00	-43.45	0.00	43.45	1,081.75	257.56	576	521.31	0.61	-0.14	0.04
45.00	-23.95	-0.91	0.00	-38.85	0.00	38.85	1,044.38	248.66	537	485.73	0.77	-0.16	0.04
50.00	-22.73	-0.89	0.00	-34.31	0.00	34.31	1,007.01	239.76	499	451.41	0.95	-0.17	0.04
55.00	-21.53	-0.87	0.00	-29.84	0.00	29.84	969.64	230.87	463	418.35	1.14	-0.19	0.03
60.00	-20.83	-0.86	0.00	-25.46	0.00	25.46	932.27	221.97	428	386.54	1.35	-0.20	0.03
62.92	-20.23	-0.85	0.00	-22.95	0.00	22.95	910.47	216.78	408	368.57	1.47	-0.21	0.03
65.00	-20.02	-0.85	0.00	-21.18	0.00	21.18	894.90	213.07	394	355.99	1.56	-0.21	0.03
65.75	-19.08	-0.82	0.00	-20.54	0.00	20.54	664.38	162.37	305	269.42	1.60	-0.22	0.03
70.00	-18.43	-0.81	0.00	-17.05	0.00	17.05	648.81	156.70	284	253.83	1.79	-0.22	0.03
73.00	-13.49	-0.65	0.00	-14.63	0.00	14.63	637.49	152.69	270	242.97	1.94	-0.23	0.02
75.00	-12.47	-0.62	0.00	-13.32	0.00	13.32	629.79	150.02	261	235.80	2.03	-0.23	0.02
79.94	-12.46	-0.62	0.00	-10.26	0.00	10.26	602.40	143.43	238	215.53	2.28	-0.24	0.07
79.94	-12.46	-0.62	0.00	-10.26	0.00	10.26	602.40	143.43	238	215.53	2.28	-0.24	0.02
80.00	-11.85	-0.60	0.00	-10.22	0.00	10.22	602.07	143.35	238	215.29	2.29	-0.24	0.07
85.00	-11.37	-0.59	0.00	-7.21	0.00	7.21	574.04	136.68	216	195.61	2.56	-0.27	0.06
90.00	-11.09	-0.58	0.00	-4.28	0.00	4.28	546.01	130.00	196	176.87	2.85	-0.29	0.05
93.00	-7.01	-0.38	0.00	-2.55	0.00	2.55	529.19	126.00	184	166.09	3.04	-0.30	0.03
95.00	-6.57	-0.36	0.00	-1.79	0.00	1.79	517.98	123.33	176	159.08	3.17	-0.31	0.02
100.00	0.00	-0.32	0.00	0.00	0.00	0.00	489.95	116.66	158	142.23	3.50	-0.31	0.00

0.9D - 1.0Ev + 1.0Eh Seismic (Reduced DL)

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-24.66	-0.90	0.00	-78.63	0.00	78.63	1,564.13	420.30	1,180	948.21	0.00	0.00	0.05
5.00	-23.74	-0.91	0.00	-74.13	0.00	74.13	1,541.15	408.73	1,116	908.35	0.01	-0.02	0.04
10.00	-23.51	-0.91	0.00	-69.61	0.00	69.61	1,517.03	397.17	1,053	868.61	0.04	-0.04	0.04
11.25	-22.83	-0.91	0.00	-68.47	0.00	68.47	1,510.82	394.27	1,038	858.70	0.05	-0.04	0.04
11.25	-22.83	-0.91	0.00	-68.47	0.00	68.47	1,510.82	394.27	1,038	858.70	0.05	-0.04	0.04
15.00	-21.93	-0.92	0.00	-65.05	0.00	65.05	1,491.77	385.60	993	829.06	0.09	-0.05	0.04
20.00	-21.04	-0.92	0.00	-60.47	0.00	60.47	1,465.38	374.03	934	789.74	0.15	-0.07	0.04
25.00	-20.27	-0.92	0.00	-55.88	0.00	55.88	1,437.85	362.47	877	750.71	0.24	-0.09	0.04
29.33	-20.12	-0.92	0.00	-51.91	0.00	51.91	1,413.08	352.44	829	717.18	0.32	-0.10	0.04
30.00	-19.46	-0.91	0.00	-51.30	0.00	51.30	1,409.19	350.90	822	712.04	0.34	-0.11	0.03
32.83	-19.08	-0.91	0.00	-48.70	0.00	48.70	1,130.05	270.31	634	571.84	0.41	-0.12	0.04
35.00	-18.21	-0.91	0.00	-46.72	0.00	46.72	1,119.12	266.46	616	558.15	0.46	-0.12	0.04
40.00	-17.35	-0.90	0.00	-42.19	0.00	42.19	1,081.75	257.56	576	521.31	0.60	-0.14	0.04
45.00	-16.50	-0.88	0.00	-37.71	0.00	37.71	1,044.38	248.66	537	485.73	0.75	-0.16	0.04
50.00	-15.66	-0.87	0.00	-33.28	0.00	33.28	1,007.01	239.76	499	451.41	0.93	-0.17	0.03
55.00	-14.83	-0.85	0.00	-28.94	0.00	28.94	969.64	230.87	463	418.35	1.11	-0.18	0.03
60.00	-14.35	-0.84	0.00	-24.69	0.00	24.69	932.27	221.97	428	386.54	1.31	-0.20	0.03
62.92	-13.94	-0.82	0.00	-22.25	0.00	22.25	910.47	216.78	408	368.57	1.43	-0.20	0.03
65.00	-13.79	-0.82	0.00	-20.53	0.00	20.53	894.90	213.07	394	355.99	1.52	-0.21	0.02
65.75	-13.15	-0.80	0.00	-19.91	0.00	19.91	664.38	162.37	305	269.42	1.56	-0.21	0.03
70.00	-12.70	-0.78	0.00	-16.52	0.00	16.52	648.81	156.70	284	253.83	1.75	-0.22	0.02
73.00	-9.30	-0.64	0.00	-14.18	0.00	14.18	637.49	152.69	270	242.97	1.89	-0.22	0.02
75.00	-8.59	-0.60	0.00	-12.91	0.00	12.91	629.79	150.02	261	235.80	1.98	-0.23	0.02
79.94	-8.59	-0.60	0.00	-9.93	0.00	9.93	602.40	143.43	238	215.53	2.22	-0.24	0.06
79.94	-8.59	-0.60	0.00	-9.93	0.00	9.93	602.40	143.43	238	215.53	2.22	-0.24	0.02
80.00	-8.17	-0.58	0.00	-9.89	0.00	9.89	602.07	143.35	238	215.29	2.23	-0.24	0.06
85.00	-7.84	-0.57	0.00	-6.98	0.00	6.98	574.04	136.68	216	195.61	2.49	-0.26	0.05
90.00	-7.64	-0.56	0.00	-4.14	0.00	4.14	546.01	130.00	196	176.87	2.78	-0.29	0.04
93.00	-4.83	-0.37	0.00	-2.47	0.00	2.47	529.19	126.00	184	166.09	2.96	-0.30	0.02
95.00	-4.52	-0.35	0.00	-1.73	0.00	1.73	517.98	123.33	176	159.08	3.09	-0.30	0.02
100.00	0.00	-0.32	0.00	0.00	0.00	0.00	489.95	116.66	158	142.23	3.40	-0.30	0.00

ANALYSIS SUMMARY

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W	19.99	0.00	35.78	0.00	0.00	1536.24	79.94	0.88
0.9D + 1.0W	19.96	0.00	26.82	0.00	0.00	1510.47	79.94	0.85
1.2D + 1.0Di + 1.0Wi	4.67	0.00	48.14	0.00	0.00	370.48	79.94	0.23
1.2D + 1.0Ev + 1.0Eh	0.94	0.00	35.79	0.00	0.00	80.41	79.94	0.07
0.9D - 1.0Ev + 1.0Eh	0.92	0.00	24.66	0.00	0.00	78.63	79.94	0.06
1.0D + 1.0W	4.47	0.00	29.87	0.00	0.00	340.23	79.94	0.21

ADDITIONAL STEEL SUMMARY

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors				Max member		
			VQ/I	Shear Applied (kips)	Shear (phiVn) (kips)	Ratio	Pu (kip)	PhiPn (kip)	Ratio
0.00	11.25	SOL #20 All Thread Bar	315.8	12.5	16.8	0.7421	279.8	314.5	0.8896
11.25	79.94	SOL #20 All Thread Bar	416.6	12.5	16.8	0.7435	261.8	330.5	0.7923

Elev From (ft)	Elev To (ft)	Member	Upper Termination Connectors					Lower Termination Connectors				
			MQ/I	phiVn (kips)	Num Reqd	Num Actual	Ratio	MQ/I (kips)	phiVn (kip)	Num Reqd	Num Actual	Ratio
0.00	11.25	SOL #20 All Thread Bar	0	12	0	0	0.0000	0	12	0	0	0.0000
11.25	79.94	SOL #20 All Thread Bar	69.7756	12	6	12	0.4846	0	12	0	0	0.0000

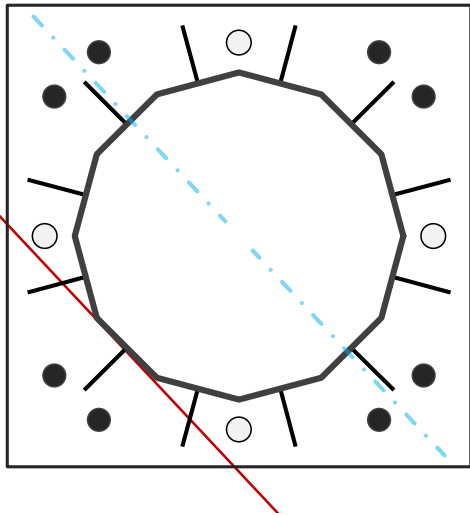
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	12	-
Diameter	30	in
Thickness	1/4	in
Orientation Offset		°

Base Reactions		
Moment, Mu	1,536.2	k-ft
Axial, Pu	35.8	k
Shear, Vu	20.0	k
Neutral Axis	133	°

Report Capacities		
Component	Capacity	Result
Base Plate	64%	Pass
Anchor Rods	38%	Pass
Dwyidag	58%	Pass

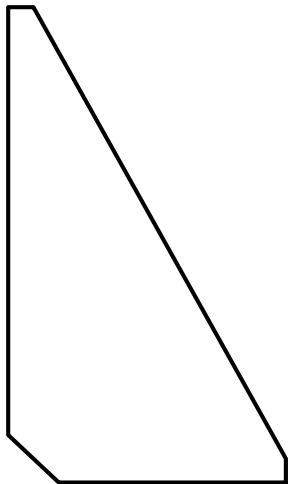
Base Plate		
Shape	Square	-
Width	44	in
Thickness	2	in
Grade	A572-60	
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	0	in
Orientation Offset		°
Anchor Rod Detail	c	$\eta=0.55$
Clear Distance	N/A	in
Applied Moment, Mu	1232.1	k
Bending Stress, ϕMn	1922.3	k



Dwyidag Reinforcement		
Quantity	4	-
Bar Size	#20	in
Diameter, ϕ	2.5	in
Bracket Type	Angle	-
Circle	36.88	in
Orientation Offset	0	°
Applied Force, Pu	211.8	k
Dwyidag Bar, ϕPn	368.2	k

Original Anchor Rods		
Arrangement	Cluster	-
Quantity	8	-
Diameter, ϕ	2 1/4	in
Bolt Circle	44	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	6.0	in
Orientation Offset		°
Applied Force, Pu	92.1	k
Anchor Rods, ϕPn	243.6	k

Stiffeners		
Arrangement	Radial	-
Quantity	12	-
Height	10	in
Width	5.5	in
Effective Width	5.500	in
Thickness	1/2	in
Effective Thickness	0.500	in
Notch	1	in
Flat Edge	0.5	in
Grade	A36	
Yield Strength, Fy	36	ksi
Tensile Strength, Fu	58	ksi
Horizontal Weld	Fillet	
Horizontal Fillet Size	3/8	in
Bevel Depth	0	in
Vertical Weld	Fillet	
Vertical Fillet Size	3/8	in
Weld Strength	70	ksi
Electrode Coefficient	1	-
Orientation Offset	0	°
Vertical Weld, ϕRn	165.2	k
Horz. Weld, ϕRn	76.5	k
Ten. Capacity, ϕTn	72.9	k
Comp. Capacity, ϕPn	294.2	k



Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	20.0	665.3	0.43
Anchor Rod Forces	20.0	665.3	0.43
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	870.9	0.57
Stiffener Forces	12.0	400.7	0.26

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in ²	in ²	in ⁴	#	in ⁴
Pole	23.0996	1.9250	0.0403		2556.06
Bolt	3.9761	3.2477	0.8393	4.5	6294.24
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	4.9087	4.9087	1.9175		3345.94
Stiffener	2.2500	2.0250	27.7292		3869.95

Base Plate		
Shape	Square	-
Width, W	44	in
Thickness, t	2	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Base Plate Chord	32.187	in
Detail Type	c	-
Detail Factor	0.55	-
Clear Distance	N/A	-

Anchor Rods		
Anchor Rod Quantity, N	8	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	44	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	92.1	k
Applied Shear, Vu	0.4	k
Compressive Capacity, φPn	243.6	k
Tensile Capacity, φRnt	0.378	OK
Interaction Capacity	0.381	OK

Base Plate Stiffeners		
Applied Axial Force, Pu	45.4	k
Applied Horizontal Force, Vu	0.50	k

Vertical Weld		
Vert.-to-Stiffener a=e _x /l	0.183	-
Spacing Ratio, k	0.050	-
Weld Coefficient, C	3.670	-
Compressive Capacity, φPn	165.2	k
Vert.-to-Plate a=e _x /l	0.333	-
Spacing Ratio, k	0.050	-
Weld Coefficient, C	2.940	-
Shear Capacity, φVn	132.3	k
P _u /φ _p P _n + V _u /φ _v V _n	0.279	OK

External Base Plate		
Chord Length AA	32.100	in
Additional AA	3.497	in
Section Modulus, Z	35.597	in ³
Applied Moment, Mu	1232.1	k-ft
Bending Capacity, φMn	1922.3	k-ft
Capacity, Mu/φMn	0.641	OK

Chord Length AB	31.038	in
Additional AB	2.690	in
Section Modulus, Z	33.727	in ³
Applied Moment, Mu	1134.7	k-ft
Bending Capacity, φMn	1821.3	k-ft
Capacity, Mu/φMn	0.623	OK

Bend Line Length	0.000	in
Additional Bend Line	#N/A	in
Section Modulus, Z	#N/A	in ³
Applied Moment, Mu	0.0	k-ft
Bending Capacity, φMn	#N/A	k-ft
Capacity, Mu/φMn		

Internal Base Plate		
Arc Length	0.000	in
Section Modulus, Z	0.000	in ³
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, φMn	0.0	k-ft
Capacity, Mu/φMn		

Dywidag Reinforcement		
Dywidag Quantity, N	4	-
Dywidag Diameter, d	2.5	in
Bolt Circle, BC	36.88	in
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	211.8	k
Compressive Capacity, φPn	368.2	k
Capacity, Pu/φPn	0.575	OK

Horizontal Weld		
Horz.-to-Stiffener a=e _x /l	0.167	-
Spacing Ratio, k	0.091	-
Weld Coefficient, C	2.940	-
Effective Fillet	0.375	in
Compressive Capacity, φPn	72.8	k
Horz.-to-Pole a=e _x /l	0.303	-
Spacing Ratio, k	0.091	-
Weld Coefficient, C	3.090	-
Shear Capacity, φVn	76.5	k
P _u /φ _p P _n + V _u /φ _v V _n	0.631	OK

Plate Tension		
Gross Cross Section	2.250	in ²
Net Cross Section	2.025	in ²
Tensile Capacity, φTn	72.9	k
Capacity, Tu/φTn	0.311	OK

Plate Compression		
Radius of Gyration	0.144	in ³
kl/r	41.57	-
4.71 √(E/Fy)	133.68	-
Buckling Stress(F _e)	165.6	-
Crit. Buckling Stress(F _{cr})	145.3	ksi
Compressive Capacity, φPn	294.2	k
Capacity, Pu/φPn	0.077	OK

Site Name:	Mlfd-Milford
Site Number:	302516
Engineering Number:	13702496_C3_04
Engineer:	JSD
Date:	9/20/2021

Design Base Loads (Factored) - Design per TIA-222-H Standard

Moment (Overturning) (M_u):	1536.2 k-ft
Shear/Leg (V_u):	20.0 k
Compression/Leg (P_u):	35.8 k
Uplift/Leg (T_u):	0.0 k
Tower Type (GT / SST / MP):	MP
Length / Width of Block:	8.0 ft
Thickness of Block:	6.5 ft
Block Height Above Ground:	1.0 ft
Depth Below Ground Surface to Water Table (w):	99.0 ft
Unit Weight of Concrete:	150.0 pcf
Unit Weight of Soil:	120.0 pcf
Unit Weight of Water:	62.4 pcf
Ultimate Compressive Bearing Pressure:	50000 psf
Capacity Increase (Due to Transient Loads):	1.00
Pullout Angle:	45.0 degrees
Rod Diameter:	1.00 in
Rod Ultimate Strength:	60 ksi
Rod Net Area:	0.85 in ²
Number of Rods:	16
Diameter of Cored Hole:	3.00 in
Ultimate Grout / Rock Interface Bond Strength:	150 psi
Ultimate Grout / Rock Anchor Interface Bond Strength:	450 psi
Overall Rod Embedment Length:	78 in
Rod Exposure Above Lock Off Nut in Foundation:	0 in
Rod Embedment Circle:	84 in (Adjustment necessary if square co
Free Stress Length:	0 in
Soil / Concrete Friction Coefficient:	0.30
Lock Off Load:	0 k
Rock Anchor Design Plastic or Elastic:	Plastic
Ignore Pullout Weight Resistance (Y/N):	Y
Weight of Concrete (Buoyancy Effect Considered):	62.4 k
Compressive Bearing Resistance:	2513.3 k
Depth to Base of Rock Anchor minus Development Length:	10.2 ft
Total Rock / Grout Bond Strength:	1764.3 k
Total Grout / Rod Bond Strength:	1764.3 k
Total Rod Mechanical Strength:	816.0 k
Pullout Weight / Rod:	k - Ignored
Rock / Grout Bond Strength / Rod:	110.3 k
Grout / Rod Bond Strength / Rod:	110.3 k
Rod Mechanical Strength / Rod:	60.0 k
Soil Strength Reduction Factor (ϕ_s):	0.75
Factored Nominal Moment Capacity per Leg ($\phi_s M_n$):	2814.5 k
Factored Nominal Uplift Capacity per Leg ($\phi_s T_n$):	73.6 k
Factored Nominal Compressive Capacity per Leg ($\phi_s P_n$):	1885.0 k
Factored Nominal Shear Capacity per Leg ($\phi_s V_n$):	367.2 k
M_u :	1666.2 k-ft
T_u :	0.0 k
P_u :	48.5 k
V_u :	20.0 k
$T_u/\phi_s T_n + M_u/\phi_s M_n$:	0.59 Result: OK
$P_u/\phi_s P_n$:	0.03 Result: OK
$V_u/\phi_s V_n$:	0.05 Result: OK

Caisson Strength Capacity

Concrete Compressive Strength (f'_c):	4000 psi
Vertical Steel Rebar Size #:	11
Vertical Steel Rebar Area:	1.56 in ²
# of Vertical Steel Rebars:	52 Minimum # of vertical rebar met
Vertical Steel Rebar Yield Strength (F_y):	60 ksi
Horizontal Tie / Stirrup Size #:	4
Horizontal Tie / Stirrup Area:	0.20 in ²
Horizontal Tie / Stirrup Spacing:	12.0 in
Horizontal Tie / Stirrup Steel Yield Strength (F_y):	40 ksi
Rod Bearing Plate Diameter:	8.0 in
Rod Bearing Plate Thickness:	1.0 in
Anchor Bearing Plate Yield Strength:	36 ksi
Anchor Rod Nut Diameter:	2.02 in
Rebar Cage Diameter:	88.0 in
Strength Bending/Tension Reduction Factor (ϕ_B):	0.90 ACI318-05 - 9.3.2.1
Strength Shear Reduction Factor (ϕ_V):	0.75 ACI318-05 - 9.3.2.3
Strength Compression/Bearing Reduction Factor ($\phi_{P/B}$):	0.65 ACI318-05 - 9.3.2.2
Steel Elastic Modulus:	29000 ksi
Design Moment (M_u):	1666.2 k-ft
Factored Nominal Moment Capacity ($\phi_B M_n$):	15706.9 k-ft - ACI318-05 - 10.2
$M_u / \phi_B M_n$:	0.11 Result: OK
Design Shear (V_u):	213.1 k
Factored Nominal Shear Capacity ($\phi_V V_n$):	673.9 k - ACI318-05 - 11.3.1.1 or 11.5.7.2
$V_u / \phi_V V_n$:	0.32 Result: OK
Design Tension (T_u):	0.0 k
Factored Nominal Tension Capacity ($\phi_T T_n$):	4380.5 k - ACI318-05 - 10.2
$T_u / \phi_T T_n$:	0.00 Result: OK
Design Compression (P_u):	35.8 k
Factored Nominal Compression Capacity ($\phi_P P_n$):	14886.8 k - ACI318-05 - 10.3.6.2
$P_u / \phi_P P_n$:	0.00 Result: OK

Bearing Plate Design

Plate Bearing Design Load (P_u):	26.6 k
Plate Shear Design Load (V_u):	26.6 k
Factored Rod Bearing Plate Capacity of a Single Anchor ($\phi_B P_n$):	218.7 k
Bearing Plate Pressure:	0.6 ksi
Plate Design Moment (M_u):	7.7 k-in
Critical Length:	6.88 in
Plastic Modulus:	1.72 in ³
Factored Nominal Plate Flexural Resistance ($\phi_B M_n$):	55.7 k-in
Factored Nominal Plate Shear Resistance ($\phi_V V_n$):	123.4 k
Factored Punch Shear Capacity Resisting Plate Load ($\phi_P P_n$):	514.4 k - ACI318-05 - 11.11.2.1
Interaction Equation:	0.22 Result: OK
Recommended Lock Off Load:	16.7 k
Recommended Test Load:	26.6 k
Maximum Allowable Test Load:	48.0 k

INFINIGY8

MOUNT ANALYSIS REPORT

September 15, 2021

Dish Wireless Site Name	BOHVN00144A
Dish Wireless Site Number	BOHVN00144A
ATC Site Number	302516
Infinigy Job Number	1197-F0001-B
Client	ATC
Carrier	Dish Wireless
Site Location	438 Bridgeport Ave Milford, CT 06460 New Haven County 41.206611 N NAD83 73.093400 W NAD83
Mount Type	8.0 ft Platform
Mount Elevation	97.0 ft AGL
Structural Usage Ratio	32.7%
Overall Result	Pass

The enclosed mount structural analysis has been performed in accordance with the 2018 Connecticut State Building Code (2015 IBC) based on an ultimate 3-second gust wind speed of 120 mph. The evaluation criteria and applicable codes are presented in the next section of this report.



CONTENTS

1. Introduction
2. Design/Analysis Parameters
3. Proposed Loading Configuration
4. Supporting Documentation
5. Results
6. Recommendations
7. Assumptions
8. Liability Waiver and Limitations
9. Calculations

1. INTRODUCTION

Infinigy performed a structural analysis on the Dish Wireless proposed telecommunication equipment supporting Platform mounted to the existing structure located at the aforementioned address. All referenced supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The mount was analyzed using Risa-3D version 17.0.4 analysis software.

2. DESIGN/ANALYSIS PARAMETERS

Wind Speed	120 mph (3-Second Gust)
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 1" ice
Code / Standard	TIA-222-H
Adopted Code	2018 Connecticut State Building Code (2015 IBC)
Risk Category	II
Exposure Category	C
Topographic Category	1
Seismic Spectral Response	$S_s = 0.203 \text{ g} / S_1 = 0.053 \text{ g}$
Live Load Wind Speed	60 mph
Man Live Load at Mid/End Points	250 lbs
Man Live Load at Mount Pipes	500 lbs

3. PROPOSED LOADING CONFIGURATION - 97.0 ft. AGL Platform

Antenna Centerline (ft)	Qty.	Appurtenance Manufacturers	Appurtenance Models
97.0	3	JMA WIRELESS	MX08FRO665-21
	3	FUJITSU	TA08025-B605
	3	FUJITSU	TA08025-B604
	1	RAYCAP	RDIDC-9181-PF-48

4. SUPPORTING DOCUMENTATION

Proposed Loading	Dish Wireless Asset ID CT-ATC-T-302516 Rev 1, Site #BOHVN00144A, dated July 09, 2021
Mount Manufacturer Drawings	Commscope Document # MC-PK8-DSH, dated March 08, 2021
Construction Drawing	NB + C, A&E Project # 302516-13702496, dated September 09, 2021

5. RESULTS

Components	Capacity	Pass/Fail
Mount Pipes	21.5%	Pass
Horizontals	13.0%	Pass
Standoffs	31.9%	Pass
Handrails	25.9%	Pass
Connections	32.7%	Pass
MOUNT RATING =	32.7%	Pass

Notes:

1. See additional documentation in Appendix for calculations supporting the capacity consumed and detailed mount connection calculations.

6. RECOMMENDATIONS

Infinigy recommends installing Dish Wireless's proposed equipment loading configuration on the mount at 97.0 ft. The installation shall be performed in accordance with the construction documents issued for this site.

Binita Yadav
Project Engineer I | **INFINIGY**

7. ASSUMPTIONS

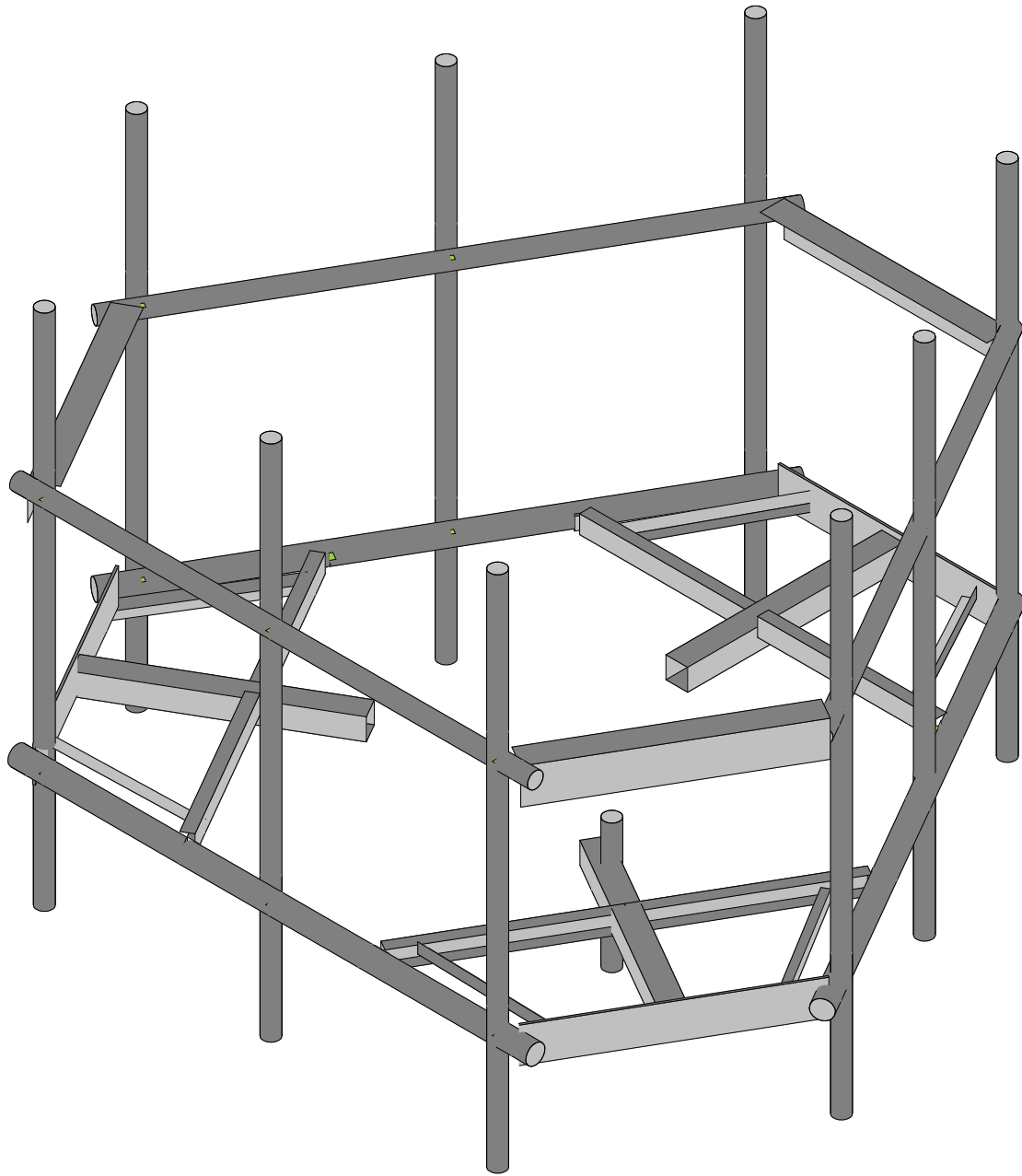
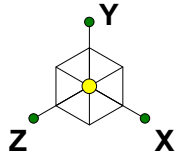
The antenna mounting system was properly fabricated, installed and maintained in accordance with its original design and manufacturer's specifications.	
The configuration of antennas, mounts, and other appurtenances are as specified in the proposed loading configuration table.	
All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.	
The analysis will require revisions if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.	
Steel grades have been assumed as follows, unless noted otherwise:	
Channel, Solid Round, Plate, Built-up Angle	ASTM A1011 36 KSI
Structural Angle	ASTM A529 Gr. 50
HSS (Rectangular)	ASTM A500-B GR 46
HSS (Circular)	ASTM A500-B GR 42
Pipe	ASTM A500 Gr C
Connection Bolts	ASTM A325
U-Bolts	ASTM A307
All bolted connections are pretensioned in accordance with Table 8.2 of the RCSC 2014 Standard	

8. LIABILITY WAIVER AND LIMITATIONS

Our structural calculations are completed assuming all information provided to Infinigy is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition as erected and all members and connections to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure's condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report, Infinigy should be notified immediately to assess the impact on the results of this report.

Our evaluation is completed using industry standard methods and procedures. The structural results, conclusions and recommendations contained in this report are proprietary and should not be used by others as their own. Infinigy is not responsible for decisions made by others that are or are not based on the stated assumptions and conclusions in this report.

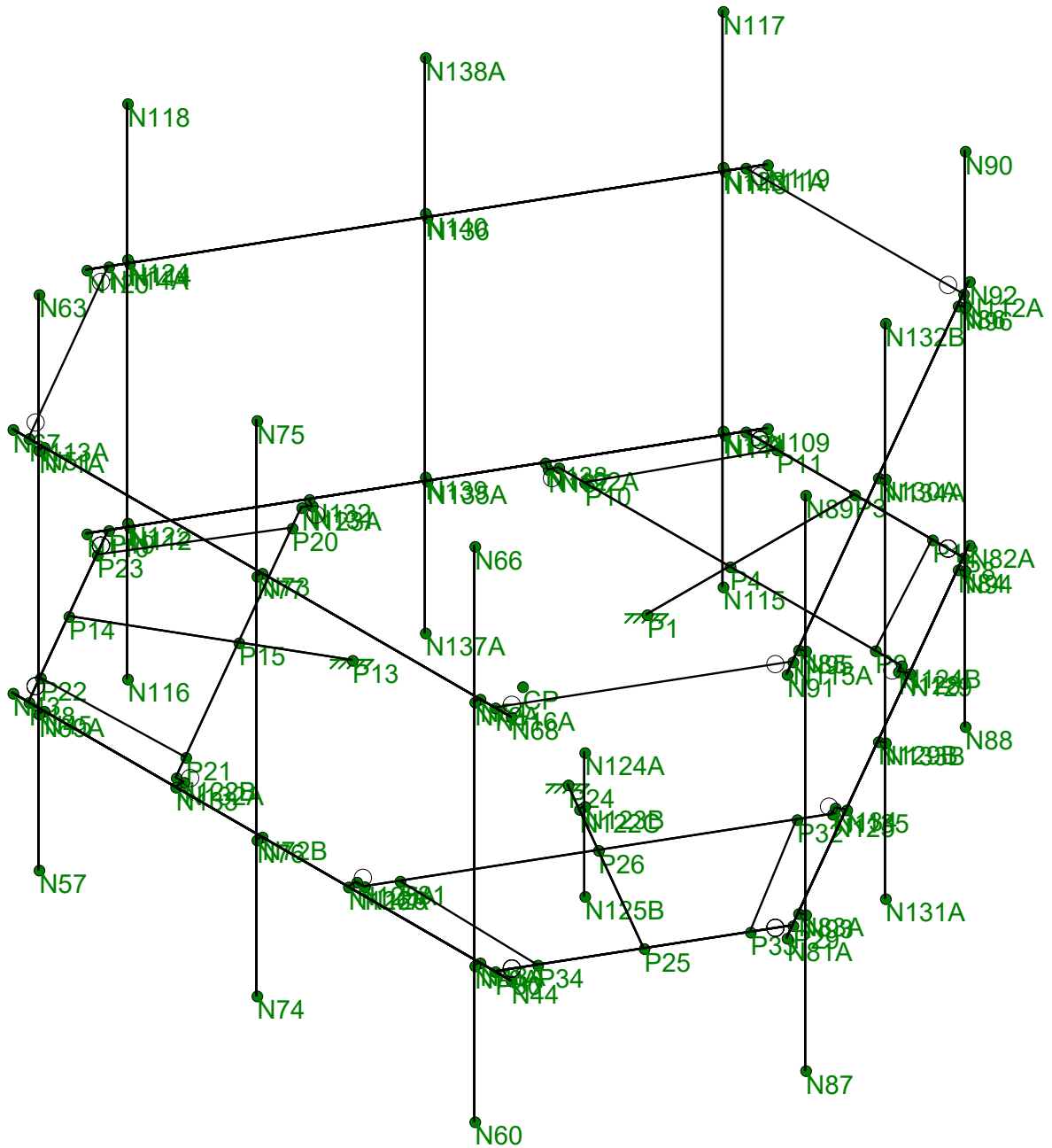
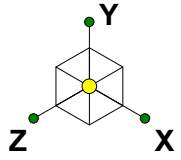
This report is an evaluation of the mount structure only and does not determine the adequacy of the supporting structure, other carrier mounts or cable mounting attachments. The analysis of these elements is outside the scope of this analysis, are assumed to be adequate for the purpose of this report and to have been installed per their manufacturer requirements. This document is not for construction purposes.



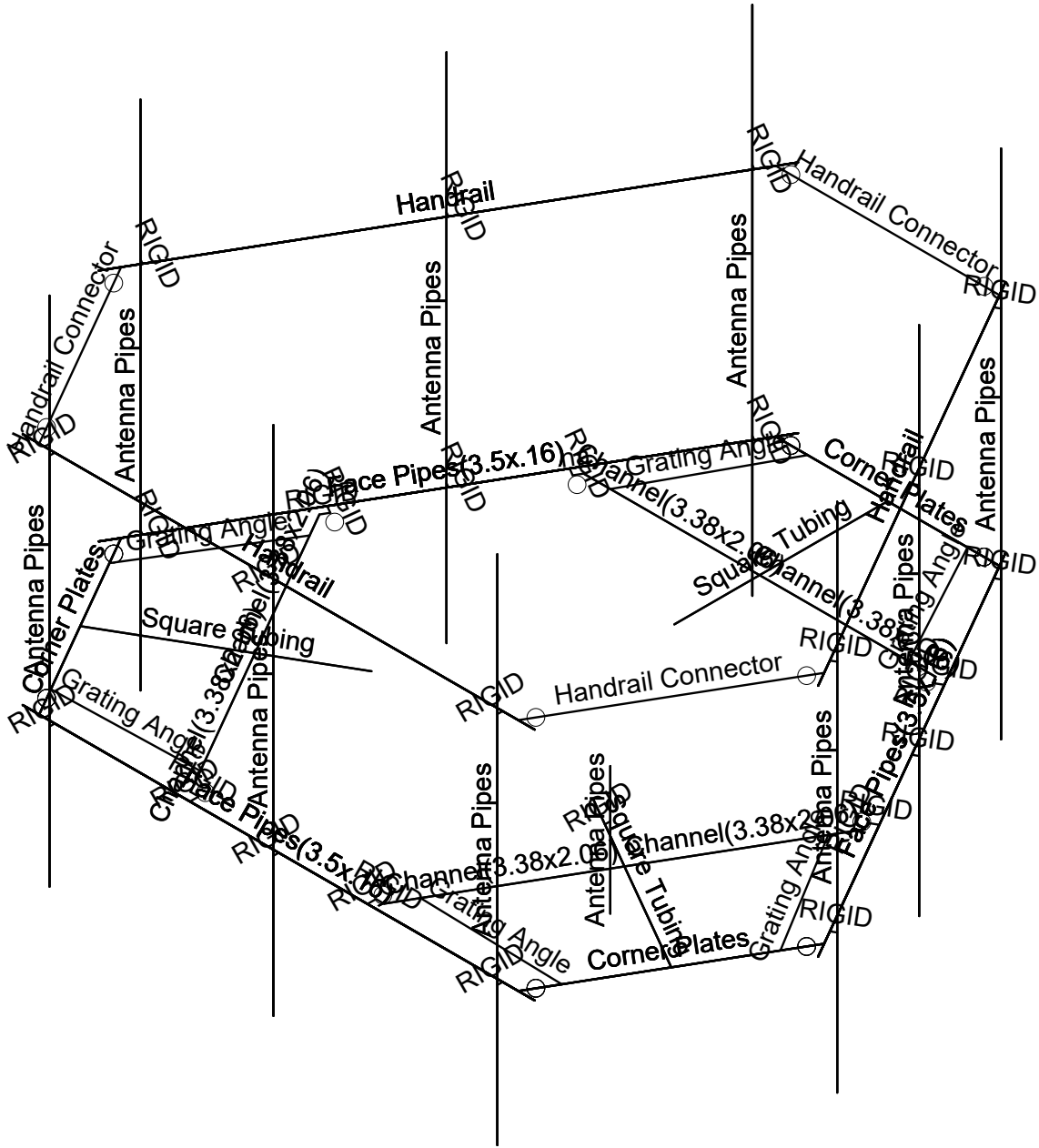
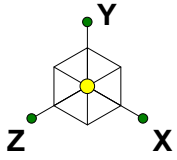
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BY
1197-F0001-B

BOHVN00144A

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BOHVN00144A_loaded.r3d



Infinigy Engineering, PLLC	BOHVN00144A	Wire Frame
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1197-F0001-B		BOHVN00144A_loaded.r3d



Infinigy Engineering, PLLC

BY

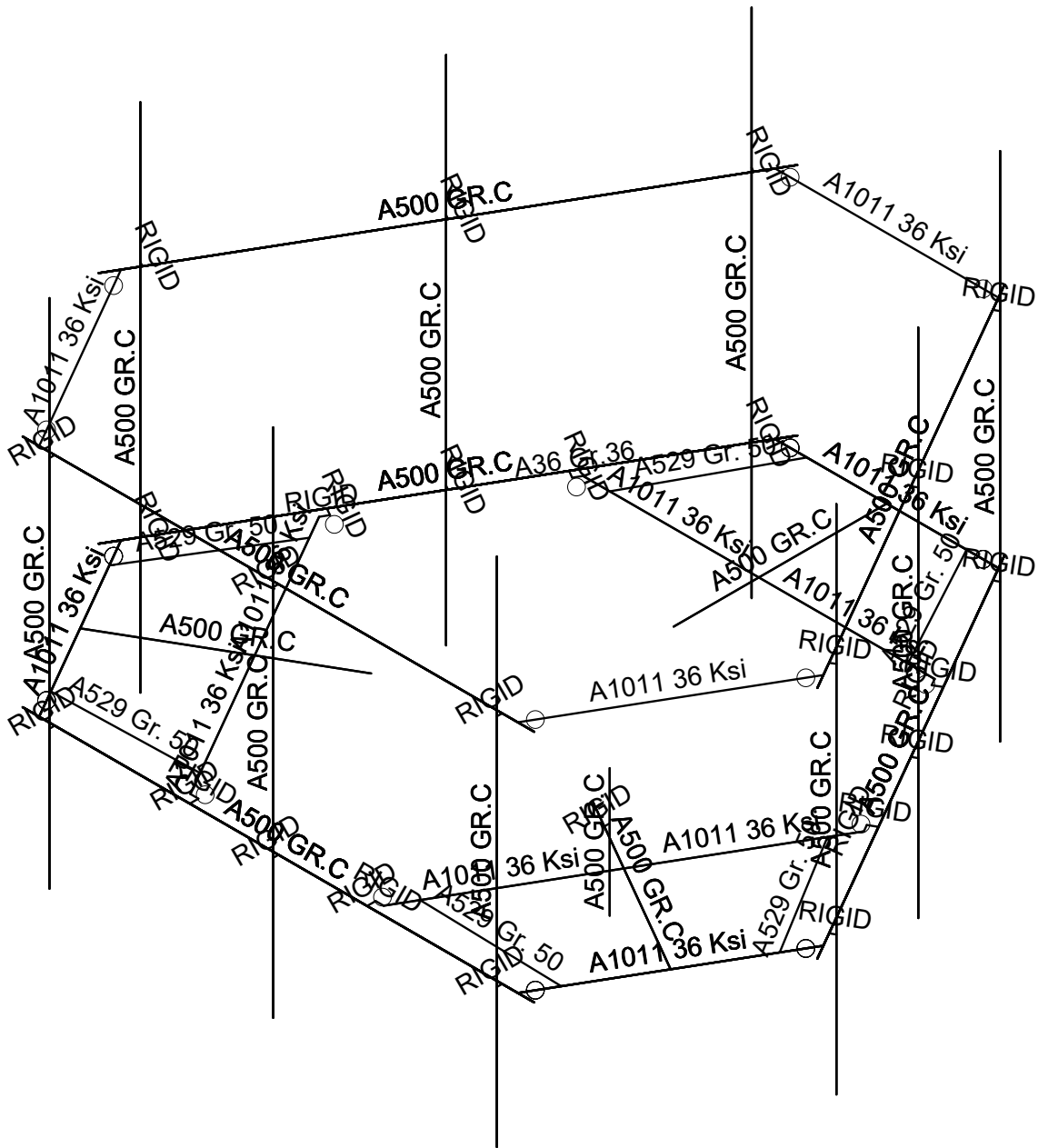
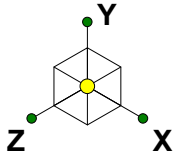
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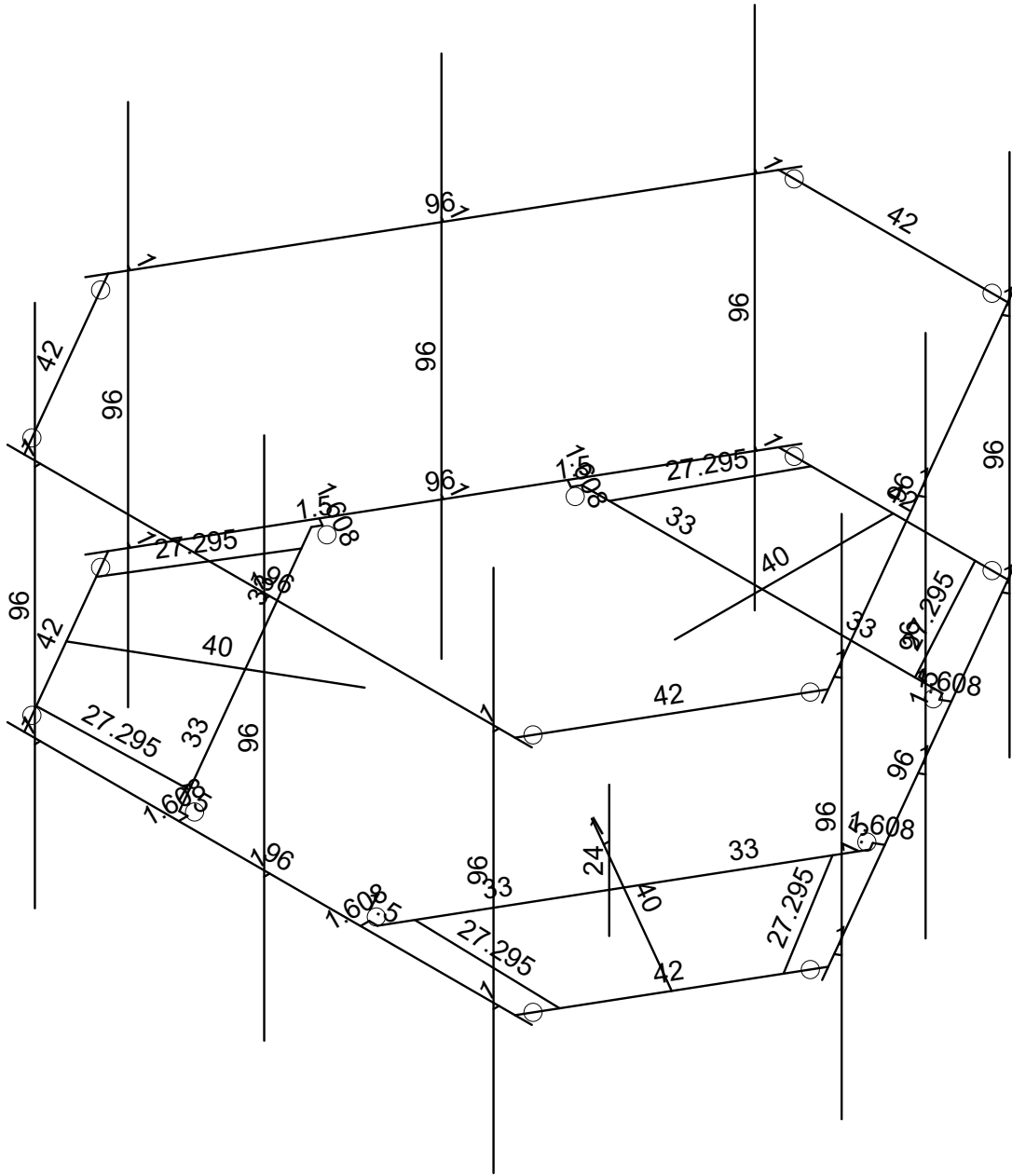
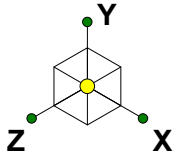
Section Sets

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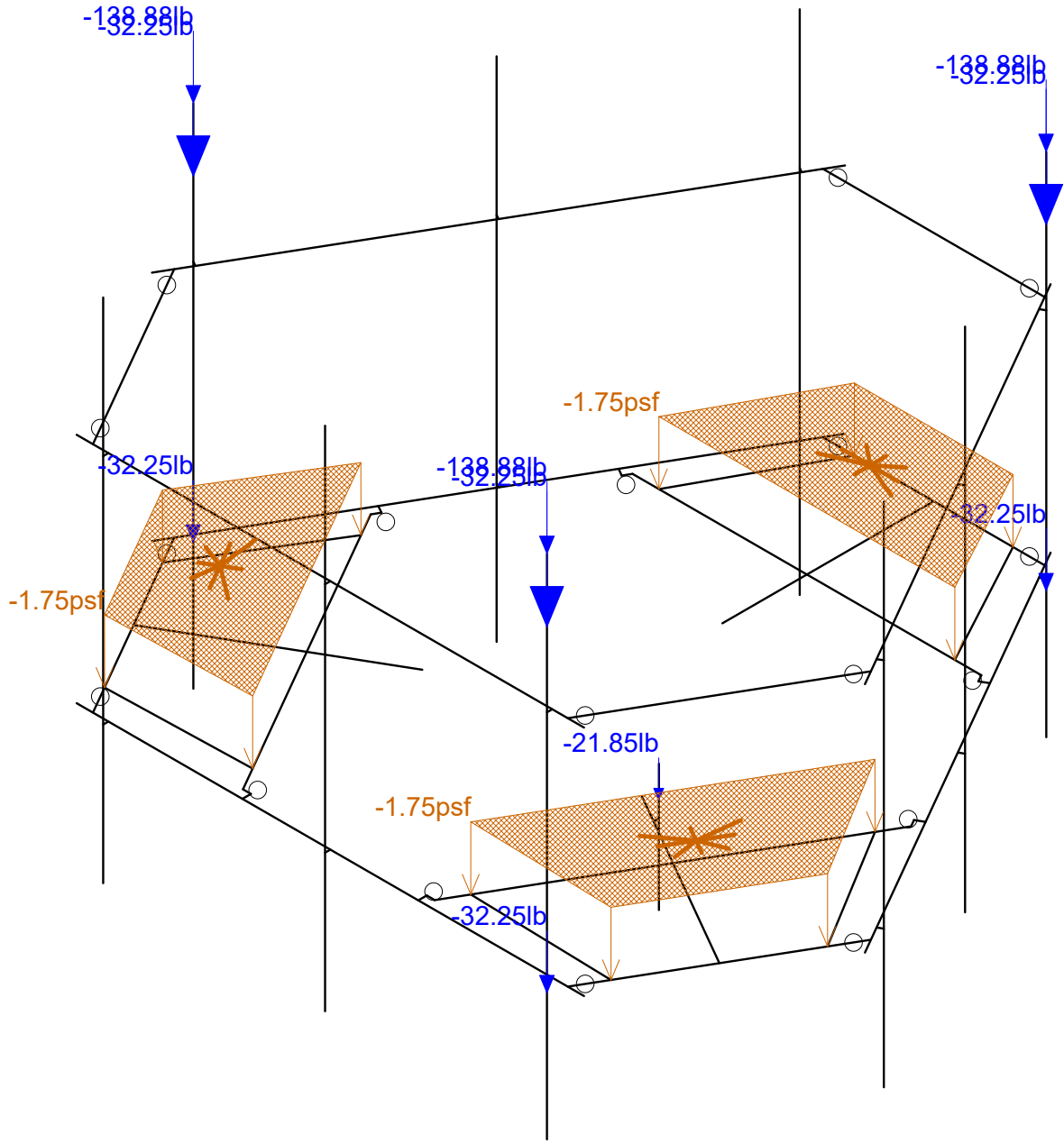
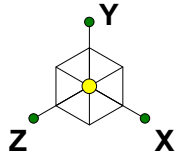


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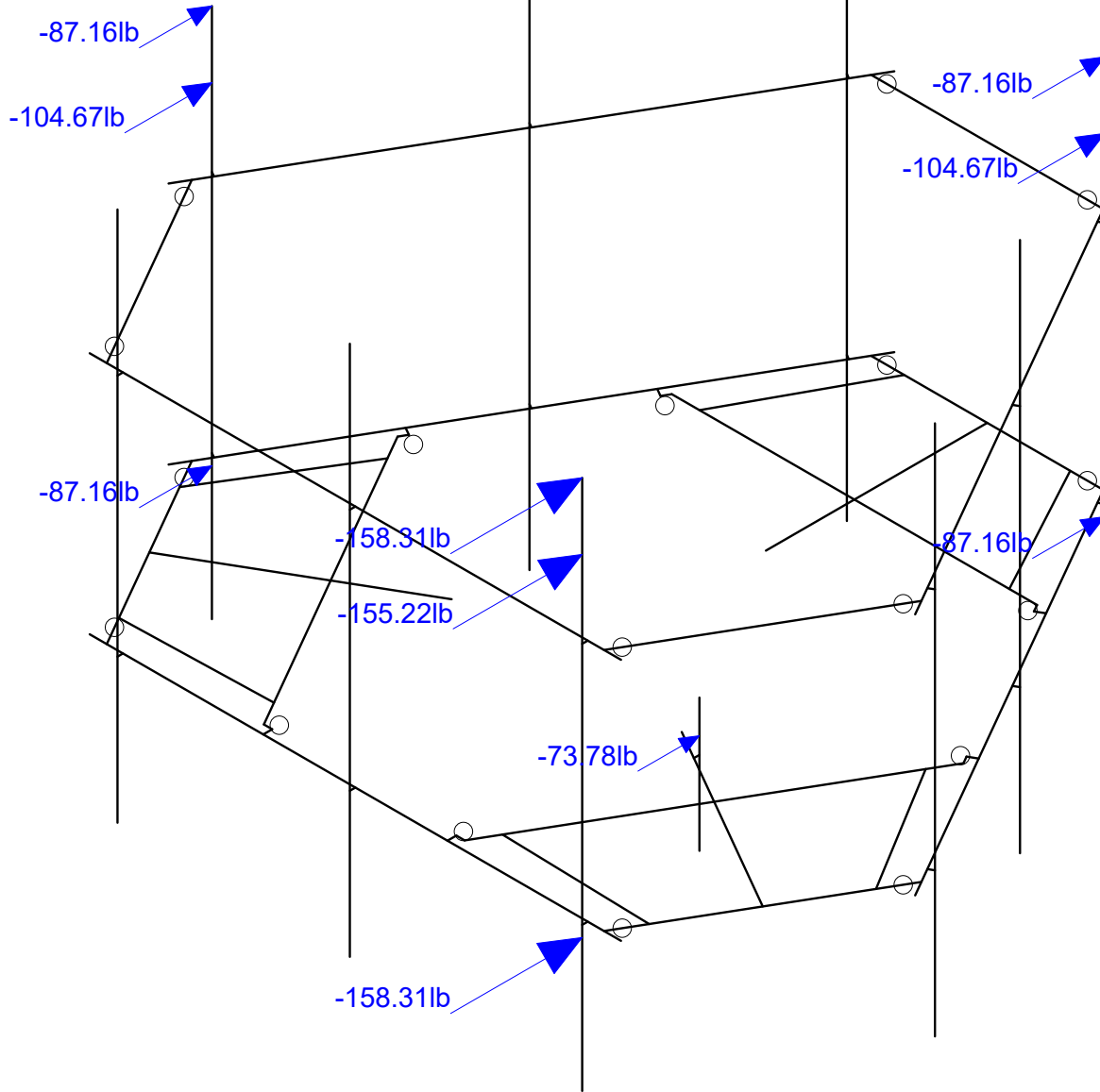
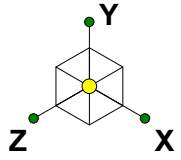
Member Length (in) Displayed
Envelope Only Solution

Infinigy Engineering, PLLC	BOHVN00144A	Member Lengths
BY		Sept 15, 2021 at 3:35 PM
1197-F0001-B		BOHVN00144A_loaded.r3d



Loads: BLC 1, Self Weight
Envelope Only Solution

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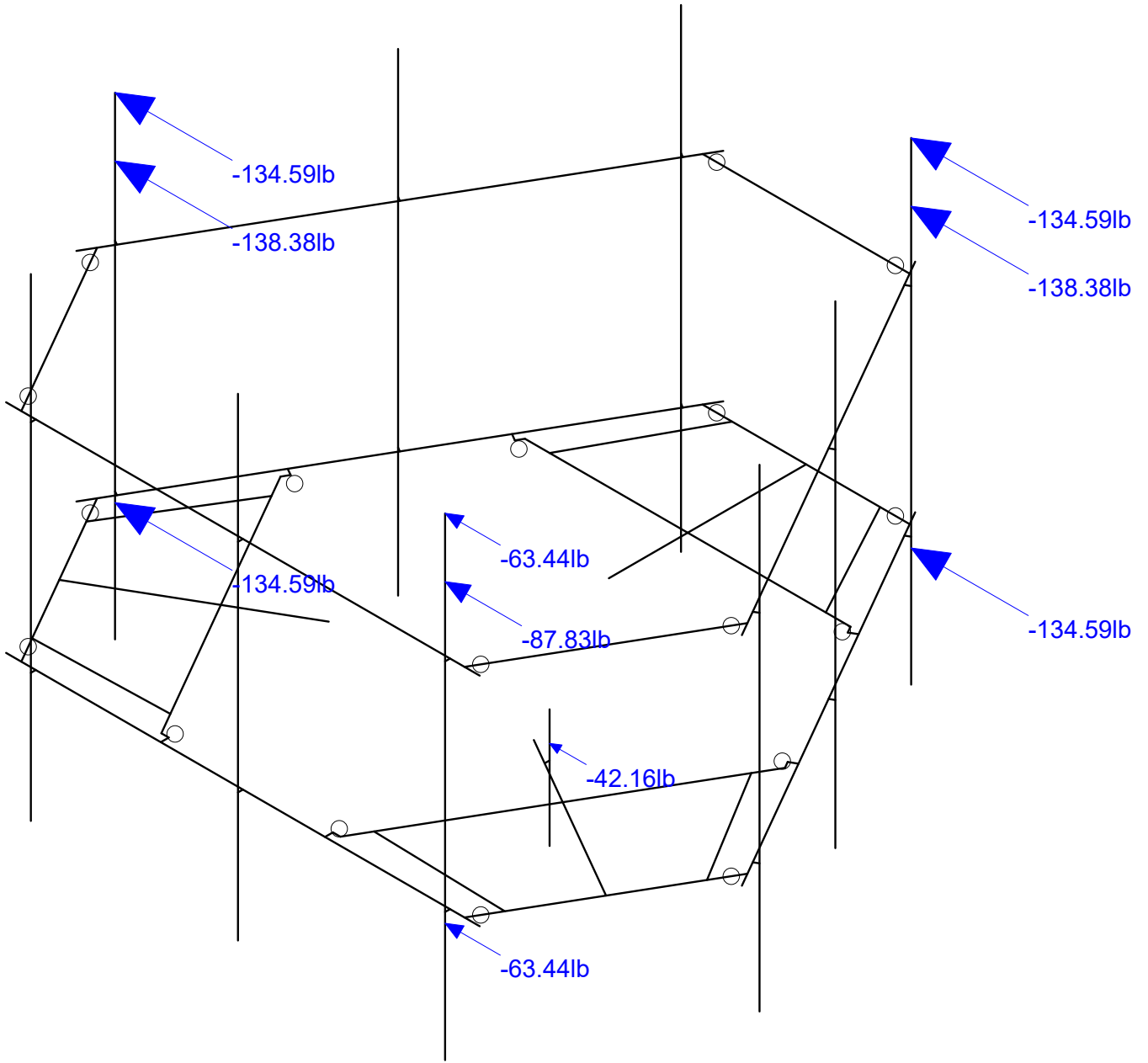
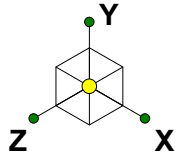


Loads: BLC 2, Wind Load AZI 0
Envelope Only Solution

Infinigy Engineering, PLLC
BY
1197-F0001-B

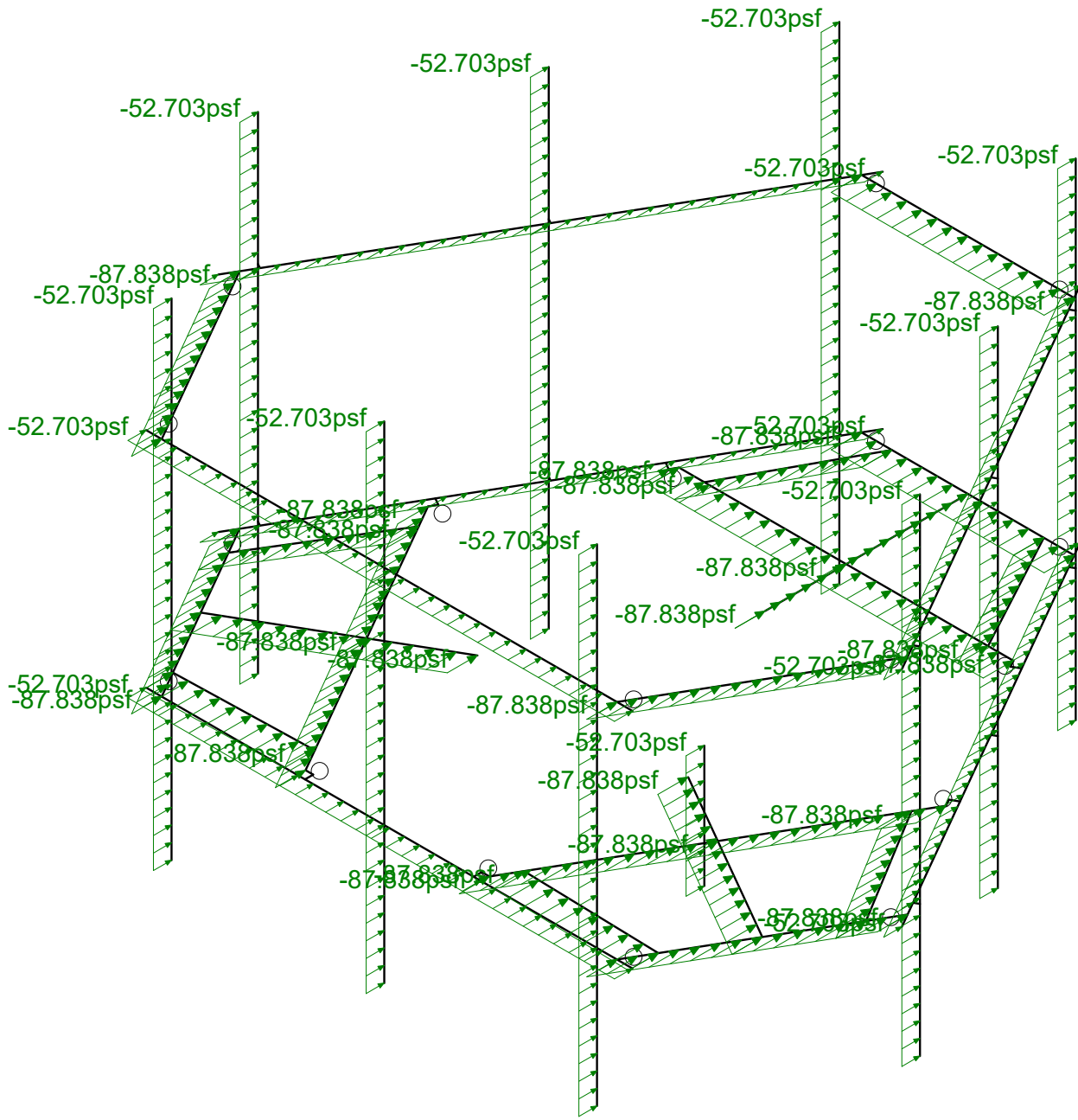
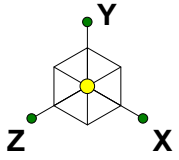
BOHVN00144A

Wind Load AZI 000
Sept 15, 2021 at 3:18 PM
BOHVN00144A_loaded.r3d



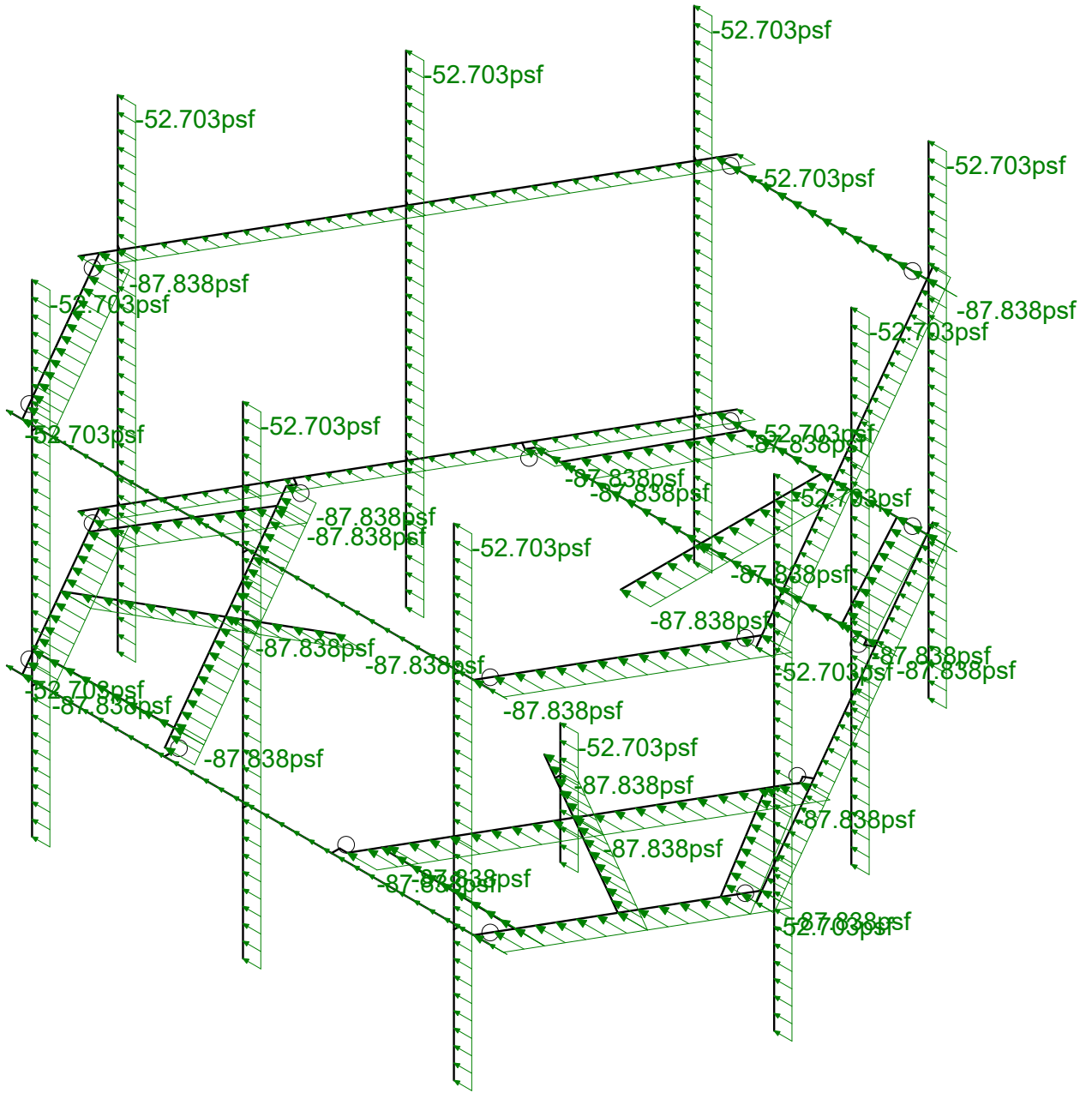
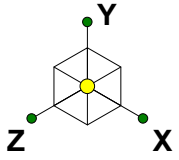
Loads: BLC 5, Wind Load AZI 90
Envelope Only Solution

Infinigy Engineering, PLLC	BOHVN00144A	Wind Load AZI 090
BY		Sept 15, 2021 at 3:20 PM
1197-F0001-B		BOHVN00144A_loaded.r3d



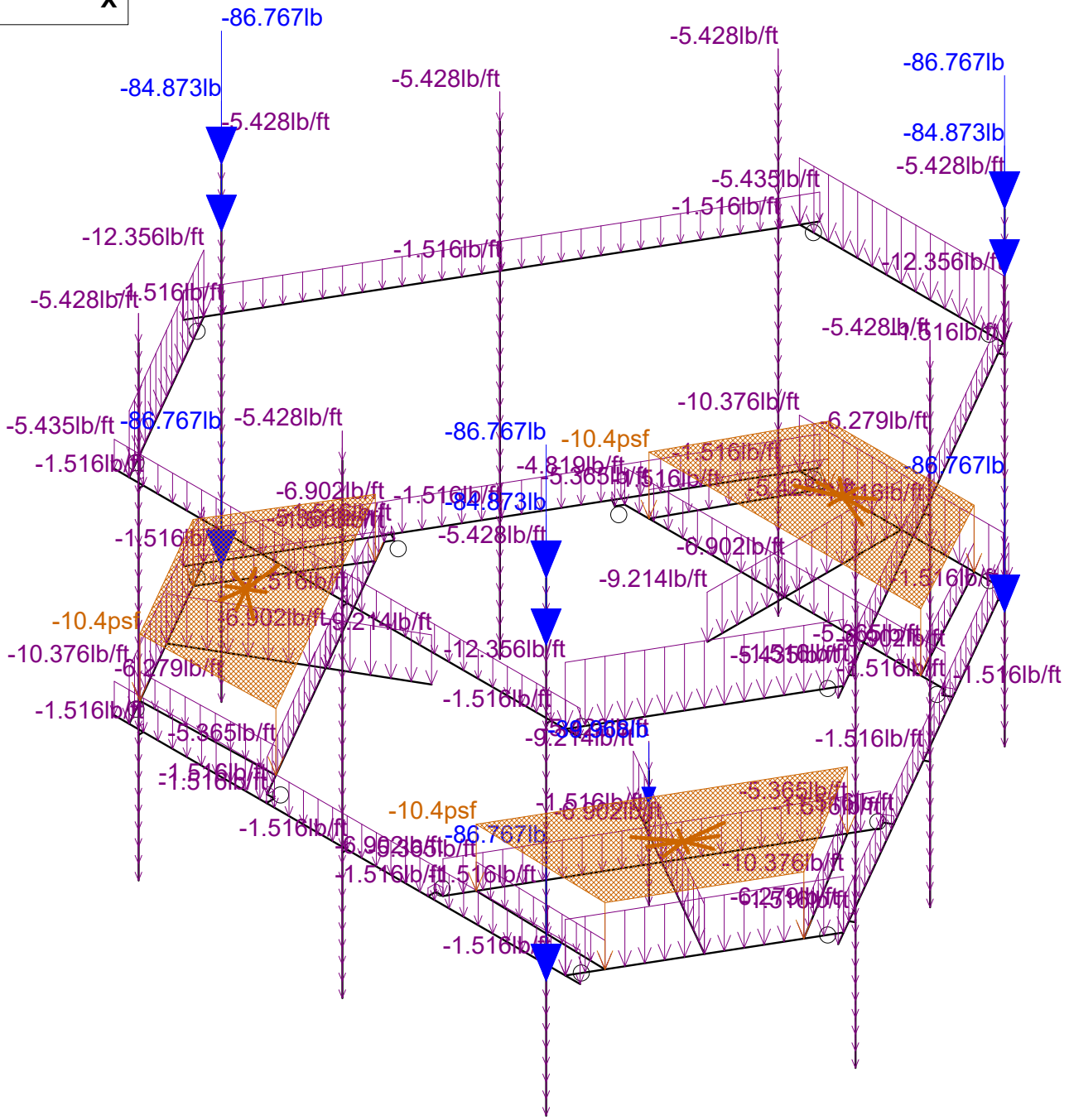
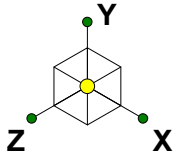
Loads: BLC 14, Distr. Wind Load Z
Envelope Only Solution

Infinigy Engineering, PLLC	BOHVN00144A	Distr. Wind Load AZI 000
BY		Sept 15, 2021 at 3:21 PM
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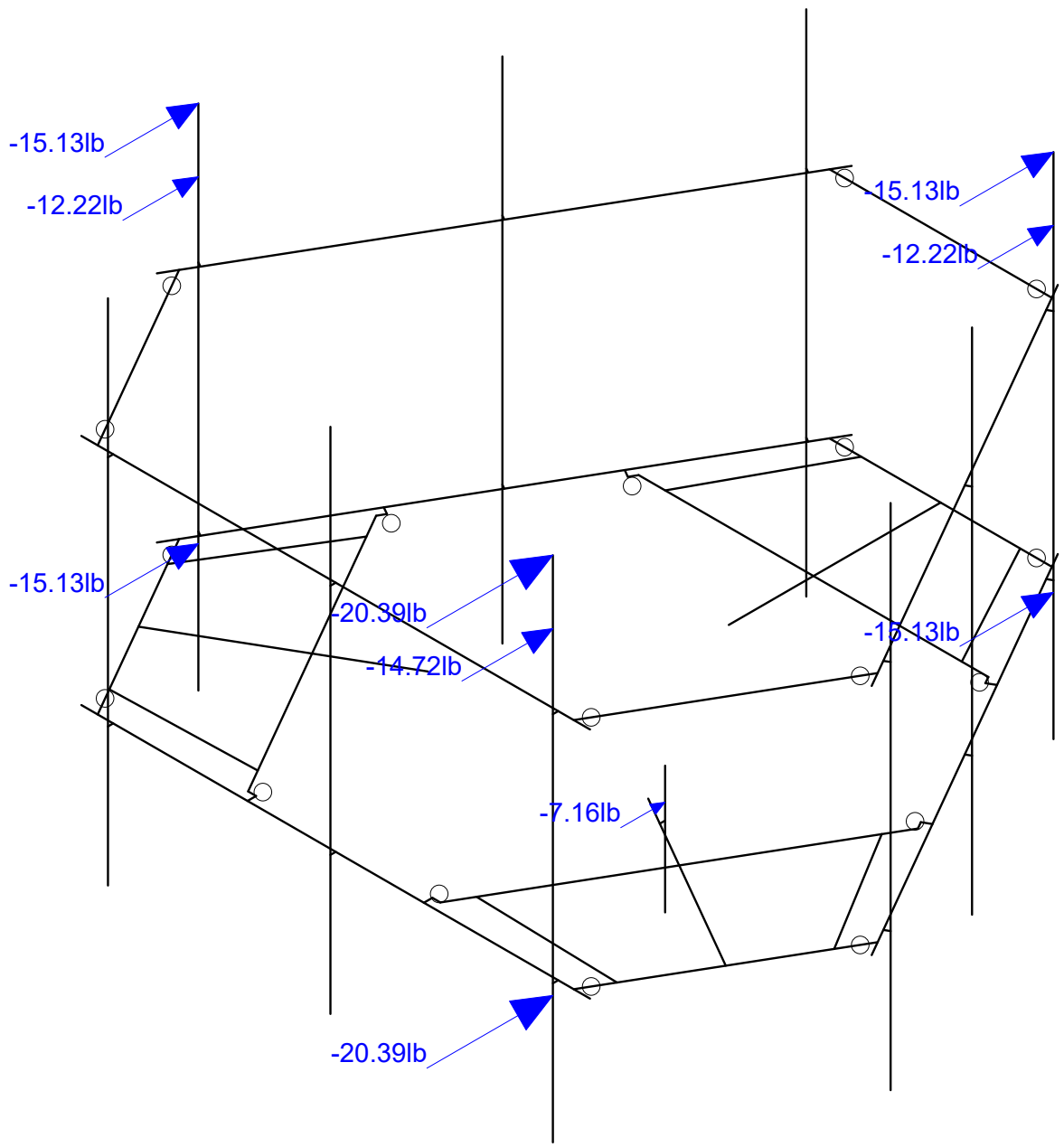
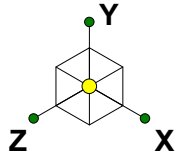
Loads: BLC 15, Distr. Wind Load X
Envelope Only Solution

Infinigy Engineering, PLLC	BOHVN00144A	Distr. Wind Load AZI 090
BY		Sept 15, 2021 at 3:21 PM
1197-F0001-B		BOHVN00144A_loaded.r3d



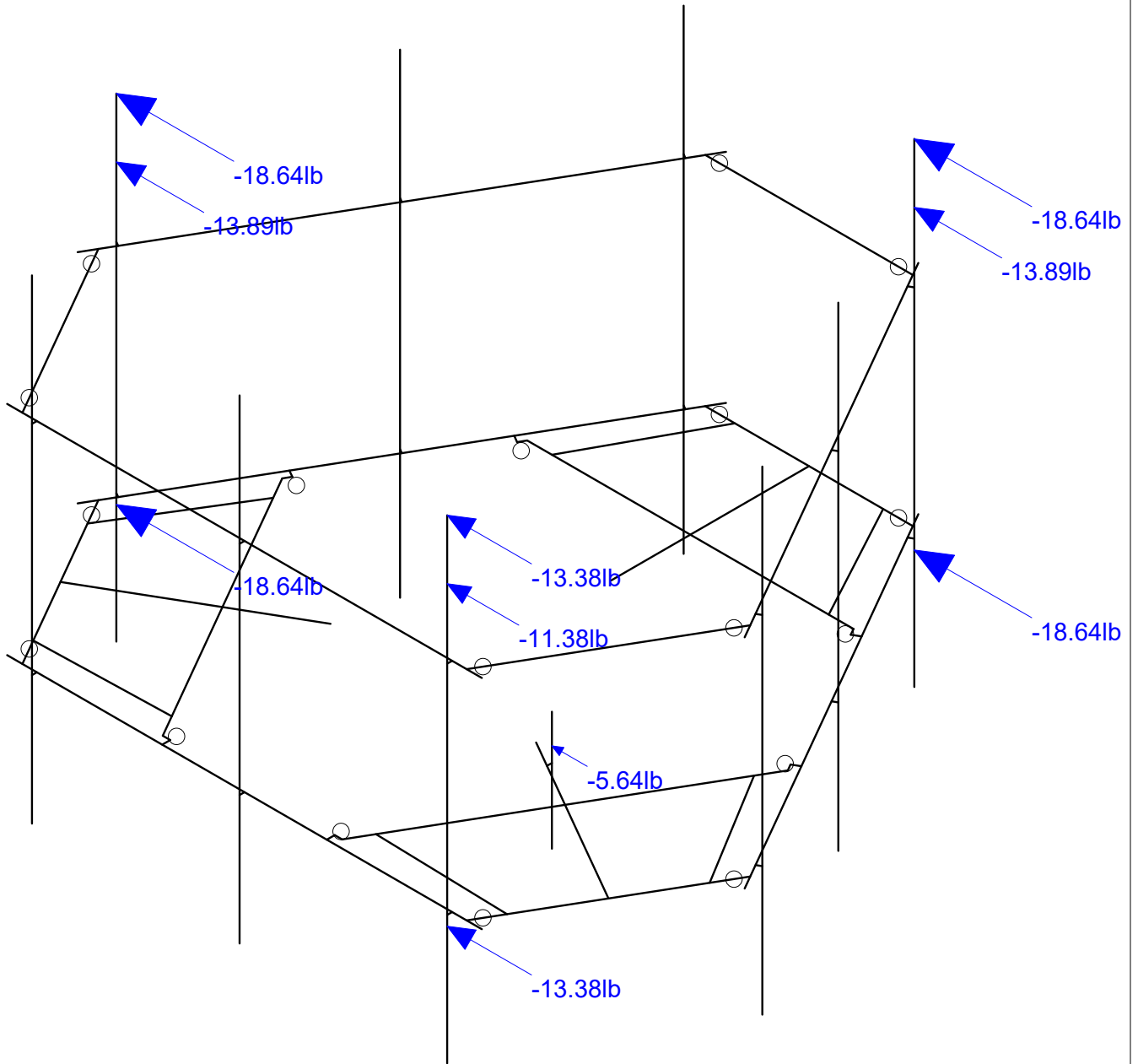
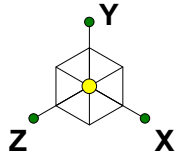
Loads: BLC 16, Ice Weight
Envelope Only Solution

Infinigy Engineering, PLLC	BOHVN00144A	Ice Weight
BY		Sept 15, 2021 at 3:22 PM
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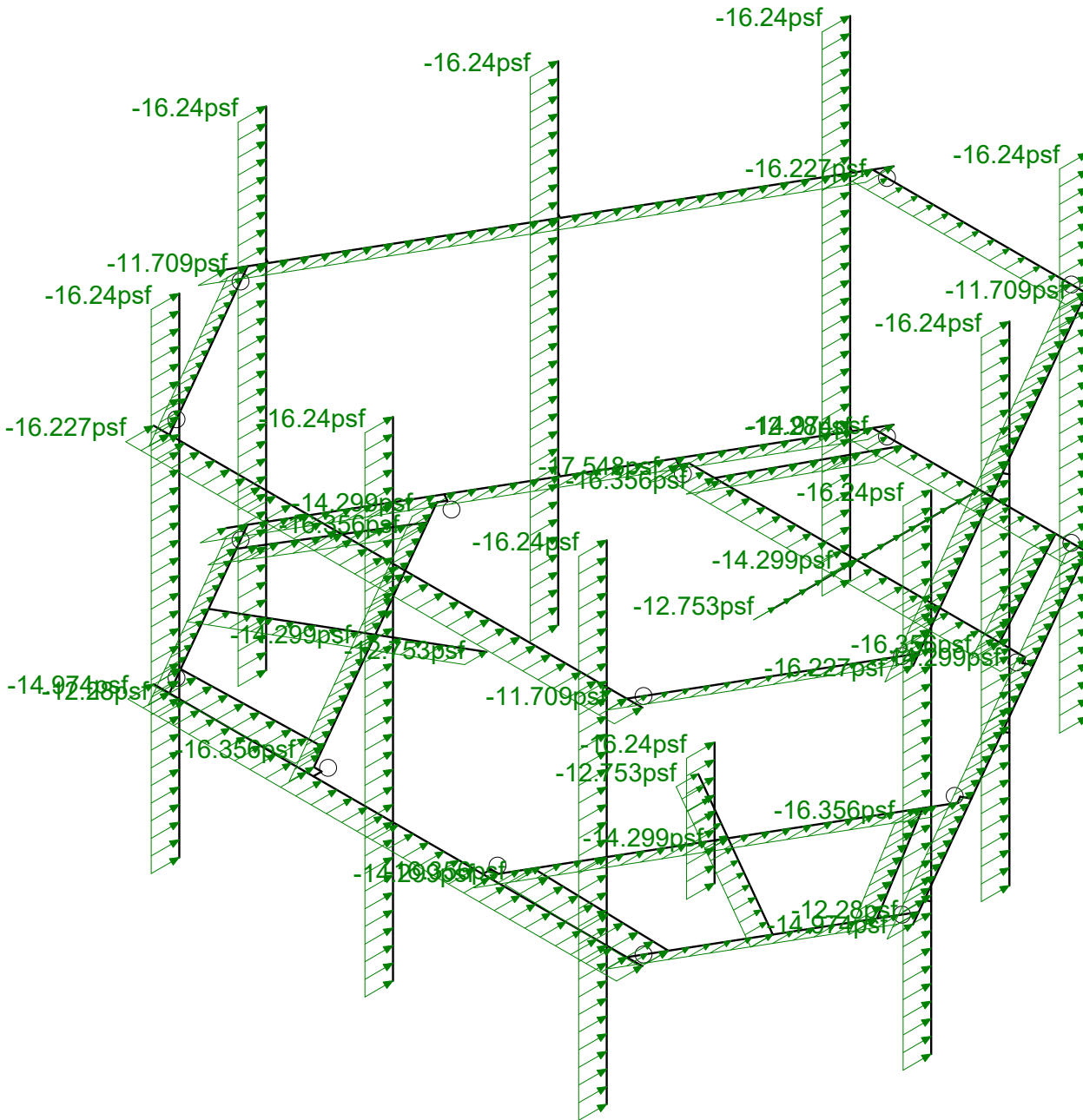
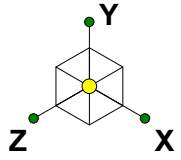
Loads: BLC 17, Ice Wind Load AZI 0
Envelope Only Solution

Infinigy Engineering, PLLC	BOHVN00144A	Ice Wind AZI 000
BY		Sept 15, 2021 at 3:25 PM
1197-F0001-B		BOHVN00144A_loaded.r3d



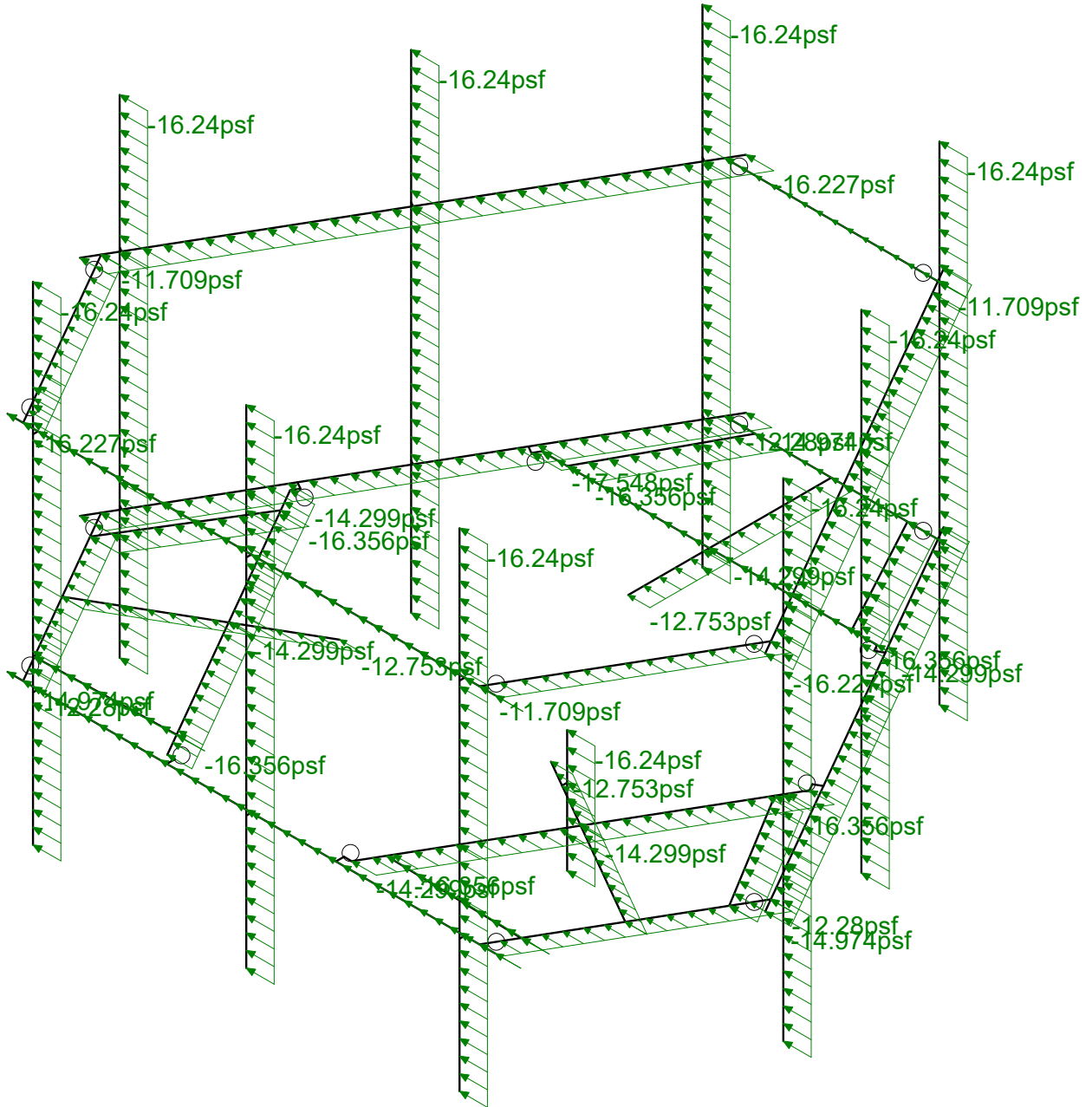
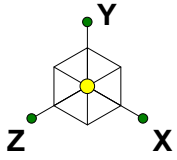
Loads: BLC 20, Ice Wind Load AZI 90
Envelope Only Solution

Infinigy Engineering, PLLC	BOHVN00144A	Ice Wind AZI 090
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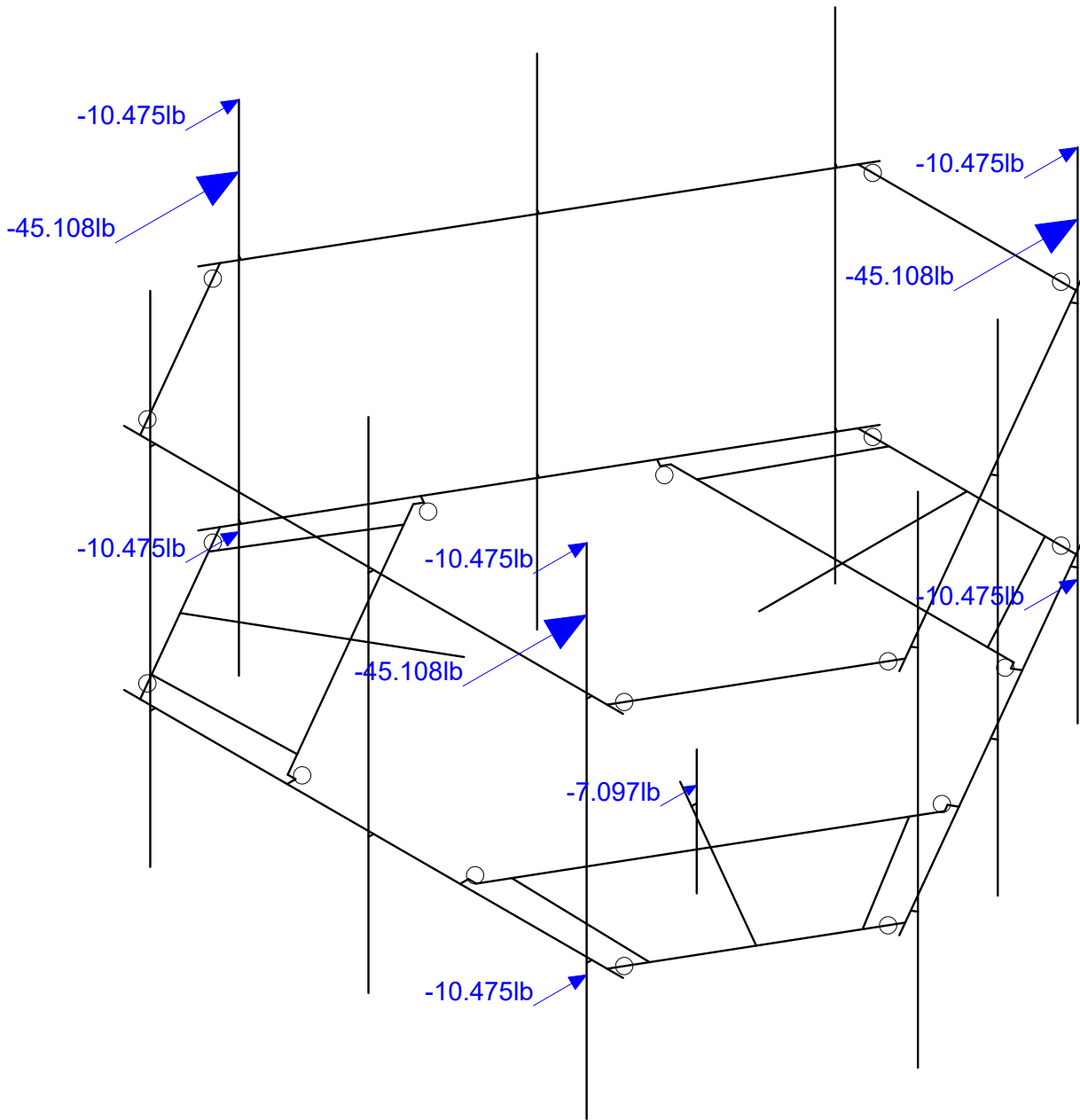
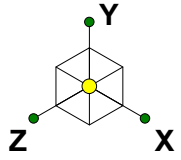
Loads: BLC 29, Distr. Ice Wind Load Z
Envelope Only Solution

Infinigy Engineering, PLLC	BOHVN00144A	Distr. Ice Wind Load AZI 000
BY		Sept 15, 2021 at 3:27 PM
1197-F0001-B		BOHVN00144A_loaded.r3d



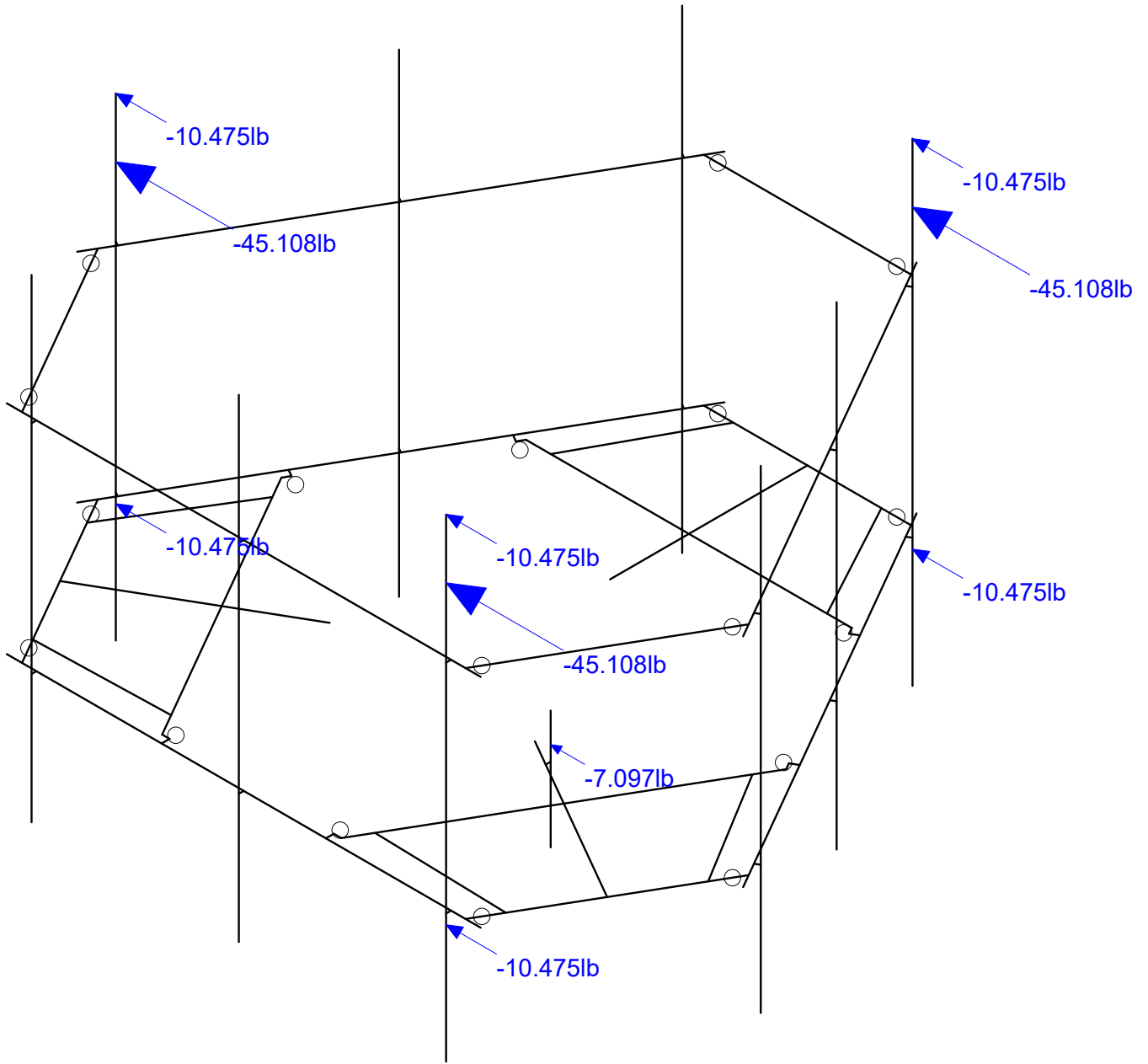
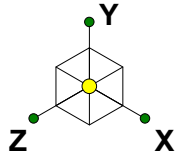
Loads: BLC 30, Distr. Ice Wind Load X
Envelope Only Solution

Infinigy Engineering, PLLC	BOHVN00144A	Distr. Ice Wind Load AZI 090
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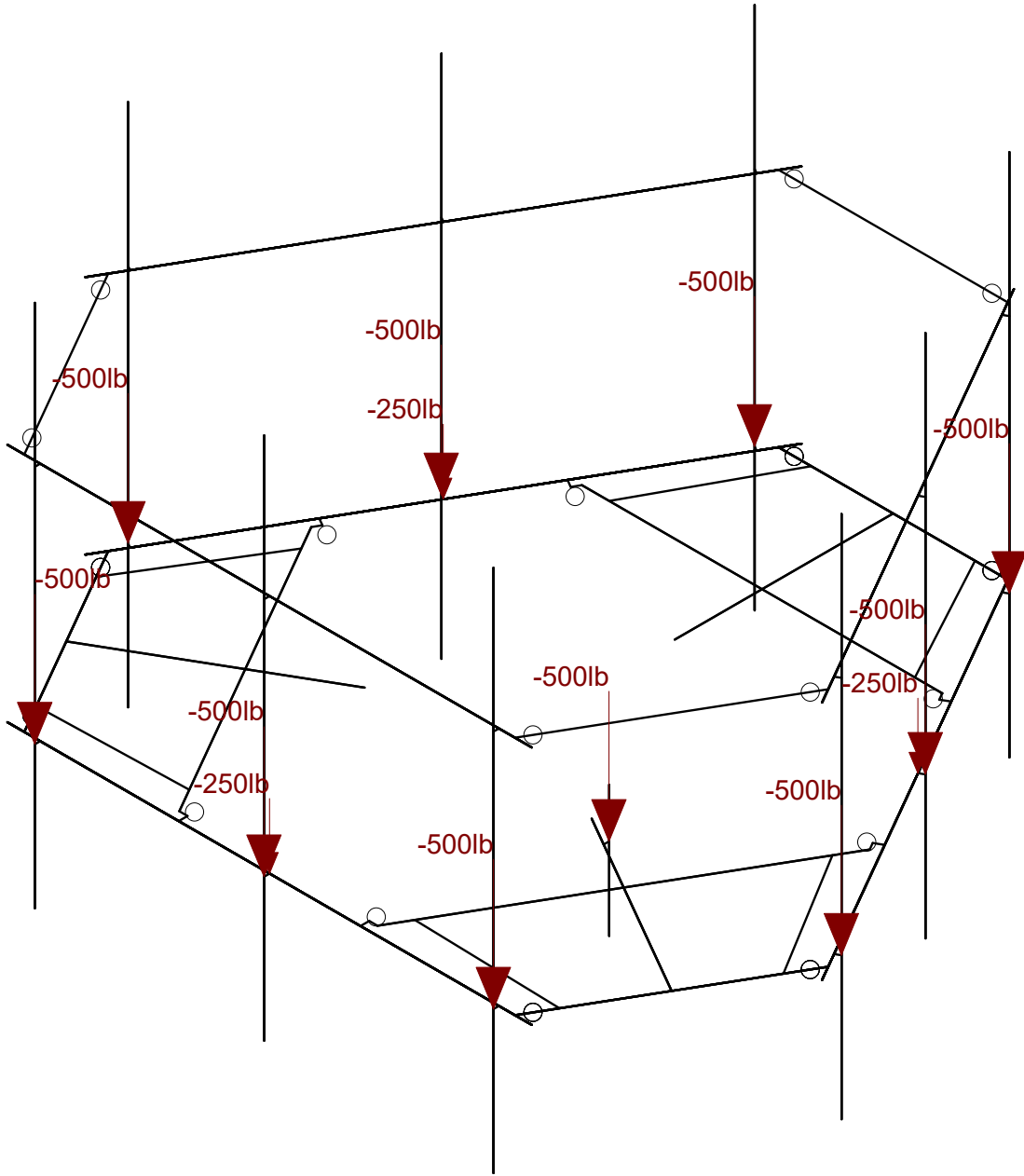
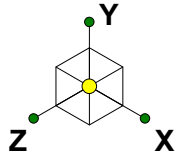
Loads: BLC 31, Seismic Load Z
Envelope Only Solution

Infinigy Engineering, PLLC	BOHVN00144A	Seismic Load AZI 000
BY		Sept 15, 2021 at 3:28 PM
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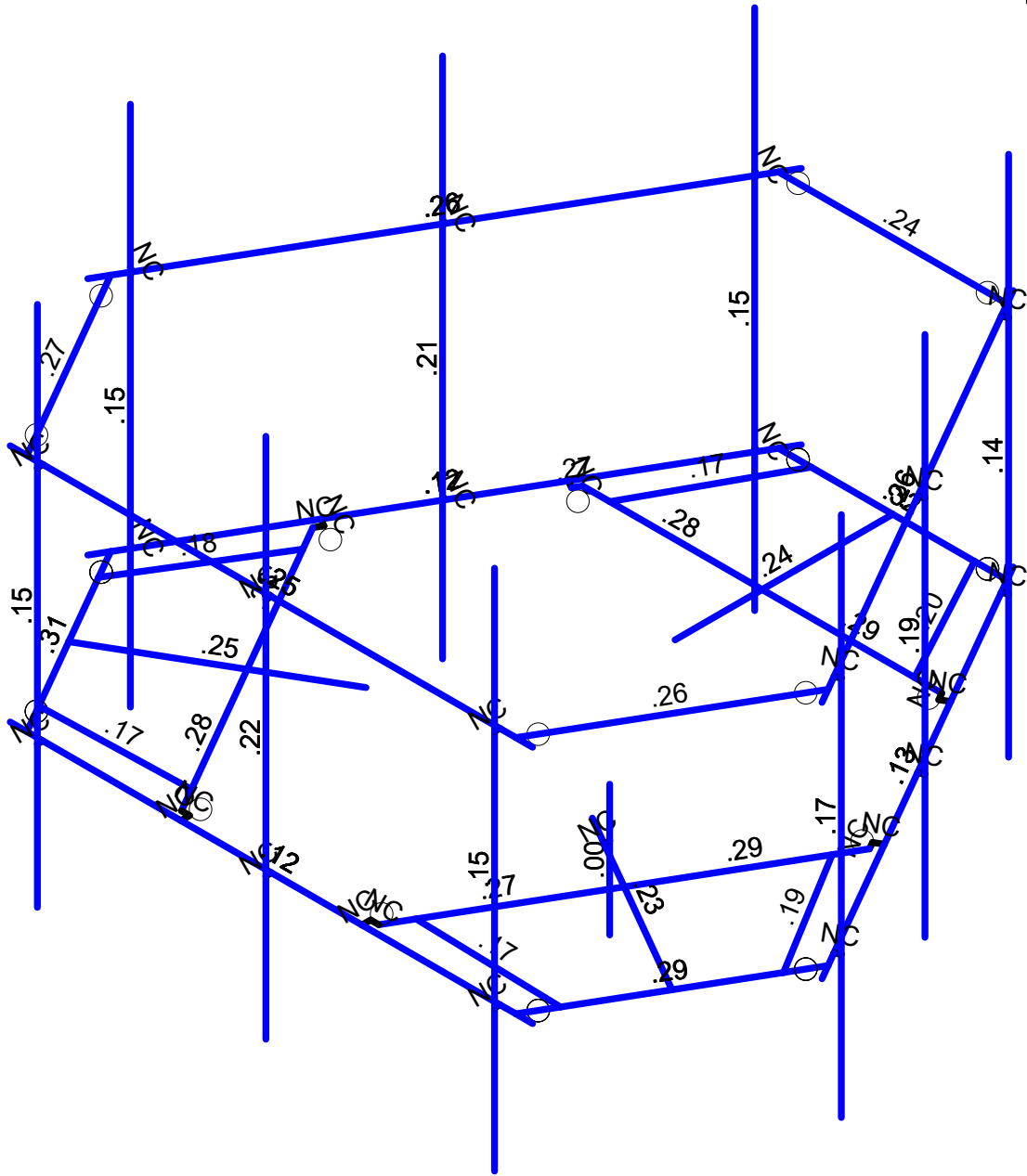
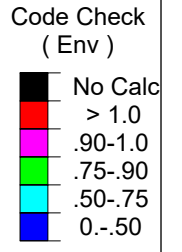
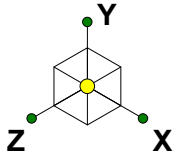
Loads: BLC 32, Seismic Load X
Envelope Only Solution

Infinigy Engineering, PLLC	BOHVN00144A	Seismic Load AZI 090
BY		Sept 15, 2021 at 3:28 PM
1197-F0001-B		BOHVN00144A_loaded.r3d



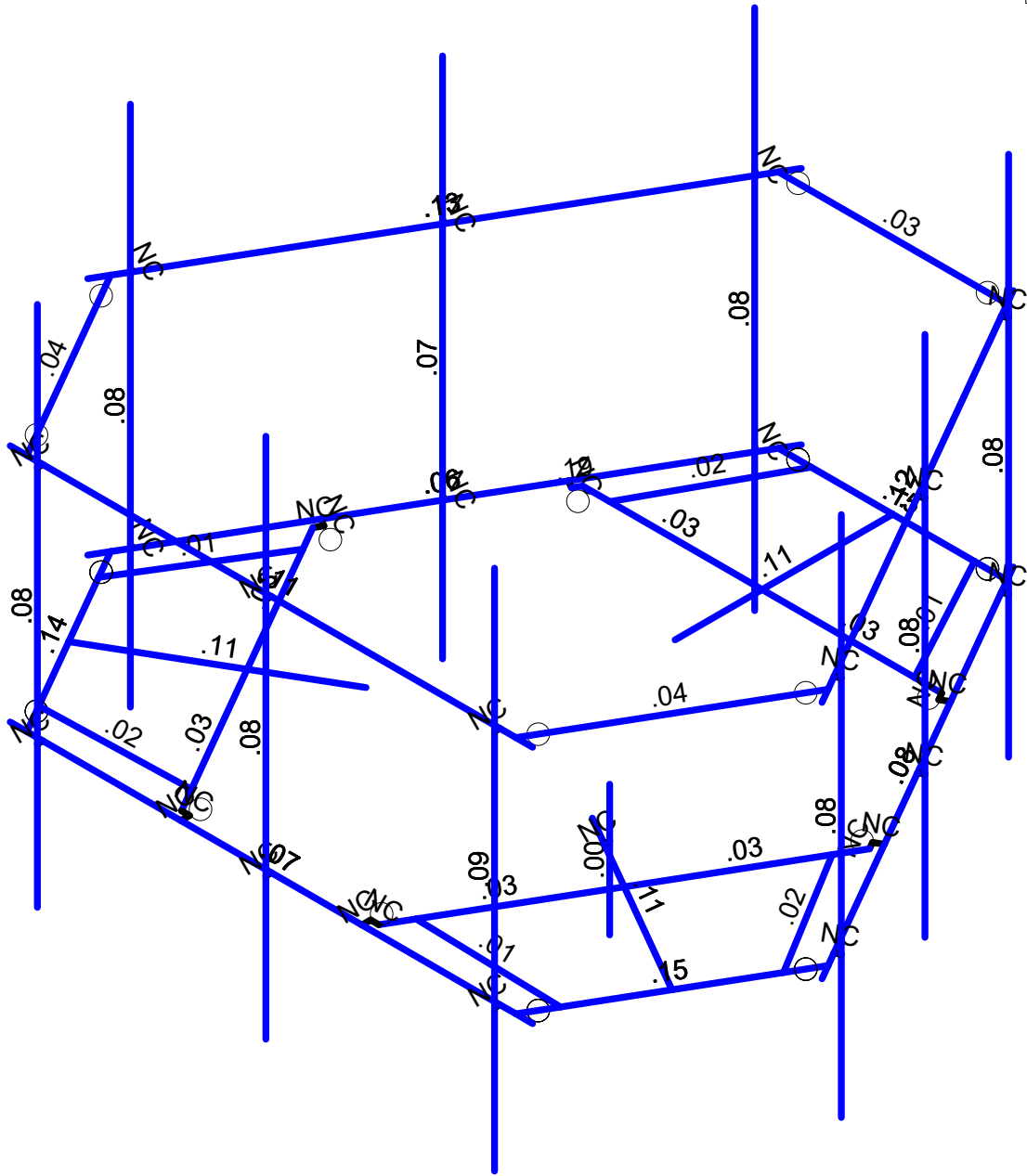
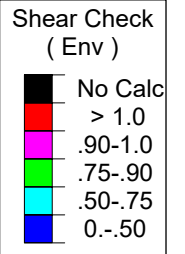
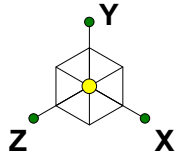
Loads: LL - Live Load

Infinigy Engineering, PLLC	BOHVN00144A	Non-Concurrent Live Loads
BY		Sept 15, 2021 at 3:29 PM
1197-F0001-B		BOHVN00144A_loaded.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Infinigy Engineering, PLLC	BOHVN00144A	Bending check
BY		Sept 15, 2021 at 3:29 PM
1197-F0001-B		BOHVN00144A_loaded.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Infinigy Engineering, PLLC	BOHVN00144A	Shear Check
BY		Sept 15, 2021 at 3:30 PM
1197-F0001-B		BOHVN00144A_loaded.r3d

Program Inputs

PROJECT INFORMATION		
Client:	ATC	
Carrier:	Dish Wireless	
Engineer:	Binita Yadav	

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	C	
Topo Factor Procedure:	Method 1, Category 1	
Site Class:	D - Stiff Soil (Assumed)	
Ground Elevation:	75.77	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Platform	
Num Sectors:	3	
Centerline AGL:	97.00	ft
Tower Height AGL:	100.00	ft

TOPOGRAPHIC DATA		
Topo Feature:	N/A	
Slope Distance:	N/A	ft
Crest Distance:	N/A	ft
Crest Height:	N/A	ft

FACTORS		
Directionality Fact. (K_d):	0.950	
Ground Ele. Factor (K_e):	0.997	*Rev H Only
Rooftop Speed-Up (K_s):	1.000	*Rev H Only
Topographic Factor (K_{zt}):	1.000	
Gust Effect Factor (G_h):	1.000	

CODE STANDARDS		
Building Code:	2015 IBC	
TIA Standard:	TIA-222-H	
ASCE Standard:	ASCE 7-16	

WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	120	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1	in
Flat Pressure:	87.838	psf
Round Pressure:	52.703	psf
Ice Wind Pressure:	9.150	psf

SEISMIC DATA		
Short-Period Accel. (S_s):	0.203	g
1-Second Accel. (S_1):	0.053	g
Short-Period Design (S_{DS}):	0.217	
1-Second Design (S_{D1}):	0.086	
Short-Period Coeff. (F_a):	1.600	
1-Second Coeff. (F_v):	2.400	
Amplification Factor (A_s):	3.000	
Response Mod. Coeff. (R):	2.000	



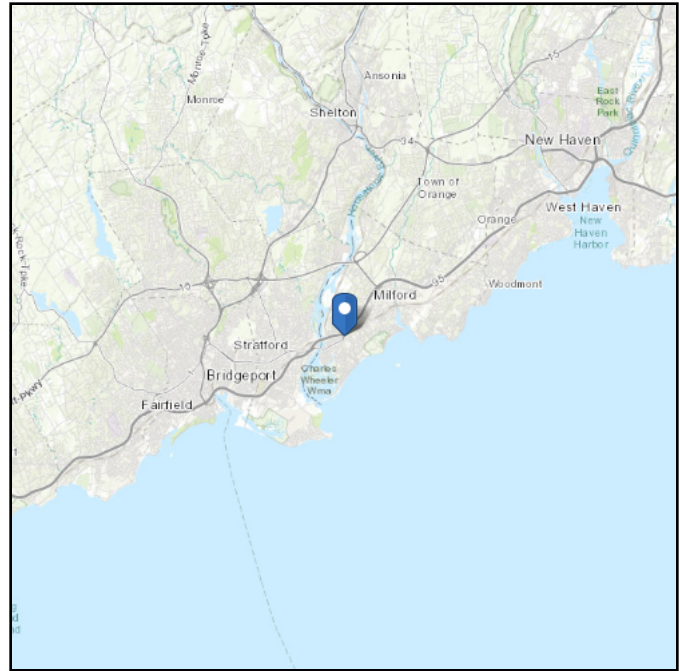
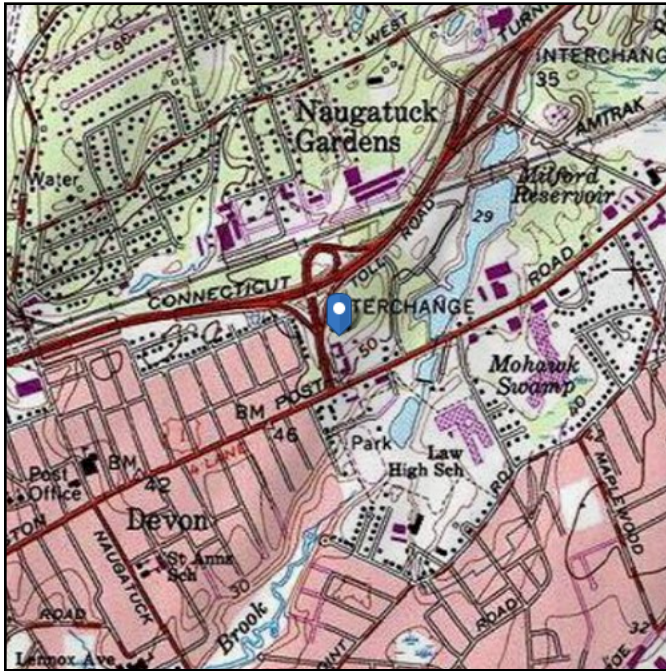
Infinigy Load Calculator V2.1.7

ASCE 7 Hazards Report

Address:
No Address at This
Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see
Section 11.4.3)

Elevation: 75.77 ft (NAVD 88)
Latitude: 41.206611
Longitude: -73.0934



Wind

Results:

Wind Speed:	120 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	90 Vmph
100-year MRI	98 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Wed Sep 15 2021

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

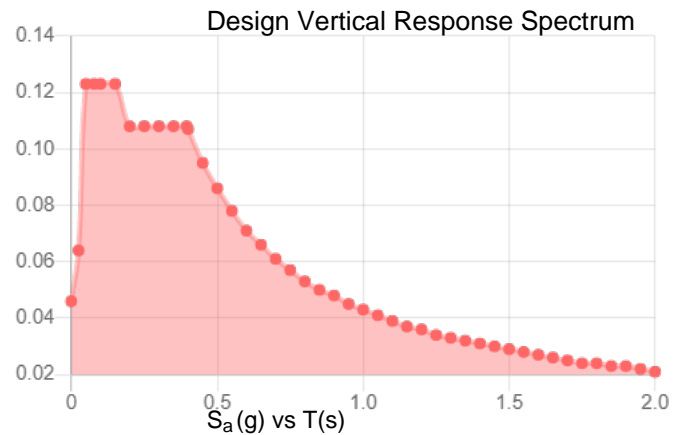
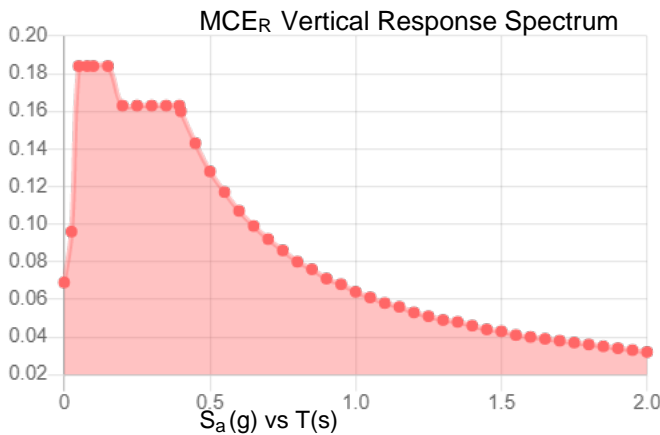
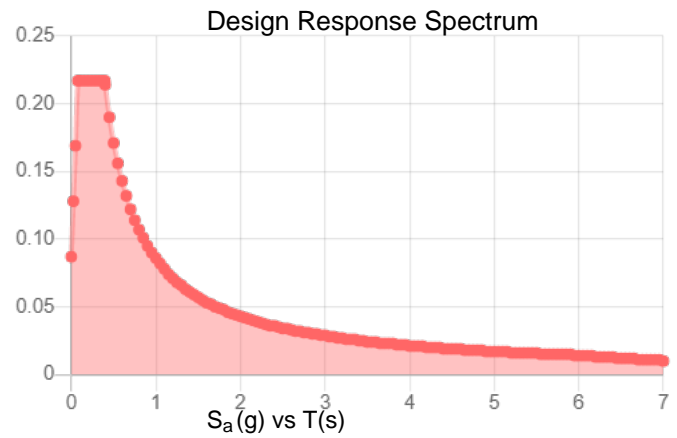
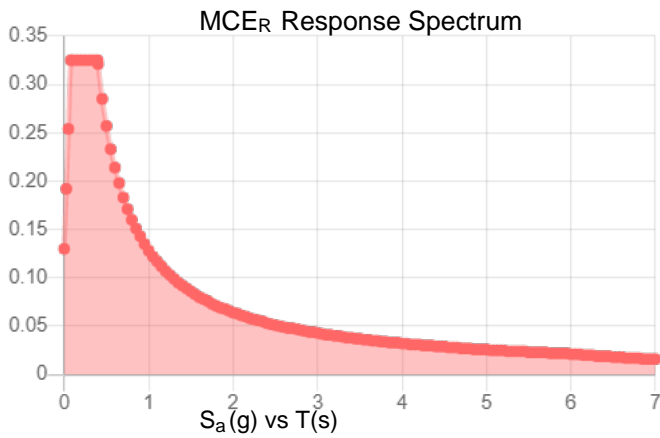
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

Results:

S_s :	0.203	S_{D1} :	0.086
S_1 :	0.053	T_L :	6
F_a :	1.6	PGA :	0.115
F_v :	2.4	PGA _M :	0.18
S_{MS} :	0.325	F_{PGA} :	1.571
S_{M1} :	0.128	I_e :	1
S_{DS} :	0.217	C_v :	0.707

Seismic Design Category B



Data Accessed:

Wed Sep 15 2021

Date Source:

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

Ice

Results:

Ice Thickness: 1.00 in.

Concurrent Temperature: 15 F

Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Wed Sep 15 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 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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.

>c]bhi@UXg'UbX'9 bzfWX'8 Jgd'UMYa Ybtg'fB @ ('\$. 'A UjbybUbWV' @UK' +L

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F	PFQF	S	Y	€

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F	PFHO	S	Y	€

>c]bhi@UXg'UbX'9 bzfWX'8 Jgd'UMYa Ybtg'fB @ ('&'. 'A UjbybUbWV' @UK' - L

F	Ŕ â ofæ^	ŠÖÊ	Öá^&ç)	T æ) æ à^]ââ€çá
F	PFHU	S	Y	€

>c]bhi@UXg'UbX'9 bzfWX'8 Jgd'UMYa Ybtg'fB @ (''. 'A UjbybUbWV' @UK' %\$L

F	Ŕ â ofæ^	ŠÖÊ	Öá^&ç)	T æ) æ à^]ââ€çá
F	PFHO	S	Y	€

A Ya Vyf'Dc]bhi@UXg'fB @ '%. 'GYZK YJ \ I L

F	T ^ (à^]âæ^	Öá^&ç)	T æ) æ à^]ââ€çá	Š Öç)]ââ€çá
F	T UF	Y	€	€
G	T UF	Y	€	€
H	T UF	Y	€	€
I	T UF	Y	€	€
Í	T U€	Y	€	€
Ï	T UI	Y	€	€
Ï	T UI	Y	€	€
J	T UI	Y	€	€
J€	T UI	Y	€	€
FF	T UI	Y	€	€
FG	T UI	Y	€	€
FH	T UI	Y	€	€

A Ya Vyf'Dc]bhi@UXg'fB @ '&. 'K JbX' @UX'5N'=\$L

F	T ^ (à^]âæ^	Öá^&ç)	T æ) æ à^]ââ€çá	Š Öç)]ââ€çá
F	T UF	Y	€	€
G	T UF	Z	€	€
H	T UF	Y	€	€
I	T UF	Z	€	€
Í	T UF	Y	€	€
Ï	T UF	Z	€	€
Ï	T UF	Y	€	€
J	T U€	Y	€	€
J€	T U€	Z	€	€
FF	T UI	Y	€	€
FG	T UI	Z	€	€
FH	T UI	Y	€	€
FI	T UI	Z	€	€
FÍ	T UI	Y	€	€
FÏ	T UI	Z	€	€

A Ya Vyf Dc Jbh @ UXg f6 @ & . K JbX @ UX5 N= \$L f7 cbhbi YXL

	T ^ (à) ă ^	Ö á ^ & c á)	T aš) ă a ^ ž a ř a Ě c á	Š Ě c aš) ž a ř a á
FĪ	T Ů Ī	Y	€	FG
FI	T Ů Ī	Z	Ě Ě Ě	FG
FJ	T Ů Ī	Y	€	€
GE	T Ů Ī	Z	Ě Ī Ě Ī	€
GF	T Ů Ī	Y	€	Ī G
GG	T Ů Ī	Z	Ě Ī Ě Ī	Ī G
GH	T Ů Ī	Y	€	FG
G	T Ů Ī	Z	Ě Ī Ě Ī	FG
G	T Ů Ī	Y	€	FG
G	T Ů Ī	Z	Ě Ě Ě	FG

A Ya Vyf Dc Jbh @ UXg f6 @ ' : K JbX @ UX5 N= ' \$L

	T ^ (à) ă ^	Ö á ^ & c á)	T aš) ă a ^ ž a ř a Ě c á	Š Ě c aš) ž a ř a á
F	T Ů F	Y	Ě Ī Ě Ī	€
G	T Ů F	Z	Ě F Ě Ī	€
H	T Ů F	Y	Ě Ī Ě Ī	Ī G
I	T Ů F	Z	Ě F Ě Ī	Ī G
Í	T Ů F	Y	Ě Ī Ě Ī	FG
Ī	T Ů F	Z	Ě Ě J	FG
Ī	T Ů F	Y	Ě Ī Ě F	FG
Ī	T Ů F	Z	Ě J Ě Ě	FG
J	T Ů F €	Y	Ě Ě Ě Ī	Ī
F€	T Ů F €	Z	Ě Ī Ě Ī	Ī
FF	T Ů Ī	Y	Ě Ī Ě Ī	€
FG	T Ů Ī	Z	Ě F Ě Ī	€
FH	T Ů Ī	Y	Ě Ī Ě Ī	Ī G
FI	T Ů Ī	Z	Ě F Ě Ī	Ī G
FĪ	T Ů Ī	Y	Ě Ī Ě Ī	FG
FĪ	T Ů Ī	Z	Ě Ě J	FG
FĪ	T Ů Ī	Y	Ě Ī Ě F	FG
FĪ	T Ů Ī	Z	Ě J Ě Ě	FG
FJ	T Ů Ī	Y	Ě F Ě Ě G	€
GE	T Ů Ī	Z	Ě Ī Ě Ī	€
GF	T Ů Ī	Y	Ě F Ě Ě G	Ī G
GG	T Ů Ī	Z	Ě Ī Ě Ī	Ī G
GH	T Ů Ī	Y	Ě Ě Ě	FG
G	T Ů Ī	Z	Ě Ě F	FG
G	T Ů Ī	Y	Ě Ě F	FG
G	T Ů Ī	Z	Ě Ī Ě Ī	FG

A Ya Vyf Dc Jbh @ UXg f6 @ (: K JbX @ UX5 N= ' \$L

	T ^ (à) ă ^	Ö á ^ & c á)	T aš) ă a ^ ž a ř a Ě c á	Š Ě c aš) ž a ř a á
F	T Ů F	Y	Ě Ī Ě Ī	€
G	T Ů F	Z	Ě Ě Ī	€
H	T Ů F	Y	Ě Ī Ě Ī	Ī G
I	T Ů F	Z	Ě Ě Ī	Ī G
Í	T Ů F	Y	Ě Ī Ě Ī	FG
Ī	T Ů F	Z	Ě Ě Ī	FG
Ī	T Ů F	Y	Ě Ě Ě	FG
Ī	T Ů F	Z	Ě Ě Ě	FG
J	T Ů F €	Y	Ě Ě Ī	Ī

A Ya Vyf'Dc'jbi@UXg'f6 @ (: 'K'jX'@UX'5N'-%\$L'f'cb'jbi YX'L

	T ^ (à ^] ß æ ^)	Ö á ^ & ç á)	T æ) æ á ^ ã á Æ á C á	Š (& ç á) ã Æ á
F€	T Ú F €	Z	Æ H H	Í
FF	T Ú I	Y	Æ H Æ	€
FG	T Ú I	Z	Æ J Æ	€
FH	T Ú I	Y	Æ H Æ	Í G
FI	T Ú I	Z	Æ J Æ	Í G
FÍ	T Ú I	Y	Æ Í Æ	FG
Fİ	T Ú I	Z	Æ H Æ F	FG
Fİ	T Ú I	Y	Æ Í Æ	FG
Fİ	T Ú I	Z	Æ H Æ F	FG
FJ	T Ú I	Y	Æ Í Æ	€
G€	T Ú I	Z	Æ H Æ	€
Gf	T Ú I	Y	Æ Í Æ	Í G
GG	T Ú I	Z	Æ H Æ	Í G
GH	T Ú I	Y	Æ Í Æ H	FG
G	T Ú I	Z	Æ H H	FG
G	T Ú I	Y	Æ H Æ G	FG
G	T Ú I	Z	Æ H Æ	FG

A Ya Vyf'Dc'jbi@UXg'f6 @ (: 'K'jX'@UX'5N'-%\$L

	T ^ (à ^] ß æ ^)	Ö á ^ & ç á)	T æ) æ á ^ ã á Æ á C á	Š (& ç á) ã Æ á
F	T Ú F	Y	Æ H I	€
G	T Ú F	Z	Æ H I	€
H	T Ú F	Y	Æ H I	Í G
I	T Ú F	Z	€	Í G
Í	T Ú F	Y	Æ Í	FG
İ	T Ú F	Z	€	FG
İ	T Ú F	Y	Æ H H	FG
İ	T Ú F	Z	€	FG
J	T Ú F €	Y	Æ H Æ	Í
F€	T Ú F €	Z	€	Í
FF	T Ú I	Y	Æ H Æ J	€
FG	T Ú I	Z	€	€
FH	T Ú I	Y	Æ H Æ J	Í G
FI	T Ú I	Z	€	Í G
FÍ	T Ú I	Y	Æ J Æ Í	FG
Fİ	T Ú I	Z	€	FG
Fİ	T Ú I	Y	Æ Í Æ G	FG
Fİ	T Ú I	Z	€	FG
FJ	T Ú I	Y	Æ H Æ J	€
G€	T Ú I	Z	€	€
Gf	T Ú I	Y	Æ H Æ J	Í G
GG	T Ú I	Z	€	Í G
GH	T Ú I	Y	Æ J Æ Í	FG
G	T Ú I	Z	€	FG
G	T Ú I	Y	Æ Í Æ G	FG
G	T Ú I	Z	€	FG

A Ya Vyf'Dc'jbi@UXg'f6 @ (: 'K'jX'@UX'5N'-%\$L

	T ^ (à ^] ß æ ^)	Ö á ^ & ç á)	T æ) æ á ^ ã á Æ á C á	Š (& ç á) ã Æ á
F	T Ú F	Y	Æ Í Æ	€
G	T Ú F	Z	I H I	€

A Ya Vyf Dc Jbh @ UXg f6 @ * : ' K jX' @ UX'5 N' % & \$ L f7 cb jbi YX

	T ^ (a ^) a ^ ^	Ö a ^ a ^	T a ^) a ^ a ^ a ^ a ^ a ^ a ^	Ö (a ^ a ^) a ^ a ^ a ^
H	T ÚF	Y	E I E I	I G
I	T ÚF	Z	I H I	I G
Í	T ÚF	Y	E I E H	FG
Ī	T ÚF	Z	G E H	FG
İ	T ÚF	Y	E H E G	FG
ì	T ÚF	Z	G E F	FG
J	T ÚF€	Y	E H E I	I
F€	T ÚF€	Z	G E H	I
FF	T ÚI	Y	E I E I	€
FG	T ÚI	Z	I H I	€
FH	T ÚI	Y	E I E I	I G
FI	T ÚI	Z	I H I	I G
FÍ	T ÚI	Y	E I E H	FG
FĪ	T ÚI	Z	G E H	FG
Fİ	T ÚI	Y	E H E G	FG
Fì	T ÚI	Z	G E F	FG
FJ	T ÚI	Y	E H E E	€
G€	T ÚI	Z	I J E I	€
GF	T ÚI	Y	E H E E	I G
GG	T ÚI	Z	I J E I	I G
GH	T ÚI	Y	E I E F	FG
G	T ÚI	Z	H I E F	FG
Ḡ	T ÚI	Y	E I E F	FG
Ġ	T ÚI	Z	H I E F	FG

A Ya Vyf Dc Jbh @ UXg f6 @ + : ' K jX' @ UX'5 N' % \$ L

	T ^ (a ^) a ^ ^	Ö a ^ a ^	T a ^) a ^ a ^ a ^ a ^ a ^ a ^	Ö (a ^ a ^) a ^ a ^ a ^
F	T ÚF	Y	E I E J	€
G	T ÚF	Z	FF I E I	€
H	T ÚF	Y	E I E J	I G
I	T ÚF	Z	FF I E I	I G
Í	T ÚF	Y	E H E I	FG
Ī	T ÚF	Z	I E I J	FG
İ	T ÚF	Y	E H E F	FG
ì	T ÚF	Z	I J E G	FG
J	T ÚF€	Y	E H E I	I
F€	T ÚF€	Z	I I E I	I
FF	T ÚI	Y	E H E G	€
FG	T ÚI	Z	I I E I	€
FH	T ÚI	Y	E H E G	I G
FI	T ÚI	Z	I I E I	I G
FÍ	T ÚI	Y	E G E E	FG
FĪ	T ÚI	Z	I E E F	FG
Fİ	T ÚI	Y	E G E F	FG
Fì	T ÚI	Z	H I E I	FG
FJ	T ÚI	Y	E I E J	€
G€	T ÚI	Z	FF I E I	€
GF	T ÚI	Y	E I E J	I G
GG	T ÚI	Z	FF I E I	I G
GH	T ÚI	Y	E H E I	FG
G	T ÚI	Z	I E I J	FG

A Ya Vyf Dc Jbh @ UXg f6 @ - : ' K JbX @ UX 5 N= & % \$ £ f7 cb jbi YX£

	T ^ (à ^] Æ ã ^ ^)	Ö á ^ ã })	T æ) á á ^ ã Æ á Æ ç á	Š (& ã) ã Æ á
FI	T Ü I	Z	I J Æ	FG
FJ	T Ü I	Y	H Æ G	€
GE	T Ü I	Z	I I Æ I	€
GF	T Ü I	Y	H Æ G	I G
GG	T Ü I	Z	I I Æ I	I G
GH	T Ü I	Y	G Æ	FG
G	T Ü I	Z	I Æ F	FG
G	T Ü I	Y	O Æ F	FG
G	T Ü I	Z	H I Æ I	FG

A Ya Vyf Dc Jbh @ UXg f6 @ % \$: ' K JbX @ UX 5 N= & (\$ £

	T ^ (à ^] Æ ã ^ ^)	Ö á ^ ã })	T æ) á á ^ ã Æ á Æ ç á	Š (& ã) ã Æ á
F	T Ü F	Y	I I Æ I	€
G	T Ü F	Z	I H Æ I	€
H	T Ü F	Y	I I Æ I	I G
I	T Ü F	Z	I H Æ I	I G
I	T Ü F	Y	I I Æ H	FG
I	T Ü F	Z	G I Æ H	FG
I	T Ü F	Y	I H Æ G	FG
I	T Ü F	Z	G I Æ F	FG
J	T Ü F €	Y	I H Æ I	I
F€	T Ü F €	Z	G I Æ H	I
FF	T Ü I	Y	F H Æ	€
FG	T Ü I	Z	I J Æ I	€
FH	T Ü I	Y	F H Æ	I G
FI	T Ü I	Z	I J Æ I	I G
FI	T Ü I	Y	I I Æ F	FG
FI	T Ü I	Z	H I Æ F	FG
FI	T Ü I	Y	I I Æ F	FG
FI	T Ü I	Z	H I Æ F	FG
FJ	T Ü I	Y	I I Æ I	€
GE	T Ü I	Z	I H Æ I	€
GF	T Ü I	Y	I I Æ I	I G
GG	T Ü I	Z	I H Æ I	I G
GH	T Ü I	Y	I I Æ H	FG
G	T Ü I	Z	G I Æ H	FG
G	T Ü I	Y	I H Æ G	FG
G	T Ü I	Z	G I Æ F	FG

A Ya Vyf Dc Jbh @ UXg f6 @ % \$: ' K JbX @ UX 5 N= & + \$ £

	T ^ (à ^] Æ ã ^ ^)	Ö á ^ ã })	T æ) á á ^ ã Æ á Æ ç á	Š (& ã) ã Æ á
F	T Ü F	Y	I H Æ I	€
G	T Ü F	Z	€	€
H	T Ü F	Y	I H Æ I	I G
I	T Ü F	Z	€	I G
I	T Ü F	Y	I I	FG
I	T Ü F	Z	€	FG
I	T Ü F	Y	I Æ H	FG
I	T Ü F	Z	€	FG
J	T Ü F €	Y	I G Æ I	I
F€	T Ü F €	Z	€	I

A Ya Vyf'DcJbh@UXq'f6 @ '&*': :W'K JbX' @UX'5 N='&+\$L'f7 cbhJbi YXL

	T ^ (a^ ^) a^ ^	Ö a^ ^ a^ ^	T a^ ^ a^ ^ a^ ^ a^ ^ a^ ^	Ö (a^ ^) a^ ^ a^ ^
I	T UF	Z	€	I G
I	T UF	Y	I E I	FG
I	T UF	Z	€	FG
I	T UF	Y	I E H	FG
I	T UF	Z	€	FG
J	T UFe	Y	I E I	I
F€	T UFe	Z	€	I
FF	T UI	Y	F I E I	€
FG	T UI	Z	€	€
FH	T UI	Y	F I E I	I G
FI	T UI	Z	€	I G
FI	T UI	Y	I E J	FG
FI	T UI	Z	€	FG
FI	T UI	Y	I E	FG
FI	T UI	Z	€	FG
FJ	T UI	Y	F I E I	€
G€	T UI	Z	€	€
GF	T UI	Y	F I E I	I G
GG	T UI	Z	€	I G
GH	T UI	Y	I E J	FG
G	T UI	Z	€	FG
G	T UI	Y	I E	FG
G	T UI	Z	€	FG

A Ya Vyf'DcJbh@UXq'f6 @ '&+': :W'K JbX' @UX'5 N=' \$L

	T ^ (a^ ^) a^ ^	Ö a^ ^ a^ ^	T a^ ^ a^ ^ a^ ^ a^ ^ a^ ^	Ö (a^ ^) a^ ^ a^ ^
F	T UF	Y	F H F	€
G	T UF	Z	E E I	€
H	T UF	Y	F H F	I G
I	T UF	Z	E E I	I G
I	T UF	Y	I E	FG
I	T UF	Z	E E G	FG
I	T UF	Y	I E I	FG
I	T UF	Z	E E J	FG
J	T UFe	Y	I E F	I
F€	T UFe	Z	E E F	I
FF	T UI	Y	F H F	€
FG	T UI	Z	E E I	€
FH	T UI	Y	F H F	I G
FI	T UI	Z	E E I	I G
FI	T UI	Y	I E	FG
FI	T UI	Z	E E G	FG
FI	T UI	Y	I E I	FG
FI	T UI	Z	E E J	FG
FJ	T UI	Y	F I E I	€
G€	T UI	Z	E E G	€
GF	T UI	Y	F I E I	I G
GG	T UI	Z	E E G	I G
GH	T UI	Y	I E I	FG
G	T UI	Z	E E I	FG
G	T UI	Y	I E I	FG

A Ya Vyf'DcJbh@UXg'f6 @ ' &. 'GYga JW@UK'Lt7 cbjbi YXt

	T ^ (á ^ Áb é ^)	Öá ^ & cã)	T æ) æ á ^ Áb é cã)	Š) & cã) ž é á
G	T ÚF	Y	ÉÉÉÍÍ	Í G
H	T ÚF	Y	ÉÉÉÍÍ	FG
I	T ÚF	Y	ÉÉÉÍÍ	FG
Í	T ÚF€	Y	ÉÉÉÍÍ	Í
Ī	T ÚI	Y	ÉÉÉÍÍ	€
Ī	T ÚI	Y	ÉÉÉÍÍ	Í G
Ì	T ÚI	Y	ÉÉÉÍÍ	FG
J	T ÚI	Y	ÉÉÉÍÍ	FG
F€	T ÚI	Y	ÉÉÉÍÍ	€
FF	T ÚI	Y	ÉÉÉÍÍ	Í G
FG	T ÚI	Y	ÉÉÉÍÍ	FG
FH	T ÚI	Y	ÉÉÉÍÍ	FG

A Ya Vyf'8 Jgh'Vi HYX'@UXg'f6 @ '% : '8 Jgh''K JbX'@UK'NL

	T ^ (á ^ Áb é ^)	Öá ^ & cã)	Úcæó Á æ) æ á ^ Áb é cã) • á	Ó) á Á æ) æ á ^ Áb é cã) • á	Úcæó Š) & cã) ž é á	Úcæó Š) & cã) ž é á
F	UH	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
G	ÖÖÉ	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
H	ÖÖH	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
I	ÚH	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
Í	ÚG	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
Ī	ÖÖG	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
Ī	ÖÖF	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
Ì	ÚG	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
J	ÚF	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
F€	ÖÖÉ	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
FF	ÖÖÉ	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
FG	ÚF	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
FH	PF	UZ	ÉÉÉÉH	ÉÉÉÉH	€	Á F€€
FI	T ÚF	UZ	ÉÉÉÉH	ÉÉÉÉH	€	Á F€€
FĪ	T ÚH	UZ	ÉÉÉÉH	ÉÉÉÉH	€	Á F€€
FÌ	P ÚF	UZ	ÉÉÉÉH	ÉÉÉÉH	€	Á F€€
FĪ	ÖÖÉ	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
FĪ	ÖÖÉ	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
FJ	ÖÖÉ	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
G€	T HG	UZ	€	€	€	Á F€€
GF	T H	UZ	€	€	€	Á F€€
GG	T H	UZ	€	€	€	Á F€€
GH	T HJCE	UZ	€	€	€	Á F€€
G	ÖÖH	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
G	ÖÖÉ	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
G	ÖÖF	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
G	ÖÖG	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
G	ÖÖÉ	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
GJ	ÖÖÉ	UZ	ÉÍÉÉH	ÉÍÉÉH	€	Á F€€
H€	T Ī	UZ	€	€	€	Á F€€
HF	T Ī	UZ	€	€	€	Á F€€
HG	T Ī	UZ	€	€	€	Á F€€
HH	T Ī	UZ	€	€	€	Á F€€
HI	T Ī	UZ	€	€	€	Á F€€
HĪ	T ĪJ	UZ	€	€	€	Á F€€

A Ya Vyf 8 jgfv i hYX @ UXg fb @ %) . 8 jgfv "K j bX @ UK L L fV c b h p i YXL

	T ^ (á ^ Á) Ë á ^ Á	Ö á ^ Á Ë á ^ Á	Ü c a b Ö Á Ë á ^ Á Ë á ^ Á Ë á ^ Á Ë á ^ Á	Ö) á Á Ë á ^ Á Ë á ^ Á Ë á ^ Á Ë á ^ Á	Ü c a b Ö Á Ë á ^ Á Ë á ^ Á Ë á ^ Á Ë á ^ Á	Ü c a b Ö Á Ë á ^ Á Ë á ^ Á Ë á ^ Á Ë á ^ Á
FÍ	PÚF	ÜY	Ë Ë Ë Ë	Ë Ë Ë Ë	€	Á FEE
FÌ	ÖÖÈ	ÜY	Ë Ë Ë Ë	Ë Ë Ë Ë	€	Á FEE
FI	ÖÖÈ	ÜY	Ë Ë Ë Ë	Ë Ë Ë Ë	€	Á FEE
FJ	ÖÖÈ	ÜY	Ë Ë Ë Ë	Ë Ë Ë Ë	€	Á FEE
GE	THG	ÜY	€	€	€	Á FEE
GF	THÍ	ÜY	€	€	€	Á FEE
GG	THÍ	ÜY	€	€	€	Á FEE
GH	THJCE	ÜY	€	€	€	Á FEE
G	ÖÖH	ÜY	Ë Ë Ë Ë	Ë Ë Ë Ë	€	Á FEE
G	ÖÖÈ	ÜY	Ë Ë Ë Ë	Ë Ë Ë Ë	€	Á FEE
G	ÖÖF	ÜY	Ë Ë Ë Ë	Ë Ë Ë Ë	€	Á FEE
G	ÖÖG	ÜY	Ë Ë Ë Ë	Ë Ë Ë Ë	€	Á FEE
G	ÖÖÈ	ÜY	Ë Ë Ë Ë	Ë Ë Ë Ë	€	Á FEE
GJ	ÖÖÈ	ÜY	Ë Ë Ë Ë	Ë Ë Ë Ë	€	Á FEE
HE	TÍI	ÜY	€	€	€	Á FEE
HF	TÍI	ÜY	€	€	€	Á FEE
HG	TÍI	ÜY	€	€	€	Á FEE
HH	TÍI	ÜY	€	€	€	Á FEE
HI	TÍI	ÜY	€	€	€	Á FEE
HÍ	TÍJ	ÜY	€	€	€	Á FEE
HÌ	TÍ€	ÜY	€	€	€	Á FEE
HÌ	TÍF	ÜY	€	€	€	Á FEE
HÌ	TÍG	ÜY	€	€	€	Á FEE
HU	TÍH	ÜY	€	€	€	Á FEE
I€	TÍI	ÜY	€	€	€	Á FEE
IF	TÍI	ÜY	Ë Ë Ë Ë	Ë Ë Ë Ë	€	Á FEE
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FF	ÖÖE	Y	€	Á FEE
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FH	PF	Y	€	Á FEE
FI	T ÚF	Y	€	Á FEE
FJ	T ÚH	Y	€	Á FEE
FK	PÚF	Y	€	Á FEE
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FO	T HG	Y	€	Á FEE
FP	T H	Y	€	Á FEE
FG	T H	Y	€	Á FEE
FH	T H	Y	€	Á FEE
FI	T H	Y	€	Á FEE
FJ	T H	Y	€	Á FEE
FK	T H	Y	€	Á FEE
FL	T H	Y	€	Á FEE
FM	T H	Y	€	Á FEE
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GC	T H	Y	€	Á FEE
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A Ya VYf '8 jgIf jVi hYX @ UXg fb @ '% ' : NYK YJ| \ k'f' c b]bi YXL

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IH	PG	Y	É É J	É É J	€	Á FEE
II	TUJ	Y	É É G	É É G	€	Á FEE
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II	TÍÓ	Y	É É F	É É F	€	Á FEE
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FF	ÓÉ	UZ	É É I	É É I	€	Á FEE
FG	UF	UZ	É É G	É É G	€	Á FEE
FH	PF	UZ	É É I	É É I	€	Á FEE
FI	TUF	UZ	É É G	É É G	€	Á FEE
FI	TUH	UZ	É É G	É É G	€	Á FEE
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G€	THG	UZ	€	€	€	Á FEE
GF	TH	UZ	€	€	€	Á FEE
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A Ya Vyf'8 jgfljvi hYX @ UXg'f6 @ ' \$. '8 jgfljvi WYK jbx @ UX'LÉf7 cbljbi YXL

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H	Ö ÖF	Y	€	€	HÉ G	G' ÉJÍ
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í	Ö ÖE	Y	€	€	HÉ G	G' ÉJÍ
í	Ö ÖH	Y	€	€	HÉ G	G' ÉJÍ
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J	Ö ÖE	Y	€	€	HÉ G	G' ÉJÍ

A Ya Vyf'8 jgfljvi hYX @ UXg'f6 @ () : '6 @ '% HfUbgjYbh5 fYU @ UXg'L

	T^ (á^) á^ ^	Óá^ & c^)	Ücá^ (á^) á^ á^ á^ á^ á^ á^	Ö) á^ Á^ á^) á^ á^ á^ á^ á^ á^	Ücá^ (á^) á^ á^ á^ á^ á^ á^ á^	Ücá^ (á^) á^ á^ á^ á^ á^ á^ á^
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A Ya Vyf'5 fYU @ UXg'f6 @ '% GYZK YJ \ H

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A Ya Vyf'5 fYU @ UXg'f6 @ '% : WYK YJ \ H

	R á^ óE	R á^ óÖ	R á^ óÖ	R á^ óÖ	Óá^ & c^)	Öá^ d^ á^ c^)	T á^) á^ á^ á^ á^
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H	ÜHF	ÜHI	ÜHH	ÜHG	Y	V, [Á^ á^	€

Bolt Calculation Tool, V1.5.1

PROJECT DATA	
Site Name:	BOHVN00144A
Site Number:	BOHVN00144A
Connection Description:	Platform to Monopole

MAXIMUM BOLT LOADS		
Bolt Tension:	6642.31	lbs
Bolt Shear:	1637.40	lbs

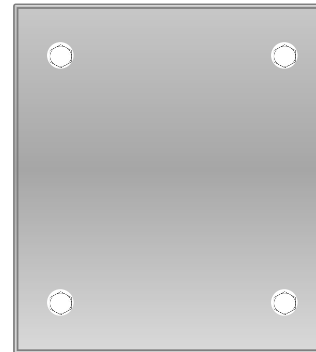
WORST CASE BOLT LOADS ¹		
Bolt Tension:	6642.31	lbs
Bolt Shear:	450.58	lbs

BOLT PROPERTIES		
Bolt Type:	Bolt	-
Bolt Diameter:	0.625	in
Bolt Grade:	A325	-
# of Bolts:	4	-
Threads Excluded?	No	-

¹ Worst case bolt loads correspond to Load combination #5 on member S2 in RISA-3D, which causes the maximum demand on the bolts.

Member Information
I nodes of S3, S2, S1

BOLT CHECK		
Tensile Strength	20340.15	
Shear Strength	13805.83	
Max Tensile Usage	32.7%	
Max Shear Usage	11.9%	
Interaction Check (Worst Case)	0.11	≤1.05
Result	Pass	



POWER DENSITY STUDY

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

Dish Wireless Existing Facility

Site ID: BOHVN0144A

BOHVN0144A
438 Bridgeport Avenue
Milford, Connecticut 06460

October 27, 2021

EBI Project Number: 6221004010

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	63.11%

October 27, 2021

Dish Wireless

Emissions Analysis for Site: BOHVN0144A - BOHVN0144A

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **438 Bridgeport Avenue in Milford, Connecticut** for the purpose of determining whether the emissions from the Proposed Dish Wireless Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 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.

Public 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 and 700 MHz frequency bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency 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 done for the proposed Dish Wireless Wireless antenna facility located at 438 Bridgeport Avenue in Milford, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since Dish Wireless is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 20 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 4 n71 channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 4 n70 channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 3) 4 n66 channels (AWS Band - 2190 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 4) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 5) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 20 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative

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

- 6) The antennas used in this modeling are the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector A, the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector B, the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 20 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 7) The antenna mounting height centerline of the proposed antennas is 97 feet above ground level (AGL).
- 8) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 9) All calculations were done with respect to uncontrolled / general population threshold limits.

Dish Wireless Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21
Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz
Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd
Height (AGL):	97 feet	Height (AGL):	97 feet	Height (AGL):	97 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts
ERP (W):	5,236.31	ERP (W):	5,236.31	ERP (W):	5,236.31
Antenna AI MPE %:	2.86%	Antenna BI MPE %:	2.86%	Antenna CI MPE %:	2.86%

Site Composite MPE %	
Carrier	MPE %
Dish Wireless (Max at Sector A):	2.86%
AT&T	11.84%
Sprint	3.97%
T-Mobile	44.44%
Site Total MPE % :	63.11%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	2.86%
Dish Wireless Sector B Total:	2.86%
Dish Wireless Sector C Total:	2.86%
Site Total MPE % :	63.11%

Dish Wireless Maximum MPE Power Values (Sector A)							
Dish Wireless Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
Dish Wireless 600 MHz n71	4	223.68	97.0	3.88	600 MHz n71	400	0.97%
Dish Wireless 1900 MHz n70	4	542.70	97.0	9.42	1900 MHz n70	1000	0.94%
Dish Wireless 2190 MHz n66	4	542.70	97.0	9.42	2190 MHz n66	1000	0.94%
						Total:	2.86%

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

Summary

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

The anticipated maximum composite contributions from the Dish Wireless facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

Dish Wireless Sector	Power Density Value (%)
Sector A:	2.86%
Sector B:	2.86%
Sector C:	2.86%
Dish Wireless Maximum MPE % (Sector A):	2.86%
Site Total:	63.11%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **63.11%** 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.

UNDERLYING PROPERTY INFORMATION



Property Information

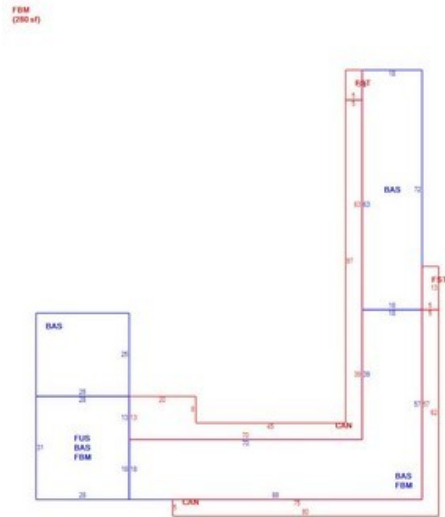
Property Location	438 BRIDGEPORT AVE
Owner	CHARCHENKO GENEVIEVE LIFE USE THFN TO
Co-Owner	WOLNIAKOWSKI DONNA
Mailing Address	438 BRIDGEPORT AVE MILFORD CT 06460
Land Use	3010 MOTELS MDL-94
Land Class	C
Zoning Code	CDD3
Census Tract	

Neighborhood	N
Acreage	1.31
Utilities	
Lot Setting/Desc	UNKNOWN UNKNOWN
Book / Page	03709/0692
Fire District	1

Photo



Sketch



Primary Construction Details

Year Built	1971
Building Desc.	MOTELS MDL-94
Building Style	Motel
Building Grade	AVERAGE
Stories	1
Occupancy	1.00
Exterior Walls	Brick/Stn Vene
Exterior Walls 2	NA
Roof Style	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Walls	Drywall/Sheet
Interior Walls 2	NA
Interior Floors 1	Carpet
Interior Floors 2	Vinyl/Asphalt

Heating Fuel	Gas
Heating Type	Hot Water
AC Type	Unit/AC
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	
Bath Style	NA
Kitchen Style	NA
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	0

(*Industrial / Commercial Details)

Building Use	Commercial
Building Condition	6
Sprinkler %	NA
Heat / AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths / Plumbing	AVERAGE
Ceiling / Wall	CEIL & WALLS
Rooms / Prtns	AVERAGE
Wall Height	8.00
First Floor Use	NA
Foundation	NA



City of Milford, CT

Property Listing Report

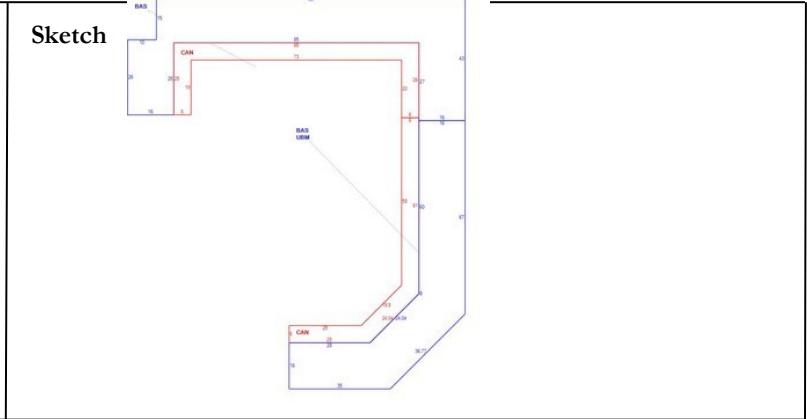
Map Block Lot **024 385 3**

Bldg # **2**

Sec # **1**

PID **4834**

Account **003188**



Primary Construction Details

Year Built	1960
Building Desc.	Commercial
Building Style	Motel
Building Grade	AVERAGE
Stories	1
Occupancy	1.00
Exterior Walls	Wood Shingle
Exterior Walls 2	NA
Roof Style	Flat
Roof Cover	Tar & Gravel
Interior Walls	Drywall/Sheet
Interior Walls 2	NA
Interior Floors 1	Carpet
Interior Floors 2	Vinyl/Asphalt

Heating Fuel	Oil
Heating Type	Hot Water
AC Type	Unit/AC
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	
Bath Style	NA
Kitchen Style	NA
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(*Industrial / Commercial Details)

Building Use	COMM BLDG MDL-94
Building Condition	6
Sprinkler %	NA
Heat / AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths / Plumbing	AVERAGE
Ceiling / Wall	CEIL & WALLS
Rooms / Prtns	AVERAGE
Wall Height	8.00
First Floor Use	NA
Foundation	NA

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	4569	4569
Canopy	1400	0
Basement, Unfinished	2015	0

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	7984	4569

NOTIFICATIONS



May 11, 2022

Dear Customer,

The following is the proof-of-delivery for tracking number: 776705788024

Delivery Information:

Status:	Delivered	Delivered To:	Shipping/Receiving
Signed for by:	D.DACOCO	Delivery Location:	110 River Street
Service type:	FedEx 2Day		
Special Handling:	Deliver Weekday		MILFORD, CT, 06460
		Delivery date:	Apr 29, 2022 11:57

Shipping Information:

Tracking number:	776705788024	Ship Date:	Apr 27, 2022
		Weight:	1.0 LB/0.45 KG

Recipient:
Benjamin G. Blake - Mayor,
110 River Street
MILFORD, CT, US, 06460

Shipper:
Corey Milan, NB+C
100 Apollo Dr.
Suite 303
CHELMSFORD, MA, US, 01824

Reference 100814

Thank you for choosing FedEx



May 11, 2022

Dear Customer,

The following is the proof-of-delivery for tracking number: 776705744297

Delivery Information:

Status:	Delivered	Delivered To:	Shipping/Receiving
Signed for by:	B.JEFF	Delivery Location:	70 West River Street
Service type:	FedEx 2Day		
Special Handling:	Deliver Weekday		MILFORD, CT, 06460
		Delivery date:	Apr 29, 2022 12:02

Shipping Information:

Tracking number:	776705744297	Ship Date:	Apr 27, 2022
		Weight:	1.0 LB/0.45 KG

Recipient:
Joseph D. Griffith,
70 West River Street
MILFORD, CT, US, 06460

Shipper:
Corey Milan, NB+C
100 Apollo Dr.
Suite 303
CHELMSFORD, MA, US, 01824

Reference 100814

Thank you for choosing FedEx



May 11, 2022

Dear Customer,

The following is the proof-of-delivery for tracking number: 776705767004

Delivery Information:

Status:	Delivered	Delivered To:	Shipping/Receiving
Signed for by:	S.IGNATURE NOT REQ	Delivery Location:	438 BRIDGEPORT AVE
Service type:	FedEx 2Day		
Special Handling:	Deliver Weekday		MILFORD, CT, 06460
		Delivery date:	Apr 29, 2022 11:52

Shipping Information:

Tracking number:	776705767004	Ship Date:	Apr 27, 2022
		Weight:	1.0 LB/0.45 KG

Recipient:
Henry & Genevieve Charchenko,
438 Bridgeport Avenue
MILFORD, CT, US, 06460

Shipper:
Corey Milan, NB+C
100 Apollo Dr.
Suite 303
CHELMSFORD, MA, US, 01824

Reference 100814

Thank you for choosing FedEx