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

VIA ELECTRONIC MAIL

June 14, 2022

Jack Andrews
Zoning Manager
Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
jmandrews@clinellc.com

RE: **TS-DISH-116-220517 -** Dish Wireless, LLC request for an order to approve tower sharing at an existing telecommunications facility located at 165 Elmwood Hill Road, Putnam, Connecticut.

Dear Mr. Andrews:

The Connecticut Siting Council (Council) is in receipt of your correspondence of June 8, 2022 submitted in response to the Council's June 8, 2022 notification of an incomplete request for tower sharing with regard to the above-referenced matter.

The submission renders the request for tower sharing complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

Melanie Bachman
Executive Director

MAB/IN/laf

From: John Andrews <jmandrews@clinellc.com>
Sent: Wednesday, June 8, 2022 5:21 PM
To: Fontaine, Lisa <Lisa.Fontaine@ct.gov>
Cc: CSC-DL Siting Council <Siting.Council@ct.gov>
Subject: RE: Council Incomplete letter: TS-DISH-116-220517 Elmwood Hill Rd, Putnam

Attached is an electronic copy of the documents that I have submitted to the CSC; it has been revised to include the original Decision and Order from the Council approving this tower as the last 3 pages.

Unfortunately, I was unable to combine the electronic Structural Report with the single attachment. I have accordingly attached it separately.

I will mail you the 3 copies of the Structural and the D&O in the morning.

Please accept my sincere and embarrassed apologies.

John Andrews Jr. | Project Manager
10130 Donleigh Drive, Columbia, MD 21046
Centerline Communications
750 W Center St, Suite 301 | West Bridgewater, MA 02379
Mobile: 443.677.0144
jmandrews@clinellc.com | www.centerlinecommunications.com

April 21, 2022

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

Re: Tower Share Application – Dish Site 13733433
Dish Wireless Telecommunications Facility @ 165 Elmwood Hill Road, Putnam, CT 06260

Dear Ms. Bachman,

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing one hundred and forty nine (149) foot tall monopole tower at 165 Elmwood Hill Road, Town of Putnam, CT 06260 (Latitude: 41.929256 Longitude: -71.810047) and within the existing fenced compound. The monopole tower is owned and operated by American Tower Corporation. The subject property is owned by Lois S. Pray. Modifications to the tower were most recently approved by the Siting Council in EM-VER-116-211029 on December 28, 2021.

Dish proposes to install a five (5) foot by seven (7) foot metal platform within the existing fenced compound and install three (3) antennas, a single antenna mount, six (6) RRUs, and cables on the existing tower at one hundred twenty six (126) feet as more particularly detailed and described on the enclosed Construction Drawings. No height extension or compound expansion are proposed.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of Dish's intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A §16-50j-73, a copy of this letter is being sent to the following individuals: American Tower Corporation as Tower Operator/Owner; Lois S. Pray as Property Owner; the Honorable Barney Seney, the Mayor of Putnam and Bruce Fitzback, the Putnam Land Use Agent. The applicant's proposal falls squarely within those activities explicitly provided for in R.C.S.A. §16-50j-89. Specifically:

1. The proposed modifications will NOT result in an increase in the height of the existing structure.
2. The proposed modifications will NOT require an extension of the site boundary.

3. The proposed modifications will NOT increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will NOT increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. Please see the RF emissions calculation for Dish's proposed facility enclosed herewith.
5. The proposed modifications will NOT cause an ineligible change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading. Please see the structural analysis enclosed herewith.

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

A. Technical Feasibility. The existing monopole has been deemed structurally capable of supporting Dish's proposed loading (see attached Structural Analysis).

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

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

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

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

Jack Andrews, Zoning Manager 10130 Donleigh Drive, Columbia, MD 21046 (443) 677-0144
Centerline Communications • 750 W Center Street, Suite 301, W Bridgewater, MA 02379

For the foregoing reasons, Dish respectfully requests that the Council approve this request for the shared use of this tower located at 165 Elmwood Hill Road, Thompson, CT 06260.

If you have any questions, please feel free to contact me.

Sincerely,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

Enclosures:
Exhibit 1 – Letter of Authorization from tower owner
Exhibit 2 – Property Card and GIS
Exhibit 3 – Construction Drawings
Exhibit 4 – Structural Analysis Report
Exhibit 5 – Antenna Mount Analysis Report
Exhibit 6 – EME Study Report
Exhibit 7 – Original Tower Approval
Exhibit 8 – (4) Notice Confirmations

cc: American Tower Corporation - Tower Operator/Owner
Lois S. Pray - Property Owner
The Honorable Barney Seney - Mayor of Putnam
Bruce Fitzback – Town of Putnam Land Use Agent

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LETTER OF AUTHORIZATION

SITE NO: See Site List Below **SITE NAME: See Site List Below**

ADDRESS: See Site List Below

I, Margaret Robinson, Senior Counsel, US Tower Division on behalf of American Tower*, owner and/or operator of the tower facilities located at the addresses identified below (the "Tower Facilities"), do hereby authorize Centerline Communications, LLC ("Centerline"), its agents, 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 owned and operated by DISH Network on the Tower Facilities located at the addresses identified below. This installation shall not affect adjoining lands and will occur only within the areas leased or owned by American Tower.

American Tower understands that the applications 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 installations. Any such conditions of approval or modifications will not be effective unless approved in writing by American Tower.

The above authorization does not permit Centerline 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 installations of telecommunications equipment without the prior written approval of American Tower.

Site Authorized:

ATC PROJECT#	ATC SITE#	DISH SITE#	ADDRESS
13683503	302472	BOBDL00010A	104 Bunker Hill Road, Andover, Connecticut
13701209	302470	BOHVN00141A	401 Wakelee Ave, Ansonia, Connecticut
13702524	370641	BOHVN00148A	401-411 Lopus Road, Beacon Falls, Connecticut
13709244	88008	BOHVN00151A	9 Meyers Road, Bethany, Connecticut
13694329	283419	BOHVN00136A	123 Pine Orchard Road, Branford, Connecticut
13694332	283422	BOHVN00137A	171 Short Beach Road, Branford, Connecticut
13701211	302484	BOHVN00142A	405 Brushy Plain Rd, Branford, Connecticut
13709418	281862	BOHVN00200A	111 SECOND HILL RD, BRIDGEWATER, Connecticut
13733440	411216	BOBOS00893A	123 Palmer Road, Chaplin, Connecticut
13733449	208478	BOHVN00033A	1325 Cheshire Street, Cheshire, Connecticut
13694579	302496	BOBOS00887A	Chestnut Hill Road, Colchester, Connecticut
13694582	302465	BOBOS00890A	355 Route 85, Colchester, Connecticut
13733436	6270	BOBOS00031A	Rt 101 off Rt. 395 @1385 North Rd., Dayville, Connecticut
13702522	311305	BOHVN00147A	10 Tanner Marsh Road, Guilford, Connecticut
13733446	10029	BOBOS00894A	185 Fisk Road, Hampton, Connecticut
14046283	302466	BOBDL00079B	305 W. Service Rd., Hartford, Connecticut

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13746611	302503	BOBOS00068B	20 Mel Road, Jewett City, Connecticut
13702514	302540	BOHVN00146A	8 Old 79, Madison, Connecticut
OAA745087	411260	Middlefield CT	484 Meriden Rd., Middlefield, Connecticut
13698061	283564	BOHVN00139A	234 Melba Street, Milford, Connecticut
13702496	302516	BOHVN00144A	438 Bridgeport Ave, Milford, Connecticut
13693709	411182	BOHVN00005A	20 Antolini Road, New Hartford, Connecticut
13702509	302523	BOHVN00145A	4 Elkington Farm Rd, New Milford, Connecticut
13693659	283418	BOHVN00135A	50 Devine Street, North Haven, Connecticut
13694578	6260	BOBOS00884A	118C Wintechog Hill Rd., North Stonington, Connecticut
13693124	311014	BOBOS00023A	202 N Wawecus Hill Rd, Norwich, Connecticut
13726721	302532	BOBOS00022A	1337 Route 85, Oakdale, Connecticut
13693120	284984	BOBOS00021A	166 Pawcatuck Ave, Pawcatuck, Connecticut
13701212	302501	BOHVN00143A	297 North Street, Plymouth, Connecticut
13693135	411184	BOBOS00026A	399 West Road, SALEM, Connecticut
13729958	208205	BOHVN00035A	80 Great Hill Road, Seymour, Connecticut
13693705	411188	BOHVN00006A	111 Upper Fishrock Road, Southbury, Connecticut
13733433	415784	BOBOS00029A	165 Elmwood Hill Road, THOMPSON, Connecticut
13693127	370623	BOBOS00024A	139 Sharp Hill Road, Uncasville, Connecticut
13701206	302467	BOHVN00140A	90 North Plains Industrial Rd., Wallingford, Connecticut
13693131	411183	BOBOS00025A	53 Dayton Rd., Waterford, Connecticut
13693702	243036	BOHVN00132A	668 Jones Hill Road, West Haven, Connecticut
13729960	207941	BOHVN00036A	164 County Road, Wolcott, Connecticut
13702538	411180	BOHVN00150A	481 GOOD HILL ROAD, Woodbury, Connecticut
13733429	415439	BOBOS00027A	40 Sherman Road, Woodstock, Connecticut
13733431	415484	BOBOS00028A	445 Prospect St, Woodstock, Connecticut
13733434	418609	BOBOS00030A	87 West Quasset Road, Woodstock, Connecticut
13733438	6300	BOBOS00032A	156 Lebanon Hill Rd., Woodstock, Connecticut
13741553	283425	BOBOS00019A	350 Route 198, WOODSTOCK VALLEY, Connecticut
13743708	305310	BOPWM00004A	491 Court Street, Auburn, Maine
13743725	371976	BOPWM00007A	840 North River Rd, Auburn, Maine
13741457	371989	BOAUG00001A	627 Coldbrook Rd, BANGOR, Maine
13741460	416485	BOAUG00002A	237 Bomarc Rd, BANGOR, Maine
13735679	305311	BOBOS00433A	19 Little Harbor Road, Berwick, Maine
13746623	416552	BOPWM00012A	60 Andrews Road, Biddeford, Maine
13741463	305313	BOBOS00434A	71 Brixham Road, Eliot, Maine
13743702	10044	BOPWM00002A	26 Dorrington Drive, Freeport, Maine
13743704	281252	BOPWM00003A	71 Finn Parker Road, GORHAM, Maine

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13746621	371994	BOPWM00011A	4 Burnham Rd, Gorham, Maine
13746617	371990	BOPWM00009A	58 Buzzell Ln, Greene, Maine
13743722	371965	BOPWM00006A	67 Commercial Street, Lewiston, Maine
13746678	421397	BOPWM00013A	50 Potter Road, Lisbon, Maine
13743712	371964	BOPWM00005A	Pleasant Hill Rd, Sabattus, Maine
13738176	371992	BOBOS00777A	78 York Woods Rd, Rt 236, South Berwick, Maine
13743727	371978	BOPWM00008A	988 Roosevelt Trail, Windham, Maine
13746619	371993	BOPWM00010A	413 Roosevelt Tr, Windham, Maine
13734197	222167	BOBOS00393A	36 Knox trail, Acton, Massachusetts
13738223	371800	BOBOS00698A	107 South Main Street, Acushnet, Massachusetts
13738186	203692	BOBOS00788A	149 Haggets Pond Road, Andover, Massachusetts
13738208	371807	BOBOS00820A	165 South Main Street, ASSONET, Massachusetts
13728723	305010	BOBOS00387C	15 Washington Street, Attleboro, Massachusetts
13729951	92225	BOBOS00135A	55 Starkey Ave, Attleboro, Massachusetts
13729930	91563	BOBOS00133A	21 Parker Drive, Avon, Massachusetts
13738187	371838	BOBOS00791A	30 Shawsheen Ave, Bedford, Massachusetts
13734227	91567	BOBOS00612A	236 Maple Street, Bellingham, Massachusetts
13738231	88025	BOBOS00832A	39 Green Street, Berkley, Massachusetts
13746597	207264	BOBOS00281A	62R Anthony Street, Berkley, Massachusetts
13738152	283474	BOBOS00658A	347 Old Middlesex Turnpike, Billerica, Massachusetts
13734192	371816	BOBOS00616A	500 Morton Street, Boston, Massachusetts
13735268	305088	BOBOS00626A	22 Freeport Way, Boston, Massachusetts
13735650	262364	BOBOS00016A	53 C Pond Street, Boxford, Massachusetts
13729495	371820	BOBOS00004B	#26 Freemans Way Industrial Park, Brewster, Massachusetts
13735663	305054	BOBOS00111A	240 Burrill Avenue, Bridgewater, Massachusetts
13738201	414820	BOBOS00809A	434 Elm St., BRIDGEWATER, Massachusetts
13735259	371833	BOBOS00619A	1001 N Montello Street, Brockton, Massachusetts
13735275	371797	BOBOS00629A	500 Belmont Street, Brockton, Massachusetts
13735419	10008	BOBOS00646A	995 Belmont St., Brockton, Massachusetts
13738182	10342	BOBOS00670A	110 Mulberry Street, Brockton, Massachusetts
13738228	15456	BOBOS00389A	51 North Avenue, Burlington, Massachusetts
13746607	210761	BOBOS00139A	8 Springdale Avenue, Canton, Massachusetts
13734206	5870	BOBOS00395A	Off Montello Street, Carver, Massachusetts
13734212	15482	BOBOS00396A	31R Main Street, Carver, Massachusetts
13741598	10252	BOBOS00428A	31 J Hammond Road, Charlton, Massachusetts
13735290	371819	BOBOS00638A	7 Doris Drive, Chelmsford, Massachusetts
13759832	274893	BOBOS00636A	490 Stafford St., CHERRY VALLEY, Massachusetts

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13729557	412707	BOBOS00125A	40y Annursnac Hill Road, CONCORD, Massachusetts
13738190	240688	BOBOS00793A	323 Locust St, Danvers, Massachusetts
13735284	371805	BOBOS00631A	303 Broadway, Dracut, Massachusetts
13729926	5820	BOBOS00131A	32 Old County Road, East Wareham, Massachusetts
13734265	207267	BOBOS00282A	Upper Union Street, Franklin, Massachusetts
13735297	371782	BOBOS00644A	119 Dean Avenue, Franklin, Massachusetts
13735315	16228	BOBOS00649A	60 EARL'S WAY, Franklin, Massachusetts
13735654	10321	BOBOS00102A	16 Kondelin Rd, Gloucester, Massachusetts
13735670	305111	BOBOS00192B	400 Blackburn Drive, Gloucester, Massachusetts
13746594	210758	BOBOS00137A	434-438 Asbury Street, Hamilton, Massachusetts
13735658	283651	BOBOS00108A	263 Winter Street, Hanover, Massachusetts
13735666	371796	BOBOS00114A	171 Phillips Street, Hanson, Massachusetts
13741290	283476	BOBOS00615A	75 Willow Avenue, Haverhill, Massachusetts
13741718	283472	BOBOS01024A	1 Masys Way, Haverhill, Massachusetts
13743700	15659	BOBOS00903A	260 River Street, Jefferson, Massachusetts
13738229	305004	BOBOS00831A	23 Freetown Steet, Lakeville, Massachusetts
13735281	305117	BOBOS00630A	670 South Union Street, LAWRENCE, Massachusetts
13735286	371778	BOBOS00633A	576 Haverhill St, Lawrence, Massachusetts
13735709	210759	BOBOS00138A	280 New Lancaster Road, Leominster, Massachusetts
13743687	371808	BOBOS00853A	650 Willard Street, Leominster, Massachusetts
13735656	222165	BOBOS00105A	2005 Mass Ave, Lunenburg, Massachusetts
13734270	207263	BOBOS00283A	13 Mill Street, Marion, Massachusetts
13729921	412712	BOBOS00128A	860 BOSTON POST ROAD, Marlborough, Massachusetts
13738193	284981	BOBOS00806A	969 Ocean Street, Marshfield, Massachusetts
13746615	207266	BOBOS00284A	Holyoke Avenue, Marshfield, Massachusetts
13772780	202550	BOBOS01156C	0 Snow Road, Marshfield, Massachusetts
13735659	305027	BOBOS00109A	34 Topalian Street, Mattapan, Massachusetts
13734275	208176	BOBOS00285A	Summer Hill Road, Maynard, Massachusetts
13734201	16489	BOBOS00391A	31 BEDFORD ST, Middleboro, Massachusetts
13738205	305006	BOBOS00813A	164 Everett Street, Middleboro, Massachusetts
13735294	283071	BOBOS00641A	11 Natsue Way, MIDDLETON, Massachusetts
13735657	283070	BOBOS00107A	197 N. Main Street, MIDDLETON, Massachusetts
13743676	283767	BOBOS00842A	120 Highland Street, MILFORD, Massachusetts
13749484	91566	BOBOS00355B	111 Cedar Street, Milford, Massachusetts
13729925	412713	BOBOS00129A	25 Glenwood Street, Natick, Massachusetts
13734249	5762	BOBOS00614A	1555 Central Ave, Needham, Massachusetts
13735272	5860	BOBOS00628A	148 Penniman St., New Bedford, Massachusetts

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13737649	204458	BOBOS00651A	9 Eighth St, NEW BEDFORD, Massachusetts
13742882	305097	BOBOS00426A	127 R Duchaine Blvd., New Bedford, Massachusetts
13735652	1028	BOBOS00101A	1165 Chestnut Street, Newton, Massachusetts
13735266	305113	BOBOS00624A	20 Republic Road, North Billerica, Massachusetts
13742899	91886	BOBOS00758A	411 FAUNCE CORNER RD, North Dartmouth, Massachusetts
13738213	371810	BOBOS00829A	455 Somerset Avenue, North Dighton, Massachusetts
13741485	88027	BOBOS00833A	Maple Street, North Dighton, Massachusetts
13743644	91565	BOBOS00735A	38 Merriam District, North Oxford, Massachusetts
13735264	284980	BOBOS00620A	59 Davis Ave, Norwood, Massachusetts
13746603	207726	BOBOS00287A	15 Locust Road, Orleans, Massachusetts
13738197	15768	BOBOS00807A	171Mattakeesett Street, Pembroke, Massachusetts
13729507	371799	BOBOS00115A	75 Washington Street, Plainville, Massachusetts
13742871	10370	BOBOS00422A	50 Portside Drive, Pocasset, Massachusetts
13734236	10341	BOBOS00613A	106 Mazzeo Drive, Randolph, Massachusetts
13738200	305096	BOBOS00808A	1588 Broadway, Raynham, Massachusetts
13738203	10339	BOBOS00810A	678 Church Street, Raynham, Massachusetts
13738206	310959	BOBOS00817A	153 Cranberry Highway, Rochester, Massachusetts
13734282	207270	BOBOS00288A	320 Pleasant Street, Rockland, Massachusetts
13738199	305035	BOBOS00673A	488R Highland Avenue, Salem, Massachusetts
13742875	273378	BOBOS00423A	413 Rt 130, Sandwich, Massachusetts
13734198	10340	BOBOS00394A	1010 Chief Justice Cushing Highway, Scituate, Massachusetts
13741690	282810	BOBOS01155A	361 TILDEN RD, SCITUATE, Massachusetts
13729506	16459	BOBOS00103A	45 Vineyard Road, Seekonk, Massachusetts
13735664	207271	BOBOS00280A	212 Lake Street, Sherborn, Massachusetts
13738202	305051	BOBOS00674A	16 Kendall Avenue, Sherborn, Massachusetts
13735748	202086	BOBOS00659A	271 Spring Street, Shrewsbury, Massachusetts
13743636	91568	BOBOS00688A	800 Boston Turnpike, Shrewsbury, Massachusetts
13710032	371813	BOBOS00118A	3 Redemption Rock Trail, Sterling, Massachusetts
13741607	416056	BOBOS00866A	199 Raymond Rd., Sudbury, Massachusetts
13870803	371774	BOBOS00013D	142 North Road, Sudbury, Massachusetts
13743641	305009	BOBOS00733A	7 Kamaitas Road, Sutton, Massachusetts
13743672	305014	BOBOS00841A	194 Stone School Road, Sutton, Massachusetts
13742886	5830	BOBOS00427A	28 Dana Street, Taunton, Massachusetts
13729513	388560	BOBOS00122A	89 Progress Avenue, Tyngsboro, Massachusetts
13743680	305104	BOBOS00845A	87 Adams St., Upton, Massachusetts
13743669	305110	BOBOS00838A	70 Quaker Street, Uxbridge, Massachusetts
13734219	275069	BOBOS00601A	110 Bear Hill, Waltham, Massachusetts

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13737625	5810	BOBOS00816A	Thatcher Street, Wareham, Massachusetts
13743683	274897	BOBOS00851A	0 Century Drive, West Boylston, Massachusetts
13749477	305068	BOBOS00664B	225 Rivermoor St., West Roxbury, Massachusetts
13682009	283067	BOBDL00158A	1201 Westfield Street, WEST SPRINGFIELD, Massachusetts
13743698	9238	BOBOS00878A	972 Gilbert Road, West Warren, Massachusetts
13735736	305105	BOBOS00637A	25 Brigham Street, Westborough, Massachusetts
13743638	282319	BOBOS00690A	50 SMITH VALVE PKWY, WESTBOROUGH, Massachusetts
13734203	305034	BOBOS00392A	8 Nixon Rd., Westford, Massachusetts
13734284	274896	BOBOS00334B	19 Oak Street, Weston, Massachusetts
13735662	305041	BOBOS00110A	0 Nonesuch Road, Weston, Massachusetts
13742877	91559	BOBOS00425A	251 State Road, Westport, Massachusetts
13729511	371818	BOBOS00120A	611 Pleasant Street, Weymouth, Massachusetts
13735271	305028	BOBOS00627A	106 Finnell Dr., Weymouth, Massachusetts
13735303	282706	BOBOS00645A	10 Presidential Way, Woburn, Massachusetts
13772775	305060	BOBOS01068A	Green Street, Wrentham, Massachusetts
13741478	15136	BOBOS00443A	73 State Route 111, Atkinson, New Hampshire
13743271	91575	BOBOS00457A	437 Patten Hill Road, Candia, New Hampshire
13743029	306604	BOBOS00446A	359 Chester Street, Chester, New Hampshire
13743257	373098	BOBOS00449A	50 Town Dump Road, Chester, New Hampshire
13743267	88065	BOBOS00455A	674 Haverhill Road, Chester, New Hampshire
13743035	373099	BOBOS00450A	203 Haverhill Road, East Kingston, New Hampshire
13738226	91574	BOBOS00768A	49 Shirking Road, Epping, New Hampshire
13743263	373114	BOBOS00453A	7 CONTINENTAL DRIVE, Exeter, New Hampshire
13738179	373094	BOBOS00781A	789 Main Street, Fremont, New Hampshire
13743264	413027	BOBOS00454A	169 HAYDEN ROAD, HOLLIS, New Hampshire
13741480	15138	BOBOS00444A	36 Depot Road, Kingston, New Hampshire
13738183	273268	BOBOS00785A	242 New Derry Rd, Litchfield, New Hampshire
13738224	373116	BOBOS00705A	94 STONEHEDGE ROAD, Londonderry, New Hampshire
13743269	88069	BOBOS00456A	187A Pillsbury Road, Londonderry, New Hampshire
13738211	91571	BOBOS00683A	20 Daniel Webster Highway, Merrimack, New Hampshire
13741468	10304	BOBOS00441A	211 Ford Farm Road, Milton, New Hampshire
13743256	311757	BOBOS00448A	61 Old Coach Road, New Boston, New Hampshire
13743258	373101	BOBOS00451A	85 South Main Street, Newton, New Hampshire
13743031	311755	BOBOS00447A	34 Tower Hill Road, Pelham, New Hampshire
13741470	15134	BOBOS00442A	36 Cross Road, Rochester, New Hampshire
13743027	240696	BOBOS00445A	40 Jessie Doe Road, Rollinsford, New Hampshire
13743259	373102	BOBOS00452A	393 Main Street, Sandown, New Hampshire

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13714952	307060	SYSYR00023A	200 Irwin Road, Buffalo, New York
13767336	415364	SYSYR00507B	183 Saltonstall Street, Canandaigua, New York
13702046	373349	ALALB00011A	75 Van Dyke Road, Delmar, New York
13973540	392593	SYSYR00038A	571 Main Street, East Aurora, New York
13752077	413141	SYSYR00517B	91 Railroad Ave, Hamlin, New York
13713785	16467	SYSYR00015A	3181 Southwestern Blvd, Orchard Park, New York
13714492	414560	SYSYR00061A	4248 S. Taylor Road, Orchard Park, New York
13870807	91916	SYSYR00081A	County Route 6 and Fox Dr, Phoenix, New York
13712307	413140	SYSYR00407A	3830 Monroe Avenue, Pittsford, New York
13704766	91936	ALALB00020A	1245 Kings Road, SCHENECTADY, New York
OAA745429	280868	0190112-A	10790 Taylors Store Rd, Nashville, North Carolina
13741714	91582	BOBOS00881A	395 Woodville Road, Ashaway, Rhode Island
13738163	91983	BOBOS00662A	99 Tupelo Street, Bristol, Rhode Island
13743277	308765	BOBOS00586B	6 Minturn Farm Road, Bristol, Rhode Island
13742900	281265	BOBOS00899A	1380 Putnam Pike, CHEPACHET, Rhode Island
13735691	374117	BOBOS00522A	149 Laten Knight Road, Cranston, Rhode Island
13738222	374136	BOBOS00697A	1000 New London Avenue, Cranston, Rhode Island
13735296	374138	BOBOS00642A	500 Veterans Memorial Parkway, East Providence, Rhode Island
13738188	308768	BOBOS00672A	1 Dexter Road, East Providence, Rhode Island
13742895	1031	BOBOS00677A	2 Sunderland Road, Exeter, Rhode Island
13741622	374114	BOBOS00898A	2185 Putnam Pike, Glocester, Rhode Island
13743044	308772	BOBOS00519A	1677 Maple Valley Road, Greene, Rhode Island
13774131	91984	BOBOS00518B	2612 Victory Hwy, Harrisville, Rhode Island
13737644	91985	BOBOS00650A	74 Maria Ave., JOHNSTON, Rhode Island
13738150	273282	BOBOS00654A	32 Breakneck Hill Road, Lincoln, Rhode Island
13735720	6350	BOBOS00525A	1230 Chopmist Hill Rd. Rt. 102, North Scituate, Rhode Island
13743039	308766	BOBOS00517A	316 South Main St., Pascoag, Rhode Island
13738157	91581	BOBOS00661A	10 Dunnell Lane, Pawtucket, Rhode Island
13741493	91584	BOBOS00836A	205 Farnum Pike, Smithfield, Rhode Island
14049070	308759	BOBOS00587C	2935 Tower Hill Road, South Kingstown, Rhode Island
13738210	374137	BOBOS00828A	408 Stafford Road, Tiverton, Rhode Island
13738221	91986	BOBOS00696A	15 New Industrial Road, Warren, Rhode Island
13743273	308757	BOBOS00584B	289 Kilvert Street, Warwick, Rhode Island
13735687	374115	BOBOS00521A	244 Plain Road, West Greenwich, Rhode Island
13735723	91578	BOBOS00583A	830 Nooseneck Hill Road, West Greenwich, Rhode Island
13735700	374133	BOBOS00524A	226C Cowesett Avenue, West Warwick, Rhode Island
13735726	91579	BOBOS00585B	195 J.P. Murphy Highway, West Warwick, Rhode Island

AMERICAN TOWER®
CORPORATION

13742891	207962	BOBOS00552A	37 Laurel Avenue, Westerly, Rhode Island
13735695	374119	BOBOS00523A	9 New Kings Factory Road, Wood River Junction, Rhode Island

Signature: _____

Margaret Robinson, Senior Counsel
US Tower Division

NOTARY BLOCK

COMMONWEALTH OF MASSACHUSETTS
County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Senior Counsel of American Tower (owner and/or operator of the above referenced Tower Facilities), 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 24th day of March, 2022.

NOTARY SEAL

GERARD T. HEFFRON
Notary Public
Commonwealth of Massachusetts
My Commission Expires
August 9, 2024

Notary Public Gerard T. Heffron
My Commission Expires: August 9th, 2024

* American Tower as used herein is defined as American Tower Corporation and any of its affiliates or subsidiaries.

Town of Putnam, Connecticut

Property Record Card

Card 1 of 1

ID: 185320

165 ELMWOOD HILL RD

ID: **024-007** Account #: **004565**

Show Map

Owner: VERIZON WIRELESS
Co-Owner:
Address: P O BOX 2549
ADDISON TX 75001

Assessment: Total: $105,800
Land: $0 Building: $0 Extra Features: $0 Other: $105,800

Sales History

Grantee	Book / Page	Sale Date	Sale Price
VERIZON WIRELESS	0212 / 0114	1987-01-01	$0

MainStreetGIS, LLC
www.mainstreetgis.com

Land Information
Land Area: 0 AC
Zoning: (See Map)
Land Use: 5-1 - Res. Land

Building Information
Style:
Year Built:
Stories:
Rooms: Bedrooms:
Baths: Half Baths:
Living Area:
Grade:
Condition:
Heat Type:
Heat Fuel:
AC Type:
Fireplaces:
Roof Structure:
Roof Covering:
Exterior Wall:
Interior Floor:
Basement:

Extra Features

Description	Area / Units	Assessment
TWR1 Cell Tower	1.00 UNITS	$105,000
PAV2 Paving Cement	360.00 S.F.	$800

Sub Areas

Description	Living Area	Gross Area

Town of Putnam, Connecticut

Property Record Card

Card 1 of 1

ID: 2245

165 ELMWOOD HILL RD

ID: **024-007** Account #: **002444**

Show Map

Owner: PRAY LOIS S
Co-Owner:
Address: 165 ELMWOOD HILL RD
THOMPSON CT 06277

Assessment: Total: $203,600
Land: $39,200 Building: $162,400 Extra Features: $2,000 Other: $0

Sales History

Grantee	Book / Page	Sale Date	Sale Price
PRAY LOIS S	0212 / 0114	1987-01-01	$0

MainStreetGIS, LLC
www.mainstreetgis.com

Land Information
Land Area: 22.1 AC
Zoning: (See Map)
Land Use: 1-1 - 1-Family

Building Information
Style: Colonial
Year Built: 2004
Stories: 2
Rooms: 8 Bedrooms: 03
Baths: 2 Half Baths: 1
Living Area: 2640
Grade: B-
Condition: A

Heat Type: Hot Water
Heat Fuel: Oil
AC Type: None
Fireplaces:
Roof Structure: Gable/Hip
Roof Covering: Asphalt
Exterior Wall: Vinyl Siding
Interior Floor: Drywall/Sheet
Basement:

Extra Features

Description	Area / Units	Assessment
BGR Basemnt garage	2.00 UNITS	$2,000

Sub Areas

Description	Living Area	Gross Area
BAS First Floor	1496	1496
FOP Open Porch	0	265
FUS Finished Upper Story	1144	1144
UBM Basement, Unfinished	0	1496

Town of Putnam, Connecticut

Web GIS Maps and Online Property Information

by MainStreetGIS, LLC Town Website

User Guide Feedback Disclaimer

Base Map: Town Base Map

Address | Parcel ID | Owner | Google

GIS Map | Street View | Tax Maps | Other Maps | GIS Links

Layers | Property | Selection

165 ELMWOOD HILL RD

024-007

Zoom To

Property Card

PDF Property Card

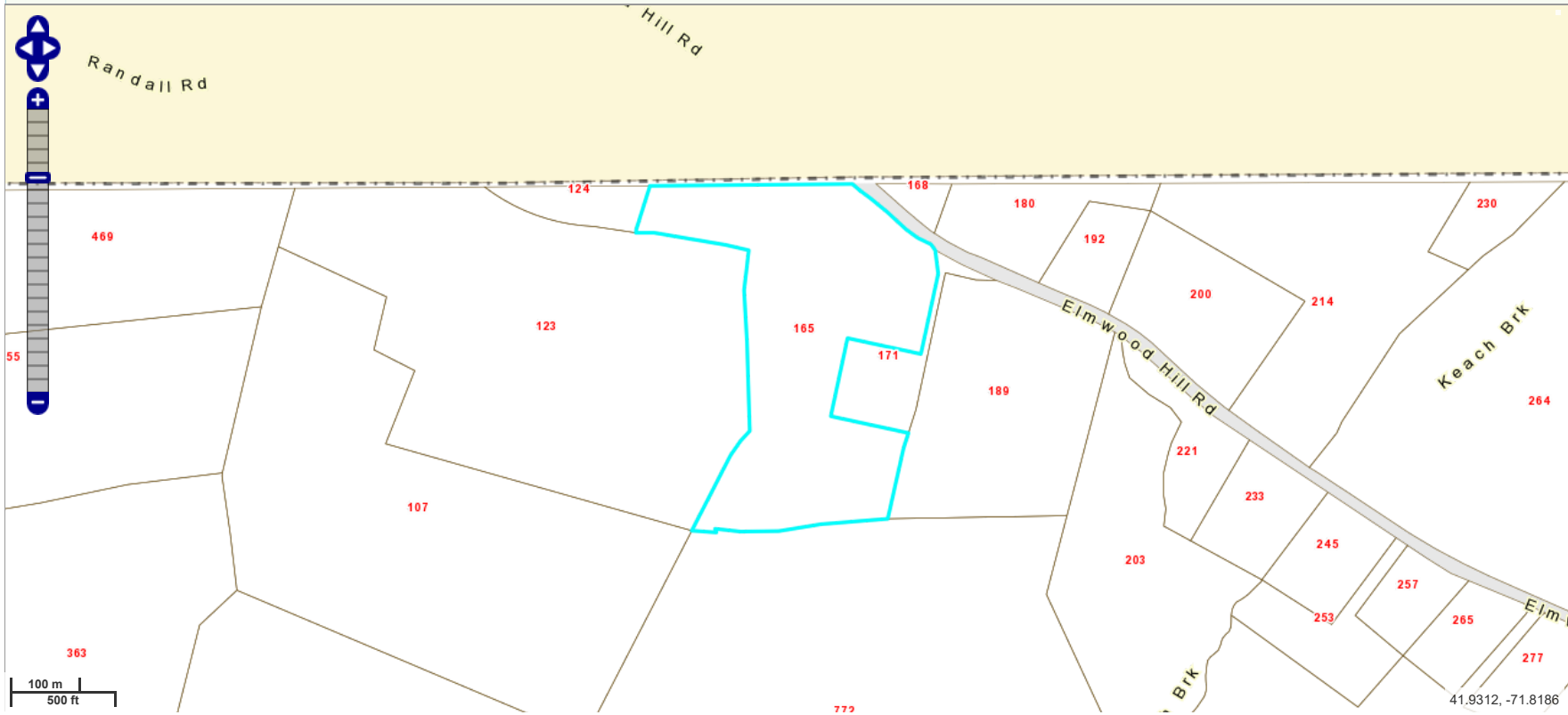
Abutters List

Tax Map

Property List

Report an Issue

MainStreetMaps 1 : 5204



EBI Consulting

environmental | engineering | due diligence

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

Dish Wireless Existing Facility

Site ID: BOBOS00029A

BOBOS00029A
165 Elmwood Hill Road
Putnam, Connecticut 06260

February 8, 2022

EBI Project Number: 6222000524

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**12.45%**

February 8, 2022

Dish Wireless

Emissions Analysis for Site: BOBOS00029A - BOBOS00029A

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **165 Elmwood Hill Road** in **Putnam, Connecticut** for the purpose of determining whether the emissions from the Proposed Dish Wireless Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed Dish Wireless antenna facility located at 165 Elmwood Hill Road in Putnam, 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 Commscope FFVV-65B-R2 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector A, the Commscope FFVV-65B-R2 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector B, the Commscope FFVV-65B-R2 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 126 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:	Commscope FFVV-65B-R2	Make / Model:	Commscope FFVV-65B-R2	Make / Model:	Commscope FFVV-65B-R2
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:	17.55 dBd / 22.05 dBd / 22.05 dBd	Gain:	17.55 dBd / 22.05 dBd / 22.05 dBd	Gain:	17.55 dBd / 22.05 dBd / 22.05 dBd
Height (AGL):	126 feet	Height (AGL):	126 feet	Height (AGL):	126 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):	4,956.89	ERP (W):	4,956.89	ERP (W):	4,956.89
Antenna A1 MPE %:	**1.58%**	Antenna B1 MPE %:	**1.58%**	Antenna C1 MPE %:	**1.58%**

Site Composite MPE %	
Carrier	**MPE %**
Dish Wireless (Max at Sector A):	1.58%
AT&T	2.07%
Verizon	8.8%
Site Total MPE % :	12.45%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	1.58%
Dish Wireless Sector B Total:	1.58%
Dish Wireless Sector C Total:	1.58%
Site Total MPE % :	12.45%

Dish Wireless Maximum MPE Power Values (Sector A)

Dish Wireless Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
Dish Wireless 600 MHz n71	4	226.27	126.0	2.26	600 MHz n71	400	0.56%
Dish Wireless 1900 MHz n70	4	506.48	126.0	5.06	1900 MHz n70	1000	0.51%
Dish Wireless 2190 MHz n66	4	506.48	126.0	5.06	2190 MHz n66	1000	0.51%
						Total:	**1.58%**

• 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:	1.58%
Sector B:	1.58%
Sector C:	1.58%
Dish Wireless Maximum MPE % (Sector A):	1.58%
Site Total:	12.45%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **12.45%** 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.

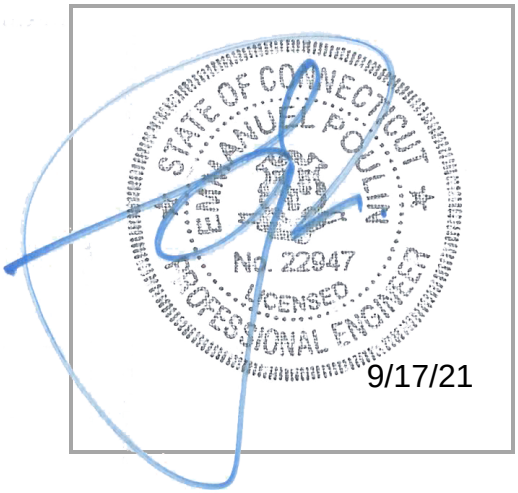
FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100%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

MOUNT ANALYSIS REPORT

September 17, 2021

Dish Wireless Site Name	BOBOS00029A
Dish Wireless Site Number	BOBOS00029A
Infinigy Job Number	1197-F0001-B
Client	NSS/DISH
Carrier	Dish Wireless
Site Location	165 Elmwood Hill Road Putnam, CT 06260 Windham County 41.929256 N NAD83 71.810047 W NAD83
Mount Type	8.0 ft Platform
Mount Elevation	126.0 ft AGL
Structural Usage Ratio	**33.8%**
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 121 mph. The evaluation criteria and applicable codes are presented in the next section of this report.



CONTENTS

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	121 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 = 0.187 g / S_1 = 0.055 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 - 126.0 ft. AGL Platform

Antenna Centerline (ft)	Qty.	Appurtenance Manufacturers	Appurtenance Models
126.0	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-415784 Rev 0, Site #BOBOS00029A, dated May 25, 2021
Mount Manufacturer Drawings	Commscope Document # MC-PK8-DSH, dated March 08, 2021
As-Builts Drawing	B+T GRP, Project # 146526.001.02, Rev A, dated September 13, 2021

5. RESULTS

Components	Capacity	Pass/Fail
Mount Pipes	22.6%	Pass
Horizontals	13.7%	Pass
Standoffs	33.3%	Pass
Handrails	27.3%	Pass
Connections	33.8%	Pass
MOUNT RATING =	**33.8%**	**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 126.0 ft. The installation shall be performed in accordance with the construction documents issued for this site.

Binita Yadav
Project Engineer I | **INFINIGY**

7. ASSUMPTIONS

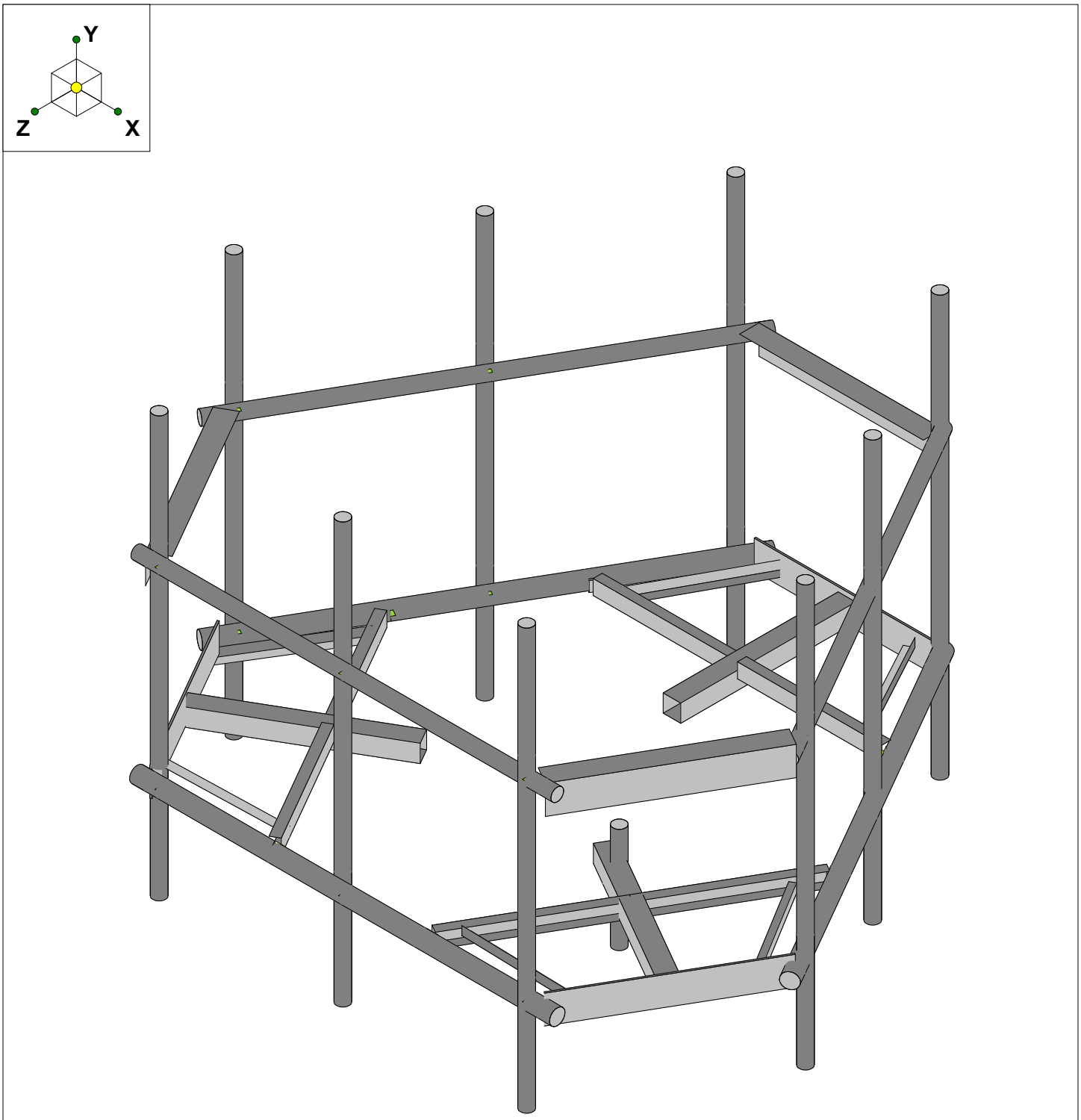
The antenna mounting system was properly fabricated, installed and maintained in accordance with its original design and manufacturer's specifications.
The configuration of antennas, mounts, and other appurtenances are as specified in the proposed loading configuration table.
All member connections are 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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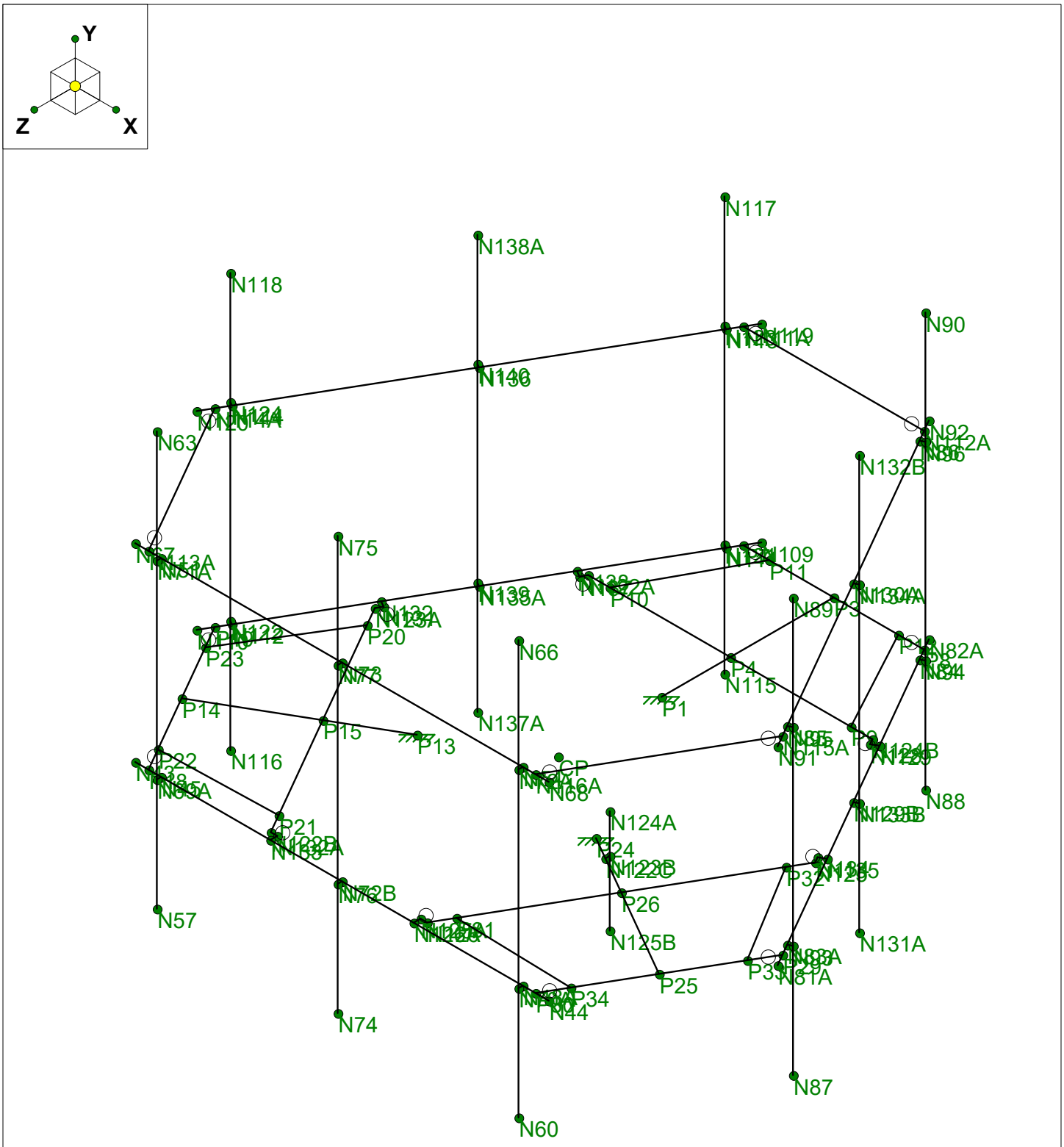

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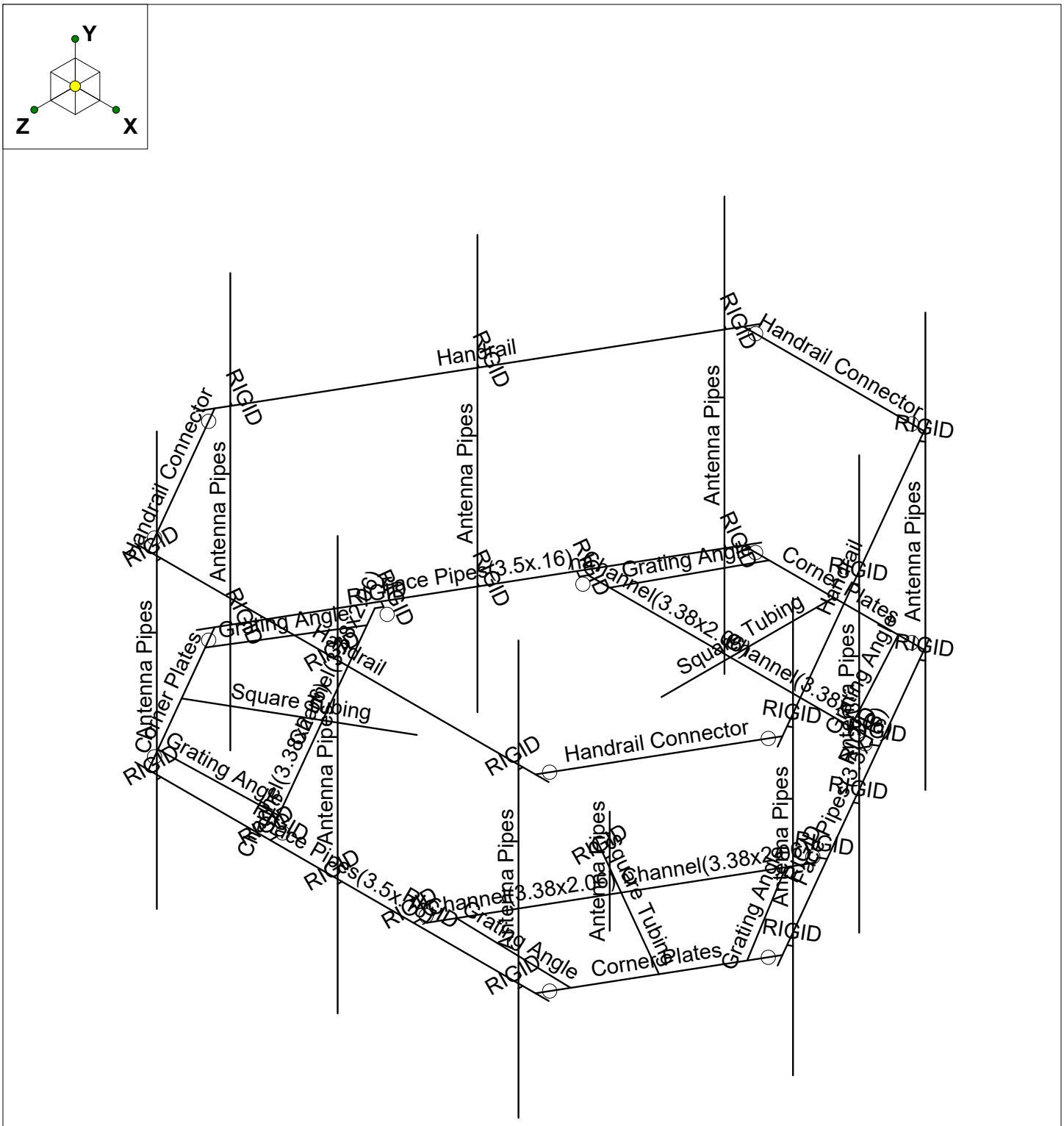

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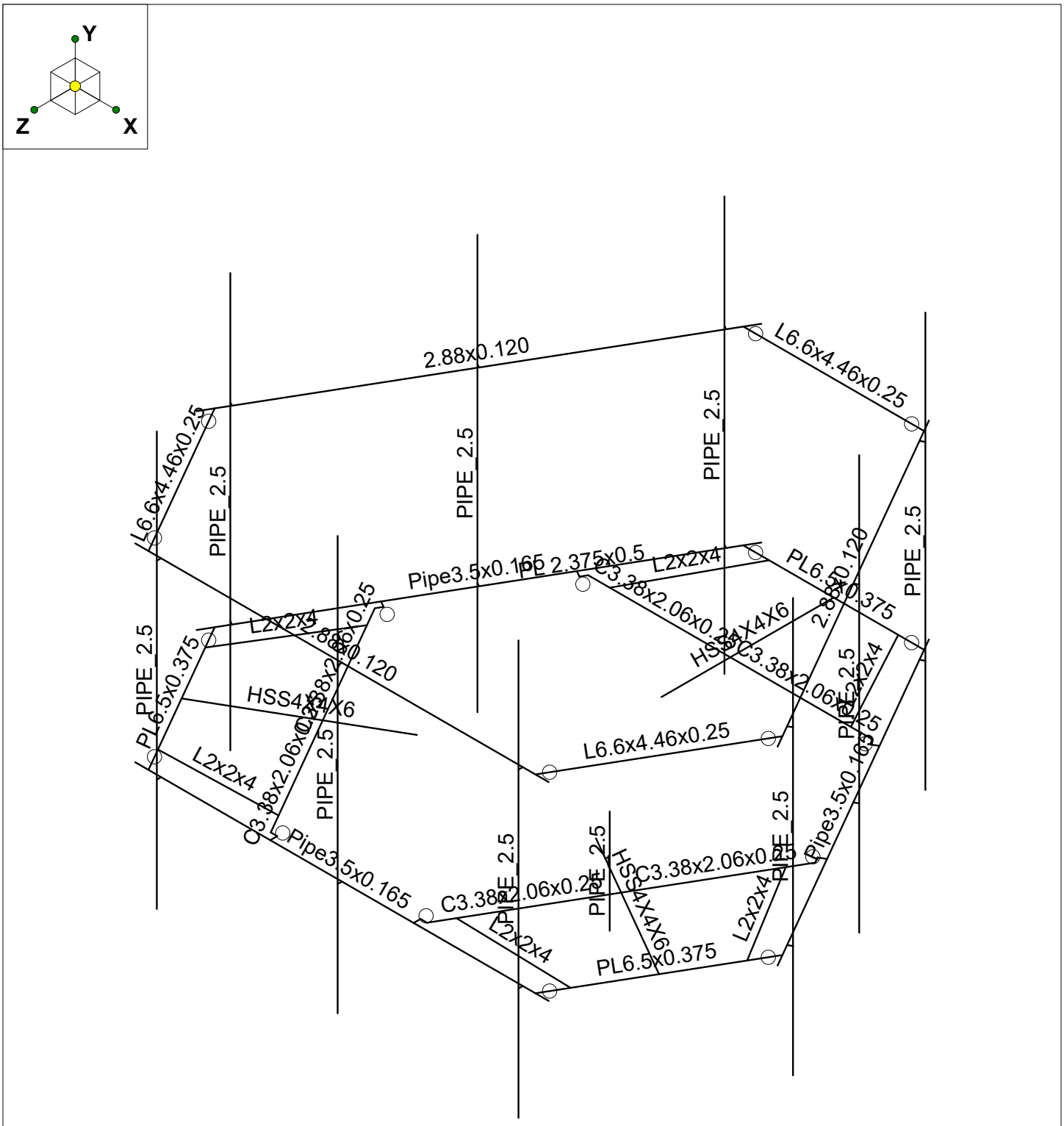

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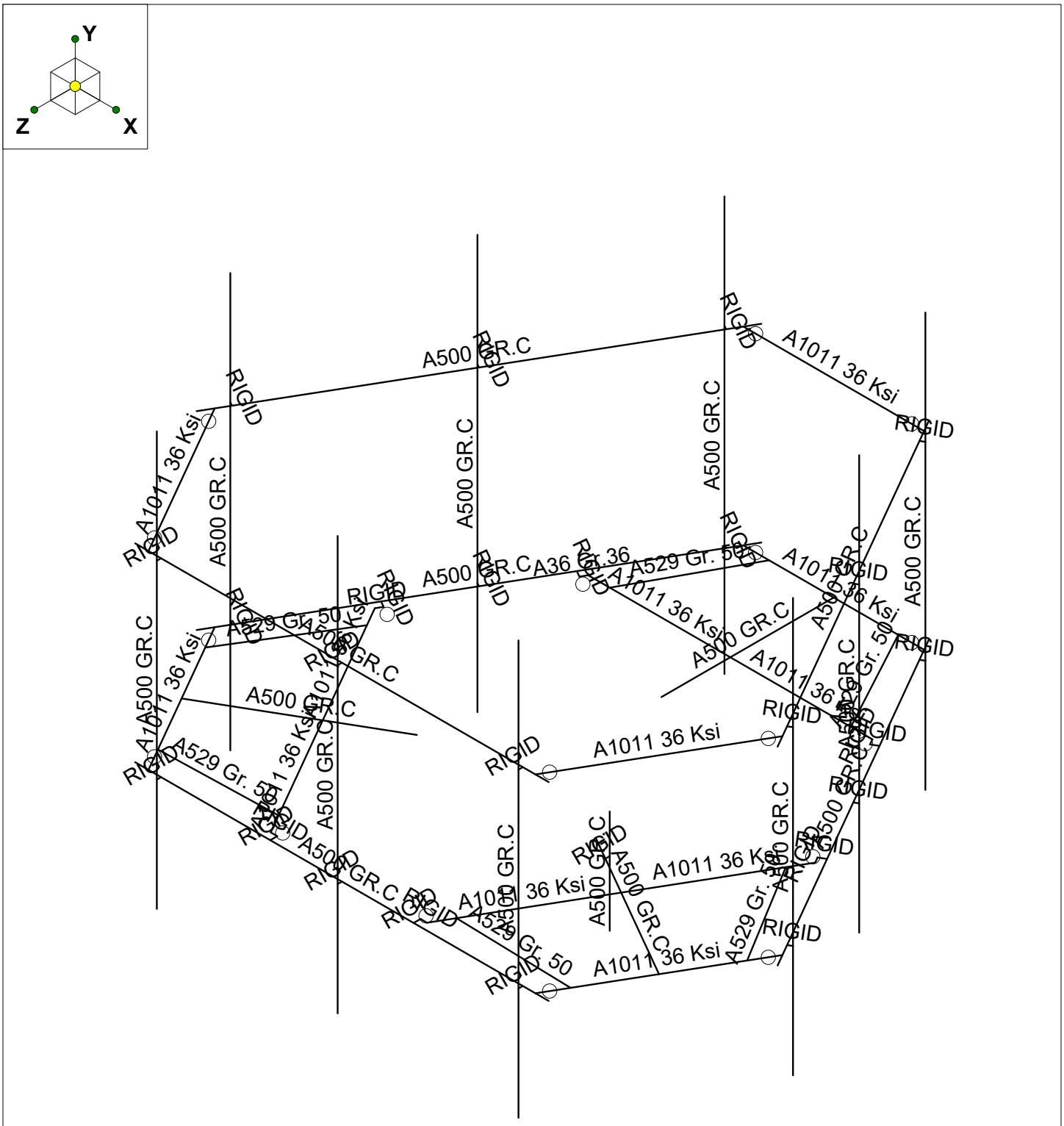

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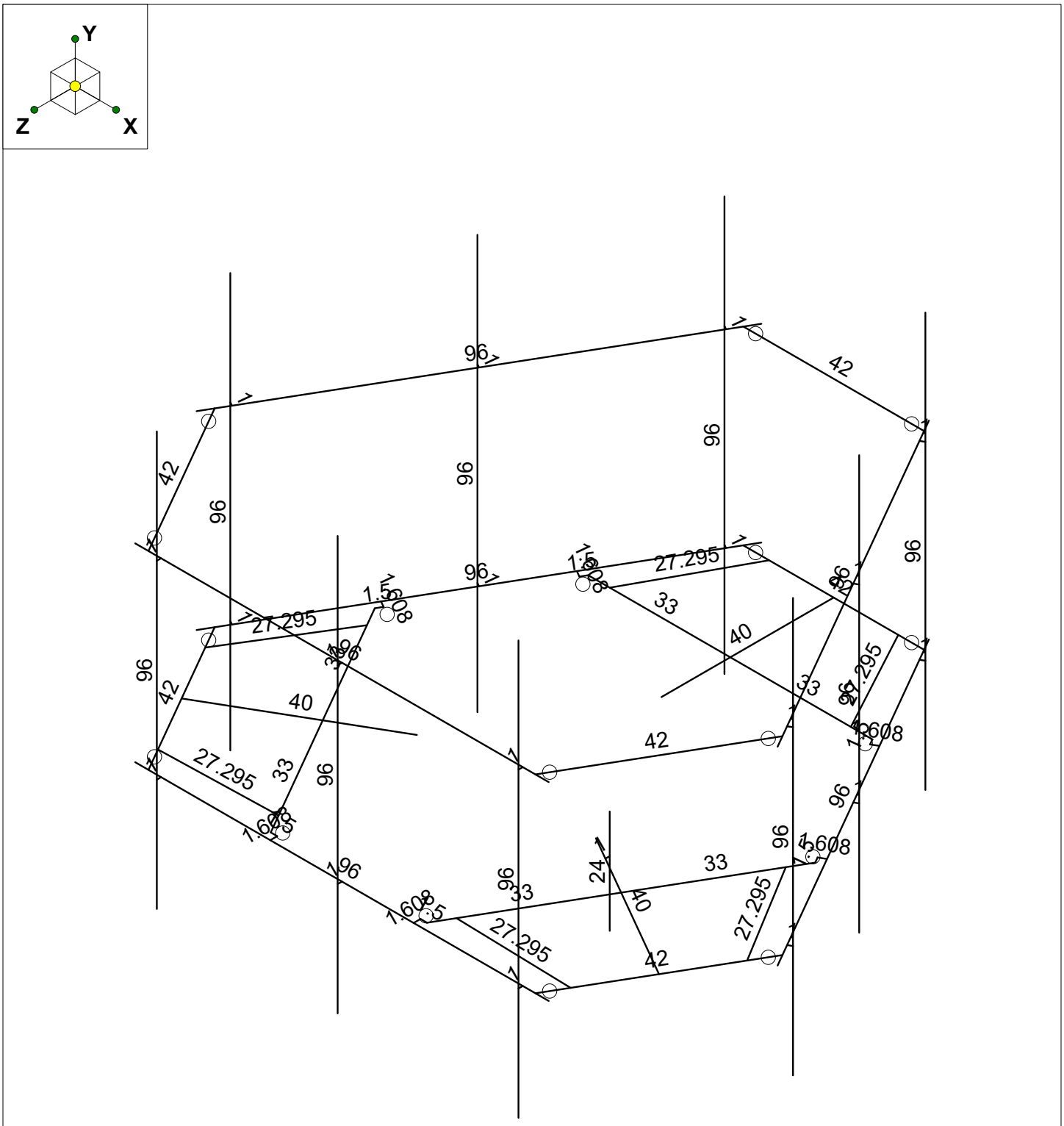

Member Length (in) Displayed

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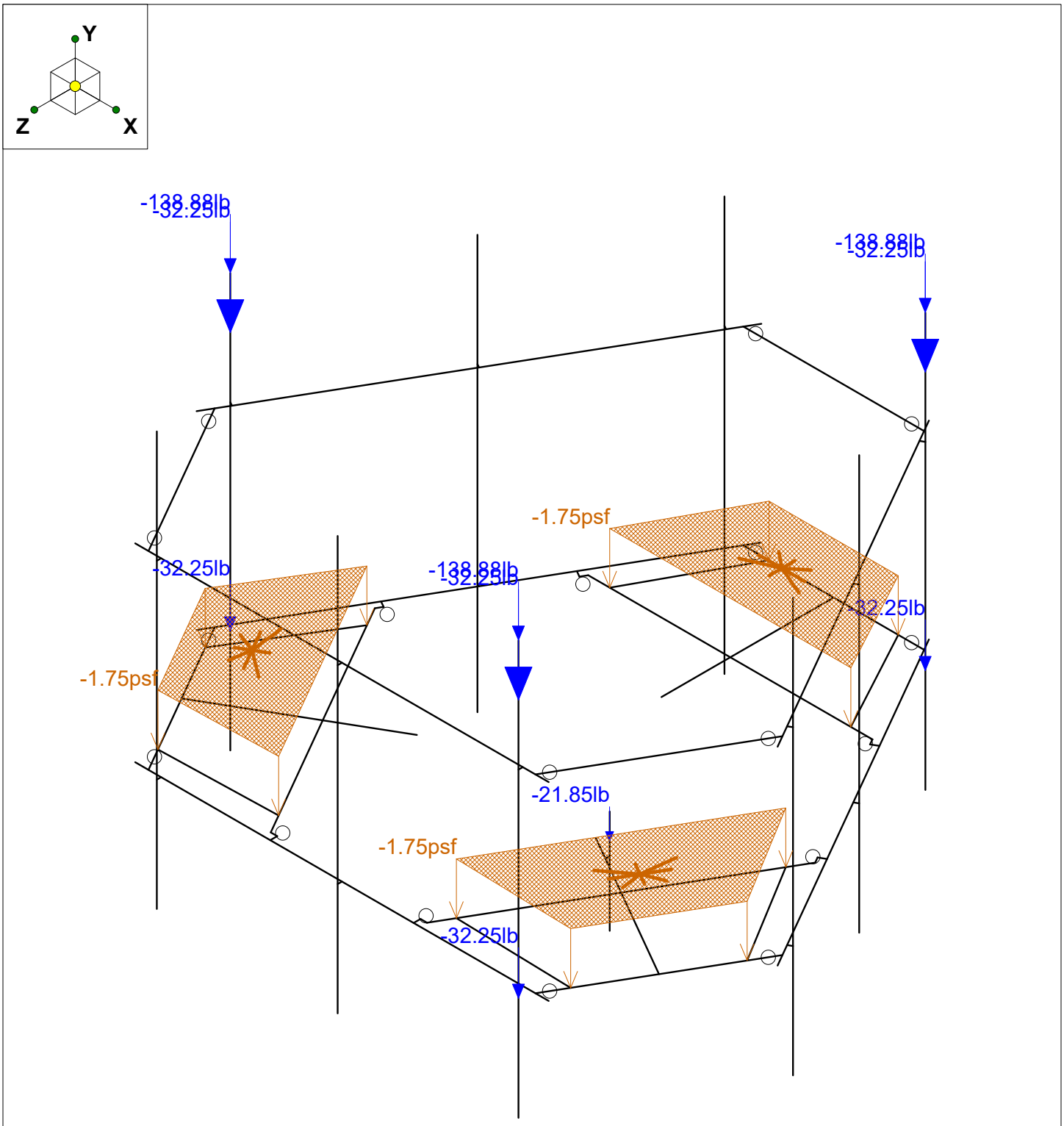

Loads: BLC 1, Self Weight

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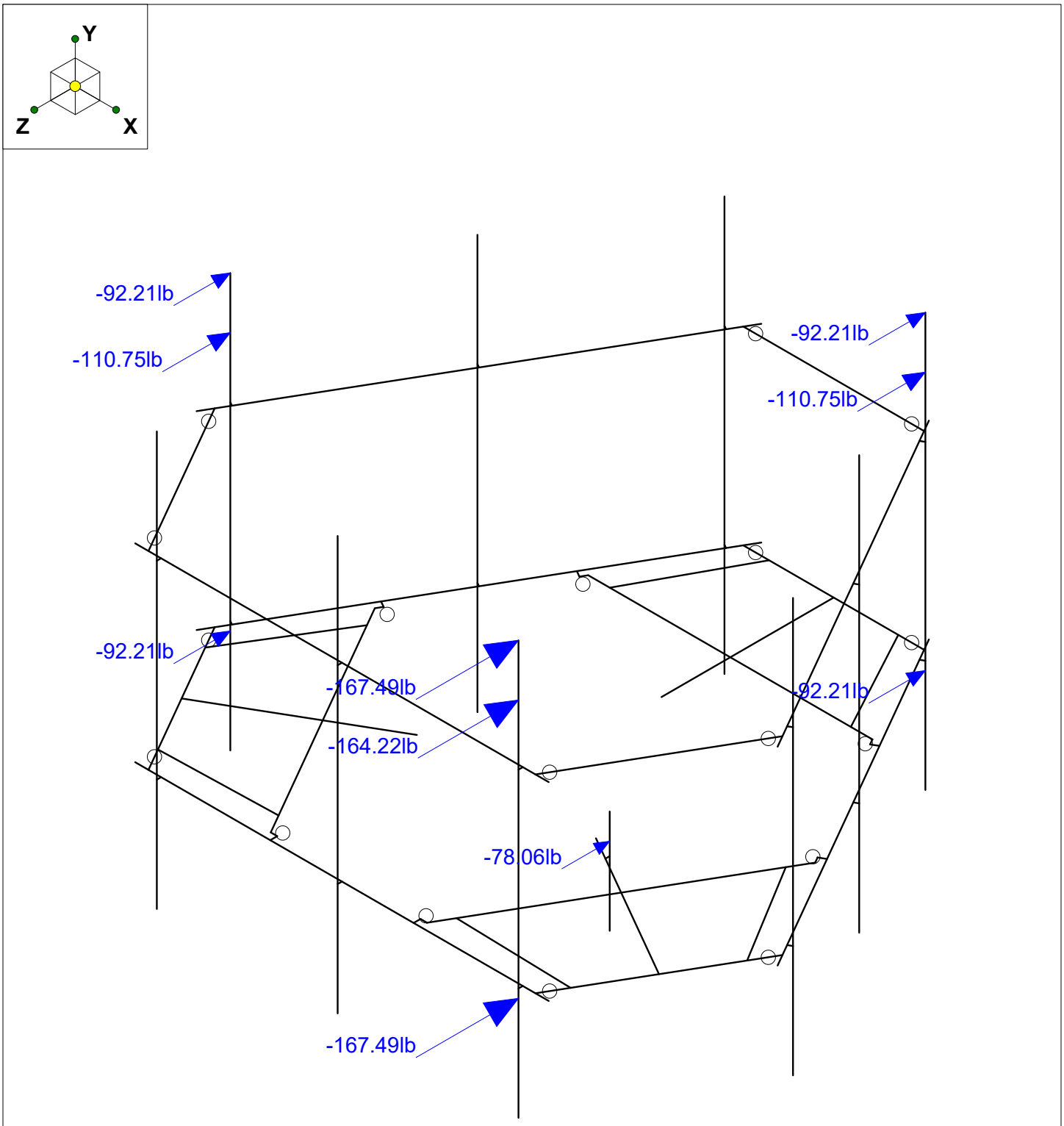

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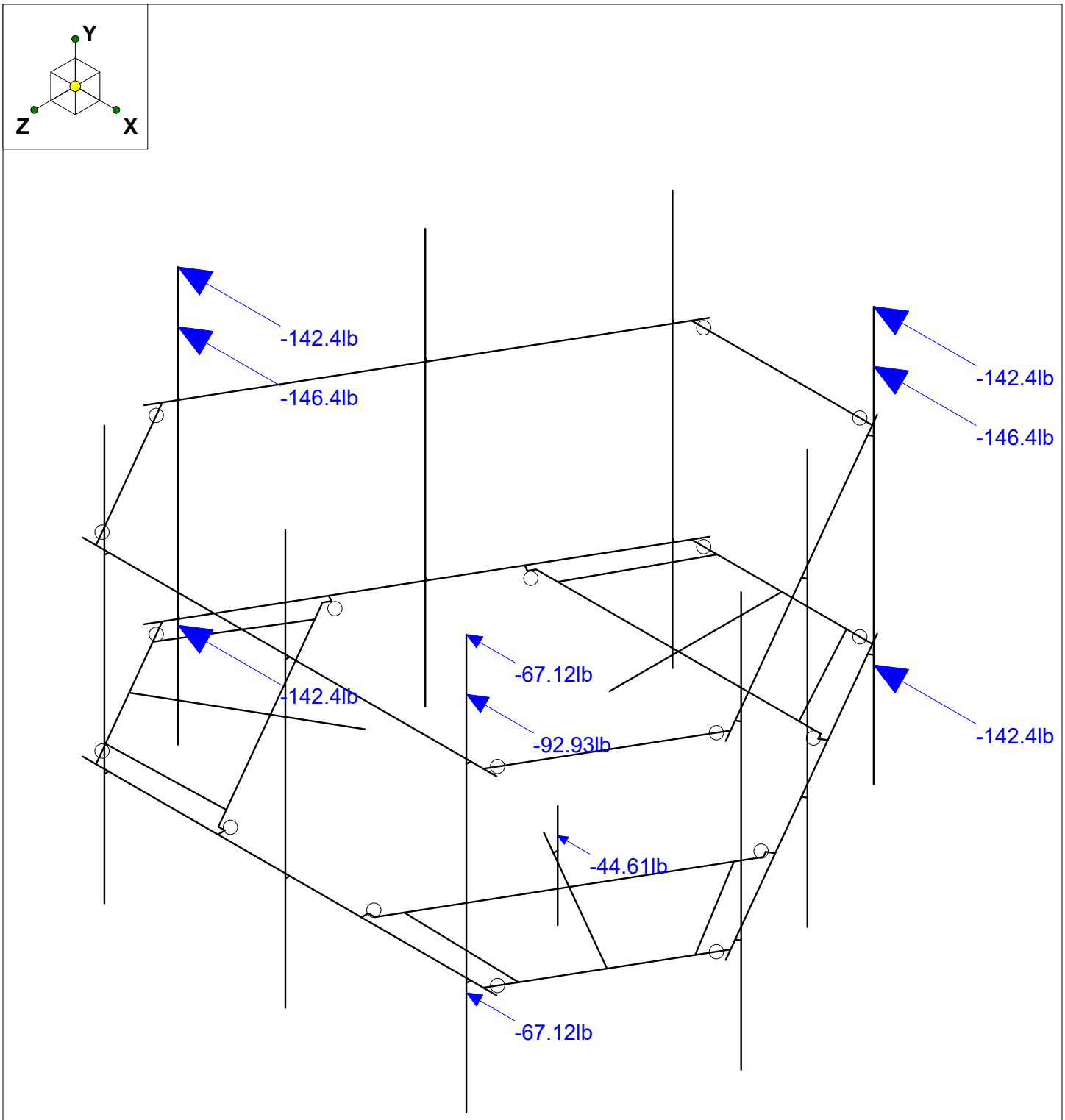

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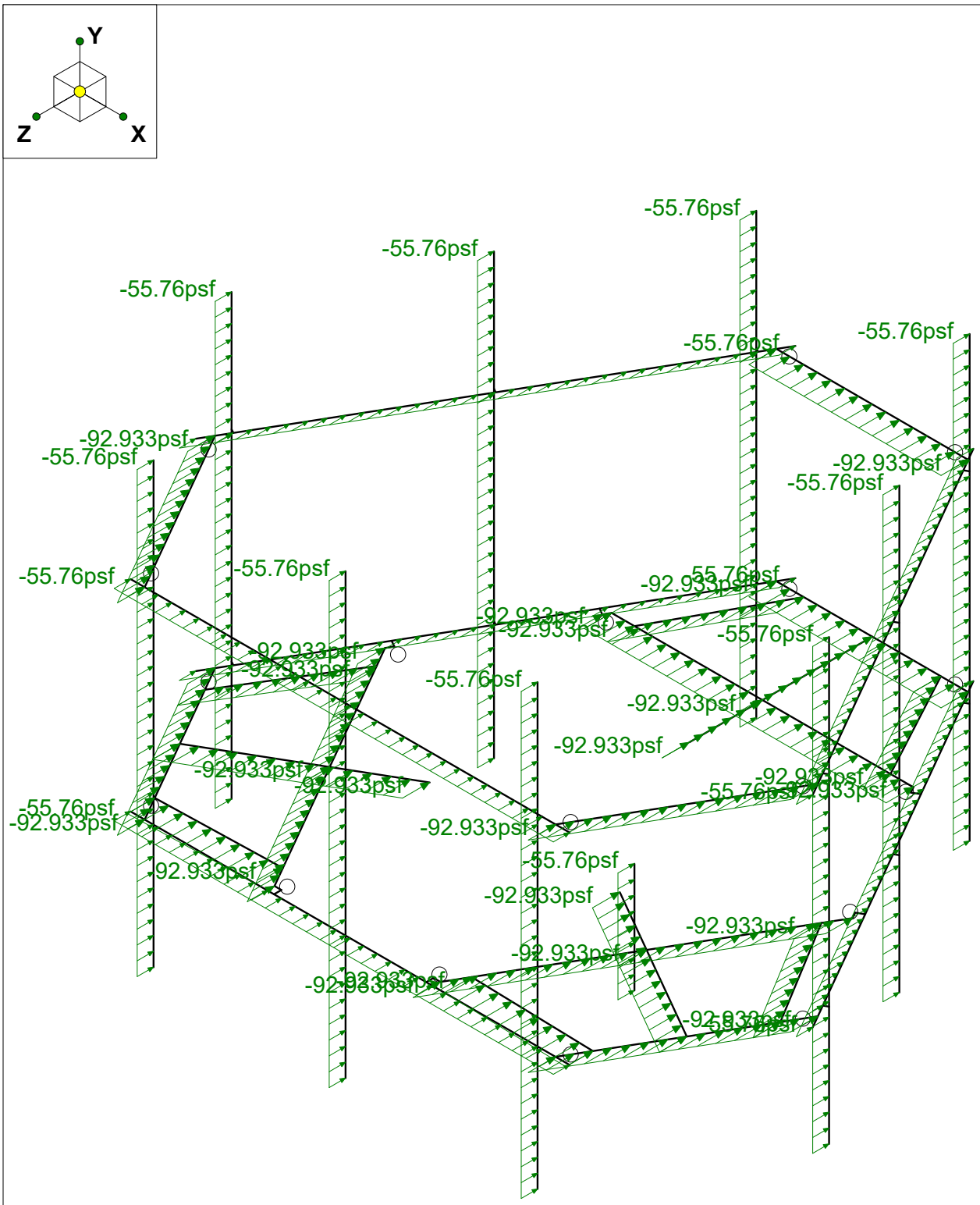

Loads: BLC 14, Distr. Wind Load Z

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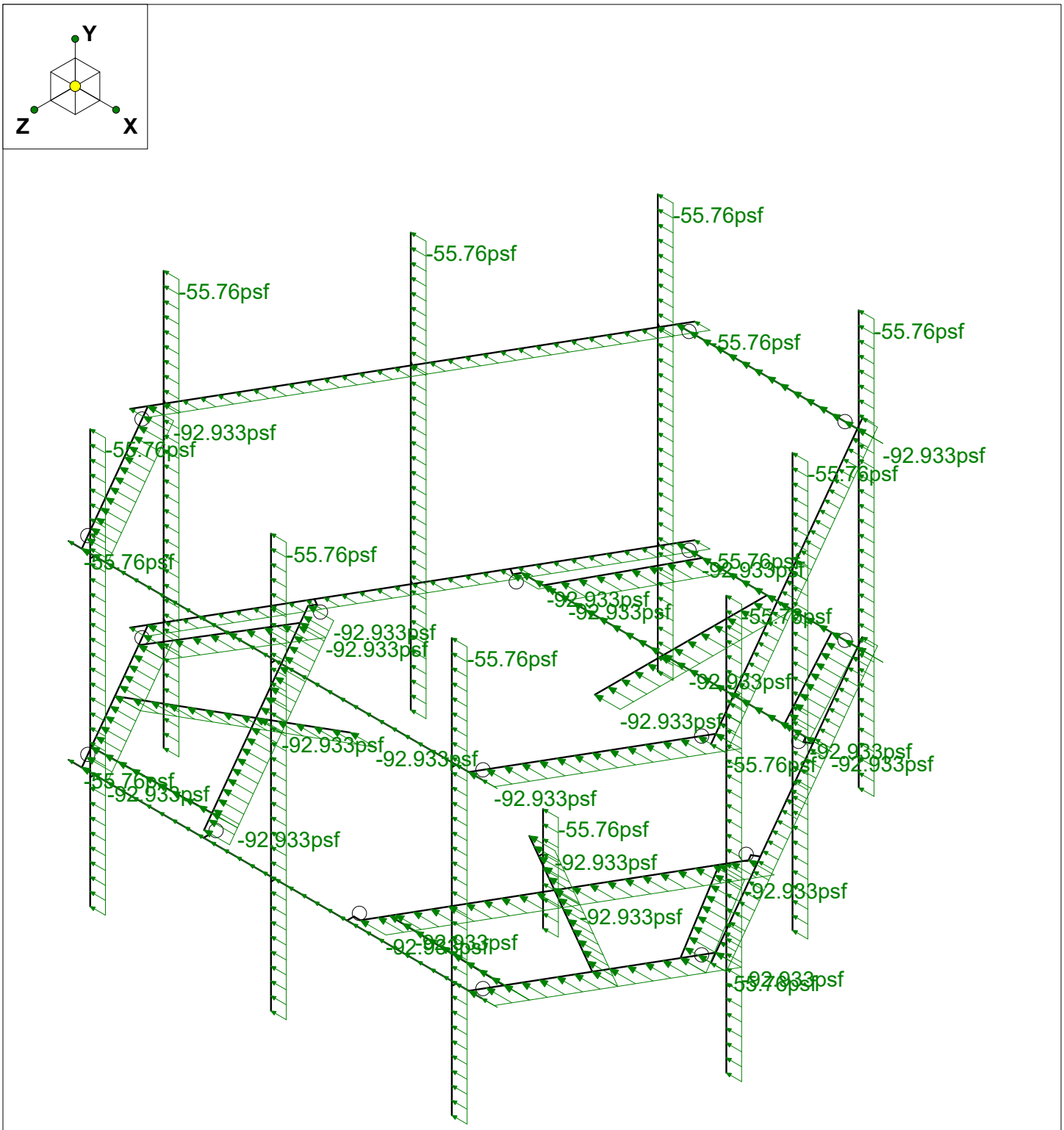
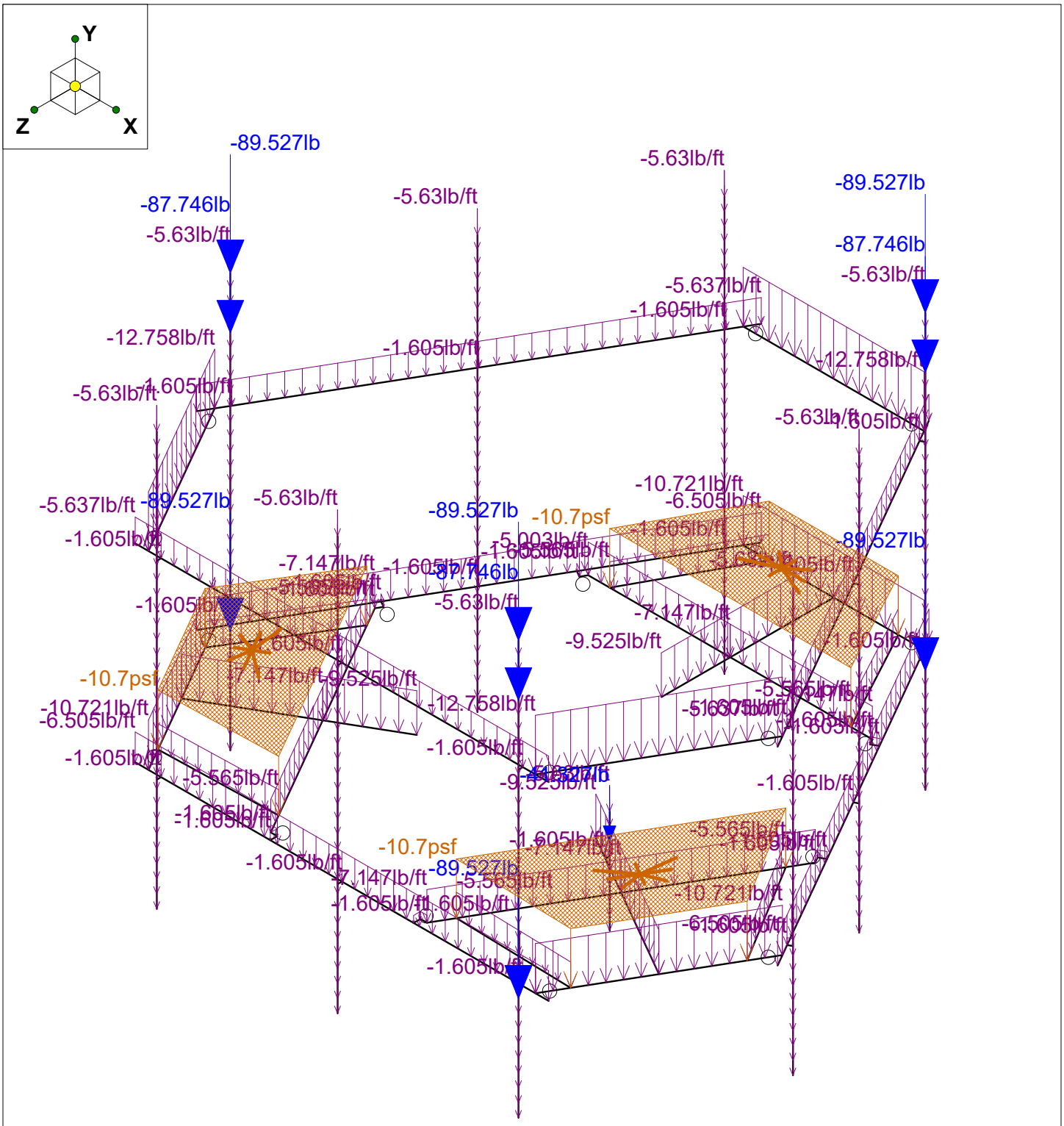


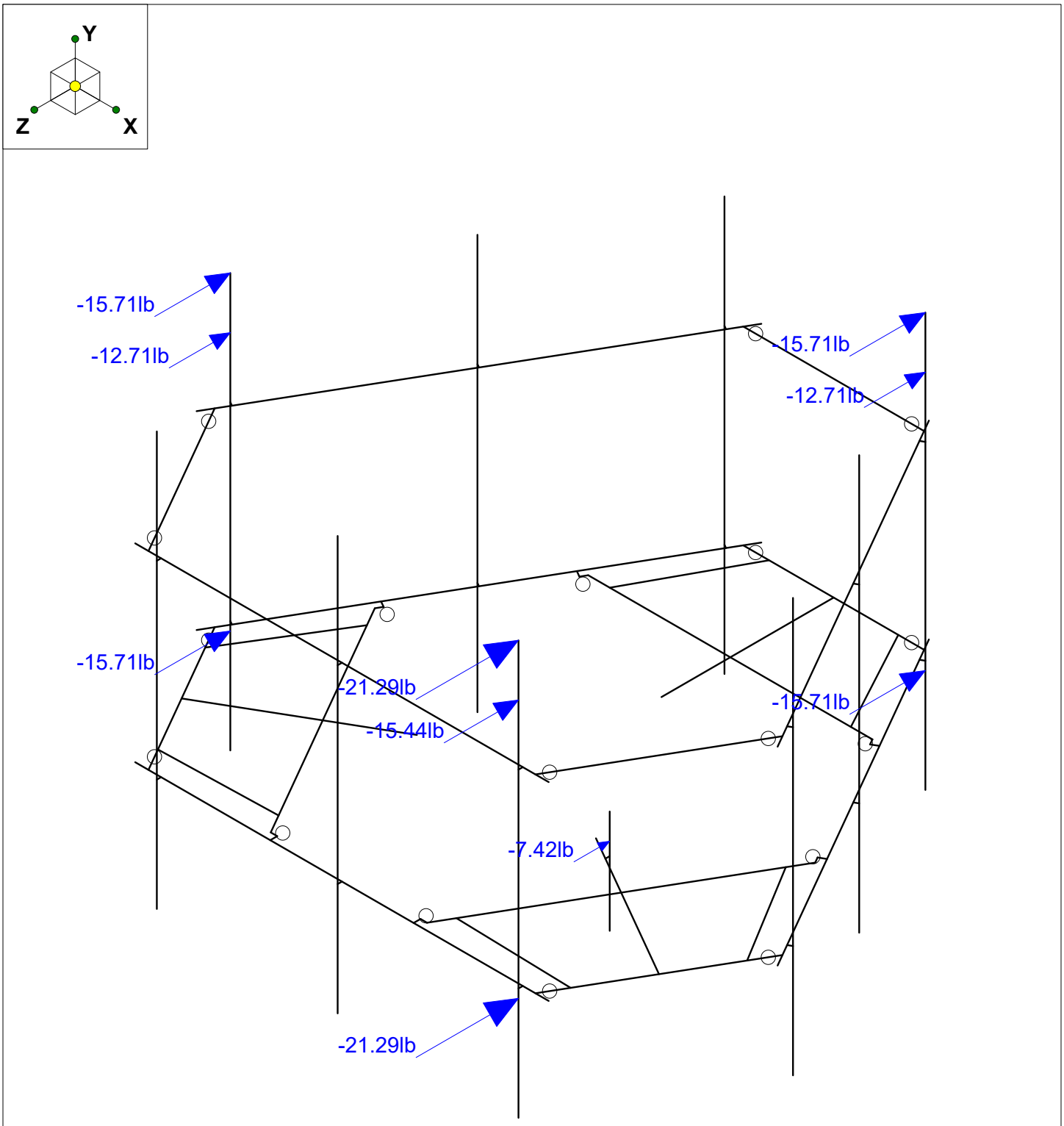
Loads: BLC 15, Distr. Wind Load X

Infinigy Engineering, PLLC	BOBOS00029A	Distr. Wind Load AZI 090
BY		Sept 17, 2021 at 9:50 AM
1197-F0001-B		BOBOS00029A_loaded.r3d



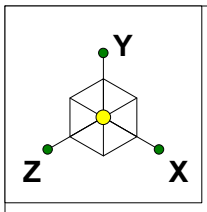
Loads: BLC 16, Ice Weight

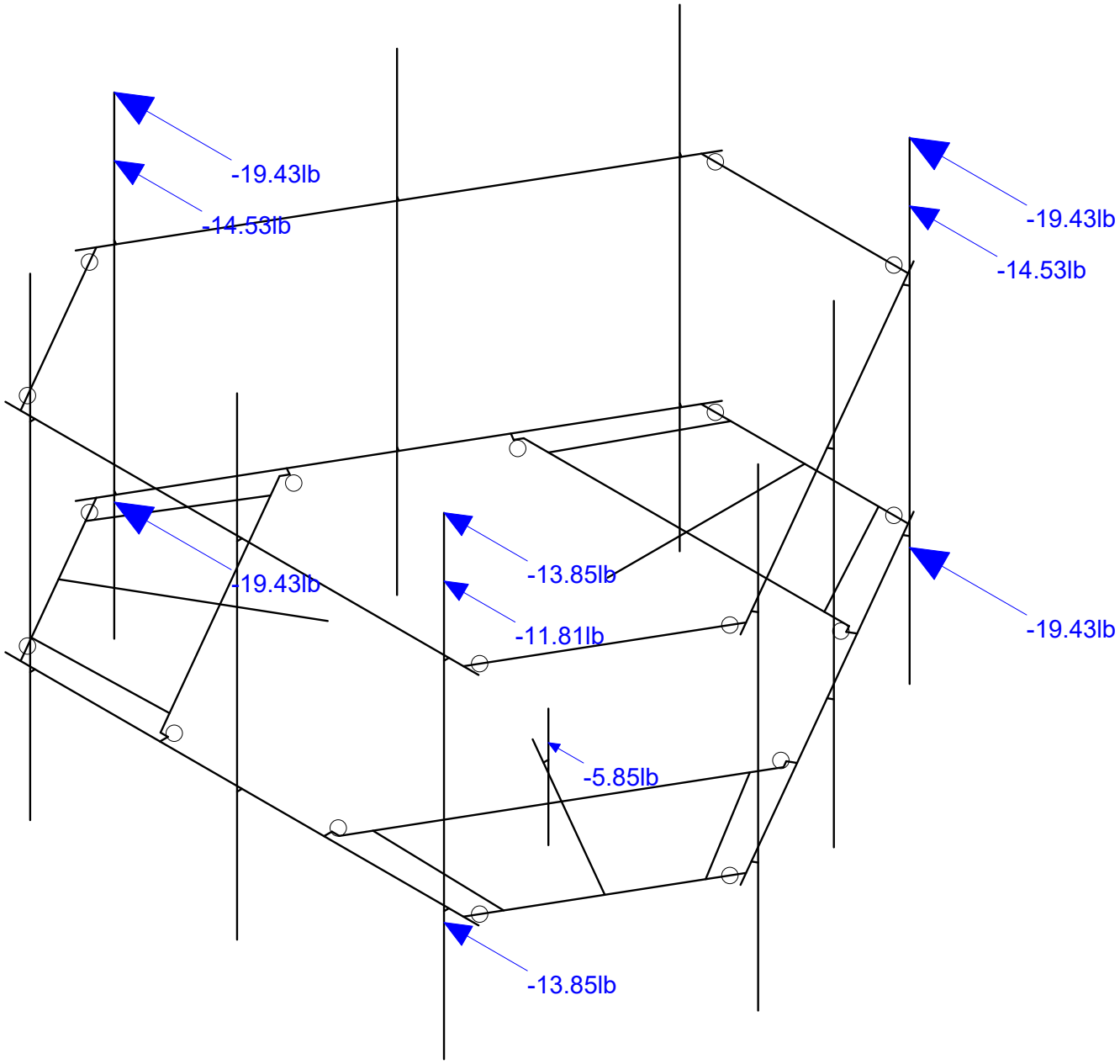
Infinigy Engineering, PLLC	BOBOS00029A	Ice Weight
BY		Sept 17, 2021 at 9:51 AM
1197-F0001-B		BOBOS00029A_loaded.r3d



Loads: BLC 17, Ice Wind Load AZI 0

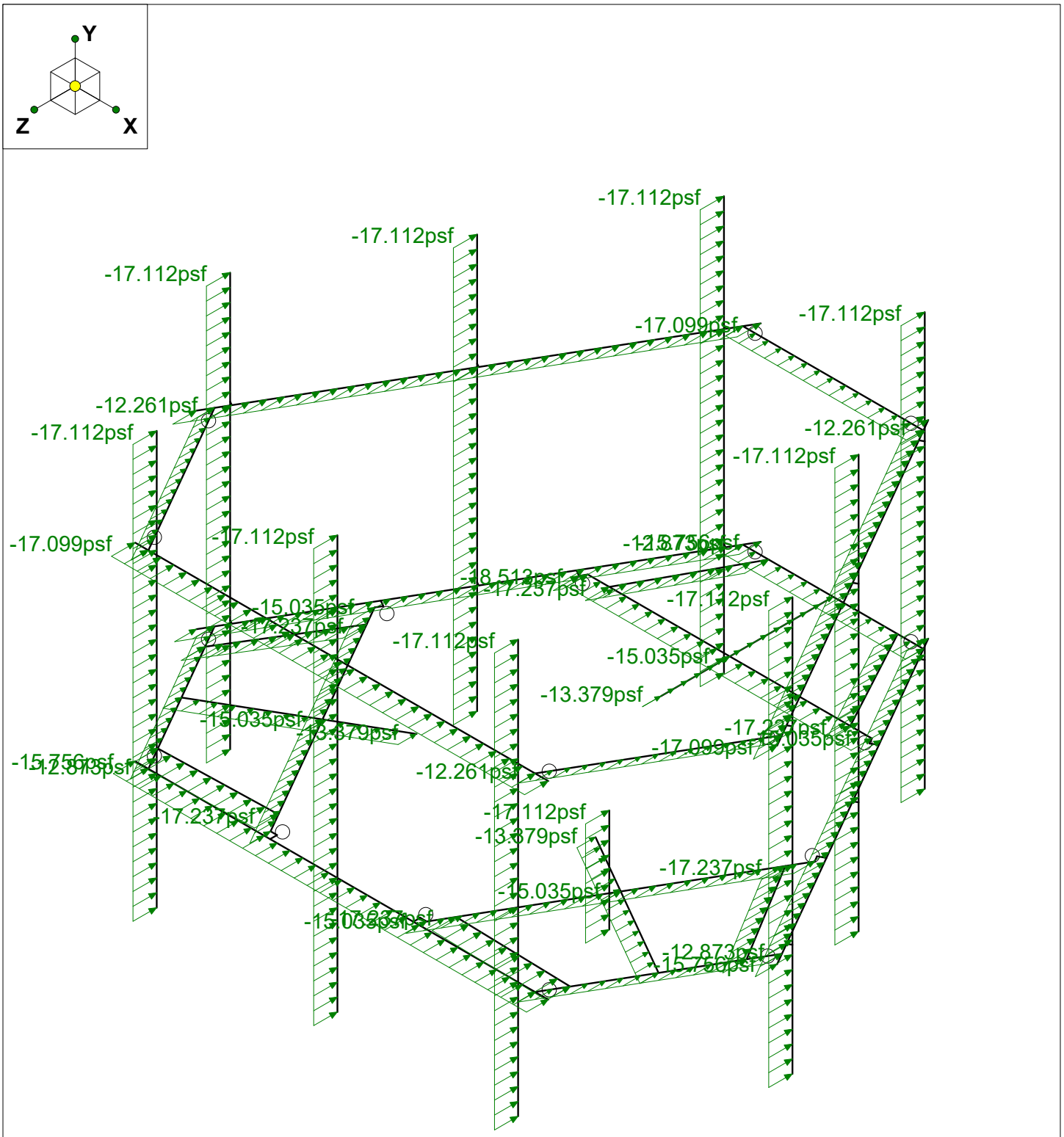
Infinigy Engineering, PLLC	BOBOS00029A	Ice Weight Load AZI 000
BY		Sept 17, 2021 at 9:51 AM
1197-F0001-B		BOBOS00029A_loaded.r3d





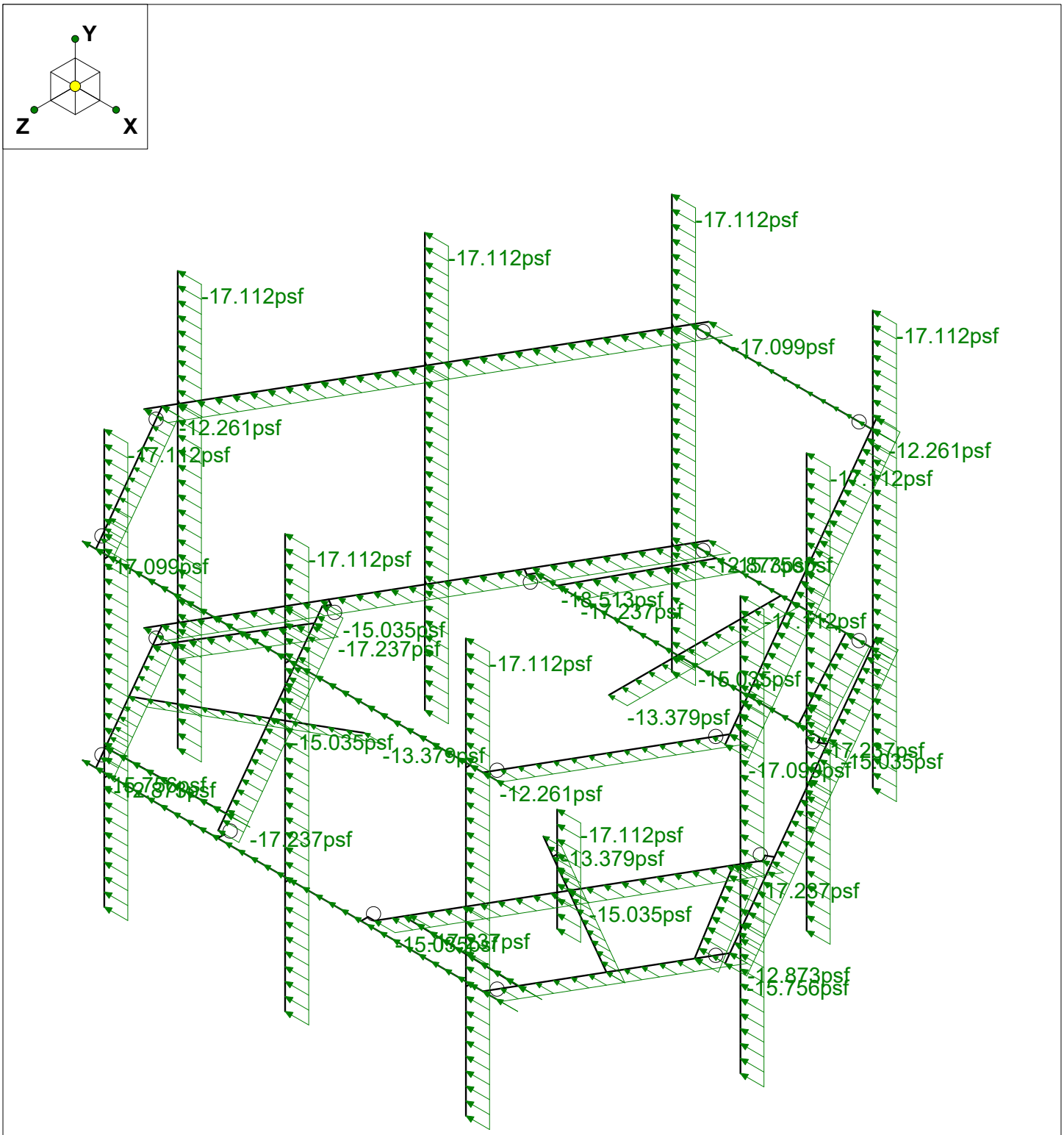
Loads: BLC 20, Ice Wind Load AZI 90

Infinigy Engineering, PLLC	BOBOS00029A	Ice Weight Load AZI 090
BY		Sept 17, 2021 at 9:52 AM
1197-F0001-B		BOBOS00029A_loaded.r3d



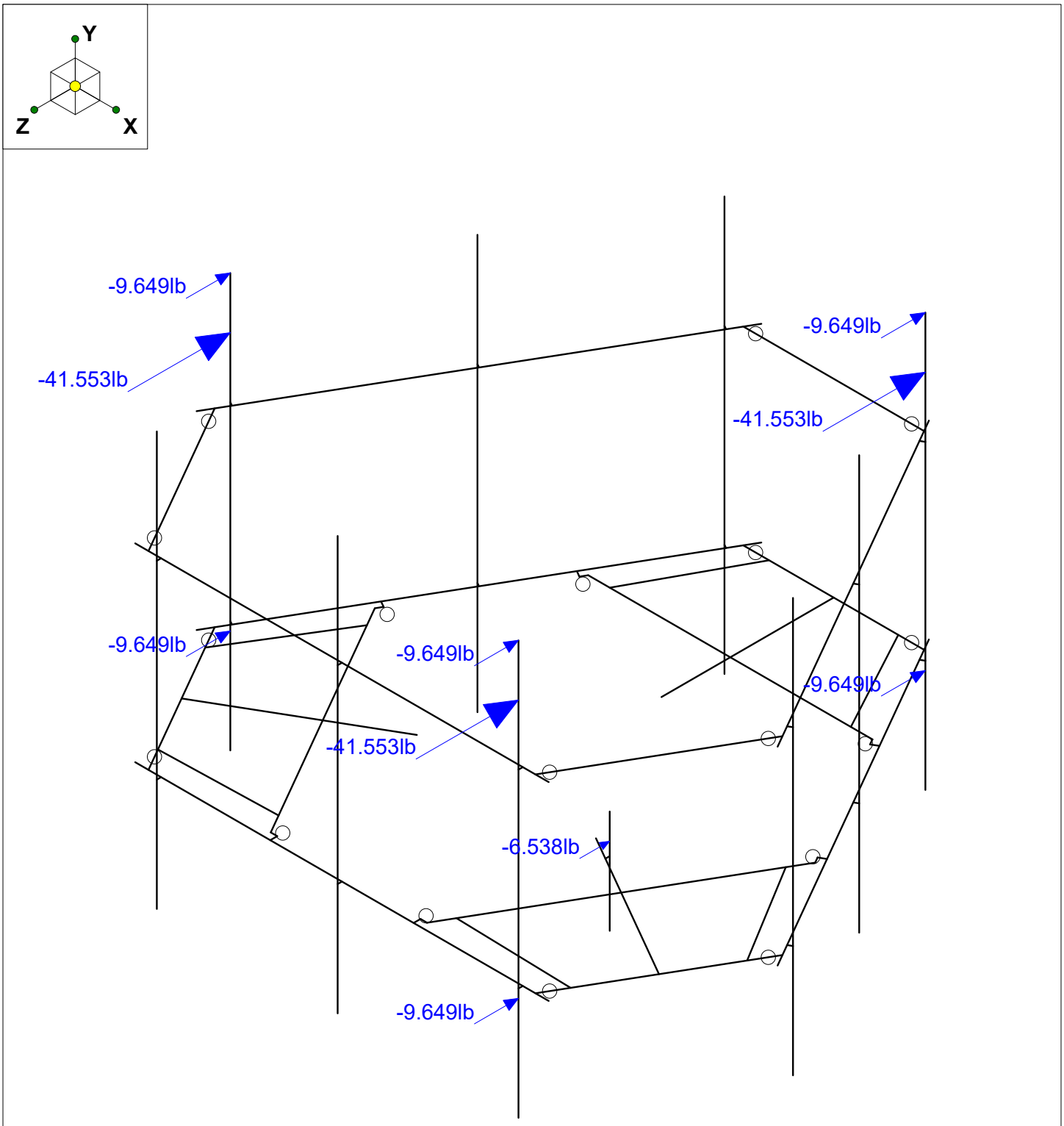
Loads: BLC 29, Distr. Ice Wind Load Z

Infinigy Engineering, PLLC	BOBOS00029A	Distr.Ice Wind Load AZI 000
BY		Sept 17, 2021 at 9:53 AM
1197-F0001-B		BOBOS00029A_loaded.r3d



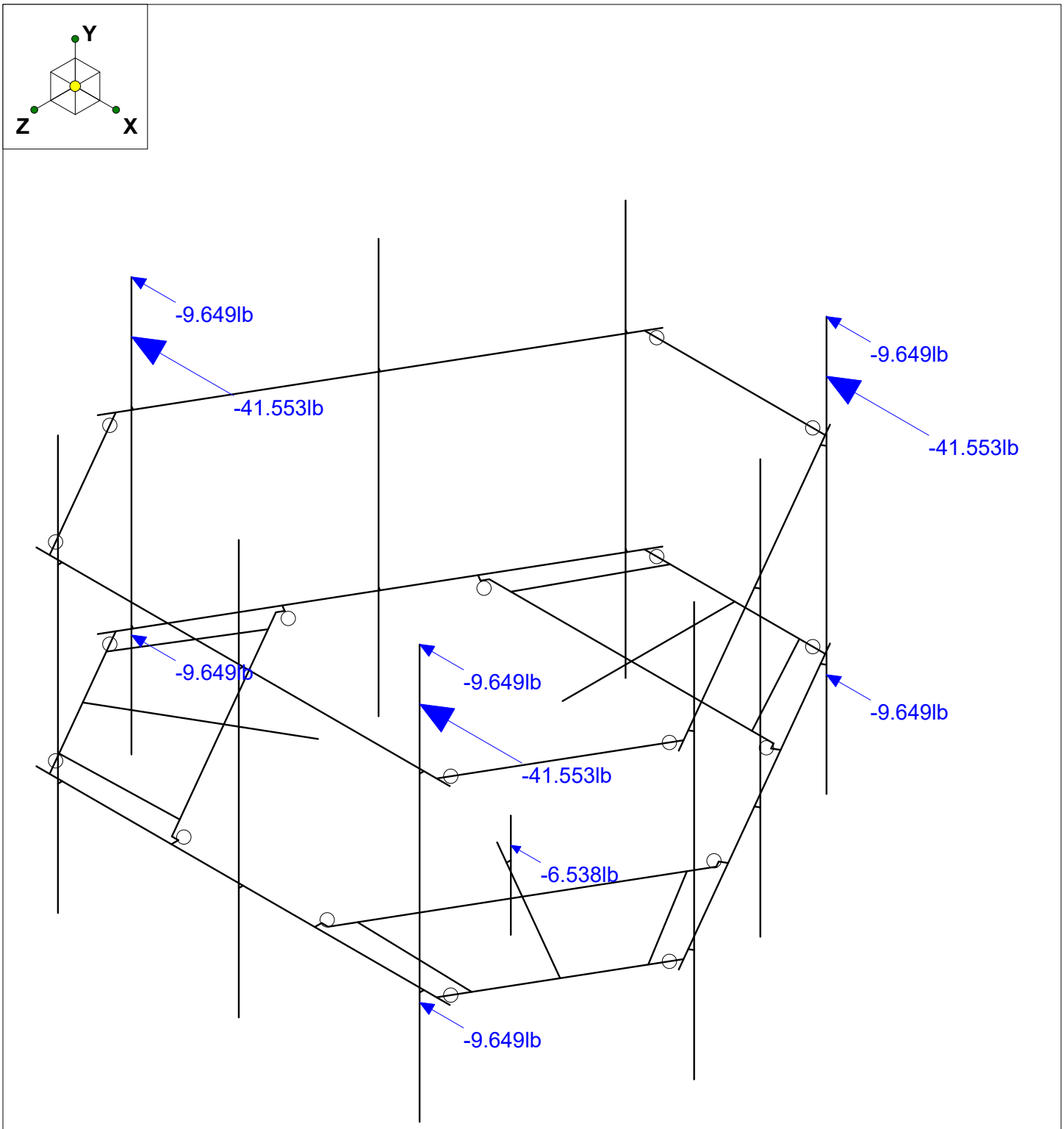
Loads: BLC 30, Distr. Ice Wind Load X

Infinigy Engineering, PLLC	BOBOS00029A	Distr.Ice Wind Load AZI 090
BY		Sept 17, 2021 at 9:53 AM
1197-F0001-B		BOBOS00029A_loaded.r3d



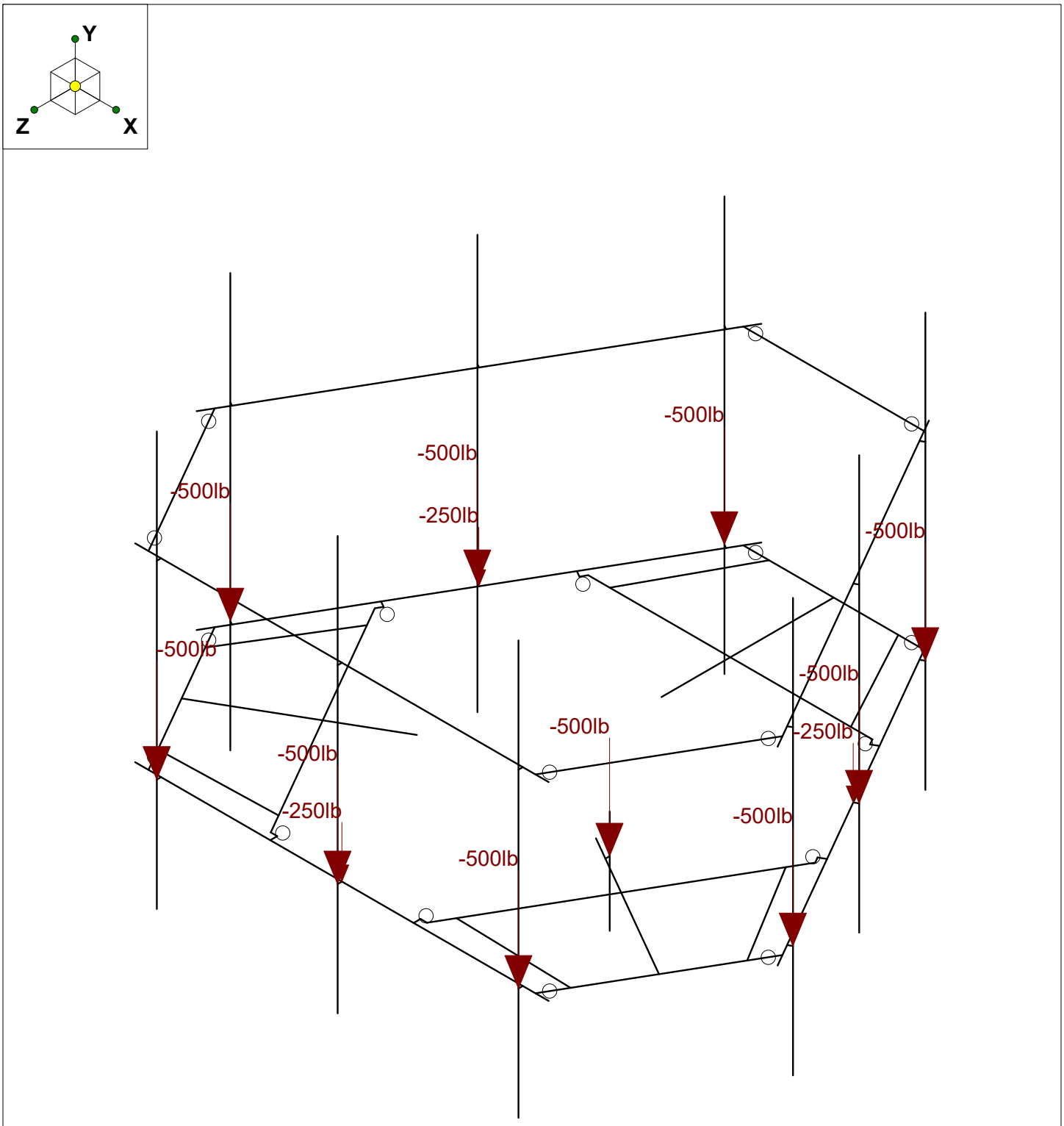
Loads: BLC 31, Seismic Load Z

Infinigy Engineering, PLLC	BOBOS00029A	Seismic Load AZI 000
BY		Sept 17, 2021 at 9:54 AM
1197-F0001-B		BOBOS00029A_loaded.r3d



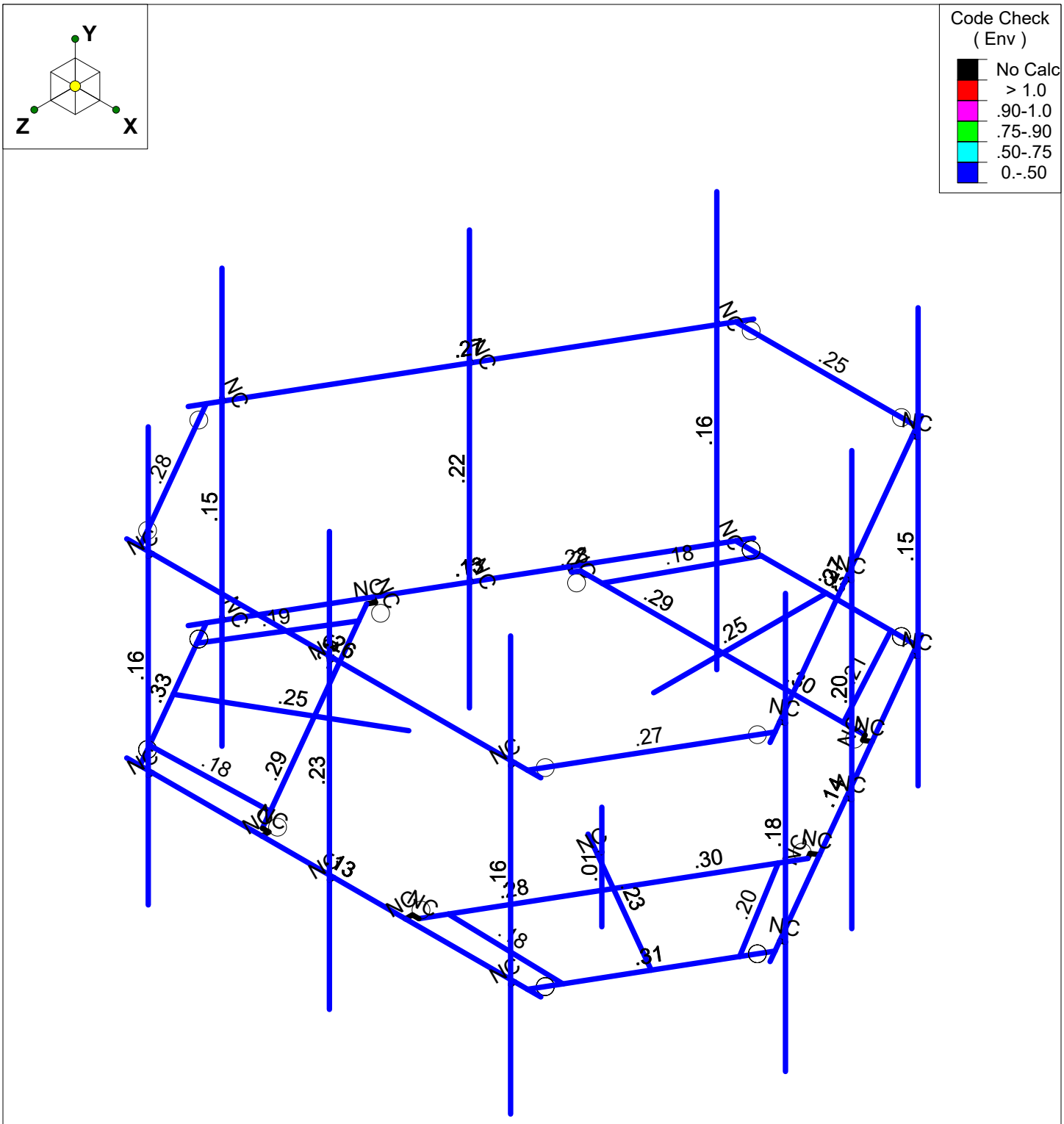
Loads: BLC 32, Seismic Load X

Infinigy Engineering, PLLC	BOBOS00029A	Seismic Load AZI 090
BY		Sept 17, 2021 at 9:54 AM
1197-F0001-B		BOBOS00029A_loaded.r3d



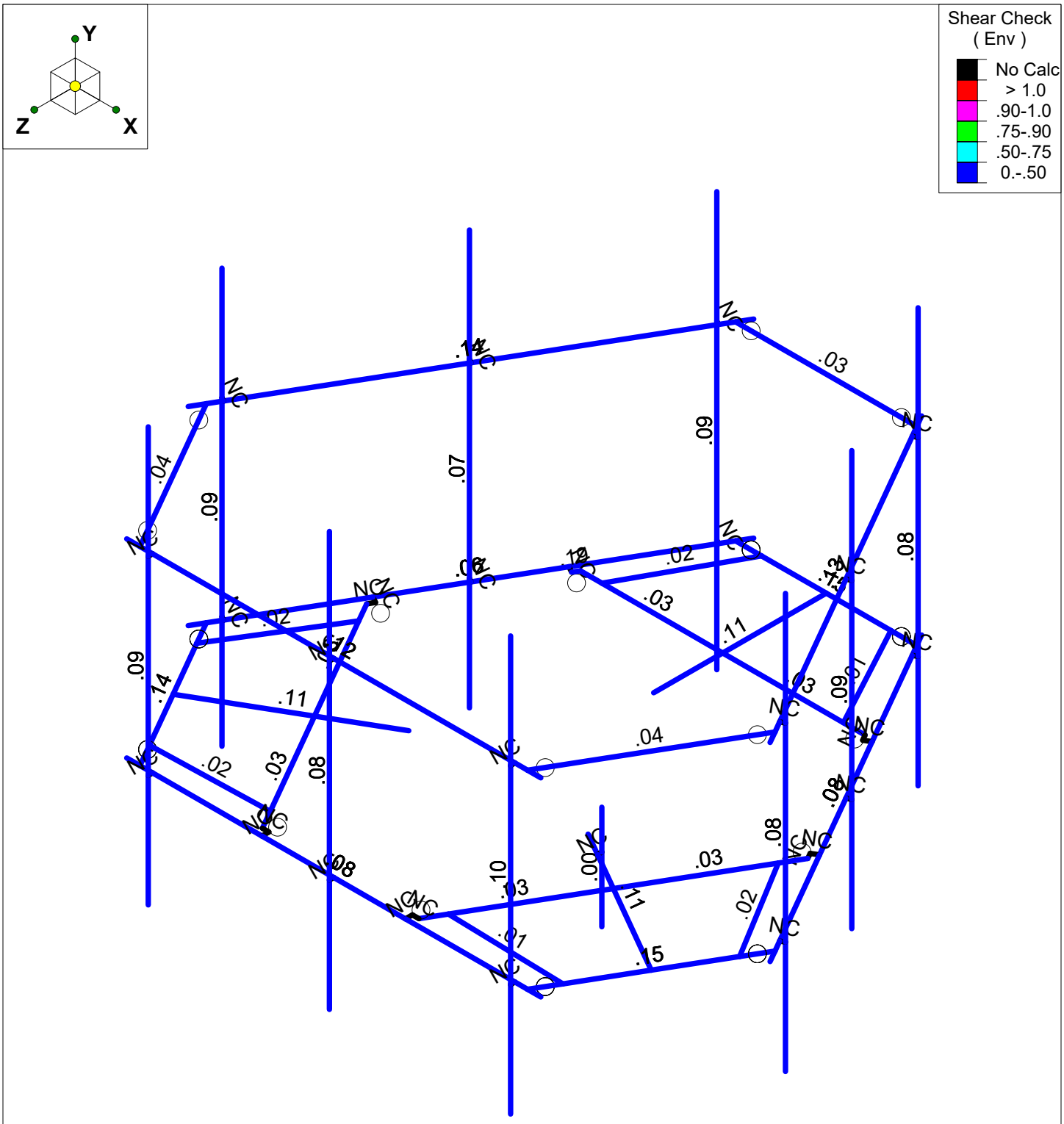
Loads: LL - Live Load

Infinigy Engineering, PLLC	BOBOS00029A	Non-Concurrent Live Loads
BY		Sept 17, 2021 at 9:56 AM
1197-F0001-B		BOBOS00029A_loaded.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Infinigy Engineering, PLLC	BOBOS00029A	Bending Check
BY		Sept 17, 2021 at 10:38 AM
1197-F0001-B		BOBOS00029A_loaded.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Infinigy Engineering, PLLC	BOBOS00029A	Shear Check
BY		Sept 17, 2021 at 10:38 AM
1197-F0001-B		BOBOS00029A_loaded.r3d

Program Inputs

PROJECT INFORMATION	
Client:	NSS
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:	634.85	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Platform	
Num Sectors:	3	
Centerline AGL:	126.00	ft
Tower Height AGL:	149.00	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):	0.977	*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}):	121	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1	in
Flat Pressure:	92.473	psf
Round Pressure:	55.484	psf
Ice Wind Pressure:	9.474	psf

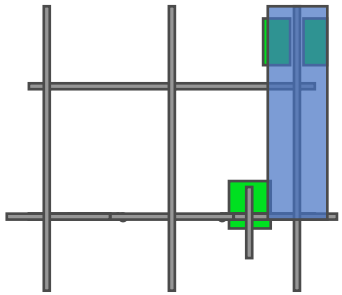
SEISMIC DATA		
Short-Period Accel. (S_s):	0.187	g
1-Second Accel. (S_1):	0.055	g
Short-Period Design (S_{DS}):	0.199	
1-Second Design (S_{D1}):	0.089	
Short-Period Coeff. (F_a):	1.600	
1-Second Coeff. (F_v):	2.400	
Amplification Factor (A_s):	3.000	
Response Mod. Coeff. (R):	2.000	

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

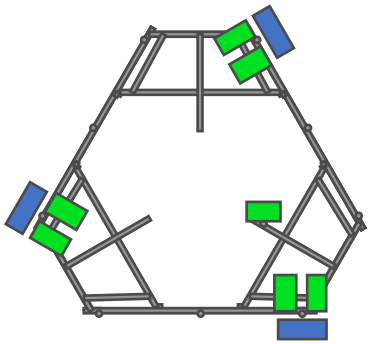
Infinigy Load Calculator V2.1.7

Program Inputs

ELEVATION VIEW



PLAN VIEW



INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

Infinigy Load Calculator V2.1.7

APPURTENANCE INFORMATION

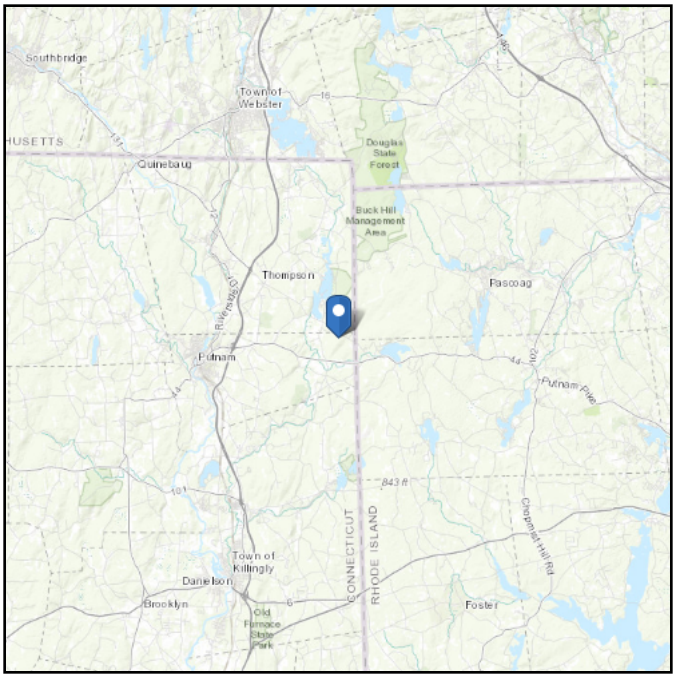
Appurtenance Name	Elevation	Qty.	K_a	q_z (psf)	EPA_N (ft^2)	EPA_T (ft^2)	Wind F_z (lbs)	Wind F_x (lbs)	Weight (lbs)	Seismic F (lbs)	Member (α sector)
JMA WIRELESS MX08FRO665-21	126.0	3	0.90	46.24	8.01	3.21	333.32	133.58	64.50	19.30	MP1
FUJITSU TA08025-B605	126.0	3	0.90	46.24	1.96	1.19	81.71	49.48	74.95	22.43	MP1
FUJITSU TA08025-B604	126.0	3	0.90	46.24	1.96	1.03	81.71	42.98	63.93	19.13	MP1
RAYCAP RDIDC-9181-PF-48	126.0	1	0.90	46.24	1.87	1.07	77.68	44.39	21.85	6.54	MP10

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: 634.85 ft (NAVD 88)
Latitude: 41.929256
Longitude: -71.810047



Wind

Results:

Wind Speed:	121 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	93 Vmph
100-year MRI	99 Vmph

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

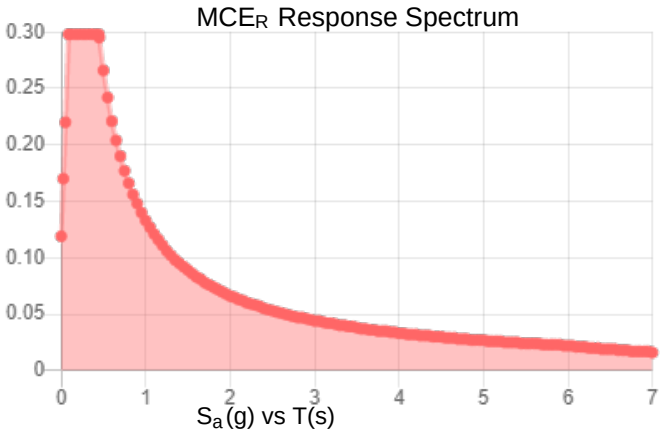
Seismic

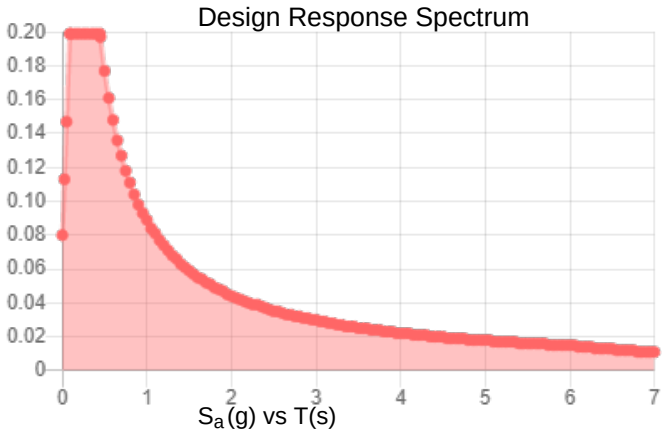
Site Soil Class: D - Default (see Section 11.4.3)

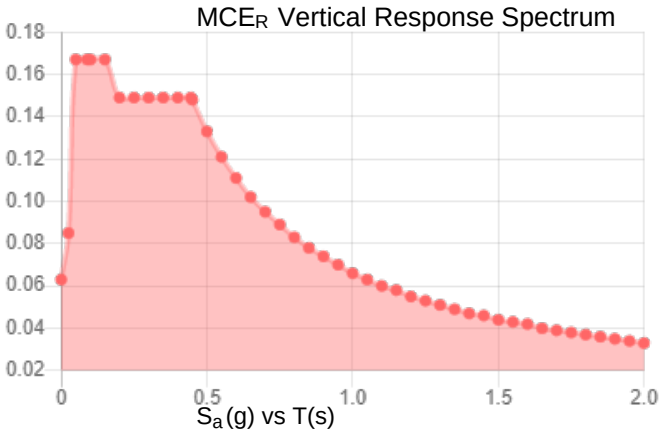
Results:

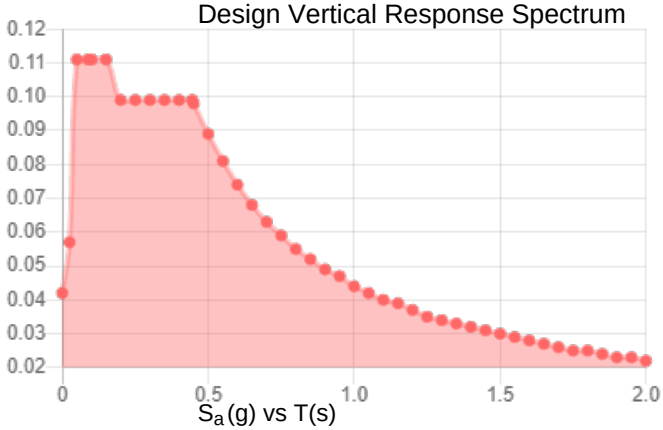
S_S :	0.187	S_{D1} :	0.089
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.101
F_v :	2.4	PGA_M :	0.161
S_{MS} :	0.298	F_{PGA} :	1.599
S_{M1} :	0.133	I_e :	1
S_{DS} :	0.199	C_v :	0.7

Seismic Design Category B









Data Accessed: Thu Sep 16 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:	Thu Sep 16 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.

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	S3	P1	P3			Square Tubing	Beam	None	A500 GR.C	Typical
2	GA4	P9	P12		270	Grating Angle	Beam	None	A529 Gr. 50	Typical
3	GA3	P10	P11			Grating Angle	Beam	None	A529 Gr. 50	Typical
4	P3	P7	P8			Corner Plates	Beam	None	A1011 36 ...	Typical
5	S2	P13	P14			Square Tubing	Beam	None	A500 GR.C	Typical
6	GA2	P20	P23		270	Grating Angle	Beam	None	A529 Gr. 50	Typical
7	GA1	P21	P22			Grating Angle	Beam	None	A529 Gr. 50	Typical
8	P2	P18	P19			Corner Plates	Beam	None	A1011 36 ...	Typical
9	S1	P24	P25			Square Tubing	Beam	None	A500 GR.C	Typical
10	GA6	P31	P34		270	Grating Angle	Beam	None	A529 Gr. 50	Typical
11	GA5	P32	P33			Grating Angle	Beam	None	A529 Gr. 50	Typical
12	P1	P29	P30			Corner Plates	Beam	None	A1011 36 ...	Typical
13	H1	N43	N44			Face Pipes(3.5...	Beam	None	A500 GR.C	Typical
14	MP1	N66	N60			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
15	MP3	N63	N57			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
16	HR1	N67	N68			Handrail	Beam	None	A500 GR.C	Typical
17	CA8	N114A	N113A		180	Handrail Conn...	Beam	None	A1011 36 ...	Typical
18	CA9	N112A	N111A		180	Handrail Conn...	Beam	None	A1011 36 ...	Typical
19	CA7	N116A	N115A		180	Handrail Conn...	Beam	None	A1011 36 ...	Typical
20	M32	N48A	N70A			RIGID	None	None	RIGID	Typical
21	M35	N45	N69A			RIGID	None	None	RIGID	Typical
22	M36	N51	N71A			RIGID	None	None	RIGID	Typical
23	M39A	N54	N72A			RIGID	None	None	RIGID	Typical
24	CA3	P4	N122A			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
25	CA4	N124B	P4			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
26	CA1	P15	N122B			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
27	CA2	N123A	P15			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
28	CA5	P26	N125			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
29	CA6	N126	P26			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
30	M64	N126A	N125A			RIGID	None	None	RIGID	Typical
31	M65	N126	N125A			RIGID	None	None	RIGID	Typical
32	M66	N129	N128			RIGID	None	None	RIGID	Typical
33	M67	N124B	N128			RIGID	None	None	RIGID	Typical
34	M68	N132	N131			RIGID	None	None	RIGID	Typical
35	M69	N123A	N131			RIGID	None	None	RIGID	Typical
36	M70	N133	N132A			RIGID	None	None	RIGID	Typical
37	M71	N122B	N132A			RIGID	None	None	RIGID	Typical
38	M72	N135	N134			RIGID	None	None	RIGID	Typical
39	M73	N125	N134			RIGID	None	None	RIGID	Typical
40	M74	N138	N137			RIGID	None	None	RIGID	Typical
41	M75	N122A	N137			PL 2.375x0.5	None	None	A36 Gr.36	Typical
42	MP2	N75	N74			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
43	M43	N72B	N76			RIGID	None	None	RIGID	Typical
44	M44	N73	N77			RIGID	None	None	RIGID	Typical
45	H3	N81A	N82A			Face Pipes(3.5...	Beam	None	A500 GR.C	Typical
46	MP7	N90	N88			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
47	MP9	N89	N87			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
48	HR3	N91	N92			Handrail	Beam	None	A500 GR.C	Typical
49	M52	N84	N94			RIGID	None	None	RIGID	Typical
50	M53	N83A	N93			RIGID	None	None	RIGID	Typical
51	M54	N85	N95			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
52	M55	N86	N96			RIGID	None	None	RIGID	Typical
53	H2	N109	N110			Face Pipes(3.5...	Beam	None	A500 GR.C	Typical
54	MP4	N118	N116			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
55	MP6	N117	N115			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
56	HR2	N119	N120			Handrail	Beam	None	A500 GR.C	Typical
57	M66A	N112	N122			RIGID	None	None	RIGID	Typical
58	M67A	N111	N121			RIGID	None	None	RIGID	Typical
59	M68A	N113	N123			RIGID	None	None	RIGID	Typical
60	M69A	N114	N124			RIGID	None	None	RIGID	Typical
61	MP8	N132B	N131A			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
62	M68B	N129B	N133B			RIGID	None	None	RIGID	Typical
63	M69B	N130A	N134A			RIGID	None	None	RIGID	Typical
64	MP5	N138A	N137A			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
65	M71B	N135A	N139			RIGID	None	None	RIGID	Typical
66	M72B	N136	N140			RIGID	None	None	RIGID	Typical
67	MP10	N124A	N125B			Antenna Pipes	Column	Wide Flange	A500 GR.C	Typical
68	M68D	N122C	N123B			RIGID	None	None	RIGID	Typical

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
1	S3	Square Tubi...	40			Lbyy						Lateral
2	GA4	Grating Angle	27.295			Lbyy						Lateral
3	GA3	Grating Angle	27.295			Lbyy						Lateral
4	P3	Corner Plates	42			Lbyy						Lateral
5	S2	Square Tubi...	40			Lbyy						Lateral
6	GA2	Grating Angle	27.295			Lbyy						Lateral
7	GA1	Grating Angle	27.295			Lbyy						Lateral
8	P2	Corner Plates	42			Lbyy						Lateral
9	S1	Square Tubi...	40			Lbyy						Lateral
10	GA6	Grating Angle	27.295			Lbyy						Lateral
11	GA5	Grating Angle	27.295			Lbyy						Lateral
12	P1	Corner Plates	42			Lbyy						Lateral
13	H1	Face Pipes(...	96			Lbyy						Lateral
14	MP1	Antenna Pip...	96			Lbyy						Lateral
15	MP3	Antenna Pip...	96			Lbyy						Lateral
16	HR1	Handrail	96			Lbyy						Lateral
17	CA8	Handrail Co...	42			Lbyy						Lateral
18	CA9	Handrail Co...	42			Lbyy						Lateral
19	CA7	Handrail Co...	42			Lbyy						Lateral
20	CA3	Channel(3.3...	33			Lbyy						Lateral
21	CA4	Channel(3.3...	33			Lbyy						Lateral
22	CA1	Channel(3.3...	33			Lbyy						Lateral
23	CA2	Channel(3.3...	33			Lbyy						Lateral
24	CA5	Channel(3.3...	33			Lbyy						Lateral
25	CA6	Channel(3.3...	33			Lbyy						Lateral
26	M75	PL 2.375x0.5	1.5			Lbyy						Lateral
27	MP2	Antenna Pip...	96			Lbyy						Lateral
28	H3	Face Pipes(...	96			Lbyy						Lateral
29	MP7	Antenna Pip...	96			Lbyy						Lateral
30	MP9	Antenna Pip...	96			Lbyy						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
31	HR3	Handrail	96			Lbyy						Lateral
32	H2	Face Pipes(...	96			Lbyy						Lateral
33	MP4	Antenna Pip...	96			Lbyy						Lateral
34	MP6	Antenna Pip...	96			Lbyy						Lateral
35	HR2	Handrail	96			Lbyy						Lateral
36	MP8	Antenna Pip...	96			Lbyy						Lateral
37	MP5	Antenna Pip...	96			Lbyy						Lateral
38	MP10	Antenna Pip...	24			Lbyy						Lateral

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	S3						Yes				None
2	GA4						Yes				None
3	GA3						Yes				None
4	P3	BenPIN	BenPIN				Yes	Default			None
5	S2						Yes				None
6	GA2						Yes				None
7	GA1						Yes				None
8	P2	BenPIN	BenPIN				Yes	Default			None
9	S1						Yes	Default			None
10	GA6						Yes				None
11	GA5						Yes				None
12	P1	BenPIN	BenPIN				Yes	Default			None
13	H1						Yes				None
14	MP1						Yes	** NA **	+y+3		None
15	MP3						Yes	** NA **	+y+3		None
16	HR1						Yes				None
17	CA8	OOOOOX	OOOOOX				Yes				None
18	CA9	OOOOOX	OOOOOX				Yes				None
19	CA7	OOOOOX	OOOOOX				Yes	Default			None
20	M32						Yes	** NA **			None
21	M35						Yes	** NA **			None
22	M36						Yes	** NA **			None
23	M39A						Yes	** NA **			None
24	CA3						Yes	Default			None
25	CA4						Yes	Default			None
26	CA1						Yes	Default			None
27	CA2						Yes	Default			None
28	CA5						Yes	Default			None
29	CA6						Yes	Default			None
30	M64	BenPIN					Yes	** NA **			None
31	M65						Yes	** NA **			None
32	M66	BenPIN					Yes	** NA **			None
33	M67						Yes	** NA **			None
34	M68	BenPIN					Yes	** NA **			None
35	M69						Yes	** NA **			None
36	M70	BenPIN					Yes	** NA **			None
37	M71						Yes	** NA **			None
38	M72	BenPIN					Yes	** NA **			None
39	M73						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
40	M74	BenPIN					Yes	** NA **			None
41	M75						Yes	** NA **			None
42	MP2						Yes	** NA **	+y+3		None
43	M43						Yes	** NA **			None
44	M44						Yes	** NA **			None
45	H3						Yes				None
46	MP7						Yes	** NA **	+y+3		None
47	MP9						Yes	** NA **	+y+3		None
48	HR3						Yes				None
49	M52						Yes	** NA **			None
50	M53						Yes	** NA **			None
51	M54						Yes	** NA **			None
52	M55						Yes	** NA **			None
53	H2						Yes				None
54	MP4						Yes	** NA **	+y+3		None
55	MP6						Yes	** NA **	+y+3		None
56	HR2						Yes				None
57	M66A						Yes	** NA **			None
58	M67A						Yes	** NA **			None
59	M68A						Yes	** NA **			None
60	M69A						Yes	** NA **			None
61	MP8						Yes	** NA **	+y+3		None
62	M68B						Yes	** NA **			None
63	M69B						Yes	** NA **			None
64	MP5						Yes	** NA **	+y+3		None
65	M71B						Yes	** NA **			None
66	M72B						Yes	** NA **			None
67	MP10						Yes	** NA **			None
68	M68D						Yes	** NA **			None

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		30	36.1	0
3	Total General		30	36.1	0
4					
5	Hot Rolled Steel				
6	A1011 36 Ksi	C3.38x2.06x0.25	6	198	98.255
7	A1011 36 Ksi	PL6.5x0.375	3	126	87.09
8	A1011 36 Ksi	L6.6x4.46x0.25	3	126	96.558
9	A36 Gr.36	PL 2.375x0.5	1	1.5	.505
10	A500 GR.C	2.88x0.120	3	288	84.974
11	A500 GR.C	HSS4X4X6	3	120	162.653
12	A500 GR.C	Pipe3.5x0.165	3	288	141.202
13	A500 GR.C	PIPE 2.5	10	888	405.407
14	A529 Gr. 50	L2x2x4	6	163.8	43.838
15	Total HR Steel		38	2199.3	1120.482

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Corner Plates	PL6.5x0.375	Beam	None	A1011 36 Ksi	Typical	2.438	.029	8.582	.11
2	6"x0.37" Plate	Plate 6x.37	Beam	None	A1011 36 Ksi	Typical	2.22	.025	6.66	.097
3	Grating Angle	L2x2x4	Beam	None	A529 Gr. 50	Typical	.944	.346	.346	.021
4	Face Pipes(...	Pipe3.5x0.165	Beam	None	A500 GR.C	Typical	1.729	2.409	2.409	4.819
5	Antenna Pipes	PIPE 2.5	Column	Wide Flange	A500 GR.C	Typical	1.61	1.45	1.45	2.89
6	Channel(3.3...	C3.38x2.06x...	Beam	None	A1011 36 Ksi	Typical	1.75	.715	3.026	.034
7	Square Tubing	HSS4X4X6	Beam	None	A500 GR.C	Typical	4.78	10.3	10.3	17.5
8	Handrail Con...	L6.6x4.46x0....	Beam	None	A1011 36 Ksi	Typical	2.703	4.759	12.473	.055
9	Handrail	2.88x0.120	Beam	None	A500 GR.C	Typical	1.04	.993	.993	1.985

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
1	Self Weight	DL		-1			13		3	
2	Wind Load AZI 0	WLZ					26			
3	Wind Load AZI 30	None					26			
4	Wind Load AZI 60	None					26			
5	Wind Load AZI 90	WLX					26			
6	Wind Load AZI 120	None					26			
7	Wind Load AZI 150	None					26			
8	Wind Load AZI 180	None					26			
9	Wind Load AZI 210	None					26			
10	Wind Load AZI 240	None					26			
11	Wind Load AZI 270	None					26			
12	Wind Load AZI 300	None					26			
13	Wind Load AZI 330	None					26			
14	Distr. Wind Load Z	WLZ						68		
15	Distr. Wind Load X	WLX						68		
16	Ice Weight	OL1					13	68	3	
17	Ice Wind Load AZI 0	OL2					26			
18	Ice Wind Load AZI 30	None					26			
19	Ice Wind Load AZI 60	None					26			
20	Ice Wind Load AZI 90	OL3					26			
21	Ice Wind Load AZI 120	None					26			
22	Ice Wind Load AZI 150	None					26			
23	Ice Wind Load AZI 180	None					26			
24	Ice Wind Load AZI 210	None					26			
25	Ice Wind Load AZI 240	None					26			
26	Ice Wind Load AZI 270	None					26			
27	Ice Wind Load AZI 300	None					26			
28	Ice Wind Load AZI 330	None					26			
29	Distr. Ice Wind Load Z	OL2						68		
30	Distr. Ice Wind Load X	OL3						68		
31	Seismic Load Z	ELZ			-.299		13			
32	Seismic Load X	ELX	-.299				13			
33	Service Live Loads	LL				3				
34	Maintenance Load 1	LL				1				
35	Maintenance Load 2	LL				1				
36	Maintenance Load 3	LL				1				
37	Maintenance Load 4	LL				1				

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
38	Maintenance Load 5	LL				1				
39	Maintenance Load 6	LL				1				
40	Maintenance Load 7	LL				1				
41	Maintenance Load 8	LL				1				
42	Maintenance Load 9	LL				1				
43	Maintenance Load 10	LL				1				
44	BLC 1 Transient Area Loads	None						9		
45	BLC 16 Transient Area Loads	None						9		

Load Combinations

	Description	S...	P...	S...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...
1	1.4DL	Yes	Y		1	1.4																		
2	1.2DL + 1WL AZI 0	Yes	Y		1	1.2	2	1	14	1	15													
3	1.2DL + 1WL AZI 30	Yes	Y		1	1.2	3	1	14	.866	15	.5												
4	1.2DL + 1WL AZI 60	Yes	Y		1	1.2	4	1	14	.5	15	.866												
5	1.2DL + 1WL AZI 90	Yes	Y		1	1.2	5	1	14		15	1												
6	1.2DL + 1WL AZI 120	Yes	Y		1	1.2	6	1	14	-.5	15	.866												
7	1.2DL + 1WL AZI 150	Yes	Y		1	1.2	7	1	14	-.866	15	.5												
8	1.2DL + 1WL AZI 180	Yes	Y		1	1.2	8	1	14	-1	15													
9	1.2DL + 1WL AZI 210	Yes	Y		1	1.2	9	1	14	-.866	15	-.5												
10	1.2DL + 1WL AZI 240	Yes	Y		1	1.2	10	1	14	-.5	15	-.866												
11	1.2DL + 1WL AZI 270	Yes	Y		1	1.2	11	1	14		15	-1												
12	1.2DL + 1WL AZI 300	Yes	Y		1	1.2	12	1	14	.5	15	-.866												
13	1.2DL + 1WL AZI 330	Yes	Y		1	1.2	13	1	14	.866	15	-.5												
14	0.9DL + 1WL AZI 0	Yes	Y		1	.9	2	1	14	1	15													
15	0.9DL + 1WL AZI 30	Yes	Y		1	.9	3	1	14	.866	15	.5												
16	0.9DL + 1WL AZI 60	Yes	Y		1	.9	4	1	14	.5	15	.866												
17	0.9DL + 1WL AZI 90	Yes	Y		1	.9	5	1	14		15	1												
18	0.9DL + 1WL AZI 120	Yes	Y		1	.9	6	1	14	-.5	15	.866												
19	0.9DL + 1WL AZI 150	Yes	Y		1	.9	7	1	14	-.866	15	.5												
20	0.9DL + 1WL AZI 180	Yes	Y		1	.9	8	1	14	-1	15													
21	0.9DL + 1WL AZI 210	Yes	Y		1	.9	9	1	14	-.866	15	-.5												
22	0.9DL + 1WL AZI 240	Yes	Y		1	.9	10	1	14	-.5	15	-.866												
23	0.9DL + 1WL AZI 270	Yes	Y		1	.9	11	1	14		15	-1												
24	0.9DL + 1WL AZI 300	Yes	Y		1	.9	12	1	14	.5	15	-.866												
25	0.9DL + 1WL AZI 330	Yes	Y		1	.9	13	1	14	.866	15	-.5												
26	1.2D + 1.0Di	Yes	Y		1	1.2	16	1																
27	1.2D + 1.0Di +1.0Wi AZI 0	Yes	Y		1	1.2	16	1	17	1	29	1	30											
28	1.2D + 1.0Di +1.0Wi AZI 30	Yes	Y		1	1.2	16	1	18	1	29	.866	30	.5										
29	1.2D + 1.0Di +1.0Wi AZI 60	Yes	Y		1	1.2	16	1	19	1	29	.5	30	.866										
30	1.2D + 1.0Di +1.0Wi AZI 90	Yes	Y		1	1.2	16	1	20	1	29		30	1										
31	1.2D + 1.0Di +1.0Wi AZI 120	Yes	Y		1	1.2	16	1	21	1	29	-.5	30	.866										
32	1.2D + 1.0Di +1.0Wi AZI 150	Yes	Y		1	1.2	16	1	22	1	29	-.866	30	.5										
33	1.2D + 1.0Di +1.0Wi AZI 180	Yes	Y		1	1.2	16	1	23	1	29	-1	30											
34	1.2D + 1.0Di +1.0Wi AZI 210	Yes	Y		1	1.2	16	1	24	1	29	-.866	30	-.5										
35	1.2D + 1.0Di +1.0Wi AZI 240	Yes	Y		1	1.2	16	1	25	1	29	-.5	30	-.866										
36	1.2D + 1.0Di +1.0Wi AZI 270	Yes	Y		1	1.2	16	1	26	1	29		30	-1										
37	1.2D + 1.0Di +1.0Wi AZI 300	Yes	Y		1	1.2	16	1	27	1	29	.5	30	-.866										
38	1.2D + 1.0Di +1.0Wi AZI 330	Yes	Y		1	1.2	16	1	28	1	29	.866	30	-.5										
39	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.24	31	1	32															

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...
40	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.24	31	.866	32	.5														
41	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.24	31	.5	32	.866														
42	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.24	31		32	1														
43	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.24	31	-.5	32	.866														
44	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.24	31	-.866	32	.5														
45	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.24	31	-1	32															
46	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.24	31	-.866	32	-.5														
47	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.24	31	-.5	32	-.866														
48	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.24	31		32	-1														
49	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.24	31	.5	32	-.866														
50	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.24	31	.866	32	-.5														
51	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.86	31	1	32															
52	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.86	31	.866	32	.5														
53	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.86	31	.5	32	.866														
54	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.86	31		32	1														
55	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.86	31	-.5	32	.866														
56	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.86	31	-.866	32	.5														
57	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.86	31	-1	32															
58	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.86	31	-.866	32	-.5														
59	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.86	31	-.5	32	-.866														
60	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.86	31		32	-1														
61	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.86	31	.5	32	-.866														
62	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.86	31	.866	32	-.5														
63	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	2	.246	14	.246	15		33	1.5										
64	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	3	.246	14	.213	15	.123	33	1.5										
65	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	4	.246	14	.123	15	.213	33	1.5										
66	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	5	.246	14		15	.246	33	1.5										
67	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	6	.246	14	-.123	15	.213	33	1.5										
68	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	7	.246	14	-.213	15	.123	33	1.5										
69	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	8	.246	14	-.246	15		33	1.5										
70	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	9	.246	14	-.213	15	-.123	33	1.5										
71	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	10	.246	14	-.123	15	-.213	33	1.5										
72	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	11	.246	14		15	-.246	33	1.5										
73	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	12	.246	14	.123	15	-.213	33	1.5										
74	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	13	.246	14	.213	15	-.123	33	1.5										
75	1.2DL + 1.5LL	Yes	Y		1	1.2	33	1.5																
76	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	2	.061	14	.061	15											
77	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	3	.061	14	.053	15	.031										
78	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	4	.061	14	.031	15	.053										
79	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	5	.061	14		15	.061										
80	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	6	.061	14	-.031	15	.053										
81	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	7	.061	14	-.053	15	.031										
82	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	8	.061	14	-.061	15											
83	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	9	.061	14	-.053	15	-.031										
84	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	10	.061	14	-.031	15	-.053										
85	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	11	.061	14		15	-.061										
86	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	12	.061	14	.031	15	-.053										
87	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	13	.061	14	.053	15	-.031										
88	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	2	.061	14	.061	15											
89	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	3	.061	14	.053	15	.031										
90	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	4	.061	14	.031	15	.053										
91	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	5	.061	14		15	.061										

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...
92	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	6	.061	14	-.031	15	.053										
93	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	7	.061	14	-.053	15	.031										
94	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	8	.061	14	-.061	15											
95	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	9	.061	14	-.053	15	-.031										
96	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	10	.061	14	-.031	15	-.053										
97	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	11	.061	14		15	-.061										
98	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	12	.061	14	.031	15	-.053										
99	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	13	.061	14	.053	15	-.031										
100	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	2	.061	14	.061	15											
101	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	3	.061	14	.053	15	.031										
102	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	4	.061	14	.031	15	.053										
103	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	5	.061	14		15	.061										
104	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	6	.061	14	-.031	15	.053										
105	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	7	.061	14	-.053	15	.031										
106	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	8	.061	14	-.061	15											
107	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	9	.061	14	-.053	15	-.031										
108	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	10	.061	14	-.031	15	-.053										
109	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	11	.061	14		15	-.061										
110	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	12	.061	14	.031	15	-.053										
111	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	13	.061	14	.053	15	-.031										
112	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	2	.061	14	.061	15											
113	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	3	.061	14	.053	15	.031										
114	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	4	.061	14	.031	15	.053										
115	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	5	.061	14		15	.061										
116	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	6	.061	14	-.031	15	.053										
117	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	7	.061	14	-.053	15	.031										
118	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	8	.061	14	-.061	15											
119	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	9	.061	14	-.053	15	-.031										
120	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	10	.061	14	-.031	15	-.053										
121	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	11	.061	14		15	-.061										
122	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	12	.061	14	.031	15	-.053										
123	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	13	.061	14	.053	15	-.031										
124	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	2	.061	14	.061	15											
125	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	3	.061	14	.053	15	.031										
126	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	4	.061	14	.031	15	.053										
127	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	5	.061	14		15	.061										
128	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	6	.061	14	-.031	15	.053										
129	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	7	.061	14	-.053	15	.031										
130	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	8	.061	14	-.061	15											
131	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	9	.061	14	-.053	15	-.031										
132	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	10	.061	14	-.031	15	-.053										
133	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	11	.061	14		15	-.061										
134	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	12	.061	14	.031	15	-.053										
135	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	13	.061	14	.053	15	-.031										
136	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	2	.061	14	.061	15											
137	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	3	.061	14	.053	15	.031										
138	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	4	.061	14	.031	15	.053										
139	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	5	.061	14		15	.061										
140	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	6	.061	14	-.031	15	.053										
141	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	7	.061	14	-.053	15	.031										
142	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	8	.061	14	-.061	15											
143	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	9	.061	14	-.053	15	-.031										

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...
144	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	10	.061	14	-.031	15	-.053												
145	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	11	.061	14		15	-.061												
146	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	12	.061	14	.031	15	-.053												
147	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	13	.061	14	.053	15	-.031												
148	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	2	.061	14	.061	15													
149	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	3	.061	14	.053	15	.031												
150	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	4	.061	14	.031	15	.053												
151	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	5	.061	14		15	.061												
152	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	6	.061	14	-.031	15	.053												
153	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	7	.061	14	-.053	15	.031												
154	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	8	.061	14	-.061	15													
155	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	9	.061	14	-.053	15	-.031												
156	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	10	.061	14	-.031	15	-.053												
157	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	11	.061	14		15	-.061												
158	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	12	.061	14	.031	15	-.053												
159	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	13	.061	14	.053	15	-.031												
160	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	2	.061	14	.061	15													
161	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	3	.061	14	.053	15	.031												
162	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	4	.061	14	.031	15	.053												
163	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	5	.061	14		15	.061												
164	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	6	.061	14	-.031	15	.053												
165	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	7	.061	14	-.053	15	.031												
166	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	8	.061	14	-.061	15													
167	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	9	.061	14	-.053	15	-.031												
168	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	10	.061	14	-.031	15	-.053												
169	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	11	.061	14		15	-.061												
170	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	12	.061	14	.031	15	-.053												
171	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	13	.061	14	.053	15	-.031												
172	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	2	.061	14	.061	15													
173	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	3	.061	14	.053	15	.031												
174	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	4	.061	14	.031	15	.053												
175	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	5	.061	14		15	.061												
176	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	6	.061	14	-.031	15	.053												
177	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	7	.061	14	-.053	15	.031												
178	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	8	.061	14	-.061	15													
179	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	9	.061	14	-.053	15	-.031												
180	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	10	.061	14	-.031	15	-.053												
181	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	11	.061	14		15	-.061												
182	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	12	.061	14	.031	15	-.053												
183	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	13	.061	14	.053	15	-.031												
184	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	2	.061	14	.061	15													
185	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	3	.061	14	.053	15	.031												
186	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	4	.061	14	.031	15	.053												
187	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	5	.061	14		15	.061												
188	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	6	.061	14	-.031	15	.053												
189	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	7	.061	14	-.053	15	.031												
190	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	8	.061	14	-.061	15													
191	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	9	.061	14	-.053	15	-.031												
192	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	10	.061	14	-.031	15	-.053												
193	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	11	.061	14		15	-.061												
194	1.2DL + 1.5LM-MP10 + 1S...	Yes	Y		1	1.2	43	1.5	12	.061	14	.031	15	-.053												

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	P24	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	P13	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	P1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	P24	max	1088.434	6	1766.675	10	1657.837	2	1075.424	16	2007.626	19	3803.401	10
2		min	-1070.838	24	-560.159	16	-1646.637	20	-3208.537	84	-2024.432	13	-1858.75	16
3	P13	max	1200.227	4	1845.742	6	1585.804	15	1013.091	24	2153.29	15	1706.608	24
4		min	-1199.018	22	-516.351	24	-1592.777	9	-2815.044	92	-2198.981	9	-4695.38	6
5	P1	max	1604.263	17	1810.046	2	827.896	2	4988.499	2	1821.945	11	1586.081	115
6		min	-1623.287	11	-583.61	20	-834.563	8	-2150.929	20	-1769.672	17	-864.011	157
7	Totals:	max	3711.661	17	4463.138	35	3930.137	2						
8		min	-3711.677	11	1539.643	53	-3930.131	20						

Joint Loads and Enforced Displacements (BLC 33 : Service Live Loads)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N72B	L	Y	-250
2	N129B	L	Y	-250
3	N135A	L	Y	-250

Joint Loads and Enforced Displacements (BLC 34 : Maintenance Load 1)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N70A	L	Y	-500

Joint Loads and Enforced Displacements (BLC 35 : Maintenance Load 2)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N69A	L	Y	-500

Joint Loads and Enforced Displacements (BLC 36 : Maintenance Load 3)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N76	L	Y	-500

Joint Loads and Enforced Displacements (BLC 37 : Maintenance Load 4)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N94	L	Y	-500

Joint Loads and Enforced Displacements (BLC 38 : Maintenance Load 5)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N93	L	Y	-500

Joint Loads and Enforced Displacements (BLC 39 : Maintenance Load 6)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N122	L	Y	-500

Joint Loads and Enforced Displacements (BLC 40 : Maintenance Load 7)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N121	L	Y	-500

Joint Loads and Enforced Displacements (BLC 41 : Maintenance Load 8)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N133B	L	Y	-500

Joint Loads and Enforced Displacements (BLC 42 : Maintenance Load 9)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N139	L	Y	-500

Joint Loads and Enforced Displacements (BLC 43 : Maintenance Load 10)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N123B	L	Y	-500

Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-32.25	0
2	MP1	Y	-32.25	72
3	MP1	Y	-74.95	12
4	MP1	Y	-63.93	12
5	MP10	Y	-21.85	6
6	MP4	Y	-32.25	0
7	MP4	Y	-32.25	72
8	MP4	Y	-74.95	12
9	MP4	Y	-63.93	12
10	MP7	Y	-32.25	0
11	MP7	Y	-32.25	72
12	MP7	Y	-74.95	12
13	MP7	Y	-63.93	12

Member Point Loads (BLC 2 : Wind Load AZI 0)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	-166.66	0
3	MP1	X	0	72
4	MP1	Z	-166.66	72
5	MP1	X	0	12
6	MP1	Z	-81.71	12
7	MP1	X	0	12
8	MP1	Z	-81.71	12
9	MP10	X	0	6
10	MP10	Z	-77.68	6
11	MP4	X	0	0
12	MP4	Z	-91.76	0
13	MP4	X	0	72
14	MP4	Z	-91.76	72
15	MP4	X	0	12
16	MP4	Z	-57.54	12

Member Point Loads (BLC 2 : Wind Load AZI 0) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
17	MP4	X	0	12
18	MP4	Z	-52.66	12
19	MP7	X	0	0
20	MP7	Z	-91.76	0
21	MP7	X	0	72
22	MP7	Z	-91.76	72
23	MP7	X	0	12
24	MP7	Z	-57.54	12
25	MP7	X	0	12
26	MP7	Z	-52.66	12

Member Point Loads (BLC 3 : Wind Load AZI 30)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-70.85	0
2	MP1	Z	-122.71	0
3	MP1	X	-70.85	72
4	MP1	Z	-122.71	72
5	MP1	X	-36.83	12
6	MP1	Z	-63.78	12
7	MP1	X	-36.01	12
8	MP1	Z	-62.38	12
9	MP10	X	-34.68	6
10	MP10	Z	-60.06	6
11	MP4	X	-70.85	0
12	MP4	Z	-122.71	0
13	MP4	X	-70.85	72
14	MP4	Z	-122.71	72
15	MP4	X	-36.83	12
16	MP4	Z	-63.78	12
17	MP4	X	-36.01	12
18	MP4	Z	-62.38	12
19	MP7	X	-33.39	0
20	MP7	Z	-57.84	0
21	MP7	X	-33.39	72
22	MP7	Z	-57.84	72
23	MP7	X	-24.74	12
24	MP7	Z	-42.85	12
25	MP7	X	-21.49	12
26	MP7	Z	-37.22	12

Member Point Loads (BLC 4 : Wind Load AZI 60)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-79.46	0
2	MP1	Z	-45.88	0
3	MP1	X	-79.46	72
4	MP1	Z	-45.88	72
5	MP1	X	-49.83	12
6	MP1	Z	-28.77	12
7	MP1	X	-45.61	12
8	MP1	Z	-26.33	12
9	MP10	X	-45.65	6

Member Point Loads (BLC 4 : Wind Load AZI 60) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
10	MP10	Z	-26.35	6
11	MP4	X	-144.33	0
12	MP4	Z	-83.33	0
13	MP4	X	-144.33	72
14	MP4	Z	-83.33	72
15	MP4	X	-70.76	12
16	MP4	Z	-40.85	12
17	MP4	X	-70.76	12
18	MP4	Z	-40.85	12
19	MP7	X	-79.46	0
20	MP7	Z	-45.88	0
21	MP7	X	-79.46	72
22	MP7	Z	-45.88	72
23	MP7	X	-49.83	12
24	MP7	Z	-28.77	12
25	MP7	X	-45.61	12
26	MP7	Z	-26.33	12

Member Point Loads (BLC 5 : Wind Load AZI 90)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-66.79	0
2	MP1	Z	0	0
3	MP1	X	-66.79	72
4	MP1	Z	0	72
5	MP1	X	-49.48	12
6	MP1	Z	0	12
7	MP1	X	-42.98	12
8	MP1	Z	0	12
9	MP10	X	-44.39	6
10	MP10	Z	0	6
11	MP4	X	-141.69	0
12	MP4	Z	0	0
13	MP4	X	-141.69	72
14	MP4	Z	0	72
15	MP4	X	-73.65	12
16	MP4	Z	0	12
17	MP4	X	-72.03	12
18	MP4	Z	0	12
19	MP7	X	-141.69	0
20	MP7	Z	0	0
21	MP7	X	-141.69	72
22	MP7	Z	0	72
23	MP7	X	-73.65	12
24	MP7	Z	0	12
25	MP7	X	-72.03	12
26	MP7	Z	0	12

Member Point Loads (BLC 6 : Wind Load AZI 120)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-79.46	0
2	MP1	Z	45.88	0

Member Point Loads (BLC 6 : Wind Load AZI 120) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
3	MP1	X	-79.46	72
4	MP1	Z	45.88	72
5	MP1	X	-49.83	12
6	MP1	Z	28.77	12
7	MP1	X	-45.61	12
8	MP1	Z	26.33	12
9	MP10	X	-45.65	6
10	MP10	Z	26.35	6
11	MP4	X	-79.46	0
12	MP4	Z	45.88	0
13	MP4	X	-79.46	72
14	MP4	Z	45.88	72
15	MP4	X	-49.83	12
16	MP4	Z	28.77	12
17	MP4	X	-45.61	12
18	MP4	Z	26.33	12
19	MP7	X	-144.33	0
20	MP7	Z	83.33	0
21	MP7	X	-144.33	72
22	MP7	Z	83.33	72
23	MP7	X	-70.76	12
24	MP7	Z	40.85	12
25	MP7	X	-70.76	12
26	MP7	Z	40.85	12

Member Point Loads (BLC 7 : Wind Load AZI 150)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-70.85	0
2	MP1	Z	122.71	0
3	MP1	X	-70.85	72
4	MP1	Z	122.71	72
5	MP1	X	-36.83	12
6	MP1	Z	63.78	12
7	MP1	X	-36.01	12
8	MP1	Z	62.38	12
9	MP10	X	-34.68	6
10	MP10	Z	60.06	6
11	MP4	X	-33.39	0
12	MP4	Z	57.84	0
13	MP4	X	-33.39	72
14	MP4	Z	57.84	72
15	MP4	X	-24.74	12
16	MP4	Z	42.85	12
17	MP4	X	-21.49	12
18	MP4	Z	37.22	12
19	MP7	X	-70.85	0
20	MP7	Z	122.71	0
21	MP7	X	-70.85	72
22	MP7	Z	122.71	72
23	MP7	X	-36.83	12
24	MP7	Z	63.78	12

Member Point Loads (BLC 7 : Wind Load AZI 150) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
25	MP7	X	-36.01	12
26	MP7	Z	62.38	12

Member Point Loads (BLC 8 : Wind Load AZI 180)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	166.66	0
3	MP1	X	0	72
4	MP1	Z	166.66	72
5	MP1	X	0	12
6	MP1	Z	81.71	12
7	MP1	X	0	12
8	MP1	Z	81.71	12
9	MP10	X	0	6
10	MP10	Z	77.68	6
11	MP4	X	0	0
12	MP4	Z	91.76	0
13	MP4	X	0	72
14	MP4	Z	91.76	72
15	MP4	X	0	12
16	MP4	Z	57.54	12
17	MP4	X	0	12
18	MP4	Z	52.66	12
19	MP7	X	0	0
20	MP7	Z	91.76	0
21	MP7	X	0	72
22	MP7	Z	91.76	72
23	MP7	X	0	12
24	MP7	Z	57.54	12
25	MP7	X	0	12
26	MP7	Z	52.66	12

Member Point Loads (BLC 9 : Wind Load AZI 210)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	70.85	0
2	MP1	Z	122.71	0
3	MP1	X	70.85	72
4	MP1	Z	122.71	72
5	MP1	X	36.83	12
6	MP1	Z	63.78	12
7	MP1	X	36.01	12
8	MP1	Z	62.38	12
9	MP10	X	34.68	6
10	MP10	Z	60.06	6
11	MP4	X	70.85	0
12	MP4	Z	122.71	0
13	MP4	X	70.85	72
14	MP4	Z	122.71	72
15	MP4	X	36.83	12
16	MP4	Z	63.78	12
17	MP4	X	36.01	12

Member Point Loads (BLC 9 : Wind Load AZI 210) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
18	MP4	Z	62.38	12
19	MP7	X	33.39	0
20	MP7	Z	57.84	0
21	MP7	X	33.39	72
22	MP7	Z	57.84	72
23	MP7	X	24.74	12
24	MP7	Z	42.85	12
25	MP7	X	21.49	12
26	MP7	Z	37.22	12

Member Point Loads (BLC 10 : Wind Load AZI 240)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	79.46	0
2	MP1	Z	45.88	0
3	MP1	X	79.46	72
4	MP1	Z	45.88	72
5	MP1	X	49.83	12
6	MP1	Z	28.77	12
7	MP1	X	45.61	12
8	MP1	Z	26.33	12
9	MP10	X	45.65	6
10	MP10	Z	26.35	6
11	MP4	X	144.33	0
12	MP4	Z	83.33	0
13	MP4	X	144.33	72
14	MP4	Z	83.33	72
15	MP4	X	70.76	12
16	MP4	Z	40.85	12
17	MP4	X	70.76	12
18	MP4	Z	40.85	12
19	MP7	X	79.46	0
20	MP7	Z	45.88	0
21	MP7	X	79.46	72
22	MP7	Z	45.88	72
23	MP7	X	49.83	12
24	MP7	Z	28.77	12
25	MP7	X	45.61	12
26	MP7	Z	26.33	12

Member Point Loads (BLC 11 : Wind Load AZI 270)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	66.79	0
2	MP1	Z	0	0
3	MP1	X	66.79	72
4	MP1	Z	0	72
5	MP1	X	49.48	12
6	MP1	Z	0	12
7	MP1	X	42.98	12
8	MP1	Z	0	12
9	MP10	X	44.39	6
10	MP10	Z	0	6

Member Point Loads (BLC 11 : Wind Load AZI 270) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
11	MP4	X	141.69	0
12	MP4	Z	0	0
13	MP4	X	141.69	72
14	MP4	Z	0	72
15	MP4	X	73.65	12
16	MP4	Z	0	12
17	MP4	X	72.03	12
18	MP4	Z	0	12
19	MP7	X	141.69	0
20	MP7	Z	0	0
21	MP7	X	141.69	72
22	MP7	Z	0	72
23	MP7	X	73.65	12
24	MP7	Z	0	12
25	MP7	X	72.03	12
26	MP7	Z	0	12

Member Point Loads (BLC 12 : Wind Load AZI 300)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	79.46	0
2	MP1	Z	-45.88	0
3	MP1	X	79.46	72
4	MP1	Z	-45.88	72
5	MP1	X	49.83	12
6	MP1	Z	-28.77	12
7	MP1	X	45.61	12
8	MP1	Z	-26.33	12
9	MP10	X	45.65	6
10	MP10	Z	-26.35	6
11	MP4	X	79.46	0
12	MP4	Z	-45.88	0
13	MP4	X	79.46	72
14	MP4	Z	-45.88	72
15	MP4	X	49.83	12
16	MP4	Z	-28.77	12
17	MP4	X	45.61	12
18	MP4	Z	-26.33	12
19	MP7	X	144.33	0
20	MP7	Z	-83.33	0
21	MP7	X	144.33	72
22	MP7	Z	-83.33	72
23	MP7	X	70.76	12
24	MP7	Z	-40.85	12
25	MP7	X	70.76	12
26	MP7	Z	-40.85	12

Member Point Loads (BLC 13 : Wind Load AZI 330)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	70.85	0
2	MP1	Z	-122.71	0
3	MP1	X	70.85	72

Member Point Loads (BLC 13 : Wind Load AZI 330) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP1	Z	-122.71	72
5	MP1	X	36.83	12
6	MP1	Z	-63.78	12
7	MP1	X	36.01	12
8	MP1	Z	-62.38	12
9	MP10	X	34.68	6
10	MP10	Z	-60.06	6
11	MP4	X	33.39	0
12	MP4	Z	-57.84	0
13	MP4	X	33.39	72
14	MP4	Z	-57.84	72
15	MP4	X	24.74	12
16	MP4	Z	-42.85	12
17	MP4	X	21.49	12
18	MP4	Z	-37.22	12
19	MP7	X	70.85	0
20	MP7	Z	-122.71	0
21	MP7	X	70.85	72
22	MP7	Z	-122.71	72
23	MP7	X	36.83	12
24	MP7	Z	-63.78	12
25	MP7	X	36.01	12
26	MP7	Z	-62.38	12

Member Point Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-89.295	0
2	MP1	Y	-89.295	72
3	MP1	Y	-45.207	12
4	MP1	Y	-42.297	12
5	MP10	Y	-41.213	6
6	MP4	Y	-89.295	0
7	MP4	Y	-89.295	72
8	MP4	Y	-45.207	12
9	MP4	Y	-42.297	12
10	MP7	Y	-89.295	0
11	MP7	Y	-89.295	72
12	MP7	Y	-45.207	12
13	MP7	Y	-42.297	12

Member Point Loads (BLC 17 : Ice Wind Load AZI 0)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	-21.18	0
3	MP1	X	0	72
4	MP1	Z	-21.18	72
5	MP1	X	0	12
6	MP1	Z	-7.67	12
7	MP1	X	0	12
8	MP1	Z	-7.67	12
9	MP10	X	0	6

Member Point Loads (BLC 17 : Ice Wind Load AZI 0) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
10	MP10	Z	-7.39	6
11	MP4	X	0	0
12	MP4	Z	-15.64	0
13	MP4	X	0	72
14	MP4	Z	-15.64	72
15	MP4	X	0	12
16	MP4	Z	-6.45	12
17	MP4	X	0	12
18	MP4	Z	-6.2	12
19	MP7	X	0	0
20	MP7	Z	-15.64	0
21	MP7	X	0	72
22	MP7	Z	-15.64	72
23	MP7	X	0	12
24	MP7	Z	-6.45	12
25	MP7	X	0	12
26	MP7	Z	-6.2	12

Member Point Loads (BLC 18 : Ice Wind Load AZI 30)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-9.67	0
2	MP1	Z	-16.74	0
3	MP1	X	-9.67	72
4	MP1	Z	-16.74	72
5	MP1	X	-3.63	12
6	MP1	Z	-6.29	12
7	MP1	X	-3.59	12
8	MP1	Z	-6.22	12
9	MP10	X	-3.5	6
10	MP10	Z	-6.06	6
11	MP4	X	-9.67	0
12	MP4	Z	-16.74	0
13	MP4	X	-9.67	72
14	MP4	Z	-16.74	72
15	MP4	X	-3.63	12
16	MP4	Z	-6.29	12
17	MP4	X	-3.59	12
18	MP4	Z	-6.22	12
19	MP7	X	-6.9	0
20	MP7	Z	-11.95	0
21	MP7	X	-6.9	72
22	MP7	Z	-11.95	72
23	MP7	X	-3.02	12
24	MP7	Z	-5.24	12
25	MP7	X	-2.86	12
26	MP7	Z	-4.95	12

Member Point Loads (BLC 19 : Ice Wind Load AZI 60)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-13.55	0
2	MP1	Z	-7.82	0

Member Point Loads (BLC 19 : Ice Wind Load AZI 60) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
3	MP1	X	-13.55	72
4	MP1	Z	-7.82	72
5	MP1	X	-5.59	12
6	MP1	Z	-3.23	12
7	MP1	X	-5.37	12
8	MP1	Z	-3.1	12
9	MP10	X	-5.38	6
10	MP10	Z	-3.11	6
11	MP4	X	-18.34	0
12	MP4	Z	-10.59	0
13	MP4	X	-18.34	72
14	MP4	Z	-10.59	72
15	MP4	X	-6.65	12
16	MP4	Z	-3.84	12
17	MP4	X	-6.65	12
18	MP4	Z	-3.84	12
19	MP7	X	-13.55	0
20	MP7	Z	-7.82	0
21	MP7	X	-13.55	72
22	MP7	Z	-7.82	72
23	MP7	X	-5.59	12
24	MP7	Z	-3.23	12
25	MP7	X	-5.37	12
26	MP7	Z	-3.1	12

Member Point Loads (BLC 20 : Ice Wind Load AZI 90)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-13.79	0
2	MP1	Z	0	0
3	MP1	X	-13.79	72
4	MP1	Z	0	72
5	MP1	X	-6.05	12
6	MP1	Z	0	12
7	MP1	X	-5.71	12
8	MP1	Z	0	12
9	MP10	X	-5.83	6
10	MP10	Z	0	6
11	MP4	X	-19.33	0
12	MP4	Z	0	0
13	MP4	X	-19.33	72
14	MP4	Z	0	72
15	MP4	X	-7.27	12
16	MP4	Z	0	12
17	MP4	X	-7.18	12
18	MP4	Z	0	12
19	MP7	X	-19.33	0
20	MP7	Z	0	0
21	MP7	X	-19.33	72
22	MP7	Z	0	72
23	MP7	X	-7.27	12
24	MP7	Z	0	12

Member Point Loads (BLC 20 : Ice Wind Load AZI 90) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
25	MP7	X	-7.18	12
26	MP7	Z	0	12

Member Point Loads (BLC 21 : Ice Wind Load AZI 120)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-13.55	0
2	MP1	Z	7.82	0
3	MP1	X	-13.55	72
4	MP1	Z	7.82	72
5	MP1	X	-5.59	12
6	MP1	Z	3.23	12
7	MP1	X	-5.37	12
8	MP1	Z	3.1	12
9	MP10	X	-5.38	6
10	MP10	Z	3.11	6
11	MP4	X	-13.55	0
12	MP4	Z	7.82	0
13	MP4	X	-13.55	72
14	MP4	Z	7.82	72
15	MP4	X	-5.59	12
16	MP4	Z	3.23	12
17	MP4	X	-5.37	12
18	MP4	Z	3.1	12
19	MP7	X	-18.34	0
20	MP7	Z	10.59	0
21	MP7	X	-18.34	72
22	MP7	Z	10.59	72
23	MP7	X	-6.65	12
24	MP7	Z	3.84	12
25	MP7	X	-6.65	12
26	MP7	Z	3.84	12

Member Point Loads (BLC 22 : Ice Wind Load AZI 150)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-9.67	0
2	MP1	Z	16.74	0
3	MP1	X	-9.67	72
4	MP1	Z	16.74	72
5	MP1	X	-3.63	12
6	MP1	Z	6.29	12
7	MP1	X	-3.59	12
8	MP1	Z	6.22	12
9	MP10	X	-3.5	6
10	MP10	Z	6.06	6
11	MP4	X	-6.9	0
12	MP4	Z	11.95	0
13	MP4	X	-6.9	72
14	MP4	Z	11.95	72
15	MP4	X	-3.02	12
16	MP4	Z	5.24	12
17	MP4	X	-2.86	12

Member Point Loads (BLC 22 : Ice Wind Load AZI 150) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
18	MP4	Z	4.95	12
19	MP7	X	-9.67	0
20	MP7	Z	16.74	0
21	MP7	X	-9.67	72
22	MP7	Z	16.74	72
23	MP7	X	-3.63	12
24	MP7	Z	6.29	12
25	MP7	X	-3.59	12
26	MP7	Z	6.22	12

Member Point Loads (BLC 23 : Ice Wind Load AZI 180)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	21.18	0
3	MP1	X	0	72
4	MP1	Z	21.18	72
5	MP1	X	0	12
6	MP1	Z	7.67	12
7	MP1	X	0	12
8	MP1	Z	7.67	12
9	MP10	X	0	6
10	MP10	Z	7.39	6
11	MP4	X	0	0
12	MP4	Z	15.64	0
13	MP4	X	0	72
14	MP4	Z	15.64	72
15	MP4	X	0	12
16	MP4	Z	6.45	12
17	MP4	X	0	12
18	MP4	Z	6.2	12
19	MP7	X	0	0
20	MP7	Z	15.64	0
21	MP7	X	0	72
22	MP7	Z	15.64	72
23	MP7	X	0	12
24	MP7	Z	6.45	12
25	MP7	X	0	12
26	MP7	Z	6.2	12

Member Point Loads (BLC 24 : Ice Wind Load AZI 210)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	9.67	0
2	MP1	Z	16.74	0
3	MP1	X	9.67	72
4	MP1	Z	16.74	72
5	MP1	X	3.63	12
6	MP1	Z	6.29	12
7	MP1	X	3.59	12
8	MP1	Z	6.22	12
9	MP10	X	3.5	6
10	MP10	Z	6.06	6

Member Point Loads (BLC 24 : Ice Wind Load AZI 210) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
11	MP4	X	9.67	0
12	MP4	Z	16.74	0
13	MP4	X	9.67	72
14	MP4	Z	16.74	72
15	MP4	X	3.63	12
16	MP4	Z	6.29	12
17	MP4	X	3.59	12
18	MP4	Z	6.22	12
19	MP7	X	6.9	0
20	MP7	Z	11.95	0
21	MP7	X	6.9	72
22	MP7	Z	11.95	72
23	MP7	X	3.02	12
24	MP7	Z	5.24	12
25	MP7	X	2.86	12
26	MP7	Z	4.95	12

Member Point Loads (BLC 25 : Ice Wind Load AZI 240)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	13.55	0
2	MP1	Z	7.82	0
3	MP1	X	13.55	72
4	MP1	Z	7.82	72
5	MP1	X	5.59	12
6	MP1	Z	3.23	12
7	MP1	X	5.37	12
8	MP1	Z	3.1	12
9	MP10	X	5.38	6
10	MP10	Z	3.11	6
11	MP4	X	18.34	0
12	MP4	Z	10.59	0
13	MP4	X	18.34	72
14	MP4	Z	10.59	72
15	MP4	X	6.65	12
16	MP4	Z	3.84	12
17	MP4	X	6.65	12
18	MP4	Z	3.84	12
19	MP7	X	13.55	0
20	MP7	Z	7.82	0
21	MP7	X	13.55	72
22	MP7	Z	7.82	72
23	MP7	X	5.59	12
24	MP7	Z	3.23	12
25	MP7	X	5.37	12
26	MP7	Z	3.1	12

Member Point Loads (BLC 26 : Ice Wind Load AZI 270)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	13.79	0
2	MP1	Z	0	0
3	MP1	X	13.79	72

Member Point Loads (BLC 26 : Ice Wind Load AZI 270) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP1	Z	0	72
5	MP1	X	6.05	12
6	MP1	Z	0	12
7	MP1	X	5.71	12
8	MP1	Z	0	12
9	MP10	X	5.83	6
10	MP10	Z	0	6
11	MP4	X	19.33	0
12	MP4	Z	0	0
13	MP4	X	19.33	72
14	MP4	Z	0	72
15	MP4	X	7.27	12
16	MP4	Z	0	12
17	MP4	X	7.18	12
18	MP4	Z	0	12
19	MP7	X	19.33	0
20	MP7	Z	0	0
21	MP7	X	19.33	72
22	MP7	Z	0	72
23	MP7	X	7.27	12
24	MP7	Z	0	12
25	MP7	X	7.18	12
26	MP7	Z	0	12

Member Point Loads (BLC 27 : Ice Wind Load AZI 300)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	13.55	0
2	MP1	Z	-7.82	0
3	MP1	X	13.55	72
4	MP1	Z	-7.82	72
5	MP1	X	5.59	12
6	MP1	Z	-3.23	12
7	MP1	X	5.37	12
8	MP1	Z	-3.1	12
9	MP10	X	5.38	6
10	MP10	Z	-3.11	6
11	MP4	X	13.55	0
12	MP4	Z	-7.82	0
13	MP4	X	13.55	72
14	MP4	Z	-7.82	72
15	MP4	X	5.59	12
16	MP4	Z	-3.23	12
17	MP4	X	5.37	12
18	MP4	Z	-3.1	12
19	MP7	X	18.34	0
20	MP7	Z	-10.59	0
21	MP7	X	18.34	72
22	MP7	Z	-10.59	72
23	MP7	X	6.65	12
24	MP7	Z	-3.84	12
25	MP7	X	6.65	12

Member Point Loads (BLC 27 : Ice Wind Load AZI 300) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
26	MP7	Z	-3.84	12

Member Point Loads (BLC 28 : Ice Wind Load AZI 330)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	9.67	0
2	MP1	Z	-16.74	0
3	MP1	X	9.67	72
4	MP1	Z	-16.74	72
5	MP1	X	3.63	12
6	MP1	Z	-6.29	12
7	MP1	X	3.59	12
8	MP1	Z	-6.22	12
9	MP10	X	3.5	6
10	MP10	Z	-6.06	6
11	MP4	X	6.9	0
12	MP4	Z	-11.95	0
13	MP4	X	6.9	72
14	MP4	Z	-11.95	72
15	MP4	X	3.02	12
16	MP4	Z	-5.24	12
17	MP4	X	2.86	12
18	MP4	Z	-4.95	12
19	MP7	X	9.67	0
20	MP7	Z	-16.74	0
21	MP7	X	9.67	72
22	MP7	Z	-16.74	72
23	MP7	X	3.63	12
24	MP7	Z	-6.29	12
25	MP7	X	3.59	12
26	MP7	Z	-6.22	12

Member Point Loads (BLC 31 : Seismic Load Z)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Z	-9.649	0
2	MP1	Z	-9.649	72
3	MP1	Z	-22.425	12
4	MP1	Z	-19.128	12
5	MP10	Z	-6.538	6
6	MP4	Z	-9.649	0
7	MP4	Z	-9.649	72
8	MP4	Z	-22.425	12
9	MP4	Z	-19.128	12
10	MP7	Z	-9.649	0
11	MP7	Z	-9.649	72
12	MP7	Z	-22.425	12
13	MP7	Z	-19.128	12

Member Point Loads (BLC 32 : Seismic Load X)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-9.649	0

Member Point Loads (BLC 32 : Seismic Load X) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
2	MP1	X	-9.649	72
3	MP1	X	-22.425	12
4	MP1	X	-19.128	12
5	MP10	X	-6.538	6
6	MP4	X	-9.649	0
7	MP4	X	-9.649	72
8	MP4	X	-22.425	12
9	MP4	X	-19.128	12
10	MP7	X	-9.649	0
11	MP7	X	-9.649	72
12	MP7	X	-22.425	12
13	MP7	X	-19.128	12

Member Distributed Loads (BLC 14 : Distr. Wind Load Z)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,...	End Location[in,...
1	S3	SZ	-92.473	-92.473	0	%100
2	GA4	SZ	-92.473	-92.473	0	%100
3	GA3	SZ	-92.473	-92.473	0	%100
4	P3	SZ	-92.473	-92.473	0	%100
5	S2	SZ	-92.473	-92.473	0	%100
6	GA2	SZ	-92.473	-92.473	0	%100
7	GA1	SZ	-92.473	-92.473	0	%100
8	P2	SZ	-92.473	-92.473	0	%100
9	S1	SZ	-92.473	-92.473	0	%100
10	GA6	SZ	-92.473	-92.473	0	%100
11	GA5	SZ	-92.473	-92.473	0	%100
12	P1	SZ	-92.473	-92.473	0	%100
13	H1	SZ	-55.484	-55.484	0	%100
14	MP1	SZ	-55.484	-55.484	0	%100
15	MP3	SZ	-55.484	-55.484	0	%100
16	HR1	SZ	-55.484	-55.484	0	%100
17	CA8	SZ	-92.473	-92.473	0	%100
18	CA9	SZ	-92.473	-92.473	0	%100
19	CA7	SZ	-92.473	-92.473	0	%100
20	M32	SZ	0	0	0	%100
21	M35	SZ	0	0	0	%100
22	M36	SZ	0	0	0	%100
23	M39A	SZ	0	0	0	%100
24	CA3	SZ	-92.473	-92.473	0	%100
25	CA4	SZ	-92.473	-92.473	0	%100
26	CA1	SZ	-92.473	-92.473	0	%100
27	CA2	SZ	-92.473	-92.473	0	%100
28	CA5	SZ	-92.473	-92.473	0	%100
29	CA6	SZ	-92.473	-92.473	0	%100
30	M64	SZ	0	0	0	%100
31	M65	SZ	0	0	0	%100
32	M66	SZ	0	0	0	%100
33	M67	SZ	0	0	0	%100
34	M68	SZ	0	0	0	%100
35	M69	SZ	0	0	0	%100

Member Distributed Loads (BLC 14 : Distr. Wind Load Z) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
36	M70	SZ	0	0	0	%100
37	M71	SZ	0	0	0	%100
38	M72	SZ	0	0	0	%100
39	M73	SZ	0	0	0	%100
40	M74	SZ	0	0	0	%100
41	M75	SZ	-92.473	-92.473	0	%100
42	MP2	SZ	-55.484	-55.484	0	%100
43	M43	SZ	0	0	0	%100
44	M44	SZ	0	0	0	%100
45	H3	SZ	-55.484	-55.484	0	%100
46	MP7	SZ	-55.484	-55.484	0	%100
47	MP9	SZ	-55.484	-55.484	0	%100
48	HR3	SZ	-55.484	-55.484	0	%100
49	M52	SZ	0	0	0	%100
50	M53	SZ	0	0	0	%100
51	M54	SZ	0	0	0	%100
52	M55	SZ	0	0	0	%100
53	H2	SZ	-55.484	-55.484	0	%100
54	MP4	SZ	-55.484	-55.484	0	%100
55	MP6	SZ	-55.484	-55.484	0	%100
56	HR2	SZ	-55.484	-55.484	0	%100
57	M66A	SZ	0	0	0	%100
58	M67A	SZ	0	0	0	%100
59	M68A	SZ	0	0	0	%100
60	M69A	SZ	0	0	0	%100
61	MP8	SZ	-55.484	-55.484	0	%100
62	M68B	SZ	0	0	0	%100
63	M69B	SZ	0	0	0	%100
64	MP5	SZ	-55.484	-55.484	0	%100
65	M71B	SZ	0	0	0	%100
66	M72B	SZ	0	0	0	%100
67	MP10	SZ	-55.484	-55.484	0	%100
68	M68D	SZ	0	0	0	%100

Member Distributed Loads (BLC 15 : Distr. Wind Load X)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S3	SX	-92.473	-92.473	0	%100
2	GA4	SX	-92.473	-92.473	0	%100
3	GA3	SX	-92.473	-92.473	0	%100
4	P3	SX	-92.473	-92.473	0	%100
5	S2	SX	-92.473	-92.473	0	%100
6	GA2	SX	-92.473	-92.473	0	%100
7	GA1	SX	-92.473	-92.473	0	%100
8	P2	SX	-92.473	-92.473	0	%100
9	S1	SX	-92.473	-92.473	0	%100
10	GA6	SX	-92.473	-92.473	0	%100
11	GA5	SX	-92.473	-92.473	0	%100
12	P1	SX	-92.473	-92.473	0	%100
13	H1	SX	-55.484	-55.484	0	%100
14	MP1	SX	-55.484	-55.484	0	%100
15	MP3	SX	-55.484	-55.484	0	%100

Member Distributed Loads (BLC 15 : Distr. Wind Load X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
16	HR1	SX	-55.484	-55.484	0	%100
17	CA8	SX	-92.473	-92.473	0	%100
18	CA9	SX	-92.473	-92.473	0	%100
19	CA7	SX	-92.473	-92.473	0	%100
20	M32	SX	0	0	0	%100
21	M35	SX	0	0	0	%100
22	M36	SX	0	0	0	%100
23	M39A	SX	0	0	0	%100
24	CA3	SX	-92.473	-92.473	0	%100
25	CA4	SX	-92.473	-92.473	0	%100
26	CA1	SX	-92.473	-92.473	0	%100
27	CA2	SX	-92.473	-92.473	0	%100
28	CA5	SX	-92.473	-92.473	0	%100
29	CA6	SX	-92.473	-92.473	0	%100
30	M64	SX	0	0	0	%100
31	M65	SX	0	0	0	%100
32	M66	SX	0	0	0	%100
33	M67	SX	0	0	0	%100
34	M68	SX	0	0	0	%100
35	M69	SX	0	0	0	%100
36	M70	SX	0	0	0	%100
37	M71	SX	0	0	0	%100
38	M72	SX	0	0	0	%100
39	M73	SX	0	0	0	%100
40	M74	SX	0	0	0	%100
41	M75	SX	-92.473	-92.473	0	%100
42	MP2	SX	-55.484	-55.484	0	%100
43	M43	SX	0	0	0	%100
44	M44	SX	0	0	0	%100
45	H3	SX	-55.484	-55.484	0	%100
46	MP7	SX	-55.484	-55.484	0	%100
47	MP9	SX	-55.484	-55.484	0	%100
48	HR3	SX	-55.484	-55.484	0	%100
49	M52	SX	0	0	0	%100
50	M53	SX	0	0	0	%100
51	M54	SX	0	0	0	%100
52	M55	SX	0	0	0	%100
53	H2	SX	-55.484	-55.484	0	%100
54	MP4	SX	-55.484	-55.484	0	%100
55	MP6	SX	-55.484	-55.484	0	%100
56	HR2	SX	-55.484	-55.484	0	%100
57	M66A	SX	0	0	0	%100
58	M67A	SX	0	0	0	%100
59	M68A	SX	0	0	0	%100
60	M69A	SX	0	0	0	%100
61	MP8	SX	-55.484	-55.484	0	%100
62	M68B	SX	0	0	0	%100
63	M69B	SX	0	0	0	%100
64	MP5	SX	-55.484	-55.484	0	%100
65	M71B	SX	0	0	0	%100
66	M72B	SX	0	0	0	%100
67	MP10	SX	-55.484	-55.484	0	%100

Member Distributed Loads (BLC 15 : Distr. Wind Load X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
68	M68D	SX	0	0	0	%100

Member Distributed Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S3	Y	-9.499	-9.499	0	%100
2	GA4	Y	-5.548	-5.548	0	%100
3	GA3	Y	-5.548	-5.548	0	%100
4	P3	Y	-10.692	-10.692	0	%100
5	S2	Y	-9.499	-9.499	0	%100
6	GA2	Y	-5.548	-5.548	0	%100
7	GA1	Y	-5.548	-5.548	0	%100
8	P2	Y	-10.692	-10.692	0	%100
9	S1	Y	-9.499	-9.499	0	%100
10	GA6	Y	-5.548	-5.548	0	%100
11	GA5	Y	-5.548	-5.548	0	%100
12	P1	Y	-10.692	-10.692	0	%100
13	H1	Y	-6.486	-6.486	0	%100
14	MP1	Y	-5.613	-5.613	0	%100
15	MP3	Y	-5.613	-5.613	0	%100
16	HR1	Y	-5.62	-5.62	0	%100
17	CA8	Y	-12.724	-12.724	0	%100
18	CA9	Y	-12.724	-12.724	0	%100
19	CA7	Y	-12.724	-12.724	0	%100
20	M32	Y	-1.597	-1.597	0	%100
21	M35	Y	-1.597	-1.597	0	%100
22	M36	Y	-1.597	-1.597	0	%100
23	M39A	Y	-1.597	-1.597	0	%100
24	CA3	Y	-7.126	-7.126	0	%100
25	CA4	Y	-7.126	-7.126	0	%100
26	CA1	Y	-7.126	-7.126	0	%100
27	CA2	Y	-7.126	-7.126	0	%100
28	CA5	Y	-7.126	-7.126	0	%100
29	CA6	Y	-7.126	-7.126	0	%100
30	M64	Y	-1.597	-1.597	0	%100
31	M65	Y	-1.597	-1.597	0	%100
32	M66	Y	-1.597	-1.597	0	%100
33	M67	Y	-1.597	-1.597	0	%100
34	M68	Y	-1.597	-1.597	0	%100
35	M69	Y	-1.597	-1.597	0	%100
36	M70	Y	-1.597	-1.597	0	%100
37	M71	Y	-1.597	-1.597	0	%100
38	M72	Y	-1.597	-1.597	0	%100
39	M73	Y	-1.597	-1.597	0	%100
40	M74	Y	-1.597	-1.597	0	%100
41	M75	Y	-4.987	-4.987	0	%100
42	MP2	Y	-5.613	-5.613	0	%100
43	M43	Y	-1.597	-1.597	0	%100
44	M44	Y	-1.597	-1.597	0	%100
45	H3	Y	-6.486	-6.486	0	%100
46	MP7	Y	-5.613	-5.613	0	%100
47	MP9	Y	-5.613	-5.613	0	%100

Member Distributed Loads (BLC 16 : Ice Weight) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
48	HR3	Y	-5.62	-5.62	0	%100
49	M52	Y	-1.597	-1.597	0	%100
50	M53	Y	-1.597	-1.597	0	%100
51	M54	Y	-1.597	-1.597	0	%100
52	M55	Y	-1.597	-1.597	0	%100
53	H2	Y	-6.486	-6.486	0	%100
54	MP4	Y	-5.613	-5.613	0	%100
55	MP6	Y	-5.613	-5.613	0	%100
56	HR2	Y	-5.62	-5.62	0	%100
57	M66A	Y	-1.597	-1.597	0	%100
58	M67A	Y	-1.597	-1.597	0	%100
59	M68A	Y	-1.597	-1.597	0	%100
60	M69A	Y	-1.597	-1.597	0	%100
61	MP8	Y	-5.613	-5.613	0	%100
62	M68B	Y	-1.597	-1.597	0	%100
63	M69B	Y	-1.597	-1.597	0	%100
64	MP5	Y	-5.613	-5.613	0	%100
65	M71B	Y	-1.597	-1.597	0	%100
66	M72B	Y	-1.597	-1.597	0	%100
67	MP10	Y	-5.613	-5.613	0	%100
68	M68D	Y	-1.597	-1.597	0	%100

Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S3	SZ	-13.304	-13.304	0	%100
2	GA4	SZ	-17.134	-17.134	0	%100
3	GA3	SZ	-17.134	-17.134	0	%100
4	P3	SZ	-12.802	-12.802	0	%100
5	S2	SZ	-13.304	-13.304	0	%100
6	GA2	SZ	-17.134	-17.134	0	%100
7	GA1	SZ	-17.134	-17.134	0	%100
8	P2	SZ	-12.802	-12.802	0	%100
9	S1	SZ	-13.304	-13.304	0	%100
10	GA6	SZ	-17.134	-17.134	0	%100
11	GA5	SZ	-17.134	-17.134	0	%100
12	P1	SZ	-12.802	-12.802	0	%100
13	H1	SZ	-15.664	-15.664	0	%100
14	MP1	SZ	-17.01	-17.01	0	%100
15	MP3	SZ	-17.01	-17.01	0	%100
16	HR1	SZ	-16.997	-16.997	0	%100
17	CA8	SZ	-12.194	-12.194	0	%100
18	CA9	SZ	-12.194	-12.194	0	%100
19	CA7	SZ	-12.194	-12.194	0	%100
20	M32	SZ	0	0	0	%100
21	M35	SZ	0	0	0	%100
22	M36	SZ	0	0	0	%100
23	M39A	SZ	0	0	0	%100
24	CA3	SZ	-14.947	-14.947	0	%100
25	CA4	SZ	-14.947	-14.947	0	%100
26	CA1	SZ	-14.947	-14.947	0	%100
27	CA2	SZ	-14.947	-14.947	0	%100

Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
28	CA5	SZ	-14.947	-14.947	0	%100
29	CA6	SZ	-14.947	-14.947	0	%100
30	M64	SZ	0	0	0	%100
31	M65	SZ	0	0	0	%100
32	M66	SZ	0	0	0	%100
33	M67	SZ	0	0	0	%100
34	M68	SZ	0	0	0	%100
35	M69	SZ	0	0	0	%100
36	M70	SZ	0	0	0	%100
37	M71	SZ	0	0	0	%100
38	M72	SZ	0	0	0	%100
39	M73	SZ	0	0	0	%100
40	M74	SZ	0	0	0	%100
41	M75	SZ	-18.4	-18.4	0	%100
42	MP2	SZ	-17.01	-17.01	0	%100
43	M43	SZ	0	0	0	%100
44	M44	SZ	0	0	0	%100
45	H3	SZ	-15.664	-15.664	0	%100
46	MP7	SZ	-17.01	-17.01	0	%100
47	MP9	SZ	-17.01	-17.01	0	%100
48	HR3	SZ	-16.997	-16.997	0	%100
49	M52	SZ	0	0	0	%100
50	M53	SZ	0	0	0	%100
51	M54	SZ	0	0	0	%100
52	M55	SZ	0	0	0	%100
53	H2	SZ	-15.664	-15.664	0	%100
54	MP4	SZ	-17.01	-17.01	0	%100
55	MP6	SZ	-17.01	-17.01	0	%100
56	HR2	SZ	-16.997	-16.997	0	%100
57	M66A	SZ	0	0	0	%100
58	M67A	SZ	0	0	0	%100
59	M68A	SZ	0	0	0	%100
60	M69A	SZ	0	0	0	%100
61	MP8	SZ	-17.01	-17.01	0	%100
62	M68B	SZ	0	0	0	%100
63	M69B	SZ	0	0	0	%100
64	MP5	SZ	-17.01	-17.01	0	%100
65	M71B	SZ	0	0	0	%100
66	M72B	SZ	0	0	0	%100
67	MP10	SZ	-17.01	-17.01	0	%100
68	M68D	SZ	0	0	0	%100

Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S3	SX	-13.304	-13.304	0	%100
2	GA4	SX	-17.134	-17.134	0	%100
3	GA3	SX	-17.134	-17.134	0	%100
4	P3	SX	-12.802	-12.802	0	%100
5	S2	SX	-13.304	-13.304	0	%100
6	GA2	SX	-17.134	-17.134	0	%100
7	GA1	SX	-17.134	-17.134	0	%100

Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
8	P2	SX	-12.802	-12.802	0	%100
9	S1	SX	-13.304	-13.304	0	%100
10	GA6	SX	-17.134	-17.134	0	%100
11	GA5	SX	-17.134	-17.134	0	%100
12	P1	SX	-12.802	-12.802	0	%100
13	H1	SX	-15.664	-15.664	0	%100
14	MP1	SX	-17.01	-17.01	0	%100
15	MP3	SX	-17.01	-17.01	0	%100
16	HR1	SX	-16.997	-16.997	0	%100
17	CA8	SX	-12.194	-12.194	0	%100
18	CA9	SX	-12.194	-12.194	0	%100
19	CA7	SX	-12.194	-12.194	0	%100
20	M32	SX	0	0	0	%100
21	M35	SX	0	0	0	%100
22	M36	SX	0	0	0	%100
23	M39A	SX	0	0	0	%100
24	CA3	SX	-14.947	-14.947	0	%100
25	CA4	SX	-14.947	-14.947	0	%100
26	CA1	SX	-14.947	-14.947	0	%100
27	CA2	SX	-14.947	-14.947	0	%100
28	CA5	SX	-14.947	-14.947	0	%100
29	CA6	SX	-14.947	-14.947	0	%100
30	M64	SX	0	0	0	%100
31	M65	SX	0	0	0	%100
32	M66	SX	0	0	0	%100
33	M67	SX	0	0	0	%100
34	M68	SX	0	0	0	%100
35	M69	SX	0	0	0	%100
36	M70	SX	0	0	0	%100
37	M71	SX	0	0	0	%100
38	M72	SX	0	0	0	%100
39	M73	SX	0	0	0	%100
40	M74	SX	0	0	0	%100
41	M75	SX	-18.4	-18.4	0	%100
42	MP2	SX	-17.01	-17.01	0	%100
43	M43	SX	0	0	0	%100
44	M44	SX	0	0	0	%100
45	H3	SX	-15.664	-15.664	0	%100
46	MP7	SX	-17.01	-17.01	0	%100
47	MP9	SX	-17.01	-17.01	0	%100
48	HR3	SX	-16.997	-16.997	0	%100
49	M52	SX	0	0	0	%100
50	M53	SX	0	0	0	%100
51	M54	SX	0	0	0	%100
52	M55	SX	0	0	0	%100
53	H2	SX	-15.664	-15.664	0	%100
54	MP4	SX	-17.01	-17.01	0	%100
55	MP6	SX	-17.01	-17.01	0	%100
56	HR2	SX	-16.997	-16.997	0	%100
57	M66A	SX	0	0	0	%100
58	M67A	SX	0	0	0	%100
59	M68A	SX	0	0	0	%100

Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
60	M69A	SX	0	0	0	%100
61	MP8	SX	-17.01	-17.01	0	%100
62	M68B	SX	0	0	0	%100
63	M69B	SX	0	0	0	%100
64	MP5	SX	-17.01	-17.01	0	%100
65	M71B	SX	0	0	0	%100
66	M72B	SX	0	0	0	%100
67	MP10	SX	-17.01	-17.01	0	%100
68	M68D	SX	0	0	0	%100

Member Distributed Loads (BLC 44 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S2	Y	-3.185	-3.185	16.404	40
2	GA2	Y	-1.605	-1.605	3.828	27.295
3	GA1	Y	-1.605	-1.605	3.828	27.295
4	S3	Y	-3.185	-3.185	16.404	40
5	GA4	Y	-1.605	-1.605	3.828	27.295
6	GA3	Y	-1.605	-1.605	3.828	27.295
7	S1	Y	-3.185	-3.185	16.404	40
8	GA6	Y	-1.605	-1.605	3.828	27.295
9	GA5	Y	-1.605	-1.605	3.828	27.295

Member Distributed Loads (BLC 45 : BLC 16 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S2	Y	-19.476	-19.476	16.404	40
2	GA2	Y	-9.815	-9.815	3.828	27.295
3	GA1	Y	-9.815	-9.815	3.828	27.295
4	S3	Y	-19.476	-19.476	16.404	40
5	GA4	Y	-9.815	-9.815	3.828	27.295
6	GA3	Y	-9.815	-9.815	3.828	27.295
7	S1	Y	-19.476	-19.476	16.404	40
8	GA6	Y	-9.815	-9.815	3.828	27.295
9	GA5	Y	-9.815	-9.815	3.828	27.295

Member Area Loads (BLC 1 : Self Weight)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	P22	P21	P20	P23	Y	Two Way	-1.75
2	P10	P11	P12	P9	Y	Two Way	-1.75
3	P31	P34	P33	P32	Y	Two Way	-1.75

Member Area Loads (BLC 16 : Ice Weight)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	P22	P21	P20	P23	Y	Two Way	-10.7
2	P10	P11	P12	P9	Y	Two Way	-10.7
3	P31	P34	P33	P32	Y	Two Way	-10.7

Envelope AISC 15th(360-16): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear ...	Loc[in]	Dir	LC	phi*Pnc ...	phi*Pnt [lb]	phi*Mn y-y ...	phi*Mn z-z [l...	Cb	Eqn
1	P3	PL6.5x...	.333	21	2	.151	36.312	y	5	3658.14	78975	616.993	7937.35	1.412	H1-1b
2	P2	PL6.5x...	.325	21	6	.142	36.312	y	10	3658.14	78975	616.993	7927.559	1.41	H1-1b
3	P1	PL6.5x...	.306	21	10	.153	36.312	y	2	3658.14	78975	616.993	7943.666	1.413	H1-1b
4	CA4	C3.38x...	.305	33	2	.033	33	y	115	47760.0...	56700	2202.821	5751.945	1.629	H1-1b
5	CA5	C3.38x...	.298	0	10	.033	28.187	y	28	47760.0...	56700	2202.821	5751.945	1.62	H1-1b
6	CA3	C3.38x...	.291	0	2	.034	28.188	y	32	47760.0...	56700	2202.821	5751.945	1.615	H1-1b
7	CA1	C3.38x...	.289	0	6	.035	28.188	y	36	47760.0...	56700	2202.821	5751.945	1.619	H1-1b
8	CA2	C3.38x...	.287	33	6	.033	33	y	143	47760.0...	56700	2202.821	5751.945	1.621	H1-1b
9	CA8	L6.6x4...	.284	41.562	22	.039	42	z	4	51170.9...	87561	2464.809	7125.374	1.136	H2-1
10	CA6	C3.38x...	.283	33	10	.032	33	y	87	47760.0...	56700	2202.821	5751.945	1.624	H1-1b
11	M75	PL 2.3...	.279	1.5	12	.186	0	y	173	38256.8...	38475	400.783	1903.711	2.249	H1-1b
12	CA7	L6.6x4...	.274	41.562	3	.037	42	z	8	51170.9...	87561	2464.809	7125.374	1.136	H2-1
13	HR2	2.88x0...	.273	90	3	.136	92		4	22491.6...	43076.493	3155.674	3155.674	1.66	H1-1b
14	HR3	2.88x0...	.270	6	2	.127	92		6	22491.6...	43076.493	3155.674	3155.674	1.806	H1-1b
15	HR1	2.88x0...	.261	6	4	.119	6		4	22491.6...	43076.493	3155.674	3155.674	1.925	H1-1b
16	S2	HSS4X...	.255	0	5	.110	0	y	142	188250....	197892	22045.5	22045.5	1.792	H1-1b
17	S3	HSS4X...	.251	0	13	.111	0	y	114	188250....	197892	22045.5	22045.5	1.804	H1-1b
18	CA9	L6.6x4...	.250	41.562	6	.035	42	z	12	51170.9...	87561	2464.809	7125.374	1.136	H2-1
19	S1	HSS4X...	.234	0	9	.109	0	y	86	188250....	197892	22045.5	22045.5	1.819	H1-1b
20	MP2	PIPE_...	.226	70	5	.081	70		5	33487.3...	66654	4726.5	4726.5	4.427	H1-1b
21	MP5	PIPE_...	.223	70	7	.069	70		7	33487.3...	66654	4726.5	4726.5	4.598	H1-1b
22	GA4	L2x2x4	.210	0	2	.015	27.295	y	9	29527.5...	42480	959.63	2190.068	2.209	H2-1
23	MP8	PIPE_...	.200	70	9	.086	70		3	33487.3...	66654	4726.5	4726.5	4.094	H1-1b
24	GA5	L2x2x4	.199	0	9	.018	27.295	z	2	29527.5...	42480	959.63	2190.068	2.195	H2-1
25	GA2	L2x2x4	.193	0	12	.016	0	y	12	29527.5...	42480	959.63	2190.068	2.33	H2-1
26	GA1	L2x2x4	.180	0	6	.017	27.295	z	10	29527.5...	42480	959.63	2190.068	2.292	H2-1
27	GA3	L2x2x4	.179	0	7	.018	27.295	z	6	29527.5...	42480	959.63	2190.068	2.195	H2-1
28	GA6	L2x2x4	.179	0	4	.015	0	y	4	29527.5...	42480	959.63	2190.068	2.332	H2-1
29	MP9	PIPE_...	.177	70	2	.080	70		7	33487.3...	66654	4726.5	4726.5	3.304	H1-1b
30	MP6	PIPE_...	.162	70	7	.087	70		6	33487.3...	66654	4726.5	4726.5	4.543	H1-1b
31	MP1	PIPE_...	.158	70	11	.098	26		8	33487.3...	66654	4726.5	4726.5	2.648	H1-1b
32	MP3	PIPE_...	.157	70	5	.089	70		3	33487.3...	66654	4726.5	4726.5	4.396	H1-1b
33	MP4	PIPE_...	.152	70	7	.089	26		4	33487.3...	66654	4726.5	4726.5	1.837	H1-1b
34	MP7	PIPE_...	.149	70	9	.080	26		6	33487.3...	66654	4726.5	4726.5	3.404	H1-1b
35	H3	Pipe3.5...	.137	31	2	.083	90		2	45873.0...	71580.6	6337.65	6337.65	1.909	H1-1b
36	H1	Pipe3.5...	.131	31	10	.075	48		4	45873.0...	71580.6	6337.65	6337.65	2.028	H1-1b
37	H2	Pipe3.5...	.131	31	6	.061	48		12	45873.0...	71580.6	6337.65	6337.65	1.744	H1-1b
38	MP10	PIPE_...	.005	9	8	.004	9		8	63847.2...	66654	4726.5	4726.5	1.943	H1-1b

INFINIGY

FROM ZERO TO INFINIGY

the solutions are endless

Bolt Calculation Tool, V1.5.1

PROJECT DATA	
Site Name:	BOBOS00029A
Site Number:	BOBOS00029A
Connection Description:	Platform to Monopole

MAXIMUM BOLT LOADS		
Bolt Tension:	6880.95	lbs
Bolt Shear:	1638.82	lbs

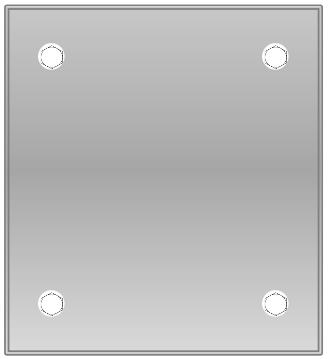
WORST CASE BOLT LOADS[1]		
Bolt Tension:	6880.95	lbs
Bolt Shear:	465.56	lbs

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	33.8%	
Max Shear Usage	11.9%	
Interaction Check (Worst Case)	0.12	***≤1.05***
Result	Pass	



DISH Wireless L.L.C. SITE ID:

BOBOS00029A

DISH Wireless L.L.C. SITE ADDRESS:

165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

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).

SCOPE OF WORK

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

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

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

SITE INFORMATION

PROPERTY OWNER:	PRAY LOIS S
ADDRESS:	165 ELMWOOD HILL RD THOMPSON, CT 06277
TOWER TYPE:	MONOPOLE
TOWER CO SITE ID:	415784
TOWER APP NUMBER:	13733433
COUNTY:	WINDHAM
LATITUDE (NAD 83):	41° 55' 45.32" N 41.929256
LONGITUDE (NAD 83):	71° 48' 36.17" W -71.810047
ZONING JURISDICTION:	CONNECTICUT SITING COUNCIL
ZONING DISTRICT:	AG-2
PARCEL NUMBER:	024-007
OCCUPANCY GROUP:	U
CONSTRUCTION TYPE:	II-B
POWER COMPANY:	NORTHEAST UTILITY SERVICES
TELEPHONE COMPANY:	AT&T

PROJECT DIRECTORY

APPLICANT:	DISH Wireless L.L.C. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
TOWER OWNER:	AMERICAN TOWER CORPORATION 10 PRESIDENTIAL WAY WOBURN, MA 01801 (781) 926-4500
SITE DESIGNER:	B+T GROUP 1717 S. BOULDER AVE, SUITE 300 TULSA, OK 74119 (918) 587-4630
SITE ACQUISITION:	DAVID GOODFELLOW David.goodfellow@dish.com
CONST. MANAGER:	CHAD WILCOX Chad.wilcox@dish.com
RF ENGINEER:	ARVIN SEBASTIAN Arvin.sebastian@dish.com

CONNECTICUT CODE OF COMPLIANCE

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

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

SITE PHOTO

DIRECTIONS

DIRECTIONS FROM RHODE ISLAND T.F. GREEN INTERNATIONAL AIRPORT:

GET ON I-295 N FROM WARWICK INDUSTRIAL DR, MAIN AVE AND EAST AVE, HEAD SOUTHWEST TOWARD WARWICK INDUSTRIAL DR, TURN RIGHT ONTO WARWICK INDUSTRIAL DR, TURN RIGHT ONTO MAIN AVE, CONTINUE ONTO EAST AVE, TURN RIGHT ONTO BALD HILL RD, PASS BY ON THE BORDER MEXICAN GRILL & CANTINA (ON THE RIGHT IN 0.2 MI), SLIGHT RIGHT ONTO THE INTERSTATE 295 N RAMP, FOLLOW I-295 N TO RI-5 N IN JOHNSTON. TAKE EXIT EXIT 10 FROM I-295 N, MERGE WITH I-295 N, TAKE EXIT EXIT 10 FOR RHODE ISLAND 5/JOHNSTON TOWARD SMITHFIELD, TAKE GREENVILLE AVE TO US-44 W/PUTNAM PIKE IN SMITHFIELD, USE THE LEFT 2 LANES TO TURN LEFT ONTO RI-5 N, TURN LEFT ONTO GREENVILLE AVE, FOLLOW US-44 W TO PULASKI RD IN GLOCESTER, TURN LEFT ONTO US-44 W/PUTNAM PIKE, AT THE ROUNDABOUT, TAKE THE 2ND EXIT ONTO US-44, CONTINUE ON PULASKI RD. DRIVE TO ELMWOOD HILL RD IN WINDHAM COUNTY, TURN RIGHT ONTO PULASKI RD, ENTERING CONNECTICUT, CONTINUE ONTO ELMWOOD HILL RD, AND ARRIVE AT BOBOS00029A.

SHEET INDEX

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

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

CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION

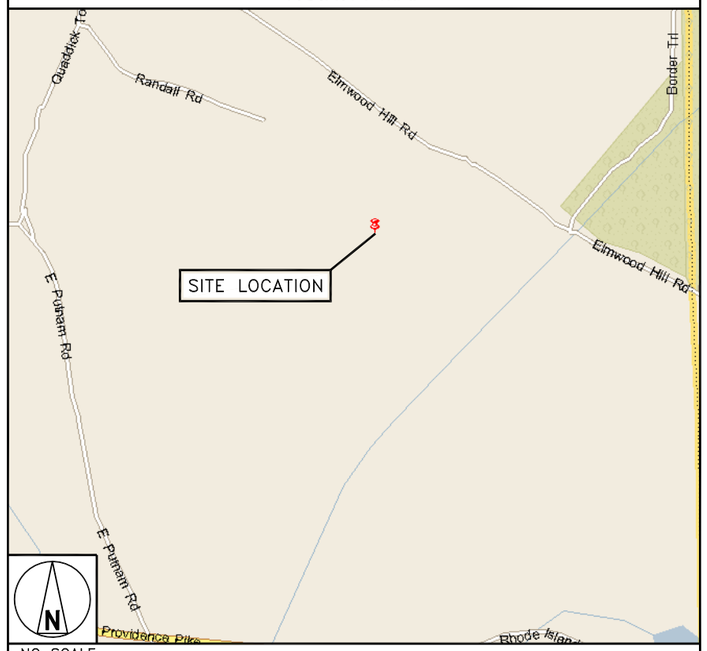
GENERAL NOTES

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

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

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

VICINITY MAP



NO SCALE

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

AMERICAN TOWER®
10 PRESIDENTIAL WAY
WOBURN, MA 01801

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

STATE OF CONNECTICUT · CHAD WILCOX · No. 23924 · LICENSED PROFESSIONAL ENGINEER

01/07/22

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
ANS	MEH	MEH

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	10/20/21	ISSUED FOR REVIEW
B	01/07/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

157528.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00029A
165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

SHEET TITLE

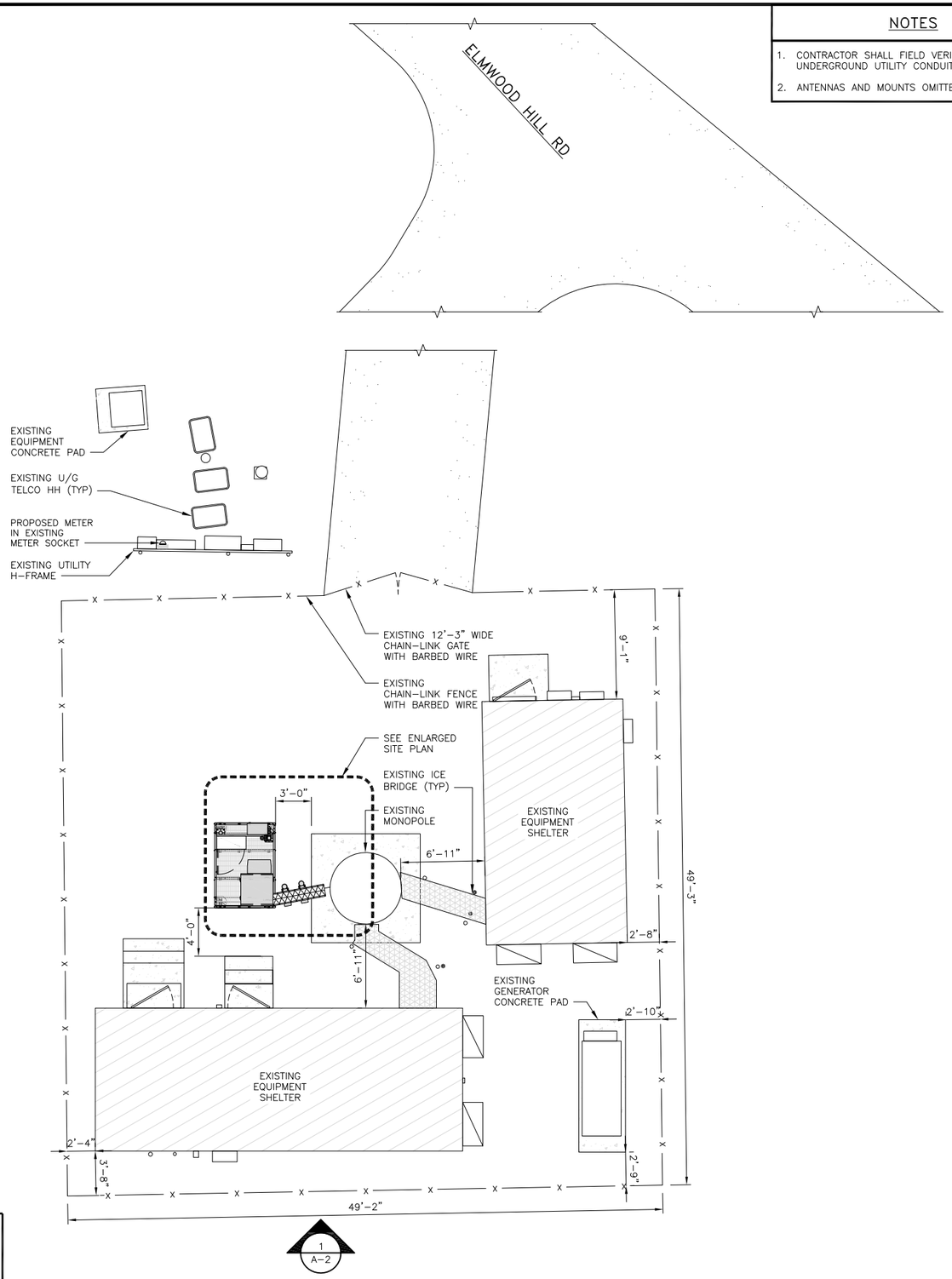
TITLE SHEET

SHEET NUMBER

T-1

NOTES

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



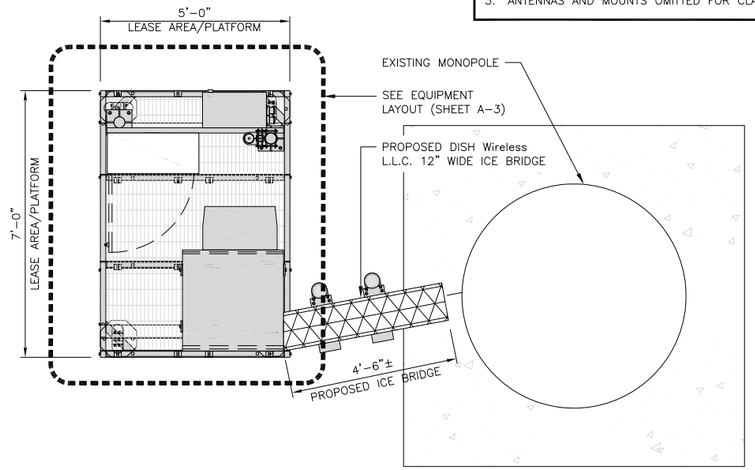
OVERALL SITE PLAN

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

1

NOTES

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



ENLARGED SITE PLAN

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

2

AN EXISTING CONDITIONS SURVEY WAS NOT AVAILABLE AT THE TIME THIS DRAWINGS CREATIONS.

AERIAL IMAGE

NO SCALE

3

dish wireless.

5701 SOUTH SANTA FE DRIVE
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STATE OF CONNECTICUT · CHAD M. TUTTLE · No. 23924 LICENSED PROFESSIONAL ENGINEER

01/07/22

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
ANS	MEH	MEH

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	10/20/21	ISSUED FOR REVIEW
B	01/07/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

157528.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00029A
165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

SHEET TITLE

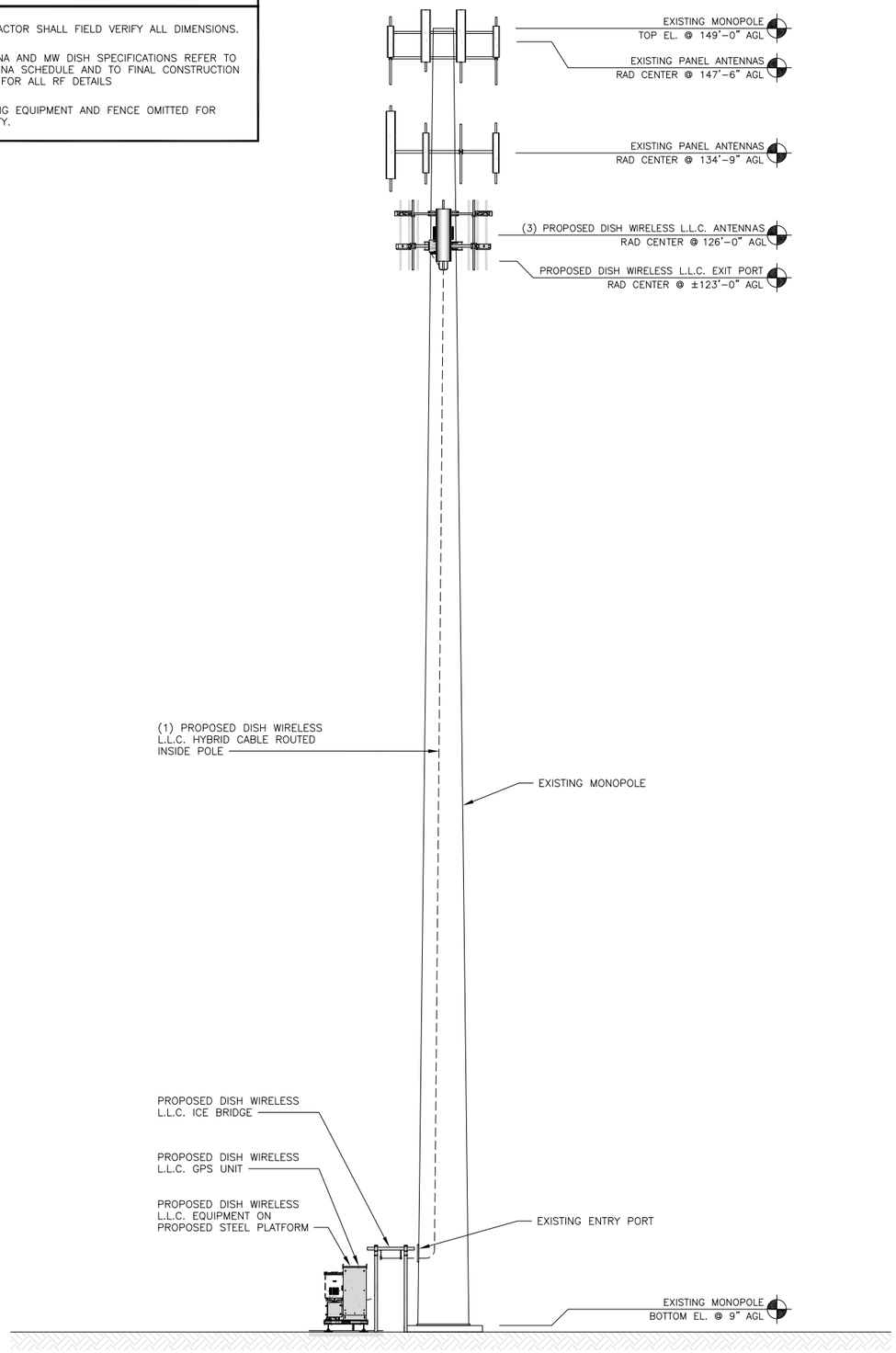
OVERALL AND ENLARGED SITE PLAN

SHEET NUMBER

A-1

NOTES

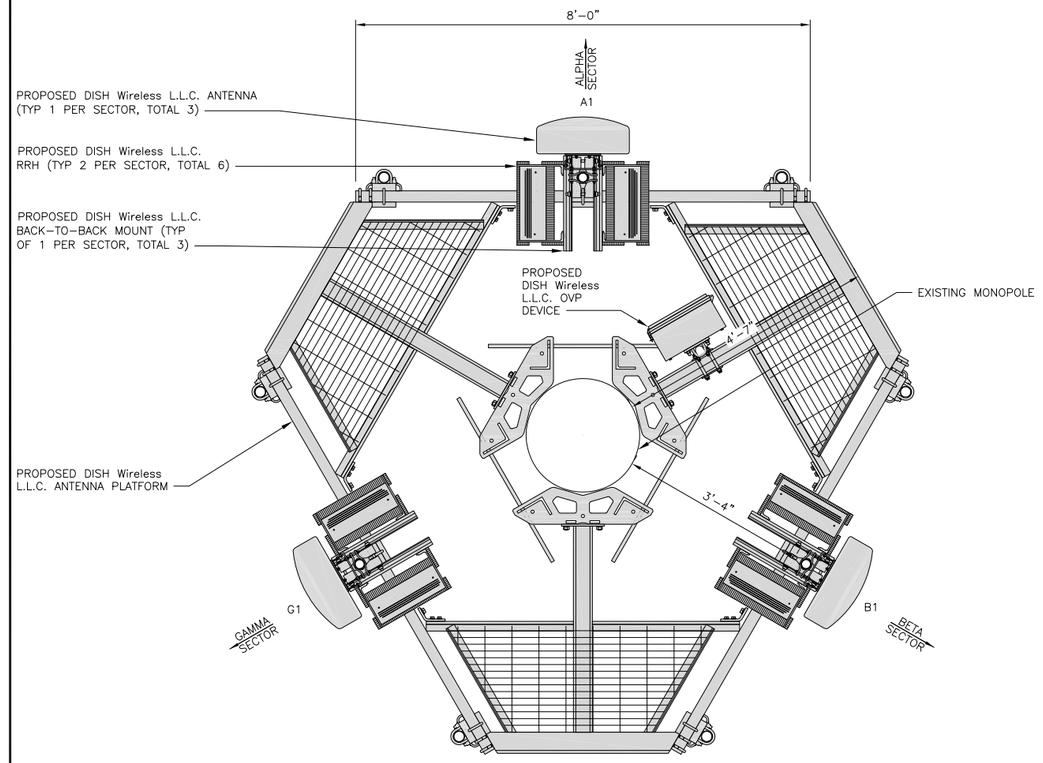
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.



PROPOSED SOUTH ELEVATION

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

1



N

ANTENNA LAYOUT

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

2

SECTOR	POSITION	ANTENNA						TRANSMISSION CABLE
		EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	TECHNOLOGY	SIZE (HxW)	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH
ALPHA	A1	PROPOSED	COMMSCOPE – FFVV-65B-R2	5G	72.0" x 19.6"	0°	126'-0"	(1) HIGH-CAPACITY HYBRID CABLE (155' LONG)
BETA	B1	PROPOSED	COMMSCOPE – FFVV-65B-R2	5G	72.0" x 19.6"	120°	126'-0"	
GAMMA	G1	PROPOSED	COMMSCOPE – FFVV-65B-R2	5G	72.0" x 19.6"	240°	126'-0"	

SECTOR	POSITION	RRH	
		MANUFACTURER – MODEL NUMBER	TECHNOLOGY
ALPHA	A1	FUJITSU – TA08025-B605	N29/N71
	A1	FUJITSU – TA08025-B604	N66/N70
BETA	B1	FUJITSU – TA08025-B605	N29/N71
	B1	FUJITSU – TA08025-B604	N66/N70
GAMMA	G1	FUJITSU – TA08025-B605	N29/N71
	G1	FUJITSU – TA08025-B604	N66/N70

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.

ANTENNA SCHEDULE

NO SCALE

3

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PROJECT INFORMATION

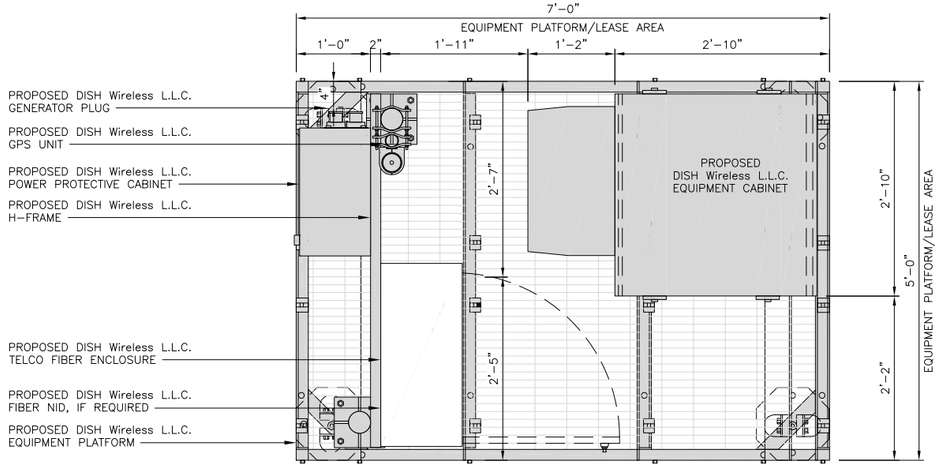
BOBOS00029A
165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

SHEET TITLE

ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER

A-2



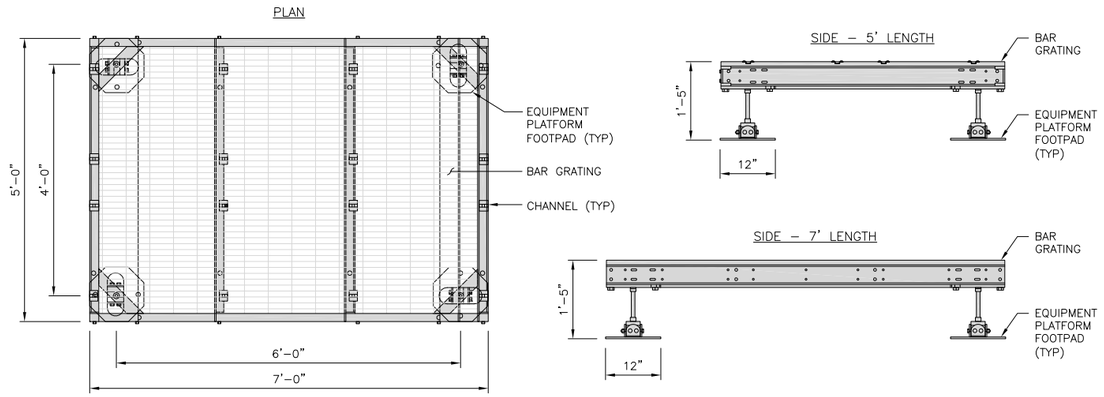
PLATFORM EQUIPMENT PLAN

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

1

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

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



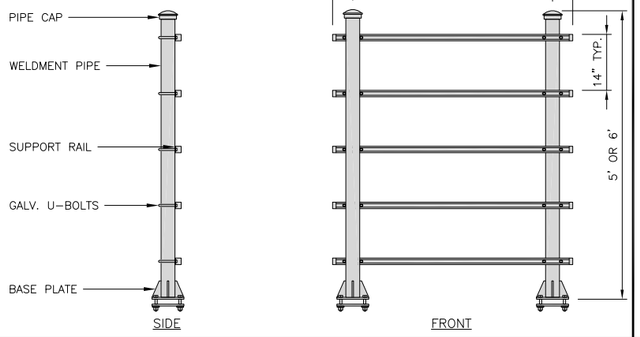
PLATFORM DETAIL

NO SCALE

2

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

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



H-FRAME DETAIL

NO SCALE

3

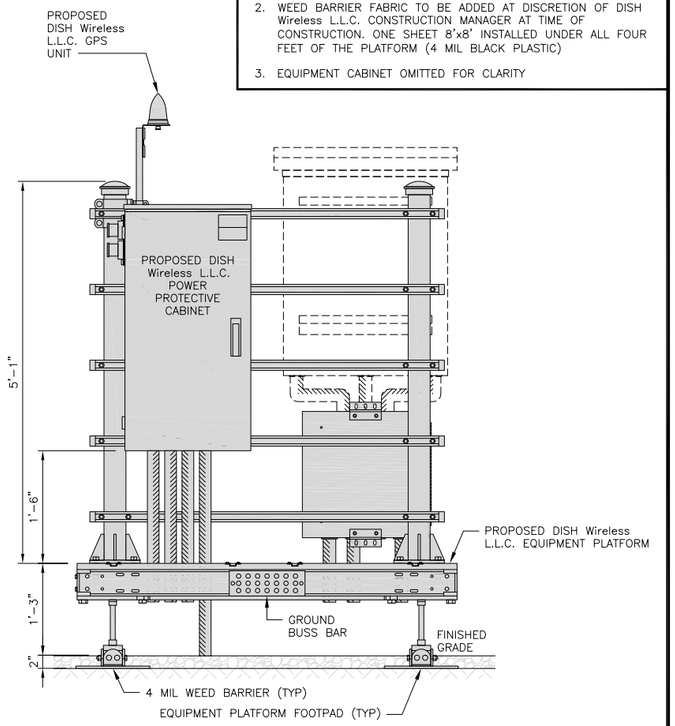
NOT USED

NO SCALE

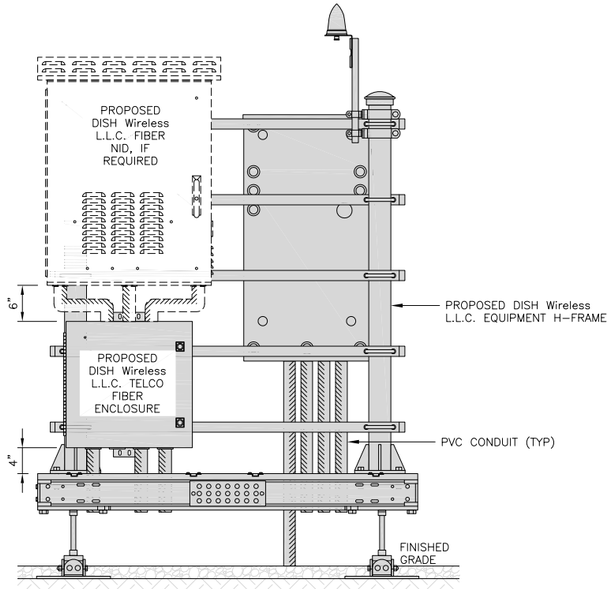
4

NOTES

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



FRONT ELEVATION



BACK ELEVATION

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

5

H-FRAME EQUIPMENT ELEVATION

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PROJECT INFORMATION

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165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

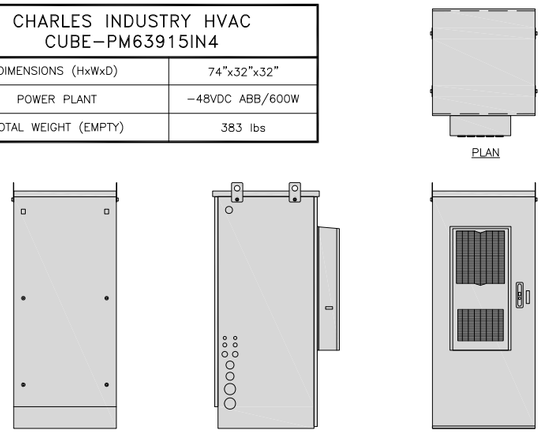
SHEET TITLE

EQUIPMENT PLATFORM AND H-FRAME DETAILS

SHEET NUMBER

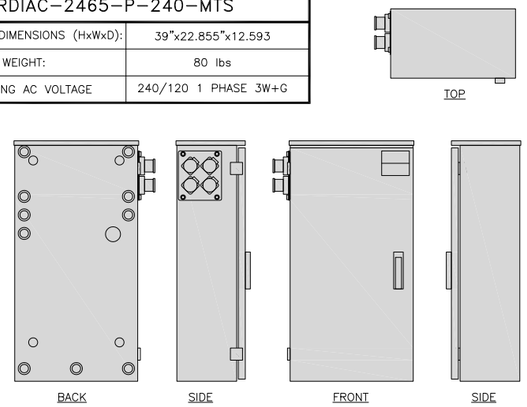
A-3

CHARLES INDUSTRY HVAC CUBE–PM63915IN4	
DIMENSIONS (HxWxD)	74"x32"x32"
POWER PLANT	–48VDC ABB/600W
TOTAL WEIGHT (EMPTY)	383 lbs



CABINET DETAIL | NO SCALE | 1

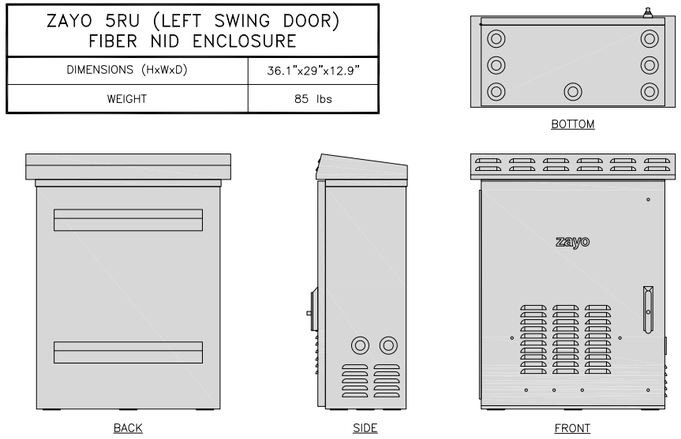
RAYCAP PPC RDIAC–2465–P–240–MTS	
ENCLOSURE DIMENSIONS (HxWxD):	39"x22.855"x12.593
WEIGHT:	80 lbs
OPERATING AC VOLTAGE	240/120 1 PHASE 3W+G



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

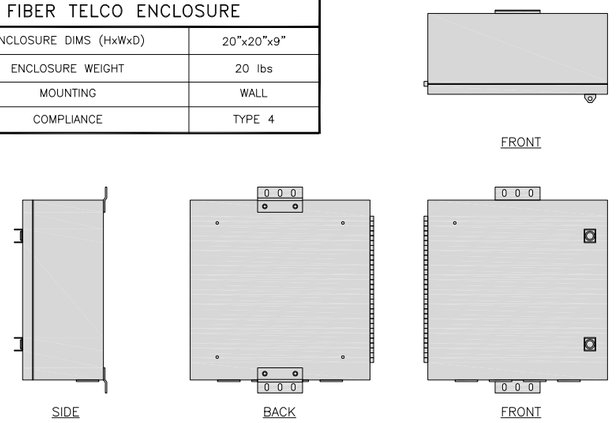
NOT USED | NO SCALE | 3

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



FIBER NID ENCLOSURE DETAIL | NO SCALE | 5

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

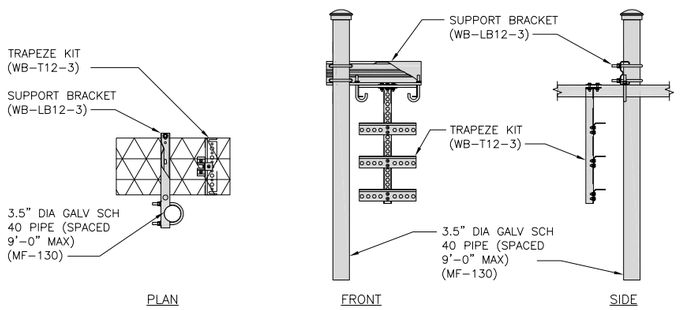


FIBER TELCO ENCLOSURE DETAIL | NO SCALE | 6

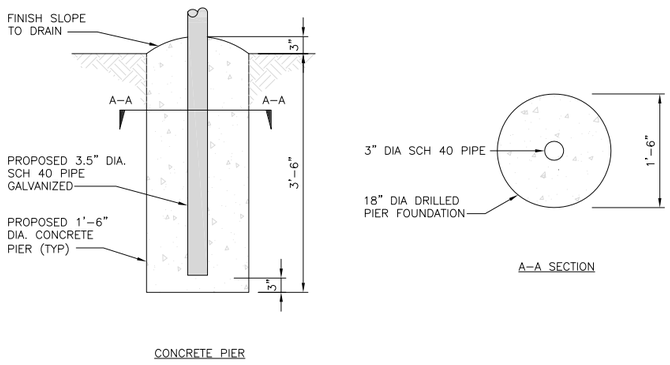
NOT USED | NO SCALE | 4

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

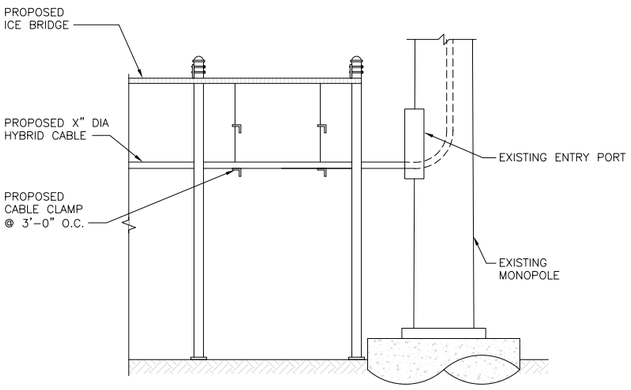
INCLUDED PRODUCTS:	
	WB–T12–3 TRAPEZE KIT, 3 RUNGS
	WB–LB12–3 SUPPORT BRACKET
	MF–130 DIRECT BURIAL PIPE COLUMN, 13'–4"



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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DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00029A
165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

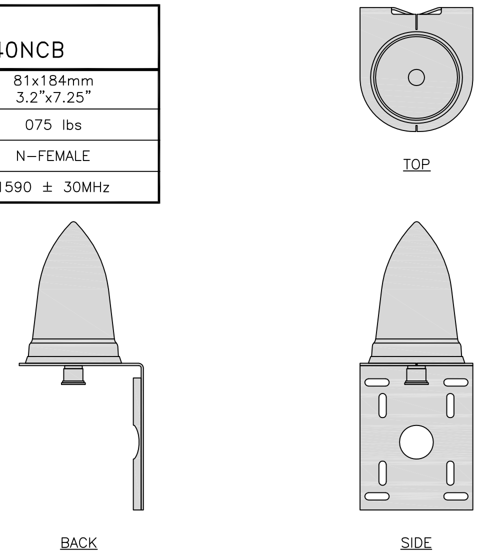
SHEET TITLE

EQUIPMENT DETAILS

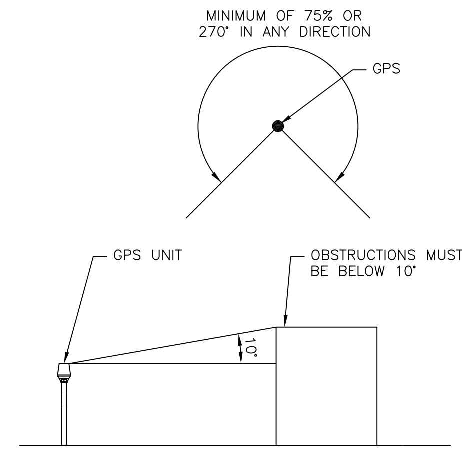
SHEET NUMBER

A-4

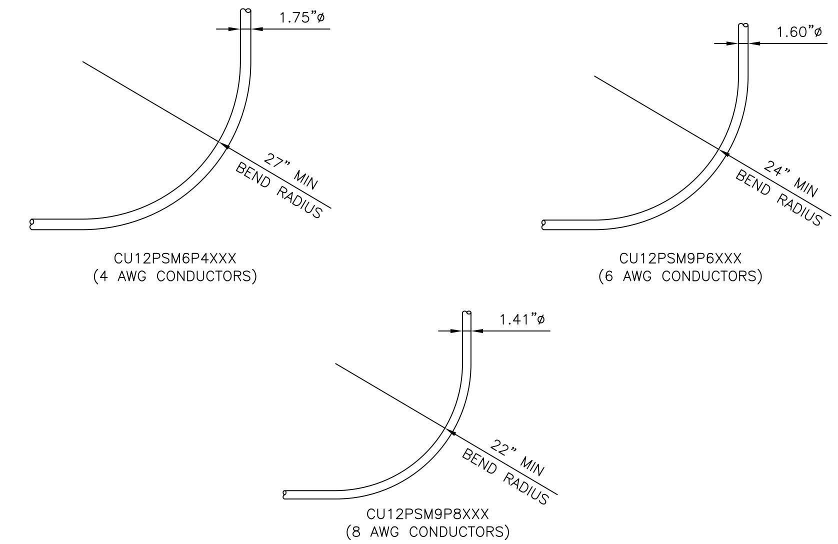
PCTEL GPSGL–TMG–SPI–40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N–FEMALE
FREQUENCY RANGE	1590 ± 30MHz



GPS DETAIL | NO SCALE | 1



GPS MINIMUM SKY VIEW REQUIREMENTS | NO SCALE | 2



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

NOT USED | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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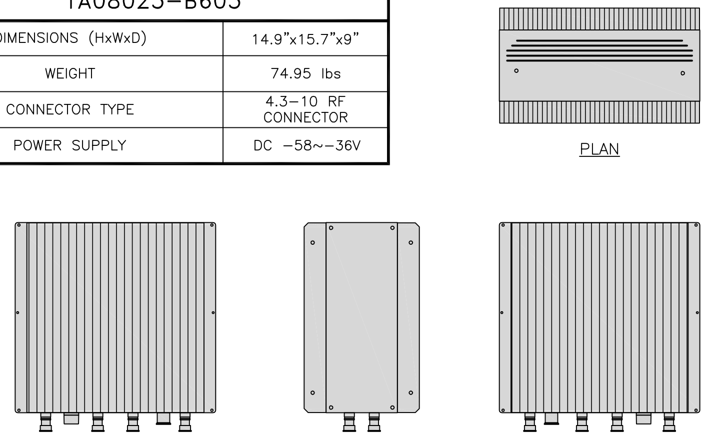
PROJECT INFORMATION

BOBOS00029A
165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

SHEET TITLE
EQUIPMENT DETAILS

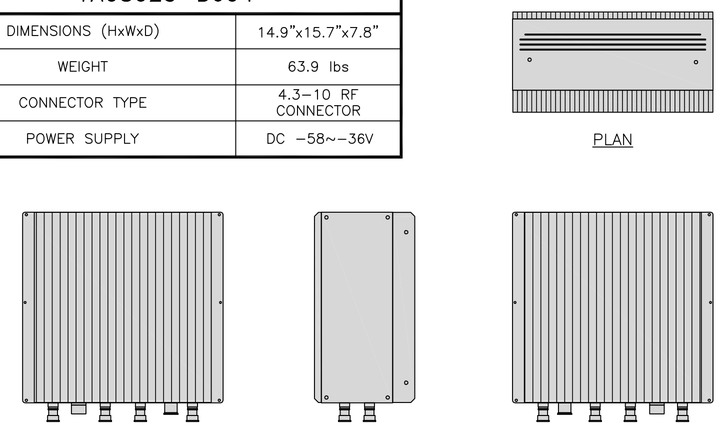
SHEET NUMBER
A-5

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



RRH DETAIL — NO SCALE — 1

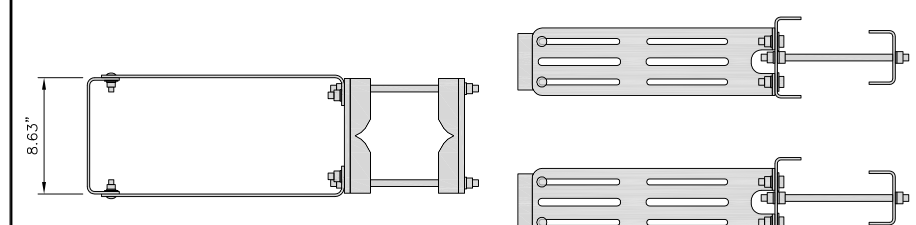
FUJITSU DUAL BAND TA08025-B604	
DIMENSIONS (HxWxD)	14.9"x15.7"x7.8"
WEIGHT	63.9 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



RRH DETAIL — NO SCALE — 2

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

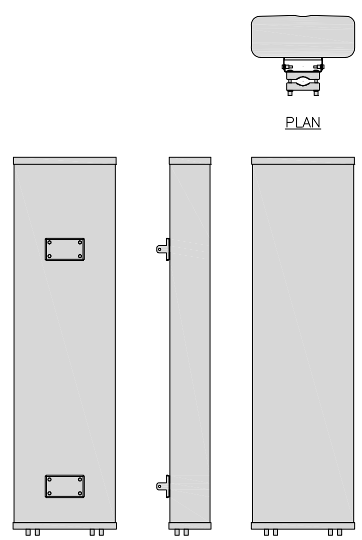
DESIGN NOTES:
MOUNT WILL FIT LEGS UP TO:
- 5.6" ROUND
- 6.0" 60° ANGLE
- 4.5" 90° ANGLE



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

RRH MOUNT DETAIL — NO SCALE — 3

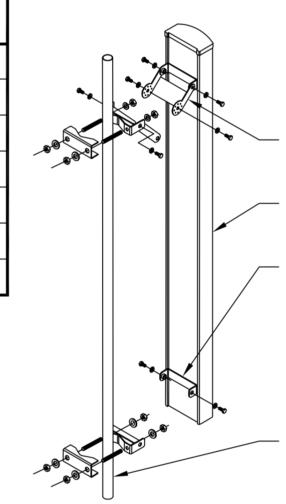
COMMSCOPE FFVV-65B-R2	
DIMENSIONS (HxWxD)(MM/IN)	1828x498x197 72"x19.6"x7.8"
RF CONNECTOR INTERFACE	4.3-10 FEMALE
WEIGHT	70.8 lbs
WEIGHT WITH BRACKETS	98.1 lbs



ANTENNA DETAIL — NO SCALE — 4

NOT USED — NO SCALE — 5

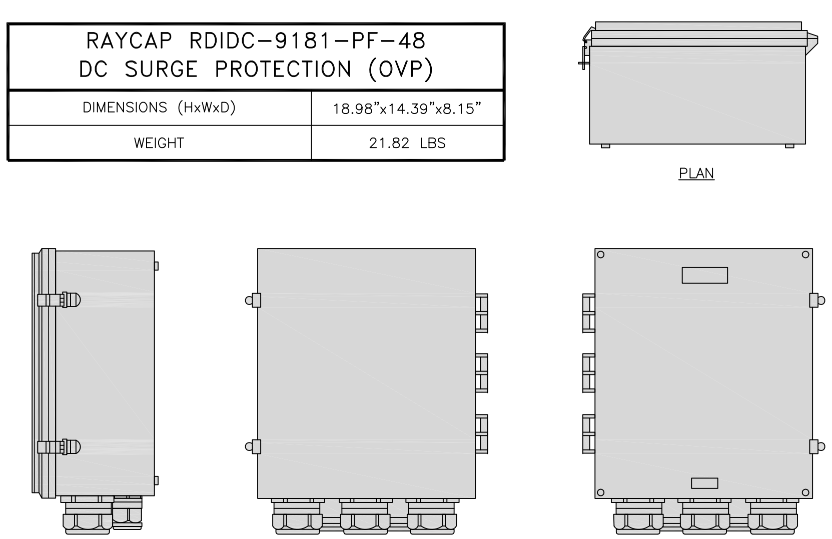
M04 MOUNTING BRACKET HPA-33R-BUU-H4-K	
WIDTH	5"
DEPTH	2"
HEIGHT	8"
TOTAL WEIGHT	1.5 lbs
HOUSING MATERIAL	ASA/ABS/ALUMINUM
RADOME COLOR	LIGHT GRAY
CONNECTOR	1x8-PIN DAISY CHAIN



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

ANTENNA MOUNTING DETAIL — NO SCALE — 6

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



SURGE SUPPRESSION DETAIL (OVP) — NO SCALE — 7

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

NOTE:
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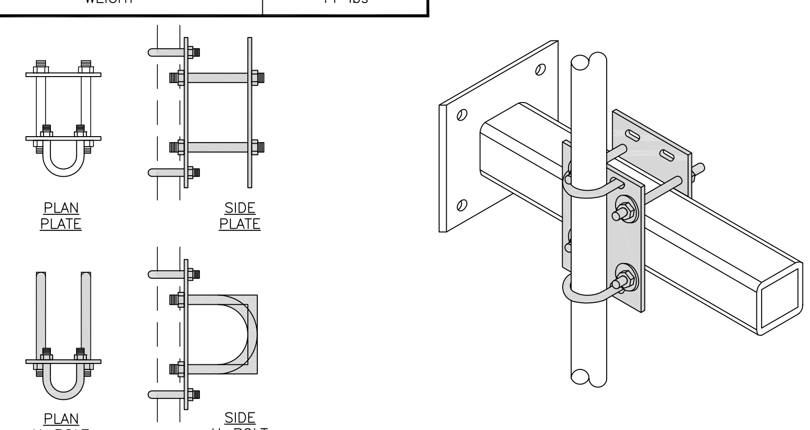
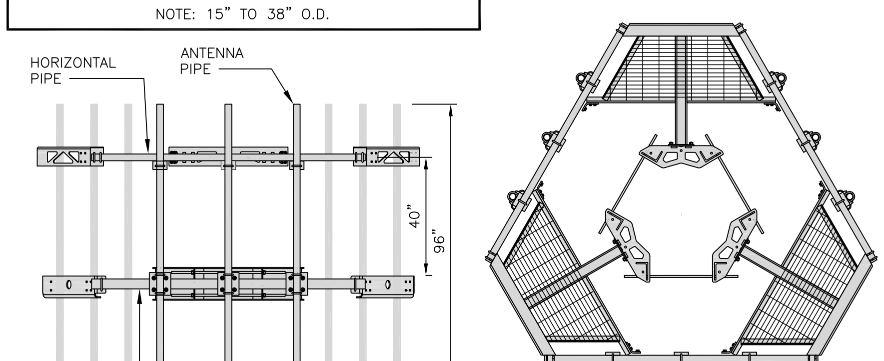
APPROVED EQUIVALENT



RRH/OVP MOUNT DETAIL — NO SCALE — 8

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

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



ANTENNA PLATFORM DETAIL — NO SCALE — 9

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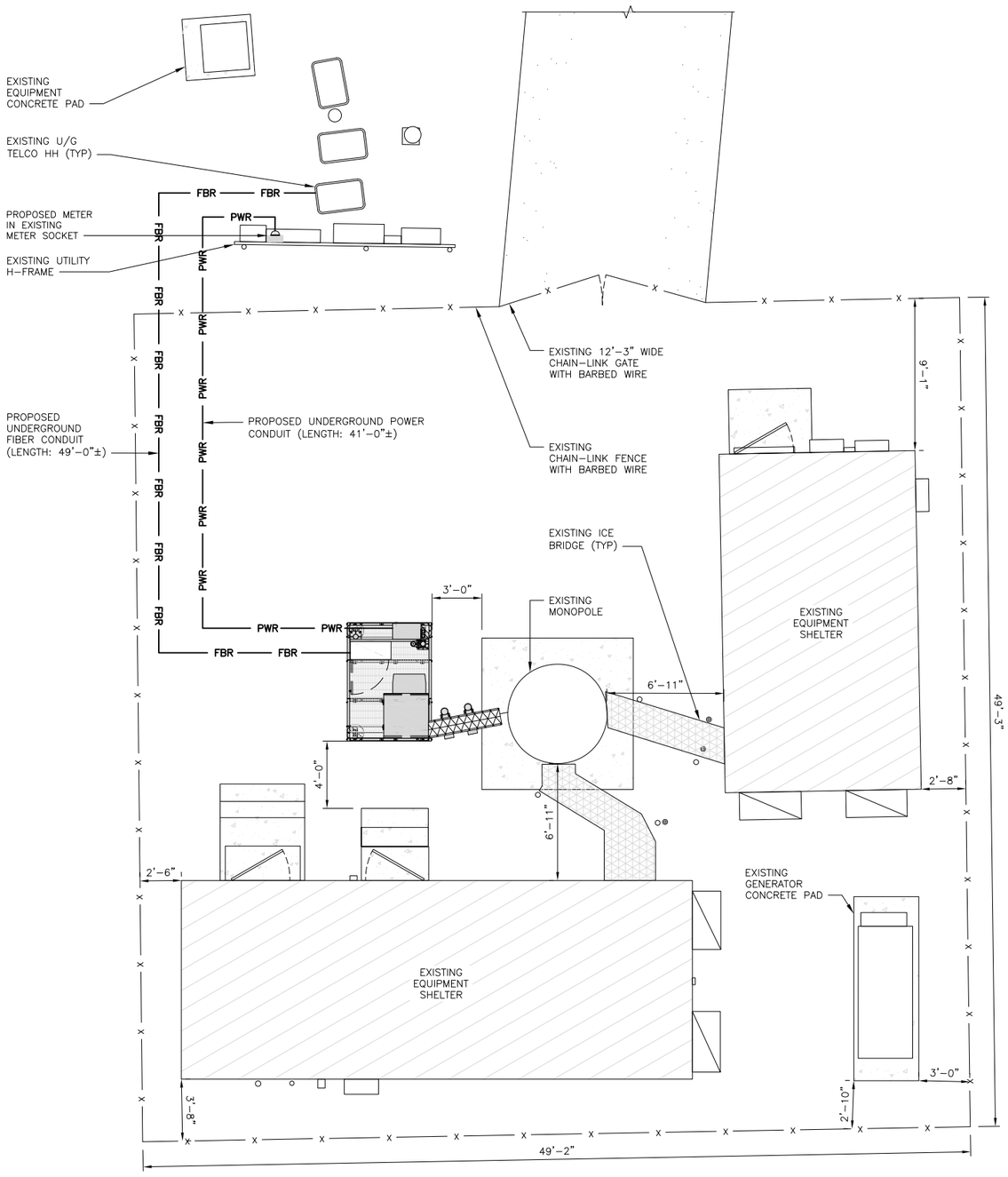
PUTNAM, CT 06260

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-6

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.
3. THE GROUND LEASE DOES NOT SPECIFY OUR UTILITY RIGHTS. "PWR" AND "FBR" PATH DEPICTED ON A–1 AND E–1 ARE BASED ON BEST AVAILABLE INFORMATION INCLUDING BUT NOT LIMITED TO FIELD VERIFICATION, PRIOR PROJECT DOCUMENTATION AND OTHER REAL PROPERTY RIGHTS DOCUMENTS. WHEN INSTALLING THE UTILITIES PLEASE LOCATE AND FOLLOW EXISTING PATH. IF EXISTING PATH IS NOT AN OPTION PLEASE NOTIFY TOWER OWNER AS FURTHER COORDINATION MAY BE NEEDED.



UTILITY ROUTE PLAN

4' 2' 0 4' 8'
1/4"=1'–0"

1

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

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

AN EXISTING CONDITIONS SURVEY WAS NOT AVAILABLE AT THE TIME THIS DRAWINGS CREATIONS.

ELECTRICAL NOTES

NO SCALE

2

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STATE OF CONNECTICUT
CHAD TUTTLE
No. 23924
LICENSED
PROFESSIONAL ENGINEER

01/07/22

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
ANS	MEH	MEH

RFDS REV #: 1.0

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A&E PROJECT NUMBER
157528.001.01

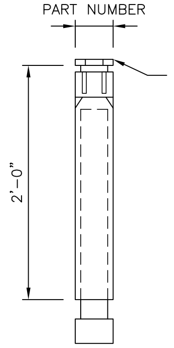
DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00029A
165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

SHEET TITLE
ELECTRICAL/FIBER ROUTE PLAN AND NOTES

SHEET NUMBER
E-1

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

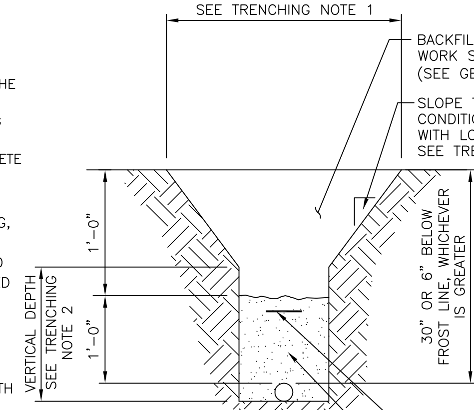


NOTE:
CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

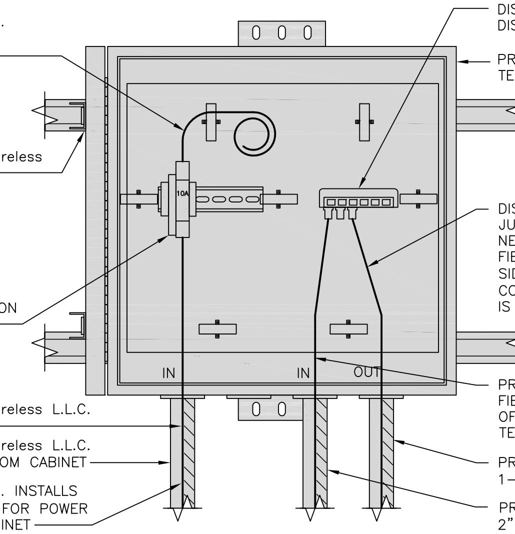
EXPANSION JOINT DETAIL | NO SCALE | 1

TRENCHING NOTES

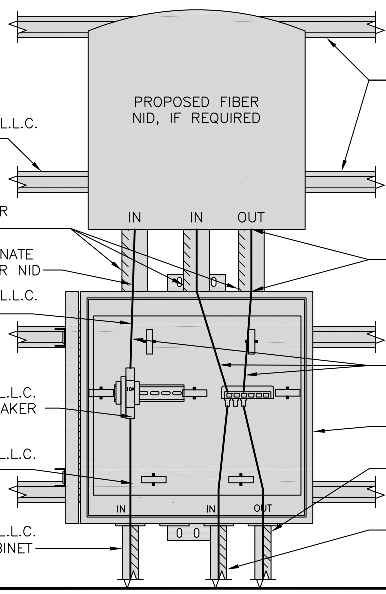
1. CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
2. TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT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



TYPICAL UNDERGROUND TRENCH DETAIL | NO SCALE | 2



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



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

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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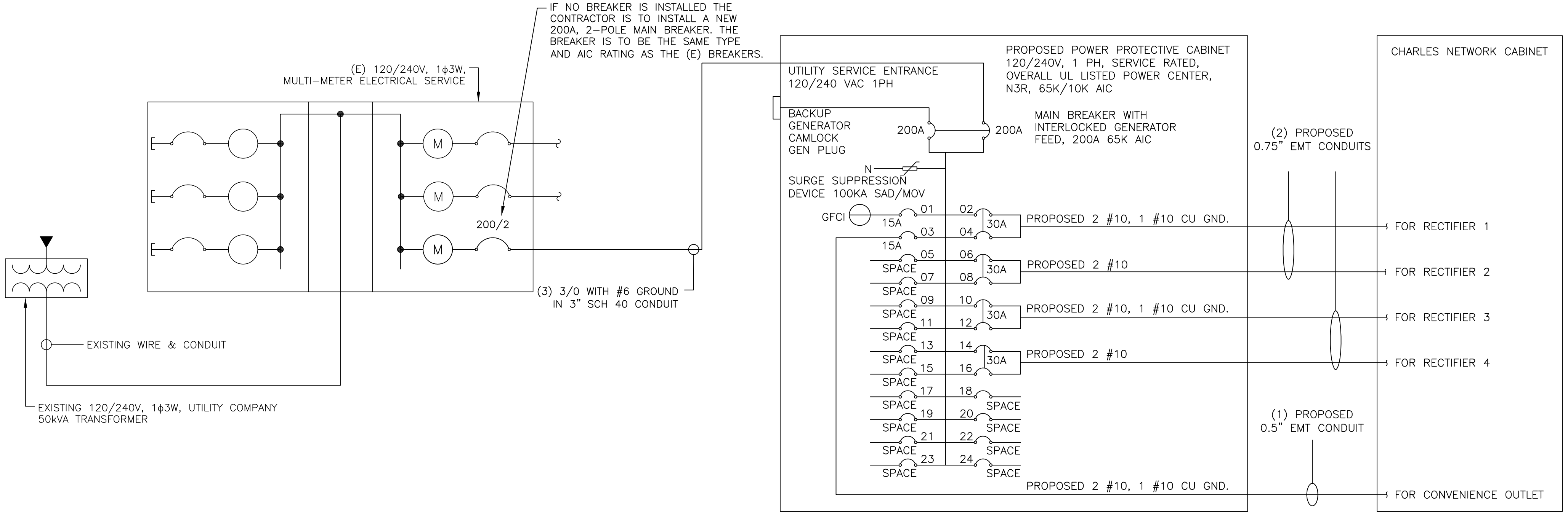
DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00029A
165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER
E-2



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

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

NOTES

THE ENGINEER OF RECORD HAS PERFORMED ALL REQUIRED SHORT CIRCUIT CALCULATIONS AND THE AIC RATINGS FOR EACH DEVICE IS ADEQUATE TO PROTECT THE EQUIPMENT AND THE ELECTRICAL SYSTEM.

THE ENGINEER OF RECORD HAS PERFORMED ALL REQUIRED VOLTAGE DROP CALCULATIONS AND ALL BRANCH CIRCUIT AND FEEDERS COMPLY WITH THE NEC (LISTED ON T-1) ARTICLE 210.19(A)(1) FPN NO. 4.

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

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

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

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

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

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

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

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

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

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

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

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

PPC ONE-LINE DIAGRAM | NO SCALE | 1

PROPOSED CHARLES PANEL SCHEDULE

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

PANEL SCHEDULE | NO SCALE | 2

NOT USED | NO SCALE | 3

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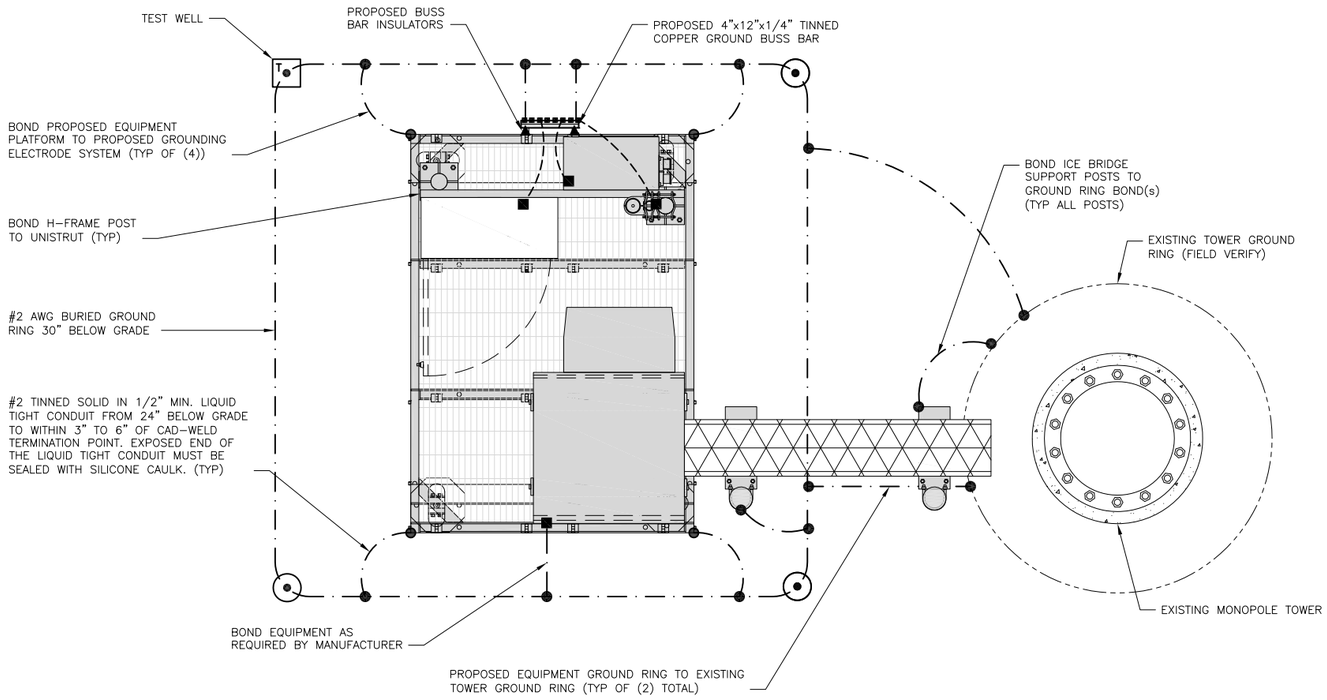
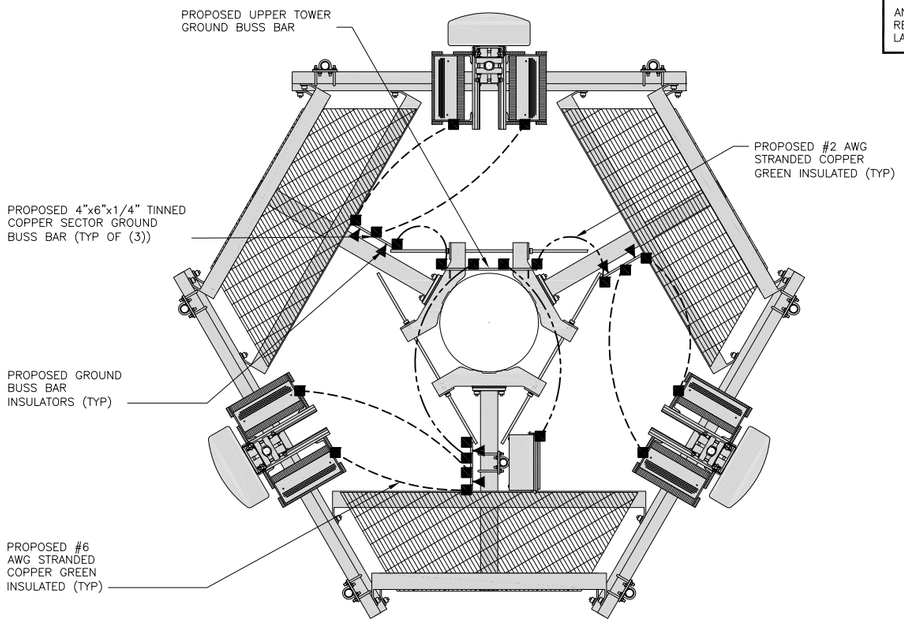
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00029A
165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

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

SHEET NUMBER
E-3



TYPICAL EQUIPMENT GROUNDING PLAN | NO SCALE | 1



TYPICAL ANTENNA GROUNDING PLAN | NO SCALE | 2

NOTES

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

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

GROUNDING LEGEND

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

GROUNDING KEY NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GROUNDING KEY NOTES | NO SCALE | 3

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RFDS REV #: 1.0

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DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00029A
165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

SHEET TITLE

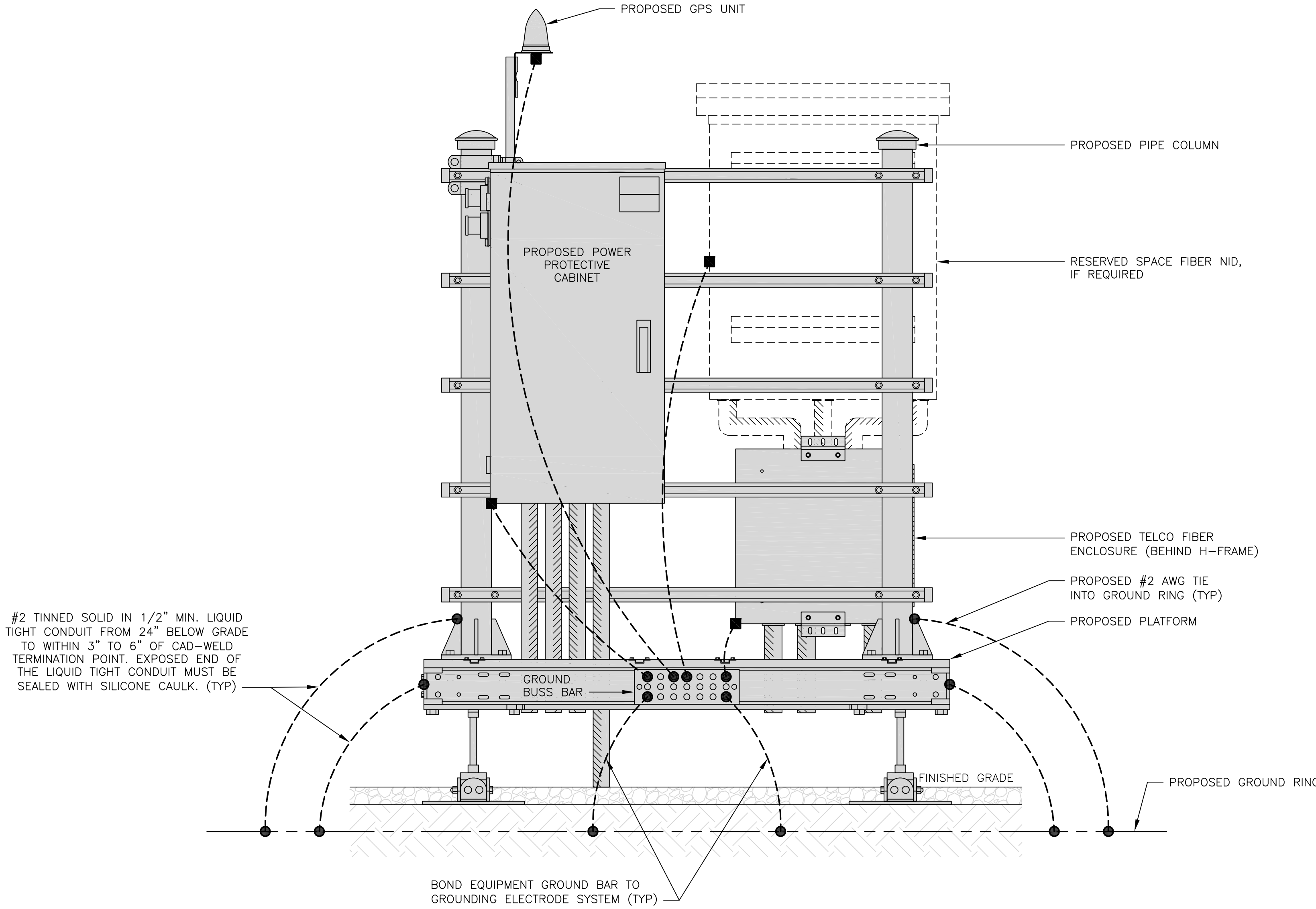
GROUNDING PLANS AND NOTES

SHEET NUMBER

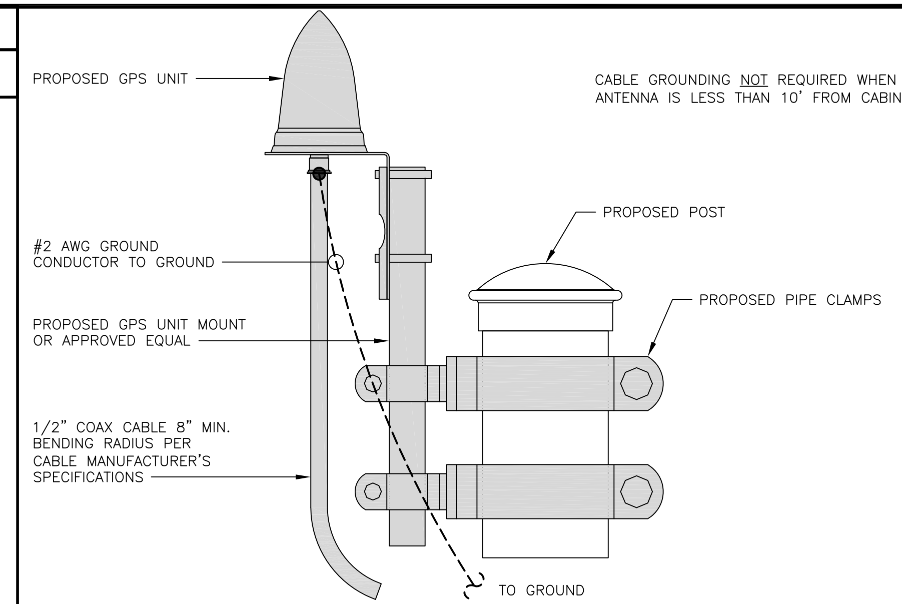
G-1

NOTES

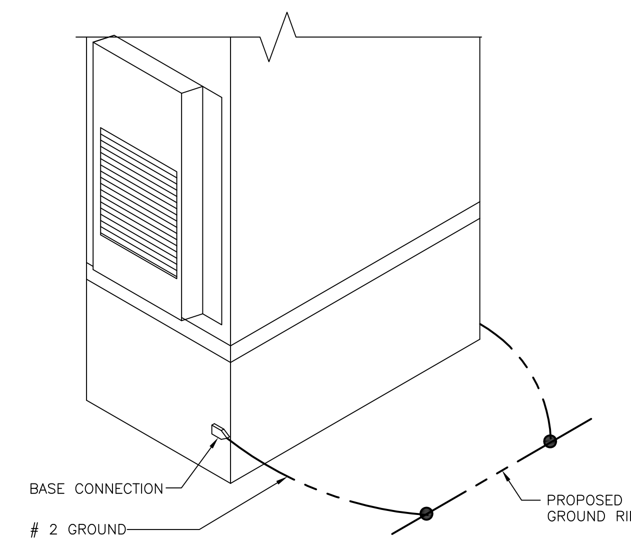
EQUIPMENT CABINET OMITTED FOR CLARITY



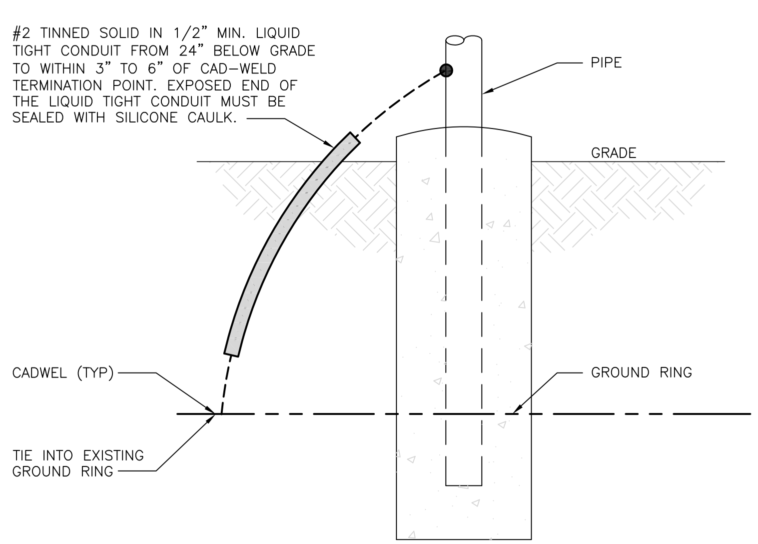
H-FRAME GROUNDING DETAIL | NO SCALE | 1



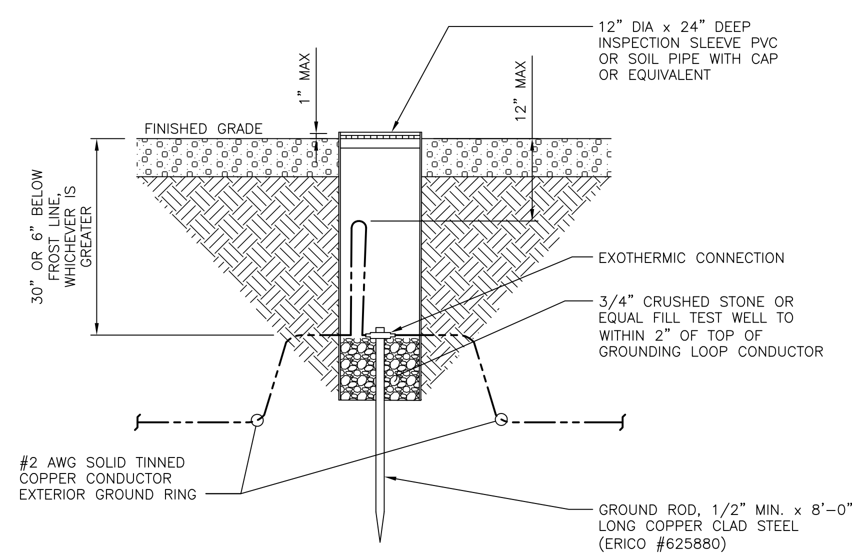
TYPICAL GPS UNIT GROUNDING | NO SCALE | 2



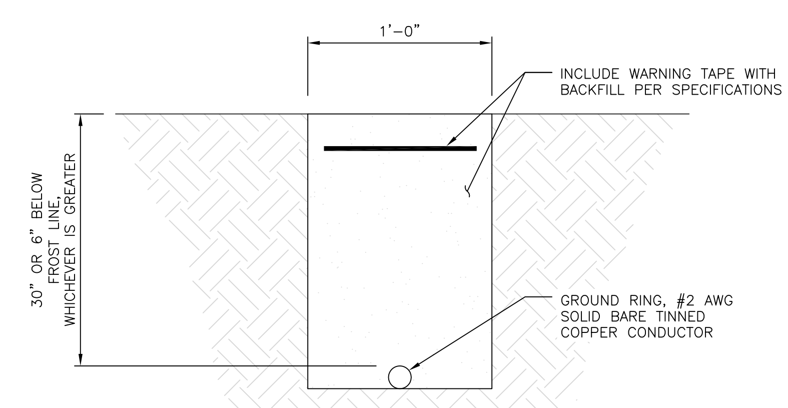
OUTDOOR CABINET GROUNDING | NO SCALE | 3



TRANSITIONING GROUND DETAIL | NO SCALE | 4



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



TYPICAL GROUND RING TRENCH | NO SCALE | 6

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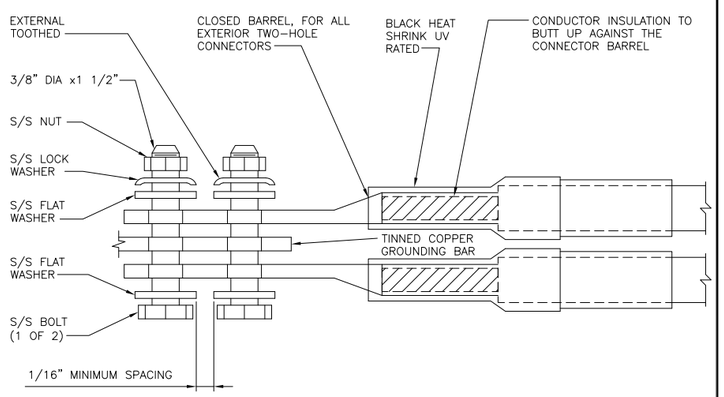
165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

SHEET TITLE
GROUNDING DETAILS

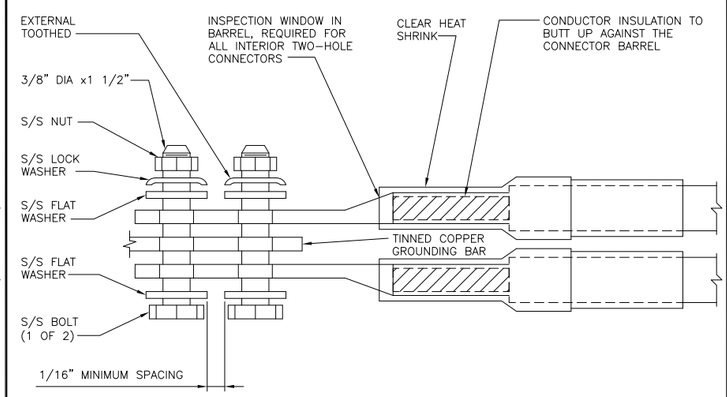
SHEET NUMBER
G-2

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

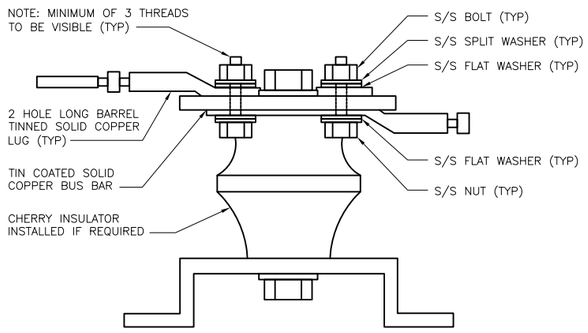
TYPICAL GROUNDING NOTES | NO SCALE | 1



TYPICAL EXTERIOR TWO HOLE LUG | NO SCALE | 2



TYPICAL INTERIOR TWO HOLE LUG | NO SCALE | 3



LUG DETAIL | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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STATE OF CONNECTICUT · CHAD TUTTLE · No. 23924 LICENSED PROFESSIONAL ENGINEER

01/07/22

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
ANS	MEH	MEH

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

SUBMITTALS

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DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00029A
165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

SHEET TITLE

GROUNDING DETAILS

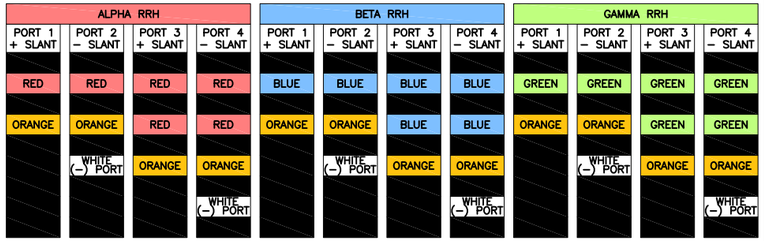
SHEET NUMBER

G-3

HYBRID/DISCREET CABLES — 3/4" TAPE WIDTHS WITH 3/4" SPACING

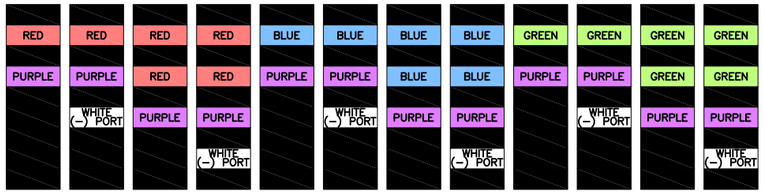
LOW–BAND RRH
(600 MHz N71 BASEBAND) +
(850 MHz N26 BAND) +
(700 MHz N29 BAND) – OPTIONAL PER MARKET

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



MID–BAND RRH
(AWS BANDS N66+N70)

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



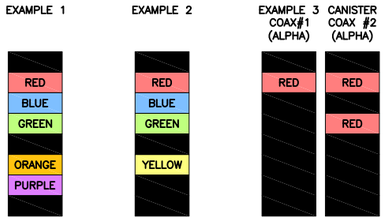
HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED ALONG WITH FREQUENCY BANDS.

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

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

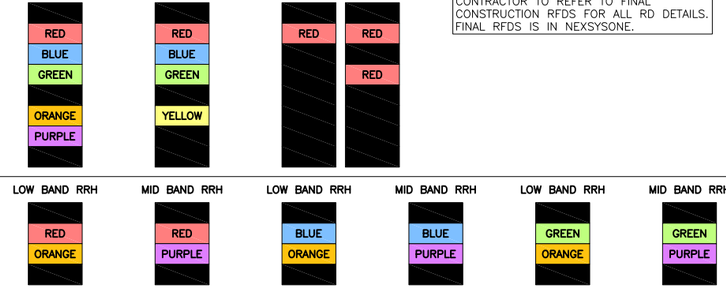
EXAMPLE 3 – MAIN COAX WITH GROUND MOUNTED RRHs.



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

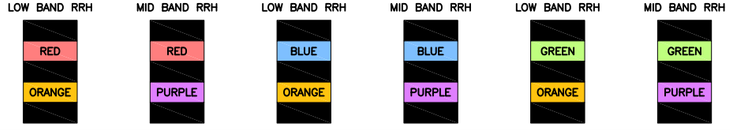
FIBER JUMPERS TO RRHs

LOW–BAND HHR FIBER CABLES HAVE SECTOR STRIPE ONLY.



POWER CABLES TO RRHs

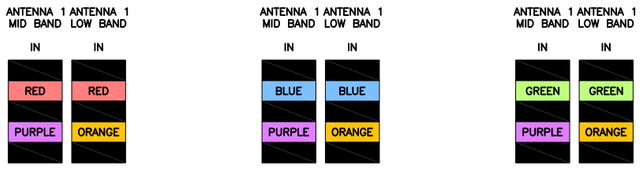
LOW–BAND RRH POWER CABLES HAVE SECTOR STRIPE ONLY



RET MOTORS AT ANTENNAS

RET CONTROL IS HANDLED BY THE MID–BAND RRH WHEN ONE SET OF RET PORTS EXIST ON ANTENNA.

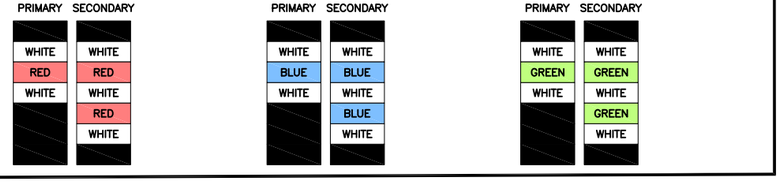
SEPARATE RET CABLES ARE USED WHEN ANTENNA PORTS PROVIDE INPUTS FOR BOTH LOW AND MID BANDS.



MICROWAVE RADIO LINKS

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

MICROWAVE CABLES WILL REQUIRE P–TOUCH LABELS INSIDE THE CABINET TO IDENTIFY THE LOCAL AND REMOTE SITE ID's.



RF CABLE COLOR CODES | NO SCALE | 1

LOW BANDS (N71+N26) OPTIONAL – (N29): ORANGE

AWS (N66+N70+H–BLOCK): PURPLE

CBRS TECH (3 GHz): YELLOW

NEGATIVE SLANT PORT ON ANT/RRH: WHITE

ALPHA SECTOR: RED

BETA SECTOR: BLUE

GAMMA SECTOR: GREEN

COLOR IDENTIFIER | NO SCALE | 2

NOT USED | NO SCALE | 3

NOT USED | NO SCALE | 4

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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–DDBTXD

CHAIN LINK FENCE

WOOD/WROUGHT IRON FENCE

WALL STRUCTURE

LEASE AREA

PROPERTY LINE (PL)

SETBACKS

ICE BRIDGE

CABLE TRAY

WATER LINE

UNDERGROUND POWER

UNDERGROUND TELCO

OVERHEAD POWER

OVERHEAD TELCO

UNDERGROUND TELCO/POWER

ABOVE GROUND POWER

ABOVE GROUND TELCO

ABOVE GROUND TELCO/POWER

WORKPOINT

W.P.

SECTION REFERENCE

XX
X–X

DETAIL REFERENCE

XX
X–X

LEGEND

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

ABBREVIATIONS

dish wireless.

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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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CONSTRUCTION DOCUMENTS

SUBMITTALS

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A&E PROJECT NUMBER

157528.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00029A
165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-2

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

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

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

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

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

#4 BARS AND SMALLER 40 ksi

#5 BARS AND LARGER 60 ksi

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

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

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

ELECTRICAL INSTALLATION NOTES:

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

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

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

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

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

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

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

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

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

8. TIE WRAPS ARE NOT ALLOWED.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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CONSTRUCTION DOCUMENTS

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A	10/20/21	ISSUED FOR REVIEW
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A&E PROJECT NUMBER
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DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00029A
165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-3

GROUNDING NOTES:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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BOBOS00029A
165 ELMWOOD HILL ROAD
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SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-4

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Track your package
Data provided by USPS

Tracking number 9505510391962117623663

Delivered
April 29, 11:43AM
Woburn, MA

American Tower Corporation - Tower Operator/Owner

View details on USPS

Call 1-800-275-8777

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April 21, 2022

Blake Paynter
Project Manager, Site Development
American Tower Corporation
10 Presidential Way
Woburn, MA 01801

Re: Tower Share Application – Dish Site 13733433
Dish Wireless Telecommunications Facility @ 165 Elmwood Hill Road, Putnam, CT 06260

Dear Mr. Paynter:

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing one hundred and forty nine (149) foot tall monopole tower at 165 Elmwood Hill Road, Putnam, CT 06260 (Latitude: 41.929256 Longitude: -71.810047) and within the existing fenced compound. The monopole tower is owned and operated by American Tower Corporation. The subject property is owned by Lois S. Pray.

Dish proposes to install a five (5) foot by seven (7) foot metal platform within the existing fenced compound and install three (3) antennas, a single antenna mount, six (6) RRUs, and cables on the existing tower at one hundred twenty six (126) feet as more particularly detailed and described on the enclosed Construction Drawings. No height extension or compound expansion are proposed.

This letter is intended to serve as the required notice to the tower owner. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe Dish's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Acting Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

Enclosures

April 21, 2022

Lois S. Pray
165 Elmwood Hill Road
Thompson, CT 06260

Re: Tower Share Application – Dish Site 13733433
Dish Wireless Telecommunications Facility @ 165 Elmwood Hill Road, Putnam, CT 06260

Dear Property Owner:

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing one hundred and forty nine (149) foot tall monopole tower at 165 Elmwood Hill Road, Putnam, CT 06260 (Latitude: 41.929256 Longitude: -71.810047) and within the existing fenced compound. The monopole tower is owned and operated by American Tower Corporation. The subject property is owned by Lois S. Pray.

Dish proposes to install a five (5) foot by seven (7) foot metal platform within the existing fenced compound and install three (3) antennas, a single antenna mount, six (6) RRUs, and cables on the existing tower at one hundred twenty six (126) feet as more particularly detailed and described on the enclosed Construction Drawings. No height extension or compound expansion are proposed.

This letter is intended to serve as the required notice to the property owner. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe Dish's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Acting Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

Enclosures

April 21, 2022

Bruce Fitzback
Land Use Agent
200 School Street
Putnam CT 06260

Re: Tower Share Application – Dish Site 13733433
Dish Wireless Telecommunications Facility @ 165 Elmwood Hill Road, Putnam, CT 06260

Dear Mr. Fitzback:

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing one hundred and forty nine (149) foot tall monopole tower at 165 Elmwood Hill Road, Town of Putnam, CT 06260 (Latitude: 41.929256 Longitude: -71.810047) and within the existing fenced compound. The monopole tower is owned and operated by American Tower Corporation. The subject property is owned by Lois S. Pray.

Dish proposes to install a five (5) foot by seven (7) foot metal platform within the existing fenced compound and install three (3) antennas, a single antenna mount, six (6) RRUs, and cables on the existing tower at one hundred twenty six (126) feet as more particularly detailed and described on the enclosed Construction Drawings. No height extension or compound expansion are proposed.

This letter is intended to serve as the required notice to the municipal planning agency. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe Dish's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Acting Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
443-677-0144

Enclosures

April 21, 2022

The Honorable Barney Seney
200 School Street
Putnam, CT 06260

Re: Tower Share Application – Dish Site 13733433
Dish Wireless Telecommunications Facility @ 165 Elmwood Hill Road, Putnam, CT 06260

Dear Mayor Seney:

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing one hundred and forty nine (149) foot tall monopole tower at 165 Elmwood Hill Road, Putnam, CT 06260 (Latitude: 41.929256 Longitude: -71.810047) and within the existing fenced compound. The monopole tower is owned and operated by American Tower Corporation. The subject property is owned by Lois S. Pray.

Dish proposes to install a five (5) foot by seven (7) foot metal platform within the existing fenced compound and install three (3) antennas, a single antenna mount, six (6) RRUs, and cables on the existing tower at one hundred twenty six (126) feet as more particularly detailed and described on the enclosed Construction Drawings. No height extension or compound expansion are proposed.

This letter is intended to serve as the required notice to the chief elected official of the municipality. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe Dish's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Acting Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

Enclosures

DOCKET NO. 362 - Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 165 Elmwood Hill Road, Putnam, Connecticut.	}	Connecticut Siting Council September 25, 2008

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Cellco Partnership d/b/a Verizon Wireless, hereinafter referred to as the Certificate Holder, for a telecommunications facility at 165 Elmwood Hill Road, Putnam, Connecticut.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Verizon Wireless and other entities, both public and private, but such tower shall not exceed a height of 150 feet above ground level. The height at the top of the antennas shall not exceed 150 feet above ground level.

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

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

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

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

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

7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.

8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Putnam. Any proposed modifications to this Decision and Order shall likewise be so served.

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

10. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.

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

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Putnam Town Crier and the Norwich Bulletin.

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

The parties and intervenors to this proceeding are:

Applicant	**Its Representative**
Cellco Partnership d/b/a Verizon Wireless	Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597

AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by

POD
POWER OF DESIGN

Structural Analysis Report

Structure	:	**149 ft Monopole**
ATC Site Name	:	**East Putnam CT,CT**
ATC Site Number	:	**415784**
Engineering Number	:	**13733433_C3_03**
Proposed Carrier	:	**DISH WIRELESS L.L.C.**
Carrier Site Name	:	**BOBOS00029A**
Carrier Site Number	:	**BOBOS00029A**
Site Location	:	**165 Elmwood Hill Road** **THOMPSON, CT 06277-2600** **41.9293, -71.8101**
County	:	**Windham**
Date	:	**November 5, 2021**
Max Usage	:	**45%**
Result	:	**Pass**

Prepared By:

Nathanael Willard
POD

Reviewed By:

STATE OF CONNECTICUT
JASON CHERONIS
PEN.0032793
LICENSED
PROFESSIONAL ENGINEER

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 149 ft Monopole to reflect the change in loading by DISH WIRELESS L.L.C..

Supporting Documents

Tower Drawings	Valmont Job # 09242-1124, dated February 20, 2009 Hightower Solution Site #415784, dated October 27, 2015
Foundation Drawing	Valmont Job # 09242-1124, dated February 20, 2009
Geotechnical Report	Clarence Welti Assoc File # 15691, dated October 23, 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:	121 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
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.19, S_1 = 0.06
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 POD Group via email at bsmith@podgrp.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
150.0	3	Alcatel-Lucent RRH2X60-AWS Band 4	Square Platform with Handrails	(18) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
149.0	3	Samsung B5/B13 RRH-BR04C			
	3	Samsung B2/B66A RRH-BR049			
	6	Swedcom SC-E 6014 rev2			
	3	Samsung MT6407-77A			
	2	RFS DB-T1-6Z-8AB-0Z			
	6	JMA Wireless MX06FRO660-03			
	1	VZW Unused Reserve (17021.55 sqin)			
140.2	1	Raycap DC6-48-60-18-8F ("Squid")	Triangular Low Profile Platform	(1) 0.39" (10mm) Fiber Trunk (2) 0.78" (19.7mm) 8 AWG 6 (12) 1 5/8" Coax	AT&T MOBILITY
137.0	1	Raycap DC2-48-60-0-9E			
	6	Powerwave Allgon LGP21401			
	6	Ericsson RRUS-11			
	6	Powerwave Allgon 7770.00			
	3	KMW AM-X-CD-17-65-00T-RET (96" Height)			
	6	Powerwave Allgon LGP13519			

Equipment to be Removed

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
No loading was considered as removed as part of this analysis.					

Proposed Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
126.0	1	Raycap RDIDC-9181-PF-48	Triangular Platform with Handrails	(1) 1.60" (40.6mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B604			
	3	Fujitsu TA08025-B605			
	3	Commscope FFVV-65B-R2			

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

Install proposed lines inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	33%	Pass
Shaft	36%	Pass
Base Plate	29%	Pass

Foundations

s

Reaction Component	Original Design Reactions	Analysis Reactions	% of Usage
Moment (Kips-Ft)	7300.0	3053.8	42%
Shear (Kips)	63.0	28.3	45%

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) (°)
126.0	Raycap RDIDC-9181-PF-48	DISH WIRELESS L.L.C.	0.502	0.490
	Commscope FFVV-65B-R2			
	Fujitsu TA08025-B605			
	Fujitsu TA08025-B604			

***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 POD Group 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 POD Group

It is the responsibility of the client to ensure that the information provided to POD Group and used in the performance of our engineering services is correct and complete.

POD Group assumes that all structures were constructed in accordance with the drawings and specifications.

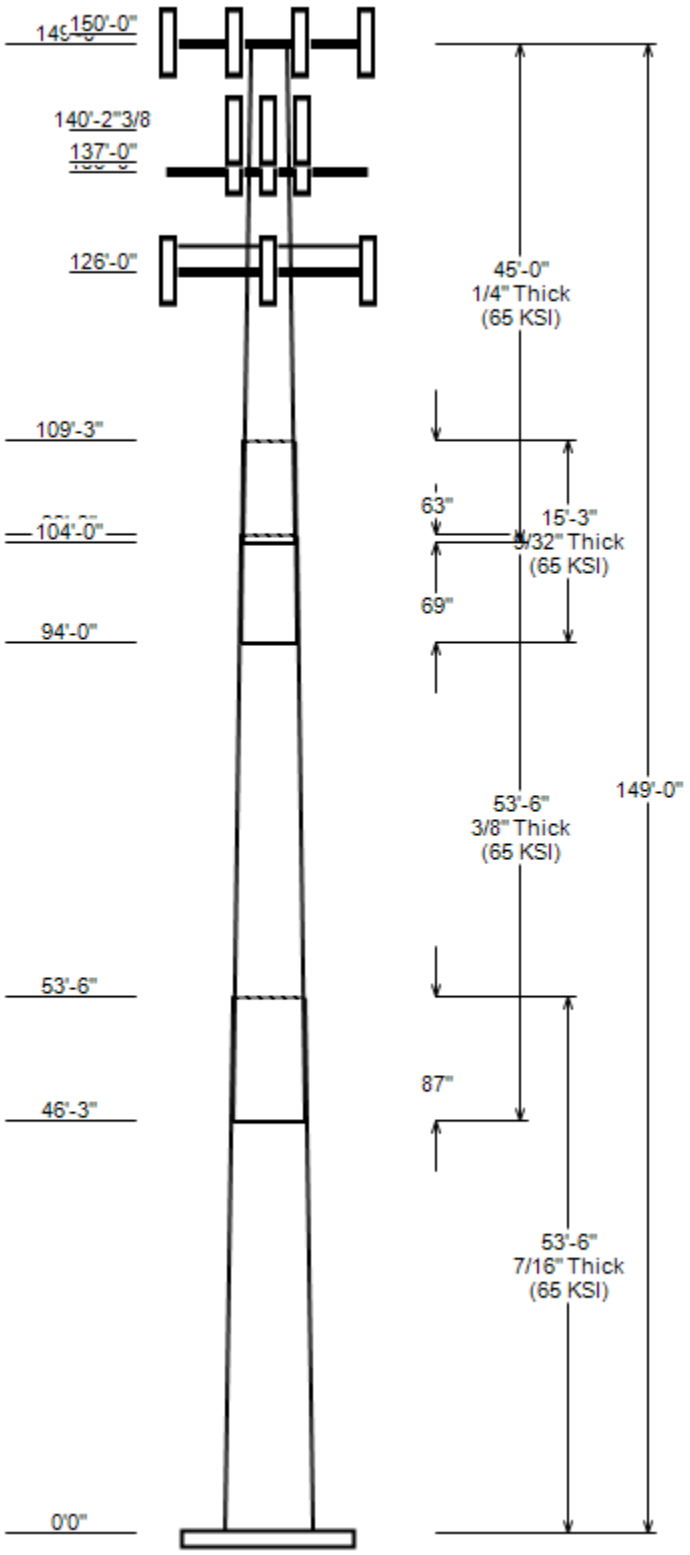
All connections are to be verified for condition and tightness by the installation contractor preceding any changes to the appurtenance mounting system and/or equipment attached to it.

Unless explicitly agreed by both the client and POD Group, 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. POD Group is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

JOB INFORMATION

Asset :	415784, East Putnam CT	Height :	149 ft
Client :	DISH WIRELESS L.L.C.	Base Width :	70.28
Code :	ANSI/TIA-222-H	Shape :	18 Sides



SITE PARAMETERS

Base Elev (ft):	0.00	Structure Class:	II
Taper :	0.29600 (In/ft)	Exposure :	B
Topographic Category :	1	Topographic Feature:	
Topo Method :	Method 1		

SECTION PROPERTIES

Shaft Section	Length (ft)	Diameter (in) Across Flats Top	Diameter (in) Across Flats Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	53.500	54.46	70.28	0.438		0.000	18 Sides	65
2	53.500	41.53	57.35	0.375	Slip Joint	87.000	18 Sides	65
3	15.250	39.28	43.79	0.281	Slip Joint	69.000	18 Sides	65
4	45.000	28.03	41.34	0.250	Slip Joint	63.000	18 Sides	65

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
150.0	150.0	3	Alcatel-Lucent RRH2X60-AWS Ban
149.0	149.0	3	Samsung B2/B66A RRH-BR049
149.0	149.0	3	Samsung B5/B13 RRH-BR04C
149.0	149.0	6	Swedcom SC-E 6014 rev2
149.0	149.0	3	Samsung MT6407-77A
149.0	149.0	2	RFS DB-T1-6Z-8AB-0Z
149.0	149.0	6	JMA Wireless MX06FRO660-03
149.0	149.0	1	Flat Platform w/ Handrails
149.0	149.0	1	VZW Unused Reserve (17021.55 s
140.2	140.2	1	Raycap DC6-48-60-18-8F ("Squid
137.0	137.0	6	Powerwave Allgon LGP13519
137.0	137.0	1	Raycap DC2-48-60-0-9E
137.0	137.0	6	Powerwave Allgon LGP21401
137.0	137.0	6	Ericsson RRUS-11
137.0	137.0	6	Powerwave Allgon 7770.00
137.0	137.8	3	KMW AM-X-CD-17-65-00T-RET (96"
136.0	136.0	1	Round Low Profile Platform
126.0	126.0	1	Raycap RDIDC-9181-PF-48
126.0	126.0	3	Fujitsu TA08025-B605
126.0	126.0	3	Fujitsu TA08025-B604
126.0	126.0	3	Commscope FFVV-65B-R2
126.0	126.0	1	Generic Flat Platform with Han

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
5.0	150.0	1 5/8" Coax	No
5.0	149.0	1 5/8" Hybriflex	No
5.0	149.0	1 5/8" Coax	No
5.0	137.0	1 5/8" Coax	No
5.0	137.0	0.78" (19.7mm) 8 AWG 6	No
5.0	137.0	0.39" (10mm) Fiber Trunk	No
0.0	126.0	1.60" (40.6mm) Hybrid	No

LOAD CASES

1.2D + 1.0W Normal	121 mph wind with no ice
0.9D + 1.0W Normal	121 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Nor	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Nor	Seismic
0.9D - 1.0Ev + 1.0Eh Nor	Seismic (Reduced DL)
1.0D + 1.0W Service Norm	60 mph Wind with No Ice

JOB INFORMATION			
Asset :	415784, East Putnam CT	Height :	149 ft
Client :	DISH WIRELESS L.L.C.	Base Width :	70.28
Code :	ANSI/TIA-222-H	Shape :	18 Sides

REACTIONS

Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0W Normal	3053.82	28.29	56.19
0.9D + 1.0W Normal	3036.62	28.28	42.14
1.2D + 1.0Di + 1.0Wi Normal	776.05	7.41	71.62
1.2D + 1.0Ev + 1.0Eh Normal	194.09	1.66	56.04
0.9D - 1.0Ev + 1.0Eh Normal	192.78	1.66	38.87
1.0D + 1.0W Service Normal	669.41	6.22	46.84

DISH DEFLECTIONS

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)

ANALYSIS PARAMETERS

Location:	Windham County,CT	Height:	149 ft
Type and Shape:	Taper, 18 Sides	Base Diameter:	70.28 in
Manufacturer:	EEI	Top Diameter:	28.03 in
K_d (non-service):	0.95	Taper:	0.2960 in/ft
K_e:	0.98	Rotation:	0.000°

ICE & WIND PARAMETERS

Exposure Category:	B	Design Wind Speed w/o Ice:	121 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:	634.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil			Period Based on Rayleigh Method (sec):	1.66
T_L (sec):	6	P:	1	$C_{s:}$	0.035
$S_{s:}$	0.187	$S_{1:}$	0.055	C_s Max:	0.035
$F_{a:}$	1.600	$F_{v:}$	2.400	C_s Min:	0.030
$S_{ds:}$	0.199	$S_{d1:}$	0.088		

LOAD CASES

1.2D + 1.0W Normal	121 mph wind with no ice
0.9D + 1.0W Normal	121 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Normal	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL)
1.0D + 1.0W Service Normal	60 mph Wind with No Ice

SHAFT SECTION PROPERTIES

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (in)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	53.50	0.4375	65		0.00	15,656	70.28	0.000	96.98	59,769.8	26.91	160.64	54.46	53.50	75.01	27,656.8	20.54	124.48	0.2957
2-18	53.50	0.3750	65	Slip	87.00	10,631	57.35	46.250	67.81	27,815.1	25.56	152.94	41.53	99.75	48.98	10,482.3	18.12	110.75	0.2957
3-18	15.25	0.2813	65	Slip	69.00	1,911	43.79	94.000	38.85	9,292.8	26.04	155.68	39.28	109.25	34.82	6,692.4	23.21	139.65	0.2957
4-18	45.00	0.2500	65	Slip	63.00	4,184	41.34	104.000	32.60	6,953.0	27.74	165.34	28.03	149.00	22.04	2,148.8	18.36	112.11	0.2957
				Shaft Weight		32,382													

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
150.00	Alcatel-Lucent RRH2X60-AWS Ban	3	0.75	0.000	55.00	3.347	0.67	108.80	4.311	0.67
149.00	Samsung B5/B13 RRH-BR04C	3	0.75	0.000	70.30	1.875	0.50	108.44	2.477	0.50
149.00	Swedcom SC-E 6014 rev2	6	0.75	0.000	15.00	3.334	0.67	78.06	4.446	0.67
149.00	Samsung MT6407-77A	3	0.75	0.000	81.60	4.709	0.61	149.55	5.722	0.61
149.00	RFS DB-T1-6Z-8AB-0Z	2	0.75	0.000	44.00	4.800	0.67	127.91	5.747	0.67
149.00	Samsung B2/B66A RRH-BR049	3	0.75	0.000	84.40	1.875	0.50	126.93	2.477	0.50
149.00	VZW Unused Reserve (17021.55 s	1	0.75	0.000	1253.10	118.205	0.90	1835.10	173.105	0.90
149.00	Flat Platform w/ Handrails	1	1.00	0.000	2000.00	42.400	1.00	2947.48	56.382	1.00
149.00	JMA Wireless MX06FRO660-03	6	0.75	0.000	60.00	9.872	0.71	219.85	11.701	0.71
140.20	Raycap DC6-48-60-18-8F ("Squid	1	0.80	0.000	31.80	1.470	1.00	72.74	1.933	1.00
137.00	KMW AM-X-CD-17-65-00T-RET (96"	3	0.80	0.800	59.50	11.310	0.68	201.02	13.443	0.68
137.00	Ericsson RRUS-11	6	0.80	0.000	55.00	3.792	0.67	114.41	4.642	0.67
137.00	Powerwave Allgon LGP21401	6	0.80	0.000	14.10	1.104	0.50	30.61	1.576	0.50
137.00	Raycap DC2-48-60-0-9E	1	0.80	0.000	16.00	0.884	1.00	35.41	1.301	1.00
137.00	Powerwave Allgon LGP13519	6	0.80	0.000	5.30	0.290	0.50	11.57	0.546	0.50
137.00	Powerwave Allgon 7770.00	6	0.80	0.000	35.00	5.508	0.75	110.22	6.915	0.75
136.00	Round Low Profile Platform	1	1.00	0.000	1500.00	21.700	1.00	1928.44	34.396	1.00
126.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	3665.77	56.162	1.00
126.00	Commscope FFVV-65B-R2	3	0.75	0.000	70.80	12.271	0.64	235.71	14.111	0.64
126.00	Fujitsu TA08025-B605	3	0.75	0.000	75.00	1.962	0.50	116.11	2.566	0.50
126.00	Fujitsu TA08025-B604	3	0.75	0.000	63.90	1.962	0.50	102.17	2.566	0.50
126.00	Raycap RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	1.00	59.24	2.458	1.00
Totals	Num Loadings: 22	69			10,198.70			17,634.51		

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg) : _

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax/ Row	Dist Between Rows(in)	Dist Between Cols(in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
5.00	150.00	12	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	VERIZON WIREL
5.00	149.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	VERIZON WIREL
5.00	149.00	2	1 5/8" Hybriflex	1.98	1.3	N	0	0	0	0	0	N	VERIZON WIREL
5.00	137.00	12	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	AT&T MOBILITY
5.00	137.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
5.00	137.00	1	0.39" (10mm) Fiber Tr	0.39	0.06	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	126.00	1	1.60" (40.6mm) Hybrid	1.6	2.34	N	0	0	0	0	0	N	DISH WIRELESS

SEGMENT PROPERTIES

(Max Len: 5.ft)

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)
0.00		0.4375	70.280	96.982	59,769.80	26.91	160.64	69.7	1675.1	0.0	0.0
5.00		0.4375	68.801	94.928	56,053.30	26.32	157.26	70.4	1604.7	0.0	1,632.6
10.00		0.4375	67.323	92.875	52,494.20	25.72	153.88	71.1	1535.8	0.0	1,597.6
15.00		0.4375	65.844	90.822	49,089.10	25.13	150.50	71.8	1468.4	0.0	1,562.7
20.00		0.4375	64.365	88.769	45,834.40	24.53	147.12	72.5	1402.6	0.0	1,527.8
25.00		0.4375	62.887	86.715	42,726.90	23.93	143.74	73.2	1338.2	0.0	1,492.8
30.00		0.4375	61.408	84.662	39,763.10	23.34	140.36	74	1275.4	0.0	1,457.9
35.00		0.4375	59.929	82.609	36,939.70	22.74	136.98	74.7	1214.0	0.0	1,423.0
40.00		0.4375	58.451	80.556	34,253.20	22.15	133.60	75.4	1154.2	0.0	1,388.0
45.00		0.4375	56.972	78.502	31,700.20	21.55	130.22	76.1	1095.9	0.0	1,353.1
46.25	Bot - Section 2	0.4375	56.602	77.989	31,082.40	21.40	129.38	76.2	1081.6	0.0	332.8
50.00		0.4375	55.493	76.449	29,277.30	20.96	126.84	76.8	1039.1	0.0	1,842.3
53.50	Top - Section 1	0.3750	55.208	65.263	24,791.70	24.55	147.22	72.5	884.5	0.0	1,686.5
55.00		0.3750	54.765	64.735	24,194.80	24.34	146.04	72.8	870.2	0.0	331.8
60.00		0.3750	53.286	62.975	22,274.70	23.64	142.10	73.6	823.3	0.0	1,086.4
65.00		0.3750	51.807	61.215	20,458.90	22.95	138.15	74.4	777.8	0.0	1,056.5
70.00		0.3750	50.329	59.455	18,744.50	22.25	134.21	75.2	733.6	0.0	1,026.5
75.00		0.3750	48.850	57.695	17,128.80	21.56	130.27	76	690.6	0.0	996.6
80.00		0.3750	47.371	55.935	15,608.60	20.86	126.32	76.9	649.0	0.0	966.6
85.00		0.3750	45.893	54.175	14,181.20	20.17	122.38	77.7	608.6	0.0	936.7
90.00		0.3750	44.414	52.415	12,843.50	19.47	118.44	78.5	569.6	0.0	906.8
94.00	Bot - Section 3	0.3750	43.231	51.007	11,836.10	18.92	115.28	79.2	539.3	0.0	703.8
95.00		0.3750	42.935	50.655	11,592.70	18.78	114.49	79.3	531.8	0.0	304.7
99.75	Top - Section 2	0.2813	42.093	37.330	8,245.30	24.97	149.64	72	385.8	0.0	1,418.8
100.00		0.2813	42.019	37.264	8,201.70	24.93	149.37	72.1	384.4	0.0	31.7
104.00	Bot - Section 4	0.2813	40.836	36.208	7,523.90	24.19	145.17	73	362.9	0.0	500.0
105.00		0.2813	40.540	35.944	7,360.50	24.00	144.12	73.2	357.6	0.0	233.3
109.25	Top - Section 3	0.2500	39.784	31.369	6,194.20	26.65	159.13	70.1	306.7	0.0	972.6
110.00		0.2500	39.562	31.193	6,090.50	26.49	158.25	70.2	303.2	0.0	79.8
115.00		0.2500	38.083	30.019	5,428.70	25.45	152.33	71.5	280.8	0.0	520.7
120.00		0.2500	36.604	28.846	4,816.80	24.41	146.42	72.7	259.2	0.0	500.8
125.00		0.2500	35.126	27.673	4,252.60	23.36	140.50	73.9	238.5	0.0	480.8
126.00		0.2500	34.830	27.438	4,145.30	23.16	139.32	74.2	234.4	0.0	93.8
130.00		0.2500	33.647	26.500	3,734.30	22.32	134.59	75.1	218.6	0.0	367.1
135.00		0.2500	32.168	25.326	3,259.90	21.28	128.67	76.4	199.6	0.0	440.9
136.00		0.2500	31.873	25.092	3,170.10	21.07	127.49	76.6	195.9	0.0	85.8
137.00		0.2500	31.577	24.857	3,082.00	20.86	126.31	76.9	192.2	0.0	85.0
140.00		0.2500	30.690	24.153	2,827.50	20.24	122.76	77.6	181.5	0.0	250.2
140.20		0.2500	30.631	24.106	2,811.10	20.19	122.52	77.6	180.8	0.0	16.4
145.00		0.2500	29.211	22.980	2,435.20	19.19	116.84	78.8	164.2	0.0	384.5
149.00		0.2500	28.028	22.041	2,148.80	18.36	112.11	79.8	151.0	0.0	306.4
									Totals:		32,382.1

Load Case: 1.2D + 1.0W Normal — 121 mph wind with no ice — 20 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	-56.19	-28.29	0.00	-3,053.8	0.00	3,053.82	6,087.54	1,702.03	10,736.47	8,761.99	0	0	0.358
5.00	-54.18	-27.79	0.00	-2,912.4	0.00	2,912.36	6,018.54	1,665.99	10,286.71	8,478.14	0.04	-0.07	0.353
10.00	-52.04	-27.29	0.00	-2,773.4	0.00	2,773.42	5,946.95	1,629.96	9,846.57	8,194.94	0.15	-0.14	0.347
15.00	-49.95	-26.81	0.00	-2,637.0	0.00	2,636.96	5,872.77	1,593.92	9,416.05	7,912.65	0.34	-0.22	0.342
20.00	-47.90	-26.33	0.00	-2,502.9	0.00	2,502.93	5,796.00	1,557.89	8,995.16	7,631.49	0.61	-0.29	0.337
25.00	-45.89	-25.86	0.00	-2,371.3	0.00	2,371.29	5,716.64	1,521.85	8,583.90	7,351.72	0.96	-0.37	0.331
30.00	-43.93	-25.39	0.00	-2,242.0	0.00	2,242.01	5,634.69	1,485.82	8,182.25	7,073.55	1.38	-0.44	0.325
35.00	-42.01	-24.91	0.00	-2,115.1	0.00	2,115.07	5,550.15	1,449.78	7,790.23	6,797.24	1.89	-0.52	0.319
40.00	-40.13	-24.42	0.00	-1,990.5	0.00	1,990.51	5,463.02	1,413.75	7,407.83	6,523.03	2.48	-0.6	0.313
45.00	-38.30	-24.11	0.00	-1,868.4	0.00	1,868.40	5,373.29	1,377.72	7,035.05	6,251.14	3.15	-0.68	0.306
46.25	-37.84	-23.86	0.00	-1,838.3	0.00	1,838.26	5,350.46	1,368.71	6,943.36	6,183.56	3.33	-0.7	0.305
50.00	-35.48	-23.48	0.00	-1,748.8	0.00	1,748.79	5,280.98	1,341.68	6,671.90	5,981.82	3.91	-0.76	0.299
53.50	-33.31	-23.20	0.00	-1,666.6	0.00	1,666.62	4,260.00	1,145.36	5,672.44	4,811.12	4.49	-0.82	0.355
55.00	-32.84	-22.88	0.00	-1,631.8	0.00	1,631.82	4,239.83	1,136.10	5,581.04	4,749.34	4.75	-0.85	0.352
60.00	-31.32	-22.37	0.00	-1,517.4	0.00	1,517.42	4,170.91	1,105.21	5,281.73	4,544.25	5.69	-0.94	0.342
65.00	-29.84	-21.86	0.00	-1,405.6	0.00	1,405.58	4,099.40	1,074.32	4,990.68	4,340.65	6.72	-1.03	0.332
70.00	-28.40	-21.35	0.00	-1,296.3	0.00	1,296.29	4,025.30	1,043.44	4,707.87	4,138.76	7.85	-1.13	0.321
75.00	-27.00	-20.84	0.00	-1,189.6	0.00	1,189.56	3,948.61	1,012.55	4,433.31	3,938.84	9.08	-1.22	0.309
80.00	-25.63	-20.33	0.00	-1,085.4	0.00	1,085.37	3,869.33	981.66	4,167.00	3,741.11	10.41	-1.31	0.297
85.00	-24.30	-19.83	0.00	-983.7	0.00	983.72	3,787.46	950.78	3,908.94	3,545.82	11.84	-1.41	0.284
90.00	-23.01	-19.38	0.00	-884.6	0.00	884.58	3,703.00	919.89	3,659.12	3,353.21	13.37	-1.5	0.270
94.00	-22.01	-19.12	0.00	-807.1	0.00	807.08	3,633.56	895.18	3,465.21	3,201.20	14.66	-1.58	0.259
95.00	-21.60	-18.84	0.00	-788.0	0.00	787.96	3,615.94	889.00	3,417.56	3,163.51	14.99	-1.6	0.256
99.75	-19.72	-18.55	0.00	-698.5	0.00	698.47	2,419.87	655.14	2,474.09	2,084.17	16.63	-1.68	0.344
100.00	-19.66	-18.36	0.00	-693.8	0.00	693.83	2,417.42	653.99	2,465.35	2,078.35	16.72	-1.69	0.343
104.00	-18.90	-18.12	0.00	-620.4	0.00	620.38	2,377.33	635.45	2,327.60	1,985.56	18.17	-1.78	0.321
105.00	-18.57	-17.87	0.00	-602.3	0.00	602.26	2,367.05	630.82	2,293.78	1,962.46	18.55	-1.8	0.316
109.25	-17.24	-17.60	0.00	-526.3	0.00	526.31	1,977.83	550.52	1,965.70	1,611.28	20.19	-1.9	0.336
110.00	-17.11	-17.35	0.00	-513.1	0.00	513.11	1,971.90	547.43	1,943.70	1,597.38	20.49	-1.91	0.331
115.00	-16.28	-16.89	0.00	-426.4	0.00	426.36	1,930.87	526.84	1,800.25	1,504.94	22.56	-2.02	0.293
120.00	-15.49	-16.44	0.00	-341.9	0.00	341.92	1,887.25	506.25	1,662.29	1,413.07	24.73	-2.12	0.251
125.00	-14.72	-16.16	0.00	-259.7	0.00	259.74	1,841.04	485.66	1,529.83	1,322.02	27	-2.21	0.206
126.00	-10.90	-13.13	0.00	-243.6	0.00	243.58	1,831.49	481.54	1,504.00	1,303.93	27.47	-2.23	0.193
130.00	-10.32	-12.74	0.00	-191.0	0.00	191.04	1,792.24	465.07	1,402.87	1,232.02	29.36	-2.29	0.162
135.00	-9.62	-12.47	0.00	-127.3	0.00	127.33	1,740.84	444.48	1,281.41	1,143.31	31.79	-2.35	0.118
136.00	-7.73	-11.42	0.00	-114.9	0.00	114.86	1,730.25	440.36	1,257.77	1,125.75	32.29	-2.36	0.107
137.00	-6.67	-8.95	0.00	-102.8	0.00	102.83	1,719.56	436.24	1,234.36	1,108.25	32.78	-2.37	0.097
140.00	-6.31	-8.81	0.00	-76.0	0.00	75.96	1,686.86	423.89	1,165.44	1,056.14	34.28	-2.39	0.076
140.20	-6.26	-8.57	0.00	-74.2	0.00	74.20	1,684.65	423.06	1,160.92	1,052.69	34.38	-2.39	0.075
145.00	-5.71	-8.21	0.00	-33.1	0.00	33.07	1,630.29	403.29	1,054.98	970.73	36.8	-2.42	0.038
149.00	0.00	-7.96	0.00	-0.2	0.00	0.21	1,583.16	386.82	970.57	903.84	38.84	-2.43	0.001

Load Case: 0.9D + 1.0W Normal 121 mph wind with no ice 20 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	-42.14	-28.28	0.00	-3,036.6	0.00	3,036.62	6,087.54	1,702.03	10,736.47	8,761.99	0	0	0.354
5.00	-40.62	-27.76	0.00	-2,895.2	0.00	2,895.21	6,018.54	1,665.99	10,286.71	8,478.14	0.04	-0.07	0.349
10.00	-39.01	-27.25	0.00	-2,756.4	0.00	2,756.40	5,946.95	1,629.96	9,846.57	8,194.94	0.15	-0.14	0.343
15.00	-37.43	-26.75	0.00	-2,620.2	0.00	2,620.15	5,872.77	1,593.92	9,416.05	7,912.65	0.34	-0.22	0.338
20.00	-35.89	-26.26	0.00	-2,486.4	0.00	2,486.40	5,796.00	1,557.89	8,995.16	7,631.49	0.61	-0.29	0.332
25.00	-34.38	-25.77	0.00	-2,355.1	0.00	2,355.11	5,716.64	1,521.85	8,583.90	7,351.72	0.95	-0.36	0.327
30.00	-32.90	-25.29	0.00	-2,226.2	0.00	2,226.25	5,634.69	1,485.82	8,182.25	7,073.55	1.37	-0.44	0.321
35.00	-31.45	-24.81	0.00	-2,099.8	0.00	2,099.78	5,550.15	1,449.78	7,790.23	6,797.24	1.88	-0.52	0.315
40.00	-30.03	-24.31	0.00	-1,975.8	0.00	1,975.75	5,463.02	1,413.75	7,407.83	6,523.03	2.46	-0.6	0.309
45.00	-28.66	-23.99	0.00	-1,854.2	0.00	1,854.21	5,373.29	1,377.72	7,035.05	6,251.14	3.13	-0.68	0.302
46.25	-28.31	-23.74	0.00	-1,824.2	0.00	1,824.23	5,350.46	1,368.71	6,943.36	6,183.56	3.31	-0.7	0.301
50.00	-26.53	-23.35	0.00	-1,735.2	0.00	1,735.22	5,280.98	1,341.68	6,671.90	5,981.82	3.88	-0.76	0.295
53.50	-24.90	-23.08	0.00	-1,653.5	0.00	1,653.49	4,260.00	1,145.36	5,672.44	4,811.12	4.46	-0.82	0.350
55.00	-24.54	-22.75	0.00	-1,618.9	0.00	1,618.88	4,239.83	1,136.10	5,581.04	4,749.34	4.72	-0.84	0.347
60.00	-23.40	-22.23	0.00	-1,505.1	0.00	1,505.14	4,170.91	1,105.21	5,281.73	4,544.25	5.65	-0.93	0.337
65.00	-22.28	-21.71	0.00	-1,394.0	0.00	1,394.00	4,099.40	1,074.32	4,990.68	4,340.65	6.68	-1.02	0.327
70.00	-21.20	-21.20	0.00	-1,285.4	0.00	1,285.44	4,025.30	1,043.44	4,707.87	4,138.76	7.8	-1.12	0.316
75.00	-20.14	-20.68	0.00	-1,179.5	0.00	1,179.46	3,948.61	1,012.55	4,433.31	3,938.84	9.02	-1.21	0.305
80.00	-19.11	-20.17	0.00	-1,076.0	0.00	1,076.05	3,869.33	981.66	4,167.00	3,741.11	10.34	-1.31	0.293
85.00	-18.11	-19.67	0.00	-975.2	0.00	975.19	3,787.46	950.78	3,908.94	3,545.82	11.76	-1.4	0.280
90.00	-17.14	-19.21	0.00	-876.8	0.00	876.85	3,703.00	919.89	3,659.12	3,353.21	13.28	-1.49	0.267
94.00	-16.38	-18.96	0.00	-800.0	0.00	800.00	3,633.56	895.18	3,465.21	3,201.20	14.56	-1.57	0.255
95.00	-16.07	-18.68	0.00	-781.0	0.00	781.04	3,615.94	889.00	3,417.56	3,163.51	14.89	-1.58	0.252
99.75	-14.66	-18.40	0.00	-692.3	0.00	692.32	2,419.87	655.14	2,474.09	2,084.17	16.51	-1.67	0.339
100.00	-14.61	-18.21	0.00	-687.7	0.00	687.72	2,417.42	653.99	2,465.35	2,078.35	16.6	-1.68	0.338
104.00	-14.04	-17.96	0.00	-614.9	0.00	614.90	2,377.33	635.45	2,327.60	1,985.56	18.04	-1.77	0.316
105.00	-13.79	-17.71	0.00	-596.9	0.00	596.94	2,367.05	630.82	2,293.78	1,962.46	18.41	-1.79	0.311
109.25	-12.79	-17.45	0.00	-521.7	0.00	521.66	1,977.83	550.52	1,965.70	1,611.28	20.05	-1.88	0.331
110.00	-12.69	-17.19	0.00	-508.6	0.00	508.57	1,971.90	547.43	1,943.70	1,597.38	20.35	-1.9	0.326
115.00	-12.07	-16.73	0.00	-422.6	0.00	422.59	1,930.87	526.84	1,800.25	1,504.94	22.39	-2.01	0.288
120.00	-11.47	-16.28	0.00	-338.9	0.00	338.93	1,887.25	506.25	1,662.29	1,413.07	24.55	-2.11	0.247
125.00	-10.90	-16.00	0.00	-257.5	0.00	257.53	1,841.04	485.66	1,529.83	1,322.02	26.8	-2.19	0.202
126.00	-8.05	-13.02	0.00	-241.5	0.00	241.53	1,831.49	481.54	1,504.00	1,303.93	27.27	-2.21	0.190
130.00	-7.62	-12.63	0.00	-189.4	0.00	189.45	1,792.24	465.07	1,402.87	1,232.02	29.14	-2.27	0.159
135.00	-7.10	-12.37	0.00	-126.3	0.00	126.29	1,740.84	444.48	1,281.41	1,143.31	31.56	-2.33	0.115
136.00	-5.69	-11.33	0.00	-113.9	0.00	113.93	1,730.25	440.36	1,257.77	1,125.75	32.05	-2.34	0.105
137.00	-4.91	-8.88	0.00	-102.0	0.00	101.99	1,719.56	436.24	1,234.36	1,108.25	32.54	-2.35	0.095
140.00	-4.65	-8.74	0.00	-75.4	0.00	75.35	1,686.86	423.89	1,165.44	1,056.14	34.02	-2.37	0.075
140.20	-4.61	-8.50	0.00	-73.6	0.00	73.60	1,684.65	423.06	1,160.92	1,052.69	34.12	-2.38	0.073
145.00	-4.20	-8.15	0.00	-32.8	0.00	32.81	1,630.29	403.29	1,054.98	970.73	36.52	-2.4	0.037
149.00	0.00	-7.96	0.00	-0.2	0.00	0.21	1,583.16	386.82	970.57	903.84	38.54	-2.41	0.001

Load Case: 1.2D + 1.0Di + 1.0Wi Normal		50 mph wind with 1" radial ice			19 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	-71.62	-7.41	0.00	-776.0	0.00	776.05	6,087.54	1,702.03	10,736.47	8,761.99	0	0	0.100
5.00	-69.30	-7.27	0.00	-739.0	0.00	739.01	6,018.54	1,665.99	10,286.71	8,478.14	0.01	-0.02	0.099
10.00	-66.83	-7.13	0.00	-702.7	0.00	702.68	5,946.95	1,629.96	9,846.57	8,194.94	0.04	-0.04	0.097
15.00	-64.39	-6.99	0.00	-667.1	0.00	667.06	5,872.77	1,593.92	9,416.05	7,912.65	0.09	-0.05	0.095
20.00	-61.99	-6.85	0.00	-632.1	0.00	632.12	5,796.00	1,557.89	8,995.16	7,631.49	0.15	-0.07	0.094
25.00	-59.62	-6.72	0.00	-597.9	0.00	597.86	5,716.64	1,521.85	8,583.90	7,351.72	0.24	-0.09	0.092
30.00	-57.30	-6.58	0.00	-564.3	0.00	564.27	5,634.69	1,485.82	8,182.25	7,073.55	0.35	-0.11	0.090
35.00	-55.03	-6.45	0.00	-531.4	0.00	531.35	5,550.15	1,449.78	7,790.23	6,797.24	0.48	-0.13	0.088
40.00	-52.80	-6.31	0.00	-499.1	0.00	499.11	5,463.02	1,413.75	7,407.83	6,523.03	0.63	-0.15	0.086
45.00	-50.62	-6.22	0.00	-467.6	0.00	467.57	5,373.29	1,377.72	7,035.05	6,251.14	0.8	-0.17	0.084
46.25	-50.08	-6.15	0.00	-459.8	0.00	459.80	5,350.46	1,368.71	6,943.36	6,183.56	0.84	-0.18	0.084
50.00	-47.45	-6.04	0.00	-436.8	0.00	436.75	5,280.98	1,341.68	6,671.90	5,981.82	0.99	-0.19	0.082
53.50	-45.03	-5.96	0.00	-415.6	0.00	415.62	4,260.00	1,145.36	5,672.44	4,811.12	1.13	-0.21	0.097
55.00	-44.47	-5.87	0.00	-406.7	0.00	406.69	4,239.83	1,136.10	5,581.04	4,749.34	1.2	-0.21	0.096
60.00	-42.62	-5.72	0.00	-377.4	0.00	377.36	4,170.91	1,105.21	5,281.73	4,544.25	1.44	-0.24	0.093
65.00	-40.81	-5.57	0.00	-348.8	0.00	348.77	4,099.40	1,074.32	4,990.68	4,340.65	1.7	-0.26	0.090
70.00	-39.05	-5.42	0.00	-320.9	0.00	320.91	4,025.30	1,043.44	4,707.87	4,138.76	1.98	-0.28	0.087
75.00	-37.33	-5.28	0.00	-293.8	0.00	293.80	3,948.61	1,012.55	4,433.31	3,938.84	2.29	-0.31	0.084
80.00	-35.65	-5.13	0.00	-267.4	0.00	267.42	3,869.33	981.66	4,167.00	3,741.11	2.62	-0.33	0.081
85.00	-34.02	-4.98	0.00	-241.8	0.00	241.78	3,787.46	950.78	3,908.94	3,545.82	2.98	-0.35	0.077
90.00	-32.43	-4.85	0.00	-216.9	0.00	216.87	3,703.00	919.89	3,659.12	3,353.21	3.36	-0.38	0.073
94.00	-31.19	-4.77	0.00	-197.5	0.00	197.47	3,633.56	895.18	3,465.21	3,201.20	3.68	-0.39	0.070
95.00	-30.73	-4.69	0.00	-192.7	0.00	192.69	3,615.94	889.00	3,417.56	3,163.51	3.77	-0.4	0.069
99.75	-28.56	-4.61	0.00	-170.4	0.00	170.40	2,419.87	655.14	2,474.09	2,084.17	4.17	-0.42	0.094
100.00	-28.50	-4.56	0.00	-169.2	0.00	169.25	2,417.42	653.99	2,465.35	2,078.35	4.2	-0.42	0.093
104.00	-27.52	-4.48	0.00	-151.0	0.00	151.03	2,377.33	635.45	2,327.60	1,985.56	4.56	-0.44	0.088
105.00	-27.14	-4.41	0.00	-146.5	0.00	146.54	2,367.05	630.82	2,293.78	1,962.46	4.65	-0.45	0.086
109.25	-25.57	-4.33	0.00	-127.8	0.00	127.80	1,977.83	550.52	1,965.70	1,611.28	5.06	-0.47	0.092
110.00	-25.40	-4.26	0.00	-124.6	0.00	124.55	1,971.90	547.43	1,943.70	1,597.38	5.14	-0.48	0.091
115.00	-24.31	-4.12	0.00	-103.3	0.00	103.26	1,930.87	526.84	1,800.25	1,504.94	5.65	-0.5	0.081
120.00	-23.26	-3.99	0.00	-82.6	0.00	82.64	1,887.25	506.25	1,662.29	1,413.07	6.19	-0.53	0.071
125.00	-22.24	-3.90	0.00	-62.7	0.00	62.70	1,841.04	485.66	1,529.83	1,322.02	6.75	-0.55	0.060
126.00	-16.75	-3.21	0.00	-58.8	0.00	58.80	1,831.49	481.54	1,504.00	1,303.93	6.87	-0.55	0.054
130.00	-15.97	-3.09	0.00	-46.0	0.00	45.96	1,792.24	465.07	1,402.87	1,232.02	7.34	-0.57	0.046
135.00	-15.04	-3.01	0.00	-30.5	0.00	30.50	1,740.84	444.48	1,281.41	1,143.31	7.94	-0.58	0.035
136.00	-12.72	-2.72	0.00	-27.5	0.00	27.49	1,730.25	440.36	1,257.77	1,125.75	8.06	-0.58	0.032
137.00	-10.43	-2.17	0.00	-24.6	0.00	24.64	1,719.56	436.24	1,234.36	1,108.25	8.18	-0.59	0.028
140.00	-9.93	-2.13	0.00	-18.1	0.00	18.14	1,686.86	423.89	1,165.44	1,056.14	8.55	-0.59	0.023
140.20	-9.83	-2.06	0.00	-17.7	0.00	17.71	1,684.65	423.06	1,160.92	1,052.69	8.58	-0.59	0.023
145.00	-9.06	-1.95	0.00	-7.8	0.00	7.84	1,630.29	403.29	1,054.98	970.73	9.17	-0.6	0.014
149.00	0.00	-1.85	0.00	-0.0	0.00	0.05	1,583.16	386.82	970.57	903.84	9.68	-0.6	0.000

Load Case: 1.0D + 1.0W Service Normal 60 mph Wind with No Ice 19 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	-46.84	-6.22	0.00	-669.4	0.00	669.41	6,087.54	1,702.03	10,736.47	8,761.99	0	0	0.084
5.00	-45.19	-6.11	0.00	-638.3	0.00	638.30	6,018.54	1,665.99	10,286.71	8,478.14	0.01	-0.02	0.083
10.00	-43.44	-6.00	0.00	-607.8	0.00	607.75	5,946.95	1,629.96	9,846.57	8,194.94	0.03	-0.03	0.081
15.00	-41.72	-5.89	0.00	-577.8	0.00	577.76	5,872.77	1,593.92	9,416.05	7,912.65	0.07	-0.05	0.080
20.00	-40.04	-5.78	0.00	-548.3	0.00	548.32	5,796.00	1,557.89	8,995.16	7,631.49	0.13	-0.06	0.079
25.00	-38.39	-5.68	0.00	-519.4	0.00	519.41	5,716.64	1,521.85	8,583.90	7,351.72	0.21	-0.08	0.077
30.00	-36.78	-5.57	0.00	-491.0	0.00	491.03	5,634.69	1,485.82	8,182.25	7,073.55	0.3	-0.1	0.076
35.00	-35.20	-5.46	0.00	-463.2	0.00	463.18	5,550.15	1,449.78	7,790.23	6,797.24	0.41	-0.11	0.074
40.00	-33.65	-5.36	0.00	-435.8	0.00	435.85	5,463.02	1,413.75	7,407.83	6,523.03	0.54	-0.13	0.073
45.00	-32.15	-5.29	0.00	-409.1	0.00	409.07	5,373.29	1,377.72	7,035.05	6,251.14	0.69	-0.15	0.071
46.25	-31.77	-5.23	0.00	-402.5	0.00	402.47	5,350.46	1,368.71	6,943.36	6,183.56	0.73	-0.15	0.071
50.00	-29.82	-5.15	0.00	-382.8	0.00	382.85	5,280.98	1,341.68	6,671.90	5,981.82	0.86	-0.17	0.070
53.50	-28.02	-5.09	0.00	-364.8	0.00	364.84	4,260.00	1,145.36	5,672.44	4,811.12	0.98	-0.18	0.082
55.00	-27.64	-5.01	0.00	-357.2	0.00	357.21	4,239.83	1,136.10	5,581.04	4,749.34	1.04	-0.19	0.082
60.00	-26.40	-4.90	0.00	-332.1	0.00	332.14	4,170.91	1,105.21	5,281.73	4,544.25	1.25	-0.21	0.079
65.00	-25.19	-4.79	0.00	-307.6	0.00	307.64	4,099.40	1,074.32	4,990.68	4,340.65	1.47	-0.23	0.077
70.00	-24.01	-4.67	0.00	-283.7	0.00	283.70	4,025.30	1,043.44	4,707.87	4,138.76	1.72	-0.25	0.075
75.00	-22.85	-4.56	0.00	-260.3	0.00	260.33	3,948.61	1,012.55	4,433.31	3,938.84	1.99	-0.27	0.072
80.00	-21.73	-4.45	0.00	-237.5	0.00	237.52	3,869.33	981.66	4,167.00	3,741.11	2.28	-0.29	0.069
85.00	-20.64	-4.34	0.00	-215.3	0.00	215.26	3,787.46	950.78	3,908.94	3,545.82	2.59	-0.31	0.066
90.00	-19.58	-4.24	0.00	-193.6	0.00	193.57	3,703.00	919.89	3,659.12	3,353.21	2.93	-0.33	0.063
94.00	-18.75	-4.18	0.00	-176.6	0.00	176.61	3,633.56	895.18	3,465.21	3,201.20	3.21	-0.35	0.060
95.00	-18.42	-4.12	0.00	-172.4	0.00	172.42	3,615.94	889.00	3,417.56	3,163.51	3.28	-0.35	0.060
99.75	-16.85	-4.06	0.00	-152.8	0.00	152.84	2,419.87	655.14	2,474.09	2,084.17	3.64	-0.37	0.080
100.00	-16.81	-4.02	0.00	-151.8	0.00	151.83	2,417.42	653.99	2,465.35	2,078.35	3.66	-0.37	0.080
104.00	-16.19	-3.96	0.00	-135.8	0.00	135.76	2,377.33	635.45	2,327.60	1,985.56	3.98	-0.39	0.075
105.00	-15.92	-3.91	0.00	-131.8	0.00	131.79	2,367.05	630.82	2,293.78	1,962.46	4.06	-0.39	0.074
109.25	-14.82	-3.85	0.00	-115.2	0.00	115.18	1,977.83	550.52	1,965.70	1,611.28	4.42	-0.41	0.079
110.00	-14.72	-3.80	0.00	-112.3	0.00	112.29	1,971.90	547.43	1,943.70	1,597.38	4.49	-0.42	0.078
115.00	-14.04	-3.69	0.00	-93.3	0.00	93.31	1,930.87	526.84	1,800.25	1,504.94	4.94	-0.44	0.069
120.00	-13.39	-3.60	0.00	-74.8	0.00	74.83	1,887.25	506.25	1,662.29	1,413.07	5.42	-0.46	0.060
125.00	-12.75	-3.53	0.00	-56.9	0.00	56.86	1,841.04	485.66	1,529.83	1,322.02	5.91	-0.48	0.050
126.00	-9.48	-2.87	0.00	-53.3	0.00	53.32	1,831.49	481.54	1,504.00	1,303.93	6.02	-0.49	0.046
130.00	-9.00	-2.79	0.00	-41.8	0.00	41.83	1,792.24	465.07	1,402.87	1,232.02	6.43	-0.5	0.039
135.00	-8.42	-2.73	0.00	-27.9	0.00	27.88	1,740.84	444.48	1,281.41	1,143.31	6.96	-0.51	0.029
136.00	-6.80	-2.50	0.00	-25.2	0.00	25.15	1,730.25	440.36	1,257.77	1,125.75	7.07	-0.52	0.026
137.00	-5.85	-1.96	0.00	-22.5	0.00	22.52	1,719.56	436.24	1,234.36	1,108.25	7.18	-0.52	0.024
140.00	-5.54	-1.93	0.00	-16.6	0.00	16.64	1,686.86	423.89	1,165.44	1,056.14	7.51	-0.52	0.019
140.20	-5.49	-1.88	0.00	-16.2	0.00	16.25	1,684.65	423.06	1,160.92	1,052.69	7.53	-0.52	0.019
145.00	-5.02	-1.80	0.00	-7.2	0.00	7.24	1,630.29	403.29	1,054.98	970.73	8.06	-0.53	0.011
149.00	0.00	-1.75	0.00	-0.0	0.00	0.05	1,583.16	386.82	970.57	903.84	8.5	-0.53	0.000

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

(Based on ASCE7-16 Chapters 11, 12 and 15)

Spectral Response Acceleration for Short Period (S_S):	0.187
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.055
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}):	0.199
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.088
Seismic Response Coefficient (C_s):	0.035
Upper Limit C_S:	0.035
Lower Limit C_S:	0.030
Period based on Rayleigh Method (sec):	1.660
Redundancy Factor (p):	1.000
Seismic Force Distribution Exponent (k):	1.580
Total Unfactored Dead Load:	46.840 k
Seismic Base Shear (E):	1.660 k

1.2D + 1.0Ev + 1.0Eh Normal **Seismic**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
40	147	376	999	0.019	31	466
39	142.6	468	1,185	0.022	37	580
38	140.1	20	49	0.001	2	25
37	138.5	302	731	0.014	23	375
36	136.5	113	268	0.005	8	141
35	135.5	114	267	0.005	8	142
34	132.5	583	1,315	0.025	41	723
33	128	481	1,027	0.019	32	596
32	125.5	125	258	0.005	8	154
31	122.5	635	1,265	0.024	39	787
30	117.5	655	1,221	0.023	38	812
29	112.5	675	1,175	0.022	37	836
28	109.625	103	172	0.003	5	128
27	107.125	1,103	1,779	0.034	56	1,368
26	104.5	264	409	0.008	13	327
25	102	623	930	0.018	29	773
24	99.875	39	57	0.001	2	49
23	97.375	1,565	2,170	0.041	68	1,940
22	94.5	335	444	0.008	14	416
21	92	827	1,048	0.020	33	1,025
20	87.5	1,061	1,242	0.023	39	1,315
19	82.5	1,091	1,164	0.022	36	1,352
18	77.5	1,121	1,083	0.020	34	1,389
17	72.5	1,150	1,001	0.019	31	1,426
16	67.5	1,180	917	0.017	29	1,464
15	62.5	1,210	833	0.016	26	1,501
14	57.5	1,240	748	0.014	23	1,538
13	54.25	378	208	0.004	6	469
12	51.75	1,794	916	0.017	29	2,225
11	48.125	1,958	891	0.017	28	2,427
10	45.625	371	155	0.003	5	460
9	42.5	1,507	564	0.011	18	1,869
8	37.5	1,542	473	0.009	15	1,912
7	32.5	1,577	386	0.007	12	1,955

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
6	27.5	1,612	303	0.006	9	1,998
5	22.5	1,647	226	0.004	7	2,042
4	17.5	1,682	155	0.003	5	2,085
3	12.5	1,717	93	0.002	3	2,128
2	7.5	1,752	42	0.001	1	2,172
1	2.5	1,644	7	0.000	0	2,039
Alcatel-Lucent RRH2X60-AWS Band 4	149	165	448	0.008	14	205
Samsung B5/B13 RRH-BR04C	149	211	573	0.011	18	261
Samsung B2/B66A RRH-BR049	149	253	687	0.013	21	314
Swedcom SC-E 6014 rev2	149	90	244	0.005	8	112
Samsung MT6407-77A	149	245	665	0.012	21	304
RFS DB-T1-6Z-8AB-0Z	149	88	239	0.004	7	109
JMA Wireless MX06FRO660-03	149	360	977	0.018	31	446
Flat Platform w/ Handrails	149	2,000	5,430	0.102	169	2,480
VZW Unused Reserve (17021.55 sqin)	149	1,253	3,402	0.064	106	1,554
Raycap DC6-48-60-18-8F ("Squid")	140.2	32	78	0.002	2	39
Powerwave Allgon LGP13519	137	32	76	0.001	2	39
Raycap DC2-48-60-0-9E	137	16	38	0.001	1	20
Powerwave Allgon LGP21401	137	85	201	0.004	6	105
Ericsson RRUS-11	137	330	785	0.015	24	409
Powerwave Allgon 7770.00	137	210	499	0.009	16	260
KMW AM-X-CD-17-65-00T-RET (96" Height)	137	178	424	0.008	13	221
Round Low Profile Platform	136	1,500	3,526	0.066	110	1,860
Raycap RDIDC-9181-PF-48	126	22	46	0.001	1	27
Fujitsu TA08025-B604	126	192	399	0.008	12	238
Fujitsu TA08025-B605	126	225	469	0.009	15	279
Commscope FFVV-65B-R2	126	212	442	0.008	14	263
Generic Flat Platform with Handrails	126	2,500	5,208	0.098	163	3,100
		46,838	53,031	1.000	1,655	58,074

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
40	147	376	999	0.019	31	323
39	142.6	468	1,185	0.022	37	402
38	140.1	20	49	0.001	2	17
37	138.5	302	731	0.014	23	260
36	136.5	113	268	0.005	8	98
35	135.5	114	267	0.005	8	98
34	132.5	583	1,315	0.025	41	502
33	128	481	1,027	0.019	32	414
32	125.5	125	258	0.005	8	107
31	122.5	635	1,265	0.024	39	546
30	117.5	655	1,221	0.023	38	563
29	112.5	675	1,175	0.022	37	580
28	109.625	103	172	0.003	5	89
27	107.125	1,103	1,779	0.034	56	949
26	104.5	264	409	0.008	13	227
25	102	623	930	0.018	29	536
24	99.875	39	57	0.001	2	34
23	97.375	1,565	2,170	0.041	68	1,346
22	94.5	335	444	0.008	14	289
21	92	827	1,048	0.020	33	711
20	87.5	1,061	1,242	0.023	39	912
19	82.5	1,091	1,164	0.022	36	938
18	77.5	1,121	1,083	0.020	34	964
17	72.5	1,150	1,001	0.019	31	990
16	67.5	1,180	917	0.017	29	1,015
15	62.5	1,210	833	0.016	26	1,041
14	57.5	1,240	748	0.014	23	1,067
13	54.25	378	208	0.004	6	325
12	51.75	1,794	916	0.017	29	1,543

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
11	48.125	1,958	891	0.017	28	1,684
10	45.625	371	155	0.003	5	319
9	42.5	1,507	564	0.011	18	1,296
8	37.5	1,542	473	0.009	15	1,326
7	32.5	1,577	386	0.007	12	1,356
6	27.5	1,612	303	0.006	9	1,386
5	22.5	1,647	226	0.004	7	1,416
4	17.5	1,682	155	0.003	5	1,446
3	12.5	1,717	93	0.002	3	1,476
2	7.5	1,752	42	0.001	1	1,507
1	2.5	1,644	7	0.000	0	1,414
Alcatel-Lucent RRH2X60-AWS Band 4	149	165	448	0.008	14	142
Samsung B5/B13 RRH-BR04C	149	211	573	0.011	18	181
Samsung B2/B66A RRH-BR049	149	253	687	0.013	21	218
Swedcom SC-E 6014 rev2	149	90	244	0.005	8	77
Samsung MT6407-77A	149	245	665	0.012	21	211
RFS DB-T1-6Z-8AB-0Z	149	88	239	0.004	7	76
JMA Wireless MX06FRO660-03	149	360	977	0.018	31	310
Flat Platform w/ Handrails	149	2,000	5,430	0.102	169	1,720
VZW Unused Reserve (17021.55 sqin)	149	1,253	3,402	0.064	106	1,078
Raycap DC6-48-60-18-8F ("Squid")	140.2	32	78	0.002	2	27
Powerwave Allgon LGP13519	137	32	76	0.001	2	27
Raycap DC2-48-60-0-9E	137	16	38	0.001	1	14
Powerwave Allgon LGP21401	137	85	201	0.004	6	73
Ericsson RRUS-11	137	330	785	0.015	24	284
Powerwave Allgon 7770.00	137	210	499	0.009	16	181
KMW AM-X-CD-17-65-00T-RET (96" Height)	137	178	424	0.008	13	154
Round Low Profile Platform	136	1,500	3,526	0.066	110	1,290
Raycap RDIDC-9181-PF-48	126	22	46	0.001	1	19
Fujitsu TA08025-B604	126	192	399	0.008	12	165
Fujitsu TA08025-B605	126	225	469	0.009	15	194
Commscope FFVV-65B-R2	126	212	442	0.008	14	183
Generic Flat Platform with Handrails	126	2,500	5,208	0.098	163	2,150
		46,838	53,031	1.000	1,655	40,286

1.2D + 1.0Ev + 1.0Eh Normal **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	-56.04	-1.66	0.00	-194.09	0.00	194.09	6,087.54	1,702.03	10,736	8,761.99	0.00	0.00	0.03
5.00	-53.86	-1.66	0.00	-185.80	0.00	185.80	6,018.54	1,665.99	10,287	8,478.14	0.00	0.00	0.03
10.00	-51.73	-1.66	0.00	-177.51	0.00	177.51	5,946.95	1,629.96	9,847	8,194.94	0.01	-0.01	0.03
15.00	-49.65	-1.66	0.00	-169.21	0.00	169.21	5,872.77	1,593.92	9,416	7,912.65	0.02	-0.01	0.03
20.00	-47.61	-1.66	0.00	-160.91	0.00	160.91	5,796.00	1,557.89	8,995	7,631.49	0.04	-0.02	0.03
25.00	-45.61	-1.65	0.00	-152.63	0.00	152.63	5,716.64	1,521.85	8,584	7,351.72	0.06	-0.02	0.03
30.00	-43.65	-1.64	0.00	-144.39	0.00	144.39	5,634.69	1,485.82	8,182	7,073.55	0.09	-0.03	0.03
35.00	-41.74	-1.63	0.00	-136.19	0.00	136.19	5,550.15	1,449.78	7,790	6,797.24	0.12	-0.03	0.03
40.00	-39.87	-1.61	0.00	-128.05	0.00	128.05	5,463.02	1,413.75	7,408	6,523.03	0.16	-0.04	0.03
45.00	-39.41	-1.61	0.00	-119.98	0.00	119.98	5,373.29	1,377.72	7,035	6,251.14	0.20	-0.04	0.03
46.25	-36.99	-1.58	0.00	-117.97	0.00	117.97	5,350.46	1,368.71	6,943	6,183.56	0.21	-0.05	0.03
50.00	-34.76	-1.55	0.00	-112.04	0.00	112.04	5,280.98	1,341.68	6,672	5,981.82	0.25	-0.05	0.03
53.50	-34.29	-1.55	0.00	-106.60	0.00	106.60	4,260.00	1,145.36	5,672	4,811.12	0.29	-0.05	0.03
55.00	-32.75	-1.53	0.00	-104.28	0.00	104.28	4,239.83	1,136.10	5,581	4,749.34	0.30	-0.05	0.03
60.00	-31.25	-1.50	0.00	-96.65	0.00	96.65	4,170.91	1,105.21	5,282	4,544.25	0.36	-0.06	0.03
65.00	-29.79	-1.47	0.00	-89.14	0.00	89.14	4,099.40	1,074.32	4,991	4,340.65	0.43	-0.07	0.03
70.00	-28.36	-1.44	0.00	-81.77	0.00	81.77	4,025.30	1,043.44	4,708	4,138.76	0.50	-0.07	0.03
75.00	-26.97	-1.41	0.00	-74.54	0.00	74.54	3,948.61	1,012.55	4,433	3,938.84	0.58	-0.08	0.03
80.00	-25.62	-1.38	0.00	-67.49	0.00	67.49	3,869.33	981.66	4,167	3,741.11	0.67	-0.08	0.03
85.00	-24.31	-1.34	0.00	-60.61	0.00	60.61	3,787.46	950.78	3,909	3,545.82	0.76	-0.09	0.02
90.00	-23.28	-1.31	0.00	-53.92	0.00	53.92	3,703.00	919.89	3,659	3,353.21	0.86	-0.10	0.02
94.00	-22.86	-1.29	0.00	-48.70	0.00	48.70	3,633.56	895.18	3,465	3,201.20	0.94	-0.10	0.02
95.00	-20.92	-1.22	0.00	-47.40	0.00	47.40	3,615.94	889.00	3,418	3,163.51	0.96	-0.10	0.02
99.75	-20.88	-1.22	0.00	-41.60	0.00	41.60	2,419.87	655.14	2,474	2,084.17	1.06	-0.11	0.03
100.00	-20.10	-1.19	0.00	-41.29	0.00	41.29	2,417.42	653.99	2,465	2,078.35	1.07	-0.11	0.03

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
104.00	-19.78	-1.18	0.00	-36.52	0.00	36.52	2,377.33	635.45	2,328	1,985.56	1.16	-0.11	0.03
105.00	-18.41	-1.12	0.00	-35.35	0.00	35.35	2,367.05	630.82	2,294	1,962.46	1.18	-0.11	0.03
109.25	-18.28	-1.12	0.00	-30.57	0.00	30.57	1,977.83	550.52	1,966	1,611.28	1.29	-0.12	0.03
110.00	-17.44	-1.08	0.00	-29.74	0.00	29.74	1,971.90	547.43	1,944	1,597.38	1.31	-0.12	0.03
115.00	-16.63	-1.04	0.00	-24.33	0.00	24.33	1,930.87	526.84	1,800	1,504.94	1.43	-0.13	0.03
120.00	-15.84	-1.00	0.00	-19.12	0.00	19.12	1,887.25	506.25	1,662	1,413.07	1.57	-0.13	0.02
125.00	-15.69	-1.00	0.00	-14.10	0.00	14.10	1,841.04	485.66	1,530	1,322.02	1.71	-0.14	0.02
126.00	-11.19	-0.75	0.00	-13.11	0.00	13.11	1,831.49	481.54	1,504	1,303.93	1.74	-0.14	0.02
130.00	-10.46	-0.71	0.00	-10.12	0.00	10.12	1,792.24	465.07	1,403	1,232.02	1.86	-0.14	0.01
135.00	-10.32	-0.70	0.00	-6.59	0.00	6.59	1,740.84	444.48	1,281	1,143.31	2.01	-0.14	0.01
136.00	-8.32	-0.57	0.00	-5.89	0.00	5.89	1,730.25	440.36	1,258	1,125.75	2.04	-0.14	0.01
137.00	-6.89	-0.48	0.00	-5.32	0.00	5.32	1,719.56	436.24	1,234	1,108.25	2.07	-0.15	0.01
140.00	-6.87	-0.48	0.00	-3.86	0.00	3.86	1,686.86	423.89	1,165	1,056.14	2.16	-0.15	0.01
140.20	-6.25	-0.44	0.00	-3.76	0.00	3.76	1,684.65	423.06	1,161	1,052.69	2.16	-0.15	0.01
145.00	-5.78	-0.41	0.00	-1.64	0.00	1.64	1,630.29	403.29	1,055	970.73	2.31	-0.15	0.01
149.00	0.00	-0.40	0.00	0.00	0.00	0.00	1,583.16	386.82	971	903.84	2.44	-0.15	0.00

0.9D - 1.0Ev + 1.0Eh Normal **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	-38.87	-1.66	0.00	-192.78	0.00	192.78	6,087.54	1,702.03	10,736	8,761.99	0.00	0.00	0.03
5.00	-37.36	-1.66	0.00	-184.50	0.00	184.50	6,018.54	1,665.99	10,287	8,478.14	0.00	0.00	0.03
10.00	-35.89	-1.66	0.00	-176.22	0.00	176.22	5,946.95	1,629.96	9,847	8,194.94	0.01	-0.01	0.03
15.00	-34.44	-1.65	0.00	-167.93	0.00	167.93	5,872.77	1,593.92	9,416	7,912.65	0.02	-0.01	0.03
20.00	-33.03	-1.65	0.00	-159.66	0.00	159.66	5,796.00	1,557.89	8,995	7,631.49	0.04	-0.02	0.03
25.00	-31.64	-1.64	0.00	-151.41	0.00	151.41	5,716.64	1,521.85	8,584	7,351.72	0.06	-0.02	0.03
30.00	-30.28	-1.63	0.00	-143.19	0.00	143.19	5,634.69	1,485.82	8,182	7,073.55	0.09	-0.03	0.03
35.00	-28.96	-1.62	0.00	-135.03	0.00	135.03	5,550.15	1,449.78	7,790	6,797.24	0.12	-0.03	0.03
40.00	-27.66	-1.60	0.00	-126.93	0.00	126.93	5,463.02	1,413.75	7,408	6,523.03	0.16	-0.04	0.03
45.00	-27.34	-1.60	0.00	-118.91	0.00	118.91	5,373.29	1,377.72	7,035	6,251.14	0.20	-0.04	0.02
46.25	-25.66	-1.57	0.00	-116.91	0.00	116.91	5,350.46	1,368.71	6,943	6,183.56	0.21	-0.04	0.02
50.00	-24.11	-1.54	0.00	-111.01	0.00	111.01	5,280.98	1,341.68	6,672	5,981.82	0.25	-0.05	0.02
53.50	-23.79	-1.54	0.00	-105.61	0.00	105.61	4,260.00	1,145.36	5,672	4,811.12	0.29	-0.05	0.03
55.00	-22.72	-1.52	0.00	-103.30	0.00	103.30	4,239.83	1,136.10	5,581	4,749.34	0.30	-0.05	0.03
60.00	-21.68	-1.49	0.00	-95.72	0.00	95.72	4,170.91	1,105.21	5,282	4,544.25	0.36	-0.06	0.03
65.00	-20.66	-1.46	0.00	-88.27	0.00	88.27	4,099.40	1,074.32	4,991	4,340.65	0.43	-0.07	0.03
70.00	-19.67	-1.43	0.00	-80.95	0.00	80.95	4,025.30	1,043.44	4,708	4,138.76	0.50	-0.07	0.02
75.00	-18.71	-1.40	0.00	-73.79	0.00	73.79	3,948.61	1,012.55	4,433	3,938.84	0.58	-0.08	0.02
80.00	-17.77	-1.36	0.00	-66.79	0.00	66.79	3,869.33	981.66	4,167	3,741.11	0.66	-0.08	0.02
85.00	-16.86	-1.33	0.00	-59.97	0.00	59.97	3,787.46	950.78	3,909	3,545.82	0.75	-0.09	0.02
90.00	-16.15	-1.29	0.00	-53.34	0.00	53.34	3,703.00	919.89	3,659	3,353.21	0.85	-0.09	0.02
94.00	-15.86	-1.28	0.00	-48.17	0.00	48.17	3,633.56	895.18	3,465	3,201.20	0.93	-0.10	0.02
95.00	-14.51	-1.21	0.00	-46.89	0.00	46.89	3,615.94	889.00	3,418	3,163.51	0.95	-0.10	0.02
99.75	-14.48	-1.21	0.00	-41.14	0.00	41.14	2,419.87	655.14	2,474	2,084.17	1.05	-0.11	0.03
100.00	-13.94	-1.18	0.00	-40.84	0.00	40.84	2,417.42	653.99	2,465	2,078.35	1.06	-0.11	0.03
104.00	-13.72	-1.17	0.00	-36.12	0.00	36.12	2,377.33	635.45	2,328	1,985.56	1.15	-0.11	0.02
105.00	-12.77	-1.11	0.00	-34.95	0.00	34.95	2,367.05	630.82	2,294	1,962.46	1.17	-0.11	0.02
109.25	-12.68	-1.11	0.00	-30.23	0.00	30.23	1,977.83	550.52	1,966	1,611.28	1.28	-0.12	0.03
110.00	-12.10	-1.07	0.00	-29.40	0.00	29.40	1,971.90	547.43	1,944	1,597.38	1.29	-0.12	0.03
115.00	-11.54	-1.03	0.00	-24.05	0.00	24.05	1,930.87	526.84	1,800	1,504.94	1.42	-0.12	0.02
120.00	-10.99	-0.99	0.00	-18.90	0.00	18.90	1,887.25	506.25	1,662	1,413.07	1.56	-0.13	0.02
125.00	-10.88	-0.98	0.00	-13.94	0.00	13.94	1,841.04	485.66	1,530	1,322.02	1.70	-0.14	0.02
126.00	-7.76	-0.74	0.00	-12.96	0.00	12.96	1,831.49	481.54	1,504	1,303.93	1.72	-0.14	0.01
130.00	-7.26	-0.70	0.00	-10.00	0.00	10.00	1,792.24	465.07	1,403	1,232.02	1.84	-0.14	0.01
135.00	-7.16	-0.69	0.00	-6.51	0.00	6.51	1,740.84	444.48	1,281	1,143.31	1.99	-0.14	0.01
136.00	-5.77	-0.57	0.00	-5.82	0.00	5.82	1,730.25	440.36	1,258	1,125.75	2.02	-0.14	0.01
137.00	-4.78	-0.48	0.00	-5.26	0.00	5.26	1,719.56	436.24	1,234	1,108.25	2.05	-0.14	0.01
140.00	-4.76	-0.48	0.00	-3.82	0.00	3.82	1,686.86	423.89	1,165	1,056.14	2.14	-0.14	0.01
140.20	-4.33	-0.44	0.00	-3.72	0.00	3.72	1,684.65	423.06	1,161	1,052.69	2.14	-0.14	0.01
145.00	-4.01	-0.41	0.00	-1.62	0.00	1.62	1,630.29	403.29	1,055	970.73	2.29	-0.15	0.00
149.00	0.00	-0.40	0.00	0.00	0.00	0.00	1,583.16	386.82	971	903.84	2.41	-0.15	0.00

ANALYSIS SUMMARY

	Reactions						Max Usage	
Load Case	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 Normal	28.29	0.00	56.19	0.00	0.00	3053.82	0.00	0.36
0.9D + 1.0W Normal	28.28	0.00	42.14	0.00	0.00	3036.62	0.00	0.35
1.2D + 1.0Di + 1.0Wi Normal	7.41	0.00	71.62	0.00	0.00	776.05	0.00	0.1
1.2D + 1.0Ev + 1.0Eh Normal	1.66	0.00	56.04	0.00	0.00	194.09	0.00	0.03
0.9D - 1.0Ev + 1.0Eh Normal	1.66	0.00	38.87	0.00	0.00	192.78	0.00	0.03
1.0D + 1.0W Service Normal	6.22	0.00	46.84	0.00	0.00	669.41	0.00	0.08

Base Plate & Anchor Rod Analysis

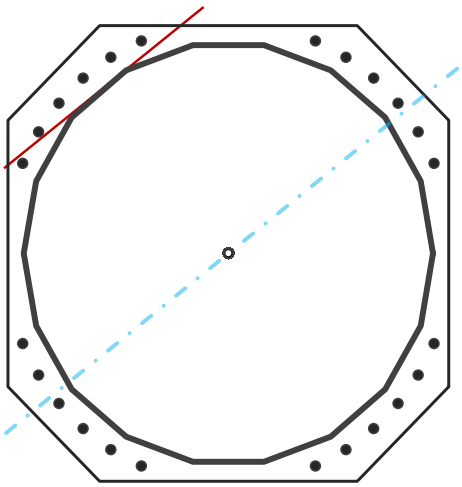
Pole Dimensions		
Number of Sides	18	-
Diameter	70.28	in
Thickness	7/16	in
Orientation Offset		°

Base Reactions		
Moment, Mu	3,053.8	k-ft
Axial, Pu	56.2	k
Shear, Vu	28.3	k
Neutral Axis	38	°

Report Capacities		
Component	Capacity	Result
Base Plate	29%	Pass
Anchor Rods	33%	Pass
Dwyidag	-	-

Base Plate		
Shape	Square	-
Width	77	in
Thickness	3	in
Grade	A572-50	
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Clip	16	in
Orientation Offset		°
Anchor Rod Detail	d	η=0.5
Clear Distance	3	in
Applied Moment, Mu	1125.5	k
Bending Stress, ϕMn	3897.1	k

Original Anchor Rods		
Arrangement	Cluster	-
Quantity	24	-
Diameter, ø	2 1/4	in
Bolt Circle	78	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	6.0	in
Orientation Offset		°
Applied Force, Pu	80.5	k
Anchor Rods, ϕPn	243.6	k



Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	28.3	3053.8	1.00
Anchor Rod Forces	28.3	3053.8	1.00
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	0.0	0.00
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in^2	in^2	in^4	#	in^4
Pole	95.5082	5.3060	0.3396		58241.92
Bolt	3.9761	3.2477	0.8393	4.5	59296.97
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	0.0000	0.0000	0.0000		0.00
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate		
Shape	Square	-
Width, W	77	in
Thickness, t	3	in
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Base Plate Chord	31.460	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

Anchor Rods		
Anchor Rod Quantity, N	24	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	78	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	80.5	k
Applied Shear, Vu	0.1	k
Compressive Capacity, ϕPn	243.6	k
Tensile Capacity, ϕRnt	0.331	OK
Interaction Capacity	0.331	OK

External Base Plate		
Chord Length AA	38.489	in
Additional AA	0.000	in
Section Modulus, Z	86.601	in^3
Applied Moment, Mu	1125.5	k-ft
Bending Capacity, ϕMn	3897.1	k-ft
Capacity, Mu/ϕMn	0.289	OK
Chord Length AB	37.403	in
Additional AB	0.000	in
Section Modulus, Z	84.158	in^3
Applied Moment, Mu	911.8	k-ft
Bending Capacity, ϕMn	3787.1	k-ft
Capacity, Mu/ϕMn	0.241	OK
Bend Line Length	0.000	in
Additional Bend Line	0.000	in
Section Modulus, Z	0.000	in^3
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	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		