

**COMMUNICATIONS TOWER AND SITE LEASE AGREEMENT
BETWEEN SEMINOLE COUNTY AND CELLCO PARTNERSHIP D/B/A VERIZON
WIRELESS**

THIS LEASE AGREEMENT (referred to as the “Agreement”) is made and entered into by and between **SEMINOLE COUNTY**, a charter county and political subdivision of the State of Florida, whose address is Seminole County Services Building, 1101 East 1st Street, Sanford, Florida 32771, (in this Agreement referred to as “COUNTY,”) and **CELLCO PARTNERSHIP** d/b/a Verizon Wireless, a Delaware general partnership with its principal offices at One Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920, (in this Agreement referred to as “PROVIDER.”)

W I T N E S S E T H:

WHEREAS, COUNTY owns the Property, as defined in Section 2(d) below, upon which is located the Tower, which is defined in Section 2(e) below, and



WHEREAS, PROVIDER’s business is wireless communications services and it has determined that the Tower’s location, height, and structural design remains well suited for housing PROVIDER’s antenna array for cellular service to customers in the vicinity of the Property; and

WHEREAS, COUNTY has sufficient space on its Tower to accommodate PROVIDER’s equipment and requested collocation, as this term is defined in Section 2(a) below; and

WHEREAS, PROVIDER desires the utilization of a portion of the Tower and four hundred fifty (450) square feet of ground space of the Property (the “Leased Premises” as defined in Section 2(c) below) for the installation and operation of certain antennas and related cables and equipment, including generator equipment and an equipment shed and/or cabinets (the “Facilities” as defined in Section 2(b) below), for use in connection with its wireless communications business,

all as more particularly described in the site plan and elevation drawings attached to this Agreement as Exhibit C; and

WHEREAS, COUNTY is willing to grant PROVIDER a lease on a portion of the Tower and the Property along with a non-exclusive license to enter in and across the Property pursuant to the terms and conditions set forth below in order to allow PROVIDER to install, operate, and maintain its Facilities as described in the Description and Inventory attached to and incorporated in this Agreement as Exhibit D; and

WHEREAS, the Board of County Commissioners of Seminole County finds and determines that cooperative ventures of the type described in this Agreement best serve the public interest and constitute a true public purpose by fostering expansion of wireless communications and E-911 services while enhancing the aesthetics of COUNTY through reduction of the need for multiple towers via collocation of wireless service providers,



NOW, THEREFORE, in consideration of the mutual covenants set forth in this Agreement, COUNTY and PROVIDER agree as follows:

Section 1. Recitals. The foregoing recitals are true and correct and form a material part of the agreement upon which the parties have relied.

Section 2. Definitions. The following definitions apply to this Agreement:

(a) “Collocation” means the mounting and installation of antennas and ancillary equipment on an existing tower, building, or structure for the purpose of transmitting or receiving radio frequency signals for communications purposes.

(b) “Facilities” mean utility lines, transmission lines, PROVIDER's own equipment shelter and/or cabinets, if applicable, electronic equipment, transmitting and receiving antennas, power generator, supporting equipment and structures.

(c) “Leased Premises” mean the allocated antenna placement elevation space on the Tower along with the necessary space to accommodate attendant cabling, the space within COUNTY’s equipment compound allocated for PROVIDER’s ground-based equipment, and the non-exclusive access and utility easements across the Property which are more particularly described herein.

(d) “Property” means the property generally located at 1930 E. Osceola Road, Geneva, Florida 32732 and as more particularly described on Exhibit A attached to this Agreement and incorporated by reference.


(e) “Tower” means the COUNTY-owned  telecommunications tower and related equipment compound that is located on the Property.

Section 3. Purpose and Intended Use.

(a) The leasehold and license rights granted under this Agreement are for the installation, operation, repair and maintenance of PROVIDER’s Facilities in accordance with the site plan attached as Exhibit C to this Agreement and for no other purpose.

(b) PROVIDER will have the responsibility for supplying Exhibits C and D to this Agreement within ten (10) days of the Effective Date (as defined below) of this Agreement. PROVIDER’s failure to provide such information timely may result in termination of this Agreement. Structural diagrams and indications of loading within either or both Exhibits must be under seal of a professional engineer.

(c) PROVIDER's use of the Property will be non-exclusive except as to the specified heights on the Tower and PROVIDER's portion of ground space as set forth in this Agreement.

(d) PROVIDER has exclusive rights to erect, maintain, modify, remove, add and operate antennas and related tower equipment such as remote radio units (RRU), tower mounted amplifiers (TMA), diplexers, triplexers or similar equipment (the "Allowed Equipment") on the Tower at a centerline of two hundred twenty-nine feet (229') above ground level. PROVIDER may not add additional antennas or other equipment to any other location on the Tower without the prior approval of COUNTY, which approval shall not be unreasonably withheld, conditioned, or delayed. Prior to making any modifications to PROVIDER's equipment, PROVIDER must obtain and provide to COUNTY, at PROVIDER's expense, a certified evaluation indicating that any modification(s) will not interfere with existing or proposed antennas of COUNTY or other collocated users of the Tower, and that  the Tower can structurally accommodate the modification(s). Any structural modification(s) to the Tower necessary to accommodate any of PROVIDER'S equipment will be at PROVIDER'S expense. Upon proof that the Tower can accommodate PROVIDER'S proposed modification(s) and approval of the proposed modification(s) by COUNTY, such approval not to be unreasonably withheld, conditioned, or delayed, PROVIDER shall provide COUNTY with a new Exhibit D in substantially the same form as the existing Exhibit D reflecting the modifications. This new Exhibit D will replace the existing Exhibit D without the need for an amendment to this Agreement, and this new Exhibit D will be proof of PROVIDER's Allowed Equipment on the Tower. Upon proof that PROVIDER has obtained all approvals necessary for the modifications, COUNTY shall issue PROVIDER a notice to proceed to make the modifications. Notwithstanding anything contained in this Agreement to

the contrary, COUNTY agrees that PROVIDER shall be able to make like-kind replacements of its equipment on the Tower that are the same or smaller in size without prior approval from COUNTY, provided that PROVIDER shall provide COUNTY with prior written notice of any such like-kind replacements. No prior notice to, or approval from, COUNTY shall be required for any modifications to PROVIDER's ground-based equipment.

Section 4. Due Diligence Period.

(a) PROVIDER will have up to two hundred forty (240) days from the Effective Date to undertake due diligence as to the suitability of the Tower for its collocation and level of service signal coverage needs (the "Due Diligence Period"). PROVIDER is permitted to enter the Property for the purpose of making appropriate engineering and boundary surveys, inspections, and other reasonably necessary investigations and RF signal, topographical, geotechnical, structural, and environmental tests and analyses (collectively "Investigations and Tests") that PROVIDER may deem necessary or desirable to determine the long term physical condition, feasibility, and suitability of the proposed new Tower collocation and related modifications to the surrounding Property. Upon PROVIDER's request, but such request must be no later than one hundred twenty (120) days from the Effective Date, COUNTY shall promptly provide PROVIDER with copies of all plans, specifications, surveys, engineering analyses, and maps for the Property and the Tower. The Tower map and diagrams must include the elevation of all collocated antennas to be located on the Tower and the frequencies upon which each operates. COUNTY is not responsible for any portion of PROVIDER's costs of collocation feasibility Investigations and Tests.

(b) Notwithstanding section 4(a), PROVIDER may waive its rights for making such Investigations and Tests if it so desires. Any such waiver must be signed by a person duly

authorized to contract on behalf of PROVIDER. However, COUNTY will not be liable under any cause of action whatsoever for any subsequent RF interference, belatedly discovered structural incompatibility, or operational issues that may arise by virtue of PROVIDER's decision to forego any part or all of such Due Diligence Period Investigations and Tests relative to continued collocation on the new Tower and the Property. Any such waiver of the Due Diligence Period Investigations and Tests must be immediately communicated in writing to COUNTY, but in no event later than fourteen (14) days from the Effective Date of this Agreement.

(c) If PROVIDER, in its sole discretion, determines at any time during the two hundred forty (240) day Due Diligence Period that the Property or the Tower will not be appropriate for PROVIDER's intended use, or if for any other reason or for no reason, PROVIDER decides not to commence its tenancy of the Leased Premises, then PROVIDER will have the right to terminate this Agreement without penalty upon written notice to COUNTY by no later than the expiration date of the Due Diligence Period.

(d) COUNTY shall ensure that any proposed, future collocations will be timely noticed to PROVIDER and subjected to the same advance testing, engineering certifications, and Due Diligence as described above to best assure that the proposed, future collocations will not interfere with either party's communications from the Property. Future collocations must not interfere with the operations of COUNTY, PROVIDER, or any other tenant using the Tower.

Section 5. Effective Date, Term, and Renewals.

(a) This Agreement shall be effective beginning upon the date when the last party has properly executed this Agreement as determined by the date set forth immediately below the respective signatures of the parties (the "Effective Date"). The initial term of this Agreement shall

be five (5) years, commencing on the Commencement Date (as defined below), and ending at 11:59 p.m. on the day immediately preceding the fifth anniversary of the Commencement Date, unless sooner terminated or modified under the terms of this Agreement by mutual consent of the parties through formal amendment to this Agreement.

(b) This Agreement will be automatically renewed for up to five (5) successive five (5) year terms unless PROVIDER elects not to renew by notifying COUNTY in writing of its intention not to renew at least sixty (60) days prior to the expiration of the then-applicable term, PROVIDER's failure to provide timely notification of its intention concerning non-renewal will bind PROVIDER to the terms of this Agreement for the full renewal term, subject to the early termination provisions of this Agreement. All correspondence under this subsection must be delivered as provided in Section 23 below.

(c) During each renewal term, all terms and conditions of this Agreement, as it may be amended from time to time, will remain in full force and effect.

Section 6. Annual fees, monthly rents, and charges.

(a) Commencing on the first day of the month immediately following the earlier of (i) the date that PROVIDER begins installation of its equipment at the Leased Premises or (ii) the date which is two hundred forty days (240) after the Effective Date (the "Commencement Date"), and on the first day of each subsequent month for the duration of this Agreement, PROVIDER shall pay monthly to COUNTY the sum of Three Thousand One Hundred and 00/100 Dollars (\$3,100.00) as rent (the "Rent") for the occupation and use of the Leased Premises and for the non-exclusive license rights across the Property incidental to such occupancy, use, and enjoyment. The Rent shall be prorated for any partial months.

(b) Commencing on the first anniversary of the Commencement Date and on each anniversary of such date thereafter during the term of this Agreement (including all renewal terms referenced in Section 5(b) above), COUNTY reserves the right to annually increase the monthly rent imposed by Section 6(a) by an amount not exceeding three percent (3%) over the then existing monthly rent. It will be COUNTY's responsibility to timely calculate such adjustment and give written notice of the adjusted rent to PROVIDER. Until such annual adjustment is calculated and written notice provided to PROVIDER, the rent charged for the immediately preceding lease year will remain in effect. PROVIDER shall have up to sixty (60) days following notification of the written notice of the adjusted rent to begin making such adjusted rent payments.

Section 7. Right of Entry, Use, and Quiet Enjoyment of the Property.


(a) COUNTY covenants that it owns the fee simple interest in the Leased Premises and that it has the full legal authority to enter into this Agreement with PROVIDER.



(b) Beginning on the Commencement Date, PROVIDER may use the Leased Premises for any lawful activity in connection with the provision of its wireless communications services under the terms of this Agreement, and PROVIDER will have the ongoing right to the use and quiet enjoyment of the Leased Premises under the terms of this Agreement. COUNTY shall cooperate with PROVIDER in making application for and obtaining all licenses, permits, and any and all other necessary approvals that may be required for PROVIDER's intended use of the Leased Premises. PROVIDER shall bear all expenses connected with any such licenses, permits, and approvals.

(c) PROVIDER has the right, within the terms and constraints of this Agreement, to construct, erect, maintain, test, replace, remove, operate, and upgrade its Facilities. In connection

with these Facilities, PROVIDER has the right to do all work necessary to prepare, maintain, and alter the Leased Premises for PROVIDER's business operations and to install transmission lines connecting the antennas to the transmitters and receivers. All of PROVIDER's construction and installation work must be performed at PROVIDER's sole cost and expense and in a good and workmanlike manner. All persons performing any such installation, construction, and removal work must be properly licensed and insured, proof of which must be provided to COUNTY upon written request therefore.


(d) PROVIDER will hold title to the Facilities, and all of these Facilities will remain PROVIDER's personal property and are not fixtures. PROVIDER has the right to remove the Facilities, at its sole expense, on or before the expiration or earlier termination of this Agreement. PROVIDER shall repair any damage to the Property and COUNTY's Tower caused by such activities at PROVIDER's own expense.  Within ninety (90) days of expiration or earlier termination of this Agreement, PROVIDER shall remove the Facilities from the Property at no cost to COUNTY.

(e) PROVIDER, its employees, agents, and contractors will have access to the Leased Premises during normal business hours upon forty-eight (48) hours advance notice to COUNTY's Telecommunications Manager at (407) 665-1002. Business hours will be the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday, excluding legal holidays. COUNTY recognizes that occasionally certain emergency repair or service needs may require access to portions of the Property or the Tower itself, either during business hours or after hours and on holidays or weekends for which twenty-four (24) hour advance notice or same day notice to COUNTY is required. In such circumstances, PROVIDER shall notify COUNTY's Telecommunications

Manager at (407) 665-1002 during normal business hours or at 407-790-6255 outside of normal business hours, weekends, and holidays of the need for emergency access, and said Telecommunications Manager shall arrange for PROVIDER to access the Property or Tower within four (4) hours of such telephonic notice.

(f) Such Tower or other Property access must be conducted, to the fullest extent possible, during normal business, daylight hours. However, COUNTY shall allow after hours and night access with shorter advance notice in the event of emergency.

(g) Access to the Tower will require the presence of authorized COUNTY personnel or as COUNTY staff and PROVIDER staff may otherwise agree from time to time. PROVIDER's admittance will require adequate proof of identification to COUNTY's authorized personnel on site.

(h) Nothing in this Agreement  may be construed as preventing COUNTY's telecommunications, public safety, or local law enforcement personnel from denying entry to persons not presenting sufficient proof of identification and purpose. Nothing in this Section may be construed as authorizing access for any purpose other than (i) repairs and maintenance to PROVIDER's Facilities that COUNTY has already approved for collocation, (ii) like kind replacements of PROVIDER's equipment on the Tower, and (iii) modifications or additions to PROVIDER's ground-based equipment. Except as expressly permitted under this Agreement, no new construction, addition to, or significant modification of such Facilities is authorized in the absence of express, prior approval of COUNTY's Telecommunications Manager.

(i) COUNTY grants a non-exclusive license for pedestrian and vehicular ingress and egress across the Property, to and from the Leased Premises, to PROVIDER and its agents,

employees, and contractors. COUNTY shall maintain all access roadways from the nearest public roadway to and within the Property in a manner sufficient to allow pedestrian and vehicular access at all times under normal weather conditions. COUNTY shall maintain and repair such roadways at its sole expense, except for any damage caused by PROVIDER's use of such roadways; the repair of any damage to the roadways caused by PROVIDER's use thereof will be the financial responsibility of PROVIDER. COUNTY further grants to PROVIDER and its agents, employees, and contractors the non-exclusive right to install, operate, and maintain wires, cables, fiber, conduits and pipes running between, through and among the various portions of the Leased Premises and to all necessary electrical, telephone, fiber and other similar support services located within the Property or the nearest public right of way.

(j) The leasehold and entry license rights granted under this Agreement are for the installation, operation, repair, and maintenance of PROVIDER's Facilities in accordance with the site plan attached to this Agreement as Exhibit C and for no other purpose. PROVIDER has the responsibility for supplying the most current and accurate versions of the information provided in Exhibits C and D within ten (10) days of the Effective Date. Structural diagrams and indications of loading within Exhibit B must be under seal of a professional engineer. This use will be non-exclusive.

(k) PROVIDER's antennas and all equipment must be properly grounded from lightning strikes in accordance with industry standards (*i.e.*, Motorola R 56 Standards) and must be approved by COUNTY and its professional engineering consultants. PROVIDER shall submit a grounding report within seventy-two (72) hours of completion of antenna, antenna array structure, and line work.

(l) Prior to commencing any initial or subsequent, additional collocation activities on the Tower (except for routine maintenance and like kind replacements), PROVIDER shall submit all of its architectural, engineering, and RF analyses for review and approval or disapproval by COUNTY and its professional engineering consultants. At a minimum, PROVIDER will be required to submit: (i) a Structural Analysis Report; (ii) a Co-channel Analysis Report; (iii) an Adjacent Channel Report; and (iv) a site-specific EMI Study. COUNTY may, at its sole discretion, waive the requirement for PROVIDER to submit any one or more of these reports if deemed unnecessary.

(m) PROVIDER may install additional antenna(s) or other equipment on the Tower only with COUNTY's prior, written consent and only after PROVIDER has obtained, at PROVIDER's expense, a certified evaluation indicating that the installation of such additional antenna(s) or other equipment will not interfere with existing or proposed antennas of COUNTY or other collocated users of the Tower, and that the Tower can structurally accommodate the modifications. There shall be no Rent increase associated with PROVIDER's installation of any additional antenna(s) or other equipment.

Section 8. Maintenance. PROVIDER shall keep and maintain the Leased Premises, the Facilities, and any other of its personal property located on the Leased Premises in good condition, reasonable wear and tear and damage from the elements excepted. COUNTY shall maintain and repair the Tower, the Property, and its own equipment shelter located on the Property, and access to them in good and tenantable condition, subject to reasonable wear and tear and damage from the elements. Nothing in this Agreement may be construed as requiring COUNTY to make capital improvements or enhancements to any portion of the Leased Premises or the access

road beyond their condition as of the Effective Date. PROVIDER is solely responsible for maintenance of landscaping installed by PROVIDER as a condition of this Agreement or any required permit.

Section 9. Utilities and Related Easements. PROVIDER shall furnish and install an electrical meter at the Leased Premises for the measurement of electrical power used by the Facilities at the Leased Premises, and PROVIDER shall pay the utility company directly. COUNTY shall sign such documents or grant such easements across COUNTY-owned real properties as may be required by such utility companies to provide electric, telecommunications, and fiber optic services to PROVIDER's Facilities on the Leased Premises at no cost to PROVIDER. Any easements across, over, or under COUNTY-owned real property that are necessary for such power or other utilities must be at a location reasonably acceptable to COUNTY and the servicing utility company. The acquisition and costs of any easements that PROVIDER may need to acquire across, over, or under adjacent properties not owned by COUNTY will be the sole responsibility of PROVIDER.

Section 10. Taxes. PROVIDER shall pay, to the extent required by law to be collected by COUNTY from PROVIDER, all applicable sales or use taxes that become due and payable on the Facilities during the term of this Agreement. PROVIDER shall pay, as they become due and payable, all personal property taxes due under the law from PROVIDER and due to PROVIDER's use of the Leased Premises.

Section 11. Aesthetic standards. COUNTY reserves the right to require PROVIDER to paint the Facilities to the extent that the painting of the Facilities does not compromise its functionality.

Section 12. Signal Interference.

(a) PROVIDER shall operate the Facilities in compliance with all FCC regulations and in a manner that will not cause interference to COUNTY's general government, public safety, and emergency wireless communications services, or to the equipment of other lessees collocated on the Tower as of the Effective Date.

(b) Subsequent to the installation of the Facilities, COUNTY shall not permit other lessees or licensees to install new equipment on or make any alterations to the Property, the Tower or property contiguous to them owned or controlled by COUNTY, if such alterations are likely to cause interference with PROVIDER's operations.

(c) PROVIDER acknowledges that collocation of wireless communications systems can sometimes result in direct and serious interference with public safety and emergency telecommunications systems of other public agencies and that the Tower and surrounding Property houses COUNTY's emergency and non-emergency wireless communications system. Accordingly, if at any time during the Due Diligence Period or thereafter during the term of this Agreement, COUNTY experiences any interference or blackout of its public safety, emergency, or general government radio communications systems as a result of PROVIDER's operation of its Facilities, then upon written notification to PROVIDER, COUNTY can require PROVIDER to cease operation of the interfering portion of the Facilities within twenty-four (24) hours of such notification until such time as the interference can be resolved to COUNTY's reasonable satisfaction.

Section 13. Default and Remedies.

(a) It is an event of default under this Agreement if: (i) PROVIDER fails to make any payment of any sums to COUNTY when due, and PROVIDER does not cure such default within

thirty (30) days after written notice of the default from COUNTY; (ii) PROVIDER fails in the performance of any other covenant or condition of this Agreement and does not cure such other default within thirty (30) days after written notice from COUNTY specifying such default, unless the nature of the default is such that it cannot be remedied within thirty (30) days in the exercise of reasonable diligence, in which case PROVIDER will have such time as is reasonably necessary to remedy the default if PROVIDER promptly takes and diligently pursues such actions as are necessary to cure the default; (iii) PROVIDER abandons or vacates the Leased Premises for more than ninety (90) consecutive days; (iv) if a receiver, custodian or trustee is appointed for PROVIDER and such appointment is not vacated within sixty (60) days of the date of appointment; or (v) if any petition is filed by or against PROVIDER, under any section or chapter of the present or any future federal Bankruptcy Code or under any similar law or statute of the United States or any state thereof (and with respect to any petition filed against PROVIDER, such petition is not dismissed within sixty (60) days after the filing thereof).

(b) In the event of a default by PROVIDER, COUNTY will have the right, at its option, in addition to and not exclusive of any other remedy COUNTY may have by operation of law, and without any further demand or notice, to terminate this Agreement.

(c) It will be deemed a default by COUNTY if (i) COUNTY fails to provide access to the Leased Premises as required by this Agreement or (ii) COUNTY fails in the performance of any other covenant or condition of this Agreement and does not cure such other default within thirty (30) days after written notice from PROVIDER specifying such default, unless the nature of the default is such that it cannot be remedied within thirty (30) days in the exercise of reasonable diligence, in which case COUNTY will have such time as is reasonably necessary to remedy the

default if COUNTY promptly takes and diligently pursues such actions as are necessary to cure the default. In the event of a default by COUNTY, PROVIDER will have the right, at its option, in addition to and not exclusive of any other remedy PROVIDER may have by operation of law, and without any further demand or notice, to terminate this Agreement.

(d) IN NO EVENT WILL EITHER PARTY TO THIS AGREEMENT HAVE ANY LIABILITY TO THE OTHER PARTY UNDER THIS AGREEMENT FOR ANY INCIDENTAL, INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES, OR FOR ANY CLAIM OF LOSS OF USE, REVENUE, OR PROFIT.

Section 14. Cure by the Non-Defaulting Party. In the event of any default of this Agreement by either party, the non-defaulting party may at any time, after thirty (30) days written notice, or such other longer time as the non-defaulting party may require, cure the default for the account of, and at the expense of, the defaulting party. If the non-defaulting party is compelled to pay or elects to pay any sum of money, do any act that requires the payment of any sum of money, or incurs any expense as a result of the defaulting party's default, the sums that the non-defaulting party so pays, with all interest, costs, and damages will be deemed to be additional fees that will be due from the defaulting party to the non-defaulting party within two (2) months following receipt by the defaulting party of a written itemized invoice reflecting such expenses.

Section 15. Termination and Removal of Property.

(a) Conditions upon which this Agreement may be terminated by PROVIDER include the following: (i) upon thirty (30) days prior, written notice to COUNTY if PROVIDER is unable to obtain or maintain any license, permit or other governmental approval necessary for the construction or operation of the Facilities or PROVIDER's operations; (ii) at any time during the

Due Diligence Period or any time after the Due Diligence Period, upon thirty (30) days' prior, written notice to COUNTY if the Leased Premises are not adequate for PROVIDER's intended use and purpose; (iii) upon thirty (30) days' prior, written notice to COUNTY if PROVIDER is unable to occupy and utilize the Leased Premises due to an action of the FCC, including without limitation, a take back of channels or change in frequencies; (iv) upon thirty (30) days' prior, written notice to COUNTY if COUNTY fails to obtain or maintain any permit or license required for PROVIDER to operate upon, or to lease, the Property; (v) upon forty-five (45) days' written notice if the Property, including the Tower located on it, is destroyed or damaged beyond repair, or is condemned or transferred in lieu of condemnation; (vi) after the initial term, upon one hundred twenty (120) days' prior, written notice to COUNTY for any other reason; or (vii) in accordance with Section 13(c) above.

(b) This Agreement may be terminated  by COUNTY upon any of the following conditions:

(i) Upon twenty-four (24) months' prior written notice if COUNTY decides, in its sole and absolute discretion and for any reason other than that related to interference with COUNTY's emergency and non-emergency communications systems, to discontinue use of the Tower. COUNTY shall make a good faith effort to allow PROVIDER to relocate its Facilities to an alternative COUNTY site, if available, and which COUNTY has determined to be suitable for an antenna array of the type used by PROVIDER.

(ii) Upon at least ninety (90) days' written notice if COUNTY determines, in its sole and absolute discretion, that the Tower is structurally unsound, damaged beyond the point of an economically viable repair, or otherwise not suitable for PROVIDER's continued use, and a

new Tower has not been or cannot be constructed and brought into service, except that PROVIDER will first be afforded an opportunity to improve the Tower, at its sole cost and expense, as an option for continued use and occupancy of the Tower subject to Section 16 below concerning fitness for use. Following any such termination, PROVIDER shall, at its sole cost and expense, be permitted to install and operate a temporary communications facility from another location on the Property for a period of up to twenty-four (24) months in order to allow PROVIDER time to identify and relocate to a replacement site.


(iii) Upon thirty (30) days' written notice with a reasonable opportunity to cure such violation, if COUNTY determines that continued use of the Tower or Property, or any activities on them by PROVIDER, violates any applicable statute, regulation, or ordinance.

(iv) Following any PROVIDER default that is not cured in accordance with the time periods set forth in Section 13 above.



(v) Immediately upon written notice if PROVIDER abandons or vacates the Leased Premises for more than ninety (90) consecutive days.

(c) Upon the expiration or termination of this Agreement for any reason, PROVIDER shall remove its Facilities, at its sole cost and expense, within one hundred twenty (120) days after the expiration or termination of this Agreement (the "Removal Period"). Such removal must be done in a workmanlike and careful manner and without interference or damage to any other equipment, structures, or operations on the Property and Tower including, but not limited to the use of the Property and Tower by COUNTY or other collocated lessees. If, however, PROVIDER requests permission not to remove all or a portion of the Facilities, and COUNTY gives written consent to such non-removal, then the parties shall execute a bill of sale; following execution of

such bill of sale, title to the affected Facilities will transfer to COUNTY, the Facilities will become the sole and entire property of COUNTY, and PROVIDER will be relieved of its duty to otherwise remove the Facilities. Upon the removal of its Facilities, PROVIDER shall restore the affected area of the Leased Premises to its condition at the commencement of this Agreement, reasonable wear and tear and casualty damage not caused by PROVIDER excepted. If PROVIDER fails to remove the Facilities within the Removal Period, COUNTY agrees to send a written notice of such failure to PROVIDER, and in the event PROVIDER fails to remove the Facilities within ten (10) days after receipt of such notice, then COUNTY may remove such equipment, fixtures and personal property from the Leased Premises, and PROVIDER will be liable for any costs of removal and disposition of same, as well as the restoration of the Leased Premises to its original condition, reasonable wear and tear and casualty damage not caused by PROVIDER excepted. PROVIDER shall bear all costs and expenses  for the removal and restoration to be performed by PROVIDER pursuant to this Section, and PROVIDER expressly affirms that COUNTY will not be responsible for any portion of these costs and expenses.

(d) Notice of termination pursuant to this Section must be given in accordance with Section 23 below and will be effective upon receipt of such notice.

(e) If COUNTY decides to abandon the site for any reason or to sell the site to any commercial tower site investment company or commercial wireless carrier, COUNTY shall grant a first right of refusal to PROVIDER to purchase the tower site. In this instance, COUNTY and PROVIDER shall solicit three (3) independent valuations of the Property and PROVIDER will have the right to purchase the Property valued at the average of the three (3) valuations, if such valuations are acceptable to COUNTY. PROVIDER will have one hundred twenty (120) days to

complete the purchase of the site from COUNTY. COUNTY also grants to PROVIDER a first right of refusal if COUNTY decides to sell the tower site with all equipment, including the tower, generator, shelter, transfer switch, and UPS systems exclusive of the Property. COUNTY and PROVIDER would then enter into a lease agreement so that PROVIDER could remain on the Property for a term to be negotiated between both parties to this Agreement. Lease terms, conditions, and fees would be negotiated at that time.

Section 16. Fitness for Use.

(a) COUNTY makes no warranties or representations as to the present or continued fitness of the Tower in particular, or the Leased Premises in general, for the uses intended by PROVIDER. To the extent that PROVIDER adds to, alters, or expands the Tower mounted antenna array from the configuration in place as of the date of this Agreement, PROVIDER, at its sole expense, shall have the proposed changes on the Tower evaluated by COUNTY's independent engineering consultant (at no cost to PROVIDER) to determine, under seal, that the loading capacity of the Tower will not be exceeded. Furthermore, COUNTY does not warrant or guarantee that the use or zoning of surrounding properties will not be of such a nature that could interfere with PROVIDER's use of the site during the term of this Agreement, nor does COUNTY assume any financial or other liability whatsoever in the event of such circumstances.

(b) COUNTY is responsible for compliance with all Tower marking and lighting requirements of the Federal Aviation Administration ("FAA") and the FCC. If PROVIDER is cited because the Tower is not in compliance with such requirements, and if COUNTY fails to timely cure the conditions of non-compliance, PROVIDER may either terminate this Agreement or

proceed to cure the conditions of non-compliance at COUNTY's expense, which amounts may be deducted from the Rent.

Section 17. Indemnification.

(a) Disclaimer of COUNTY's Liability. PROVIDER undertakes and assumes for its officers, agents, affiliates, contractors, subcontractors, and employees all risk of dangerous conditions brought about by its Facilities and activities on the Property and the Leased Premises. COUNTY will not be liable for any injury or damage occurring in any way or resulting from any cause to any person or property arising out of PROVIDER's construction, installation, maintenance, repair, use, operation, condition, or dismantling of the Facilities except to the extent that such injury or damage is due to the negligence or intentional misconduct of COUNTY.


(b) Indemnification of COUNTY.

(1) The following indemnifications, which do not apply to claims, actions, damages, obligations, liabilities, or liens to the extent arising from the negligence or intentional misconduct of COUNTY, its officers, employees, and agents, will survive the termination of this Agreement.

(2) PROVIDER, at its sole cost and expense, shall indemnify and hold harmless COUNTY and its officers, boards, commissioners, representatives, employees, agents, attorneys, contractors, and elected and appointed officials (collectively, "Indemnitees") from and against the following:

(A) Any and all liability, obligation, damages, penalties, claims, liens, costs, charges, losses, and expenses (including without limitation, reasonable fees and expenses of attorneys, expert witnesses and consultants) (collectively, the "Claims") that may be imposed

upon, incurred by, or be asserted against COUNTY or the Indemnitees by any act or omission of PROVIDER, its personnel, employees, agents, contractors or subcontractors, resulting in personal injury, bodily injury, sickness, disease, or death to any person or damage to, loss of use, or destruction of tangible or intangible property of any person, entity, firm or corporation, libel, slander, invasion of privacy, breach of contract, or any other right of any person, entity, firm or corporation, including actions under Chapter 688, Florida Statutes (2025) concerning trade secrets, as this statute may be amended from time to time, which may arise out of or be in any way connected with the performance of this Agreement, including but not limited to: (1) the construction, installation, maintenance, repair, use, operation, replacement, or removal of its Facilities located on the Tower and Property; or (2) PROVIDER's failure to comply with any federal, state, or local statute, ordinance, or regulation.

(B) Any and all  Claims which may be imposed upon, incurred by, or be asserted by means of any claim or lien arising out of work, labor, materials or supplies provided or supplied to PROVIDER, its contractors or subcontractors for the construction, installation, maintenance, repair, use, operation, replacement, or dismantling of the Facilities. PROVIDER shall ensure that no lien is placed upon any COUNTY owned property, but if any such claim or lien are established, upon the written demand of COUNTY, PROVIDER shall cause such claim or lien affecting COUNTY property to be discharged or transferred to security pursuant to Section 713.24, Florida Statutes (2025), as this statute may be amended from time to time, within two (2) months following such demand. Failure to comply with such demand will be an event of default under this Agreement.

(C) Section 768.28, Florida Statutes (2025), as this statute may be amended from time to time, is controlling with respect to any actions in tort naming COUNTY as a defendant, and nothing in this Agreement or in this Section may be construed as constituting a waiver of the COUNTY's sovereign immunity or the limitations on damages conferred on COUNTY by this statute.

(c) Defense of COUNTY. In the event that any action or proceeding is brought against COUNTY by means of any matter for which COUNTY is indemnified under this Agreement, PROVIDER, upon notice from COUNTY and at PROVIDER's sole cost and expense, shall resist and defend such action or proceeding with legal counsel reasonably acceptable to COUNTY. PROVIDER shall not admit liability in any such matter on behalf of COUNTY without the written consent of COUNTY. COUNTY shall not admit liability for, nor enter into any compromise or settlement of, any claim for which they are indemnified under this Agreement without the prior written consent of PROVIDER.

(d) Notice and Cooperation. COUNTY shall give PROVIDER prompt notice of the making of any claim or the commencement of any action, lawsuit, or other proceeding covered by the provisions of this Section. Nothing in this Agreement may be deemed to prevent COUNTY from cooperating with PROVIDER.

Section 18. Insurance.

(a) PROVIDER, at its sole expense, shall maintain the insurance required under this Section at all times throughout the duration of this Agreement and have this insurance approved by COUNTY's Risk Management Manager with the Resource Management Department.

(1) PROVIDER shall procure and maintain, and shall ensure that each of its sub-vendors or subcontractors providing services under this Agreement, if any, procures and maintains, substantially the same insurance as required of PROVIDER with limits commensurate with the work or service to be provided, insurance of the types and the limits specified in this Agreement until the completion of their respective services.

(2) Neither approval by COUNTY nor failure by COUNTY to disapprove the insurance furnished by PROVIDER will relieve PROVIDER of its full responsibility for liability, damages, and accidents.

(3) Neither COUNTY's review of the coverage afforded by or the provisions of the policies of insurance purchased and maintained by PROVIDER in accordance with this Section, nor COUNTY's decisions to raise or not to raise any objections about either or both, in any way relieves or decreases the liability of PROVIDER.



(4) If COUNTY elects to raise an objection to the coverage afforded by or the provisions of the insurance furnished, then PROVIDER shall promptly provide to COUNTY such additional information as COUNTY may reasonably request, and PROVIDER shall remedy any deficiencies in the policies of insurance within ten (10) days.

(5) COUNTY's authority to object to insurance does not in any way whatsoever give rise to any duty on the part of COUNTY to exercise this authority for the benefit of PROVIDER or any other party.

(b) General Requirements.

(1) Before commencing work, PROVIDER shall furnish COUNTY with a current Certificate of Insurance on a current ACORD Form signed by an authorized representative

of the insurer evidencing the insurance required by this Section and Exhibit E, and including the following as Certificate Holder:

Seminole County, Florida
Seminole County Services Building
1101 East 1st Street
Sanford, Florida 32771

Upon receipt of notice from its insurer(s), PROVIDER shall use commercially reasonable efforts to provide COUNTY with thirty (30) days' prior written notice of cancellation of any required coverage. Until such time as the insurance is no longer required to be maintained, PROVIDER shall provide COUNTY with a renewal or replacement Certificate of Insurance within thirty (30) days of the expiration or replacement of the insurance for which a previous certificate has been provided.

(2) The insurer's cost of defense, including attorney's fees and attorney's fees on appeal, must remain the responsibility of the insurer.

(3) In the event of loss covered by Property Insurance, the proceeds of a claim must be paid to COUNTY and COUNTY shall apportion the proceeds between COUNTY and PROVIDER as their interests may appear.

(4) Additional Insured: Seminole County, Florida, its officials, officers, and employees must be included as Additional Insureds as their interest may appear under this Agreement under General Liability and Commercial Automobile Liability policies.

(5) Coverage: The insurance provided by PROVIDER pursuant to this Agreement must apply on a primary and non-contributory basis and any other insurance or self-insurance maintained by the Seminole County Board of County Commissioners or COUNTY's

officials, officers, or employees must be in excess of and not contributing with the insurance provided by PROVIDER.

(6) Waiver of Subrogation: The workers compensation policy must be endorsed to provide a Waiver of Subrogation clause in favor of Seminole County, Florida and its respective officials, officers, and employees.

(7) Provision: Commercial General Liability Policy required by this Agreement must be provided on an occurrence rather than a claims-made basis.

(c) Insurance Company Requirements. Insurance companies providing the insurance must meet the following requirements.

(1) Such companies must be either: (a) authorized by maintaining Certificates of Authority or Letters of Eligibility issued to the companies by the Department of Insurance of the State of Florida to conduct business in the State of Florida, or (b) with respect only to the coverage required by this agreement for Workers' Compensation/Employers' Liability, authorized as a group self-insurer by Section 624.4621, Florida Statutes (2025), as this statute may be amended from time to time.

(2) In addition, such companies other than those authorized by Section 624.4621, Florida Statutes (2025), as this statute may be amended from time to time, must have and maintain a Best's Rating of "A-" or better and a Financial Size Category of "VII" or better according to A.M. Best Company.

(3) If, during the period which an insurance company is providing the insurance coverage required by this Agreement, an insurance company, (A) loses its Certificate of Authority or Letter of Eligibility, (B) no longer complies with Section 624.4621, Florida Statutes (2025), as

this statute may be amended from time to time, or (C) fails to maintain the Best's Rating and Financial Size Category, then PROVIDER shall immediately notify COUNTY as soon as PROVIDER has knowledge of any such circumstance and, upon request of COUNTY, immediately replace the insurance coverage provided by the insurance company with a different insurance company meeting the requirements of this Agreement. Until such time as PROVIDER has replaced the unacceptable insurer with an insurer acceptable to the COUNTY, PROVIDER will be deemed to be in default of this Agreement.

(d) Specifications. Without limiting any of the other obligations or liabilities of PROVIDER, PROVIDER, at PROVIDER's sole expense, shall procure, maintain, and keep in force amounts and types of insurance conforming to the requirements set forth in Exhibit E. Except as otherwise specified in this Agreement, the insurance must become effective prior to the commencement of work by PROVIDER and must be maintained in force until final completion or such other time as required by this Agreement. The amounts and types of insurance must conform to the following requirements:

(1) Workers' Compensation/Employers' Liability.

(A) PROVIDER's insurance must obtain and maintain Workers' Compensation and Employer's Liability insurance in compliance with the statutory requirements of the State of Florida. In addition to coverage for the Florida Workers' Compensation Act, where appropriate, coverage is to be included for the United States Longshoremen and Harbor Workers' Compensation Act, Federal Employers' Liability Act and any other applicable federal or state law.

(B) Subject to the restrictions of coverage found in the standard Workers' Compensation and Employers Liability Policy, there must be no maximum limit on the

amount of coverage for liability imposed by the Florida Workers' Compensation Act, and if applicable, the United States Longshoremen's and Harbor Workers' Compensation Act or any other coverage customarily insured under Part One of the standard Workers' Compensation and Employers Liability Policy.

(C) The limits to be maintained by PROVIDER are as specified in Exhibit E.

(D) If PROVIDER asserts an exemption to the provisions of Chapter 440, Florida Statutes, Workers' Compensation (2025), as this statute may be amended from time to time, PROVIDER shall provide notification to COUNTY's Risk Management Manager with the Resource Management Department and shall complete the COUNTY's Workers' Compensation Waiver Request. Approval of exemption is subject to COUNTY's sole discretion. If approved, the named individuals listed in COUNTY's approved exemption will be the only individuals authorized to perform work under this Agreement.

(2) Commercial General Liability.

(A) PROVIDER's insurance must cover PROVIDER for those sources of liability which would be covered by the latest edition of the standard Commercial General Liability Coverage Form (ISO Form or equivalent), as filed for use in the State of Florida by the Insurance Services Office. Such coverage must not contain any endorsements excluding or limiting Products/Completed Operations, Contractual Liability, or Separation of Insureds.

(B) The limits to be maintained by PROVIDER are as specified in Exhibit E.

(C) ISO Form Endorsements or their equivalent must be used to provide such Additional Insured status.

(3) Commercial Automobile Liability Policy.

(A) PROVIDER's insurance must cover PROVIDER for those sources of liability which would be covered by Section II of the latest edition of the standard Auto Liability Policy (ISO Form or equivalent), as filed for use in the State of Florida by the Insurance Services Office. Coverage must include owned, non-owned, and hired autos. If the contract involves operations governed by Sections 29 or 30 of the Motor Carrier Act of 1980, endorsement MCS-90 is required.

(B) The limits to be maintained by PROVIDER are as specified in Exhibit E.

(4) Pollution Liability.



(A) PROVIDER's insurance must cover PROVIDER for all of the following:

1. Bodily injury, sickness, disease, mental anguish, or shock sustained by any person, including death.

2. Property damage including physical injury to or destruction of tangible property including the resulting loss of use of such property, cleanup costs, and the loss of use of tangible property that has not been physically injured or destroyed.

3. Defense costs including costs, charges, and expenses incurred in the investigation, adjustment, or defense of claims for such compensatory damages.

(C) Coverage must apply to sudden and non-sudden pollution conditions including the discharge, dispersal, release or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids or gases, waste materials or other irritants, contaminants or pollutants into or upon land, the atmosphere or any watercourse or body of water, which results in Bodily Injury or Property Damage.

(D) The limits to be maintained by PROVIDER are as specified in Exhibit E.

Section 19. Hazardous Substances, Environmental Degradation. PROVIDER represents and warrants that its use of the Leased Premises will not generate any hazardous substance or material, or any substance that would degrade the environment, and that PROVIDER shall not bring on to, store, or dispose of such material or substance on or near the Property (excluding any materials or substances that are used in the ordinary course of PROVIDER's business). PROVIDER is solely responsible for any damages and liability claims against PROVIDER or COUNTY to the extent such claims arise from any release of any such hazardous substance or material, or any substance that would degrade the environment caused by PROVIDER, its agents, employees, contractors, or subcontractors except to the extent that such claims are caused by the negligence or intentional misconduct of COUNTY. "Hazardous substance or material or any substance that would degrade the environment" is interpreted broadly to mean pollutants, contaminants, oil, or other petroleum products, flammables, or any substance or material defined or designated as hazardous or toxic waste, explosives, hazardous or toxic material, radioactive substance, or other similar term by any federal, state, or local environmental law, regulation, or rule presently in effect or promulgated in the future as such laws, regulations, or rules may be amended from time to time, or any substance, material, or agent which is reasonably

likely to cause harm to natural resources or the environment. The terms are meant to include, but not be limited to, any substance which after release into the environment will or may reasonably be anticipated to cause damage, harm, sickness, injury, death, or disease, provided that in no event shall such terms be interpreted as including any materials or substances that are used in the ordinary course of PROVIDER's business. In the event PROVIDER becomes aware of any hazardous materials on the Property, or any environmental, health, or safety condition or matter relating to the Property, that, in PROVIDER's sole determination, renders the condition of the Leased Premises or Property unsuitable for PROVIDER's use, or if PROVIDER believes that the leasing or continued leasing of the Leased Premises would expose PROVIDER to undue risks of liability to a government agency or other third party, then PROVIDER will have the right to terminate this Agreement upon written notice to COUNTY.

Section 20. Holding over. Any holding over by PROVIDER after the expiration of the Removal Period (as defined in Section 15(c) above), without the consent of COUNTY, will be deemed to constitute a tenancy from month to month at a rate equal to one hundred twenty five percent (125%) of the then current monthly Rent (prorated on a monthly basis) and will otherwise be subject to the conditions specified in this Agreement, so far as applicable.

Section 21. Acceptance of Property. By execution of this Agreement, PROVIDER accepts the Leased Premises in the condition existing as of the Effective Date. COUNTY makes no representation or warranty with respect to the condition of the present Tower or any replacement of it. COUNTY will not be liable for any latent or patent defect in the Tower or the unsuitability for use by PROVIDER.

Section 22. Zoning and permitting. Following the execution of this Agreement, PROVIDER shall contact when, as and if needed, the appropriate local governmental agencies and obtain all required permits and approvals, zoning changes, approvals, variances, use permits, and any other required governmental permits and approvals (“Local Permits”) as may be necessary for the construction, operation, and maintenance of the Facilities and supporting equipment on the Leased Premises. COUNTY shall cooperate with PROVIDER in its effort to obtain and maintain any Local Permits, at no cost to COUNTY.

Section 23. Notices.

(a) Any notice delivered with respect to this Agreement must be in writing and will be deemed to be delivered (whether or not actually received) when (i) deposited for overnight delivery or (ii) deposited in the United States Mail, postage prepaid, certified mail, return-receipt requested, in each case addressed to the person at the address for the party as set forth below, or such other address or to such other person as the party may have specified by written notice to the other party delivered in accordance with this section:

For COUNTY: County Manager’s Office
Attn: Telecommunications Division
180 Eslinger Way
Sanford, Florida 32773
(407) 665-1002

For PROVIDER: Cellco Partnership

d/b/a Verizon Wireless
180 Washington Valley Road
Bedminster, New Jersey 07921
Attention: Network Real Estate
MDG Location ID: 5000924952

With a copy to: Basking Ridge Mail Hub
Attn: Legal Intake
One Verizon Way
Basking Ridge, NJ 07920
MDG Location ID: 5000924952

(b) The parties shall each designate and keep a point of contact, including name, address, email address, and telephone number, for the other party to contact to address issues and problems that may arise in the course of this Agreement.

Section 24. Assignment and Subletting.

(a) PROVIDER shall not assign or otherwise transfer all or any part of its interest in this Agreement or in the Leased Premises without the prior written consent of COUNTY. The foregoing notwithstanding, PROVIDER may assign its interest to its parent company, any subsidiary, or affiliate of it or its parent company, or to any successor-in-interest or entity acquiring fifty-one percent (51%) or more of its ownership interest or assets (collectively "Insider") without any prior written approval from COUNTY. Upon assignment to an Insider pursuant to this Section 24(a), PROVIDER will be relieved of all future performance, liabilities, and obligations under this Agreement, provided said Insider assumes all of PROVIDER's obligations under this Agreement.

(b) If PROVIDER assigns, transfers, or otherwise conveys its interests under this Agreement to a non-Insider, then such transfer will require the prior written approval of COUNTY, which approval COUNTY shall not unreasonably withhold, condition, or delay. If such approval is withheld by COUNTY, PROVIDER will have the option of terminating this Agreement without penalty, in accordance with Section 15 of this Agreement. Upon COUNTY's written approval of an assignment pursuant to this Section 24(b), PROVIDER will be relieved of all future

performance, liabilities, and obligations under this Agreement, provided that the assignee assumes all of PROVIDER's obligations under this Agreement.

(c) Determination of reasonableness for any assignment, transfer, or conveyance pursuant to Section 24(b) will involve consideration of factors including, but not limited to the transferee's experience in wireless telecommunications, its record of financial responsibility, its record of adherence to similar agreements with COUNTY (if applicable), relevant statutes and ordinances, the impact of the proposed transfer upon the operations of other wireless telecommunications of collocated entities on the Tower, as well as the impact upon COUNTY and the public interest generally. Accordingly, PROVIDER and the proposed transferee shall timely provide to COUNTY complete information on the proposed transaction, including details on the legal, financial, engineering, technical, and other qualifications of the transferee relevant to the above-described matters so as to facilitate COUNTY's review of the transfer request.

(d) COUNTY may assign this Agreement, which assignment may be evidenced by written notice to PROVIDER within a reasonable period of time after the assignment, provided that the assignee assumes in writing all of COUNTY's obligations under this Agreement. Nothing in this Agreement precludes COUNTY from leasing or licensing other Property or Tower space for communications equipment to any person or entity that may be in competition with PROVIDER or any other party subject to the terms of Section 12 of this Agreement. In the event of such an assignment, or of a change in ownership, transfer or sale of the Property, within ten (10) days of such transfer, COUNTY or its successor will send the documents listed below to PROVIDER. Until PROVIDER receives all such documents, PROVIDER will not be responsible

for any failure to make payments under this Agreement and reserves the right to hold payment due under this Agreement. The following are the documents to be provided:

- i. Prior deed to Property
- ii. New deed to Property
- iii. Assignment documentation, including Bill of Sale or Transfer
- iv. Copy of current statement from the Seminole County Tax Collector concerning the Property
- v. Full contact information for new landlord including all phone number(s).
- vi. IRS Form W-9 for the assignee.

(e) PROVIDER shall not sublet its assigned space on the Tower or any portion of the Leased Premises to any third party without the prior, written approval of COUNTY, which consent will not be unreasonably withheld, conditioned, or delayed.

(f) No change of stock ownership, partnership interest or control of PROVIDER or transfer upon partnership or corporate dissolution of PROVIDER shall constitute an assignment under this Agreement.

Section 25. Conflict of Interest.

(a) Each party agrees that it shall not engage in any action that would create a conflict of interest in the performance of its obligations pursuant to this Agreement with the other party or which would violate or cause third parties to violate the provisions of Part III, Chapter 112, Florida Statutes (2025), as this statute may be amended from time to time, relating to ethics in government.

(b) Each party hereby certifies that no officer, agent or employee of that party has any material interest (as defined in Section 112.312(15), Florida Statutes (2025), as the statute may be amended from time to time, as over 5%) either directly or indirectly, in the business of the other

party to be conducted here, and that no such person will have any such interest at any time during the term of this Agreement.

(c) Each party has the continuing duty to report to the other party any information that indicates a possible violation of this Section.

Section 26. Public Records Law.

(a) PROVIDER acknowledges COUNTY's obligations under Article 1, Section 24, Florida Constitution and Chapter 119, Florida Statutes (2025), as this statute may be amended from time to time, to release public records to members of the public upon request. PROVIDER acknowledges that COUNTY is required to comply with Article 1, Section 24, Florida Constitution and Chapter 119, Florida Statutes (2025), as this statute may be amended from time to time, in the handling of the materials created under this Agreement and this statute controls over the terms of this Agreement. Upon COUNTY's request, PROVIDER shall provide COUNTY with all requested public records in PROVIDER's possession or shall allow COUNTY to inspect or copy the requested records within a reasonable time and at a cost that does not exceed costs as provided under Chapter 119, Florida Statutes (2025), as this statute may be amended from time to time.

(b) PROVIDER specifically acknowledges its obligations to comply with Section 119.0701, Florida Statutes (2025), as this statute may be amended from time to time, with regard to public records and shall perform the following:

(1) PROVIDER shall keep and maintain public records that ordinarily and necessarily would be required by COUNTY in order to perform the services required under this Agreement,

(2) Upon COUNTY's request, PROVIDER shall provide COUNTY with all requested public records in PROVIDER's possession or allow COUNTY to inspect or copy the requested records

within a reasonable time and at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes (2025), as this statute may be amended from time to time, or as otherwise provided by law.

(3) PROVIDER shall ensure public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed, except as authorized by law.

(c) Upon the expiration or any earlier termination of this Agreement, PROVIDER shall transfer, at no cost to COUNTY, all public records in possession of PROVIDER, or keep and maintain public records required by COUNTY under this Agreement. If PROVIDER transfers all public records to COUNTY upon the expiration or any earlier termination of this Agreement, PROVIDER shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If PROVIDER keeps and maintains the public records upon the expiration or any earlier termination of this Agreement, PROVIDER shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to COUNTY, upon request of COUNTY, in a format that is compatible with the information technology systems of COUNTY.

(d) Failure to comply with this Section will be deemed a material breach of this Agreement and enforceable as set forth in Section 119.0701, Florida Statutes.

(e) IF PROVIDER HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO PROVIDER'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, PROVIDER MAY CONTACT THE CUSTODIAN OF PUBLIC RECORDS, TELECOMMUNICATIONS MANAGER TOMMY OLIVERAS, AT 407-665-1002, TOLIVERAS@SEMINOLECOUNTYFL.GOV,

DIVISION OF EMERGENCY MANAGEMENT, 180 ESLINGER WAY, SANFORD, FL 32773.

Section 27. Rights At Law Retained. The rights and remedies of COUNTY and of PROVIDER provided for under this Agreement are in addition to any other rights and remedies available to each of them under applicable law.

Section 28. Equal Opportunity Employment. PROVIDER and COUNTY agree that they shall not discriminate against any employee or applicant for employment for work under this Agreement because of race, color, religion, sex, age, disability, or national origin. PROVIDER and COUNTY shall take steps to ensure that applicants are employed, and employees are treated during employment, without regard to race, color, religion, sex, age, disability, or national origin. This provision must include, but is not limited to, the following: employment; upgrading, demotion or transfer; recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

Section 29. Joint Preparation. The parties and their respective counsel have negotiated this Agreement. This Agreement will be fairly interpreted in accordance with its terms. Any ambiguity will not be construed against the drafting party.

Section 30. Representations. COUNTY and PROVIDER represent to each other that they have done all things necessary as conditions precedent to enter into this Agreement and that the persons whose signatures appear below have full right, power, and authority to execute this Agreement.

Section 31. Entire Agreement. This Agreement constitutes the entire agreement and understanding of the parties and supersedes all correspondence, offers, negotiations, and other

agreements of any kind, and no subsequent oral promises or representations are binding. There are no representations or understandings of any kind not set forth in this Agreement. Any modification of, or amendment to, this Agreement must be in writing and executed by both parties.

Section 32. Governing Law, Jurisdiction, and Venue. The laws of the State of Florida govern the validity, enforcement, and interpretation of this Agreement. The venue for any legal action in connection with this Agreement will be in the state courts located in Seminole County, Florida, or the United States District Court for the Middle District of Florida, Orlando Division, to the extent that a federal court would otherwise have jurisdiction over the legal action.

Section 33. Severability. If any provision of this Agreement or the application of this Agreement to any person or circumstance is held invalid, it is the intent of the parties that the invalidity will not affect other provisions or applications of this Agreement which can be given effect without the invalid provision or application, and to this end the provisions of this Agreement are declared severable.



Section 34. Headings and Captions. All headings and captions contained in this Agreement are provided for convenience only, do not constitute a part of this Agreement, and may not be used to define, describe, interpret or construe any provision of this Agreement.

Section 35. Parties Bound. The provisions of this Agreement are binding upon and inure to the benefit of the heirs, executors, administrators, successors, and assigns of the parties, but this provision will in no way alter the restrictions in this Agreement concerning assignment by PROVIDER.

[Remainder of page intentionally left blank. Signatures begin on following page.]

IN WITNESS WHEREOF, the parties have made and executed this Agreement to be executed for the purposes stated above.

WITNESSES:

CELLCO PARTNERSHIP d/b/a Verizon Wireless

Signature

By: _____

Print Name

Print Name

Signature

Title

Print Name

Date

[Remainder of page intentionally blank; signatures continue on the following page.]



ATTEST:

BOARD OF COUNTY COMMISSIONERS
SEMINOLE COUNTY, FLORIDA

GRANT MALOY
Clerk to the Board of
County Commissioners of
Seminole County, Florida

By: _____
ANDRIA HERR, Chairman

Date: _____

For the use and reliance
Seminole County only.

As authorized for execution by the Board of
County Commissioners at its _____,
20__, regular meeting.

Approved as to form and
legal sufficiency.

County Attorney
RM
1/8/26

Attachments:

- Exhibit A Legal Property Description
- Exhibit B Structural Analysis
- Exhibit C Property Site Plan and Elevation Drawings
- Exhibit D Description and Inventory of Provider Facilities
- Exhibit E Seminole County, Minimum Amounts for Provider's Insurance.



TUsers\rmchugh\OEM\Agreements

Exhibit A
Legal Property Description

DESCRIPTION OF PARENT TRACT

AS SET FORTH IN OFFICIAL RECORD BOOK 429, PAGE 590:

(PARCEL ID: 02-20-32-300-0010-0000)
THE EAST ONE-HALF (1/2) OF SECTION 2, TOWNSHIP 20 SOUTH,
RANGE 32 EAST, SEMINOLE COUNTY, FLORIDA, LYING NORTH OF
OSCEOLA ROAD.

DESCRIPTION OF ACCESS TRACTS

AS SET FORTH IN OFFICIAL RECORD BOOK 429, PAGE 590:

(PARCEL ID: 01-20-32-300-0010-0000)
ALL OF SECTION 1, TOWNSHIP 20 SOUTH, RANGE 32 EAST,
SEMINOLE COUNTY, FLORIDA, LYING NORTH AND WEST OF OSCEOLA
ROAD.

TOGETHER WITH:
(PARCEL ID: 36-19-32-300-0030-0000)
THE SOUTH ONE-HALF (1/2) OF SECTION 36, TOWNSHIP 19 SOUTH,
RANGE 32 EAST, SEMINOLE COUNTY, FLORIDA, LYING WEST OF
OSCEOLA ROAD.

Exhibit B
Structural Analysis

[See attached fifty-nine (59) pages.]



Report Date: April 03, 2025

Client: Smartlink, LLC
ATTN: Nick Windham
10 Church Circle
Annapolis, MD, 21401
Email: nick.windham@smartlinkgroup.com

Structure: 300ft Self Support Tower
Site Name: Landfill
Site Address: 1920 E Osceola Rd
City, County, State: Geneva, Seminole, FL
Latitude, Longitude: 28.78505, -81.08452

PJF Project Number: 80624-0036.001.8700

Paul J. Ford and Company is pleased to submit this **Structural Analysis Report** to determine the tower stress level.

Analysis Criteria:

This analysis has been performed in accordance with the 2023 Florida Building Code, 8th Edition based upon an ultimate 3-second gust wind speed of 147 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Proposed Appurtenance Loads:

The structure was analyzed with the proposed loading configuration shown in Table 1 combined with the other considered equipment shown in Table 2 of this report.

Summary of Analysis Results:

Existing Structure:	Pass	92.8%
Existing Foundation:	Pass	61.9%

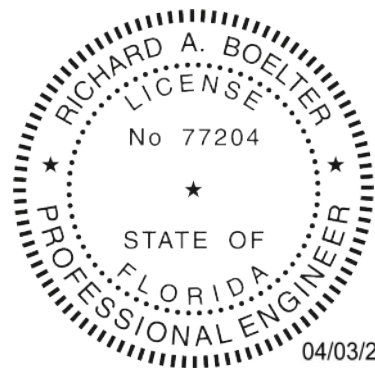
We at Paul J. Ford and Company appreciate the opportunity of providing our continuing professional services to you and Smartlink, LLC. If you have any questions or need further assistance on this or any other projects, please give us a call.

Respectfully Submitted By:
Paul J. Ford and Company



Chris Sandlin, P.E.
Project Engineer 2
csandlin@pauljford.com

MTB



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY RICHARD A. BOELTER, PE ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

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1) INTRODUCTION

This is a 300ft Self Support Tower designed by Allstate in April of 2012.

2) ANALYSIS CRITERIA

TIA-222 Revision: TIA-222-H
 Risk Category: III
 Wind Speed: 147 mph
 Tornado Speed: 50 mph
 Effective Plan Area: 389.71 sq ft
 Exposure Category: C
 Topographic Factor: 1
 Service Wind Speed: 60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
240.0	240.0	3	ericsson	4460 B25/B66	3	6/24 Hybrid
		3	ericsson	4480 B71/B85		
		3	ericsson	840590966 w/ Mount Pipe		
		3	ericsson	AIR 6419 B41 w/ Mount Pipe		
		3	tower mounts	Sector Mount		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
297.0	308.0	2	celwave	BMR12	2	1 1/4
	297.0	1	tower mounts	15' 6-arm Halo Mount		
273.0	283.0	1	celwave	BMR12	1	7/8 1/2
	274.0	1	misc	Junction Box (30" x 30" x 12")		
	273.0	1	tower mounts	Generic 3.5' x 6' sidearm		
264.0	266.0	4	ericsson	RADIO 4449 B5/B12	9 4	15/16 3/8
		4	ericsson	RADIO 4478		
		4	ericsson	RADIO 8843 B2/B66A		
		4	raycap	DC6-48-60-18-8C-EV		
	265.5	4	commscope	NNHH-65B-R4 w/ Mount Pipe		
		4	commscope	SBNHH-1D45C w/ Mount Pipe		
	264.0	2	commscope	SBNHH-1D85B w/ Mount Pipe		
		3	sabre	C10857003C 12' sector frames		
250.0	250.0	2	tower mounts	Generic 1' x 2' sidearm		
		1	commscope	HX8-6W-6GF		
220.0	220.0	1	tower mounts	Pipe Mount	1	EU52
		1	microwave networks	MNIH6-6		
203.0	212.0	1	decibel	DB420	1	7/8

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
	203.0	1	tower mounts	Side Arm Mount		
142.0	142.0	1	pole mounts	2.375" OD x 3' Mount Pipe	1	1/4
		1	trango	P50551-23-US Panel		
113.0	113.0	1	microwave networks	MNIH6-6	1	EU63
		1	tower mounts	Pipe Mount		
90.0	93.0	1	antennae	1" x 1.5' Omni	1	1/2
	90.0	1	tower mounts	Generic 2' x 3' sidearm		
51.0	51.0	1	miscl	Camera - 12" T x 8" W x 8" L	1	7/8

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference
Tower Manufacturer Drawings	Allstate, 4/18/2012	37026F
Foundation Drawings	Allstate, 5/10/2012	37026F
Geotechnical Report	Terracon, 2/27/2012	H1115488

3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

- 1) Tower and structures were maintained in accordance with the TIA-222 standard.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J. Ford and Company should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T1	300 - 280	Leg	2" solid	2	-32.84	89.83	36.6	Pass
T2	280 - 260	Leg	2 3/4" solid	46	-100.16	210.29	47.6	Pass
T3	260 - 240	Leg	3 1/4" solid	91	-163.59	260.18	62.9	Pass
T4	240 - 220	Leg	3 1/2" solid	118	-228.67	317.13	72.1	Pass
T5	220 - 200	Leg	3 1/2" solid	146	-289.25	317.13	91.2	Pass
T6	200 - 180	Leg	4" solid	173	-343.53	370.17	92.8	Pass
T7	180 - 160	Leg	4 1/4" solid	194	-398.28	438.60	90.8	Pass
T8	160 - 140	Leg	4 3/4" solid	215	-453.88	590.46	76.9	Pass
T9	140 - 120	Leg	5" solid	236	-511.07	673.70	75.9	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T10	120 - 100	Leg	5 1/4" solid	257	-571.33	761.72	75.0	Pass
T11	100 - 80	Leg	5 1/2" solid	278	-635.25	854.46	74.3	Pass
T12	80 - 60	Leg	5 3/4" solid	299	-677.63	1041.22	65.1	Pass
T13	60 - 40	Leg	6" solid	350	-742.42	1144.45	64.9	Pass
T14	40 - 20	Leg	6 1/4" solid	401	-806.44	1252.17	64.4	Pass
T15	20 - 0	Leg	6 1/2" solid	452	-869.18	1364.36	63.7	Pass
T1	300 - 280	Diagonal	7/8" solid	12	-3.89	9.07	42.9	Pass
T2	280 - 260	Diagonal	1" solid	59	-10.30	15.28	67.4	Pass
T3	260 - 240	Diagonal	L1 3/4x1 3/4x3/16	98	-7.63	11.71	65.2 73.3 (b)	Pass
T4	240 - 220	Diagonal	L2x2x3/16	126	-8.95	11.76	76.1 87.5 (b)	Pass
T5	220 - 200	Diagonal	L2 1/2x2 1/2x3/16	149	-9.91	16.12	61.5 86.6 (b)	Pass
T6	200 - 180	Diagonal	L3x3x3/16	176	-10.80	18.57	58.2 71.4 (b)	Pass
T7	180 - 160	Diagonal	L3 1/2x3 1/2x1/4	197	-11.60	30.46	38.1 46.7 (b)	Pass
T8	160 - 140	Diagonal	L4x4x3/8	218	-13.20	52.98	24.9 51.8 (b)	Pass
T9	140 - 120	Diagonal	L4x4x3/8	239	-14.77	42.75	34.5 43.4 (b)	Pass
T10	120 - 100	Diagonal	L5x5x3/8	263	-17.96	70.45	25.5 54.4 (b)	Pass
T11	100 - 80	Diagonal	L5x5x3/8	284	-20.17	59.13	34.1 63.0 (b)	Pass
T12	80 - 60	Diagonal	2L 4 x 4 x 1/4 (1/2)	317	-29.48	87.40	33.7	Pass
T13	60 - 40	Diagonal	2L 4 x 4 x 1/4 (1/2)	368	-29.35	81.24	36.1	Pass
T14	40 - 20	Diagonal	2L 4 x 4 x 1/4 (1/2)	419	-30.18	77.83	38.8	Pass
T15	20 - 0	Diagonal	2L 4 x 4 x 5/16 (1/2)	470	-30.70	95.55	32.1	Pass
T12	80 - 60	Horizontal	2L 3 x 3 x 1/4 (1/2)	301	-12.37	44.19	28.0	Pass
T13	60 - 40	Horizontal	2L 3 x 3 x 1/4 (1/2)	352	-13.49	38.51	35.0	Pass
T14	40 - 20	Horizontal	2L 3 x 3 x 1/4 (1/2)	403	-14.59	33.85	43.1	Pass
T15	20 - 0	Horizontal	2L 3.5 x 3.5 x 1/4 (1/2)	454	-15.69	45.85	34.2	Pass
T1	300 - 280	Top Girt	3/4" solid	5	-0.30	3.38	8.9	Pass
T2	280 - 260	Top Girt	7/8" solid	51	-1.94	6.48	29.9	Pass
T1	300 - 280	Bottom Girt	3/4" solid	7	-0.63	3.38	18.7	Pass
T2	280 - 260	Bottom Girt	7/8" solid	54	-1.94	6.48	29.9	Pass
T12	80 - 60	Redund Horz 1 Bracing	2L 2.5 x 2.5 x 3/16 (1/2)	335	12.37	53.99	22.9 61.5 (b)	Pass
T13	60 - 40	Redund Horz 1 Bracing	2L 2.5 x 2.5 x 3/16 (1/2)	357	-13.49	52.77	25.6 67.1 (b)	Pass
T14	40 - 20	Redund Horz 1 Bracing	2L 3 x 3 x 3/16 (1/2)	408	-14.59	58.35	25.0 68.8 (b)	Pass
T15	20 - 0	Redund Horz 1 Bracing	2L 3 x 3 x 3/16 (1/2)	463	-15.69	55.89	28.1 74.0 (b)	Pass
T12	80 - 60	Redund Diag 1 Bracing	2L 2.5 x 2.5 x 3/16 (1/2)	333	-8.22	38.51	21.4 46.9 (b)	Pass
T13	60 - 40	Redund Diag 1 Bracing	2L 2.5 x 2.5 x 3/16 (1/2)	384	-8.68	35.00	24.8 49.5 (b)	Pass
T14	40 - 20	Redund Diag 1 Bracing	2L 3 x 3 x 3/16 (1/2)	438	-9.14	47.98	19.0 52.1 (b)	Pass
T15	20 - 0	Redund Diag 1 Bracing	2L 3 x 3 x 3/16 (1/2)	486	-9.59	44.60	21.5 54.7 (b)	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail	
T12	80 - 60	Redund Hip 1 Bracing	L 2.5 x 2.5 x 3/16	348	-0.11	14.63	0.7 1.0 (b)	Pass	
T13	60 - 40	Redund Hip 1 Bracing	L 2.5 x 2.5 x 3/16	399	-0.09	12.29	0.7 0.8 (b)	Pass	
T14	40 - 20	Redund Hip 1 Bracing	L 3 x 3 x 3/16	450	-0.07	18.33	0.4 0.6 (b)	Pass	
T15	20 - 0	Redund Hip 1 Bracing	L 3 x 3 x 3/16	501	-0.07	15.80	0.5 0.6 (b)	Pass	
T12	80 - 60	Inner Bracing	2L 2.5 x 2.5 x 3/16 (1/2)	325	-0.09	16.43	0.5	Pass	
T13	60 - 40	Inner Bracing	2L 2.5 x 2.5 x 3/16 (1/2)	376	-0.07	13.90	0.5	Pass	
T14	40 - 20	Inner Bracing	2L 3 x 3 x 3/16 (1/2)	427	-0.06	20.98	0.3	Pass	
T15	20 - 0	Inner Bracing	2L 3 x 3 x 3/16 (1/2)	478	-0.06	18.18	0.4	Pass	
							Summary		
							Leg (T6)	92.8	Pass
							Diagonal (T4)	87.5	Pass
							Horizontal (T14)	43.1	Pass
							Top Girt (T2)	29.9	Pass
							Bottom Girt (T2)	29.9	Pass
							Redund Horz 1 Bracing (T15)	74.0	Pass
							Redund Diag 1 Bracing (T15)	54.7	Pass
							Redund Hip 1 Bracing (T12)	1.0	Pass
							Inner Bracing (T12)	0.5	Pass
							Bolt Checks	87.5	Pass
							Rating =	92.8	Pass

Table 5 - Tower Component Stresses vs Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	42.3	Pass
1	Base Foundation (Structure)	0	56.5	Pass
1	Base Foundation (Soil Interaction)	0	61.9	Pass
Structure Rating (max from all components) =				92.8%

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

STANDARD CONDITIONS FOR FURNISHING OF PROFESSIONAL ENGINEERING SERVICES ON
EXISTING STRUCTURES BY PAUL J. FORD AND COMPANY

- 1) Paul J. Ford and Company has not made a field inspection to verify the tower member sizes or the antenna/coax loading. If the existing conditions are not as represented on these sketches, we should be contacted immediately to reevaluate any conclusions stated in this report.
- 2) No allowance was made for any damaged, missing, or rusted materials. The analysis of this structure assumes that no physical deterioration has occurred in any of the structural components of the tower and that all the structural members have the same load carrying capacity as the day the tower was erected.
- 3) It is not possible to have all the detailed information to perform a thorough analysis of every structural sub-component of an existing structure. The structural analysis provided by Paul J. Ford and Company verifies the adequacy of the main structural members of the tower. Paul J. Ford and Company provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc.

APPENDIX A
TNXTOWER OUTPUT

SYMBOL LIST

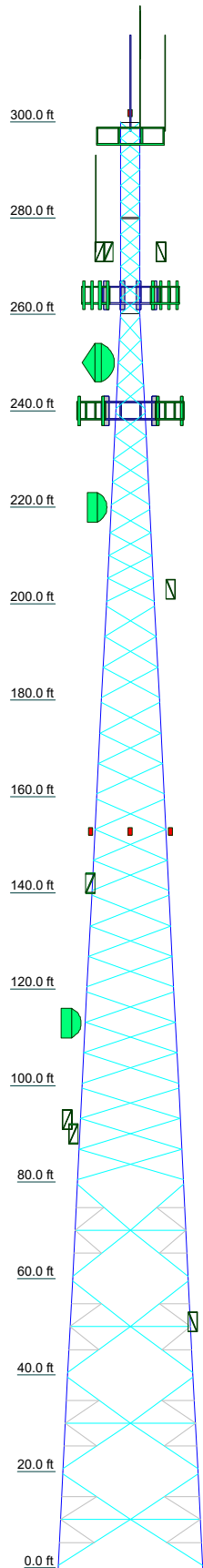
MARK	SIZE	MARK	SIZE
A	L1 3/4x1 3/4x3/16	D	2L 4 x 4 x 5/16 (1/2)
B	L2 1/2x2 1/2x3/16	E	2L 3.5 x 3.5 x 1/4 (1/2)
C	L3 1/2x3 1/2x1/4		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A529-50	50 ksi	65 ksi

TOWER DESIGN NOTES

1. Tower is located in Seminole County, Florida.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 147 mph basic wind in accordance with the TIA-222-H Standard.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category III.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 92.8%

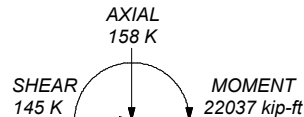


ALL REACTIONS
ARE FACTORED

MAX. CORNER REACTIONS AT BASE:

DOWN: 901 K
SHEAR: 90 K

UPLIFT: -753 K
SHEAR: 75 K



TORQUE 48 kip-ft
REACTIONS - 147 mph WIND

Section	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs	SR 6 1/2" solid	SR 6 1/4" solid	SR 6" solid	SR 5 3/4" solid	SR 5 1/2" solid	SR 5 1/4" solid	SR 5" solid	SR 4 3/4" solid	SR 4 1/4" solid	SR 4" solid	SR 3 1/2" solid	SR 3 1/2" solid	SR 3 1/4" solid	SR 2 3/4" solid	SR 2" solid
Leg Grade															
Diagonals															
Diagonal Grade															
Top Girts															
Bottom Girts															
Horizontals															
Red. Horizontals															
Red. Diagonals															
Red. Hips															
Inner Bracing															
Face Width (ft)	30	28	26	24	22	20	18	16	14	12	10	8	6	4	
# Panels @ (ft)	113.5	14.5	13.1	12.2	11.1	10.1	8.2	7.4	6.0	3.9	3.2	2.9	2.4	1.8	1.1
Weight (K)															

<p>Paul J. Ford and Company 250 East Broad St., Suite 600 Columbus, OH 43215 Phone: (614) 221-6679 FAX:</p>	Job: 300-ft SST, Seminole County, FL		
	Project: Landfill (PJF 80624-0036.001.8700)		
	Client: Smartlink	Drawn by: csandlin	App'd:
	Code: TIA-222-H	Date: 04/03/25	Scale: NTS
	Path:		Dwg No. E-1

G:\TOWER\806_SmartLink\2024\80624-0036_Landfill_A5E1E1A\80624-0036.001.8700_SATW\80624-0036.dwg 8/20/24

Tower Input Data

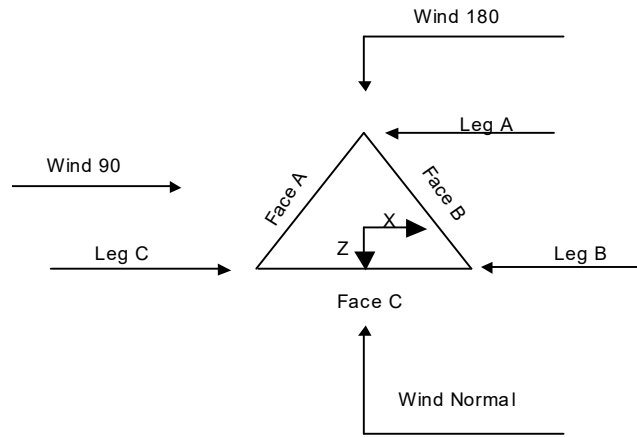
The main tower is a 3x free standing tower with an overall height of 300.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 4.00 ft at the top and 30.00 ft at the base.
This tower is designed using the TIA-222-H standard.

The following design criteria apply:

- Tower is located in Seminole County, Florida.
- Tower base elevation above sea level: 22.52 ft.
- Basic wind speed of 147 mph.
- Risk Category III.
- Exposure Category C.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.00 ft.
- Deflections calculated using a wind speed of 60 mph.
- Pressures are calculated at each section.
- Stress ratio used in tower member design is 1.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification ✓ Use Code Stress Ratios ✓ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile ✓ Include Bolts In Member Capacity Leg Bolts Are At Top Of Section ✓ Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) ✓ SR Members Have Cut Ends SR Members Are Concentric	Distribute Leg Loads As Uniform Assume Legs Pinned ✓ Assume Rigid Index Plate ✓ Use Clear Spans For Wind Area ✓ Use Clear Spans For KL/r Retension Guys To Initial Tension ✓ Bypass Mast Stability Checks ✓ Use Azimuth Dish Coefficients ✓ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination ✓ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs	Use ASCE 10 X-Brace Ly Rules ✓ Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation ✓ Consider Feed Line Torque ✓ Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <div style="background-color: #e0e0e0; text-align: center; padding: 2px;">Poles</div> ✓ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known
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Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	300.00-280.00			4.00	1	20.00
T2	280.00-260.00			4.00	1	20.00
T3	260.00-240.00			4.00	1	20.00
T4	240.00-220.00			6.00	1	20.00
T5	220.00-200.00			8.00	1	20.00
T6	200.00-180.00			10.00	1	20.00
T7	180.00-160.00			12.00	1	20.00
T8	160.00-140.00			14.00	1	20.00
T9	140.00-120.00			16.00	1	20.00
T10	120.00-100.00			18.00	1	20.00
T11	100.00-80.00			20.00	1	20.00
T12	80.00-60.00			22.00	1	20.00
T13	60.00-40.00			24.00	1	20.00
T14	40.00-20.00			26.00	1	20.00
T15	20.00-0.00			28.00	1	20.00

Tower Section Geometry (cont'd)

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	300.00-280.00	3.28	X Brace	No	No	1.8750	1.8750
T2	280.00-260.00	3.28	X Brace	No	No	1.8750	1.8750
T3	260.00-240.00	4.75	X Brace	No	No	6.0000	6.0000
T4	240.00-220.00	4.75	X Brace	No	No	6.0000	6.0000
T5	220.00-200.00	4.75	X Brace	No	No	6.0000	6.0000
T6	200.00-180.00	6.33	X Brace	No	No	6.0000	6.0000
T7	180.00-160.00	6.33	X Brace	No	No	6.0000	6.0000

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T8	160.00-140.00	6.33	X Brace	No	No	6.0000	6.0000
T9	140.00-120.00	6.33	X Brace	No	No	6.0000	6.0000
T10	120.00-100.00	6.33	X Brace	No	Yes	6.0000	6.0000
T11	100.00-80.00	6.33	X Brace	No	Yes	6.0000	6.0000
T12	80.00-60.00	9.50	Double K1	No	Yes	6.0000	6.0000
T13	60.00-40.00	9.50	Double K1	No	Yes	6.0000	6.0000
T14	40.00-20.00	9.50	Double K1	No	Yes	6.0000	6.0000
T15	20.00-0.00	9.50	Double K1	No	Yes	6.0000	6.0000

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 300.00-280.00	Solid Round	2" solid	A572-50 (50 ksi)	Solid Round	7/8" solid	A529-50 (50 ksi)
T2 280.00-260.00	Solid Round	2 3/4" solid	A572-50 (50 ksi)	Solid Round	1" solid	A529-50 (50 ksi)
T3 260.00-240.00	Solid Round	3 1/4" solid	A572-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A529-50 (50 ksi)
T4 240.00-220.00	Solid Round	3 1/2" solid	A572-50 (50 ksi)	Equal Angle	L2x2x3/16	A529-50 (50 ksi)
T5 220.00-200.00	Solid Round	3 1/2" solid	A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A529-50 (50 ksi)
T6 200.00-180.00	Solid Round	4" solid	A572-50 (50 ksi)	Equal Angle	L3x3x3/16	A529-50 (50 ksi)
T7 180.00-160.00	Solid Round	4 1/4" solid	A572-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T8 160.00-140.00	Solid Round	4 3/4" solid	A572-50 (50 ksi)	Equal Angle	L4x4x3/8	A529-50 (50 ksi)
T9 140.00-120.00	Solid Round	5" solid	A572-50 (50 ksi)	Equal Angle	L4x4x3/8	A529-50 (50 ksi)
T10 120.00-100.00	Solid Round	5 1/4" solid	A572-50 (50 ksi)	Equal Angle	L5x5x3/8	A529-50 (50 ksi)
T11 100.00-80.00	Solid Round	5 1/2" solid	A572-50 (50 ksi)	Equal Angle	L5x5x3/8	A529-50 (50 ksi)
T12 80.00-60.00	Solid Round	5 3/4" solid	A572-50 (50 ksi)	Double Equal Angle	2L 4 x 4 x 1/4 (1/2)	A529-50 (50 ksi)
T13 60.00-40.00	Solid Round	6" solid	A572-50 (50 ksi)	Double Equal Angle	2L 4 x 4 x 1/4 (1/2)	A529-50 (50 ksi)
T14 40.00-20.00	Solid Round	6 1/4" solid	A572-50 (50 ksi)	Double Equal Angle	2L 4 x 4 x 1/4 (1/2)	A529-50 (50 ksi)
T15 20.00-0.00	Solid Round	6 1/2" solid	A572-50 (50 ksi)	Double Equal Angle	2L 4 x 4 x 5/16 (1/2)	A529-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 300.00-280.00	Solid Round	3/4" solid	A572-50 (50 ksi)	Solid Round	3/4" solid	A572-50 (50 ksi)
T2 280.00-260.00	Solid Round	7/8" solid	A572-50 (50 ksi)	Solid Round	7/8" solid	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T12 80.00-60.00	None	Solid Round		A36 (36 ksi)	Double Equal Angle	2L 3 x 3 x 1/4 (1/2)	A529-50 (50 ksi)
T13 60.00-40.00	None	Solid Round		A36 (36 ksi)	Double Equal Angle	2L 3 x 3 x 1/4 (1/2)	A529-50 (50 ksi)
T14 40.00-20.00	None	Solid Round		A36 (36 ksi)	Double Equal Angle	2L 3 x 3 x 1/4 (1/2)	A529-50 (50 ksi)
T15 20.00-0.00	None	Solid Round		A36 (36 ksi)	Double Equal Angle	2L 3.5 x 3.5 x 1/4 (1/2)	A529-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T12 80.00-60.00	Solid Round		A36 (36 ksi)	Double Equal Angle	2L 2.5 x 2.5 x 3/16 (1/2)	A529-50 (50 ksi)
T13 60.00-40.00	Solid Round		A36 (36 ksi)	Double Equal Angle	2L 2.5 x 2.5 x 3/16 (1/2)	A529-50 (50 ksi)
T14 40.00-20.00	Solid Round		A36 (36 ksi)	Double Equal Angle	2L 3 x 3 x 3/16 (1/2)	A529-50 (50 ksi)
T15 20.00-0.00	Solid Round		A36 (36 ksi)	Double Equal Angle	2L 3 x 3 x 3/16 (1/2)	A529-50 (50 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Redundant Bracing Grade	Redundant Type	Redundant Size	K Factor	
T12 80.00-60.00	A529-50 (50 ksi)	Horizontal (1)	Double Equal	2L 2.5 x 2.5 x 3/16 (1/2)	1
		Diagonal (1)	Angle	2L 2.5 x 2.5 x 3/16 (1/2)	1
		Hip (1)	Double Equal Angle	L 2.5 x 2.5 x 3/16	1
T13 60.00-40.00	A529-50 (50 ksi)	Horizontal (1)	Double Equal	2L 2.5 x 2.5 x 3/16 (1/2)	1
		Diagonal (1)	Angle	2L 2.5 x 2.5 x 3/16 (1/2)	1
		Hip (1)	Double Equal Angle	L 2.5 x 2.5 x 3/16	1
T14 40.00-20.00	A529-50 (50 ksi)	Horizontal (1)	Double Equal	2L 3 x 3 x 3/16 (1/2)	1
		Diagonal (1)	Angle	2L 3 x 3 x 3/16 (1/2)	1
		Hip (1)	Double Equal Angle	L 3 x 3 x 3/16	1
T15 20.00-0.00	A529-50 (50 ksi)	Horizontal (1)	Double Equal	2L 3 x 3 x 3/16 (1/2)	1
		Diagonal (1)	Angle	2L 3 x 3 x 3/16 (1/2)	1
		Hip (1)	Double Equal Angle	L 3 x 3 x 3/16	1

Tower Section Geometry (cont'd)

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_r	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
T1 300.00-280.00	0.00	0.3750	A36 (36 ksi)	1.03	1	1.05	36.0000	36.0000	36.0000
T2 280.00-260.00	0.00	0.3750	A36 (36 ksi)	1.03	1	1.05	36.0000	36.0000	36.0000
T3 260.00-240.00	2.71	0.3750	A36 (36 ksi)	1.03	1	1.125	36.0000	36.0000	36.0000
T4 240.00-220.00	2.71	0.3750	A36 (36 ksi)	1.03	1	1.125	36.0000	36.0000	36.0000
T5 220.00-200.00	2.71	0.3750	A36 (36 ksi)	1.03	1	1.125	36.0000	36.0000	36.0000
T6 200.00-180.00	2.08	0.3750	A36 (36 ksi)	1.03	1	1.125	36.0000	36.0000	36.0000
T7 180.00-160.00	2.08	0.3750	A36 (36 ksi)	1.03	1	1.125	36.0000	36.0000	36.0000
T8 160.00-140.00	2.50	0.3750	A36 (36 ksi)	1.03	1	1.125	36.0000	36.0000	36.0000
T9 140.00-120.00	2.50	0.5000	A36 (36 ksi)	1.03	1	1.125	36.0000	36.0000	36.0000
T10 120.00-100.00	2.50	0.5000	A36 (36 ksi)	1.03	1	1.125	36.0000	36.0000	36.0000
T11 100.00-80.00	2.50	0.5000	A36 (36 ksi)	1.03	1	1.125	36.0000	36.0000	36.0000
T12 80.00-60.00	2.00	0.5000	A36 (36 ksi)	1.03	1	1.25	32.8125	32.2500	Mid-Pt
T13 60.00-40.00	2.00	0.5000	A36 (36 ksi)	1.03	1	1.25	34.5625	35.1875	Mid-Pt
T14 40.00-20.00	2.00	0.5000	A36 (36 ksi)	1.03	1	1.25	30.3125	30.5625	Mid-Pt
T15 20.00-0.00	2.00	0.5000	A36 (36 ksi)	1.03	1	1.25	31.8125	32.8750	Mid-Pt

Tower Section Geometry (cont'd)

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	K Factors ¹							
			Legs	X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace
				X Y	X Y	X Y	X Y	X Y	X Y	X Y
T1 300.00-280.00	No	Yes	1	1	1	1	1	1	1	1
T2 280.00-260.00	No	Yes	1	1	1	1	1	1	1	1
T3 260.00-240.00	Yes	No	1	1	1	1	1	1	1	1
T4 240.00-220.00	Yes	No	1	1	1	1	1	1	1	1
T5 220.00-200.00	Yes	No	1	1	1	1	1	1	1	1
T6 200.00-180.00	Yes	No	1	1	1	1	1	1	1	1
T7 180.00-160.00	Yes	No	1	1	1	1	1	1	1	1
T8 160.00-140.00	Yes	No	1	1	1	1	1	1	1	1
T9 140.00-120.00	Yes	No	1	1	1	1	1	1	1	1
T10 120.00-100.00	Yes	No	1	1	1	1	1	1	1	1
T11 100.00-80.00	Yes	No	1	1	1	1	1	1	1	1

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors ¹									
			Legs	X Brace Diags		K Brace Diags		Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace
				X Y	X Y	X Y	X Y					
T12 80.00-60.00	Yes	No	1	1	1	1	1	1	1	1	1	1
T13 60.00-40.00	Yes	No	1	1	1	1	1	1	1	1	1	1
T14 40.00-20.00	Yes	No	1	1	1	1	1	1	1	1	1	1
T15 20.00-0.00	Yes	No	1	1	1	1	1	1	1	1	1	1

¹Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 300.00-280.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 280.00-260.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 260.00-240.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 240.00-220.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 220.00-200.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 200.00-180.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 180.00-160.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 160.00-140.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 140.00-120.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 120.00-100.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 100.00-80.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 60.00-40.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T14 40.00-20.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T15 20.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 300.00-280.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 280.00-260.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 260.00-240.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 240.00-220.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 220.00-200.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 200.00-180.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 180.00-160.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 160.00-140.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 140.00-120.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 120.00-100.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 100.00-80.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 80.00-60.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 60.00-40.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T14 40.00-20.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T15 20.00-0.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 300.00-280.00	Flange	1.0000	6	0.0000	0	0.0000	0	0.0000	0	0.6250	0	0.0000	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T2 280.00-260.00	Flange	1.1250	6	0.0000	0	0.0000	0	0.0000	0	0.6250	0	0.0000	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T3 260.00-240.00	Flange	1.1250	6	0.5000	1	0.0000	0	0.0000	0	0.6250	0	0.0000	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T4 240.00-220.00	Flange	1.1250	6	0.6250	1	0.0000	0	0.0000	0	0.6250	0	0.0000	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T5 220.00-200.00	Flange	1.2500	6	0.7500	1	0.0000	0	0.0000	0	0.6250	0	0.0000	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T6 200.00-180.00	Flange	1.2500	6	0.7500	1	0.0000	0	0.0000	0	0.6250	0	0.0000	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T7 180.00-160.00	Flange	1.5000	6	0.8750	1	0.0000	0	0.0000	0	0.6250	0	0.0000	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T8 160.00-140.00	Flange	1.5000	6	1.0000	1	0.0000	0	0.0000	0	0.6250	0	0.0000	0	0.6250	0
		A325N		A325X		A325N		A325N		A325N		A325N		A325N	
T9 140.00-120.00	Flange	1.7500	6	1.0000	1	0.0000	0	0.0000	0	0.6250	0	0.0000	0	0.6250	0
		F1554-105		A325X		A325N		A325N		A325N		A325N		A325N	
T10 120.00-100.00	Flange	1.7500	6	1.1250	1	0.0000	0	0.0000	0	0.6250	0	0.8750	0	0.6250	0
		F1554-105		A325X		A325N		A325N		A325N		A325N		A325N	

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T11 100.00-80.00	Flange	1.5000 A325N	10	1.2500 A325X	1	0.0000 A325N	0	0.0000 A325N	0	0.6250 A325N	0	0.8750 A325N	0	0.6250 A325N	0
T12 80.00-60.00	Flange	1.5000 A325N	10	1.0000 A325X	2	0.0000 A325N	0	0.0000 A325N	0	0.6250 A325N	0	0.8750 A325X	2	0.6250 A325N	0
T13 60.00-40.00	Flange	1.5000 A325N	10	1.0000 A325X	2	0.0000 A325N	0	0.0000 A325N	0	0.6250 A325N	0	0.8750 A325X	2	0.6250 A325N	0
T14 40.00-20.00	Flange	1.5000 A325N	10	1.0000 A325X	2	0.0000 A325N	0	0.0000 A325N	0	0.6250 A325N	0	0.8750 A325X	2	0.6250 A325N	0
T15 20.00-0.00	Flange	1.7500 F1554-105	0	1.0000 A325X	2	0.0000 A325N	0	0.0000 A325N	0	0.6250 A325N	0	0.8750 A325X	2	0.6250 A325N	0

Tower Section Geometry (cont'd)

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 300.00-280.00	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 280.00-260.00	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T3 260.00-240.00	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T4 240.00-220.00	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T5 220.00-200.00	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T6 200.00-180.00	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T7 180.00-160.00	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T8 160.00-140.00	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T9 140.00-120.00	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T10 120.00-100.00	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T11 100.00-80.00	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T12 80.00-60.00	0.7500 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	1	0.6250 A325N	0
T13 60.00-40.00	0.7500 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	1	0.6250 A325N	0
T14 40.00-20.00	0.7500 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	1	0.6250 A325N	0
T15 20.00-0.00	0.7500 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.7500 A325N	1	0.6250 A325N	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter r in	Weight plf
FSJ4-50B(1/2")	A	No	No	Ar (CaAa)	300.00 - 162.00	1.5000	-0.5	1	1	0.5200	0.5200		0.14

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
FSJ4-50B(1/2")	A	No	No	Ar (CaAa)	162.00 - 10.00	1.5000	-0.5	2	2	0.5200	0.5200		0.14
1/4" x 1-1/2" Climb Ladder Rail	C	No	No	Af (CaAa)	300.00 - 10.00	0.0000	0.15	2	2	12.0000	0.2500		1.28
3/4" ladder rung (12" long 12" oc)	C	No	No	Ar (CaAa)	300.00 - 10.00	0.0000	0.15	1	1	0.7500	0.7500		1.50
Safety Line 3/8 ***	C	No	No	Ar (CaAa)	300.00 - 10.00	1.5000	0.15	1	1	0.3750	0.3750		0.22
1.5" flat Cable Ladder Rail	B	No	No	Af (CaAa)	300.00 - 10.00	0.0000	-0.1	2	2	30.0000	1.5000		1.80
LDF4P-50A(1/2)	B	No	No	Ar (CaAa)	273.00 - 90.00	0.0000	-0.1	1	1	1.0000	0.6300		0.15
LDF4P-50A(1/2)	B	No	No	Ar (CaAa)	90.00 - 10.00	0.0000	-0.1	2	2	1.0000	0.6300		0.15
LDF5-50A(7/8)	B	No	No	Ar (CaAa)	273.00 - 10.00	0.0000	-0.08	1	1	1.0300	1.0300		0.33
LDF6-50A(1-1/4)	B	No	No	Ar (CaAa)	297.00 - 10.00	0.0000	-0.06	2	2	0.2000	1.5500		0.60
LDF5-50A(7/8)	B	No	No	Ar (CaAa)	51.00 - 10.00	0.0000	-0.1	2	2	1.0300	1.0300		0.33
LDF5-50A(7/8)	B	No	No	Ar (CaAa)	203.00 - 10.00	0.0000	-0.1	1	1	1.0300	1.0300		0.33
LDF1-50A(1/4)	B	No	No	Ar (CaAa)	51.00 - 10.00	0.0000	-0.04	3	2	0.3450	0.3450		0.06
LDF1-50A(1/4)	B	No	No	Ar (CaAa)	60.00 - 51.00	0.0000	-0.04	2	2	0.3450	0.3450		0.06
LDF1-50A(1/4) ***	B	No	No	Ar (CaAa)	142.00 - 60.00	0.0000	-0.04	1	1	0.3450	0.3450		0.06
1.5" flat Cable Ladder Rail	A	No	No	Af (CaAa)	150.00 - 10.00	0.0000	0	2	2	18.0000	1.5000		1.80
PWRT-606-S(15/16)	A	No	No	Ar (CaAa)	264.00 - 10.00	0.0000	0.02	9	5	0.9825	0.9825		0.00
FB-L98-002-XXX(3/8) **	A	No	No	Ar (CaAa)	264.00 - 10.00	0.0000	-0.01	5	5	0.3937	0.3937		0.06
Step Bolts	A	No	No	Ar (CaAa)	300.00 - 10.00	0.0000	0.5	1	1	0.6250	2.9200		0.49
Step Bolts	B	No	No	Ar (CaAa)	300.00 - 10.00	0.0000	0.5	1	1	0.6250	2.9200		0.49
Step Bolts	C	No	No	Ar (CaAa)	300.00 - 10.00	0.0000	0.5	1	1	0.6250	2.9200		0.49
**													
EU63(ELLIPTICAL)	B	No	No	Ar (CaAa)	113.00 - 10.00	0.0000	-0.11	1	1	2.0300	2.0300		0.56
EW52(ELLIPTICAL)	B	No	No	Ar (CaAa)	220.00 - 0.00	0.0000	-0.12	1	1	2.2500	2.2500		0.59
EW52(ELLIPTICAL) **	B	No	No	Ar (CaAa)	250.00 - 220.00	0.0000	-0.12	1	1	2.2500	2.2500		0.59
1.5" flat Cable Ladder Rail	C	No	No	Af (CaAa)	240.00 - 10.00	0.0000	-0.1	2	2	30.0000	1.5000		1.80
6/24 Hybrid Cable (1.763" dia)	C	No	No	Ar (CaAa)	240.00 - 10.00	0.0000	-0.1	3	3	1.0000	1.7630		2.40

Feed Line/Linear Appurtenances Section Areas

Tower Sectio n	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
T1	300.00-280.00	A	0.000	0.000	6.102	0.000	0.01
		B	0.000	0.000	20.332	0.000	0.10
		C	0.000	0.000	8.979	0.000	0.10
T2	280.00-260.00	A	0.000	0.000	10.464	0.000	0.01
		B	0.000	0.000	23.458	0.000	0.11
		C	0.000	0.000	9.017	0.000	0.10
T3	260.00-240.00	A	0.000	0.000	27.804	0.000	0.02
		B	0.000	0.000	26.912	0.000	0.12
		C	0.000	0.000	9.058	0.000	0.10
T4	240.00-220.00	A	0.000	0.000	27.849	0.000	0.02
		B	0.000	0.000	29.207	0.000	0.13
		C	0.000	0.000	29.682	0.000	0.31
T5	220.00-200.00	A	0.000	0.000	27.899	0.000	0.02
		B	0.000	0.000	29.566	0.000	0.13
		C	0.000	0.000	29.731	0.000	0.31
T6	200.00-180.00	A	0.000	0.000	27.954	0.000	0.02
		B	0.000	0.000	31.372	0.000	0.13
		C	0.000	0.000	29.787	0.000	0.31
T7	180.00-160.00	A	0.000	0.000	28.121	0.000	0.02
		B	0.000	0.000	31.435	0.000	0.13
		C	0.000	0.000	29.849	0.000	0.31
T8	160.00-140.00	A	0.000	0.000	34.128	0.000	0.06
		B	0.000	0.000	31.575	0.000	0.13
		C	0.000	0.000	29.920	0.000	0.31
T9	140.00-120.00	A	0.000	0.000	39.210	0.000	0.09
		B	0.000	0.000	32.278	0.000	0.14
		C	0.000	0.000	30.003	0.000	0.31
T10	120.00-100.00	A	0.000	0.000	39.308	0.000	0.09
		B	0.000	0.000	35.015	0.000	0.14
		C	0.000	0.000	30.100	0.000	0.31
T11	100.00-80.00	A	0.000	0.000	39.427	0.000	0.09
		B	0.000	0.000	37.185	0.000	0.15
		C	0.000	0.000	30.220	0.000	0.31
T12	80.00-60.00	A	0.000	0.000	39.542	0.000	0.09
		B	0.000	0.000	37.930	0.000	0.15
		C	0.000	0.000	30.335	0.000	0.31
T13	60.00-40.00	A	0.000	0.000	39.542	0.000	0.09
		B	0.000	0.000	41.266	0.000	0.16
		C	0.000	0.000	30.335	0.000	0.31
T14	40.00-20.00	A	0.000	0.000	39.542	0.000	0.09
		B	0.000	0.000	43.430	0.000	0.16
		C	0.000	0.000	30.335	0.000	0.31
T15	20.00-0.00	A	0.000	0.000	19.771	0.000	0.05
		B	0.000	0.000	23.965	0.000	0.09
		C	0.000	0.000	15.167	0.000	0.16

Feed Line Center of Pressure

Section	Elevation ft	CP _x in	CP _z in	CP _x Ice in	CP _z Ice in
T1	300.00-280.00	1.2687	-1.2548	1.4156	-1.3979
T2	280.00-260.00	1.0329	-1.8124	1.1305	-1.9779
T3	260.00-240.00	-0.1384	-3.1110	-0.1455	-3.2675
T4	240.00-220.00	1.0268	-2.6279	1.0620	-2.7254
T5	220.00-200.00	1.1812	-2.9828	1.2179	-3.0838
T6	200.00-180.00	1.5663	-3.6711	1.5976	-3.7513
T7	180.00-160.00	1.5959	-3.8103	1.6197	-3.8730
T8	160.00-140.00	0.5187	-4.1237	0.5221	-4.1543
T9	140.00-120.00	-0.1579	-4.8743	-0.1584	-4.8919
T10	120.00-100.00	0.1782	-5.0358	0.1788	-5.0547
T11	100.00-80.00	0.4368	-5.5377	0.4376	-5.5488
T12	80.00-60.00	0.7055	-7.6531	0.6760	-7.3009
T13	60.00-40.00	1.3285	-8.6159	1.2719	-8.2116

Section	Elevation	CP _x	CP _z	CP _x Ice	CP _z Ice
	ft	in	in	in	in
T14	40.00-20.00	1.7030	-9.0994	1.6351	-8.6985
T15	20.00-0.00	1.4309	-5.9433	1.3709	-5.6642

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T1	1	FSJ4-50B(1/2")	280.00 - 300.00	0.6000	0.6000
T1	3	1/4" x 1-1/2" Climb Ladder Rail	280.00 - 300.00	0.6000	0.6000
T1	4	3/4" ladder rung (12" long 12" oc)	280.00 - 300.00	0.6000	0.6000
T1	5	Safety Line 3/8	280.00 - 300.00	0.6000	0.6000
T1	7	1.5" flat Cable Ladder Rail	280.00 - 300.00	0.6000	0.6000
T1	14	LDF6-50A(1-1/4)	280.00 - 297.00	0.6000	0.6000
T1	26	Step Bolts	280.00 - 300.00	1.0000	0.6000
T1	27	Step Bolts	280.00 - 300.00	1.0000	0.6000
T1	28	Step Bolts	280.00 - 300.00	1.0000	0.6000
T2	1	FSJ4-50B(1/2")	260.00 - 280.00	0.6000	0.6000
T2	3	1/4" x 1-1/2" Climb Ladder Rail	260.00 - 280.00	0.6000	0.6000
T2	4	3/4" ladder rung (12" long 12" oc)	260.00 - 280.00	0.6000	0.6000
T2	5	Safety Line 3/8	260.00 - 280.00	0.6000	0.6000
T2	7	1.5" flat Cable Ladder Rail	260.00 - 280.00	0.6000	0.6000
T2	11	LDF4P-50A(1/2)	260.00 - 273.00	0.6000	0.6000
T2	13	LDF5-50A(7/8)	260.00 - 273.00	0.6000	0.6000
T2	14	LDF6-50A(1-1/4)	260.00 - 280.00	0.6000	0.6000
T2	23	PWRT-606-S(15/16)	260.00 - 264.00	0.6000	0.6000
T2	24	FB-L98-002-XXX(3/8)	260.00 - 264.00	0.6000	0.6000
T2	26	Step Bolts	260.00 - 280.00	1.0000	0.6000
T2	27	Step Bolts	260.00 - 280.00	1.0000	0.6000
T2	28	Step Bolts	260.00 - 280.00	1.0000	0.6000
T3	1	FSJ4-50B(1/2")	240.00 - 260.00	0.6000	0.6000
T3	3	1/4" x 1-1/2" Climb Ladder Rail	240.00 - 260.00	0.6000	0.6000
T3	4	3/4" ladder rung (12" long 12" oc)	240.00 - 260.00	0.6000	0.6000
T3	5	Safety Line 3/8	240.00 - 260.00	0.6000	0.6000
T3	7	1.5" flat Cable Ladder Rail	240.00 - 260.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T3	11	LDF4P-50A(1/2)	240.00 - 260.00	0.6000	0.6000
T3	13	LDF5-50A(7/8)	240.00 - 260.00	0.6000	0.6000
T3	14	LDF6-50A(1-1/4)	240.00 - 260.00	0.6000	0.6000
T3	23	PWRT-606-S(15/16)	240.00 - 260.00	0.6000	0.6000
T3	24	FB-L98-002-XXX(3/8)	240.00 - 260.00	0.6000	0.6000
T3	26	Step Bolts	240.00 - 260.00	1.0000	0.6000
T3	27	Step Bolts	240.00 - 260.00	1.0000	0.6000
T3	28	Step Bolts	240.00 - 260.00	1.0000	0.6000
T3	32	EW52(ELLIPTICAL)	240.00 - 250.00	0.6000	0.6000
T4	1	FSJ4-50B(1/2")	220.00 - 240.00	0.6000	0.6000
T4	3	1/4" x 1-1/2" Climb Ladder Rail	220.00 - 240.00	0.6000	0.6000
T4	4	3/4" ladder rung (12" long 12" oc)	220.00 - 240.00	0.6000	0.6000
T4	5	Safety Line 3/8	220.00 - 240.00	0.6000	0.6000
T4	7	1.5" flat Cable Ladder Rail	220.00 - 240.00	0.6000	0.6000
T4	11	LDF4P-50A(1/2)	220.00 - 240.00	0.6000	0.6000
T4	13	LDF5-50A(7/8)	220.00 - 240.00	0.6000	0.6000
T4	14	LDF6-50A(1-1/4)	220.00 - 240.00	0.6000	0.6000
T4	23	PWRT-606-S(15/16)	220.00 - 240.00	0.6000	0.6000
T4	24	FB-L98-002-XXX(3/8)	220.00 - 240.00	0.6000	0.6000
T4	26	Step Bolts	220.00 - 240.00	1.0000	0.6000
T4	27	Step Bolts	220.00 - 240.00	1.0000	0.6000
T4	28	Step Bolts	220.00 - 240.00	1.0000	0.6000
T4	32	EW52(ELLIPTICAL)	220.00 - 240.00	0.6000	0.6000
T4	34	1.5" flat Cable Ladder Rail	220.00 - 240.00	0.6000	0.6000
T4	35	6/24 Hybrid Cable (1.763" dia)	220.00 - 240.00	0.6000	0.6000
T5	1	FSJ4-50B(1/2")	200.00 - 220.00	0.6000	0.6000
T5	3	1/4" x 1-1/2" Climb Ladder Rail	200.00 - 220.00	0.6000	0.6000
T5	4	3/4" ladder rung (12" long 12" oc)	200.00 - 220.00	0.6000	0.6000
T5	5	Safety Line 3/8	200.00 - 220.00	0.6000	0.6000
T5	7	1.5" flat Cable Ladder Rail	200.00 - 220.00	0.6000	0.6000
T5	11	LDF4P-50A(1/2)	200.00 - 220.00	0.6000	0.6000
T5	13	LDF5-50A(7/8)	200.00 - 220.00	0.6000	0.6000
T5	14	LDF6-50A(1-1/4)	200.00 - 220.00	0.6000	0.6000
T5	16	LDF5-50A(7/8)	200.00 - 203.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T5	23	PWRT-606-S(15/16)	200.00 - 220.00	0.6000	0.6000
T5	24	FB-L98-002-XXX(3/8)	200.00 - 220.00	0.6000	0.6000
T5	26	Step Bolts	200.00 - 220.00	1.0000	0.6000
T5	27	Step Bolts	200.00 - 220.00	1.0000	0.6000
T5	28	Step Bolts	200.00 - 220.00	1.0000	0.6000
T5	31	EW52(ELLIPTICAL)	200.00 - 220.00	0.6000	0.6000
T5	34	1.5" flat Cable Ladder Rail	200.00 - 220.00	0.6000	0.6000
T5	35	6/24 Hybrid Cable (1.763" dia)	200.00 - 220.00	0.6000	0.6000
T6	1	FSJ4-50B(1/2")	180.00 - 200.00	0.6000	0.6000
T6	3	1/4" x 1-1/2" Climb Ladder Rail	180.00 - 200.00	0.6000	0.6000
T6	4	3/4" ladder rung (12" long 12" oc)	180.00 - 200.00	0.6000	0.6000
T6	5	Safety Line 3/8	180.00 - 200.00	0.6000	0.6000
T6	7	1.5" flat Cable Ladder Rail	180.00 - 200.00	0.6000	0.6000
T6	11	LDF4P-50A(1/2)	180.00 - 200.00	0.6000	0.6000
T6	13	LDF5-50A(7/8)	180.00 - 200.00	0.6000	0.6000
T6	14	LDF6-50A(1-1/4)	180.00 - 200.00	0.6000	0.6000
T6	16	LDF5-50A(7/8)	180.00 - 200.00	0.6000	0.6000
T6	23	PWRT-606-S(15/16)	180.00 - 200.00	0.6000	0.6000
T6	24	FB-L98-002-XXX(3/8)	180.00 - 200.00	0.6000	0.6000
T6	26	Step Bolts	180.00 - 200.00	1.0000	0.6000
T6	27	Step Bolts	180.00 - 200.00	1.0000	0.6000
T6	28	Step Bolts	180.00 - 200.00	1.0000	0.6000
T6	31	EW52(ELLIPTICAL)	180.00 - 200.00	0.6000	0.6000
T6	34	1.5" flat Cable Ladder Rail	180.00 - 200.00	0.6000	0.6000
T6	35	6/24 Hybrid Cable (1.763" dia)	180.00 - 200.00	0.6000	0.6000
T7	1	FSJ4-50B(1/2")	162.00 - 180.00	0.6000	0.6000
T7	2	FSJ4-50B(1/2")	160.00 - 162.00	0.6000	0.6000
T7	3	1/4" x 1-1/2" Climb Ladder Rail	160.00 - 180.00	0.6000	0.6000
T7	4	3/4" ladder rung (12" long 12" oc)	160.00 - 180.00	0.6000	0.6000
T7	5	Safety Line 3/8	160.00 - 180.00	0.6000	0.6000
T7	7	1.5" flat Cable Ladder Rail	160.00 - 180.00	0.6000	0.6000
T7	11	LDF4P-50A(1/2)	160.00 - 180.00	0.6000	0.6000
T7	13	LDF5-50A(7/8)	160.00 - 180.00	0.6000	0.6000
T7	14	LDF6-50A(1-1/4)	160.00 - 180.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T7	16	LDF5-50A(7/8)	160.00 - 180.00	0.6000	0.6000
T7	23	PWRT-606-S(15/16)	160.00 - 180.00	0.6000	0.6000
T7	24	FB-L98-002-XXX(3/8)	160.00 - 180.00	0.6000	0.6000
T7	26	Step Bolts	160.00 - 180.00	1.0000	0.6000
T7	27	Step Bolts	160.00 - 180.00	1.0000	0.6000
T7	28	Step Bolts	160.00 - 180.00	1.0000	0.6000
T7	31	EW52(ELLIPTICAL)	160.00 - 180.00	0.6000	0.6000
T7	34	1.5" flat Cable Ladder Rail	160.00 - 180.00	0.6000	0.6000
T7	35	6/24 Hybrid Cable (1.763" dia)	160.00 - 180.00	0.6000	0.6000
T8	2	FSJ4-50B(1/2")	140.00 - 160.00	0.6000	0.6000
T8	3	1/4" x 1-1/2" Climb Ladder Rail	140.00 - 160.00	0.6000	0.6000
T8	4	3/4" ladder rung (12" long 12" oc)	140.00 - 160.00	0.6000	0.6000
T8	5	Safety Line 3/8	140.00 - 160.00	0.6000	0.6000
T8	7	1.5" flat Cable Ladder Rail	140.00 - 160.00	0.6000	0.6000
T8	11	LDF4P-50A(1/2)	140.00 - 160.00	0.6000	0.6000
T8	13	LDF5-50A(7/8)	140.00 - 160.00	0.6000	0.6000
T8	14	LDF6-50A(1-1/4)	140.00 - 160.00	0.6000	0.6000
T8	16	LDF5-50A(7/8)	140.00 - 160.00	0.6000	0.6000
T8	19	LDF1-50A(1/4)	140.00 - 142.00	0.6000	0.6000
T8	22	1.5" flat Cable Ladder Rail	140.00 - 150.00	0.6000	0.6000
T8	23	PWRT-606-S(15/16)	140.00 - 160.00	0.6000	0.6000
T8	24	FB-L98-002-XXX(3/8)	140.00 - 160.00	0.6000	0.6000
T8	26	Step Bolts	140.00 - 160.00	1.0000	0.6000
T8	27	Step Bolts	140.00 - 160.00	1.0000	0.6000
T8	28	Step Bolts	140.00 - 160.00	1.0000	0.6000
T8	31	EW52(ELLIPTICAL)	140.00 - 160.00	0.6000	0.6000
T8	34	1.5" flat Cable Ladder Rail	140.00 - 160.00	0.6000	0.6000
T8	35	6/24 Hybrid Cable (1.763" dia)	140.00 - 160.00	0.6000	0.6000
T9	2	FSJ4-50B(1/2")	120.00 - 140.00	0.6000	0.6000
T9	3	1/4" x 1-1/2" Climb Ladder Rail	120.00 - 140.00	0.6000	0.6000
T9	4	3/4" ladder rung (12" long 12" oc)	120.00 - 140.00	0.6000	0.6000
T9	5	Safety Line 3/8	120.00 - 140.00	0.6000	0.6000
T9	7	1.5" flat Cable Ladder Rail	120.00 - 140.00	0.6000	0.6000
T9	11	LDF4P-50A(1/2)	120.00 - 140.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T9	13	LDF5-50A(7/8)	120.00 - 140.00	0.6000	0.6000
T9	14	LDF6-50A(1-1/4)	120.00 - 140.00	0.6000	0.6000
T9	16	LDF5-50A(7/8)	120.00 - 140.00	0.6000	0.6000
T9	19	LDF1-50A(1/4)	120.00 - 140.00	0.6000	0.6000
T9	22	1.5" flat Cable Ladder Rail	120.00 - 140.00	0.6000	0.6000
T9	23	PWRT-606-S(15/16)	120.00 - 140.00	0.6000	0.6000
T9	24	FB-L98-002-XXX(3/8)	120.00 - 140.00	0.6000	0.6000
T9	26	Step Bolts	120.00 - 140.00	1.0000	0.6000
T9	27	Step Bolts	120.00 - 140.00	1.0000	0.6000
T9	28	Step Bolts	120.00 - 140.00	1.0000	0.6000
T9	31	EW52(ELLIPTICAL)	120.00 - 140.00	0.6000	0.6000
T9	34	1.5" flat Cable Ladder Rail	120.00 - 140.00	0.6000	0.6000
T9	35	6/24 Hybrid Cable (1.763" dia)	120.00 - 140.00	0.6000	0.6000
T10	2	FSJ4-50B(1/2")	100.00 - 120.00	0.6000	0.6000
T10	3	1/4" x 1-1/2" Climb Ladder Rail	100.00 - 120.00	0.6000	0.6000
T10	4	3/4" ladder rung (12" long 12" oc)	100.00 - 120.00	0.6000	0.6000
T10	5	Safety Line 3/8	100.00 - 120.00	0.6000	0.6000
T10	7	1.5" flat Cable Ladder Rail	100.00 - 120.00	0.6000	0.6000
T10	11	LDF4P-50A(1/2)	100.00 - 120.00	0.6000	0.6000
T10	13	LDF5-50A(7/8)	100.00 - 120.00	0.6000	0.6000
T10	14	LDF6-50A(1-1/4)	100.00 - 120.00	0.6000	0.6000
T10	16	LDF5-50A(7/8)	100.00 - 120.00	0.6000	0.6000
T10	19	LDF1-50A(1/4)	100.00 - 120.00	0.6000	0.6000
T10	22	1.5" flat Cable Ladder Rail	100.00 - 120.00	0.6000	0.6000
T10	23	PWRT-606-S(15/16)	100.00 - 120.00	0.6000	0.6000
T10	24	FB-L98-002-XXX(3/8)	100.00 - 120.00	0.6000	0.6000
T10	26	Step Bolts	100.00 - 120.00	1.0000	0.6000
T10	27	Step Bolts	100.00 - 120.00	1.0000	0.6000
T10	28	Step Bolts	100.00 - 120.00	1.0000	0.6000
T10	30	EU63(ELLIPTICAL)	100.00 - 113.00	0.6000	0.6000
T10	31	EW52(ELLIPTICAL)	100.00 - 120.00	0.6000	0.6000
T10	34	1.5" flat Cable Ladder Rail	100.00 - 120.00	0.6000	0.6000
T10	35	6/24 Hybrid Cable (1.763" dia)	100.00 - 120.00	0.6000	0.6000
T11	2	FSJ4-50B(1/2")	80.00 - 100.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T11	3	1/4" x 1-1/2" Climb Ladder Rail	80.00 - 100.00	0.6000	0.6000
T11	4	3/4" ladder rung (12" long 12" oc)	80.00 - 100.00	0.6000	0.6000
T11	5	Safety Line 3/8	80.00 - 100.00	0.6000	0.6000
T11	7	1.5" flat Cable Ladder Rail	80.00 - 100.00	0.6000	0.6000
T11	11	LDF4P-50A(1/2)	90.00 - 100.00	0.6000	0.6000
T11	12	LDF4P-50A(1/2)	80.00 - 90.00	0.6000	0.6000
T11	13	LDF5-50A(7/8)	80.00 - 100.00	0.6000	0.6000
T11	14	LDF6-50A(1-1/4)	80.00 - 100.00	0.6000	0.6000
T11	16	LDF5-50A(7/8)	80.00 - 100.00	0.6000	0.6000
T11	19	LDF1-50A(1/4)	80.00 - 100.00	0.6000	0.6000
T11	22	1.5" flat Cable Ladder Rail	80.00 - 100.00	0.6000	0.6000
T11	23	PWRT-606-S(15/16)	80.00 - 100.00	0.6000	0.6000
T11	24	FB-L98-002-XXX(3/8)	80.00 - 100.00	0.6000	0.6000
T11	26	Step Bolts	80.00 - 100.00	1.0000	0.6000
T11	27	Step Bolts	80.00 - 100.00	1.0000	0.6000
T11	28	Step Bolts	80.00 - 100.00	1.0000	0.6000
T11	30	EU63(ELLIPTICAL)	80.00 - 100.00	0.6000	0.6000
T11	31	EW52(ELLIPTICAL)	80.00 - 100.00	0.6000	0.6000
T11	34	1.5" flat Cable Ladder Rail	80.00 - 100.00	0.6000	0.6000
T11	35	6/24 Hybrid Cable (1.763" dia)	80.00 - 100.00	0.6000	0.6000
T12	2	FSJ4-50B(1/2")	60.00 - 80.00	0.6000	0.6000
T12	3	1/4" x 1-1/2" Climb Ladder Rail	60.00 - 80.00	0.6000	0.6000
T12	4	3/4" ladder rung (12" long 12" oc)	60.00 - 80.00	0.6000	0.6000
T12	5	Safety Line 3/8	60.00 - 80.00	0.6000	0.6000
T12	7	1.5" flat Cable Ladder Rail	60.00 - 80.00	0.6000	0.6000
T12	12	LDF4P-50A(1/2)	60.00 - 80.00	0.6000	0.6000
T12	13	LDF5-50A(7/8)	60.00 - 80.00	0.6000	0.6000
T12	14	LDF6-50A(1-1/4)	60.00 - 80.00	0.6000	0.6000
T12	16	LDF5-50A(7/8)	60.00 - 80.00	0.6000	0.6000
T12	19	LDF1-50A(1/4)	60.00 - 80.00	0.6000	0.6000
T12	22	1.5" flat Cable Ladder Rail	60.00 - 80.00	0.6000	0.6000
T12	23	PWRT-606-S(15/16)	60.00 - 80.00	0.6000	0.6000
T12	24	FB-L98-002-XXX(3/8)	60.00 - 80.00	0.6000	0.6000
T12	26	Step Bolts	60.00 - 80.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T12	27	Step Bolts	60.00 - 80.00	0.6000	0.6000
T12	28	Step Bolts	60.00 - 80.00	0.6000	0.6000
T12	30	EU63(ELLIPTICAL)	60.00 - 80.00	0.6000	0.6000
T12	31	EW52(ELLIPTICAL)	60.00 - 80.00	0.6000	0.6000
T12	34	1.5" flat Cable Ladder Rail	60.00 - 80.00	0.6000	0.6000
T12	35	6/24 Hybrid Cable (1.763" dia)	60.00 - 80.00	0.6000	0.6000
T13	2	FSJ4-50B(1/2")	40.00 - 60.00	0.6000	0.6000
T13	3	1/4" x 1-1/2" Climb Ladder Rail	40.00 - 60.00	0.6000	0.6000
T13	4	3/4" ladder rung (12" long 12" oc)	40.00 - 60.00	0.6000	0.6000
T13	5	Safety Line 3/8	40.00 - 60.00	0.6000	0.6000
T13	7	1.5" flat Cable Ladder Rail	40.00 - 60.00	0.6000	0.6000
T13	12	LDF4P-50A(1/2)	40.00 - 60.00	0.6000	0.6000
T13	13	LDF5-50A(7/8)	40.00 - 60.00	0.6000	0.6000
T13	14	LDF6-50A(1-1/4)	40.00 - 60.00	0.6000	0.6000
T13	15	LDF5-50A(7/8)	40.00 - 51.00	0.6000	0.6000
T13	16	LDF5-50A(7/8)	40.00 - 60.00	0.6000	0.6000
T13	17	LDF1-50A(1/4)	40.00 - 51.00	0.6000	0.6000
T13	18	LDF1-50A(1/4)	51.00 - 60.00	0.6000	0.6000
T13	22	1.5" flat Cable Ladder Rail	40.00 - 60.00	0.6000	0.6000
T13	23	PWRT-606-S(15/16)	40.00 - 60.00	0.6000	0.6000
T13	24	FB-L98-002-XXX(3/8)	40.00 - 60.00	0.6000	0.6000
T13	26	Step Bolts	40.00 - 60.00	0.6000	0.6000
T13	27	Step Bolts	40.00 - 60.00	0.6000	0.6000
T13	28	Step Bolts	40.00 - 60.00	0.6000	0.6000
T13	30	EU63(ELLIPTICAL)	40.00 - 60.00	0.6000	0.6000
T13	31	EW52(ELLIPTICAL)	40.00 - 60.00	0.6000	0.6000
T13	34	1.5" flat Cable Ladder Rail	40.00 - 60.00	0.6000	0.6000
T13	35	6/24 Hybrid Cable (1.763" dia)	40.00 - 60.00	0.6000	0.6000
T14	2	FSJ4-50B(1/2")	20.00 - 40.00	0.6000	0.6000
T14	3	1/4" x 1-1/2" Climb Ladder Rail	20.00 - 40.00	0.6000	0.6000
T14	4	3/4" ladder rung (12" long 12" oc)	20.00 - 40.00	0.6000	0.6000
T14	5	Safety Line 3/8	20.00 - 40.00	0.6000	0.6000
T14	7	1.5" flat Cable Ladder Rail	20.00 - 40.00	0.6000	0.6000
T14	12	LDF4P-50A(1/2)	20.00 - 40.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T14	13	LDF5-50A(7/8)	20.00 - 40.00	0.6000	0.6000
T14	14	LDF6-50A(1-1/4)	20.00 - 40.00	0.6000	0.6000
T14	15	LDF5-50A(7/8)	20.00 - 40.00	0.6000	0.6000
T14	16	LDF5-50A(7/8)	20.00 - 40.00	0.6000	0.6000
T14	17	LDF1-50A(1/4)	20.00 - 40.00	0.6000	0.6000
T14	22	1.5" flat Cable Ladder Rail	20.00 - 40.00	0.6000	0.6000
T14	23	PWRT-606-S(15/16)	20.00 - 40.00	0.6000	0.6000
T14	24	FB-L98-002-XXX(3/8)	20.00 - 40.00	0.6000	0.6000
T14	26	Step Bolts	20.00 - 40.00	0.6000	0.6000
T14	27	Step Bolts	20.00 - 40.00	0.6000	0.6000
T14	28	Step Bolts	20.00 - 40.00	0.6000	0.6000
T14	30	EU63(ELLIPTICAL)	20.00 - 40.00	0.6000	0.6000
T14	31	EW52(ELLIPTICAL)	20.00 - 40.00	0.6000	0.6000
T14	34	1.5" flat Cable Ladder Rail	20.00 - 40.00	0.6000	0.6000
T14	35	6/24 Hybrid Cable (1.763" dia)	20.00 - 40.00	0.6000	0.6000
T15	2	FSJ4-50B(1/2")	10.00 - 20.00	0.6000	0.6000
T15	3	1/4" x 1-1/2" Climb Ladder Rail	10.00 - 20.00	0.6000	0.6000
T15	4	3/4" ladder rung (12" long 12" oc)	10.00 - 20.00	0.6000	0.6000
T15	5	Safety Line 3/8	10.00 - 20.00	0.6000	0.6000
T15	7	1.5" flat Cable Ladder Rail	10.00 - 20.00	0.6000	0.6000
T15	12	LDF4P-50A(1/2)	10.00 - 20.00	0.6000	0.6000
T15	13	LDF5-50A(7/8)	10.00 - 20.00	0.6000	0.6000
T15	14	LDF6-50A(1-1/4)	10.00 - 20.00	0.6000	0.6000
T15	15	LDF5-50A(7/8)	10.00 - 20.00	0.6000	0.6000
T15	16	LDF5-50A(7/8)	10.00 - 20.00	0.6000	0.6000
T15	17	LDF1-50A(1/4)	10.00 - 20.00	0.6000	0.6000
T15	22	1.5" flat Cable Ladder Rail	10.00 - 20.00	0.6000	0.6000
T15	23	PWRT-606-S(15/16)	10.00 - 20.00	0.6000	0.6000
T15	24	FB-L98-002-XXX(3/8)	10.00 - 20.00	0.6000	0.6000
T15	26	Step Bolts	10.00 - 20.00	0.6000	0.6000
T15	27	Step Bolts	10.00 - 20.00	0.6000	0.6000
T15	28	Step Bolts	10.00 - 20.00	0.6000	0.6000
T15	30	EU63(ELLIPTICAL)	10.00 - 20.00	0.6000	0.6000
T15	31	EW52(ELLIPTICAL)	0.00 - 20.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T15	34	1.5" flat Cable Ladder Rail	10.00 - 20.00	0.6000	0.6000
T15	35	6/24 Hybrid Cable (1.763" dia)	10.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment	Placement ft	C_{AA} Front ft ²	C_{AA} Side ft ²	Weight K
Beacon	A	From Leg	0.00 0.00 1.00	0.0000	300.00	No Ice 3.60	3.60	0.10
3/4" x 6 ft lightning rod	B	From Leg	0.00 0.00 3.00	0.0000	315.00	No Ice 0.45	0.45	0.01
2.375" OD x 25' Mount Pipe	B	From Leg	0.00 0.00 11.50	0.0000	300.00	No Ice 5.94	5.94	0.13
Obstruction light	A	From Leg	1.00 0.00 0.00	0.0000	152.00	No Ice 0.50	0.50	0.01
Obstruction light	B	From Leg	1.00 0.00 0.00	0.0000	152.00	No Ice 0.50	0.50	0.01
Obstruction light	C	From Leg	1.00 0.00 0.00	0.0000	152.00	No Ice 0.50	0.50	0.01
** BMR12	A	From Leg	6.00 0.00 11.00	0.0000	297.00	No Ice 6.63	6.63	0.13
BMR12	B	From Leg	6.00 0.00 11.00	0.0000	297.00	No Ice 6.63	6.63	0.13
15' 6-arm Halo Mount **	C	None		0.0000	297.00	No Ice 47.08	47.08	2.05
BMR12	C	From Leg	6.00 0.00 10.00	0.0000	273.00	No Ice 6.63	6.63	0.13
Junction Box (30" x 30" x 12")	C	From Leg	3.00 0.00 1.00	0.0000	273.00	No Ice 7.50	3.00	0.09
Generic 3.5' x 6' sidearm	C	From Leg	3.00 0.00 0.00	0.0000	273.00	No Ice 3.00	6.00	0.40
2.5 STD x 126" Horizontal Arm	C	From Leg	5.00 0.00 0.00	0.0000	273.00	No Ice 3.18	3.18	0.08
2.5 STD x 126" Horizontal Arm	B	From Leg	5.00 0.00 0.00	0.0000	273.00	No Ice 3.18	3.18	0.08
** sabre C10857003C 12' sector frames (3)	C	None		0.0000	264.00	No Ice 31.68	31.68	1.25
Generic 1' x 2' sidearm	A	From Leg	4.00 0.00 0.00	0.0000	264.00	No Ice 1.00	2.00	0.13

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
Generic 1' x 2' sidearm	C	From Leg	4.00 0.00 0.00	0.0000	264.00	No Ice	1.00	2.00	0.13
(2) NNHH-65B-R4_TIA w/ Mount Pipe	A	From Leg	4.00 0.00 1.50	0.0000	264.00	No Ice	12.51	7.41	0.10
NNHH-65B-R4_TIA w/ Mount Pipe	B	From Leg	4.00 0.00 1.50	0.0000	264.00	No Ice	12.51	7.41	0.10
NNHH-65B-R4_TIA w/ Mount Pipe	C	From Leg	4.00 0.00 1.50	0.0000	264.00	No Ice	12.51	7.41	0.10
SBNHH-1D45C_TIA w/ Mount Pipe	A	From Leg	4.00 0.00 1.50	0.0000	264.00	No Ice	16.13	9.70	0.13
SBNHH-1D45C_TIA w/ Mount Pipe	B	From Leg	4.00 0.00 1.50	0.0000	264.00	No Ice	16.13	9.70	0.13
(2) SBNHH-1D45C_TIA w/ Mount Pipe	C	From Leg	4.00 0.00 1.50	0.0000	264.00	No Ice	16.13	9.70	0.13
SBNHH-1D85B_TIA w/ Mount Pipe	A	From Leg	4.00 0.00 1.50	0.0000	264.00	No Ice	8.44	7.10	0.07
SBNHH-1D85B_TIA w/ Mount Pipe	B	From Leg	4.00 0.00 1.50	0.0000	264.00	No Ice	8.44	7.10	0.07
RADIO 4449 B5/B12	A	From Leg	4.00 0.00 2.00	0.0000	264.00	No Ice	1.64	1.30	0.07
RADIO 4449 B5/B12	B	From Leg	4.00 0.00 2.00	0.0000	264.00	No Ice	1.64	1.30	0.07
(2) RADIO 4449 B5/B12	C	From Leg	4.00 0.00 2.00	0.0000	264.00	No Ice	1.64	1.30	0.07
RADIO 8843 B2/B66A	A	From Leg	4.00 0.00 2.00	0.0000	264.00	No Ice	1.64	1.38	0.08
RADIO 8843 B2/B66A	B	From Leg	4.00 0.00 2.00	0.0000	264.00	No Ice	1.64	1.38	0.08
(2) RADIO 8843 B2/B66A	C	From Leg	4.00 0.00 2.00	0.0000	264.00	No Ice	1.64	1.38	0.08
(2) RADIO 4478	A	From Leg	4.00 0.00 2.00	0.0000	264.00	No Ice	1.63	1.00	0.06
RADIO 4478	B	From Leg	4.00 0.00 2.00	0.0000	264.00	No Ice	1.63	1.00	0.06
RADIO 4478	C	From Leg	4.00 0.00 2.00	0.0000	264.00	No Ice	1.63	1.00	0.06
(2) DC6-48-60-18-8C-EV	A	From Leg	2.00 0.00 2.00	0.0000	264.00	No Ice	1.14	1.14	0.03
DC6-48-60-18-8C-EV	B	From Leg	2.00 0.00 2.00	0.0000	264.00	No Ice	1.14	1.14	0.03
DC6-48-60-18-8C-EV	C	From Leg	2.00 0.00 2.00	0.0000	264.00	No Ice	1.14	1.14	0.03

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
Pipe Mount [PM 601-1]	C	From Leg	0.50 0.00 0.00	0.0000	250.00	No Ice	1.32	1.32	0.07
** Pipe Mount [PM 601-1]	C	From Leg	0.50 0.00 0.00	0.0000	220.00	No Ice	1.32	1.32	0.07
** *** DB420	B	From Leg	4.00 0.00 9.00	0.0000	203.00	No Ice	3.33	3.33	0.03
Side Arm Mount [SO 306-1]	B	From Leg	4.00 0.00 0.00	0.0000	203.00	No Ice	0.41	2.26	0.04
*** *** 14" x 14" x 3" Panel	C	From Leg	0.50 0.00 0.00	0.0000	142.00	No Ice	1.63	0.38	0.01
2.375" OD x 3' Mount Pipe	C	From Leg	0.50 0.00 0.00	0.0000	142.00	No Ice	0.58	0.58	0.03
** Pipe Mount [PM 601-1]	C	From Leg	0.50 0.00 0.00	0.0000	113.00	No Ice	1.32	1.32	0.07
*** ** 1" x 1.5' Omni	C	From Leg	3.00 0.00 3.00	0.0000	90.00	No Ice	0.13	0.13	0.01
Generic 2' x 3' sidearm	C	From Leg	1.50 0.00 0.00	0.0000	90.00	No Ice	1.50	3.00	0.19
*** Camera - 12" T x 8" W x 8" L	B	From Leg	0.50 0.00 0.00	0.0000	51.00	No Ice	0.80	0.80	0.01
** Sector Mount	A	From Leg	2.00 0.00 0.00	0.0000	240.00	No Ice	13.20	9.20	0.66
Sector Mount	B	From Leg	2.00 0.00 0.00	0.0000	240.00	No Ice	13.20	9.20	0.66
Sector Mount	C	From Leg	2.00 0.00 0.00	0.0000	240.00	No Ice	13.20	9.20	0.66
840590966 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	240.00	No Ice	19.88	9.55	0.13
840590966 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	240.00	No Ice	19.88	9.55	0.13
840590966 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	240.00	No Ice	19.88	9.55	0.13
AIR 6419 B41 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	240.00	No Ice	6.58	3.50	0.11
AIR 6419 B41 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	240.00	No Ice	6.58	3.50	0.11

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
AIR 6419 B41 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	240.00	No Ice	6.58	3.50	0.11
4480 B71/B85	A	From Leg	4.00 0.00 0.00	0.0000	240.00	No Ice	2.45	1.27	0.09
4480 B71/B85	B	From Leg	4.00 0.00 0.00	0.0000	240.00	No Ice	2.45	1.27	0.09
4480 B71/B85	C	From Leg	4.00 0.00 0.00	0.0000	240.00	No Ice	2.45	1.27	0.09
4460 B25/B66	A	From Leg	4.00 0.00 0.00	0.0000	240.00	No Ice	2.57	1.97	0.11
4460 B25/B66	B	From Leg	4.00 0.00 0.00	0.0000	240.00	No Ice	2.57	1.97	0.11
4460 B25/B66	C	From Leg	4.00 0.00 0.00	0.0000	240.00	No Ice	2.57	1.97	0.11
**									

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft ²	Weight K
Microwave Networks MNIH6-6	C	Paraboloid w/Shroud (HP)	From Leg	1.00 0.00 0.00	-54.0000		113.00	6.13	No Ice	29.46	0.22
Microwave Networks MNIH6-6	C	Paraboloid w/Shroud (HP)	From Leg	1.00 0.00 0.00	13.0000		220.00	6.13	No Ice	29.46	0.22
HX8-6W-6GF	C	Paraboloid w/Radome	From Leg	1.00 0.00 0.00	13.0000		250.00	8.00	No Ice	50.27	0.41

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice

Comb. No.	Description
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	Dead+Wind 0 deg - Service
27	Dead+Wind 30 deg - Service
28	Dead+Wind 60 deg - Service
29	Dead+Wind 90 deg - Service
30	Dead+Wind 120 deg - Service
31	Dead+Wind 150 deg - Service
32	Dead+Wind 180 deg - Service
33	Dead+Wind 210 deg - Service
34	Dead+Wind 240 deg - Service
35	Dead+Wind 270 deg - Service
36	Dead+Wind 300 deg - Service
37	Dead+Wind 330 deg - Service

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg C	Max. Vert	18	888.00	76.54	-44.69
	Max. H _x	18	888.00	76.54	-44.69
	Max. H _z	7	-753.09	-64.62	37.87
	Min. Vert	7	-753.09	-64.62	37.87
	Min. H _x	7	-753.09	-64.62	37.87
	Min. H _z	18	888.00	76.54	-44.69
Leg B	Max. Vert	10	900.84	-78.08	-44.84
	Max. H _x	23	-744.37	64.81	37.18
	Max. H _z	23	-744.37	64.81	37.18
	Min. Vert	23	-744.37	64.81	37.18
	Min. H _x	10	900.84	-78.08	-44.84
	Min. H _z	10	900.84	-78.08	-44.84
Leg A	Max. Vert	2	881.28	-0.52	88.55
	Max. H _x	21	34.07	10.20	2.82
	Max. H _z	2	881.28	-0.52	88.55
	Min. Vert	15	-732.34	0.50	-73.57
	Min. H _x	8	57.33	-10.24	4.73
	Min. H _z	15	-732.34	0.50	-73.57

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturing Moment, M _x kip-ft	Overturing Moment, M _z kip-ft	Torque kip-ft
Dead Only	131.68	-0.00	0.00	16.24	7.63	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	158.02	1.38	-142.40	-21527.79	-303.11	-24.65
0.9 Dead+1.0 Wind 0 deg - No Ice	118.51	1.38	-142.40	-21532.66	-305.40	-24.65

Load Combination	Vertical	Shear _x	Shear _z	Overturning Moment, M _x	Overturning Moment, M _z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Wind 30 deg - No Ice	158.02	66.51	-113.77	-17675.36	-10460.17	-0.86
0.9 Dead+1.0 Wind 30 deg - No Ice	118.51	66.51	-113.77	-17680.23	-10462.46	-0.86
1.2 Dead+1.0 Wind 60 deg - No Ice	158.02	113.41	-66.42	-10352.25	-17795.98	-20.40
0.9 Dead+1.0 Wind 60 deg - No Ice	118.51	113.41	-66.42	-10357.12	-17798.27	-20.40
1.2 Dead+1.0 Wind 90 deg - No Ice	158.02	133.50	-0.65	-121.01	-20830.62	-29.74
0.9 Dead+1.0 Wind 90 deg - No Ice	118.51	133.50	-0.65	-125.88	-20832.91	-29.74
1.2 Dead+1.0 Wind 120 deg - No Ice	158.02	125.75	71.72	10830.76	-19191.77	10.62
0.9 Dead+1.0 Wind 120 deg - No Ice	118.51	125.75	71.72	10825.89	-19194.06	10.62
1.2 Dead+1.0 Wind 150 deg - No Ice	158.02	66.08	114.11	17509.36	-10216.67	43.42
0.9 Dead+1.0 Wind 150 deg - No Ice	118.51	66.08	114.11	17504.49	-10218.96	43.42
1.2 Dead+1.0 Wind 180 deg - No Ice	158.02	-0.53	129.41	20058.01	118.65	24.82
0.9 Dead+1.0 Wind 180 deg - No Ice	118.51	-0.53	129.41	20053.14	116.36	24.82
1.2 Dead+1.0 Wind 210 deg - No Ice	158.02	-65.48	112.41	17432.96	10243.94	0.74
0.9 Dead+1.0 Wind 210 deg - No Ice	118.51	-65.48	112.41	17428.09	10241.65	0.74
1.2 Dead+1.0 Wind 240 deg - No Ice	158.02	-122.94	71.76	10935.26	18746.44	19.61
0.9 Dead+1.0 Wind 240 deg - No Ice	118.51	-122.94	71.76	10930.39	18744.15	19.61
1.2 Dead+1.0 Wind 270 deg - No Ice	158.02	-132.39	0.69	146.19	20581.08	29.38
0.9 Dead+1.0 Wind 270 deg - No Ice	118.51	-132.39	0.69	141.32	20578.79	29.38
1.2 Dead+1.0 Wind 300 deg - No Ice	158.02	-113.76	-65.60	-10070.29	17701.73	-13.71
0.9 Dead+1.0 Wind 300 deg - No Ice	118.51	-113.76	-65.60	-10075.16	17699.44	-13.71
1.2 Dead+1.0 Wind 330 deg - No Ice	158.02	-65.35	-114.57	-17535.05	10046.08	-47.79
0.9 Dead+1.0 Wind 330 deg - No Ice	118.51	-65.35	-114.57	-17539.92	10043.79	-47.79
Dead+Wind 0 deg - Service	131.68	0.23	-24.45	-3683.57	-44.39	-4.06
Dead+Wind 30 deg - Service	131.68	11.44	-19.58	-3027.01	-1791.57	-0.10
Dead+Wind 60 deg - Service	131.68	19.52	-11.43	-1766.71	-3053.99	-3.38
Dead+Wind 90 deg - Service	131.68	22.97	-0.11	-7.17	-3574.30	-4.95
Dead+Wind 120 deg - Service	131.68	21.58	12.31	1872.41	-3286.52	1.75
Dead+Wind 150 deg - Service	131.68	11.37	19.64	3025.34	-1751.00	7.20
Dead+Wind 180 deg - Service	131.68	-0.09	22.28	3464.68	25.88	4.09
Dead+Wind 210 deg - Service	131.68	-11.27	19.35	3012.61	1767.76	0.08
Dead+Wind 240 deg - Service	131.68	-21.11	12.32	1889.82	3224.55	3.24
Dead+Wind 270 deg - Service	131.68	-22.78	0.11	37.35	3544.94	4.89
Dead+Wind 300 deg - Service	131.68	-19.58	-11.29	-1719.74	3050.50	-2.26
Dead+Wind 330 deg - Service	131.68	-11.25	-19.72	-3003.64	1734.80	-7.93

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-131.68	0.00	0.00	131.68	-0.00	0.000%
2	1.38	-158.02	-142.40	-1.38	158.02	142.40	0.000%
3	1.38	-118.51	-142.40	-1.38	118.51	142.40	0.000%
4	66.51	-158.02	-113.77	-66.51	158.02	113.77	0.000%
5	66.51	-118.51	-113.77	-66.51	118.51	113.77	0.000%
6	113.41	-158.02	-66.42	-113.41	158.02	66.42	0.000%
7	113.41	-118.51	-66.42	-113.41	118.51	66.42	0.000%
8	133.50	-158.02	-0.65	-133.50	158.02	0.65	0.000%
9	133.50	-118.51	-0.65	-133.50	118.51	0.65	0.000%
10	125.75	-158.02	71.72	-125.75	158.02	-71.72	0.000%
11	125.75	-118.51	71.72	-125.75	118.51	-71.72	0.000%
12	66.08	-158.02	114.11	-66.08	158.02	-114.11	0.000%
13	66.08	-118.51	114.11	-66.08	118.51	-114.11	0.000%
14	-0.53	-158.02	129.41	0.53	158.02	-129.41	0.000%
15	-0.53	-118.51	129.41	0.53	118.51	-129.41	0.000%
16	-65.48	-158.02	112.41	65.48	158.02	-112.41	0.000%
17	-65.48	-118.51	112.41	65.48	118.51	-112.41	0.000%
18	-122.94	-158.02	71.76	122.94	158.02	-71.76	0.000%
19	-122.94	-118.51	71.76	122.94	118.51	-71.76	0.000%
20	-132.39	-158.02	0.69	132.39	158.02	-0.69	0.000%
21	-132.39	-118.51	0.69	132.39	118.51	-0.69	0.000%
22	-113.76	-158.02	-65.60	113.76	158.02	65.60	0.000%
23	-113.76	-118.51	-65.60	113.76	118.51	65.60	0.000%
24	-65.35	-158.02	-114.57	65.35	158.02	114.57	0.000%
25	-65.35	-118.51	-114.57	65.35	118.51	114.57	0.000%
26	0.23	-131.68	-24.45	-0.23	131.68	24.45	0.000%
27	11.44	-131.68	-19.58	-11.44	131.68	19.58	0.000%
28	19.52	-131.68	-11.43	-19.52	131.68	11.43	0.000%
29	22.97	-131.68	-0.11	-22.97	131.68	0.11	0.000%
30	21.58	-131.68	12.31	-21.58	131.68	-12.31	0.000%
31	11.37	-131.68	19.64	-11.37	131.68	-19.64	0.000%
32	-0.09	-131.68	22.28	0.09	131.68	-22.28	0.000%
33	-11.27	-131.68	19.35	11.27	131.68	-19.35	0.000%
34	-21.11	-131.68	12.32	21.11	131.68	-12.32	0.000%
35	-22.78	-131.68	0.11	22.78	131.68	-0.11	0.000%
36	-19.58	-131.68	-11.29	19.58	131.68	11.29	0.000%
37	-11.25	-131.68	-19.72	11.25	131.68	19.72	0.000%

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	300 - 280	8.080	34	0.3126	0.0351
T2	280 - 260	6.780	34	0.2965	0.0580
T3	260 - 240	5.587	30	0.2606	0.0615
T4	240 - 220	4.561	30	0.2209	0.0438
T5	220 - 200	3.669	30	0.1870	0.0294
T6	200 - 180	2.915	30	0.1530	0.0179
T7	180 - 160	2.288	30	0.1276	0.0119
T8	160 - 140	1.770	30	0.1050	0.0088
T9	140 - 120	1.344	30	0.0871	0.0073
T10	120 - 100	0.985	30	0.0711	0.0060
T11	100 - 80	0.691	30	0.0566	0.0045
T12	80 - 60	0.448	30	0.0434	0.0029
T13	60 - 40	0.259	30	0.0312	0.0020
T14	40 - 20	0.132	30	0.0200	0.0012
T15	20 - 0	0.037	30	0.0096	0.0005

Critical Deflections and Radius of Curvature - Service Wind

<i>Elevation</i> <i>ft</i>	<i>Appurtenance</i>	<i>Gov. Load Comb.</i>	<i>Deflection</i> <i>in</i>	<i>Tilt</i> <i>°</i>	<i>Twist</i> <i>°</i>	<i>Radius of Curvature</i> <i>ft</i>
315.00	3/4" x 6 ft lightning rod	34	8.080	0.3126	0.0351	79153
300.00	Beacon	34	8.080	0.3126	0.0351	79153
297.00	BMR12	34	7.882	0.3109	0.0390	79153
273.00	BMR12	34	6.344	0.2858	0.0621	36680
264.00	sabre C10857003C 12' sector frames (3)	30	5.810	0.2687	0.0629	29258
250.00	HX8-6W-6GF	30	5.056	0.2401	0.0537	30265
240.00	Sector Mount	30	4.561	0.2209	0.0438	34323
220.00	Microwave Networks MNIH6-6	30	3.669	0.1870	0.0294	32902
203.00	DB420	30	3.019	0.1576	0.0194	36388
152.00	Obstruction light	30	1.590	0.0974	0.0081	58757
142.00	14" x 14" x 3" Panel	30	1.383	0.0887	0.0074	73403
113.00	Microwave Networks MNIH6-6	30	0.875	0.0658	0.0055	78152
90.00	1" x 1.5' Omni	30	0.563	0.0499	0.0037	97312
51.00	Camera - 12" T x 8" W x 8" L	30	0.196	0.0260	0.0016	103197

Maximum Tower Deflections - Design Wind

<i>Section No.</i>	<i>Elevation</i> <i>ft</i>	<i>Horz. Deflection</i> <i>in</i>	<i>Gov. Load Comb.</i>	<i>Tilt</i> <i>°</i>	<i>Twist</i> <i>°</i>
T1	300 - 280	46.311	11	1.7333	0.2949
T2	280 - 260	39.106	11	1.6446	0.3767
T3	260 - 240	32.417	11	1.4633	0.3762
T4	240 - 220	26.503	11	1.2609	0.2661
T5	220 - 200	21.341	11	1.0780	0.1784
T6	200 - 180	16.968	11	0.8871	0.1085
T7	180 - 160	13.324	11	0.7408	0.0717
T8	160 - 140	10.311	11	0.6106	0.0533
T9	140 - 120	7.833	11	0.5065	0.0440
T10	120 - 100	5.745	11	0.4136	0.0361
T11	100 - 80	4.027	11	0.3294	0.0273
T12	80 - 60	2.612	10	0.2531	0.0176
T13	60 - 40	1.513	10	0.1814	0.0118
T14	40 - 20	0.767	10	0.1167	0.0070
T15	20 - 0	0.218	11	0.0557	0.0029

Critical Deflections and Radius of Curvature - Design Wind

<i>Elevation</i> <i>ft</i>	<i>Appurtenance</i>	<i>Gov. Load Comb.</i>	<i>Deflection</i> <i>in</i>	<i>Tilt</i> <i>°</i>	<i>Twist</i> <i>°</i>	<i>Radius of Curvature</i> <i>ft</i>
315.00	3/4" x 6 ft lightning rod	11	46.311	1.7333	0.2949	16851
300.00	Beacon	11	46.311	1.7333	0.2949	16851
297.00	BMR12	11	45.217	1.7231	0.3092	16851
273.00	BMR12	11	36.686	1.5900	0.3900	7219
264.00	sabre C10857003C 12' sector frames (3)	11	33.696	1.5042	0.3867	5922
250.00	HX8-6W-6GF	11	29.363	1.3601	0.3266	5944
240.00	Sector Mount	11	26.503	1.2609	0.2661	6411
220.00	Microwave Networks MNIH6-6	11	21.341	1.0780	0.1784	5932
203.00	DB420	11	17.575	0.9136	0.1173	6389
152.00	Obstruction light	11	9.265	0.5662	0.0490	10137
142.00	14" x 14" x 3" Panel	11	8.062	0.5161	0.0448	12677
113.00	Microwave Networks MNIH6-6	11	5.104	0.3831	0.0331	13449
90.00	1" x 1.5' Omni	10	3.284	0.2906	0.0222	16713
51.00	Camera - 12" T x 8" W x 8" L	10	1.145	0.1516	0.0096	17697

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load Allowable	Allowable Ratio	Criteria
T1	300	Leg	A325N	1.0000	6	5.67	54.52	0.104 ✓	1	Bolt Tension
T2	280	Leg	A325N	1.1250	6	17.23	68.69	0.251 ✓	1	Bolt Tension
T3	260	Leg	A325N	1.1250	6	26.75	68.69	0.389 ✓	1	Bolt Tension
		Diagonal	A325X	0.5000	1	7.57	10.33	0.733 ✓	1	Member Block Shear
T4	240	Leg	A325N	1.1250	6	37.00	68.69	0.539 ✓	1	Bolt Tension
		Diagonal	A325X	0.6250	1	9.40	10.74	0.875 ✓	1	Member Block Shear
T5	220	Leg	A325N	1.2500	6	46.42	87.22	0.532 ✓	1	Bolt Tension
		Diagonal	A325X	0.7500	1	9.89	11.43	0.866 ✓	1	Member Block Shear
T6	200	Leg	A325N	1.2500	6	54.88	87.22	0.629 ✓	1	Bolt Tension
		Diagonal	A325X	0.7500	1	10.77	15.08	0.714 ✓	1	Member Block Shear
T7	180	Leg	A325N	1.5000	6	62.77	126.47	0.496 ✓	1	Bolt Tension
		Diagonal	A325X	0.8750	1	11.53	24.68	0.467 ✓	1	Member Block Shear
T8	160	Leg	A325N	1.5000	6	70.48	126.47	0.557 ✓	1	Bolt Tension
		Diagonal	A325X	1.0000	1	13.18	25.45	0.518 ✓	1	Gusset Bearing
T9	140	Leg	F1554-105	1.7500	6	78.22	178.07	0.439 ✓	1	Bolt Tension
		Diagonal	A325X	1.0000	1	14.73	33.93	0.434 ✓	1	Gusset Bearing
T10	120	Leg	F1554-105	1.7500	6	86.22	178.07	0.484 ✓	1	Bolt Tension
		Diagonal	A325X	1.1250	1	17.99	33.06	0.544 ✓	1	Gusset Bearing
T11	100	Leg	A325N	1.5000	10	56.72	126.47	0.449 ✓	1	Bolt Tension
		Diagonal	A325X	1.2500	1	20.29	32.19	0.630 ✓	1	Gusset Bearing
T12	80	Leg	A325N	1.5000	10	61.71	126.47	0.488 ✓	1	Bolt Tension
		Diagonal	A325X	1.0000	2	13.25	42.05	0.315 ✓	1	Member Block Shear
		Horizontal	A325X	0.8750	2	6.19	30.77	0.201 ✓	1	Member Block Shear
		Redund Horz 1 Bracing	A325N	0.7500	1	12.37	20.11	0.615 ✓	1	Member Block Shear
		Redund Diag 1 Bracing	A325N	0.6250	1	8.22	17.55	0.469 ✓	1	Member Bearing
		Redund Hip 1 Bracing	A325N	0.7500	1	0.11	10.05	0.010 ✓	1	Member Block Shear
T13	60	Leg	A325N	1.5000	10	66.54	126.47	0.526 ✓	1	Bolt Tension
		Diagonal	A325X	1.0000	2	13.69	42.05	0.326 ✓	1	Member Block Shear
		Horizontal	A325X	0.8750	2	6.75	30.77	0.219 ✓	1	Member Block Shear
		Redund Horz 1 Bracing	A325N	0.7500	1	13.49	20.11	0.671 ✓	1	Member Block Shear
		Redund Diag 1 Bracing	A325N	0.6250	1	8.68	17.55	0.495 ✓	1	Member Bearing
		Redund Hip 1 Bracing	A325N	0.7500	1	0.08	10.05	0.008 ✓	1	Member Block Shear
T14	40	Leg	A325N	1.5000	10	71.17	126.47	0.563 ✓	1	Bolt Tension
		Diagonal	A325X	1.0000	2	13.72	42.05	0.326 ✓	1	Member Block Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load Allowable	Allowable Ratio	Criteria
T15	20	Horizontal	A325X	0.8750	2	7.30	30.77	0.237 ✓	1	Member Block Shear
		Redund Horiz 1 Bracing	A325N	0.7500	1	14.59	21.21	0.688 ✓	1	Member Bearing
		Redund Diag 1 Bracing	A325N	0.6250	1	9.14	17.55	0.521 ✓	1	Member Bearing
		Redund Hip 1 Bracing	A325N	0.7500	1	0.07	10.60	0.006 ✓	1	Member Bearing
		Diagonal	A325X	1.0000	2	13.77	44.81	0.307 ✓	1	Gusset Bearing
		Horizontal	A325X	0.8750	2	7.84	36.56	0.215 ✓	1	Member Block Shear
		Redund Horiz 1 Bracing	A325N	0.7500	1	15.69	21.21	0.740 ✓	1	Member Bearing
		Redund Diag 1 Bracing	A325N	0.6250	1	9.59	17.55	0.547 ✓	1	Member Bearing
		Redund Hip 1 Bracing	A325N	0.7500	1	0.06	10.60	0.006 ✓	1	Member Bearing

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
T1	300 - 280	2" solid	20.00	3.28	78.8 K=1.00	3.1416	-32.84	89.83	0.366 ¹ ✓
T2	280 - 260	2 3/4" solid	20.00	3.28	57.3 K=1.00	5.9396	-100.16	210.29	0.476 ¹ ✓
T3	260 - 240	3 1/4" solid	20.03	4.76	70.3 K=1.00	8.2958	-163.59	260.18	0.629 ¹ ✓
T4	240 - 220	3 1/2" solid	20.03	4.76	65.3 K=1.00	9.6211	-228.67	317.13	0.721 ¹ ✓
T5	220 - 200	3 1/2" solid	20.03	4.76	65.3 K=1.00	9.6211	-289.25	317.13	0.912 ¹ ✓
T6	200 - 180	4" solid	20.03	6.34	76.1 K=1.00	12.566 4	-343.53	370.17	0.928 ¹ ✓
T7	180 - 160	4 1/4" solid	20.03	6.34	71.6 K=1.00	14.186 3	-398.28	438.60	0.908 ¹ ✓
T8	160 - 140	4 3/4" solid	20.03	6.34	64.1 K=1.00	17.720 5	-453.88	590.46	0.769 ¹ ✓
T9	140 - 120	5" solid	20.03	6.34	60.9 K=1.00	19.635 0	-511.07	673.70	0.759 ¹ ✓
T10	120 - 100	5 1/4" solid	20.03	6.34	58.0 K=1.00	21.647 5	-571.33	761.72	0.750 ¹ ✓
T11	100 - 80	5 1/2" solid	20.03	6.34	55.4 K=1.00	23.758 3	-635.25	854.46	0.743 ¹ ✓
T12	80 - 60	5 3/4" solid	20.03	4.76	39.7 K=1.00	25.967 2	-677.63	1041.22	0.651 ¹ ✓
T13	60 - 40	6" solid	20.03	4.76	38.1 K=1.00	28.274 3	-742.42	1144.45	0.649 ¹ ✓
T14	40 - 20	6 1/4" solid	20.03	4.76	36.5 K=1.00	30.679 6	-806.44	1252.17	0.644 ¹ ✓

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T15	20 - 0	6 1/2" solid	20.03	4.76	35.1 K=1.00	33.183 1	-869.18	1364.36	0.637 ¹ ✓

¹ P_u / φP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	300 - 280	7/8" solid	5.17	2.48	122.4 K=0.90	0.6013	-3.89	9.07	0.429 ¹ ✓
T2	280 - 260	1" solid	5.17	2.44	107.1 K=0.91	0.7854	-10.30	15.28	0.674 ¹ ✓
T3	260 - 240	L1 3/4x1 3/4x3/16	7.43	3.53	123.2 K=1.00	0.6211	-7.63	11.71	0.652 ¹ ✓
T4	240 - 220	L2x2x3/16	9.06	4.33	131.9 K=1.00	0.7150	-8.95	11.76	0.761 ¹ ✓
T5	220 - 200	L2 1/2x2 1/2x3/16	10.81	5.22	126.5 K=1.00	0.9020	-9.91	16.12	0.615 ¹ ✓
T6	200 - 180	L3x3x3/16	13.25	6.44	129.6 K=1.00	1.0900	-10.80	18.57	0.582 ¹ ✓
T7	180 - 160	L3 1/2x3 1/2x1/4	15.03	7.29	126.0 K=1.00	1.6900	-11.60	30.46	0.381 ¹ ✓
T8	160 - 140	L4x4x3/8	16.87	8.16	124.3 K=1.00	2.8600	-13.20	52.98	0.249 ¹ ✓
T9	140 - 120	L4x4x3/8	18.74	9.09	138.4 K=1.00	2.8600	-14.77	42.75	0.345 ¹ ✓
T10	120 - 100	L5x5x3/8	20.63	9.99	121.1 K=1.00	3.6100	-17.96	70.45	0.255 ¹ ✓
T11	100 - 80	L5x5x3/8	22.54	10.91	132.2 K=1.00	3.6100	-20.17	59.13	0.341 ¹ ✓
T12	80 - 60	2L 4 x 4 x 1/4 (1/2)	15.29	14.27	102.0 K=1.00	3.8750	-29.48	87.40	0.337 ¹ ✓
T13	60 - 40	2L 4 x 4 x 1/4 (1/2)	16.08	15.07	107.6 K=1.00	3.8750	-29.35	81.24	0.361 ¹ ✓
T14	40 - 20	2L 4 x 4 x 1/4 (1/2)	16.90	15.88	110.5 K=1.00	3.8750	-30.18	77.83	0.388 ¹ ✓
T15	20 - 0	2L 4 x 4 x 5/16 (1/2)	17.74	16.71	115.8 K=1.00	4.8047	-30.70	95.55	0.321 ¹ ✓

¹ P_u / φP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T12	80 - 60	2L 3 x 3 x 1/4 (1/2)	23.00	10.97	136.5 K=0.96	2.8750	-12.37	44.19	0.280 ¹ ✓
T13	60 - 40	2L 3 x 3 x 1/4 (1/2)	25.00	11.96	146.2 K=0.95	2.8750	-13.49	38.51	0.350 ¹ ✓

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T14	40 - 20	2L 3 x 3 x 1/4 (1/2)	27.00	12.95	155.9 K=0.93	2.8750	-14.59	33.85	0.431 ¹
T15	20 - 0	2L 3.5 x 3.5 x 1/4 (1/2)	29.00	13.91	145.2 K=0.95	3.3750	-15.69	45.85	0.342 ¹

¹ P_u / φP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	300 - 280	3/4" solid	4.00	3.83	171.7 K=0.70	0.4418	-0.30	3.38	0.089 ¹
T2	280 - 260	7/8" solid	4.00	3.77	144.8 K=0.70	0.6013	-1.94	6.48	0.299 ¹

¹ P_u / φP_n controls

Bottom Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	300 - 280	3/4" solid	4.00	3.83	171.7 K=0.70	0.4418	-0.63	3.38	0.187 ¹
T2	280 - 260	7/8" solid	4.00	3.77	144.8 K=0.70	0.6013	-1.94	6.48	0.299 ¹

¹ P_u / φP_n controls

Redundant Horizontal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T12	80 - 60	2L 2.5 x 2.5 x 3/16 (1/2)	5.75	5.24	81.7 K=1.00	1.8047	-12.37	57.07	0.217 ¹
T13	60 - 40	2L 'a' > 29.9860 in - 306 2L 2.5 x 2.5 x 3/16 (1/2)	6.25	5.73	89.3 K=1.00	1.8047	-13.49	52.77	0.256 ¹
T14	40 - 20	2L 'a' > 32.7879 in - 357 2L 3 x 3 x 3/16 (1/2)	6.75	6.22	81.6 K=1.00	2.1797	-14.59	58.35	0.250 ¹
T15	20 - 0	2L 'a' > 35.5297 in - 408 2L 3 x 3 x 3/16 (1/2)	7.25	6.71	88.1 K=1.00	2.1797	-15.69	55.89	0.281 ¹
		2L 'a' > 38.3268 in - 459							

¹ $P_u / \phi P_n$ controls

Redundant Diagonal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in ²	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T12	80 - 60	2L 2.5 x 2.5 x 3/16 (1/2)	7.64	7.09	110.5 K=1.00	1.8047	-8.22	38.51	0.214 ¹
T13	60 - 40	2L 'a' > 40.5659 in - 333 2L 2.5 x 2.5 x 3/16 (1/2)	8.04	7.48	116.7 K=1.00	1.8047	-8.68	35.00	0.248 ¹
T14	40 - 20	2L 'a' > 42.8281 in - 384 2L 3 x 3 x 3/16 (1/2)	8.45	7.89	103.5 K=1.00	2.1797	-9.14	47.98	0.190 ¹
T15	20 - 0	2L 'a' > 45.0686 in - 435 2L 3 x 3 x 3/16 (1/2) 2L 'a' > 47.4289 in - 486	8.87	8.30	109.0 K=1.00	2.1797	-9.59	44.60	0.215 ¹

¹ $P_u / \phi P_n$ controls

Redundant Hip (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in ²	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T12	80 - 60	L 2.5 x 2.5 x 3/16	5.75	5.48	132.8 K=1.00	0.9020	-0.11	14.63	0.007 ¹
T13	60 - 40	L 2.5 x 2.5 x 3/16	6.25	5.98	144.9 K=1.00	0.9020	-0.09	12.29	0.007 ¹
T14	40 - 20	L 3 x 3 x 3/16	6.75	6.48	130.5 K=1.00	1.0900	-0.07	18.33	0.004 ¹
T15	20 - 0	L 3 x 3 x 3/16	7.25	6.98	140.5 K=1.00	1.0900	-0.07	15.80	0.005 ¹

¹ $P_u / \phi P_n$ controls

Inner Bracing Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in ²	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T12	80 - 60	2L 2.5 x 2.5 x 3/16 (1/2)	11.50	11.50	177.3 K=1.00	1.8047	-0.09	16.43	0.005 ¹
T13	60 - 40	2L 2.5 x 2.5 x 3/16 (1/2)	12.50	12.50	192.7 K=1.00	1.8047	-0.07	13.90	0.005 ¹
T14	40 - 20	2L 3 x 3 x 3/16 (1/2)	13.50	13.50	172.5 K=1.00	2.1797	-0.06	20.98	0.003 ¹
T15	20 - 0	2L 3 x 3 x 3/16 (1/2)	14.50	14.50	185.2 K=1.00	2.1797	-0.06	18.18	0.004 ¹

¹ $P_u / \phi P_n$ controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	300 - 280	2" solid	20.00	0.16	3.8	3.1416	34.05	141.37	0.241 ¹
T2	280 - 260	2 3/4" solid	20.00	0.16	2.7	5.9396	103.38	267.28	0.387 ¹
T3	260 - 240	3 1/4" solid	20.03	0.50	7.4	8.2958	160.52	373.31	0.430 ¹
T4	240 - 220	3 1/2" solid	20.03	0.50	6.9	9.6211	222.01	432.95	0.513 ¹
T5	220 - 200	3 1/2" solid	20.03	0.50	6.9	9.6211	278.53	432.95	0.643 ¹
T6	200 - 180	4" solid	20.03	0.50	6.0	12.566 4	329.28	565.49	0.582 ¹
T7	180 - 160	4 1/4" solid	20.03	0.50	5.7	14.186 3	376.60	638.38	0.590 ¹
T8	160 - 140	4 3/4" solid	20.03	0.50	5.1	17.720 5	422.86	797.42	0.530 ¹
T9	140 - 120	5" solid	20.03	0.50	4.8	19.635 0	469.30	883.57	0.531 ¹
T10	120 - 100	5 1/4" solid	20.03	0.50	4.6	21.647 5	517.34	974.14	0.531 ¹
T11	100 - 80	5 1/2" solid	20.03	0.50	4.4	23.758 3	567.24	1069.12	0.531 ¹
T12	80 - 60	5 3/4" solid	20.03	0.50	4.2	25.967 2	617.07	1168.53	0.528 ¹
T13	60 - 40	6" solid	20.03	0.50	4.0	28.274 3	665.37	1272.35	0.523 ¹
T14	40 - 20	6 1/4" solid	20.03	0.50	3.8	30.679 6	711.74	1380.58	0.516 ¹
T15	20 - 0	6 1/2" solid	20.03	0.50	3.7	33.183 1	756.22	1493.24	0.506 ¹

¹ P_u / φP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	300 - 280	7/8" solid	5.17	2.48	136.0	0.6013	3.86	27.06	0.142 ¹
T2	280 - 260	1" solid	5.17	2.44	117.1	0.7854	10.20	35.34	0.289 ¹
T3	260 - 240	L1 3/4x1 3/4x3/16	7.43	3.53	82.5	0.3779	7.57	18.42	0.411 ¹
T4	240 - 220	L2x2x3/16	7.88	3.75	76.2	0.4308	9.40	21.00	0.448 ¹

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T5	220 - 200	L2 1/2x2 1/2x3/16	10.81	5.22	82.9	0.5535	9.89	26.98	0.367 ¹
T6	200 - 180	L3x3x3/16	13.25	6.44	84.5	0.6945	10.77	33.85	0.318 ¹
T7	180 - 160	L3 1/2x3 1/2x1/4	15.03	7.29	82.5	1.0800	11.53	52.65	0.219 ¹
T8	160 - 140	L4x4x3/8	16.87	8.16	81.9	1.8286	13.18	89.14	0.148 ¹
T9	140 - 120	L4x4x3/8	18.74	9.09	90.9	1.8286	14.73	89.14	0.165 ¹
T10	120 - 100	L5x5x3/8	20.63	9.99	78.9	2.3559	17.99	114.85	0.157 ¹
T11	100 - 80	L5x5x3/8	22.54	10.91	86.1	2.3208	20.29	113.14	0.179 ¹
T12	80 - 60	2L 4 x 4 x 1/4 (1/2)	15.29	14.27	97.9	2.4844	26.49	121.11	0.219 ¹
T13	60 - 40	2L 4 x 4 x 1/4 (1/2)	16.08	15.07	103.1	2.4844	27.38	121.11	0.226 ¹
T14	40 - 20	2L 4 x 4 x 1/4 (1/2)	16.90	15.88	108.4	2.4844	27.43	121.11	0.227 ¹
T15	20 - 0	2L 4 x 4 x 5/16 (1/2)	17.74	16.71	113.2	3.0762	27.54	149.96	0.184 ¹

¹ P_u / φP_n controls

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T12	80 - 60	2L 3 x 3 x 1/4 (1/2)	23.00	10.97	145.2	1.7813	12.37	86.84	0.142 ¹
T13	60 - 40	2L 3 x 3 x 1/4 (1/2)	25.00	11.96	158.0	1.7813	13.49	86.84	0.155 ¹
T14	40 - 20	2L 3 x 3 x 1/4 (1/2)	27.00	12.95	170.8	1.7813	14.59	86.84	0.168 ¹
T15	20 - 0	2L 3.5 x 3.5 x 1/4 (1/2)	29.00	13.91	156.5	2.1563	15.69	105.12	0.149 ¹

¹ P_u / φP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	300 - 280	3/4" solid	4.00	3.83	245.3	0.4418	0.28	19.88	0.014 ¹
T2	280 - 260	7/8" solid	4.00	3.77	206.9	0.6013	1.94	27.06	0.072 ¹

¹ P_u / φP_n controls

Bottom Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	300 - 280	3/4" solid	4.00	3.83	245.3	0.4418	0.63	19.88	0.032 ¹
T2	280 - 260	7/8" solid	4.00	3.77	206.9	0.6013	1.94	27.06	0.072 ¹

¹ P_u / φP_n controls

Redundant Horizontal (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T12	80 - 60	2L 2.5 x 2.5 x 3/16 (1/2)	5.75	5.24	85.0	1.1074	12.37	53.99	0.229 ¹
T13	60 - 40	2L 'a' > 29.9860 in - 310 2L 2.5 x 2.5 x 3/16 (1/2)	6.25	5.73	92.5	1.1074	13.49	53.99	0.250 ¹
T14	40 - 20	2L 'a' > 32.7879 in - 357 2L 3 x 3 x 3/16 (1/2)	6.75	6.22	82.9	1.3887	14.59	67.70	0.216 ¹
T15	20 - 0	2L 'a' > 35.5297 in - 408 2L 3 x 3 x 3/16 (1/2)	7.25	6.71	89.2	1.3887	15.69	67.70	0.232 ¹
		2L 'a' > 38.3268 in - 459							

¹ P_u / φP_n controls

Redundant Diagonal (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T12	80 - 60	2L 2.5 x 2.5 x 3/16 (1/2)	7.64	7.09	113.0	1.1426	8.22	55.70	0.148 ¹
T13	60 - 40	2L 'a' > 40.5659 in - 336 2L 2.5 x 2.5 x 3/16 (1/2)	8.04	7.48	119.1	1.1426	8.68	55.70	0.156 ¹
T14	40 - 20	2L 'a' > 42.8281 in - 387 2L 3 x 3 x 3/16 (1/2)	8.45	7.89	103.8	1.4238	9.14	69.41	0.132 ¹
T15	20 - 0	2L 'a' > 45.0686 in - 435 2L 3 x 3 x 3/16 (1/2)	8.87	8.30	109.1	1.4238	9.59	69.41	0.138 ¹
		2L 'a' > 47.4289 in - 486							

¹ P_u / φP_n controls

Redundant Hip (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T12	80 - 60	L 2.5 x 2.5 x 3/16	5.75	5.48	88.7	0.5535	0.11	26.98	0.004 ¹ ✓
T13	60 - 40	L 2.5 x 2.5 x 3/16	6.25	5.98	96.4	0.5535	0.08	26.98	0.003 ¹ ✓
T14	40 - 20	L 3 x 3 x 3/16	6.75	6.48	86.3	0.6945	0.07	33.85	0.002 ¹ ✓
T15	20 - 0	L 3 x 3 x 3/16	7.25	6.98	92.7	0.6945	0.06	33.85	0.002 ¹ ✓

¹ P_u / φP_n controls

Inner Bracing Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T12	80 - 60	2L 2.5 x 2.5 x 3/16 (1/2)	11.50	11.50	177.3	1.8047	0.06	81.21	0.001 ¹ ✓
T13	60 - 40	2L 2.5 x 2.5 x 3/16 (1/2)	12.50	12.50	192.7	1.8047	0.05	81.21	0.001 ¹ ✓
T14	40 - 20	2L 3 x 3 x 3/16 (1/2)	13.50	13.50	172.5	2.1797	0.03	98.09	0.000 ¹ ✓
T15	20 - 0	2L 3 x 3 x 3/16 (1/2)	14.50	14.50	185.2	2.1797	0.03	98.09	0.000 ¹ ✓

¹ P_u / φP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	φP _{allow} K	% Capacity	Pass Fail
T1	300 - 280	Leg	2" solid	2	-32.84	89.83	36.6	Pass
T2	280 - 260	Leg	2 3/4" solid	46	-100.16	210.29	47.6	Pass
T3	260 - 240	Leg	3 1/4" solid	91	-163.59	260.18	62.9	Pass
T4	240 - 220	Leg	3 1/2" solid	118	-228.67	317.13	72.1	Pass
T5	220 - 200	Leg	3 1/2" solid	146	-289.25	317.13	91.2	Pass
T6	200 - 180	Leg	4" solid	173	-343.53	370.17	92.8	Pass
T7	180 - 160	Leg	4 1/4" solid	194	-398.28	438.60	90.8	Pass
T8	160 - 140	Leg	4 3/4" solid	215	-453.88	590.46	76.9	Pass
T9	140 - 120	Leg	5" solid	236	-511.07	673.70	75.9	Pass
T10	120 - 100	Leg	5 1/4" solid	257	-571.33	761.72	75.0	Pass
T11	100 - 80	Leg	5 1/2" solid	278	-635.25	854.46	74.3	Pass
T12	80 - 60	Leg	5 3/4" solid	299	-677.63	1041.22	65.1	Pass
T13	60 - 40	Leg	6" solid	350	-742.42	1144.45	64.9	Pass
T14	40 - 20	Leg	6 1/4" solid	401	-806.44	1252.17	64.4	Pass
T15	20 - 0	Leg	6 1/2" solid	452	-869.18	1364.36	63.7	Pass
T1	300 - 280	Diagonal	7/8" solid	12	-3.89	9.07	42.9	Pass
T2	280 - 260	Diagonal	1" solid	59	-10.30	15.28	67.4	Pass
T3	260 - 240	Diagonal	L1 3/4x1 3/4x3/16	98	-7.63	11.71	65.2	Pass
T4	240 - 220	Diagonal	L2x2x3/16	126	-8.95	11.76	73.3 (b) 76.1	Pass
T5	220 - 200	Diagonal	L2 1/2x2 1/2x3/16	149	-9.91	16.12	87.5 (b) 61.5	Pass

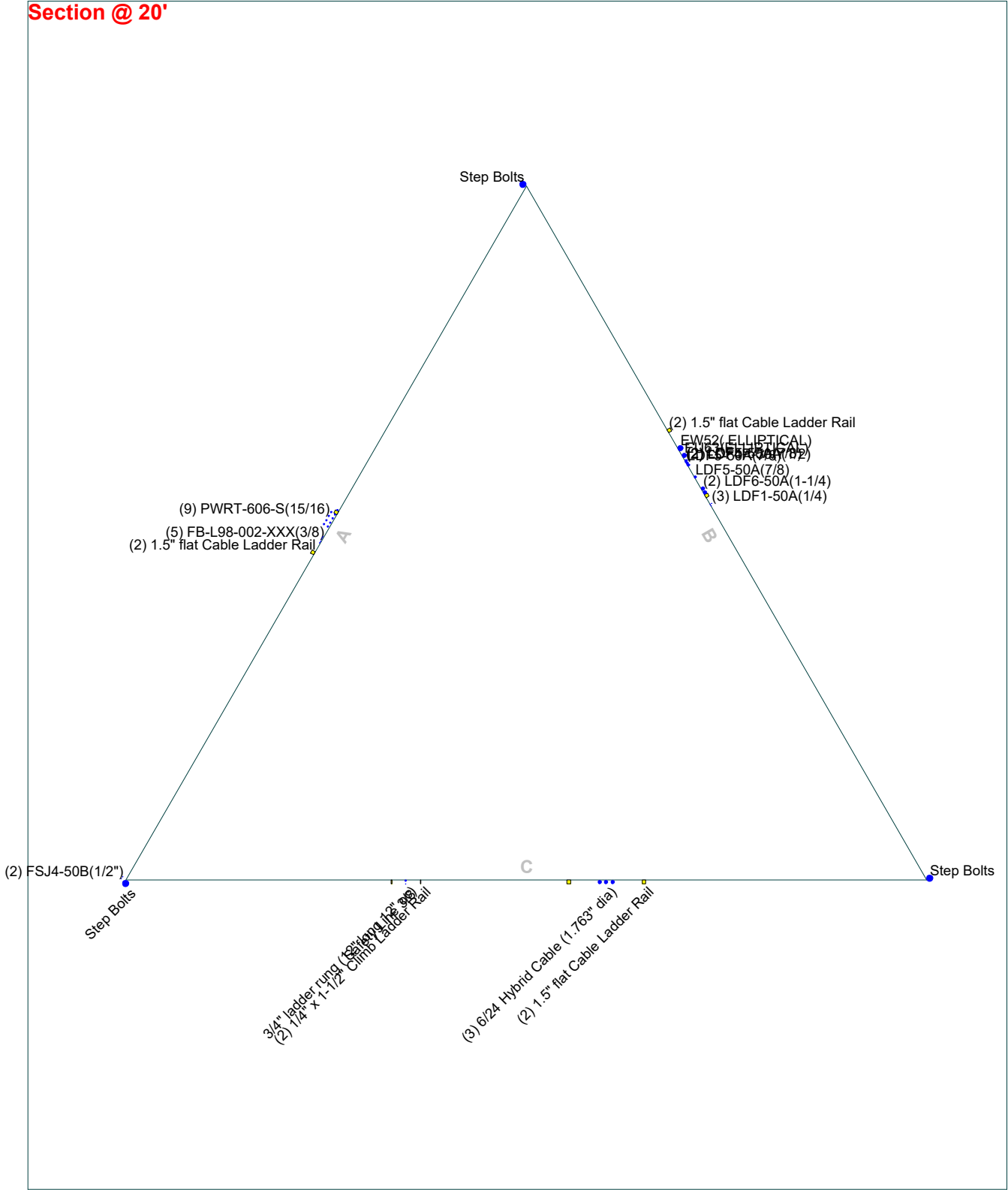
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail	
T6	200 - 180	Diagonal	L3x3x3/16	176	-10.80	18.57	86.6 (b) 58.2	Pass	
T7	180 - 160	Diagonal	L3 1/2x3 1/2x1/4	197	-11.60	30.46	71.4 (b) 38.1	Pass	
T8	160 - 140	Diagonal	L4x4x3/8	218	-13.20	52.98	46.7 (b) 24.9	Pass	
T9	140 - 120	Diagonal	L4x4x3/8	239	-14.77	42.75	51.8 (b) 34.5	Pass	
T10	120 - 100	Diagonal	L5x5x3/8	263	-17.96	70.45	43.4 (b) 25.5	Pass	
T11	100 - 80	Diagonal	L5x5x3/8	284	-20.17	59.13	54.4 (b) 34.1	Pass	
T12	80 - 60	Diagonal	2L 4 x 4 x 1/4 (1/2)	317	-29.48	87.40	63.0 (b) 33.7	Pass	
T13	60 - 40	Diagonal	2L 4 x 4 x 1/4 (1/2)	368	-29.35	81.24	36.1	Pass	
T14	40 - 20	Diagonal	2L 4 x 4 x 1/4 (1/2)	419	-30.18	77.83	38.8	Pass	
T15	20 - 0	Diagonal	2L 4 x 4 x 5/16 (1/2)	470	-30.70	95.55	32.1	Pass	
T12	80 - 60	Horizontal	2L 3 x 3 x 1/4 (1/2)	301	-12.37	44.19	28.0	Pass	
T13	60 - 40	Horizontal	2L 3 x 3 x 1/4 (1/2)	352	-13.49	38.51	35.0	Pass	
T14	40 - 20	Horizontal	2L 3 x 3 x 1/4 (1/2)	403	-14.59	33.85	43.1	Pass	
T15	20 - 0	Horizontal	2L 3.5 x 3.5 x 1/4 (1/2)	454	-15.69	45.85	34.2	Pass	
T1	300 - 280	Top Girt	3/4" solid	5	-0.30	3.38	8.9	Pass	
T2	280 - 260	Top Girt	7/8" solid	51	-1.94	6.48	29.9	Pass	
T1	300 - 280	Bottom Girt	3/4" solid	7	-0.63	3.38	18.7	Pass	
T2	280 - 260	Bottom Girt	7/8" solid	54	-1.94	6.48	29.9	Pass	
T12	80 - 60	Redund Horz 1 Bracing	2L 2.5 x 2.5 x 3/16 (1/2)	335	12.37	53.99	22.9	Pass	
T13	60 - 40	Redund Horz 1 Bracing	2L 2.5 x 2.5 x 3/16 (1/2)	357	-13.49	52.77	61.5 (b) 25.6	Pass	
T14	40 - 20	Redund Horz 1 Bracing	2L 3 x 3 x 3/16 (1/2)	408	-14.59	58.35	67.1 (b) 25.0	Pass	
T15	20 - 0	Redund Horz 1 Bracing	2L 3 x 3 x 3/16 (1/2)	463	-15.69	55.89	68.8 (b) 28.1	Pass	
T12	80 - 60	Redund Diag 1 Bracing	2L 2.5 x 2.5 x 3/16 (1/2)	333	-8.22	38.51	74.0 (b) 21.4	Pass	
T13	60 - 40	Redund Diag 1 Bracing	2L 2.5 x 2.5 x 3/16 (1/2)	384	-8.68	35.00	46.9 (b) 24.8	Pass	
T14	40 - 20	Redund Diag 1 Bracing	2L 3 x 3 x 3/16 (1/2)	438	-9.14	47.98	49.5 (b) 19.0	Pass	
T15	20 - 0	Redund Diag 1 Bracing	2L 3 x 3 x 3/16 (1/2)	486	-9.59	44.60	52.1 (b) 21.5	Pass	
T12	80 - 60	Redund Hip 1 Bracing	L 2.5 x 2.5 x 3/16	348	-0.11	14.63	54.7 (b) 0.7	Pass	
T13	60 - 40	Redund Hip 1 Bracing	L 2.5 x 2.5 x 3/16	399	-0.09	12.29	1.0 (b) 0.7	Pass	
T14	40 - 20	Redund Hip 1 Bracing	L 3 x 3 x 3/16	450	-0.07	18.33	0.8 (b) 0.4	Pass	
T15	20 - 0	Redund Hip 1 Bracing	L 3 x 3 x 3/16	501	-0.07	15.80	0.6 (b) 0.5	Pass	
T12	80 - 60	Inner Bracing	2L 2.5 x 2.5 x 3/16 (1/2)	325	-0.09	16.43	0.6 (b) 0.5	Pass	
T13	60 - 40	Inner Bracing	2L 2.5 x 2.5 x 3/16 (1/2)	376	-0.07	13.90	0.5	Pass	
T14	40 - 20	Inner Bracing	2L 3 x 3 x 3/16 (1/2)	427	-0.06	20.98	0.3	Pass	
T15	20 - 0	Inner Bracing	2L 3 x 3 x 3/16 (1/2)	478	-0.06	18.18	0.4	Pass	
							Summary		
							Leg (T6)	92.8	Pass
							Diagonal (T4)	87.5	Pass
							Horizontal (T14)	43.1	Pass
							Top Girt (T2)	29.9	Pass
							Bottom Girt (T2)	29.9	Pass
							Redund Horz 1 Bracing (T15)	74.0	Pass
							Redund Diag 1	54.7	Pass

APPENDIX B
BASE LEVEL DRAWING

Feed Line Plan 20'

— Round
 — Flat
 — App In Face
 — App Out Face

Section @ 20'



<p>Paul J. Ford and Company 250 East Broad St., Suite 600 Columbus, OH 43215 Phone: (614) 221-6679 FAX:</p>	Job: 300-ft SST, Seminole County, FL		
	Project: Landfill (P/JF 80624-0036.001.8700)		
	Client: Smartlink	Drawn by: csandlin	App'd:
	Code: TIA-222-H	Date: 04/02/25	Scale: NTS
	Path:	Dwg No. E-7	

G:\TOWER\806_SmartLink\2024\80624-0036_Landfill_ASE\161A\80624-0036.001.8700_SST\80624-0036.001.8700.dwg

APPENDIX C
ADDITIONAL CALCULATIONS

Self-Support Tower Anchor Rod Capacity - TIA-H

Loads

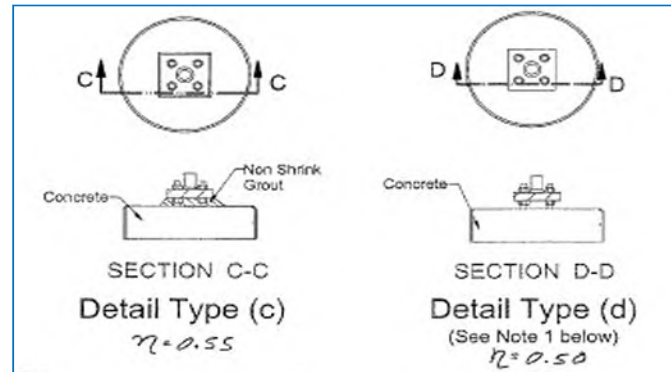
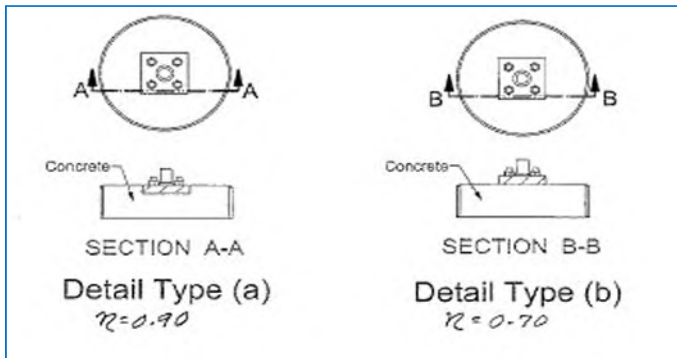
Compression :	901	kips	Tension :	753	kips
Comp. Shear :	90	kips	Ten. Shear :	75	kips

Code:	TIA-H
Maximum Ratio:	1.00
Grout $f_c \geq 5000$ psi:	

Existing Anchor Rods

Anchor Rod ϕ :	1 3/4	in
Anchor Rod Quantity :	10	
Anchor Rod Grade :	F1554 Gr. 105	
F_y :	105	ksi
F_u :	125	ksi
Threads per Inch	5	
Net Tensile Area	1.90	in ²
ϕ_t :	0.75	
$\phi_t R_{nt}$:	1780.74	kip
Anchor Rod Ratio :	0.423	

l_{ar} :	1.75	inches			
Comp. M_u :	102.38	k-in	Ten. M_u :	85.31	k-in
ϕ_c :	0.90				
ϕ_v :	0.75				
ϕ_f :	0.90				
$\phi_v R_{nv}$:	1127.48	kips			
$\phi_f R_{nm}$:			KL/r :		
$\phi_f M_n$:	795.55	k-in	F_e :		
$\phi_c R_{nc}$:	2272.99	kips	F_{cr} :		
$\phi_c R_{nvc}$:	1022.85	kips	$\phi_c R_{nb}$:		



SST Unit Base Foundation

80624-0036.001
Landfill

TIA-222 Revision:

H

Top & Bot. Pad Rein. Different?:	<input type="checkbox"/>
Tower Centroid Offset?:	<input type="checkbox"/>
Block Foundation?:	<input type="checkbox"/>
Rectangular Pad?:	<input type="checkbox"/>

Superstructure Analysis Reactions			
Global Moment, M :	22037	ft-kips	
Global Axial, P :	158.02	kips	
Global Shear, V :	144.76	kips	
Leg Compression, P_{comp} :	900.84	kips	
Leg Comp. Shear, V_{u,comp} :	90.04	kips	
Leg Uplift, P_{uplift} :	753.09	kips	
Leg Uplift. Shear, V_{u,uplift} :	74.9	kips	
Tower Height, H :	300	ft	
Base Face Width, BW :	30	ft	
BP Dist. Above Fdn, bp_{dist} :	3.5	in	

Foundation Analysis Checks				
	Capacity	Demand	Rating	Check
<i>Lateral (Sliding) (kips)</i>	750.12	144.76	19.3%	Pass
<i>Bearing Pressure (ksf)</i>	5.13	2.35	45.8%	Pass
<i>Overturning (kip*ft)</i>	37657.90	23309.68	61.9%	Pass
<i>Pier Flexure (Comp.) (kip*ft)</i>	3859.38	495.22	12.8%	Pass
<i>Pier Flexure (Tension) (kip*ft)</i>	1347.77	411.95	30.6%	Pass
<i>Pier Compression (kip)</i>	12497.26	920.28	7.4%	Pass
<i>Pad Flexure (kip*ft)</i>	11217.80	5090.05	45.4%	Pass
<i>Pad Shear - 1-way (kips)</i>	1610.66	578.69	35.9%	Pass
<i>Pad Shear - Comp 2-way (ksi)</i>	0.190	0.107	56.5%	Pass
<i>Flexural 2-way (Comp) (kip*ft)</i>	6891.00	297.13	4.3%	Pass
<i>Pad Shear - Tension 2-way (ksi)</i>	0.190	0.093	49.2%	Pass
<i>Flexural 2-way (Tension) (kip*ft)</i>	6891.00	247.17	3.6%	Pass

Structural Rating:	56.5%
Soil Rating:	61.9%

Pier Properties		
Pier Shape:	Circular	
Pier Diameter, dpier :	5.0	ft
Ext. Above Grade, E :	0.50	ft
Pier Rebar Size, Sc :	10	
Pier Rebar Quantity, mc :	19	
Pier Tie/Spiral Size, St :	5	
Pier Tie/Spiral Quantity, mt :	6	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	3	in

Pad Properties		
Depth, D :	8.00	ft
Pad Width, W₁ :	45.50	ft
Pad Thickness, T :	3.00	ft
Pad Rebar Size (Bottom dir. 2), Sp₂ :	10	
Pad Rebar Quantity (Bottom dir. 2), mp₂ :	66	
Pad Clear Cover, cc_{pad} :	3	in

Material Properties		
Rebar Grade, Fy :	60	ksi
Concrete Compressive Strength, F'c :	4	ksi
Dry Concrete Density, δc :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	105	pcf
Ultimate Net Bearing, Q_{net} :	6.000	ksf
Cohesion, Cu :		ksf
Friction Angle, φ :	30	degrees
SPT Blow Count, N_{blows} :	24	
Base Friction, μ :	0.35	
Neglected Depth, N :	3.0	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw :	10	ft

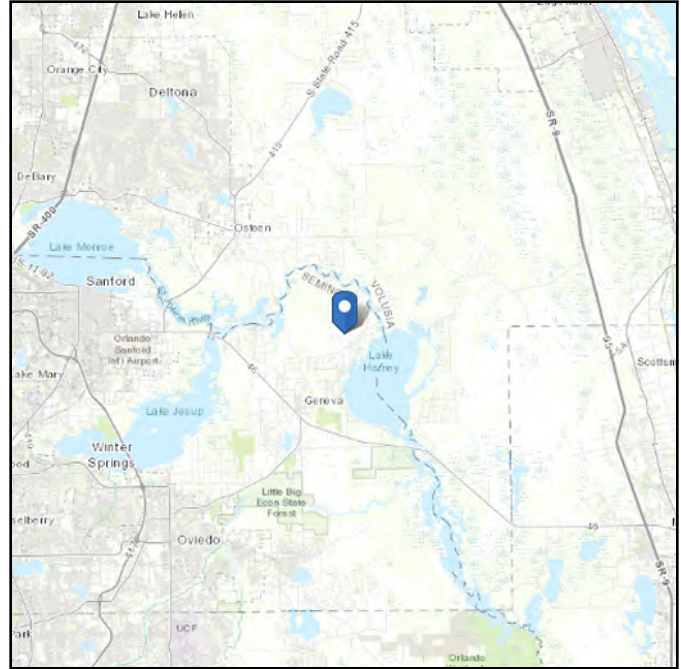
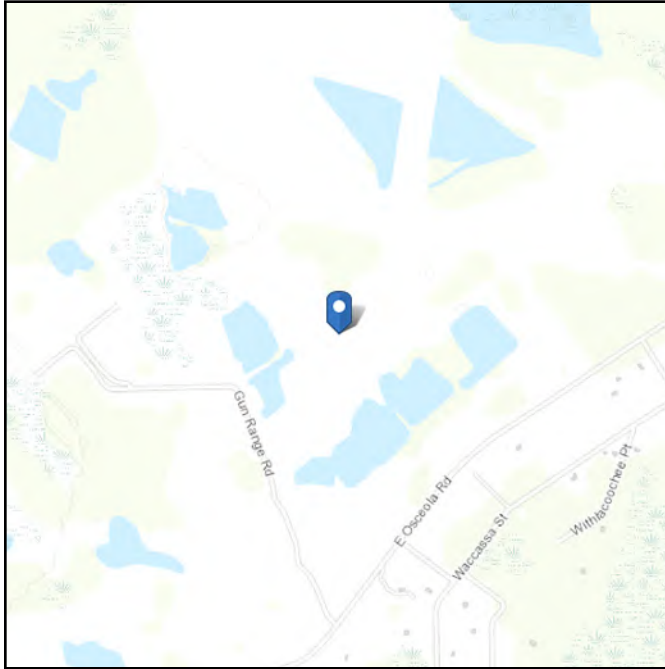
-- Toggle between Gross and Net

ASCE Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-22
Risk Category: III
Soil Class: D - Stiff Soil

Latitude: 28.7851
Longitude: -81.0845
Elevation: 22.51776725928244 ft (NAVD 88)



Wind

Results:

Wind Speed	147 Vmph
10-year MRI	80 Vmph
25-year MRI	94 Vmph
50-year MRI	105 Vmph
100-year MRI	114 Vmph
300-year MRI	128 Vmph
700-year MRI	137 Vmph
1,700-year MRI	147 Vmph
3,000-year MRI	152 Vmph
10,000-year MRI	161 Vmph
100,000-year MRI	182 Vmph
1,000,000-year MRI	200 Vmph

Data Source: ASCE/SEI 7-22, Fig. 26.5-1C and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Wed Feb 26 2025



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 7-22 Standard. Wind speeds correspond to approximately a 3% probability of exceedance in 50 years (annual exceedance probability = 0.000588, MRI = 1,700 years). Values for 10-year MRI, 25-year MRI, 50-year MRI and 100-year MRI are Service Level wind speeds, all other wind speeds are Ultimate wind speeds.

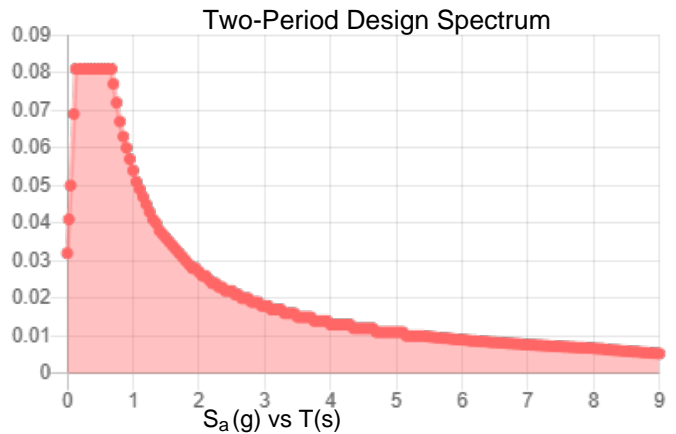
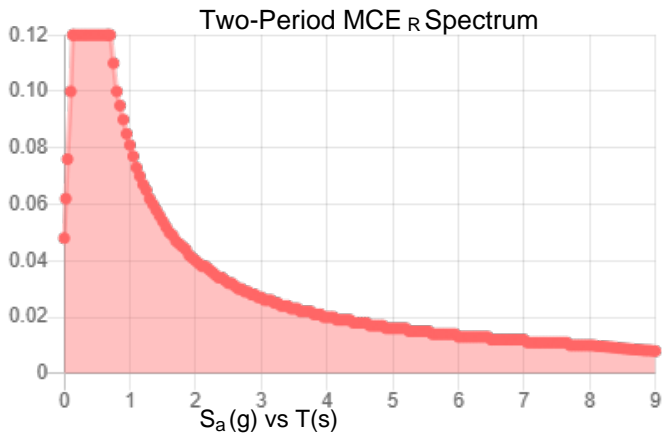
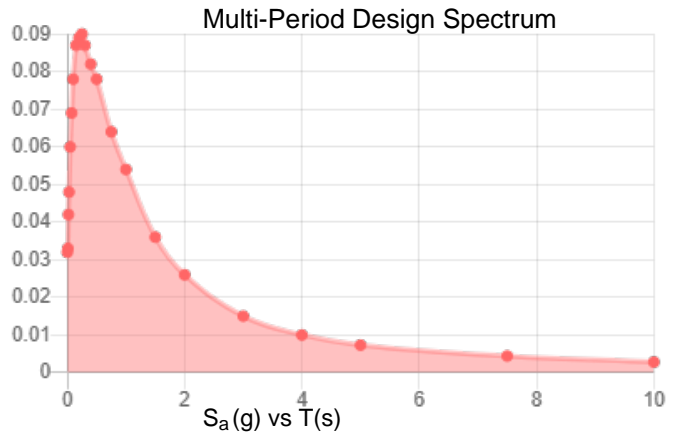
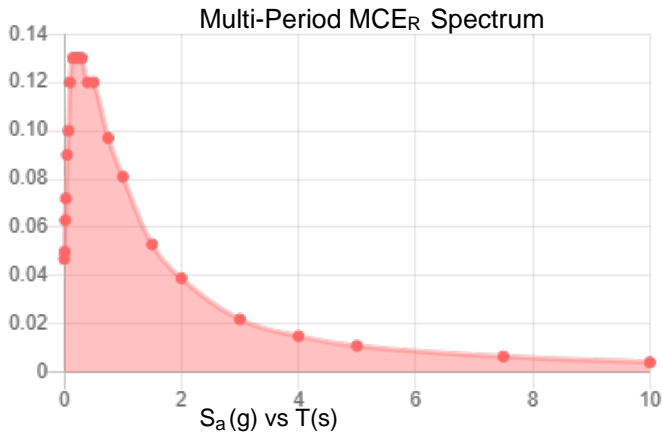
Site is in a hurricane-prone region as defined in ASCE/SEI 7-22 Section 26.2. Glazed openings shall be protected against wind-borne debris as specified in Section 26.12.3.

Site Soil Class: D - Stiff Soil

Results:

PGA _M :	0.043	T _L :	8
S _{MS} :	0.12	S _s :	0.091
S _{M1} :	0.081	S ₁ :	0.038
S _{DS} :	0.081	V _{S30} :	260
S _{D1} :	0.054		

Seismic Design Category: A



MCE_R Vertical Response Spectrum

Vertical ground motion data has not yet been made available by USGS.

Design Vertical Response Spectrum

Vertical ground motion data has not yet been made available by USGS.



Data Accessed: Wed Feb 26 2025

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-22 and ASCE/SEI 7-22 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-22 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: N/A
 Concurrent Temperature: N/A
 3-s Gust Speed: N/A

Data Source: Standard ASCE/SEI 7-22, Figs. 10-2 through 10-8

Date Accessed: Wed Feb 26 2025

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 for 250, 500, 1,000, and 1,400-year mean recurrence intervals along with concurrent 3-s gust speeds and concurrent air temperatures. The shading indicates special icing regions, with elevations above 2,100 ft (640 m) in the east, 6,000 ft (1829 m) in the west, and 1,600 ft (488 m) in Alaska, with sparse weather station data for determining design ice loads. In these regions, as well as in regions with complex terrain causing unusual icing conditions and regions where snow or in-cloud icing results in larger loads, the mapped values should be adjusted based on a combination of local historical records and experience, reanalysis data, and numerical weather prediction systems.

Tornado

Results:

RC = III
 (MRI = 1,700 years)
 MRI = 10,000 years
 MRI = 100,000 years
 MRI = 1,000,000 years
 MRI = 10,000,000 years

Effective Plan Area (ft ²)	Tornado Speed (mph)	Tornado Speed (mph)	Tornado Speed (mph)	Tornado Speed (mph)	Tornado Speed (mph)
A _e = 1	V _T = 50	V _T = 91	V _T = 132	V _T = 168	V _T = 203
A _e = 2,000	V _T = 50	V _T = 94	V _T = 135	V _T = 170	V _T = 205
A _e = 10,000	V _T = 50	V _T = 97	V _T = 139	V _T = 173	V _T = 207
A _e = 40,000	V _T = 50	V _T = 102	V _T = 144	V _T = 178	V _T = 212
A _e = 100,000	V _T = 56	V _T = 108	V _T = 150	V _T = 182	V _T = 216



Data Source: [ASCE Tornado Geodatabase](#)
Date Accessed: Wed Feb 26 2025

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Exhibit C
Property Site Plan and Elevation Drawings

[See attached three (3) pages.]





FLOOD ZONE INFORMATION					
COMMUNITY NUMBER	PANEL NUMBER	SUFFIX	DATE OF FIRM	FIRM ZONE	BASE FLOOD ELEVATION
120289	0115	F	9/28/2007	X	N.A.

PREPARED BY

TELECOM DESIGN GROUP

6505 N HIMES AVE
TAMPA, FLORIDA 33614
(813) 353-0026
FL CA # 31014

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PROFESSIONAL SEAL

11/17/2025

PREPARED FOR

7701 E. TELECOM PKWY
TEMPLE TERRACE, FLORIDA 33637

PROJECT INFORMATION

5000924952
GENEVA LAKES HARNEY SGF
1930 E OSCEOLA ROAD
GENEVA FL, 32732
CBVR PROJECT #: VZW.295.25

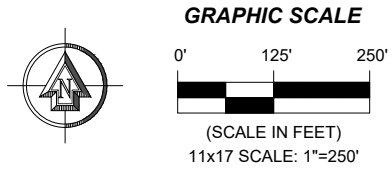
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1	FOR PERMIT / CONSTRUCTION	12.08.25

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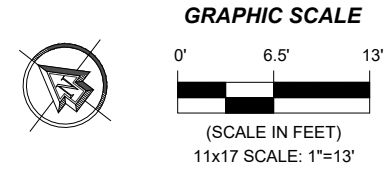
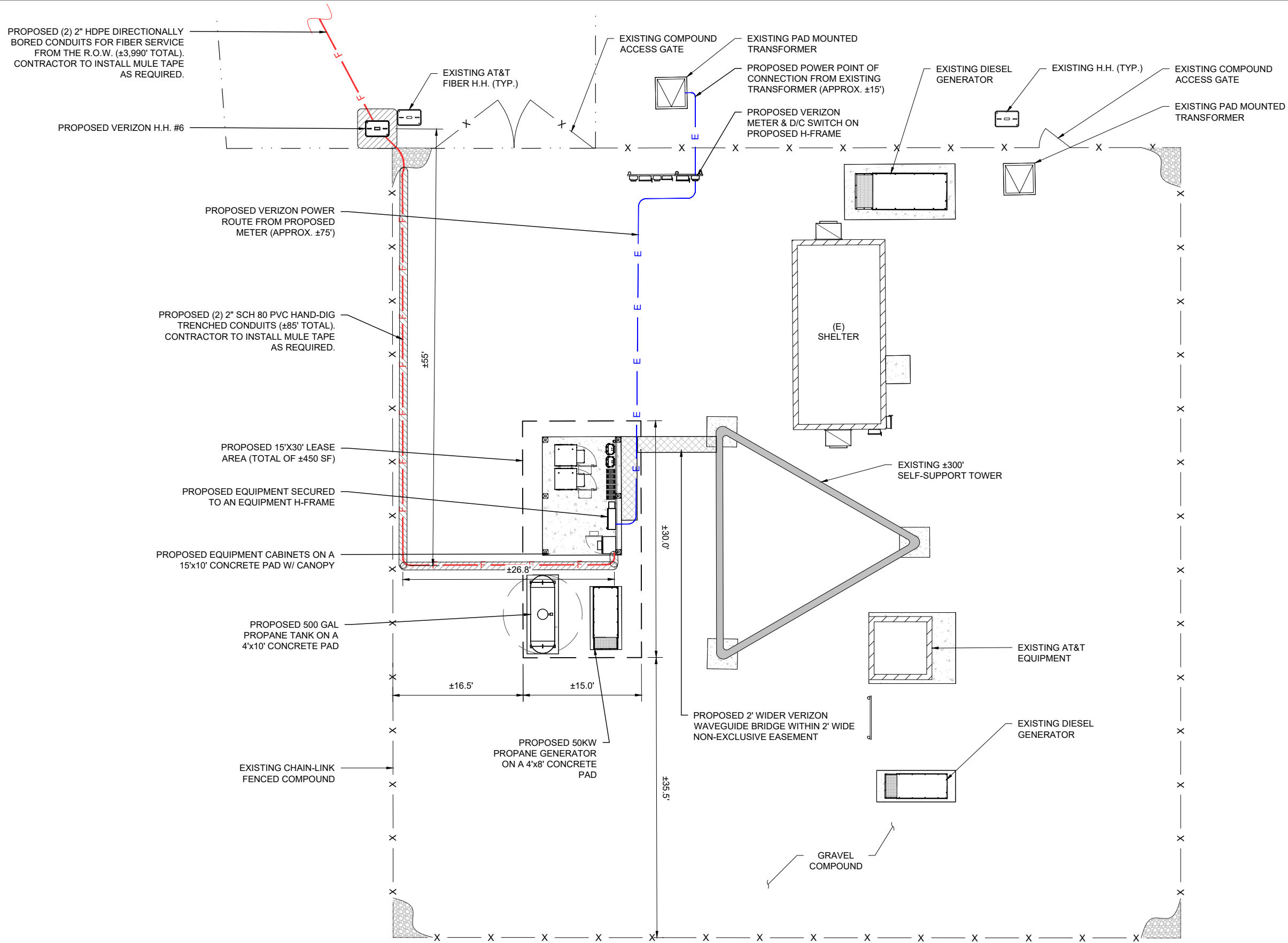
OVERALL SITE PLAN WITH AERIAL

SHEET NUMBER

C-1



OVERALL SITE PLAN WITH AERIAL



ENLARGED COMPOUND PLAN

PREPARED BY

6505 N HIMES AVE
TAMPA, FLORIDA 33614
(813) 353-0026
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ISSUED DATES

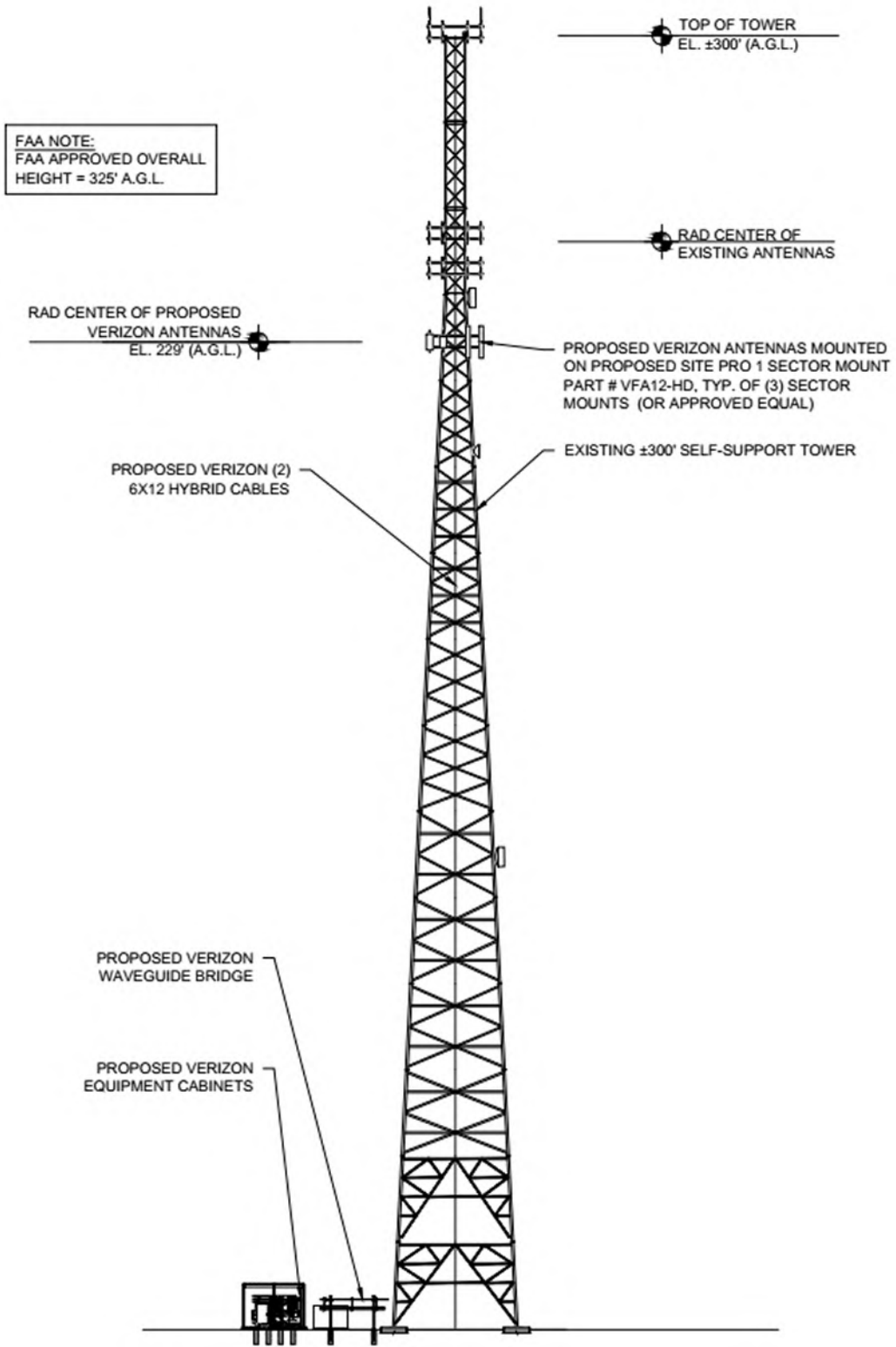
0	FOR PERMIT / CONSTRUCTION	011.17.25
1	FOR PERMIT / CONSTRUCTION	12.08.25

SHEET NAME

ENLARGED COMPOUND PLAN

SHEET NUMBER

C-2



TOWER ELEVATION
NOT TO SCALE

Exhibit D
Description and Inventory of Provider Facilities

- Three (3) Ericsson AIR3283 antennas @ 229' RAD
- Three (3) Ericsson AIR6419 antennas @ 229' RAD
- Three (3) JMA Wireless MX06FIT865-02E antennas @ 229' RAD
- Two (2) hybrid cables
- Three (3) Ericsson 4490 remote radio units
- One (1) OVP box



Exhibit E
Seminole County, Minimum Amounts for Provider's Insurance

- Commercial general liability in the amount of \$2,000,000.00 per occurrence for bodily injury and property damage and \$4,000,000.00 general aggregate.
- “All-Risk” property insurance on a replacement cost basis insuring their respective property with no coinsurance requirement.

