April 27, 2022

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

Re: Tower Share Application – Dish Site 13733449
Dish Wireless Telecommunications Facility @ 1325 Cheshire Street, Cheshire, CT 06410

Dear Ms. Bachman,

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing one hundred seventy (170) foot tall monopole tower at 1325 Cheshire Street, Cheshire, CT 06410 (Latitude: 41.53259318, Longitude: -72.87048903) and within the existing fenced compound. The monopole tower is owned and operated by American Tower Corporation. The subject property is owned by the Town of Cheshire.

Dish proposes to install a five (5) foot by seven (7) foot metal platform within the existing fenced compound and install three (3) antennas, a single antenna mount, six (6) RRUs, and cables on the existing tower at one hundred twenty four (124) feet as more particularly detailed and described on the enclosed Construction Drawings. No height extension or compound expansion are proposed. The tower was approved by the CSC in Docket Number 451, on January 8, 2015.

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; the Town of Cheshire as Property Owner; Tim Slocum, Chairman, Town of Cheshire Town Council, and Michael Glidden, the Cheshire Town Planner.

The applicant's proposal falls squarely within those activities explicitly provided for in R.C.S.A. §16-50j-89. Specifically:

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

Jack Andrews, Zoning Manager 10130 Donleigh Drive, Columbia, MD 21046 (443) 677-0144
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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 for shared use.

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

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

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

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For the foregoing reasons, Dish respectfully requests that the Council approve this request for the shared use of this tower located at 1325 Cheshire Street, Cheshire, CT 06410.

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

Sincerely,

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

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

cc: American Tower Corporation - Tower Operator/Owner
The Town of Cheshire - Property Owner
Tim Slocum, Chairman - Town of Cheshire Town Council
Michael Glidden - the Cheshire Town Planner

the Town of Cheshire as Property Owner; Tim Slocum, Chairman, Town of Cheshire Town Council, and Michael Glidden. The Cheshire Town Planner.

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LETTER OF AUTHORIZATION

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

ADDRESS: See Site List Below

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

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

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

Site Authorized:

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

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

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

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

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

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

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

AMERICAN TOWER®
CORPORATION

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

Signature: _____

Margaret Robinson, Senior Counsel
US Tower Division

NOTARY BLOCK

COMMONWEALTH OF MASSACHUSETTS
County of Middlesex

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

WITNESS my hand and official seal, this 24th day of March, 2022.

NOTARY SEAL

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

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

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

Town of Cheshire, CT - MapXpress Property Information Viewer

Full Town View | Reset Map | **Search** | Print Map | Help | Base Maps / Air Photos | Map Layers

Full Extent | Zoom In | Zoom Out | Prev Extent | Next Extent | Pan | **Parcel Information** | Simple Measure | Path Measure | Area Measure

MapXpress v1.2

Scale: 1 in = 400 ft

Parcel Detail

Town of Cheshire, Connecticut
Geographic & Property Information Application

Detailed Parcel Information

GIS ID
38180

Parcel ID
38180

Unique ID
00258300

Owner
CHESHIRE TOWN OF

Location
1325 CHESHIRE ST

MAILING ADDRESS

CHESHIRE CT 06410

Quick Map | 92' Topo Map | Assessor Map | Property Card | FEMA Firm Panel

Scroll Down For Complete Property Detail

DOCKET NO. 451 – Homeland Towers, LLC and New Cingular Wireless PCS, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at the Cheshire Wastewater Treatment Plant, Cheshire Tax Assessor Map 38, Lot 180, 1325 Cheshire Street, Cheshire, Connecticut.	}	Connecticut
	}	Siting
	}	Council
		January 8, 2015

Decision and Order

Pursuant to Connecticut General Statutes §16-50p and the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and operation of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Homeland Towers, LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility at at the Cheshire Wastewater Treatment Plant, Cheshire Tax Assessor Map 38, Lot 180 located at 1325 Cheshire Street, Cheshire, Connecticut.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of New Cingular Wireless PCS, LLC and other entities, both public and private, but such tower shall not exceed a height of 170 feet above ground level. The height at the top of any antennas shall not exceed 190 feet above ground level.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Cheshire for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
    a) final site plan(s) for development of the facility to include specifications for the tower, tower foundation, antennas, equipment compound including, but not limited to, fence with less than two inch mesh, radio equipment, access road, utility line, emergency backup generator and landscaping that employ the governing standard in the State of Connecticut for tower design in accordance with the currently adopted International Building Code; and
    b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended; and
    c) a protection plan for box and wood turtles.

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

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

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

6. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed with at least one fully operational wireless telecommunications carrier providing wireless service within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.

7. Any request for extension of the time period referred to in Condition 6 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Cheshire. Any proposed modifications to this Decision and Order shall likewise be so served.

8. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council within 90 days from the one year period of cessation of service. The Certificate Holder may submit a written request to the Council for an extension of the 90 day period not later than 60 days prior to the expiration of the 90 day period.

9. Any nonfunctioning antenna, and associated antenna mounting equipment, on this facility shall be removed within 60 days of the date the antenna ceased to function.

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

11. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.

12. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder/transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.

13. The Certificate Holder shall maintain the facility and associated equipment, including but not limited to, the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line and landscaping in a reasonable physical and operational condition that is consistent with this Decision and Order and a Development and Management Plan to be approved by the Council.

14. If the Certificate Holder is a wholly-owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the Certificate Holder within 30 days of the sale and/or transfer.

15. This Certificate may be surrendered by the Certificate Holder upon written notification and approval by the Council.

We hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed in the Service List, dated October 2, 2014, and notice of issuance published in the Cheshire Herald.

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

EBI Consulting

environmental | engineering | due diligence

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

Dish Wireless Existing Facility

Site ID: BOHVN00033A

BOHVN00033A
1325 Cheshire Street
Cheshire, Connecticut 06410

April 19, 2022

EBI Project Number: 6222002456

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**24.06%**

EBI Consulting

environmental | engineering | due diligence

April 19, 2022

Dish Wireless

Emissions Analysis for Site: BOHVN00033A - BOHVN00033A

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **1325 Cheshire Street** in **Cheshire, Connecticut** for the purpose of determining whether the emissions from the Proposed Dish Wireless Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed Dish Wireless antenna facility located at 1325 Cheshire Street in Cheshire, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since Dish Wireless is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 20 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

1) 4 n71 channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 4 n70 channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

3) 4 n66 channels (AWS Band - 2190 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

4) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

5) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 20 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative

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

6) The antennas used in this modeling are the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector A, the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector B, the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 20 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

7) The antenna mounting height centerline of the proposed antennas is 124 feet above ground level (AGL).

8) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

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Dish Wireless Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21
Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz
Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd
Height (AGL):	124 feet	Height (AGL):	124 feet	Height (AGL):	124 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts
ERP (W):	5,236.31	ERP (W):	5,236.31	ERP (W):	5,236.31
Antenna A1 MPE %:	**1.70%**	Antenna B1 MPE %:	**1.70%**	Antenna C1 MPE %:	**1.70%**

Site Composite MPE %	
Carrier	**MPE %**
Dish Wireless (Max at Sector A):	1.70%
T-Mobile	15.82%
AT&T	6.54%
Site Total MPE % :	24.06%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	1.70%
Dish Wireless Sector B Total:	1.70%
Dish Wireless Sector C Total:	1.70%
Site Total MPE % :	24.06%

Dish Wireless Maximum MPE Power Values (Sector A)

Dish Wireless Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
Dish Wireless 600 MHz n71	4	223.68	124.0	2.31	600 MHz n71	400	0.58%
Dish Wireless 1900 MHz n70	4	542.70	124.0	5.60	1900 MHz n70	1000	0.56%
Dish Wireless 2190 MHz n66	4	542.70	124.0	5.60	2190 MHz n66	1000	0.56%
						Total:	**1.70%**

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

Summary

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

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

Dish Wireless Sector	Power Density Value (%)
Sector A:	1.70%
Sector B:	1.70%
Sector C:	1.70%
Dish Wireless Maximum MPE % (Sector A):	1.70%
Site Total:	24.06%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **24.06%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

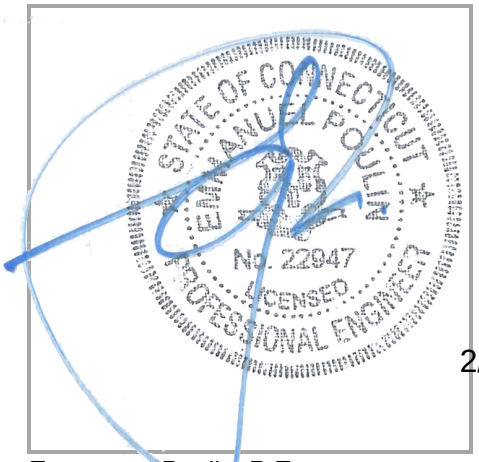
FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100%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

MOUNT ANALYSIS REPORT

February 14, 2022

Site ID	BOHVN00033A
Infinigy Job Number	1197-F0001-B
Client	American Tower
Carrier	Dish Wireless
Site Location	1325 Cheshire Street Cheshire, CT 06410 New Haven County 41° 31' 57.335" N NAD83 72° 52' 13.761" W NAD83
Structure Type	Monopole
Structure Height	170.0 ft
Mount Type	8.0 ft Platform
Mount Elevation	124.0 ft AGL
Structural Usage Ratio	**40.3%**
Overall Result	**Pass**

The enclosed structural analysis has been performed in accordance with the 2018 Connecticut State Building Code based on an ultimate 3-second gust wind speed of 125 mph. The evaluation criteria and applicable standards are presented in the next section of this report.



2/14/22

Emmanuel Poulin, P.E.
structural@infinigy.com
CT P.E. License Number: 22947

CONTENTS

1. INTRODUCTION

Infinigy performed a structural analysis on the Dish Wireless proposed telecommunication equipment supporting Platform mounted to the existing structure located at the aforementioned address. All referenced supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The mount was analyzed using RISA 3D version 19.0.4 analysis software.

2. DESIGN/ANALYSIS PARAMETERS

Wind Speed	125 mph (3-Second Gust)
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 1.0" ice
Adopted Code	2015 IBC / 2018 Connecticut State Building Code
Standard(s)	TIA-222-G
Risk Category	II
Exposure Category	C
Topographic Factor	1.0
Seismic Spectral Response	S_s = 0.186 g / S_1 = 0.063 g
Live Load Wind Speed	30 mph
Man Live Load at Mid/End Points	250 lbs
Man Live Load at Mount Pipes	500 lbs
Ground Elevation (HMSL)	113.74 ft

3. PROPOSED LOADING CONFIGURATION - 124.0 ft. AGL Platform

Centerline (ft)	Qty.	Appurtenance Manufacturers	Appurtenance Models
124.0	3	JMA Wireless	MX08FRO665-21
	3	Fujitsu	TA8025-B604
	3	Fujitsu	TA8025-B605
	1	Raycap	RDIDC-9181-PF-48

4. SUPPORTING DOCUMENTATION

Construction Drawings	American Tower dated February 2, 2022
Mount Design Drawing	Commscope, dated March 8, 2021

5. RESULTS

Components	Capacity	Pass/Fail
Mount Pipes	23.8%	Pass
Horizontals	14.9%	Pass
Handrails	25.0%	Pass
Standoffs	40.3%	Pass
Corner Angles	26.7%	Pass
Bracings	40.3%	Pass
Corner Plate	25.5%	Pass
Connection Bolts	32.2%	Pass
RATING =	**40.3%**	**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 Platform at 124.0 ft. The installation shall be performed in accordance with the construction documents issued for this site.

Hector Rodriguez
Project Engineer I | **INFINIGY**

7. ASSUMPTIONS

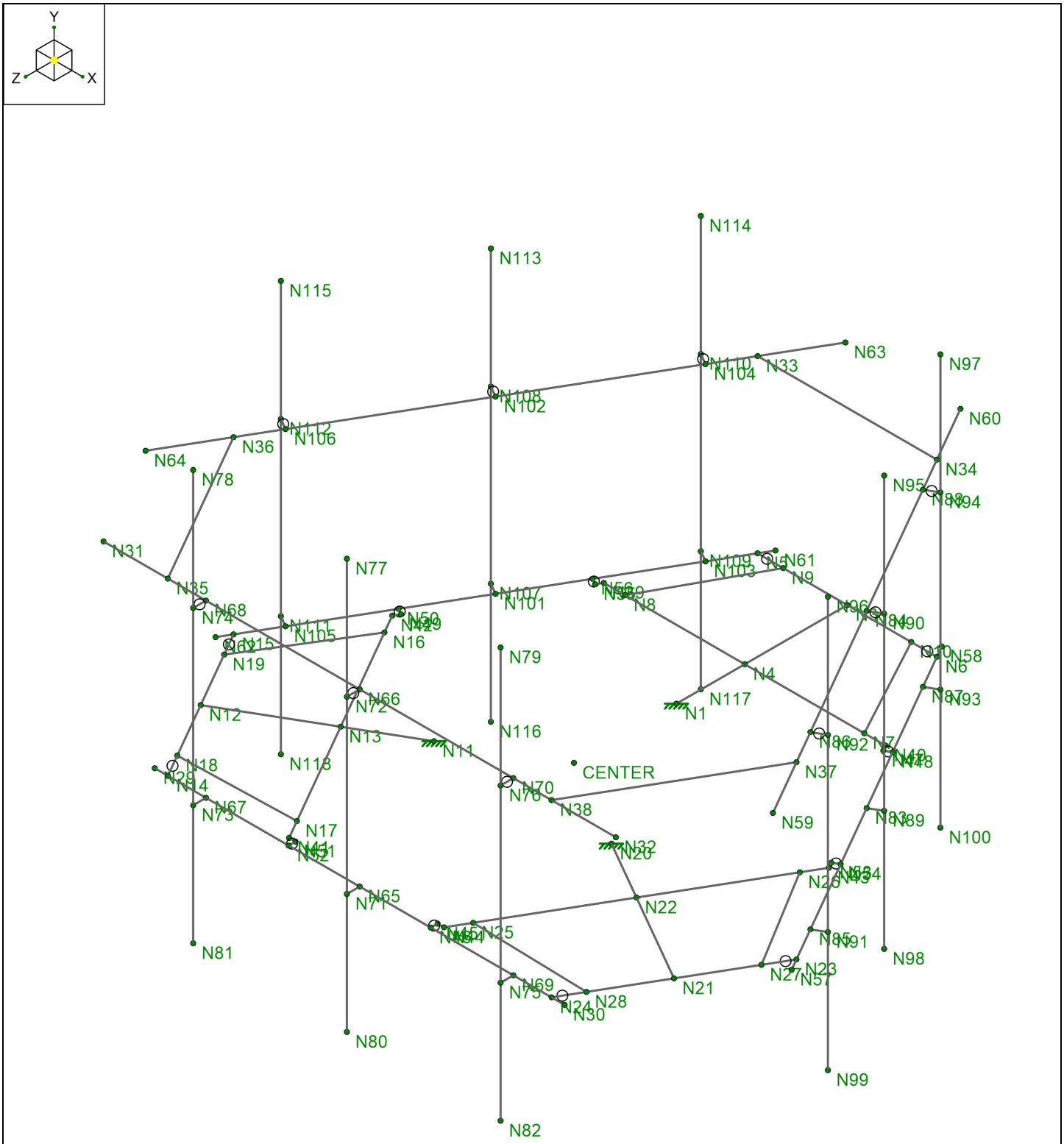
The antenna mounting system was properly fabricated, installed and maintained in accordance with its original design and manufacturer's specifications.
The configuration of antennas, mounts, and other appurtenances are as specified in the proposed loading configuration table.
All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
The analysis will require revisions if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
Steel grades have been assumed as follows, unless noted otherwise: Channel, Solid Round, Angle, Plate — ASTM A36 HSS (Rectangular) — ASTM A500-B GR 46 HSS (Circular) — ASTM A500-B GR 42 Pipe — ASTM A53-B GR 35 Connection Bolts — ASTM A325 U-Bolts — ASTM A307
All bolted connections are pretensioned in accordance with Table 8.2 of the RCSC 2014 Standard.

8. LIABILITY WAIVER AND LIMITATIONS

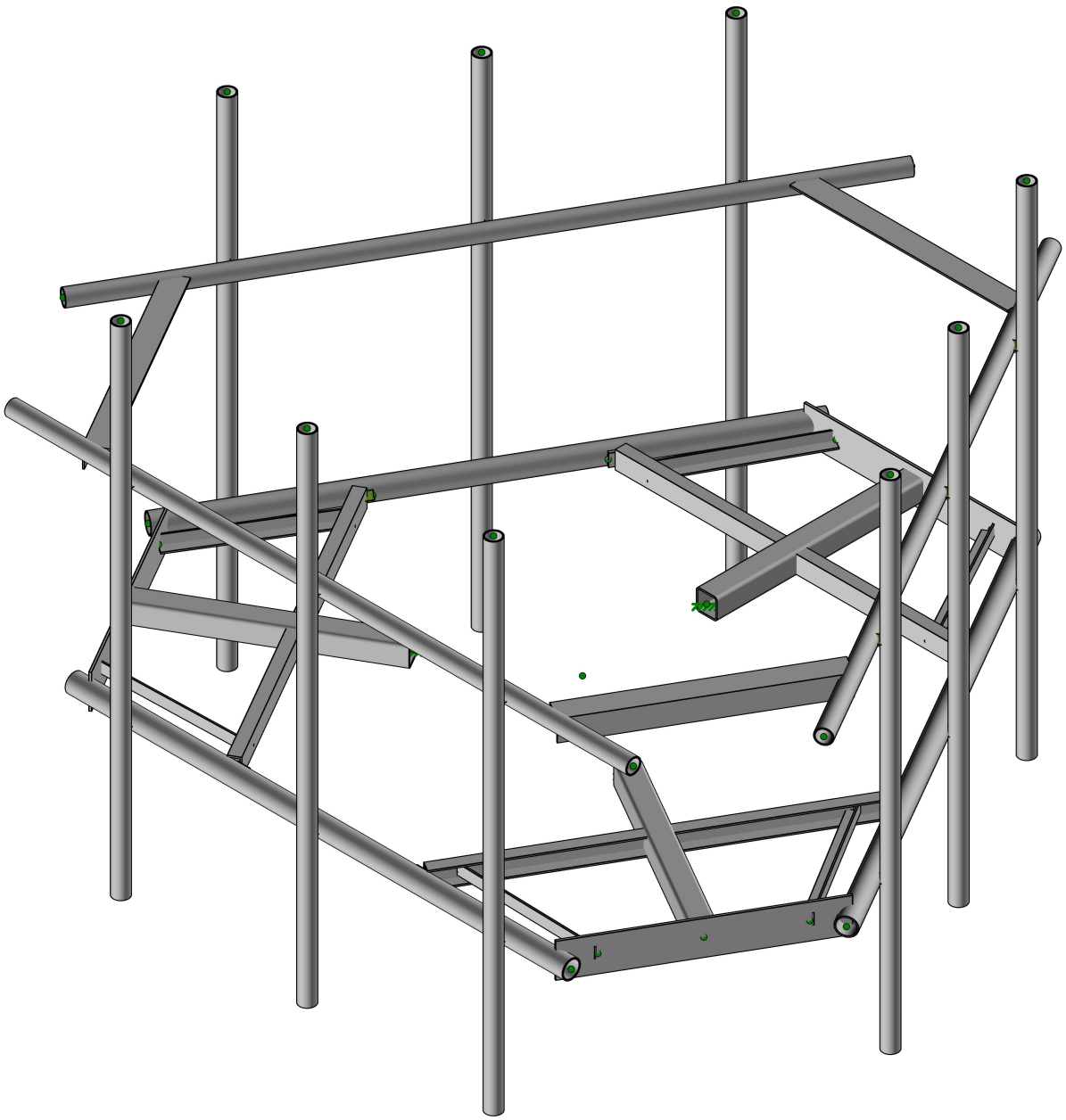
Our structural calculations are completed assuming all information provided to Infinigy is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition as erected and all members and connections to be free of corrosion and/or structural defects. The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

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

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



Infinigy Engineering	BOHVN00033A	Wireframe - 1
HR		Feb 14, 2022
1197-F0001-B		BOHVN00033A_loaded.r3d



Infinigy Engineering	BOHVN00033A	Rendering - 2
HR		Feb 14, 2022
1197-F0001-B		BOHVN00033A_loaded.r3d

Program Inputs

PROJECT INFORMATION	
Client:	American Tower
Carrier:	Dish Wireless
Engineer:	Hector Rodriguez

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	C	
Topo Category:	1	
Site Class:	D - Stiff Soil (Assumed)	
Ground Elevation:	N/A	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Platform	
Num Sectors:	3	
Centerline AGL:	124.00	ft
Tower Height AGL:	170.00	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):	N/A	*Rev H Only
Rooftop Speed-Up (K_s):	N/A	*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-G	
ASCE Standard:	ASCE 7-10	

WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	125	mph
Design Wind (V):	97	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1	in
Flat Pressure:	60.605	psf
Round Pressure:	36.363	psf
Ice Wind Pressure:	9.662	psf

SEISMIC DATA		
Short-Period Accel. (S_s):	0.186	g
1-Second Accel. (S_1):	0.063	g
Short-Period Design (S_{DS}):	0.198	
1-Second Design (S_{D1}):	0.101	
Short-Period Coeff. (F_a):	1.600	
1-Second Coeff. (F_v):	2.400	
Amplification Factor (A_s):	3.000	
Response Mod. Coeff. (R):	2.000	

INFINIGY

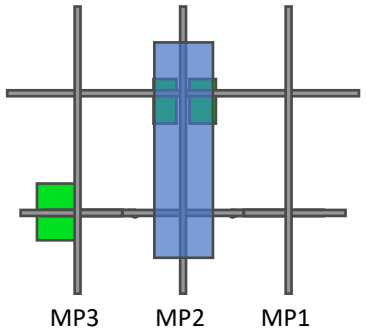
FROM ZERO TO INFINIGY

the solutions are endless

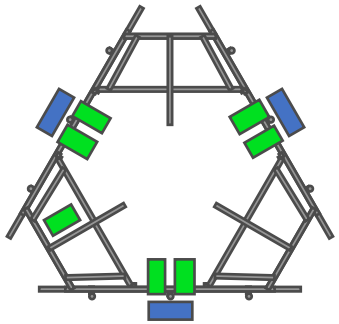
Infinigy Load Calculator V2.1.7

Program Inputs

ELEVATION VIEW



PLAN VIEW



INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

Infinigy Load Calculator V2.1.7

APPURTENANCE INFORMATION

Appurtenance Name	Elevation	Qty.	K_a	q_z (psf)	EPA_N (ft^2)	EPA_T (ft^2)	Wind F_z (lbs)	Wind F_x (lbs)	Weight (lbs)	Seismic F (lbs)	Member (α sector)
JMA WIRELESS MX08FRO665-21	124.0	3	1.00	30.30	12.49	5.87	378.44	177.77	64.50	19.20	MP2
FUJITSU TA08025-B604	124.0	3	1.00	30.30	0.81	0.40	24.61	12.23	63.90	19.02	MP2
FUJITSU TA08025-B605	124.0	3	1.00	30.30	0.81	0.47	24.61	14.11	74.95	22.31	MP2
RAYCAP RDIDC-9181-PF-48	124.0	1	1.00	30.30	0.95	0.54	28.74	16.28	21.82	6.49	S2

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	S3	N1	N3		Standoff	Beam	Tube	A500 Gr.B Rect	Typical
2	GA4	N7	N10	270	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
3	GA3	N8	N9		Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
4	P3	N5	N6		Corner Plates	Beam	RECT	A36 Gr.36	Typical
5	S2	N11	N12		Standoff	Beam	Tube	A500 Gr.B Rect	Typical
6	GA2	N16	N19	270	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
7	GA1	N17	N18		Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
8	P2	N14	N15		Corner Plates	Beam	RECT	A36 Gr.36	Typical
9	S1	N20	N21		Standoff	Beam	Tube	A500 Gr.B Rect	Typical
10	GA6	N25	N28	270	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
11	GA5	N26	N27		Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
12	P1	N23	N24		Corner Plates	Beam	RECT	A36 Gr.36	Typical
13	H1	N29	N30		Horizontal	Beam	Pipe	A53 Gr.B	Typical
14	HR1	N31	N32		Handrail	Beam	Pipe	A53 Gr.B	Typical
15	CA8	N36	N35	180	Handrail Connector	Beam	Single Angle	A36 Gr.36	Typical
16	CA9	N34	N33	180	Handrail Connector	Beam	Single Angle	A36 Gr.36	Typical
17	CA7	N38	N37	180	Handrail Connector	Beam	Single Angle	A36 Gr.36	Typical
18	CA3	N4	N39		Channel	Beam	Channel	A36 Gr.36	Typical
19	CA4	N40	N4		Channel	Beam	Channel	A36 Gr.36	Typical
20	CA1	N13	N41		Channel	Beam	Channel	A36 Gr.36	Typical
21	CA2	N42	N13		Channel	Beam	Channel	A36 Gr.36	Typical
22	CA5	N22	N43		Channel	Beam	Channel	A36 Gr.36	Typical
23	CA6	N44	N22		Channel	Beam	Channel	A36 Gr.36	Typical
24	M64	N46	N45		RIGID	None	None	RIGID	Typical
25	M65	N44	N45		RIGID	None	None	RIGID	Typical
26	M66	N48	N47		RIGID	None	None	RIGID	Typical
27	M67	N40	N47		RIGID	None	None	RIGID	Typical
28	M68	N50	N49		RIGID	None	None	RIGID	Typical
29	M69	N42	N49		RIGID	None	None	RIGID	Typical
30	M70	N52	N51		RIGID	None	None	RIGID	Typical
31	M71	N41	N51		RIGID	None	None	RIGID	Typical
32	M72	N54	N53		RIGID	None	None	RIGID	Typical
33	M73	N43	N53		RIGID	None	None	RIGID	Typical
34	M74	N56	N55		RIGID	None	None	RIGID	Typical
35	M75	N39	N55		PL 2.375X0.5	None	None	A36 Gr.36	Typical
36	H3	N57	N58		Horizontal	Beam	Pipe	A53 Gr.B	Typical
37	HR3	N59	N60		Handrail	Beam	Pipe	A53 Gr.B	Typical
38	H2	N61	N62		Horizontal	Beam	Pipe	A53 Gr.B	Typical
39	HR2	N63	N64		Handrail	Beam	Pipe	A53 Gr.B	Typical
40	M40	N68	N74		RIGID	None	None	RIGID	Typical
41	M41	N67	N73		RIGID	None	None	RIGID	Typical
42	M42	N66	N72		RIGID	None	None	RIGID	Typical
43	M43	N65	N71		RIGID	None	None	RIGID	Typical
44	M44	N70	N76		RIGID	None	None	RIGID	Typical
45	M45	N69	N75		RIGID	None	None	RIGID	Typical
46	MP3	N78	N81		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
47	MP2	N77	N80		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
48	MP1	N79	N82		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
49	M49	N86	N92		RIGID	None	None	RIGID	Typical
50	M50	N85	N91		RIGID	None	None	RIGID	Typical
51	M51	N84	N90		RIGID	None	None	RIGID	Typical
52	M52	N83	N89		RIGID	None	None	RIGID	Typical
53	M53	N88	N94		RIGID	None	None	RIGID	Typical
54	M54	N87	N93		RIGID	None	None	RIGID	Typical
55	MP9	N96	N99		Mount Pipe	Column	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
56	MP8	N95	N98		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
57	MP7	N97	N100		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
58	M58	N104	N110		RIGID	None	None	RIGID	Typical
59	M59	N103	N109		RIGID	None	None	RIGID	Typical
60	M60	N102	N108		RIGID	None	None	RIGID	Typical
61	M61	N101	N107		RIGID	None	None	RIGID	Typical
62	M62	N106	N112		RIGID	None	None	RIGID	Typical
63	M63	N105	N111		RIGID	None	None	RIGID	Typical
64	MP6	N114	N117		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
65	MP5	N113	N116		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
66	MP4	N115	N118		Mount Pipe	Column	Pipe	A53 Gr.B	Typical

Material Take-Off

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General Members				
2	RIGID		29	71.1	0
3	Total General		29	71.1	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	C3.38x2.06x0.25	6	198	98.255
7	A36 Gr.36	L2x2x4	6	163.8	43.838
8	A36 Gr.36	PL6.5x0.375	3	126	87.09
9	A36 Gr.36	L4X4X4	3	126	68.957
10	A36 Gr.36	PL 2.375X0.5	1	1.5	0.505
11	A500 Gr.B Rect	HSS4X4X4	3	120	123.333
12	A53 Gr.B	PIPE_2.5	12	1224	558.804
13	A53 Gr.B	PIPE_3.0	3	288	169.05
14	Total HR Steel		37	2247.3	1149.833

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Point	Distributed	Area(Member)
1	Self Weight	DL		-1			13		3
2	Wind Load AZI 0	WLZ					26		
3	Wind Load AZI 30	None					26		
4	Wind Load AZI 60	None					26		
5	Wind Load AZI 90	WLX					26		
6	Wind Load AZI 120	None					26		
7	Wind Load AZI 150	None					26		
8	Wind Load AZI 180	None					26		
9	Wind Load AZI 210	None					26		
10	Wind Load AZI 240	None					26		
11	Wind Load AZI 270	None					26		
12	Wind Load AZI 300	None					26		
13	Wind Load AZI 330	None					26		
14	Distr. Wind Load Z	WLZ						66	
15	Distr. Wind Load X	WLX						66	
16	Ice Weight	OL1					13	66	3
17	Ice Wind Load AZI 0	OL2					26		
18	Ice Wind Load AZI 30	None					26		
19	Ice Wind Load AZI 60	None					26		
20	Ice Wind Load AZI 90	OL3					26		
21	Ice Wind Load AZI 120	None					26		
22	Ice Wind Load AZI 150	None					26		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Point	Distributed	Area(Member)
23	Ice Wind Load AZI 180	None					26		
24	Ice Wind Load AZI 210	None					26		
25	Ice Wind Load AZI 240	None					26		
26	Ice Wind Load AZI 270	None					26		
27	Ice Wind Load AZI 300	None					26		
28	Ice Wind Load AZI 330	None					26		
29	Distr. Ice Wind Load Z	OL2						66	
30	Distr. Ice Wind Load X	OL3						66	
31	Seismic Load Z	ELZ			-0.298		13		
32	Seismic Load X	ELX	-0.298				13		
33	Service Live Loads	LL				1			
34	BLC 1 Transient Area Loads	None						9	
35	BLC 16 Transient Area Loads	None						9	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4DL	Yes	Y	1	1.4								
2	1.2DL + 1.6WL AZI 0	Yes	Y	1	1.2	2	1.6	14	1.6	15			
3	1.2DL + 1.6WL AZI 30	Yes	Y	1	1.2	3	1.6	14	1.386	15	0.8		
4	1.2DL + 1.6WL AZI 60	Yes	Y	1	1.2	4	1.6	14	0.8	15	1.386		
5	1.2DL + 1.6WL AZI 90	Yes	Y	1	1.2	5	1.6	14		15	1.6		
6	1.2DL + 1.6WL AZI 120	Yes	Y	1	1.2	6	1.6	14	-0.8	15	1.386		
7	1.2DL + 1.6WL AZI 150	Yes	Y	1	1.2	7	1.6	14	-1.386	15	0.8		
8	1.2DL + 1.6WL AZI 180	Yes	Y	1	1.2	8	1.6	14	-1.6	15			
9	1.2DL + 1.6WL AZI 210	Yes	Y	1	1.2	9	1.6	14	-1.386	15	-0.8		
10	1.2DL + 1.6WL AZI 240	Yes	Y	1	1.2	10	1.6	14	-0.8	15	-1.386		
11	1.2DL + 1.6WL AZI 270	Yes	Y	1	1.2	11	1.6	14		15	-1.6		
12	1.2DL + 1.6WL AZI 300	Yes	Y	1	1.2	12	1.6	14	0.8	15	-1.386		
13	1.2DL + 1.6WL AZI 330	Yes	Y	1	1.2	13	1.6	14	1.386	15	-0.8		
14	0.9DL + 1.6WL AZI 0	Yes	Y	1	0.9	2	1.6	14	1.6	15			
15	0.9DL + 1.6WL AZI 30	Yes	Y	1	0.9	3	1.6	14	1.386	15	0.8		
16	0.9DL + 1.6WL AZI 60	Yes	Y	1	0.9	4	1.6	14	0.8	15	1.386		
17	0.9DL + 1.6WL AZI 90	Yes	Y	1	0.9	5	1.6	14		15	1.6		
18	0.9DL + 1.6WL AZI 120	Yes	Y	1	0.9	6	1.6	14	-0.8	15	1.386		
19	0.9DL + 1.6WL AZI 150	Yes	Y	1	0.9	7	1.6	14	-1.386	15	0.8		
20	0.9DL + 1.6WL AZI 180	Yes	Y	1	0.9	8	1.6	14	-1.6	15			
21	0.9DL + 1.6WL AZI 210	Yes	Y	1	0.9	9	1.6	14	-1.386	15	-0.8		
22	0.9DL + 1.6WL AZI 240	Yes	Y	1	0.9	10	1.6	14	-0.8	15	-1.386		
23	0.9DL + 1.6WL AZI 270	Yes	Y	1	0.9	11	1.6	14		15	-1.6		
24	0.9DL + 1.6WL AZI 300	Yes	Y	1	0.9	12	1.6	14	0.8	15	-1.386		
25	0.9DL + 1.6WL AZI 330	Yes	Y	1	0.9	13	1.6	14	1.386	15	-0.8		
26	1.2D + 1.0Di	Yes	Y	1	1.2	16	1						
27	1.2D + 1.0Di +1.0Wi AZI 0	Yes	Y	1	1.2	16	1	17	1	29	1.6	30	
28	1.2D + 1.0Di +1.0Wi AZI 30	Yes	Y	1	1.2	16	1	18	1	29	1.386	30	0.8
29	1.2D + 1.0Di +1.0Wi AZI 60	Yes	Y	1	1.2	16	1	19	1	29	0.8	30	1.386
30	1.2D + 1.0Di +1.0Wi AZI 90	Yes	Y	1	1.2	16	1	20	1	29		30	1.6
31	1.2D + 1.0Di +1.0Wi AZI 120	Yes	Y	1	1.2	16	1	21	1	29	-0.8	30	1.386
32	1.2D + 1.0Di +1.0Wi AZI 150	Yes	Y	1	1.2	16	1	22	1	29	-1.386	30	0.8
33	1.2D + 1.0Di +1.0Wi AZI 180	Yes	Y	1	1.2	16	1	23	1	29	-1.6	30	
34	1.2D + 1.0Di +1.0Wi AZI 210	Yes	Y	1	1.2	16	1	24	1	29	-1.386	30	-0.8
35	1.2D + 1.0Di +1.0Wi AZI 240	Yes	Y	1	1.2	16	1	25	1	29	-0.8	30	-1.386
36	1.2D + 1.0Di +1.0Wi AZI 270	Yes	Y	1	1.2	16	1	26	1	29		30	-1.6
37	1.2D + 1.0Di +1.0Wi AZI 300	Yes	Y	1	1.2	16	1	27	1	29	0.8	30	-1.386
38	1.2D + 1.0Di +1.0Wi AZI 330	Yes	Y	1	1.2	16	1	28	1	29	1.386	30	-0.8
39	(1.2 + 0.2Sds)DL + 1.0E AZI 0	Yes	Y	1	1.24	31	1	32					

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
40	(1.2 + 0.2Sds)DL + 1.0E AZI 30	Yes	Y	1	1.24	31	0.866	32	0.5				
41	(1.2 + 0.2Sds)DL + 1.0E AZI 60	Yes	Y	1	1.24	31	0.5	32	0.866				
42	(1.2 + 0.2Sds)DL + 1.0E AZI 90	Yes	Y	1	1.24	31		32	1				
43	(1.2 + 0.2Sds)DL + 1.0E AZI 120	Yes	Y	1	1.24	31	-0.5	32	0.866				
44	(1.2 + 0.2Sds)DL + 1.0E AZI 150	Yes	Y	1	1.24	31	-0.866	32	0.5				
45	(1.2 + 0.2Sds)DL + 1.0E AZI 180	Yes	Y	1	1.24	31	-1	32					
46	(1.2 + 0.2Sds)DL + 1.0E AZI 210	Yes	Y	1	1.24	31	-0.866	32	-0.5				
47	(1.2 + 0.2Sds)DL + 1.0E AZI 240	Yes	Y	1	1.24	31	-0.5	32	-0.866				
48	(1.2 + 0.2Sds)DL + 1.0E AZI 270	Yes	Y	1	1.24	31		32	-1				
49	(1.2 + 0.2Sds)DL + 1.0E AZI 300	Yes	Y	1	1.24	31	0.5	32	-0.866				
50	(1.2 + 0.2Sds)DL + 1.0E AZI 330	Yes	Y	1	1.24	31	0.866	32	-0.5				
51	(0.9 - 0.2Sds)DL + 1.0E AZI 0	Yes	Y	1	0.86	31	1	32					
52	(0.9 - 0.2Sds)DL + 1.0E AZI 30	Yes	Y	1	0.86	31	0.866	32	0.5				
53	(0.9 - 0.2Sds)DL + 1.0E AZI 60	Yes	Y	1	0.86	31	0.5	32	0.866				
54	(0.9 - 0.2Sds)DL + 1.0E AZI 90	Yes	Y	1	0.86	31		32	1				
55	(0.9 - 0.2Sds)DL + 1.0E AZI 120	Yes	Y	1	0.86	31	-0.5	32	0.866				
56	(0.9 - 0.2Sds)DL + 1.0E AZI 150	Yes	Y	1	0.86	31	-0.866	32	0.5				
57	(0.9 - 0.2Sds)DL + 1.0E AZI 180	Yes	Y	1	0.86	31	-1	32					
58	(0.9 - 0.2Sds)DL + 1.0E AZI 210	Yes	Y	1	0.86	31	-0.866	32	-0.5				
59	(0.9 - 0.2Sds)DL + 1.0E AZI 240	Yes	Y	1	0.86	31	-0.5	32	-0.866				
60	(0.9 - 0.2Sds)DL + 1.0E AZI 270	Yes	Y	1	0.86	31		32	-1				
61	(0.9 - 0.2Sds)DL + 1.0E AZI 300	Yes	Y	1	0.86	31	0.5	32	-0.866				
62	(0.9 - 0.2Sds)DL + 1.0E AZI 330	Yes	Y	1	0.86	31	0.866	32	-0.5				
63	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 0	Yes	Y	1	1	2	0.383	14	0.383	15		33	1.5
64	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 30	Yes	Y	1	1	3	0.383	14	0.331	15	0.191	33	1.5
65	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 60	Yes	Y	1	1	4	0.383	14	0.191	15	0.331	33	1.5
66	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 90	Yes	Y	1	1	5	0.383	14		15	0.383	33	1.5
67	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 120	Yes	Y	1	1	6	0.383	14	-0.191	15	0.331	33	1.5
68	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 150	Yes	Y	1	1	7	0.383	14	-0.331	15	0.191	33	1.5
69	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 180	Yes	Y	1	1	8	0.383	14	-0.383	15		33	1.5
70	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 210	Yes	Y	1	1	9	0.383	14	-0.331	15	-0.191	33	1.5
71	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 240	Yes	Y	1	1	10	0.383	14	-0.191	15	-0.331	33	1.5
72	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 270	Yes	Y	1	1	11	0.383	14		15	-0.383	33	1.5
73	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 300	Yes	Y	1	1	12	0.383	14	0.191	15	-0.331	33	1.5
74	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 330	Yes	Y	1	1	13	0.383	14	0.331	15	-0.191	33	1.5

Load Combination Design

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
1	1.4DL		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	1.2DL + 1.6WL AZI 0		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	1.2DL + 1.6WL AZI 30		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	1.2DL + 1.6WL AZI 60		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	1.2DL + 1.6WL AZI 90		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	1.2DL + 1.6WL AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	1.2DL + 1.6WL AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	1.2DL + 1.6WL AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	1.2DL + 1.6WL AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	1.2DL + 1.6WL AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	1.2DL + 1.6WL AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	1.2DL + 1.6WL AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	1.2DL + 1.6WL AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	0.9DL + 1.6WL AZI 0		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15	0.9DL + 1.6WL AZI 30		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16	0.9DL + 1.6WL AZI 60		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17	0.9DL + 1.6WL AZI 90		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Load Combination Design (Continued)

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
18	0.9DL + 1.6WL AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19	0.9DL + 1.6WL AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
20	0.9DL + 1.6WL AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
21	0.9DL + 1.6WL AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
22	0.9DL + 1.6WL AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
23	0.9DL + 1.6WL AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24	0.9DL + 1.6WL AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
25	0.9DL + 1.6WL AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
26	1.2D + 1.0Di		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
27	1.2D + 1.0Di +1.0Wi AZI 0		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
28	1.2D + 1.0Di +1.0Wi AZI 30		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
29	1.2D + 1.0Di +1.0Wi AZI 60		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
30	1.2D + 1.0Di +1.0Wi AZI 90		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
31	1.2D + 1.0Di +1.0Wi AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
32	1.2D + 1.0Di +1.0Wi AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
33	1.2D + 1.0Di +1.0Wi AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
34	1.2D + 1.0Di +1.0Wi AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
35	1.2D + 1.0Di +1.0Wi AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
36	1.2D + 1.0Di +1.0Wi AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
37	1.2D + 1.0Di +1.0Wi AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
38	1.2D + 1.0Di +1.0Wi AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
39	(1.2 + 0.2Sds)DL + 1.0E AZI 0		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
40	(1.2 + 0.2Sds)DL + 1.0E AZI 30		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41	(1.2 + 0.2Sds)DL + 1.0E AZI 60		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
42	(1.2 + 0.2Sds)DL + 1.0E AZI 90		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
43	(1.2 + 0.2Sds)DL + 1.0E AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
44	(1.2 + 0.2Sds)DL + 1.0E AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
45	(1.2 + 0.2Sds)DL + 1.0E AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
46	(1.2 + 0.2Sds)DL + 1.0E AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
47	(1.2 + 0.2Sds)DL + 1.0E AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
48	(1.2 + 0.2Sds)DL + 1.0E AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
49	(1.2 + 0.2Sds)DL + 1.0E AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
50	(1.2 + 0.2Sds)DL + 1.0E AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
51	(0.9 - 0.2Sds)DL + 1.0E AZI 0		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
52	(0.9 - 0.2Sds)DL + 1.0E AZI 30		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
53	(0.9 - 0.2Sds)DL + 1.0E AZI 60		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
54	(0.9 - 0.2Sds)DL + 1.0E AZI 90		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
55	(0.9 - 0.2Sds)DL + 1.0E AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
56	(0.9 - 0.2Sds)DL + 1.0E AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
57	(0.9 - 0.2Sds)DL + 1.0E AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
58	(0.9 - 0.2Sds)DL + 1.0E AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
59	(0.9 - 0.2Sds)DL + 1.0E AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
60	(0.9 - 0.2Sds)DL + 1.0E AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
61	(0.9 - 0.2Sds)DL + 1.0E AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
62	(0.9 - 0.2Sds)DL + 1.0E AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
63	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 0		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
64	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 30		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
65	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 60		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
66	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 90		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
67	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 120		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
68	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 150		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
69	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 180		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
70	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 210		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
71	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 240		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
72	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 270		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Load Combination Design (Continued)

	Description	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
73	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 300		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
74	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 330		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N20	max	948.957	6	2701.643	35	1535.248	25	985.789	17	1962.027	19	5144.285	35
2		min	-944.734	24	-396.624	16	-1534.815	19	-3007.728	36	-1962.21	25	-1538.757	16
3	N11	max	973.761	16	2846.654	31	1576.24	15	965.561	23	2027.785	15	1500.86	24
4		min	-978.053	10	-375.722	24	-1575.733	21	-3148.706	30	-2027.518	21	-5405.84	31
5	N1	max	1827.653	17	2712.433	27	605.432	2	5981.232	27	2048.405	23	783.403	5
6		min	-1827.586	23	-422.956	20	-616.613	8	-1847.836	20	-2048.528	17	-780.561	11
7	Totals:	max	3434.013	5	7149.469	28	3528.962	2						
8		min	-3434.013	11	1565.193	58	-3528.961	20						

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
1	CA2	C3.38x2.06x0.25	0.403	33	31	0.061	4.813	y	37	47760.074	56700	2202.821	5751.945	1.632	H1-1b
2	S2	HSS4X4X4	0.403	0	32	0.106	0	z	9	133178.794	139518	16180.5	16180.5	2.063	H1-1b
3	CA4	C3.38x2.06x0.25	0.397	33	27	0.06	4.813	y	33	47760.074	56700	2202.821	5751.945	1.632	H1-1b
4	CA5	C3.38x2.06x0.25	0.397	0	35	0.06	28.188	y	29	47760.074	56700	2202.821	5751.945	1.632	H1-1b
5	CA3	C3.38x2.06x0.25	0.396	0	27	0.06	28.188	y	33	47760.074	56700	2202.821	5751.945	1.632	H1-1b
6	CA1	C3.38x2.06x0.25	0.396	0	31	0.06	28.188	y	37	47760.074	56700	2202.821	5751.945	1.632	H1-1b
7	CA6	C3.38x2.06x0.25	0.393	33	35	0.06	4.813	y	29	47760.074	56700	2202.821	5751.945	1.632	H1-1b
8	S3	HSS4X4X4	0.384	0	38	0.105	0	z	5	133178.794	139518	16180.5	16180.5	2.041	H1-1b
9	S1	HSS4X4X4	0.383	0	34	0.105	0	z	13	133178.794	139518	16180.5	16180.5	2.045	H1-1b
10	M75	PL 2.375X0.5	0.281	1.5	13	0.34	0	y	28	38256.871	38475	400.783	1903.711	2.199	H1-1b
11	CA8	L4X4X4	0.267	42	5	0.023	42	z	9	46987.225	62532	3137.597	6714.886	1.483	H2-1
12	CA7	L4X4X4	0.267	0	11	0.023	0	z	7	46987.225	62532	3137.597	6714.886	1.482	H2-1
13	CA9	L4X4X4	0.256	0	3	0.021	42	z	5	46987.225	62532	3137.597	6714.886	1.442	H2-1
14	P3	PL6.5x0.375	0.255	21	3	0.231	36.312	y	5	3658.14	78975	616.993	7842.548	1.395	H1-1b
15	GA2	L2x2x4	0.254	0	6	0.031	27.295	z	28	23539.001	30585.6	690.934	1576.849	1.5	H2-1
16	P2	PL6.5x0.375	0.254	21	7	0.237	5.687	y	3	3658.14	78975	616.993	7876.065	1.401	H1-1b
17	P1	PL6.5x0.375	0.253	21	9	0.237	36.312	y	13	3658.14	78975	616.993	7876.582	1.401	H1-1b
18	GA4	L2x2x4	0.253	0	2	0.031	27.295	z	36	23539.001	30585.6	690.934	1576.849	1.5	H2-1
19	GA5	L2x2x4	0.251	0	10	0.031	27.295	y	38	23539.001	30585.6	690.934	1576.849	1.5	H2-1
20	HR1	PIPE_2.5	0.25	60	8	0.049	16.25		6	22373.407	50715	3596.25	3596.25	1.666	H1-1b
21	GA3	L2x2x4	0.25	0	2	0.031	27.295	y	30	23539.001	30585.6	690.934	1576.849	1.5	H2-1
22	HR2	PIPE_2.5	0.246	60	4	0.05	103.75		6	22373.407	50715	3596.25	3596.25	1.683	H1-1b
23	HR3	PIPE_2.5	0.246	60	12	0.05	103.75		2	22373.407	50715	3596.25	3596.25	1.681	H1-1b
24	MP9	PIPE_2.5	0.238	68	9	0.027	68		9	30038.461	50715	3596.25	3596.25	2.305	H1-1b
25	MP4	PIPE_2.5	0.238	68	7	0.027	68		7	30038.461	50715	3596.25	3596.25	2.301	H1-1b
26	MP6	PIPE_2.5	0.237	68	13	0.027	68		13	30038.461	50715	3596.25	3596.25	3	H1-1b
27	MP7	PIPE_2.5	0.237	68	3	0.027	68		3	30038.461	50715	3596.25	3596.25	3	H1-1b
28	GA1	L2x2x4	0.237	0	6	0.031	27.295	y	34	23539.001	30585.6	690.934	1576.849	1.5	H2-1
29	GA6	L2x2x4	0.237	0	10	0.031	27.295	z	32	23539.001	30585.6	690.934	1576.849	1.5	H2-1
30	MP5	PIPE_2.5	0.236	68	7	0.033	68		7	30038.461	50715	3596.25	3596.25	3	H1-1b
31	MP8	PIPE_2.5	0.236	68	3	0.033	68		9	30038.461	50715	3596.25	3596.25	3	H1-1b
32	MP1	PIPE_2.5	0.232	68	11	0.027	68		11	30038.461	50715	3596.25	3596.25	3	H1-1b
33	MP3	PIPE_2.5	0.232	68	5	0.027	68		5	30038.461	50715	3596.25	3596.25	3	H1-1b
34	MP2	PIPE_2.5	0.23	68	5	0.032	68		5	30038.461	50715	3596.25	3596.25	3	H1-1b
35	H3	PIPE_3.0	0.149	65	10	0.104	64		3	46290.523	65205	5748.75	5748.75	1.646	H1-1b
36	H2	PIPE_3.0	0.149	65	2	0.105	32		13	46290.523	65205	5748.75	5748.75	1.656	H1-1b
37	H1	PIPE_3.0	0.138	31	10	0.101	32		5	46290.523	65205	5748.75	5748.75	1.662	H1-1b

INFINIGY

FROM ZERO TO INFINIGY

the solutions are endless

Bolt Calculation Tool, V1.5.1

PROJECT DATA	
Site Name:	BOHNV00033A
Site Number:	n/a
Connection Description:	Platform to Collar

MAXIMUM BOLT LOADS		
Bolt Tension:	6559.33	lbs
Bolt Shear:	1038.66	lbs

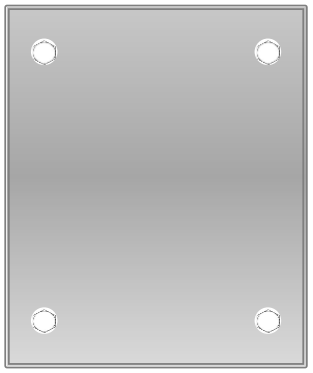
WORST CASE BOLT LOADS[1]		
Bolt Tension:	6559.33	lbs
Bolt Shear:	782.59	lbs

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

[1] *Worst case bolt loads correspond to Load combination #32 on member S2 in RISA-3D, which causes the maximum demand on the bolts.*

Member Information
I nodes of S3, S2, S1

BOLT CHECK		
Tensile Strength	20340.15	
Shear Strength	13805.83	
Max Tensile Usage	32.2%	
Max Shear Usage	7.5%	
Interaction Check (Worst Case)	0.11	***≤1.05***
Result	Pass	

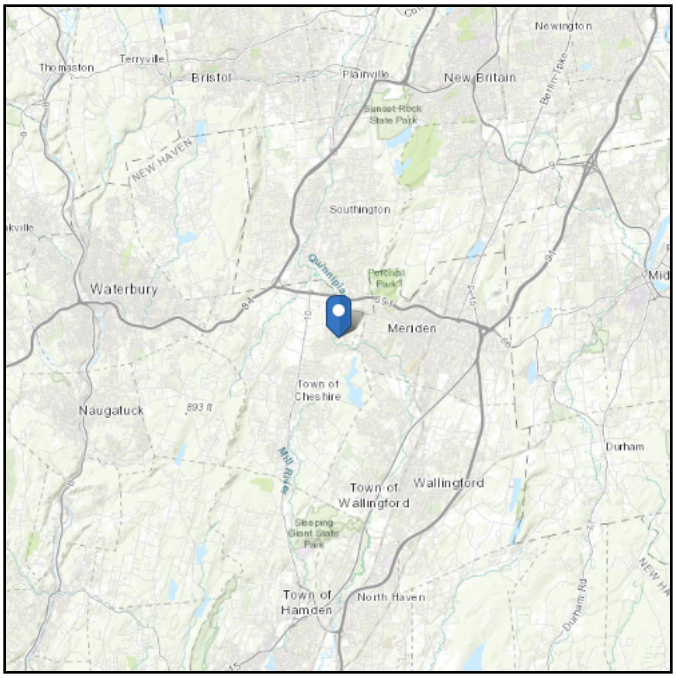


ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 113.74 ft (NAVD 88)
Latitude: 41.532593
Longitude: -72.870489



Wind

Results:

Per Appendix N Municipality in the 2018 Connecticut State Building Code

Wind Speed	125 Vmph
10-year MRI	77 Vmph
25-year MRI	87 Vmph
50-year MRI	93 Vmph
100-year MRI	100 Vmph

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Date Accessed: Tue Feb 08 2022

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 7-10 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 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

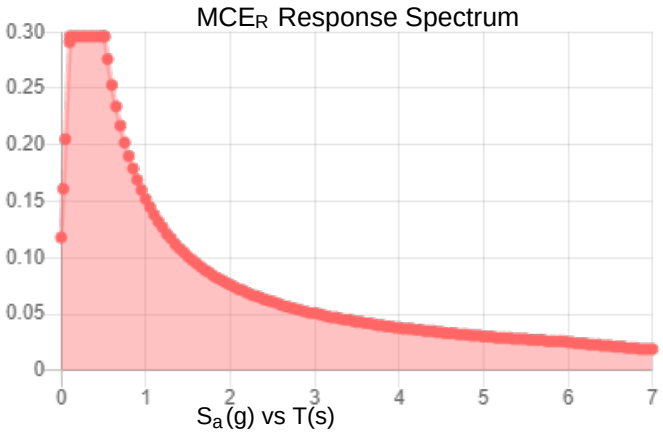
Seismic

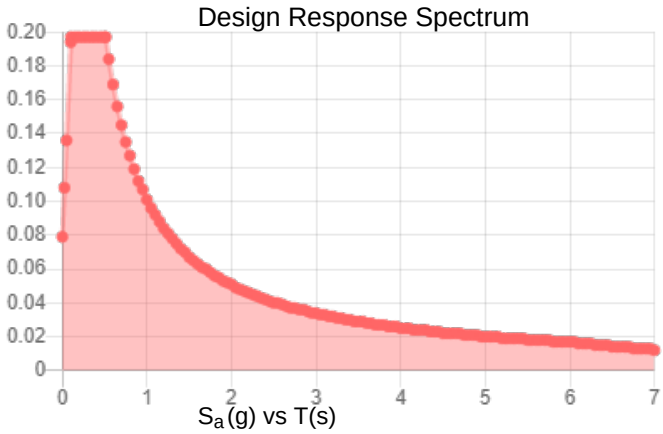
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.186	S_{DS} :	0.197
S_1 :	0.063	S_{D1} :	0.101
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.095
S_{MS} :	0.296	PGA_M :	0.152
S_{M1} :	0.152	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Tue Feb 08 2022

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Tue Feb 08 2022

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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

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AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by

CLS ENGINEERING PLLC

Structural Analysis Report

Structure	:	**170 ft Monopole**
ATC Site Name	:	**Cheshire,CT**
ATC Site Number	:	**208478**
Engineering Number	:	**13733449_C3_04**
Proposed Carrier	:	**DISH WIRELESS L.L.C.**
Carrier Site Name	:	**BOHVN00033A**
Carrier Site Number	:	**BOHVN00033A**
Site Location	:	**1325 Cheshire Street** **Cheshire, CT 06410** **41.5326, -72.8705**
County	:	**New Haven**
Date	:	**December 20, 2021**
Max Usage	:	**46%**
Result	:	**Pass**

Prepared By:

Temitope Olaniyan
CLS

Reviewed By:

STATE OF CONNECTICUT
TYLER M BARKER
No. 32402
LICENSED
PROFESSIONAL ENGINEER

Tyler M. Barker
CLS Engineering PLLC
PE # 32402 Exp. 1/31/2022
COA # PEC.001833 Exp. 8/14/2022
12/21/2021

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 170 ft Monopole to reflect the change in loading by DISH WIRELESS L.L.C..

Supporting Documents

Tower Drawings	Ambor Structures Job #C15019001, dated September 21, 2015
Foundation Drawing	Bennett & Pless Job #15700064, dated August 24, 2015
Geotechnical Report	Terracon Project #J2145102, dated March 18, 2014
Modifications	CENTEK engineering Project #21085.03, dated July 21, 2021

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:	118 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.00" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Spectral Response:	Ss = 0.20, S_1 = 0.06
Site Class:	D - Stiff Soil - Default

Conclusion

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

If you have any questions or require additional information, please contact 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
181.2	2	dbSpectra DS1F03F36D-N	Stand-Off	-	CITY OF CHESHIRE, CT
170.0	2	RFS SC3-W100AC	Stand-Off	(4) 7/8" Coax (2) E105	
159.3	1	Raycap DC6-48-60-18-8C-EV	Sector Frame	(1) 0.51" (13mm) Hybrid (1) 0.96" (24.3mm) Cable (2) 2" conduit	AT&T MOBILITY
155.0	3	Ericsson RRUS 4449 B5, B12			
	6	Ericsson RRU22			
	3	Ericsson RRUS 12			
	3	Ericsson 8843			
	1	Raycap DC9-48-60-24-8C-EV			
	3	CCI DMP65R-BU8D			
	3	CCI TPA65R-BU8D			
	3	Ericsson 4478 Band 14 (15" Height)			
	3	Ericsson RRUS 4415 B30			
	6	Ericsson RRUS A2			
	6	CCI HPA-65R-BUU-H8			
145.0	6	Samsung B5/B13 RRH-BR04C	Sector Frame	(2) 1.25" (31.8mm) Hybrid	VERIZON WIRELESS
	1	RFS DB-C1-12C-24AB-0Z			
	6	JMA Wireless MX10FIT665-xx			
	3	Samsung RT4401-48A			
134.0	3	Ericsson Radio 4460 B25+B66	Triangular Platform with Handrails	(3) 1.99" (50.7mm) Hybrid	T-MOBILE
	3	Ericsson Radio 4480 B71+B85A			
	3	Ericsson Air6449 B41			
	3	RFS APXVAALL24 43-U-NA20			

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
124.0	1	Raycap RDIDC-9181-PF-48	Triangular Platform with Handrails	(1) 1.60" (40.6mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B605			
	3	Fujitsu TA08025-B604			
	3	JMA Wireless MX08FRO665-21			

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

Install proposed lines inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	46%	Pass
Shaft	41%	Pass
Base Plate	21%	Pass

Foundation

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	4986.8	45%
Axial (Kips)	80.5	27%
Shear (Kips)	43.0	42%

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 and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
170.0	RFS SC3-W100AC	CITY OF CHESHIRE, CT	1.070	0.650
124.0	JMA Wireless MX08FRO665-21	DISH WIRELESS L.L.C.	0.572	0.550
	Fujitsu TA08025-B604			
	Raycap RDIDC-9181-PF-48			
	Fujitsu TA08025-B605			

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

Standard Conditions

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

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

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

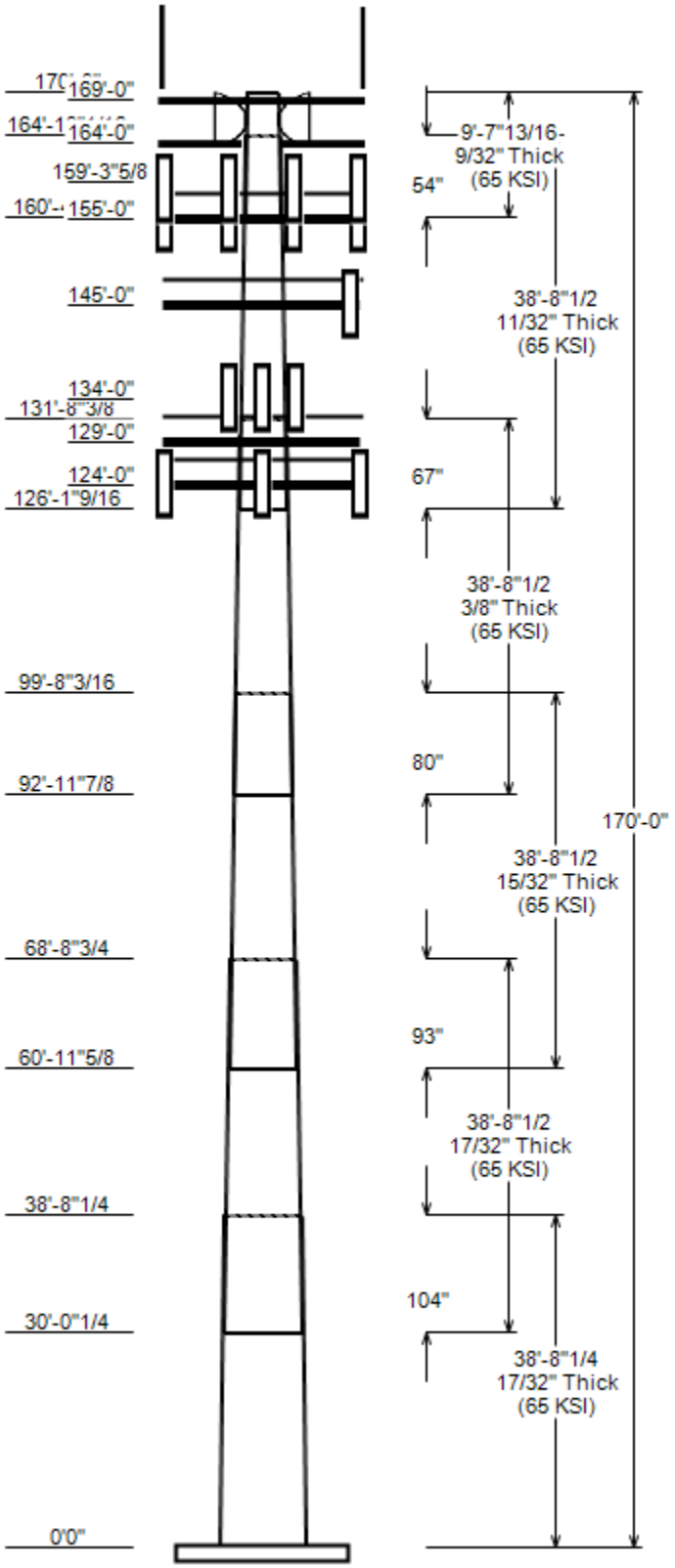
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with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

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

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

JOB INFORMATION

Asset :	208478, Cheshire	Height :	170 ft
Client :	DISH WIRELESS L.L.C.	Base Width :	73.69
Code :	ANSI/TIA-222-H	Shape :	18 Sides



SITE PARAMETERS

Base Elev (ft):	0.00	Structure Class:	II
Taper :	0.29800 (In/ft)	Exposure :	C
Topographic Category :	1	Topographic Feature:	
Topo Method :	Method 1		

SECTION PROPERTIES

Shaft Section	Length (ft)	Diameter (in) Across Flats Top	Diameter (in) Across Flats Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	38.690	62.17	73.69	0.531		0.000	18 Sides	65
2	38.710	54.30	65.82	0.531	Slip Joint	104.030	18 Sides	65
3	38.710	46.02	57.54	0.469	Slip Joint	93.130	18 Sides	65
4	38.710	37.24	48.76	0.375	Slip Joint	80.280	18 Sides	65
5	38.710	28.06	39.58	0.344	Slip Joint	66.840	18 Sides	65
6	9.650	27.09	29.96	0.281	Slip Joint	53.880	18 Sides	65

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
170.0	181.0	2	dbSpectra DS1F03F36D-N
170.0	167.5	2	RFS SC3-W100AC
169.0	169.0	4	Generic Flat Stand-Off
164.0	164.0	2	Generic Flat Stand-Off
159.3	159.3	1	Raycap DC6-48-60-18-8C-EV
155.0	155.0	6	Ericsson RRUS A2
155.0	155.0	3	Ericsson RRUS 4415 B30
155.0	155.0	3	Ericsson 4478 Band 14 (15" Hei
155.0	155.0	3	Ericsson RRUS 4449 B5, B12
155.0	155.0	6	Ericsson RRU22
155.0	155.6	3	Ericsson RRUS 12
155.0	155.0	3	Ericsson 8843
155.0	155.0	1	Raycap DC9-48-60-24-8C-EV
155.0	155.0	6	CCI HPA-65R-BUU-H8
155.0	155.0	3	Generic Round Sector Frame
155.0	155.0	3	CCI DMP65R-BU8D
155.0	156.9	3	CCI TPA65R-BU8D
145.0	145.0	3	Samsung RT4401-48A
145.0	145.0	6	Samsung B5/B13 RRH-BR04C
145.0	145.0	1	RFS DB-C1-12C-24AB-0Z
145.0	145.0	6	JMA Wireless MX10FIT665-xx
145.0	145.0	3	Generic Flat Light Sector Fram
134.0	134.0	3	Ericsson Radio 4460 B25+B66
134.0	134.0	3	Ericsson Radio 4480 B71+B85A
134.0	134.0	3	Ericsson Air6449 B41
134.0	134.0	3	RFS APXVAALL24 43-U-NA20
129.0	129.0	1	Generic Flat Platform with Han
124.0	124.0	1	Raycap RDIDC-9181-PF-48
124.0	124.0	3	Fujitsu TA08025-B604
124.0	124.0	3	Fujitsu TA08025-B605
124.0	124.0	3	JMA Wireless MX08FRO665-21
124.0	124.0	1	Generic Round Platform with Ha

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	170.0	E105	No
0.0	170.0	7/8" Coax	No
0.0	155.0	2" conduit	No
0.0	155.0	0.96" (24.3mm) Cable	No
0.0	155.0	0.51" (13mm) Hybrid	No

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JOB INFORMATION

Asset :	208478, Cheshire	Height :	170 ft
Client :	DISH WIRELESS L.L.C.	Base Width :	73.69
Code :	ANSI/TIA-222-H	Shape :	18 Sides

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	145.0	1.25" (31.8mm) Hybrid	No
0.0	134.0	1.99" (50.7mm) Hybrid	No
0.0	124.0	1.60" (40.6mm) Hybrid	No

LOAD CASES

1.2D + 1.0W	118 mph wind with no ice
0.9D + 1.0W	118 mph wind with no ice
1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

REACTIONS

Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0W	4986.82	43.04	80.49
0.9D + 1.0W	4956.31	43.03	60.36
1.2D + 1.0Di + 1.0Wi	1326.96	11.76	100.92
1.2D + 1.0Ev + 1.0Eh	276.80	2.24	80.68
0.9D - 1.0Ev + 1.0Eh	274.76	2.23	55.66
1.0D + 1.0W	1149.20	9.95	67.10

DISH DEFLECTIONS

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	170.00	12.842	0.652

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ANALYSIS PARAMETERS

Location:	New Haven County,CT	**Height:**	170 ft
Type and Shape:	Taper, 18 Sides	**Base Diameter:**	73.69 in
Manufacturer:	Undetermined	**Top Diameter:**	27.09 in
K_d (non-service):	0.95	**Taper:**	0.2980 in/ft
K_e:	1.00	**Rotation:**	0.000°

ICE & WIND PARAMETERS

Exposure Category:	C	**Design Wind Speed w/o Ice:**	118 mph
Risk Category:	II	**Design Wind Speed w/Ice:**	50 mph
Topo Factor Procedure:	Method 1	**Operational Wind Speed:**	60 mph
Topographic Category:	1	**Design Ice Thickness:**	1.00 in
Crest Height:	0 ft	**HMSL:**	116.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil			**Period Based on Rayleigh Method (sec):**	1.76
T_L (sec):	6	**P:**	1	**C_s:**	0.033
S_s:	0.200	**S_1:**	0.055	**C_s Max:**	0.033
F_a:	1.600	**F_v:**	2.400	**C_s Min:**	0.030
S_{ds}:	0.213	**S_{d1}:**	0.088		

LOAD CASES

1.2D + 1.0W	118 mph wind with no ice
0.9D + 1.0W	118 mph wind with no ice
1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

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SHAFT SECTION PROPERTIES

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (in)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	38.69	0.5313	65		0.00	14,962	73.69	0.000	123.3 7	83,422.3	22.69	138.70	62.17	38.69	103.95	49,903.5	18.87	117.02	0.2976
2-18	38.71	0.5313	65	Slip	104.03	13,220	65.82	30.020	110.0 9	59,284.2	20.08	123.88	54.30	68.73	90.66	33,109.7	16.26	102.19	0.2976
3-18	38.71	0.4688	65	Slip	93.13	10,056	57.54	60.970	84.92	34,949.6	19.88	122.74	46.02	99.68	67.78	17,768.5	15.55	98.17	0.2976
4-18	38.71	0.3750	65	Slip	80.28	6,683	48.76	92.990	57.59	17,035.7	21.16	130.03	37.24	131.70	43.88	7,533.9	15.75	99.31	0.2976
5-18	38.71	0.3438	65	Slip	66.84	4,812	39.58	126.13 0	42.82	8,331.0	18.54	115.14	28.06	164.84	30.25	2,936.5	12.63	81.63	0.2976
6-18	9.65	0.2813	65	Slip	53.88	828	29.96	160.35 0	26.50	2,949.6	17.02	106.51	27.09	170.00	23.94	2,173.5	15.22	96.30	0.2976

Shaft Weight 50,561

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
170.00	dbSpectra DS1F03F36D-N	2	1.00	11.000	71.00	6.750	1.00	185.26	12.127	1.00
170.00	RFS SC3-W100AC	2	1.00	-2.500	40.00	10.737	1.00	187.52	12.032	1.00
169.00	Generic Flat Stand-Off	4	1.00	0.000	187.50	6.300	0.67	277.47	8.404	0.67
164.00	Generic Flat Stand-Off	2	1.00	0.000	187.50	6.300	0.90	277.20	8.398	0.90
159.30	Raycap DC6-48-60-18-8C-EV	1	0.80	0.000	16.00	4.788	0.50	102.67	5.775	0.50
155.00	Ericsson RRUS A2	6	0.80	0.000	15.00	1.600	0.50	39.29	2.159	0.50
155.00	CCI TPA65R-BU8D	3	0.80	1.900	82.50	18.089	0.63	313.21	20.560	0.63
155.00	CCI DMP65R-BU8D	3	0.80	0.000	95.70	17.871	0.63	323.13	20.337	0.63
155.00	Generic Round Sector Frame	3	0.75	0.000	300.00	14.400	0.75	546.13	25.476	0.75
155.00	CCI HPA-65R-BUU-H8	6	0.80	0.000	68.00	12.976	0.67	239.93	15.371	0.67
155.00	Raycap DC9-48-60-24-8C-EV	1	0.80	0.000	16.00	4.788	0.50	102.39	5.772	0.50
155.00	Ericsson 8843	3	0.80	0.000	85.00	3.500	0.50	153.27	4.355	0.50
155.00	Ericsson RRUS 12	3	0.80	0.600	50.00	3.145	0.50	104.12	3.921	0.50
155.00	Ericsson RRU22	6	0.80	0.000	52.90	2.222	0.50	93.56	2.890	0.50
155.00	Ericsson RRUS 4449 B5, B12	3	0.80	0.000	71.00	1.969	0.50	114.13	2.593	0.50
155.00	Ericsson 4478 Band 14 (15" Hei	3	0.80	0.000	59.90	1.842	0.50	96.90	2.442	0.50
155.00	Ericsson RRUS 4415 B30	3	0.80	0.000	46.00	1.842	0.50	78.81	2.442	0.50
145.00	Samsung RT4401-48A	3	0.80	0.000	18.60	0.996	0.50	36.55	1.451	0.50
145.00	Samsung B5/B13 RRH-BR04C	6	0.80	0.000	70.30	1.875	0.50	108.32	2.475	0.50
145.00	RFS DB-C1-12C-24AB-0Z	1	0.80	0.000	32.00	4.056	1.00	116.47	4.963	1.00
145.00	JMA Wireless MX10FIT665-xx	6	0.80	0.000	53.40	8.092	0.69	171.93	9.913	0.69
145.00	Generic Flat Light Sector Fram	3	0.75	0.000	400.00	17.900	0.75	600.02	27.928	0.75
134.00	Ericsson Radio 4460 B25+B66	3	0.75	0.000	109.00	2.564	0.50	167.33	3.260	0.50
134.00	Ericsson Radio 4480 B71+B85A	3	0.75	0.000	84.00	2.852	0.50	133.86	3.589	0.50
134.00	Ericsson Air6449 B41	3	0.75	0.000	104.00	5.682	0.63	193.94	6.730	0.63
134.00	RFS APXVAALL24 43-U-NA20	3	0.75	0.000	122.80	20.243	0.63	379.86	22.691	0.63
129.00	Generic Flat Platform with Han	1	1.00	0.000	2500.00	42.400	1.00	3667.67	56.185	1.00
124.00	Fujitsu TA08025-B605	3	0.75	0.000	75.00	1.962	0.50	115.99	2.564	0.50
124.00	Raycap RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	0.50	59.14	2.456	0.50
124.00	JMA Wireless MX08FRO665-21	3	0.75	0.000	64.50	12.489	0.64	232.69	14.328	0.64
124.00	Fujitsu TA08025-B604	3	0.75	0.000	63.90	1.962	0.50	102.06	2.564	0.50
124.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	3559.91	43.196	1.00
Totals	Num Loadings: 32	97			13,486.20			25,012.27		

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg) : 0.00

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax/ Row	Dist Between Rows(in)	Dist Between Cols(in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	170.00	4	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	CITY OF CHESH
0.00	170.00	2	E105	1.3	0.4	N	0	0	0	0	0	N	CITY OF CHESH
0.00	155.00	2	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	155.00	1	0.51" (13mm) Hybrid	0.51	0.14	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	155.00	1	0.96" (24.3mm) Cable	0.96	0.88	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	145.00	2	1.25" (31.8mm) Hybrid	1.25	1.21	N	0	0	0	0	0	N	VERIZON WIREL
0.00	134.00	3	1.99" (50.7mm) Hybrid	1.99	1.9	N	0	0	0	0	0	N	T-MOBILE

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Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax/ Row	Dist Between Rows(in)	Dist Between Cols(in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	124.00	1	1.60" (40.6mm) Hybrid	1.6	2.34	N	0	0	0	0	0	N	DISH WIRELESS

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SEGMENT PROPERTIES

(Max Len: 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.5313	73.690	123.366	83,422.30	22.69	138.70	74.7	2229.7	0.0	0.0
5.00		0.5313	72.202	120.857	78,434.10	22.20	135.90	75.3	2139.6	0.0	2,077.6
10.00		0.5313	70.714	118.347	73,648.80	21.71	133.10	75.9	2051.4	0.0	2,034.9
15.00		0.5313	69.225	115.838	69,062.30	21.21	130.29	76.5	1965.0	0.0	1,992.2
20.00		0.5313	67.737	113.328	64,670.20	20.72	127.49	77	1880.4	0.0	1,949.5
25.00		0.5313	66.249	110.819	60,468.40	20.22	124.69	77.6	1797.8	0.0	1,906.8
30.00		0.5313	64.761	108.309	56,452.60	19.73	121.89	78.2	1716.9	0.0	1,864.1
30.02	Bot - Section 2	0.5313	64.754	108.299	56,436.30	19.73	121.88	78.2	1716.6	0.0	7.7
35.00		0.5313	63.272	105.799	52,618.70	19.24	119.09	78.8	1638.0	0.0	3,657.8
38.69	Top - Section 1	0.5313	63.237	105.739	52,528.90	19.22	119.02	78.8	1636.1	0.0	2,656.1
40.00		0.5313	62.847	105.082	51,555.10	19.09	118.29	78.9	1615.7	0.0	469.9
45.00		0.5313	61.359	102.572	47,948.80	18.60	115.49	79.5	1539.2	0.0	1,766.5
50.00		0.5313	59.870	100.062	44,514.80	18.11	112.69	80.1	1464.5	0.0	1,723.8
55.00		0.5313	58.382	97.553	41,248.80	17.61	109.89	80.7	1391.6	0.0	1,681.1
60.00		0.5313	56.894	95.043	38,146.60	17.12	107.08	81.3	1320.6	0.0	1,638.4
60.97	Bot - Section 3	0.5313	56.605	94.556	37,563.10	17.02	106.54	81.4	1307.0	0.0	313.0
65.00		0.5313	55.406	92.534	35,203.90	16.62	104.28	81.8	1251.5	0.0	2,434.9
68.73	Top - Section 2	0.4688	55.233	81.484	30,875.60	19.01	117.82	79	1101.0	0.0	2,207.8
70.00		0.4688	54.855	80.922	30,241.10	18.87	117.01	79.2	1085.8	0.0	350.7
75.00		0.4688	53.367	78.708	27,825.80	18.31	113.84	79.9	1027.0	0.0	1,358.0
80.00		0.4688	51.879	76.493	25,542.70	17.75	110.66	80.5	969.8	0.0	1,320.3
85.00		0.4688	50.390	74.279	23,388.10	17.19	107.49	81.2	914.2	0.0	1,282.6
90.00		0.4688	48.902	72.065	21,358.10	16.63	104.31	81.8	860.2	0.0	1,244.9
92.99	Bot - Section 4	0.4688	48.012	70.740	20,202.10	16.30	102.41	82.2	828.8	0.0	726.6
95.00		0.4688	47.414	69.850	19,449.10	16.07	101.14	82.5	807.9	0.0	872.1
99.68	Top - Section 3	0.3750	46.771	55.220	15,017.90	20.23	124.72	77.6	632.4	0.0	1,988.6
100.00		0.3750	46.676	55.107	14,925.70	20.18	124.47	77.7	629.8	0.0	60.0
105.00		0.3750	45.187	53.336	13,532.20	19.48	120.50	78.5	589.8	0.0	922.5
110.00		0.3750	43.699	51.565	12,228.30	18.78	116.53	79.3	551.2	0.0	892.4
115.00		0.3750	42.211	49.793	11,010.90	18.08	112.56	80.1	513.8	0.0	862.2
120.00		0.3750	40.723	48.022	9,877.10	17.38	108.59	81	477.7	0.0	832.1
124.00		0.3750	39.532	46.605	9,028.30	16.82	105.42	81.6	449.8	0.0	644.0
125.00		0.3750	39.234	46.251	8,824.00	16.68	104.63	81.8	443.0	0.0	158.0
126.13	Bot - Section 5	0.3750	38.898	45.850	8,596.80	16.53	103.73	82	435.3	0.0	177.1
129.00		0.3750	38.044	44.834	8,037.50	16.13	101.45	82.4	416.1	0.0	856.4
130.00		0.3750	37.746	44.479	7,848.50	15.99	100.66	82.6	409.5	0.0	293.9
131.70	Top - Section 4	0.3438	37.928	41.011	7,319.10	17.69	110.32	80.6	380.1	0.0	494.5
134.00		0.3438	37.243	40.264	6,926.40	17.34	108.33	81	366.3	0.0	318.0
135.00		0.3438	36.946	39.939	6,760.10	17.19	107.46	81.2	360.4	0.0	136.5
140.00		0.3438	35.457	38.315	5,968.60	16.42	103.13	82.1	331.6	0.0	665.7
145.00		0.3438	33.969	36.691	5,241.40	15.66	98.80	82.6	303.9	0.0	638.1
150.00		0.3438	32.481	35.067	4,575.80	14.90	94.48	82.6	277.5	0.0	610.4
155.00		0.3438	30.993	33.443	3,969.10	14.13	90.15	82.6	252.2	0.0	582.8
159.30		0.3438	29.713	32.047	3,492.30	13.48	86.42	82.6	231.5	0.0	479.1
160.00		0.3438	29.504	31.820	3,418.50	13.37	85.82	82.6	228.2	0.0	76.1
160.35	Bot - Section 6	0.3438	29.400	31.706	3,382.00	13.32	85.52	82.6	226.6	0.0	37.9
164.00		0.3438	28.314	30.520	3,016.70	12.76	82.36	82.6	209.9	0.0	709.4
164.84	Top - Section 5	0.2813	28.626	25.307	2,568.90	16.18	101.76	82.4	176.8	0.0	159.5
165.00		0.2813	28.579	25.264	2,556.00	16.15	101.60	82.4	176.2	0.0	13.8
169.00		0.2813	27.388	24.201	2,246.70	15.40	97.36	82.6	161.6	0.0	336.6
170.00		0.2813	27.091	23.936	2,173.50	15.22	96.30	82.6	158.0	0.0	81.9
									Totals:		50,564.8

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Load Case: 1.2D + 1.0W 118 mph wind with no ice 22 Iterations
Gust Response Factor: 1.10
Dead load Factor: 1.20
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-80.49	-43.04	0.00	-4,986.8	0.00	4,986.82	8,295.02	2,165.08	14,306.35	12,493.79	0	0	0.409
5.00	-77.81	-42.45	0.00	-4,771.6	0.00	4,771.61	8,189.47	2,121.04	13,730.28	12,082.08	0.05	-0.08	0.405
10.00	-75.19	-41.87	0.00	-4,559.4	0.00	4,559.36	8,081.29	2,076.99	13,166.04	11,673.09	0.18	-0.17	0.400
15.00	-72.61	-41.28	0.00	-4,350.0	0.00	4,350.02	7,970.49	2,032.95	12,613.65	11,267.07	0.4	-0.25	0.396
20.00	-70.09	-40.68	0.00	-4,143.6	0.00	4,143.60	7,857.06	1,988.91	12,073.09	10,864.26	0.71	-0.34	0.391
25.00	-67.62	-40.05	0.00	-3,940.2	0.00	3,940.20	7,741.01	1,944.87	11,544.37	10,464.90	1.12	-0.43	0.386
30.00	-65.23	-39.72	0.00	-3,739.9	0.00	3,739.94	7,622.33	1,900.82	11,027.49	10,069.24	1.62	-0.52	0.380
30.02	-65.19	-39.40	0.00	-3,739.1	0.00	3,739.11	7,621.83	1,900.64	11,025.36	10,067.60	1.62	-0.52	0.380
35.00	-60.63	-38.79	0.00	-3,542.9	0.00	3,542.92	7,501.03	1,856.78	10,522.45	9,677.52	2.22	-0.61	0.375
38.69	-57.32	-38.43	0.00	-3,399.8	0.00	3,399.77	7,498.09	1,855.72	10,510.47	9,668.17	2.72	-0.68	0.360
40.00	-56.69	-38.01	0.00	-3,349.4	0.00	3,349.43	7,465.86	1,844.18	10,380.18	9,566.25	2.91	-0.71	0.358
45.00	-54.40	-37.31	0.00	-3,159.4	0.00	3,159.40	7,341.18	1,800.14	9,890.36	9,179.95	3.7	-0.8	0.352
50.00	-52.15	-36.61	0.00	-2,972.9	0.00	2,972.86	7,213.88	1,756.10	9,412.38	8,798.15	4.58	-0.89	0.346
55.00	-49.97	-35.91	0.00	-2,789.8	0.00	2,789.80	7,083.96	1,712.05	8,946.23	8,421.09	5.56	-0.98	0.339
60.00	-47.85	-35.48	0.00	-2,610.2	0.00	2,610.25	6,951.42	1,668.01	8,491.93	8,049.01	6.64	-1.07	0.332
60.97	-47.43	-35.13	0.00	-2,575.8	0.00	2,575.82	6,925.39	1,659.46	8,405.13	7,977.39	6.86	-1.09	0.330
65.00	-44.37	-34.55	0.00	-2,434.2	0.00	2,434.25	6,816.24	1,623.97	8,049.46	7,682.15	7.81	-1.17	0.324
68.73	-41.61	-34.16	0.00	-2,305.3	0.00	2,305.34	5,796.47	1,430.05	7,073.77	6,526.94	8.75	-1.24	0.361
70.00	-41.13	-33.74	0.00	-2,262.0	0.00	2,261.98	5,768.66	1,420.18	6,976.53	6,450.44	9.09	-1.26	0.358
75.00	-39.33	-33.04	0.00	-2,093.3	0.00	2,093.31	5,657.44	1,381.32	6,599.99	6,151.49	10.47	-1.37	0.348
80.00	-37.58	-32.35	0.00	-1,928.1	0.00	1,928.12	5,543.60	1,342.46	6,233.89	5,856.63	11.95	-1.47	0.337
85.00	-35.88	-31.66	0.00	-1,766.4	0.00	1,766.39	5,427.13	1,303.60	5,878.24	5,566.11	13.55	-1.57	0.325
90.00	-34.23	-31.11	0.00	-1,608.1	0.00	1,608.10	5,308.04	1,264.74	5,533.04	5,280.17	15.25	-1.68	0.312
92.99	-33.27	-30.76	0.00	-1,515.1	0.00	1,515.07	5,235.56	1,241.49	5,331.57	5,111.44	16.32	-1.74	0.303
95.00	-32.15	-30.31	0.00	-1,453.2	0.00	1,453.25	5,186.33	1,225.87	5,198.28	4,999.05	17.06	-1.78	0.298
99.68	-29.63	-29.91	0.00	-1,311.4	0.00	1,311.39	3,857.01	969.12	4,061.20	3,681.17	18.86	-1.87	0.365
100.00	-29.53	-29.59	0.00	-1,301.8	0.00	1,301.84	3,851.71	967.13	4,044.57	3,668.51	18.98	-1.88	0.363
105.00	-28.26	-28.94	0.00	-1,153.9	0.00	1,153.90	3,767.41	936.05	3,788.77	3,471.96	21.01	-2	0.341
110.00	-27.04	-28.30	0.00	-1,009.2	0.00	1,009.20	3,680.49	904.96	3,541.33	3,278.28	23.17	-2.11	0.316
115.00	-25.85	-27.68	0.00	-867.7	0.00	867.68	3,590.95	873.87	3,302.24	3,087.70	25.44	-2.22	0.289
120.00	-24.70	-27.12	0.00	-729.3	0.00	729.28	3,498.78	842.79	3,071.51	2,900.48	27.82	-2.32	0.260
124.00	-20.17	-24.17	0.00	-620.8	0.00	620.80	3,423.15	817.92	2,892.94	2,753.28	29.8	-2.4	0.232
125.00	-19.96	-24.05	0.00	-596.6	0.00	596.63	3,403.98	811.70	2,849.13	2,716.85	30.31	-2.42	0.226
126.13	-19.71	-23.81	0.00	-569.5	0.00	569.46	3,382.19	804.67	2,800.03	2,675.87	30.89	-2.44	0.220
129.00	-15.71	-21.31	0.00	-501.1	0.00	501.12	3,326.26	786.83	2,677.25	2,572.70	32.37	-2.49	0.200
130.00	-15.34	-21.15	0.00	-479.8	0.00	479.81	3,304.60	780.61	2,635.11	2,535.56	32.89	-2.51	0.195
131.70	-14.71	-20.89	0.00	-443.8	0.00	443.85	2,974.75	719.74	2,443.38	2,297.47	33.79	-2.54	0.199
134.00	-12.86	-18.49	0.00	-395.8	0.00	395.81	2,935.54	706.63	2,355.21	2,225.52	35.02	-2.57	0.183
135.00	-12.68	-18.15	0.00	-377.3	0.00	377.32	2,918.31	700.93	2,317.37	2,194.45	35.57	-2.59	0.177
140.00	-11.81	-17.57	0.00	-286.6	0.00	286.57	2,830.61	672.43	2,132.78	2,041.16	38.32	-2.66	0.145
145.00	-8.71	-13.55	0.00	-198.7	0.00	198.71	2,725.98	643.93	1,955.84	1,881.59	41.14	-2.72	0.109
150.00	-7.93	-13.00	0.00	-131.0	0.00	130.97	2,605.33	615.43	1,786.57	1,717.91	44.01	-2.76	0.080
155.00	-3.72	-4.80	0.00	-63.2	0.00	63.15	2,484.68	586.93	1,624.96	1,561.69	46.92	-2.79	0.042
159.30	-3.13	-4.43	0.00	-42.5	0.00	42.51	2,380.92	562.42	1,492.10	1,433.29	49.45	-2.81	0.031
160.00	-3.04	-4.38	0.00	-39.4	0.00	39.41	2,364.03	558.43	1,471.01	1,412.90	49.86	-2.81	0.029
160.35	-3.00	-4.19	0.00	-37.9	0.00	37.88	2,355.57	556.43	1,460.51	1,402.75	50.06	-2.81	0.028
164.00	-1.73	-3.32	0.00	-22.6	0.00	22.60	2,267.51	535.63	1,353.36	1,299.24	52.22	-2.82	0.018
164.84	-1.54	-3.26	0.00	-19.8	0.00	19.82	1,876.06	444.14	1,137.15	1,091.91	52.71	-2.82	0.019
165.00	-1.53	-3.08	0.00	-19.3	0.00	19.29	1,873.71	443.39	1,133.33	1,088.70	52.81	-2.82	0.019
169.00	-0.27	-1.90	0.00	-7.0	0.00	6.99	1,798.04	424.73	1,039.99	1,000.34	55.18	-2.83	0.007
170.00	0.00	-1.89	0.00	-5.1	0.00	5.09	1,778.30	420.07	1,017.28	978.39	55.77	-2.83	0.005

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Load Case: 0.9D + 1.0W 118 mph wind with no ice 22 Iterations
Gust Response Factor: 1.10
Dead load Factor: 0.90
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-60.36	-43.03	0.00	-4,956.3	0.00	4,956.31	8,295.02	2,165.08	14,306.35	12,493.79	0	0	0.404
5.00	-58.34	-42.41	0.00	-4,741.2	0.00	4,741.18	8,189.47	2,121.04	13,730.28	12,082.08	0.05	-0.08	0.400
10.00	-56.35	-41.80	0.00	-4,529.1	0.00	4,529.14	8,081.29	2,076.99	13,166.04	11,673.09	0.18	-0.17	0.395
15.00	-54.41	-41.19	0.00	-4,320.2	0.00	4,320.16	7,970.49	2,032.95	12,613.65	11,267.07	0.4	-0.25	0.391
20.00	-52.50	-40.56	0.00	-4,114.2	0.00	4,114.23	7,857.06	1,988.91	12,073.09	10,864.26	0.71	-0.34	0.386
25.00	-50.63	-39.91	0.00	-3,911.4	0.00	3,911.43	7,741.01	1,944.87	11,544.37	10,464.90	1.11	-0.43	0.381
30.00	-48.83	-39.57	0.00	-3,711.9	0.00	3,711.89	7,622.33	1,900.82	11,027.49	10,069.24	1.61	-0.52	0.375
30.02	-48.80	-39.24	0.00	-3,711.1	0.00	3,711.06	7,621.83	1,900.64	11,025.36	10,067.60	1.61	-0.52	0.375
35.00	-45.36	-38.62	0.00	-3,515.7	0.00	3,515.70	7,501.03	1,856.78	10,522.45	9,677.52	2.2	-0.61	0.370
38.69	-42.88	-38.25	0.00	-3,373.2	0.00	3,373.20	7,498.09	1,855.72	10,510.47	9,668.17	2.7	-0.68	0.355
40.00	-42.40	-37.81	0.00	-3,323.1	0.00	3,323.09	7,465.86	1,844.18	10,380.18	9,566.25	2.89	-0.7	0.353
45.00	-40.67	-37.10	0.00	-3,134.0	0.00	3,134.03	7,341.18	1,800.14	9,890.36	9,179.95	3.67	-0.79	0.347
50.00	-38.97	-36.39	0.00	-2,948.5	0.00	2,948.51	7,213.88	1,756.10	9,412.38	8,798.15	4.55	-0.88	0.341
55.00	-37.32	-35.68	0.00	-2,766.6	0.00	2,766.55	7,083.96	1,712.05	8,946.23	8,421.09	5.52	-0.97	0.334
60.00	-35.73	-35.24	0.00	-2,588.2	0.00	2,588.16	6,951.42	1,668.01	8,491.93	8,049.01	6.59	-1.06	0.327
60.97	-35.41	-34.89	0.00	-2,554.0	0.00	2,553.96	6,925.39	1,659.46	8,405.13	7,977.39	6.81	-1.08	0.326
65.00	-33.11	-34.31	0.00	-2,413.4	0.00	2,413.36	6,816.24	1,623.97	8,049.46	7,682.15	7.76	-1.16	0.319
68.73	-31.03	-33.92	0.00	-2,285.4	0.00	2,285.35	5,796.47	1,430.05	7,073.77	6,526.94	8.69	-1.23	0.356
70.00	-30.66	-33.49	0.00	-2,242.3	0.00	2,242.30	5,768.66	1,420.18	6,976.53	6,450.44	9.02	-1.25	0.353
75.00	-29.31	-32.78	0.00	-2,074.9	0.00	2,074.86	5,657.44	1,381.32	6,599.99	6,151.49	10.39	-1.36	0.343
80.00	-27.98	-32.08	0.00	-1,910.9	0.00	1,910.94	5,543.60	1,342.46	6,233.89	5,856.63	11.87	-1.46	0.332
85.00	-26.70	-31.39	0.00	-1,750.5	0.00	1,750.52	5,427.13	1,303.60	5,878.24	5,566.11	13.45	-1.56	0.320
90.00	-25.46	-30.84	0.00	-1,593.6	0.00	1,593.56	5,308.04	1,264.74	5,533.04	5,280.17	15.14	-1.66	0.307
92.99	-24.73	-30.50	0.00	-1,501.3	0.00	1,501.33	5,235.56	1,241.49	5,331.57	5,111.44	16.2	-1.72	0.299
95.00	-23.89	-30.04	0.00	-1,440.0	0.00	1,440.05	5,186.33	1,225.87	5,198.28	4,999.05	16.93	-1.77	0.293
99.68	-21.99	-29.66	0.00	-1,299.5	0.00	1,299.46	3,857.01	969.12	4,061.20	3,681.17	18.71	-1.86	0.360
100.00	-21.91	-29.32	0.00	-1,290.0	0.00	1,289.98	3,851.71	967.13	4,044.57	3,668.51	18.84	-1.87	0.358
105.00	-20.95	-28.67	0.00	-1,143.4	0.00	1,143.37	3,767.41	936.05	3,788.77	3,471.96	20.86	-1.98	0.336
110.00	-20.03	-28.03	0.00	-1,000.0	0.00	1,000.01	3,680.49	904.96	3,541.33	3,278.28	22.99	-2.09	0.311
115.00	-19.13	-27.41	0.00	-859.8	0.00	859.85	3,590.95	873.87	3,302.24	3,087.70	25.24	-2.2	0.285
120.00	-18.27	-26.85	0.00	-722.8	0.00	722.82	3,498.78	842.79	3,071.51	2,900.48	27.61	-2.3	0.255
124.00	-14.89	-23.95	0.00	-615.4	0.00	615.43	3,423.15	817.92	2,892.94	2,753.28	29.57	-2.38	0.229
125.00	-14.73	-23.82	0.00	-591.5	0.00	591.49	3,403.98	811.70	2,849.13	2,716.85	30.07	-2.4	0.223
126.13	-14.55	-23.58	0.00	-564.6	0.00	564.57	3,382.19	804.67	2,800.03	2,675.87	30.64	-2.42	0.216
129.00	-11.57	-21.13	0.00	-496.9	0.00	496.89	3,326.26	786.83	2,677.25	2,572.70	32.12	-2.47	0.197
130.00	-11.29	-20.96	0.00	-475.8	0.00	475.76	3,304.60	780.61	2,635.11	2,535.56	32.64	-2.49	0.192
131.70	-10.81	-20.72	0.00	-440.1	0.00	440.12	2,974.75	719.74	2,443.38	2,297.47	33.53	-2.52	0.196
134.00	-9.45	-18.33	0.00	-392.5	0.00	392.48	2,935.54	706.63	2,355.21	2,225.52	34.75	-2.55	0.180
135.00	-9.32	-17.99	0.00	-374.2	0.00	374.15	2,918.31	700.93	2,317.37	2,194.45	35.29	-2.57	0.174
140.00	-8.67	-17.42	0.00	-284.2	0.00	284.20	2,830.61	672.43	2,132.78	2,041.16	38.02	-2.64	0.143
145.00	-6.38	-13.44	0.00	-197.1	0.00	197.10	2,725.98	643.93	1,955.84	1,881.59	40.81	-2.7	0.108
150.00	-5.80	-12.90	0.00	-129.9	0.00	129.92	2,605.33	615.43	1,786.57	1,717.91	43.66	-2.74	0.078
155.00	-2.73	-4.75	0.00	-62.6	0.00	62.63	2,484.68	586.93	1,624.96	1,561.69	46.55	-2.77	0.041
159.30	-2.30	-4.39	0.00	-42.2	0.00	42.21	2,380.92	562.42	1,492.10	1,433.29	49.05	-2.79	0.030
160.00	-2.23	-4.33	0.00	-39.1	0.00	39.14	2,364.03	558.43	1,471.01	1,412.90	49.46	-2.79	0.029
160.35	-2.20	-4.14	0.00	-37.6	0.00	37.62	2,355.57	556.43	1,460.51	1,402.75	49.66	-2.79	0.028
164.00	-1.26	-3.30	0.00	-22.5	0.00	22.49	2,267.51	535.63	1,353.36	1,299.24	51.8	-2.8	0.018
164.84	-1.12	-3.24	0.00	-19.7	0.00	19.72	1,876.06	444.14	1,137.15	1,091.91	52.29	-2.8	0.019
165.00	-1.11	-3.05	0.00	-19.2	0.00	19.20	1,873.71	443.39	1,133.33	1,088.70	52.39	-2.8	0.018
169.00	-0.18	-1.90	0.00	-7.0	0.00	6.99	1,798.04	424.73	1,039.99	1,000.34	54.74	-2.81	0.007
170.00	0.00	-1.89	0.00	-5.1	0.00	5.09	1,778.30	420.07	1,017.28	978.39	55.32	-2.81	0.005

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

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-100.92	-11.76	0.00	-1,327.0	0.00	1,326.96	8,295.02	2,165.08	14,306.35	12,493.79	0	0	0.118
5.00	-97.94	-11.59	0.00	-1,268.2	0.00	1,268.16	8,189.47	2,121.04	13,730.28	12,082.08	0.01	-0.02	0.117
10.00	-94.99	-11.41	0.00	-1,210.2	0.00	1,210.23	8,081.29	2,076.99	13,166.04	11,673.09	0.05	-0.04	0.115
15.00	-92.07	-11.24	0.00	-1,153.2	0.00	1,153.17	7,970.49	2,032.95	12,613.65	11,267.07	0.11	-0.07	0.114
20.00	-89.19	-11.06	0.00	-1,097.0	0.00	1,096.97	7,857.06	1,988.91	12,073.09	10,864.26	0.19	-0.09	0.112
25.00	-86.37	-10.87	0.00	-1,041.7	0.00	1,041.67	7,741.01	1,944.87	11,544.37	10,464.90	0.3	-0.11	0.111
30.00	-83.60	-10.77	0.00	-987.3	0.00	987.30	7,622.33	1,900.82	11,027.49	10,069.24	0.43	-0.14	0.109
30.02	-83.59	-10.68	0.00	-987.1	0.00	987.08	7,621.83	1,900.64	11,025.36	10,067.60	0.43	-0.14	0.109
35.00	-78.66	-10.50	0.00	-933.9	0.00	933.91	7,501.03	1,856.78	10,522.45	9,677.52	0.59	-0.16	0.107
38.69	-75.08	-10.39	0.00	-895.2	0.00	895.17	7,498.09	1,855.72	10,510.47	9,668.17	0.72	-0.18	0.103
40.00	-74.38	-10.26	0.00	-881.6	0.00	881.56	7,465.86	1,844.18	10,380.18	9,566.25	0.77	-0.19	0.102
45.00	-71.73	-10.05	0.00	-830.2	0.00	830.25	7,341.18	1,800.14	9,890.36	9,179.95	0.98	-0.21	0.100
50.00	-69.13	-9.84	0.00	-780.0	0.00	779.99	7,213.88	1,756.10	9,412.38	8,798.15	1.21	-0.23	0.098
55.00	-66.60	-9.63	0.00	-730.8	0.00	730.77	7,083.96	1,712.05	8,946.23	8,421.09	1.47	-0.26	0.096
60.00	-64.12	-9.50	0.00	-682.6	0.00	682.61	6,951.42	1,668.01	8,491.93	8,049.01	1.76	-0.28	0.094
60.97	-63.65	-9.40	0.00	-673.4	0.00	673.39	6,925.39	1,659.46	8,405.13	7,977.39	1.81	-0.29	0.094
65.00	-60.31	-9.22	0.00	-635.5	0.00	635.51	6,816.24	1,623.97	8,049.46	7,682.15	2.07	-0.31	0.092
68.73	-57.28	-9.11	0.00	-601.1	0.00	601.10	5,796.47	1,430.05	7,073.77	6,526.94	2.31	-0.33	0.102
70.00	-56.73	-8.98	0.00	-589.5	0.00	589.54	5,768.66	1,420.18	6,976.53	6,450.44	2.4	-0.33	0.101
75.00	-54.61	-8.77	0.00	-544.6	0.00	544.65	5,657.44	1,381.32	6,599.99	6,151.49	2.77	-0.36	0.098
80.00	-52.53	-8.56	0.00	-500.8	0.00	500.81	5,543.60	1,342.46	6,233.89	5,856.63	3.16	-0.39	0.095
85.00	-50.51	-8.35	0.00	-458.0	0.00	458.02	5,427.13	1,303.60	5,878.24	5,566.11	3.58	-0.41	0.092
90.00	-48.55	-8.18	0.00	-416.3	0.00	416.27	5,308.04	1,264.74	5,533.04	5,280.17	4.02	-0.44	0.088
92.99	-47.40	-8.08	0.00	-391.8	0.00	391.80	5,235.56	1,241.49	5,331.57	5,111.44	4.31	-0.46	0.086
95.00	-46.16	-7.94	0.00	-375.6	0.00	375.57	5,186.33	1,225.87	5,198.28	4,999.05	4.5	-0.47	0.084
99.68	-43.34	-7.82	0.00	-338.4	0.00	338.40	3,857.01	969.12	4,061.20	3,681.17	4.97	-0.49	0.103
100.00	-43.24	-7.72	0.00	-335.9	0.00	335.91	3,851.71	967.13	4,044.57	3,668.51	5	-0.49	0.103
105.00	-41.68	-7.53	0.00	-297.3	0.00	297.30	3,767.41	936.05	3,788.77	3,471.96	5.54	-0.52	0.097
110.00	-40.17	-7.33	0.00	-259.7	0.00	259.67	3,680.49	904.96	3,541.33	3,278.28	6.1	-0.55	0.090
115.00	-38.70	-7.14	0.00	-223.0	0.00	223.02	3,590.95	873.87	3,302.24	3,087.70	6.69	-0.58	0.083
120.00	-37.27	-6.97	0.00	-187.3	0.00	187.33	3,498.78	842.79	3,071.51	2,900.48	7.32	-0.61	0.075
124.00	-30.98	-6.19	0.00	-159.5	0.00	159.46	3,423.15	817.92	2,892.94	2,753.28	7.83	-0.63	0.067
125.00	-30.71	-6.15	0.00	-153.3	0.00	153.27	3,403.98	811.70	2,849.13	2,716.85	7.97	-0.63	0.065
126.13	-30.41	-6.08	0.00	-146.3	0.00	146.32	3,382.19	804.67	2,800.03	2,675.87	8.12	-0.64	0.064
129.00	-25.25	-5.45	0.00	-128.9	0.00	128.88	3,326.26	786.83	2,677.25	2,572.70	8.5	-0.65	0.058
130.00	-24.82	-5.40	0.00	-123.4	0.00	123.43	3,304.60	780.61	2,635.11	2,535.56	8.64	-0.65	0.056
131.70	-24.09	-5.32	0.00	-114.2	0.00	114.25	2,974.75	719.74	2,443.38	2,297.47	8.87	-0.66	0.058
134.00	-20.95	-4.78	0.00	-102.0	0.00	102.02	2,935.54	706.63	2,355.21	2,225.52	9.2	-0.67	0.053
135.00	-20.72	-4.68	0.00	-97.2	0.00	97.23	2,918.31	700.93	2,317.37	2,194.45	9.34	-0.68	0.051
140.00	-19.58	-4.50	0.00	-73.8	0.00	73.83	2,830.61	672.43	2,132.78	2,041.16	10.06	-0.69	0.043
145.00	-14.74	-3.44	0.00	-51.3	0.00	51.34	2,725.98	643.93	1,955.84	1,881.59	10.79	-0.71	0.033
150.00	-13.71	-3.27	0.00	-34.1	0.00	34.14	2,605.33	615.43	1,786.57	1,717.91	11.54	-0.72	0.025
155.00	-5.49	-1.28	0.00	-17.2	0.00	17.23	2,484.68	586.93	1,624.96	1,561.69	12.3	-0.73	0.013
159.30	-4.63	-1.17	0.00	-11.7	0.00	11.71	2,380.92	562.42	1,492.10	1,433.29	12.96	-0.73	0.010
160.00	-4.50	-1.16	0.00	-10.9	0.00	10.89	2,364.03	558.43	1,471.01	1,412.90	13.06	-0.73	0.010
160.35	-4.44	-1.10	0.00	-10.5	0.00	10.49	2,355.57	556.43	1,460.51	1,402.75	13.12	-0.73	0.009
164.00	-2.83	-0.87	0.00	-6.5	0.00	6.49	2,267.51	535.63	1,353.36	1,299.24	13.68	-0.74	0.006
164.84	-2.60	-0.85	0.00	-5.8	0.00	5.76	1,876.06	444.14	1,137.15	1,091.91	13.81	-0.74	0.007
165.00	-2.58	-0.79	0.00	-5.6	0.00	5.62	1,873.71	443.39	1,133.33	1,088.70	13.83	-0.74	0.007
169.00	-0.82	-0.48	0.00	-2.5	0.00	2.47	1,798.04	424.73	1,039.99	1,000.34	14.45	-0.74	0.003
170.00	0.00	-0.47	0.00	-2.0	0.00	1.98	1,778.30	420.07	1,017.28	978.39	14.61	-0.74	0.002

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

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-67.10	-9.95	0.00	-1,149.2	0.00	1,149.20	8,295.02	2,165.08	14,306.35	12,493.79	0	0	0.100
5.00	-64.92	-9.81	0.00	-1,099.4	0.00	1,099.43	8,189.47	2,121.04	13,730.28	12,082.08	0.01	-0.02	0.099
10.00	-62.78	-9.67	0.00	-1,050.4	0.00	1,050.36	8,081.29	2,076.99	13,166.04	11,673.09	0.04	-0.04	0.098
15.00	-60.68	-9.54	0.00	-1,002.0	0.00	1,001.99	7,970.49	2,032.95	12,613.65	11,267.07	0.09	-0.06	0.097
20.00	-58.62	-9.39	0.00	-954.3	0.00	954.32	7,857.06	1,988.91	12,073.09	10,864.26	0.16	-0.08	0.095
25.00	-56.60	-9.24	0.00	-907.4	0.00	907.36	7,741.01	1,944.87	11,544.37	10,464.90	0.26	-0.1	0.094
30.00	-54.63	-9.17	0.00	-861.1	0.00	861.14	7,622.33	1,900.82	11,027.49	10,069.24	0.37	-0.12	0.093
30.02	-54.63	-9.09	0.00	-861.0	0.00	860.95	7,621.83	1,900.64	11,025.36	10,067.60	0.37	-0.12	0.093
35.00	-50.86	-8.95	0.00	-815.7	0.00	815.70	7,501.03	1,856.78	10,522.45	9,677.52	0.51	-0.14	0.091
38.69	-48.13	-8.86	0.00	-782.7	0.00	782.68	7,498.09	1,855.72	10,510.47	9,668.17	0.63	-0.16	0.087
40.00	-47.63	-8.76	0.00	-771.1	0.00	771.07	7,465.86	1,844.18	10,380.18	9,566.25	0.67	-0.16	0.087
45.00	-45.75	-8.60	0.00	-727.3	0.00	727.26	7,341.18	1,800.14	9,890.36	9,179.95	0.85	-0.18	0.085
50.00	-43.92	-8.44	0.00	-684.3	0.00	684.26	7,213.88	1,756.10	9,412.38	8,798.15	1.06	-0.2	0.084
55.00	-42.13	-8.27	0.00	-642.1	0.00	642.08	7,083.96	1,712.05	8,946.23	8,421.09	1.28	-0.23	0.082
60.00	-40.39	-8.17	0.00	-600.7	0.00	600.72	6,951.42	1,668.01	8,491.93	8,049.01	1.53	-0.25	0.080
60.97	-40.06	-8.09	0.00	-592.8	0.00	592.79	6,925.39	1,659.46	8,405.13	7,977.39	1.58	-0.25	0.080
65.00	-37.54	-7.96	0.00	-560.2	0.00	560.19	6,816.24	1,623.97	8,049.46	7,682.15	1.8	-0.27	0.078
68.73	-35.25	-7.87	0.00	-530.5	0.00	530.50	5,796.47	1,430.05	7,073.77	6,526.94	2.02	-0.29	0.087
70.00	-34.87	-7.77	0.00	-520.5	0.00	520.52	5,768.66	1,420.18	6,976.53	6,450.44	2.09	-0.29	0.087
75.00	-33.40	-7.61	0.00	-481.7	0.00	481.68	5,657.44	1,381.32	6,599.99	6,151.49	2.41	-0.31	0.084
80.00	-31.98	-7.44	0.00	-443.6	0.00	443.65	5,543.60	1,342.46	6,233.89	5,856.63	2.75	-0.34	0.082
85.00	-30.59	-7.29	0.00	-406.4	0.00	406.43	5,427.13	1,303.60	5,878.24	5,566.11	3.12	-0.36	0.079
90.00	-29.24	-7.16	0.00	-370.0	0.00	370.01	5,308.04	1,264.74	5,533.04	5,280.17	3.51	-0.39	0.076
92.99	-28.45	-7.08	0.00	-348.6	0.00	348.61	5,235.56	1,241.49	5,331.57	5,111.44	3.76	-0.4	0.074
95.00	-27.53	-6.97	0.00	-334.4	0.00	334.38	5,186.33	1,225.87	5,198.28	4,999.05	3.93	-0.41	0.072
99.68	-25.45	-6.88	0.00	-301.8	0.00	301.75	3,857.01	969.12	4,061.20	3,681.17	4.34	-0.43	0.089
100.00	-25.38	-6.81	0.00	-299.6	0.00	299.55	3,851.71	967.13	4,044.57	3,668.51	4.37	-0.43	0.088
105.00	-24.35	-6.66	0.00	-265.5	0.00	265.51	3,767.41	936.05	3,788.77	3,471.96	4.84	-0.46	0.083
110.00	-23.35	-6.51	0.00	-232.2	0.00	232.23	3,680.49	904.96	3,541.33	3,278.28	5.34	-0.49	0.077
115.00	-22.38	-6.37	0.00	-199.7	0.00	199.68	3,590.95	873.87	3,302.24	3,087.70	5.86	-0.51	0.071
120.00	-21.44	-6.24	0.00	-167.9	0.00	167.86	3,498.78	842.79	3,071.51	2,900.48	6.41	-0.53	0.064
124.00	-17.59	-5.56	0.00	-142.9	0.00	142.91	3,423.15	817.92	2,892.94	2,753.28	6.86	-0.55	0.057
125.00	-17.41	-5.53	0.00	-137.4	0.00	137.35	3,403.98	811.70	2,849.13	2,716.85	6.98	-0.56	0.056
126.13	-17.22	-5.48	0.00	-131.1	0.00	131.10	3,382.19	804.67	2,800.03	2,675.87	7.11	-0.56	0.054
129.00	-13.81	-4.91	0.00	-115.4	0.00	115.38	3,326.26	786.83	2,677.25	2,572.70	7.45	-0.57	0.049
130.00	-13.50	-4.87	0.00	-110.5	0.00	110.47	3,304.60	780.61	2,635.11	2,535.56	7.57	-0.58	0.048
131.70	-12.97	-4.81	0.00	-102.2	0.00	102.20	2,974.75	719.74	2,443.38	2,297.47	7.78	-0.58	0.049
134.00	-11.36	-4.26	0.00	-91.1	0.00	91.14	2,935.54	706.63	2,355.21	2,225.52	8.06	-0.59	0.045
135.00	-11.21	-4.18	0.00	-86.9	0.00	86.88	2,918.31	700.93	2,317.37	2,194.45	8.19	-0.6	0.043
140.00	-10.48	-4.05	0.00	-66.0	0.00	65.99	2,830.61	672.43	2,132.78	2,041.16	8.82	-0.61	0.036
145.00	-7.75	-3.12	0.00	-45.8	0.00	45.76	2,725.98	643.93	1,955.84	1,881.59	9.47	-0.63	0.027
150.00	-7.09	-3.00	0.00	-30.2	0.00	30.16	2,605.33	615.43	1,786.57	1,717.91	10.13	-0.64	0.020
155.00	-3.28	-1.10	0.00	-14.5	0.00	14.54	2,484.68	586.93	1,624.96	1,561.69	10.8	-0.64	0.011
159.30	-2.77	-1.02	0.00	-9.8	0.00	9.80	2,380.92	562.42	1,492.10	1,433.29	11.39	-0.65	0.008
160.00	-2.70	-1.01	0.00	-9.1	0.00	9.08	2,364.03	558.43	1,471.01	1,412.90	11.48	-0.65	0.008
160.35	-2.66	-0.96	0.00	-8.7	0.00	8.73	2,355.57	556.43	1,460.51	1,402.75	11.53	-0.65	0.007
164.00	-1.57	-0.77	0.00	-5.2	0.00	5.22	2,267.51	535.63	1,353.36	1,299.24	12.02	-0.65	0.005
164.84	-1.41	-0.75	0.00	-4.6	0.00	4.57	1,876.06	444.14	1,137.15	1,091.91	12.14	-0.65	0.005
165.00	-1.39	-0.71	0.00	-4.4	0.00	4.45	1,873.71	443.39	1,133.33	1,088.70	12.16	-0.65	0.005
169.00	-0.30	-0.44	0.00	-1.6	0.00	1.62	1,798.04	424.73	1,039.99	1,000.34	12.71	-0.65	0.002
170.00	0.00	-0.44	0.00	-1.2	0.00	1.18	1,778.30	420.07	1,017.28	978.39	12.84	-0.65	0.001

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EQUIVALENT LATERAL FORCES METHOD ANALYSIS

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

Spectral Response Acceleration for Short Period (S_S):	0.200
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.055
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.000
Site Coefficient F_a:	1.600
Site Coefficient F_v:	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.213
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.088
Seismic Response Coefficient (C_s):	0.033
Upper Limit C_S:	0.033
Lower Limit C_S:	0.030
Period based on Rayleigh Method (sec):	1.760
Redundancy Factor (p):	1.000
Seismic Force Distribution Exponent (k):	1.630
Total Unfactored Dead Load:	67.110 k
Seismic Base Shear (E):	2.230 k

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
50	169.5	84	363	0.004	8	104
49	167	345	1,455	0.014	31	429
48	164.92	14	58	0.001	1	18
47	164.42	161	663	0.006	14	200
46	162.1753	717	2,883	0.028	62	891
45	160.1753	39	152	0.002	3	48
44	159.65	78	304	0.003	7	96
43	157.15	488	1,865	0.018	40	607
42	152.5	635	2,309	0.022	50	789
41	147.5	663	2,282	0.022	49	823
40	142.5	702	2,287	0.022	49	873
39	137.5	730	2,242	0.022	48	907
38	134.5	149	442	0.004	10	186
37	132.8502	361	1,047	0.010	22	448
36	130.8502	526	1,490	0.014	32	654
35	129.5	312	870	0.008	19	388
34	127.565	910	2,472	0.024	53	1,130
33	125.565	198	525	0.005	11	246
32	124.5	177	461	0.004	10	219
31	122	728	1,839	0.018	39	904
30	117.5	937	2,226	0.021	48	1,164
29	112.5	967	2,141	0.021	46	1,201
28	107.5	997	2,050	0.020	44	1,239
27	102.5	1,027	1,954	0.019	42	1,276
26	99.8402	67	122	0.001	3	83
25	97.3402	2,086	3,648	0.035	78	2,593
24	93.9952	914	1,510	0.014	32	1,136
23	91.4952	789	1,247	0.012	27	981
22	87.5	1,349	1,983	0.019	43	1,677
21	82.5	1,387	1,852	0.018	40	1,724
20	77.5	1,425	1,718	0.016	37	1,771
19	72.5	1,462	1,582	0.015	34	1,817
18	69.3654	377	380	0.004	8	469
17	66.8654	2,286	2,166	0.021	47	2,840

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Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
16	62.9852	2,519	2,166	0.021	47	3,130
15	60.4852	333	268	0.003	6	414
14	57.5	1,743	1,292	0.012	28	2,166
13	52.5	1,786	1,141	0.011	24	2,219
12	47.5	1,828	992	0.010	21	2,272
11	42.5	1,871	847	0.008	18	2,325
10	39.345	497	198	0.002	4	618
9	36.845	2,733	980	0.009	21	3,397
8	32.5104	3,762	1,100	0.011	24	4,675
7	30.0104	8	2	0.000	0	10
6	27.5	1,969	438	0.004	9	2,446
5	22.5	2,011	323	0.003	7	2,499
4	17.5	2,054	219	0.002	5	2,552
3	12.5	2,097	129	0.001	3	2,605
2	7.5	2,139	57	0.000	1	2,659
1	2.5	2,182	10	0.000	0	2,712
dbSpectra DS1F03F36D-N	170	142	616	0.006	13	176
RFS SC3-W100AC	170	80	347	0.003	7	99
Generic Flat Stand-Off	169	750	3,225	0.031	69	932
Generic Flat Stand-Off	164	375	1,535	0.015	33	466
Raycap DC6-48-60-18-8C-EV	159.3	16	62	0.001	1	20
Ericsson RRUS A2	155	90	336	0.003	7	112
Ericsson RRUS 4415 B30	155	138	515	0.005	11	171
Ericsson 4478 Band 14 (15" Height)	155	180	671	0.006	14	223
Ericsson RRUS 4449 B5, B12	155	213	795	0.008	17	265
Ericsson RRU22	155	317	1,185	0.011	25	394
Ericsson RRUS 12	155	150	560	0.005	12	186
Ericsson 8843	155	255	952	0.009	20	317
Raycap DC9-48-60-24-8C-EV	155	16	60	0.001	1	20
CCI HPA-65R-BUU-H8	155	408	1,524	0.015	33	507
Generic Round Sector Frame	155	900	3,361	0.032	72	1,118
CCI DMP65R-BU8D	155	287	1,072	0.010	23	357
CCI TPA65R-BU8D	155	248	924	0.009	20	308
Samsung RT4401-48A	145	56	187	0.002	4	69
Samsung B5/B13 RRH-BR04C	145	422	1,413	0.014	30	524
RFS DB-C1-12C-24AB-0Z	145	32	107	0.001	2	40
JMA Wireless MX10FIT665-xx	145	320	1,073	0.010	23	398
Generic Flat Light Sector Frame	145	1,200	4,019	0.039	86	1,491
Ericsson Radio 4460 B25+B66	134	327	963	0.009	21	406
Ericsson Radio 4480 B71+B85A	134	252	742	0.007	16	313
Ericsson Air6449 B41	134	312	919	0.009	20	388
RFS APXVAALL24 43-U-NA20	134	368	1,085	0.010	23	458
Generic Flat Platform with Handrails	129	2,500	6,920	0.066	149	3,107
Raycap RDIDC-9181-PF-48	124	22	57	0.000	1	27
Fujitsu TA08025-B605	124	225	584	0.006	13	280
Fujitsu TA08025-B604	124	192	497	0.005	11	238
JMA Wireless MX08FRO665-21	124	194	502	0.005	11	240
Generic Round Platform with Handrails	124	2,500	6,488	0.062	139	3,107
		67,106	104,049	1.000	2,235	83,390

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
50	169.5	84	363	0.004	8	72
49	167	345	1,455	0.014	31	296
48	164.92	14	58	0.001	1	12
47	164.42	161	663	0.006	14	138
46	162.1753	717	2,883	0.028	62	615
45	160.1753	39	152	0.002	3	33
44	159.65	78	304	0.003	7	66
43	157.15	488	1,865	0.018	40	419
42	152.5	635	2,309	0.022	50	544

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Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
41	147.5	663	2,282	0.022	49	568
40	142.5	702	2,287	0.022	49	602
39	137.5	730	2,242	0.022	48	626
38	134.5	149	442	0.004	10	128
37	132.8502	361	1,047	0.010	22	309
36	130.8502	526	1,490	0.014	32	451
35	129.5	312	870	0.008	19	268
34	127.565	910	2,472	0.024	53	780
33	125.565	198	525	0.005	11	170
32	124.5	177	461	0.004	10	151
31	122	728	1,839	0.018	39	624
30	117.5	937	2,226	0.021	48	803
29	112.5	967	2,141	0.021	46	829
28	107.5	997	2,050	0.020	44	855
27	102.5	1,027	1,954	0.019	42	880
26	99.8402	67	122	0.001	3	57
25	97.3402	2,086	3,648	0.035	78	1,789
24	93.9952	914	1,510	0.014	32	784
23	91.4952	789	1,247	0.012	27	676
22	87.5	1,349	1,983	0.019	43	1,157
21	82.5	1,387	1,852	0.018	40	1,189
20	77.5	1,425	1,718	0.016	37	1,222
19	72.5	1,462	1,582	0.015	34	1,254
18	69.3654	377	380	0.004	8	323
17	66.8654	2,286	2,166	0.021	47	1,960
16	62.9852	2,519	2,166	0.021	47	2,160
15	60.4852	333	268	0.003	6	286
14	57.5	1,743	1,292	0.012	28	1,494
13	52.5	1,786	1,141	0.011	24	1,531
12	47.5	1,828	992	0.010	21	1,567
11	42.5	1,871	847	0.008	18	1,604
10	39.345	497	198	0.002	4	426
9	36.845	2,733	980	0.009	21	2,343
8	32.5104	3,762	1,100	0.011	24	3,225
7	30.0104	8	2	0.000	0	7
6	27.5	1,969	438	0.004	9	1,688
5	22.5	2,011	323	0.003	7	1,724
4	17.5	2,054	219	0.002	5	1,761
3	12.5	2,097	129	0.001	3	1,798
2	7.5	2,139	57	0.000	1	1,834
1	2.5	2,182	10	0.000	0	1,871
dbSpectra DS1F03F36D-N	170	142	616	0.006	13	122
RFS SC3-W100AC	170	80	347	0.003	7	69
Generic Flat Stand-Off	169	750	3,225	0.031	69	643
Generic Flat Stand-Off	164	375	1,535	0.015	33	322
Raycap DC6-48-60-18-8C-EV	159.3	16	62	0.001	1	14
Ericsson RRUS A2	155	90	336	0.003	7	77
Ericsson RRUS 4415 B30	155	138	515	0.005	11	118
Ericsson 4478 Band 14 (15" Height)	155	180	671	0.006	14	154
Ericsson RRUS 4449 B5, B12	155	213	795	0.008	17	183
Ericsson RRU22	155	317	1,185	0.011	25	272
Ericsson RRUS 12	155	150	560	0.005	12	129
Ericsson 8843	155	255	952	0.009	20	219
Raycap DC9-48-60-24-8C-EV	155	16	60	0.001	1	14
CCI HPA-65R-BUU-H8	155	408	1,524	0.015	33	350
Generic Round Sector Frame	155	900	3,361	0.032	72	772
CCI DMP65R-BU8D	155	287	1,072	0.010	23	246
CCI TPA65R-BU8D	155	248	924	0.009	20	212
Samsung RT4401-48A	145	56	187	0.002	4	48
Samsung B5/B13 RRH-BR04C	145	422	1,413	0.014	30	362
RFS DB-C1-12C-24AB-0Z	145	32	107	0.001	2	27
JMA Wireless MX10FIT665-xx	145	320	1,073	0.010	23	275
Generic Flat Light Sector Frame	145	1,200	4,019	0.039	86	1,029
Ericsson Radio 4460 B25+B66	134	327	963	0.009	21	280
Ericsson Radio 4480 B71+B85A	134	252	742	0.007	16	216
Ericsson Air6449 B41	134	312	919	0.009	20	267
RFS APXVAALL24 43-U-NA20	134	368	1,085	0.010	23	316
Generic Flat Platform with Handrails	129	2,500	6,920	0.066	149	2,143
Raycap RDIDC-9181-PF-48	124	22	57	0.000	1	19
Fujitsu TA08025-B605	124	225	584	0.006	13	193

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Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
Fujitsu TA08025-B604	124	192	497	0.005	11	164
JMA Wireless MX08FRO665-21	124	194	502	0.005	11	166
Generic Round Platform with Handrails	124	2,500	6,488	0.062	139	2,143
		67,106	104,049	1.000	2,235	57,532

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

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-80.68	-2.24	0.00	-276.80	0.00	276.80	8,295.02	2,165.08	14,306	12,493.79	0.00	0.00	0.03
5.00	-78.02	-2.24	0.00	-265.62	0.00	265.62	8,189.47	2,121.04	13,730	12,082.08	0.00	0.00	0.03
10.00	-75.41	-2.24	0.00	-254.41	0.00	254.41	8,081.29	2,076.99	13,166	11,673.09	0.01	-0.01	0.03
15.00	-72.86	-2.25	0.00	-243.19	0.00	243.19	7,970.49	2,032.95	12,614	11,267.07	0.02	-0.01	0.03
20.00	-70.36	-2.24	0.00	-231.97	0.00	231.97	7,857.06	1,988.91	12,073	10,864.26	0.04	-0.02	0.03
25.00	-67.92	-2.24	0.00	-220.75	0.00	220.75	7,741.01	1,944.87	11,544	10,464.90	0.06	-0.02	0.03
30.00	-67.91	-2.24	0.00	-209.56	0.00	209.56	7,622.33	1,900.82	11,027	10,069.24	0.09	-0.03	0.03
30.02	-63.23	-2.22	0.00	-209.51	0.00	209.51	7,621.83	1,900.64	11,025	10,067.60	0.09	-0.03	0.03
35.00	-59.83	-2.20	0.00	-198.46	0.00	198.46	7,501.03	1,856.78	10,522	9,677.52	0.12	-0.03	0.03
38.69	-59.22	-2.20	0.00	-190.34	0.00	190.34	7,498.09	1,855.72	10,510	9,668.17	0.15	-0.04	0.03
40.00	-56.89	-2.18	0.00	-187.46	0.00	187.46	7,465.86	1,844.18	10,380	9,566.25	0.16	-0.04	0.03
45.00	-54.62	-2.16	0.00	-176.55	0.00	176.55	7,341.18	1,800.14	9,890	9,179.95	0.21	-0.04	0.03
50.00	-52.40	-2.14	0.00	-165.73	0.00	165.73	7,213.88	1,756.10	9,412	8,798.15	0.26	-0.05	0.03
55.00	-50.23	-2.12	0.00	-155.02	0.00	155.02	7,083.96	1,712.05	8,946	8,421.09	0.31	-0.05	0.03
60.00	-49.82	-2.11	0.00	-144.43	0.00	144.43	6,951.42	1,668.01	8,492	8,049.01	0.37	-0.06	0.03
60.97	-46.69	-2.07	0.00	-142.38	0.00	142.38	6,925.39	1,659.46	8,405	7,977.39	0.38	-0.06	0.03
65.00	-43.85	-2.02	0.00	-134.06	0.00	134.06	6,816.24	1,623.97	8,049	7,682.15	0.44	-0.07	0.02
68.73	-43.38	-2.01	0.00	-126.52	0.00	126.52	5,796.47	1,430.05	7,074	6,526.94	0.49	-0.07	0.03
70.00	-41.56	-1.98	0.00	-123.97	0.00	123.97	5,768.66	1,420.18	6,977	6,450.44	0.51	-0.07	0.03
75.00	-39.79	-1.94	0.00	-114.07	0.00	114.07	5,657.44	1,381.32	6,600	6,151.49	0.58	-0.08	0.03
80.00	-38.07	-1.91	0.00	-104.35	0.00	104.35	5,543.60	1,342.46	6,234	5,856.63	0.67	-0.08	0.03
85.00	-36.39	-1.86	0.00	-94.82	0.00	94.82	5,427.13	1,303.60	5,878	5,566.11	0.76	-0.09	0.02
90.00	-35.41	-1.84	0.00	-85.50	0.00	85.50	5,308.04	1,264.74	5,533	5,280.17	0.85	-0.09	0.02
92.99	-34.27	-1.81	0.00	-80.01	0.00	80.01	5,235.56	1,241.49	5,332	5,111.44	0.91	-0.10	0.02
95.00	-31.68	-1.73	0.00	-76.38	0.00	76.38	5,186.33	1,225.87	5,198	4,999.05	0.95	-0.10	0.02
99.68	-31.60	-1.72	0.00	-68.30	0.00	68.30	3,857.01	969.12	4,061	3,681.17	1.05	-0.10	0.03
100.00	-30.32	-1.68	0.00	-67.75	0.00	67.75	3,851.71	967.13	4,045	3,668.51	1.06	-0.10	0.03
105.00	-29.08	-1.64	0.00	-59.35	0.00	59.35	3,767.41	936.05	3,789	3,471.96	1.17	-0.11	0.03
110.00	-27.88	-1.59	0.00	-51.16	0.00	51.16	3,680.49	904.96	3,541	3,278.28	1.29	-0.12	0.02
115.00	-26.72	-1.54	0.00	-43.20	0.00	43.20	3,590.95	873.87	3,302	3,087.70	1.41	-0.12	0.02
120.00	-25.81	-1.51	0.00	-35.47	0.00	35.47	3,498.78	842.79	3,072	2,900.48	1.54	-0.13	0.02
124.00	-21.70	-1.31	0.00	-29.45	0.00	29.45	3,423.15	817.92	2,893	2,753.28	1.65	-0.13	0.02
125.00	-21.46	-1.30	0.00	-28.14	0.00	28.14	3,403.98	811.70	2,849	2,716.85	1.67	-0.13	0.02
126.13	-20.33	-1.25	0.00	-26.67	0.00	26.67	3,382.19	804.67	2,800	2,675.87	1.70	-0.13	0.02
129.00	-16.83	-1.07	0.00	-23.09	0.00	23.09	3,326.26	786.83	2,677	2,572.70	1.78	-0.13	0.01
130.00	-16.18	-1.04	0.00	-22.02	0.00	22.02	3,304.60	780.61	2,635	2,535.56	1.81	-0.13	0.01
131.70	-15.73	-1.01	0.00	-20.26	0.00	20.26	2,974.75	719.74	2,443	2,297.47	1.86	-0.14	0.01
134.00	-13.98	-0.92	0.00	-17.92	0.00	17.92	2,935.54	706.63	2,355	2,225.52	1.93	-0.14	0.01
135.00	-13.07	-0.87	0.00	-17.00	0.00	17.00	2,918.31	700.93	2,317	2,194.45	1.96	-0.14	0.01
140.00	-12.20	-0.82	0.00	-12.64	0.00	12.64	2,830.61	672.43	2,133	2,041.16	2.10	-0.14	0.01
145.00	-8.85	-0.62	0.00	-8.53	0.00	8.53	2,725.98	643.93	1,956	1,881.59	2.25	-0.14	0.01
150.00	-8.06	-0.57	0.00	-5.44	0.00	5.44	2,605.33	615.43	1,787	1,717.91	2.40	-0.15	0.01
155.00	-3.48	-0.26	0.00	-2.60	0.00	2.60	2,484.68	586.93	1,625	1,561.69	2.56	-0.15	0.00
159.30	-3.36	-0.25	0.00	-1.49	0.00	1.49	2,380.92	562.42	1,492	1,433.29	2.69	-0.15	0.00
160.00	-3.32	-0.25	0.00	-1.32	0.00	1.32	2,364.03	558.43	1,471	1,412.90	2.71	-0.15	0.00
160.35	-2.42	-0.18	0.00	-1.23	0.00	1.23	2,355.57	556.43	1,461	1,402.75	2.72	-0.15	0.00
164.00	-1.76	-0.13	0.00	-0.56	0.00	0.56	2,267.51	535.63	1,353	1,299.24	2.84	-0.15	0.00
164.84	-1.74	-0.13	0.00	-0.45	0.00	0.45	1,876.06	444.14	1,137	1,091.91	2.86	-0.15	0.00
165.00	-1.31	-0.10	0.00	-0.43	0.00	0.43	1,873.71	443.39	1,133	1,088.70	2.87	-0.15	0.00
169.00	-0.28	-0.02	0.00	-0.02	0.00	0.02	1,798.04	424.73	1,040	1,000.34	2.99	-0.15	0.00
170.00	0.00	-0.02	0.00	0.00	0.00	0.00	1,778.30	420.07	1,017	978.39	3.02	-0.15	0.00

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

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CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-55.66	-2.23	0.00	-274.76	0.00	274.76	8,295.02	2,165.08	14,306	12,493.79	0.00	0.00	0.03
5.00	-53.83	-2.24	0.00	-263.58	0.00	263.58	8,189.47	2,121.04	13,730	12,082.08	0.00	0.00	0.03
10.00	-52.03	-2.24	0.00	-252.39	0.00	252.39	8,081.29	2,076.99	13,166	11,673.09	0.01	-0.01	0.03
15.00	-50.27	-2.24	0.00	-241.20	0.00	241.20	7,970.49	2,032.95	12,614	11,267.07	0.02	-0.01	0.03
20.00	-48.54	-2.24	0.00	-230.01	0.00	230.01	7,857.06	1,988.91	12,073	10,864.26	0.04	-0.02	0.03
25.00	-46.86	-2.23	0.00	-218.83	0.00	218.83	7,741.01	1,944.87	11,544	10,464.90	0.06	-0.02	0.03
30.00	-46.85	-2.23	0.00	-207.68	0.00	207.68	7,622.33	1,900.82	11,027	10,069.24	0.09	-0.03	0.03
30.02	-43.62	-2.21	0.00	-207.64	0.00	207.64	7,621.83	1,900.64	11,025	10,067.60	0.09	-0.03	0.03
35.00	-41.28	-2.19	0.00	-196.64	0.00	196.64	7,501.03	1,856.78	10,522	9,677.52	0.12	-0.03	0.03
38.69	-40.85	-2.19	0.00	-188.57	0.00	188.57	7,498.09	1,855.72	10,510	9,668.17	0.15	-0.04	0.03
40.00	-39.25	-2.17	0.00	-185.70	0.00	185.70	7,465.86	1,844.18	10,380	9,566.25	0.16	-0.04	0.03
45.00	-37.68	-2.15	0.00	-174.86	0.00	174.86	7,341.18	1,800.14	9,890	9,179.95	0.20	-0.04	0.02
50.00	-36.15	-2.13	0.00	-164.11	0.00	164.11	7,213.88	1,756.10	9,412	8,798.15	0.25	-0.05	0.02
55.00	-34.66	-2.10	0.00	-153.47	0.00	153.47	7,083.96	1,712.05	8,946	8,421.09	0.31	-0.05	0.02
60.00	-34.37	-2.10	0.00	-142.97	0.00	142.97	6,951.42	1,668.01	8,492	8,049.01	0.37	-0.06	0.02
60.97	-32.21	-2.05	0.00	-140.93	0.00	140.93	6,925.39	1,659.46	8,405	7,977.39	0.38	-0.06	0.02
65.00	-30.25	-2.00	0.00	-132.67	0.00	132.67	6,816.24	1,623.97	8,049	7,682.15	0.43	-0.06	0.02
68.73	-29.93	-2.00	0.00	-125.20	0.00	125.20	5,796.47	1,430.05	7,074	6,526.94	0.48	-0.07	0.02
70.00	-28.67	-1.96	0.00	-122.66	0.00	122.66	5,768.66	1,420.18	6,977	6,450.44	0.50	-0.07	0.02
75.00	-27.45	-1.93	0.00	-112.85	0.00	112.85	5,657.44	1,381.32	6,600	6,151.49	0.58	-0.08	0.02
80.00	-26.26	-1.89	0.00	-103.22	0.00	103.22	5,543.60	1,342.46	6,234	5,856.63	0.66	-0.08	0.02
85.00	-25.11	-1.85	0.00	-93.78	0.00	93.78	5,427.13	1,303.60	5,878	5,566.11	0.75	-0.09	0.02
90.00	-24.43	-1.82	0.00	-84.55	0.00	84.55	5,308.04	1,264.74	5,533	5,280.17	0.84	-0.09	0.02
92.99	-23.64	-1.79	0.00	-79.11	0.00	79.11	5,235.56	1,241.49	5,332	5,111.44	0.90	-0.10	0.02
95.00	-21.86	-1.71	0.00	-75.52	0.00	75.52	5,186.33	1,225.87	5,198	4,999.05	0.94	-0.10	0.02
99.68	-21.80	-1.71	0.00	-67.52	0.00	67.52	3,857.01	969.12	4,061	3,681.17	1.04	-0.10	0.02
100.00	-20.92	-1.66	0.00	-66.98	0.00	66.98	3,851.71	967.13	4,045	3,668.51	1.05	-0.10	0.02
105.00	-20.06	-1.62	0.00	-58.66	0.00	58.66	3,767.41	936.05	3,789	3,471.96	1.16	-0.11	0.02
110.00	-19.23	-1.57	0.00	-50.56	0.00	50.56	3,680.49	904.96	3,541	3,278.28	1.27	-0.11	0.02
115.00	-18.43	-1.53	0.00	-42.69	0.00	42.69	3,590.95	873.87	3,302	3,087.70	1.40	-0.12	0.02
120.00	-17.81	-1.49	0.00	-35.06	0.00	35.06	3,498.78	842.79	3,072	2,900.48	1.52	-0.12	0.02
124.00	-14.97	-1.30	0.00	-29.11	0.00	29.11	3,423.15	817.92	2,893	2,753.28	1.63	-0.13	0.02
125.00	-14.80	-1.29	0.00	-27.81	0.00	27.81	3,403.98	811.70	2,849	2,716.85	1.66	-0.13	0.02
126.13	-14.02	-1.23	0.00	-26.36	0.00	26.36	3,382.19	804.67	2,800	2,675.87	1.69	-0.13	0.01
129.00	-11.61	-1.06	0.00	-22.83	0.00	22.83	3,326.26	786.83	2,677	2,572.70	1.77	-0.13	0.01
130.00	-11.16	-1.03	0.00	-21.77	0.00	21.77	3,304.60	780.61	2,635	2,535.56	1.79	-0.13	0.01
131.70	-10.85	-1.00	0.00	-20.02	0.00	20.02	2,974.75	719.74	2,443	2,297.47	1.84	-0.13	0.01
134.00	-9.64	-0.91	0.00	-17.72	0.00	17.72	2,935.54	706.63	2,355	2,225.52	1.91	-0.14	0.01
135.00	-9.02	-0.86	0.00	-16.81	0.00	16.81	2,918.31	700.93	2,317	2,194.45	1.94	-0.14	0.01
140.00	-8.42	-0.81	0.00	-12.50	0.00	12.50	2,830.61	672.43	2,133	2,041.16	2.08	-0.14	0.01
145.00	-6.11	-0.61	0.00	-8.44	0.00	8.44	2,725.98	643.93	1,956	1,881.59	2.23	-0.14	0.01
150.00	-5.56	-0.56	0.00	-5.38	0.00	5.38	2,605.33	615.43	1,787	1,717.91	2.38	-0.14	0.01
155.00	-2.40	-0.26	0.00	-2.58	0.00	2.58	2,484.68	586.93	1,625	1,561.69	2.53	-0.15	0.00
159.30	-2.32	-0.25	0.00	-1.47	0.00	1.47	2,380.92	562.42	1,492	1,433.29	2.66	-0.15	0.00
160.00	-2.29	-0.24	0.00	-1.30	0.00	1.30	2,364.03	558.43	1,471	1,412.90	2.69	-0.15	0.00
160.35	-1.67	-0.18	0.00	-1.22	0.00	1.22	2,355.57	556.43	1,461	1,402.75	2.70	-0.15	0.00
164.00	-1.21	-0.13	0.00	-0.55	0.00	0.55	2,267.51	535.63	1,353	1,299.24	2.81	-0.15	0.00
164.84	-1.20	-0.13	0.00	-0.44	0.00	0.44	1,876.06	444.14	1,137	1,091.91	2.83	-0.15	0.00
165.00	-0.91	-0.10	0.00	-0.42	0.00	0.42	1,873.71	443.39	1,133	1,088.70	2.84	-0.15	0.00
169.00	-0.19	-0.02	0.00	-0.02	0.00	0.02	1,798.04	424.73	1,040	1,000.34	2.96	-0.15	0.00
170.00	0.00	-0.02	0.00	0.00	0.00	0.00	1,778.30	420.07	1,017	978.39	2.99	-0.15	0.00

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ANALYSIS SUMMARY

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W	43.04	0.00	80.49	0.00	0.00	4986.82	0.00	0.41
0.9D + 1.0W	43.03	0.00	60.36	0.00	0.00	4956.31	0.00	0.4
1.2D + 1.0Di + 1.0Wi	11.76	0.00	100.92	0.00	0.00	1326.96	0.00	0.12
1.2D + 1.0Ev + 1.0Eh	2.25	0.00	80.68	0.00	0.00	276.80	0.00	0.03
0.9D - 1.0Ev + 1.0Eh	2.24	0.00	55.66	0.00	0.00	274.76	0.00	0.03
1.0D + 1.0W	9.95	0.00	67.10	0.00	0.00	1149.20	0.00	0.1

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Base Plate & Anchor Rod Analysis

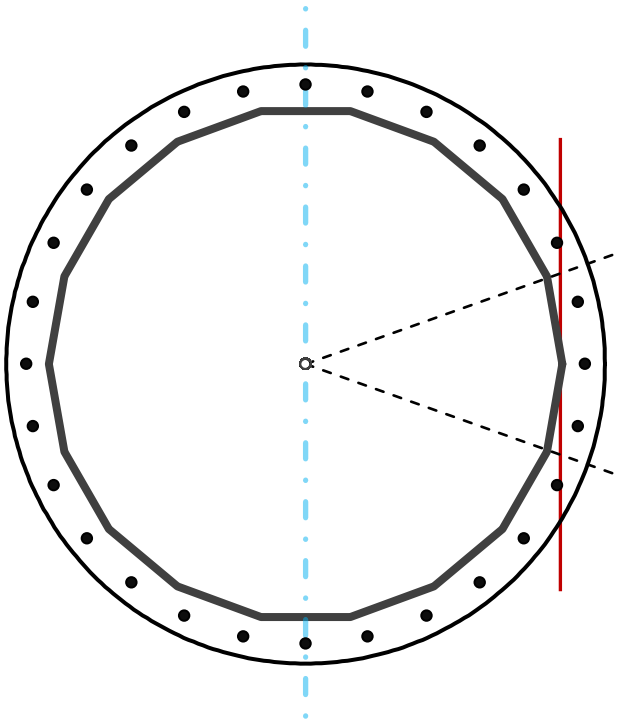
Pole Dimensions		
Number of Sides	18	-
Diameter	73.69	in
Thickness	17/32	in
Orientation Offset		°

Base Reactions		
Moment, Mu	4,986.8	k-ft
Axial, Pu	80.5	k
Shear, Vu	43.0	k
Neutral Axis	270	°

Report Capacities		
Component	Capacity	Result
Base Plate	21%	Pass
Anchor Rods	46%	Pass
Dwyidag	-	-

Base Plate		
Shape	Round	-
Diameter, ø	87.4	in
Thickness	3	in
Grade	A572-50	
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Clip	N/A	in
Orientation Offset		°
Anchor Rod Detail	d	η=0.5
Clear Distance	4 1/8	in
Applied Moment, Mu	663.4	k
Bending Stress, ϕMn	3142.8	k

Original Anchor Rods		
Arrangement	Radial	-
Quantity	28	-
Diameter, ø	2 1/4	in
Bolt Circle	81.56	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	9.2	in
Orientation Offset		°
Applied Force, Pu	110.8	k
Anchor Rods, ϕPn	243.6	k



Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	43.0	4986.8	1.00
Anchor Rod Forces	43.0	4986.8	1.00
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	0.0	0.00
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in^2	in^2	in^4	#	in^4
Pole	121.4809	6.7489	0.6372		81285.26
Bolt	3.9761	3.2477	0.8393	4.5	71297.05
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	0.0000	0.0000	0.0000		0.00
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate		
Shape	Round	-
Diameter, D	87.4	in
Thickness, t	3	in
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Base Plate Chord	46.995	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	4.125	-

Anchor Rods		
Anchor Rod Quantity, N	28	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	81.56	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	110.8	k
Applied Shear, Vu	0.5	k
Compressive Capacity, ϕPn	243.6	k
Tensile Capacity, ϕRnt	0.455	OK
Interaction Capacity	0.459	OK

External Base Plate		
Chord Length AA	40.217	in
Additional AA	5.840	in
Section Modulus, Z	103.629	in^3
Applied Moment, Mu	663.4	k-ft
Bending Capacity, ϕMn	4663.3	k-ft
Capacity, Mu/ϕMn	0.142	OK
Chord Length AB	38.053	in
Additional AB	5.840	in
Section Modulus, Z	98.759	in^3
Applied Moment, Mu	477.2	k-ft
Bending Capacity, ϕMn	4444.2	k-ft
Capacity, Mu/ϕMn	0.107	OK
Bend Line Length	31.040	in
Additional Bend Line	0.000	in
Section Modulus, Z	69.839	in^3
Applied Moment, Mu	663.4	k-ft
Bending Capacity, ϕMn	3142.8	k-ft
Capacity, Mu/ϕMn	0.211	OK

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

Site Name: Cheshire, CT
Site Number: 208478
Tower Type: MP
Design Loads (Factored) - Analysis per TIA-222-H Standards

Monolithic Mat & Pier Foundation Analysis

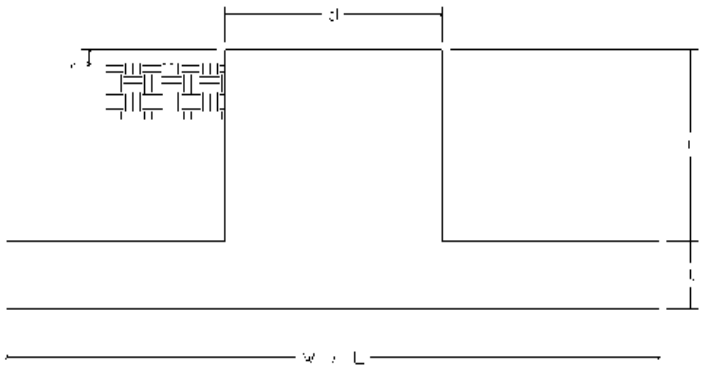
Foundation Analysis Parameters		
Design / Analysis / Mapping:	Analysis	-
Compression/Leg:	80.5	k
Uplift/Leg:	0.0	k
Total Shear:	43.0	k
Moment:	4,986.8	k-ft
Tower + Appurtenance Weight:	80.5	k
Depth to Base of Foundation (l + t - h):	6	ft
Diameter of Pier (d):	9	ft
Length of Pier (l):	4	ft
Height of Pier above Ground (h):	0.5	ft
Width of Pad (W):	33	ft
Length of Pad (L):	33	ft
Thickness of Pad (t):	2.5	ft
Tower Leg Center to Center:	0	ft
Number of Tower Legs:	1	-
Tower Center from Mat Center:	0	ft
Depth Below Ground Surface to Water Table:	11	ft
Unit Weight of Concrete:	150	pcf
Unit Weight of Soil Above Water Table:	125	pcf
Unit Weight of Water:	62.4	pcf
Unit Weight of Soil Below Water Table:	62.6	pcf
Friction Angle of Uplift:	15	°
Coefficient of Shear Friction:	0.5	-
Ultimate Compressive Bearing Pressure:	10,000	psf
Ultimate Passive Pressure on Pad Face:	0	psf
$f_{Soil\ and\ Concrete\ Weight}$:	0.9	-
f_{Soil}:	0.75	-

Overturning Moment Usage		
Design OTM:	5266.6	k-ft
OTM Resistance:	14689.8	k-ft
Design OTM / OTM Resistance:	36%	Pass

Soil Bearing Pressure Usage		
Net Bearing Pressure:	2039	psf
Factored Nominal Bearing Pressure:	7500	psf
Factored Nominal (Net) Bearing Pressure:	27%	Pass
Load Direction Controling Design Bearing Pressure:	*Diagonal to Pad Edge*	

Sliding Factor of Safety		
Ultimate Friction Resistance:	481.1	k
Ultimate Passive Pressure Resistance:	0.0	k
Total Factored Sliding Resistance:	360.8	k
Sliding Design / Sliding Resistance:	12%	Pass

Foundation Steel Parameters		
Shear/Leg (Compression):	28.7	k
Shear/Leg (Uplift):	23.7	k
Concrete Strength (f'_c):	3,000	psi
Pad Tension Steel Depth:	26.44	in
Dead Load Factor:	0.9	-
f_{Shear}:	0.75	-
$f_{Flexure\ /\ Tension}$:	0.9	-
$f_{Compression:}$	0.65	-
b:	0.85	-
Bottom Pad Rebar Size #:	9	-
# of Bottom Pad Rebar:	56	-
Pad Bottom Steel Area:	56.00	in^2
Pad Steel F_y:	60,000	psi
Top Pad Rebar Size #:	9	-
# of Top Pad Rebar:	56	-
Pad Top Steel Area:	56.00	in^2
Pier Rebar Size #:	10	-
Pier Steel Area (Single Bar):	1.27	in^2
# of Pier Rebar:	48	-
Pier Steel F_y:	60,000	psi
Pier Cage Diameter:	99.5	in
Rebar Strain Limit:	0.008	-
Steel Elastic Modulus:	29,000	ksi
Tie Rebar Size #:	5	-
Tie Steel Area (Single Bar):	0.31	in^2
Tie Spacing:	6	in
Tie Steel F_y:	60,000	psi
Clear Cover:	3	in



Pad Strength Capacity			
Factored One Way Shear (V_u):	361.7	k	
One Way Shear Capacity (fV_c):	860.1	k	*ACI 318-14 25.5.5.1*
V_u / fV_c:	42%	Pass	
Load Direction Controling Shear Capacity:	*Parallel to Pad Edge*		
Lower Steel Pad Factored Moment (M_u):	2807.3	k-ft	
Lower Steel Pad Moment Capacity (fM_n):	6305.9	k-ft	*ACI 318-14 22.3.1.1*
M_u / fM_n:	45%	Pass	
Load Direction Controling Flexural Capacity:	*Parallel to Pad Edge*		
Upper Steel Pad Factored Moment (M_u):	1466.2	k-ft	
Upper Steel Pad Moment Capacity (fM_n):	6305.9	k-ft	
M_u / fM_n:	23%	Pass	
Lower Pad Flexural Reinforcement Ratio:	0.0053		*OK - ACI 318-14 7.6.1.1 & 8.6.1.1*
Upper Pad Flexural Reinforcement Ratio:	0.0053		*OK - ACI 318-14 7.6.1.1 & 8.6.1.1*
Pad Shrinkage Reinforcement Ratio:	0.0107		*OK - ACI 318-14 24.4.3.2*
Lower Pad Reinforcement Spacing:	7.1	in	*OK - ACI 318-14 7.7.2.3, 8.7.2.2, & 24.4.3.3*
Upper Pad Reinforcement Spacing:	7.1	in	*OK - ACI 318-14 7.7.2.3, 8.7.2.2, & 24.4.3.3*
Ultimate Punching Shear Stress, v_u:	52.73	psi	*ACI 318-14 R8.4.4.2.3*
Nominal Punching Shear Capacity (f_cv_c):	164.3	psi	*ACI 318-14 22.6.5.2*
v_u / f_cv_c:	32%	Pass	
Pier Moment Pad Flexure Transfer Ratio, γ_f:	0.60		*TIA-222-H 9.4.2*
Moment Transfer Effective Flexural Width, B_{eff}:	16.50	ft	*TIA-222-H 9.4.2*
Moment Transfer Through Pad Flexure:	37144.66	k-in	*TIA-222-H 9.4.2*
Moment Transfer Flexural Capacity ($fM_{sc,f}$):	39061.03	k-in	
g_fM_{sc} / $fM_{sc,f}$:	0%	Pass	

Pier Strength Capacity			
Factored Moment in Pier (M_u):	5159.0	k-ft	
Pier Moment Capacity (fM_n):	13347.0	k-ft	
M_u / fM_n:	39%	Pass	
Factored Shear in Pier (V_u):	43.0	k	
Pier Shear Capacity (fV_n):	1157.7	k	*ACI 318-14 22.5.1.1*
V_u / fV_c:	4%	Pass	
Pier Shear Reinforcement Ratio:	0.0004		*OK - No Ties Necessary for Shear - ACI11.5.6.1*
Factored Tension in Pier (T_u):	0.0	k	
Pier Tension Capacity (fT_n):	3291.8	k	
T_u / fT_n:	0%	Pass	
Factored Compression in Pier (P_u):	80.5	k	
Pier Compression Capacity (fP_n):	12106.1	k	*ACI 318-14 22.4.2.1*
P_u / fP_n:	1%	Pass	
Pier Compression Reinforcement Ratio:	0.007		*OK - TIA-222-H 9.4.1*
Minimum Depth to Develop Vertical Rebar:	52	in	*ACI 318-14 25.4.2.3*
Minimum Hook Development Length:	28	in	*ACI 318-14 25.4.3.1*
Minimum Mat Thickness / Edge Distance from Pier:	31.0	in	
Minimum Foundation Depth:	7.18	ft	
$M_u/f_BM_n + T_u/f_TT_n$:	39%	Pass	

DISH Wireless L.L.C. SITE ID:

BOHVN00033A

DISH Wireless L.L.C. SITE ADDRESS:

1325 CHESHIRE STREET
CHESHIRE, CT 06410

SCOPE OF WORK

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

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

GROUND SCOPE OF WORK:
- INSTALL (1) PROPOSED METAL PLATFORM
- INSTALL (1) PROPOSED ICE BRIDGE
- INSTALL (1) PROPOSED PPC CABINET
- INSTALL (1) PROPOSED EQUIPMENT CABINET
- INSTALL (1) PROPOSED POWER CONDUIT
- INSTALL (1) PROPOSED TELCO CONDUIT
- INSTALL (1) PROPOSED TELCO-FIBER BOX
- INSTALL (1) PROPOSED GPS UNIT
- INSTALL (1) PROPOSED SAFETY SWITCH (IF REQUIRED)
- INSTALL (1) PROPOSED CIENA BOX (IF REQUIRED)

SITE INFORMATION

PROPERTY OWNER:	PROPERTY OWNER XXXX
ADDRESS:	1325 CHESHIRE STREET CHESHIRE, CT 06410
TOWER TYPE:	MONOPOLE
TOWER CO SITE ID:	208478
TOWER APP NUMBER:	13733449_D3
COUNTY:	NEW HAVEN
LATITUDE (NAD 83):	41° 31' 57.335" N 41.53259318
LONGITUDE (NAD 83):	72° 52' 13.761" W -72.87048903
ZONING JURISDICTION:	CITY OF CHESHIRE
ZONING DISTRICT:	RESIDENTIAL
PARCEL NUMBER:	CHES-000038-000180
OCCUPANCY GROUP:	U
CONSTRUCTION TYPE:	II-B
POWER COMPANY:	EVERSOURCE CT ELECTRIC
TELEPHONE COMPANY:	UNKNOWN

PROJECT DIRECTORY

APPLICANT:	DISH Wireless L.L.C. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
TOWER OWNER:	AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801
ENGINEER:	ATC TOWER SERVICES, LLC 3500 REGENCY PARKWAY SUITE 100 CARY, NC 27518
SITE ACQUISITION:	DAVID GOODFELLOW DAVID.GOODFELLOW@DISH.COM
CONSTRUCTION MANAGER:	CHAD WILCOX CHAD.WILCOX@DISH.COM
RF ENGINEER:	SYED ZAIDI SYED.ZAIDI@DISH.COM

CONNECTICUT CODE COMPLIANCE

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

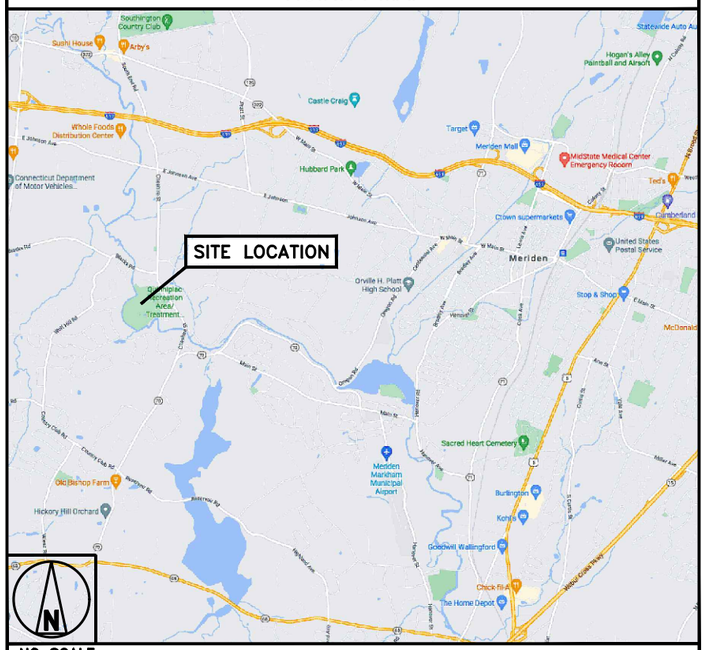
CODE TYPE	CODE
BUILDING	2018 CT STATE BUILDING CODE/2015 IBC W/ CT AMENDMENTS
MECHANICAL	2018 CT STATE BUILDING CODE/2015 IMC W/ CT AMENDMENTS
ELECTRICAL	2018 CT STATE BUILDING CODE/2017 NEC W/ CT AMENDMENTS

SITE PHOTO

DIRECTIONS

Take Fort Hale Rd to Townsend Ave 4 min (0.6 mi), Head southwest (417 ft), Turn left (0.2 mi), Continue onto Fort Hale Rd (0.4 mi), Take I-91 N, CT-40 N/Mt Carmel Connector and CT-10 N to Oak Ridge Dr in Cheshire (34 min (21.7 mi)), Turn right onto Townsend Ave (1.1 mi), Turn left onto Main St/Main Street Anx (0.1 mi), Use the right 2 lanes to take the ramp onto I-95 S (1.0 mi), Take the exit onto I-91 N toward Hartford (6.3 mi), Take exit 10 toward CT-40 N/Mt Carmel Connector (0.9 mi), Continue onto CT-40 N/Mt Carmel Connector (2.3 mi), Use the right 2 lanes to turn right onto CT-10 N/Whitney Ave (signs for Quinnipiac Univ), Continue to follow CT-10 N (7.0 mi), Continue straight onto CT-10 N/Highland Ave (2.0 mi), Turn right onto Creamery Rd (0.5 mi), Turn left onto Wolf Hill Rd (0.5 mi), Turn right onto Oak Ridge Dr (1 min (0.3 mi))

VICINITY MAP



NO SCALE

SHEET INDEX

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

811

GENERAL NOTES

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

THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).

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

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

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
AP	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	02/02/2022	ISSUED FOR CONSTRUCTION

STATE OF CONNECTICUT
SCOTT A. WIRGAU
30575
LICENSED PROFESSIONAL ENGINEER

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

A&E PROJECT NUMBER

208478-13733449_D3

DISH Wireless L.L.C.
PROJECT INFORMATION

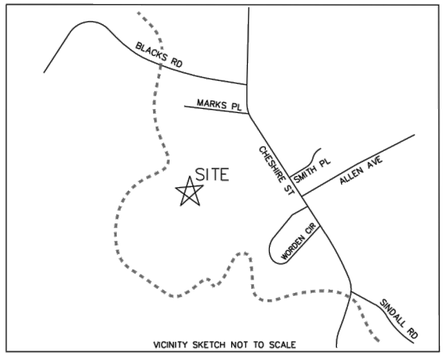
BOHVN00033A
1325 CHESHIRE STREET
CHESHIRE, CT 06410

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1



VICINITY SKETCH NOT TO SCALE

TITLE REVIEW

SURVEYORS REVIEW OF OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY TITLE COMMITMENT 01-15057090-017, EFFECTIVE 08/25/2015 AT 7:00 AM.

SCHEDULE B – SECTION II

(1-6) STANDARD EXCEPTIONS.

(7)SUBJECT TO COVENANTS, RESTRICTIONS, RESERVATIONS, EASEMENTS, AND RIGHTS OF WAY AND BUILDING SETBACKS AS SHOWN ON THE MAP OF THE PROPERTY OF JOHN DANAHER TO BE SOLD TO TOWN OF CHESHIRE, AS RECORDED IN PLAT BOOK 15, PAGE 1 OF THE CHESHIRE TOWN CLERK'S RECORDS.

–ONLY A PORTION OF REFERENCED MAP PROVIDED BY TITLE COMPANY. APPEARS TO AFFECT SUBJECT PARCEL. DOES NOT APPEAR TO AFFECT TOWER LEASE OR ACCESS/UTILITY EASEMENT.

(8)FILING OF SPECIAL PERMIT ON CHESHIRE LAND RECORDS IN ACCORDANCE WITH PUBLIC ACT 75-317 OF THE CONNECTICUT GENERAL STATUTES, RECORDED 08/29/1983, AS BOOK 452, PAGE 235 OF THE CHESHIRE TOWN CLERK'S RECORDS.

–AFFECTS SUBJECT PARCEL. DOES NOT AFFECT TOWER LEASE OR ACCESS/UTILITY EASEMENT. NOTHING TO PLOT.

(9)FILING OF SPECIAL PERMIT ON CHESHIRE LAND RECORDS IN ACCORDANCE WITH PUBLIC ACT 75-317 OF THE CONNECTICUT GENERAL STATUTES, RECORDED 10/10/1986, AS BOOK 605, PAGE 289 OF THE CHESHIRE TOWN CLERK'S RECORDS.

–AFFECTS SUBJECT PARCEL. DOES NOT AFFECT TOWER LEASE OR ACCESS/UTILITY EASEMENT. NOTHING TO PLOT.

(10)DRAINAGE EASEMENT RECORDED 05/01/1987, AS BOOK 646, PAGE 284 OF THE CHESHIRE TOWN CLERK'S RECORDS.

–UNABLE TO DETERMINE AFFECTS. ONLY A PORTION OF THE REFERENCE DOCUMENT'S ASSOCIATED MAP PROVIDED BY TITLE COMPANY.

(11)FILING OF SPECIAL PERMIT ON CHESHIRE LAND RECORDS IN ACCORDANCE WITH PUBLIC ACT 75-317 OF THE CONNECTICUT GENERAL STATUTES, RECORDED 08/11/1993, AS BOOK 995, PAGE 84 OF THE CHESHIRE TOWN CLERK'S RECORDS.

–AFFECTS SUBJECT PARCEL. DOES NOT AFFECT TOWER LEASE OR ACCESS/UTILITY EASEMENT. NOTHING TO PLOT.

(12)APPROVAL OF SPECIAL PERMIT RECORDED 06/09/2004, AS BOOK 1867, PAGE 306 OF THE CHESHIRE TOWN CLERK'S RECORDS.

–AFFECTS SUBJECT PARCEL. DOES NOT AFFECT TOWER LEASE OR ACCESS/UTILITY EASEMENT. NOTHING TO PLOT.

(13)SPECIAL PERMIT FOR PROPOSED ADDITION RECORDED 07/06/2004, AS BOOK 1875, PAGE 290 OF THE CHESHIRE TOWN CLERK'S RECORDS.

–AFFECTS SUBJECT PARCEL. DOES NOT AFFECT TOWER LEASE OR ACCESS/UTILITY EASEMENT. NOTHING TO PLOT.

(14)MEMORANDUM OF OPTION AND GROUND LEASE AGREEMENT BY AND BETWEEN TOWN OF CHESHIRE, LESSOR(S) AND HOMELAND TOWERS LLC, LESSEE(S), RECORDED 05/07/2013 AS BOOK 2582, PAGE 57 OF THE CHESHIRE TOWN CLERK'S RECORDS.

–AFFECTS SUBJECT PARCEL. UNABLE TO DETERMINE AFFECTS TO TOWER LEASE OR ACCESS/UTILITY EASEMENT. NOTHING TO PLOT.

(15)FILING OF SPECIAL PERMIT ON CHESHIRE LAND RECORDS IN ACCORDANCE WITH PUBLIC ACT 75-317 OF THE CONNECTICUT GENERAL STATUTES, RECORDED 05/17/2013, AS BOOK 2584, PAGE 38 OF THE CHESHIRE TOWN CLERK'S RECORDS.

–AFFECTS SUBJECT PARCEL. DOES NOT AFFECT TOWER LEASE OR ACCESS/UTILITY EASEMENT. NOTHING TO PLOT.

TOWER 1-A INFO

172.7' ± 1' METAL TOWER ON TOP OF A CONCRETE CAISSON 0.4' ABOVE FINISHED GRADE.
LATITUDE: 41° 31' 57.32" N. +/- 20'
LONGITUDE: -72° 52' 13.74" W. +/- 20'
GROUND ELEVATION AT BASE OF TOWER: 116.4' NAVD, 1988
HEIGHT OF TOP OF TOWER ABOVE GROUND: 173.1' ± 1'
ELEVATION OF TOP OF TOWER: 289.5' ± 3' NAVD 1988
HEIGHT OF HIGHEST APPURTENANCE ABOVE GROUND: 192.2' ± 1' [19.1' WHIP ANTENNA]
ELEVATION OF TOP OF HIGHEST APPURTENANCE: 308.6' ± 3' NAVD 1988

LEGAL (SUBJECT PARCEL)

LEGAL DESCRIPTION: PARENT PARCEL (AS PROVIDED)
SITUATED IN THE TOWN OF CHESHIRE, COUNTY OF NEW HAVEN AND STATE OF CONNECTICUT:
SHOWN ON A MAP OF CARL G. MATTSON, CIVIL ENGINEER AND LAND SURVEYOR, SHOWING PROPERTY OF JOHN DANAHER TO BE SOLD TO THE TOWN OF CHESHIRE, CHESHIRE ST, CHESHIRE, CONN., SCALE 1" = 100', DEC. 29, 1965, AND BOUNDED AND DESCRIBED AS FOLLOWS:
COMMENCING AT AN IRON PIN, IN THE WESTERLY LINE OF CHESHIRE STREET SAID POINT BEING THE NORTHEAST CORNER OF PROPERTY NOW OR FORMERLY OF K.A. HUXLEY; THENCE RUNNING N. 19 DEG. – 31' W. 285.7 FEET IN THE WESTERLY LINE OF CHESHIRE STREET; THENCE RUNNING S. 70 DEG. – 29' W., 200' ALONG LAND BEING RETAINED BY WILBERT E. AND CATHERINE A. BROZIE; THENCE RUNNING N. 19 DEG. – 31' W., 200 FEET ALONG LAND BEING RETAINED BY WILBERT E. AND CATHERINE A. BROZIE; THENCE RUNNING N. 70 DEG – 29' E., 200 FEET ALONG LAND BEING RETAINED BY WILBERT E. AND CATHERINE A. BROZIE; THENCE RUNNING N. 19 DEG. – 31' W., 50 FEET ALONG THE WESTERLY LINE OF CHESHIRE STREET; THENCE RUNNING S. 70 DEG – 29' W., 200 FEET ALONG LAND BEING RETAINED BY WILBERT E. AND CATHERINE A. BROZIE; THENCE RUNNING N. 19 DEG. – 31' W., 322.88 FEET ALONG LAND BEING RETAINED BY WILBERT E. AND CATHERINE A. BROZIE; THENCE RUNNING N. 77 DEG. – 57' W., 952.15 FEET TO AN IRON PIN ON THE BANK OF THE QUINNIPIAC RIVER ALONG LAND NOW OR FORMERLY BRODEUR; THENCE CONTINUING N. 77 DEG. – 57' W., 30 FEET MORE OR LESS TO THE CENTER OF THE QUINNIPIAC RIVER; THENCE RUNNING SOUTHERLY, SOUTHWESTERLY AND EASTERLY IN THE CENTER OF THE QUINNIPIAC RIVER, 3700 FEET MORE OR LESS; THENCE RUNNING N. 25 DEG. – 35' E., 30' MORE OR LESS TO AN IRON PIN ON THE BANK OF THE QUINNIPIAC RIVER; THENCE CONTINUING N. 25 DEG. – 35' E., 210.00 FEET TO AN IRON PIN, ALONG PROPERTY OF EUGENE T. AND BERNICE A. WORDEN; THENCE RUNNING N. 53 DEG. – 58" E., 694.4' FEET ALONG LAND NOW OR FORMERLY OF EUGENE T. AND BERNICE A. WORDEN; THENCE N. 55 DEG. – 37' E., 25.2 FEET TO AN IRON PIN, ALONG LAND NOW OR FORMERLY OF R. A. HUXLEY; THENCE N. 66 DEG. – 21' E., 85.13 FEET, TO AN IRON PIN ALONG LAND NOW OR FORMERLY OF R.A. HUXLEY TO THE POINT OF BEGINNING.
BOUNDED:
EASTERLY BY CHESHIRE STREET, 285.7 FEET;
NORTHERLY BY LAND NOW OR FORMERLY OF JOHN DANAHER, MORE LATELY OF WILBERT E.AND CATHERINE A. BROZIE, 200 FEET;
AGAINEASTERLY BY LAND NOW OR FORMERLY OF JOHN DANAHER, MORE LATELY OF WILBERT E. AND CATHERINE A. BROZIE, 200 FEET;
SOUTHERLY BY LAND NOW OR FORMERLY OF JOHN DANAHER, MORE LATELY OF WILBERT E. AND CATHERINE A. BROZIE, 2000 FEET;
AGAIN EASTERLY BY CHESHIRE STREET, 50 FEET;
AGAIN NORTHERLY BY LAND NOW OR FORMERLY OF JOHN DANAHER, MORE LATELY OF WILBERT E. AND CATHERINE A. BROZIE, 200 FEET;
AGAIN EASTERLY BY LAND NOW OR FORMERLY OF JOHN DANAHER, MORE LATELY OF WILBERT E. AND CATHERINE A. BROZIE, 322.88 FEET;
AGAINNORTHERLY BY LAND NOW OR FORMERLY OF BRODEUR, 982 FEET, MORE OR LESS;
WESTERLY,
NORTHERLY
AND SOUTHERLY BY QUINNIPIAC RIVER, 3700 FEET, MORE OR LESS;
SOUTHEASTERLY BY LAND NOW OR FORMERLY OF EUGENE T. AND BERNICE A. WORDEN, AND LAND NOW OR FORMERLY OF R.A. HUXLEY, PARTLY BY EACH, 1045 FEET, MORE OR LESS.
TAX I.D. NUMBER: 0258300
BEING THE SAME PROPERTY CONVEYED TO TOWN OF CHESHIRE, GRANTEE, FROM WILBERT E. BROZIE AND CATHERINE A. BROZIE, HUSBAND AND WIFE, GRANTOR, BY DEED RECORDED 06/02/1964, AS BOOK 150, PAGE 376 OF THE CHESHIRE TOWN CLERK'S RECORDS.

SURVEY NOTES:

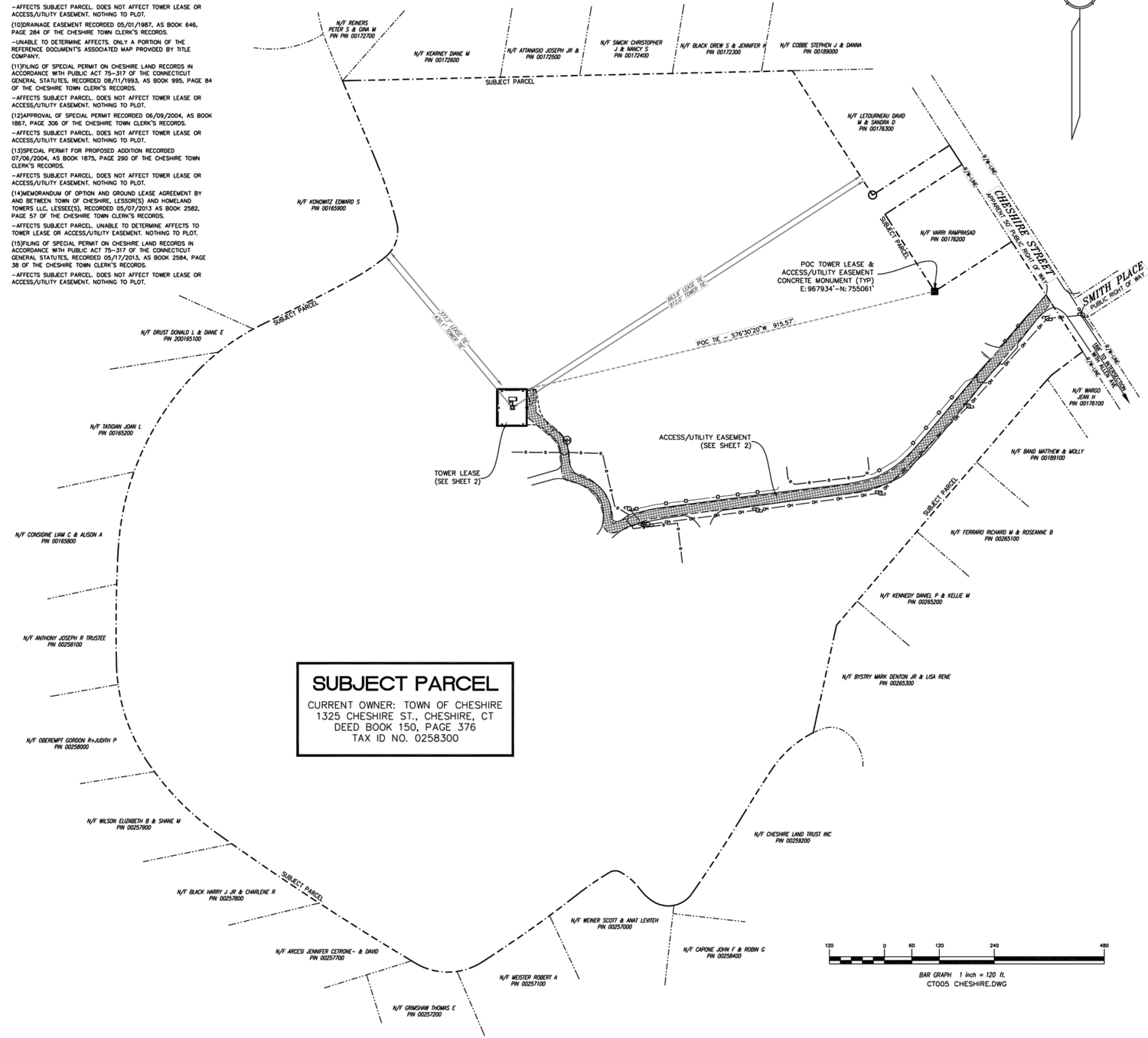
1. BASIS OF BEARING: CT GRID NAD83
2. NO SUBSURFACE INVESTIGATION WAS PERFORMED TO LOCATE UNDERGROUND UTILITIES. UTILITIES SHOWN HEREON ARE LIMITED TO AND ARE PER OBSERVED EVIDENCE ONLY.
3. THIS SURVEY DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARENT PARCEL.
4. ALL VISIBLE TOWER EQUIPMENT AND IMPROVEMENTS ARE CONTAINED WITH IN THE DESCRIBED AREA.
5. ALL SYMBOLS SHOWN ON HEREON NOT DEPICTED TO SCALE.

ZONING: R-40 (RESIDENTIAL)

THIS PARCEL OF LAND LIES WITHIN FLOOD ZONE X WHICH IS NOT A SPECIAL FLOOD HAZARD AREA AS PER F.I.R.M. PANEL NUMBER: 09009C0161J
EFFECTIVE DATE: 05/16/2017

LEGEND
- ● : SET 5/8" REBAR.
- ○ : FOUND 1/2" REBAR AS NOTED.
- ■ : CONCRETE MONUMENT, AS NOTED.
- (_____) : RECORD DESCRIPTION DATA.
- P.O.B. : POINT OF BEGINNING.
- P.O.C. : POINT OF COMMENCEMENT.
- —— o —— : FENCE AS NOTED.
- —— OH —— : OVER HEAD UTILITY LINES.
- : WOOD UTILITY POLE.
- E : ELECTRIC TRANSFORMER.
- –·–·– : SUBJECT PARCEL

AREA	SQUARE FEET	ACRE
PARENT PARCEL	2,570,040	59.0
TOWER COMPOUND	4,702	0.108
TOWER LEASE	5,200	0.119
ACCESS/UTILITY EASEMENT	30,545	0.701



SUBJECT PARCEL

CURRENT OWNER: TOWN OF CHESHIRE
1325 CHESHIRE ST., CHESHIRE, CT
DEED BOOK 150, PAGE 376
TAX ID NO. 0258300

AS-BUILT SURVEY

FOR: InSite Towers, LLC.

I, WILLIAM J. NAGLE JR., DO HEREBY CERTIFY TO INSITE TOWERS, LLC, A DELAWARE LIMITED LIABILITY COMPANY WITH ITS HEADQUARTERS ADDRESS AT 1199 N. FAIRFAX STREET, SUITE 700, ALEXANDRIA, VA 22314, INSITE TOWERS DEVELOPMENT, LLC, A DELAWARE LIMITED LIABILITY COMPANY, INSITE TOWERS, LLC, A DELAWARE LIMITED LIABILITY COMPANY, VANGARD WIRELESS, LLC, A DELAWARE LIMITED LIABILITY COMPANY, INSITE WIRELESS GROUP, LLC, A DELAWARE LIMITED LIABILITY COMPANY, ("INSITE TOWERS"), THE FEDERAL AVIATION ADMINISTRATION, OLD REPUBLIC NATIONAL TITLE COMPANY, GOLDMAN SACHS SPECIALTY LENDING GROUP L.P., DEUTSCHE BANK TRUST COMPANY AMERICAS, A NEW YORK BANKING CORPORATION, LATHAM & WATKINS LLP, STEWART TITLE GUARANTY COMPANY, FIDELITY NATIONAL TITLE INSURANCE COMPANY, OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY AND THE SUCCESSORS AND ASSIGNS OF EACH OF THE FOREGOING, THAT THIS SURVEY WAS MADE ON THE GROUND UNDER MY PERSONAL SUPERVISION AND THAT THIS PLAT IS A TRUE, CORRECT AND ACCURATE REPRESENTATION OF THE FACTS AS FOUND AT THE TIME OF THE SURVEY, AND MORE SPECIFICALLY,

I SO HEREBY CERTIFY THAT THE SURVEY CONFORMS TO THE CONDITIONS AND STIPULATIONS AS CHECKED (X) BELOW

(x) 1. THE BOUNDARY LINES AND DIMENSIONS OF THE INSITE TOWER LEASE AND ACCESS AND UTILITIES EASEMENTS (COLLECTIVELY, THE "EASEMENTS") INDICATED HEREON IS CORRECT.

(x) 2. TO THE EXTENT THE TOWER LEASE AND EASEMENTS INDICATED HEREON ARE PART OF A PARENT PARCEL, SUCH TOWER LEASE AND EASEMENTS ARE LOCATED WITHIN THE BOUNDARIES OF THE RECORD TITLE LEGAL DESCRIPTION OF SUCH PARENT PARCEL. THE LOCATION OF SAID TOWER LEASE AND EASEMENTS RELATIVE TO AN APPROXIMATION OF THE LOCATION OF THE BOUNDARIES OF THE PARENT TRACT IS ILLUSTRATED ON THE INSET SHOWN HEREON.

(x) 3A. IRON PINS ARE SET AT EACH TOWER LEASE CORNER UNLESS OTHERWISE INDICATED HEREON OR

(_) 3B. NOT APPLICABLE IN THIS STATE DUE TO RECORDING NEEDS.

(x) 4. THE DISTANCE FROM THE NEAREST INTERSECTING PUBLIC STREET OR ROAD IS AS SHOWN HEREON.

(x) 5. SHOWS THE LOCATION AND DIMENSION OF ALL ALLEYS, STREETS, ROADS, RIGHTS-OF-WAY, EASEMENTS AND OTHER MATTERS OF RECORD WHICH THE SURVEYOR HAS BEEN ADVISED AFFECTS THE TOWER LEASE AND/OR EASEMENTS (EACH HAS BEEN IDENTIFIED BY INSTRUMENT VOLUME AND PAGE NUMBER IF AVAILABLE).

(x) 6. EXCEPT AS SHOWN, THERE ARE NO VISIBLE EASEMENTS, RIGHTS-OF WAY, PARTY WALLS OR CONFLICTS AFFECTING THE TOWER LEASE AND/OR EASEMENTS; FURTHER, THIS SURVEY IS NOT SUBJECT TO ANY EASEMENTS OR RIGHTS-OF-WAY NOT VISIBLE ON THE GROUND.

(x) 7. THE LOCATION OF ALL BUILDINGS, STRUCTURES AND OTHER IMPROVEMENTS OF VISIBLE ITEMS AFFECTING THE TOWER LEASE AND EASEMENTS, IF SHOWN, ARE AS INDICATED HEREON. THE LOCATION OF ALL OTHER BUILDINGS, STRUCTURES AND OTHER IMPROVEMENTS OF VISIBLE ITEMS ON THE PARENT TRACT, IF SHOWN HEREON, ARE APPROXIMATE IN NATURE, EXCEPT THAT THE TOWER LEASE AND EASEMENTS ARE ENTIRELY LOCATED WITHIN THE BOUNDARIES OF THE PARENT PARCEL, AS SHOWN ON THE INSET.

(x) 8. EXCEPT AS SHOWN, THERE ARE NO VISIBLE PROTRUSIONS ON ADJOINING PREMISES, STREETS OR ALLEYS BY ANY BUILDING, STRUCTURE OR OTHER IMPROVEMENTS SITUATED ON THE TOWER LEASE AND/OR EASEMENTS.

(x) 9. EXCEPT AS SHOWN, THERE ARE NO VISIBLE ENCROACHMENTS ONTO THE TOWER LEASE AND/OR EASEMENTS BY ANY BUILDING, STRUCTURE OR OTHER IMPROVEMENTS SITUATED ON ADJOINING PREMISES.

(_) 10A. SHOWS THE LOCATION AND ACRES CONTAINED IN ALL PORTIONS OF THE TOWER LEASE AND EASEMENTS WHICH ARE LOCATED IN AN AREA DESIGNATED AS A "FLOOD PRONE AREA (ZONE A)" AS DEFINED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT PURSUANT TO THE FLOOD DISASTER ACT OF 1973; NONE, FIRM COMMUNITY PANEL NO.

(x) 10B. THE SITE TOWER LEASE AND EASEMENTS ARE LOCATED IN AN AREA DESIGNATED AS A FLOOD ZONE (_X_) AS DEFINED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT PURSUANT TO THE FLOOD DISASTER ACT OF 1973 FIRM COMMUNITY PANEL NO. 37102505000J

(x) 11. DESCRIBES AND SHOWS THE LOCATION OF ALL PUBLIC STREETS AND ROADS VISIBLY PROVIDING ACCESS TO AND FROM THE SUBJECT PROPERTY, AND CORRECTLY SETS FORTH THE MUNICIPAL ADDRESS OF THE SUBJECT PROPERTY.

(x) 12. DEPICTS THE LATITUDINAL AND LONGITUDINAL COORDINATES OF THE TOWER(S) LOCATION(S), TO THE NEAREST TENTH OF A SECOND, THE ELEVATION ABOVE MEAN SEA LEVEL OF THE BASE AND TIP OF EACH TOWER, PLUS OR MINUS 20 FEET, THE ELEVATION OF THE TIP OF EACH TOWER AS MEASURED FROM GROUND LEVEL, AND ADDITIONALLY, THE ELEVATION OF THE TIP OF THE HIGHEST APPURTENANCE ON THE TOWER AS MEASURED FROM GROUND LEVEL, IF SUCH APPURTENANCE IS HIGHER IN ELEVATION THAN THE HIGHEST POINT OF THE TOWER STRUCTURE ITSELF, TO THE NEAREST FOOT, ON THE SURVEY DRAWING AND ON A SEPARATE 8½ X 11 CERTIFIED LETTERHEAD.

(x) 13. SURVEY OF THE TOWER LEASE AND EASEMENTS MEETS OR EXCEEDS THE MINIMUM TECHNICAL STANDARDS FOR LAND BOUNDARY SURVEYS SET FORTH BY CONNECTICUT STATE LAW.

(x) 14. THE SUBJECT PROPERTY IS CURRENTLY ZONED (R-40, RESIDENTIAL).

WILLIAM J. NAGLE, JR.
CT REGISTRATION #70269
DATE CERTIFIED: XX/XX/XX
DATE FIELDED: 10/1/17

SEAL LOCATION (PRELIMINARY)

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

InSite Towers, LLC

SITE NAME: CHESHIRE
SITE NUMBER: CT005

SURVEY WORK PERFORMED BY:

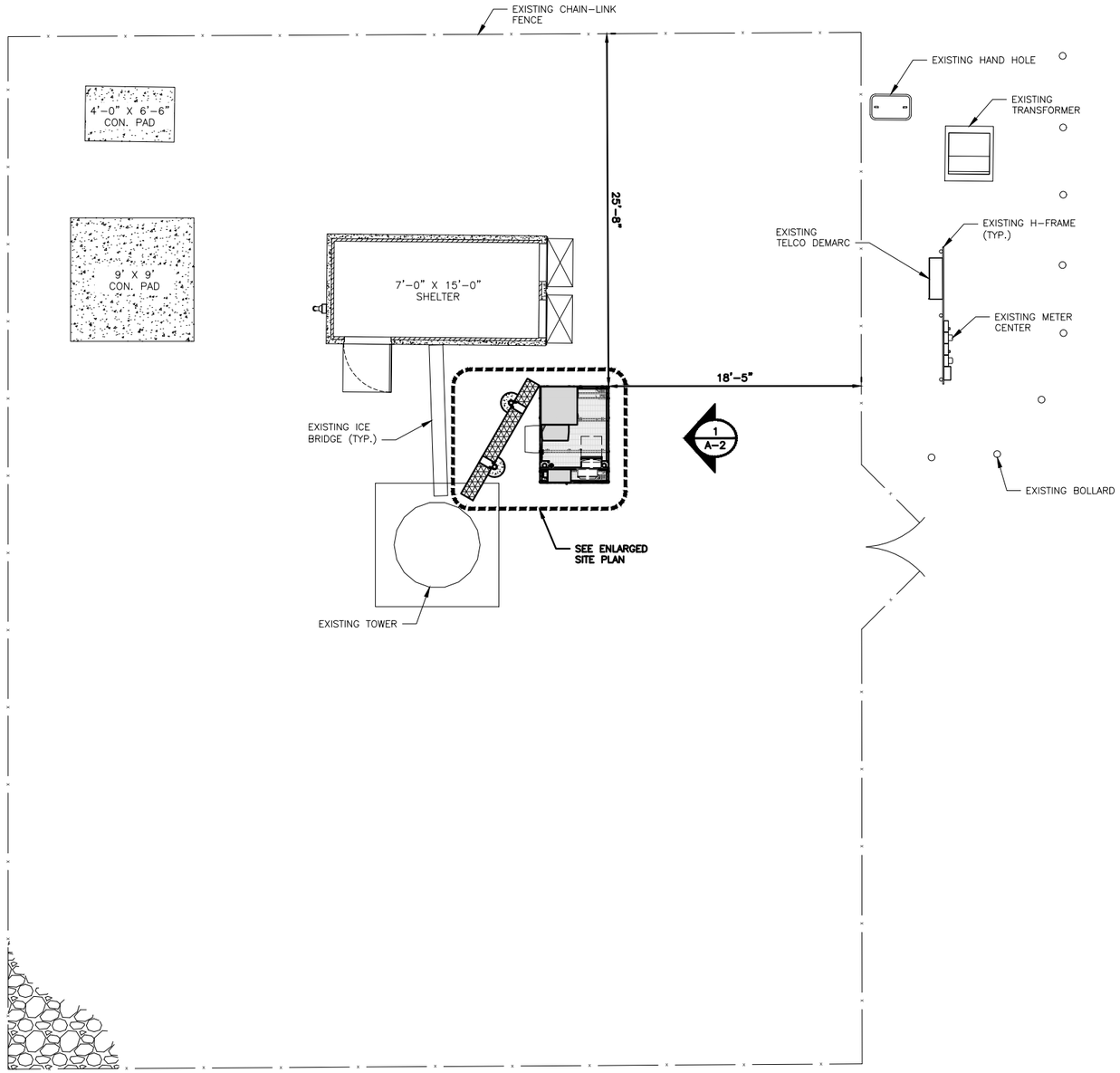
JONATHAN MURPHY
Professional Land Surveying
6300 LIMOUSINE DRIVE STE 114 (919) 787-7873
Raleigh NC 27617 FAX 400-4442
FIRM# L-4382 E-MAIL : raleigh@murphygeomatics.com

NATIONAL SURVEY SERVICES COORDINATION BY:

GEOLINE SURVEYING, INC.
13430 NW 104th Terrace, Suite A
Alachua, FL 32615
(386) 418-0500
(386) 462-9986 Fax
WWW.GEOLINEINC.COM

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



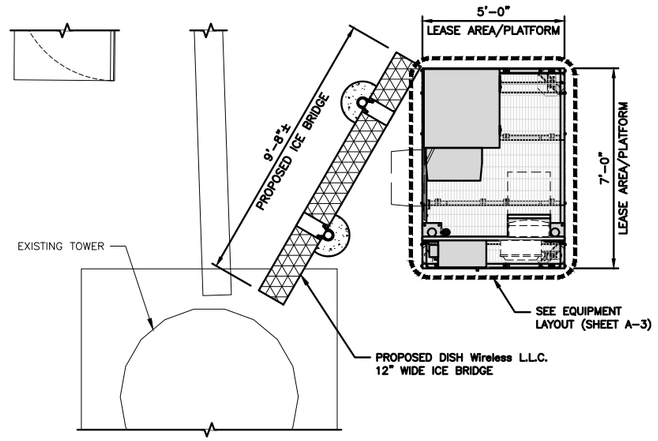
OVERALL SITE PLAN

5' 0 5' 10'
1"=5'

1

NOTES

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

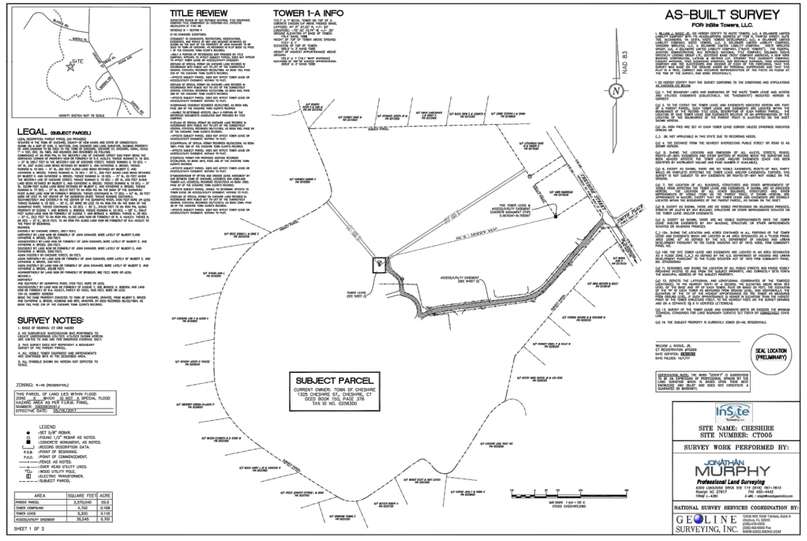


N

ENLARGED SITE PLAN

12" 6" 0 1' 2' 3' 4' 5' 6' 7'
3/8"=1'-0"

2



EXISTING SURVEY (BY OTHERS)

NO SCALE

3

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
AP	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	02/02/2022	ISSUED FOR CONSTRUCTION

STATE OF CONNECTICUT
SCOTT A. WIRGAU
30575
LICENSED PROFESSIONAL ENGINEER

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

A&E PROJECT NUMBER
208478-13733449_D3

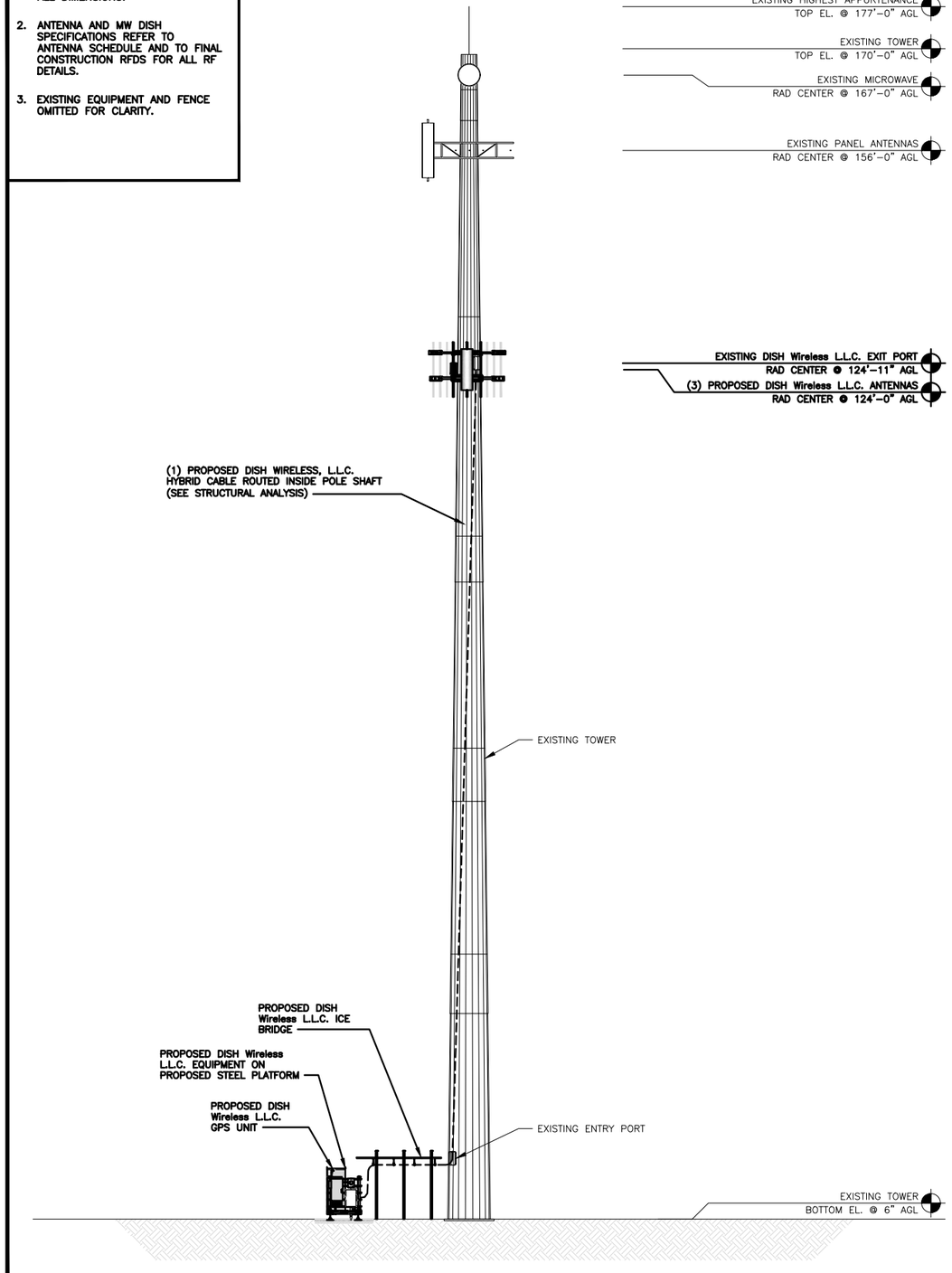
DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00033A
1325 CHESHIRE STREET
CHESHIRE, CT 06410

SHEET TITLE
OVERALL AND ENLARGED SITE PLAN

SHEET NUMBER
A-1

NOTES

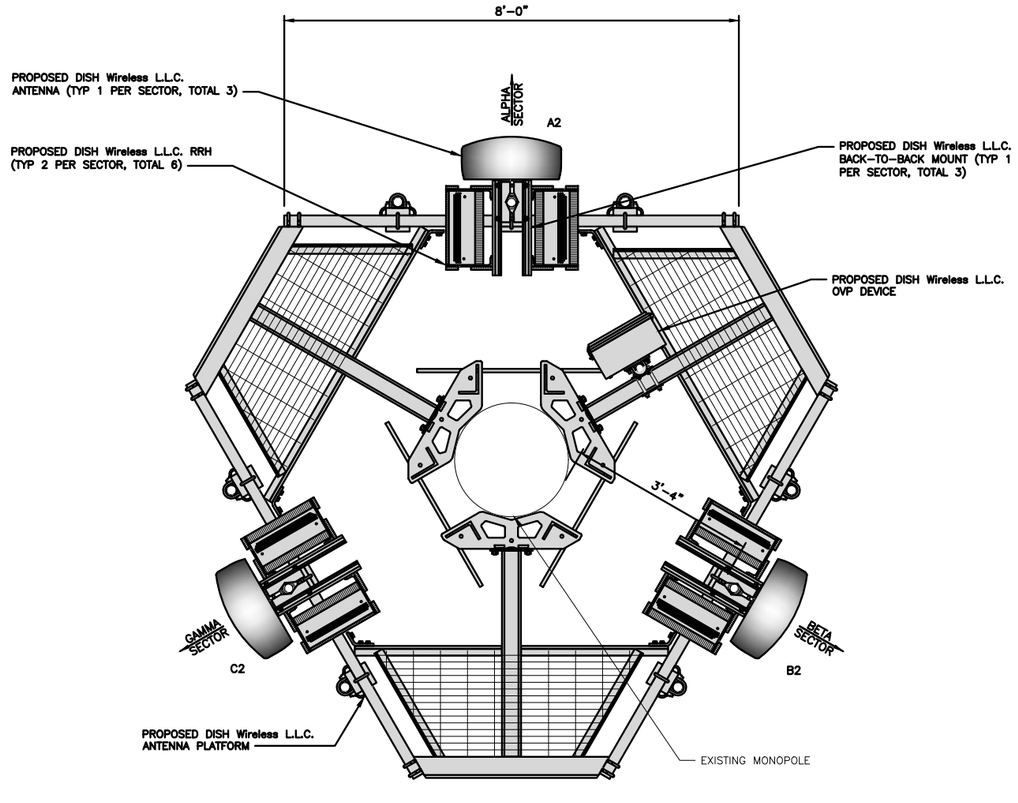
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.



PROPOSED NORTH ELEVATION

10' 0 10' 20'
1"=10'

1



N

ANTENNA LAYOUT

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

2

SECTOR POS.	ANTENNA					TRANSMISSION CABLE	RRH			OVP
	EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	TECH	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH	MANUFACTURER – MODEL NUMBER	TECH	POS.	MANUFACTURER MODEL
A1	--	--	--	--	--	(1) HIGH-CAPACITY HYBRID CABLE (155' LONG)	TA08025-B604	5G	A2	(1) RAYCAP RDIDC-9181-PF-48
A2	PROPOSED	JMA – MX08FRO665-21	5G	0°	124'-0"		TA08025-B605	5G	A2	
A3	--	--	--	--	--		--	--	--	
B1	--	--	--	--	--	SHARED W/ALPHA	TA08025-B604	5G	B2	SHARED W/ALPHA
B2	PROPOSED	JMA – MX08FRO665-21	5G	120°	124'-0"		TA08025-B605	5G	B2	
B3	--	--	--	--	--		--	--	--	
C1	--	--	--	--	--	SHARED W/ALPHA	TA08025-B604	5G	C2	SHARED W/ALPHA
C2	PROPOSED	JMA – MX08FRO665-21	5G	240°	124'-0"		TA08025-B605	5G	C2	
C3	--	--	--	--	--		--	--	--	

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

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112

DRAWN BY:	CHECKED BY:	APPROVED BY:
AP	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	02/02/2022	ISSUED FOR CONSTRUCTION

STATE OF CONNECTICUT
SCOTT A. WIRGAU
30575
LICENSED PROFESSIONAL ENGINEER

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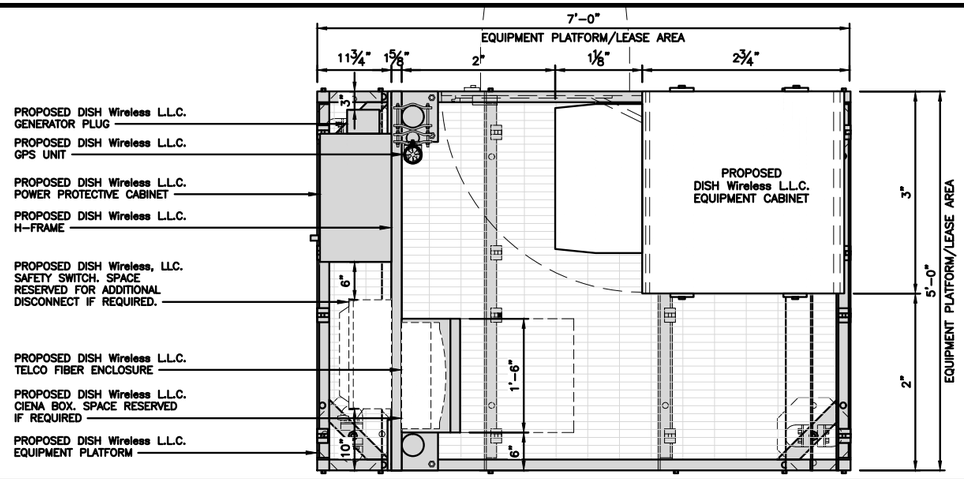
A&E PROJECT NUMBER
208478-13733449_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00033A
1325 CHESHIRE STREET
CHESHIRE, CT 06410

SHEET TITLE
ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER
A-2



PLATFORM EQUIPMENT PLAN

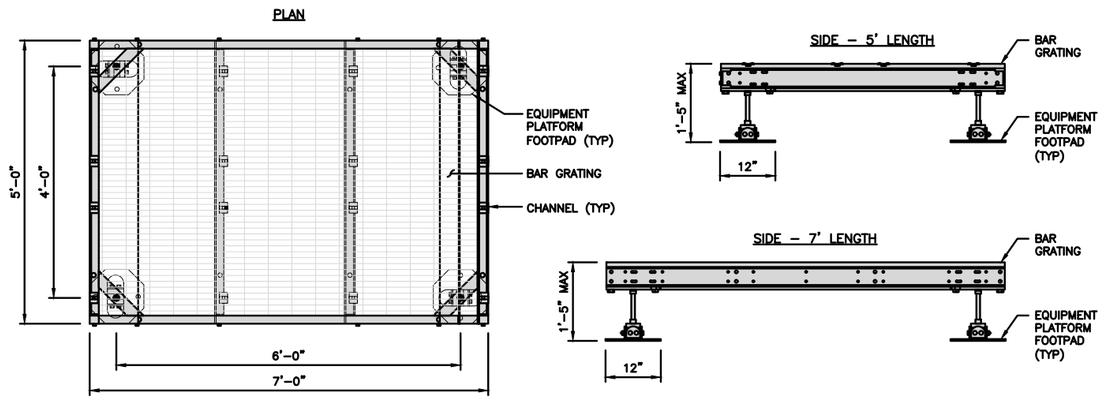
12" 9" 6" 3" 0 1' 2'
1"=1'-0"

1

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

NOTE:

PLATFORM TO BE WITHIN 1° OF LEVEL

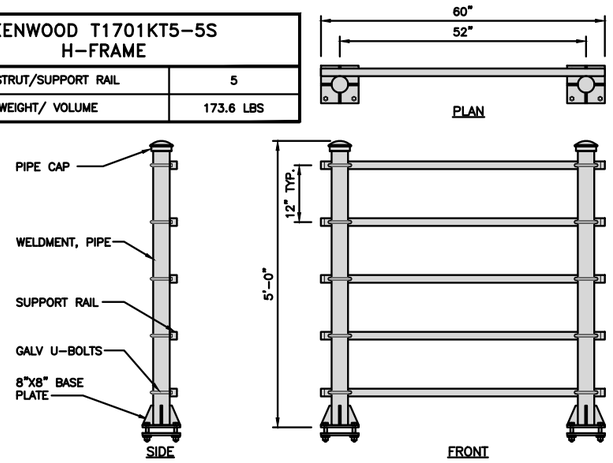


PLATFORM DETAIL

NO SCALE

2

KENWOOD T1701KT5-5S H-FRAME	
UNISTRUT/SUPPORT RAIL	5
WEIGHT/ VOLUME	173.6 LBS



H-FRAME DETAIL

NO SCALE

3

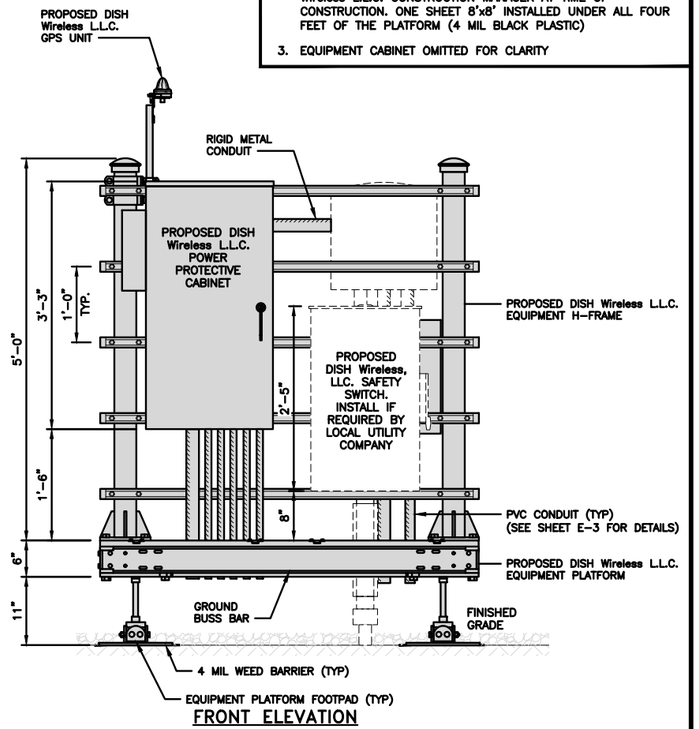
NOT USED

NO SCALE

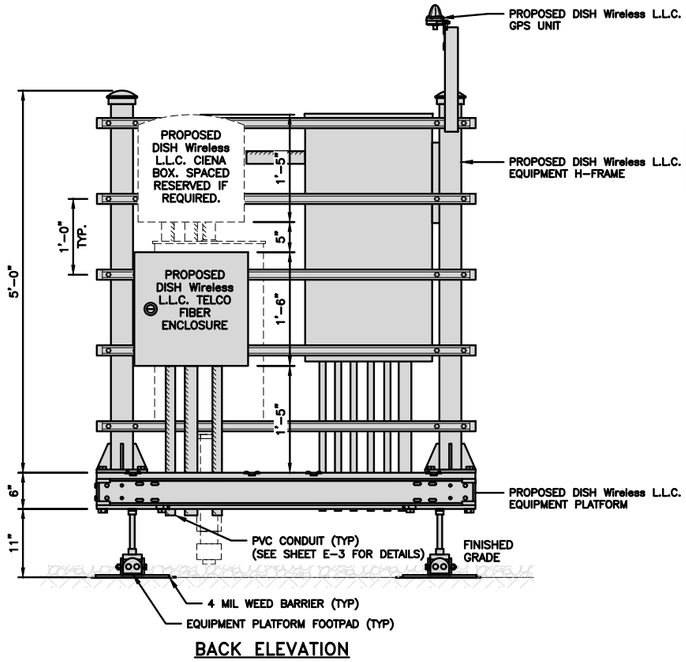
4

NOTES

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



FRONT ELEVATION



BACK ELEVATION

H-FRAME EQUIPMENT ELEVATION

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

5

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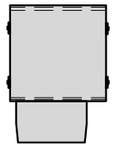
208478-13733449_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00033A
1325 CHESHIRE STREET
CHESHIRE, CT 06410

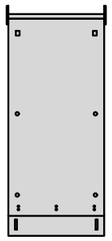
SHEET TITLE
EQUIPMENT PLATFORM AND H-FRAME DETAILS

SHEET NUMBER
A-3

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



PLAN



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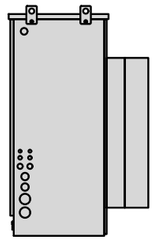
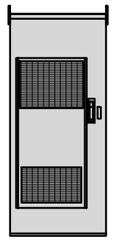


SIDE

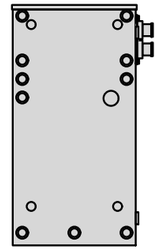


FRONT

CABINET DETAIL | NO SCALE | 1

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

TOP



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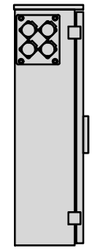
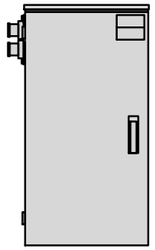


SIDE



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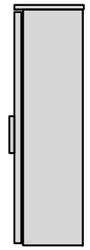
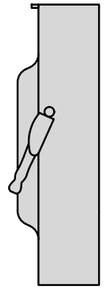


SIDE

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

SQUARE D SAFETY SWITCHES D224NRB	
ENCLOSURE DIM (HxWxD)	29.25"x19.00"x8.50"
ENCLOSURE TYPE	NEMA 3R RAINPROOF
UL LISTED	FILE E–2875

TOP



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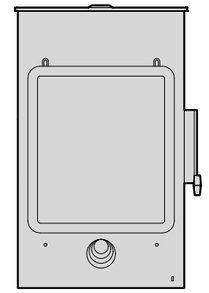
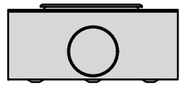


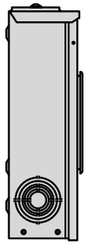
FRONT

SAFETY SWITCH DETAIL | NO SCALE | 3

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



PLAN



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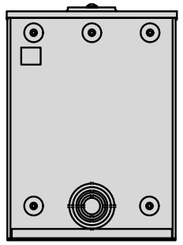

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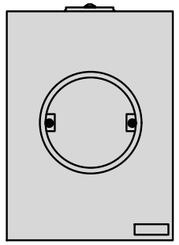
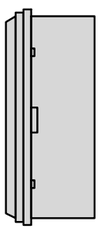


FRONT

METER SOCKET DETAIL | NO SCALE | 4

CIENA 3931 FIBER NID ENCLOSURE	
DIMENSIONS (HxWxD)	17"x16.8"x7"
WEIGHT	28.6 lbs

TOP



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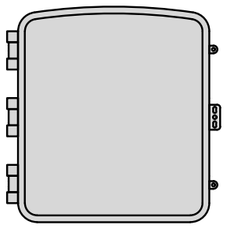
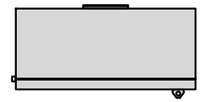


FRONT

FIBER NID ENCLOSURE DETAIL | NO SCALE | 5

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



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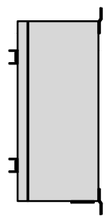

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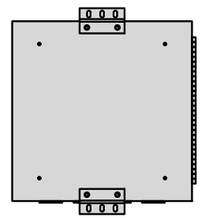

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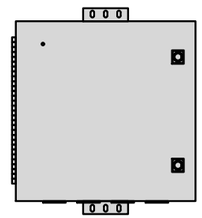
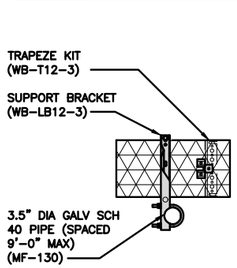


FRONT

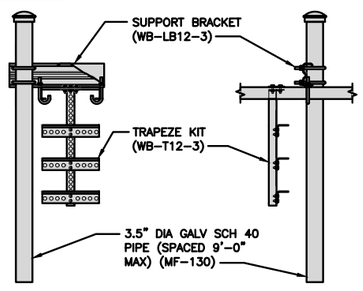
FIBER TELCO ENCLOSURE DETAIL | NO SCALE | 6

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

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

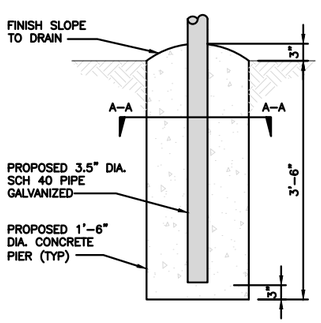


PLAN

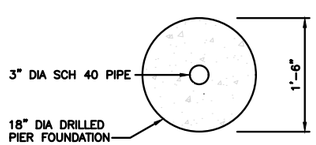


FRONT SIDE

ICE BRIDGE DETAIL | NO SCALE | 7

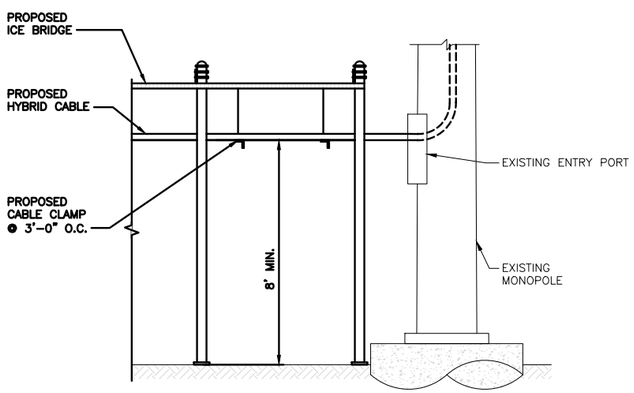


CONCRETE PIER



A–A SECTION

TYPICAL ICE BRIDGE CONCRETE PIER DETAIL | NO SCALE | 8



HYBRID CABLE RUN | NO SCALE | 9

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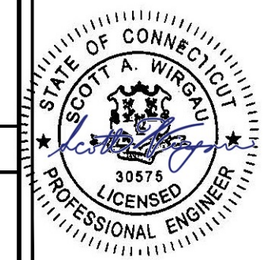

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PROJECT INFORMATION
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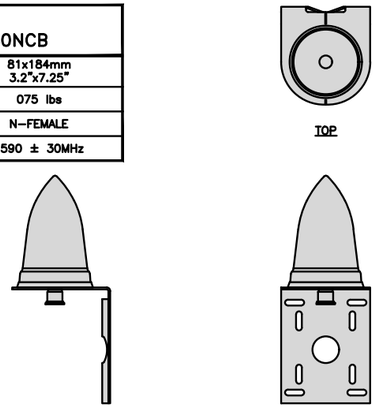
1325 CHESHIRE STREET
CHESHIRE, CT 06410

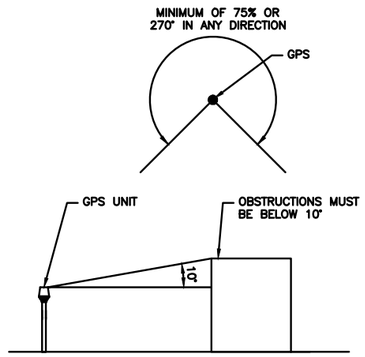
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-4

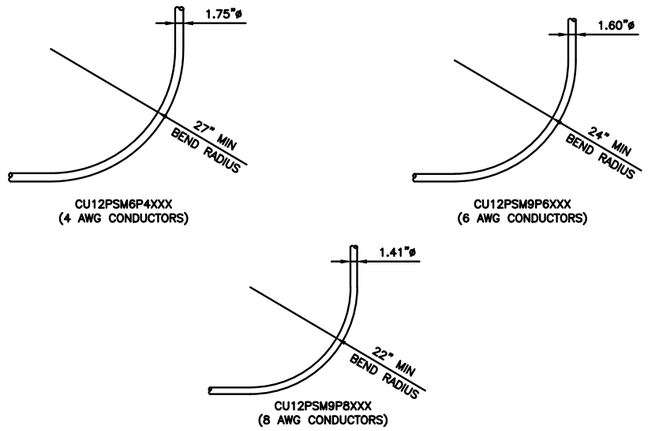
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



GPS DETAIL — NO SCALE — 1



GPS MINIMUM SKY VIEW REQUIREMENTS — NO SCALE — 2



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

NOT USED — NO SCALE — 4

NOT USED — NO SCALE — 5

NOT USED — NO SCALE — 6

NOT USED — NO SCALE — 7

NOT USED — NO SCALE — 8

NOT USED — NO SCALE — 9

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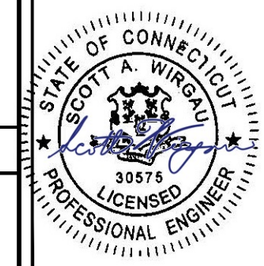

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PROJECT INFORMATION
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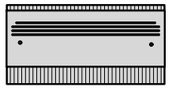
1325 CHESHIRE STREET
CHESHIRE, CT 06410

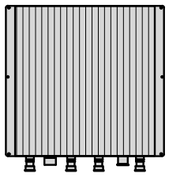
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-5

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



PLAN



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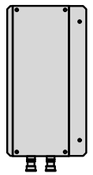

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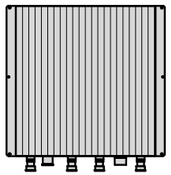
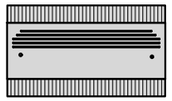


FRONT

RRH DETAIL | NO SCALE | 1

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



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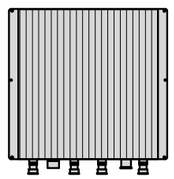

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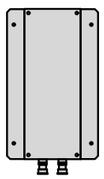

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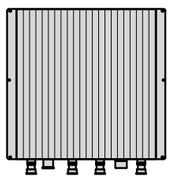
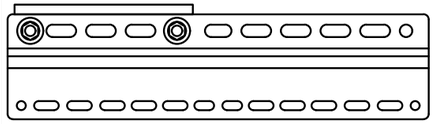


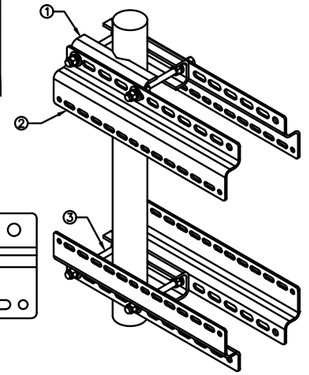
FRONT

RRH DETAIL | NO SCALE | 2

SABRE DOUBLE Z-BRACKET G10123155	
DIMENSIONS (HxWxD) (1 BRACKET)	5"x20"x1-13/16"
WEIGHT (FULL ASSEMBLY)	35.79 lbs
PACKAGE QUANTITY	4

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



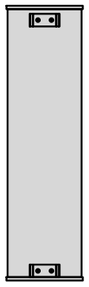


NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

RRH MOUNT DETAIL | NO SCALE | 3

JMA WIRELESS MX08FRO665-21 ANTENNA	
DIMENSIONS (HxWxD)	72.0"x20.0"x8.0"
TOTAL WEIGHT	64.5 LB
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE

PLAN



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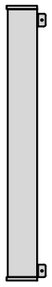

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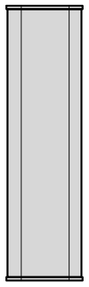


FRONT

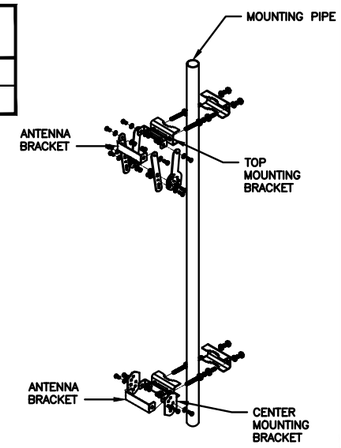
ANTENNA DETAIL | NO SCALE | 4

NOT USED | NO SCALE | 5

JMA ANTENNA MOUNT BRACKET #91900318	
TOTAL WEIGHT (WITH BRACKETS)	18 lbs (8.18 Kg)
POLE DIAMETER RANGE	2.5" TO 4.5"

NOTE:
KIT #91900318: TOP AND BOTTOM BRACKETS FOR 4-,6-, AND 8-FOOT ANTENNAS

ANTENNA BRACKET NOT PART OF KIT

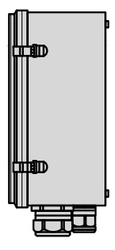


NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

ANTENNA BRACKET DETAIL | NO SCALE | 6

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

PLAN



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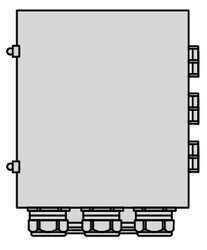

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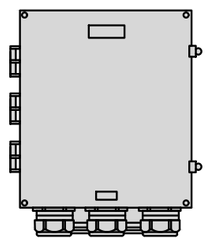
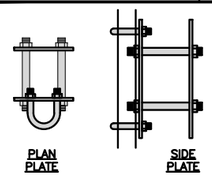


FRONT

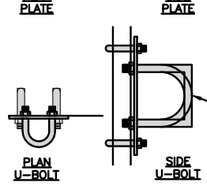
SURGE SUPPRESSION DETAIL (OVP) | NO SCALE | 7

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



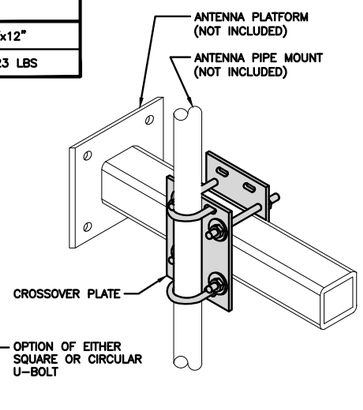
PLAN PLATE

SIDE PLATE



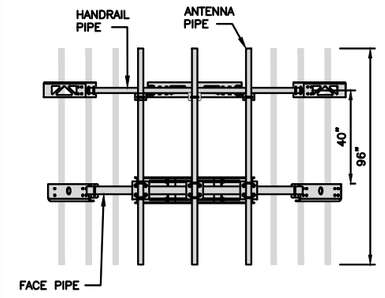
PLAN U-BOLT

SIDE U-BOLT

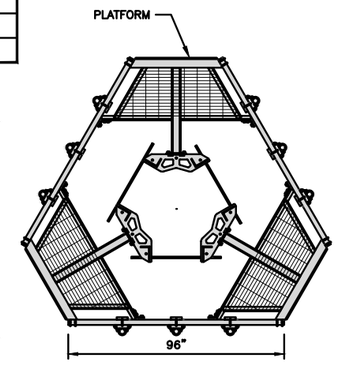


RRH/OVP MOUNT DETAIL | NO SCALE | 8

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



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



ANTENNA PLATFORM DETAIL | NO SCALE | 9

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DRAWN BY:	CHECKED BY:	APPROVED BY:
AP	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	02/02/2022	ISSUED FOR CONSTRUCTION

STATE OF CONNECTICUT
SCOTT A. WIRGAU
30575
LICENSED PROFESSIONAL ENGINEER

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

A&E PROJECT NUMBER
208478-13733449_D3

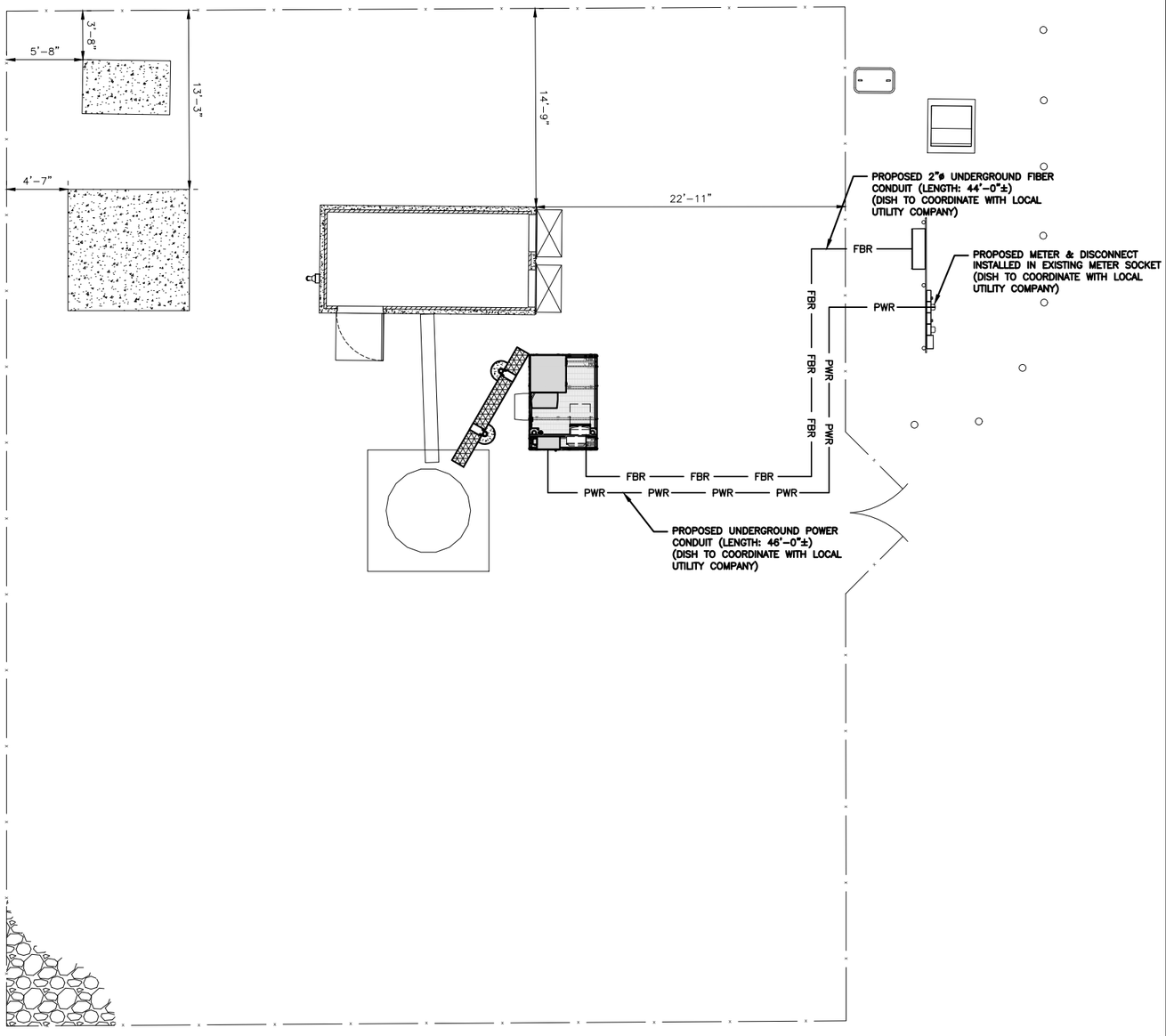
DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00033A
1325 CHESHIRE STREET
CHESHIRE, CT 06410

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-6

NOTES

1. THE EASEMENT RIGHTS FOR THIS SITE DO NOT INCLUDE A SPECIFIED AREA FOR THE LOCATION OF UTILITIES. CONSTRUCTION CONTRACTOR MUST FIELD VERIFY THE APPROPRIATENESS OF ALL PROPOSED UTILITY ROUTES
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.
3. GC TO REFER TO FINAL UTILITY COORDINATION DOCUMENT FOR ALL MEET ME POINTS AND ROUTING DETAILS.



UTILITY ROUTE PLAN

5' 0 5' 10'
1"=5'

1

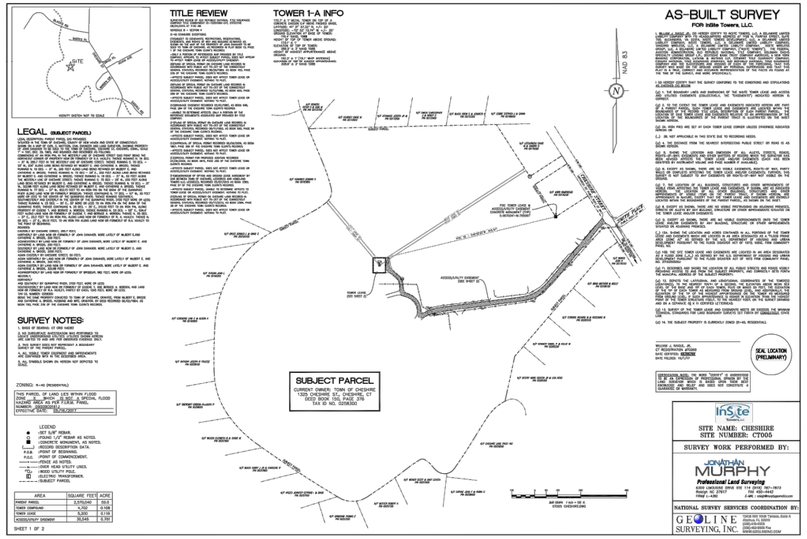
DC POWER WIRING SHALL BE COLOR CODED AT EACH END FOR IDENTIFYING +24V AND −48V CONDUCTORS. RED MARKINGS SHALL IDENTIFY +24V AND BLUE MARKINGS SHALL IDENTIFY −48V.

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

ELECTRICAL NOTES

NO SCALE

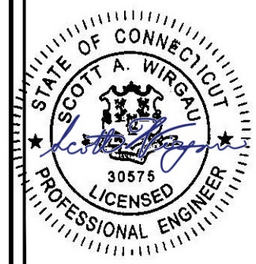
2



EXISTING SURVEY (BY OTHERS)

NO SCALE

3



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RFDS REV #: ----

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A&E PROJECT NUMBER
208478-13733449_D3

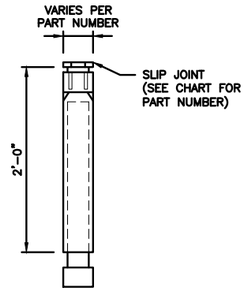
DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00033A
1325 CHESHIRE STREET
CHESHIRE, CT 06410

SHEET TITLE
ELECTRICAL/FIBER ROUTE PAN AND NOTES

SHEET NUMBER
E-1

CARLON EXPANSION FITTINGS

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

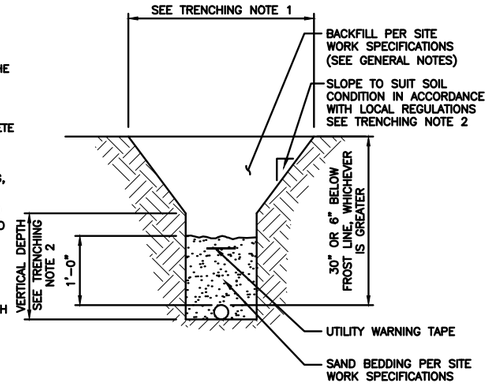


NOTE:
CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

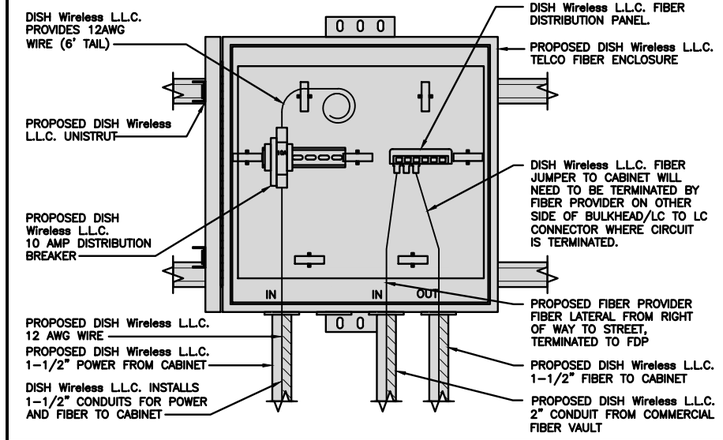
EXPANSION JOINT DETAIL | NO SCALE | 1

TRENCHING NOTES

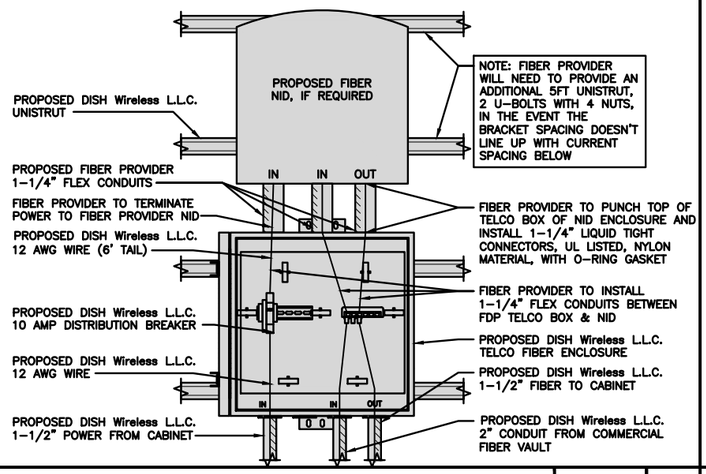
1. CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
2. TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT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



TYPICAL UNDERGROUND TRENCH DETAIL | NO SCALE | 2



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



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

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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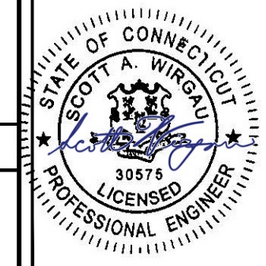

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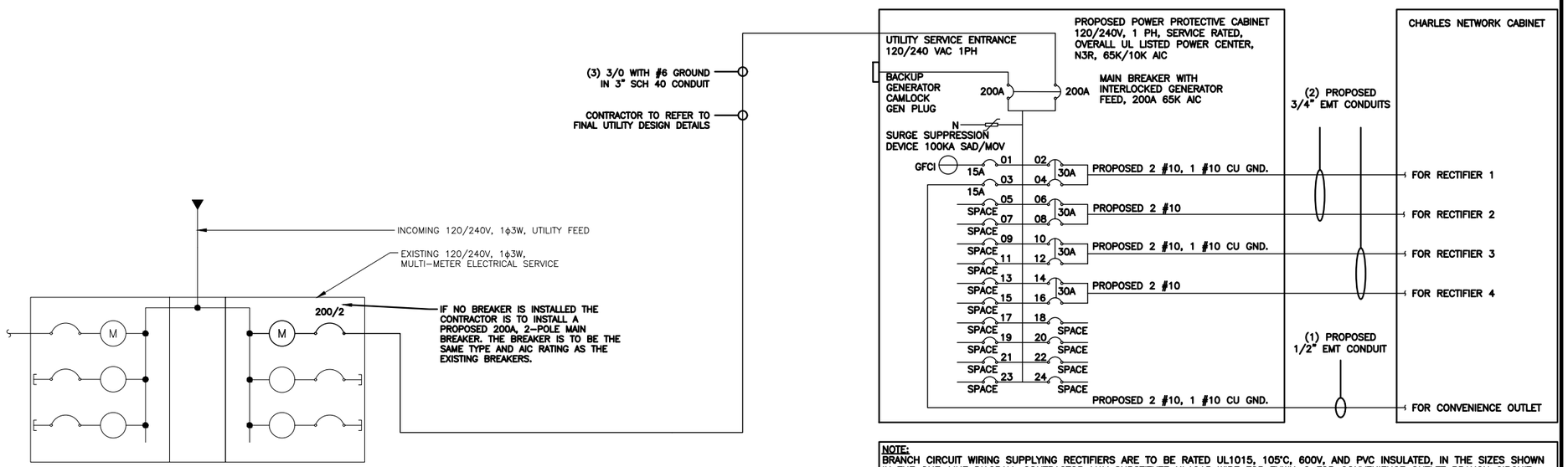
A&E PROJECT NUMBER
208478-13733449_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00033A
1325 CHESHIRE STREET
CHESHIRE, CT 06410

SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER
E-2



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

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

PPC ONE-LINE DIAGRAM | NO SCALE | 1

PROPOSED CHARLES PANEL SCHEDULE

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

PANEL SCHEDULE | NO SCALE | 2

NOT USED | NO SCALE | 3

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PHONE: (919) 468-0112

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AP	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

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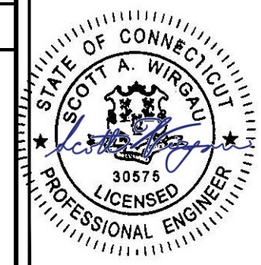

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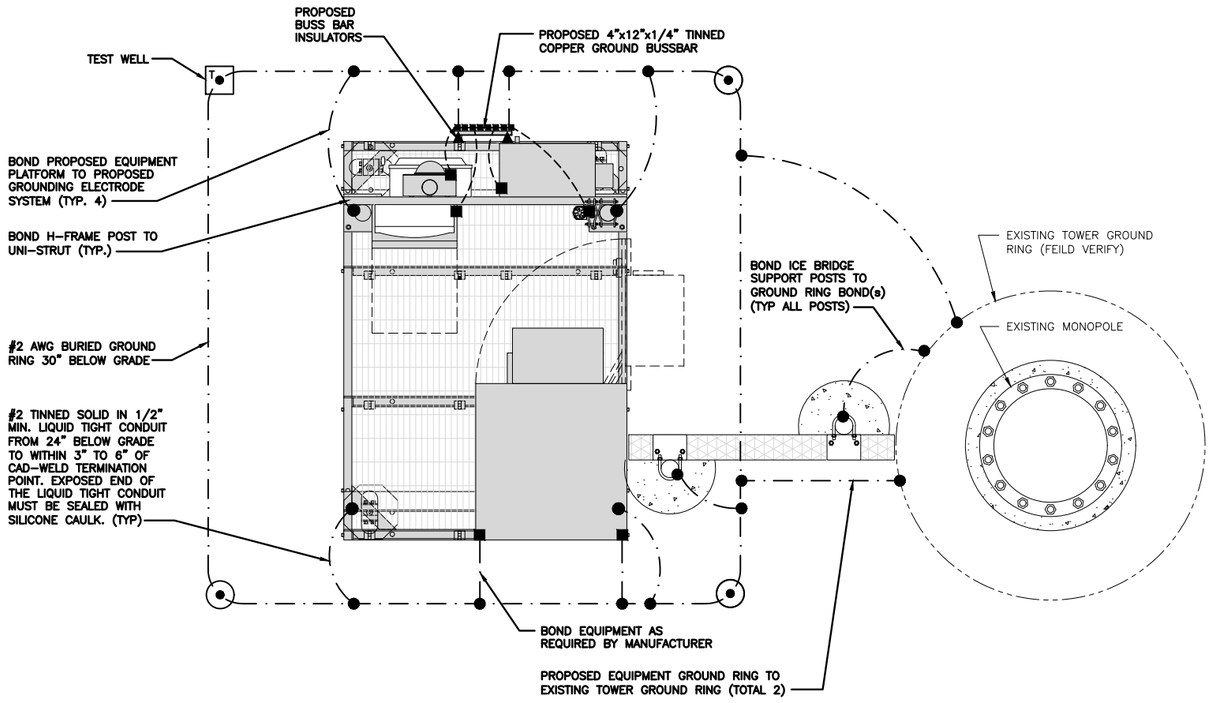
A&E PROJECT NUMBER
208478-13733449_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00033A
1325 CHESHIRE STREET
CHESHIRE, CT 06410

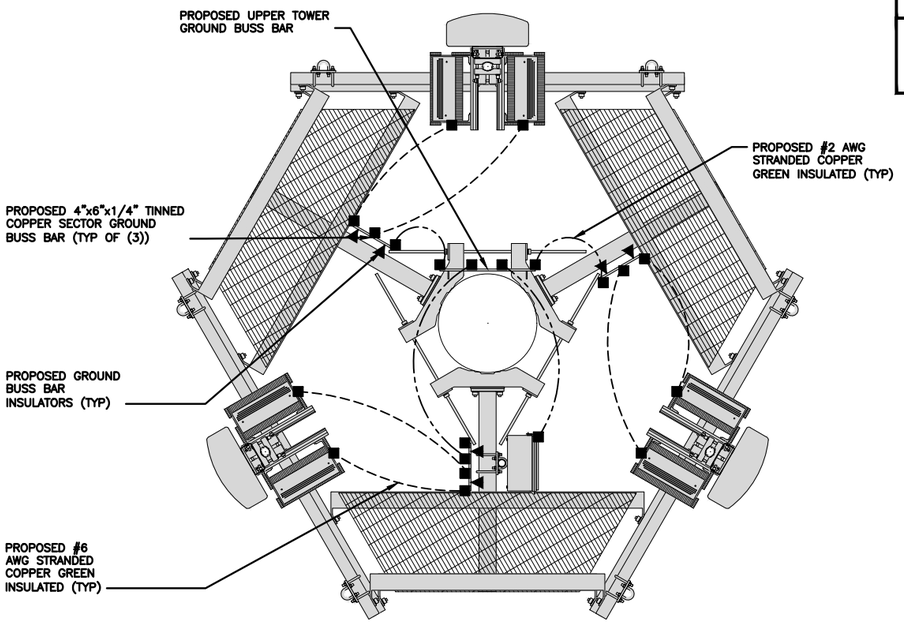
SHEET TITLE
ELECTRICAL ONE-LINE AND PANEL SCHEDULE

SHEET NUMBER
E-3



TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE | 1



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE | 2

NOTES

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

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

GROUNDING LEGEND

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

GROUNDING KEY NOTES

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

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

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

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

(E) GROUND ROD: UL LISTED COPPER CLAD STEEL. MINIMUM 5/8" DIAMETER BY EIGHT FEET LONG. GROUND RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES. GROUND RODS SHALL BE DRIVEN TO THE DEPTH OF GROUND RING CONDUCTOR.

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

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

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

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

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

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

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

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

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

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

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

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

GROUNDING KEY NOTES

NO SCALE | 3

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STATE OF CONNECTICUT
SCOTT A. WIRGAU
30575
LICENSED PROFESSIONAL ENGINEER

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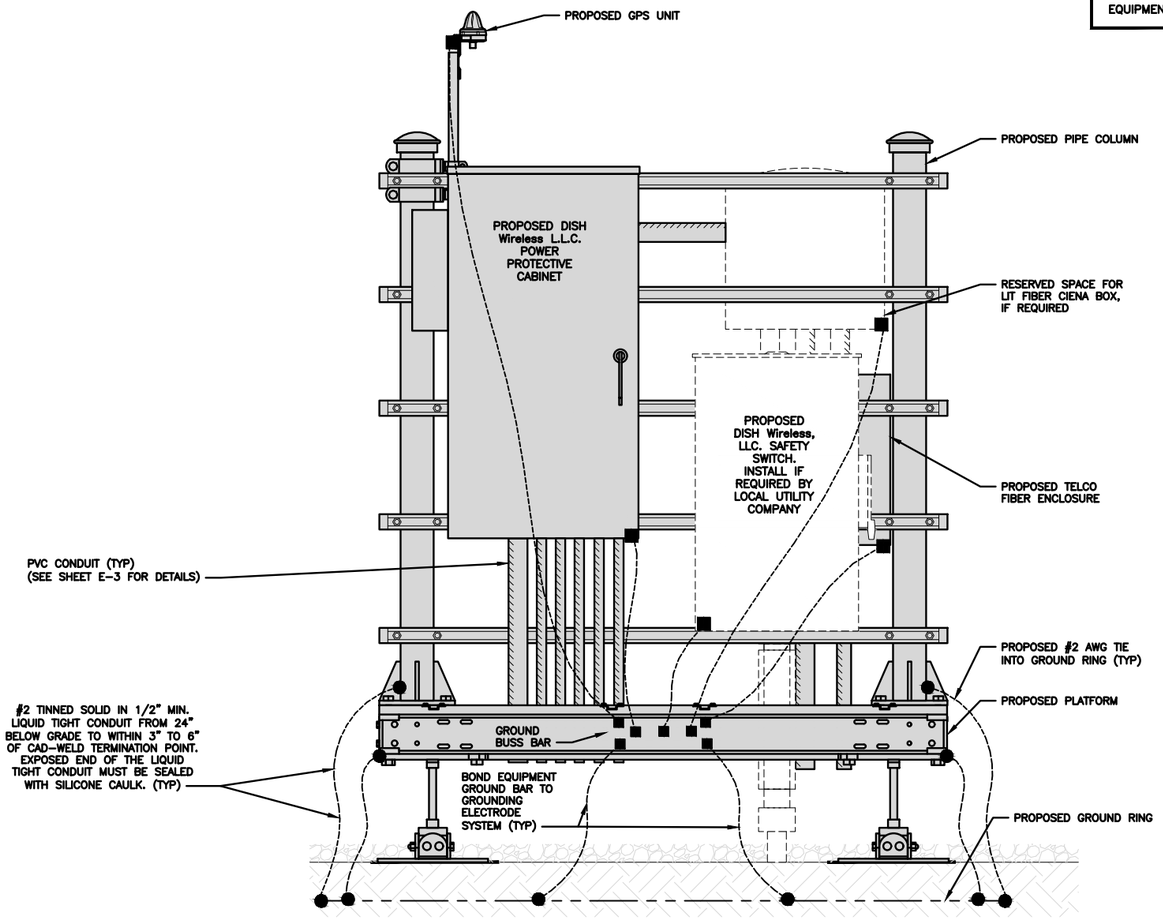
PROJECT INFORMATION
BOHVN00033A
1325 CHESHIRE STREET
CHESHIRE, CT 06410

SHEET TITLE
GROUNDING PLAN AND NOTES

SHEET NUMBER
G-1

NOTES

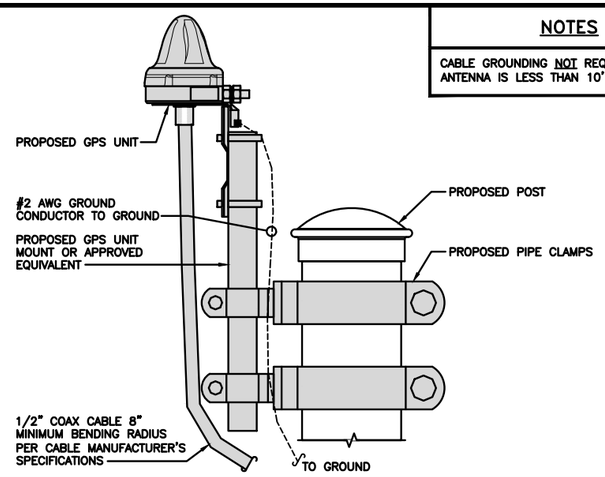
EQUIPMENT CABINET OMITTED FOR CLARITY



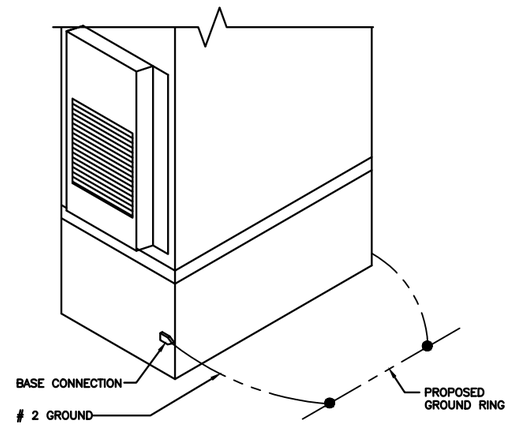
H-FRAME GROUNDING DETAIL | NO SCALE | 1

NOTES

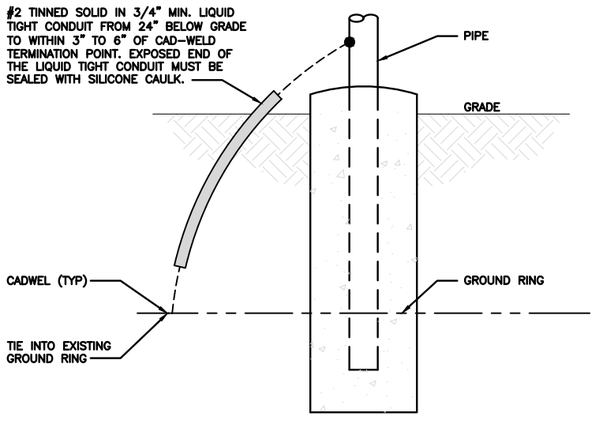
CABLE GROUNDING NOT REQUIRED WHEN ANTENNA IS LESS THAN 10' FROM CABINET



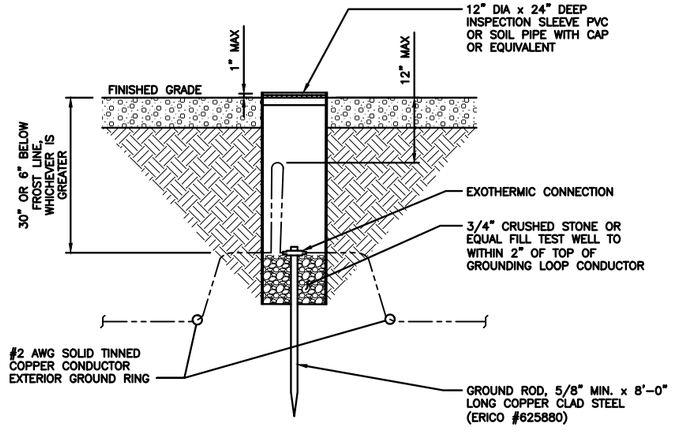
TYPICAL GPS UNIT GROUNDING | NO SCALE | 2



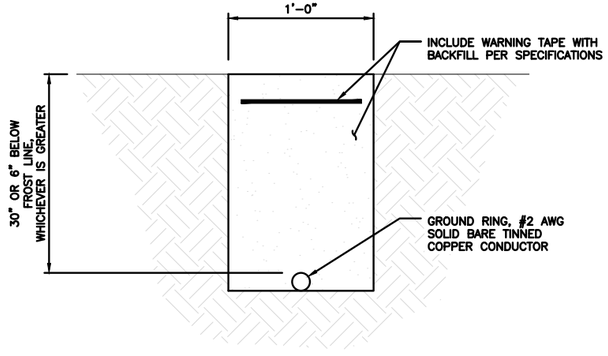
OUTDOOR CABINET GROUNDING | NO SCALE | 3



TRANSITIONING GROUND DETAIL | NO SCALE | 4



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



TYPICAL GROUND RING TRENCH | NO SCALE | 6

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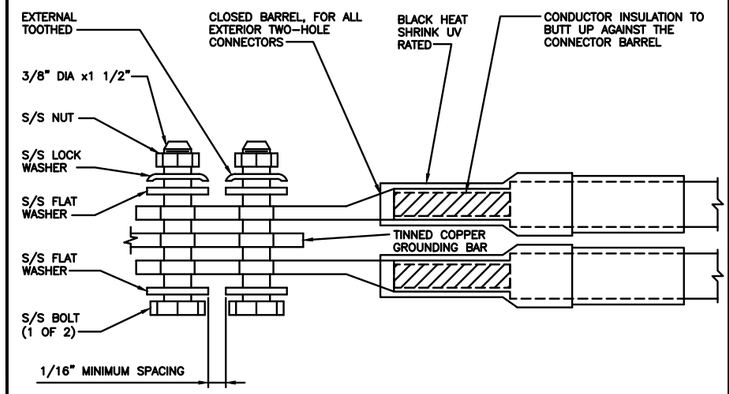
DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00033A
1325 CHESHIRE STREET
CHESHIRE, CT 06410

SHEET TITLE
GROUNDING DETAILS

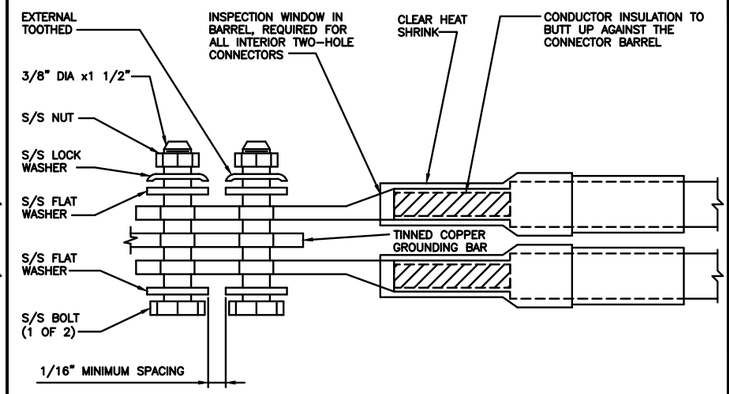
SHEET NUMBER
G-2

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

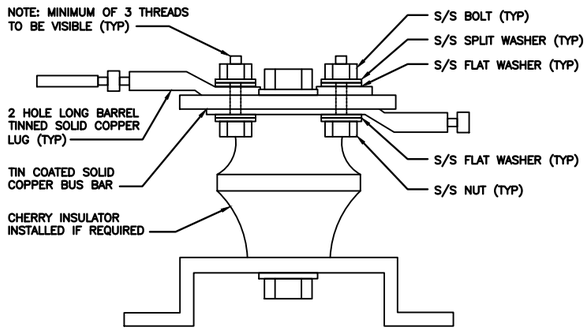
TYPICAL GROUNDING NOTES | NO SCALE | 1



TYPICAL EXTERIOR TWO HOLE LUG | NO SCALE | 2



TYPICAL INTERIOR TWO HOLE LUG | NO SCALE | 3



LUG DETAIL | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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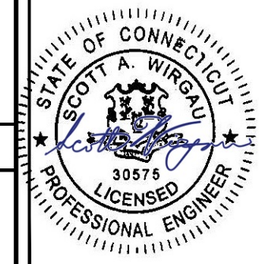

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CHESHIRE, CT 06410

SHEET TITLE
GROUNDING DETAILS

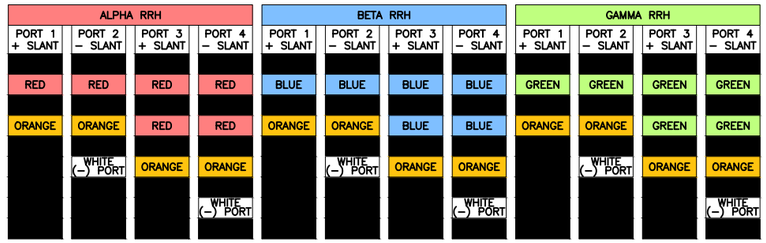
SHEET NUMBER
G-3

HYBRID/DISCREET CABLES

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

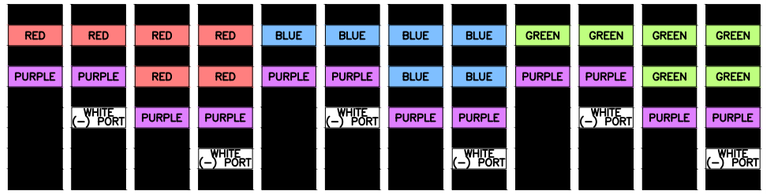
LOW-BAND RRH
(600 MHz N71 BASEBAND) +
(850 MHz N26 BAND) +
(700 MHz N29 BAND) - OPTIONAL PER MARKET

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



MID-BAND RRH
(AWS BANDS N66+N70)

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



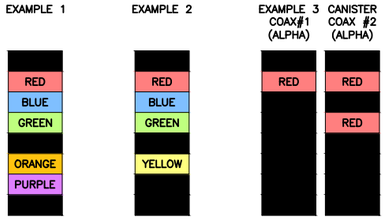
HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED ALONG WITH FREQUENCY BANDS.

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

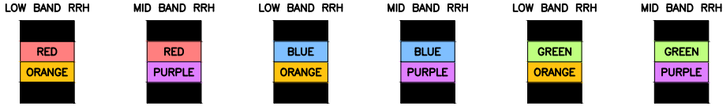
EXAMPLE 2 - HYBRID, OR DISCREET, SUPPORTS CBRS ONLY, ALL SECTORS.

EXAMPLE 3 - MAIN COAX WITH GROUND MOUNTED RRHs.



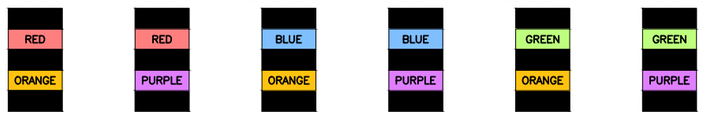
FIBER JUMPERS TO RRHs

LOW-BAND HHR FIBER CABLES HAVE SECTOR STRIPE ONLY.



POWER CABLES TO RRHs

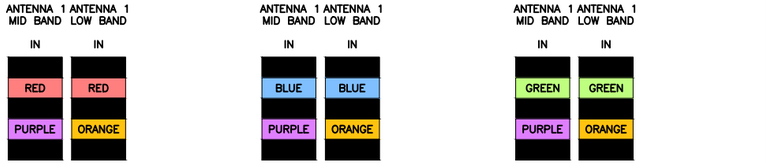
LOW-BAND RRH POWER CABLES HAVE SECTOR STRIPE ONLY



RET MOTORS AT ANTENNAS

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

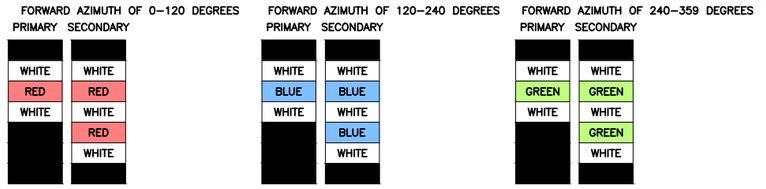
SEPARATE RET CABLES ARE USED WHEN ANTENNA PORTS PROVIDE INPUTS FOR BOTH LOW AND MID BANDS.



MICROWAVE RADIO LINKS

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

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



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

AWS (N66+N70+H-BLOCK): PURPLE

CBRS TECH (3 GHz): YELLOW

NEGATIVE SLANT PORT ON ANT/RRH: WHITE

ALPHA SECTOR: RED

BETA SECTOR: BLUE

GAMMA SECTOR: GREEN

COLOR IDENTIFIER		2
NOT USED		3
RF CABLE COLOR CODES		1
NOT USED		4

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SHEET TITLE
RF CABLE COLOR CODES

SHEET NUMBER
RF-1

LEGEND

EXOTHERMIC CONNECTION

MECHANICAL CONNECTION

BUSS BAR INSULATOR

CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM — T

EXOTHERMIC WITH INSPECTION SLEEVE

GROUNDING BAR

GROUND ROD

TEST GROUND ROD WITH INSPECTION SLEEVE — T

SINGLE POLE SWITCH — $

DUPLEX RECEPTACLE

DUPLEX GFCI RECEPTACLE — GFCI

FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48–T8 — F

SMOKE DETECTION (DC) — SD

EMERGENCY LIGHTING (DC)

SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW LED–1–25A400/51K–SR4–120–PE–DDBTXD

CHAIN LINK FENCE — x — x — x — x

WOOD/WROUGHT IRON FENCE

WALL STRUCTURE

LEASE AREA

PROPERTY LINE (PL)

SETBACKS

ICE BRIDGE

CABLE TRAY

WATER LINE — W — W — W — W — W

UNDERGROUND POWER — UGP — UGP — UGP — UGP — UGP

UNDERGROUND TELCO — UGT — UGT — UGT — UGT — UGT

OVERHEAD POWER — OHP — OHP — OHP — OHP

OVERHEAD TELCO — OHT — OHT — OHT — OHT

UNDERGROUND TELCO/POWER — UGT/P — UGT/P — UGT/P — UGT/P

ABOVE GROUND POWER — AGP — AGP — AGP — AGP — AGP

ABOVE GROUND TELCO — AGT — AGT — AGT — AGT — AGT

ABOVE GROUND TELCO/POWER — AGT/P — AGT/P — AGT/P — AGT/P

WORKPOINT — W.P.

SECTION REFERENCE — XX / X–X

DETAIL REFERENCE — XX / X–X

ABBREVIATIONS

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

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DRAWN BY:	CHECKED BY:	APPROVED BY:
AP	SRF	SRF

RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	02/02/2022	ISSUED FOR CONSTRUCTION

STATE OF CONNECTICUT
SCOTT A. WIRGAU
30575
LICENSED
PROFESSIONAL ENGINEER

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

A&E PROJECT NUMBER

208478–13733449_D3

DISH Wireless L.L.C.
PROJECT INFORMATION

BOHVN00033A
1325 CHESHIRE STREET
CHESHIRE, CT 06410

SHEET TITLE

LEGEND AND ABBREVIATIONS

SHEET NUMBER

GN-1

SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED – NO WORK SHALL COMMENCE PRIOR TO CONTRACTOR RECEIVING A WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE DISH Wireless L.L.C. AND TOWER OWNER NOC & THE DISH Wireless L.L.C. AND TOWER OWNER CONSTRUCTION MANAGER.

2. "LOOK UP" – DISH Wireless L.L.C. AND TOWER OWNER SAFETY CLIMB REQUIREMENT:

THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR DISH Wireless L.L.C. AND DISH Wireless L.L.C. AND TOWER OWNER POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.

3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.

4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND DISH Wireless L.L.C. AND TOWER OWNER STANDARDS, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).

5. ALL SITE WORK TO COMPLY WITH DISH Wireless L.L.C. AND TOWER OWNER INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON DISH Wireless L.L.C. AND TOWER OWNER TOWER SITE AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."

6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY DISH Wireless L.L.C. AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.

7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

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

9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES INCLUDING PRIVATE LOCATES SERVICES PRIOR TO THE START OF CONSTRUCTION.

10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.

11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND DISH PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.

12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF DISH Wireless L.L.C. AND TOWER OWNER, AND/OR LOCAL UTILITIES.

14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.

15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.

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

17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.

18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS AND RADIOS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

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

22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

1.FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

CONTRACTOR:GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION

CARRIER:DISH Wireless L.L.C.

TOWER OWNER:TOWER OWNER

2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.

3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.

4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.

5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.

6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CARRIER POC AND TOWER OWNER.

7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

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

10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.

11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION, BEFORE SUBMITTING BIDS, TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.

12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF DISH Wireless L.L.C. AND TOWER OWNER

13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

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

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RFDS REV #: ----

CONSTRUCTION DOCUMENTS

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REV	DATE	DESCRIPTION
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A&E PROJECT NUMBER
208478–13733449_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00033A
1325 CHESHIRE STREET
CHESHIRE, CT 06410

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-2

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

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

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

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

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

#4 BARS AND SMALLER 40 ksi

#5 BARS AND LARGER 60 ksi

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

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

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

ELECTRICAL INSTALLATION NOTES:

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

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

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

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

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

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

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

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

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

8. TIE WRAPS ARE NOT ALLOWED.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112

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RFDS REV #: ----

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	02/02/2022	ISSUED FOR CONSTRUCTION

STATE OF CONNECTICUT
SCOTT A. WIRGAU
30575
LICENSED
PROFESSIONAL ENGINEER

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A&E PROJECT NUMBER
208478-13733449_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00033A
1325 CHESHIRE STREET
CHESHIRE, CT 06410

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-3

GROUNDING NOTES:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."

2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:

A. ASTM A-572, GRADE 50 – ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE

B. ASTM A-36 – ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.

C. ASTM A-500, GRADE B – HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)

D. ASTM A-325, TYPE SC OR N – ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS

E. ASTM F-1554 07 – ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE

3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.

4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.

6. CONNECTIONS:

A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.

B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.

C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.

D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.

E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.

F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.

G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING ½" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

H. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE REQUIRED DURING CONSTRUCTION UNTIL ALL CONNECTIONS ARE COMPLETE.

I. ANY FIELD CHANGES OR SUBSTITUTIONS SHALL HAVE PRIOR APPROVAL FROM THE ENGINEER, AND DISH WIRELESS L.L.C. PROJECT MANAGER IN WRITING

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

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A&E PROJECT NUMBER
208478-13733449_D3

DISH Wireless L.L.C.
PROJECT INFORMATION
BOHVN00033A
1325 CHESHIRE STREET
CHESHIRE, CT 06410

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-4

April 27, 2022

Michael Glidden, Town Planner
Cheshire Town Hall
84 South Main Street,
Cheshire, CT 06410

Re: Tower Share Application – Dish Site 13733449
Dish Wireless Telecommunications Facility @ 1325 Cheshire Street, Cheshire, CT 06410

Dear Mr. Glidden:

Dish Wireless ("Dish") is proposing a wireless telecommunications facility on an existing one hundred seventy (170) foot tall monopole tower at 1325 Cheshire Street, Cheshire, CT 06410 (Latitude: 41.53259318, Longitude: -72.87048903) and within the existing fenced compound. The monopole tower is owned and operated by American Tower Corporation. The subject property is owned by the Town of Cheshire.

Dish proposes to install a five (5) foot by seven (7) foot metal platform within the existing fenced compound and install three (3) antennas, a single antenna mount, six (6) RRUs, and cables on the existing tower at one hundred twenty four (124) feet as more particularly detailed and described on the enclosed Construction Drawings. No height extension or compound expansion are proposed. The tower was approved by the CSC in Docket Number 451, on January 8, 2015.

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

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

Respectfully Submitted,

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

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

April 27, 2022

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

Re: Tower Share Application – Dish Site 13733449
Dish Wireless Telecommunications Facility @ 1325 Cheshire Street, Cheshire, CT 06410

Dear Mr. Paynter:

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

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Respectfully Submitted,

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

April 27, 2022

Tim Slocum, Chairman, Cheshire Town Council
Town of Cheshire Town Hall
84 South Main Street,
Cheshire, CT 06410

Re: Tower Share Application – Dish Site 13733449
Dish Wireless Telecommunications Facility @ 1325 Cheshire Street, Cheshire, CT 06410

Dear Chairman Slocum:

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

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

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

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