



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.



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,

A handwritten signature in blue ink, appearing to read 'Jack Andrews', is written over a faint, circular blue stamp.

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



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



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



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



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



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



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



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



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

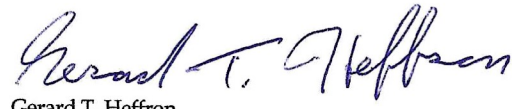
NOTARY BLOCK

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

165 ELMWOOD HILL RD

ID: 185320

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
TWR1 Cell Tower
PAV2 Paving Cement

Area / Units
1.00 UNITS
360.00 S.F.

Assessment
\$105,000
\$800

Sub Areas

Description

Living Area

Gross Area



Town of Putnam, Connecticut
Property Record Card

Card 1 of 1

165 ELMWOOD HILL RD

ID: 2245

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	Area / Units	Assessment
<u>Description</u> BGR Basemnt garage	2.00 UNITS	\$2,000
Sub Areas		
<u>Description</u>	<u>Living Area</u>	<u>Gross Area</u>
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

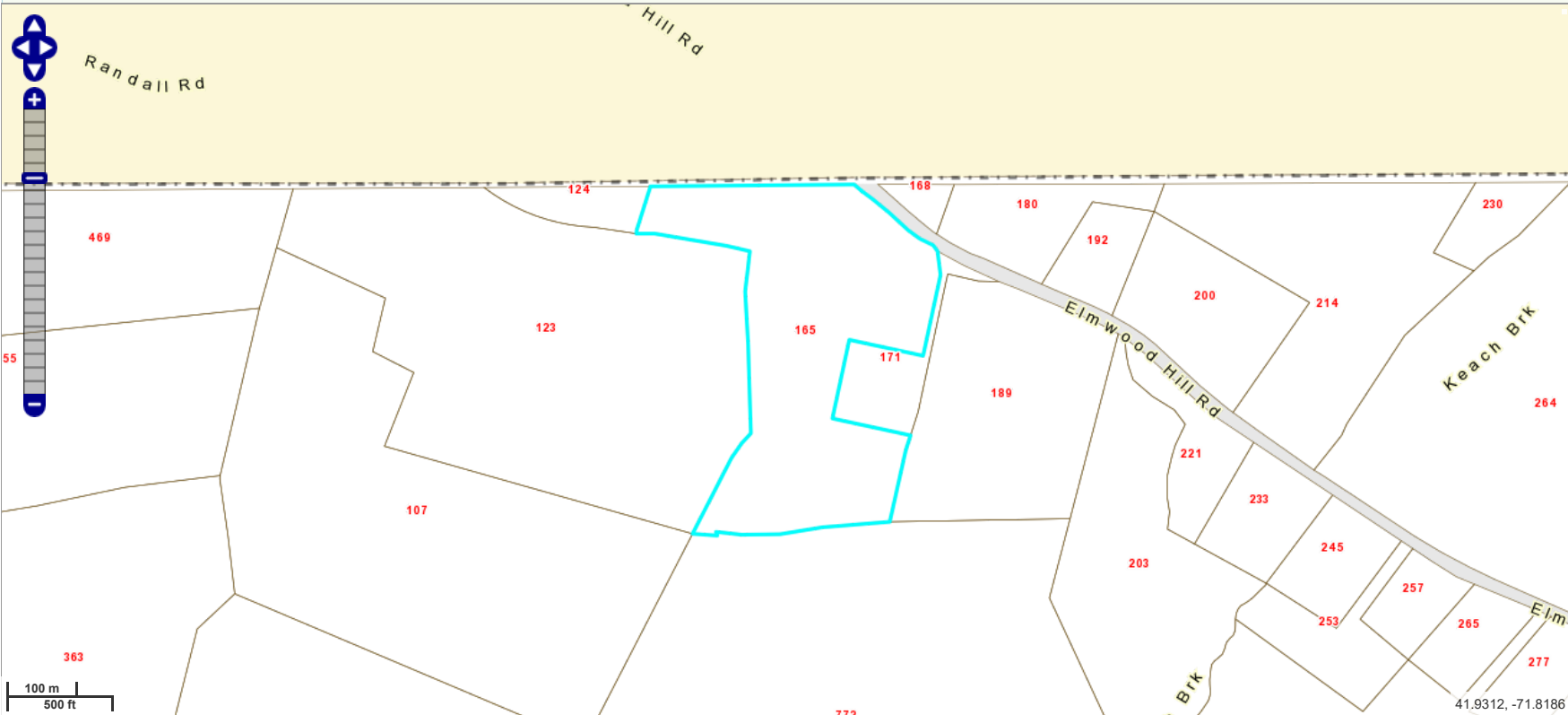
PDF Property Card

Abutters List

Tax Map

Property List

Report an Issue





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

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

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

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

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



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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed Dish Wireless 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 #:	I	Antenna #:	I	Antenna #:	I
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 AI MPE %:	1.58%	Antenna BI MPE %:	1.58%	Antenna CI MPE %:	1.58%



EBI Consulting

environmental | engineering | due diligence

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 ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	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.

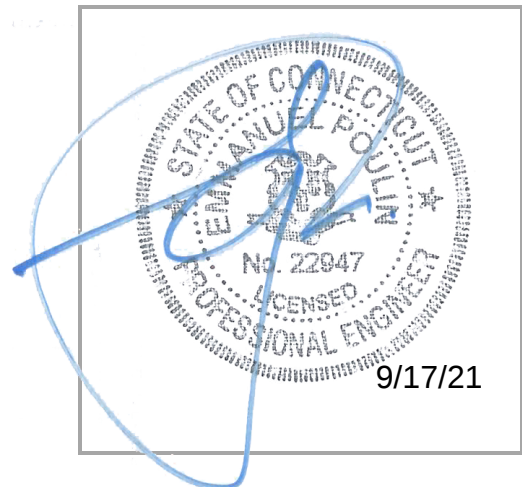
INFINIGY8

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

September 17, 2021

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	$S_s = 0.187 \text{ g} / S_1 = 0.055 \text{ g}$
Live Load Wind Speed	60 mph
Man Live Load at Mid/End Points	250 lbs
Man Live Load at Mount Pipes	500 lbs

3. PROPOSED LOADING CONFIGURATION - 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

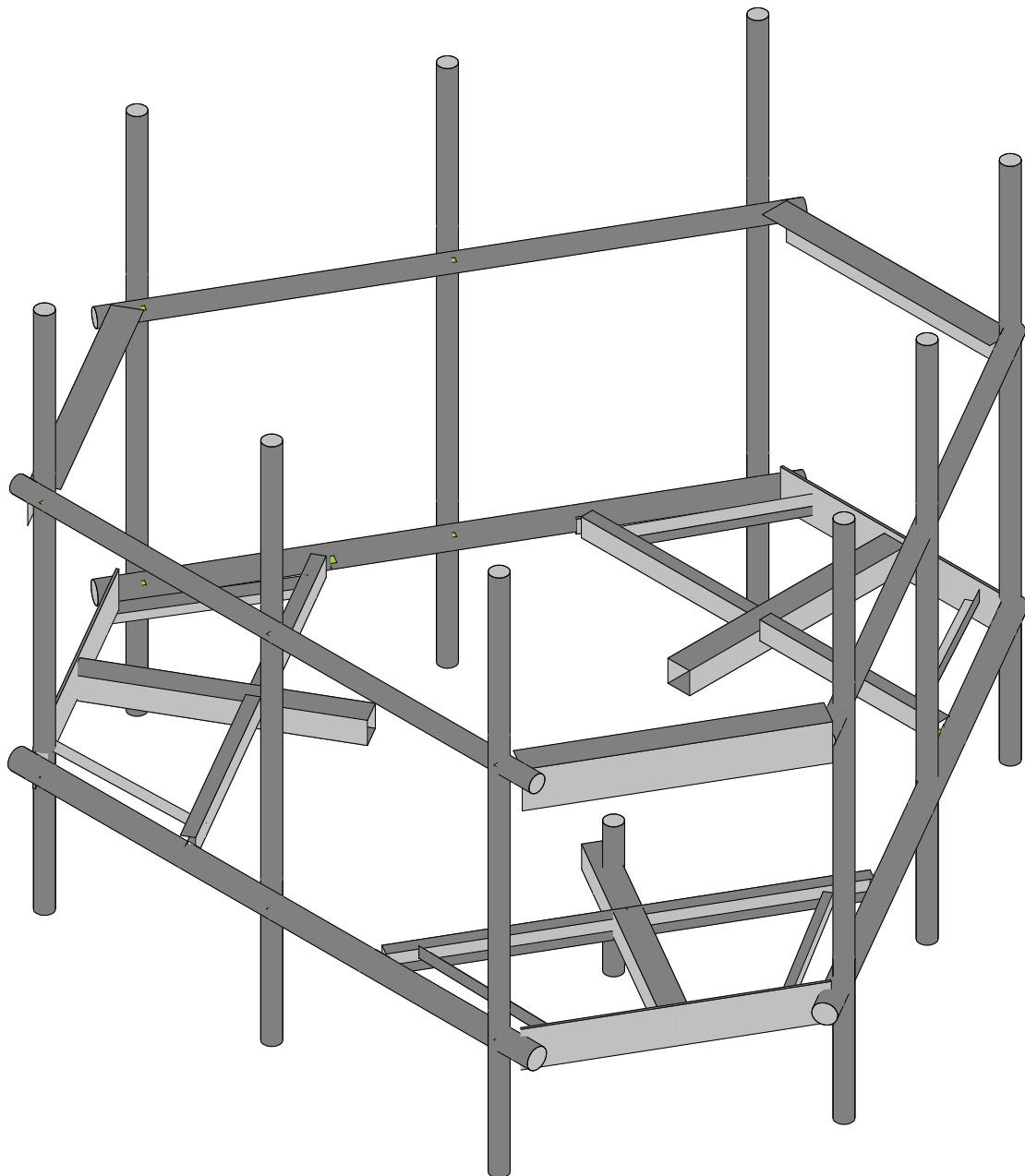
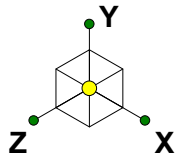
The antenna mounting system was properly fabricated, installed and maintained in accordance with its original design and manufacturer's specifications.	
The configuration of antennas, mounts, and other appurtenances are as specified in the proposed loading configuration table.	
All member connections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

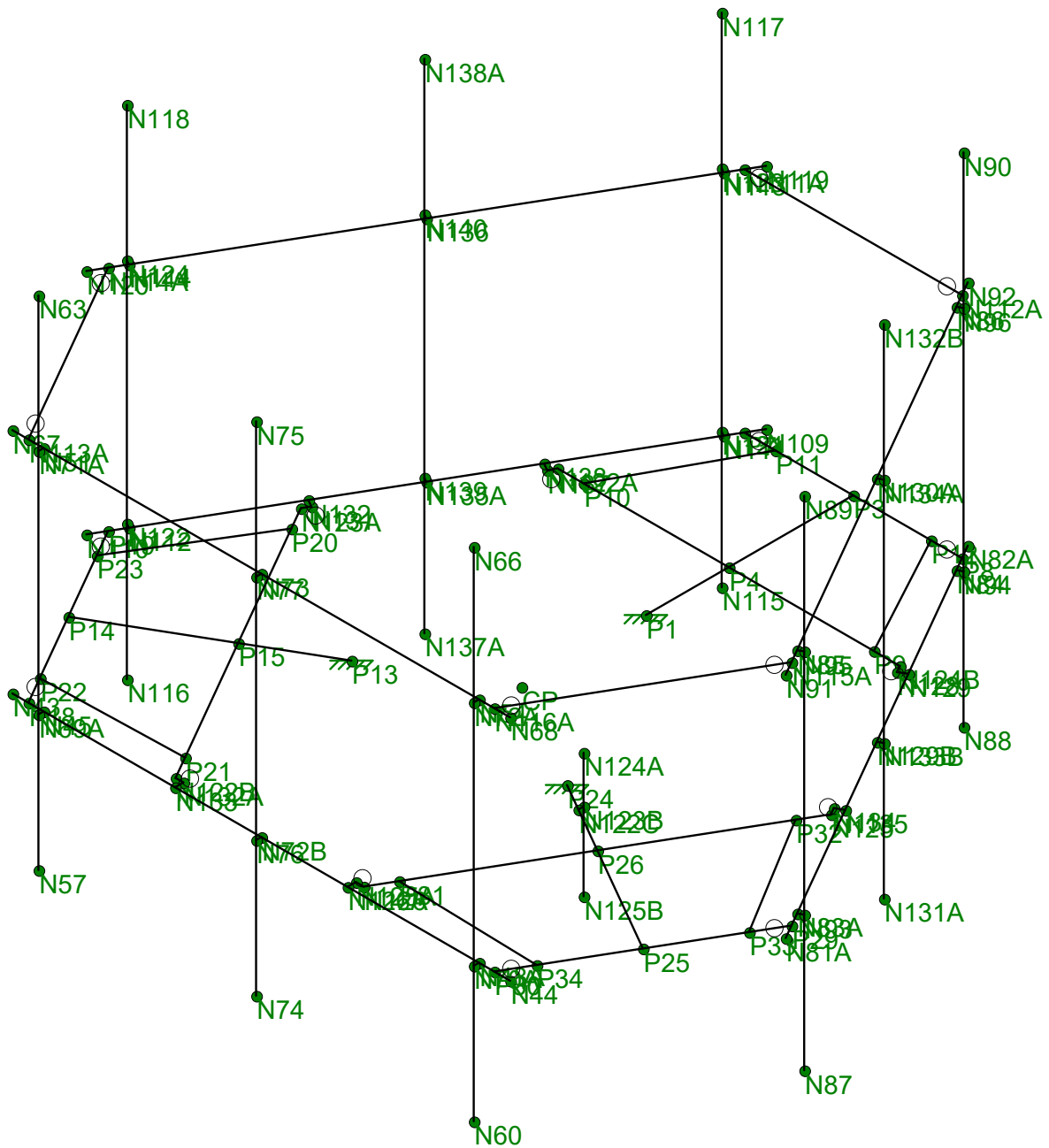
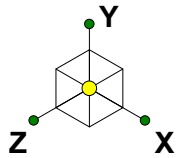
Our structural calculations are completed assuming all information provided to Infinigy is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition as erected and all members and connections to be free of corrosion and/or structural defects. The 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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Infinigy Engineering, PLLC

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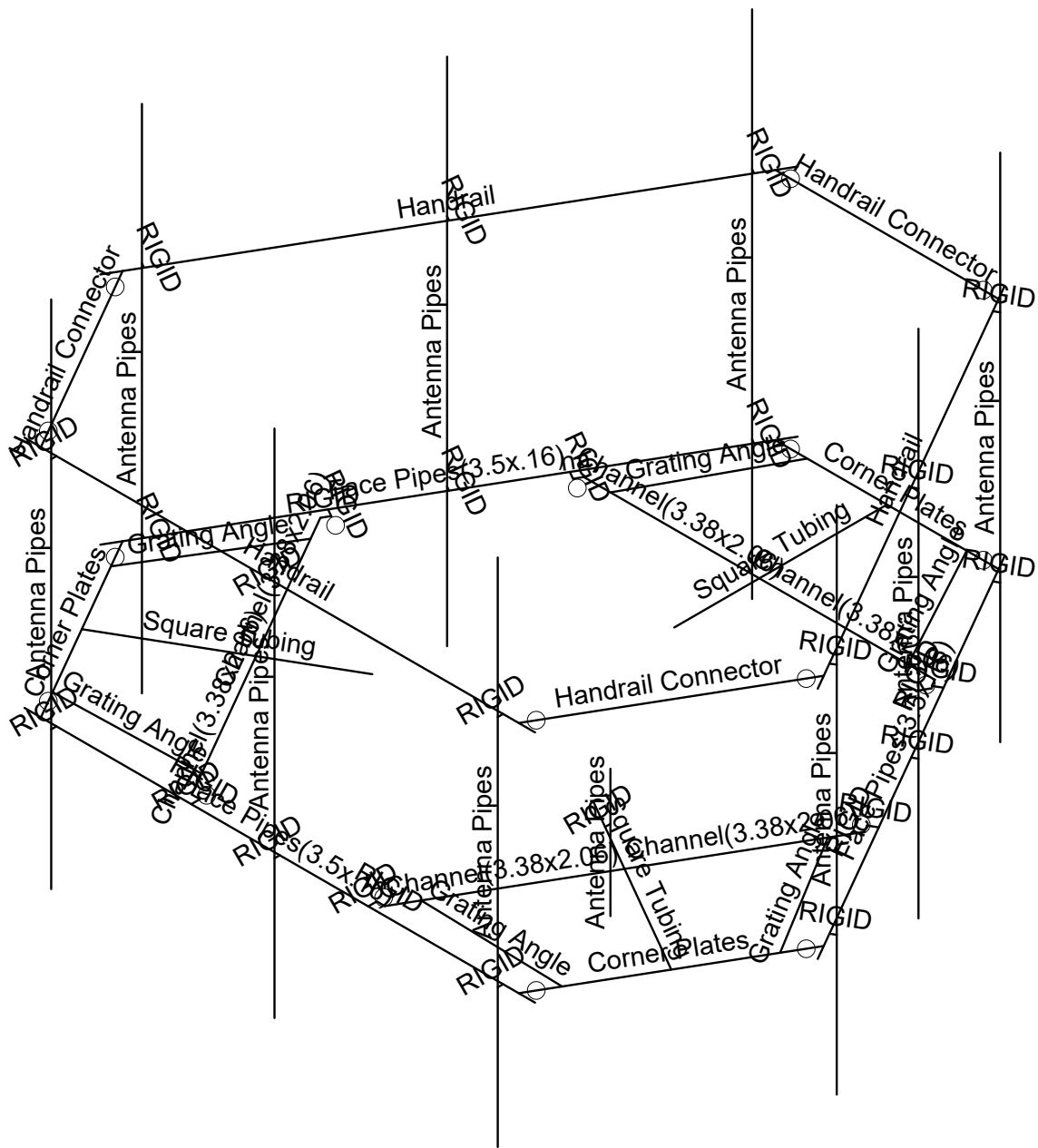
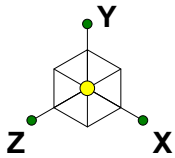
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Wire Frame

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Infinigy Engineering, PLLC

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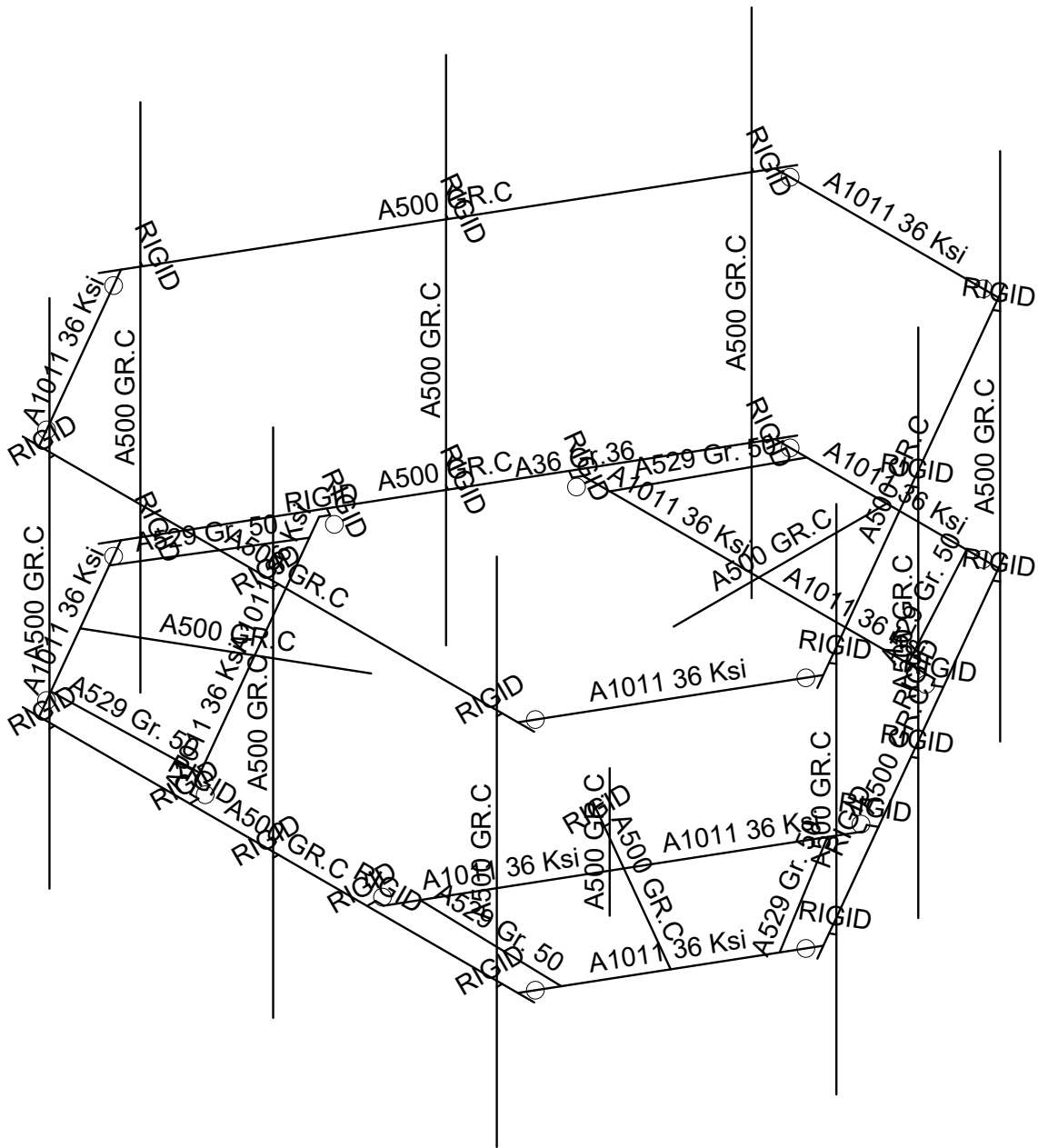
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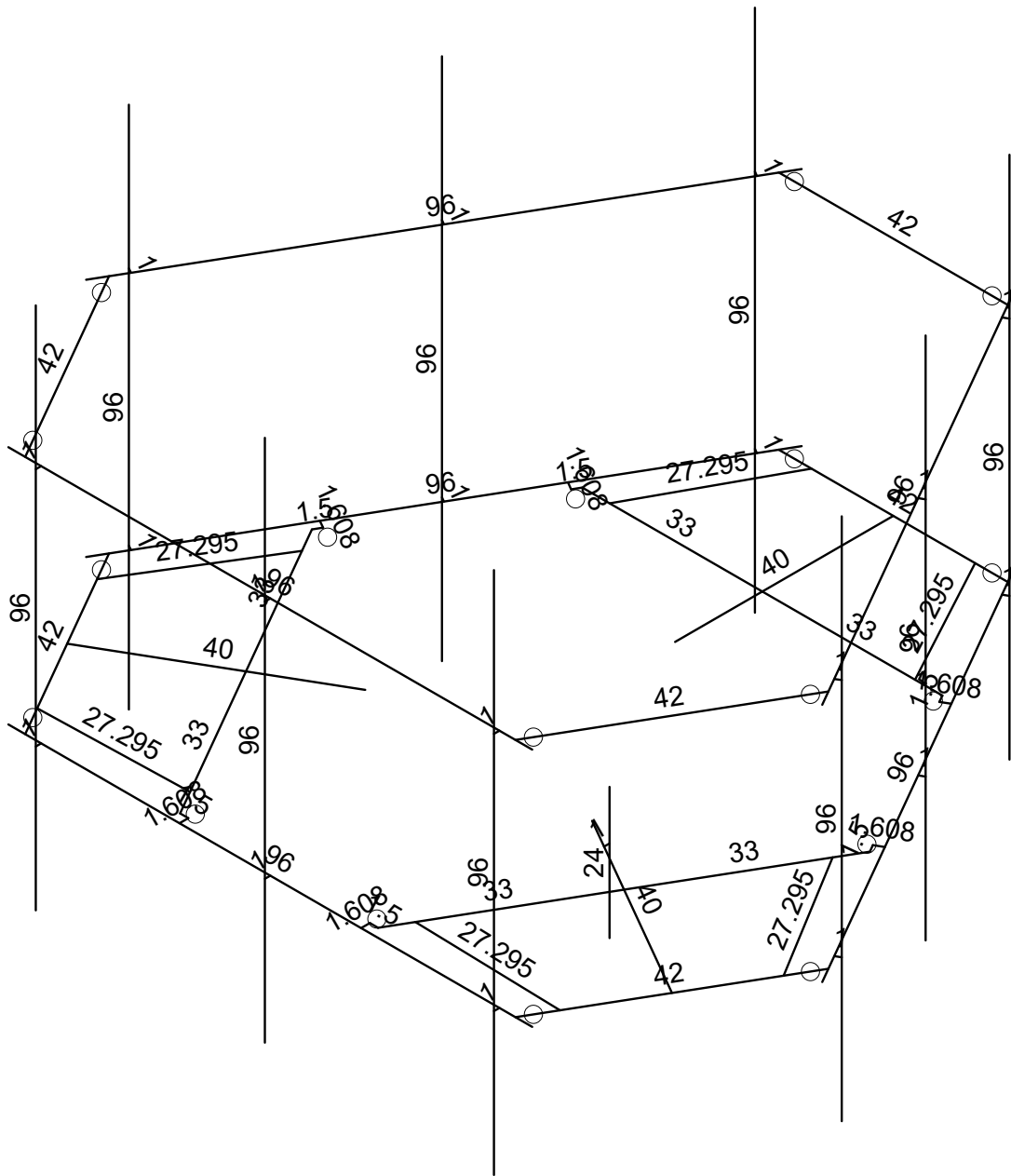
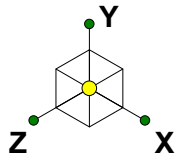
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Section sets

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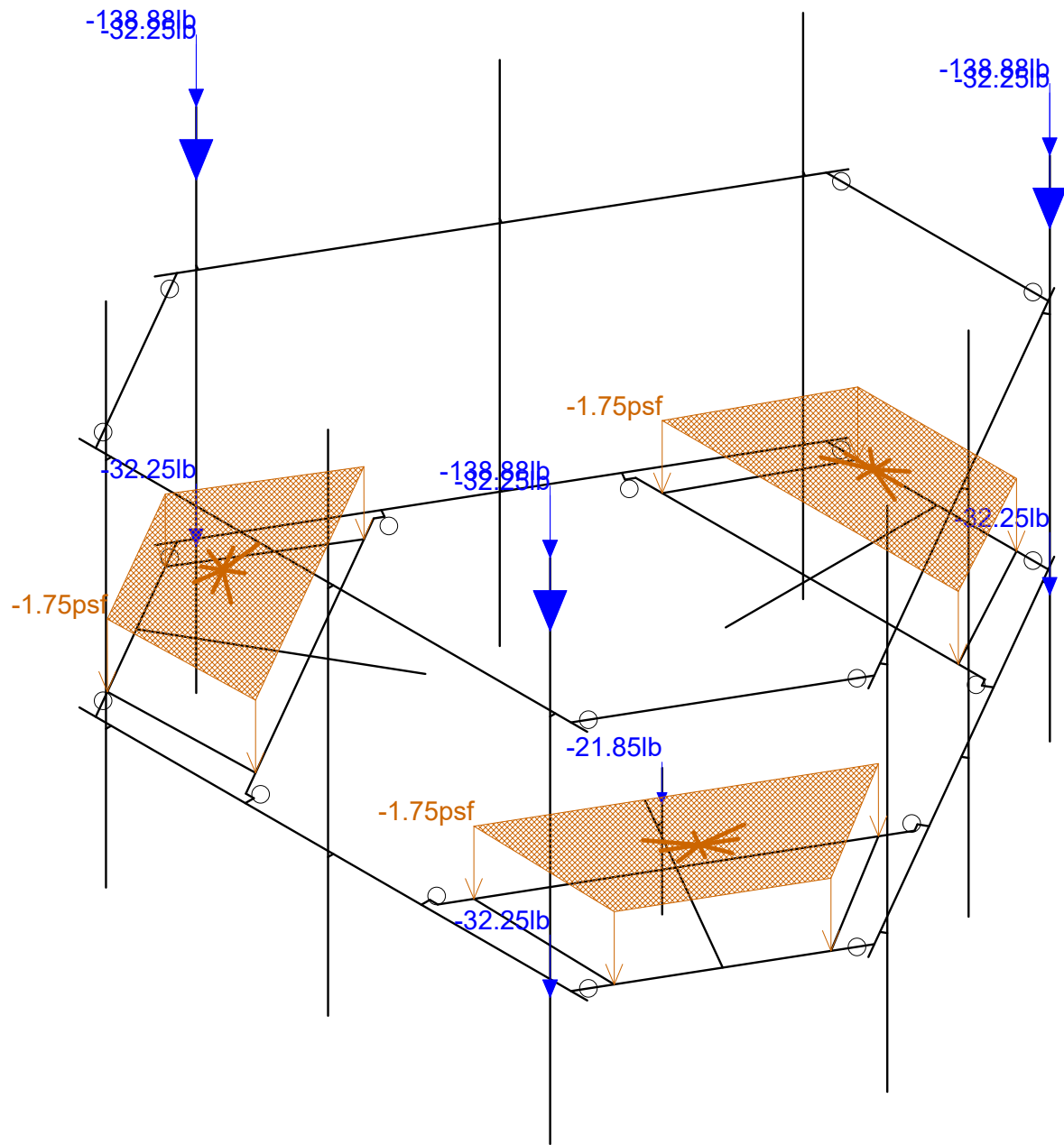
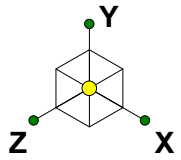
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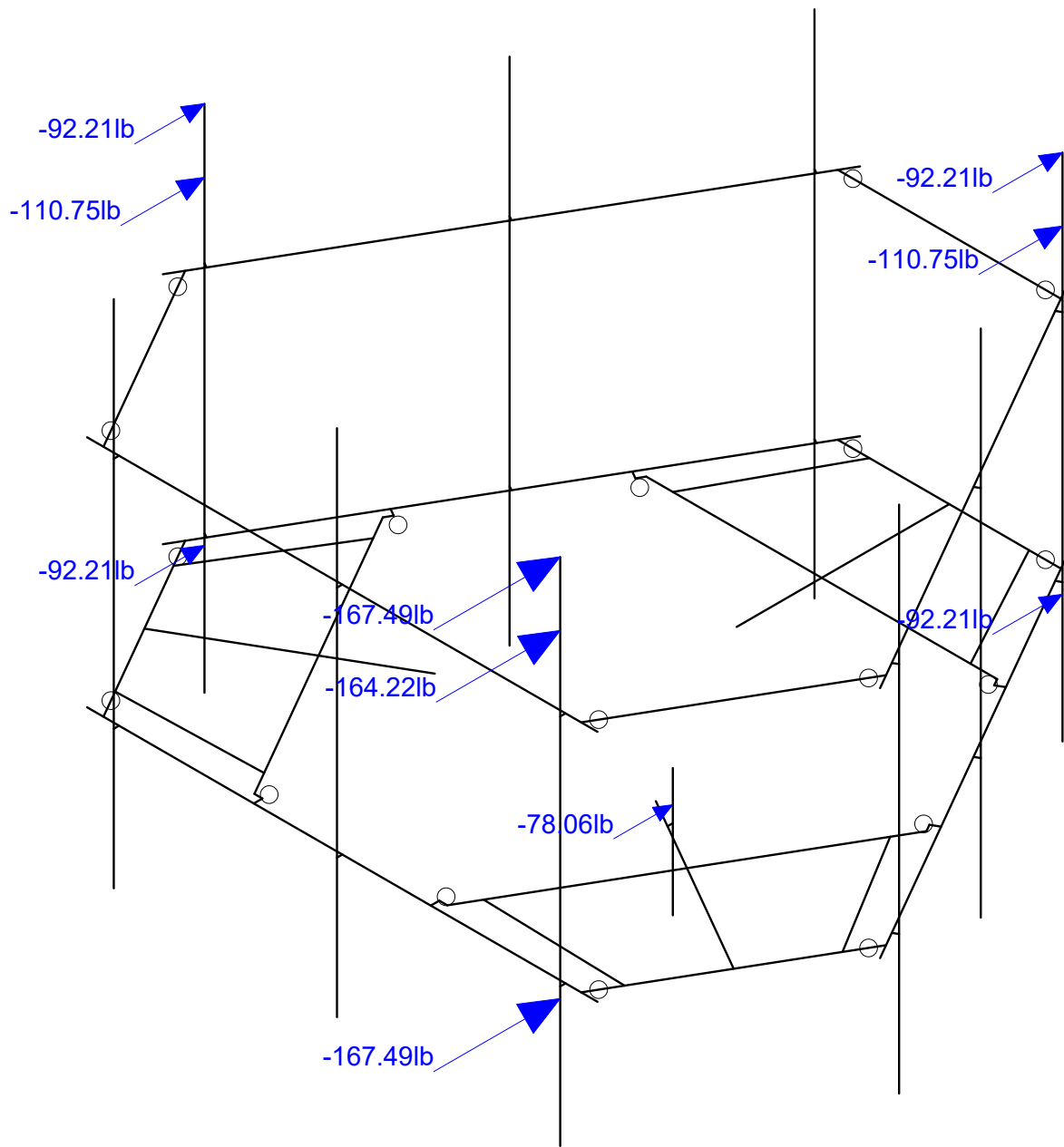
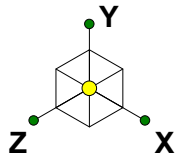
Member Length (in) Displayed

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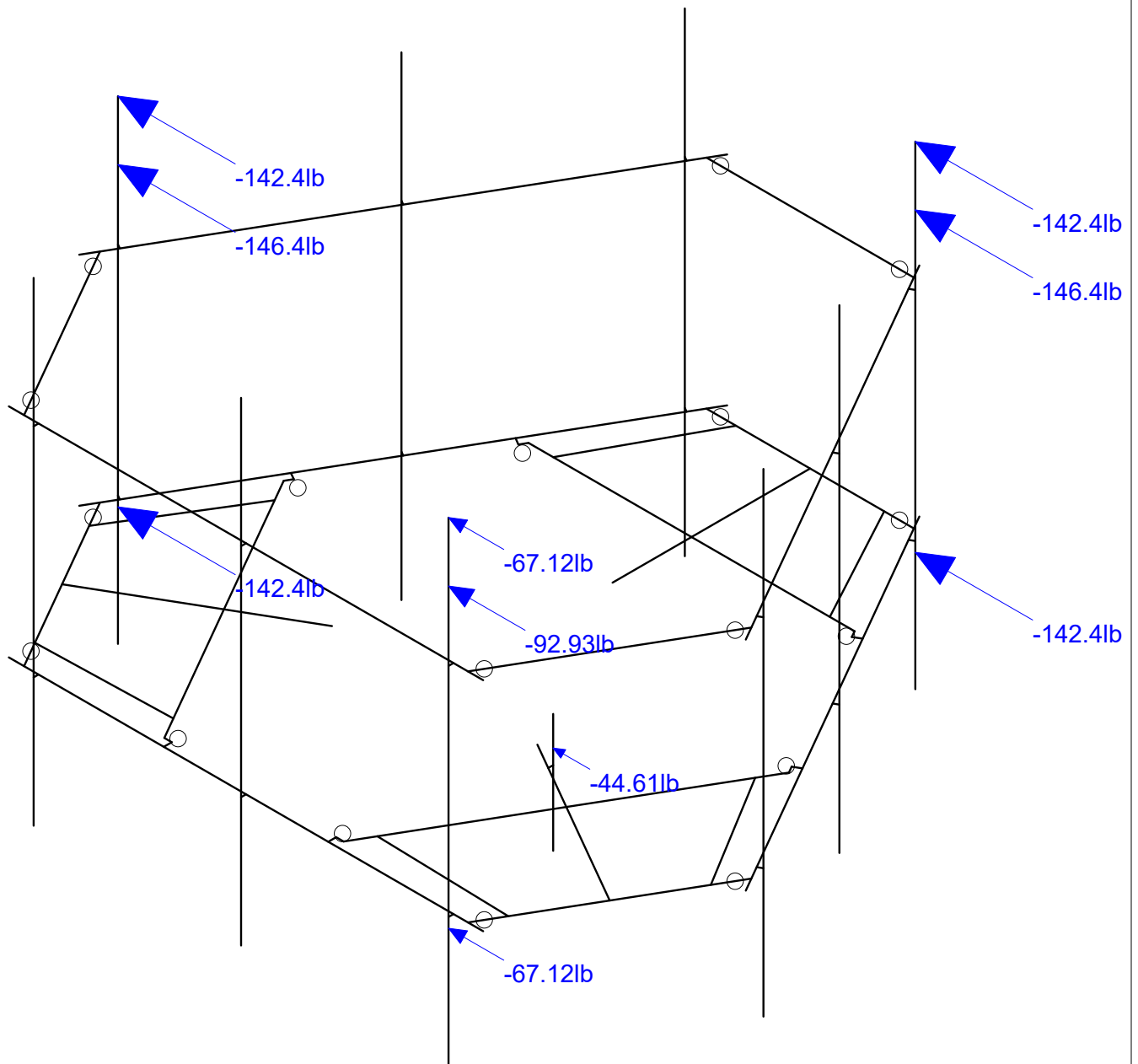
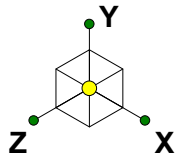
Loads: BLC 1, Self Weight

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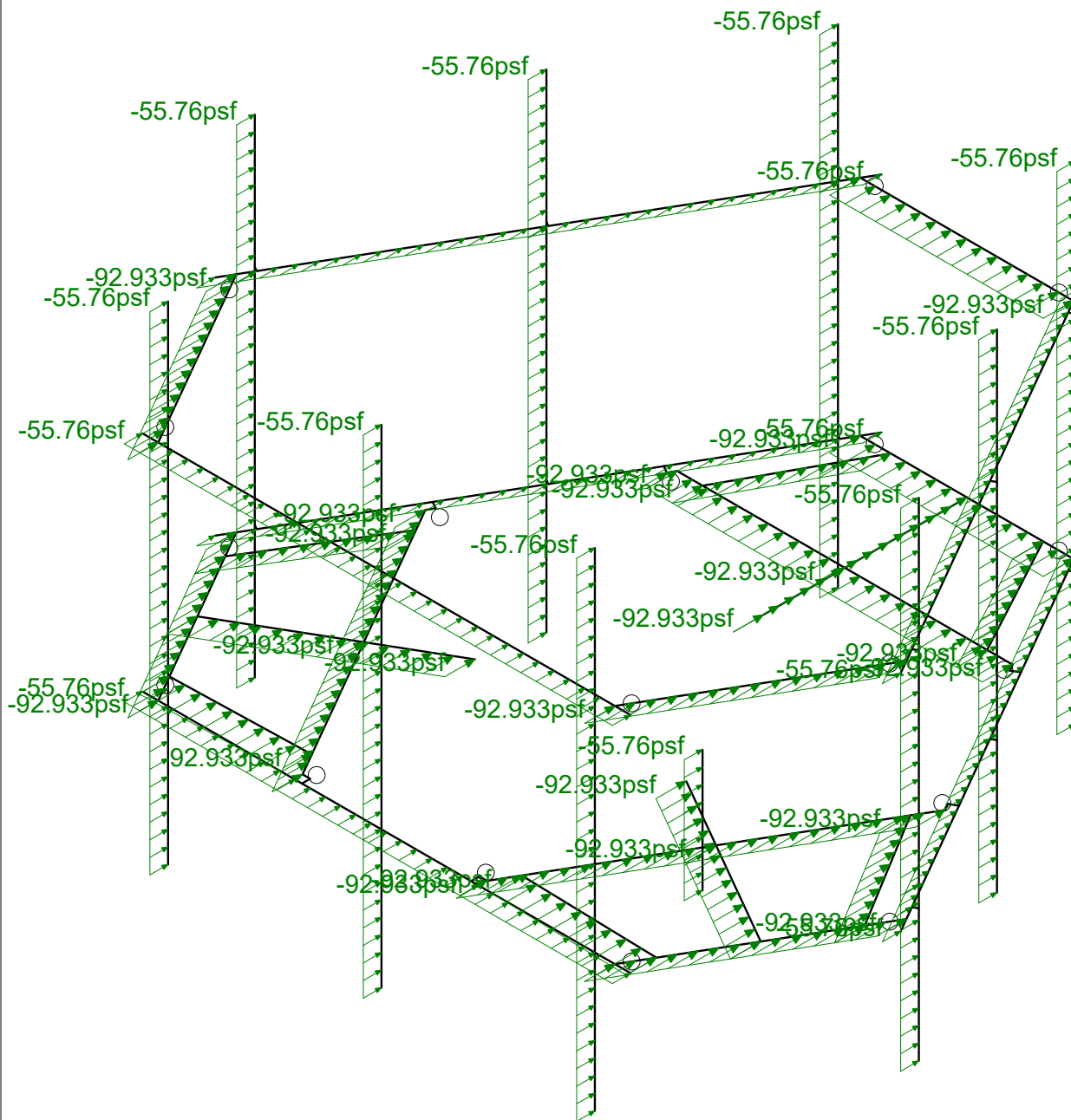
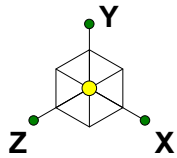
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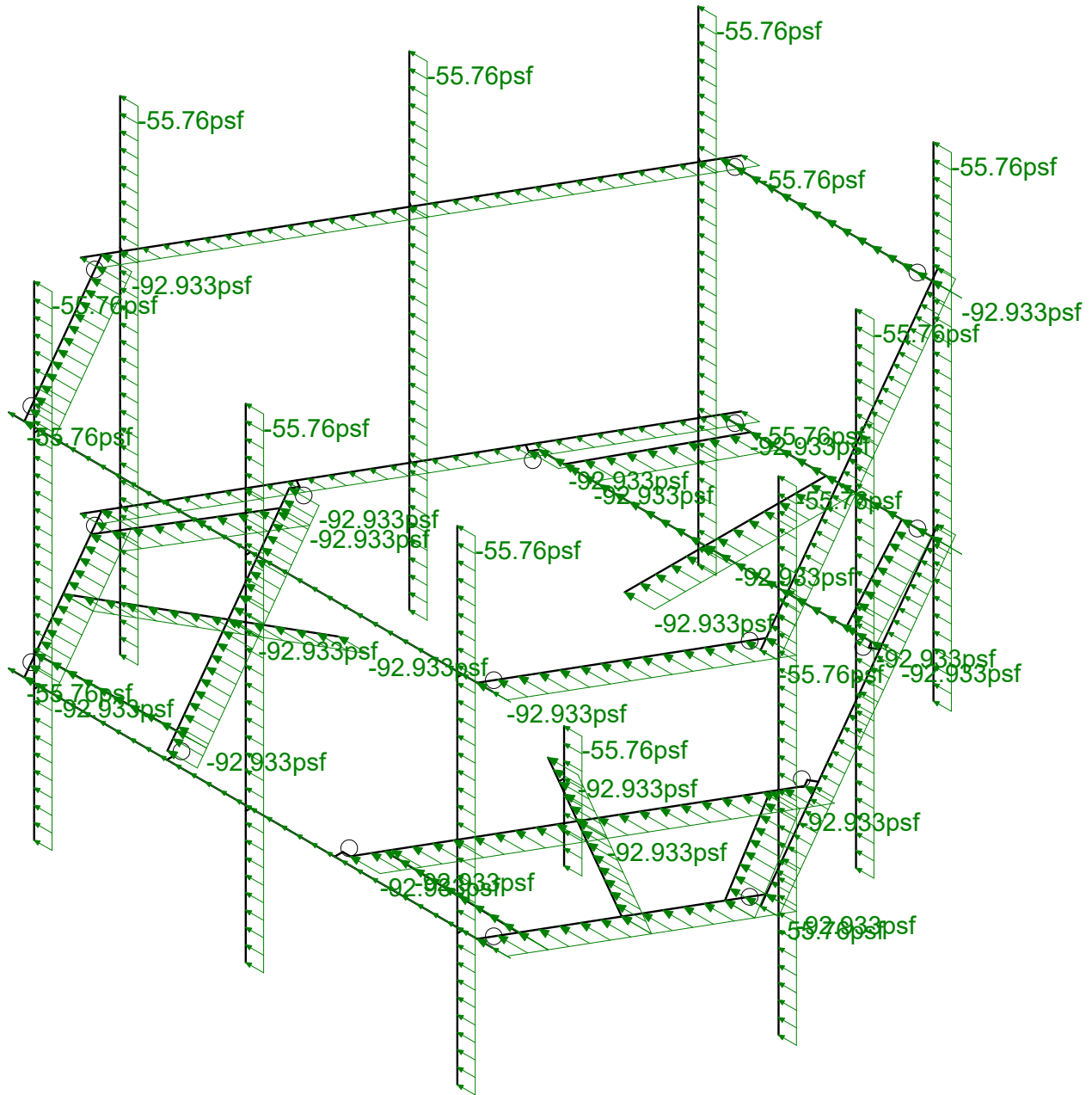
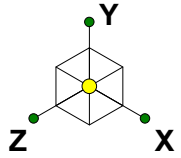
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Loads: BLC 14, Distr. Wind Load Z

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Infinigy Engineering, PLLC

BY

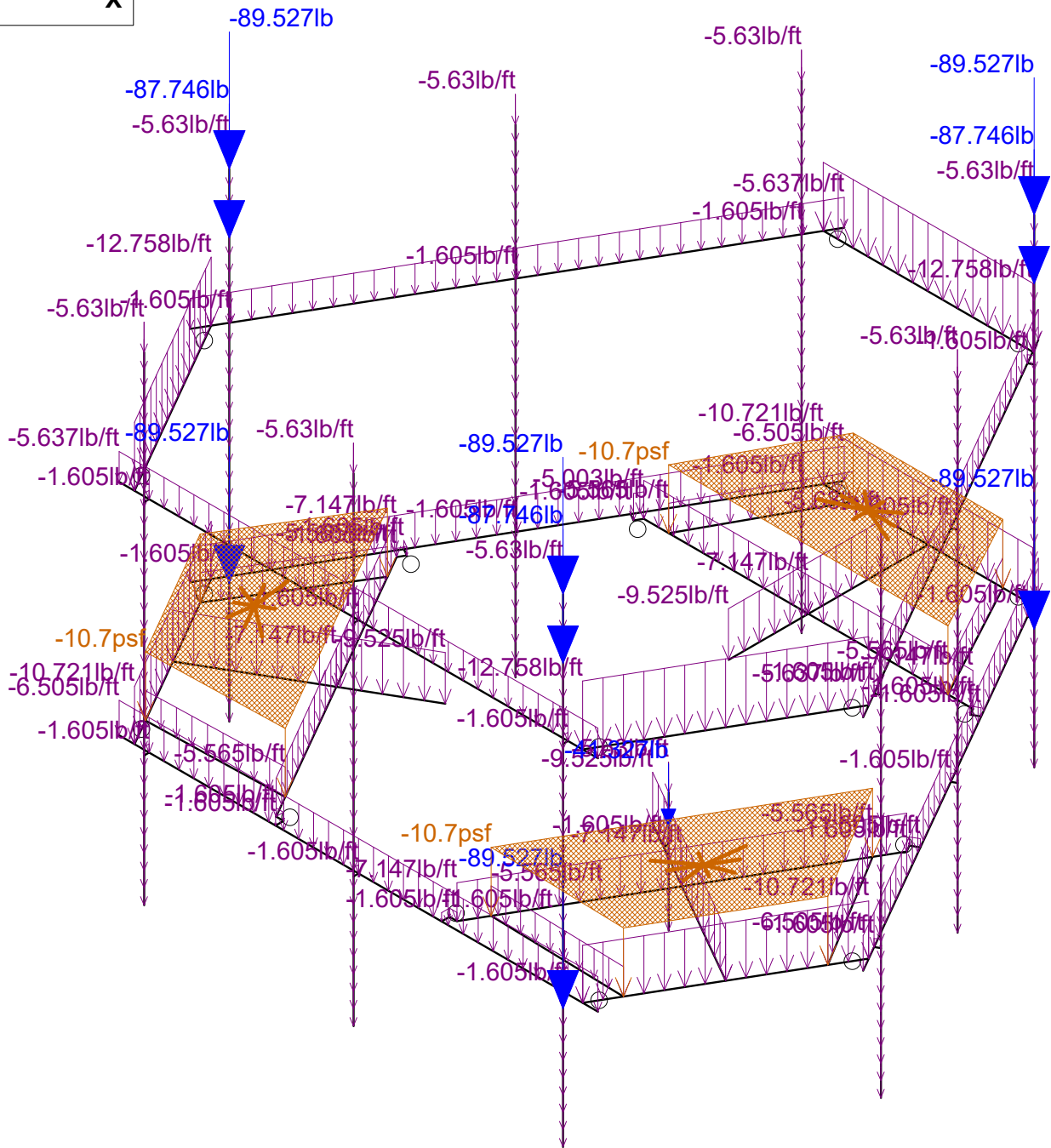
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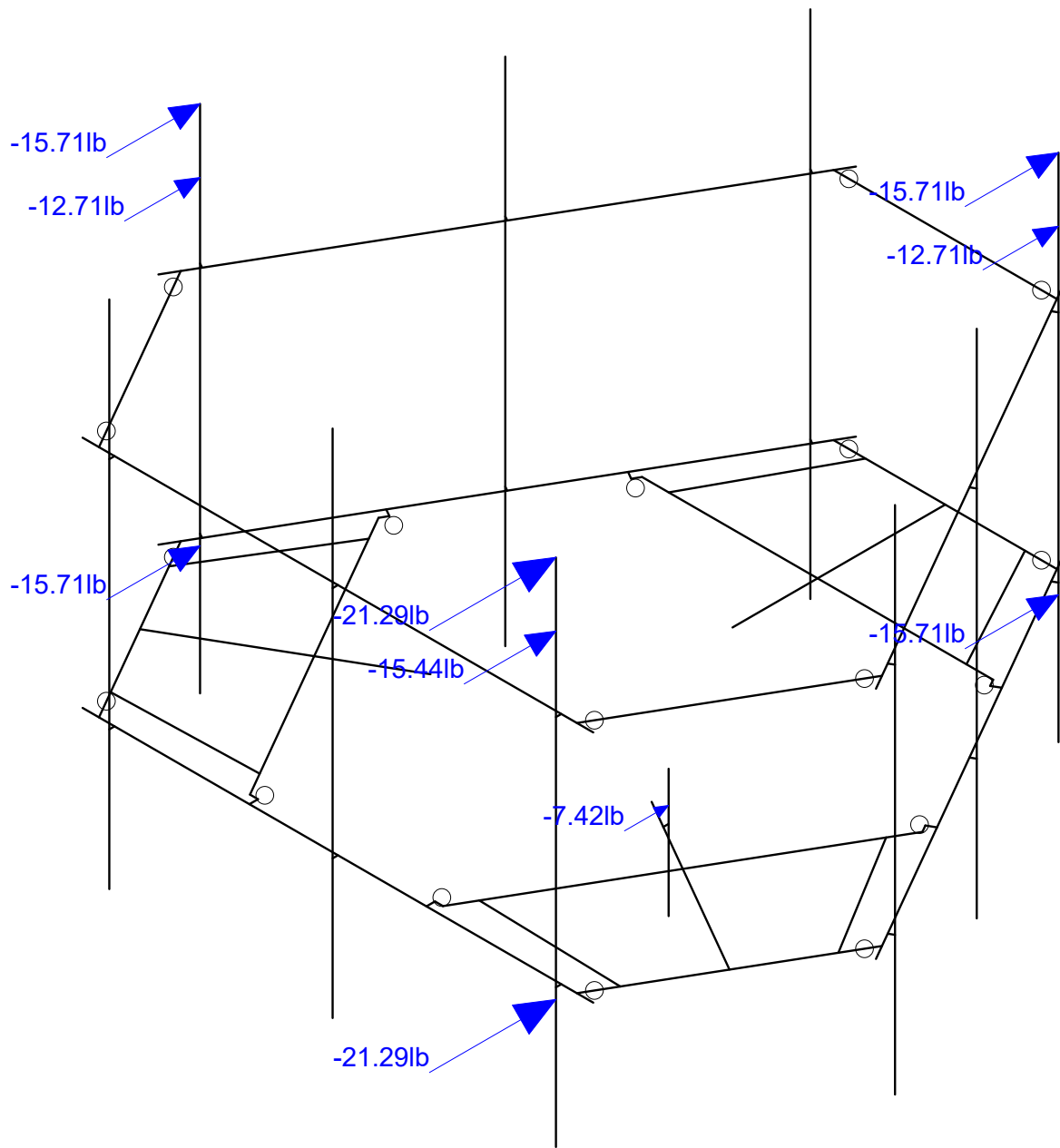
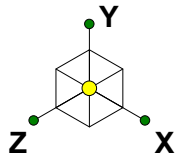
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Sept 17, 2021 at 9:50 AM

BOBOS00029A_loaded.r3d

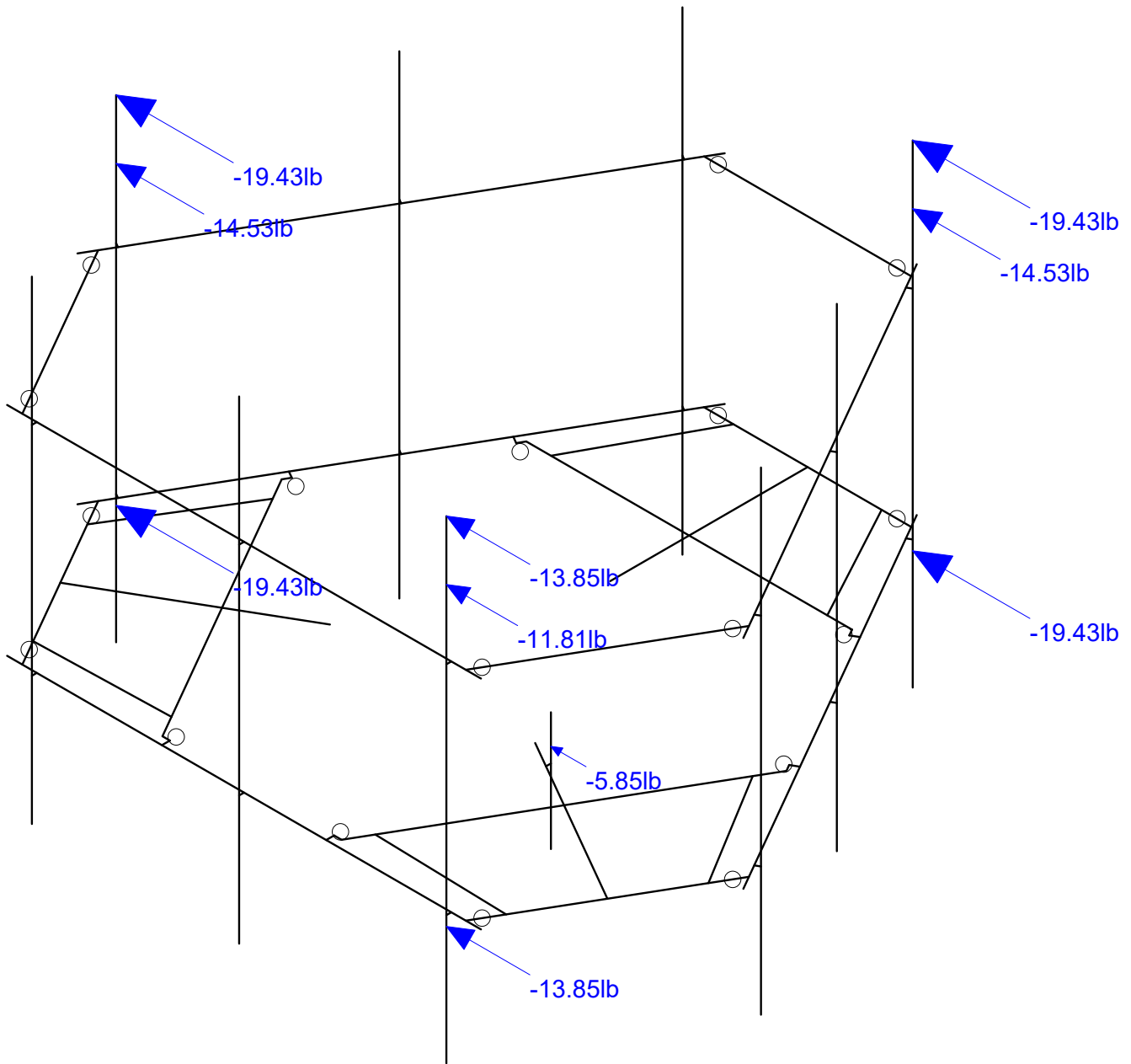
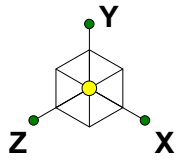


BOBOS00029A_loaded.r3d



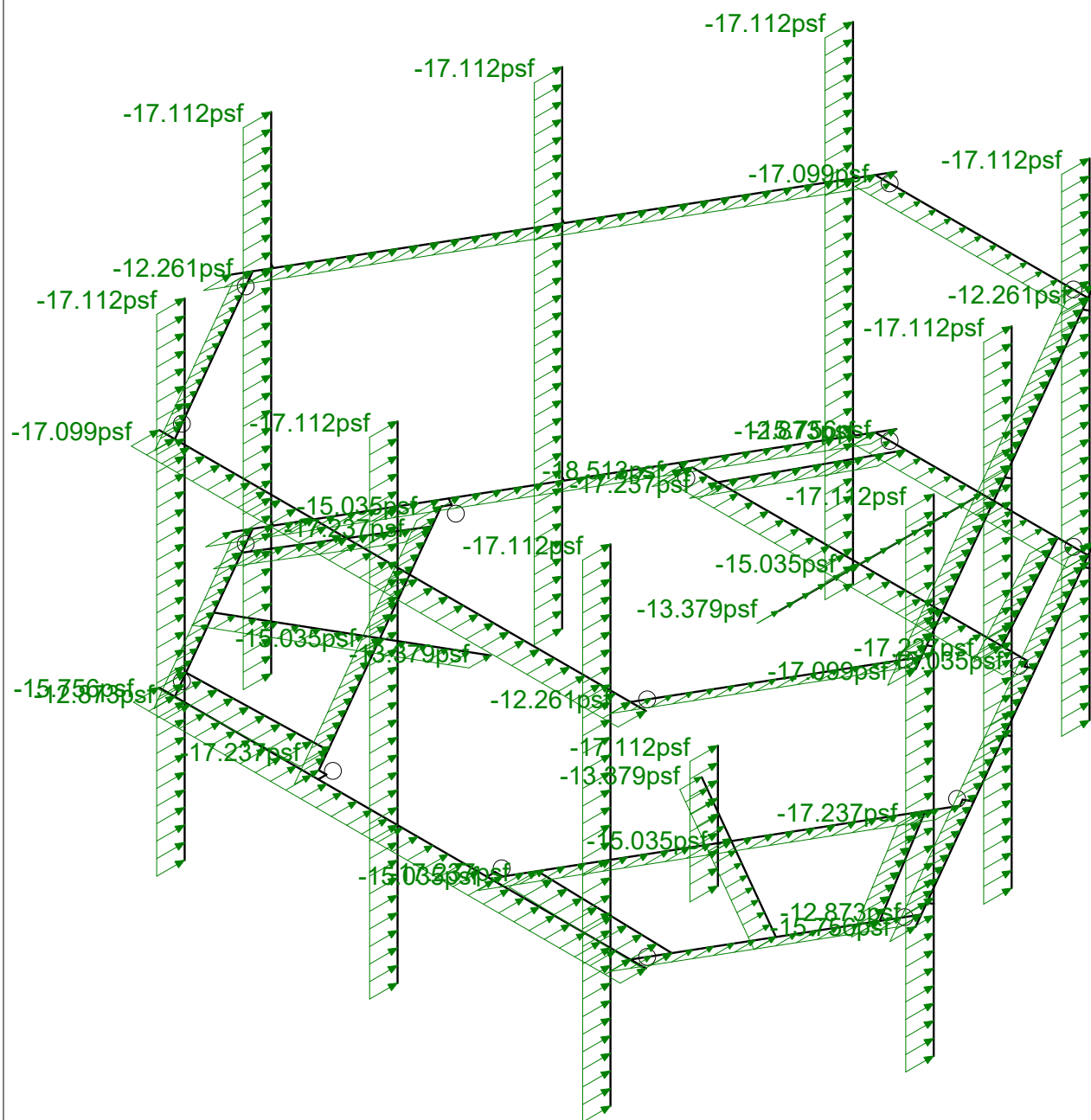
Loads: BLC 17, Ice Wind Load AZI 0

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

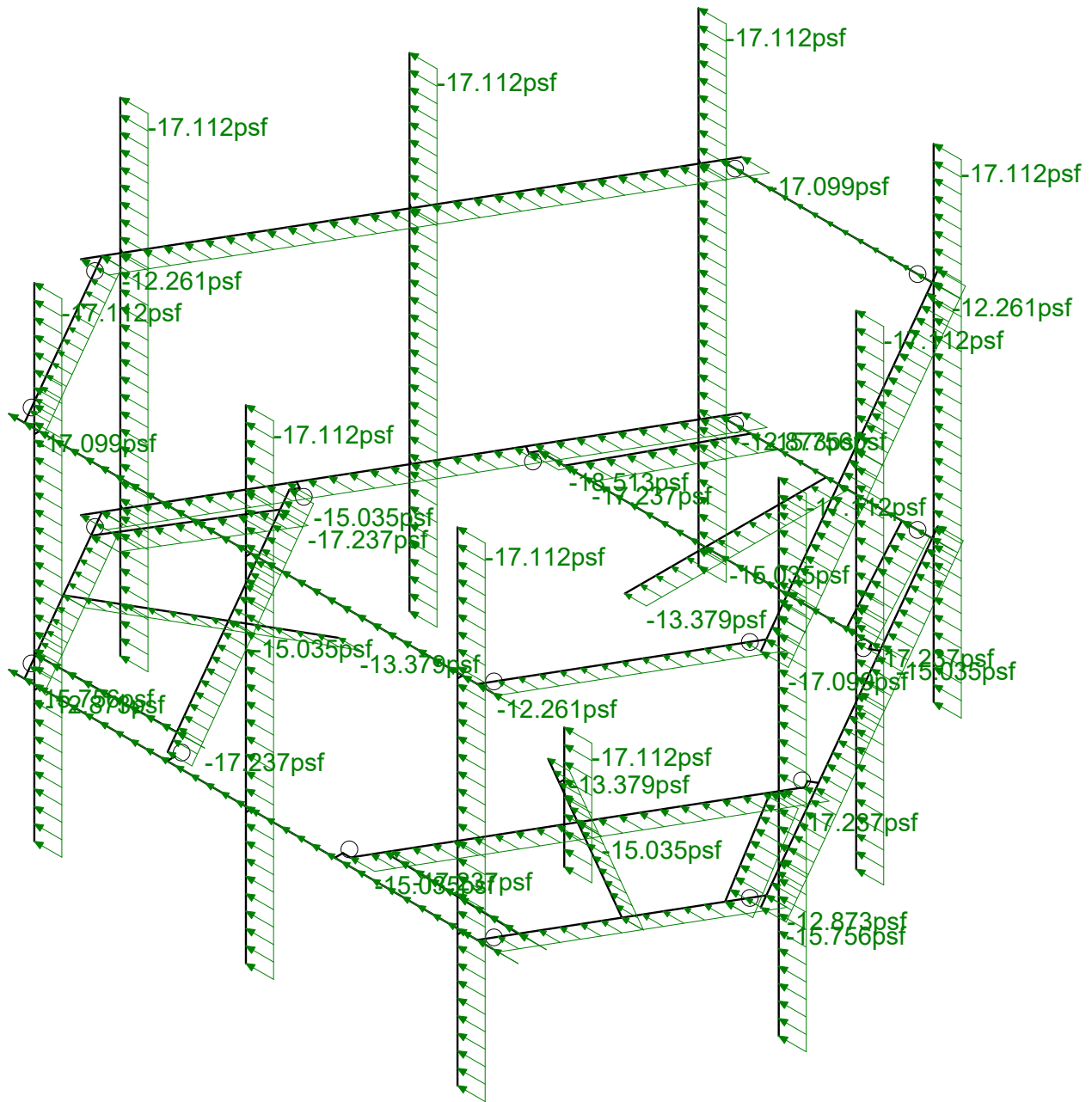


Loads: BLC 20, Ice Wind Load AZI 90

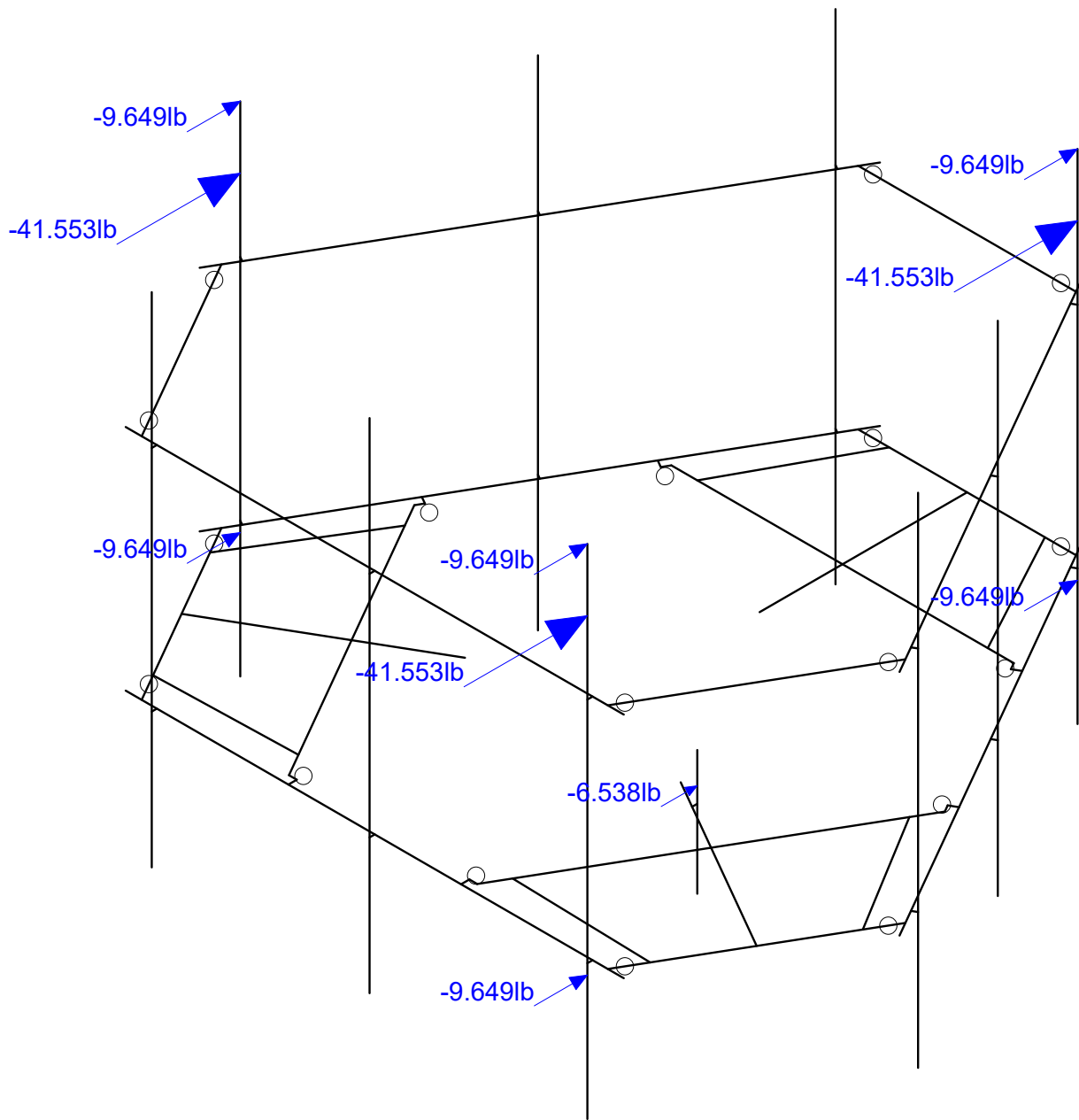
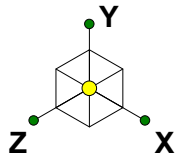
Infinigy Engineering, PLLC	BOBOS00029A	Ice Weight Load AZI 090
BY		Sept 17, 2021 at 9:52 AM
1197-F0001-B		BOBOS00029A_loaded.r3d



BOBOS00029A_loaded.r3d

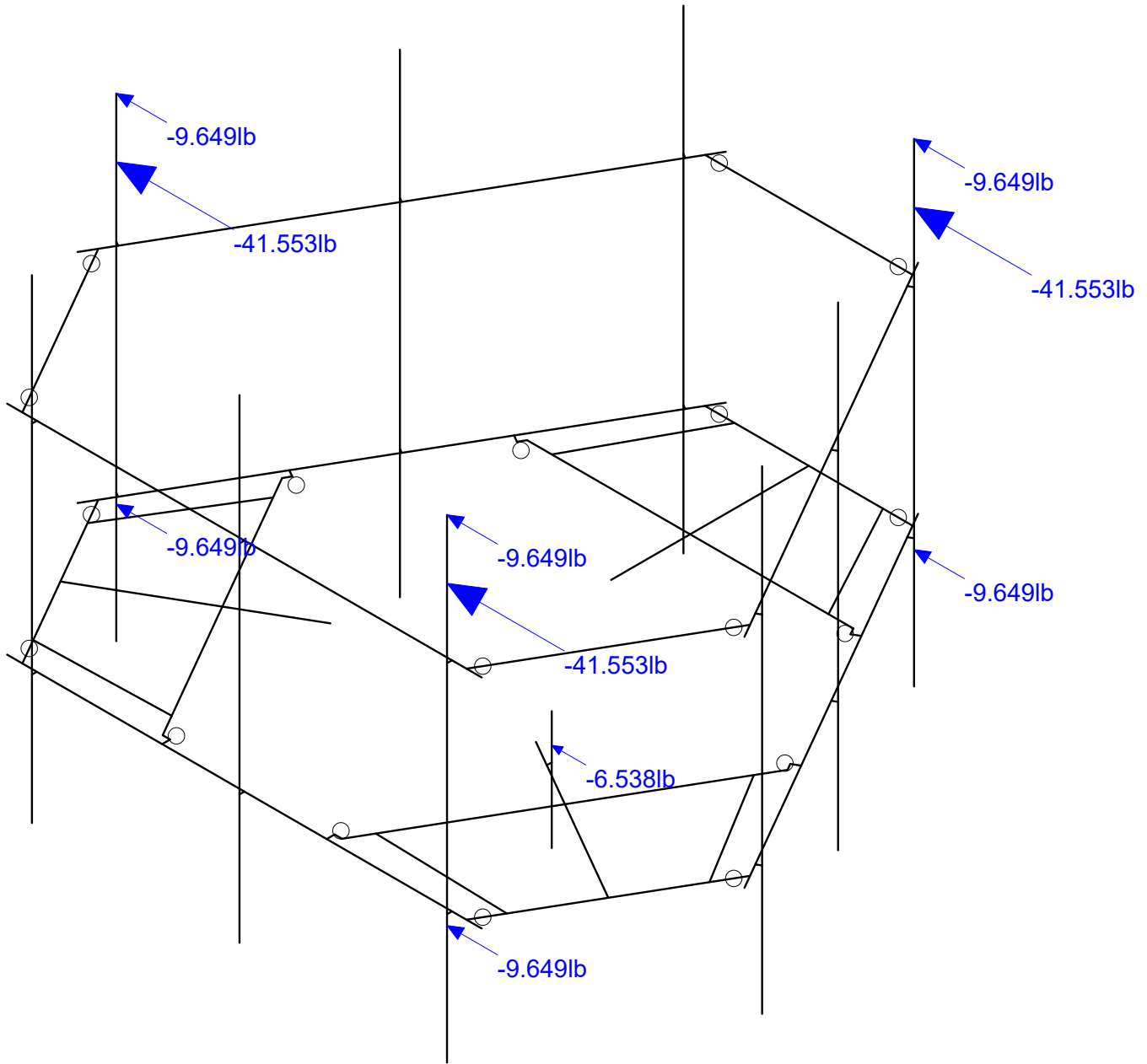


BOBOS00029A_loaded.r3d

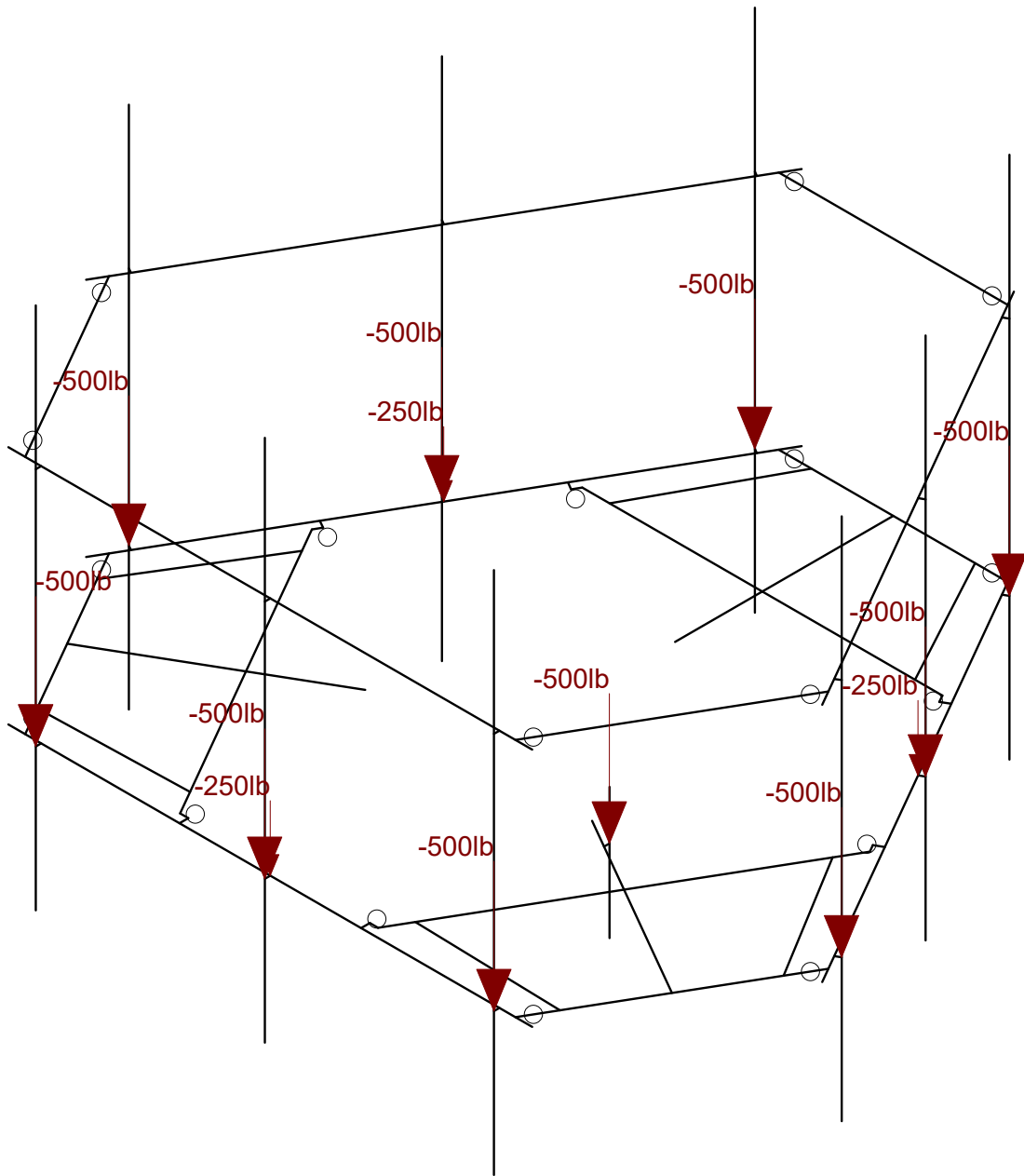
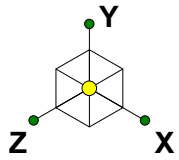


Loads: BLC 31, Seismic Load Z

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

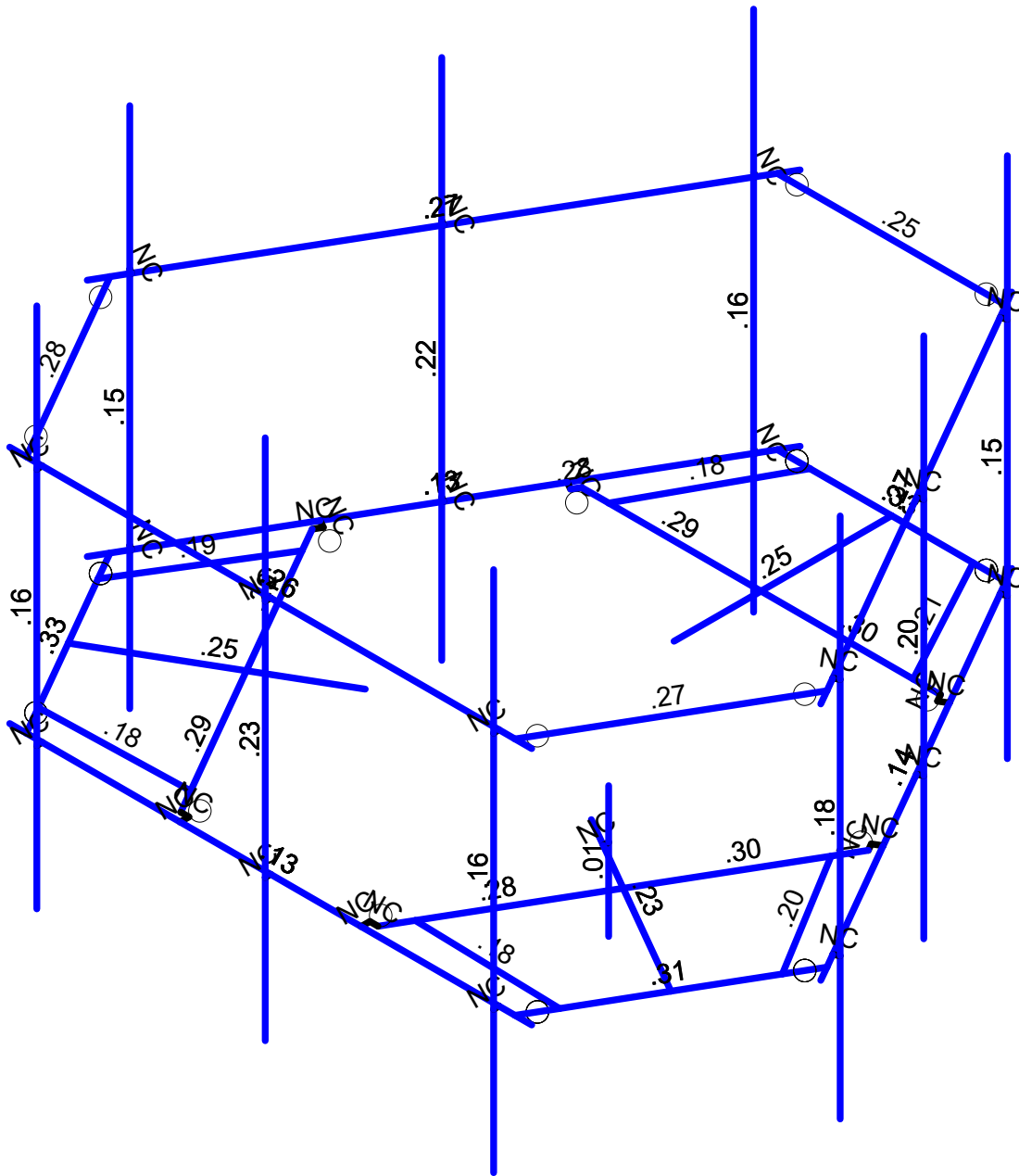
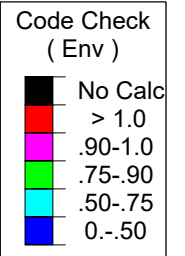


BOBOS00029A_loaded.r3d

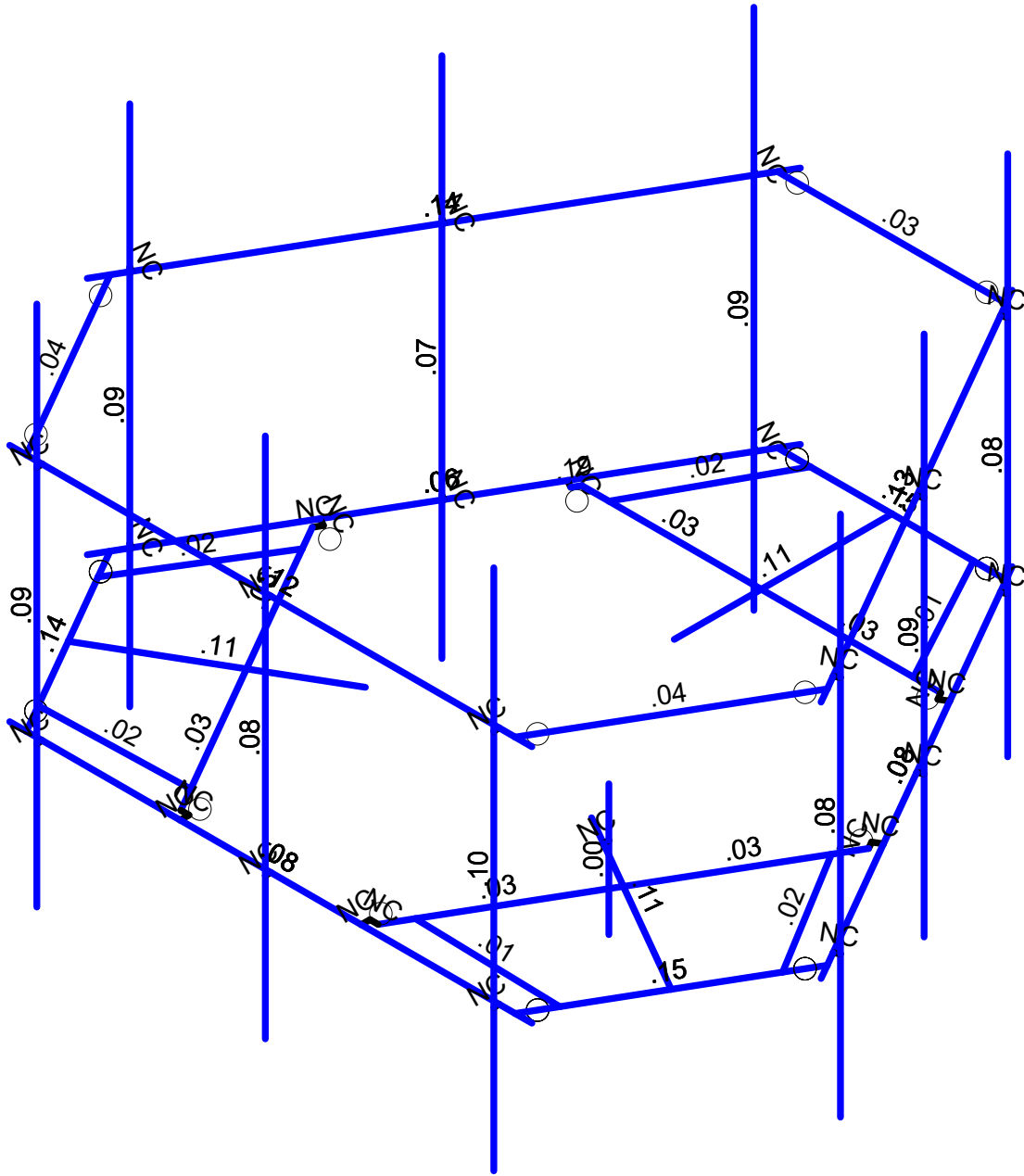
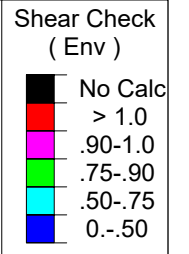
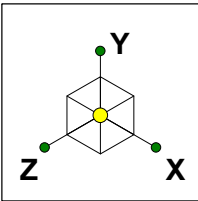


Loads: LL - Live Load

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



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	

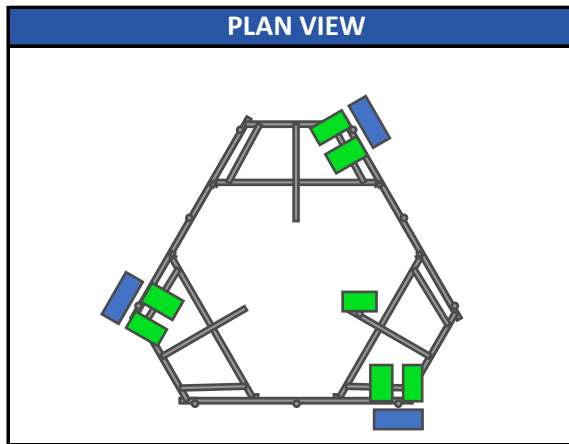
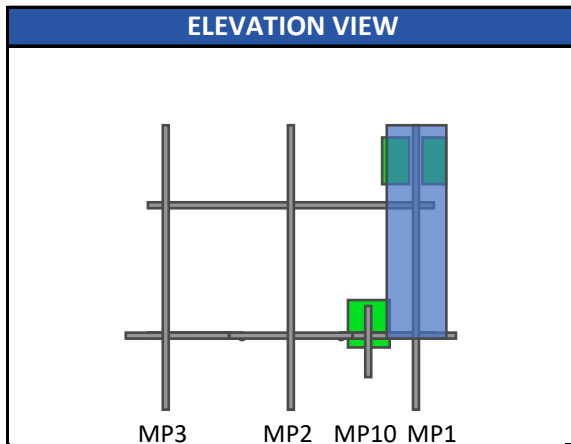
WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	121	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1	in
Flat Pressure:	92.473	psf
Round Pressure:	55.484	psf
Ice Wind Pressure:	9.474	psf

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 Load Calculator V2.1.7

Program Inputs

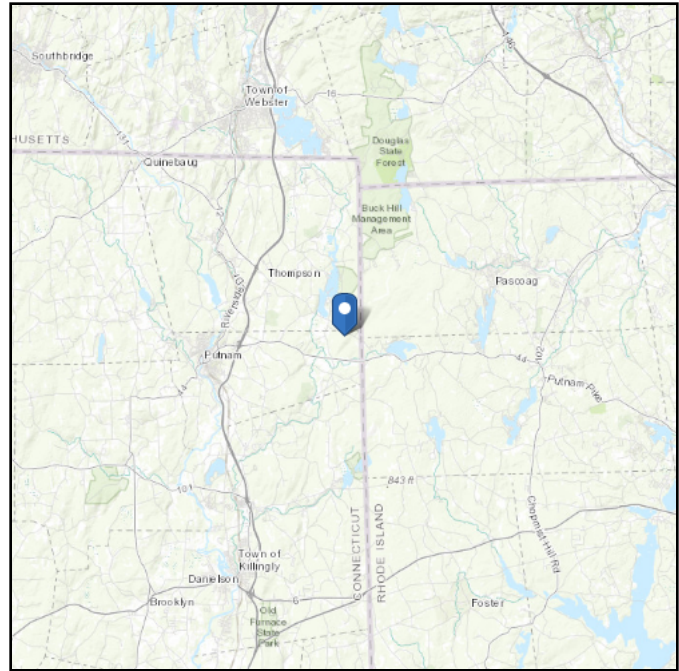
[illegible]

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).

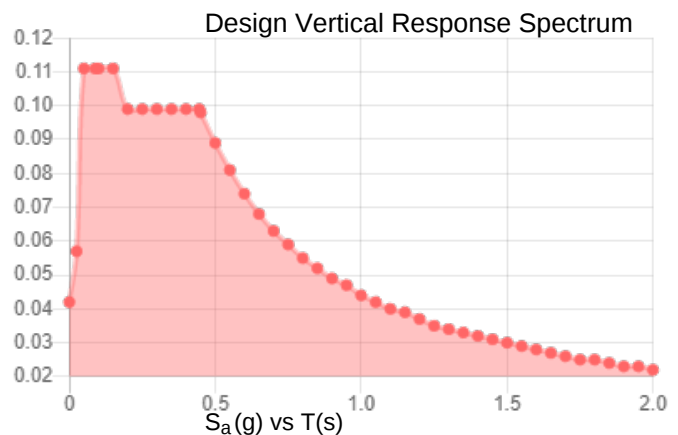
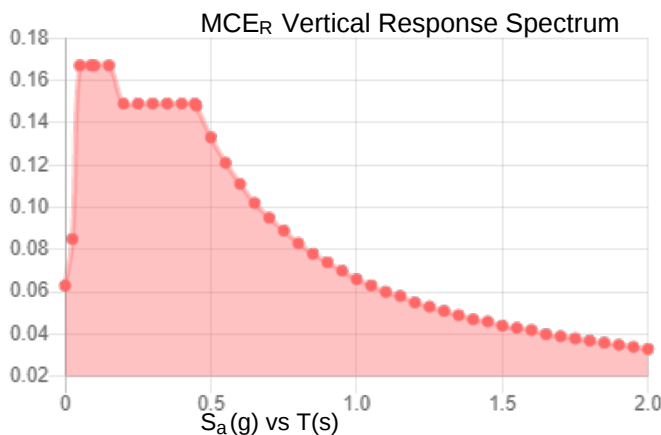
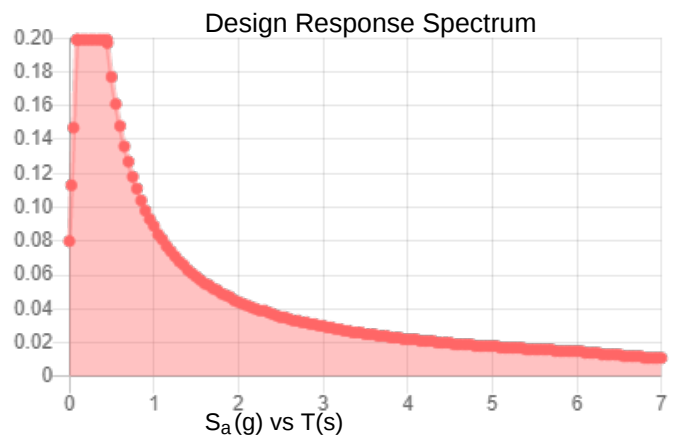
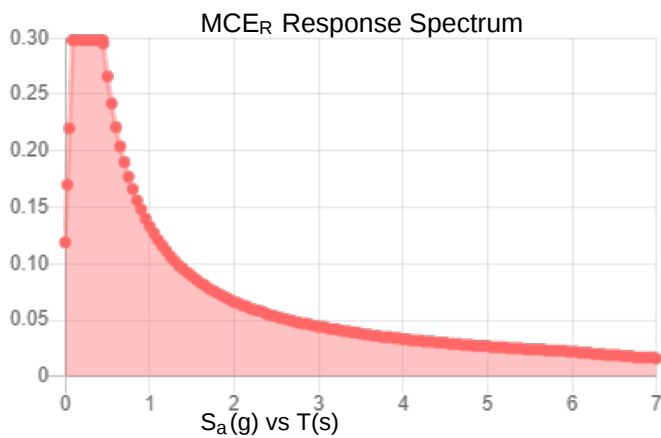
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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.

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.

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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
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..B...	Fac..B...
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..B...	Fac..B...
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..B...
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



Company : Infinigy Engineering, PLLC
Designer : BY
Job Number : 1197-F0001-B
Model Name : BOBOS00029A

Sept 17, 2021
10:20 AM
Checked By: _____

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

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

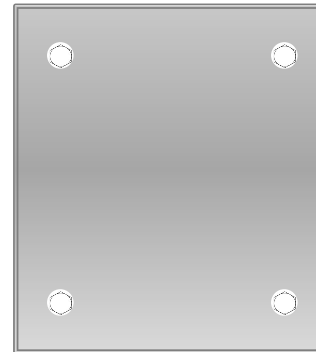
WORST CASE BOLT LOADS ¹		
Bolt Tension:	6880.95	lbs
Bolt Shear:	465.56	lbs

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



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



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



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

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

DRAWN BY: CHECKED BY: APPROVED BY:

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

SITE PHOTO



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

CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION



GENERAL NOTES

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

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

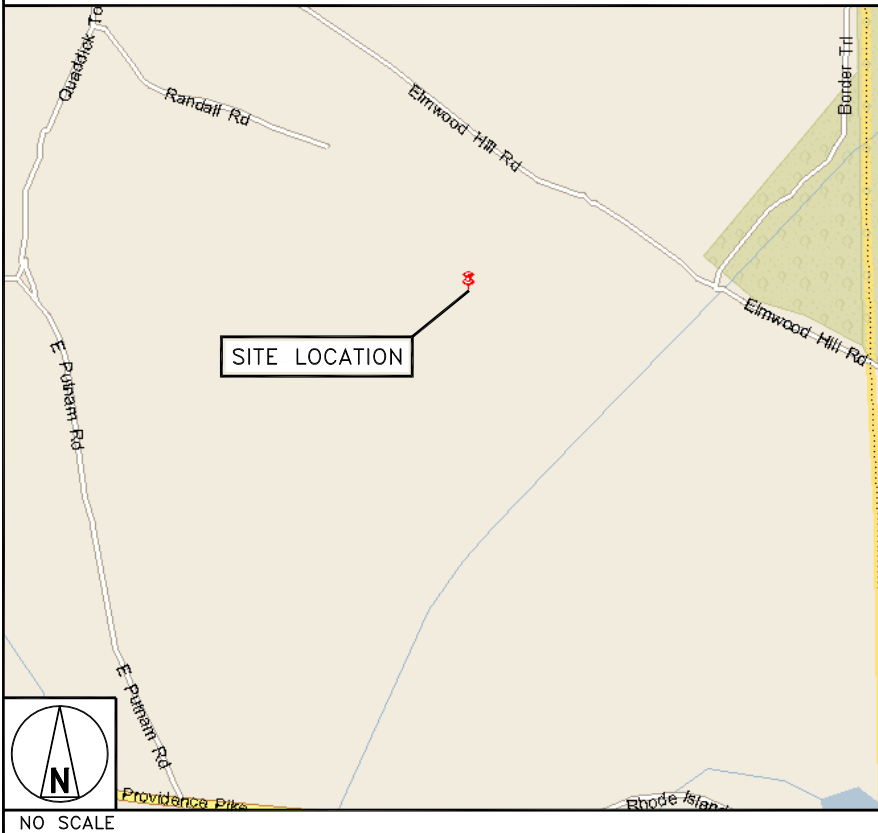
CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

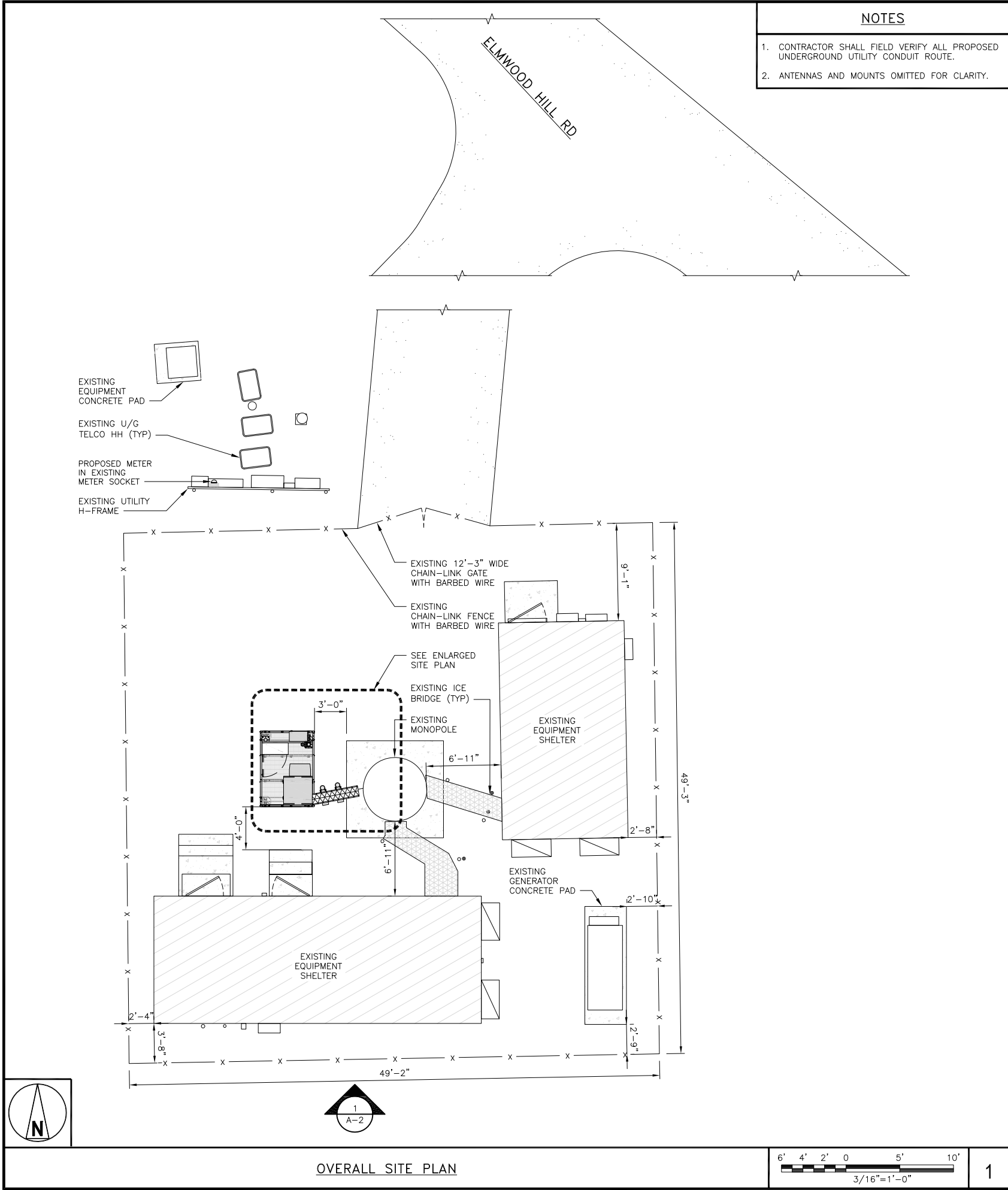
DIRECTIONS

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.

VICINITY MAP

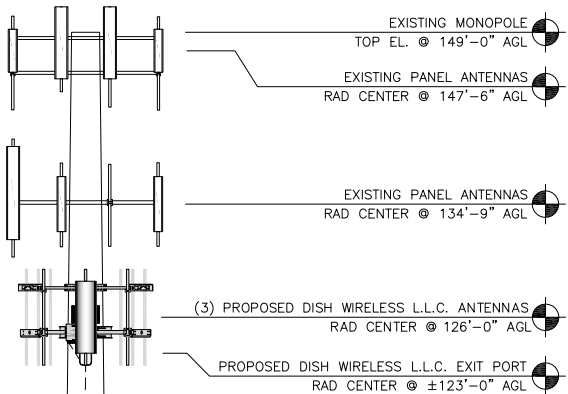




- NOTES
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.

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.



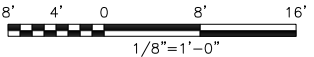
(1) PROPOSED DISH WIRELESS L.L.C. HYBRID CABLE ROUTED INSIDE POLE

EXISTING MONOPOLE

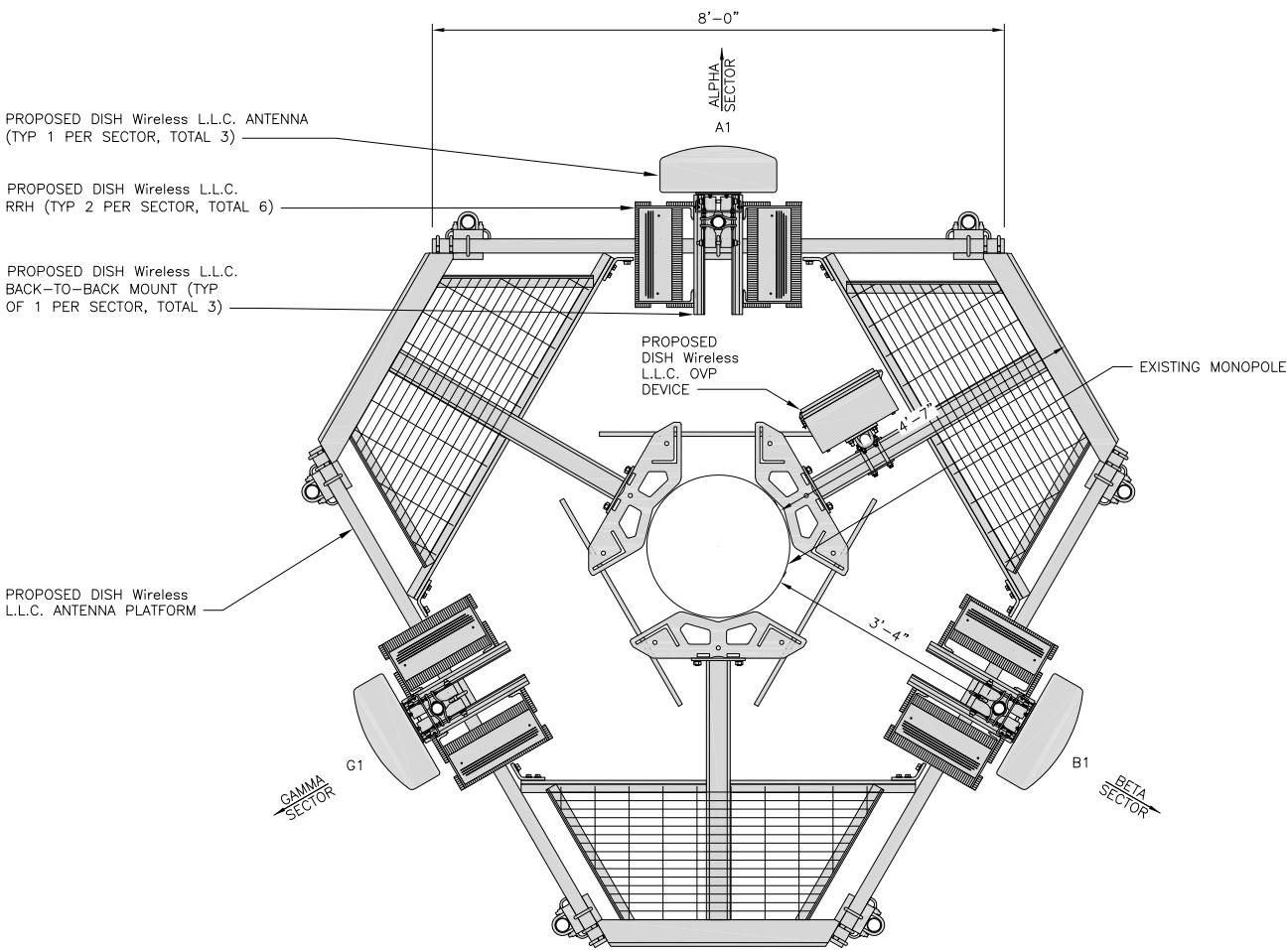
PROPOSED DISH WIRELESS L.L.C. ICE BRIDGE
PROPOSED DISH WIRELESS L.L.C. GPS UNIT
PROPOSED DISH WIRELESS L.L.C. EQUIPMENT ON PROPOSED STEEL PLATFORM
EXISTING ENTRY PORT

EXISTING MONOPOLE
BOTTOM EL. @ 9" AGL

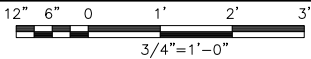
PROPOSED SOUTH ELEVATION



1



ANTENNA LAYOUT



2

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

SECTOR	POSITION	RRH		NOTES
		MANUFACTURER – MODEL NUMBER	TECHNOLOGY	
ALPHA	A1	FUJITSU – TA08025-B605	N29/N71	1. CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS. 2. ANTENNA AND RRH MODELS MAY CHANGE DUE TO EQUIPMENT AVAILABILITY. ALL EQUIPMENT CHANGES MUST BE APPROVED AND REMAIN IN COMPLIANCE WITH THE PROPOSED DESIGN AND STRUCTURAL ANALYSES.
	A1	FUJITSU – TA08025-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	

ANTENNA SCHEDULE

NO SCALE

3



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



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

RFDS REV #: 1.0

CONSTRUCTION DOCUMENTS

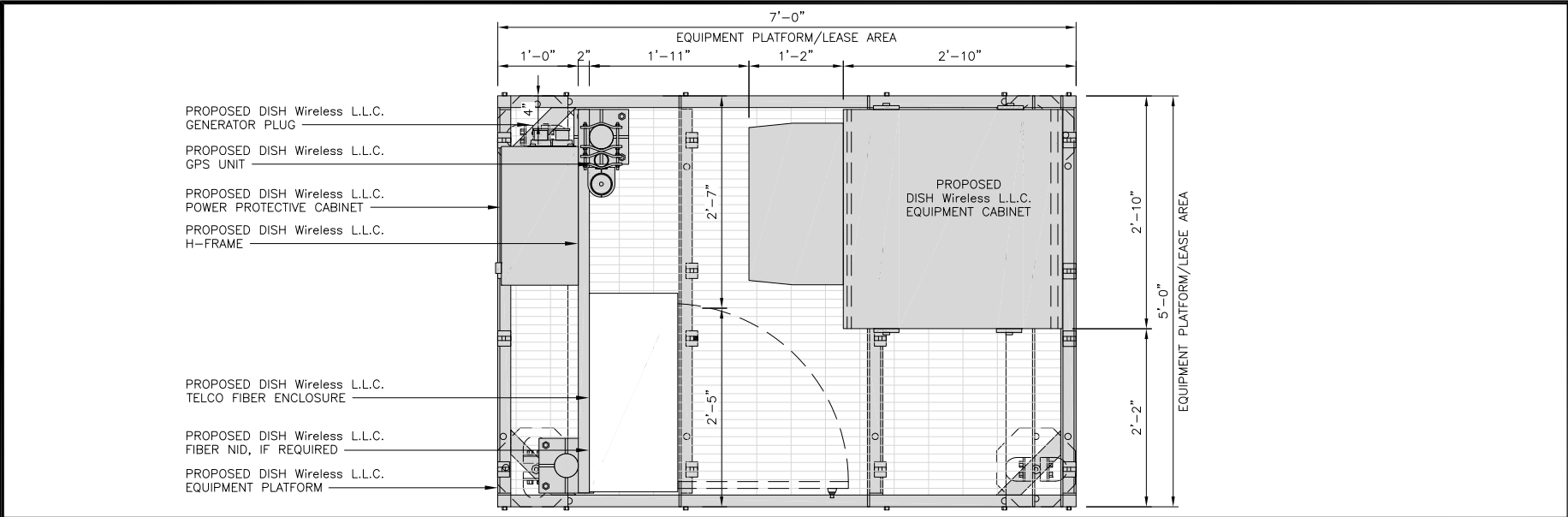
SUBMITTALS		
REV	DATE	DESCRIPTION
A	10/20/21	ISSUED FOR REVIEW
B	01/07/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
157528.001.01

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

SHEET TITLE
ELEVATION, ANTENNA
LAYOUT AND SCHEDULE

SHEET NUMBER
A-2

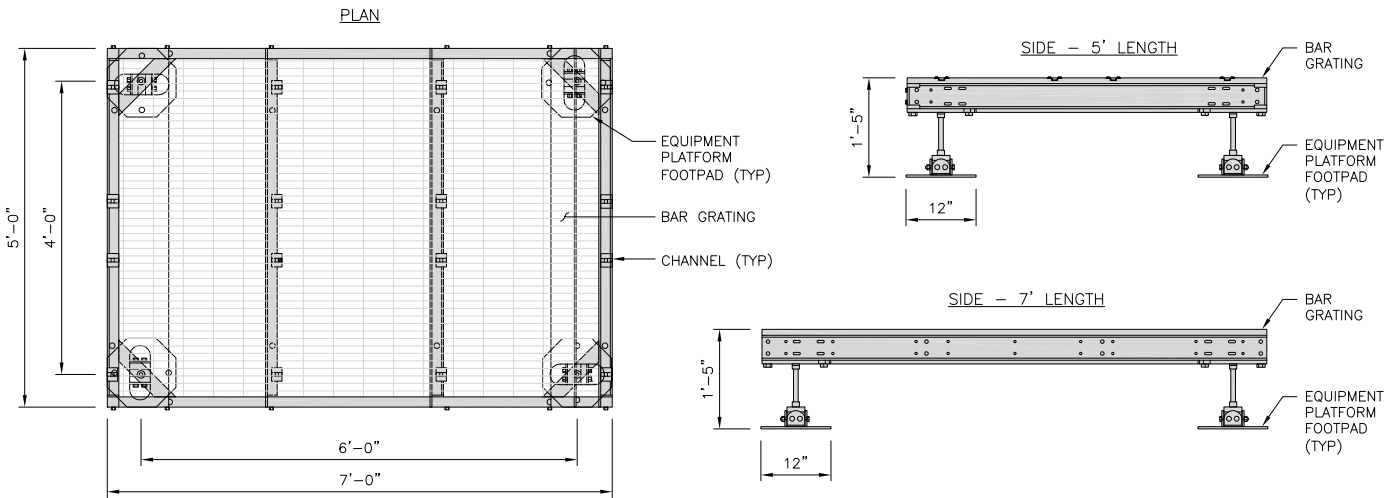


PLATFORM EQUIPMENT PLAN

1

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

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

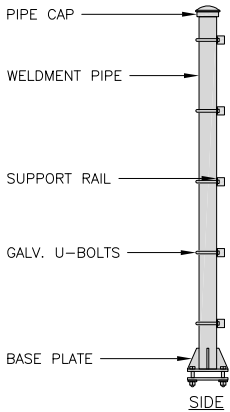


PLATFORM DETAIL

NO SCALE

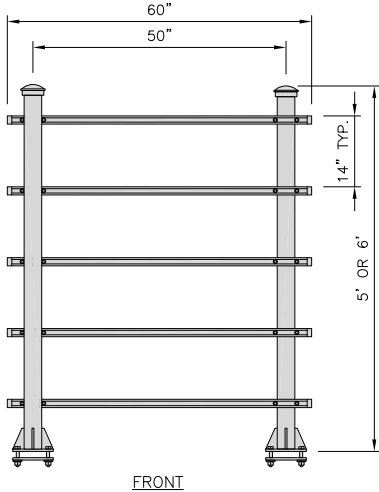
2

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



H-FRAME DETAIL

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



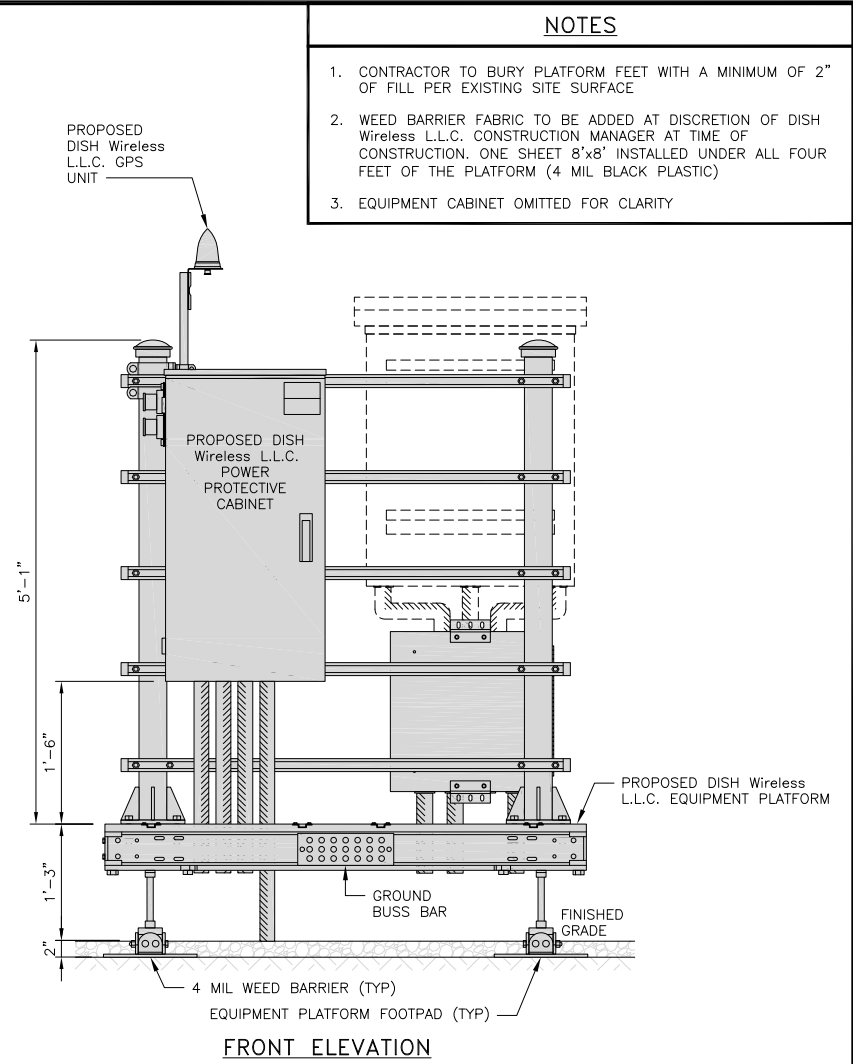
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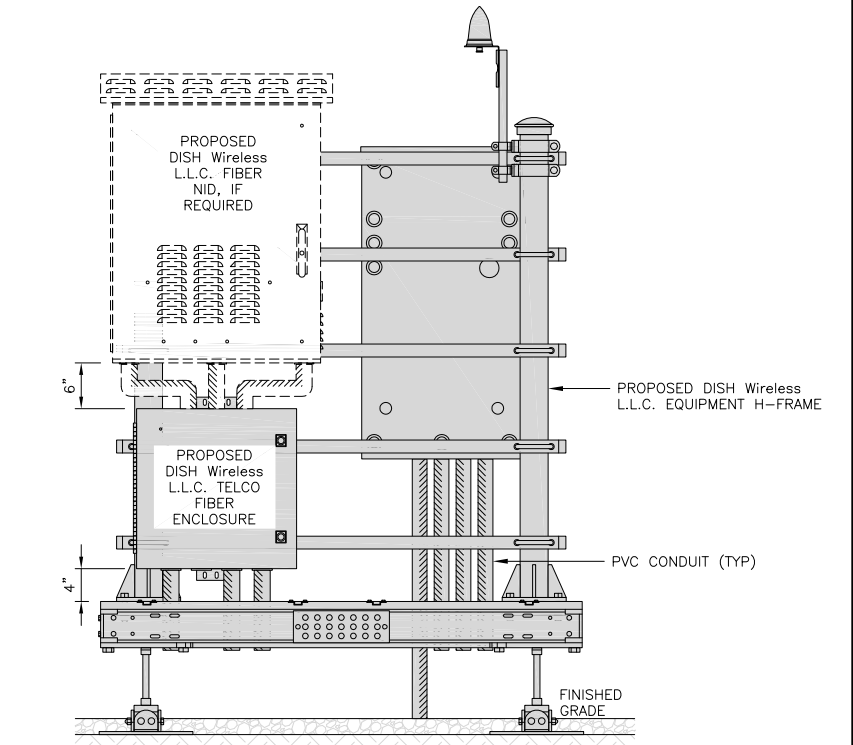
NOT USED

NO SCALE

4

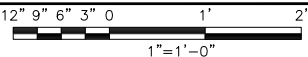


FRONT ELEVATION



BACK ELEVATION

H-FRAME EQUIPMENT ELEVATION



5

NOTES

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



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



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

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TO ALTER THIS DOCUMENT.

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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
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

PLAN

BACK

SIDE

FRONT

CABINET DETAIL

NO SCALE

1

RAYCAP PPC
RDIAC-2465-P-240-MTS

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

TOP

BACK

SIDE

FRONT

SIDE

POWER PROTECTION CABINET (PPC) DETAIL

NO SCALE

2

NOT USED

NO SCALE

3

ZAYO 5RU (LEFT SWING DOOR)
FIBER NID ENCLOSURE

DIMENSIONS (HxWxD)	36.1"x29"x12.9"
WEIGHT	85 lbs

BOTTOM

BACK

SIDE

FRONT

FIBER NID ENCLOSURE DETAIL

NO SCALE

5

CHARLES CFIT-PF2020DSH1
FIBER TELCO ENCLOSURE

ENCLOSURE DIMS (HxWxD)	20"x20"x9"
ENCLOSURE WEIGHT	20 lbs
MOUNTING	WALL
COMPLIANCE	TYPE 4

FRONT

SIDE

BACK

FRONT

FIBER TELCO ENCLOSURE DETAIL

NO SCALE

6

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"

TRAPEZE KIT
(WB-T12-3)

SUPPORT BRACKET
(WB-LB12-3)

TRAPEZE KIT
(WB-T12-3)

3.5" DIA GALV SCH
40 PIPE (SPACED
9'-0" MAX)
(MF-130)

3.5" DIA GALV SCH
40 PIPE (SPACED
9'-0" MAX)
(MF-130)

PLAN

FRONT

SIDE

ICE BRIDGE DETAIL

NO SCALE

7

FINISH SLOPE
TO DRAIN

A-A

A-A

PROPOSED 3.5" DIA.
SCH 40 PIPE
GALVANIZED

PROPOSED 1'-6"
DIA. CONCRETE
PIER (TYP)

CONCRETE PIER

3" DIA SCH 40 PIPE

18" DIA DRILLED
PIER FOUNDATION

A-A SECTION

1'-6"

TYPICAL ICE BRIDGE CONCRETE PIER DETAIL

NO SCALE

8

PROPOSED ICE BRIDGE

PROPOSED X" DIA
HYBRID CABLE

PROPOSED CABLE CLAMP
@ 3'-0" O.C.

EXISTING ENTRY PORT

EXISTING MONOPOLE

HYBRID CABLE RUN

NO SCALE

9

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 CALIFORNIA
COUNTY OF BUTTE
No. 23924
LICENSED
PROFESSIONAL ENGINEER

01/07/22

B&T ENGINEERING, INC.
PEC.0001564
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ANS MEH MEH

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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

DISH Wireless L.L.C. TEMPLATE VERSION 45 – 10/08/2021

107528.001.01_2507_P01N0W - 01.dwg - Sheet-A - User: mario.lopez - Jan 07, 2022 - 11:10am

FUJITSU TRIPLE BAND
TA08025-B605

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

PLAN

BACK

SIDE

FRONT

FUJITSU DUAL BAND
TA08025-B604

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

PLAN

BACK

SIDE

FRONT

COMMSCOPE
RR-FA2 LARGE STABILIZER

DIMENSIONS (HxWxD)	16.4"x8.5"x18"
WEIGHT	39.2 lbs

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

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

RRH DETAIL

NO SCALE

1

COMMSCOPE
FFV-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

COMMSCOPE XP-2040
CROSSOVER PLATE

DIMENSIONS (HxW)	10"x12"
WEIGHT	11 lbs

PLAN U-BOLT

SIDE U-BOLT

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

NOT USED

NO SCALE

5

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 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

PLAN

SIDE

BACK

FRONT

SURGE SUPPRESSION DETAIL (OVP)

NO SCALE

7

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 PLATFORM DETAIL

NO SCALE

9

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

10 PRESIDENTIAL WAY
WOBURN, MA 01801

1717 S. BOULDER
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CHECKED BY: MEH

APPROVED BY: MEH

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
EQUIPMENT DETAILS

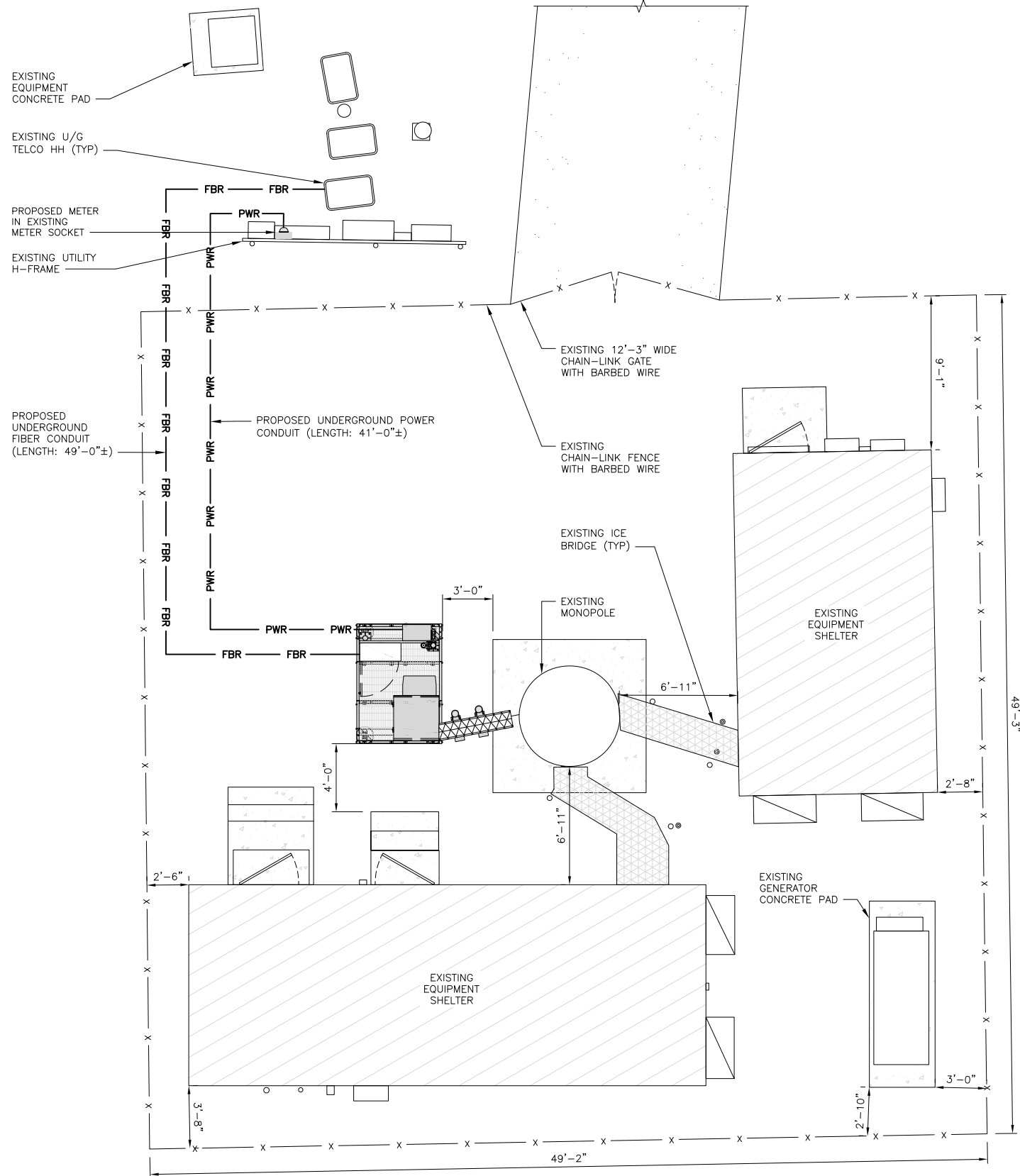
SHEET NUMBER
A-6

DISH Wireless L.L.C. TEMPLATE VERSION 45 - 10/08/2021

157528.001.01_1507_POWW - 01.dwg - Sheet-B - User: mitchell@dish.com - Jan 07, 2022 - 11:16am

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.

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1

-

NO SCALE

2

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



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ANS	MEH	MEH
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DISH Wireless L.L.C.
PROJECT INFORMATION

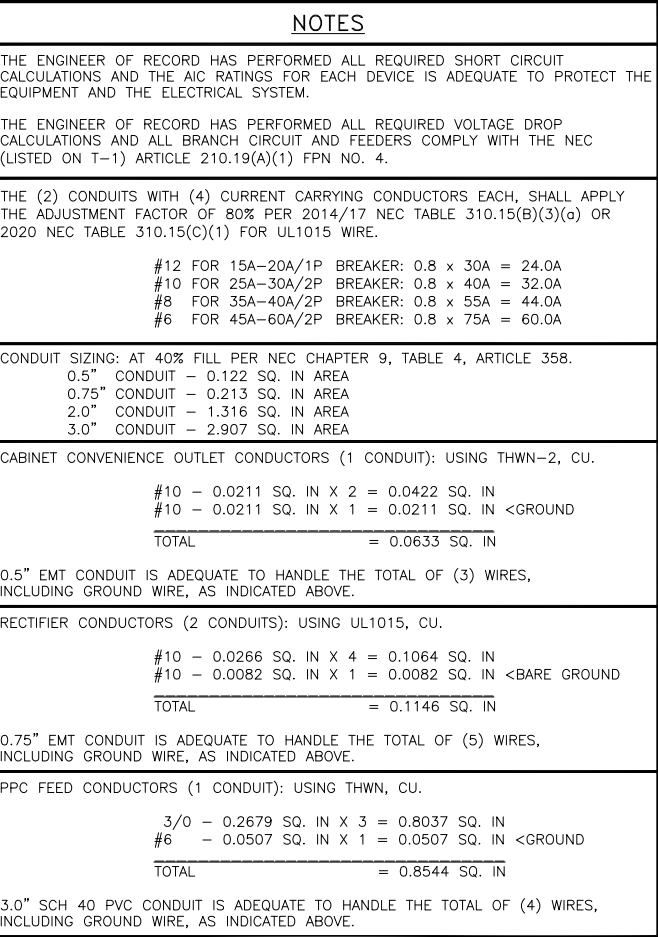
BOBOS00029A
165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

SHEET TITLE
ELECTRICAL/FIBER ROUTE
PLAN AND NOTES

SHEET NUMBER

E-1

CARLON EXPANSION FITTINGS <table><tr><th>COUPLING END PART#</th><th>MALE TERMINAL ADAPTER END PART#</th><th>SIZE</th><th>STD CTN QTY.</th><th>TRAVEL LENGTH</th></tr><tr><td>E945D</td><td>E945DX</td><td>1/2"</td><td>20</td><td>4"</td></tr><tr><td>E945E</td><td>E945EX</td><td>3/4"</td><td>15</td><td>4"</td></tr><tr><td>E945F</td><td>E945FX</td><td>1"</td><td>10</td><td>4"</td></tr><tr><td>E945G</td><td>E945GX</td><td>1 1/4"</td><td>5</td><td>4"</td></tr><tr><td>E945H</td><td>E945HX</td><td>1 1/2"</td><td>5</td><td>4"</td></tr><tr><td>E945J</td><td>E945JX</td><td>2"</td><td>15</td><td>8"</td></tr><tr><td>E945K</td><td>E945KX</td><td>2 1/2"</td><td>10</td><td>8"</td></tr><tr><td>E945L</td><td>E945LX</td><td>3"</td><td>10</td><td>8"</td></tr><tr><td>E945M</td><td>E945MX</td><td>3 1/2"</td><td>5</td><td>8"</td></tr><tr><td>E945N</td><td>E945NX</td><td>4"</td><td>5</td><td>8"</td></tr><tr><td>E945P</td><td>E945PX</td><td>5"</td><td>1</td><td>8"</td></tr><tr><td>E945R</td><td>E945RX</td><td>6"</td><td>1</td><td>8"</td></tr></table> VARIES PER PART NUMBER 2'-0" SLIP JOINT (SEE CHART FOR PART NUMBER) NOTE: CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.				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"					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. SEE TRENCHING NOTE 1 BACKFILL PER SITE WORK SPECIFICATIONS (SEE GENERAL NOTES) SLOPE TO SUIT SOIL CONDITION IN ACCORDANCE WITH LOCAL REGULATIONS SEE TRENCHING NOTE 2 1'-0" 30" OR 6" BELOW FROST LINE, WHICHEVER IS GREATER UTILITY WARNING TAPE SAND BEDDING PER SITE WORK SPECIFICATIONS 1'-0" VERTICAL DEPTH SEE TRENCHING NOTE 2	DISH Wireless L.L.C. PROVIDES 12AWG WIRE (6' TAIL) PROPOSED DISH Wireless L.L.C. UNISTRUT PROPOSED DISH Wireless L.L.C. 10 AMP DISTRIBUTION BREAKER PROPOSED DISH Wireless L.L.C. 12 AWG WIRE PROPOSED DISH Wireless L.L.C. 1-1/2" POWER FROM CABINET DISH Wireless L.L.C. INSTALLS 1-1/2" CONDUITS FOR POWER AND FIBER TO CABINET DISH Wireless L.L.C. FIBER DISTRIBUTION PANEL PROPOSED DISH Wireless L.L.C. TELCO FIBER ENCLOSURE DISH Wireless L.L.C. FIBER JUMPER TO CABINET WILL NEED TO BE TERMINATED BY FIBER PROVIDER ON OTHER SIDE OF BULKHEAD/LC TO LC CONNECTOR WHERE CIRCUIT IS TERMINATED. PROPOSED FIBER PROVIDER FIBER LATERAL FROM RIGHT OF WAY TO STREET, TERMINATED TO FDP PROPOSED DISH Wireless L.L.C. 1-1/2" FIBER TO CABINET PROPOSED DISH Wireless L.L.C. 2" CONDUIT FROM COMMERCIAL FIBER VAULT	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 OKLAHOMA CHAD WHITE No. 23924 PROFESSIONAL ENGINEER 01/07/22 B&T ENGINEERING, INC. PEC.0001564 Expires 2/10/22 IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT. DRAWN BY: CHECKED BY: APPROVED BY: ANS MEH MEH RFDS REV #: 1.0 CONSTRUCTION DOCUMENTS <table><tr><th>REV</th><th>DATE</th><th>DESCRIPTION</th></tr><tr><td>A</td><td>10/20/21</td><td>ISSUED FOR REVIEW</td></tr><tr><td>B</td><td>01/07/22</td><td>ISSUED FOR CONSTRUCTION</td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table> 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 DETAILS SHEET NUMBER E-2	REV	DATE	DESCRIPTION	A	10/20/21	ISSUED FOR REVIEW	B	01/07/22	ISSUED FOR CONSTRUCTION												
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EXPANSION JOINT DETAIL		NO SCALE	1	TYPICAL UNDERGROUND TRENCH DETAIL		NO SCALE	2	DARK TELCO BOX – INTERIOR WIRING LAYOUT		NO SCALE	3																																																																																					
PROPOSED DISH Wireless L.L.C. UNISTRUT PROPOSED FIBER PROVIDER 1-1/4" FLEX CONDUITS FIBER PROVIDER TO TERMINATE POWER TO FIBER PROVIDER NID PROPOSED DISH Wireless L.L.C. 12 AWG WIRE (6' TAIL) PROPOSED DISH Wireless L.L.C. 10 AMP DISTRIBUTION BREAKER PROPOSED DISH Wireless L.L.C. 12 AWG WIRE PROPOSED DISH Wireless L.L.C. 1-1/2" POWER FROM CABINET PROPOSED FIBER PROVIDER 1-1/4" FLEX CONDUITS FIBER PROVIDER TO PUNCH TOP OF TELCO BOX OF NID ENCLOSURE AND INSTALL 1-1/4" LIQUID TIGHT CONNECTORS, UL LISTED, NYLON MATERIAL, WITH O-RING GASKET FIBER PROVIDER TO INSTALL 1-1/4" FLEX CONDUITS BETWEEN FDP TELCO BOX & NID PROPOSED DISH Wireless L.L.C. TELCO FIBER ENCLOSURE PROPOSED DISH Wireless L.L.C. 1-1/2" FIBER TO CABINET PROPOSED DISH Wireless L.L.C. 2" CONDUIT FROM COMMERCIAL FIBER VAULT NOTE: FIBER PROVIDER WILL NEED TO PROVIDE AN ADDITIONAL 5FT UNISTRUT, 2 U-BOLTS WITH 4 NUTS, IN THE EVENT THE BRACKET SPACING DOESN'T LINE UP WITH CURRENT SPACING BELOW																																																																																																
LIT TELCO BOX – INTERIOR WIRING LAYOUT (OPTIONAL)		NO SCALE	4	NOT USED		NO SCALE	5	NOT USED		NO SCALE	6																																																																																					
NOT USED				NOT USED				NOT USED																																																																																								
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 ONE-LINE, FAULT
CALCS & PANEL SCHEDULE

SHEET NUMBER

E-3

PPC ONE-LINE DIAGRAM

PROPOSED CHARLES PANEL SCHEDULE											
LOAD SERVED	VOLT AMPS (WATTS)		TRIP	CKT #	PHASE	CKT #	TRIP	VOLT AMPS (WATTS)		LOAD SERVED	
	L1	L2						L1	L2		
PPC GFCI OUTLET	180		15A	1	A	2	30A	2880		ABB/GE INFINITY RECTIFIER 1	
CHARLES GFCI OUTLET		180	15A	3	B	4			2880		ABB/GE INFINITY RECTIFIER 2
—SPACE—				5	A	6	30A	2880		ABB/GE INFINITY RECTIFIER 2	
—SPACE—				7	B	8			2880		ABB/GE INFINITY RECTIFIER 3
—SPACE—				9	A	10	30A	2880		ABB/GE INFINITY RECTIFIER 3	
—SPACE—				11	B	12			2880		ABB/GE INFINITY RECTIFIER 4
—SPACE—				13	A	14	30A	2880		ABB/GE INFINITY RECTIFIER 4	
—SPACE—				15	B	16			2880		—SPACE—
—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, 1ø, 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

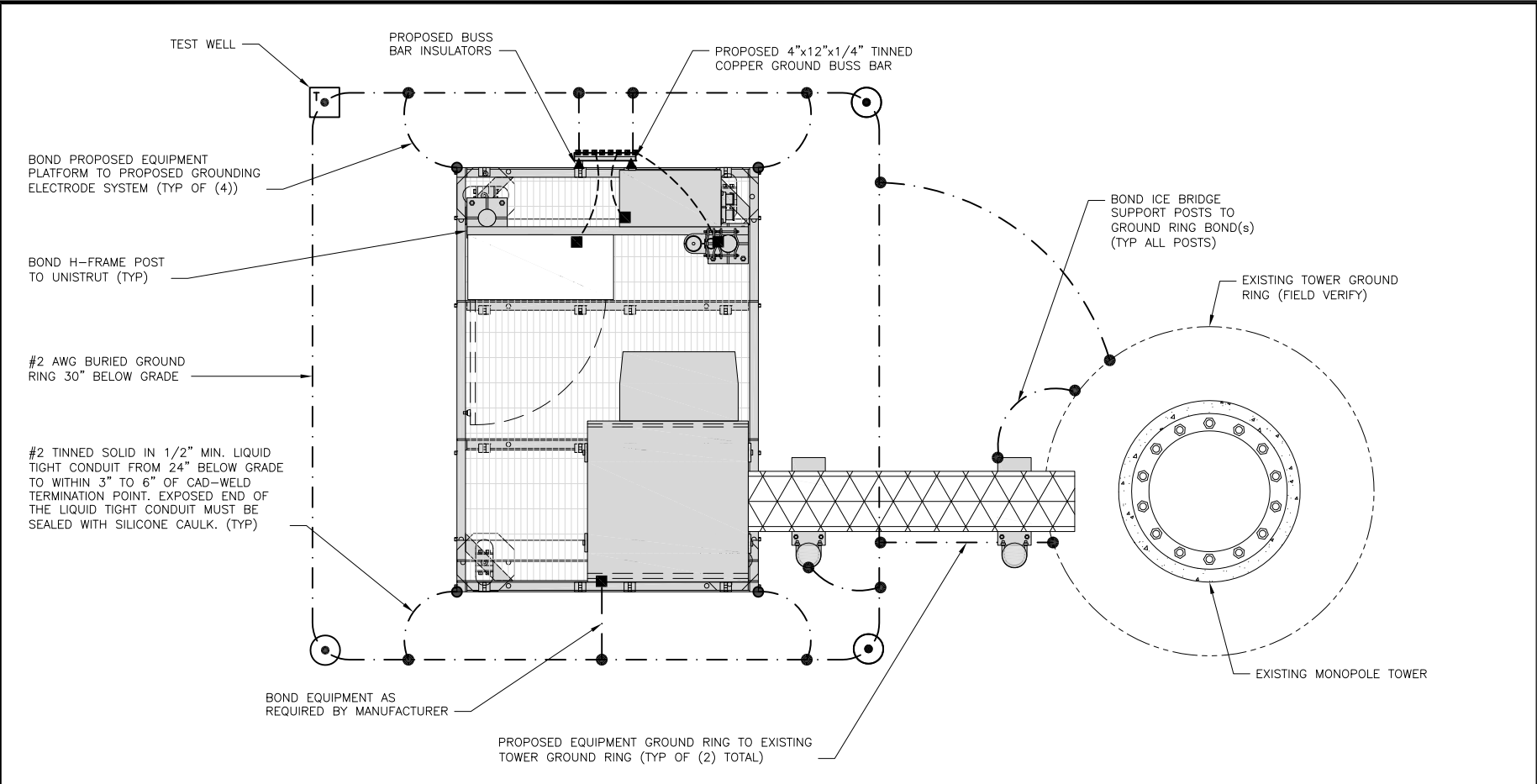
NO SCALE

2

NOT USED

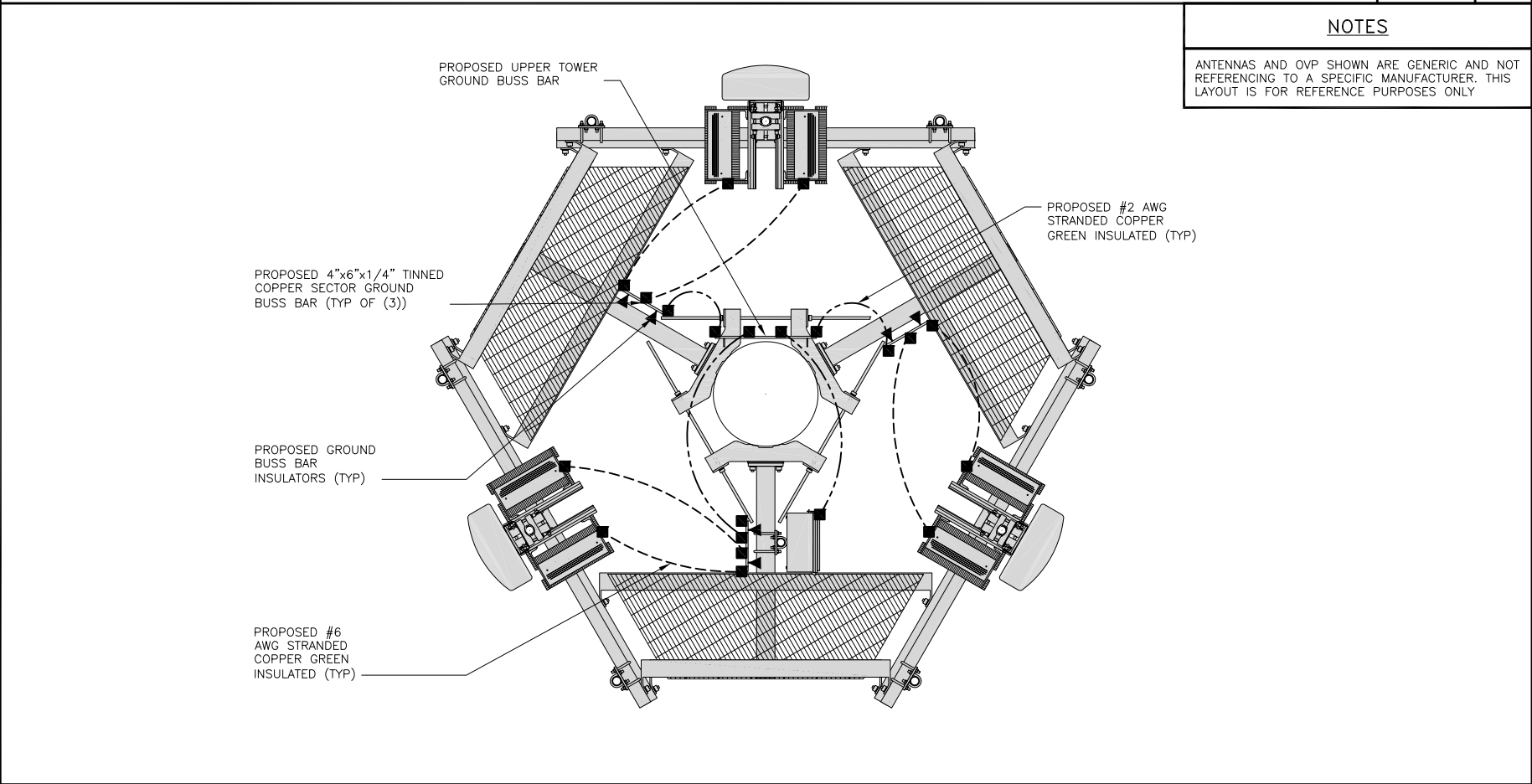
NO SCALE

3



TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE 1



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE 2

- EXOTHERMIC CONNECTION

■

 MECHANICAL CONNECTION

▬

 GROUND BUS BAR

○

 GROUND ROD
- TEST GROUND ROD WITH INSPECTION SLEEVE

 #6 AWG STRANDED & INSULATED

 #2 AWG SOLID COPPER TINNED

 #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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CONSTRUCTION DOCUMENTS

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

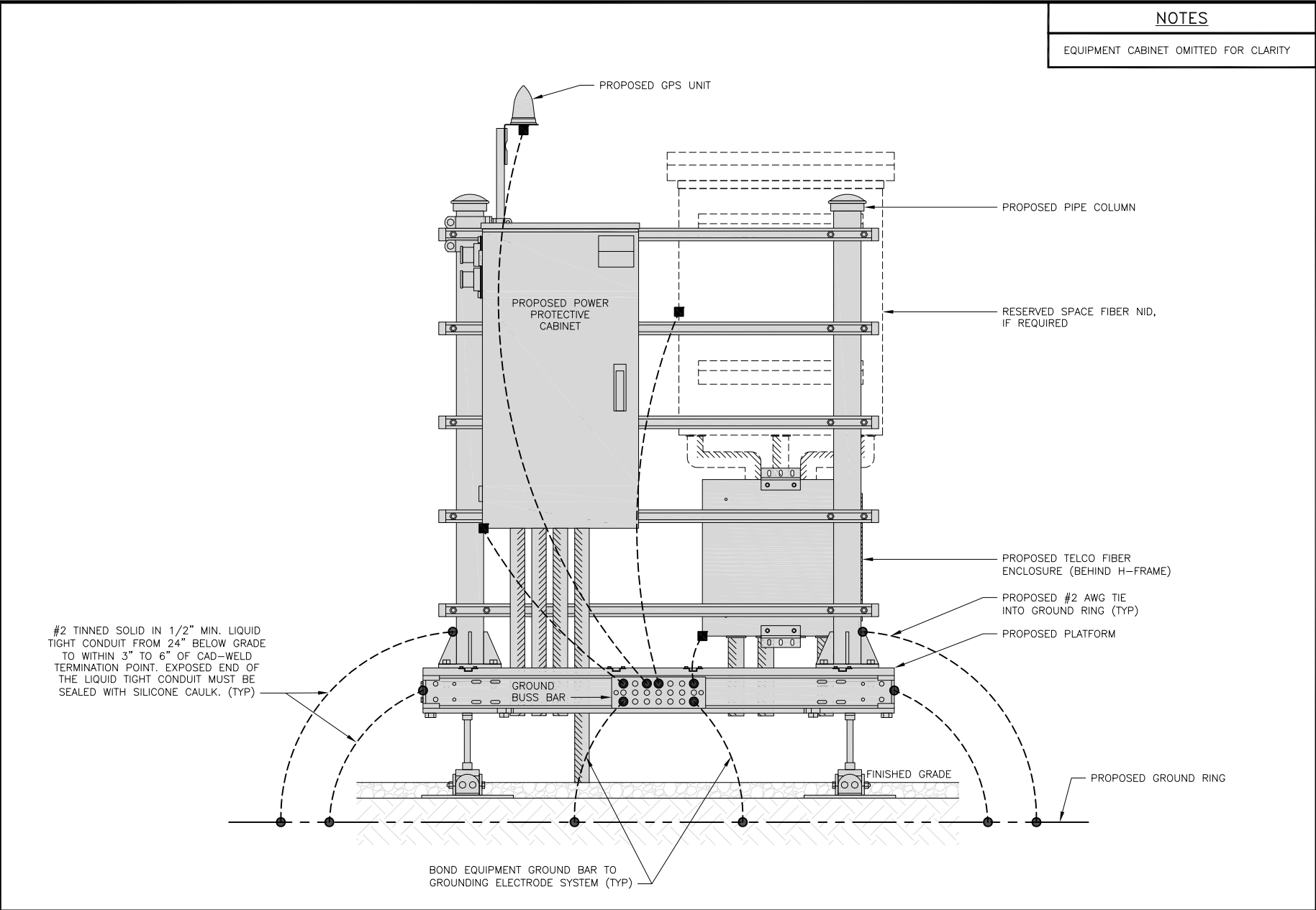
A&E PROJECT NUMBER
157528.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

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165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

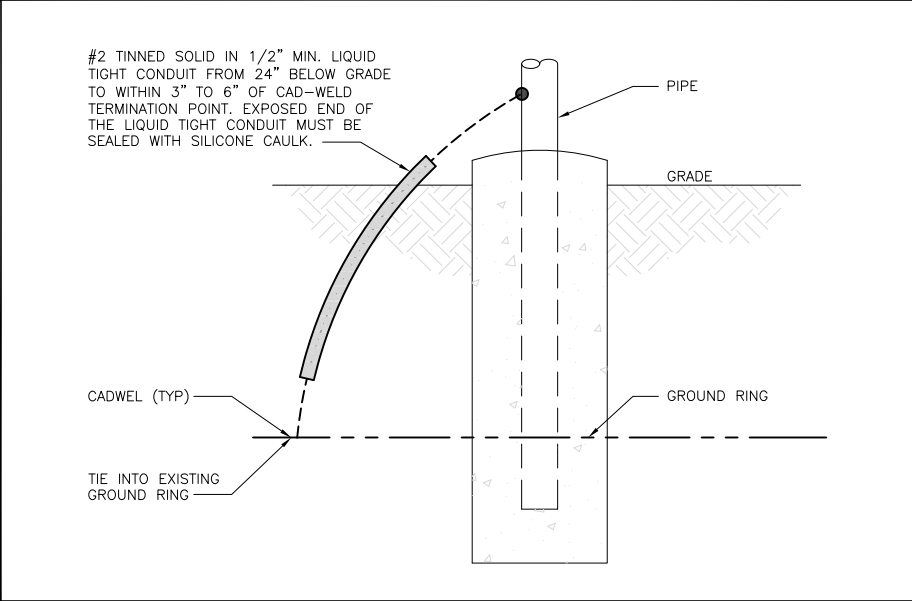
SHEET TITLE
GROUNDING PLANS
AND NOTES

SHEET NUMBER
G-1



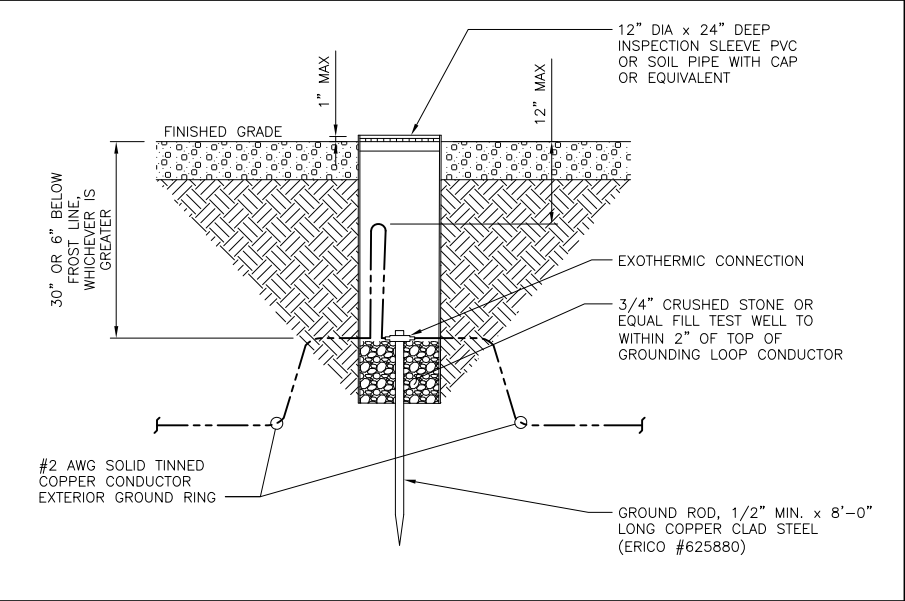
H-FRAME GROUNDING DETAIL

NO SCALE 1



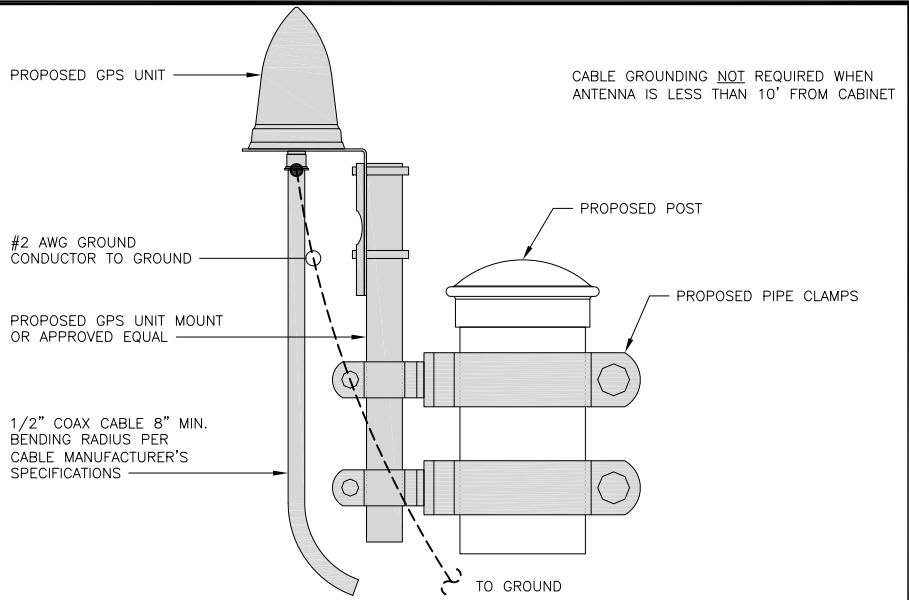
TRANSITIONING GROUND DETAIL

NO SCALE 4



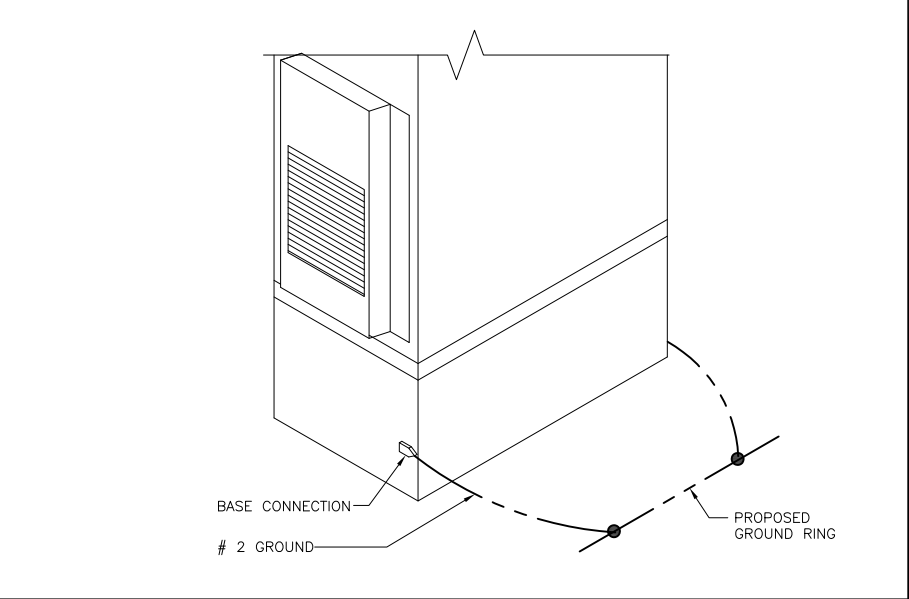
TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE

NO SCALE 5



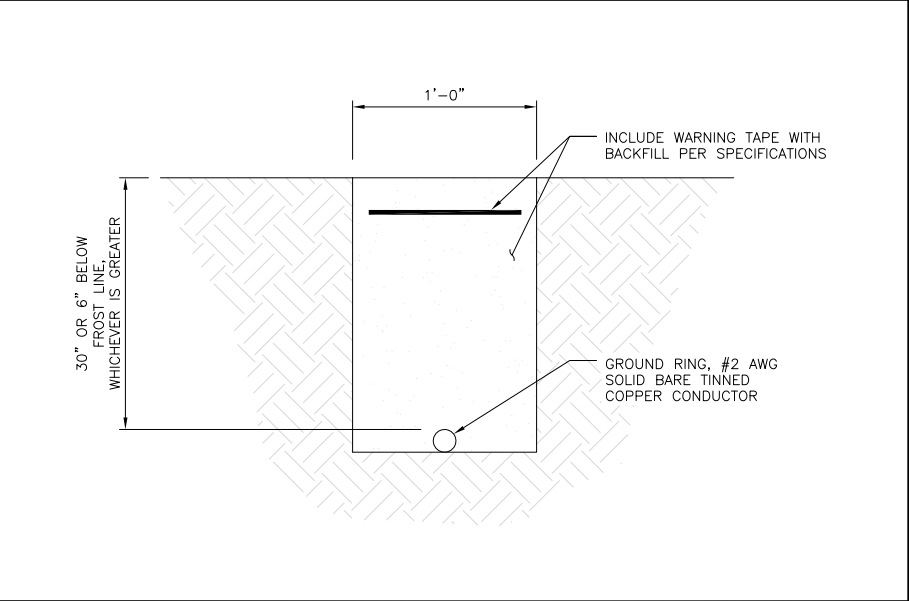
TYPICAL GPS UNIT GROUNDING

NO SCALE 2



OUTDOOR CABINET GROUNDING

NO SCALE 3



TYPICAL GROUND RING TRENCH

NO SCALE 6

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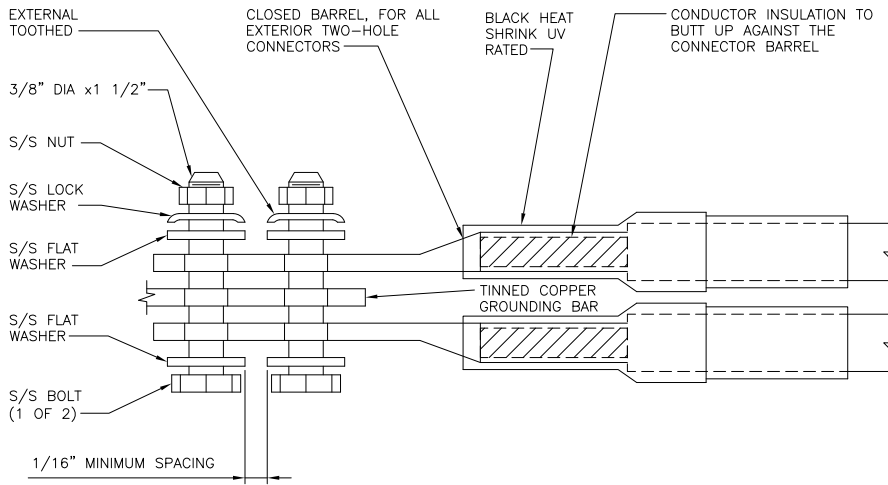
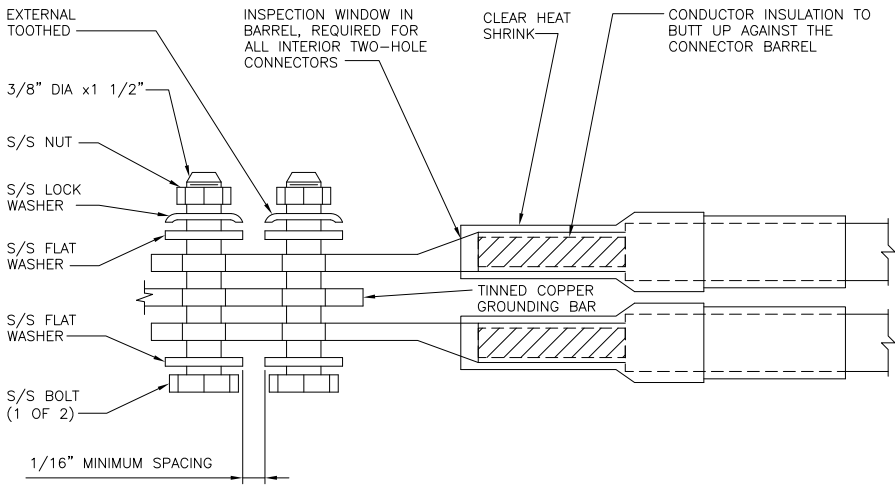
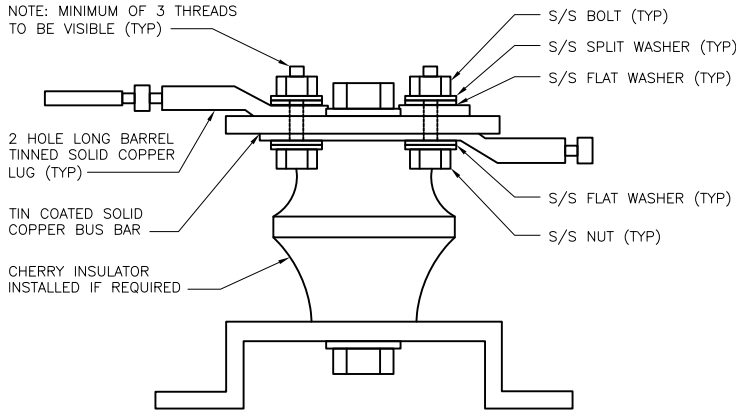
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PROJECT INFORMATION
BOBOS00029A
165 ELMWOOD HILL ROAD
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SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
G-2

DISH Wireless L.L.C. TEMPLATE VERSION 45 – 10/08/2021 157528.001.01_0001_P0000W_01.dwg - Sheet: G-2 - User: mchase@dish.com - Jan 07, 2022 11:16am

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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DATE

DESCRIPTION

A

10/20/21

ISSUED FOR REVIEW

B

01/07/22

ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

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DISH Wireless L.L.C.
PROJECT INFORMATION

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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)	ALPHA RRH				BETA RRH				GAMMA RRH			
	PORT 1 + SLANT	PORT 2 – SLANT	PORT 3 + SLANT	PORT 4 – SLANT	PORT 1 + SLANT	PORT 2 – SLANT	PORT 3 + SLANT	PORT 4 – SLANT	PORT 1 + SLANT	PORT 2 – SLANT	PORT 3 + SLANT	PORT 4 – SLANT
	RED	RED	RED	RED	BLUE	BLUE	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN
	ORANGE	ORANGE	RED	RED	ORANGE	ORANGE	BLUE	BLUE	ORANGE	ORANGE	GREEN	GREEN
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.												
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

NOT USED

NO SCALE

4

LOW BANDS (N71+N26)
OPTIONAL – (N29)

ORANGE

AWS
(N66+N70+H-BLOCK)

PURPLE

CBRS TECH
(3 GHz)

YELLOW

NEGATIVE SLANT PORT
ON ANT/RRH

WHITE

ALPHA SECTOR

RED

BETA SECTOR

BLUE

GAMMA SECTOR

GREEN

COLOR IDENTIFIER

NO SCALE

2

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
RF
CABLE COLOR CODES

SHEET NUMBER

RF-1

DISH Wireless L.L.C. TEMPLATE VERSION 45 - 10/08/2021 157528.001.01_EAST PUTNAM CT.dwg - Sheet:GN-1 - User: maris.hildebrand - Jan 07,

2022 — 7:11am

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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A	10/20/21	ISSUED FOR REVIEW
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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 (F_y) 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:

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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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

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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DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00029A
165 ELMWOOD HILL ROAD
PUTNAM, CT 06260

SHEET TITLE
GENERAL NOTES

SHEET NUMBER

GN-4

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Bruce Fitzback – Town of Putnam Land Use Agent

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Tracking number 9505510391962117623663

Delivered 

April 29, 11:43AM

Woburn, MA

American Tower Corporation - Tower Operator/Owner

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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 RCSA 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,

A handwritten signature in blue ink, appearing to read 'Jack Andrews', is written over the printed name.

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 RCSA 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,

A handwritten signature in blue ink, appearing to read 'Jack Andrews', is written over a circular blue stamp.

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 RCSA 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,

A handwritten signature in blue ink, appearing to read 'Jack Andrews', is written over a circular blue ink stamp.

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 RCSA 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,

A handwritten signature in blue ink, appearing to read 'Jack Andrews', is written over a circular blue stamp.

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

Enclosures