



May 5, 2022

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

Re: Tower Share Application – Dish Wireless Site # 13733438
Dish Wireless Telecommunications Facility @ 156 Lebanon Hill Rd., Woodstock, CT 06281

Dear Ms. Bachman,

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing two hundred eighty (280) foot tall guyed tower at 156 Lebanon Hill Rd., Woodstock, CT 06281 (Latitude: 42.02526944, Longitude: -72.037000000) and within the existing fenced compound on the above referenced property. The monopole tower is owned and operated by American Tower Corporation. The subject property is owned by American Tower Corp. The tower was approved by the Town of Woodstock on June 27, 1996.

Dish proposes to install a five (5) foot by seven (7) foot metal platform within the existing fenced compound to accommodate two (2) cabinets and related equipment, and to install three (3) antennas, a single antenna mount, six (6) RRUs, and cables on the existing tower at two hundred and six (206) feet as more particularly detailed and described on the enclosed Construction Drawings. The overall height of the existing tower is and will remain at 320 feet and no changes will be made to the compound dimensions.

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; American Tower Corporation as Property Owner; the Honorable Jay Swan, the First Selectman of Woodstock, and Ashley Stephens, the Land Use Administrator & Zoning Enforcement Official for the Town of Woodstock.

The planned modifications to the facility fall 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 modified 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.
- C. **Environmental Feasibility.** The proposed use of this facility would have a minimal environmental impact. The installation of Dish equipment at the 206-foot level of the existing 320-foot 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 Dish proposal 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 156 Lebanon Hill Rd., Woodstock, CT 06281.

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 circular blue stamp or seal.

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 – EME Study Report
 Exhibit 6 – Original Tower Approval
 Exhibit 7 – (4) Notice Confirmations

cc: American Tower Corporation - Tower Operator/Owner
 American Tower Corporation - Property Owner
 The Honorable Jay Swan - First Selectman of Woodstock
 Ashley Stephens - Woodstock Land Use Administrator & Zoning Enforcement Official



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 Fennell 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

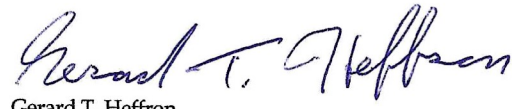
NOTARY BLOCK

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.

APPLICATION FOR A ZONING PERMIT - TOWN OF WOODSTOCK

PURPOSE OF PERMIT: Dwelling _____ Addition _____ or
Accessory Structure _____ (Size) TOWER or
Expansion of existing use _____ /Change of Use _____

STREET
LOCATION: 156 Lechana Hill Rd MAP 5284 BLK. 3 LOT 6A
Number Street

APPLICANT'S
NAME & ADDRESS: Alyssa Tower Sites Inc

OWNER'S
NAME & ADDRESS: Fern Phaneuf
156 RT 171 Woodstock Ct 0624

OWNER'S SIGNATURE OF APPROVAL: [Signature]

SUBMIT PROOF OF OWNERSHIP (DEED) IF NEW OWNER

~~~~~  
LOT DESCRIPTION & LOCATION OF STRUCTURE:

Lot size 5 acres Frontage on Road 500  
Is road Town owned ✓ Private \_\_\_\_\_ State \_\_\_\_\_ Right of Way \_\_\_\_\_  
Amount of acres free from wetlands all

If proposed development is located on an approved or conditionally approved subdivision: Copy of mylar submitted Yes \_\_\_\_\_ No \_\_\_\_\_

Setbacks of proposed structure:

Front: 120 Left Side: 250 Right Side: 250 Rear: 300'

Wetlands Permit: Yes \_\_\_\_\_ No \_\_\_\_\_ Date Approved \_\_\_\_\_ N/A ✓  
Approval from Health Department: Yes \_\_\_\_\_ No \_\_\_\_\_ N/A ✓ Please Attach

A scaled plot plan must accompany this application showing

- 1) existing property lines & structures;
- 2) proposed structures;
- 3) well and septic location;
- 4) location of wetlands and
- 5) location of erosion controls.

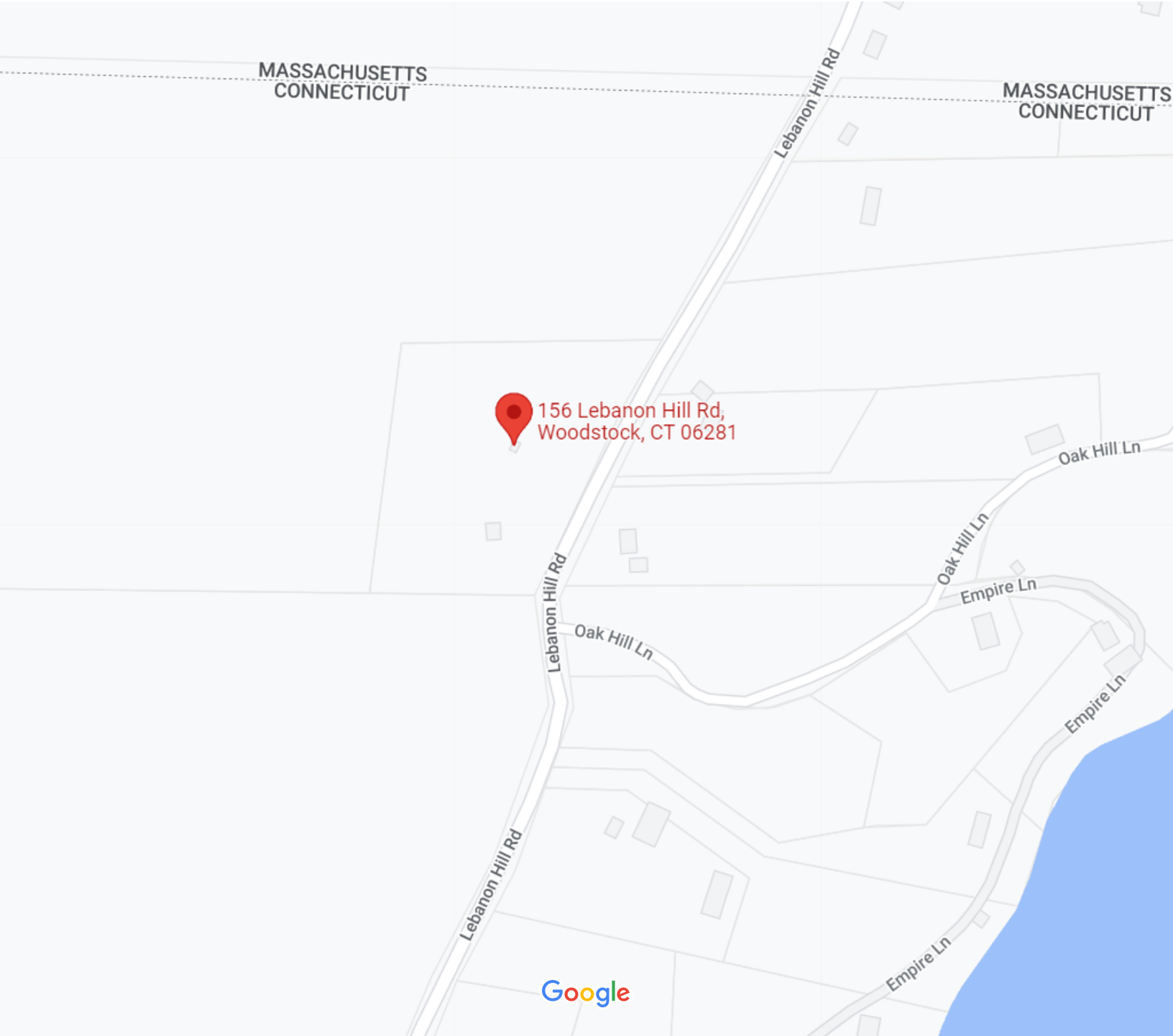
If lot is 1-1/4 acres or less, an A-2 survey plot plan is required.  
~~~~~

APPROVED ✓ DISAPPROVED _____ DATE: 6/27/96 FEE: 25.00

REASON: _____

[Signature]
TERRY BELLMAN - ZONING ENFORCEMENT OFFICER

IF THE INFORMATION PROVIDED BY THE APPLICANT SUBSEQUENTLY PROVES TO BE FALSE, DECEPTIVE, INCOMPLETE AND/OR INACCURATE, THIS PERMIT MAY BE MODIFIED, SUSPENDED OR REVOKED.



156 LEBANON HILL RD

Location 156 LEBANON HILL RD

Mblu 5284/ 03/ 06A/ /

Acct# N0288600

Owner AMERICAN TOWER SYSTEMS
INC

Assessment \$220,500

Appraisal \$314,900

PID 3012

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2021	\$10,800	\$304,100	\$314,900
Assessment			
Valuation Year	Improvements	Land	Total
2021	\$7,600	\$212,900	\$220,500

Owner of Record

Owner	AMERICAN TOWER SYSTEMS INC	Sale Price	\$56,000
Co-Owner	AMERICAN TOWER CORP	Certificate	1
Address	PO BOX 723597 ATLANTA, GA 31139	Book & Page	277/ 393
		Sale Date	08/05/1997

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
AMERICAN TOWER SYSTEMS INC	\$56,000	1	277/ 393	08/05/1997

Building Information

Building 1 : Section 1

Year Built:	
Living Area:	0
Replacement Cost:	\$0
Building Percent Good:	
Replacement Cost	
Less Depreciation:	\$0

Building Attributes	
Field	Description
Style	Vacant Land
Model	
Grade:	
Stories:	
Living Units	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Whirlpool Tubs	
Bsmt. Garages	

Building Photo



(https://images.vgsi.com/photos/WoodstockCTPhotos//default.jpg)

Building Layout

(https://images.vgsi.com/photos/WoodstockCTPhotos//Sketches/3012_301

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	



Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	201
Description	Commercial Vacant
Zone	
Neighborhood	
Alt Land Appr	No

Land Line Valuation

Size (Acres)	4.95
Frontage	
Depth	
Assessed Value	\$212,900
Appraised Value	\$304,100

Category

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
SHD1	Shed	FR	Frame	240 S.F.	\$2,300	1
FN4	Fence 8'			600 L.F.	\$8,500	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2020	\$37,600	\$254,100	\$291,700
2019	\$37,600	\$254,100	\$291,700
2018	\$37,600	\$254,100	\$291,700

Assessment			
Valuation Year	Improvements	Land	Total
2020	\$26,300	\$177,900	\$204,200
2019	\$26,300	\$177,900	\$204,200
2018	\$26,300	\$177,900	\$204,200



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

Dish Wireless Existing Facility

Site ID: BOBOS00032A

BOBOS00032A
156 Lebanon Hill Road
Woodstock, Connecticut 06281

February 8, 2022

EBI Project Number: 6222000527

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	0.57%

February 8, 2022

Dish Wireless

Emissions Analysis for Site: BOBOS00032A - BOBOS00032A

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **156 Lebanon Hill Road in Woodstock, 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 156 Lebanon Hill Road in Woodstock, 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 206 feet above ground level (AGL).
- 8) Emissions from additional carriers were not included because emissions data for the site location are not available.
- 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):	206 feet	Height (AGL):	206 feet	Height (AGL):	206 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 %:	0.57%	Antenna BI MPE %:	0.57%	Antenna CI MPE %:	0.57%



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Site Composite MPE %	
Carrier	MPE %
Dish Wireless (Max at Sector A):	0.57%
Site Total MPE % :	0.57%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	0.57%
Dish Wireless Sector B Total:	0.57%
Dish Wireless Sector C Total:	0.57%
Site Total MPE % :	0.57%

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	206.0	0.81	600 MHz n71	400	0.20%
Dish Wireless 1900 MHz n70	4	506.48	206.0	1.82	1900 MHz n70	1000	0.18%
Dish Wireless 2190 MHz n66	4	506.48	206.0	1.82	2190 MHz n66	1000	0.18%
						Total:	0.57%

• 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:	0.57%
Sector B:	0.57%
Sector C:	0.57%
Dish Wireless Maximum MPE % (Sector A):	0.57%
Site Total:	0.57%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **0.57%** 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.

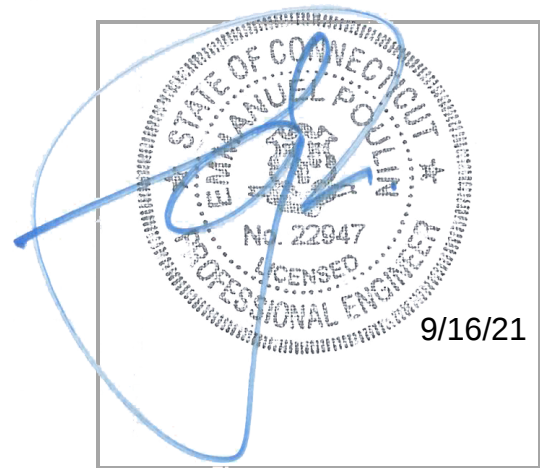
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MOUNT ANALYSIS REPORT

September 16, 2021

Dish Wireless Site Name	BOBOS00032A
Dish Wireless Site Number	BOBOS00032A
NSS/DISH Site Name	-
NSS/DISH Site Number	-
Infinigy Job Number	1197-F0001-B
Client	NSS/DISH
Carrier	Dish Wireless
Site Location	156 Lebanon Hill Rd. Woodstock, CT 06281 Windham County 42.025269 N NAD83 72.03700 W NAD83
Mount Type	8.0 ft Sector Frames
Mount Elevation	206.0 ft AGL
Structural Usage Ratio	41.1
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 119 mph. The evaluation criteria and applicable codes are presented in the next section of this report.



CONTENTS

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

1. INTRODUCTION

Infinigy performed a structural analysis on the Dish Wireless proposed telecommunication equipment supporting Sector Frames 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	119 mph (3-Second Gust)
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 1.5" ice
Code / Standard	TIA-222-H
Adopted Code	2018 Connecticut State Building Code (2015 IBC)
Risk Category	II
Exposure Category	B
Topographic Category	1
Calculated Crest Height	0 ft.
Seismic Spectral Response	$S_s = 0.181 \text{ g} / S_1 = 0.056 \text{ g}$
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 - 206.0 ft. AGL Sector Frames

Antenna Centerline (ft)	Qty.	Appurtenance Manufacturers	Appurtenance Models
206.0	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-6300 Rev 0, Site #BOBOS00032A, dated May 25, 2021
Mount Manufacturer Drawings	Commscope Document # MTC3975083, dated March 17, 2021

5. RESULTS

Components	Capacity	Pass/Fail
Mount Pipes	23.0%	Pass
Horizontals	12.2%	Pass
Standoffs	41.1%	Pass
Connections	6.2%	Pass
MOUNT RATING =	41.1%	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 206.0 ft. The installation shall be performed in accordance with the construction documents issued for this site.

Pradin Suinyal Magar
Project Engineer II | **INFINIGY**

7. ASSUMPTIONS

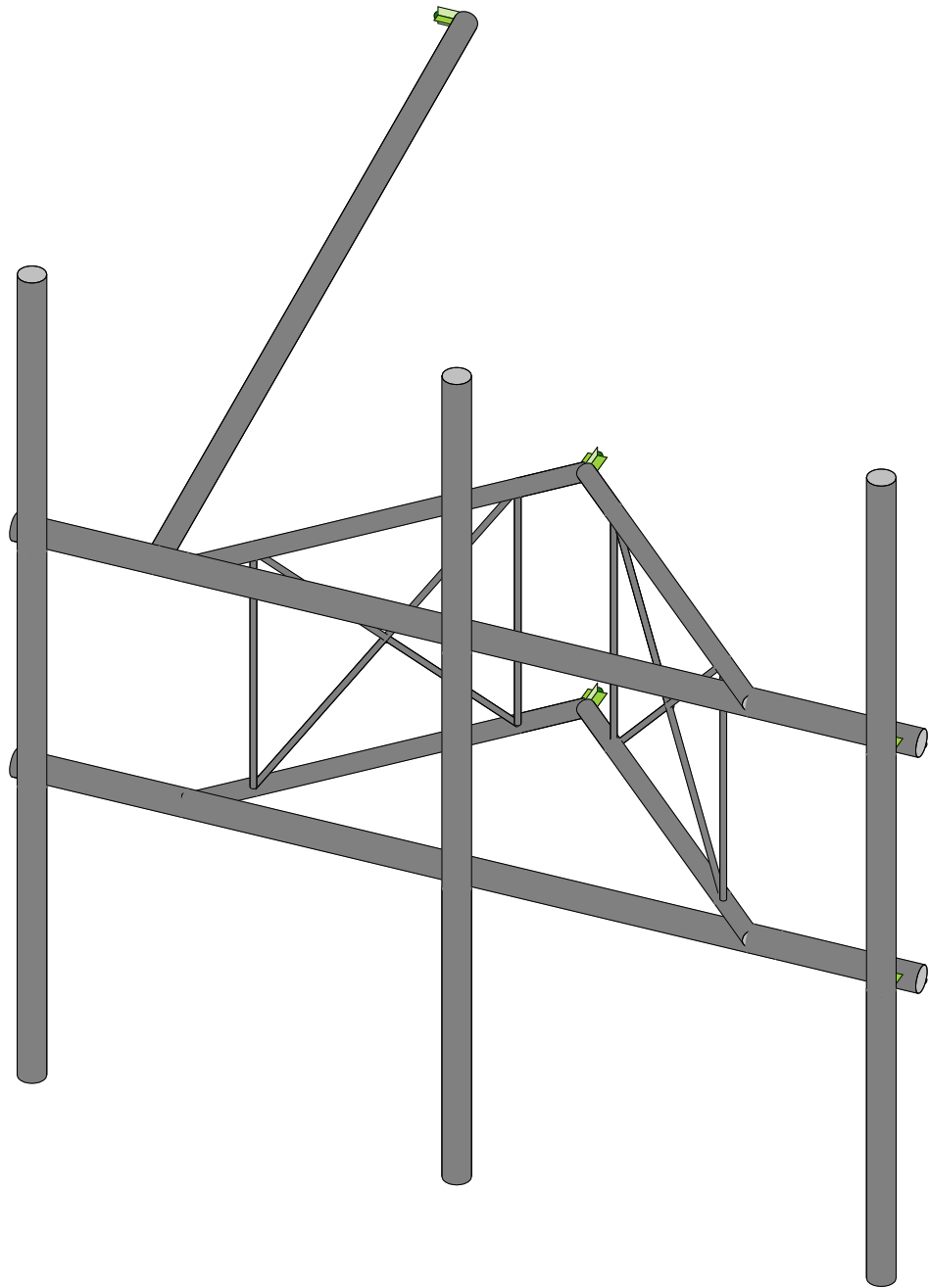
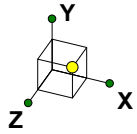
The antenna mounting system was properly fabricated, installed and maintained in accordance with its original design and manufacturer's specifications.	
The configuration of antennas, mounts, and other appurtenances are as specified in the proposed loading configuration table.	
All member connections 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, Plate, Built-up Angle	ASTM A1011 36 KSI
Solid Round	ASTM A529 Gr 50
Structural Angle	ASTM A529 Gr. 50
HSS (Rectangular)	ASTM A500-B GR 46
HSS (Circular)	ASTM A500-B GR 42
Pipe	ASTM A500 Gr 46
Connection Bolts	ASTM A449
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.

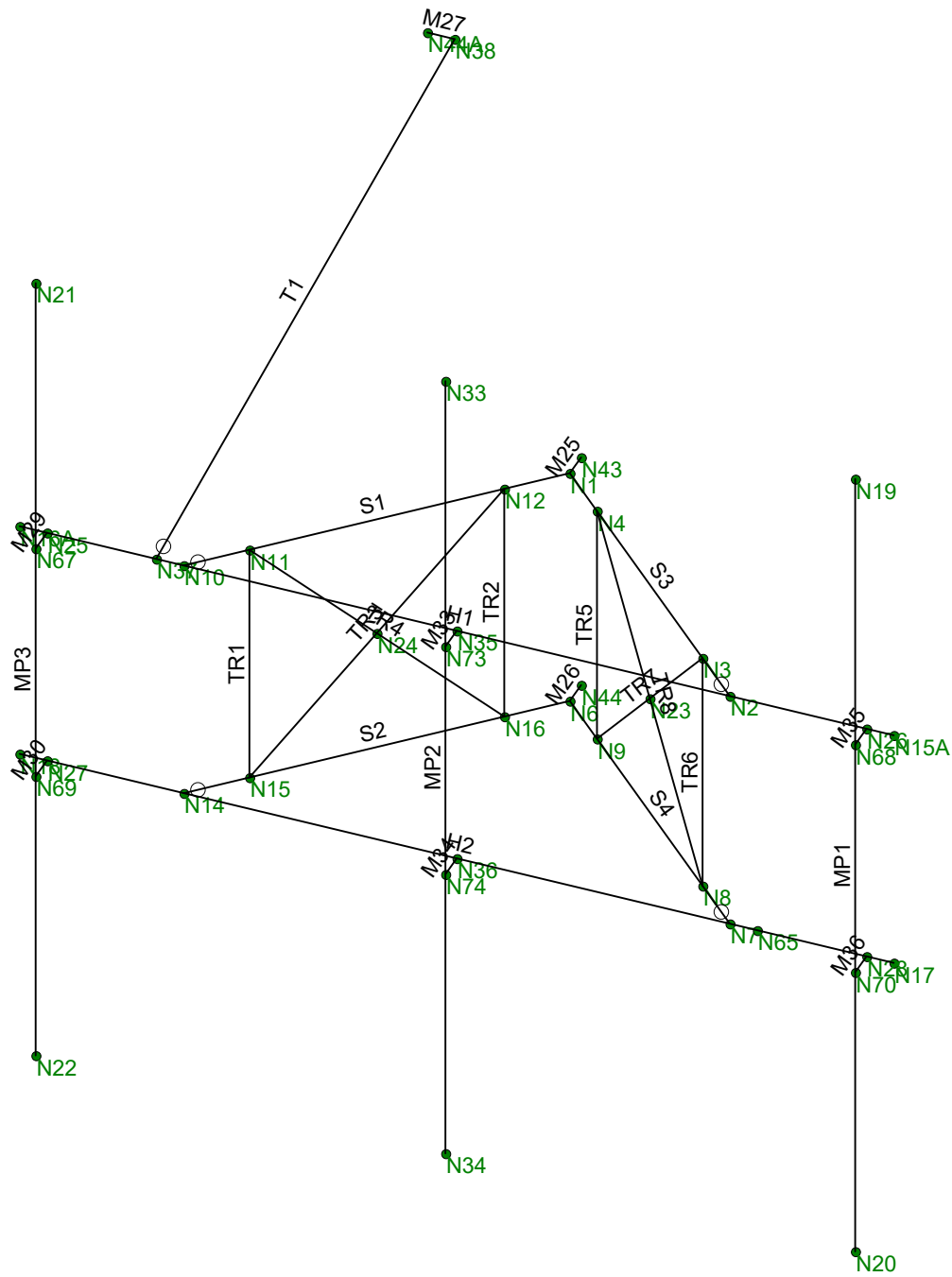
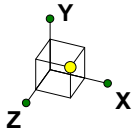
Our evaluation is completed using industry standard methods and procedures. The structural results, conclusions and recommendations contained in this report are proprietary and should not be used by others as their own. Infinigy is not responsible for decisions made by others that are or are not based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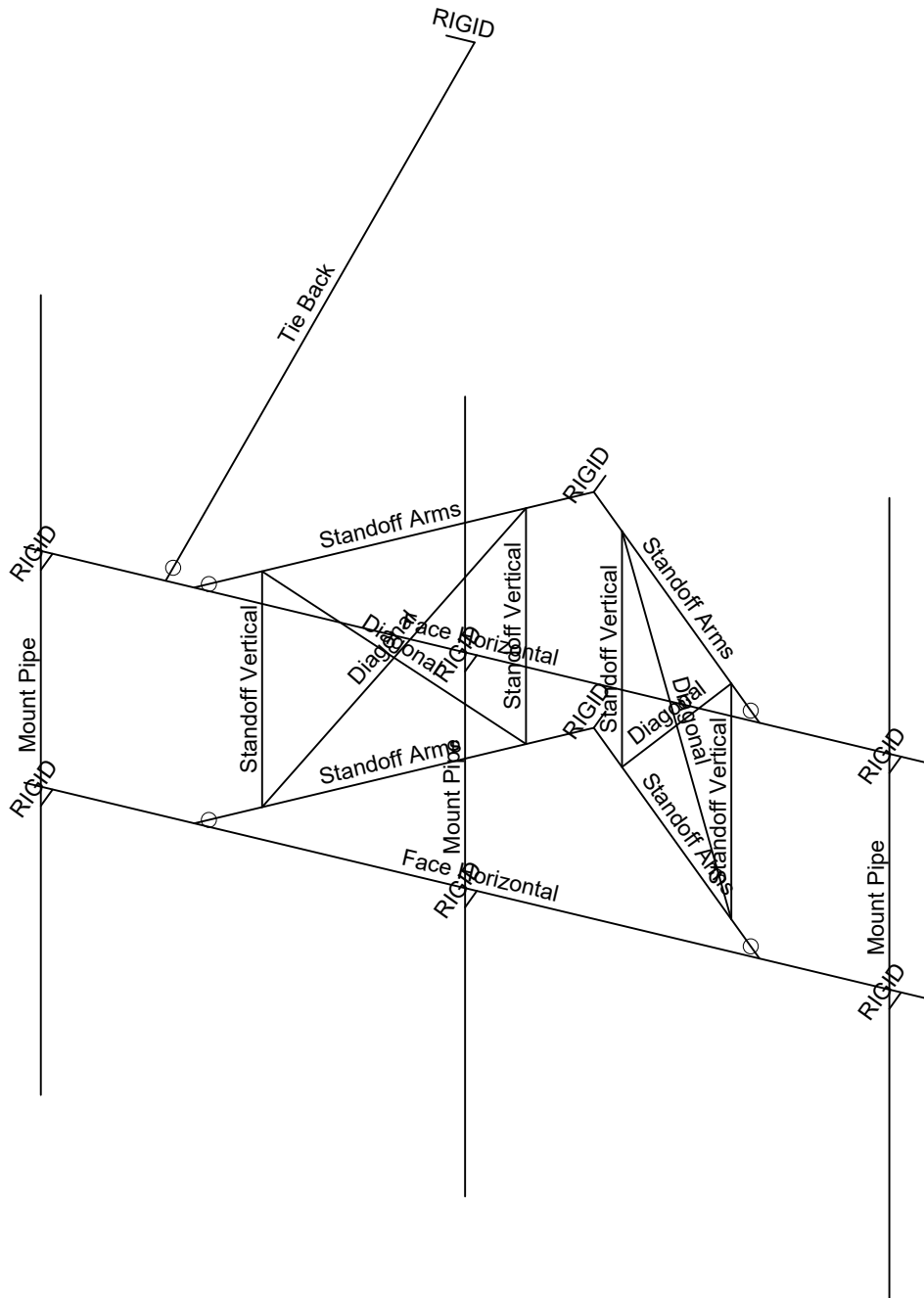
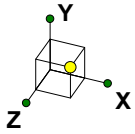
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WireFrame

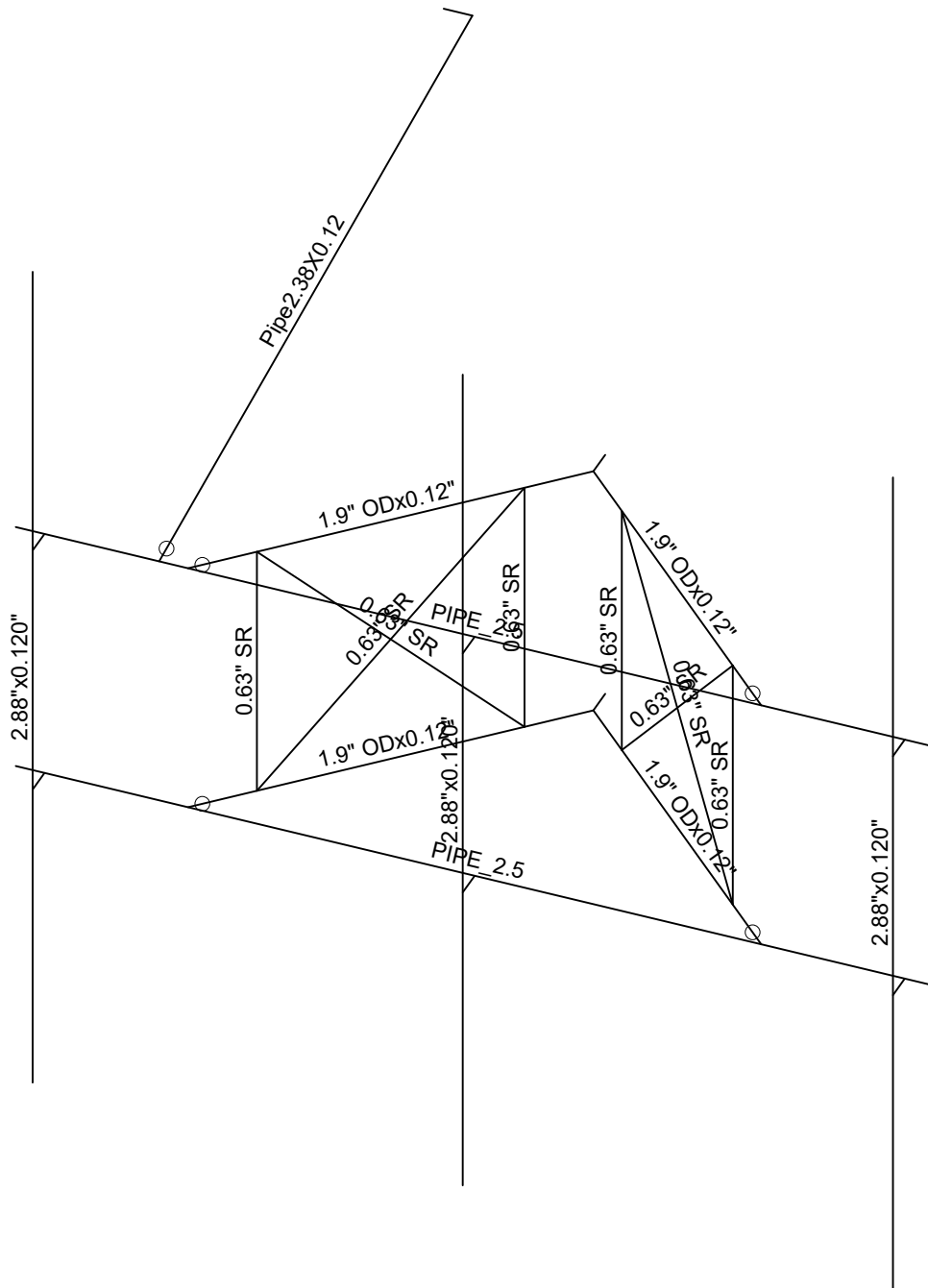
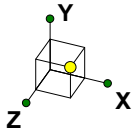
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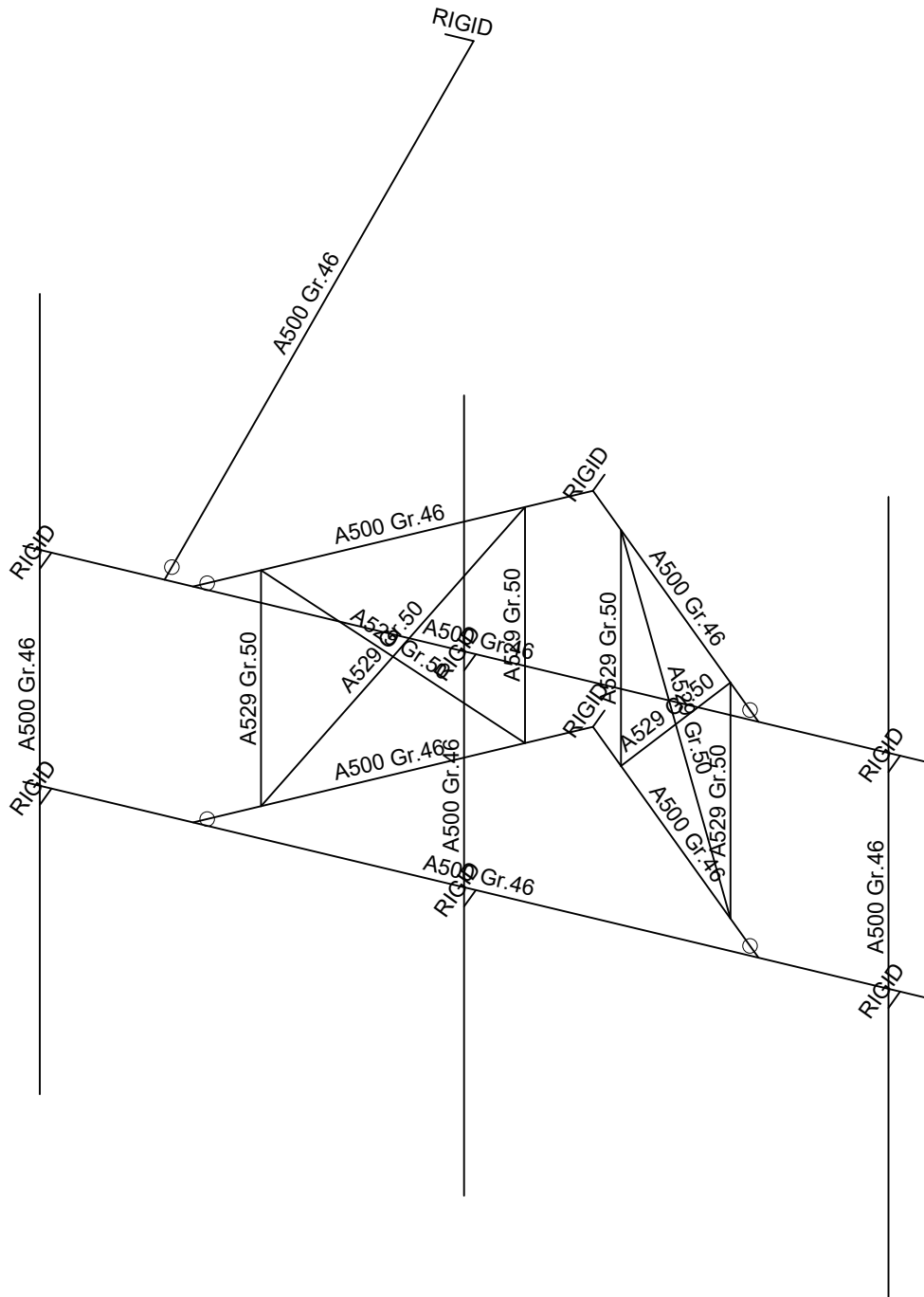
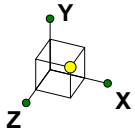
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Infinigy Engineering, PLLC

PSM

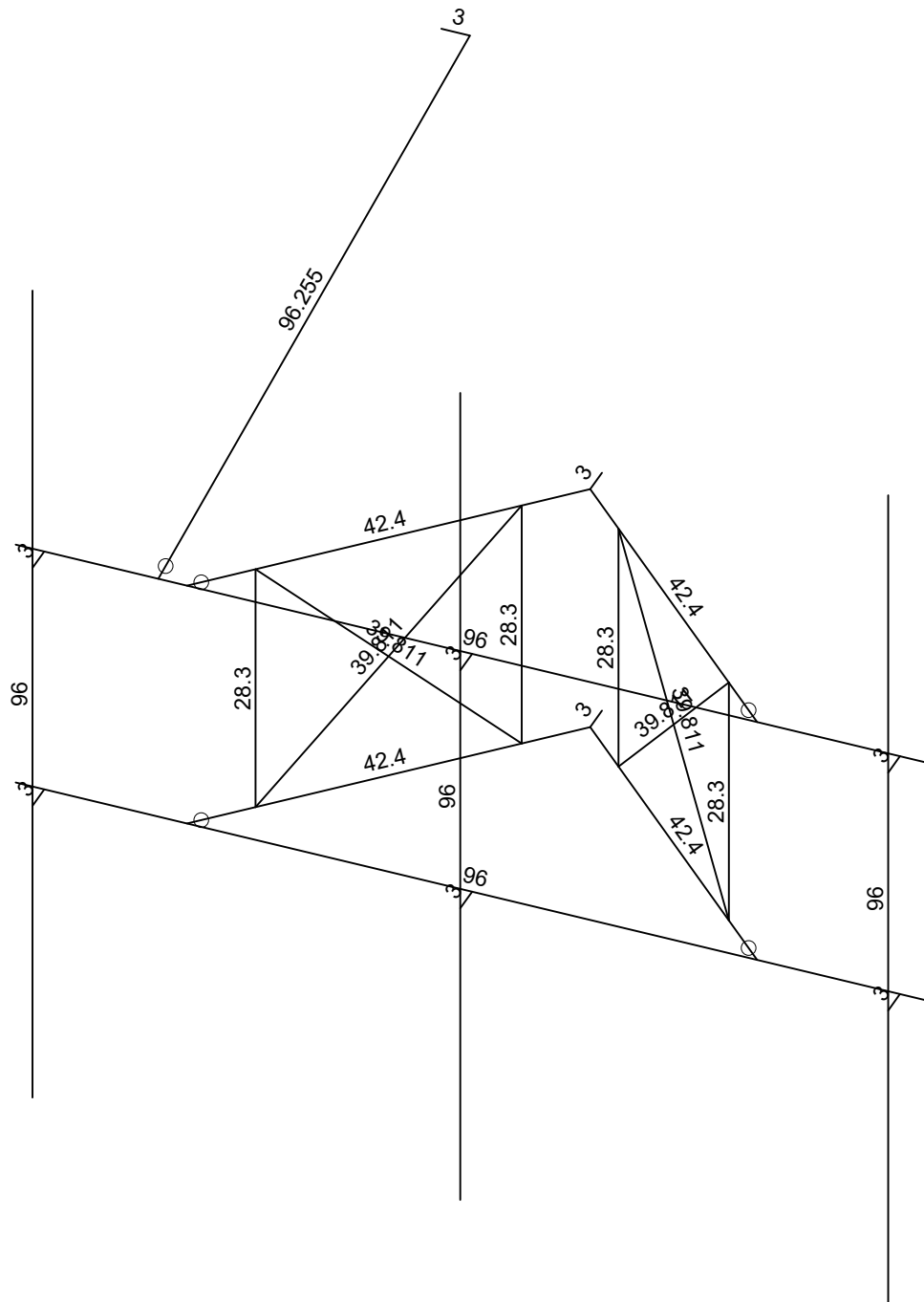
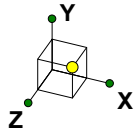
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BOBOS00032A

Material Sets

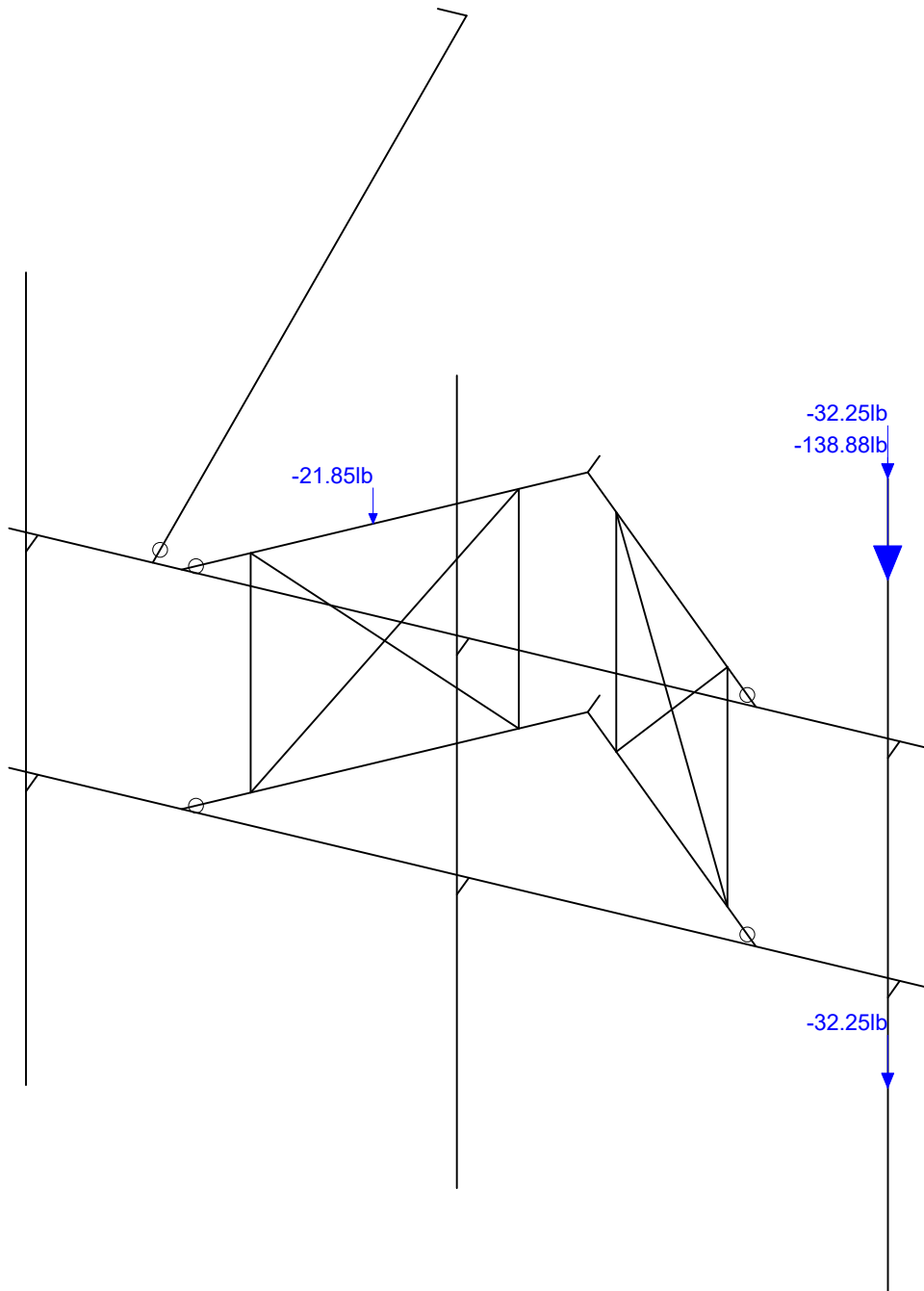
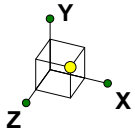
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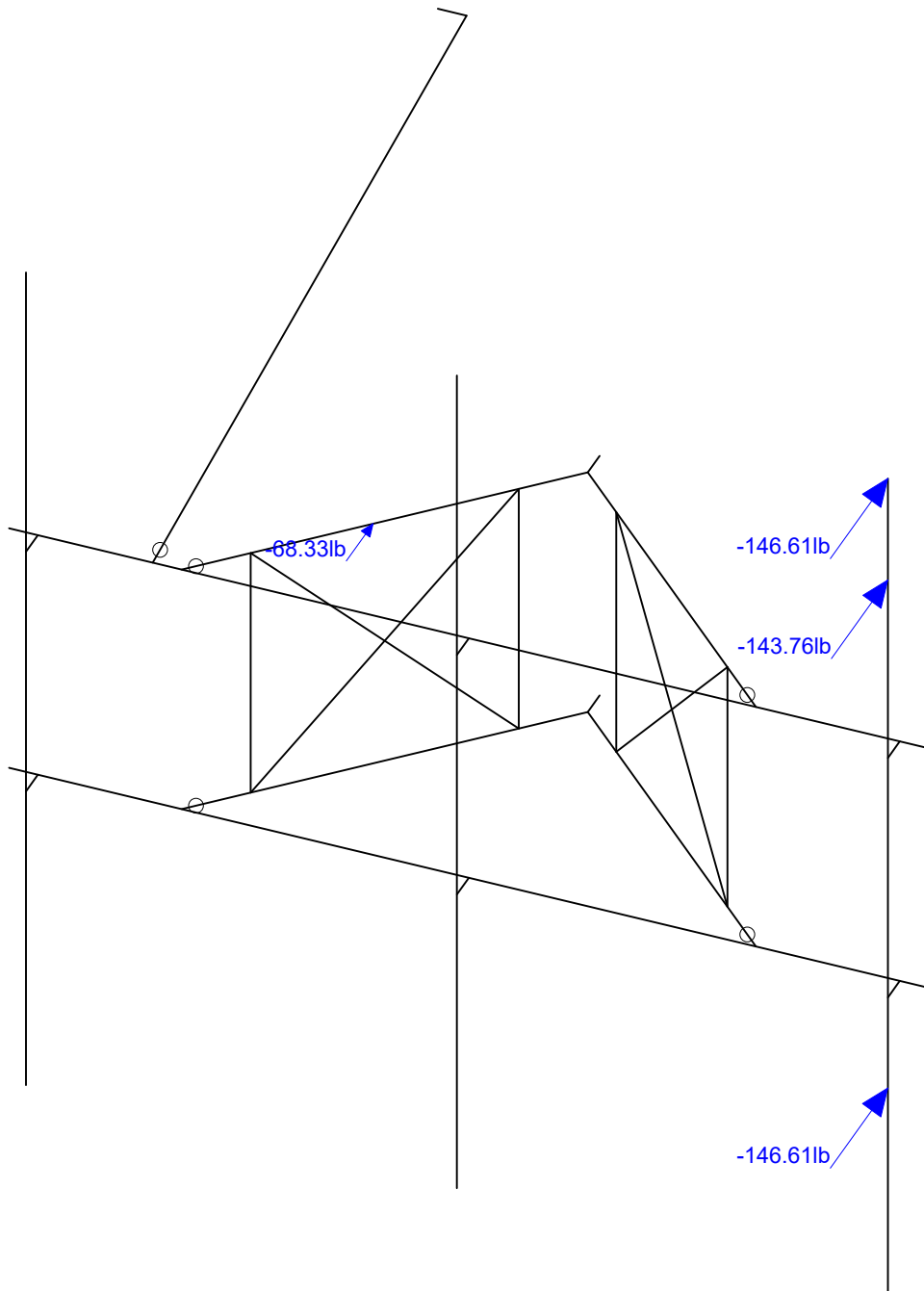
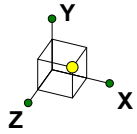
Member Length (in) Displayed
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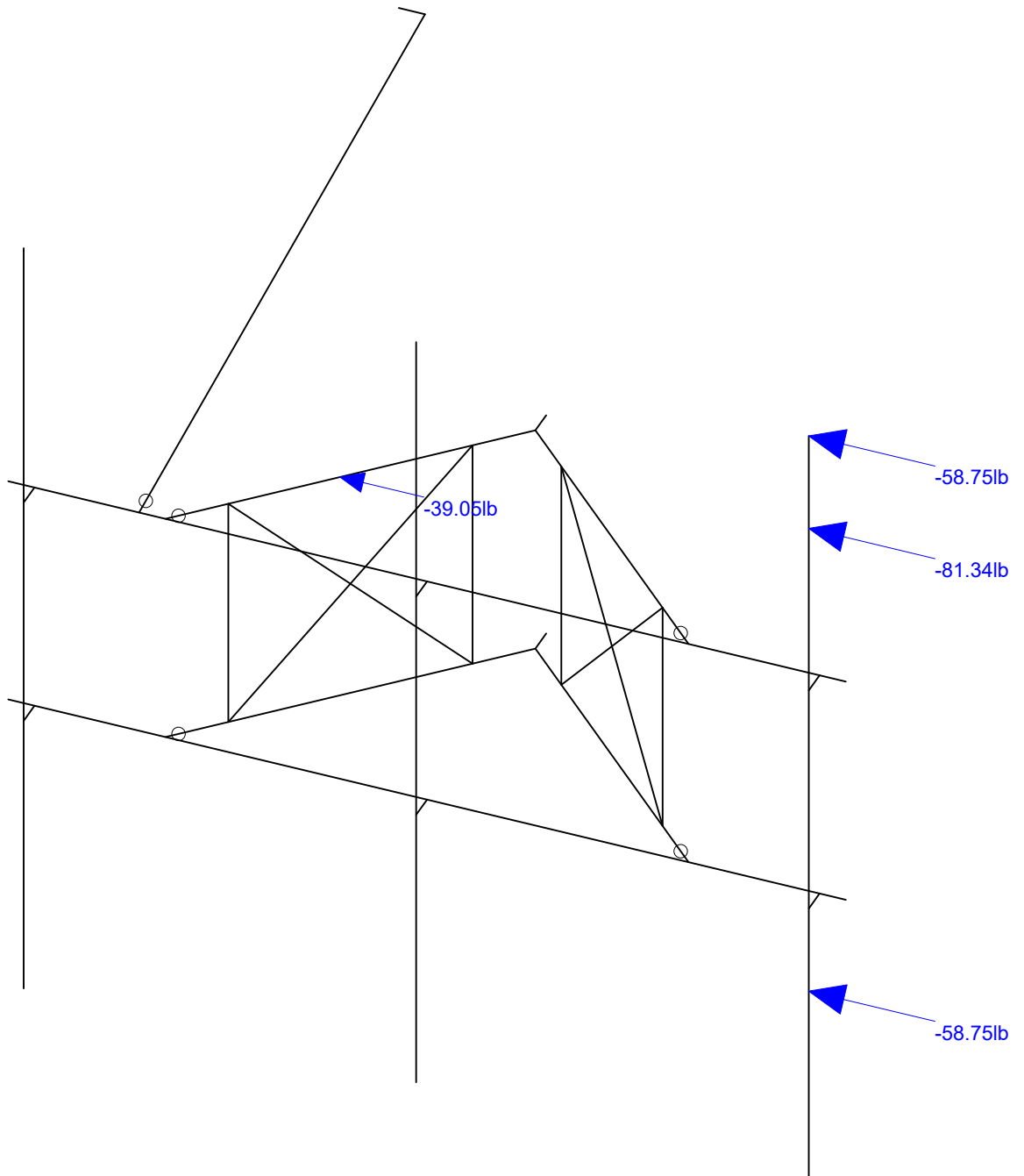
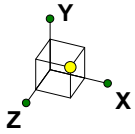
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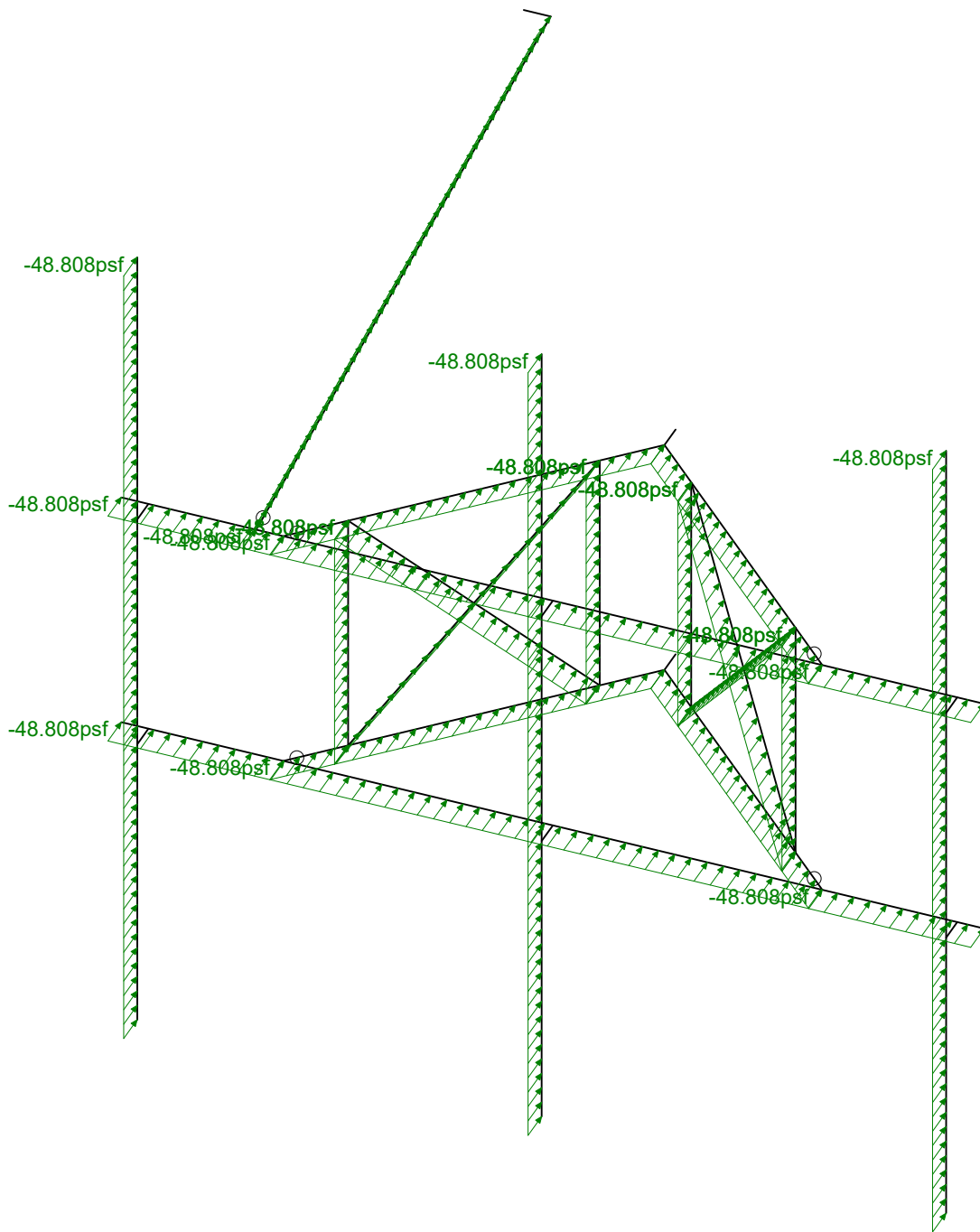
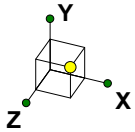
Loads: BLC 2, Wind Load AZI 0
Envelope Only Solution

Infinigy Engineering, PLLC	BOBOS00032A	Wind Load AZI 000
PSM		Sept 16, 2021 at 3:06 PM
1197-F0001-B		BOBOS00032A_loaded.r3d



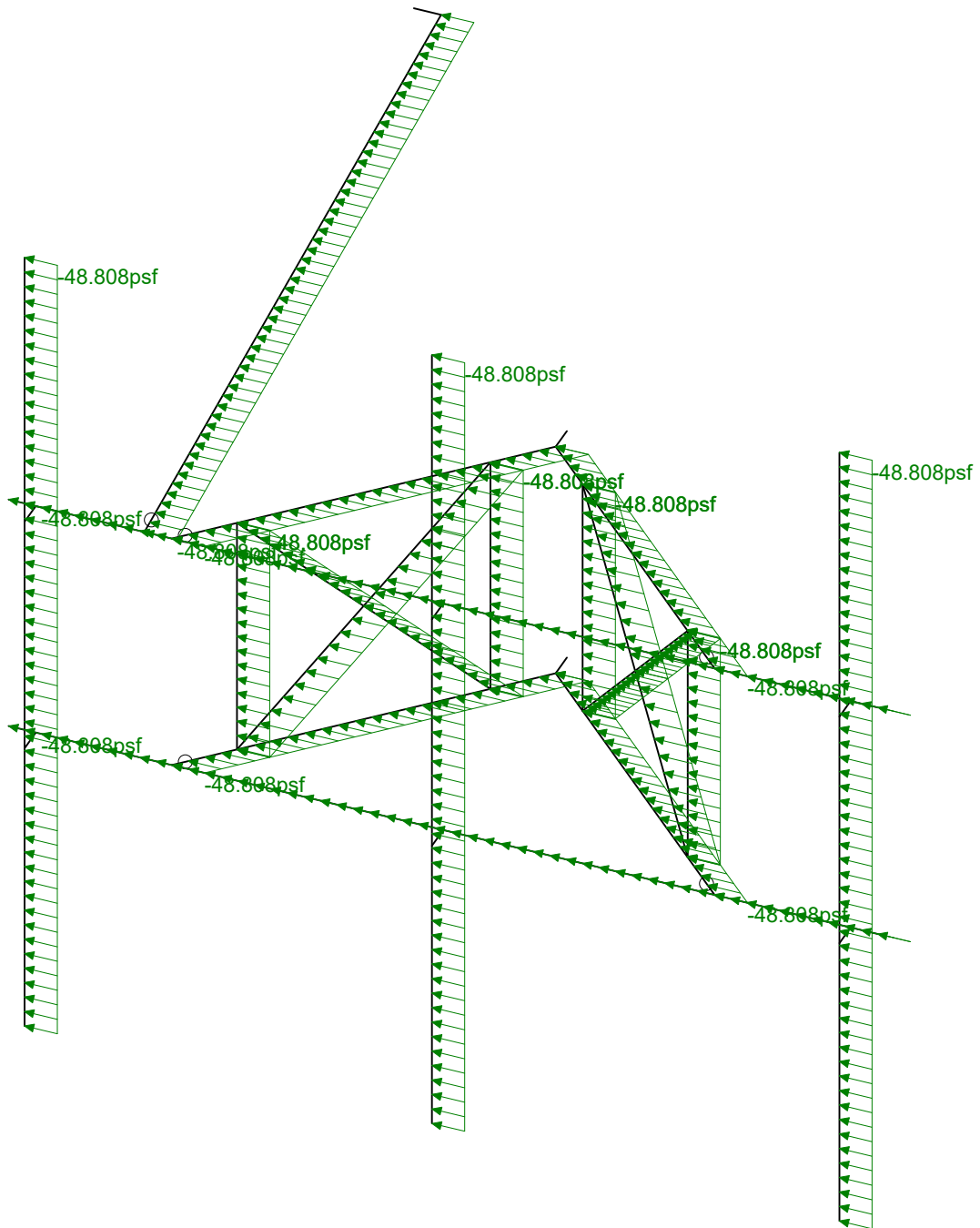
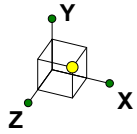
Loads: BLC 5, Wind Load AZI 90
Envelope Only Solution

Infinigy Engineering, PLLC	BOBOS00032A	Wind Load AZI 090
PSM		Sept 16, 2021 at 3:08 PM
1197-F0001-B		BOBOS00032A_loaded.r3d



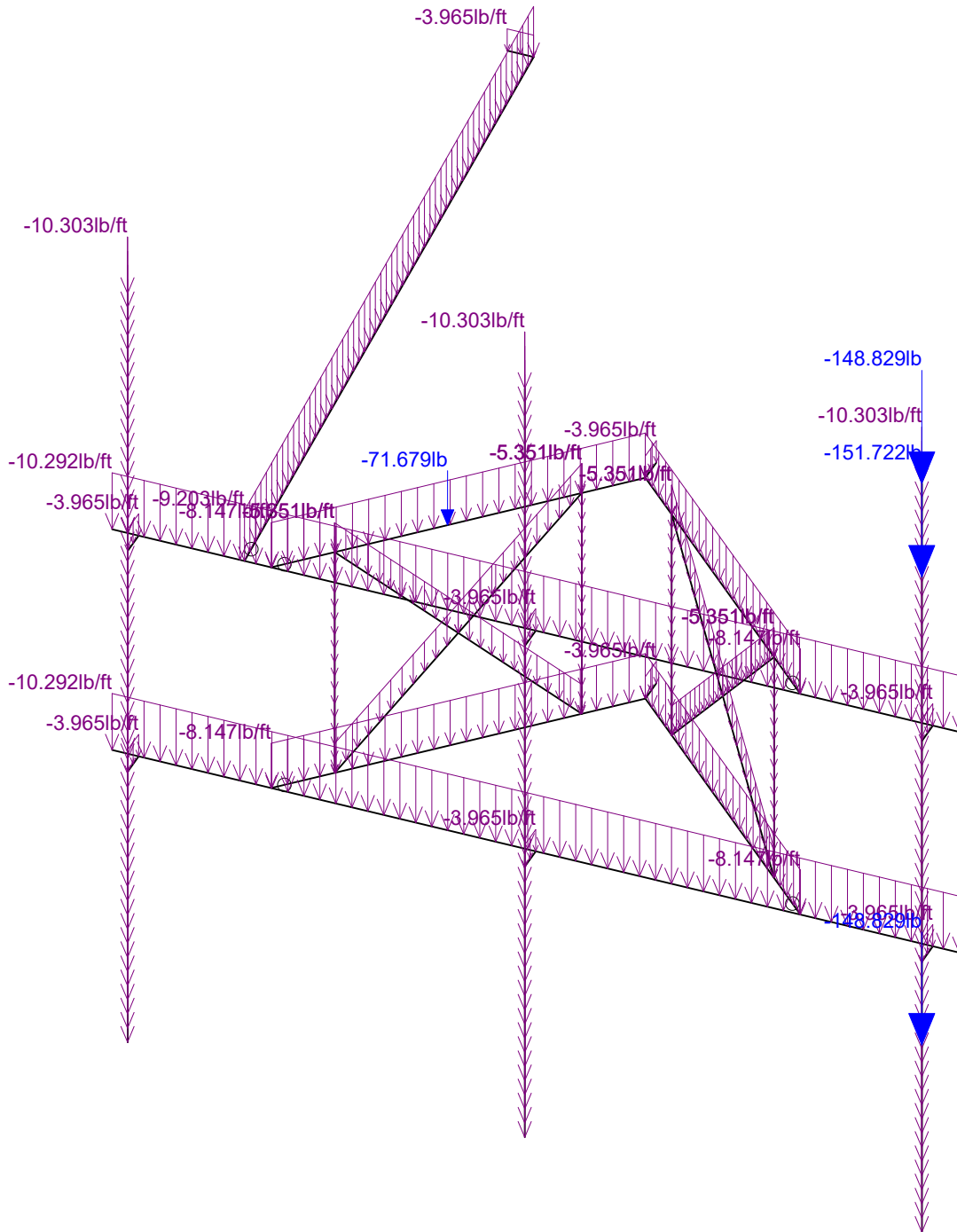
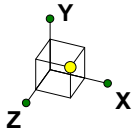
Loads: BLC 14, Distr. Wind Load Z
Envelope Only Solution

Infinigy Engineering, PLLC	BOBOS00032A	Distr Wind Load AZI 000
PSM		Sept 16, 2021 at 3:09 PM
1197-F0001-B		BOBOS00032A_loaded.r3d



Loads: BLC 15, Distr. Wind Load X
Envelope Only Solution

Infinigy Engineering, PLLC	BOBOS00032A	Distr Wind Load AZI 090
PSM		Sept 16, 2021 at 3:09 PM
1197-F0001-B		BOBOS00032A_loaded.r3d



Loads: BLC 16, Ice Weight
Envelope Only Solution

Infinigy Engineering, PLLC

PSM

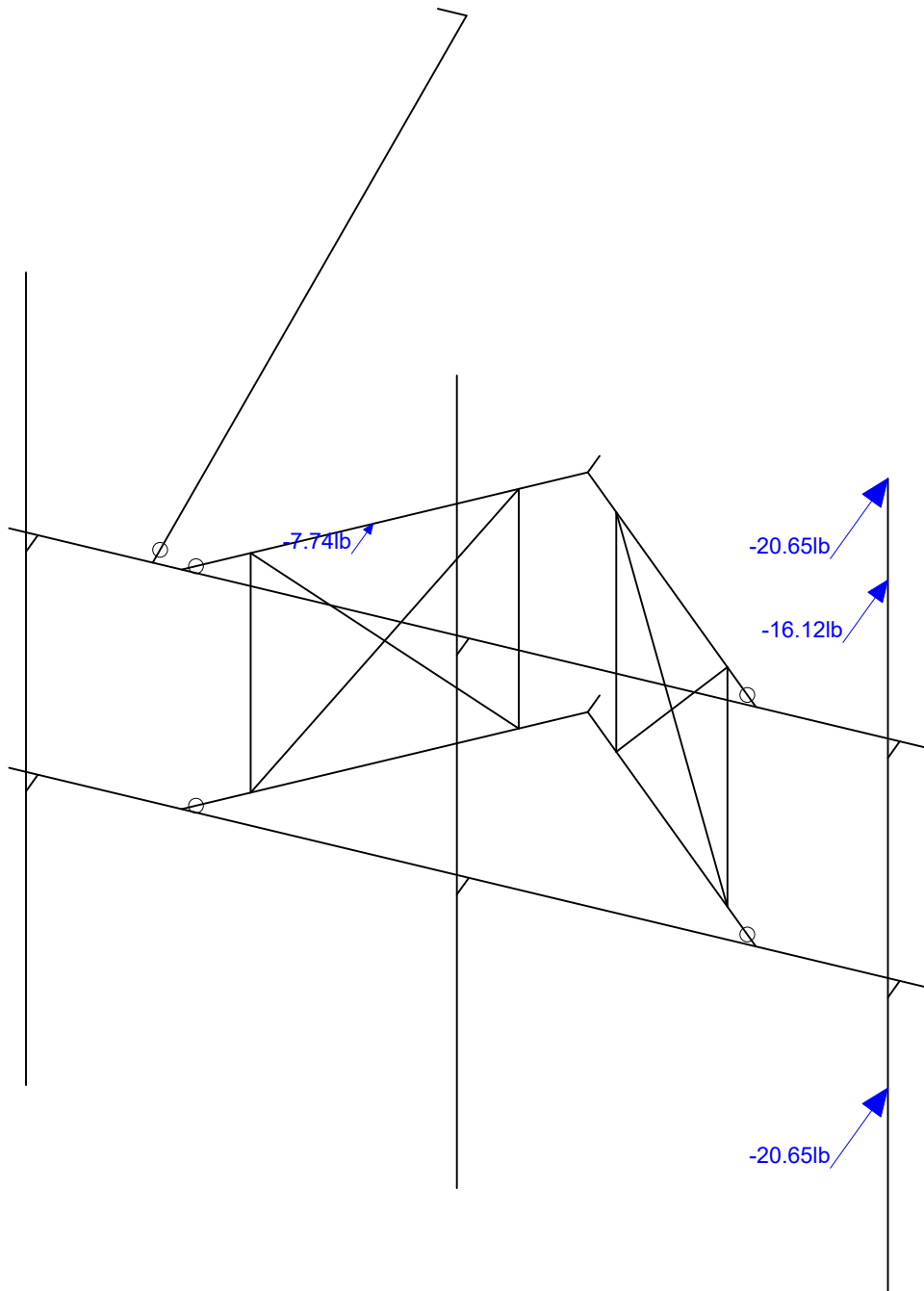
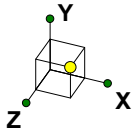
1197-F0001-B

BOBOS00032A

Ice Weight

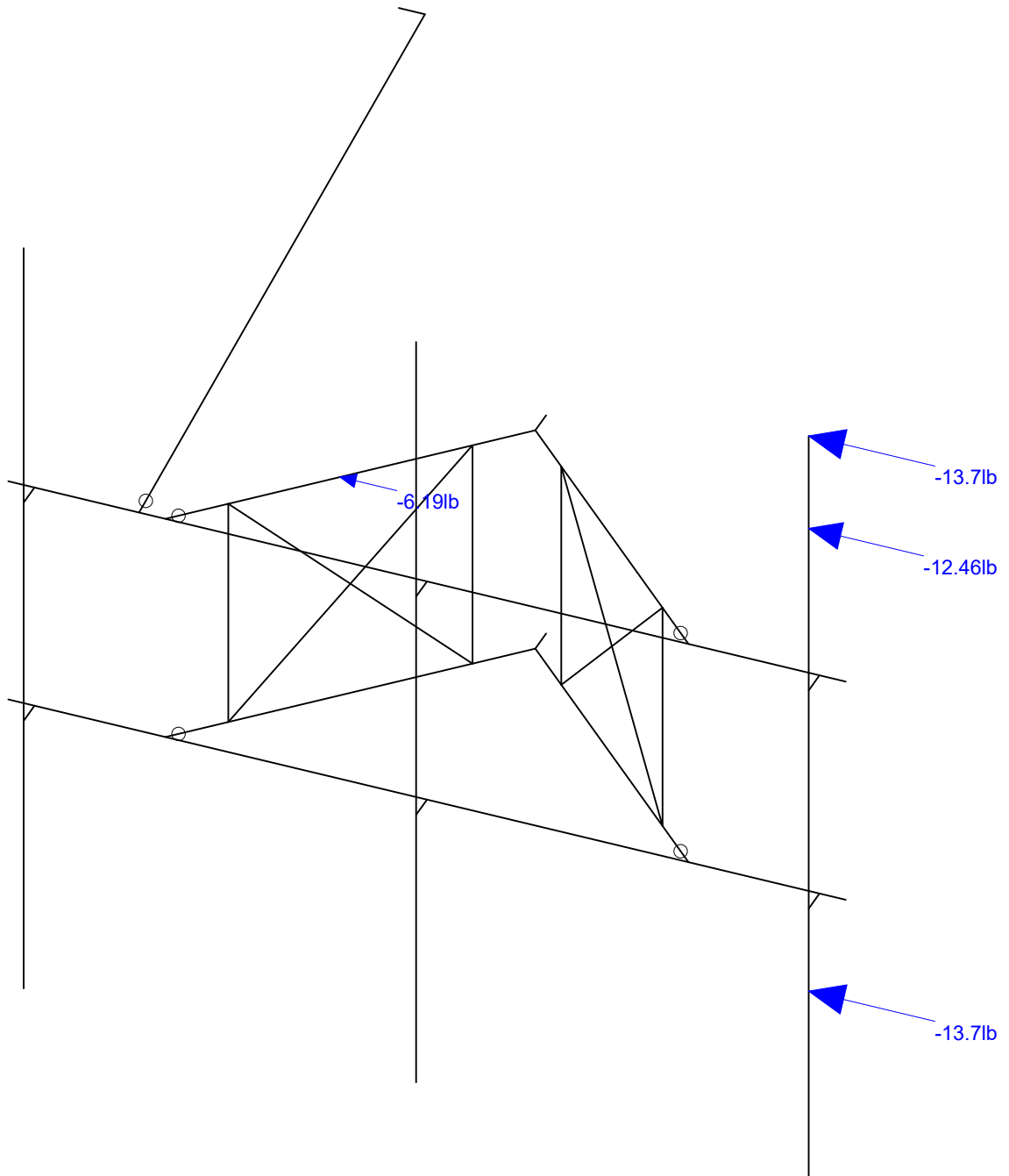
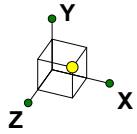
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BOBOS00032A_loaded.r3d



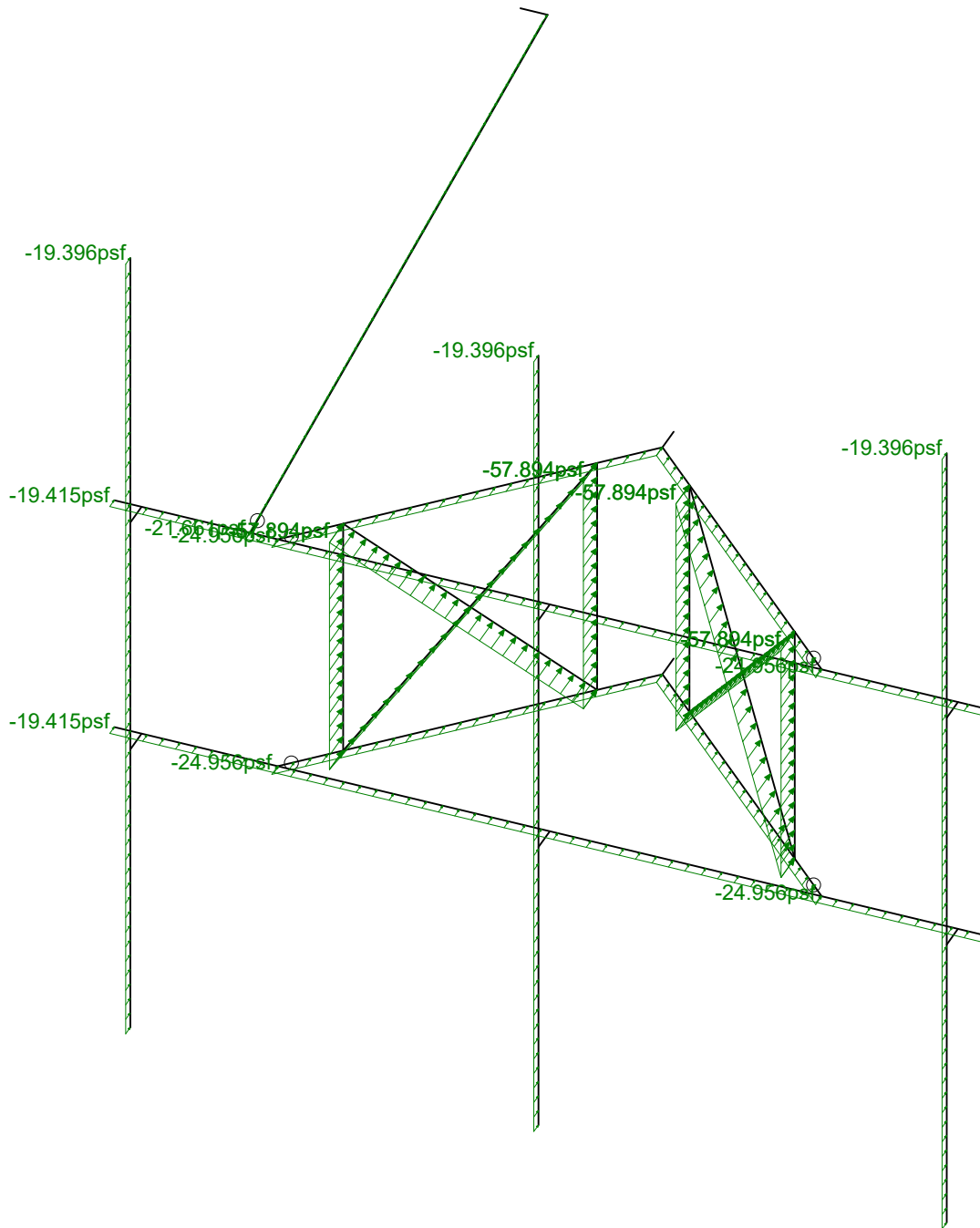
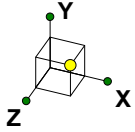
Loads: BLC 17, Ice Wind Load AZI 0
Envelope Only Solution

Infinigy Engineering, PLLC	BOBOS00032A	Ice + Wind Load AZI 000
PSM		Sept 16, 2021 at 3:10 PM
1197-F0001-B		BOBOS00032A_loaded.r3d



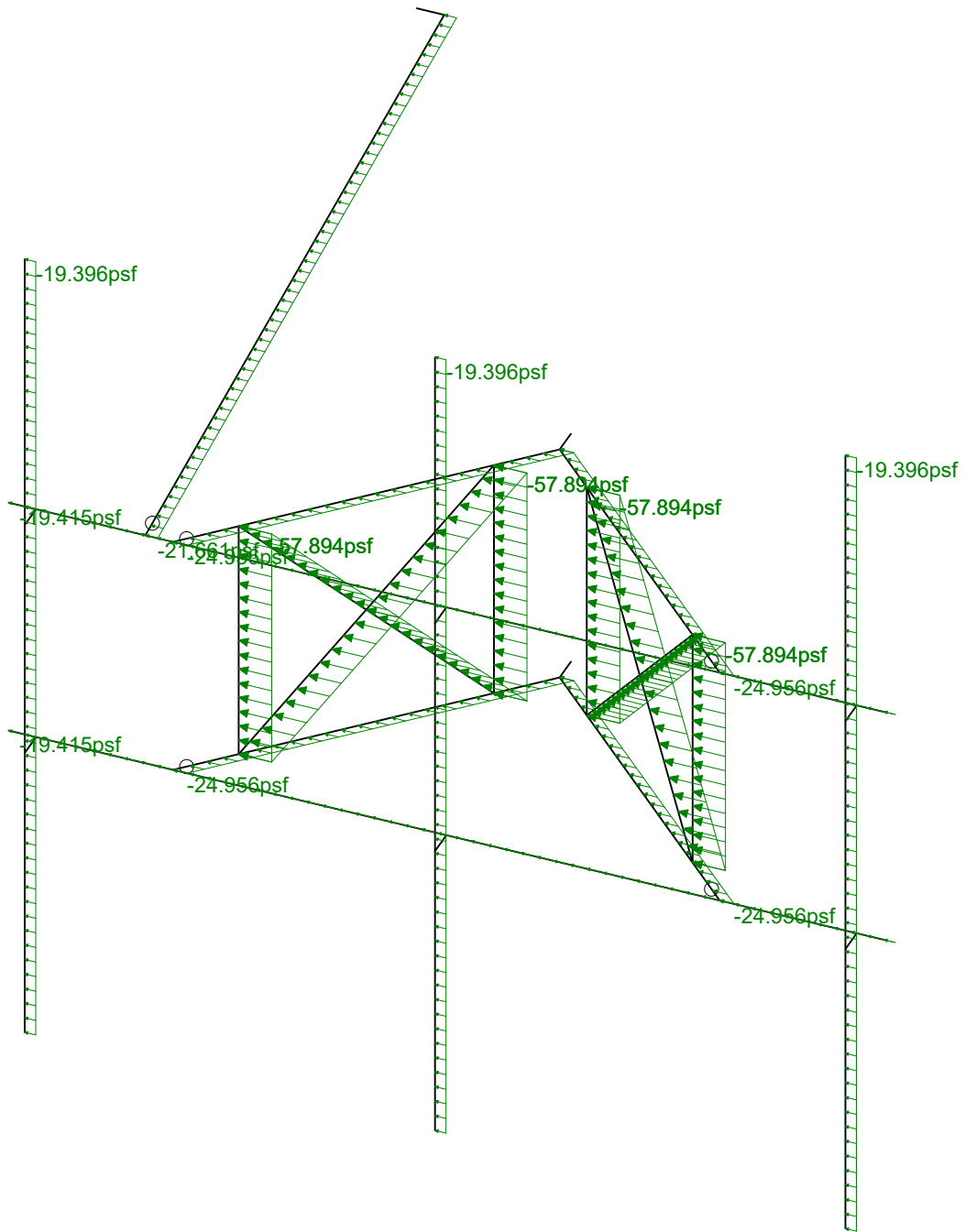
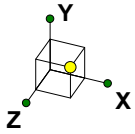
Loads: BLC 20, Ice Wind Load AZI 90
Envelope Only Solution

Infinigy Engineering, PLLC	BOBOS00032A	Ice + Wind Load AZI 090
PSM		Sept 16, 2021 at 3:10 PM
1197-F0001-B		BOBOS00032A_loaded.r3d



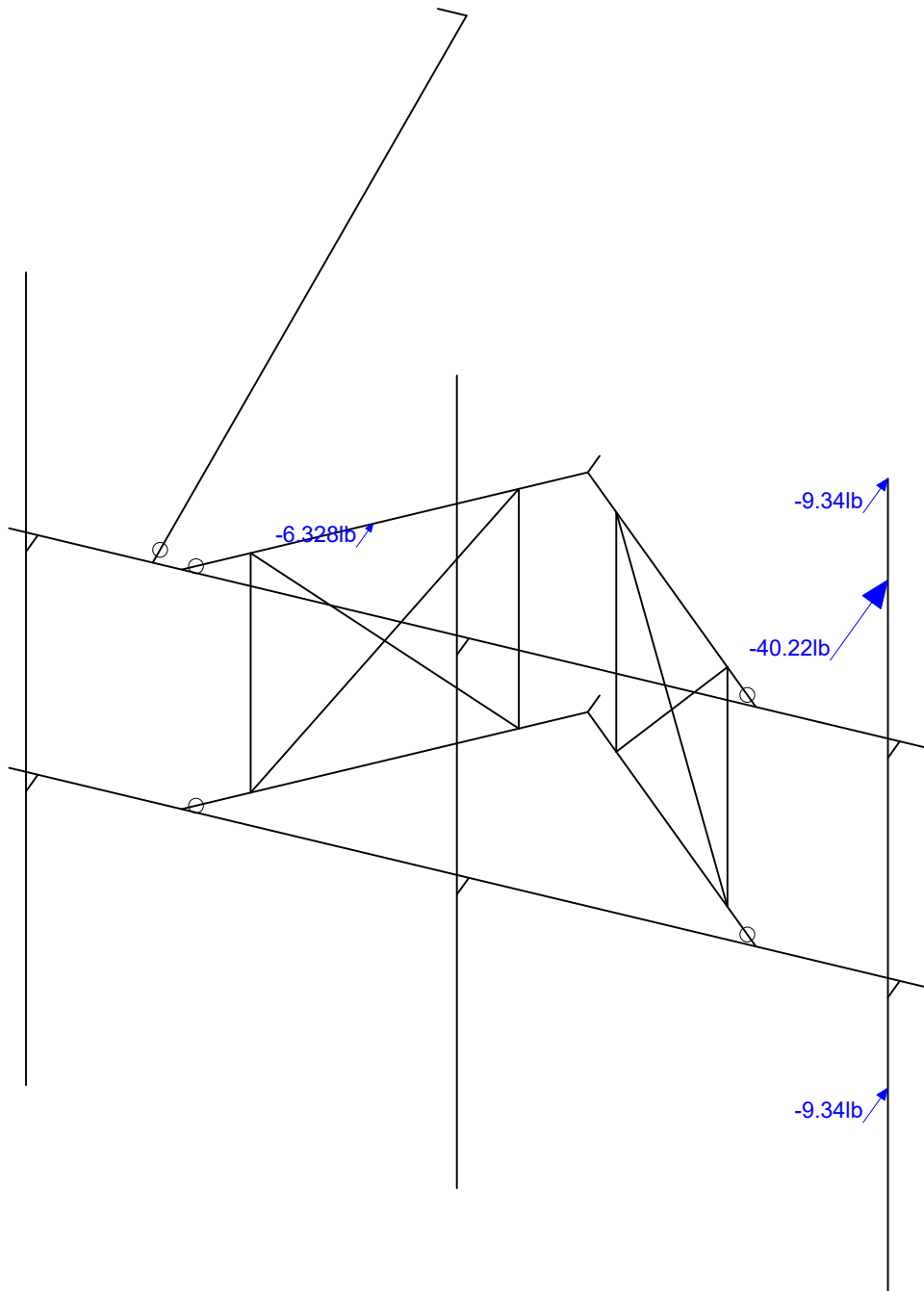
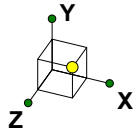
Loads: BLC 29, Distr. Ice Wind Load Z
Envelope Only Solution

Infinigy Engineering, PLLC	BOBOS00032A	Distr Ice + Wind Load AZI 000
PSM		Sept 16, 2021 at 3:10 PM
1197-F0001-B		BOBOS00032A_loaded.r3d



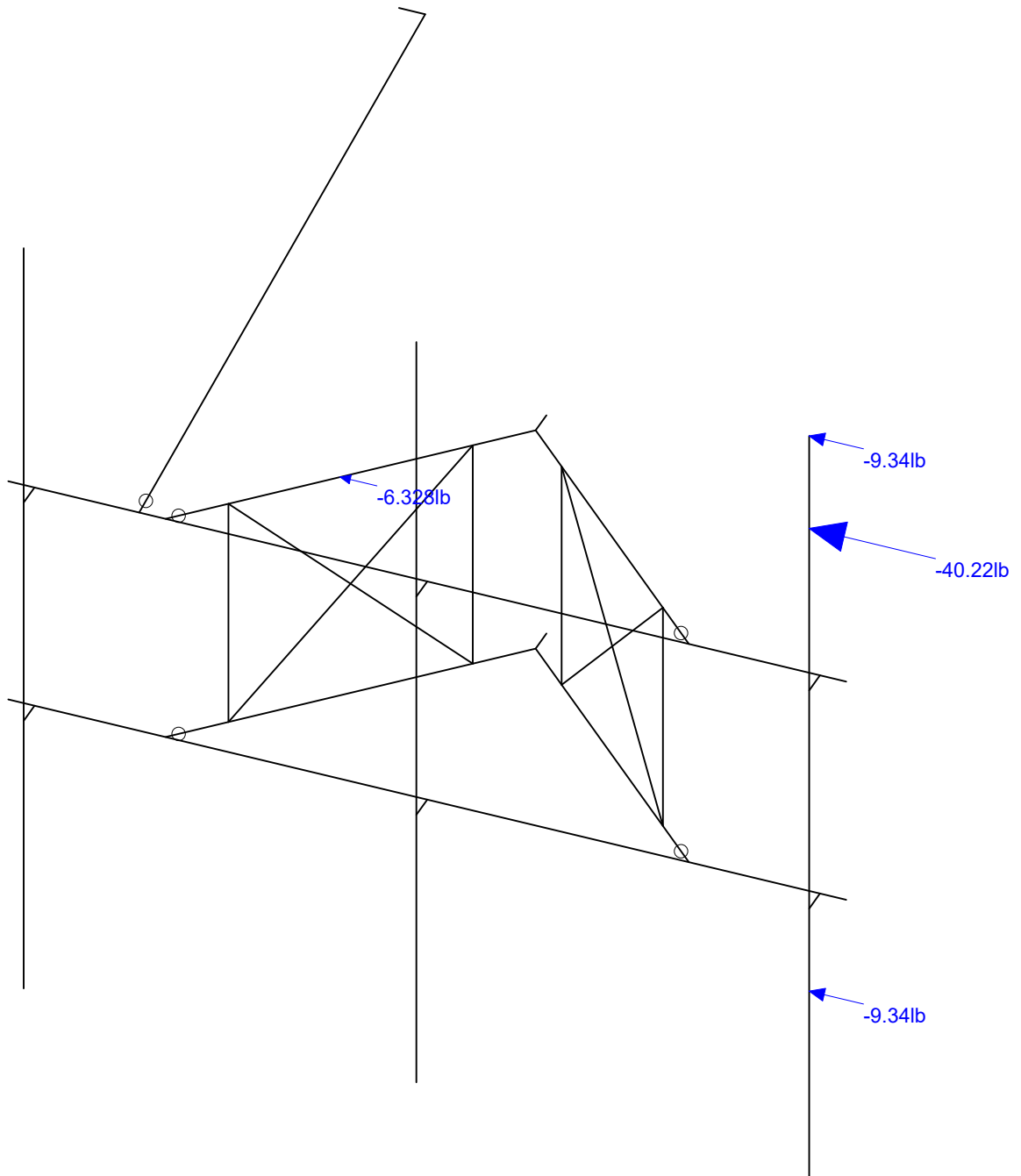
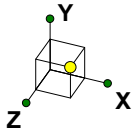
Loads: BLC 30, Distr. Ice Wind Load X
Envelope Only Solution

Infinigy Engineering, PLLC	BOBOS00032A	Distr Ice + Wind Load AZI 090
PSM		Sept 16, 2021 at 3:11 PM
1197-F0001-B		BOBOS00032A_loaded.r3d



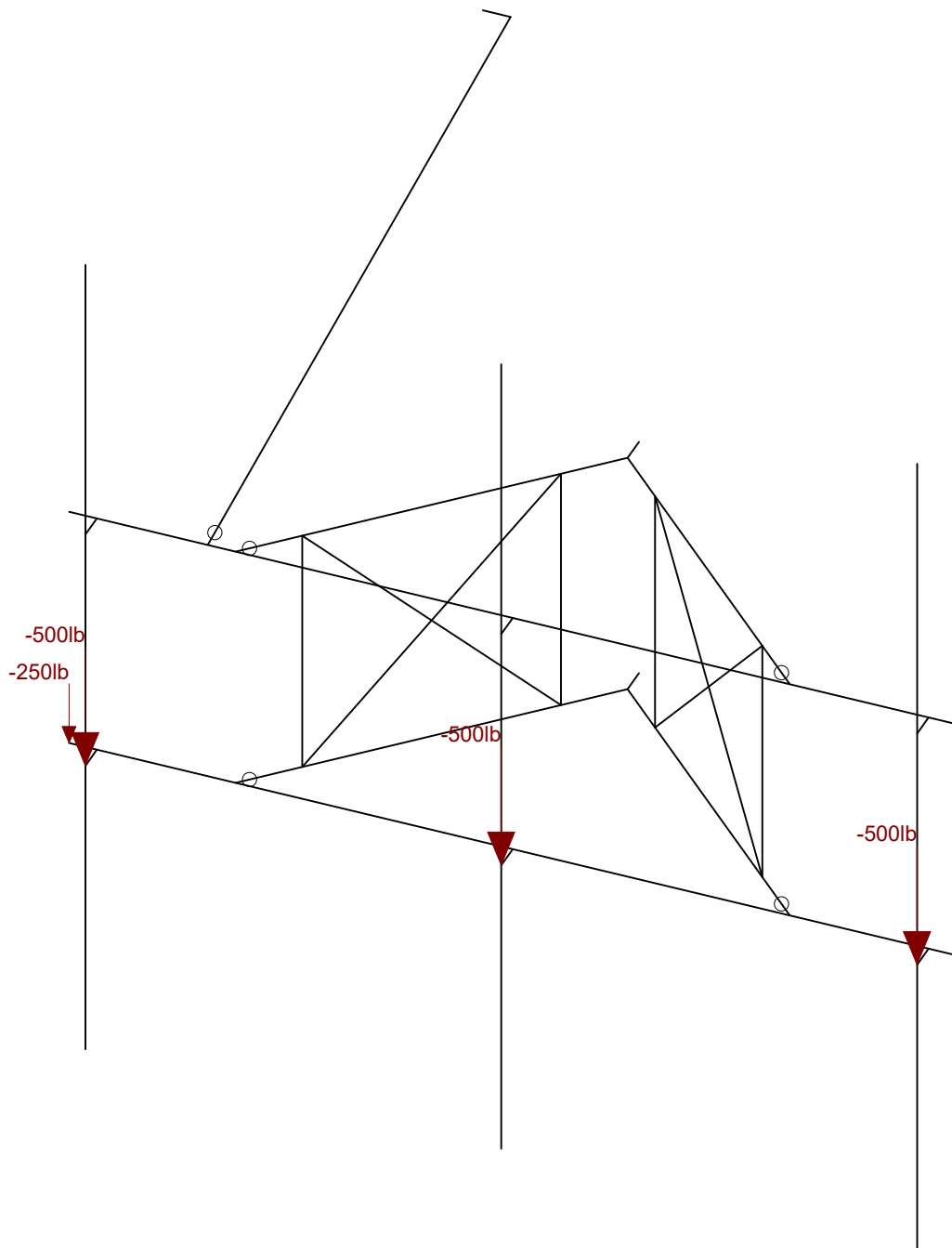
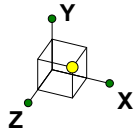
Loads: BLC 31, Seismic Load Z
Envelope Only Solution

Infinigy Engineering, PLLC	BOBOS00032A	Seismic Load AZI 000
PSM		Sept 16, 2021 at 3:11 PM
1197-F0001-B		BOBOS00032A_loaded.r3d



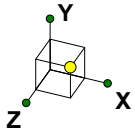
Loads: BLC 32, Seismic Load X
Envelope Only Solution

Infinigy Engineering, PLLC	BOBOS00032A	Seismic Load AZI 090
PSM		Sept 16, 2021 at 3:11 PM
1197-F0001-B		BOBOS00032A_loaded.r3d

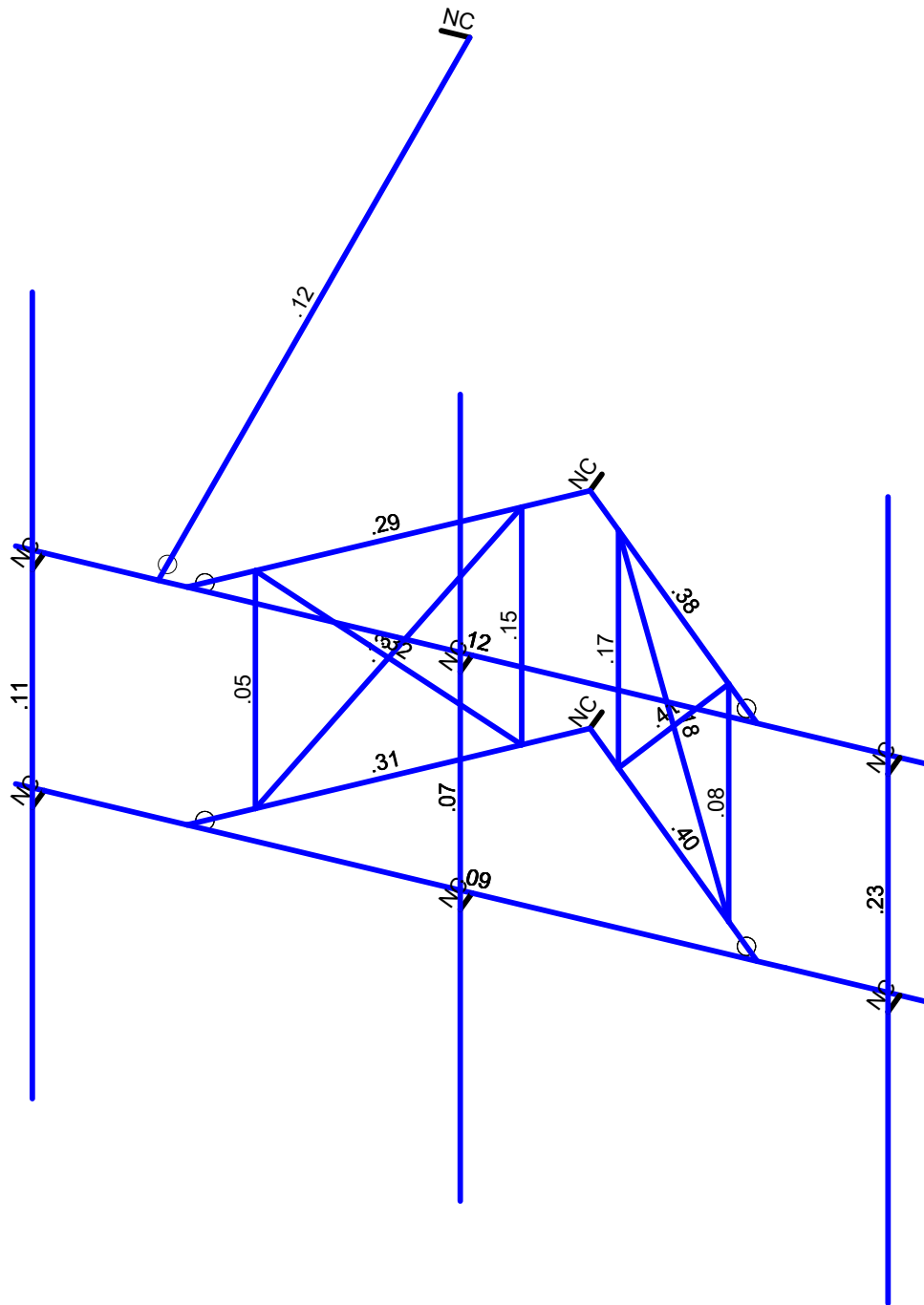


Loads: LL - Live Load
Envelope Only Solution

Infinigy Engineering, PLLC	BOBOS00032A	Non-concurrent Live Loads
PSM		Sept 16, 2021 at 3:12 PM
1197-F0001-B		BOBOS00032A_loaded.r3d



Code Check (Env)	
No Calc	No Calc
> 1.0	> 1.0
.90-1.0	.90-1.0
.75-.90	.75-.90
.50-.75	.50-.75
0-.50	0-.50



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Infinigy Engineering, PLLC

PSM

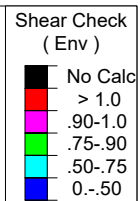
1197-F0001-B

BOBOS00032A

Bending Check

Sept 16, 2021 at 3:12 PM

BOBOS00032A_loaded.r3d



Infinigy Engineering, PLLC	BOBOS00032A	Shear Check
PSM		Sept 16, 2021 at 3:12 PM
1197-F0001-B		BOBOS00032A_loaded.r3d

Program Inputs

PROJECT INFORMATION		
Client:	ATC	
Carrier:	Dish Wireless	
Engineer:	Pradin Suinyal Magar, M.S	

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	B	
Topo Factor Procedure:	Method 1, Category 1	
Site Class:	D - Stiff Soil (Assumed)	
Ground Elevation:	781.36	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Sector Frame	
Num Sectors:	3	
Centerline AGL:	206.00	ft
Tower Height AGL:	280.00	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):	0.972	*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	

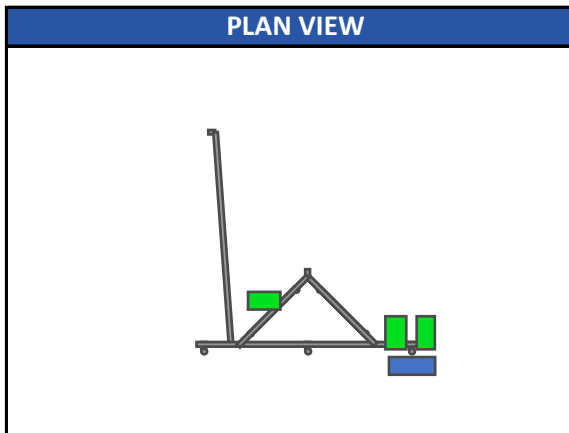
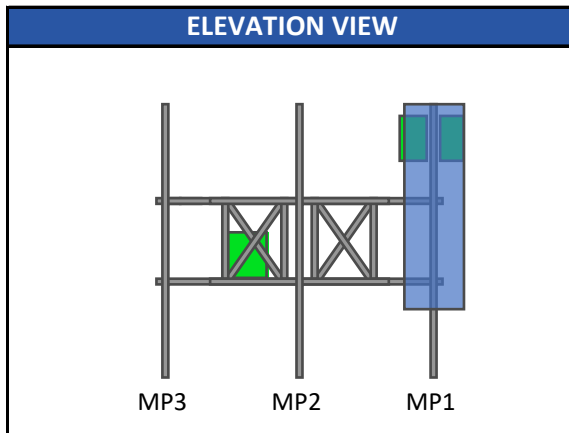
WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	119	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1.5	in
Flat Pressure:	81.346	psf
Round Pressure:	48.808	psf
Ice Wind Pressure:	8.617	psf

SEISMIC DATA		
Short-Period Accel. (S_s):	0.181	g
1-Second Accel. (S_1):	0.056	g
Short-Period Design (S_{DS}):	0.193	
1-Second Design (S_{D1}):	0.090	
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

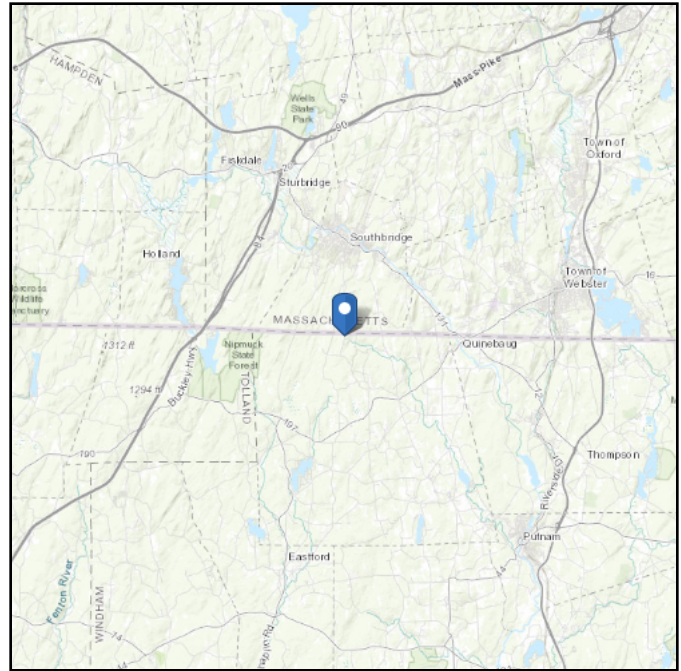
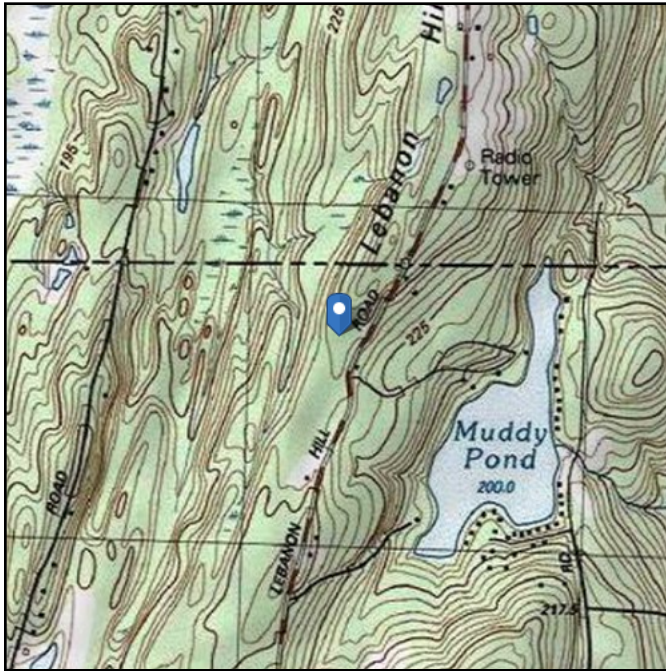
Risk Category: II**Soil Class:**

D - Default (see
Section 11.4.3)

Elevation: 781.36 ft (NAVD 88)

Latitude: 42.025269

Longitude: -72.037



Wind

Results:

Wind Speed:	119 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	98 Vmph

Data Source:

ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Date Accessed:

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).

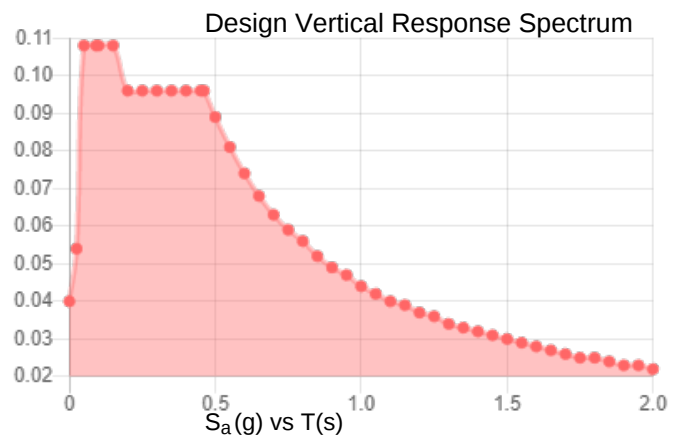
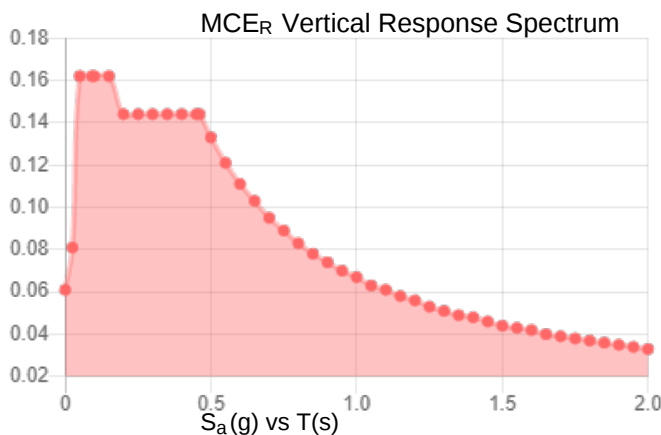
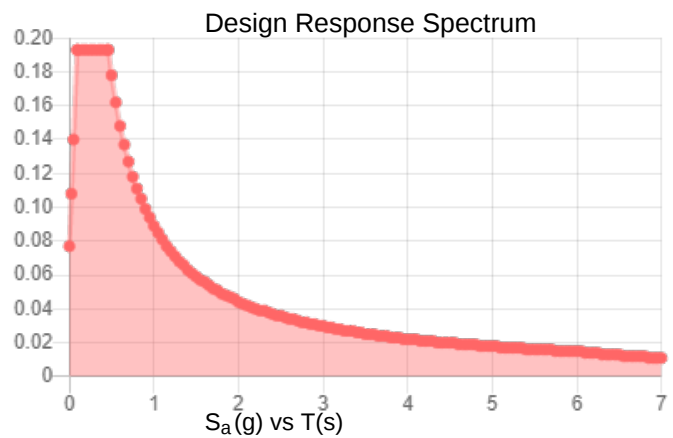
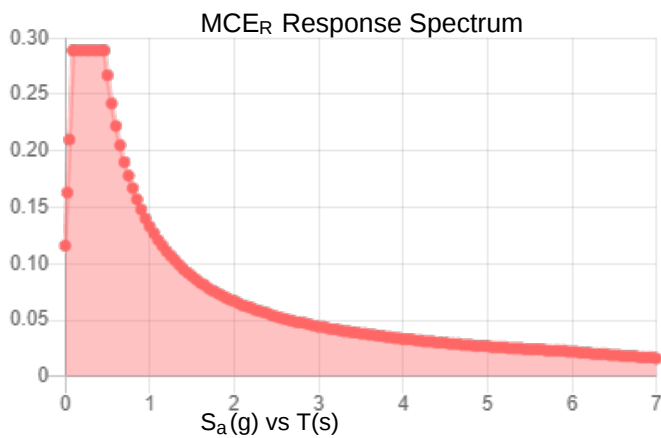
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

Results:

S_S :	0.181	S_{D1} :	0.089
S_1 :	0.056	T_L :	6
F_a :	1.6	PGA :	0.096
F_v :	2.4	PGA _M :	0.154
S_{MS} :	0.289	F_{PGA} :	1.6
S_{M1} :	0.133	I_e :	1
S_{DS} :	0.193	C_v :	0.7

Seismic Design Category B



Data Accessed:

Thu Sep 16 2021

Date Source:

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

Ice

Results:

Ice Thickness: 1.50 in.

Concurrent Temperature: 5 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(...)	Section/Shape	Type	Design List	Material	Design Rules
1	S3	N2	N1			Standoff Arms	Beam	Pipe	A500 Gr.46	Typical
2	S4	N7	N6			Standoff Arms	Beam	Pipe	A500 Gr.46	Typical
3	TR6	N3	N8			Standoff Vertical	None	None	A529 Gr.50	Typical
4	TR5	N4	N9			Standoff Vertical	None	None	A529 Gr.50	Typical
5	TR8	N4	N8			Diagonal	None	None	A529 Gr.50	Typical
6	TR7	N3	N9			Diagonal	None	None	A529 Gr.50	Typical
7	S1	N10	N1			Standoff Arms	Beam	Pipe	A500 Gr.46	Typical
8	S2	N14	N6			Standoff Arms	Beam	Pipe	A500 Gr.46	Typical
9	TR1	N11	N15			Standoff Vertical	None	None	A529 Gr.50	Typical
10	TR2	N12	N16			Standoff Vertical	None	None	A529 Gr.50	Typical
11	TR3	N12	N15			Diagonal	None	None	A529 Gr.50	Typical
12	TR4	N11	N16			Diagonal	None	None	A529 Gr.50	Typical
13	H1	N16A	N15A			Face Horizontal	Beam	Pipe	A500 Gr.46	Typical
14	H2	N18	N17			Face Horizontal	Beam	Pipe	A500 Gr.46	Typical
15	MP3	N21	N22			Mount Pipe	Colu...	Pipe	A500 Gr.46	Typical
16	MP1	N19	N20			Mount Pipe	Colu...	Pipe	A500 Gr.46	Typical
17	MP2	N33	N34			Mount Pipe	Colu...	Pipe	A500 Gr.46	Typical
18	T1	N37	N38			Tie Back	None	None	A500 Gr.46	Typical
19	M29	N25	N67			RIGID	None	None	RIGID	Typical
20	M30	N27	N69			RIGID	None	None	RIGID	Typical
21	M33	N35	N73			RIGID	None	None	RIGID	Typical
22	M34	N36	N74			RIGID	None	None	RIGID	Typical
23	M35	N26	N68			RIGID	None	None	RIGID	Typical
24	M36	N28	N70			RIGID	None	None	RIGID	Typical
25	M25	N43	N1			RIGID	None	None	RIGID	Typical
26	M26	N44	N6			RIGID	None	None	RIGID	Typical
27	M27	N44A	N38			RIGID	None	None	RIGID	Typical

Hot Rolled Steel Design Parameters

	Label	Shape	Lengt...	Lbyy[in]	Lbzz[in]	Lcomp t...	Lcomp b...	L-tor...	Kyy	Kzz	Cb	Func...
1	S3	Standoff Arms	42.4			Lbyy						Late...
2	S4	Standoff Arms	42.4			Lbyy						Late...
3	TR6	Standoff Vertical	28.3			Lbyy			.65	.65		Late...
4	TR5	Standoff Vertical	28.3			Lbyy			.65	.65		Late...
5	TR8	Diagonal	39.811			Lbyy			.7	.7		Late...
6	TR7	Diagonal	39.811			Lbyy			.5	.5		Late...
7	S1	Standoff Arms	42.4			Lbyy						Late...
8	S2	Standoff Arms	42.4			Lbyy						Late...
9	TR1	Standoff Vertical	28.3			Lbyy			.65	.65		Late...
10	TR2	Standoff Vertical	28.3			Lbyy			.65	.65		Late...

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length	Lbyy[in]	Lbzz[in]	Lcomp t...	Lcomp b...	L-tor...	Kyy	Kzz	Cb	Func...
11	TR3	Diagonal	39.811			Lbyy			.7	.7		Late...
12	TR4	Diagonal	39.811			Lbyy			.5	.5		Late...
13	H1	Face Horizontal	96			Lbyy						Late...
14	H2	Face Horizontal	96			Lbyy						Late...
15	MP3	Mount Pipe	96			Lbyy						Late...
16	MP1	Mount Pipe	96			Lbyy						Late...
17	MP2	Mount Pipe	96			Lbyy						Late...
18	T1	Tie Back	96.255			Lbyy						Late...

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra...	Analysis ...	Inactive	Seismi...
1	S3	BenPIN					Yes	Default			None
2	S4	BenPIN					Yes	Default			None
3	TR6						Yes	** NA **			None
4	TR5						Yes	** NA **			None
5	TR8						Yes	** NA **			None
6	TR7						Yes	** NA **			None
7	S1	BenPIN					Yes	Default			None
8	S2	BenPIN					Yes	Default			None
9	TR1						Yes	** NA **			None
10	TR2						Yes	** NA **			None
11	TR3						Yes	** NA **			None
12	TR4						Yes	** NA **			None
13	H1						Yes				None
14	H2						Yes				None
15	MP3						Yes	** NA **			None
16	MP1						Yes	** NA **			None
17	MP2						Yes	** NA **			None
18	T1	BenPIN					Yes	** NA **			None
19	M29						Yes	** NA **			None
20	M30						Yes	** NA **			None
21	M33						Yes	** NA **			None
22	M34						Yes	** NA **			None
23	M35						Yes	** NA **			None
24	M36						Yes	** NA **			None
25	M25						Yes	** NA **			None
26	M26						Yes	** NA **			None
27	M27						Yes	** NA **			None

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		9	27	0
3	Total General		9	27	0
4					
5	Hot Rolled Steel				
6	A500 Gr.46	1.9" ODx0.12"	4	169.6	32.27
7	A500 Gr.46	PIPE 2.5	2	192	87.656
8	A500 Gr.46	2.88"x0.120"	3	288	84.933
9	A500 Gr.46	Pipe2.38X0.12	1	96.3	23.255
10	A529 Gr.50	0.63" SR	8	272.4	24.082
11	Total HR Steel		18	1018.3	252.196

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design...	A [in2]	Iyy [in...]	Izz [in...]	J [in4]
1	Face Horizontal	PIPE 2.5	Beam	Pipe	A500 G...	Typical	1.61	1.45	1.45	2.89
2	Standoff Arms	1.9" ODx0.12"	Beam	Pipe	A500 G...	Typical	.671	.267	.267	.534
3	Diagonal	0.63" SR	None	None	A529 G...	Typical	.312	.008	.008	.015
4	Mount Pipe	2.88"x0.120"	Colu...	Pipe	A500 G...	Typical	1.04	.993	.993	1.985
5	Tie Back	Pipe2.38X0.12	None	None	A500 G...	Typical	.852	.545	.545	1.091
6	End Support Pipe	3.5"x0.120	None	None	A500 G...	Typical	1.274	1.822	1.822	3.644
7	Standoff Vertical	0.63" SR	None	None	A529 G...	Typical	.312	.008	.008	.015

Basic Load Cases

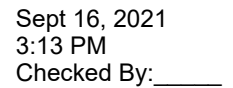
	BLC Description	Category	X Gr...	Y Gr...	Z Gr...	Joint	Point	Distributed	Area(Memb...	Surface(Plate/Wall)
1	Self Weight	DL		-1			5			
2	Wind Load AZI 0	WLZ					10			
3	Wind Load AZI 30	None					10			
4	Wind Load AZI 60	None					10			
5	Wind Load AZI 90	WLX					10			
6	Wind Load AZI 1...	None					10			
7	Wind Load AZI 1...	None					10			
8	Wind Load AZI 1...	None					10			
9	Wind Load AZI 2...	None					10			
10	Wind Load AZI 2...	None					10			
11	Wind Load AZI 2...	None					10			
12	Wind Load AZI 3...	None					10			
13	Wind Load AZI 3...	None					10			
14	Distr. Wind Load Z	WLZ						27		

Basic Load Cases (Continued)

	BLC Description	Category	X Gr...	Y Gr...	Z Gr...	Joint	Point	Distributed	Area(Memb...	Surface(Plate/Wall)
15	Distr. Wind Load X	WLX						27		
16	Ice Weight	OL1					5	27		
17	Ice Wind Load A...	OL2					10			
18	Ice Wind Load A...	None					10			
19	Ice Wind Load A...	None					10			
20	Ice Wind Load A...	OL3					10			
21	Ice Wind Load A...	None					10			
22	Ice Wind Load A...	None					10			
23	Ice Wind Load A...	None					10			
24	Ice Wind Load A...	None					10			
25	Ice Wind Load A...	None					10			
26	Ice Wind Load A...	None					10			
27	Ice Wind Load A...	None					10			
28	Ice Wind Load A...	None					10			
29	Distr. Ice Wind L...	OL2						27		
30	Distr. Ice Wind L...	OL3						27		
31	Seismic Load Z	ELZ			-.29		5			
32	Seismic Load X	ELX	-.29				5			
33	Service Live Loa...	LL				1				
34	Maintenance Loa...	LL				1				
35	Maintenance Loa...	LL				1				
36	Maintenance Loa...	LL				1				

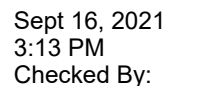
Load Combinations

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4DL	Y...	Y	1	1.4															
2	1.2DL + 1WL AZI 0	Y...	Y	1	1.2	2	1	14	1	15										
3	1.2DL + 1WL AZI 30	Y...	Y	1	1.2	3	1	14	.866	15	.5									
4	1.2DL + 1WL AZI 60	Y...	Y	1	1.2	4	1	14	.5	15	.866									
5	1.2DL + 1WL AZI 90	Y...	Y	1	1.2	5	1	14		15	1									
6	1.2DL + 1WL AZI 120	Y...	Y	1	1.2	6	1	14	-.5	15	.866									
7	1.2DL + 1WL AZI 150	Y...	Y	1	1.2	7	1	14	-.8...	15	.5									
8	1.2DL + 1WL AZI 180	Y...	Y	1	1.2	8	1	14	-.1	15										
9	1.2DL + 1WL AZI 210	Y...	Y	1	1.2	9	1	14	-.8...	15	-.5									
10	1.2DL + 1WL AZI 240	Y...	Y	1	1.2	10	1	14	-.5	15	-.8...									
11	1.2DL + 1WL AZI 270	Y...	Y	1	1.2	11	1	14		15	-.1									
12	1.2DL + 1WL AZI 300	Y...	Y	1	1.2	12	1	14	.5	15	-.8...									
13	1.2DL + 1WL AZI 330	Y...	Y	1	1.2	13	1	14	.866	15	-.5									
14	0.9DL + 1WL AZI 0	Y...	Y	1	.9	2	1	14	1	15										
15	0.9DL + 1WL AZI 30	Y...	Y	1	.9	3	1	14	.866	15	.5									
16	0.9DL + 1WL AZI 60	Y...	Y	1	.9	4	1	14	.5	15	.866									



Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
59	(0.9 - 0.2Sds)DL + 1.0E AZI 2...	Y...	Y		1	.861	31	-.5	32	-.8...										
60	(0.9 - 0.2Sds)DL + 1.0E AZI 2...	Y...	Y		1	.861	31		32	-.1										
61	(0.9 - 0.2Sds)DL + 1.0E AZI 3...	Y...	Y		1	.861	31	.5	32	-.8...										
62	(0.9 - 0.2Sds)DL + 1.0E AZI 3...	Y...	Y		1	.861	31	.866	32	-.5										
63	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	2	.254	14	.254	15		33	1.5						
64	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	3	.254	14	.22	15	.127	33	1.5						
65	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	4	.254	14	.127	15	.22	33	1.5						
66	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	5	.254	14		15	.254	33	1.5						
67	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	6	.254	14	-.1...	15	.22	33	1.5						
68	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	7	.254	14	-.22	15	.127	33	1.5						
69	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	8	.254	14	-.2...	15		33	1.5						
70	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	9	.254	14	-.22	15	-.1...	33	1.5						
71	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	10	.254	14	-.1...	15	-.22	33	1.5						
72	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	11	.254	14		15	-.2...	33	1.5						
73	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	12	.254	14	.127	15	-.22	33	1.5						
74	1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y		1	1	13	.254	14	.22	15	-.1...	33	1.5						
75	1.2DL + 1.5LL	Y...	Y		1	1.2	33	1.5												
76	1.2DL + 1.5LM-MP1 + 1SWL (...Y...	Y			1	1.2	34	1.5	2	.064	14	.064	15							
77	1.2DL + 1.5LM-MP1 + 1SWL (...Y...	Y			1	1.2	34	1.5	3	.064	14	.055	15	.032						
78	1.2DL + 1.5LM-MP1 + 1SWL (...Y...	Y			1	1.2	34	1.5	4	.064	14	.032	15	.055						
79	1.2DL + 1.5LM-MP1 + 1SWL (...Y...	Y			1	1.2	34	1.5	5	.064	14		15	.064						
80	1.2DL + 1.5LM-MP1 + 1SWL (...Y...	Y			1	1.2	34	1.5	6	.064	14	-.0...	15	.055						
81	1.2DL + 1.5LM-MP1 + 1SWL (...Y...	Y			1	1.2	34	1.5	7	.064	14	-.0...	15	.032						
82	1.2DL + 1.5LM-MP1 + 1SWL (...Y...	Y			1	1.2	34	1.5	8	.064	14	-.0...	15							
83	1.2DL + 1.5LM-MP1 + 1SWL (...Y...	Y			1	1.2	34	1.5	9	.064	14	-.0...	15	-.0...						
84	1.2DL + 1.5LM-MP1 + 1SWL (...Y...	Y			1	1.2	34	1.5	10	.064	14	-.0...	15	-.0...						
85	1.2DL + 1.5LM-MP1 + 1SWL (...Y...	Y			1	1.2	34	1.5	11	.064	14		15	-.0...						
86	1.2DL + 1.5LM-MP1 + 1SWL (...Y...	Y			1	1.2	34	1.5	12	.064	14	.032	15	-.0...						
87	1.2DL + 1.5LM-MP1 + 1SWL (...Y...	Y			1	1.2	34	1.5	13	.064	14	.055	15	-.0...						
88	1.2DL + 1.5LM-MP2 + 1SWL (...Y...	Y			1	1.2	35	1.5	2	.064	14	.064	15							
89	1.2DL + 1.5LM-MP2 + 1SWL (...Y...	Y			1	1.2	35	1.5	3	.064	14	.055	15	.032						
90	1.2DL + 1.5LM-MP2 + 1SWL (...Y...	Y			1	1.2	35	1.5	4	.064	14	.032	15	.055						
91	1.2DL + 1.5LM-MP2 + 1SWL (...Y...	Y			1	1.2	35	1.5	5	.064	14		15	.064						
92	1.2DL + 1.5LM-MP2 + 1SWL (...Y...	Y			1	1.2	35	1.5	6	.064	14	-.0...	15	.055						
93	1.2DL + 1.5LM-MP2 + 1SWL (...Y...	Y			1	1.2	35	1.5	7	.064	14	-.0...	15	.032						
94	1.2DL + 1.5LM-MP2 + 1SWL (...Y...	Y			1	1.2	35	1.5	8	.064	14	-.0...	15							
95	1.2DL + 1.5LM-MP2 + 1SWL (...Y...	Y			1	1.2	35	1.5	9	.064	14	-.0...	15	-.0...						
96	1.2DL + 1.5LM-MP2 + 1SWL (...Y...	Y			1	1.2	35	1.5	10	.064	14	-.0...	15	-.0...						
97	1.2DL + 1.5LM-MP2 + 1SWL (...Y...	Y			1	1.2	35	1.5	11	.064	14		15	-.0...						
98	1.2DL + 1.5LM-MP2 + 1SWL (...Y...	Y			1	1.2	35	1.5	12	.064	14	.032	15	-.0...						
99	1.2DL + 1.5LM-MP2 + 1SWL (...Y...	Y			1	1.2	35	1.5	13	.064	14	.055	15	-.0...						
100	1.2DL + 1.5LM-MP3 + 1SWL (...Y...	Y			1	1.2	36	1.5	2	.064	14	.064	15							



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	-146.61	0
3	MP1	X	0	72
4	MP1	Z	-146.61	72
5	MP1	X	0	12
6	MP1	Z	-71.88	12
7	MP1	X	0	12
8	MP1	Z	-71.88	12
9	S1	X	0	20
10	S1	Z	-68.33	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-62.32	0
2	MP1	Z	-107.94	0
3	MP1	X	-62.32	72
4	MP1	Z	-107.94	72
5	MP1	X	-32.39	12
6	MP1	Z	-56.11	12
7	MP1	X	-31.68	12
8	MP1	Z	-54.87	12
9	S1	X	-30.5	20
10	S1	Z	-52.84	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-69.9	0
2	MP1	Z	-40.36	0
3	MP1	X	-69.9	72
4	MP1	Z	-40.36	72
5	MP1	X	-43.83	12
6	MP1	Z	-25.31	12
7	MP1	X	-40.12	12
8	MP1	Z	-23.16	12
9	S1	X	-40.16	20
10	S1	Z	-23.18	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-58.75	0
2	MP1	Z	0	0

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
3	MP1	X	-58.75	72
4	MP1	Z	0	72
5	MP1	X	-43.53	12
6	MP1	Z	0	12
7	MP1	X	-37.81	12
8	MP1	Z	0	12
9	S1	X	-39.05	20
10	S1	Z	0	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-69.9	0
2	MP1	Z	40.36	0
3	MP1	X	-69.9	72
4	MP1	Z	40.36	72
5	MP1	X	-43.83	12
6	MP1	Z	25.31	12
7	MP1	X	-40.12	12
8	MP1	Z	23.16	12
9	S1	X	-40.16	20
10	S1	Z	23.18	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-62.32	0
2	MP1	Z	107.94	0
3	MP1	X	-62.32	72
4	MP1	Z	107.94	72
5	MP1	X	-32.39	12
6	MP1	Z	56.11	12
7	MP1	X	-31.68	12
8	MP1	Z	54.87	12
9	S1	X	-30.5	20
10	S1	Z	52.84	20

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	146.61	0
3	MP1	X	0	72
4	MP1	Z	146.61	72

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
5	MP1	X	0	12
6	MP1	Z	71.88	12
7	MP1	X	0	12
8	MP1	Z	71.88	12
9	S1	X	0	20
10	S1	Z	68.33	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	62.32	0
2	MP1	Z	107.94	0
3	MP1	X	62.32	72
4	MP1	Z	107.94	72
5	MP1	X	32.39	12
6	MP1	Z	56.11	12
7	MP1	X	31.68	12
8	MP1	Z	54.87	12
9	S1	X	30.5	20
10	S1	Z	52.84	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	69.9	0
2	MP1	Z	40.36	0
3	MP1	X	69.9	72
4	MP1	Z	40.36	72
5	MP1	X	43.83	12
6	MP1	Z	25.31	12
7	MP1	X	40.12	12
8	MP1	Z	23.16	12
9	S1	X	40.16	20
10	S1	Z	23.18	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	58.75	0
2	MP1	Z	0	0
3	MP1	X	58.75	72
4	MP1	Z	0	72
5	MP1	X	43.53	12
6	MP1	Z	0	12

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
7	MP1	X	37.81	12
8	MP1	Z	0	12
9	S1	X	39.05	20
10	S1	Z	0	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	69.9	0
2	MP1	Z	-40.36	0
3	MP1	X	69.9	72
4	MP1	Z	-40.36	72
5	MP1	X	43.83	12
6	MP1	Z	-25.31	12
7	MP1	X	40.12	12
8	MP1	Z	-23.16	12
9	S1	X	40.16	20
10	S1	Z	-23.18	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	62.32	0
2	MP1	Z	-107.94	0
3	MP1	X	62.32	72
4	MP1	Z	-107.94	72
5	MP1	X	32.39	12
6	MP1	Z	-56.11	12
7	MP1	X	31.68	12
8	MP1	Z	-54.87	12
9	S1	X	30.5	20
10	S1	Z	-52.84	20

Member Point Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-148.829	0
2	MP1	Y	-148.829	72
3	MP1	Y	-78.245	12
4	MP1	Y	-73.477	12
5	S1	Y	-71.679	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
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Member Point Loads (BLC 17 : Ice Wind Load AZI 0) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	-20.65	0
3	MP1	X	0	72
4	MP1	Z	-20.65	72
5	MP1	X	0	12
6	MP1	Z	-8.06	12
7	MP1	X	0	12
8	MP1	Z	-8.06	12
9	S1	X	0	20
10	S1	Z	-7.74	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-9.46	0
2	MP1	Z	-16.38	0
3	MP1	X	-9.46	72
4	MP1	Z	-16.38	72
5	MP1	X	-3.82	12
6	MP1	Z	-6.62	12
7	MP1	X	-3.78	12
8	MP1	Z	-6.55	12
9	S1	X	-3.68	20
10	S1	Z	-6.37	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-13.37	0
2	MP1	Z	-7.72	0
3	MP1	X	-13.37	72
4	MP1	Z	-7.72	72
5	MP1	X	-5.9	12
6	MP1	Z	-3.4	12
7	MP1	X	-5.69	12
8	MP1	Z	-3.28	12
9	S1	X	-5.7	20
10	S1	Z	-3.29	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-13.7	0
2	MP1	Z	0	0

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
3	MP1	X	-13.7	72
4	MP1	Z	0	72
5	MP1	X	-6.39	12
6	MP1	Z	0	12
7	MP1	X	-6.07	12
8	MP1	Z	0	12
9	S1	X	-6.19	20
10	S1	Z	0	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-13.37	0
2	MP1	Z	7.72	0
3	MP1	X	-13.37	72
4	MP1	Z	7.72	72
5	MP1	X	-5.9	12
6	MP1	Z	3.4	12
7	MP1	X	-5.69	12
8	MP1	Z	3.28	12
9	S1	X	-5.7	20
10	S1	Z	3.29	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-9.46	0
2	MP1	Z	16.38	0
3	MP1	X	-9.46	72
4	MP1	Z	16.38	72
5	MP1	X	-3.82	12
6	MP1	Z	6.62	12
7	MP1	X	-3.78	12
8	MP1	Z	6.55	12
9	S1	X	-3.68	20
10	S1	Z	6.37	20

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	20.65	0
3	MP1	X	0	72
4	MP1	Z	20.65	72

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
5	MP1	X	0	12
6	MP1	Z	8.06	12
7	MP1	X	0	12
8	MP1	Z	8.06	12
9	S1	X	0	20
10	S1	Z	7.74	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	9.46	0
2	MP1	Z	16.38	0
3	MP1	X	9.46	72
4	MP1	Z	16.38	72
5	MP1	X	3.82	12
6	MP1	Z	6.62	12
7	MP1	X	3.78	12
8	MP1	Z	6.55	12
9	S1	X	3.68	20
10	S1	Z	6.37	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	13.37	0
2	MP1	Z	7.72	0
3	MP1	X	13.37	72
4	MP1	Z	7.72	72
5	MP1	X	5.9	12
6	MP1	Z	3.4	12
7	MP1	X	5.69	12
8	MP1	Z	3.28	12
9	S1	X	5.7	20
10	S1	Z	3.29	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	13.7	0
2	MP1	Z	0	0
3	MP1	X	13.7	72
4	MP1	Z	0	72
5	MP1	X	6.39	12
6	MP1	Z	0	12

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
7	MP1	X	6.07	12
8	MP1	Z	0	12
9	S1	X	6.19	20
10	S1	Z	0	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	13.37	0
2	MP1	Z	-7.72	0
3	MP1	X	13.37	72
4	MP1	Z	-7.72	72
5	MP1	X	5.9	12
6	MP1	Z	-3.4	12
7	MP1	X	5.69	12
8	MP1	Z	-3.28	12
9	S1	X	5.7	20
10	S1	Z	-3.29	20

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	9.46	0
2	MP1	Z	-16.38	0
3	MP1	X	9.46	72
4	MP1	Z	-16.38	72
5	MP1	X	3.82	12
6	MP1	Z	-6.62	12
7	MP1	X	3.78	12
8	MP1	Z	-6.55	12
9	S1	X	3.68	20
10	S1	Z	-6.37	20

Member Point Loads (BLC 31 : Seismic Load Z)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Z	-9.34	0
2	MP1	Z	-9.34	72
3	MP1	Z	-21.706	12
4	MP1	Z	-18.514	12
5	S1	Z	-6.328	20

Member Point Loads (BLC 32 : Seismic Load X)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
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Member Point Loads (BLC 32 : Seismic Load X) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-9.34	0
2	MP1	X	-9.34	72
3	MP1	X	-21.706	12
4	MP1	X	-18.514	12
5	S1	X	-6.328	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^2/in, lb*s^2*in)]
1	N18	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^2/in, lb*s^2*in)]
1	N69	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^2/in, lb*s^2*in)]
1	N70	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^2/in, lb*s^2*in)]
1	N74	L	Y	-500

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

	Member Label	Direction	Start Magnitude[lb/ft,...]	End Magn...	Start Location...	End Location[in,%]
1	S3	SZ	-48.808	-48.808	0	%100
2	S4	SZ	-48.808	-48.808	0	%100
3	TR6	SZ	-48.808	-48.808	0	%100
4	TR5	SZ	-48.808	-48.808	0	%100
5	TR8	SZ	-48.808	-48.808	0	%100
6	TR7	SZ	-48.808	-48.808	0	%100
7	S1	SZ	-48.808	-48.808	0	%100
8	S2	SZ	-48.808	-48.808	0	%100
9	TR1	SZ	-48.808	-48.808	0	%100
10	TR2	SZ	-48.808	-48.808	0	%100
11	TR3	SZ	-48.808	-48.808	0	%100
12	TR4	SZ	-48.808	-48.808	0	%100
13	H1	SZ	-48.808	-48.808	0	%100
14	H2	SZ	-48.808	-48.808	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
15	MP3	SZ	-48.808	-48.808	0	%100
16	MP1	SZ	-48.808	-48.808	0	%100
17	MP2	SZ	-48.808	-48.808	0	%100
18	T1	SZ	-48.808	-48.808	0	%100
19	M29	SZ	0	0	0	%100
20	M30	SZ	0	0	0	%100
21	M33	SZ	0	0	0	%100
22	M34	SZ	0	0	0	%100
23	M35	SZ	0	0	0	%100
24	M36	SZ	0	0	0	%100
25	M25	SZ	0	0	0	%100
26	M26	SZ	0	0	0	%100
27	M27	SZ	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
1	S3	SX	-48.808	-48.808	0	%100
2	S4	SX	-48.808	-48.808	0	%100
3	TR6	SX	-48.808	-48.808	0	%100
4	TR5	SX	-48.808	-48.808	0	%100
5	TR8	SX	-48.808	-48.808	0	%100
6	TR7	SX	-48.808	-48.808	0	%100
7	S1	SX	-48.808	-48.808	0	%100
8	S2	SX	-48.808	-48.808	0	%100
9	TR1	SX	-48.808	-48.808	0	%100
10	TR2	SX	-48.808	-48.808	0	%100
11	TR3	SX	-48.808	-48.808	0	%100
12	TR4	SX	-48.808	-48.808	0	%100
13	H1	SX	-48.808	-48.808	0	%100
14	H2	SX	-48.808	-48.808	0	%100
15	MP3	SX	-48.808	-48.808	0	%100
16	MP1	SX	-48.808	-48.808	0	%100
17	MP2	SX	-48.808	-48.808	0	%100
18	T1	SX	-48.808	-48.808	0	%100
19	M29	SX	0	0	0	%100
20	M30	SX	0	0	0	%100
21	M33	SX	0	0	0	%100
22	M34	SX	0	0	0	%100
23	M35	SX	0	0	0	%100
24	M36	SX	0	0	0	%100
25	M25	SX	0	0	0	%100
26	M26	SX	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
27	M27	SX	0	0	0	%100

Member Distributed Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
1	S3	Y	-8.147	-8.147	0	%100
2	S4	Y	-8.147	-8.147	0	%100
3	TR6	Y	-5.351	-5.351	0	%100
4	TR5	Y	-5.351	-5.351	0	%100
5	TR8	Y	-5.351	-5.351	0	%100
6	TR7	Y	-5.351	-5.351	0	%100
7	S1	Y	-8.147	-8.147	0	%100
8	S2	Y	-8.147	-8.147	0	%100
9	TR1	Y	-5.351	-5.351	0	%100
10	TR2	Y	-5.351	-5.351	0	%100
11	TR3	Y	-5.351	-5.351	0	%100
12	TR4	Y	-5.351	-5.351	0	%100
13	H1	Y	-10.292	-10.292	0	%100
14	H2	Y	-10.292	-10.292	0	%100
15	MP3	Y	-10.303	-10.303	0	%100
16	MP1	Y	-10.303	-10.303	0	%100
17	MP2	Y	-10.303	-10.303	0	%100
18	T1	Y	-9.203	-9.203	0	%100
19	M29	Y	-3.965	-3.965	0	%100
20	M30	Y	-3.965	-3.965	0	%100
21	M33	Y	-3.965	-3.965	0	%100
22	M34	Y	-3.965	-3.965	0	%100
23	M35	Y	-3.965	-3.965	0	%100
24	M36	Y	-3.965	-3.965	0	%100
25	M25	Y	-3.965	-3.965	0	%100
26	M26	Y	-3.965	-3.965	0	%100
27	M27	Y	-3.965	-3.965	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
1	S3	SZ	-24.956	-24.956	0	%100
2	S4	SZ	-24.956	-24.956	0	%100
3	TR6	SZ	-57.894	-57.894	0	%100
4	TR5	SZ	-57.894	-57.894	0	%100
5	TR8	SZ	-57.894	-57.894	0	%100
6	TR7	SZ	-57.894	-57.894	0	%100
7	S1	SZ	-24.956	-24.956	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
8	S2	SZ	-24.956	-24.956	0	%100
9	TR1	SZ	-57.894	-57.894	0	%100
10	TR2	SZ	-57.894	-57.894	0	%100
11	TR3	SZ	-57.894	-57.894	0	%100
12	TR4	SZ	-57.894	-57.894	0	%100
13	H1	SZ	-19.415	-19.415	0	%100
14	H2	SZ	-19.415	-19.415	0	%100
15	MP3	SZ	-19.396	-19.396	0	%100
16	MP1	SZ	-19.396	-19.396	0	%100
17	MP2	SZ	-19.396	-19.396	0	%100
18	T1	SZ	-21.661	-21.661	0	%100
19	M29	SZ	0	0	0	%100
20	M30	SZ	0	0	0	%100
21	M33	SZ	0	0	0	%100
22	M34	SZ	0	0	0	%100
23	M35	SZ	0	0	0	%100
24	M36	SZ	0	0	0	%100
25	M25	SZ	0	0	0	%100
26	M26	SZ	0	0	0	%100
27	M27	SZ	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
1	S3	SX	-24.956	-24.956	0	%100
2	S4	SX	-24.956	-24.956	0	%100
3	TR6	SX	-57.894	-57.894	0	%100
4	TR5	SX	-57.894	-57.894	0	%100
5	TR8	SX	-57.894	-57.894	0	%100
6	TR7	SX	-57.894	-57.894	0	%100
7	S1	SX	-24.956	-24.956	0	%100
8	S2	SX	-24.956	-24.956	0	%100
9	TR1	SX	-57.894	-57.894	0	%100
10	TR2	SX	-57.894	-57.894	0	%100
11	TR3	SX	-57.894	-57.894	0	%100
12	TR4	SX	-57.894	-57.894	0	%100
13	H1	SX	-19.415	-19.415	0	%100
14	H2	SX	-19.415	-19.415	0	%100
15	MP3	SX	-19.396	-19.396	0	%100
16	MP1	SX	-19.396	-19.396	0	%100
17	MP2	SX	-19.396	-19.396	0	%100
18	T1	SX	-21.661	-21.661	0	%100
19	M29	SX	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
20	M30	SX	0	0	0	%100
21	M33	SX	0	0	0	%100
22	M34	SX	0	0	0	%100
23	M35	SX	0	0	0	%100
24	M36	SX	0	0	0	%100
25	M25	SX	0	0	0	%100
26	M26	SX	0	0	0	%100
27	M27	SX	0	0	0	%100

Member Area Loads

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
No Data to Print ...						

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

Member	Shape	Code Check	Loc[in]	LC	She...	Loc[in]	Dir	LC	phi*P...	phi*P...	phi*M...	phi*Mn z-z [lb...	Cb	Eqn
1	TR7	0.63" SR	.411	39.811	27	.027	19.905	36	4409...	1402...	147.2...	147.295	2....	H1-1a
2	S4	1.9" ODx0.1...	.396	35.333	91	.162	42.4	38	2049...	2777...	1314...	1314.45	1....	H1-1b
3	S3	1.9" ODx0.1...	.378	35.333	94	.164	42.4	29	2049...	2777...	1314...	1314.45	1....	H1-1b
4	TR4	0.63" SR	.318	39.811	87	.038	19.905	30	4409...	1402...	147.2...	147.295	2....	H1-1a
5	S2	1.9" ODx0.1...	.308	35.333	85	.122	42.4	38	2049...	2777...	1314...	1314.45	1....	H1-1b
6	S1	1.9" ODx0.1...	.292	35.333	81	.119	42.4	36	2049...	2777...	1314...	1314.45	1.79	H1-1b
7	MP1	2.88"x0.120"	.230	33	2	.063	33	8	2249...	43056	3156...	3156.75	3....	H1-1b
8	TR8	0.63" SR	.176	0	32	.027	19.905	30	2249...	1402...	147.2...	147.295	2....	H1-1b
9	TR5	0.63" SR	.166	28.3	27	.033	0	95	5162...	1402...	147.2...	147.295	2....	H1-1b
10	TR2	0.63" SR	.151	0	32	.034	0	95	5162...	1402...	147.2...	147.295	2....	H1-1b
11	TR3	0.63" SR	.125	0	81	.036	19.905	36	2249...	1402...	147.2...	147.295	2....	H1-1b
12	H1	PIPE 2.5	.122	77	8	.076	78	2	3348...	66654	4726.5	4726.5	2....	H1-1b
13	T1	Pipe2.38X0....	.119	96.255	7	.012	96.255	30	1328...	3527...	2114...	2114.85	1....	H1-1b
14	MP3	2.88"x0.120"	.109	33	81	.022	61	87	2249...	43056	3156...	3156.75	4.52	H1-1b
15	H2	PIPE 2.5	.088	93	96	.047	78	94	3348...	66654	4726.5	4726.5	2....	H1-1b
16	TR6	0.63" SR	.076	0	93	.016	0	96	5162...	1402...	147.2...	147.295	2....	H1-1b
17	MP2	2.88"x0.120"	.073	33	8	.038	33	93	2249...	43056	3156...	3156.75	4.48	H1-1b
18	TR1	0.63" SR	.053	28.3	77	.015	28.3	96	5162...	1402...	147.2...	147.295	2....	H1-1b

Bolt Calculation Tool, V1.5.1

PROJECT DATA		
Site Name:	BOBOS00032A	
Site Number:	BOBOS00032A	
Connection Description:	Sector Frame to Tower Leg	

MAXIMUM BOLT LOADS		
Bolt Tension:	1152.72	lbs
Bolt Shear:	850.86	lbs

WORST CASE BOLT LOADS ¹		
Bolt Tension:	794.77	lbs
Bolt Shear:	850.86	lbs

BOLT PROPERTIES		
Bolt Type:	Threaded Rod	-
Bolt Diameter:	0.625	in
Bolt Grade:	A449	-
# of Threaded Rods:	2	-
Threads Excluded?	No	-

¹ Worst case bolt loads correspond to Load combination #96 on member M25 in RISA-3D, which causes the maximum demand on the bolts.

Member Information	
I nodes of M25, M26	

BOLT CHECK		
Tensile Strength	20340.15	
Shear Strength	13805.83	
Max Tensile Usage	5.7%	
Max Shear Usage	6.2%	
Interaction Check (Worst Case)	0.01	≤1.05
Result	Pass	



Bolt Calculation Tool, V1.5.1

PROJECT DATA	
Site Name:	BOBOS00032A
Site Number:	BOBOS00032A
Connection Description:	Tieback to Tower Leg

MAXIMUM BOLT LOADS		
Bolt Tension:	53.52	lbs
Bolt Shear:	379.96	lbs

WORST CASE BOLT LOADS ¹		
Bolt Tension:	49.48	lbs
Bolt Shear:	379.96	lbs

BOLT PROPERTIES		
Bolt Type:	Threaded Rod	-
Bolt Diameter:	0.5	in
Bolt Grade:	A449	-
# of Threaded Rods:	2	-
Threads Excluded?	No	-

¹ Worst case bolt loads correspond to Load combination #13 on member M27 in RISA-3D, which causes the maximum demand on the bolts.

Member Information	
I nodes of M27	

BOLT CHECK		
Tensile Strength	12770.86	
Shear Strength	8835.73	
Max Tensile Usage*	0.4%	
Max Shear Usage*	4.3%	
Interaction Check (Worst Case)*	0.00	≤1.0
Result	Pass	

*Usage per TIA-222-H Section 15.5





AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 280 ft Guyed Tower
ATC Site Name : WOODSTOCK CT,CT
ATC Site Number : 6300
Engineering Number : 13733438_C3_02
Proposed Carrier : DISH WIRELESS L.L.C.
Carrier Site Name : BOBOS00032A
Carrier Site Number : BOBOS00032A
Site Location : 156 Lebanon Hill Rd.
Woodstock, CT 06281-1734
42.0253, -72.037
County : Windham
Date : November 17, 2021
Max Usage : 56%
Result : Pass

Prepared By:

Nicholas Beam
Structural Engineer

Reviewed By:



COA : PEC.0001553

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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 280 ft Guyed tower to reflect the change in loading by DISH WIRELESS L.L.C..

Supporting Documents

Tower Drawings	Sabre Job #00-08094, dated August 20, 1999
Foundation Drawing	Semaan Engineering Job #AMT-WOOD, dated August 20, 1999
Geotechnical Report	JGI Project #99398G, dated July 19, 1999

Analysis

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

Basic Wind Speed:	119 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.50" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	$S_s = 0.18$, $S_i = 0.06$
Site Class:	D - Stiff Soil - Default

Conclusion

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

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

Existing and Reserved Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
No loading was considered as existing or reserved as part of this analysis.					

Equipment to be Removed

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

Proposed Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
206.0	1	Raycap RDIDC-9181-PF-48	Sector Frame	(1) 1.60" (40.6mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B605			
	3	Fujitsu TA08025-B604			
	3	Commscope FFVV-65B-R2			

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

Install proposed lines anywhere on tower.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	45%	Pass
Diagonals	14%	Pass
Horizontals	8%	Pass
Guys	56%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Base Axial (kips)	121.2	36%
Anchor 1 Uplift (kips)	24.6	22%
Anchor 1 Shear (kips)	31.5	29%

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

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
206.0	Commscope FFVV-65B-R2	DISH WIRELESS L.L.C.	0.049	0.000	0.008
	Fujitsu TA08025-B604				
	Fujitsu TA08025-B605				
	Raycap RDIDC-9181-PF-48				

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

Standard Conditions

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

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

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

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

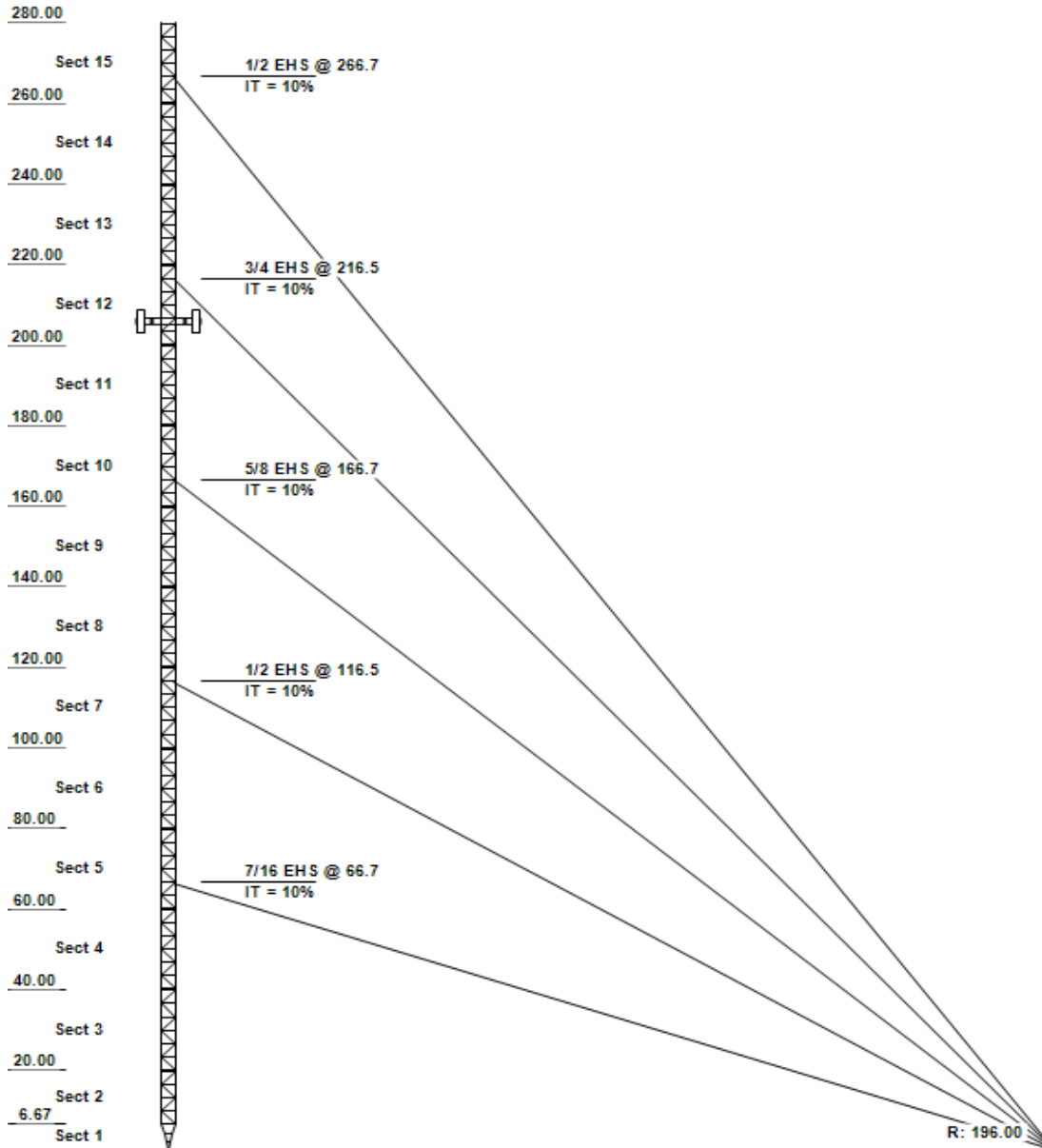
Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

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

Asset: 6300, WOODSTOCK CT
 Client: DISH WIRELESS L.L.C.
 Code: ANSI/TIA-222-H

Height : 280 ft
 Base Width : 3 ft
 Shape : Triangle

Quadrant 1



SITE PARAMETERS

Nominal Wind : 119 mph wind with no ice Exposure : B Site Class : D
 Ice Wind: 50 mph wind with 1.5" radi Topo Method: Method 1 Risk Cat : II
 Service Wind : 60 mph Serviceability Topo Feature : S_g : 0.181 S₁ : 0.056

SECTION PROPERTIES

Section	Leg Members	Diagonal Members	Horizontal Members
1	SOL 50 ksi 2 1/4" SOL		PL 36 ksi PL 9 x 0.375"
2	SOL 50 ksi 2 1/4" SOL	SOL 36 ksi 1 1/4" SOLID	SOL 36 ksi 7/8" SOLID
3 - 4	SOL 50 ksi 2" SOLID	SOL 36 ksi 1" SOLID	SOL 36 ksi 7/8" SOLID
5	SOL 50 ksi 2" SOLID	SOL 36 ksi 1 1/4" SOLID	SOL 36 ksi 7/8" SOLID
6	SOL 50 ksi 2" SOLID	SOL 36 ksi 1" SOLID	SOL 36 ksi 7/8" SOLID
7	SOL 50 ksi 2" SOLID	SOL 36 ksi 1 1/4" SOLID	SOL 36 ksi 7/8" SOLID
8 - 9	SOL 50 ksi 2" SOLID	SOL 36 ksi 1" SOLID	SOL 36 ksi 7/8" SOLID
10	SOL 50 ksi 2" SOLID	SOL 36 ksi 1 1/4" SOLID	SOL 36 ksi 7/8" SOLID
11	SOL 50 ksi 1 3/4" SOL	SOL 36 ksi 1" SOLID	SOL 36 ksi 7/8" SOLID
12	SOL 50 ksi 1 3/4" SOL	SOL 36 ksi 1 1/4" SOLID	SOL 36 ksi 7/8" SOLID
13	SOL 50 ksi 1 1/2" SOL	SOL 36 ksi 1 1/4" SOLID	SOL 36 ksi 7/8" SOLID
14	SOL 50 ksi 1 1/2" SOL	SOL 36 ksi 1" SOLID	SOL 36 ksi 7/8" SOLID
15	SOL 50 ksi 1 3/4" SOL	SOL 36 ksi 1 1/4" SOLID	SOL 36 ksi 7/8" SOLID

REDUNDANT SECONDARY BRACING

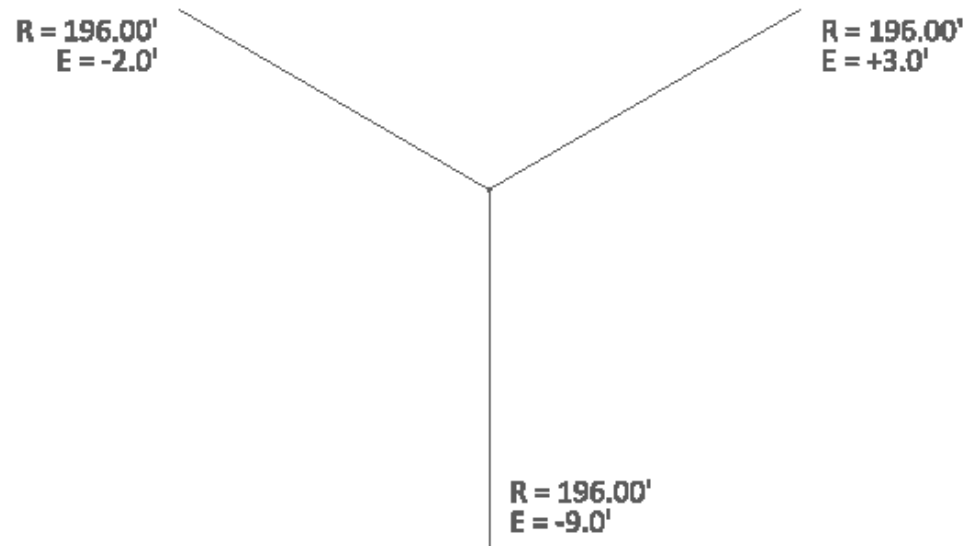
Section	Sub Diag 1	Sub Horiz 1	Sub Diag 2	Sub Horiz 2	Sub Diag 3	Sub Horiz 3
1 - 15	-	-	-	-	-	-

DISCRETE APPURTENANCE

Elev (ft)	Type	Qty	Description
206.00	BOB/SSB	1	Raycap RDIDC-9181-PF-48
206.00	PANEL	3	Commscope FFVV-65B-R2
206.00	RRU/RRH	3	Fujitsu TA08025-B605
206.00	RRU/RRH	3	Fujitsu TA08025-B604
206.00	Sector Frame	3	Generic Flat Light Sector Fram

LINEAR APPURTENANCE

Elev (ft)	From	To	Qty	Description
0.00	206.00		1	1.60" (40.6mm) Hybrid



GUY ANCHOR DESIGN LOADS				
Radius (ft)	Drop (ft)	Azimuth (o)	Uplift (kip)	Shear (kip)
196.00	-9.00	0	24.55	31.52
196.00	3.00	120	22.74	31.45
196.00	-2.00	240	23.50	31.48

GLOBAL BASE FOUNDATION DESIGN LOADS	
Vertical (kip)	Horizontal (kip)
121.17	0.59

ASSET: # 6300, WOODSTOCK CT

STANDARD

ANSI/TIA-222-H

CUSTOMER DISH WIRELESS L.L.C.

ENG NO.:

13733438_C3_02

ANALYSIS PARAMETERS

Location: Windham County, CT
Type and Shape: Guyed, Triangle
Manufacturer: Sabre
Kd 0.85
Ke: 0.97

Height: 280 ft
Base Elevation: 0.00 ft
Bottom Face Width: 3.00 ft
Top Face Width: 3.00 ft

ICE & WIND PARAMETERS

Exposure Category: B
Risk Category: II
Topographic Factor Procedure: Method 1
Topographic Category: Flat
Crest Height: 0 ft

Design Wind Speed Without Ice: 119 mph
Design Wind Speed with Ice: 50 mph
Operational Windspeed: 60 mph
Design Ice Thickness: 1.50 in
HMSL: 787 ft

SEISMIC PARAMETERS

Analysis Method: Equivalent Lateral Force Method**Site Class:** D - Stiff Soil**Period Based on Rayleigh Method (sec):** 0.57**T_L (sec):** 6**P:** 1.3**C_s:** 0.053**S_s:** 0.181**S₁:** 0.056**C_{s, Max}:** 0.053**F_a:** 1.600**F_v:** 2.400**C_{s, Min}:** 0.030**S_{ds}:** 0.193**S_{d1}:** 0.090

LOAD CASES

1.2D + 1.0W Normal	119 mph wind with no ice
1.2D + 1.0W 60°	119 mph wind with no ice
1.2D + 1.0W 90°	119 mph wind with no ice
1.2D + 1.0W 120°	119 mph wind with no ice
1.2D + 1.0W 180°	119 mph wind with no ice
1.2D + 1.0W 210°	119 mph wind with no ice
1.2D + 1.0W 240°	119 mph wind with no ice
1.2D + 1.0W 300°	119 mph wind with no ice
1.2D + 1.0W 330°	119 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Normal	50 mph wind with 1.5" radial ice
1.2D + 1.0Di + 1.0Wi 60°	50 mph wind with 1.5" radial ice
1.2D + 1.0Di + 1.0Wi 90°	50 mph wind with 1.5" radial ice
1.2D + 1.0Di + 1.0Wi 120°	50 mph wind with 1.5" radial ice
1.2D + 1.0Di + 1.0Wi 180°	50 mph wind with 1.5" radial ice
1.2D + 1.0Di + 1.0Wi 210°	50 mph wind with 1.5" radial ice
1.2D + 1.0Di + 1.0Wi 240°	50 mph wind with 1.5" radial ice
1.2D + 1.0Di + 1.0Wi 300°	50 mph wind with 1.5" radial ice
1.2D + 1.0Di + 1.0Wi 330°	50 mph wind with 1.5" radial ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic
1.2D + 1.0Ev + 1.0Eh 60°	Seismic
1.2D + 1.0Ev + 1.0Eh 90°	Seismic
1.2D + 1.0Ev + 1.0Eh 120°	Seismic
1.2D + 1.0Ev + 1.0Eh 180°	Seismic
1.2D + 1.0Ev + 1.0Eh 210°	Seismic
1.2D + 1.0Ev + 1.0Eh 240°	Seismic
1.2D + 1.0Ev + 1.0Eh 300°	Seismic
1.2D + 1.0Ev + 1.0Eh 330°	Seismic
1.0D + 1.0W Service Normal	60 mph Wind with No Ice
1.0D + 1.0W Service 60°	60 mph Wind with No Ice
1.0D + 1.0W Service 90°	60 mph Wind with No Ice
1.0D + 1.0W Service 120°	60 mph Wind with No Ice
1.0D + 1.0W Service 180°	60 mph Wind with No Ice
1.0D + 1.0W Service 210°	60 mph Wind with No Ice
1.0D + 1.0W Service 240°	60 mph Wind with No Ice

LOAD CASES

1.0D + 1.0W Service 300°	60 mph Wind with No Ice
1.0D + 1.0W Service 330°	60 mph Wind with No Ice

TOWER LOADING														
Discrete Appurtenance Properties 1.2D + 1.0W														
Elev (ft)	Description	Qty	Wt. (lb)	EPA Length (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient Factor	Vert Ecc (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
206.0	Raycap RDIDC-9181-PF-48	1	22	1.9	1.3	14.0	8.0	0.80	1.00	0.0	0.00	36.38	46	26
206.0	Fujitsu TA08025-B605	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.00	36.38	73	270
206.0	Fujitsu TA08025-B604	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.00	36.38	73	230
206.0	Commscope FFVV-65B-R2	3	71	12.3	6.0	19.6	7.8	0.80	0.64	0.0	0.00	36.38	583	255
206.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	1.00	1.00	0.0	0.00	36.38	1661	1440
Totals		13	1,851	104.2									2,435	2,221

TOWER LOADING														
Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi														
Elev (ft)	Description	Qty	Ice Wt (lb)	Ice EPA Length (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient Factor	Vert Ecc (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
206.0	Raycap RDIDC-9181-PF-48	1	81	2.8	1.3	14.0	8.0	0.80	1.00	0.0	0.00	6.42	12	85
206.0	Fujitsu TA08025-B605	3	140	2.9	1.3	15.0	9.1	0.80	0.50	0.0	0.00	6.42	19	465
206.0	Fujitsu TA08025-B604	3	124	2.9	1.3	15.0	7.9	0.80	0.50	0.0	0.00	6.42	19	411
206.0	Commscope FFVV-65B-R2	3	331	15.2	6.0	19.6	7.8	0.80	0.64	0.0	0.00	6.42	127	1036
206.0	Generic Flat Light Sector Fram	3	712	33.5	0.0	0.0	0.0	1.00	1.00	0.0	0.00	6.42	549	2376
Totals		13	4,003	166.4									727	4,373

TOWER LOADING														
Discrete Appurtenance Properties 1.0D + 1.0W Service														
Elev (ft)	Description	Qty	Wt. (lb)	EPA Length (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient Factor	Vert Ecc (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
206.0	Raycap RDIDC-9181-PF-48	1	22	1.9	1.3	14.0	8.0	0.80	1.00	0.0	0.00	9.25	12	22
206.0	Fujitsu TA08025-B605	3	75	2.0	1.3	15.0	9.1	0.80	0.50	0.0	0.00	9.25	19	225
206.0	Fujitsu TA08025-B604	3	64	2.0	1.3	15.0	7.9	0.80	0.50	0.0	0.00	9.25	19	192
206.0	Commscope FFVV-65B-R2	3	71	12.3	6.0	19.6	7.8	0.80	0.64	0.0	0.00	9.25	148	212
206.0	Generic Flat Light Sector Fram	3	400	17.9	0.0	0.0	0.0	1.00	1.00	0.0	0.00	9.25	422	1200
Totals		13	1,851	104.2									619	1,851

TOWER LOADING

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	% In Wind	Spread On Faces	Bundling	Cluster Dia (in)	Out of Zone	Spacing (in)	Orient Factor	K _a Override
0.0	206.0	1.60" (40.6mm) Hybrid	1	1.60	2.34	100	1	Individual	0.00	N	1.00	1.00	0.00

ASSET: # 6300, WOODSTOCK CT

STANDARD

ANSI/TIA-222-H

CUSTOMER DISH WIRELESS L.L.C.

ENG NO.:

13733438_C3_02

SECTION FORCES

1.2D + 1.0W Normal
119 mph wind with no iceGust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	39.31	0.750	9.765	0.00	0.167	2.71	1.00	1.00	0.0	6.40	17.34	0.00	1164	0	579	0	579
14	250	38.45	0.000	8.624	0.00	0.138	2.82	1.00	1.00	0.0	4.96	13.96	0.00	844	0	456	0	456
13	230	37.55	0.000	9.163	0.00	0.147	2.78	1.00	1.00	0.0	5.28	14.69	0.00	988	0	469	0	469
12	210	36.58	0.750	9.765	0.00	0.167	2.71	1.00	1.00	0.0	6.40	17.34	0.00	1180	0	539	18	557
11	190	35.55	0.000	9.436	0.00	0.150	2.77	1.00	1.00	0.0	5.44	15.07	0.00	1056	0	456	58	514
10	170	34.44	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1400	0	538	56	594
9	150	33.23	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1237	0	457	54	511
8	130	31.90	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1237	0	438	52	490
7	110	30.41	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1400	0	475	50	525
6	90	28.72	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1237	0	395	47	442
5	70	26.73	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1400	0	418	44	461
4	50	24.28	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1237	0	334	40	373
3	30	20.98	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1237	0	288	34	323
2	13	20.96	0.000	7.787	0.00	0.183	2.65	1.00	1.00	0.0	4.54	12.03	0.00	1063	0	214	23	237
1	3	20.96	4.078	2.584	0.00	0.592	1.81	1.00	1.00	0.0	5.99	10.83	0.00	602	0	193	8	201
														17,282	0			6,733

1.2D + 1.0W 60°
119 mph wind with no iceGust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	39.31	0.750	9.765	0.00	0.167	2.71	0.80	1.00	0.0	6.25	16.93	0.00	1164	0	566	0	566
14	250	38.45	0.000	8.624	0.00	0.138	2.82	0.80	1.00	0.0	4.96	13.96	0.00	844	0	456	0	456
13	230	37.55	0.000	9.163	0.00	0.147	2.78	0.80	1.00	0.0	5.28	14.69	0.00	988	0	469	0	469
12	210	36.58	0.750	9.765	0.00	0.167	2.71	0.80	1.00	0.0	6.25	16.93	0.00	1180	0	527	18	544
11	190	35.55	0.000	9.436	0.00	0.150	2.77	0.80	1.00	0.0	5.44	15.07	0.00	1056	0	456	58	514
10	170	34.44	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1400	0	527	56	583
9	150	33.23	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1237	0	457	54	511
8	130	31.90	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1237	0	438	52	490
7	110	30.41	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1400	0	465	50	515
6	90	28.72	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1237	0	395	47	442
5	70	26.73	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1400	0	409	44	452
4	50	24.28	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1237	0	334	40	373
3	30	20.98	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1237	0	288	34	323
2	13	20.96	0.000	7.787	0.00	0.183	2.65	0.80	1.00	0.0	4.54	12.03	0.00	1063	0	214	23	237
1	3	20.96	4.078	2.584	0.00	0.592	1.81	0.80	1.00	0.0	5.17	9.36	0.00	602	0	167	8	174
														17,282	0			6,649

1.2D + 1.0W 90°
119 mph wind with no iceGust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	39.31	0.750	9.765	0.00	0.167	2.71	0.85	1.00	0.0	6.29	17.03	0.00	1164	0	569	0	569
14	250	38.45	0.000	8.624	0.00	0.138	2.82	0.85	1.00	0.0	4.96	13.96	0.00	844	0	456	0	456
13	230	37.55	0.000	9.163	0.00	0.147	2.78	0.85	1.00	0.0	5.28	14.69	0.00	988	0	469	0	469
12	210	36.58	0.750	9.765	0.00	0.167	2.71	0.85	1.00	0.0	6.29	17.03	0.00	1180	0	530	18	548
11	190	35.55	0.000	9.436	0.00	0.150	2.77	0.85	1.00	0.0	5.44	15.07	0.00	1056	0	456	58	514
10	170	34.44	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1400	0	529	56	586
9	150	33.23	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1237	0	457	54	511
8	130	31.90	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1237	0	438	52	490

ASSET: # 6300, WOODSTOCK CT

STANDARD

ANSI/TIA-222-H

CUSTOMER DISH WIRELESS L.L.C.

ENG NO.:

13733438_C3_02

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
7	110	30.41	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1400	0	468	50	517
6	90	28.72	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1237	0	395	47	442
5	70	26.73	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1400	0	411	44	455
4	50	24.28	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1237	0	334	40	373
3	30	20.98	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1237	0	288	34	323
2	13	20.96	0.000	7.787	0.00	0.183	2.65	0.85	1.00	0.0	4.54	12.03	0.00	1063	0	214	23	237
1	3	20.96	4.078	2.584	0.00	0.592	1.81	0.85	1.00	0.0	5.38	9.72	0.00	602	0	173	8	181
															17,282	0		6,670

1.2D + 1.0W 120°

Gust Response Factor (G_h):

0.85

119 mph wind with no ice

Wind Importance Factor (I_w):

1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	39.31	0.750	9.765	0.00	0.167	2.71	1.00	1.00	0.0	6.40	17.34	0.00	1164	0	579	0	579
14	250	38.45	0.000	8.624	0.00	0.138	2.82	1.00	1.00	0.0	4.96	13.96	0.00	844	0	456	0	456
13	230	37.55	0.000	9.163	0.00	0.147	2.78	1.00	1.00	0.0	5.28	14.69	0.00	988	0	469	0	469
12	210	36.58	0.750	9.765	0.00	0.167	2.71	1.00	1.00	0.0	6.40	17.34	0.00	1180	0	539	18	557
11	190	35.55	0.000	9.436	0.00	0.150	2.77	1.00	1.00	0.0	5.44	15.07	0.00	1056	0	456	58	514
10	170	34.44	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1400	0	538	56	594
9	150	33.23	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1237	0	457	54	511
8	130	31.90	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1237	0	438	52	490
7	110	30.41	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1400	0	475	50	525
6	90	28.72	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1237	0	395	47	442
5	70	26.73	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1400	0	418	44	461
4	50	24.28	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1237	0	334	40	373
3	30	20.98	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1237	0	288	34	323
2	13	20.96	0.000	7.787	0.00	0.183	2.65	1.00	1.00	0.0	4.54	12.03	0.00	1063	0	214	23	237
1	3	20.96	4.078	2.584	0.00	0.592	1.81	1.00	1.00	0.0	5.99	10.83	0.00	602	0	193	8	201
															17,282	0		6,733

1.2D + 1.0W 180°

Gust Response Factor (G_h):

0.85

119 mph wind with no ice

Wind Importance Factor (I_w):

1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	39.31	0.750	9.765	0.00	0.167	2.71	0.80	1.00	0.0	6.25	16.93	0.00	1164	0	566	0	566
14	250	38.45	0.000	8.624	0.00	0.138	2.82	0.80	1.00	0.0	4.96	13.96	0.00	844	0	456	0	456
13	230	37.55	0.000	9.163	0.00	0.147	2.78	0.80	1.00	0.0	5.28	14.69	0.00	988	0	469	0	469
12	210	36.58	0.750	9.765	0.00	0.167	2.71	0.80	1.00	0.0	6.25	16.93	0.00	1180	0	527	18	544
11	190	35.55	0.000	9.436	0.00	0.150	2.77	0.80	1.00	0.0	5.44	15.07	0.00	1056	0	456	58	514
10	170	34.44	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1400	0	527	56	583
9	150	33.23	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1237	0	457	54	511
8	130	31.90	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1237	0	438	52	490
7	110	30.41	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1400	0	465	50	515
6	90	28.72	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1237	0	395	47	442
5	70	26.73	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1400	0	409	44	452
4	50	24.28	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1237	0	334	40	373
3	30	20.98	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1237	0	288	34	323
2	13	20.96	0.000	7.787	0.00	0.183	2.65	0.80	1.00	0.0	4.54	12.03	0.00	1063	0	214	23	237
1	3	20.96	4.078	2.584	0.00	0.592	1.81	0.80	1.00	0.0	5.17	9.36	0.00	602	0	167	8	174
															17,282	0		6,649

1.2D + 1.0W 210°

Gust Response Factor (G_h):

0.85

119 mph wind with no ice

Wind Importance Factor (I_w):

1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	39.31	0.750	9.765	0.00	0.167	2.71	0.85	1.00	0.0	6.29	17.03	0.00	1164	0	569	0	569

ASSET: # 6300, WOODSTOCK CT

STANDARD

ANSI/TIA-222-H

CUSTOMER DISH WIRELESS L.L.C.

ENG NO.:

13733438_C3_02

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _t	D _t	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
14	250	38.45	0.000	8.624	0.00	0.138	2.82	0.85	1.00	0.0	4.96	13.96	0.00	844	0	456	0	456
13	230	37.55	0.000	9.163	0.00	0.147	2.78	0.85	1.00	0.0	5.28	14.69	0.00	988	0	469	0	469
12	210	36.58	0.750	9.765	0.00	0.167	2.71	0.85	1.00	0.0	6.29	17.03	0.00	1180	0	530	18	548
11	190	35.55	0.000	9.436	0.00	0.150	2.77	0.85	1.00	0.0	5.44	15.07	0.00	1056	0	456	58	514
10	170	34.44	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1400	0	529	56	586
9	150	33.23	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1237	0	457	54	511
8	130	31.90	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1237	0	438	52	490
7	110	30.41	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1400	0	468	50	517
6	90	28.72	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1237	0	395	47	442
5	70	26.73	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1400	0	411	44	455
4	50	24.28	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1237	0	334	40	373
3	30	20.98	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1237	0	288	34	323
2	13	20.96	0.000	7.787	0.00	0.183	2.65	0.85	1.00	0.0	4.54	12.03	0.00	1063	0	214	23	237
1	3	20.96	4.078	2.584	0.00	0.592	1.81	0.85	1.00	0.0	5.38	9.72	0.00	602	0	173	8	181
														17,282	0			6,670

1.2D + 1.0W 240°

Gust Response Factor (G_h):

0.85

119 mph wind with no ice

Wind Importance Factor (I_w):

1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _t	D _t	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	39.31	0.750	9.765	0.00	0.167	2.71	1.00	1.00	0.0	6.40	17.34	0.00	1164	0	579	0	579
14	250	38.45	0.000	8.624	0.00	0.138	2.82	1.00	1.00	0.0	4.96	13.96	0.00	844	0	456	0	456
13	230	37.55	0.000	9.163	0.00	0.147	2.78	1.00	1.00	0.0	5.28	14.69	0.00	988	0	469	0	469
12	210	36.58	0.750	9.765	0.00	0.167	2.71	1.00	1.00	0.0	6.40	17.34	0.00	1180	0	539	18	557
11	190	35.55	0.000	9.436	0.00	0.150	2.77	1.00	1.00	0.0	5.44	15.07	0.00	1056	0	456	58	514
10	170	34.44	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1400	0	538	56	594
9	150	33.23	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1237	0	457	54	511
8	130	31.90	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1237	0	438	52	490
7	110	30.41	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1400	0	475	50	525
6	90	28.72	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1237	0	395	47	442
5	70	26.73	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1400	0	418	44	461
4	50	24.28	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1237	0	334	40	373
3	30	20.98	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1237	0	288	34	323
2	13	20.96	0.000	7.787	0.00	0.183	2.65	1.00	1.00	0.0	4.54	12.03	0.00	1063	0	214	23	237
1	3	20.96	4.078	2.584	0.00	0.592	1.81	1.00	1.00	0.0	5.99	10.83	0.00	602	0	193	8	201
														17,282	0			6,733

1.2D + 1.0W 300°

Gust Response Factor (G_h):

0.85

119 mph wind with no ice

Wind Importance Factor (I_w):

1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _t	D _t	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	39.31	0.750	9.765	0.00	0.167	2.71	0.80	1.00	0.0	6.25	16.93	0.00	1164	0	566	0	566
14	250	38.45	0.000	8.624	0.00	0.138	2.82	0.80	1.00	0.0	4.96	13.96	0.00	844	0	456	0	456
13	230	37.55	0.000	9.163	0.00	0.147	2.78	0.80	1.00	0.0	5.28	14.69	0.00	988	0	469	0	469
12	210	36.58	0.750	9.765	0.00	0.167	2.71	0.80	1.00	0.0	6.25	16.93	0.00	1180	0	527	18	544
11	190	35.55	0.000	9.436	0.00	0.150	2.77	0.80	1.00	0.0	5.44	15.07	0.00	1056	0	456	58	514
10	170	34.44	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1400	0	527	56	583
9	150	33.23	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1237	0	457	54	511
8	130	31.90	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1237	0	438	52	490
7	110	30.41	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1400	0	465	50	515
6	90	28.72	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1237	0	395	47	442
5	70	26.73	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1400	0	409	44	452
4	50	24.28	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1237	0	334	40	373
3	30	20.98	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1237	0	288	34	323
2	13	20.96	0.000	7.787	0.00	0.183	2.65	0.80	1.00	0.0	4.54	12.03	0.00	1063	0	214	23	237
1	3	20.96	4.078	2.584	0.00	0.592	1.81	0.80	1.00	0.0	5.17	9.36	0.00	602	0	167	8	174
														17,282	0			6,649

ASSET: # 6300, WOODSTOCK CT

STANDARD

ANSI/TIA-222-H

CUSTOMER DISH WIRELESS L.L.C.

ENG NO.:

13733438_C3_02

SECTION FORCES

1.2D + 1.0W 330°

Gust Response Factor (Gh):

0.85

119 mph wind with no ice

Wind Importance Factor (Iw):

1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	39.31	0.750	9.765	0.00	0.167	2.71	0.85	1.00	0.0	6.29	17.03	0.00	1164	0	569	0	569
14	250	38.45	0.000	8.624	0.00	0.138	2.82	0.85	1.00	0.0	4.96	13.96	0.00	844	0	456	0	456
13	230	37.55	0.000	9.163	0.00	0.147	2.78	0.85	1.00	0.0	5.28	14.69	0.00	988	0	469	0	469
12	210	36.58	0.750	9.765	0.00	0.167	2.71	0.85	1.00	0.0	6.29	17.03	0.00	1180	0	530	18	548
11	190	35.55	0.000	9.436	0.00	0.150	2.77	0.85	1.00	0.0	5.44	15.07	0.00	1056	0	456	58	514
10	170	34.44	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1400	0	529	56	586
9	150	33.23	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1237	0	457	54	511
8	130	31.90	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1237	0	438	52	490
7	110	30.41	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1400	0	468	50	517
6	90	28.72	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1237	0	395	47	442
5	70	26.73	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1400	0	411	44	455
4	50	24.28	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1237	0	334	40	373
3	30	20.98	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1237	0	288	34	323
2	13	20.96	0.000	7.787	0.00	0.183	2.65	0.85	1.00	0.0	4.54	12.03	0.00	1063	0	214	23	237
1	3	20.96	4.078	2.584	0.00	0.592	1.81	0.85	1.00	0.0	5.38	9.72	0.00	602	0	173	8	181
														17,282	0			6,670

1.2D + 1.0Di + 1.0Wi Normal

Gust Response Factor (Gh):

0.85

50 mph wind with 1.5" radial ice

Wind Importance Factor (Iw):

1.00

Ice Importance Factor:

1.00

Ice Dead Load Factor:

1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	6.94	0.750	36.796	27.03	0.544	1.85	1.00	1.00	1.9	26.96	49.88	27.03	2545	1382	294	0	294
14	250	6.79	0.000	35.448	26.82	0.517	1.88	1.00	1.00	1.8	24.69	46.40	26.82	2185	1341	268	0	268
13	230	6.63	0.000	35.764	26.60	0.522	1.87	1.00	1.00	1.8	25.02	46.88	26.60	2355	1367	264	0	264
12	210	6.46	0.750	36.125	26.36	0.535	1.86	1.00	1.00	1.8	26.31	48.90	26.36	2553	1373	268	8	276
11	190	6.28	0.000	35.534	26.10	0.516	1.88	1.00	1.00	1.8	24.75	46.54	26.10	2520	1463	248	27	275
10	170	6.08	0.750	36.385	25.81	0.536	1.86	1.00	1.00	1.8	26.54	49.29	25.81	2862	1462	255	25	279
9	150	5.87	0.000	35.736	25.49	0.517	1.88	1.00	1.00	1.7	24.93	46.84	25.49	2678	1441	234	25	258
8	130	5.63	0.000	35.374	25.13	0.512	1.88	1.00	1.00	1.7	24.58	46.33	25.13	2646	1409	222	24	245
7	110	5.37	0.750	35.285	24.71	0.522	1.87	1.00	1.00	1.7	25.48	47.71	24.71	2766	1366	218	22	239
6	90	5.07	0.000	34.467	24.22	0.501	1.90	1.00	1.00	1.7	23.74	45.08	24.22	2567	1330	194	21	215
5	70	4.72	0.750	34.193	23.62	0.508	1.89	1.00	1.00	1.6	24.45	46.20	23.62	2674	1274	185	19	204
4	50	4.29	0.000	33.084	22.84	0.483	1.92	1.00	1.00	1.6	22.47	43.23	22.84	2451	1214	157	18	175
3	30	3.70	0.000	31.947	21.70	0.468	1.95	1.00	1.00	1.5	21.46	41.74	21.70	2359	1122	131	15	147
2	13	3.70	0.000	21.335	13.55	0.469	1.94	1.00	1.00	1.4	14.36	27.92	13.55	1773	710	88	10	98
1	3	3.70	4.078	6.517	3.93	0.842	1.85	1.00	1.00	1.2	10.06	18.65	3.93	733	131	59	1	60
														35,668	18,387			3,299

1.2D + 1.0Di + 1.0Wi 60°

Gust Response Factor (Gh):

0.85

50 mph wind with 1.5" radial ice

Wind Importance Factor (Iw):

1.00

Ice Importance Factor:

1.00

Ice Dead Load Factor:

1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	6.94	0.750	36.796	27.03	0.544	1.85	0.80	1.00	1.9	26.81	49.60	27.03	2545	1382	293	0	293
14	250	6.79	0.000	35.448	26.82	0.517	1.88	0.80	1.00	1.8	24.69	46.40	26.82	2185	1341	268	0	268
13	230	6.63	0.000	35.764	26.60	0.522	1.87	0.80	1.00	1.8	25.02	46.88	26.60	2355	1367	264	0	264
12	210	6.46	0.750	36.125	26.36	0.535	1.86	0.80	1.00	1.8	26.16	48.62	26.36	2553	1373	267	8	275
11	190	6.28	0.000	35.534	26.10	0.516	1.88	0.80	1.00	1.8	24.75	46.54	26.10	2520	1463	248	27	275
10	170	6.08	0.750	36.385	25.81	0.536	1.86	0.80	1.00	1.8	26.39	49.01	25.81	2862	1462	253	25	278
9	150	5.87	0.000	35.736	25.49	0.517	1.88	0.80	1.00	1.7	24.93	46.84	25.49	2678	1441	234	25	258
8	130	5.63	0.000	35.374	25.13	0.512	1.88	0.80	1.00	1.7	24.58	46.33	25.13	2646	1409	222	24	245
7	110	5.37	0.750	35.285	24.71	0.522	1.87	0.80	1.00	1.7	25.33	47.43	24.71	2766	1366	216	22	238
6	90	5.07	0.000	34.467	24.22	0.501	1.90	0.80	1.00	1.7	23.74	45.08	24.22	2567	1330	194	21	215
5	70	4.72	0.750	34.193	23.62	0.508	1.89	0.80	1.00	1.6	24.30	45.91	23.62	2674	1274	184	19	203

ASSET: # 6300, WOODSTOCK CT

STANDARD

ANSI/TIA-222-H

CUSTOMER DISH WIRELESS L.L.C.

ENG NO.:

13733438_C3_02

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
4	50	4.29	0.000	33.084	22.84	0.483	1.92	0.80	1.00	1.6	22.47	43.23	22.84	2451	1214	157	18	175
3	30	3.70	0.000	31.947	21.70	0.468	1.95	0.80	1.00	1.5	21.46	41.74	21.70	2359	1122	131	15	147
2	13	3.70	0.000	21.335	13.55	0.469	1.94	0.80	1.00	1.4	14.36	27.92	13.55	1773	710	88	10	98
1	3	3.70	4.078	6.517	3.93	0.842	1.85	0.80	1.00	1.2	9.25	17.14	3.93	733	131	54	1	55
															35,668	18,387		3,287

1.2D + 1.0Di + 1.0Wi 90°

Gust Response Factor (Gh):

0.85

Ice Importance Factor:

1.00

50 mph wind with 1.5" radial ice

Wind Importance Factor (Iw):

1.00

Ice Dead Load Factor:

1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	6.94	0.750	36.796	27.03	0.544	1.85	0.85	1.00	1.9	26.85	49.67	27.03	2545	1382	293	0	293
14	250	6.79	0.000	35.448	26.82	0.517	1.88	0.85	1.00	1.8	24.69	46.40	26.82	2185	1341	268	0	268
13	230	6.63	0.000	35.764	26.60	0.522	1.87	0.85	1.00	1.8	25.02	46.88	26.60	2355	1367	264	0	264
12	210	6.46	0.750	36.125	26.36	0.535	1.86	0.85	1.00	1.8	26.20	48.69	26.36	2553	1373	267	8	275
11	190	6.28	0.000	35.534	26.10	0.516	1.88	0.85	1.00	1.8	24.75	46.54	26.10	2520	1463	248	27	275
10	170	6.08	0.750	36.385	25.81	0.536	1.86	0.85	1.00	1.8	26.43	49.08	25.81	2862	1462	254	25	278
9	150	5.87	0.000	35.736	25.49	0.517	1.88	0.85	1.00	1.7	24.93	46.84	25.49	2678	1441	234	25	258
8	130	5.63	0.000	35.374	25.13	0.512	1.88	0.85	1.00	1.7	24.58	46.33	25.13	2646	1409	222	24	245
7	110	5.37	0.750	35.285	24.71	0.522	1.87	0.85	1.00	1.7	25.37	47.50	24.71	2766	1366	217	22	239
6	90	5.07	0.000	34.467	24.22	0.501	1.90	0.85	1.00	1.7	23.74	45.08	24.22	2567	1330	194	21	215
5	70	4.72	0.750	34.193	23.62	0.508	1.89	0.85	1.00	1.6	24.34	45.98	23.62	2674	1274	184	19	203
4	50	4.29	0.000	33.084	22.84	0.483	1.92	0.85	1.00	1.6	22.47	43.23	22.84	2451	1214	157	18	175
3	30	3.70	0.000	31.947	21.70	0.468	1.95	0.85	1.00	1.5	21.46	41.74	21.70	2359	1122	131	15	147
2	13	3.70	0.000	21.335	13.55	0.469	1.94	0.85	1.00	1.4	14.36	27.92	13.55	1773	710	88	10	98
1	3	3.70	4.078	6.517	3.93	0.842	1.85	0.85	1.00	1.2	9.45	17.52	3.93	733	131	55	1	56
															35,668	18,387		3,290

1.2D + 1.0Di + 1.0Wi 120°

Gust Response Factor (Gh):

0.85

Ice Importance Factor:

1.00

50 mph wind with 1.5" radial ice

Wind Importance Factor (Iw):

1.00

Ice Dead Load Factor:

1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	6.94	0.750	36.796	27.03	0.544	1.85	1.00	1.00	1.9	26.96	49.88	27.03	2545	1382	294	0	294
14	250	6.79	0.000	35.448	26.82	0.517	1.88	1.00	1.00	1.8	24.69	46.40	26.82	2185	1341	268	0	268
13	230	6.63	0.000	35.764	26.60	0.522	1.87	1.00	1.00	1.8	25.02	46.88	26.60	2355	1367	264	0	264
12	210	6.46	0.750	36.125	26.36	0.535	1.86	1.00	1.00	1.8	26.31	48.90	26.36	2553	1373	268	8	276
11	190	6.28	0.000	35.534	26.10	0.516	1.88	1.00	1.00	1.8	24.75	46.54	26.10	2520	1463	248	27	275
10	170	6.08	0.750	36.385	25.81	0.536	1.86	1.00	1.00	1.8	26.54	49.29	25.81	2862	1462	255	25	279
9	150	5.87	0.000	35.736	25.49	0.517	1.88	1.00	1.00	1.7	24.93	46.84	25.49	2678	1441	234	25	258
8	130	5.63	0.000	35.374	25.13	0.512	1.88	1.00	1.00	1.7	24.58	46.33	25.13	2646	1409	222	24	245
7	110	5.37	0.750	35.285	24.71	0.522	1.87	1.00	1.00	1.7	25.48	47.71	24.71	2766	1366	218	22	239
6	90	5.07	0.000	34.467	24.22	0.501	1.90	1.00	1.00	1.7	23.74	45.08	24.22	2567	1330	194	21	215
5	70	4.72	0.750	34.193	23.62	0.508	1.89	1.00	1.00	1.6	24.45	46.20	23.62	2674	1274	185	19	204
4	50	4.29	0.000	33.084	22.84	0.483	1.92	1.00	1.00	1.6	22.47	43.23	22.84	2451	1214	157	18	175
3	30	3.70	0.000	31.947	21.70	0.468	1.95	1.00	1.00	1.5	21.46	41.74	21.70	2359	1122	131	15	147
2	13	3.70	0.000	21.335	13.55	0.469	1.94	1.00	1.00	1.4	14.36	27.92	13.55	1773	710	88	10	98
1	3	3.70	4.078	6.517	3.93	0.842	1.85	1.00	1.00	1.2	10.06	18.65	3.93	733	131	59	1	60
															35,668	18,387		3,299

1.2D + 1.0Di + 1.0Wi 180°

Gust Response Factor (Gh):

0.85

Ice Importance Factor:

1.00

50 mph wind with 1.5" radial ice

Wind Importance Factor (Iw):

1.00

Ice Dead Load Factor:

1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	6.94	0.750	36.796	27.03	0.544	1.85	0.80	1.00	1.9	26.81	49.60	27.03	2545	1382	293	0	293
14	250	6.79	0.000	35.448	26.82	0.517	1.88	0.80	1.00	1.8	24.69	46.40	26.82	2185	1341	268	0	268
13	230	6.63	0.000	35.764	26.60	0.522	1.87	0.80	1.00	1.8	25.02	46.88	26.60	2355	1367	264	0	264
12	210	6.46	0.750	36.125	26.36	0.535	1.86	0.80	1.00	1.8	26.16	48.62	26.36	2553	1373	267	8	275

ASSET: # 6300, WOODSTOCK CT

STANDARD

ANSI/TIA-222-H

CUSTOMER DISH WIRELESS L.L.C.

ENG NO.:

13733438_C3_02

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
11	190	6.28	0.000	35.534	26.10	0.516	1.88	0.80	1.00	1.8	24.75	46.54	26.10	2520	1463	248	27	275
10	170	6.08	0.750	36.385	25.81	0.536	1.86	0.80	1.00	1.8	26.39	49.01	25.81	2862	1462	253	25	278
9	150	5.87	0.000	35.736	25.49	0.517	1.88	0.80	1.00	1.7	24.93	46.84	25.49	2678	1441	234	25	258
8	130	5.63	0.000	35.374	25.13	0.512	1.88	0.80	1.00	1.7	24.58	46.33	25.13	2646	1409	222	24	245
7	110	5.37	0.750	35.285	24.71	0.522	1.87	0.80	1.00	1.7	25.33	47.43	24.71	2766	1366	216	22	238
6	90	5.07	0.000	34.467	24.22	0.501	1.90	0.80	1.00	1.7	23.74	45.08	24.22	2567	1330	194	21	215
5	70	4.72	0.750	34.193	23.62	0.508	1.89	0.80	1.00	1.6	24.30	45.91	23.62	2674	1274	184	19	203
4	50	4.29	0.000	33.084	22.84	0.483	1.92	0.80	1.00	1.6	22.47	43.23	22.84	2451	1214	157	18	175
3	30	3.70	0.000	31.947	21.70	0.468	1.95	0.80	1.00	1.5	21.46	41.74	21.70	2359	1122	131	15	147
2	13	3.70	0.000	21.335	13.55	0.469	1.94	0.80	1.00	1.4	14.36	27.92	13.55	1773	710	88	10	98
1	3	3.70	4.078	6.517	3.93	0.842	1.85	0.80	1.00	1.2	9.25	17.14	3.93	733	131	54	1	55
															35,668	18,387		3,287

1.2D + 1.0Di + 1.0Wi 210°

Gust Response Factor (Gh):

0.85

Ice Importance Factor:

1.00

50 mph wind with 1.5" radial ice

Wind Importance Factor (Iw):

1.00

Ice Dead Load Factor:

1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	6.94	0.750	36.796	27.03	0.544	1.85	0.85	1.00	1.9	26.85	49.67	27.03	2545	1382	293	0	293
14	250	6.79	0.000	35.448	26.82	0.517	1.88	0.85	1.00	1.8	24.69	46.40	26.82	2185	1341	268	0	268
13	230	6.63	0.000	35.764	26.60	0.522	1.87	0.85	1.00	1.8	25.02	46.88	26.60	2355	1367	264	0	264
12	210	6.46	0.750	36.125	26.36	0.535	1.86	0.85	1.00	1.8	26.20	48.69	26.36	2553	1373	267	8	275
11	190	6.28	0.000	35.534	26.10	0.516	1.88	0.85	1.00	1.8	24.75	46.54	26.10	2520	1463	248	27	275
10	170	6.08	0.750	36.385	25.81	0.536	1.86	0.85	1.00	1.8	26.43	49.08	25.81	2862	1462	254	25	278
9	150	5.87	0.000	35.736	25.49	0.517	1.88	0.85	1.00	1.7	24.93	46.84	25.49	2678	1441	234	25	258
8	130	5.63	0.000	35.374	25.13	0.512	1.88	0.85	1.00	1.7	24.58	46.33	25.13	2646	1409	222	24	245
7	110	5.37	0.750	35.285	24.71	0.522	1.87	0.85	1.00	1.7	25.37	47.50	24.71	2766	1366	217	22	239
6	90	5.07	0.000	34.467	24.22	0.501	1.90	0.85	1.00	1.7	23.74	45.08	24.22	2567	1330	194	21	215
5	70	4.72	0.750	34.193	23.62	0.508	1.89	0.85	1.00	1.6	24.34	45.98	23.62	2674	1274	184	19	203
4	50	4.29	0.000	33.084	22.84	0.483	1.92	0.85	1.00	1.6	22.47	43.23	22.84	2451	1214	157	18	175
3	30	3.70	0.000	31.947	21.70	0.468	1.95	0.85	1.00	1.5	21.46	41.74	21.70	2359	1122	131	15	147
2	13	3.70	0.000	21.335	13.55	0.469	1.94	0.85	1.00	1.4	14.36	27.92	13.55	1773	710	88	10	98
1	3	3.70	4.078	6.517	3.93	0.842	1.85	0.85	1.00	1.2	9.45	17.52	3.93	733	131	55	1	56
															35,668	18,387		3,290

1.2D + 1.0Di + 1.0Wi 240°

Gust Response Factor (Gh):

0.85

Ice Importance Factor:

1.00

50 mph wind with 1.5" radial ice

Wind Importance Factor (Iw):

1.00

Ice Dead Load Factor:

1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	6.94	0.750	36.796	27.03	0.544	1.85	1.00	1.00	1.9	26.96	49.88	27.03	2545	1382	294	0	294
14	250	6.79	0.000	35.448	26.82	0.517	1.88	1.00	1.00	1.8	24.69	46.40	26.82	2185	1341	268	0	268
13	230	6.63	0.000	35.764	26.60	0.522	1.87	1.00	1.00	1.8	25.02	46.88	26.60	2355	1367	264	0	264
12	210	6.46	0.750	36.125	26.36	0.535	1.86	1.00	1.00	1.8	26.31	48.90	26.36	2553	1373	268	8	276
11	190	6.28	0.000	35.534	26.10	0.516	1.88	1.00	1.00	1.8	24.75	46.54	26.10	2520	1463	248	27	275
10	170	6.08	0.750	36.385	25.81	0.536	1.86	1.00	1.00	1.8	26.54	49.29	25.81	2862	1462	255	25	279
9	150	5.87	0.000	35.736	25.49	0.517	1.88	1.00	1.00	1.7	24.93	46.84	25.49	2678	1441	234	25	258
8	130	5.63	0.000	35.374	25.13	0.512	1.88	1.00	1.00	1.7	24.58	46.33	25.13	2646	1409	222	24	245
7	110	5.37	0.750	35.285	24.71	0.522	1.87	1.00	1.00	1.7	25.48	47.71	24.71	2766	1366	218	22	239
6	90	5.07	0.000	34.467	24.22	0.501	1.90	1.00	1.00	1.7	23.74	45.08	24.22	2567	1330	194	21	215
5	70	4.72	0.750	34.193	23.62	0.508	1.89	1.00	1.00	1.6	24.45	46.20	23.62	2674	1274	185	19	204
4	50	4.29	0.000	33.084	22.84	0.483	1.92	1.00	1.00	1.6	22.47	43.23	22.84	2451	1214	157	18	175
3	30	3.70	0.000	31.947	21.70	0.468	1.95	1.00	1.00	1.5	21.46	41.74	21.70	2359	1122	131	15	147
2	13	3.70	0.000	21.335	13.55	0.469	1.94	1.00	1.00	1.4	14.36	27.92	13.55	1773	710	88	10	98
1	3	3.70	4.078	6.517	3.93	0.842	1.85	1.00	1.00	1.2	10.06	18.65	3.93	733	131	59	1	60
															35,668	18,387		3,299

1.2D + 1.0Di + 1.0Wi 300°

Gust Response Factor (Gh):

0.85

Ice Importance Factor:

1.00

50 mph wind with 1.5" radial ice

Wind Importance Factor (Iw):

1.00

Ice Dead Load Factor:

1.00

ASSET: # 6300, WOODSTOCK CT

STANDARD

ANSI/TIA-222-H

CUSTOMER DISH WIRELESS L.L.C.

ENG NO.:

13733438_C3_02

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	6.94	0.750	36.796	27.03	0.544	1.85	0.80	1.00	1.9	26.81	49.60	27.03	2545	1382	293	0	293
14	250	6.79	0.000	35.448	26.82	0.517	1.88	0.80	1.00	1.8	24.69	46.40	26.82	2185	1341	268	0	268
13	230	6.63	0.000	35.764	26.60	0.522	1.87	0.80	1.00	1.8	25.02	46.88	26.60	2355	1367	264	0	264
12	210	6.46	0.750	36.125	26.36	0.535	1.86	0.80	1.00	1.8	26.16	48.62	26.36	2553	1373	267	8	275
11	190	6.28	0.000	35.534	26.10	0.516	1.88	0.80	1.00	1.8	24.75	46.54	26.10	2520	1463	248	27	275
10	170	6.08	0.750	36.385	25.81	0.536	1.86	0.80	1.00	1.8	26.39	49.01	25.81	2862	1462	253	25	278
9	150	5.87	0.000	35.736	25.49	0.517	1.88	0.80	1.00	1.7	24.93	46.84	25.49	2678	1441	234	25	258
8	130	5.63	0.000	35.374	25.13	0.512	1.88	0.80	1.00	1.7	24.58	46.33	25.13	2646	1409	222	24	245
7	110	5.37	0.750	35.285	24.71	0.522	1.87	0.80	1.00	1.7	25.33	47.43	24.71	2766	1366	216	22	238
6	90	5.07	0.000	34.467	24.22	0.501	1.90	0.80	1.00	1.7	23.74	45.08	24.22	2567	1330	194	21	215
5	70	4.72	0.750	34.193	23.62	0.508	1.89	0.80	1.00	1.6	24.30	45.91	23.62	2674	1274	184	19	203
4	50	4.29	0.000	33.084	22.84	0.483	1.92	0.80	1.00	1.6	22.47	43.23	22.84	2451	1214	157	18	175
3	30	3.70	0.000	31.947	21.70	0.468	1.95	0.80	1.00	1.5	21.46	41.74	21.70	2359	1122	131	15	147
2	13	3.70	0.000	21.335	13.55	0.469	1.94	0.80	1.00	1.4	14.36	27.92	13.55	1773	710	88	10	98
1	3	3.70	4.078	6.517	3.93	0.842	1.85	0.80	1.00	1.2	9.25	17.14	3.93	733	131	54	1	55
														35,668	18,387			3,287

1.2D + 1.0Di + 1.0Wi 330°

Gust Response Factor (Gh):

0.85

Ice Importance Factor:

1.00

50 mph wind with 1.5" radial ice

Wind Importance Factor (Iw):

1.00

Ice Dead Load Factor:

1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	6.94	0.750	36.796	27.03	0.544	1.85	0.85	1.00	1.9	26.85	49.67	27.03	2545	1382	293	0	293
14	250	6.79	0.000	35.448	26.82	0.517	1.88	0.85	1.00	1.8	24.69	46.40	26.82	2185	1341	268	0	268
13	230	6.63	0.000	35.764	26.60	0.522	1.87	0.85	1.00	1.8	25.02	46.88	26.60	2355	1367	264	0	264
12	210	6.46	0.750	36.125	26.36	0.535	1.86	0.85	1.00	1.8	26.20	48.69	26.36	2553	1373	267	8	275
11	190	6.28	0.000	35.534	26.10	0.516	1.88	0.85	1.00	1.8	24.75	46.54	26.10	2520	1463	248	27	275
10	170	6.08	0.750	36.385	25.81	0.536	1.86	0.85	1.00	1.8	26.43	49.08	25.81	2862	1462	254	25	278
9	150	5.87	0.000	35.736	25.49	0.517	1.88	0.85	1.00	1.7	24.93	46.84	25.49	2678	1441	234	25	258
8	130	5.63	0.000	35.374	25.13	0.512	1.88	0.85	1.00	1.7	24.58	46.33	25.13	2646	1409	222	24	245
7	110	5.37	0.750	35.285	24.71	0.522	1.87	0.85	1.00	1.7	25.37	47.50	24.71	2766	1366	217	22	239
6	90	5.07	0.000	34.467	24.22	0.501	1.90	0.85	1.00	1.7	23.74	45.08	24.22	2567	1330	194	21	215
5	70	4.72	0.750	34.193	23.62	0.508	1.89	0.85	1.00	1.6	24.34	45.98	23.62	2674	1274	184	19	203
4	50	4.29	0.000	33.084	22.84	0.483	1.92	0.85	1.00	1.6	22.47	43.23	22.84	2451	1214	157	18	175
3	30	3.70	0.000	31.947	21.70	0.468	1.95	0.85	1.00	1.5	21.46	41.74	21.70	2359	1122	131	15	147
2	13	3.70	0.000	21.335	13.55	0.469	1.94	0.85	1.00	1.4	14.36	27.92	13.55	1773	710	88	10	98
1	3	3.70	4.078	6.517	3.93	0.842	1.85	0.85	1.00	1.2	9.45	17.52	3.93	733	131	55	1	56
														35,668	18,387			3,290

1.0D + 1.0W Service Normal

Gust Response Factor (Gh):

0.85

60 mph Wind with No Ice

Wind Importance Factor (Iw):

1.00

Sect #	Elev (ft)	Q _Z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	9.99	0.750	9.765	0.00	0.167	2.71	1.00	1.00	0.0	6.40	17.34	0.00	970	0	147	0	147
14	250	9.78	0.000	8.624	0.00	0.138	2.82	1.00	1.00	0.0	4.96	13.96	0.00	703	0	116	0	116
13	230	9.55	0.000	9.163	0.00	0.147	2.78	1.00	1.00	0.0	5.28	14.69	0.00	823	0	119	0	119
12	210	9.30	0.750	9.765	0.00	0.167	2.71	1.00	1.00	0.0	6.40	17.34	0.00	984	0	137	5	142
11	190	9.04	0.000	9.436	0.00	0.150	2.77	1.00	1.00	0.0	5.44	15.07	0.00	880	0	116	15	131
10	170	8.76	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1167	0	137	14	151
9	150	8.45	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1031	0	116	14	130
8	130	8.11	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1031	0	111	13	125
7	110	7.73	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1167	0	121	13	133
6	90	7.30	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1031	0	100	12	112
5	70	6.80	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1167	0	106	11	117
4	50	6.17	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1031	0	85	10	95
3	30	5.33	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1031	0	73	9	82
2	13	5.33	0.000	7.787	0.00	0.183	2.65	1.00	1.00	0.0	4.54	12.03	0.00	886	0	55	6	60

ASSET: # 6300, WOODSTOCK CT

STANDARD

ANSI/TIA-222-H

CUSTOMER DISH WIRELESS L.L.C.

ENG NO.:

13733438_C3_02

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
1	3	5.33	4.078	2.584	0.00	0.592	1.81	1.00	1.00	0.0	5.99	10.83	0.00	502	0	49	2	51
															14,401	0		1,712

1.0D + 1.0W Service 60°
60 mph Wind with No IceGust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	9.99	0.750	9.765	0.00	0.167	2.71	0.80	1.00	0.0	6.25	16.93	0.00	970	0	144	0	144
14	250	9.78	0.000	8.624	0.00	0.138	2.82	0.80	1.00	0.0	4.96	13.96	0.00	703	0	116	0	116
13	230	9.55	0.000	9.163	0.00	0.147	2.78	0.80	1.00	0.0	5.28	14.69	0.00	823	0	119	0	119
12	210	9.30	0.750	9.765	0.00	0.167	2.71	0.80	1.00	0.0	6.25	16.93	0.00	984	0	134	5	138
11	190	9.04	0.000	9.436	0.00	0.150	2.77	0.80	1.00	0.0	5.44	15.07	0.00	880	0	116	15	131
10	170	8.76	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1167	0	134	14	148
9	150	8.45	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1031	0	116	14	130
8	130	8.11	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1031	0	111	13	125
7	110	7.73	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1167	0	118	13	131
6	90	7.30	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1031	0	100	12	112
5	70	6.80	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1167	0	104	11	115
4	50	6.17	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1031	0	85	10	95
3	30	5.33	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1031	0	73	9	82
2	13	5.33	0.000	7.787	0.00	0.183	2.65	0.80	1.00	0.0	4.54	12.03	0.00	886	0	55	6	60
1	3	5.33	4.078	2.584	0.00	0.592	1.81	0.80	1.00	0.0	5.17	9.36	0.00	502	0	42	2	44
															14,401	0		1,690

1.0D + 1.0W Service 90°
60 mph Wind with No IceGust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	9.99	0.750	9.765	0.00	0.167	2.71	0.85	1.00	0.0	6.29	17.03	0.00	970	0	145	0	145
14	250	9.78	0.000	8.624	0.00	0.138	2.82	0.85	1.00	0.0	4.96	13.96	0.00	703	0	116	0	116
13	230	9.55	0.000	9.163	0.00	0.147	2.78	0.85	1.00	0.0	5.28	14.69	0.00	823	0	119	0	119
12	210	9.30	0.750	9.765	0.00	0.167	2.71	0.85	1.00	0.0	6.29	17.03	0.00	984	0	135	5	139
11	190	9.04	0.000	9.436	0.00	0.150	2.77	0.85	1.00	0.0	5.44	15.07	0.00	880	0	116	15	131
10	170	8.76	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1167	0	135	14	149
9	150	8.45	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1031	0	116	14	130
8	130	8.11	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1031	0	111	13	125
7	110	7.73	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1167	0	119	13	131
6	90	7.30	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1031	0	100	12	112
5	70	6.80	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1167	0	104	11	116
4	50	6.17	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1031	0	85	10	95
3	30	5.33	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1031	0	73	9	82
2	13	5.33	0.000	7.787	0.00	0.183	2.65	0.85	1.00	0.0	4.54	12.03	0.00	886	0	55	6	60
1	3	5.33	4.078	2.584	0.00	0.592	1.81	0.85	1.00	0.0	5.38	9.72	0.00	502	0	44	2	46
															14,401	0		1,696

1.0D + 1.0W Service 120°
60 mph Wind with No IceGust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	9.99	0.750	9.765	0.00	0.167	2.71	1.00	1.00	0.0	6.40	17.34	0.00	970	0	147	0	147
14	250	9.78	0.000	8.624	0.00	0.138	2.82	1.00	1.00	0.0	4.96	13.96	0.00	703	0	116	0	116
13	230	9.55	0.000	9.163	0.00	0.147	2.78	1.00	1.00	0.0	5.28	14.69	0.00	823	0	119	0	119
12	210	9.30	0.750	9.765	0.00	0.167	2.71	1.00	1.00	0.0	6.40	17.34	0.00	984	0	137	5	142
11	190	9.04	0.000	9.436	0.00	0.150	2.77	1.00	1.00	0.0	5.44	15.07	0.00	880	0	116	15	131
10	170	8.76	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1167	0	137	14	151
9	150	8.45	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1031	0	116	14	130

ASSET: # 6300, WOODSTOCK CT

STANDARD

ANSI/TIA-222-H

CUSTOMER DISH WIRELESS L.L.C.

ENG NO.:

13733438_C3_02

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _t	D _t	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
8	130	8.11	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1031	0	111	13	125
7	110	7.73	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1167	0	121	13	133
6	90	7.30	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1031	0	100	12	112
5	70	6.80	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1167	0	106	11	117
4	50	6.17	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1031	0	85	10	95
3	30	5.33	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1031	0	73	9	82
2	13	5.33	0.000	7.787	0.00	0.183	2.65	1.00	1.00	0.0	4.54	12.03	0.00	886	0	55	6	60
1	3	5.33	4.078	2.584	0.00	0.592	1.81	1.00	1.00	0.0	5.99	10.83	0.00	502	0	49	2	51
															14,401	0		1,712

1.0D + 1.0W Service 180°
60 mph Wind with No IceGust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _t	D _t	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	9.99	0.750	9.765	0.00	0.167	2.71	0.80	1.00	0.0	6.25	16.93	0.00	970	0	144	0	144
14	250	9.78	0.000	8.624	0.00	0.138	2.82	0.80	1.00	0.0	4.96	13.96	0.00	703	0	116	0	116
13	230	9.55	0.000	9.163	0.00	0.147	2.78	0.80	1.00	0.0	5.28	14.69	0.00	823	0	119	0	119
12	210	9.30	0.750	9.765	0.00	0.167	2.71	0.80	1.00	0.0	6.25	16.93	0.00	984	0	134	5	138
11	190	9.04	0.000	9.436	0.00	0.150	2.77	0.80	1.00	0.0	5.44	15.07	0.00	880	0	116	15	131
10	170	8.76	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1167	0	134	14	148
9	150	8.45	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1031	0	116	14	130
8	130	8.11	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1031	0	111	13	125
7	110	7.73	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1167	0	118	13	131
6	90	7.30	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1031	0	100	12	112
5	70	6.80	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1167	0	104	11	115
4	50	6.17	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1031	0	85	10	95
3	30	5.33	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1031	0	73	9	82
2	13	5.33	0.000	7.787	0.00	0.183	2.65	0.80	1.00	0.0	4.54	12.03	0.00	886	0	55	6	60
1	3	5.33	4.078	2.584	0.00	0.592	1.81	0.80	1.00	0.0	5.17	9.36	0.00	502	0	42	2	44
															14,401	0		1,690

1.0D + 1.0W Service 210°
60 mph Wind with No IceGust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _t	D _t	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	9.99	0.750	9.765	0.00	0.167	2.71	0.85	1.00	0.0	6.29	17.03	0.00	970	0	145	0	145
14	250	9.78	0.000	8.624	0.00	0.138	2.82	0.85	1.00	0.0	4.96	13.96	0.00	703	0	116	0	116
13	230	9.55	0.000	9.163	0.00	0.147	2.78	0.85	1.00	0.0	5.28	14.69	0.00	823	0	119	0	119
12	210	9.30	0.750	9.765	0.00	0.167	2.71	0.85	1.00	0.0	6.29	17.03	0.00	984	0	135	5	139
11	190	9.04	0.000	9.436	0.00	0.150	2.77	0.85	1.00	0.0	5.44	15.07	0.00	880	0	116	15	131
10	170	8.76	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1167	0	135	14	149
9	150	8.45	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1031	0	116	14	130
8	130	8.11	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1031	0	111	13	125
7	110	7.73	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1167	0	119	13	131
6	90	7.30	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1031	0	100	12	112
5	70	6.80	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1167	0	104	11	116
4	50	6.17	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1031	0	85	10	95
3	30	5.33	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1031	0	73	9	82
2	13	5.33	0.000	7.787	0.00	0.183	2.65	0.85	1.00	0.0	4.54	12.03	0.00	886	0	55	6	60
1	3	5.33	4.078	2.584	0.00	0.592	1.81	0.85	1.00	0.0	5.38	9.72	0.00	502	0	44	2	46
															14,401	0		1,696

1.0D + 1.0W Service 240°
60 mph Wind with No IceGust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

ASSET: # 6300, WOODSTOCK CT

STANDARD

ANSI/TIA-222-H

CUSTOMER DISH WIRELESS L.L.C.

ENG NO.:

13733438_C3_02

SECTION FORCES

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	9.99	0.750	9.765	0.00	0.167	2.71	1.00	1.00	0.0	6.40	17.34	0.00	970	0	147	0	147
14	250	9.78	0.000	8.624	0.00	0.138	2.82	1.00	1.00	0.0	4.96	13.96	0.00	703	0	116	0	116
13	230	9.55	0.000	9.163	0.00	0.147	2.78	1.00	1.00	0.0	5.28	14.69	0.00	823	0	119	0	119
12	210	9.30	0.750	9.765	0.00	0.167	2.71	1.00	1.00	0.0	6.40	17.34	0.00	984	0	137	5	142
11	190	9.04	0.000	9.436	0.00	0.150	2.77	1.00	1.00	0.0	5.44	15.07	0.00	880	0	116	15	131
10	170	8.76	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1167	0	137	14	151
9	150	8.45	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1031	0	116	14	130
8	130	8.11	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1031	0	111	13	125
7	110	7.73	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1167	0	121	13	133
6	90	7.30	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1031	0	100	12	112
5	70	6.80	0.750	10.576	0.00	0.179	2.67	1.00	1.00	0.0	6.89	18.39	0.00	1167	0	106	11	117
4	50	6.17	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1031	0	85	10	95
3	30	5.33	0.000	10.248	0.00	0.162	2.73	1.00	1.00	0.0	5.93	16.17	0.00	1031	0	73	9	82
2	13	5.33	0.000	7.787	0.00	0.183	2.65	1.00	1.00	0.0	4.54	12.03	0.00	886	0	55	6	60
1	3	5.33	4.078	2.584	0.00	0.592	1.81	1.00	1.00	0.0	5.99	10.83	0.00	502	0	49	2	51
														14,401	0			1,712

1.0D + 1.0W Service 300°
60 mph Wind with No IceGust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	9.99	0.750	9.765	0.00	0.167	2.71	0.80	1.00	0.0	6.25	16.93	0.00	970	0	144	0	144
14	250	9.78	0.000	8.624	0.00	0.138	2.82	0.80	1.00	0.0	4.96	13.96	0.00	703	0	116	0	116
13	230	9.55	0.000	9.163	0.00	0.147	2.78	0.80	1.00	0.0	5.28	14.69	0.00	823	0	119	0	119
12	210	9.30	0.750	9.765	0.00	0.167	2.71	0.80	1.00	0.0	6.25	16.93	0.00	984	0	134	5	138
11	190	9.04	0.000	9.436	0.00	0.150	2.77	0.80	1.00	0.0	5.44	15.07	0.00	880	0	116	15	131
10	170	8.76	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1167	0	134	14	148
9	150	8.45	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1031	0	116	14	130
8	130	8.11	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1031	0	111	13	125
7	110	7.73	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1167	0	118	13	131
6	90	7.30	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1031	0	100	12	112
5	70	6.80	0.750	10.576	0.00	0.179	2.67	0.80	1.00	0.0	6.74	17.99	0.00	1167	0	104	11	115
4	50	6.17	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1031	0	85	10	95
3	30	5.33	0.000	10.248	0.00	0.162	2.73	0.80	1.00	0.0	5.93	16.17	0.00	1031	0	73	9	82
2	13	5.33	0.000	7.787	0.00	0.183	2.65	0.80	1.00	0.0	4.54	12.03	0.00	886	0	55	6	60
1	3	5.33	4.078	2.584	0.00	0.592	1.81	0.80	1.00	0.0	5.17	9.36	0.00	502	0	42	2	44
														14,401	0			1,690

1.0D + 1.0W Service 330°
60 mph Wind with No IceGust Response Factor (Gh): 0.85
Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
15	270	9.99	0.750	9.765	0.00	0.167	2.71	0.85	1.00	0.0	6.29	17.03	0.00	970	0	145	0	145
14	250	9.78	0.000	8.624	0.00	0.138	2.82	0.85	1.00	0.0	4.96	13.96	0.00	703	0	116	0	116
13	230	9.55	0.000	9.163	0.00	0.147	2.78	0.85	1.00	0.0	5.28	14.69	0.00	823	0	119	0	119
12	210	9.30	0.750	9.765	0.00	0.167	2.71	0.85	1.00	0.0	6.29	17.03	0.00	984	0	135	5	139
11	190	9.04	0.000	9.436	0.00	0.150	2.77	0.85	1.00	0.0	5.44	15.07	0.00	880	0	116	15	131
10	170	8.76	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1167	0	135	14	149
9	150	8.45	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1031	0	116	14	130
8	130	8.11	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1031	0	111	13	125
7	110	7.73	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1167	0	119	13	131
6	90	7.30	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1031	0	100	12	112
5	70	6.80	0.750	10.576	0.00	0.179	2.67	0.85	1.00	0.0	6.78	18.09	0.00	1167	0	104	11	116
4	50	6.17	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1031	0	85	10	95
3	30	5.33	0.000	10.248	0.00	0.162	2.73	0.85	1.00	0.0	5.93	16.17	0.00	1031	0	73	9	82
2	13	5.33	0.000	7.787	0.00	0.183	2.65	0.85	1.00	0.0	4.54	12.03	0.00	886	0	55	6	60
1	3	5.33	4.078	2.584	0.00	0.592	1.81	0.85	1.00	0.0	5.38	9.72	0.00	502	0	44	2	46

SECTION FORCES																		
Sect #	Elev (ft)	Q _Z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
														14,401	0			1,696

ASSET: # 6300, WOODSTOCK CT
 CUSTOMER DISH WIRELESS L.L.C.

STANDARD ANSI/TIA-222-H
 ENG NO.: 13733438_C3_02

EQUIVALENT LATERAL FORCE METHOD

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Seismic Response Coefficient (C_s):	0.05
Upper Limit C_s :	0.05
Lower Limit C_s :	0.03
Period based on Rayleigh Method (sec):	0.57
Redundancy Factor (ρ):	1.30
Seismic Force Distribution Exponent (k):	1.03
Total Unfactored Dead Load:	16.25 k
Seismic Base Shear (E):	1.11 k

SEISMIC

Load Case: 1.2D + 1.0Ev + 1.0Eh

Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
15	270.00	970	316,994	0.117	130	1,201
14	250.00	703	212,302	0.079	87	871
13	230.00	823	228,016	0.084	94	1,020
12	210.00	984	247,982	0.092	102	1,218
11	190.00	880	200,104	0.074	82	1,090
10	170.00	1,167	236,393	0.088	97	1,445
9	150.00	1,031	183,461	0.068	75	1,277
8	130.00	1,031	158,224	0.058	65	1,277
7	110.00	1,167	150,702	0.056	62	1,445
6	90.00	1,031	108,172	0.040	44	1,277
5	70.00	1,167	94,432	0.035	39	1,445
4	50.00	1,031	58,901	0.022	24	1,277
3	30.00	1,031	34,729	0.013	14	1,277
2	13.34	886	12,904	0.005	5	1,097
1	3.34	502	1,745	0.001	1	622
Raycap RDIDC-9181-PF-48	206.00	22	5,412	0.002	2	27
Fujitsu TA08025-B605	206.00	225	55,604	0.021	23	279
Fujitsu TA08025-B604	206.00	192	47,375	0.018	19	237
Commscope FFVV-65B-R2	206.00	212	52,490	0.019	22	263
Generic Flat Light Sector Frame	206.00	1,200	296,556	0.110	122	1,486
Totals		16,252	2,702,497	1.000	1,110	20,130

ASSET: # 6300, WOODSTOCK CT
CUSTOMER DISH WIRELESS L.L.C.

STANDARD ANSI/TIA-222-H
ENG NO.: 13733438_C3_02

FORCE/STRESS SUMMARY

Section 1 – Base 0.0 (ft) and Height 6.67 (ft)

Max Compression	Pu	Load Case	Len (ft)	Bracing %			KL/R	F _y	Φ _c P _n	Shear ΦR _{nv}	Bear ΦR _n	#	#	Use	Controls
	(kip)			X	Y	Z		(ksi)	(kip)	(kip)	(kip)	Bolt	Hole	%	
L SOL - 2 1/4" SOLID	-42.13	1.2D + 1.0Di + 1.0Wi 60	2.297	100	100	100	49.00	50.0	150.11	0.00	0.00	0	0	28	Member X
H PL - PL 9 x 0.375"	-0.00	1.2D + 1.0W N	1	100	100	100	77.77	16.5	50.90	0.00	0.00	0	0	0	Member Y

Max Tension Member	Pu	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear	Blk Shear	#	#	Use	Controls
	(kip)					ΦR _{nv} (kip)	ΦR _n (kip)	Φ _t P _n (kip)			%	
H PL - PL 9 x 0.375"	5.48	1.2D + 1.0Di + 1.0Wi N	36.0	58	109.35	0.00	0.00	0.00	0	0	5	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type
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Section 2 – Base 6.7 (ft) and Height 13.33 (ft)

									Shear			Bear				
	Pu (kip)	Load Case	Len (ft)	Bracing %				F'y (ksi)	Φc Pn (kip)	ΦRnv (kip)	ΦRn (kip)	# Bolt	# Hole	Use %	Controls	
Max Compression				X	Y	Z	KL/R									
L SOL - 2 1/4" SOLID	-40.36	1.2D + 1.0Di + 1.0Wi N	3.244	100	100	100	69.20	50.0	126.07	0.00	0.00	0	0	32	Member X	
H SOL - 7/8" SOLID	-0.01	1.2D + 1.0W N	3	100	100	100	106.99	36.0	10.66	0.00	0.00	0	0	0	Member X	
D SOL - 1 1/4" SOLID	-0.57	1.2D + 1.0W 60°	4.418	100	100	100	118.76	36.0	18.92	0.00	0.00	0	0	3	Member X	
							Shear			Bear		Blk Shear				
	Pu (kip)	Load Case		Fy (ksi)	Fu (ksi)	ΦcPn (kip)	ΦRnv (kip)	ΦRn (kip)	Φt Pn (kip)	# Bolt	# Hole	Use %	Controls			
Max Tension Member																
H SOL - 7/8" SOLID	0.65	1.2D + 1.0Di + 1.0Wi N		36.0	58	19.48	0.00	0.00	0.00	0	0	3	Member			
D SOL - 1 1/4" SOLID	0.24	1.2D + 1.0W N		36.0	58	39.76	0.00	0.00	0.00	0	0	0	Member			
Max Splice Forces	Pu (kip)	Load Case	ΦRnt (kip)		Use %	Num Bolts										
						Bolt Type										

Section 3 – Base 20.0 (ft) and Height 20.00 (ft)

									Shear			Bear				
	Pu (kip)	Load Case	Len (ft)	Bracing %				F' _y (ksi)	Φ _c P _n (kip)	ΦR _{nv} (kip)	ΦR _n (kip)	# Bolt	# Hole	Use %	Controls	
Max Compression																
L SOL - 2" SOLID	-40.97	1.2D + 1.0Di + 1.0Wi 60	3.271	100	100	100	78.50	50.0	90.10	0.00	0.00	0	0	45	Member X	
D SOL - 1" SOLID	-0.49	1.2D + 1.0Di + 1.0Wi 60	4.438	100	100	100	149.12	36.0	7.98	0.00	0.00	0	0	6	Member X	
							Shear			Bear		Blk Shear				
	Pu (kip)	Load Case		F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	ΦR _{nv} (kip)	ΦR _n (kip)	Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls			
Max Tension Member																
H SOL - 7/8" SOLID	0.23	1.2D + 1.0Di + 1.0Wi N		36.0	58	19.48	0.00	0.00	0.00	0	0	1	Member			
Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)		Use %	Num Bolts	Bolt Type									

Section 4 – Base 40.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F' _y (ksi)	Φ _c P _n (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls
				X	Y	Z				Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)				
L SOL - 2" SOLID	-40.81	1.2D + 1.0Di + 1.0Wi 60	3.271	100	100	100	78.50	50.0	90.10	0.00	0.00	0	0	45	Member X
H SOL - 7/8" SOLID	-0.04	1.2D + 1.0W 60°	3	100	100	100	106.99	36.0	10.66	0.00	0.00	0	0	0	Member X
D SOL - 1" SOLID	-0.65	1.2D + 1.0W 90°	4.438	100	100	100	149.12	36.0	7.98	0.00	0.00	0	0	8	Member X

ASSET: # 6300, WOODSTOCK CT

STANDARD ANSI/TIA-222-H

CUSTOMER DISH WIRELESS L.L.C.

ENG NO.: 13733438_C3_02

FORCE/STRESS SUMMARY

Max Tension Member	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
						Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)				
H SOL - 7/8" SOLID	0.22	1.2D + 1.0Di + 1.0Wi N	36.0	58	19.48	0.00	0.00	0.00	0	0	1	Member
D SOL - 1" SOLID	0.02	1.2D + 1.0W N	36.0	58	25.45	0.00	0.00	0.00	0	0	0	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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Section 5 – Base 60.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %				F' _y (ksi)	Φ _c P _n (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls
				X	Y	Z	KL/R			Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)				
L SOL - 2" SOLID	-39.04	1.2D + 1.0Di + 1.0Wi 60	3.271	100	100	100	78.50	50.0	90.10	0.00	0.00	0	0	43	Member X
H SOL - 7/8" SOLID	-0.11	1.2D + 1.0W N	3	100	100	100	106.99	36.0	10.66	0.00	0.00	0	0	1	Member X
D SOL - 1 1/4" SOLID	-0.81	1.2D + 1.0W 90°	4.438	100	100	100	119.29	36.0	18.80	0.00	0.00	0	0	4	Member X

Max Tension Member	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
						Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)				
H SOL - 7/8" SOLID	0.22	1.2D + 1.0W 60°	36.0	58	19.48	0.00	0.00	0.00	0	0	1	Member
D SOL - 1 1/4" SOLID	0.45	1.2D + 1.0W 90°	36.0	58	39.76	0.00	0.00	0.00	0	0	1	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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Section 6 – Base 80.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %				F' _y (ksi)	Φ _c P _n (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls
				X	Y	Z	KL/R			Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)				
L SOL - 2" SOLID	-36.16	1.2D + 1.0Di + 1.0Wi 18	3.271	100	100	100	78.50	50.0	90.10	0.00	0.00	0	0	40	Member X
H SOL - 7/8" SOLID	-0.01	1.2D + 1.0W 60°	3	100	100	100	106.99	36.0	10.66	0.00	0.00	0	0	0	Member X
D SOL - 1" SOLID	-0.44	1.2D + 1.0W N	4.438	100	100	100	149.12	36.0	7.98	0.00	0.00	0	0	5	Member X

Max Tension Member	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
						Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)				
H SOL - 7/8" SOLID	0.21	1.2D + 1.0Di + 1.0Wi N	36.0	58	19.48	0.00	0.00	0.00	0	0	1	Member
D SOL - 1" SOLID	0.03	1.2D + 1.0W N	36.0	58	25.45	0.00	0.00	0.00	0	0	0	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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Section 7 – Base 100.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %				F' _y (ksi)	Φ _c P _n (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls
				X	Y	Z	KL/R			Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)				
L SOL - 2" SOLID	-34.26	1.2D + 1.0Di + 1.0Wi 60	3.271	100	100	100	78.50	50.0	90.10	0.00	0.00	0	0	38	Member X
H SOL - 7/8" SOLID	-0.08	1.2D + 1.0W N	3	100	100	100	106.99	36.0	10.66	0.00	0.00	0	0	0	Member X
D SOL - 1 1/4" SOLID	-0.80	1.2D + 1.0W N	4.438	100	100	100	119.29	36.0	18.80	0.00	0.00	0	0	4	Member X

Max Tension Member	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
						Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)				
H SOL - 7/8" SOLID	0.21	1.2D + 1.0W 60°	36.0	58	19.48	0.00	0.00	0.00	0	0	1	Member
D SOL - 1 1/4" SOLID	0.41	1.2D + 1.0W N	36.0	58	39.76	0.00	0.00	0.00	0	0	1	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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Section 8 – Base 120.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %				F' _y (ksi)	Φ _c P _n (kip)	Shear		ΦR _n (kip)	Bolt	# Hole	# Use	Controls
				X	Y	Z	KL/R			ΦR _{nv} (kip)	ΦR _n (kip)					
L SOL - 2" SOLID	-29.17	1.2D + 1.0Di + 1.0Wi N	3.271	100	100	100	78.50	50.0	90.10	0.00	0.00	0	0	0	32	Member X
H SOL - 7/8" SOLID	-0.00	1.2D + 1.0W N	3	100	100	100	106.99	36.0	10.66	0.00	0.00	0	0	0	0	Member X
D SOL - 1" SOLID	-0.52	1.2D + 1.0W 90°	4.438	100	100	100	149.12	36.0	7.98	0.00	0.00	0	0	0	6	Member X

Max Tension Member	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear		ΦR _{nv} (kip)	ΦR _n (kip)	Blk Shear		Bolt	# Hole	# Use	Controls
						ΦR _{nv} (kip)	ΦR _n (kip)			Φ _t P _n (kip)	Φ _t P _n (kip)				
H SOL - 7/8" SOLID	0.12	1.2D + 1.0W N	36.0	58	19.48	0.00	0.00	0.00	0	0	0	0	0	0	Member
D SOL - 1" SOLID	0.17	1.2D + 1.0W N	36.0	58	25.45	0.00	0.00	0.00	0	0	0	0	0	0	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type
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Section 9 – Base 140.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %				F' _y (ksi)	Φ _c P _n (kip)	Shear		ΦR _n (kip)	Bolt	# Hole	# Use	Controls
				X	Y	Z	KL/R			ΦR _{nv} (kip)	ΦR _n (kip)					
L SOL - 2" SOLID	-28.85	1.2D + 1.0Di + 1.0Wi 12	3.271	100	100	100	78.50	50.0	90.10	0.00	0.00	0	0	0	32	Member X
H SOL - 7/8" SOLID	-0.00	1.2D + 1.0W N	3	100	100	100	106.99	36.0	10.66	0.00	0.00	0	0	0	0	Member X
D SOL - 1" SOLID	-0.57	1.2D + 1.0W 60°	4.438	100	100	100	149.12	36.0	7.98	0.00	0.00	0	0	0	7	Member X

Max Tension Member	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear		ΦR _{nv} (kip)	ΦR _n (kip)	Blk Shear		Bolt	# Hole	# Use	Controls
						ΦR _{nv} (kip)	ΦR _n (kip)			Φ _t P _n (kip)	Φ _t P _n (kip)				
H SOL - 7/8" SOLID	0.07	1.2D + 1.0W N	36.0	58	19.48	0.00	0.00	0.00	0	0	0	0	0	0	Member
D SOL - 1" SOLID	0.28	1.2D + 1.0W N	36.0	58	25.45	0.00	0.00	0.00	0	0	0	0	0	1	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type
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Section 10 – Base 160.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %				F' _y (ksi)	Φ _c P _n (kip)	Shear		ΦR _n (kip)	Bolt	# Hole	# Use	Controls
				X	Y	Z	KL/R			ΦR _{nv} (kip)	ΦR _n (kip)					
L SOL - 2" SOLID	-28.03	1.2D + 1.0Di + 1.0Wi 60	3.271	100	100	100	78.50	50.0	90.10	0.00	0.00	0	0	0	31	Member X
H SOL - 7/8" SOLID	-0.35	1.2D + 1.0W N	3	100	100	100	106.99	36.0	10.66	0.00	0.00	0	0	0	3	Member X
D SOL - 1 1/4" SOLID	-1.54	1.2D + 1.0W 90°	4.438	100	100	100	119.29	36.0	18.80	0.00	0.00	0	0	0	8	Member X

Max Tension Member	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear		ΦR _{nv} (kip)	ΦR _n (kip)	Blk Shear		Bolt	# Hole	# Use	Controls
						ΦR _{nv} (kip)	ΦR _n (kip)			Φ _t P _n (kip)	Φ _t P _n (kip)				
H SOL - 7/8" SOLID	0.39	1.2D + 1.0W 60°	36.0	58	19.48	0.00	0.00	0.00	0	0	0	0	0	2	Member
D SOL - 1 1/4" SOLID	1.26	1.2D + 1.0W 90°	36.0	58	39.76	0.00	0.00	0.00	0	0	0	0	0	3	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type
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Section 11 – Base 180.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing %				F' _y (ksi)	Φ _c P _n (kip)	Shear		ΦR _n (kip)	Bolt	# Hole	# Use	Controls
				X	Y	Z	KL/R			ΦR _{nv} (kip)	ΦR _n (kip)					
L SOL - 1 3/4" SOLID	-22.34	1.2D + 1.0Di + 1.0Wi N	3.271	100	100	100	89.71	50.0	60.09	0.00	0.00	0	0	0	37	Member X
H SOL - 7/8" SOLID	-0.24	1.2D + 1.0W 60°	3	100	100	100	106.99	36.0	10.66	0.00	0.00	0	0	0	2	Member X
D SOL - 1" SOLID	-1.17	1.2D + 1.0W 90°	4.438	100	100	100	149.12	36.0	7.98	0.00	0.00	0	0	0	14	Member X

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Max Tension Member	Pu		Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
	(kip)						Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)				
H SOL - 7/8" SOLID	0.31	1.2D + 1.0W N		36.0	58	19.48	0.00	0.00	0.00	0	0	1	Member
D SOL - 1" SOLID	0.87	1.2D + 1.0W N		36.0	58	25.45	0.00	0.00	0.00	0	0	3	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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Section 12 – Base 200.0 (ft) and Height 20.00 (ft)

Max Compression	Pu		Load Case	Len (ft)	Bracing %			F' _y (ksi)	Shear	Bear	# Bolt	# Hole	Use %	Controls
	(kip)				X	Y	Z		Φ _c P _n (kip)	Φ _{R_{nv}} (kip)				
L SOL - 1 3/4" SOLID	-22.35	1.2D + 1.0Di + 1.0Wi N		3.271	100	100	100	89.71	50.0	60.09	0.00	0.00	0	37 Member X
H SOL - 7/8" SOLID	-0.90	1.2D + 1.0W N		3	100	100	100	106.99	36.0	10.66	0.00	0.00	0	8 Member X
D SOL - 1 1/4" SOLID	-2.21	1.2D + 1.0W 90°		4.438	100	100	100	119.29	36.0	18.80	0.00	0.00	0	11 Member X

Max Tension Member	Pu		Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
	(kip)						Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)				
L SOL - 1 3/4" SOLID	0.47	1.2D + 1.0W 60°		50.0	65	108.24	0.00	0.00		0	0	0	Member
H SOL - 7/8" SOLID	1.01	1.2D + 1.0W 60°		36.0	58	19.48	0.00	0.00	0.00	0	0	5	Member
D SOL - 1 1/4" SOLID	2.15	1.2D + 1.0W 90°		36.0	58	39.76	0.00	0.00	0.00	0	0	5	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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Section 13 – Base 220.0 (ft) and Height 20.00 (ft)

Max Compression	Pu		Load Case	Len (ft)	Bracing %			F' _y (ksi)	Shear	Bear	# Bolt	# Hole	Use %	Controls
	(kip)				X	Y	Z		Φ _c P _n (kip)	Φ _{R_{nv}} (kip)				
L SOL - 1 1/2" SOLID	-10.90	1.2D + 1.0Di + 1.0Wi 21		3.271	100	100	100	104.66	50.0	35.70	0.00	0.00	0	30 Member X
H SOL - 7/8" SOLID	-0.23	1.2D + 1.0W 60°		3	100	100	100	106.99	36.0	10.66	0.00	0.00	0	2 Member X
D SOL - 1 1/4" SOLID	-0.62	1.2D + 1.0W N		4.438	100	100	100	119.29	36.0	18.80	0.00	0.00	0	3 Member X

Max Tension Member	Pu		Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
	(kip)						Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)				
L SOL - 1 1/2" SOLID	0.00	1.2D + 1.0W 180°		50.0	65	79.52	0.00	0.00		0	0	0	Member
H SOL - 7/8" SOLID	0.21	1.2D + 1.0W N		36.0	58	19.48	0.00	0.00	0.00	0	0	1	Member
D SOL - 1 1/4" SOLID	0.56	1.2D + 1.0W N		36.0	58	39.76	0.00	0.00	0.00	0	0	1	Member

Max Splice Forces	Pu (kip)	Load Case	Φ _{R_{nt}} (kip)	Use %	Num Bolts	Bolt Type
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Section 14 – Base 240.0 (ft) and Height 20.00 (ft)

Max Compression	Pu		Load Case	Len (ft)	Bracing %			F' _y (ksi)	Shear	Bear	# Bolt	# Hole	Use %	Controls
	(kip)				X	Y	Z		Φ _c P _n (kip)	Φ _{R_{nv}} (kip)				
L SOL - 1 1/2" SOLID	-9.49	1.2D + 1.0Di + 1.0Wi N		3.271	100	100	100	104.66	50.0	35.70	0.00	0.00	0	26 Member X
H SOL - 7/8" SOLID	-0.02	1.2D + 1.0W N		3	100	100	100	106.99	36.0	10.66	0.00	0.00	0	0 Member X
D SOL - 1" SOLID	-0.32	1.2D + 1.0Di + 1.0Wi N		4.438	100	100	100	149.12	36.0	7.98	0.00	0.00	0	4 Member X

Max Tension Member	Pu		Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
	(kip)						Φ _{R_{nv}} (kip)	Φ _{R_n} (kip)	Φ _t P _n (kip)				
H SOL - 7/8" SOLID	0.07	1.2D + 1.0W N		36.0	58	19.48	0.00	0.00	0.00	0	0	0	Member
D SOL - 1" SOLID	0.16	1.2D + 1.0W N		36.0	58	25.45	0.00	0.00	0.00	0	0	0	Member

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	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Max Splice Forces						

Section 15 – Base 260.0 (ft) and Height 20.00 (ft)

	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F' _y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
Max Compression				X	Y	Z									
L SOL - 1 3/4" SOLID	-7.86	1.2D + 1.0Di + 1.0Wi N	3.271	100	100	100	89.71	50.0	60.09	0.00	0.00	0	0	13	Member X
H SOL - 7/8" SOLID	-0.13	1.2D + 1.0Di + 1.0Wi N	3	100	100	100	106.99	36.0	10.66	0.00	0.00	0	0	1	Member X
D SOL - 1 1/4" SOLID	-0.41	1.2D + 1.0Di + 1.0Wi N	4.438	100	100	100	119.29	36.0	18.80	0.00	0.00	0	0	2	Member X

	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
Max Tension Member												
L SOL - 1 3/4" SOLID	0.39	1.2D + 1.0W N	50.0	65	108.24	0.00	0.00		0	0	0	Member
H SOL - 7/8" SOLID	0.05	1.2D + 1.0W N	36.0	58	19.48	0.00	0.00	0.00	0	0	0	Member
D SOL - 1 1/4" SOLID	0.23	1.2D + 1.0W N	36.0	58	39.76	0.00	0.00	0.00	0	0	0	Member

	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type
Max Splice Forces						

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DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					*Fx (kip)	*Fy (kip)	*Fz (kip)
1.2D + 1.0W Normal	0.00	0.00		1	0.00	61.82	-0.58
	196.00	-9.00	0	A1	0.00	-7.21	7.53
	196.00	-2.00	240	A1a	-15.91	-16.34	-10.23
	196.00	3.00	120	A1b	15.91	-15.87	-10.22
1.2D + 1.0W 60°	0.00	0.00		1	-0.45	65.33	-0.26
	196.00	-9.00	0	A1	-0.91	-11.73	12.47
	196.00	-2.00	240	A1a	-20.64	-20.70	-11.92
	196.00	3.00	120	A1b	10.38	-10.97	-7.03
1.2D + 1.0W 90°	0.00	0.00		1	-0.54	63.74	0.01
	196.00	-9.00	0	A1	-1.12	-14.29	15.61
	196.00	-2.00	240	A1a	-19.41	-19.18	-10.71
	196.00	3.00	120	A1b	7.65	-8.09	-4.91
1.2D + 1.0W 120°	0.00	0.00		1	-0.51	61.81	0.30
	196.00	-9.00	0	A1	-0.91	-16.75	18.67
	196.00	-2.00	240	A1a	-16.60	-16.10	-8.55
	196.00	3.00	120	A1b	6.37	-6.51	-3.68
1.2D + 1.0W 180°	0.00	0.00		1	0.00	65.45	0.52
	196.00	-9.00	0	A1	0.00	-21.43	23.78
	196.00	-2.00	240	A1a	-11.18	-11.19	-5.41
	196.00	3.00	120	A1b	11.19	-10.87	-5.42
1.2D + 1.0W 210°	0.00	0.00		1	0.27	63.83	0.46
	196.00	-9.00	0	A1	0.44	-19.96	22.21
	196.00	-2.00	240	A1a	-8.07	-8.32	-4.16
	196.00	3.00	120	A1b	14.09	-13.36	-6.85
1.2D + 1.0W 240°	0.00	0.00		1	0.51	61.81	0.29
	196.00	-9.00	0	A1	0.91	-16.84	18.76
	196.00	-2.00	240	A1a	-6.43	-6.80	-3.71
	196.00	3.00	120	A1b	16.67	-15.73	-8.59
1.2D + 1.0W 300°	0.00	0.00		1	0.45	65.24	-0.26
	196.00	-9.00	0	A1	0.91	-11.80	12.54
	196.00	-2.00	240	A1a	-10.43	-11.36	-7.06
	196.00	3.00	120	A1b	20.68	-20.17	-11.94
1.2D + 1.0W 330°	0.00	0.00		1	0.27	63.71	-0.47
	196.00	-9.00	0	A1	0.44	-8.83	9.21
	196.00	-2.00	240	A1a	-13.12	-13.92	-8.86
	196.00	3.00	120	A1b	19.13	-18.80	-11.53
1.2D + 1.0Di + 1.0Wi Normal	0.00	0.00		1	0.00	120.65	-0.23
	196.00	-9.00	0	A1	0.00	-17.12	22.36
	196.00	-2.00	240	A1a	-25.10	-21.84	-15.68
	196.00	3.00	120	A1b	25.08	-21.13	-15.67
1.2D + 1.0Di + 1.0Wi 60°	0.00	0.00		1	-0.17	119.76	-0.11
	196.00	-9.00	0	A1	-1.05	-18.85	24.30
	196.00	-2.00	240	A1a	-27.27	-23.50	-15.74
	196.00	3.00	120	A1b	20.55	-17.43	-13.06
1.2D + 1.0Di + 1.0Wi 90°	0.00	0.00		1	-0.21	120.46	0.01
	196.00	-9.00	0	A1	-1.30	-20.84	26.95
	196.00	-2.00	240	A1a	-27.16	-23.08	-15.11
	196.00	3.00	120	A1b	19.53	-16.24	-11.84
1.2D + 1.0Di + 1.0Wi 120°	0.00	0.00		1	-0.19	121.17	0.10
	196.00	-9.00	0	A1	-1.05	-22.85	29.62
	196.00	-2.00	240	A1a	-26.15	-21.86	-13.90
	196.00	3.00	120	A1b	19.45	-15.85	-11.23
1.2D + 1.0Di + 1.0Wi 180°	0.00	0.00		1	0.00	120.00	0.19
	196.00	-9.00	0	A1	0.00	-24.55	31.52
	196.00	-2.00	240	A1a	-21.58	-18.01	-11.25
	196.00	3.00	120	A1b	21.58	-17.42	-11.26
1.2D + 1.0Di + 1.0Wi 210°	0.00	0.00		1	0.12	120.47	0.17
	196.00	-9.00	0	A1	0.50	-24.11	31.11
	196.00	-2.00	240	A1a	-19.99	-16.78	-10.97
	196.00	3.00	120	A1b	23.98	-19.27	-12.35
1.2D + 1.0Di + 1.0Wi 240°	0.00	0.00		1	0.20	120.95	0.11
	196.00	-9.00	0	A1	1.04	-22.84	29.61
	196.00	-2.00	240	A1a	-19.41	-16.38	-11.20
	196.00	3.00	120	A1b	26.13	-21.14	-13.89
1.2D + 1.0Di + 1.0Wi 300°	0.00	0.00		1	0.18	119.58	-0.11
	196.00	-9.00	0	A1	1.05	-18.85	24.30
	196.00	-2.00	240	A1a	-20.54	-18.03	-13.06
	196.00	3.00	120	A1b	27.24	-22.74	-15.72

ASSET: # 6300, WOODSTOCK CT

STANDARD

ANSI/TIA-222-H

CUSTOMER DISH WIRELESS L.L.C.

ENG NO.:

13733438_C3_02

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					*F _x (kip)	*F _y (kip)	*F _z (kip)
1.2D + 1.0Di + 1.0Wi 330°	0.00	0.00		1	0.10	120.06	-0.20
	196.00	-9.00	0	A1	0.51	-17.54	22.76
	196.00	-2.00	240	A1a	-22.70	-19.95	-14.59
	196.00	3.00	120	A1b	26.64	-22.32	-15.94
1.2D + 1.0Ev + 1.0Eh Normal	0.00	0.00		1	0.00	62.22	-0.01
	196.00	-9.00	0	A1	0.00	-12.96	15.22
	196.00	-2.00	240	A1a	-14.09	-13.43	-8.14
	196.00	3.00	120	A1b	14.10	-13.03	-8.14
1.2D + 1.0Ev + 1.0Eh 60°	0.00	0.00		1	-0.01	62.22	0.00
	196.00	-9.00	0	A1	0.00	-13.29	15.55
	196.00	-2.00	240	A1a	-14.38	-13.76	-8.30
	196.00	3.00	120	A1b	13.48	-12.36	-7.79
1.2D + 1.0Ev + 1.0Eh 90°	0.00	0.00		1	-0.01	62.21	0.00
	196.00	-9.00	0	A1	0.00	-13.63	15.89
	196.00	-2.00	240	A1a	-14.30	-13.67	-8.26
	196.00	3.00	120	A1b	13.24	-12.10	-7.65
1.2D + 1.0Ev + 1.0Eh 120°	0.00	0.00		1	-0.01	62.21	0.00
	196.00	-9.00	0	A1	0.00	-13.97	16.23
	196.00	-2.00	240	A1a	-14.07	-13.41	-8.12
	196.00	3.00	120	A1b	13.17	-12.03	-7.60
1.2D + 1.0Ev + 1.0Eh 180°	0.00	0.00		1	0.00	62.21	0.01
	196.00	-9.00	0	A1	0.00	-14.33	16.59
	196.00	-2.00	240	A1a	-13.46	-12.73	-7.77
	196.00	3.00	120	A1b	13.46	-12.34	-7.77
1.2D + 1.0Ev + 1.0Eh 210°	0.00	0.00		1	0.00	62.21	0.01
	196.00	-9.00	0	A1	0.00	-14.24	16.50
	196.00	-2.00	240	A1a	-13.24	-12.48	-7.64
	196.00	3.00	120	A1b	13.77	-12.68	-7.95
1.2D + 1.0Ev + 1.0Eh 240°	0.00	0.00		1	0.01	62.21	0.00
	196.00	-9.00	0	A1	0.00	-13.98	16.24
	196.00	-2.00	240	A1a	-13.18	-12.42	-7.61
	196.00	3.00	120	A1b	14.09	-13.02	-8.13
1.2D + 1.0Ev + 1.0Eh 300°	0.00	0.00		1	0.01	62.22	0.00
	196.00	-9.00	0	A1	0.00	-13.30	15.56
	196.00	-2.00	240	A1a	-13.49	-12.76	-7.79
	196.00	3.00	120	A1b	14.40	-13.36	-8.31
1.2D + 1.0Ev + 1.0Eh 330°	0.00	0.00		1	0.00	62.22	-0.01
	196.00	-9.00	0	A1	0.00	-13.06	15.32
	196.00	-2.00	240	A1a	-13.79	-13.10	-7.96
	196.00	3.00	120	A1b	14.31	-13.26	-8.26
1.0D + 1.0W Service Normal	0.00	0.00		1	0.00	59.39	-0.14
	196.00	-9.00	0	A1	0.00	-12.44	14.43
	196.00	-2.00	240	A1a	-14.75	-14.18	-8.78
	196.00	3.00	120	A1b	14.78	-13.77	-8.79
1.0D + 1.0W Service 60°	0.00	0.00		1	-0.12	59.19	-0.07
	196.00	-9.00	0	A1	-0.23	-13.15	15.21
	196.00	-2.00	240	A1a	-15.62	-14.93	-9.02
	196.00	3.00	120	A1b	13.08	-12.24	-7.81
1.0D + 1.0W Service 90°	0.00	0.00		1	-0.14	59.30	0.00
	196.00	-9.00	0	A1	-0.28	-13.97	16.19
	196.00	-2.00	240	A1a	-15.48	-14.73	-8.81
	196.00	3.00	120	A1b	12.55	-11.67	-7.37
1.0D + 1.0W Service 120°	0.00	0.00		1	-0.12	59.43	0.07
	196.00	-9.00	0	A1	-0.23	-14.71	17.09
	196.00	-2.00	240	A1a	-14.95	-14.15	-8.37
	196.00	3.00	120	A1b	12.52	-11.57	-7.23
1.0D + 1.0W Service 180°	0.00	0.00		1	0.00	59.20	0.14
	196.00	-9.00	0	A1	0.00	-15.54	18.02
	196.00	-2.00	240	A1a	-13.26	-12.58	-7.39
	196.00	3.00	120	A1b	13.27	-12.20	-7.40
1.0D + 1.0W Service 210°	0.00	0.00		1	0.07	59.30	0.12
	196.00	-9.00	0	A1	0.11	-15.35	17.82
	196.00	-2.00	240	A1a	-12.64	-12.02	-7.17
	196.00	3.00	120	A1b	14.16	-12.99	-7.85
1.0D + 1.0W Service 240°	0.00	0.00		1	0.12	59.42	0.07
	196.00	-9.00	0	A1	0.23	-14.69	17.06
	196.00	-2.00	240	A1a	-12.56	-11.98	-7.25
	196.00	3.00	120	A1b	14.97	-13.75	-8.38

DETAILED REACTIONS							
Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					*Fx (kip)	*Fy (kip)	*Fz (kip)
1.0D + 1.0W Service 300°	0.00	0.00		1	0.12	59.18	-0.07
	196.00	-9.00	0	A1	0.23	-13.17	15.23
	196.00	-2.00	240	A1a	-13.09	-12.64	-7.82
	196.00	3.00	120	A1b	15.64	-14.51	-9.03
1.0D + 1.0W Service 330°	0.00	0.00		1	0.07	59.28	-0.12
	196.00	-9.00	0	A1	0.11	-12.59	14.58
	196.00	-2.00	240	A1a	-13.93	-13.45	-8.37
	196.00	3.00	120	A1b	15.40	-14.31	-9.02

GUY ANCHOR DESIGN LOADS

Radius (ft)	Drop (ft)	Azimuth (deg)	Uplift (kip)	Shear (kip)
196.00	-9.00	0	24.55	31.52
196.00	3.00	120	22.74	31.45
196.00	-2.00	240	23.50	31.48

ASSET: # 6300, WOODSTOCK CT

STANDARD

ANSI/TIA-222-H

CUSTOMER DISH WIRELESS L.L.C.

ENG NO.:

13733438_C3_02

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0W Normal	66.73	7/16 EHS	A1	29	12.48	1.51	12
		7/16 EHS	A1b	29a	12.48	2.7	22
		7/16 EHS	A1a	29b	12.48	2.73	22
	116.54	1/2 EHS	A1	48	16.14	1.82	11
		1/2 EHS	A1b	48a	16.14	3.58	22
		1/2 EHS	A1a	48b	16.14	3.63	22
	166.73	5/8 EHS	A1	69	25.44	2.35	9
		5/8 EHS	A1b	69a	25.44	5.83	23
		5/8 EHS	A1a	69b	25.44	5.91	23
	216.54	3/4 EHS	A1	88	34.98	3	9
		3/4 EHS	A1b	88a	34.98	8.66	25
		3/4 EHS	A1a	88b	34.98	8.77	25
	266.73	1/2 EHS	A1	109	16.14	2.62	16
		1/2 EHS	A1b	109a	16.14	4.93	31
		1/2 EHS	A1a	109b	16.14	4.99	31
1.2D + 1.0W 60°	66.73	7/16 EHS	A1	29	12.48	2.04	16
		7/16 EHS	A1b	29a	12.48	2	16
		7/16 EHS	A1a	29b	12.48	3.26	26
	116.54	1/2 EHS	A1	48	16.14	2.7	17
		1/2 EHS	A1b	48a	16.14	2.62	16
		1/2 EHS	A1a	48b	16.14	4.43	27
	166.73	5/8 EHS	A1	69	25.44	4.08	16
		5/8 EHS	A1b	69a	25.44	3.96	16
		5/8 EHS	A1a	69b	25.44	7.52	30
	216.54	3/4 EHS	A1	88	34.98	5.61	16
		3/4 EHS	A1b	88a	34.98	5.44	16
		3/4 EHS	A1a	88b	34.98	11.53	33
	266.73	1/2 EHS	A1	109	16.14	3.67	23
		1/2 EHS	A1b	109a	16.14	3.58	22
		1/2 EHS	A1a	109b	16.14	5.93	37
1.2D + 1.0W 90°	66.73	7/16 EHS	A1	29	12.48	2.39	19
		7/16 EHS	A1b	29a	12.48	1.61	13
		7/16 EHS	A1a	29b	12.48	3.06	25
	116.54	1/2 EHS	A1	48	16.14	3.18	20
		1/2 EHS	A1b	48a	16.14	2.03	13
		1/2 EHS	A1a	48b	16.14	4.13	26
	166.73	5/8 EHS	A1	69	25.44	5.03	20
		5/8 EHS	A1b	69a	25.44	2.84	11
		5/8 EHS	A1a	69b	25.44	6.96	27
	216.54	3/4 EHS	A1	88	34.98	7.2	21
		3/4 EHS	A1b	88a	34.98	3.74	11
		3/4 EHS	A1a	88b	34.98	10.61	30
	266.73	1/2 EHS	A1	109	16.14	4.38	27
		1/2 EHS	A1b	109a	16.14	2.83	18
		1/2 EHS	A1a	109b	16.14	5.61	35
1.2D + 1.0W 120°	66.73	7/16 EHS	A1	29	12.48	2.75	22
		7/16 EHS	A1b	29a	12.48	1.47	12
		7/16 EHS	A1a	29b	12.48	2.71	22
	116.54	1/2 EHS	A1	48	16.14	3.66	23
		1/2 EHS	A1b	48a	16.14	1.75	11
		1/2 EHS	A1a	48b	16.14	3.6	22
	166.73	5/8 EHS	A1	69	25.44	5.94	23
		5/8 EHS	A1b	69a	25.44	2.2	9
		5/8 EHS	A1a	69b	25.44	5.82	23
	216.54	3/4 EHS	A1	88	34.98	8.77	25
		3/4 EHS	A1b	88a	34.98	2.76	8
		3/4 EHS	A1a	88b	34.98	8.62	25
	266.73	1/2 EHS	A1	109	16.14	5	31
		1/2 EHS	A1b	109a	16.14	2.51	16
		1/2 EHS	A1a	109b	16.14	4.92	31
1.2D + 1.0W 180°	66.73	7/16 EHS	A1	29	12.48	3.3	26
		7/16 EHS	A1b	29a	12.48	2	16
		7/16 EHS	A1a	29b	12.48	2.01	16
	116.54	1/2 EHS	A1	48	16.14	4.5	28
		1/2 EHS	A1b	48a	16.14	2.61	16
		1/2 EHS	A1a	48b	16.14	2.64	16

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0W 210°	166.73	5/8 EHS	A1	69	25.44	7.63	30
		5/8 EHS	A1b	69a	25.44	3.92	15
		5/8 EHS	A1a	69b	25.44	3.97	16
	216.54	3/4 EHS	A1	88	34.98	11.67	33
		3/4 EHS	A1b	88a	34.98	5.38	15
		3/4 EHS	A1a	88b	34.98	5.46	16
	266.73	1/2 EHS	A1	109	16.14	6	37
		1/2 EHS	A1b	109a	16.14	3.55	22
		1/2 EHS	A1a	109b	16.14	3.59	22
	66.73	7/16 EHS	A1	29	12.48	3.11	25
		7/16 EHS	A1b	29a	12.48	2.35	19
		7/16 EHS	A1a	29b	12.48	1.63	13
	116.54	1/2 EHS	A1	48	16.14	4.22	26
		1/2 EHS	A1b	48a	16.14	3.1	19
		1/2 EHS	A1a	48b	16.14	2.06	13
	166.73	5/8 EHS	A1	69	25.44	7.1	28
		5/8 EHS	A1b	69a	25.44	4.87	19
		5/8 EHS	A1a	69b	25.44	2.88	11
	216.54	3/4 EHS	A1	88	34.98	10.8	31
		3/4 EHS	A1b	88a	34.98	6.97	20
		3/4 EHS	A1a	88b	34.98	3.79	11
	266.73	1/2 EHS	A1	109	16.14	5.7	35
		1/2 EHS	A1b	109a	16.14	4.27	26
		1/2 EHS	A1a	109b	16.14	2.86	18
1.2D + 1.0W 240°	66.73	7/16 EHS	A1	29	12.48	2.76	22
		7/16 EHS	A1b	29a	12.48	2.7	22
		7/16 EHS	A1a	29b	12.48	1.49	12
	116.54	1/2 EHS	A1	48	16.14	3.67	23
		1/2 EHS	A1b	48a	16.14	3.56	22
		1/2 EHS	A1a	48b	16.14	1.78	11
	166.73	5/8 EHS	A1	69	25.44	5.97	23
		5/8 EHS	A1b	69a	25.44	5.78	23
		5/8 EHS	A1a	69b	25.44	2.26	9
	216.54	3/4 EHS	A1	88	34.98	8.84	25
		3/4 EHS	A1b	88a	34.98	8.57	24
		3/4 EHS	A1a	88b	34.98	2.86	8
	266.73	1/2 EHS	A1	109	16.14	5.02	31
		1/2 EHS	A1b	109a	16.14	4.9	30
		1/2 EHS	A1a	109b	16.14	2.56	16
	66.73	7/16 EHS	A1	29	12.48	2.04	16
		7/16 EHS	A1b	29a	12.48	3.23	26
		7/16 EHS	A1a	29b	12.48	2.02	16
	116.54	1/2 EHS	A1	48	16.14	2.71	17
		1/2 EHS	A1b	48a	16.14	4.38	27
		1/2 EHS	A1a	48b	16.14	2.66	17
	166.73	5/8 EHS	A1	69	25.44	4.11	16
		5/8 EHS	A1b	69a	25.44	7.44	29
		5/8 EHS	A1a	69b	25.44	4.03	16
	216.54	3/4 EHS	A1	88	34.98	5.66	16
		3/4 EHS	A1b	88a	34.98	11.42	33
		3/4 EHS	A1a	88b	34.98	5.55	16
	266.73	1/2 EHS	A1	109	16.14	3.68	23
		1/2 EHS	A1b	109a	16.14	5.88	36
		1/2 EHS	A1a	109b	16.14	3.63	23
1.2D + 1.0W 330°	66.73	7/16 EHS	A1	29	12.48	1.65	13
		7/16 EHS	A1b	29a	12.48	3.05	24
		7/16 EHS	A1a	29b	12.48	2.38	19
	116.54	1/2 EHS	A1	48	16.14	2.12	13
		1/2 EHS	A1b	48a	16.14	4.11	25
		1/2 EHS	A1a	48b	16.14	3.16	20
	166.73	5/8 EHS	A1	69	25.44	3	12
		5/8 EHS	A1b	69a	25.44	6.93	27
		5/8 EHS	A1a	69b	25.44	5	20
	216.54	3/4 EHS	A1	88	34.98	3.96	11
		3/4 EHS	A1b	88a	34.98	10.58	30
		3/4 EHS	A1a	88b	34.98	7.17	21
	266.73	1/2 EHS	A1	109	16.14	2.94	18
		1/2 EHS	A1b	109a	16.14	5.6	35

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0Di + 1.0Wi Normal	66.73	1/2 EHS	A1a	109b	16.14	4.36	27
		7/16 EHS	A1	29	12.48	4.97	40
		7/16 EHS	A1b	29a	12.48	5.58	45
		7/16 EHS	A1a	29b	12.48	5.63	45
	116.54	1/2 EHS	A1	48	16.14	5.81	36
		1/2 EHS	A1b	48a	16.14	6.86	43
		1/2 EHS	A1a	48b	16.14	6.95	43
		5/8 EHS	A1	69	25.44	7.5	29
	166.73	5/8 EHS	A1b	69a	25.44	9.26	36
		5/8 EHS	A1a	69b	25.44	9.39	37
		3/4 EHS	A1	88	34.98	9.42	27
		3/4 EHS	A1b	88a	34.98	11.61	33
	266.73	3/4 EHS	A1a	88b	34.98	11.77	34
		1/2 EHS	A1	109	16.14	5.7	35
		1/2 EHS	A1b	109a	16.14	8.12	50
		1/2 EHS	A1a	109b	16.14	8.21	51
1.2D + 1.0Di + 1.0Wi 60°	66.73	7/16 EHS	A1	29	12.48	5.12	41
		7/16 EHS	A1b	29a	12.48	5	40
		7/16 EHS	A1a	29b	12.48	5.76	46
	116.54	1/2 EHS	A1	48	16.14	6.12	38
		1/2 EHS	A1b	48a	16.14	5.94	37
		1/2 EHS	A1a	48b	16.14	7.15	44
	166.73	5/8 EHS	A1	69	25.44	8.06	32
		5/8 EHS	A1b	69a	25.44	7.8	31
		5/8 EHS	A1a	69b	25.44	9.86	39
	216.54	3/4 EHS	A1	88	34.98	9.98	29
		3/4 EHS	A1b	88a	34.98	9.64	28
		3/4 EHS	A1a	88b	34.98	12.83	37
	266.73	1/2 EHS	A1	109	16.14	6.74	42
		1/2 EHS	A1b	109a	16.14	6.58	41
		1/2 EHS	A1a	109b	16.14	8.88	55
1.2D + 1.0Di + 1.0Wi 90°	66.73	7/16 EHS	A1	29	12.48	5.43	44
		7/16 EHS	A1b	29a	12.48	4.87	39
		7/16 EHS	A1a	29b	12.48	5.75	46
	116.54	1/2 EHS	A1	48	16.14	6.61	41
		1/2 EHS	A1b	48a	16.14	5.69	35
		1/2 EHS	A1a	48b	16.14	7.13	44
	166.73	5/8 EHS	A1	69	25.44	8.82	35
		5/8 EHS	A1b	69a	25.44	7.38	29
		5/8 EHS	A1a	69b	25.44	9.77	38
	216.54	3/4 EHS	A1	88	34.98	10.92	31
		3/4 EHS	A1b	88a	34.98	9.2	26
		3/4 EHS	A1a	88b	34.98	12.55	36
	266.73	1/2 EHS	A1	109	16.14	7.59	47
		1/2 EHS	A1b	109a	16.14	5.87	36
		1/2 EHS	A1a	109b	16.14	8.7</	

ASSET: # 6300, WOODSTOCK CT
 CUSTOMER DISH WIRELESS L.L.C.

STANDARD ANSI/TIA-222-H
 ENG NO.: 13733438_C3_02

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0Di + 1.0Wi 210°	216.54	5/8 EHS	A1b	69a	25.44	7.8	31
		5/8 EHS	A1a	69b	25.44	7.9	31
		3/4 EHS	A1	88	34.98	13.08	37
		3/4 EHS	A1b	88a	34.98	9.63	28
	266.73	3/4 EHS	A1a	88b	34.98	9.77	28
		1/2 EHS	A1	109	16.14	9.02	56
		1/2 EHS	A1b	109a	16.14	6.57	41
		1/2 EHS	A1a	109b	16.14	6.64	41
	66.73	7/16 EHS	A1	29	12.48	5.84	47
		7/16 EHS	A1b	29a	12.48	5.3	42
		7/16 EHS	A1a	29b	12.48	4.91	39
	116.54	1/2 EHS	A1	48	16.14	7.26	45
		1/2 EHS	A1b	48a	16.14	6.42	40
		1/2 EHS	A1a	48b	16.14	5.76	36
	166.73	5/8 EHS	A1	69	25.44	9.96	39
		5/8 EHS	A1b	69a	25.44	8.53	34
		5/8 EHS	A1a	69b	25.44	7.47	29
	216.54	3/4 EHS	A1	88	34.98	12.8	37
		3/4 EHS	A1b	88a	34.98	10.54	30
		3/4 EHS	A1a	88b	34.98	9.33	27
	266.73	1/2 EHS	A1	109	16.14	8.83	55
		1/2 EHS	A1b	109a	16.14	7.4	46
		1/2 EHS	A1a	109b	16.14	5.92	37
1.2D + 1.0Di + 1.0Wi 240°	66.73	7/16 EHS	A1	29	12.48	5.72	46
		7/16 EHS	A1b	29a	12.48	5.58	45
		7/16 EHS	A1a	29b	12.48	4.9	39
	116.54	1/2 EHS	A1	48	16.14	7.08	44
		1/2 EHS	A1b	48a	16.14	6.86	43
		1/2 EHS	A1a	48b	16.14	5.71	35
	166.73	5/8 EHS	A1	69	25.44	9.57	38
		5/8 EHS	A1b	69a	25.44	9.26	36
		5/8 EHS	A1a	69b	25.44	7.36	29
	216.54	3/4 EHS	A1	88	34.98	12.02	34
		3/4 EHS	A1b	88a	34.98	11.61	33
		3/4 EHS	A1a	88b	34.98	9.23	26
	266.73	1/2 EHS	A1	109	16.14	8.33	52
		1/2 EHS	A1b	109a	16.14	8.13	50
		1/2 EHS	A1a	109b	16.14	5.63	35
1.2D + 1.0Di + 1.0Wi 300°	66.73	7/16 EHS	A1	29	12.48	5.12	41
		7/16 EHS	A1b	29a	12.48	5.7	46
		7/16 EHS	A1a	29b	12.48	5.05	40
	116.54	1/2 EHS	A1	48	16.14	6.11	38
		1/2 EHS	A1b	48a	16.14	7.05	44
		1/2 EHS	A1a	48b	16.14	6.01	37
	166.73	5/8 EHS	A1	69	25.44	8.06	32
		5/8 EHS	A1b	69a	25.44	9.72	38
		5/8 EHS	A1a	69b	25.44	7.91	31
	216.54	3/4 EHS	A1	88	34.98	9.99	29
		3/4 EHS	A1b	88a	34.98	12.65	36
		3/4 EHS	A1a	88b	34.98	9.79	28
	266.73	1/2 EHS	A1	109	16.14	6.74	42
		1/2 EHS	A1b	109a	16.14	8.79	54
		1/2 EHS	A1a	109b	16.14	6.65	41
1.2D + 1.0Di + 1.0Wi 330°	66.73	7/16 EHS	A1	29	12.48	4.98	40
		7/16 EHS	A1b	29a	12.48	5.69	46
		7/16 EHS	A1a	29b	12.48	5.34	43
	116.54	1/2 EHS	A1	48	16.14	5.86	36
		1/2 EHS	A1b	48a	16.14	7.04	44
		1/2 EHS	A1a	48b	16.14	6.49	40
	166.73	5/8 EHS	A1	69	25.44	7.62	30
		5/8 EHS	A1b	69a	25.44	9.63	38
		5/8 EHS	A1a	69b	25.44	8.65	34
	216.54	3/4 EHS	A1	88	34.98	9.52	27
		3/4 EHS	A1b	88a	34.98	12.37	35
		3/4 EHS	A1a	88b	34.98	10.72	31
	266.73	1/2 EHS	A1	109	16.14	5.99	37
		1/2 EHS	A1b	109a	16.14	8.6	53
		1/2 EHS	A1a	109b	16.14	7.49	46

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0Ev + 1.0Eh Normal	66.73	7/16 EHS	A1	29	12.48	3.04	24
		7/16 EHS	A1b	29a	12.48	3.07	25
		7/16 EHS	A1a	29b	12.48	3.09	25
	116.54	1/2 EHS	A1	48	16.14	3.57	22
		1/2 EHS	A1b	48a	16.14	3.64	23
		1/2 EHS	A1a	48b	16.14	3.68	23
	166.73	5/8 EHS	A1	69	25.44	5.09	20
		5/8 EHS	A1b	69a	25.44	5.27	21
		5/8 EHS	A1a	69b	25.44	5.34	21
	216.54	3/4 EHS	A1	88	34.98	6.46	18
		3/4 EHS	A1b	88a	34.98	6.85	20
		3/4 EHS	A1a	88b	34.98	6.93	20
	266.73	1/2 EHS	A1	109	16.14	2.82	17
		1/2 EHS	A1b	109a	16.14	3.03	19
		1/2 EHS	A1a	109b	16.14	3.06	19
1.2D + 1.0Ev + 1.0Eh 60°	66.73	7/16 EHS	A1	29	12.48	3.07	25
		7/16 EHS	A1b	29a	12.48	3	24
		7/16 EHS	A1a	29b	12.48	3.12	25
	116.54	1/2 EHS	A1	48	16.14	3.63	22
		1/2 EHS	A1b	48a	16.14	3.53	22
		1/2 EHS	A1a	48b	16.14	3.74	23
	166.73	5/8 EHS	A1	69	25.44	5.2	20
		5/8 EHS	A1b	69a	25.44	5.04	20
		5/8 EHS	A1a	69b	25.44	5.45	21
	216.54	3/4 EHS	A1	88	34.98	6.65	19
		3/4 EHS	A1b	88a	34.98	6.45	18
		3/4 EHS	A1a	88b	34.98	7.12	20
	266.73	1/2 EHS	A1	109	16.14	2.91	18
		1/2 EHS	A1b	109a	16.14	2.84	18
		1/2 EHS	A1a	109b	16.14	3.15	20
1.2D + 1.0Ev + 1.0Eh 90°	66.73	7/16 EHS	A1	29	12.48	3.1	25
		7/16 EHS	A1b	29a	12.48	2.98	24
		7/16 EHS	A1a	29b	12.48	3.11	25
	116.54	1/2 EHS	A1	48	16.14	3.68	23
		1/2 EHS	A1b	48a	16.14	3.48	22
		1/2 EHS	A1a	48b	16.14	3.72	23
	166.73	5/8 EHS	A1	69	25.44	5.31	21
		5/8 EHS	A1b	69a	25.44	4.95	19
		5/8 EHS	A1a	69b	25.44	5.41	21
	216.54	3/4 EHS	A1	88	34.98	6.84	20
		3/4 EHS	A1b	88a	34.98	6.3	18
		3/4 EHS	A1a	88b	34.98	7.07	20
	266.73	1/2 EHS	A1	109	16.14	3	19
		1/2 EHS	A1b	109a	16.14	2.77	17
		1/2 EHS	A1a	109b	16.14	3.13	19
1.2D + 1.0Ev + 1.0Eh 120°	66.73	7/16 EHS	A1	29	12.48	3.13	25
		7/16 EHS	A1b	29a	12.48	2.97	24
		7/16 EHS	A1a	29b	12.48	3.09	25
	116.54	1/2 EHS	A1	48	16.14	3.74	23
		1/2 EHS	A1b	48a	16.14	3.47	21
		1/2 EHS	A1a	48b	16.14	3.68	23
	166.73	5/8 EHS	A1	69	25.44	5.42	21
		5/8 EHS	A1b	69a	25.44	4.92	19
		5/8 EHS	A1a	69b	25.44	5.33	21
	216.54	3/4 EHS	A1	88	34.98	7.03	20
		3/4 EHS	A1b	88a	34.98	6.25	18
		3/4 EHS	A1a	88b	34.98	6.92	20
	266.73	1/2 EHS	A1	109	16.14	3.1	19
		1/2 EHS	A1b	109a	16.14	2.75	17
		1/2 EHS	A1a	109b	16.14	3.06	19
1.2D + 1.0Ev + 1.0Eh 180°	66.73	7/16 EHS	A1	29	12.48	3.16	25
		7/16 EHS	A1b	29a	12.48	3	24
		7/16 EHS	A1a	29b	12.48	3.03	24
	116.54	1/2 EHS	A1	48	16.14	3.8	24
		1/2 EHS	A1b	48a	16.14	3.52	22
		1/2 EHS	A1a	48b	16.14	3.56	22
	166.73	5/8 EHS	A1	69	25.44	5.54	22
		5/8 EHS	A1b	69a	25.44	5.03	20

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0Ev + 1.0Eh 210°	216.54	5/8 EHS	A1a	69b	25.44	5.1	20
		3/4 EHS	A1	88	34.98	7.24	21
		3/4 EHS	A1b	88a	34.98	6.44	18
	266.73	3/4 EHS	A1a	88b	34.98	6.52	19
		1/2 EHS	A1	109	16.14	3.2	20
		1/2 EHS	A1b	109a	16.14	2.84	18
	66.73	1/2 EHS	A1a	109b	16.14	2.86	18
		7/16 EHS	A1	29	12.48	3.15	25
		7/16 EHS	A1b	29a	12.48	3.03	24
	116.54	7/16 EHS	A1a	29b	12.48	3.01	24
		1/2 EHS	A1	48	16.14	3.78	23
		1/2 EHS	A1b	48a	16.14	3.58	22
	166.73	1/2 EHS	A1a	48b	16.14	3.52	22
		5/8 EHS	A1	69	25.44	5.51	22
		5/8 EHS	A1b	69a	25.44	5.15	20
	216.54	5/8 EHS	A1a	69b	25.44	5.02	20
		3/4 EHS	A1	88	34.98	7.19	21
		3/4 EHS	A1b	88a	34.98	6.64	19
	266.73	3/4 EHS	A1a	88b	34.98	6.38	18
		1/2 EHS	A1	109	16.14	3.17	20
		1/2 EHS	A1b	109a	16.14	2.93	18
1.2D + 1.0Ev + 1.0Eh 240°	66.73	1/2 EHS	A1a	109b	16.14	2.79	17
		7/16 EHS	A1	29	12.48	3.13	25
		7/16 EHS	A1b	29a	12.48	3.06	25
	116.54	7/16 EHS	A1a	29b	12.48	3	24
		1/2 EHS	A1	48	16.14	3.74	23
		1/2 EHS	A1b	48a	16.14	3.64	23
	166.73	1/2 EHS	A1a	48b	16.14	3.51	22
		5/8 EHS	A1	69	25.44	5.43	21
		5/8 EHS	A1b	69a	25.44	5.26	21
	216.54	5/8 EHS	A1a	69b	25.44	4.99	20
		3/4 EHS	A1	88	34.98	7.04	20
		3/4 EHS	A1b	88a	34.98	6.84	20
	266.73	3/4 EHS	A1a	88b	34.98	6.34	18
		1/2 EHS	A1	109	16.14	3.1	19
		1/2 EHS	A1b	109a	16.14	3.03	19
1.2D + 1.0Ev + 1.0Eh 300°	66.73	1/2 EHS	A1a	109b	16.14	2.78	17
		7/16 EHS	A1	29	12.48	3.07	25
		7/16 EHS	A1b	29a	12.48	3.1	25
	116.54	7/16 EHS	A1a	29b	12.48	3.03	24
		1/2 EHS	A1	48	16.14	3.63	22
		1/2 EHS	A1b	48a	16.14	3.69	23
	166.73	1/2 EHS	A1a	48b	16.14	3.57	22
		5/8 EHS	A1	69	25.44	5.2	20
		5/8 EHS	A1b	69a	25.44	5.38	21
	216.54	5/8 EHS	A1a	69b	25.44	5.11	20
		3/4 EHS	A1	88	34.98	6.65	19
		3/4 EHS	A1b	88a	34.98	7.04	20
	266.73	3/4 EHS	A1a	88b	34.98	6.54	19
		1/2 EHS	A1	109	16.14	2.91	18
		1/2 EHS	A1b	109a	16.14	3.12	19
1.2D + 1.0Ev + 1.0Eh 330°	66.73	1/2 EHS	A1a	109b	16.14	2.87	18
		7/16 EHS	A1	29	12.48	3.04	24
		7/16 EHS	A1b	29a	12.48	3.09	25
	116.54	7/16 EHS	A1a	29b	12.48	3.06	25
		1/2 EHS	A1	48	16.14	3.59	22
		1/2 EHS	A1b	48a	16.14	3.68	23
	166.73	1/2 EHS	A1a	48b	16.14	3.62	22
		5/8 EHS	A1	69	25.44	5.12	20
		5/8 EHS	A1b	69a	25.44	5.35	21
	216.54	5/8 EHS	A1a	69b	25.44	5.22	21
		3/4 EHS	A1	88	34.98	6.52	19
		3/4 EHS	A1b	88a	34.98	6.98	20
	266.73	3/4 EHS	A1a	88b	34.98	6.73	19
		1/2 EHS	A1	109	16.14	2.85	18
		1/2 EHS	A1b	109a	16.14	3.09	19
1.0D + 1.0W Service Normal	66.73	1/2 EHS	A1a	109b	16.14	2.97	18
		7/16 EHS	A1	29	12.48	2.91	23

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.0D + 1.0W Service 60°	116.54	7/16 EHS	A1b	29a	12.48	3.16	25
		7/16 EHS	A1a	29b	12.48	3.18	26
		1/2 EHS	A1	48	16.14	3.43	21
		1/2 EHS	A1b	48a	16.14	3.78	23
	166.73	1/2 EHS	A1a	48b	16.14	3.82	24
		5/8 EHS	A1	69	25.44	4.83	19
		5/8 EHS	A1b	69a	25.44	5.52	22
		5/8 EHS	A1a	69b	25.44	5.59	22
	216.54	3/4 EHS	A1	88	34.98	6.1	17
		3/4 EHS	A1b	88a	34.98	7.24	21
		3/4 EHS	A1a	88b	34.98	7.32	21
	266.73	1/2 EHS	A1	109	16.14	2.77	17
		1/2 EHS	A1b	109a	16.14	3.34	21
		1/2 EHS	A1a	109b	16.14	3.37	21
	66.73	7/16 EHS	A1	29	12.48	3	24
		7/16 EHS	A1b	29a	12.48	2.94	24
		7/16 EHS	A1a	29b	12.48	3.29	26
	116.54	1/2 EHS	A1	48	16.14	3.56	22
		1/2 EHS	A1b	48a	16.14	3.46	21
		1/2 EHS	A1a	48b	16.14	3.95	24
	166.73	5/8 EHS	A1	69	25.44	5.07	20
		5/8 EHS	A1b	69a	25.44	4.92	19
		5/8 EHS	A1a	69b	25.44	5.86	23
	216.54	3/4 EHS	A1	88	34.98	6.48	19
		3/4 EHS	A1b	88a	34.98	6.29	18
		3/4 EHS	A1a	88b	34.98	7.79	22
	266.73	1/2 EHS	A1	109	16.14	3	19
		1/2 EHS	A1b	109a	16.14	2.93	18
		1/2 EHS	A1a	109b	16.14	3.55	22
1.0D + 1.0W Service 90°	66.73	7/16 EHS	A1	29	12.48	3.11	25
		7/16 EHS	A1b	29a	12.48	2.86	23
		7/16 EHS	A1a	29b	12.48	3.26	26
	116.54	1/2 EHS	A1	48	16.14	3.72	23
		1/2 EHS	A1b	48a	16.14	3.35	21
		1/2 EHS	A1a	48b	16.14	3.92	24
	166.73	5/8 EHS	A1	69	25.44	5.38	21
		5/8 EHS	A1b	69a	25.44	4.71	19
		5/8 EHS	A1a	69b	25.44	5.79	23
	216.54	3/4 EHS	A1	88	34.98	6.95	20
		3/4 EHS	A1b	88a	34.98	5.96	17
		3/4 EHS	A1a	88b	34.98	7.67	22
	266.73	1/2 EHS	A1	109	16.14	3.22	20
		1/2 EHS	A1b	109a	16.14	2.75	17
		1/2 EHS	A1a	109b	16.14	3.5	22
1.0D + 1.0W Service 120°	66.73	7/16 EHS	A1	29	12.48	3.21	26
		7/16 EHS	A1b	29a	12.48	2.86	23
		7/16 EHS	A1a	29b	12.48	3.18	25
	116.54	1/2 EHS	A1	48	16.14	3.86	24
		1/2 EHS	A1b	48a	16.14	3.34	21
		1/2 EHS	A1a	48b	16.14	3.81	24
	166.73	5/8 EHS	A1	69	25.44	5.67	22
		5/8 EHS	A1b	69a	25.44	4.67	18
		5/8 EHS	A1a	69b	25.44	5.57	22
	216.54	3/4 EHS	A1	88	34.98	7.41	21
		3/4 EHS	A1b	88a	34.98	5.91	17
		3/4 EHS	A1a	88b	34.98	7.3	21
	266.73	1/2 EHS	A1	109	16.14	3.4	21
		1/2 EHS	A1b	109a	16.14	2.71	17
		1/2 EHS	A1a	109b	16.14	3.37	21
1.0D + 1.0W Service 180°	66.73	7/16 EHS	A1	29	12.48	3.33	27
		7/16 EHS	A1b	29a	12.48	2.93	24
		7/16 EHS	A1a	29b	12.48	2.96	24
	116.54	1/2 EHS	A1	48	16.14	4.02	25
		1/2 EHS	A1b	48a	16.14	3.45	21
		1/2 EHS	A1a	48b	16.14	3.49	22
	166.73	5/8 EHS	A1	69	25.44	5.96	23
		5/8 EHS	A1b	69a	25.44	4.9	19
		5/8 EHS	A1a	69b	25.44	4.97	20

ASSET: # 6300, WOODSTOCK CT

STANDARD

ANSI/TIA-222-H

CUSTOMER DISH WIRELESS L.L.C.

ENG NO.:

13733438_C3_02

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.0D + 1.0W Service 210°	216.54	3/4 EHS	A1	88	34.98	7.92	23
		3/4 EHS	A1b	88a	34.98	6.26	18
		3/4 EHS	A1a	88b	34.98	6.35	18
	266.73	1/2 EHS	A1	109	16.14	3.6	22
		1/2 EHS	A1b	109a	16.14	2.92	18
		1/2 EHS	A1a	109b	16.14	2.95	18
	66.73	7/16 EHS	A1	29	12.48	3.3	26
		7/16 EHS	A1b	29a	12.48	3.05	24
		7/16 EHS	A1a	29b	12.48	2.88	23
	116.54	1/2 EHS	A1	48	16.14	3.99	25
		1/2 EHS	A1b	48a	16.14	3.61	22
		1/2 EHS	A1a	48b	16.14	3.38	21
	166.73	5/8 EHS	A1	69	25.44	5.9	23
		5/8 EHS	A1b	69a	25.44	5.21	20
		5/8 EHS	A1a	69b	25.44	4.76	19
	216.54	3/4 EHS	A1	88	34.98	7.8	22
		3/4 EHS	A1b	88a	34.98	6.74	19
		3/4 EHS	A1a	88b	34.98	6.03	17
1.0D + 1.0W Service 240°	266.73	1/2 EHS	A1	109	16.14	3.56	22
		1/2 EHS	A1b	109a	16.14	3.14	19
		1/2 EHS	A1a	109b	16.14	2.77	17
	66.73	7/16 EHS	A1	29	12.48	3.21	26
		7/16 EHS	A1b	29a	12.48	3.16	25
		7/16 EHS	A1a	29b	12.48	2.89	23
	116.54	1/2 EHS	A1	48	16.14	3.86	24
		1/2 EHS	A1b	48a	16.14	3.77	23
		1/2 EHS	A1a	48b	16.14	3.39	21
	166.73	5/8 EHS	A1	69	25.44	5.66	22
		5/8 EHS	A1b	69a	25.44	5.51	22
		5/8 EHS	A1a	69b	25.44	4.76	19
	216.54	3/4 EHS	A1	88	34.98	7.4	21
		3/4 EHS	A1b	88a	34.98	7.23	21
		3/4 EHS	A1a	88b	34.98	6.01	17
	266.73	1/2 EHS	A1	109	16.14	3.4	21
		1/2 EHS	A1b	109a	16.14	3.34	21
		1/2 EHS	A1a	109b	16.14	2.74	17
1.0D + 1.0W Service 300°	66.73	7/16 EHS	A1	29	12.48	3	24
		7/16 EHS	A1b	29a	12.48	3.26	26
		7/16 EHS	A1a	29b	12.48	2.96	24
	116.54	1/2 EHS	A1	48	16.14	3.56	22
		1/2 EHS	A1b	48a	16.14	3.91	24
		1/2 EHS	A1a	48b	16.14	3.5	22
	166.73	5/8 EHS	A1	69	25.44	5.08	20
		5/8 EHS	A1b	69a	25.44	5.79	23
		5/8 EHS	A1a	69b	25.44	4.99	20
	216.54	3/4 EHS	A1	88	34.98	6.49	19
		3/4 EHS	A1b	88a	34.98	7.71	22
		3/4 EHS	A1a	88b	34.98	6.38	18
	266.73	1/2 EHS	A1	109	16.14	3	19
		1/2 EHS	A1b	109a	16.14	3.52	22
		1/2 EHS	A1a	109b	16.14	2.96	18
	66.73	7/16 EHS	A1	29	12.48	2.93	23
		7/16 EHS	A1b	29a	12.48	3.24	26
		7/16 EHS	A1a	29b	12.48	3.08	25
1.0D + 1.0W Service 330°	116.54	1/2 EHS	A1	48	16.14	3.45	21
		1/2 EHS	A1b	48a	16.14	3.88	24
		1/2 EHS	A1a	48b	16.14	3.67	23
	166.73	5/8 EHS	A1	69	25.44	4.87	19
		5/8 EHS	A1b	69a	25.44	5.73	23
		5/8 EHS	A1a	69b	25.44	5.3	21
	216.54	3/4 EHS	A1	88	34.98	6.18	18
		3/4 EHS	A1b	88a	34.98	7.59	22
		3/4 EHS	A1a	88b	34.98	6.86	20
	266.73	1/2 EHS	A1	109	16.14	2.82	17
		1/2 EHS	A1b	109a	16.14	3.47	21
		1/2 EHS	A1a	109b	16.14	3.19	20

ASSET: # 6300, WOODSTOCK CT

STANDARD

ANSI/TIA-222-H

CUSTOMER DISH WIRELESS L.L.C.

ENG NO.:

13733438_C3_02

MAXIMUM CABLE FORCES SUMMARY

Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Allowed Tension (kip)	Applied Tension (kip)	Use (%)
1.2D + 1.0Di + 1.0Wi 180°	66.73	7/16 EHS	A1	29	12.48	5.85	47
1.2D + 1.0Di + 1.0Wi 180°	116.54	1/2 EHS	A1	48	16.14	7.28	45
1.2D + 1.0Di + 1.0Wi 180°	166.73	5/8 EHS	A1	69	25.44	10.05	40
1.2D + 1.0Di + 1.0Wi 60°	216.54	3/4 EHS	A1a	88b	34.98	12.83	37
1.2D + 1.0Di + 1.0Wi 180°	266.73	1/2 EHS	A1	109	16.14	9.02	56

MAXIMUM TORQUE ARM STRESS SUMMARY

Load Case	Elevation (ft)	Member	Type	Compression %	Tension %
1.2D + 1.0Di + 1.0Wi Normal	66.70	PL 3 x 0.375	Horiz	0	9
1.2D + 1.0Di + 1.0Wi Normal	116.70	PL 3 x 0.375	Horiz	0	9
1.2D + 1.0Di + 1.0Wi Normal	166.70	PL 3 x 0.375	Horiz	0	11
1.2D + 1.0Di + 1.0Wi Normal	216.70	PL 3 x 0.375	Horiz	0	12
1.2D + 1.0Di + 1.0Wi Normal	266.70	PL 3 x 0.375	Horiz	0	7

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0W Normal 119 mph wind with no ice	206.73	0.1421	0.0000	0.0669	0.0669
1.2D + 1.0W 60° 119 mph wind with no ice	206.73	0.2835	-0.0003	0.1002	0.1002
1.2D + 1.0W 90° 119 mph wind with no ice	206.73	0.236	0.0541	0.0865	0.102
1.2D + 1.0W 120° 119 mph wind with no ice	206.73	0.1383	0.0000	0.0607	0.0607
1.2D + 1.0W 180° 119 mph wind with no ice	206.73	0.3001	-0.0163	0.1053	0.1059
1.2D + 1.0W 210° 119 mph wind with no ice	206.73	0.2505	0.0485	0.0923	0.1042
1.2D + 1.0W 240° 119 mph wind with no ice	206.73	0.1409	0.0000	0.0630	0.063
1.2D + 1.0W 300° 119 mph wind with no ice	206.73	0.2731	-0.0074	0.0968	0.0969
1.2D + 1.0W 330° 119 mph wind with no ice	206.73	0.2304	0.0382	0.0866	0.0947
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1.5" radial ice	206.73	0.0341	-0.0001	0.0978	0.0978
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1.5" radial ice	206.73	0.078	-0.0005	0.0080	0.008
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1.5" radial ice	206.73	0.0557	-0.0001	0.0643	0.0643
1.2D + 1.0Di + 1.0Wi 120° 50 mph wind with 1.5" radial ice	206.73	0.0123	-0.0001	0.0919	0.0919
1.2D + 1.0Di + 1.0Wi 180° 50 mph wind with 1.5" radial ice	206.73	0.0966	-0.0024	0.0121	0.0122
1.2D + 1.0Di + 1.0Wi 210° 50 mph wind with 1.5" radial ice	206.73	0.0837	-0.0001	0.0673	0.0673
1.2D + 1.0Di + 1.0Wi 240° 50 mph wind with 1.5" radial ice	206.73	0.0236	-0.0001	0.0942	0.0942
1.2D + 1.0Di + 1.0Wi 300° 50 mph wind with 1.5" radial ice	206.73	0.0637	-0.0003	0.0056	0.0056
1.2D + 1.0Di + 1.0Wi 330° 50 mph wind with 1.5" radial ice	206.73	0.0607	0.0000	0.0671	0.0671
1.2D + 1.0Ev + 1.0Eh Normal Seismic	206.73	0.0163	0.0000	0.0090	0.009
1.2D + 1.0Ev + 1.0Eh 60° Seismic	206.73	0.0214	0.0000	0.0084	0.0084
1.2D + 1.0Ev + 1.0Eh 90° Seismic	206.73	0.0243	0.0000	0.0084	0.0084
1.2D + 1.0Ev + 1.0Eh 120° Seismic	206.73	0.0259	0.0000	0.0076	0.0076
1.2D + 1.0Ev + 1.0Eh 180° Seismic	206.73	0.0277	0.0000	0.0084	0.0084
1.2D + 1.0Ev + 1.0Eh 210° Seismic	206.73	0.0262	0.0000	0.0085	0.0085
1.2D + 1.0Ev + 1.0Eh 240° Seismic	206.73	0.0229	0.0000	0.0082	0.0082
1.2D + 1.0Ev + 1.0Eh 300° Seismic	206.73	0.0164	0.0000	0.0087	0.0087
1.2D + 1.0Ev + 1.0Eh 330° Seismic	206.73	0.015	0.0000	0.0083	0.0083
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	206.73	0.0246	0.0000	0.0066	0.0066
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	206.73	0.0416	0.0000	0.0048	0.0048
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	206.73	0.039	0.0000	0.0064	0.0064
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	206.73	0.0332	0.0000	0.0082	0.0082
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	206.73	0.049	0.0000	0.0049	0.0049
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	206.73	0.0435	0.0000	0.0057	0.0057
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	206.73	0.0291	0.0000	0.0077	0.0077
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	206.73	0.0365	0.0000	0.0050	0.005
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	206.73	0.0312	0.0000	0.0052	0.0052

MAXIMUM REACTIONS SUMMARY

Anchor Group	Uplift	Shear
BASE	121.17	0.59
A1	24.55	31.52

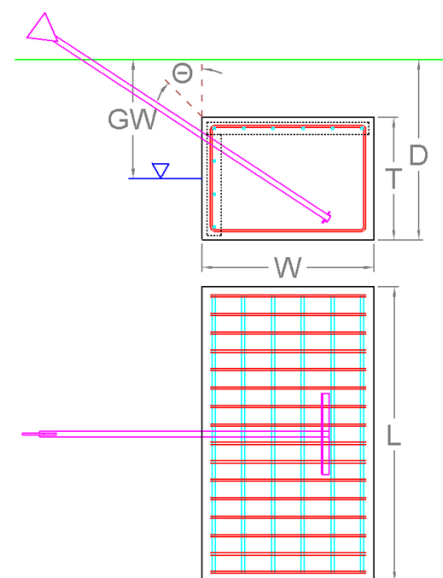
Guy Anchor Block Analysis (ANSI/TIA-222-H)

Anchor Block Parameters

Include Berm?		N	
Analyze Anchor Rod?		N	
Ignore Rebar?		N	
Base Depth	D	8.0	ft
Width	W	4.0	ft
Length	L	14.0	ft
Thickness	T	4.0	ft
Water Table Depth [BGL]	GW	99	ft
Unit Weight of Concrete		150	pcf
Unit Weight of Soil Above Water Table		117.0	pcf
Unit Weight of Water		62.4	pcf
Unit Weight of Soil [Submerged]		54.6	pcf
Friction Angle		30	°
Cohesion		0	psf
Ultimate Skin Friction		767	psf
Coefficient of Shear Friction		0.30	
Conical Failure Angle	Θ	30	°
Soil Uplift at _____ of Anchor		Top	
Capacity Increase (Transient Loads)		1.00	
Uplift Strength Reduction Factor, ϕ_u		0.75	
Shear Strength Reduction Factor, ϕ_v		0.75	
Dead Load Factor		0.90	

Reactions

Uplift, T_u	24.6	k
Shear, V_u	31.5	k
Anchor Radius	196	ft
Node	A1	-



Soil Uplift Capacity

Uplift Resistance from Skin Friction and Soil Shear	58.0	k
Nominal Uplift Resistance, $\phi_u T_n$	113.9	k
$T_u / \phi_u T_n$	21.6%	

Soil Shear Capacity

Shear Resistance from Skin Friction	19.4	k
Shear Friction Resistance Due to Normal Force	8.8	k
Passive Pressure	2,106	psf
Passive Pressure Resistance	117.9	k
Nominal Shear Resistance, $\phi_v V_n$	109.6	k
$V_u / \phi_v V_n$	28.8%	



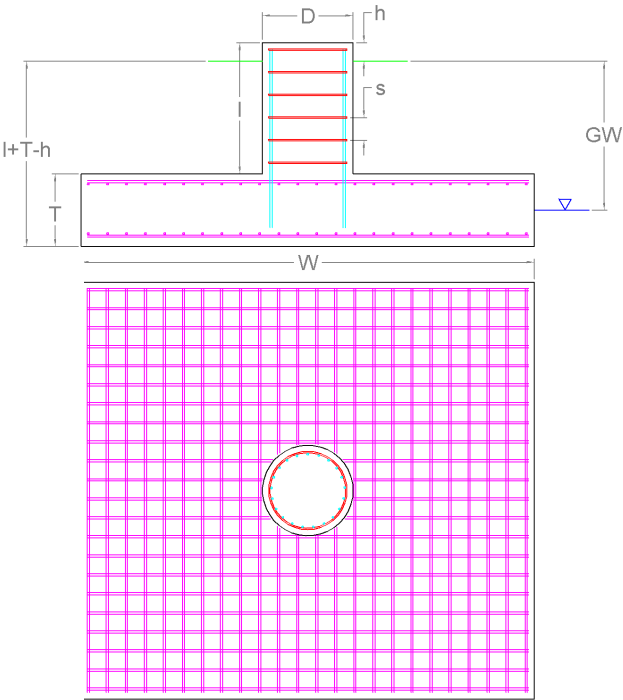
Strength Analysis of Reinforced Concrete		
Concrete Compressive Strength, f'_c	3,000	psi
Rebar Size #	7	
Rebar Area (Single)	0.60	in ²
Rebar Quantity [Top]	5	
Rebar Quantity [Side]	5	
Rebar Yield Strength	60	ksi
Strength Reduction Factor for Shear, ϕ_v	0.75	
Strength Reduction Factor for Lateral Flexure, ϕ_{bv}	0.90	
Strength Reduction Factor for Vertical Flexure, ϕ_{bt}	0.90	
Compression Zone Factor, β_1	0.850	
One Way Shear due to Shear, V_u	11.6	k
One Way Shear Capacity due to Shear, $\phi_c V_n$	173.8	k
$V_u / \phi_v V_n$	6.7%	
One Way Shear due to Uplift, V_u	9.1	k
One Way Shear Capacity due to Uplift, $\phi_c V_n$	173.8	k
$V_u / \phi_v V_n$	5.2%	
Flexure due to Shear Load, M_{uv}	55.2	k-ft
Distance to steel, d_v	44.1	in
Whitney Block, a_v [Side]	1.471	in
Strain in tension rebar, ϵ_t	0.073	in/in
Flexural Capacity due to Shear, $\phi_{bv} M_{nv}$	584.9	k-ft
Pad Flexure due to Uplift, M_{ut}	43.0	k-ft
Depth to steel, d_t	44.1	in
Whitney Block, a_t [Top]	1.471	in
Strain in tension rebar, ϵ_t	0.073	in/in
Flexural Capacity due to Uplift, $\phi_{bt} M_{nt}$	584.9	k-ft
$M_u / \phi_b M_n$ (Max)	9.4%	



Pad & Pier Foundation Analysis (ANSI/TIA-222-H)

Foundation & Soil Parameters			
Ignore Rebar?		N	
Pier Diameter	D	3.39	ft
Pier Height Above Ground	h	0.5	ft
Pad Base Depth	$I+T-h$	4.0	ft
Pad Width	W	7.0	ft
Pad Thickness	T	1.8	ft
Water Table Depth [BGL]	GW	99	ft
Unit Weight of Concrete		150	pcf
Unit Weight of Soil Above Water Table		139.0	pcf
Unit Weight of Water		62.4	pcf
Unit Weight of Soil [Submerged]		76.6	pcf
Cohesion		0	psf
Friction Angle		40	°
Ultimate Skin Friction		0	psf
Ultimate Bearing Pressure		11,782	psf
Conical Failure Angle		30	°
Soil Uplift at ____ of Pad		Top	
Capacity Increase (Transient Loads)		1.00	
Bearing Strength Reduction Factor, ϕ_s		0.60	
Uplift Strength Reduction Factor, ϕ_s		0.75	

Reactions		
Moment, M_u	0.0	k-ft
Shear, V_u	0.6	k
Compression, P_u	121.2	k
Uplift, T_u	0.0	k



Soil Axial Capacities and Design Moment		
Weight of Concrete [Buoyancy Considered]	16.6	k
Weight of Soil [Buoyancy Considered]	18.9	k
Skin Friction Resistance	0.0	k
Controlling Failure Mode	Top	
Compressive Force, P_u	123.4	k
Nominal Compressive Capacity per Leg, $\phi_s P_n$	346.4	k
$P_u / \phi_s P_n$	35.6%	
Inflection Point [BGL]	1.4	ft
Design Moment at Inflection Point, M_u	0.2	k-ft



Pad Reinforcement Parameters		
Concrete Compressive Strength, f'_c	3,000	psi
Pad Rebar Size #	6	
Pad Rebar Area	0.44	in ²
Pad Rebar Quantity [Lower]	8	
Pad Rebar Yield Strength, F_y	60	ksi
Pad Clear Cover	3	in
Bending Reduction Factor, ϕ_B	0.90	
Shear Reduction Factor, ϕ_V	0.75	
Compression Reduction Factor, ϕ_C	0.65	
Steel Elastic Modulus	29,000	ksi

Pad Reinforcement Capacities		
Beta factor	0.85	
Lower Reinforcement Steel Area	3.52	
Lower Reinforcement Spacing	11.1	in
One Way Design Shear, V_u	5.9	k
One Way Shear Capacity, ϕV_c	124.0	k
$V_u / \phi V_c$	4.8%	
Punching Design Shear Stress, v_u	32.0	psi
Punching Shear Capacity, $\phi_c V_n$	164.3	psi
$v_u / \phi_c V_n$	19.5%	
Moment Transfer Flexural Ratio, γ_f	0.60	
Neutral Axis Depth	8.49	In
Moment Transfer Flexural Capacity, $\phi M_{sc,f}$	28,328	k-in
$\gamma_f M_{sc} / \phi M_{sc,f}$	0.0%	
Flexure Due to Soil Pressure, M_u	28.6	k-ft
Lower Steel Pad Moment Capacity, ϕM_n	271.4	k-ft
$M_u / \phi M_n$	10.5%	

Pier Reinforcement Parameters		
Concrete Compressive Strength (f'_c)	3,000	psi
Pier Rebar Size #	8	
Pier Rebar Area	0.79	in ²
Pier Rebar Quantity	12	
Pier Rebar Yield Strength (F_y)	60	ksi
Tie Rebar Size #	4	
Tie Rebar Area (Single)	0.20	in ²
Tie Rebar Spacing	6.0	in
Tie Rebar Yield Strength (F_y)	60	ksi
Rebar Cage Diameter	32.68	in

Pier Reinforcement Capacities		
Design Moment (M_u)	0.2	k-ft
Nominal Moment Capacity ($\phi_B M_n$)	683.3	k-ft
$M_u / \phi_B M_n$	0.0%	
Design Shear (V_u)	0.6	k
Nominal Shear Capacity ($\phi_V V_n$)	237.0	k
$V_u / \phi_V V_n$	0.2%	
Design Compression (P_u)	121.2	k
Nominal Compression Capacity ($\phi_P P_n$)	2,006.6	k
$P_u / \phi_P P_n$	6.0%	
Pier Reinforcement Ratio	0.007	-





DISH Wireless L.L.C. SITE ID:

BOBOS00032A

DISH Wireless L.L.C. SITE ADDRESS:

**156 LEBANON HILL RD.
WOODSTOCK, CT 06281**

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 (3) PROPOSED ANTENNA SECTOR FRAMES
- 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)

SITE INFORMATION

PROPERTY OWNER: AMERICAN TOWER SYSTEMS INC
ADDRESS: PO BOX 723597
ATLANTA, GA 31139

TOWER TYPE: GUYED TOWER

TOWER CO SITE ID: 6300

TOWER APP NUMBER: 13733438

COUNTY: WINDHAM

LATITUDE (NAD 83): 42° 1' 30.97" N
42.02526944

LONGITUDE (NAD 83): 72° 2' 13.2" W
-72.0370000000

ZONING JURISDICTION: WINDHAM COUNTY

ZONING DISTRICT: UNZONED

PARCEL NUMBER: CT-169-5284-03-06A

OCCUPANCY GROUP: U

CONSTRUCTION TYPE: II-B

POWER COMPANY: EVERSOURCE

TELEPHONE COMPANY: VERIZON

PROJECT DIRECTORY

APPLICANT: DISH Wireless L.L.C.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120
(303) 706-5008

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: JEAN COTTRELL
JEAN.COTTRELL@DISH.COM

CONST. MANAGER: AARON CHANDLER
AARON.CHANDLER@DISH.COM

RF ENGINEER: ARVIN SEBASTIAN
ARVIN.SEBASTIAN@DISH.COM



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



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:

RY CDW DAS

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	11/10/21	ISSUED FOR REVIEW
0	1/7/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

158913.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00032A
156 LEBANON HILL RD.
WOODSTOCK, CT 06281

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

CONNECTICUT CODE OF COMPLIANCE

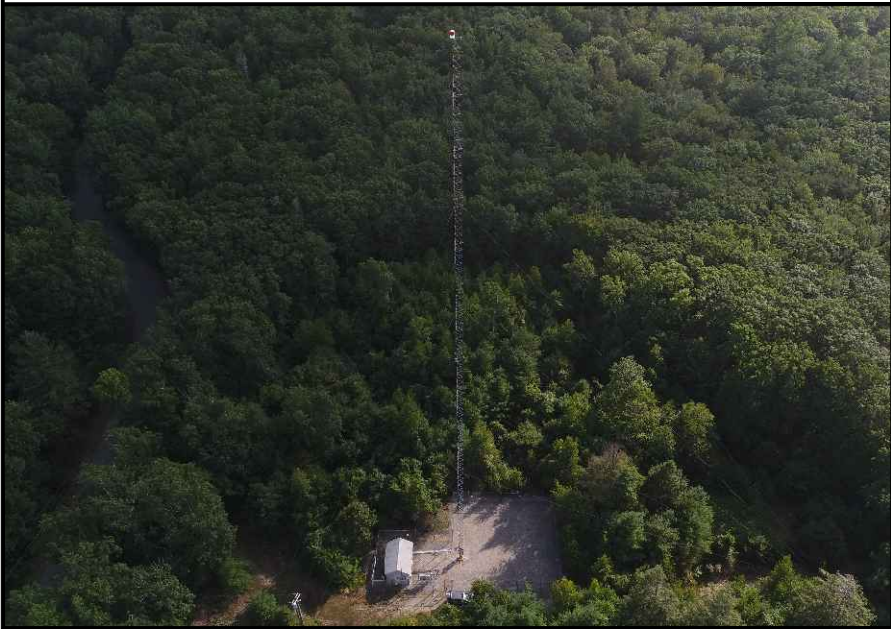
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES

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

SHEET INDEX

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

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.

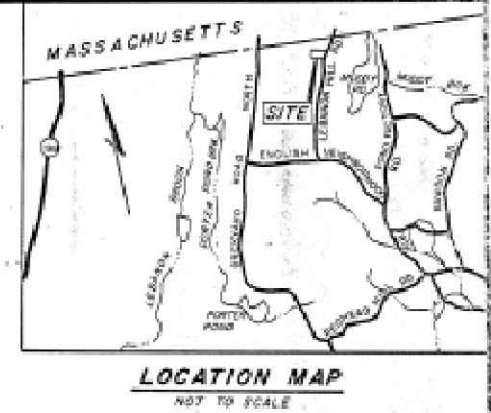
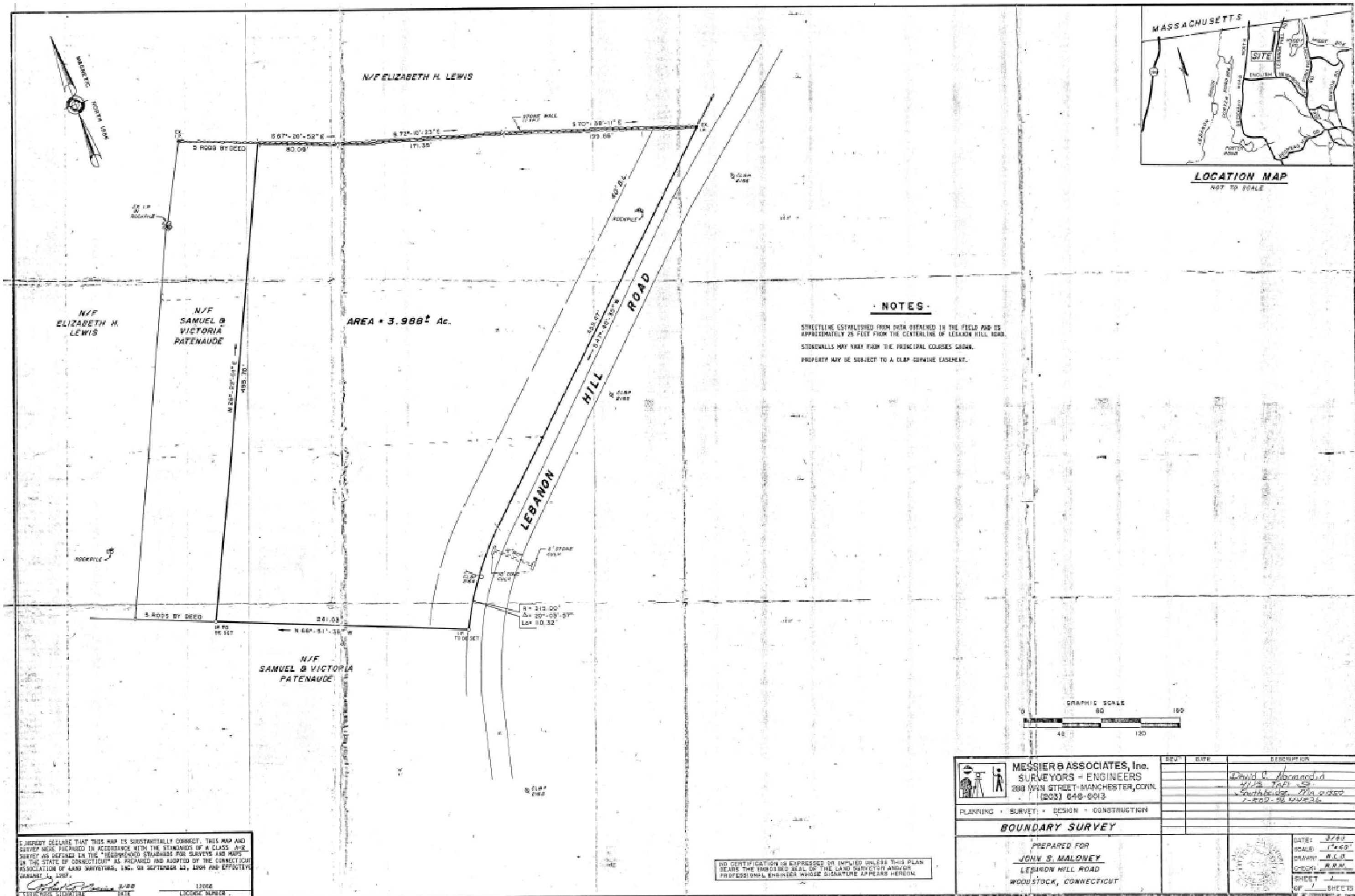
DIRECTIONS

DIRECTIONS FROM BRADLEY INTERNATIONAL AIRPORT:

CONTINUE TO EAST GRANBY, HEAD NORTH TOWARD BRADLEY INTERNATIONAL AIRPORT, SLIGHT LEFT ONTO BRADLEY INTERNATIONAL AIRPORT, CONTINUE STRAIGHT, TAKE I-91 S, I-291 E AND I-84 E TO CT-190 E IN UNION. TAKE EXIT 73 FROM I-84 E, CONTINUE ONTO BRADLEY INTERNATIONAL AIRPORT CON, CONTINUE ONTO CT-20 E/BRADLEY INTERNATIONAL AIRPORT CON, TAKE THE EXIT ONTO I-91 S TOWARD HARTFORD, TAKE EXIT 35A FOR I-291 TOWARD MANCHESTER, CONTINUE ONTO I-291 E, USE THE LEFT LANE TO MERGE WITH I-84 E TOWARD BOSTON, TAKE EXIT 73 FOR CT-190 TOWARD UNION, CONTINUE ON CT-190 E. TAKE CT-171 E, CT-197 E AND BRICKYARD RD TO LEBANON HILL RD IN, TURN RIGHT ONTO CT-190 E, TURN RIGHT ONTO CT-171 E, TURN LEFT ONTO CT-197 E, TURN LEFT ONTO BRICKYARD RD, TURN LEFT TO STAY ON BRICKYARD RD, TURN RIGHT ONTO ENGLISH NEIGHBORHOOD RD, TURN LEFT ONTO LEBANON HILL RD, DESTINATION WILL BE ON THE LEFT.

VICINITY MAP





NOTES

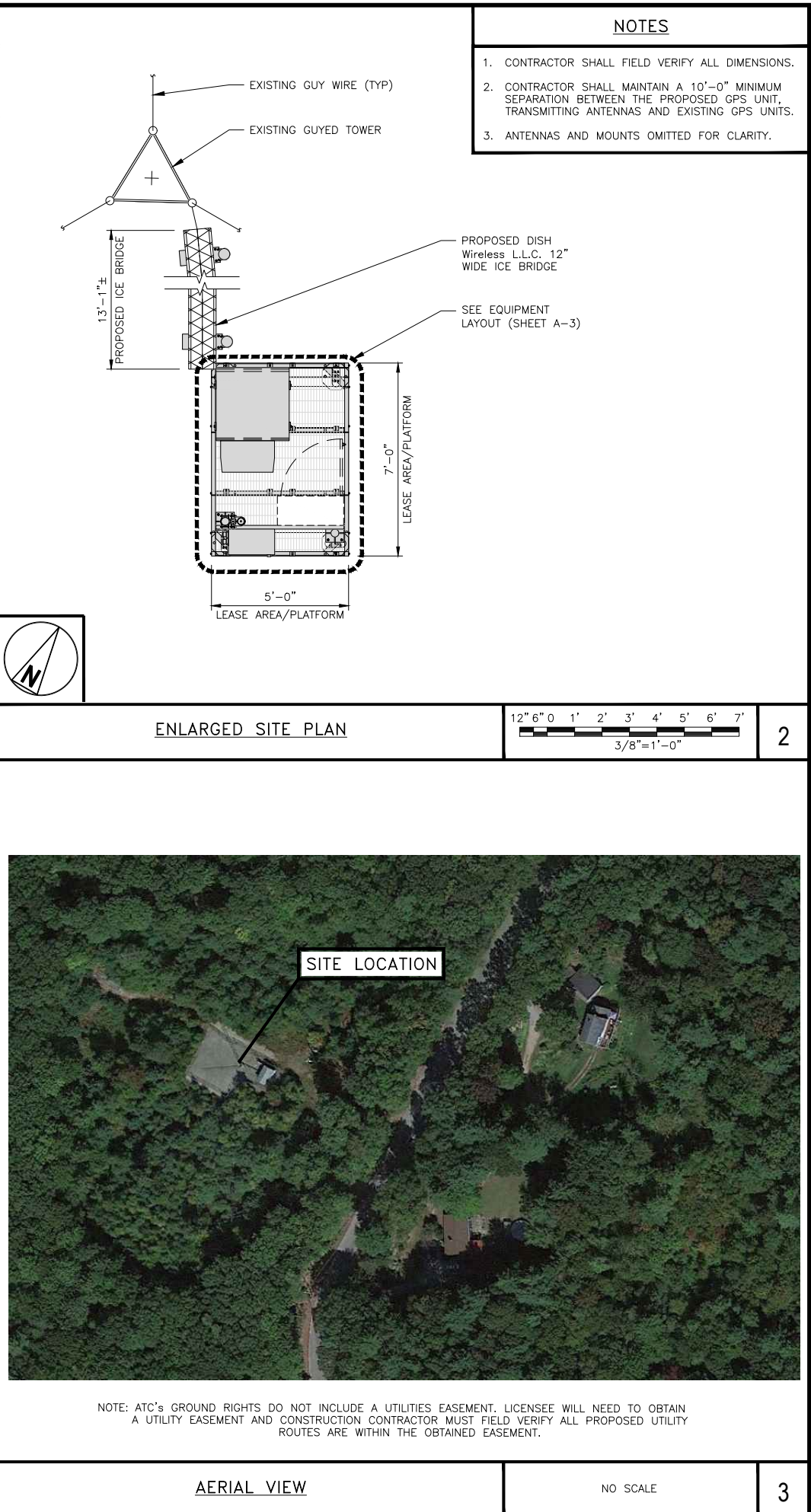
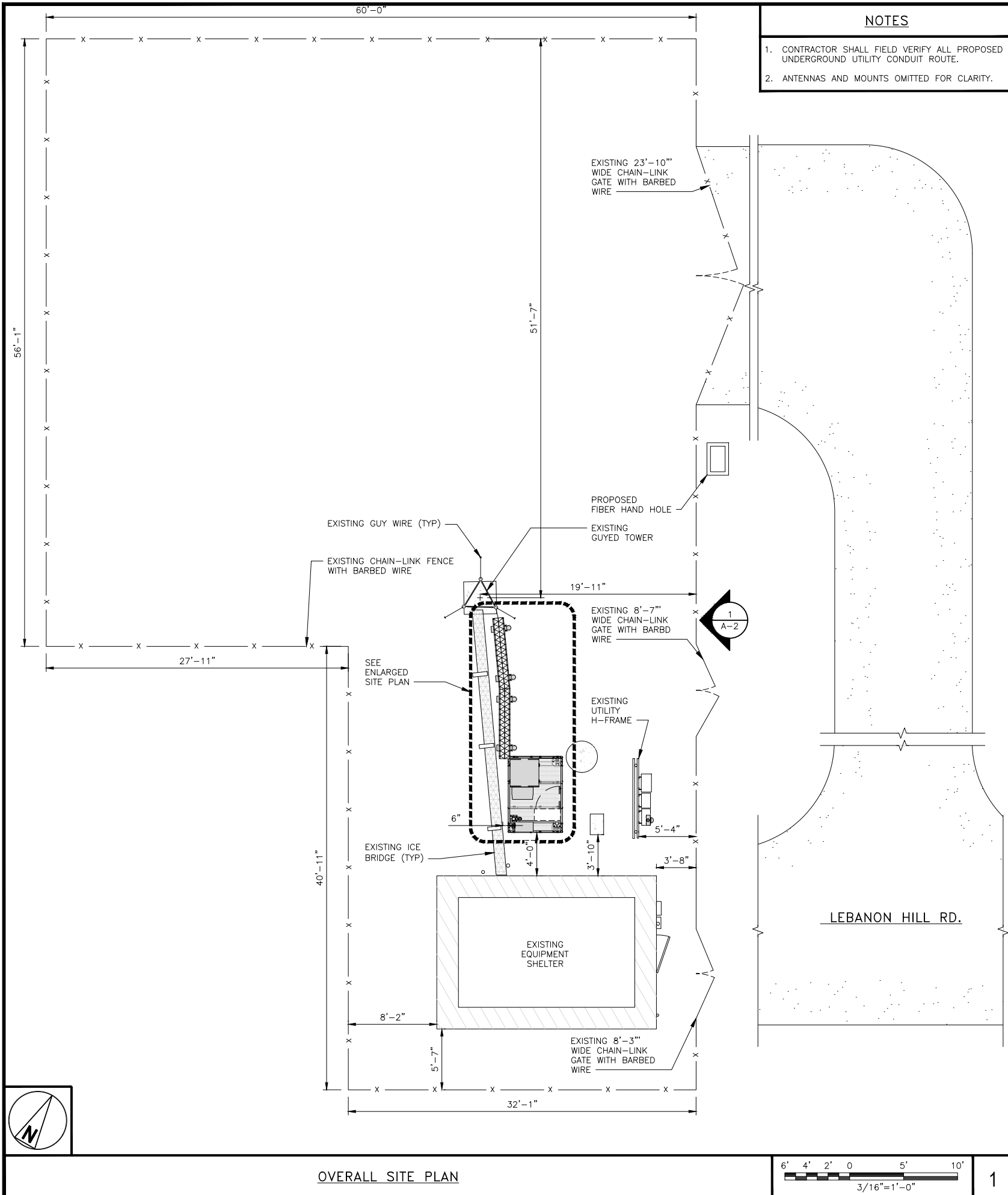
STREETLINE ESTABLISHED FROM DATA OBTAINED IN THE FIELD AND IS APPROXIMATELY 25 FEET FROM THE CENTERLINE OF LEBANON HILL ROAD. STONEWALLS MAY VARY FROM THE PRINCIPAL COURSES SHOWN. PROPERTY MAY BE SUBJECT TO A CLAP CORNICE EASEMENT.



I HEREBY CERTIFY THAT THIS MAP IS SUBSTANTIALLY CORRECT. THIS MAP AND SURVEY WERE PREPARED IN ACCORDANCE WITH THE STANDARDS OF A CLASS A-2 SURVEY AS DEFINED IN THE "HIGHERED STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS PROMULGATED AND ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 12, 2004 AND EFFECTIVE JANUARY 1, 2005.

NO CERTIFICATION IS EXPRESSED OR IMPLIED UNLESS THIS PLAN BEARS THE IMPOSSIBLE SEAL OF THE LAND SURVEYOR AND/OR PROFESSIONAL ENGINEER WHOSE SIGNATURE APPEARS HEREON.

	MESSIER & ASSOCIATES, Inc. SURVEYORS - ENGINEERS 288 MAIN STREET - MANCHESTER, CONN. (203) 648-0043		DATE	3/11/11
	PLANNING • SURVEY • DESIGN • CONSTRUCTION		DATE	3/11/11
BOUNDARY SURVEY		DATE	3/11/11	
PREPARED FOR JOHN S. MALONEY LEBANON HILL ROAD WOOSTOCK, CONNECTICUT		DATE	3/11/11	
		SCALE	1"=40'	
		DRAWN	W.C.B.	
		CHECK	R.R.R.	
		SHEET	1	
		OF	1 SHEETS	



dish

wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

AMERICAN TOWER

10 PRESIDENTIAL WAY
WOBBURN, MA 01801

B+T GRP

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

STATE OF CONNECTICUT
CHAD LITTLE
No. 23924
LICENSED PROFESSIONAL ENGINEER
1/7/22

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

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DRAWN BY: RY

CHECKED BY: CDW

APPROVED BY: DAS

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	11/10/21	ISSUED FOR REVIEW
0	1/7/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

158913.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00032A
156 LEBANON HILL RD.
WOODSTOCK, CT 06281

SHEET TITLE

OVERALL AND ENLARGED SITE PLAN

SHEET NUMBER

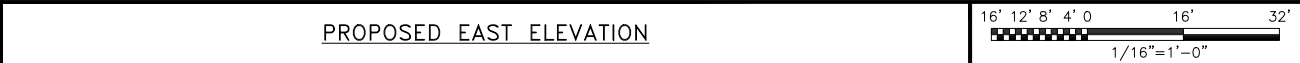
A-1

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

158913.001.01_Overall_and_Enlarged_Site_Plan - Sheet 11 - 11/10/2021 - 11/10/2021 - 11/10/2021

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

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.



12" 6" 0 1' 2' 3'

$\frac{3}{4}" = 1' - 0"$

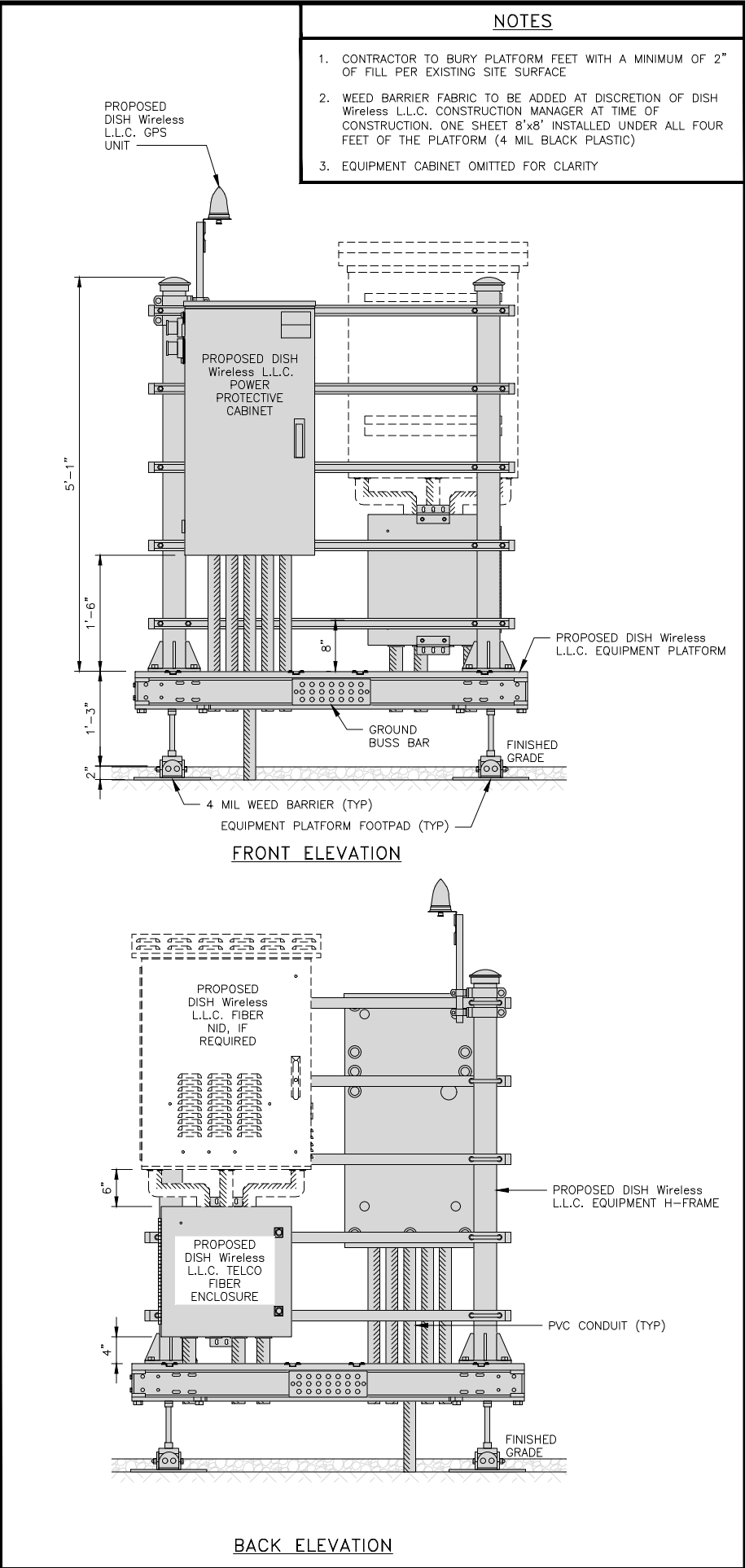
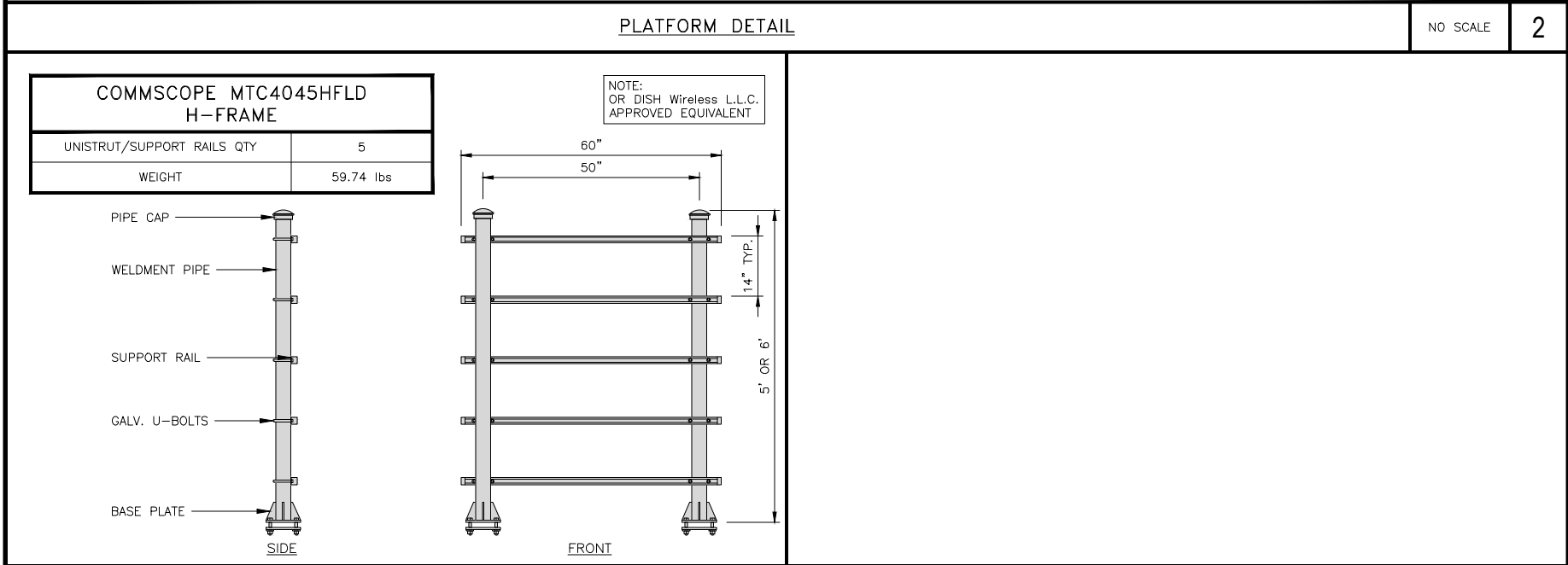
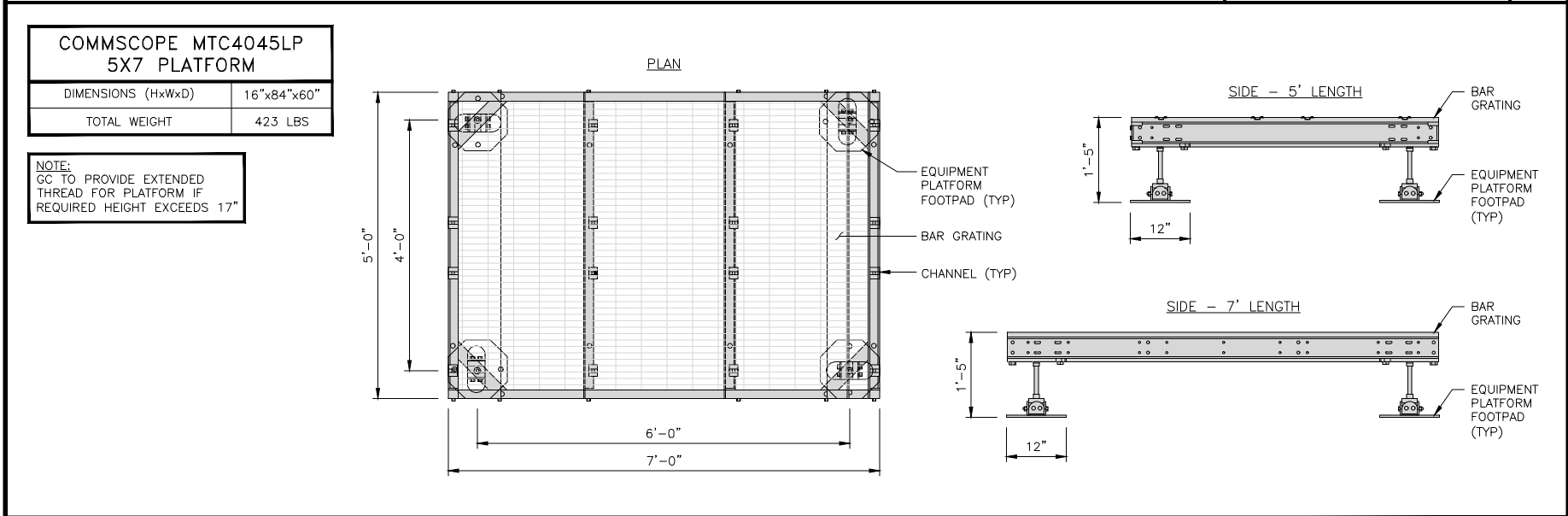
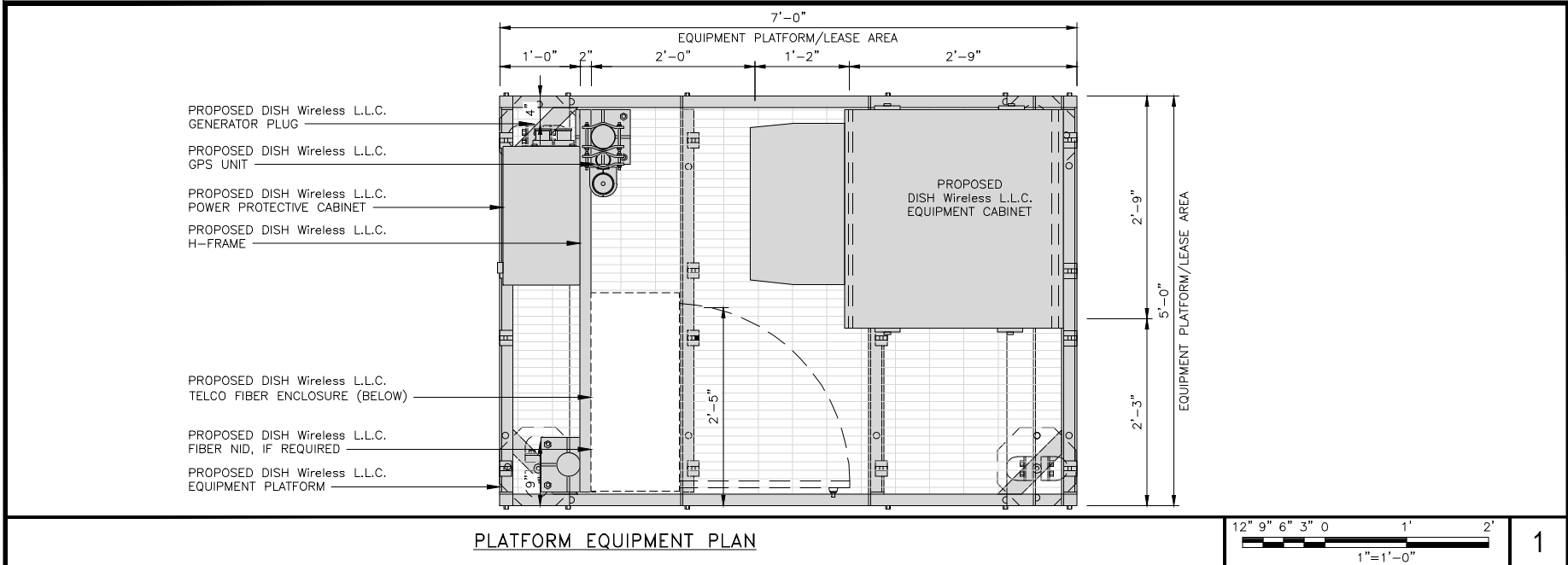
SECTOR	POSITION	RRH	
		MANUFACTURER – MODEL NUMBER	TECHNOLOGY
ALPHA	A1	FUJITSU – TA08025–B604	5G
	A1	FUJITSU – TA08025–B605	5G
BETA	B1	FUJITSU – TA08025–B604	5G
	B1	FUJITSU – TA08025–B605	5G
GAMMA	G1	FUJITSU – TA08025–B604	5G
	G1	FUJITSU – TA08025–B605	5G

NOTES

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

ANTENNA SCHEDULE	NO SCALE	3
------------------	----------	---

SHEET NUMBER
A-2



dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

B+T GRP
1717 S. BOULDER
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STATE OF CONNECTICUT
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DRAWN BY: CHECKED BY: APPROVED BY:

RY CDW DAS

RFDS REV #: 0

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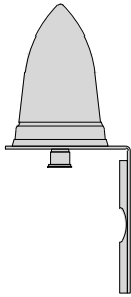
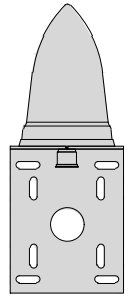
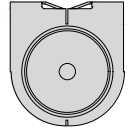
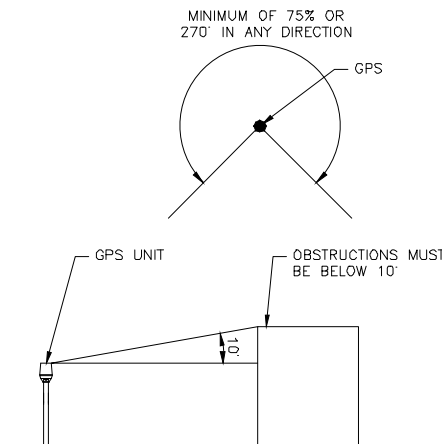
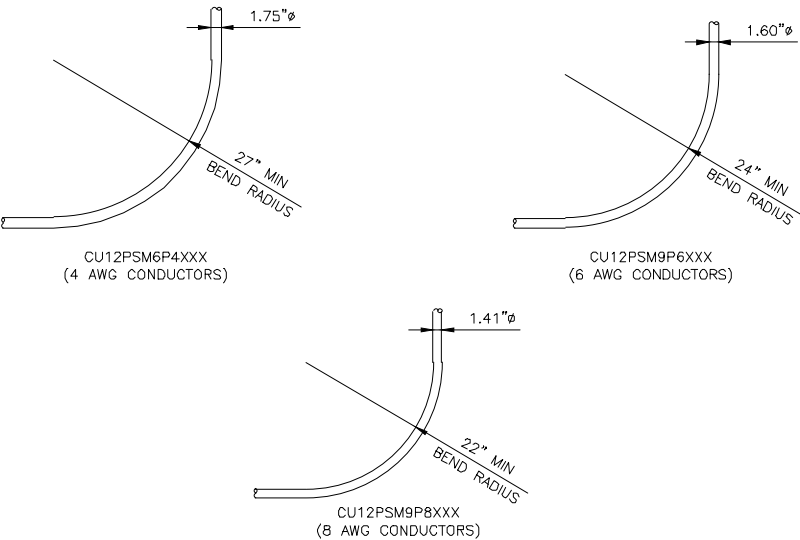
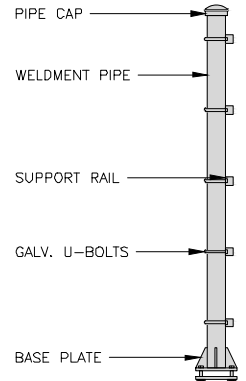
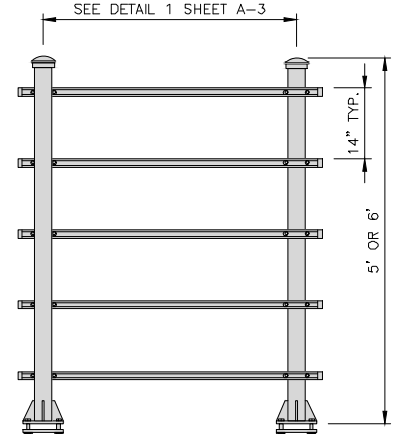
DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00032A
156 LEBANON HILL RD.
WOODSTOCK, CT 06281

SHEET TITLE
EQUIPMENT PLATFORM AND
H-FRAME DETAILS

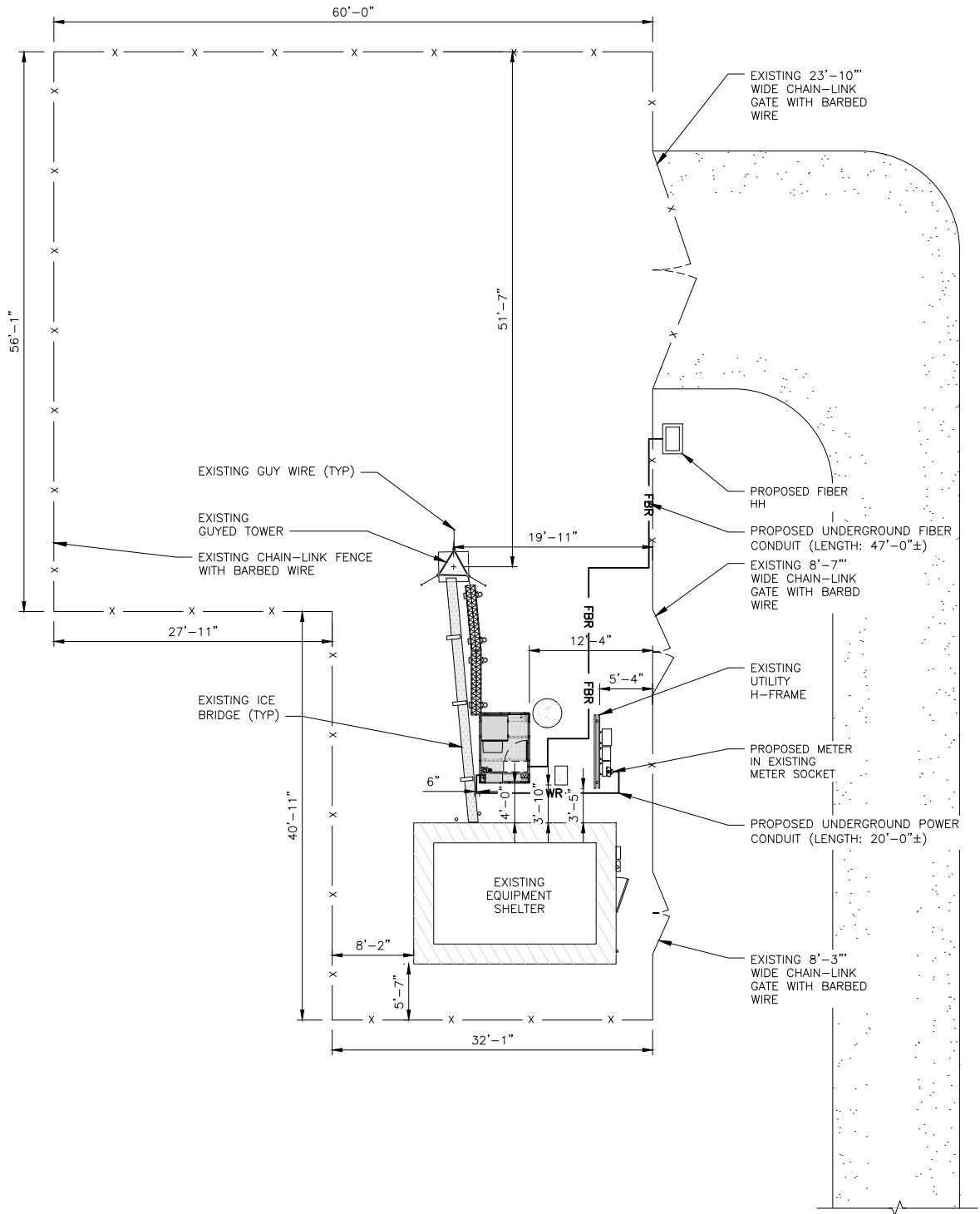
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A-3

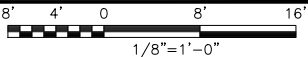
<table><tr><td colspan="2">PCTEL GPSGL-TMG-SPI-40NCB</td></tr><tr><td>DIMENSIONS (DIAxH) MM/INCH</td><td>81x184mm 3.2"x7.25"</td></tr><tr><td>WEIGHT W/ACCESSORIES</td><td>075 lbs</td></tr><tr><td>CONNECTOR</td><td>N-FEMALE</td></tr><tr><td>FREQUENCY RANGE</td><td>1590 ± 30MHz</td></tr></table>  BACK  SIDE  TOP			PCTEL GPSGL-TMG-SPI-40NCB		DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"	WEIGHT W/ACCESSORIES	075 lbs	CONNECTOR	N-FEMALE	FREQUENCY RANGE	1590 ± 30MHz	 MINIMUM OF 75% OR 270° IN ANY DIRECTION GPS GPS UNIT OBSTRUCTIONS MUST BE BELOW 10'			 1.75"Ø 27" MIN BEND RADIUS CU12PSM6P4XXX (4 AWG CONDUCTORS) 1.60"Ø 24" MIN BEND RADIUS CU12PSM9P6XXX (6 AWG CONDUCTORS) 1.41"Ø 22" MIN BEND RADIUS CU12PSM9P8XXX (8 AWG CONDUCTORS)			 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 CHAD LITTLE No. 23924 LICENSED PROFESSIONAL ENGINEER 1/7/22 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. <table><tr><td>DRAWN BY:</td><td>CHECKED BY:</td><td>APPROVED BY:</td></tr><tr><td>RY</td><td>CDW</td><td>DAS</td></tr></table> RFDS REV #: 0 CONSTRUCTION DOCUMENTS <table><tr><th colspan="3">SUBMITTALS</th></tr><tr><th>REV</th><th>DATE</th><th>DESCRIPTION</th></tr><tr><td>A</td><td>11/10/21</td><td>ISSUED FOR REVIEW</td></tr><tr><td>0</td><td>1/7/22</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><tr><td> </td><td> </td><td> </td></tr></table> A&E PROJECT NUMBER 158913.001.01 DISH Wireless L.L.C. PROJECT INFORMATION BOBOS00032A 156 LEBANON HILL RD. WOODSTOCK, CT 06281 SHEET TITLE EQUIPMENT DETAILS SHEET NUMBER A-5			DRAWN BY:	CHECKED BY:	APPROVED BY:	RY	CDW	DAS	SUBMITTALS			REV	DATE	DESCRIPTION	A	11/10/21	ISSUED FOR REVIEW	0	1/7/22	ISSUED FOR CONSTRUCTION															
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GPS DETAIL			NO SCALE	1	GPS MINIMUM SKY VIEW REQUIREMENTS			NO SCALE	2	CABLES UNLIMITED HYBRID CABLE MINIMUM BEND RADIUS			NO SCALE	3																																								
<table><tr><td colspan="2">COMMSCOPE MTC4045HFLD H-FRAME</td></tr><tr><td>UNISTRUT/SUPPORT RAILS QTY</td><td>5</td></tr><tr><td>WEIGHT</td><td>±59.74 lbs</td></tr></table>  SIDE  FRONT NOTE: OR DISH Wireless L.L.C. APPROVED EQUIVALENT SEE DETAIL 1 SHEET A-3 14" TYP. 5' OR 6'			COMMSCOPE MTC4045HFLD H-FRAME		UNISTRUT/SUPPORT RAILS QTY	5	WEIGHT	±59.74 lbs																																														
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WEIGHT	±59.74 lbs																																																					
H-FRAME 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																																								

NOTES

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



UTILITY ROUTE PLAN



1

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

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



ELECTRICAL NOTES

NO SCALE

2

dish
wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

AMERICAN TOWER
10 PRESIDENTIAL WAY
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RY CDW DAS

RFDS REV #: 0

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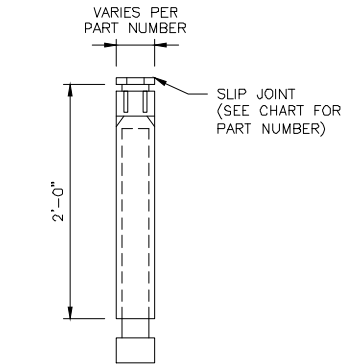
BOBOS00032A
156 LEBANON HILL RD.
WOODSTOCK, CT 06281

SHEET TITLE
ELECTRICAL/FIBER ROUTE
PLAN AND NOTES

SHEET NUMBER
E-1



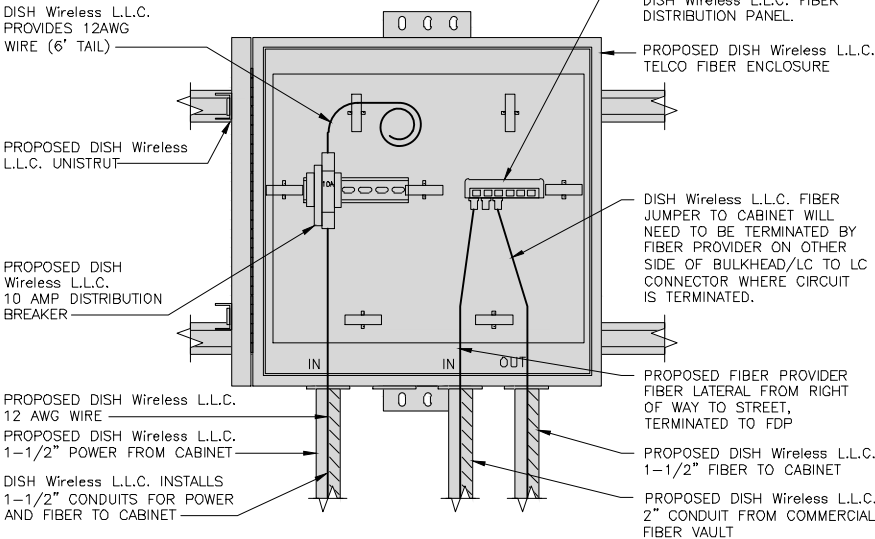
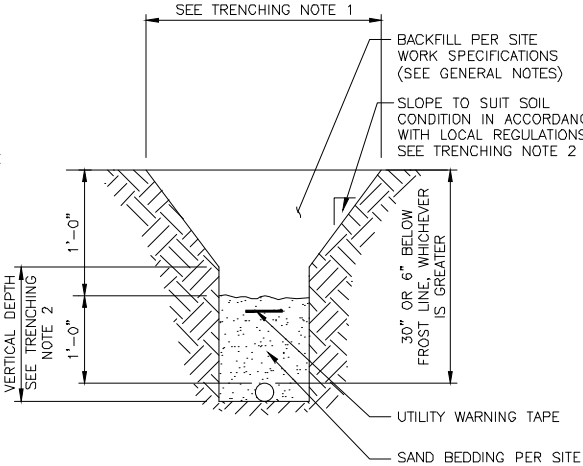
CARLON EXPANSION FITTINGS				
COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"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



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

TRENCHING NOTES

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



EXPANSION JOINT DETAIL

NO SCALE

1

TYPICAL UNDERGROUND TRENCH DETAIL

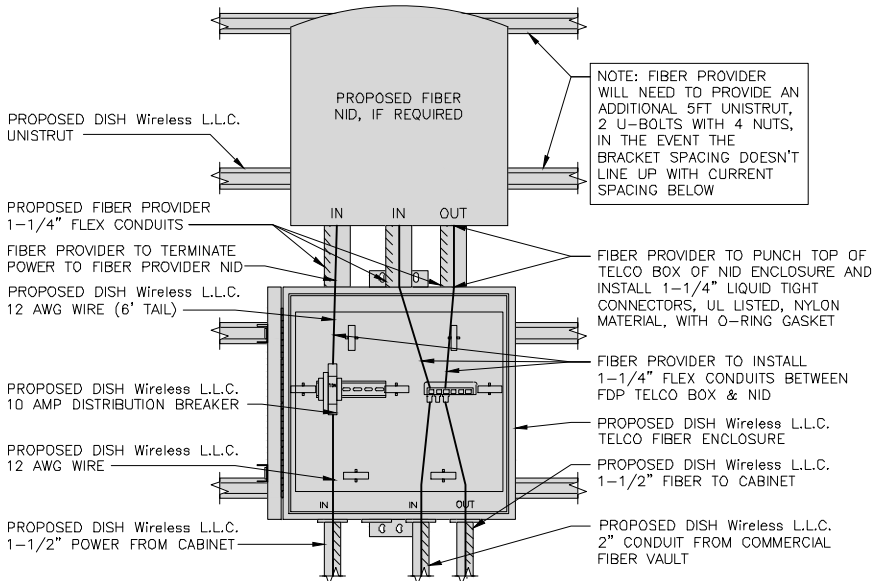
NO SCALE

2

DARK TELCO BOX – INTERIOR WIRING LAYOUT

NO SCALE

3



LIT TELCO BOX – INTERIOR WIRING LAYOUT (OPTIONAL)

NO SCALE

4

NOT USED

NO SCALE

5

NOT USED

NO SCALE

6

NOT USED

NO SCALE

7

NOT USED

NO SCALE

8

NOT USED

NO SCALE

9

dish
wireless.

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AMERICAN TOWER
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RY CDW DAS

RFDS REV #: 0

CONSTRUCTION
DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	11/10/21	ISSUED FOR REVIEW
0	1/7/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

158913.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00032A
156 LEBANON HILL RD.
WOODSTOCK, CT 06281

SHEET TITLE
ELECTRICAL
DETAILS

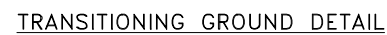
SHEET NUMBER

E-2

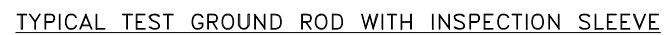
EQUIPMENT CABINET OMITTED FOR CLARITY



NO SCALE | 1



NO SCALE | 4



NO SCALE	5
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NO SCALE	2
----------	---



NO SCALE	3
----------	---



NO SCALE	6
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G-2

HYBRID/DISCREET CABLES				3/4" TAPE WIDTHS WITH 3/4" SPACING							
LOW-BAND RRH (800 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			
				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
				ORANGE	ORANGE	RED	RED	ORANGE	ORANGE	BLUE	BLUE
					WHITE (-) PORT	ORANGE	ORANGE		WHITE (-) PORT	ORANGE	ORANGE
MID-BAND RRH (AWS BANDS N66+N70) ADD FREQUENCY COLOR TO SECTOR BAND (CBRS WILL USE YELLOW BANDS)				RED	RED	RED	RED	BLUE	BLUE	BLUE	BLUE
				PURPLE	PURPLE	RED	RED	PURPLE	PURPLE	BLUE	BLUE
					WHITE (-) PORT	PURPLE	PURPLE		WHITE (-) PORT	PURPLE	PURPLE
HYBRID/DISCREET CABLES				EXAMPLE 1		EXAMPLE 2		EXAMPLE 3 COAX #1 (ALPHA)		CANISTER COAX #2 (ALPHA)	
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.				RED	RED	RED	RED	RED	RED	CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RD DETAILS. FINAL RFDS IS IN NEXSYSONE.	
				BLUE	BLUE	BLUE	BLUE				
				GREEN	GREEN	GREEN	GREEN				
				ORANGE	ORANGE	ORANGE	ORANGE				
				PURPLE	PURPLE	PURPLE	PURPLE				
FIBER JUMPERS TO RRHs				LOW BAND RRH		MID BAND RRH		LOW BAND RRH		MID BAND RRH	
LOW-BAND HHR FIBER CABLES HAVE SECTOR STRIPE ONLY.				RED	RED	RED	RED	BLUE	BLUE	GREEN	GREEN
				ORANGE	ORANGE	PURPLE	PURPLE	ORANGE	PURPLE	ORANGE	PURPLE
POWER CABLES TO RRHs				LOW BAND RRH		MID BAND RRH		LOW BAND RRH		MID BAND RRH	
LOW-BAND RRH POWER CABLES HAVE SECTOR STRIPE ONLY.				RED	RED	RED	RED	BLUE	BLUE	GREEN	GREEN
				ORANGE	ORANGE	PURPLE	PURPLE	ORANGE	PURPLE	ORANGE	PURPLE
RET MOTORS AT ANTENNAS				ANTENNA 1 MID BAND		ANTENNA 1 LOW BAND		ANTENNA 1 MID BAND		ANTENNA 1 LOW BAND	
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.				IN	IN	IN	IN	IN	IN	IN	IN
				RED	RED	RED	RED	BLUE	BLUE	GREEN	GREEN
				PURPLE	PURPLE	PURPLE	PURPLE	PURPLE	PURPLE	PURPLE	PURPLE
MICROWAVE RADIO LINKS				FORWARD AZIMUTH OF 0-120 DEGREES		FORWARD AZIMUTH OF 120-240 DEGREES		FORWARD AZIMUTH OF 240-359 DEGREES			
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.				PRIMARY	SECONDARY	PRIMARY	SECONDARY	PRIMARY	SECONDARY	PRIMARY	SECONDARY
				WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
				RED	RED	BLUE	BLUE	GREEN	GREEN	WHITE	WHITE
				WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	GREEN	GREEN
										WHITE	WHITE

RF CABLE COLOR CODES

NO SCALE

1

NOT USED

NO SCALE

4

LOW BANDS (N71+N26)
OPTIONAL - (N29)

ORANGE

AWS
(N66+N70+H-BLOCK)

PURPLE

CBRS TECH
(3 GHz)

YELLOW

NEGATIVE SLANT PORT
ON ANT/RRH

WHITE

ALPHA SECTOR

BETA SECTOR

GAMMA SECTOR

RED

BLUE

GREEN

COLOR IDENTIFIER

NO SCALE

2

NOT USED

NO SCALE

3

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RY

CDW

DAS

RFDS REV #: 0

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DISH Wireless, L.L.C.
PROJECT INFORMATION

BOBOS00032A
156 LEBANON HILL RD.
WOODSTOCK, CT 06281

SHEET TITLE
RF
CABLE COLOR CODE

SHEET NUMBER

RF-1

EXOTHERMIC CONNECTION		AB	ANCHOR BOLT	IN	INCH
MECHANICAL CONNECTION		ABV	ABOVE	INT	INTERIOR
BUSS BAR INSULATOR		AC	ALTERNATING CURRENT	LB(S)	POUND(S)
CHEMICAL ELECTROLYTIC GROUNDING SYSTEM		ADDL	ADDITIONAL	LF	LINEAR FEET
TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM		AFF	ABOVE FINISHED FLOOR	LTE	LONG TERM EVOLUTION
EXOTHERMIC WITH INSPECTION SLEEVE		AFG	ABOVE FINISHED GRADE	MAS	MASONRY
GROUNDING BAR		AGL	ABOVE GROUND LEVEL	MAX	MAXIMUM
GROUND ROD		AIC	AMPERAGE INTERRUPTION CAPACITY	MB	MACHINE BOLT
TEST GROUND ROD WITH INSPECTION SLEEVE		ALUM	ALUMINUM	MECH	MECHANICAL
SINGLE POLE SWITCH		ALT	ALTERNATE	MFR	MANUFACTURER
DUPLEX RECEPTACLE		ANT	ANTENNA	MGB	MASTER GROUND BAR
DUPLEX GFCI RECEPTACLE		APPROX	APPROXIMATE	MIN	MINIMUM
FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48-T8		ARCH	ARCHITECTURAL	MISC	MISCELLANEOUS
SMOKE DETECTION (DC)		ATS	AUTOMATIC TRANSFER SWITCH	MTL	METAL
EMERGENCY LIGHTING (DC)		AWG	AMERICAN WIRE GAUGE	MTS	MANUAL TRANSFER SWITCH
SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW LED-1-25A400/51K-SR4-120-PE-DDBTXD		BATT	BATTERY	MW	MICROWAVE
CHAIN LINK FENCE		BLDG	BUILDING	NEC	NATIONAL ELECTRIC CODE
WOOD/WROUGHT IRON FENCE		BLK	BLOCK	NM	NEWTON METERS
WALL STRUCTURE		BLKG	BLOCKING	NO.	NUMBER
LEASE AREA		BM	BEAM	#	NUMBER
PROPERTY LINE (PL)		BTC	BARE TINNED COPPER CONDUCTOR	NTS	NOT TO SCALE
SETBACKS		BOF	BOTTOM OF FOOTING	OC	ON-CENTER
ICE BRIDGE		CAB	CABINET	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
CABLE TRAY		CANT	CANTILEVERED	OPNG	OPENING
WATER LINE		CHG	CHARGING	P/C	PRECAST CONCRETE
UNDERGROUND POWER		CLG	CEILING	PCS	PERSONAL COMMUNICATION SERVICES
UNDERGROUND TELCO		CLR	CLEAR	PCU	PRIMARY CONTROL UNIT
OVERHEAD POWER		COL	COLUMN	PRC	PRIMARY RADIO CABINET
OVERHEAD TELCO		COMM	COMMON	PP	POLARIZING PRESERVING
UNDERGROUND TELCO/POWER		CONC	CONCRETE	PSF	POUNDS PER SQUARE FOOT
ABOVE GROUND POWER		CONSTR	CONSTRUCTION	PSI	POUNDS PER SQUARE INCH
ABOVE GROUND TELCO		DBL	DOUBLE	PT	PRESSURE TREATED
ABOVE GROUND TELCO/POWER		DC	DIRECT CURRENT	PWR	POWER CABINET
WORKPOINT		DEPT	DEPARTMENT	QTY	QUANTITY
SECTION REFERENCE		DF	DOUGLAS FIR	RAD	RADIUS
DETAIL REFERENCE		DIA	DIAMETER	RECT	RECTIFIER
		DIAG	DIAGONAL	REF	REFERENCE
		DIM	DIMENSION	REINF	REINFORCEMENT
		DWG	DRAWING	REQ'D	REQUIRED
		DWL	DOWEL	RET	REMOTE ELECTRIC TILT
		EA	EACH	RF	RADIO FREQUENCY
		EC	ELECTRICAL CONDUCTOR	RMC	RIGID METALLIC CONDUIT
		EL.	ELEVATION	RRH	REMOTE RADIO HEAD
		ELEC	ELECTRICAL	RRU	REMOTE RADIO UNIT
		EMT	ELECTRICAL METALLIC TUBING	RWY	RACEWAY
		ENG	ENGINEER	SCH	SCHEDULE
		EQ	EQUAL	SHT	SHEET
		EXP	EXPANSION	SIAD	SMART INTEGRATED ACCESS DEVICE
		EXT	EXTERIOR	SIM	SIMILAR
		EW	EACH WAY	SPEC	SPECIFICATION
		FAB	FABRICATION	SQ	SQUARE
		FF	FINISH FLOOR	SS	STAINLESS STEEL
		FG	FINISH GRADE	STD	STANDARD
		FIF	FACILITY INTERFACE FRAME	STL	STEEL
		FIN	FINISH(ED)	TEMP	TEMPORARY
		FLR	FLOOR	THK	THICKNESS
		FDN	FOUNDATION	TMA	TOWER MOUNTED AMPLIFIER
		FOC	FACE OF CONCRETE	TN	TOE NAIL
		FOM	FACE OF MASONRY	TOA	TOP OF ANTENNA
		FOS	FACE OF STUD	TOC	TOP OF CURB
		FOW	FACE OF WALL	TOF	TOP OF FOUNDATION
		FS	FINISH SURFACE	TOP	TOP OF PLATE (PARAPET)
		FT	FOOT	TOS	TOP OF STEEL
		FTG	FOOTING	TOW	TOP OF WALL
		GA	GAUGE	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
		GEN	GENERATOR	TYP	TYPICAL
		GFCI	GROUND FAULT CIRCUIT INTERRUPTER	UG	UNDERGROUND
		GLB	GLUE LAMINATED BEAM	UL	UNDERWRITERS LABORATORY
		GLV	GALVANIZED	UNO	UNLESS NOTED OTHERWISE
		GPS	GLOBAL POSITIONING SYSTEM	UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
		GND	GROUND	UPS	UNITERRUPTIBLE POWER SYSTEM (DC POWER PLANT)
		GSM	GLOBAL SYSTEM FOR MOBILE	VIF	VERIFIED IN FIELD
		HDG	HOT DIPPED GALVANIZED	W	WIDE
		HDR	HEADER	W/	WITH
		HGR	HANGER	WD	WOOD
		HVAC	HEAT/VENTILATION/AIR CONDITIONING	WP	WEATHERPROOF
		HT	HEIGHT	WT	WEIGHT
		IGR	INTERIOR GROUND RING		

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DRAWN BY: RY

CHECKED BY: CDW

APPROVED BY: DAS

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

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A&E PROJECT NUMBER
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DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00032A
156 LEBANON HILL RD.
WOODSTOCK, CT 06281

SHEET TITLE
LEGEND AND ABBREVIATIONS

SHEET NUMBER
GN-1

DISH Wireless L.L.C. TEMPLATE VERSION 45 – 10/08/202115891300101_0001_0002002021.ctbAng – Sheet001 – User: Administrator – Jan 07, 2022 – 4:08pm

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.

THE INTEGRITY OF THE SAFETY CMB 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.

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).

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.

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

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 THE 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.

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.

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.

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

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.

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

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
4. CONCRETE EXPOSED TO FREEZE–THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER–TO–CEMENT RATIO (W/C) OF 0.45.
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:

#4 BARS AND SMALLER 40 ksi

#5 BARS AND LARGER 60 ksi
6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

• CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"

• CONCRETE EXPOSED TO EARTH OR WEATHER:

• #6 BARS AND LARGER 2"

• #5 BARS AND SMALLER 1–1/2"

• CONCRETE NOT EXPOSED TO EARTH OR WEATHER:

• SLAB AND WALLS 3/4"

• BEAMS AND COLUMNS 1–1/2"

7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- ELECTRICAL INSTALLATION NOTES:
1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.

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

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

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

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

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

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

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

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

8. TIE WRAPS ARE NOT ALLOWED.

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

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

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

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

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

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

15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL–CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



10 PRESIDENTIAL WAY
WOBURN, MA 01801



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



1/7/22

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:
RY	CDW	DAS

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	11/10/21	ISSUED FOR REVIEW
0	1/7/22	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
158913.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00032A
156 LEBANON HILL RD.
WOODSTOCK, CT 06281

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-3

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

158913.01 01_2022_0000000000 01.dwg - Sheet 013 - User: daniel@btgrp.com - Jan 07, 2022 - 1:03pm

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.



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



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PEC.0001564
Expires 2/10/22

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DRAWN BY:	CHECKED BY:	APPROVED BY:
RY	CDW	DAS

RFDS REV #: 0

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A&E PROJECT NUMBER

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DISH Wireless, L.L.C.
PROJECT INFORMATION

BOBOS00032A
156 LEBANON HILL RD.
WOODSTOCK, CT 06281

SHEET TITLE
GENERAL NOTES

SHEET NUMBER

GN-4



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Woodstock, CT

The Honorable Jay Swan - First Selectman of Woodstock



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Woodstock, CT

Ashley Stephens - Woodstock Land Use Administrator & Zoning Enforcement Official



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May 5, 2022

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

Re: Tower Share Application – Dish Wireless Site # 13733438
Dish Wireless Telecommunications Facility @ 156 Lebanon Hill Rd., Woodstock, CT 06281

Dear Mr. Paynter:

Dish Wireless (“Dish”) is proposing a wireless telecommunications facility on an existing two hundred eighty (280) foot tall guyed tower at 156 Lebanon Hill Rd., Woodstock, CT 06281 (Latitude: 42.02526944, Longitude: -72.037000000) and within the existing fenced compound on the above referenced property. The tower is owned and operated by American Tower Corporation. The subject property is owned by American Tower Corp. The tower was approved by the Town of Woodstock on June 27, 1996.

Dish proposes to install a five (5) foot by seven (7) foot metal platform within the existing fenced compound to accommodate two (2) cabinets and related equipment, and to install three (3) antennas, a single antenna mount, six (6) RRUs, and cables on the existing tower at two hundred and six (206) feet as more particularly detailed and described on the enclosed Construction Drawings. The overall height of the existing tower is and will remain at 280 feet and no changes will be made to the compound dimensions.

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

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

Respectfully Submitted,

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

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046



May 5, 2022

The Honorable Jay Swan, First Selectman
Town of Woodstock CT
415 Route 169
Woodstock, CT 06281

Re: Tower Share Application – Dish Wireless Site # 13733438
Dish Wireless Telecommunications Facility @ 156 Lebanon Hill Rd., Woodstock, CT 06281

Dear Selectman Swan:

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing two hundred eighty (280) foot tall guyed tower at 156 Lebanon Hill Rd., Woodstock, CT 06281 (Latitude: 42.02526944, Longitude: -72.037000000) and within the existing fenced compound on the above referenced property. The tower is owned and operated by American Tower Corporation. The subject property is owned by American Tower Corp. The tower was approved by the Town of Woodstock on June 27, 1996.

Dish proposes to install a five (5) foot by seven (7) foot metal platform within the existing fenced compound to accommodate two (2) cabinets and related equipment, and to install three (3) antennas, a single antenna mount, six (6) RRUs, and cables on the existing tower at two hundred and six (206) feet as more particularly detailed and described on the enclosed Construction Drawings. The overall height of the existing tower is and will remain at 280 feet and no changes will be made to the compound dimensions.

This letter is intended to serve as the required notice to the chief elected official. 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,

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Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046



May 5, 2022

Ashley Stephens
Zoning Enforcement Officer
Town of Woodstock CT
415 Route 169
Woodstock, CT 06281

Re: Tower Share Application – Dish Wireless Site # 13733438
Dish Wireless Telecommunications Facility @ 156 Lebanon Hill Rd., Woodstock, CT 06281

Dear Ms. Stephens:

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing two hundred eighty (280) foot tall guyed tower at 156 Lebanon Hill Rd., Woodstock, CT 06281 (Latitude: 42.02526944, Longitude: -72.037000000) and within the existing fenced compound on the above referenced property. The tower is owned and operated by American Tower Corporation. The subject property is owned by American Tower Corp. The tower was approved by the Town of Woodstock on June 27, 1996.

Dish proposes to install a five (5) foot by seven (7) foot metal platform within the existing fenced compound to accommodate two (2) cabinets and related equipment, and to install three (3) antennas, a single antenna mount, six (6) RRUs, and cables on the existing tower at two hundred and six (206) feet as more particularly detailed and described on the enclosed Construction Drawings. The overall height of the existing tower is and will remain at 280 feet and no changes will be made to the compound dimensions.

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,

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Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046