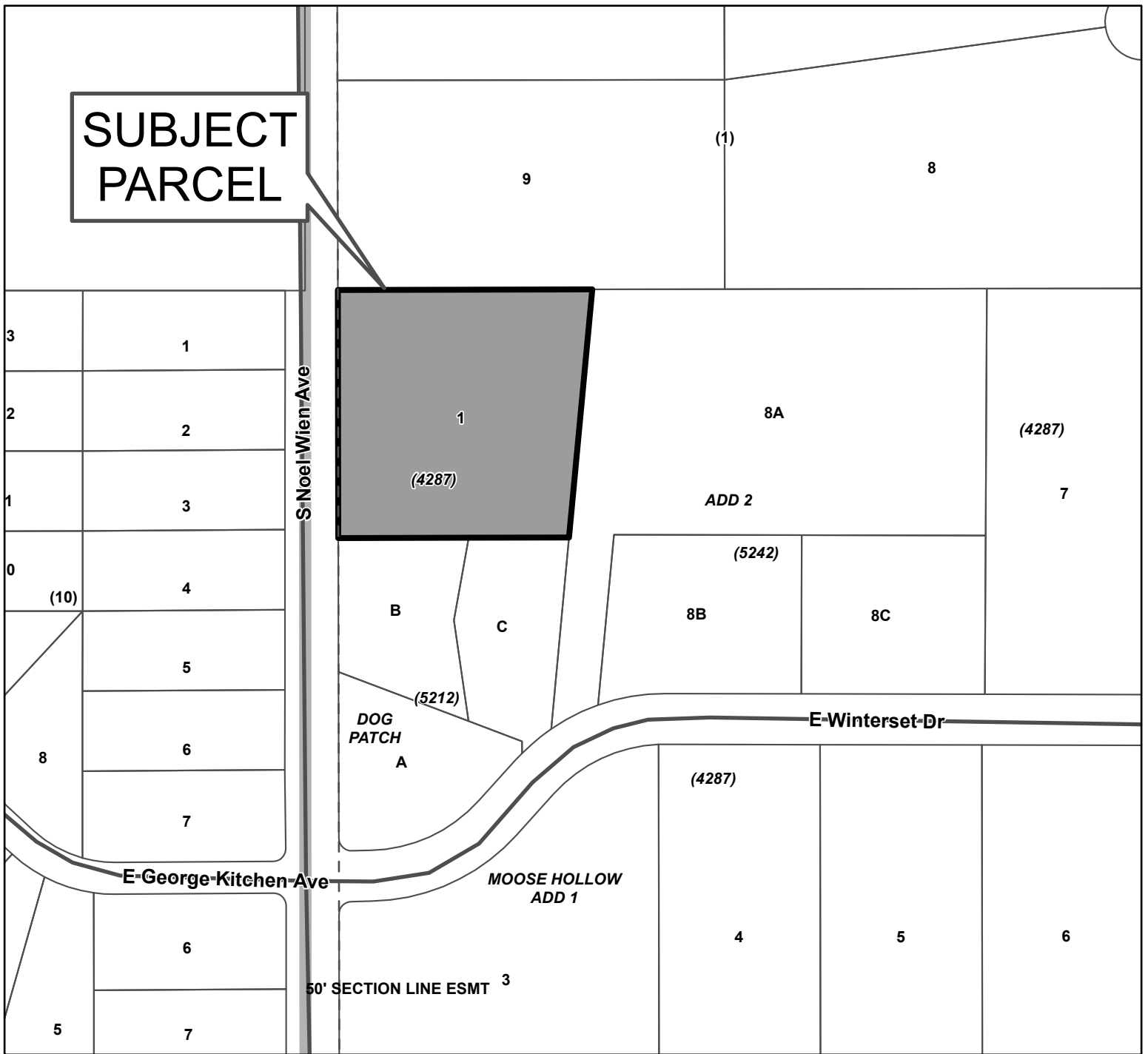
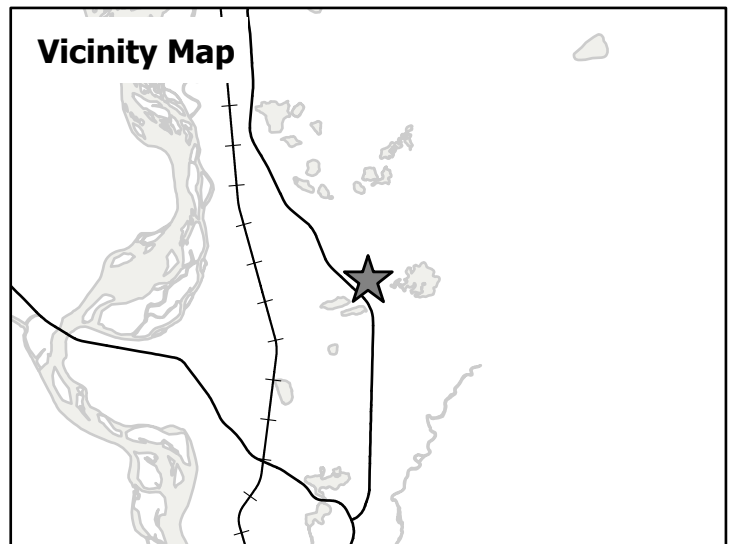




4287000L001



This map is solely for informational purposes only. The Borough makes no express or implied warranties with respect to the character, function, or capabilities of the map or the suitability of the map for any particular purpose beyond those originally intended by the Borough. For information regarding the full disclaimer and policies related to acceptable uses of this map, please contact the Matanuska-Susitna Borough GIS Division at 907-861-7858.





MATANUSKA-SUSITNA BOROUGH

Planning and Land Use Department

Development Services Division

350 East Dahlia Avenue • Palmer, AK 99645

Phone (907) 861-7822 • Fax (907) 861-8158

Email: permitcenter@matsugov.us

APPLICATION FOR A TALL STRUCTURE – MSB 17.67

Carefully read instructions and applicable borough code. Fill out forms completely. Attach information as needed. Incomplete applications will not be processed.

Application fee must be attached:

☐ \$1,500 for Conditional Use Permit - > 125 feet in height

☒ \$ 500 for Administrative Permit – 85' to 125' in height

☐ \$ 100 for Network Improvement Permit – In accordance with MSB 17.67.110.

Prior to the public hearing, the applicant must also pay the mailing and advertising fees associated with the application. Applicants will be provided with a statement of advertising and mailing charges. Payment must be made prior to the application presentation before the Borough Planning Commission or Planning Director decision.

Subject Property Township: S24, Range: N04, Section: W09, Meridian

MSB Tax Account # 4287000L001

SUBDIVISION: Moose Hollow Add #1 BLOCK(S): , LOT(S): 1

STREET ADDRESS: 33693 S Noel Wein Ave

(US Survey, Aliquot Part, Lat. /Long. etc)

Ownership A written authorization by the owner must be attached for an agent or contact person, if the owner is using one for the application. Is authorization attached? ☐ Yes ☐ No ☐ N/A

Name of Property Owner

Elizabeth Brown

Address: HC 89 Box 8245

Talkeetna, AK 99676-9702

Phne: Hm Fax

Wk Cell (907) 671-7166

E-mail Wheelsinnthewoods@gmail.com

Name of Agent/ Contact for application

PARKER BINGHAM

Address: 2500 30th St, STE 304

Boulder, CO 80301

Phne: Hm Fax

Wk Cell (916) 505-1017

E-mail pbingham@atlastowers.com

Special Land Use District (if applicable): N/A

Pre-Application Requirements for New Tall Structures that Require a Conditional Use Permit	
<i>Prior to applying for a conditional use permit for a new tall structure, the applicant shall hold at least one community meeting.</i>	
1. The meeting shall be held at the nearest facility where community council meetings are regularly scheduled. If the facility is not available, the nearest available public facility that is capable of seating a minimum of 20 people shall be utilized.	
2. The meeting shall be held at least 15 calendar days after mailing of the notification.	
3. The meeting shall not start prior to 5:00 p.m. and no later than 7:00 p.m.	
4. Notification of the meeting shall, at a minimum, include the following: • Legal description and map of the general parcel, or parcels, within the coverage area under consideration for the telecommunication facility. • Description of the proposed development including height, design, lighting, potential access to the site and proposed service. • Date, time, and location of the informational meeting. • Contact name, telephone number, and address of applicant. • Comment form created by the borough that has a comment submittal deadline and provides options for submitting comments.	
5. At a minimum, the notification area for the meeting shall include the following: • Property owners within one-half mile of the parcels under consideration for the proposed tall structure. • The nearest community council and any community council whose boundary is within 1200 feet of the parcels under consideration for the tall structure.	
<i>A written report summarizing the results of the community meeting shall be prepared that includes the following information:</i>	Attached
1. Dates and locations of all meetings where citizens were invited to discuss the potential applicant's proposal.	
2. Content, dates mailed, and numbers of mailings, including letters, meeting notices, newsletters and other publications.	
3. Sign-in sheet(s) used at the meeting, that includes places for names, address, phone numbers and other contact information such as e-mail addresses.	
4. A list of residents, property owners, and interested parties who have requested in writing that they keep informed of the proposed development through notices, newsletters, or other written materials.	
5. The number of people who attended meetings.	
6. Copies of written comments received at the meeting.	
7. A certificate of mailing identifying all who were notified of the meeting.	
8. A written summary that addresses the following: • The substance of the public's written concerns, issues, and problems. • How the applicant has addressed, or intends to address, concerns, issues and problems expressed during the process. • Concerns issues, and problems the applicant has not addressed or does not intend to address and why.	

General application requirements for <u>Administrative</u> and <u>Conditional Use Permits</u>	Attached
1. Design drawings for the proposed tall structure, drawn to scale, and certified by a registered engineer or architect.	
2. Citizen participation report <i>(if applying for a Conditional Use Permit)</i>	
3. Certified site plan <i>(As defined in MSB 17.125.010)</i>	
4. Copy of a determination of no hazard to air navigation from the Federal Aviation Administration.	
5. If breakpoint technology is intended to be utilized, a written statement specifying the height at which the engineered structural weakness will be located.	

In order to grant a <u>Conditional Use Permit</u> or <u>Administrative Permit</u> the Planning Commission or Planning Director must find that each of the following criteria has been met. Explain the following in detail:	Attached
1. To the extent that is technically feasible and potentially available, the location of the tall structure is such that its negative effects on the visual and scenic resources of all surrounding properties have been minimized.	
2. Visibility of the tall structure from public parks, trails recognized within adopted MSB plans, and waterbodies has been minimized to the extent that is technically feasible and potentially available.	
3. The tall structure will not interfere with the approaches to any existing airport or airfield that are identified in the MSB Regional Aviation System Plan or by the Alaska State Aviation System Plan.	
4. That granting the permit will not be harmful to the public health, safety, convenience, and welfare.	

<u>Application requirements for a Network Improvement Permit</u>	Attached
1. A description of the proposed modifications to the telecommunication tower, including a description of the height, type, and lighting of the new or modified structure and the existing structure.	
2. A certified site <i>(as defined in MSB 17.125.010)</i> for purposes of setback verification.	
3. Design drawings for the proposed modified or new structure, drawn to scale, and certified by a registered engineer or architect.	

<u>In order to grant a Network Improvement Permit</u> the Planning Director must find that each of the following criteria has been met. Explain the following in detail.	Attached
1. The proposed development conforms to setback requirements of MSB 17.55.	
2. The telecommunication tower being extended was lawfully constructed at the time of application for a Network Improvement Permit.	
3. The proposed modification does not violate permit conditions of any valid permits that have been issued to the existing facility, provided that the condition being violated does not limit height of the structure.	

Operation Standards for New Tall Structures – Conditional Use Permit, Administrative Permit, and Network Improvement Permit	Attached
1. The equipment compound shall meet minimum setback distances from all property lines in accordance with MSB 17.55	
2. Setbacks shall be determined from the dimensions of the entire lot, even though the tower may be located on lease areas within the lot.	
3. Adequate vehicle parking shall be provided on the subject property, outside of public use easements and rights-of-way to enable emergency vehicle access. No more than two spaces per provider shall be required.	
4. Information signs for the purpose of identifying the tower such as the antenna structure registration number required by the Federal Communications Commission, as well as the party responsible for the operation and maintenance of the facility shall be visibly posted at the equipment compound.	
5. If more than 220 volts are necessary for the operation of the facility, warning signs shall be located at the base of the facility and shall display in large, bold, high contrast letters the following: "HIGH VOLTAGE – DANGER".	
6. A 24-hour emergency contact number shall be visibly posted at the equipment compound.	
7. A fence or wall not less than six (6) feet in height with a secured gate shall be maintained around the base of the tower.	

Additional Standards for Wind Energy Conversion Systems (WECS) – In addition to the operations standards for new tall structures, the following standards shall apply to WECS.	Attached
1. WECS shall be equipped with an automatic overspeed control device designed to protect the system from sustaining structural failure such as splintered or thrown blades and the overturning or breaking of towers due to an uncontrolled condition brought on by high winds.	
2. WECS shall have a manually operable method that assures the WECS can be brought to a safe condition in high winds. Acceptable methods include mechanical or hydraulic brakes or tailvane deflection systems which turn the rotor out of the wind.	

OWNER'S STATEMENT: I am owner of the following property:

MSB Tax parcel ID #(s) 547870000 L001 Moose Hollow Add #1 Lot 1 and, I hereby apply for approval conditional use permit on that property as described in this application.

I understand all activity must be conducted in compliance with all applicable standards of MSB 17.67 and with all other applicable borough, state or federal laws.

I understand that other rules such as local, state and federal regulations, covenants, plat notes, and deed restrictions may be applicable and other permits or authorization may be required. I understand that the borough may also impose conditions and safeguards designed to protect the public's health, safety and welfare and ensure the compatibility of the use with other adjacent uses.

I understand that it is my responsibility to identify and comply with all applicable rules and conditions, covenants, plat notes, and deed restrictions, including changes that may occur in such requirements.

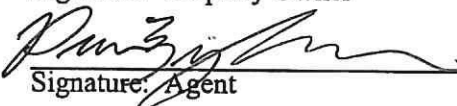
I understand that this permit and zoning status may transfer to subsequent owners of this land and that it is my responsibility to disclose the requirements of this status to the buyer when I sell the land.

I understand that changes from the approved conditional use permit may require further authorization by the Borough Planning Commission. I understand that failure to provide applicable documentation of compliance with approved requirements, or violation of such requirements will nullify legal status, and may result in penalties.

I grant permission for borough staff members to enter onto the property as needed to process this application and monitor compliance. Such access will at a minimum, be allowed when the activity is occurring and, with prior notice, at other times necessary to monitor compliance.

The information submitted in this application is accurate and complete to the best of my knowledge.

~~The Brown Family Revocable Trust~~ ~~by Elizabeth A. Brown, Trustee~~ ~~Signature: Property Owner~~
~~THE BROWN FAMILY~~ ~~Revocable Trust By~~ ~~Elizabeth Brown, as Trustee~~ ~~Printed Name~~ ~~10/8/2024~~ ~~Date~~

 ~~Signature: Agent~~ ~~PARKER BINGHAM~~ ~~Printed Name~~ ~~10/14/2024~~ ~~Date~~

MSB USE ONLY

Date application submitted:

Date application determined complete: _____

Atlas Tower 1, LLC
2500 30th Street, Suite 304
Boulder, CO 80301
(303) 448-8896

ATLAS TOWER

July 7, 2026

RE: Zoning Narrative for Telecommunications Facility
Site Name: TALKEETNA - BROWN

To Whom It May Concern:

Atlas Tower 1, LLC is submitting an Admin Design Review to the Planning and Zoning Department for review of a new proposed wireless telecommunications facility build on the property of 33693 S Noel Wien Ave, Talkeetna AK 99676-9702 in Matanuska-Susitna County, Parcel #: **4414**. This letter shall serve as a narrative for the proposed 125' Lattice telecommunications facility and how this project will provide the needed mobile network coverage while reducing the need for additional cellular facilities in the future. This project is being proposed and this justification is being provided to alleviate current mobile network voice, data, and first responder issues in an area that is severely lacking reliable network coverage and capacity.

SITE DETAILS

Land Owner:

Elizabeth Brown
HC 89 BOX 8245
TALKEETNA, AK 99676-9702

Applicant:

Atlas Tower 1, LLC
4041 Hanover Ave
Boulder, CO 80305

Zoning:

Mat-Su General Use Area

Site Address:

33693 S Noel Wien Ave, Talkeetna AK 99676-9702
Matanuska-Susitna Borough
Parcel #: **4414**

Coordinates:

Latitude: 62.187839
Longitude: -150.031552
Ground Elevation: 415 (NAVD '88)*

Lease Area:

(50 feet x 50 feet, measuring 2500 sq. feet.)

PROPOSAL SUMMARY

The purpose of this request is to build a 125' Lattice telecommunications tower within a (50 feet x 50 feet, measuring 2500 sq. feet.) wireless facility with included access and utilities. This facility will provide critical wireless coverage to the surrounding area. The proposed site is zoned where coverage is lacking, and the capacity of the existing infrastructure is reaching its limit. As the area develops further, and the existing users demand more data for their existing devices, existing infrastructure will reach capacity limits and be unable to meet coverage needs. This tower and facility will be used for structural support of up to four wireless providers, with one carrier confirmed for install at the time of construction. Each provider will install antennas and on-the-ground base-station equipment.

WIRELESS TELECOMMUNICATION FACILITY CHARACTERISTICS

Visual Effect from nearby parks, trails, etc.

We strive to design our facilities and locate parcels that create the least amount of community disturbance. The surrounding area is largely rural with low density residential zones nearby. The proposed site is chosen to maximize visual aesthetic and distance from residential homes. The tower is located approximately 3-6 miles away from any public trailheads. According to Borough-recognized trailheads, there are 4 trailheads within 5 miles of the proposed location, trailheads as follows:

#253 – Dorothy Jones Trail: Dense tree coverage and the elevation difference does not allow for a view of the tower.

#148 - Sunshine: The low trailhead elevation paired with the tall trees, looking toward tower site would not produce viewsheds of the tower.

#79 - Luthman: Trailhead sits significantly higher than elevation of the tower, paired with the tree coverage of the area there would be no view of the tower.

#80 - Montana Creek Falls: Trailhead sits significantly higher than elevation of the tower, paired with the tree coverage of the area there would be no view of the tower.

Benka Lake is the largest recognizable water body nearby, sitting at approximately 0.5 miles to the East. Due to the elevation change and dense tree coverage, visibility of the tower is not expected. The closest airstrip is AK19 Carl's Landing, located approximately 1.2 miles away. The proposed tower is not in the direct flight path of the landing strip, and in accordance with the determination of no hazard, is not an issue with the FAA. Included with this narrative are photo-simulations of the tower from various viewpoints around the site.

Frequency Of Maintenance Work On The Proposed Facility

On average, after initial installation, a carrier or its contactors would likely visit the facility about one to four times a year for maintenance, though this number could vary depending on the specific circumstances of the facility. With one carrier confirmed at time of construction, we would expect to see only 1-4 visits a year.

The Average Number Of Vehicles Visiting The Facility

The average maintenance visit by a carrier or its contractors would likely involve one pickup truck. With an average of one to four visits a year and one truck a visit, there would likely be about one pickup truck visiting the site every 3 months, per carrier, if at full capacity. There are two parking spaces included on the site plans for maintenance vehicles.

The Average Duration Work Visits on The Facility

For typical maintenance visits, a carrier or its contactors would only be at the site a few hours, but this number could increase depending on the work that needed to be completed at the site.

Construction of Tower and Access

The Tower, as well as the 20-foot Access and Utility easements will all be constructed by the same GC provider in the same construction period. The access is using an existing driveway off Noel Wein Ave which has been approved by the borough permit center for this use.

Expected Noise Levels

Telecommunications facilities are essentially silent. This would be true whether there were one or four carriers. A generator could be operated on site in the rare instance that power went out. The generator

would create noise, but it would not be noticeable or audible in the location the telecommunications facility is proposed to be.

Carrier Involvement

At the time of construction, GCI will be installing equipment for their cellular services. The proposed tower has been marketed to AT&T, Verizon, and T-Mobile as well. The radiofrequency (RF) analysis for GCI is provided alongside this narrative.

Site Security and Warnings

The proposed tower shall be secured with a locked 6' chain link fencing with an addition 1' of barbed wire on top to prevent unauthorized visitors. The facility will be operating at 220 Volts and will not require a sign.

Building Codes; Safety Standards

Atlas Tower will ensure the structural integrity of towers, ensure that it is maintained in compliance with standards contained in applicable state or local building codes and the applicable standards for towers that are published by the Electronic Industries Association, as amended from time to time. If, upon inspection, concludes that a tower fails to comply with such codes and standards and constitutes a danger to persons or property, then upon notice being provided to the owner of the tower, the owner shall have thirty (30) days to bring such tower into compliance with such standards, unless a longer time is reasonably necessary. Failure to bring such tower into compliance within said thirty (30) days shall constitute grounds for the removal of the tower or antenna at the owner's expense.

Public safety regarding nearby powerlines and fall zone

The tower has been and certified by a licensed professional, to alleviate concern of nearby powerlines. The tower and foundation will be in conformance with TIA standards and therefore built with the intention to not fail. Should the highly improbable occurrence of the tower falling happen, it would crumple and hinge on itself, thereby reducing the total affected radius.

FAA/FCC Compliance

The proposed facility shall conform to the requirements of this title, this code, and other laws, including pertinent federal regulations of the Federal Communications Commission (FCC) and the Federal Aviation Administration (FAA). A determination of no hazard issued by the FAA is included with this proposal.

This narrative represents required and supplementary information to document the technological, economic, and social necessity and benefits of a new 125' Lattice telecommunications tower near Talkeetna. The information provided highlights the advantages associated with a telecommunications facility at our proposed site. See attached documents to showing our survey and tower drawings.

Atlas Tower 1, LLC respectfully requests the acceptance of our application for an Admin Design review for the proposed communications tower facility.

Best Regards,

Parker Bingham

Project Manager

(916) 505-1017

www.atlastowers.com

4041 Hanover Ave, Boulder, CO 80305



1201 S Sheridan St
South Bend, IN 46619

Phone: 574-288-3632
Fax: 574-288-5860
www.nelloinc.com

April 2, 2026

Atlas Tower
2500 30th Street, Suite 304
Boulder, CO 80301

Re: Nello Tower Fall Radius – Nello 125.9' NSX Lattice Self-Support Tower
Project Name: Talkeetna - Brown
Nello Job #: SO32729
Tower Drawing #: 773613

To Whom It May Concern:

This letter is regarding your inquiry about the expected performance of your proposed tower designed by Nello based on site-specific criteria.

Our towers are designed to meet or exceed industry standards defined by TIA-222-H, "Structural Standards for Antenna Supporting Structures and Antennas" (TIA Standard). It is our opinion that the possibility of a tower collapse is very unlikely. The tower is designed using extreme wind and ice conditions. In fact, wind speeds specified by the TIA Standard are 50-year wind speeds. That is, they have only a 2% statistical chance of occurring in any given year.

This tower has been designed using the following wind conditions as a minimum: a 115 mph 3-second gust wind speed with no ice and a 60 mph 3-second gust wind with 0.5" ice. The TIA Standard specifies 115 mph as the wind speed required for this site in Matanuska-Susitna Borough, Alaska. The "3-second gust wind speed" refers to a wind measured at 33 feet above the ground. Equations in the TIA Standard take into account that wind speed escalates with increasing height of the tower.

Although we cannot guarantee exactly how a tower would fall if it were to fail, the most likely mode of failure would be a buckling failure of one of the tower sections due to excessive wind loading. The tower leg with the highest stress ratio is located at the 80' – 100' level. The stress ratio in that leg is calculated to be 77.4% of the code-permitted design loading. Given that the tower section with the highest stress ratio will most likely fail first, the proposed tower would fail at the 80' level with the top 45' of the tower collapsing. Depending on the conditions at the time of failure and the stress levels in structural material below, the top 45' of the tower would likely fall within a 35' fall radius. This helps prevent the risk of falling on nearby powerlines.

The fall radius statement above assumes proper foundation construction and tower installation. The foundation design should be reviewed to ensure that no foundation limit state governs the entire structural system and negates the fall radius design. The fall radius expectancy requires that the foundation be designed with a capacity greater than that of the tower capacity. If the foundation design used in association with this tower is performed by a third party, Nello must be provided the opportunity to review the design in order to confirm that the fall radius remains satisfactory. If for some reason Nello does not provide the tower design, or is not given the opportunity to design or review the foundation for this specific project, the content of this letter becomes void.

If you have any other questions or concerns regarding the design of your site-specific tower, please contact our engineering or sales department.

Sincerely,

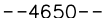
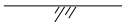
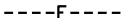
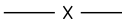
TEP OPCO, LLC

AECL1616



TEP

LEGEND

- | | |
|---|------------------------|
|  | PARENT PROPERTY LINE |
|  | ADJACENT PROPERTY LINE |
|  | EASEMENT/LEASE CORNER |
|  | EXIST. METER |
|  | EXIST. TRANSFORMER |
|  | EXIST. UTILITY POLE |
|  | EXIST. TELCO PEDESTAL |
|  | PROPERTY CORNER |
|  | EXIST. CONTOUR LINE |
|  | EDGE OF PAVEMENT |
|  | OVERHEAD WIRE |
|  | BURIED FIBER |
|  | GAS LINE |
|  | RIGHT-OF-WAY |
|  | FENCE |
|  | EXISTING TREE LINE |

TOWER SETBACKS

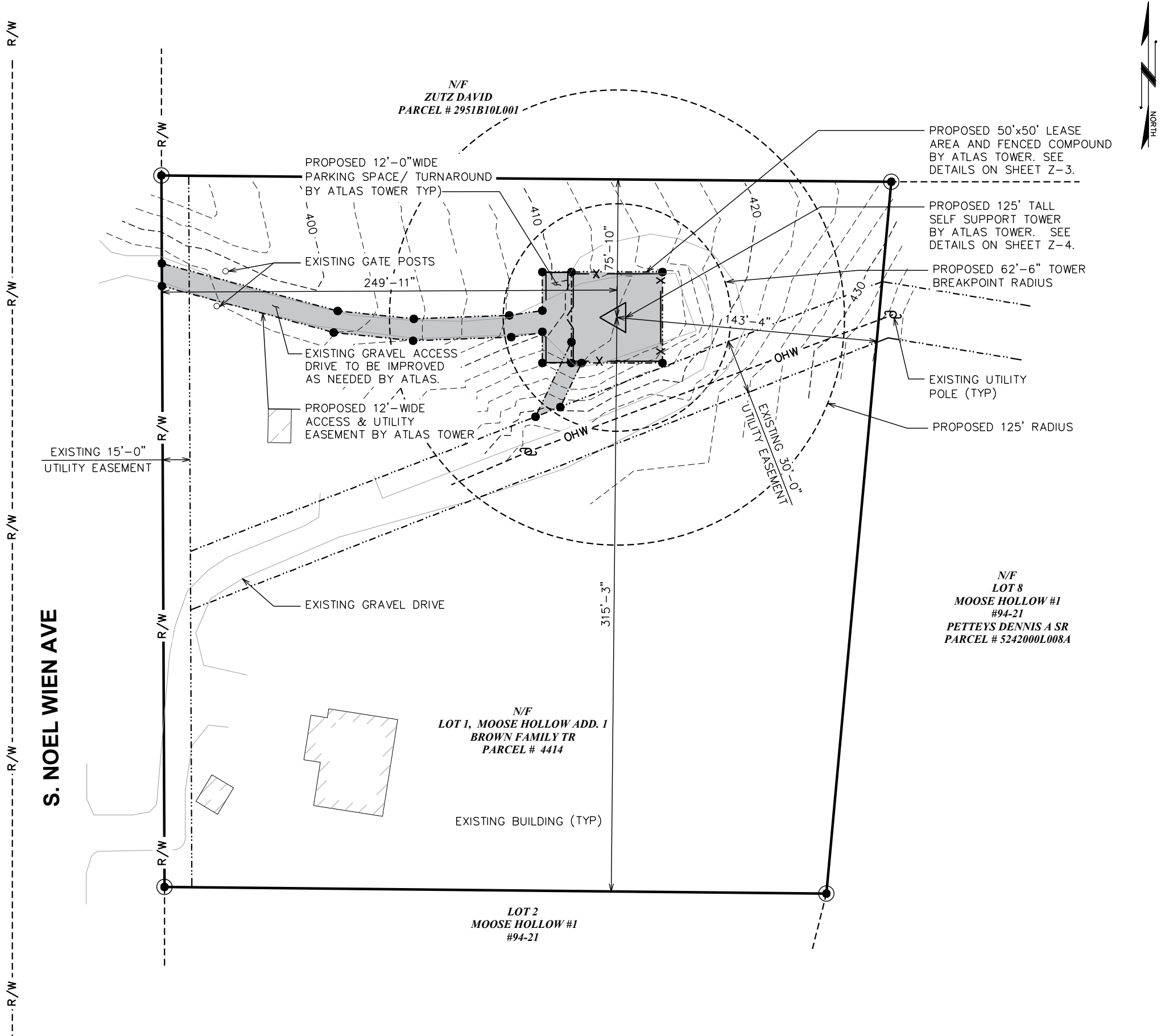
PROPERTY LINE	REQUIRED	PROPOSED
NORTH	140'-0"	75'-10"±
EAST	140'-0"	143'-4"
SOUTH	140'-0"	315'-3"±
WEST	140'-0"	249'-11"±

NOTES:

1. BASIS OF BEARINGS IS PER RECORD PLAT OF MOOSE HOLLOW SUBDIVISION, ADDITION 1, PLAT 94-21, TALKEETNA RECORDING DISTRICT.
2. THE TOWER IS LOCATED IN ZONE "X", AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN ACCORDING TO FEMA FLOOD MAP 02170C3520F, DATED SEPTEMBER 27, 2019.
3. TOWER TO BE CONSTRUCTED WITH BREAKPOINT DESIGN TECHNOLOGY. THE BREAKPOINT LEVEL OF THE STRUCTURE IS TO BE FIFTY-PERCENT OF THE TOWER STRUCTURE HEIGHT.

AREA PLAN

SCALE: 1" = 60'



PROJECT INFORMATION:

TALKEETNA

33693 S NOEL WIEN AVE,
TALKEETNA, AK 99676
(MATANUSKA-SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:



4700 DAHLIA STREET
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

SEAL: 

A graphic consisting of a tilted rectangle with a double border. Inside, the words "ZONING REVIEW" are written in a bold, sans-serif font, stacked vertically.

3	11-27-24	ZONING
2	10-23-24	ZONING
1	10-08-24	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: KES	CHECKED BY: KES
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SHEET TITLE:

AREA PLAN

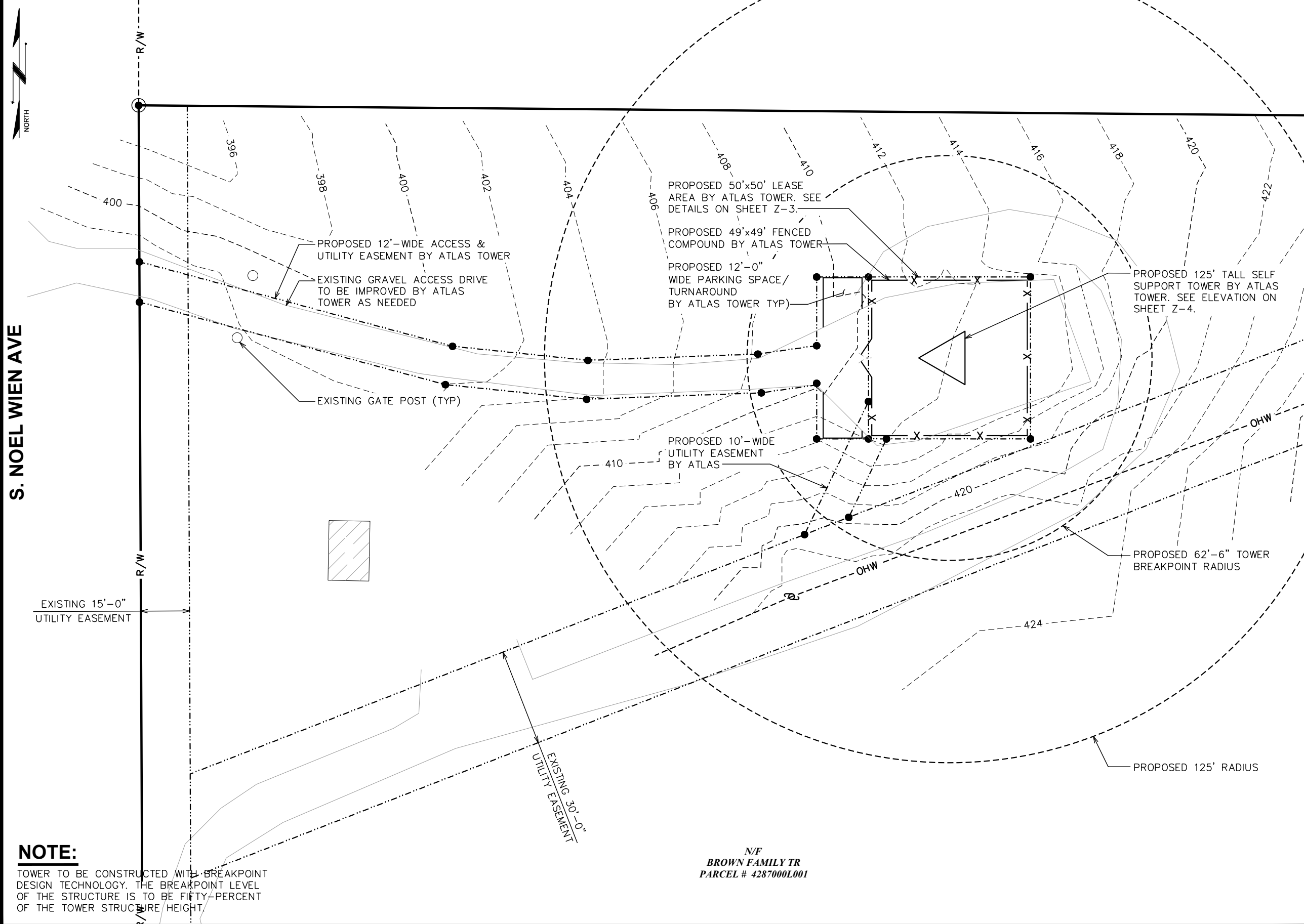
SHEET NUMBER: 71	REVISION: 3
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2-1 TEP #: 342594.440704

REVISION:

3

TEP#: 342594.440704



S. NOEL WIEN AVE

R/W
R/W

NOTE:
TOWER TO BE CONSTRUCTED WITH BREAKPOINT DESIGN TECHNOLOGY. THE BREAKPOINT LEVEL OF THE STRUCTURE IS TO BE FIFTY-PERCENT OF THE TOWER STRUCTURE HEIGHT.

SITE PLAN
SCALE: 1" = 30'

PROJECT INFORMATION:

TALKEETNA

33693 S NOEL WIEN AVE,
TALKEETNA, AK 99676
(MATANUSKA-SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

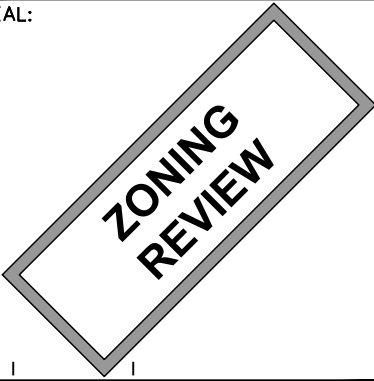
2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:



4700 DAHLIA STREET
DENVER, CO 80216
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SEAL:



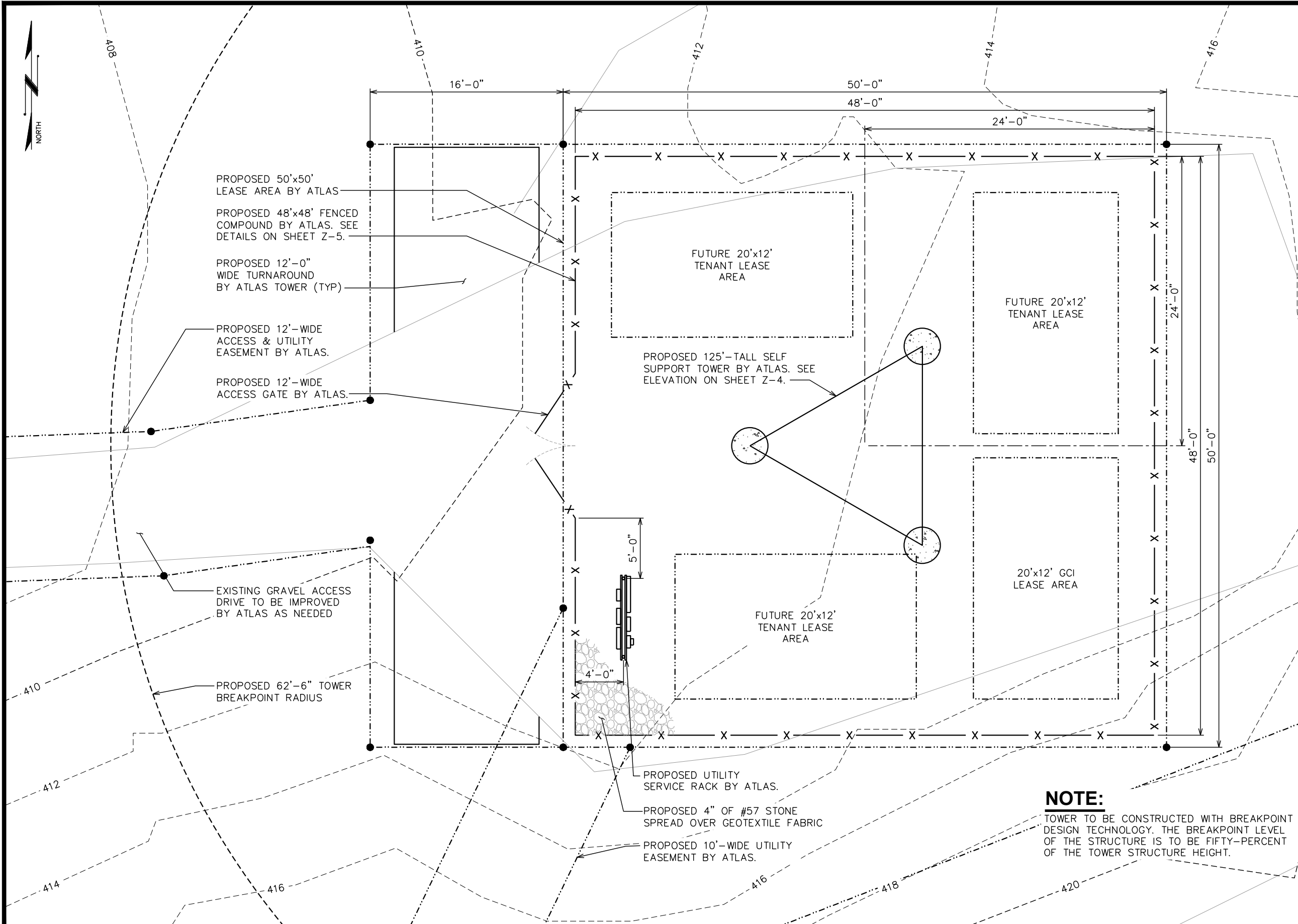
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2	10-23-24	ZONING
1	10-08-24	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: KES CHECKED BY: ARB

SHEET TITLE:

SITE PLAN

SHEET NUMBER:	REVISION:
Z-2	3
	TEP#: 342594.440704



COMPOUND DETAIL

SCALE: 1/8" = 1'

PROJECT INFORMATION:

TALKEETNA

33693 S NOEL WIEN AVE,
TALKEETNA, AK 99676
(MATANUSKA-SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

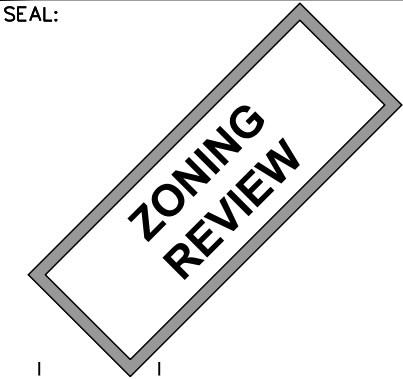
2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:



4700 DAHLIA STREET
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

SEAL:



3	11-27-24	ZONING
2	10-23-24	ZONING
1	10-08-24	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: KES | CHECKED BY: KES

SHEET TITLE:

**COMPOUND
DETAIL**

SHEET NUMBER:	REVISION:
Z-3	3
	TEP#: 342594.440704

NOTE:

TOWER TO BE CONSTRUCTED WITH BREAKPOINT
DESIGN TECHNOLOGY. THE BREAKPOINT LEVEL
OF THE STRUCTURE IS TO BE FIFTY-PERCENT
OF THE TOWER STRUCTURE HEIGHT.

125'-0"±
T/TOWER

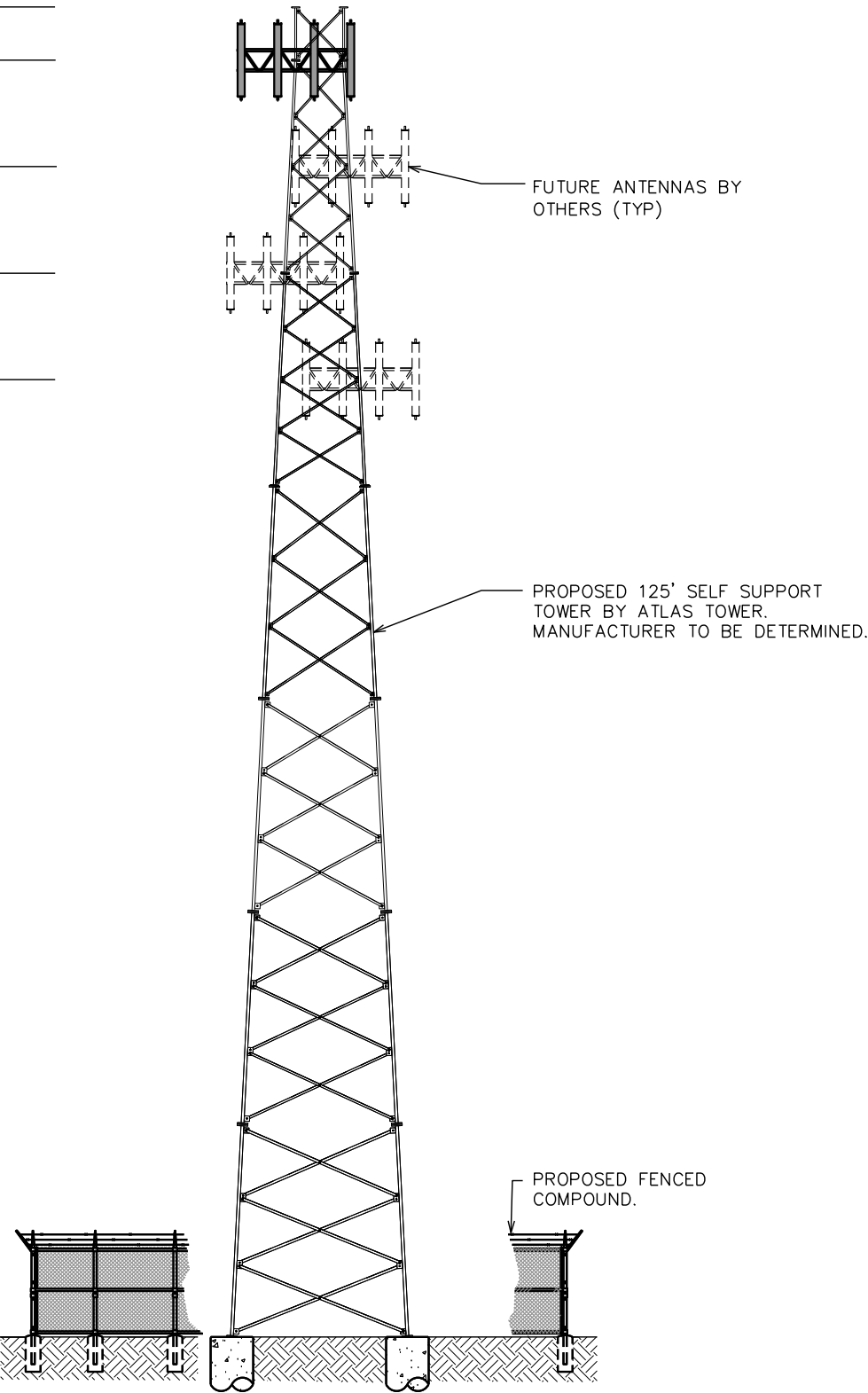
120'-0"±
CL/GCI ANTENNAS

110'-0"±
CL/FUTURE ANTENNAS

100'-0"±
CL/FUTURE ANTENNAS

90'-0"±
CL/FUTURE ANTENNAS

0'-0" (REF)
T/ GRADE



- NOTES:**
1. TOWER TO REMAIN GALVANIZED COLOR.
 2. TOWER SHALL BE LIT ONLY IF REQUIRED BY THE FEDERAL AVIATION ADMINISTRATION.
 3. PROPOSED COAX ROUTED UP TOWER USING WAVEGUIDE LADDER.
 4. TOWER TO INCLUDE SAFETY CABLE. DO NOT INCLUDE SAFETY CLIMB MECHANISM.
 5. TOWER EQUIPMENT LOADING AND CENTERLINES ARE SHOWN FOR REFERENCE ONLY AND ARE SUBJECT TO CHANGE.
 6. TOWER TO BE CONSTRUCTED WITH BREAKPOINT DESIGN TECHNOLOGY. THE BREAKPOINT LEVEL OF THE STRUCTURE IS TO BE FIFTY-PERCENT OF THE TOWER STRUCTURE HEIGHT.

PROJECT INFORMATION:

TALKEETNA

33693 S NOEL WIEN AVE,
TALKEETNA, AK 99676
(MATANUSKA-SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

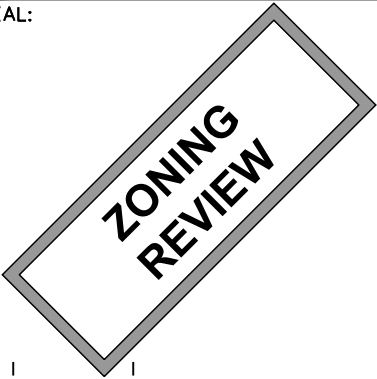
2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:



4700 DAHLIA STREET
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

SEAL:



3	11-27-24	ZONING
2	10-23-24	ZONING
1	10-08-24	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: KES CHECKED BY: KES

SHEET TITLE:

TOWER ELEVATION

SHEET NUMBER:

Z-4

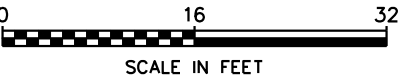
REVISION:

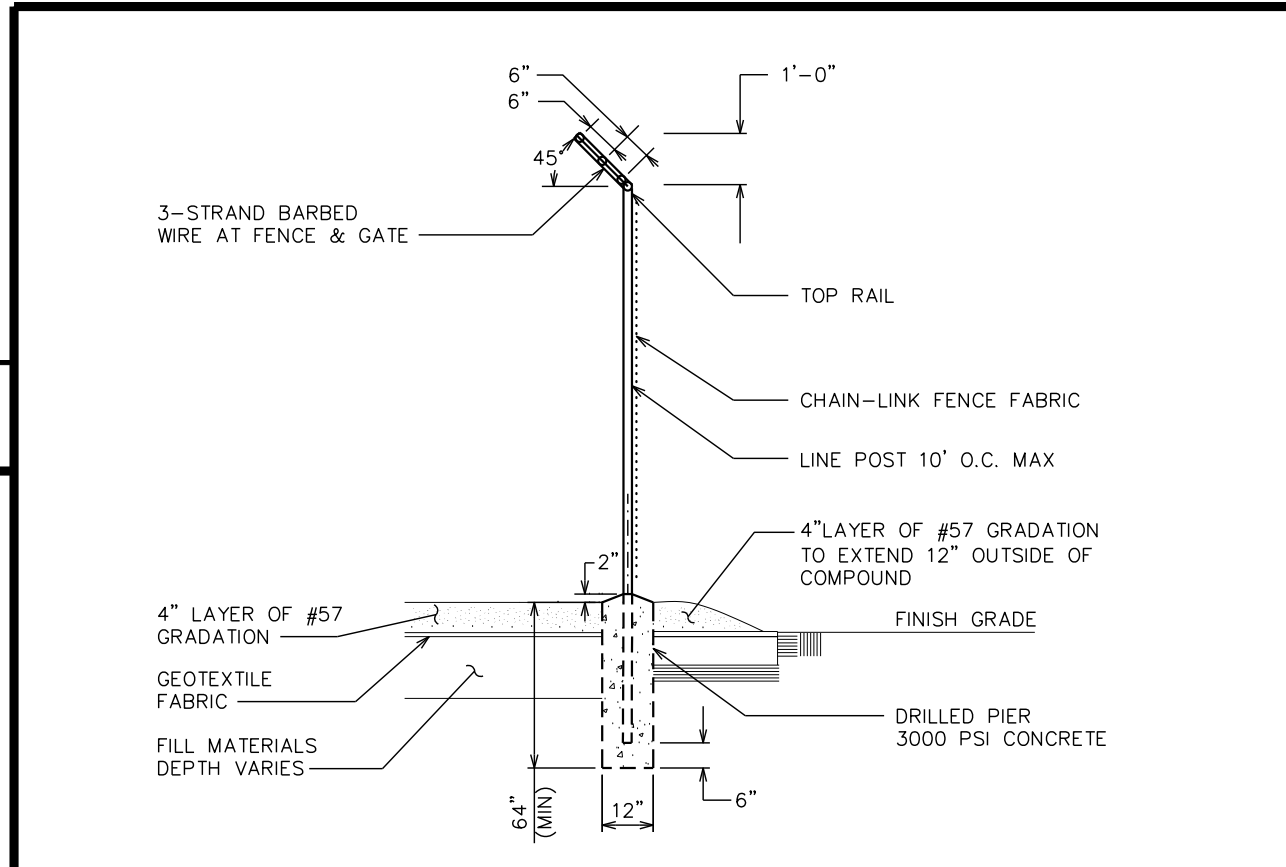
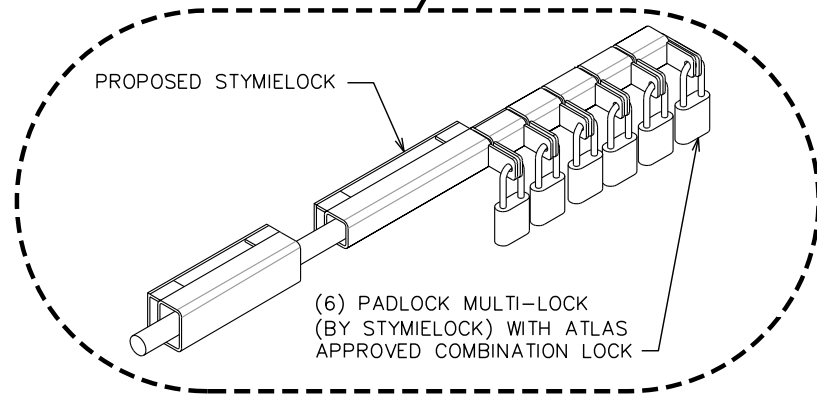
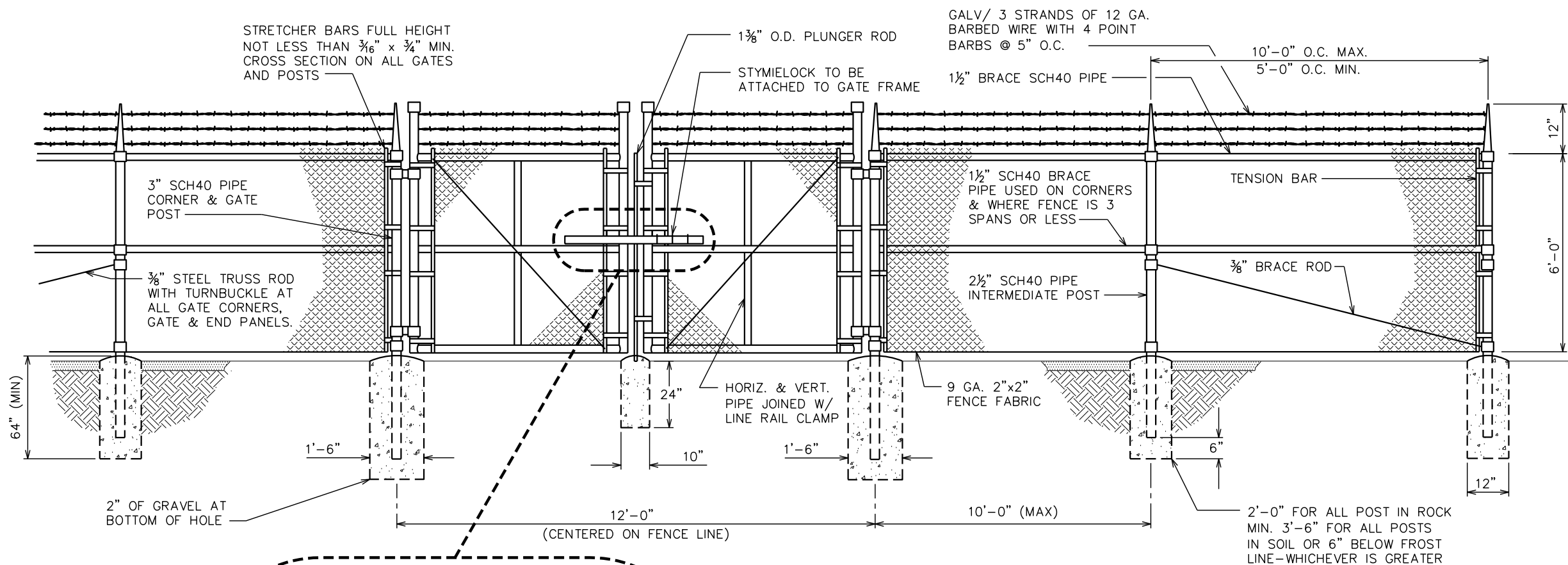
3

TEP#: 342594.440704

TOWER ELEVATION

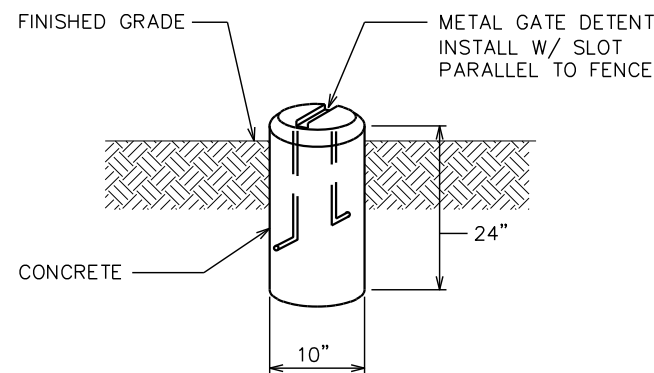
SCALE: 1/16" = 1'-0"





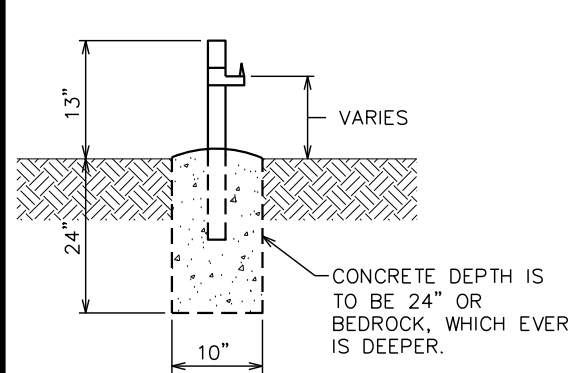
TYPICAL FENCE ELEVATION

SCALE: N.T.S.



GATE DETENT DETAIL

SCALE: N.T.S.



GATE STOP/KEEPER DETAIL

SCALE: N.T.S.

PROJECT INFORMATION:

TALKEETNA

33693 S NOEL WIEN AVE,
TALKEETNA, AK 99676
(MATANUSKA-SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

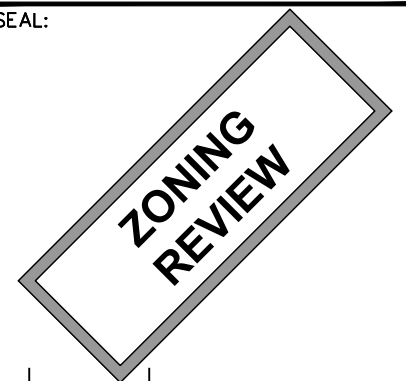
2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:



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DENVER, CO 80216
OFFICE: (303) 566-9914
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SEAL:



3	11-27-24	ZONING
2	10-23-24	ZONING
1	10-08-24	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: GPJ CHECKED BY: ARB

SHEET TITLE:

FENCE DETAILS

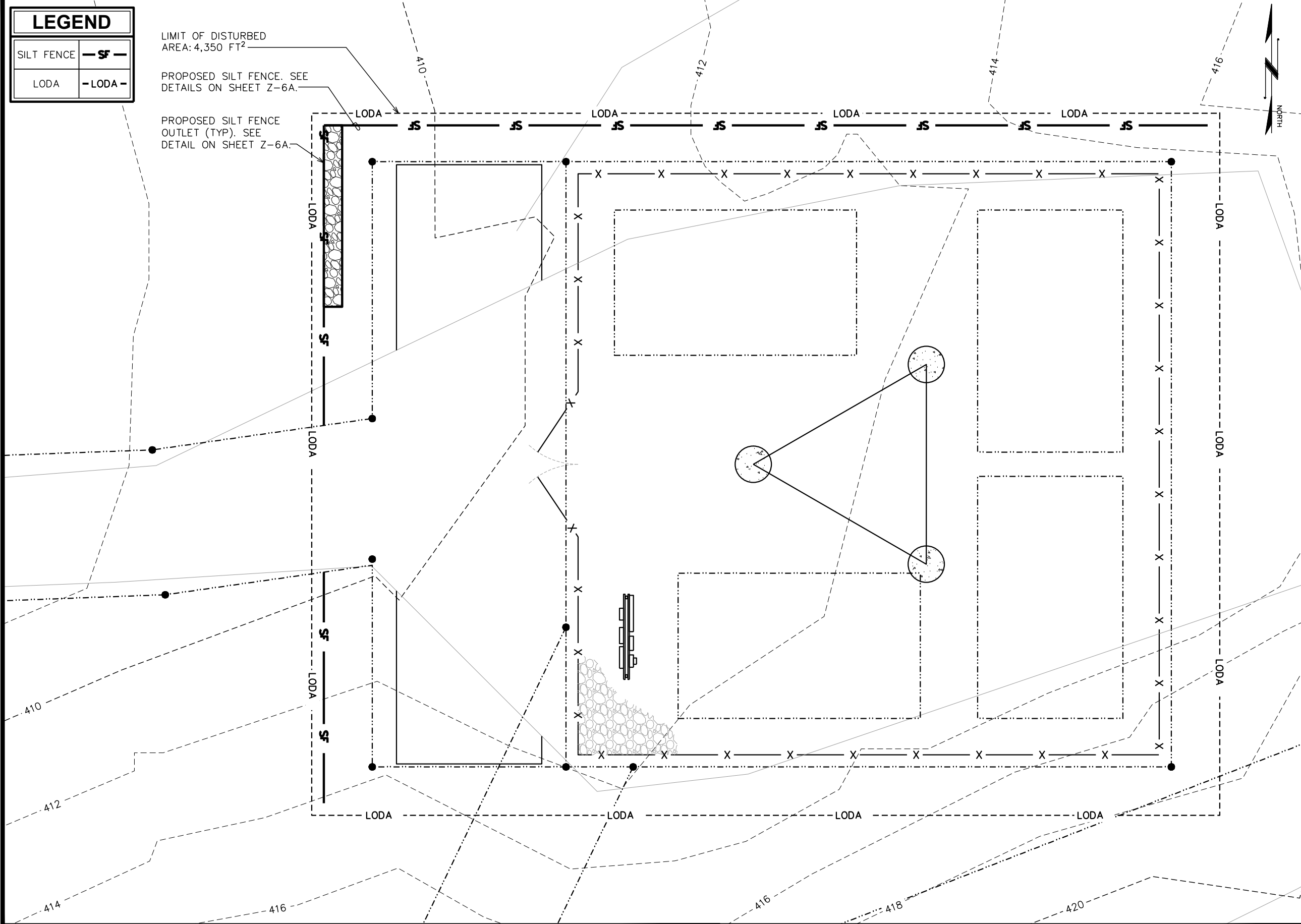
SHEET NUMBER:

Z-5

REVISION:

3

TEP#: 342594.440704



LEGEND	
SILT FENCE	-sf-
LODA	-LODA-

LIMIT OF DISTURBED
AREA: 4,350 FT²

PROPOSED SILT FENCE. SEE
DETAILS ON SHEET Z-6A.

PROPOSED SILT FENCE
OUTLET (TYP). SEE
DETAIL ON SHEET Z-6A.

PROJECT INFORMATION:

TALKEETNA

33693 S NOEL WIEN AVE,
TALKEETNA, AK 99676
(MATANUSKA-SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:

TEP

4700 DAHLIA STREET
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

SEAL:

ZONING
REVIEW

3	11-27-24	ZONING
2	10-23-24	ZONING
1	10-08-24	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: KES	CHECKED BY: KES
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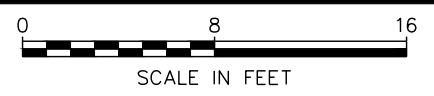
SHEET TITLE:

SOIL EROSION
CONTROL PLAN

SHEET NUMBER: Z-6

REVISION: 3

TEP#: 342594.440704

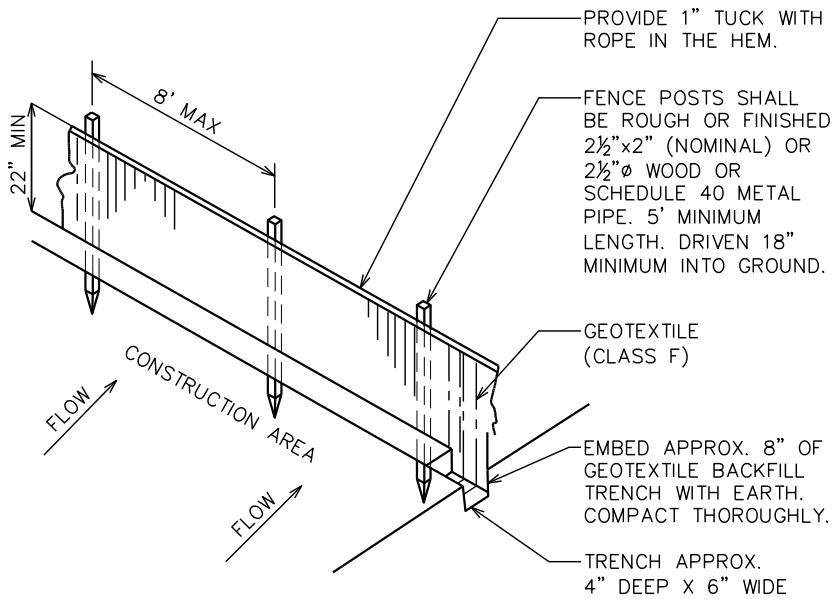


SITE GRADING NOTES:

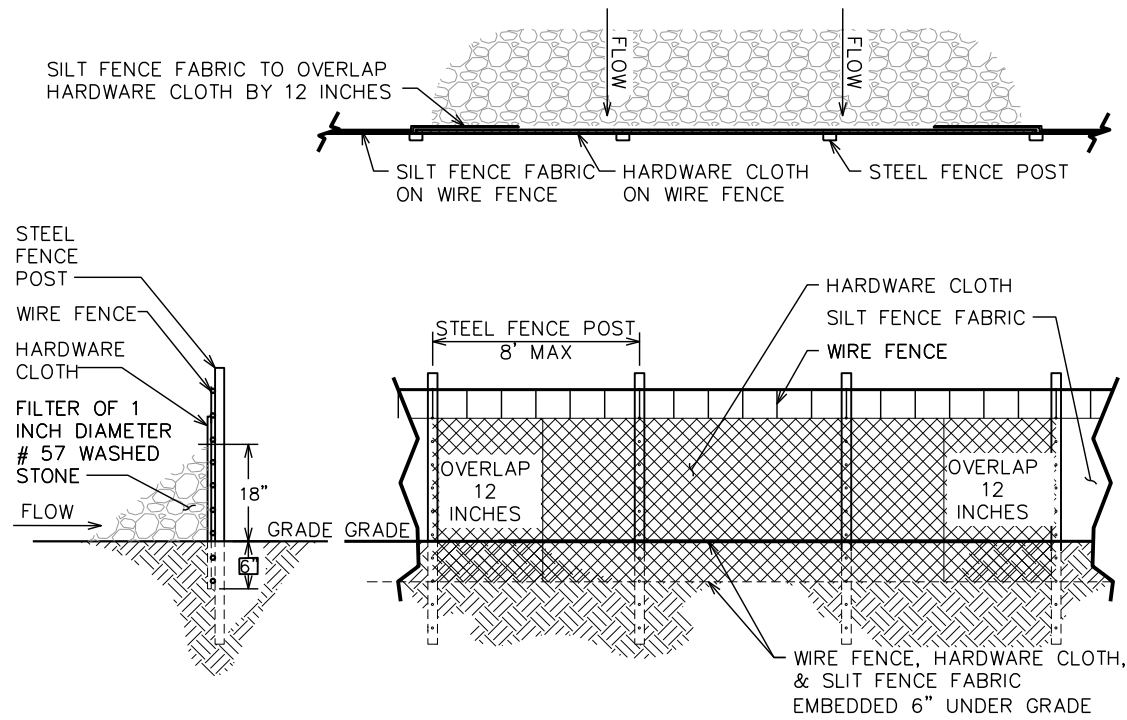
- 1. CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
- 2. TEMPORARY SEEDING OR OTHER STABILIZATION, INCLUDING GRAVEL COVER ON ANY NEW ACCESS ROAD, WILL FOLLOW IMMEDIATELY AFTER GRADING.
- 3. THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.
- 4. AFTER ACHIEVING ADEQUATE STABILIZATION, THE TEMPORARY E&S CONTROLS WILL BE CLEANED UP AND REMOVED.

GEOTEXTILE FABRIC NOTES:

- 1. GEOTEXTILE FABRIC TO BE FASTENED SECURELY TO FENCE POST BY USE OF WIRE TIES OR HOG RINGS. 3 FASTENERS PER POST.
- 2. ENDS OF INDIVIDUAL ROLLS OF GEOTEXTILE SHALL BE SECURELY FASTENED TO A COMMON POST OR OVERLAPPED 3' (MINIMUM).
- 3. THIS DEVICE IS INTENDED TO CONTROL SHEET FLOW ONLY. IT WILL NOT BE USED IN AREAS OF CONCENTRATED FLOW WITH A DRAINAGE AREA OF ½ ACRE OR MORE.



SILT FENCE



SILT FENCE OUTLET

SILT FENCE DETAIL

N.T.S.

PROJECT INFORMATION:

TALKEETNA

33693 S NOEL WIEN AVE,
TALKEETNA, AK 99676
(MATANUSKA-SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

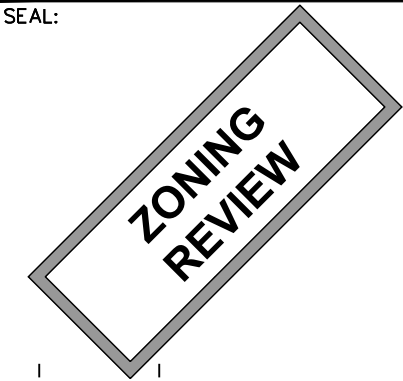
2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:



4700 DAHLIA STREET
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

SEAL:



3	11-27-24	ZONING
2	10-23-24	ZONING
1	10-08-24	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: KES CHECKED BY: KES

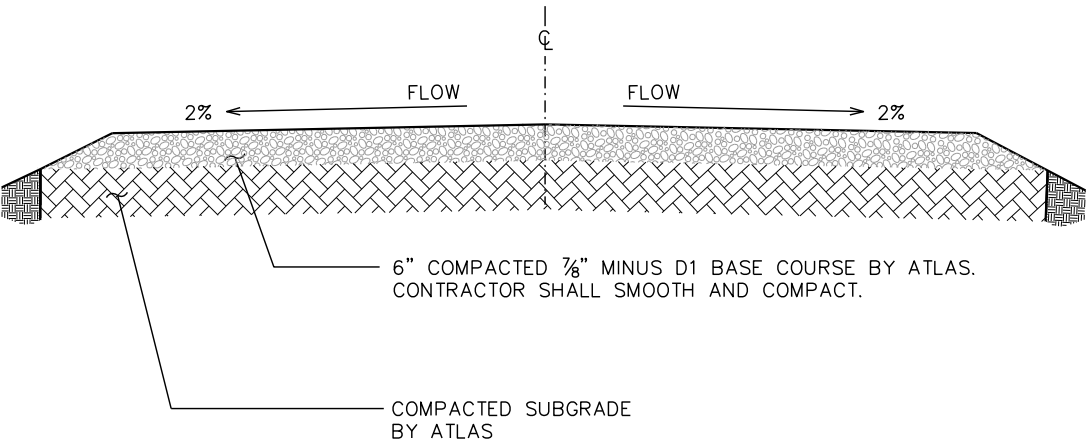
SHEET TITLE:

SILT FENCE DETAIL

SHEET NUMBER:	REVISION:
Z-6A	3
TEP#: 342594.440704	

NOTE:

ROAD TO BE DESIGNED IN ACCORDANCE
WITH M.S.B. 11.12.060 LOW VOLUME
DRIVEWAY STANDARDS

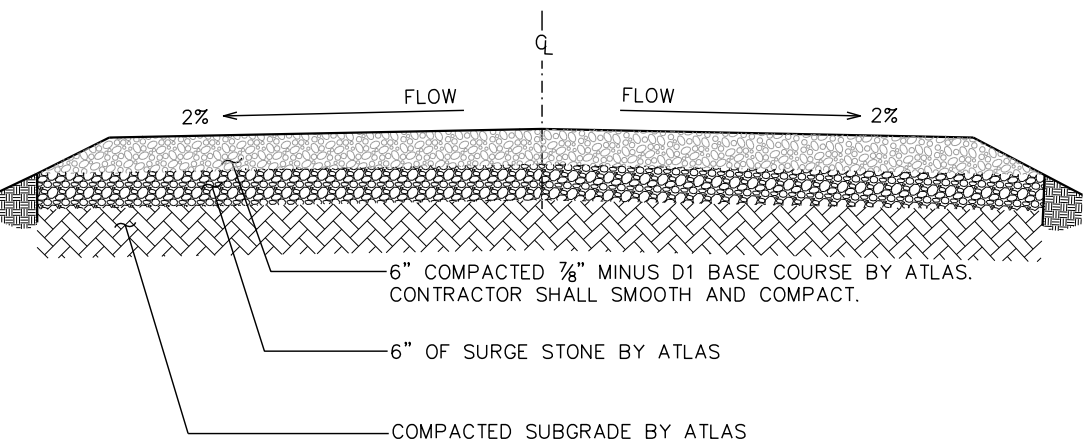


STANDARD ROAD SECTION (GOOD SUBGRADE)

SCALE: 3/8" = 1'-0"

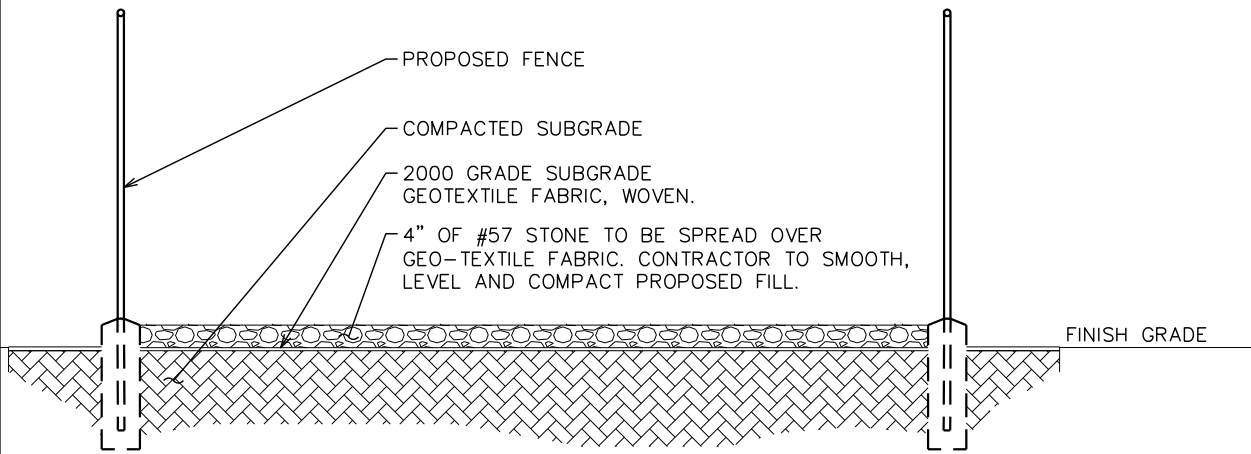
NOTE:

ROAD TO BE DESIGNED IN ACCORDANCE
WITH M.O.A. 11.12.060 LOW VOLUME
DRIVEWAY STANDARDS



STANDARD ROAD SECTION (POOR SUBGRADE)

SCALE: 3/8" = 1'-0"



COMPOUND SECTION VIEW

SCALE: N.T.S.

PROJECT INFORMATION:

TALKEETNA

33693 S NOEL WIEN AVE,
TALKEETNA, AK 99676
(MATANUSKA-SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

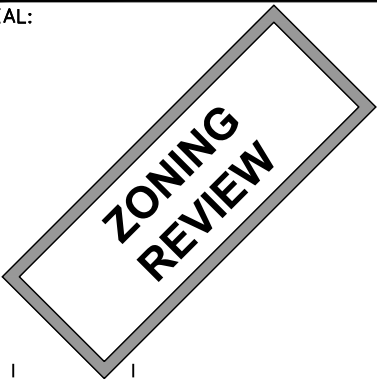
2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:



4700 DAHLIA STREET
DENVER, CO 80216
OFFICE: (303) 566-9914
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SEAL:



3	11-27-24	ZONING
2	10-23-24	ZONING
1	10-08-24	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: CHECKED BY:

SHEET TITLE:

DRIVEWAY DETAILS

SHEET NUMBER:	REVISION:
Z-7	3
	TEP#: 342594.440704

- ALL SIGNS TO BE HUNG ON FENCE USING HOG RINGS OR ALUMINUM FENCE TIES. ZIP TIES OR REBAR WIRE WILL NOT BE ACCEPTABLE
- THE RED WARNING SIGN SHALL BE PLACED ON THE TOWER, IDEALLY AT THE BASE OF THE SAFETY CLIMB.

NOTICE	
	Transmitting Antenna(s)
	Radio frequency fields beyond this point MAY EXCEED the FCC General Population exposure limit
	Obey all posted signs and site guidelines.
	STATE: _____ SWITCH: _____ SITE ID: _____ SECTOR / NODE: _____

11.5"

 WARNING	
	Transmitting Antenna(s) Radio frequency fields beyond this point EXCEED the FCC Occupational exposure limit. Obey all posted signs and site guidelines. STATE: _____ SWITCH: _____ SITE ID: _____ SECTOR / NODE: _____

PROJECT INFORMATION: TALKEETNA 33693 S NOEL WIEN AVE, TALKEETNA, AK 99676 (MATANUSKA-SUSITNA BOROUGH)		
PLANS PREPARED FOR: ATLAS TOWER 2500 30TH ST, SUITE 304 BOULDER, CO 80301 Office: (303) 448-8896		
PLANS PREPARED BY:  4700 DAHLIA STREET DENVER, CO 80216 OFFICE: (303) 566-9914 www.tepgroup.net		
SEAL: ZONING REVIEW		
3	11-27-24	ZONING
2	10-23-24	ZONING
1	10-08-24	ZONING
REV	DATE	ISSUED FOR:
DRAWN BY: KES		CHECKED BY: KES
SHEET TITLE: SIGNAGE DETAILS		
SHEET NUMBER: Z-8		REVISION: 3
TEP #: 342594.440704		

125' —
120' —

100' —

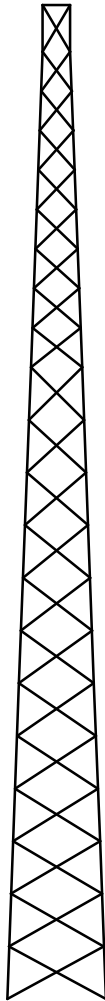
80' —

60' —

40' —

20' —

0' —



Self-Supporting Tower Section Data

Section Number	Bottom Elevation (ft)	Top Elevation (ft)	Model	Bottom Face Width (ft)	Top Face Width (ft)	Number of Panels	Leg Size (in)	Diagonal Size (in)	Girt Size (in)	Mid-Horizontal Size (in)	Redundant Horizontal Size (in)	Redundant Diagonal Size (in)
7	120	125	NSX	3.5	3.5	1	P2x.154	L1 3/4x1 3/4x1/8	L1 3/4x1 3/4x1/8			
6	100	120	NSX	5.0	3.5	4	P3x.216	L2x2x1/8				
5	80	100	NSX	6.5	5.0	4	P4x.237	L2x2x1/8				
4	60	80	NSX	8.0	6.5	3	P6x.28	L2x2x3/16				
3	40	60	NSX	9.5	8.0	3	P8x.322	L2 1/2x2 1/2x3/16				
2	20	40	NSX	11.0	9.5	3	P8x.322	L2 1/2x2 1/2x3/16				
1	0	20	NSX	12.5	11.0	3	P8x.322	L2 1/2x2 1/2x3/16				

Tower Reactions

No Ice

Shear: 26.3 kips
Moment: 2350.85 ft-kips
Weight: 24.1 kips

With Ice

Shear: 8.9 kips
Moment: 789.37 ft-kips
Weight: 33.2 kips

Leg Reactions

Compression: 225.2 kips
Uplift: -205.1 kips
Shear: 16.9 kips

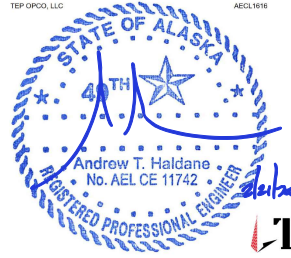
REV	BY	DATE	DESCRIPTION
1	DF	2/21/2025	Revised tower for fall radius per ECO 7883

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ORIG. DATE: 2/21/2025	DWG NO: 773613
DWG. PROG: v2.05	SHEET: 1 OF 6

TEP OPCO, LLC

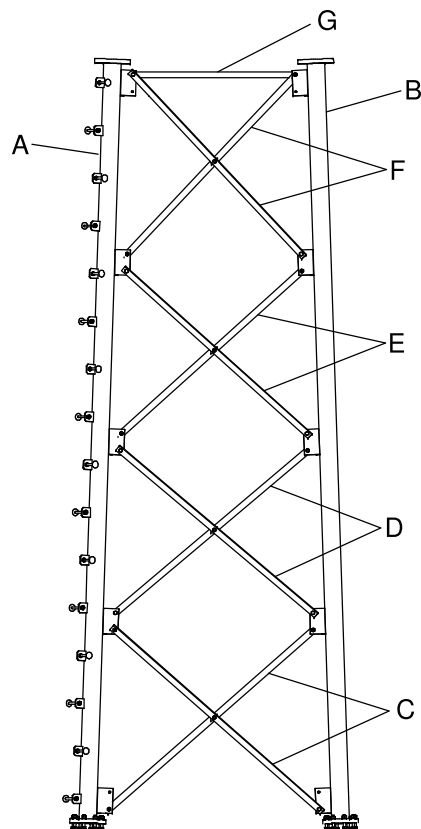
AECL1616



TITLE:
Atlas Tower
NSX 12.5' X 125'

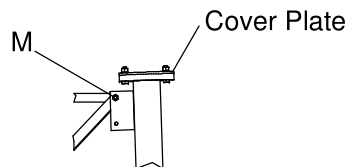
Talkeetna - Brown
Matanuska-Susitna
Borough., AK


1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860



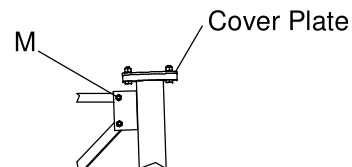
NSX Section Detail

1. A part number is stamped on the bottom footpad of each leg.
2. A part number is stamped and /or labeled on the bottom end of each angle.
3. Be sure to place diagonal bracing angles in correct positions, angles in the top panel may be longer than they are in the middle panel.
4. The bolt head must bear against the angle bracing.



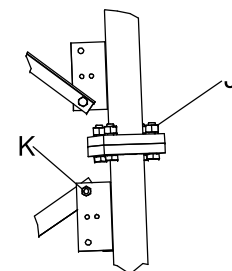
Detail A: NSX Top Connection

- *Applicable to all 20 ft Sections.
- *Applicable to all Sections Shorter than 20 ft and are Straight.



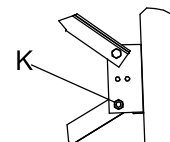
Detail B: NSX Top Connection

- *Applicable to all Sections Shorter than 20 ft that are Tapered Sections.



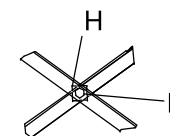
One plain nut and one lockwasher per bolt.

NSX Leg Connection



One plain nut and one lockwasher per bolt.

NSX Bracing Detail



One plain nut and one lockwasher per bolt.

NSX Spacer Detail

NSX Section Legend:

- A. Climbing Leg
- B. Non-Climbing Leg
- C. Diag., Panel 1
- D. Diag., Panel 2
- E. Diag., Panel 3
- F. Diag., Panel 4
- G. Top Girt
- H. Spacer
- J. Leg Bolts
- K. Diagonal Bolts
- L. Stitch Bolts
- M. Top Girt Bolts

TEP OPCO, LLC

AECL1616

TITLE:

Atlas Tower

NSX 12.5' X 125'

Talkeetna - Brown

Matanuska-Susitna

Borough., AK

1201 S. Sheridan St.
South Bend, IN 46619
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REV	BY	DATE	DESCRIPTION
1	DF	2/21/2025	Revised tower for fall radius per ECO 7883

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	DWG. PROG: v2.05	SHEET: 2 OF 6

NSX Section Part Numbers

Item	Elevation	Climbing Leg (A)	Non-Climbing Leg (B)	Diagonal - Panel 1 (C)	Diagonal - Panel 2 (D)	Diagonal - Panel 3 (E)	Diagonal - Panel 4 (F)	Top Girt (G)	Spacer (H)
7	120' - 125'	141432	141431	167310				167379	132233
6	100' - 120'	141387	141383	193703	193704	193705	193706		132233
5	80' - 100'	141292	141287	167388	167389	167390	167391		132233
4	60' - 80'	129729		167216	167217	167218			132233
3	40' - 60'	129695		167005	167006	167007			132233
2	20' - 40'	129695		167170	167171	167172			132233
1	0' - 20'	129701		168102	168103	168104			132233

NSX Section Hardware

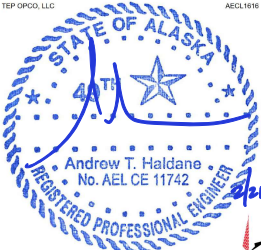
Item	Elevation	Leg Bolts (J)	Diagonal Bolts (K)	Stitch Bolts (L)	Top Girt Bolts (M)	Section Weight (Lbs.)
7	120' - 125'	(12) 3/4" x 3-1/2"	(12) 1/2" x 1-1/2"	(3) 1/2" x 1-1/2"	(6) 1/2" x 1-1/2"	290
6	100' - 120'	(24) 3/4" x 3-1/2"	(48) 1/2" x 1-1/2"	(12) 1/2" x 1-1/2"		1040
5	80' - 100'	(24) 3/4" x 3-1/2"	(48) 5/8" x 2-1/2"	(12) 5/8" x 2-1/2"		1330
4	60' - 80'	(24) 1" x 3-3/4"	(36) 5/8" x 2-1/2"	(9) 5/8" x 2-1/2"		2020
3	40' - 60'	(24) 1" x 3-3/4"	(36) 3/4" x 2-1/4"	(9) 3/4" x 2-1/4"		2880
2	20' - 40'	(24) 1" x 3-3/4"	(36) 3/4" x 2-1/4"	(9) 3/4" x 2-1/4"		2950
1	0' - 20'	0	(36) 3/4" x 2-1/4"	(9) 3/4" x 2-1/4"		3020

REV	BY	DATE	DESCRIPTION
1	DF	2/21/2025	Revised tower for fall radius per ECO 7883

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	DWG. PROG: v2.05	SHEET: 3 OF 6

TEP OP&G, LLC

AECL1616



Andrew T. Haldane
No. AEL CE 11742
REGISTERED PROFESSIONAL ENGINEER



TITLE:
Atlas Tower
NSX 12.5' X 125'

Talkeetna - Brown
Matanuska-Susitna
Borough., AK

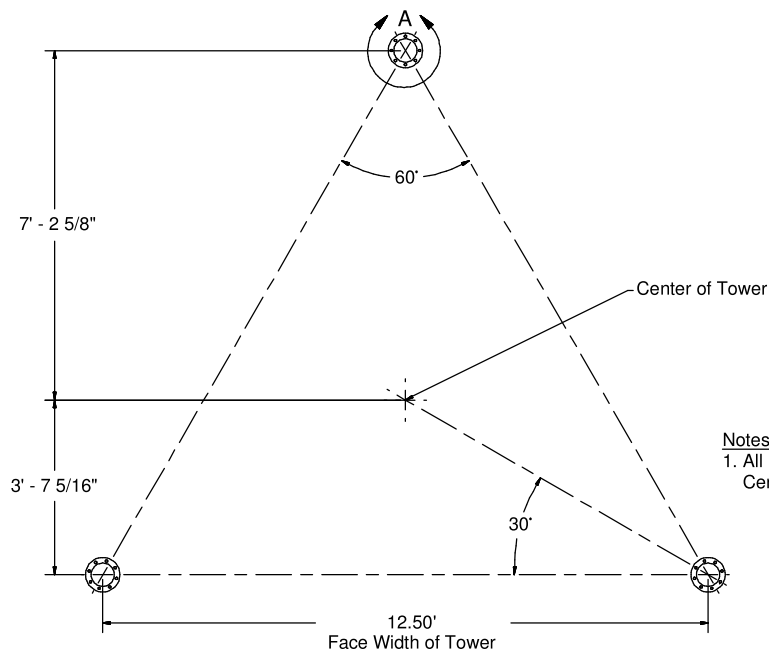


N E L L O

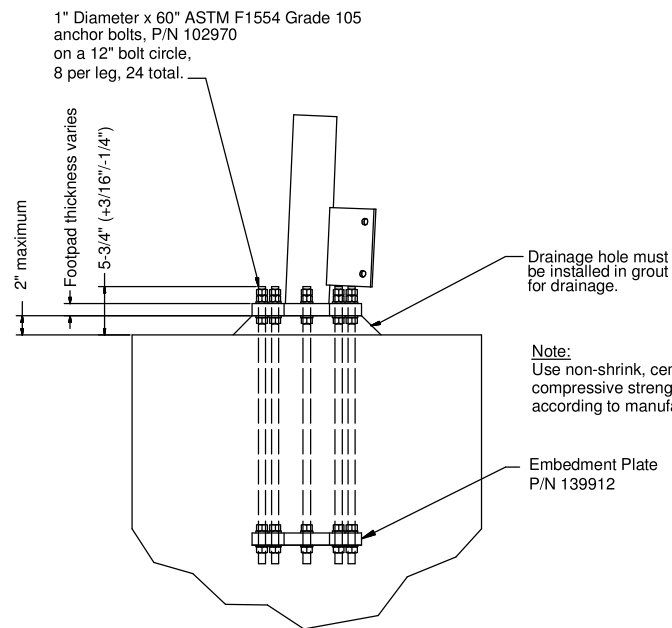
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South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860



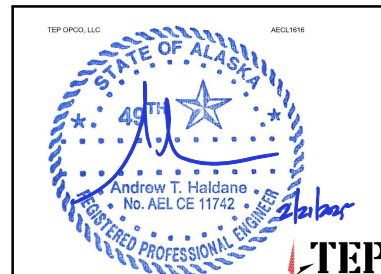
DETAIL A
Bolt hole must be aligned with center of tower.



Notes:
1. All Dimensions are from Center of Bolt Circles.



Note:
Use non-shrink, cement grout with a minimum compressive strength of 5000 psi. Mix and install according to manufacturer's recommendations.



TITLE:
Atlas Tower
NSX 12.5' X 125'

Talkeetna - Brown
Matanuska-Susitna
Borough., AK



REV	BY	DATE	DESCRIPTION
1	DF	2/21/2025	Revised tower for fall radius per ECO 7883

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	DWG. PROG: v2.05	SHEET: 4 OF 6

Antenna Loading

Height	Qty.	Description
120'	1	30,000 sq in CaAa
110'	1	30,000 sq in CaAa
100'	1	Dish Pipe Mount
90'	1	Dish Pipe Mount

Feedline Loading

Height	Qty.	Description
0' - 120'	4	LDF7-50A (1-5/8 FOAM)
0' - 110'	4	LDF7-50A (1-5/8 FOAM)
0' - 100'	1	LDF7-50A (1-5/8 FOAM)
0' - 90'	1	LDF7-50A (1-5/8 FOAM)

Dish Loading

Height	Qty.	Description
100'	1	6' Dish with Radome
90'	1	6' Dish with Radome

REV	BY	DATE	DESCRIPTION
1	DF	2/21/2025	Revised tower for fall radius per ECO 7883

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ORIG. DATE: 2/21/2025
DWG. PROG: v2.05

DWG NO: 773613
SHEET: 5 OF 6

TEP OPCO, LLC
AECL1616

TITLE:
Atlas Tower
NSX 12.5' X 125'

Talkeetna - Brown
Matanuska-Susitna
Borough., AK

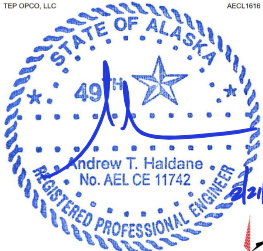
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

Tower Notes:

1. Tower is designed per TIA-222-H, "Structural Standard for Antenna Supporting Structures, Anennas and Small Wind Turbine Support Structures," for the following loading conditions:
115 mph 3-second gust ultimate wind speed with no ice per ASCE 7-16
60 mph 3-second gust basic wind speed with 1/2 inch basic ice thickness per ASCE 7-16
Risk Category: II
Exposure Category: C
Topographic Category: 1
Crest Height: 0 feet
2. A tower field inspection shall be performed in order to verify that design exposure and topographic parameters are consistent with the existing tower site conditions.
3. Tower design includes the antennas, dishes, and/or lines listed in the appurtenance loading tables on sheet 5.
4. Antenna mounting pipes may need to be field cut to match the lengths listed in the appurtenance loading tables on sheet 5.
5. Tower member design does not include stresses due to erection since erection equipment and procedures are unknown. Tower installation shall be performed by competent and qualified erectors in accordance with TIA-222-H and OSHA standards and all applicable building codes.
6. Field connections shall be bolted. No field welds shall be allowed unless otherwise noted.
7. Structural bolts shall conform to ASTM A325, except for 1/2 inch diameter and smaller bolts, which shall conform to ASTM A449 or SAE J429 Grade 5.
8. Structural steel and connection bolts shall be galvanized after fabrication in accordance with TIA-222-H.
9. All high strength bolts shall be tightened to a "snug tight" condition as defined in the RCSC "Specification for Structural Joints Using ASTM A325 or A490 Bolts."
10. Tower shall be marked and lighted in conformance with local building codes, FAA regulations, and TIA-222-H.
11. Tower shall be grounded in conformance with local building codes and TIA-222-H. Evaluation of protective grounding and consideration for special grounding systems shall be performed by others.
12. Allowable tolerance on as-built tower steel height is plus 1% or minus 1/2%.
13. Maintenance and inspection shall be performed over the life of the structure in accordance with TIA-222-H.
14. Material specifications:
Self Supporting Pipe Legs - ASTM A500 Grade 50
Angle Bracing - ASTM A529 Grade 50
Leg Footpads - ASTM A572 Grade 50
Leg Side Plates - ASTM A36 (Min)
15. Remove anchor bolt template before erecting tower. Place non-shrink grout under base section footpads after leveling tower.
16. Concrete contractor shall be responsible for properly aligning anchor bolts and materials before and after placing concrete, regardless of whether an anchor bolt template is provided.

TEP OPCO, LLC

AECL1616



Andrew T. Haldane
No. AEL CE 11742
REGISTERED PROFESSIONAL ENGINEER



TITLE:
Atlas Tower
NSX 12.5' X 125'


N E L L O

Talkeetna - Brown
Matanuska-Susitna
Borough., AK

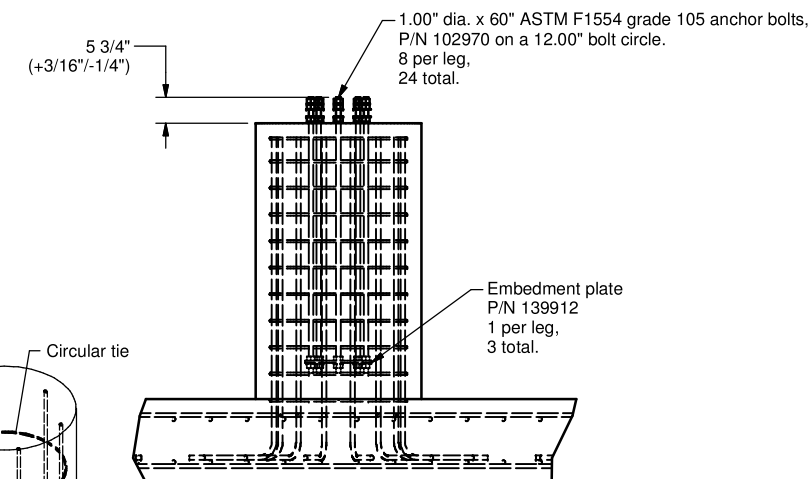
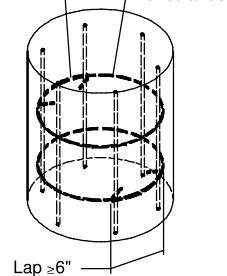
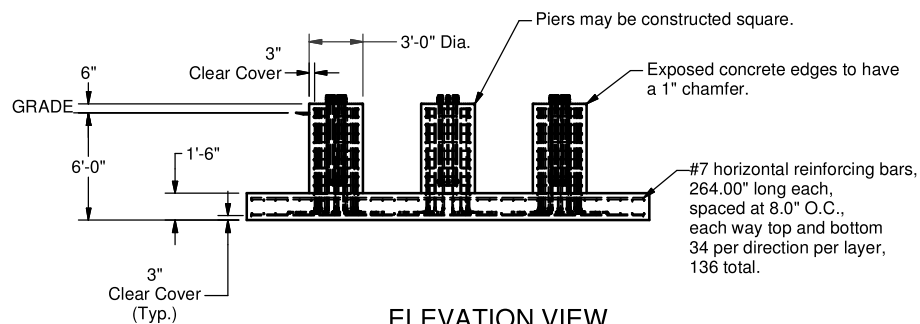
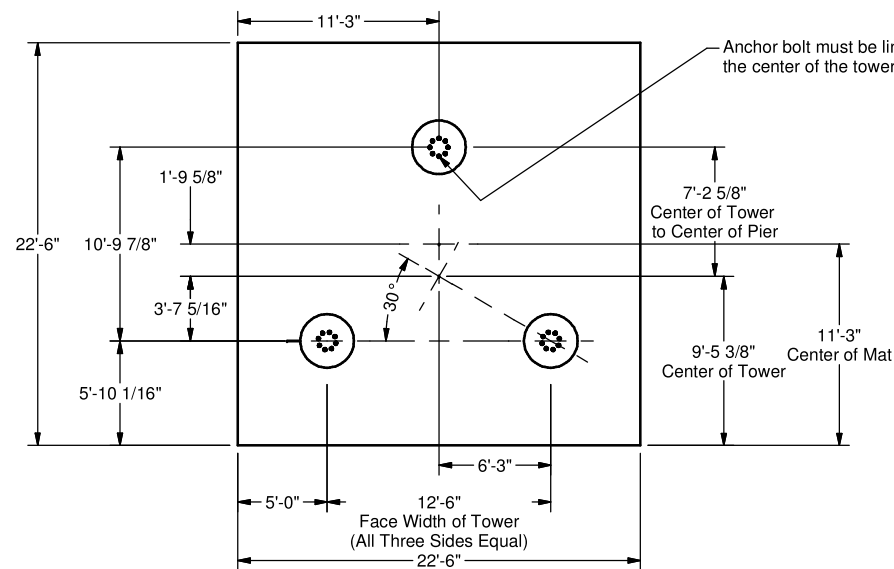
1201 S. Sheridan St.
South Bend, IN 46619
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Fax: (574)288-5860

REV	BY	DATE	DESCRIPTION
1	DF	2/21/2025	Revised tower for fall radius per ECO 7883

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ORIG. DATE: 2/21/2025
DWG. PROG: v2.05

DWG NO: 773613
SHEET: 6 OF 6



CAUTION:

1. Ensure that all anchor bolt nuts are tightened.
2. Ensure that all three face width dimensions (pier center to pier center) are measured and verified before pouring concrete.

Concrete Compressive Strength, $f'_c = 4500$ psi

TITLE:

Talkeetna - Brown
Matanuska-Susitna
Borough, AK



REV	BY	DATE	DESCRIPTION
1	DF	2/24/2025	Revised foundation per ECO 7883

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ORIG. DATE: 12/21/2024	DWG NO: 773614
DWG. PROG: v2.05	SHEET: 1 OF 2

Foundation Notes:

1. This foundation has been designed for the following tower reactions:
- Leg Compression: 225.2 Kips
 - Leg Uplift: 205.1 Kips
 - Leg Shear: 16.9 Kips
 - Tower Shear: 26.3 Kips
 - Tower Moment: 2350.9 Ft-Kips
 - Tower Weight: 24.1 Kips
2. Foundation design is based on the Geotechnical Report dated 12/13/2024, by Sinnott Gering and Schmitt Towers, Inc.; Project No. 2410116.
3. A field inspection shall be performed in order to verify that the actual site soil parameters meet or exceed the assumed soil parameters and that the depth of standard foundations are adequate based on the frost penetration and groundwater depth. Local frost depth must be no deeper than the bottom of the base foundation or the top of the anchor.
4. Reinforcement shall be deformed and conform to the requirements of ASTM A615 Grade 60 unless otherwise noted. Splices in reinforcement shall not be allowed unless otherwise indicated.
5. Welding is prohibited on reinforcing steel and anchorage.
6. Structural backfill placed below pad must be compacted in 8" loose lifts to 98% of maximum dry density at optimum moisture content in accordance with ASTM D698. Backfill must be clean and free of organic and frozen soils and foreign materials.
7. Backfill above foundation should be compacted to 95% of maximum dry density at water content within 2 percent of optimum. Backfill must be clean and free of organic and frozen soils and foreign materials.
8. Finished grade shall be leveled over the entire foundation footprint. Backfill is recommended to slope to native grade using a 2:1 (H:V) slope.
9. Loose material shall be removed from bottom of excavation prior to concrete placement.
10. Concrete cover from exposed surface of concrete to surface of reinforcement shall not be less than 3".
11. Concrete and reinforcement installation must conform to ACI 318, "Building Code Requirements for Structural Concrete."
12. Concrete shall develop a minimum compressive strength of 4500 psi at 28 days.
13. Concrete shall be placed as soon as practical after excavating to avoid disturbance of bearing and side wall surfaces
14. Concrete contractor shall be responsible for properly aligning anchor bolts before and after placing concrete, regardless of whether an anchor bolt template is provided.
15. Positive drainage shall be maintained during construction and throughout the life of the facility to minimize the potential for surface water infiltration.
16. If unsuitable soils are encountered, overexcavation of unsuitable soils for compacted backfill placement below footings should extend laterally beyond all edges of the footings at least 12 inches per foot of overexcavation depth below footing base elevation.
17. It shall be the contractor's responsibility to locate and prevent damage to any existing underground utilities, foundations or other buried objects that might be damaged or interfered with during construction of the foundation.
18. It is permissible to utilize a cold joint during construction of a pier and pad type foundation. The cold joint must be located at the interface of the piers with the pad, and contractor shall use a bonding agent suitable for cold joints.
19. It is permissible for the top of the vertical reinforcement cage alignment to fluctuate slightly, allowing for a minimum clear cover of 2" to a maximum clear cover of 3" over the top of any individual vertical bar.
20. Earthwork operations and foundation installation methods shall be in accordance with the geotechnical report and all applicable American Concrete Institute (ACI) Standards.
21. Groundwater was not encountered during the geotechnical investigation.
22. Rock conditions were encountered about 4 feet bgs in the geotechnical investigation (see geo report for details). The contractor should anticipate difficult excavation below this depth and be prepared with the necessary equipment to remove such material in order to create a level bearing surface. The depth to rock material may vary across the foundation footprint. The entire footing shall bear on leveled, competent rock or bear on a layer of lean concrete (2000 psi) placed in direct contact with competent rock
23. This mat design assumes an ultimate bearing capacity of 21546 psf (allowable bearing capacity of 10773 psf) based on the geotechnical report. The bearing surface shall be inspected prior to concrete placement.
24. During placement, concrete shall be suitably consolidated. Proper curing methods shall be used directly following concrete placement as established by the contractor. Concrete shall develop a minimum compressive strength of 3000 psi prior to backfill and compaction operations, and backfill shall be compacted to a minimum moist unit weight of 110 pcf.

REV	BY	DATE	DESCRIPTION
1	DF	2/24/2025	Revised foundation per ECO 7883

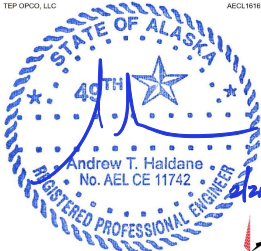
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ORIG. DATE: 12/21/2024
DWG. PROG: v2.05

DWG NO: 773614
SHEET: 2 OF 2

TEP OPCO, LLC

AECL1616



Andrew T. Haldane
No. AEL CE 11742
REGISTERED PROFESSIONAL ENGINEER



TITLE:
Atlas Tower
NSX 12.5' X 125.9'

Talkeetna - Brown
Matanuska-Susitna
Borough, AK


N E L L O

1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

Site 277 – Talkeetna Noel
Wien – RAD Analysis

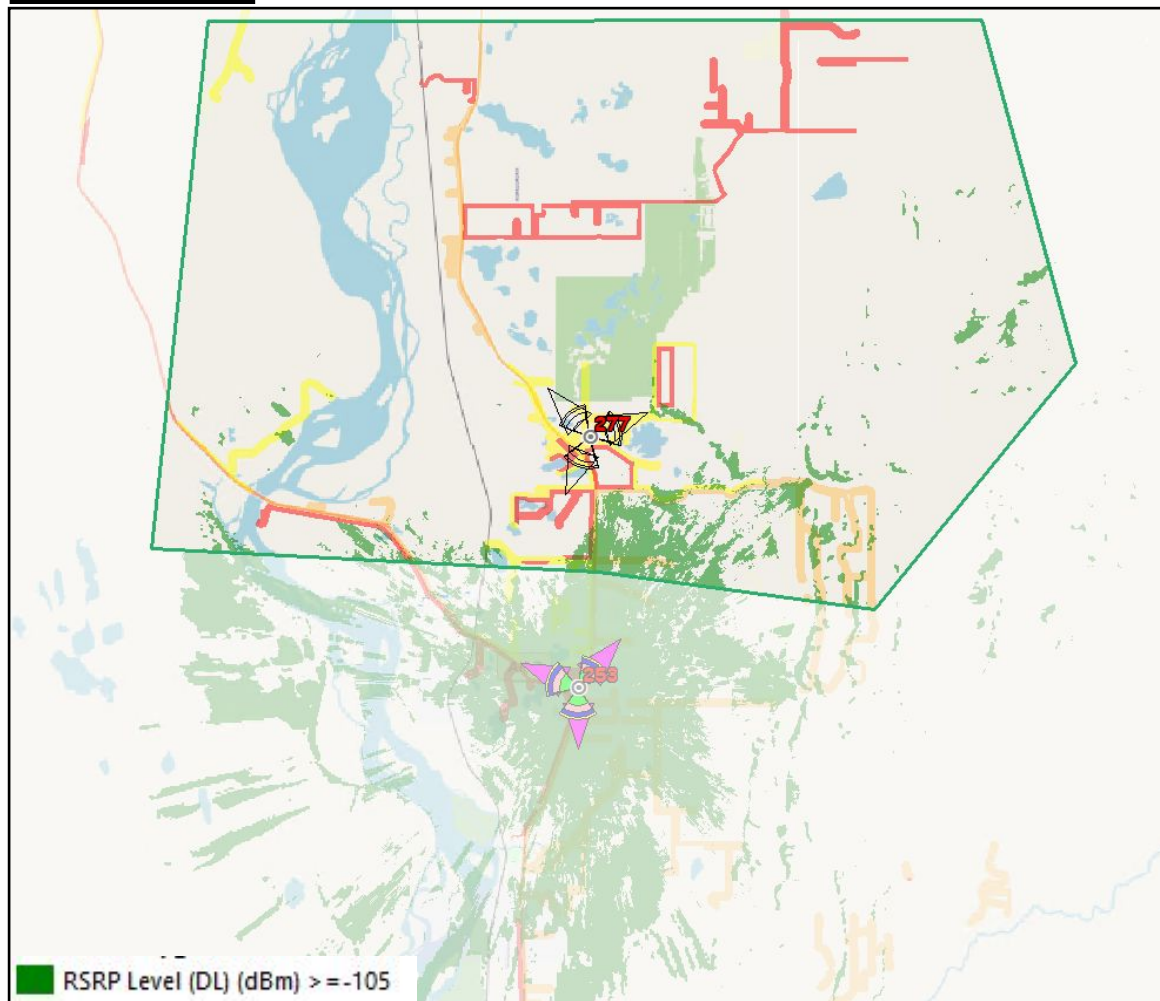
Wireless Site ID = 277

Talkeetna

Azimuth 70/200/320

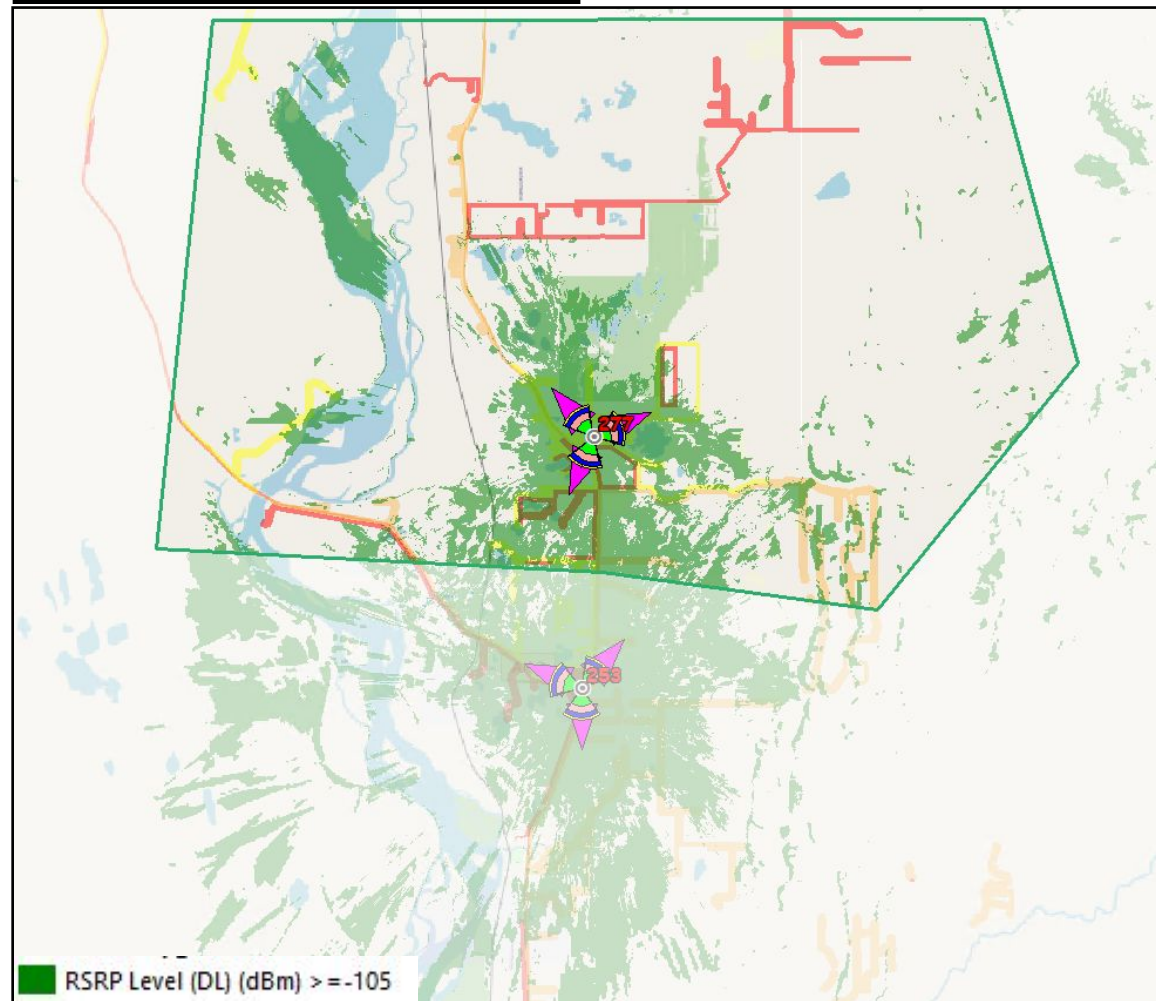
RAD Analysis for Zoning

Site 253 Only



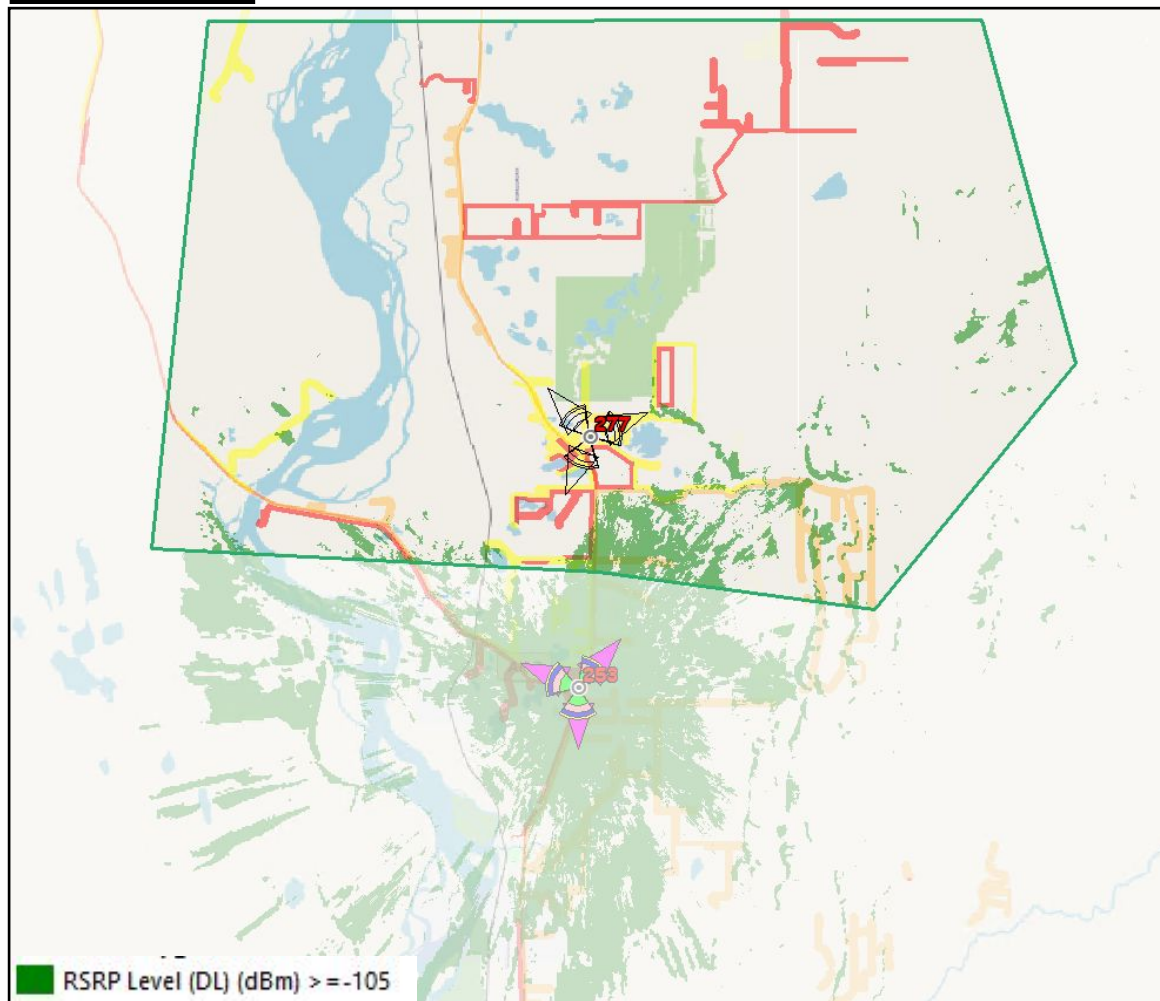
Legend	Zone Surface (mi ²)	Population (Population)	Population (%Population)	Population (Population [total])
	90.4887	39.18	7.18	545.61
RSRP Level (DL) (dBm) ≥ -105		39.18	7.18	545.61

Site 253 + 277 Talkeetna 120' RAD



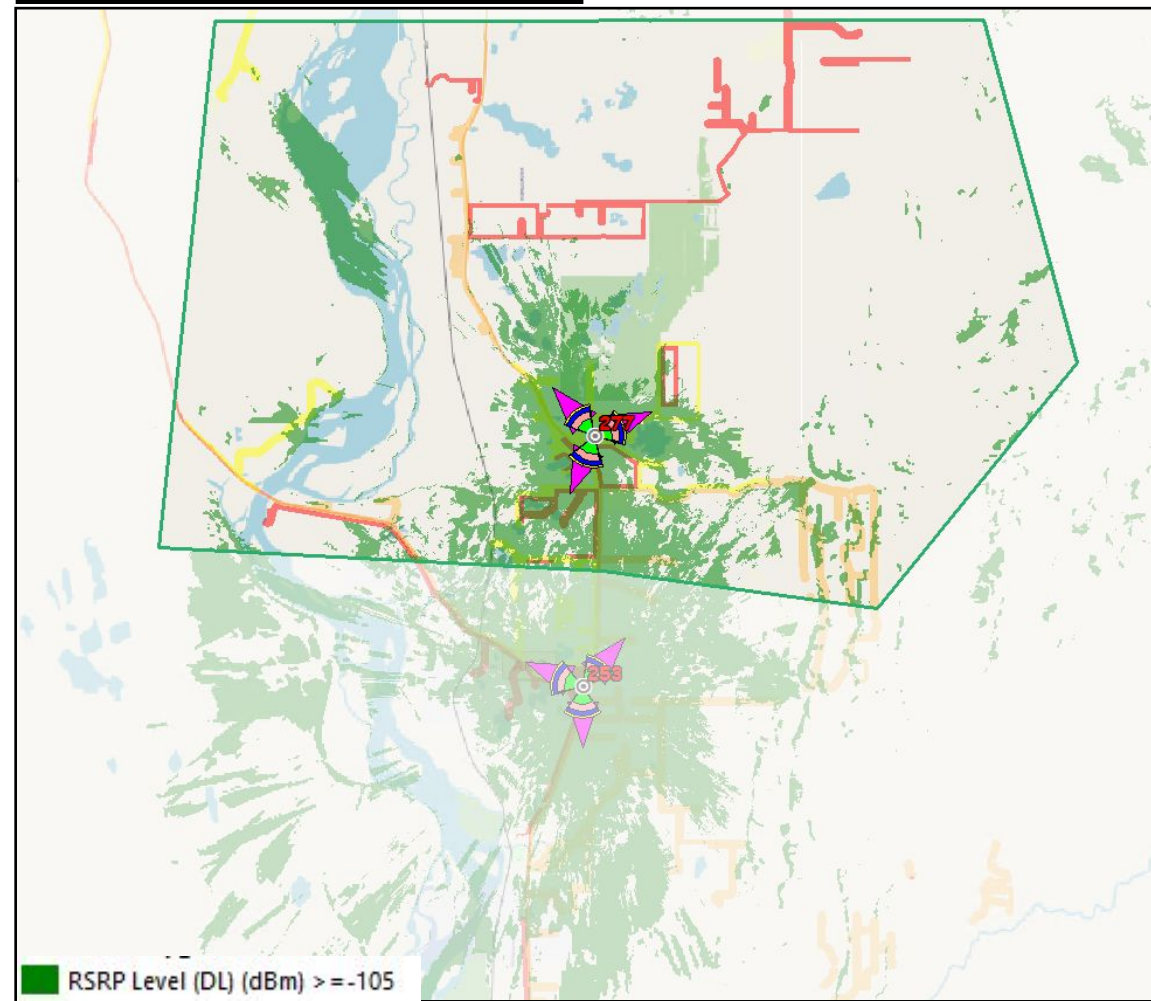
Legend	Zone Surface (mi ²)	Population (Population)	Population (%Population)	Population (Population [total])
	90.4887	264.83	48.54	545.61
RSRP Level (DL) (dBm) ≥ -105		264.83	48.54	545.61

Site 253 Only



Legend	Zone Surface (mi ²)	Population (Population)	Population (%Population)	Population (Population [total])
	90.4887	39.18	7.18	545.61
RSRP Level (DL) (dBm) ≥ -105		39.18	7.18	545.61

Site 253 + 277 Talkeetna 110' RAD



Legend	Zone Surface (mi ²)	Population (Population)	Population (%Population)	Population (Population [total])
	90.4887	256.19	46.95	545.61
RSRP Level (DL) (dBm) ≥ -105		256.19	46.95	545.61

Conclusion

The goal is to know the coverage and POPs gained with different RAD centers for the antennas for the site Talkeetna, better results observed at 120’:

- 277 – Talkeetna at 120’ RAD □ 225.83 POPs covered
- 277 – Talkeetna at 110’ RAD □ 217.01 POPs covered
- Below 110’, for every 10’ of reduction, we are losing around 10% of our target population.

Legend	Population (Population)	Population (%Population)	Population (Population [total])	RAD Center [ft]	Antenna
RSRP Level (DL) (dBm) >= -105	264.83 (225.65 Gained)	48.54	545.61	120	3 - Panel 70, 200, 320
RSRP Level (DL) (dBm) >= -105	256.19 (217.01 Gained)	46.95	545.61	110	3 - Panel 70, 200, 320





**UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
ANTENNA STRUCTURE REGISTRATION**



OWNER: Atlas Tower 1- LLC

FCC Registration Number (FRN): 0025718495

ATTN: Cornelius Whitehead Atlas Tower 1- LLC 3002 Bluff St, Ste 300 Boulder, CO 80301	Antenna Structure Registration Number 1329903		
	Issue Date 04/24/2026		
Location of Antenna Structure 33693 S Noel Wien Ave Talkeetna, AK 99676-9702 County: MATANUSKA-SUSITNA	Ground Elevation (AMSL) 125.5 meters		
	Overall Height Above Ground (AGL) 39.3 meters		
Latitude 62- 11- 16.2 N	Longitude 150- 01- 53.5 W	NAD83	Overall Height Above Mean Sea Level (AMSL) 164.8 meters
Center of Array Coordinates N/A			Type of Structure LTOWER Lattice Tower
Painting and Lighting Requirements: FAA Chapters NONE			
Conditions:			

This registration is effective upon completion of the described antenna structure and notification to the Commission. **YOU MUST NOTIFY THE COMMISSION WITHIN 5 DAYS OF COMPLETION OF CONSTRUCTION OR CANCELLATION OF YOUR PROJECT, please file FCC Form 854.** To file electronically, connect to the antenna structure registration system by pointing your web browser to <https://www.fcc.gov/antenna-structure-registration>. Electronic filing is required. Use purpose code "NT" for notification of completion of construction; use purpose code "CA" to cancel your registration.

The Antenna Structure Registration is not an authorization to construct radio facilities or transmit radio signals. It is necessary that all radio equipment on this structure be covered by a valid FCC license or construction permit.

You must immediately provide a copy of this Registration to all tenant licensees and permittees sited on the structure described on this Registration (although not required, you may want to use Certified Mail to obtain proof of receipt), and *display* your Registration Number at the site. See reverse for important information about the Commission's Antenna Structure Registration rules.

You must comply with all applicable FCC obstruction marking and lighting requirements, as set forth in Part 17 of the Commission's Rules (47 C.F.R. Part 17). These rules include, but are not limited to:

- **Posting the Registration Number:** The Antenna Structure Registration Number must be displayed in a conspicuous place so that it is readily visible near the base of the antenna structure. Materials used to display the Registration Number must be weather-resistant and of sufficient size to be easily seen at the base of the antenna structure. Exceptions exist for certain historic structures. See 47 C.F.R. 17.4(g)-(h).
- **Inspecting lights and equipment:** The obstruction lighting must be observed at least every 24 hours in order to detect any outages or malfunctions. Lighting equipment, indicators, and associated devices must be inspected at least once every three months.
- **Reporting outages and malfunctions:** When any top steady-burning light or a flashing light (in any position) burns out or malfunctions, the outage must be reported to the nearest FAA Flight Service Station, unless corrected within 30 minutes. The FAA must again be notified when the light is restored. The owner must also maintain a log of these outages and malfunctions.
- **Maintaining assigned painting:** The antenna structure must be repainted as often as necessary to maintain good visibility.
- **Complying with environmental rules:** If you certified that grant of this registration would not have a significant environmental impact, you must nevertheless maintain all pertinent records and be ready to provide documentation supporting this certification and compliance with the rules, in the event that such information is requested by the Commission pursuant to 47 C.F.R. 1.1307(d).
- **Updating information:** The owner must notify the FCC of proposed modifications to this structure; of any change in ownership; or, within 30 days of dismantlement of the structure.

Copies of the Code of Federal Regulations (which contain the FCC's antenna structure registration rules, 47 C.F.R Part 17) are available from the Government Printing Office (GPO). To purchase CFR volumes, call (202) 512-1800. For GPO Customer Service, call (202) 512-1803. For additional FCC information, consult the Antenna Homepage on the internet at <https://www.fcc.gov/antenna-structure-registration> or call (877) 480-3201 (TTY 717-338-2824).



N E L L O

Design Supporting Calculations

Sales Order: SO32729
Drawing Number(s)
Tower: 773613
Foundation: 773614
Order Description: NSX 12.5' x 125.9'
Site Name: Talkeetna - Brown
Location: Matanuska-Susitna Borough, AK

Prepared For:
Customer: Atlas Tower
Contact: Corey Bonner
Date: 2/24/2025

TEP OPGO, LLC

AECL1616



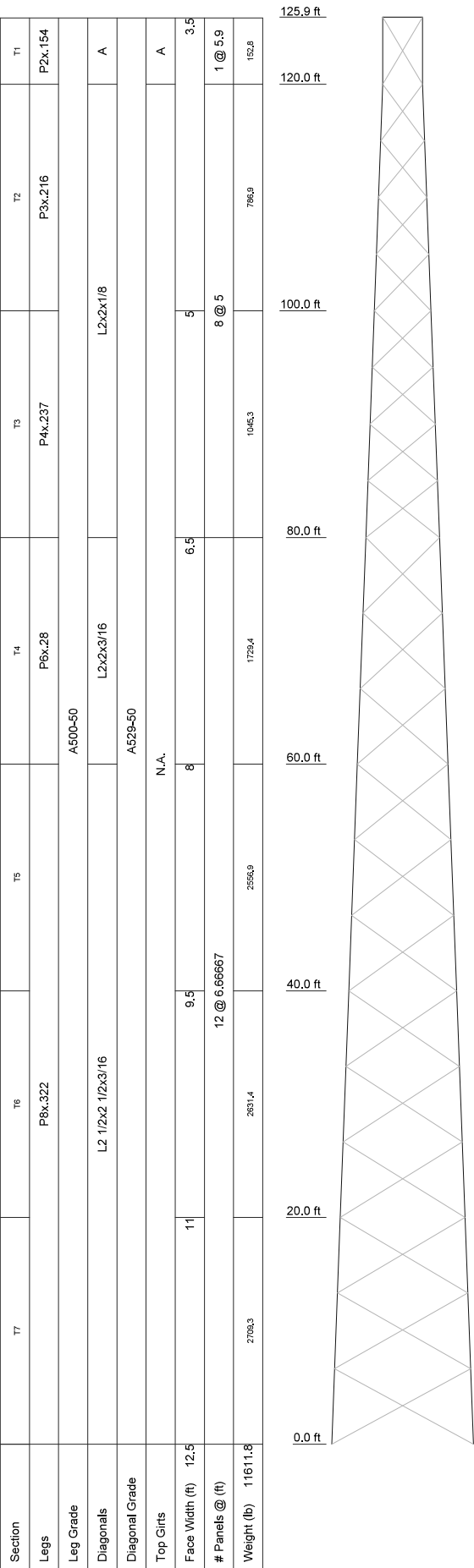
Table of Contents

Tower Analysis - Short form

Tower Analysis - Long form

Foundation Analysis

Seismic Analysis



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
H7	125.9	6' Solid w/Radome	90
30,000 sq in CaAa	120	Dish Pipe Mount	90
H6	110	H4	70
30,000 sq in CaAa	110	H3	50
6' Solid w/Radome	100	H2	30
Dish Pipe Mount	100	H1	10
H5	90		

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L1 3/4x1 3/4x1/8		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A500-50	50 ksi	62 ksi	A529-50	50 ksi	65 ksi

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-H Standard.
2. Tower designed for a 115 mph ultimate wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 60 mph basic wind with 0.50 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 77.4%



ALL REACTIONS
ARE FACTORED

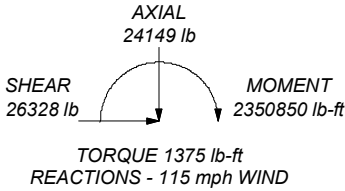
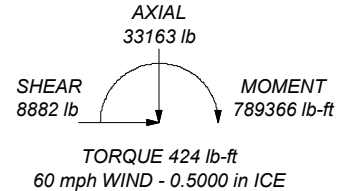
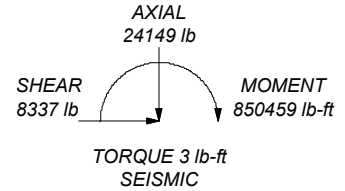
MAX. CORNER REACTIONS AT BASE:

DOWN: 225211 lb

SHEAR: 16872 lb

UPLIFT: -205079 lb

SHEAR: 15623 lb



Nello Corporation

1201 S. Sheridan Street
South Bend, IN. 46619
Phone: 800-806-3556
FAX:

Job: **SO32729; Tower 773613; Foundation 773614**

Project: NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Drawn by: AG	App'd:
Client: Atlas Tower	Date: 02/21/25	Scale: NTS
Code: TIA-222-H	Path: N:\eri\7736\773613.eri	Dwg No. E-1

<i>tnxTower</i> <i>Nello Corporation</i> <i>1201 S. Sheridan Street</i> <i>South Bend, IN. 46619</i> <i>Phone: 800-806-3556</i> <i>FAX:</i>	Job SO32729; Tower 773613; Foundation 773614	Page 1 of 47
	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date 11:34:28 02/21/25
	Client Atlas Tower	Designed by AG

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 125.90 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 3.50 ft at the top and 12.50 ft at the base.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

Tower base elevation above sea level: 0.00 ft.

Ultimate wind speed of 115 mph.

Risk Category II.

Exposure Category C.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1.

Crest Height: 0.00 ft.

Nominal ice thickness of 0.5000 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 60 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

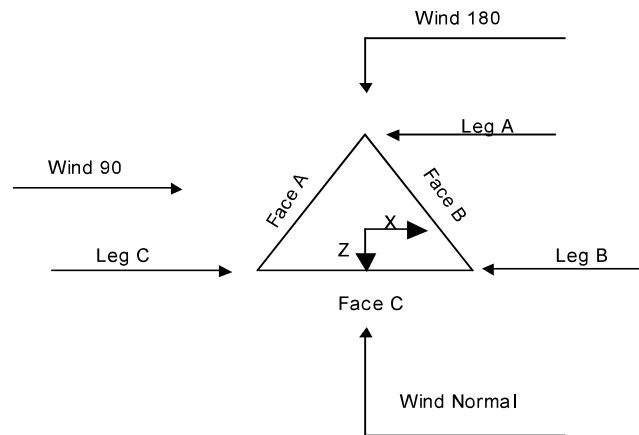
Stress ratio used in tower member design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

tnxTower Nello Corporation 1201 S. Sheridan Street South Bend, IN. 46619 Phone: 800-806-3556 FAX:	Job SO32729; Tower 773613; Foundation 773614	Page 2 of 47
	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date 11:34:28 02/21/25
	Client Atlas Tower	Designed by AG



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	<i>ft</i>			<i>ft</i>		<i>ft</i>
T1	125.90-120.00			3.50	1	5.90
T2	120.00-100.00			3.50	1	20.00
T3	100.00-80.00			5.00	1	20.00
T4	80.00-60.00			6.50	1	20.00
T5	60.00-40.00			8.00	1	20.00
T6	40.00-20.00			9.50	1	20.00
T7	20.00-0.00			11.00	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
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T1	125.90-120.00	5.90	X Brace	No	No	0.0000	0.0000
T2	120.00-100.00	5.00	X Brace	No	No	0.0000	0.0000
T3	100.00-80.00	5.00	X Brace	No	No	0.0000	0.0000
T4	80.00-60.00	6.67	X Brace	No	No	0.0000	0.0000
T5	60.00-40.00	6.67	X Brace	No	No	0.0000	0.0000
T6	40.00-20.00	6.67	X Brace	No	No	0.0000	0.0000
T7	20.00-0.00	6.67	X Brace	No	No	0.0000	0.0000

<i>tnxTower</i> <i>Nello Corporation</i> <i>1201 S. Sheridan Street</i> <i>South Bend, IN. 46619</i> <i>Phone: 800-806-3556</i> <i>FAX:</i>	Job SO32729; Tower 773613; Foundation 773614	Page 3 of 47
	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date 11:34:28 02/21/25
	Client Atlas Tower	Designed by AG

Tower Section Geometry (cont'd)

<i>Tower Elevation ft</i>	<i>Leg Type</i>	<i>Leg Size</i>	<i>Leg Grade</i>	<i>Diagonal Type</i>	<i>Diagonal Size</i>	<i>Diagonal Grade</i>
T1 125.90-120.00	Pipe	P2x.154	A500-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x1/8	A529-50 (50 ksi)
T2 120.00-100.00	Pipe	P3x.216	A500-50 (50 ksi)	Equal Angle	L2x2x1/8	A529-50 (50 ksi)
T3 100.00-80.00	Pipe	P4x.237	A500-50 (50 ksi)	Equal Angle	L2x2x1/8	A529-50 (50 ksi)
T4 80.00-60.00	Pipe	P6x.28	A500-50 (50 ksi)	Equal Angle	L2x2x3/16	A529-50 (50 ksi)
T5 60.00-40.00	Pipe	P8x.322	A500-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A529-50 (50 ksi)
T6 40.00-20.00	Pipe	P8x.322	A500-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A529-50 (50 ksi)
T7 20.00-0.00	Pipe	P8x.322	A500-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A529-50 (50 ksi)

Tower Section Geometry (cont'd)

<i>Tower Elevation ft</i>	<i>Top Girt Type</i>	<i>Top Girt Size</i>	<i>Top Girt Grade</i>	<i>Bottom Girt Type</i>	<i>Bottom Girt Size</i>	<i>Bottom Girt Grade</i>
T1 125.90-120.00	Equal Angle	L1 3/4x1 3/4x1/8	A529-50 (50 ksi)	Solid Round		A529-50 (50 ksi)

Tower Section Geometry (cont'd)

<i>Tower Elevation ft</i>	<i>Gusset Area (per face) ft²</i>	<i>Gusset Thickness in</i>	<i>Gusset Grade</i>	<i>Adjust. Factor A_f</i>	<i>Adjust. Factor A_r</i>	<i>Weight Mult.</i>	<i>Double Angle Stitch Bolt Spacing Diagonals in</i>	<i>Double Angle Stitch Bolt Spacing Horizontal in</i>	<i>Double Angle Stitch Bolt Spacing Redundants in</i>
T1 125.90-120.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T2 120.00-100.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T3 100.00-80.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T4 80.00-60.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T5 60.00-40.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T6 40.00-20.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T7 20.00-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000

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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
T3 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
T4 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
T5 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
T6 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
T7 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

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
LDF7-50A (1-5/8 FOAM)	C	No	No	Ar (CaAa)	120.00 - 0.00	4	2	0.2700 0.0000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	B	No	No	Ar (CaAa)	110.00 - 0.00	4	2	0.2700 0.0000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	A	No	No	Ar (CaAa)	100.00 - 0.00	1	1	0.2700 0.0000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	C	No	No	Ar (CaAa)	90.00 - 0.00	1	1	0.2700 0.0000	1.9800		0.82

Feed Line/Linear Appurtenances Section Areas

Tower Section	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 lb
T1	125.90-120.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
T2	120.00-100.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	7.920	0.000	32.80
		C	0.000	0.000	15.840	0.000	65.60
T3	100.00-80.00	A	0.000	0.000	3.960	0.000	16.40
		B	0.000	0.000	15.840	0.000	65.60
		C	0.000	0.000	17.820	0.000	73.80
T4	80.00-60.00	A	0.000	0.000	3.960	0.000	16.40
		B	0.000	0.000	15.840	0.000	65.60
		C	0.000	0.000	19.800	0.000	82.00
T5	60.00-40.00	A	0.000	0.000	3.960	0.000	16.40
		B	0.000	0.000	15.840	0.000	65.60
		C	0.000	0.000	19.800	0.000	82.00
T6	40.00-20.00	A	0.000	0.000	3.960	0.000	16.40
		B	0.000	0.000	15.840	0.000	65.60
		C	0.000	0.000	19.800	0.000	82.00
T7	20.00-0.00	A	0.000	0.000	3.960	0.000	16.40
		B	0.000	0.000	15.840	0.000	65.60
		C	0.000	0.000	19.800	0.000	82.00

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Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	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 lb
T1	125.90-120.00	A	0.570	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
T2	120.00-100.00	A	0.564	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	9.236	0.000	82.86
		C		0.000	0.000	18.472	0.000	165.71
T3	100.00-80.00	A	0.553	0.000	0.000	6.171	0.000	50.61
		B		0.000	0.000	18.393	0.000	164.13
		C		0.000	0.000	21.478	0.000	189.43
T4	80.00-60.00	A	0.539	0.000	0.000	6.116	0.000	49.58
		B		0.000	0.000	18.296	0.000	162.20
		C		0.000	0.000	24.412	0.000	211.78
T5	60.00-40.00	A	0.521	0.000	0.000	6.045	0.000	48.25
		B		0.000	0.000	18.170	0.000	159.70
		C		0.000	0.000	24.215	0.000	207.95
T6	40.00-20.00	A	0.495	0.000	0.000	5.941	0.000	46.35
		B		0.000	0.000	17.986	0.000	156.09
		C		0.000	0.000	23.927	0.000	202.44
T7	20.00-0.00	A	0.444	0.000	0.000	5.735	0.000	42.68
		B		0.000	0.000	17.622	0.000	149.02
		C		0.000	0.000	23.357	0.000	191.70

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	125.90-120.00	0.0000	0.0000	0.0000	0.0000
T2	120.00-100.00	0.9984	1.6252	1.0388	1.6705
T3	100.00-80.00	1.1568	1.0916	1.0185	1.1126
T4	80.00-60.00	1.2930	1.6686	1.0907	1.7161
T5	60.00-40.00	1.2678	1.6551	1.0782	1.7077
T6	40.00-20.00	1.3826	1.8222	1.1732	1.8598
T7	20.00-0.00	1.4749	1.9588	1.2615	1.9813

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T2	1	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.6000
T2	2	LDF7-50A (1-5/8 FOAM)	100.00 - 110.00	0.6000	0.6000
T3	1	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.6000
T3	2	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.6000
T3	3	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.6000
T3	4	LDF7-50A (1-5/8 FOAM)	80.00 - 90.00	0.6000	0.6000

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T4	1	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T4	2	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T4	3	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T4	4	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T5	1	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T5	2	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T5	3	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T5	4	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T6	1	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T6	2	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T6	3	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T6	4	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T7	1	LDF7-50A (1-5/8 FOAM)	0.00 - 20.00	0.6000	0.6000
T7	2	LDF7-50A (1-5/8 FOAM)	0.00 - 20.00	0.6000	0.6000
T7	3	LDF7-50A (1-5/8 FOAM)	0.00 - 20.00	0.6000	0.6000
T7	4	LDF7-50A (1-5/8 FOAM)	0.00 - 20.00	0.6000	0.6000

User Defined Loads - Seismic

Description	Elevation	Offset From Centroid	Azimuth Angle	E_v	E_{hx}	E_{hz}	E_h
	ft	ft	°	lb	lb	lb	lb
H1	10.00	0.00	0.0000	0.00	0.00	0.00	134.80
H2	30.00	0.00	0.0000	0.00	0.00	0.00	197.10
H3	50.00	0.00	0.0000	0.00	0.00	0.00	324.60
H4	70.00	0.00	0.0000	0.00	0.00	0.00	350.20
H5	90.00	0.00	0.0000	0.00	0.00	0.00	564.70
H6	110.00	0.00	0.0000	0.00	0.00	0.00	6608.00
H7	125.90	0.00	0.0000	0.00	0.00	0.00	157.80

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral	Azimuth Adjustment	Placement	$C_A A_A$ Front	$C_A A_A$ Side	Weight
			Vert ft ft ft	°	ft	ft ²	ft ²	lb
30,000 sq in CaAa	C	None		0.0000	120.00	No Ice 1/2" Ice	208.00 250.00	3536.00 4738.00
30,000 sq in CaAa	B	None		0.0000	110.00	No Ice 1/2" Ice	208.00 250.00	3536.00 4738.00
Dish Pipe Mount	A	From Leg	0.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.00 2.10	103.00 119.00
Dish Pipe Mount	C	From Leg	0.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice	0.00 2.10	103.00 119.00

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Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft²	Weight lb	
6' Solid w/Radome	A	Paraboloid w/Radome	From Leg	0.00	0.0000		100.00	6.00	No Ice	28.27	162.00
				0.00					1/2" Ice	29.07	321.00
				0.00							
6' Solid w/Radome	C	Paraboloid w/Radome	From Leg	0.00	0.0000		90.00	6.00	No Ice	28.27	162.00
				0.00					1/2" Ice	29.07	321.00
				0.00							

Tower Pressures - No Ice

$$G_H = 0.850$$

Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
T1 125.90-120.00	122.95	1.322	38	21.818	A	2.369	2.335	2.335	49.64	0.000	0.000
					B	2.369	2.335		49.64	0.000	0.000
					C	2.369	2.335		49.64	0.000	0.000
T2 120.00-100.00	110.00	1.291	37	90.837	A	8.157	11.678	11.678	58.88	0.000	0.000
					B	8.157	11.678		58.88	7.920	0.000
					C	8.157	11.678		58.88	15.840	0.000
T3 100.00-80.00	90.00	1.238	36	122.505	A	9.503	15.014	15.014	61.24	3.960	0.000
					B	9.503	15.014		61.24	15.840	0.000
					C	9.503	15.014		61.24	17.820	0.000
T4 80.00-60.00	70.00	1.174	34	156.049	A	9.103	22.104	22.104	70.83	3.960	0.000
					B	9.103	22.104		70.83	15.840	0.000
					C	9.103	22.104		70.83	19.800	0.000
T5 60.00-40.00	50.00	1.094	31	189.385	A	12.624	28.777	28.777	69.51	3.960	0.000
					B	12.624	28.777		69.51	15.840	0.000
					C	12.624	28.777		69.51	19.800	0.000
T6 40.00-20.00	30.00	0.982	28	219.385	A	14.215	28.777	28.777	66.94	3.960	0.000
					B	14.215	28.777		66.94	15.840	0.000
					C	14.215	28.777		66.94	19.800	0.000
T7 20.00-0.00	10.00	0.85	24	249.385	A	15.856	28.777	28.777	64.47	3.960	0.000
					B	15.856	28.777		64.47	15.840	0.000
					C	15.856	28.777		64.47	19.800	0.000

Tower Pressure - With Ice

$$G_H = 0.850$$

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Section Elevation	z	K _Z	q _z	t _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
ft	ft		psf	in	ft ²		ft ²	ft ²	ft ²			
T1 125.90-120.00	122.95	1.322	10	0.5703	22.378	A	2.369	5.001	3.457	46.90	0.000	0.000
						B	2.369	5.001		46.90	0.000	0.000
						C	2.369	5.001		46.90	0.000	0.000
T2 120.00-100.00	110.00	1.291	10	0.5640	92.719	A	8.157	20.041	15.441	54.76	0.000	0.000
						B	8.157	20.041		54.76	9.236	0.000
						C	8.157	20.041		54.76	18.472	0.000
T3 100.00-80.00	90.00	1.238	10	0.5528	124.349	A	9.503	23.956	18.703	55.90	6.171	0.000
						B	9.503	23.956		55.90	18.393	0.000
						C	9.503	23.956		55.90	21.478	0.000
T4 80.00-60.00	70.00	1.174	9	0.5390	157.848	A	9.103	30.608	25.701	64.72	6.116	0.000
						B	9.103	30.608		64.72	18.296	0.000
						C	9.103	30.608		64.72	24.412	0.000
T5 60.00-40.00	50.00	1.094	9	0.5212	191.124	A	12.624	37.519	32.255	64.33	6.045	0.000
						B	12.624	37.519		64.33	18.170	0.000
						C	12.624	37.519		64.33	24.215	0.000
T6 40.00-20.00	30.00	0.982	8	0.4953	221.037	A	14.215	37.714	32.082	61.78	5.941	0.000
						B	14.215	37.714		61.78	17.986	0.000
						C	14.215	37.714		61.78	23.927	0.000
T7 20.00-0.00	10.00	0.85	7	0.4437	250.865	A	15.856	37.367	31.738	59.63	5.735	0.000
						B	15.856	37.367		59.63	17.622	0.000
						C	15.856	37.367		59.63	23.357	0.000

Tower Pressure - Service

$$G_H = 0.850$$

Section Elevation	z	K _Z	q _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
ft	ft		psf	ft ²		ft ²	ft ²	ft ²			
T1 125.90-120.00	122.95	1.322	10	21.818	A	2.369	2.335	2.335	49.64	0.000	0.000
					B	2.369	2.335		49.64	0.000	0.000
					C	2.369	2.335		49.64	0.000	0.000
T2 120.00-100.00	110.00	1.291	10	90.837	A	8.157	11.678	11.678	58.88	0.000	0.000
					B	8.157	11.678		58.88	7.920	0.000
					C	8.157	11.678		58.88	15.840	0.000
T3 100.00-80.00	90.00	1.238	10	122.505	A	9.503	15.014	15.014	61.24	3.960	0.000
					B	9.503	15.014		61.24	15.840	0.000
					C	9.503	15.014		61.24	17.820	0.000
T4 80.00-60.00	70.00	1.174	9	156.049	A	9.103	22.104	22.104	70.83	3.960	0.000
					B	9.103	22.104		70.83	15.840	0.000
					C	9.103	22.104		70.83	19.800	0.000
T5 60.00-40.00	50.00	1.094	9	189.385	A	12.624	28.777	28.777	69.51	3.960	0.000
					B	12.624	28.777		69.51	15.840	0.000
					C	12.624	28.777		69.51	19.800	0.000
T6 40.00-20.00	30.00	0.982	8	219.385	A	14.215	28.777	28.777	66.94	3.960	0.000
					B	14.215	28.777		66.94	15.840	0.000
					C	14.215	28.777		66.94	19.800	0.000
T7 20.00-0.00	10.00	0.85	7	249.385	A	15.856	28.777	28.777	64.47	3.960	0.000
					B	15.856	28.777		64.47	15.840	0.000
					C	15.856	28.777		64.47	19.800	0.000

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	Client Atlas Tower	Designed by AG

Tower Forces - No Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
T1 125.90-120.00	0.00	152.77	A	0.216	2.545	38	1	1	3.718	305.89	51.85	C
			B	0.216	2.545		1	1	3.718			
			C	0.216	2.545		1	1	3.718			
T2 120.00-100.00	98.40	786.87	A	0.218	2.536	37	1	1	14.906	1489.71	74.49	C
			B	0.218	2.536		1	1	14.906			
			C	0.218	2.536		1	1	14.906			
T3 100.00-80.00	155.80	1045.32	A	0.2	2.596	36	1	1	17.684	1872.75	93.64	C
			B	0.2	2.596		1	1	17.684			
			C	0.2	2.596		1	1	17.684			
T4 80.00-60.00	164.00	1729.37	A	0.2	2.596	34	1	1	19.627	1955.52	97.78	C
			B	0.2	2.596		1	1	19.627			
			C	0.2	2.596		1	1	19.627			
T5 60.00-40.00	164.00	2556.85	A	0.219	2.535	31	1	1	25.764	2205.97	110.30	C
			B	0.219	2.535		1	1	25.764			
			C	0.219	2.535		1	1	25.764			
T6 40.00-20.00	164.00	2631.37	A	0.196	2.61	28	1	1	26.977	2103.19	105.16	C
			B	0.196	2.61		1	1	26.977			
			C	0.196	2.61		1	1	26.977			
T7 20.00-0.00	164.00	2709.25	A	0.179	2.668	24	1	1	28.527	1938.64	96.93	C
			B	0.179	2.668		1	1	28.527			
			C	0.179	2.668		1	1	28.527			
Sum Weight:	910.20	11611.80						OTM	699691.42 lb-ft	11871.66		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
T1 125.90-120.00	0.00	152.77	A	0.216	2.545	38	0.8	1	3.244	266.90	45.24	C
			B	0.216	2.545		0.8	1	3.244			
			C	0.216	2.545		0.8	1	3.244			
T2 120.00-100.00	98.40	786.87	A	0.218	2.536	37	0.8	1	13.274	1359.04	67.95	A
			B	0.218	2.536		0.8	1	13.274			
			C	0.218	2.536		0.8	1	13.274			
T3 100.00-80.00	155.80	1045.32	A	0.2	2.596	36	0.8	1	15.783	1723.38	86.17	C
			B	0.2	2.596		0.8	1	15.783			
			C	0.2	2.596		0.8	1	15.783			
T4 80.00-60.00	164.00	1729.37	A	0.2	2.596	34	0.8	1	17.807	1819.79	90.99	C
			B	0.2	2.596		0.8	1	17.807			
			C	0.2	2.596		0.8	1	17.807			
T5 60.00-40.00	164.00	2556.85	A	0.219	2.535	31	0.8	1	23.239	2034.72	101.74	C
			B	0.219	2.535		0.8	1	23.239			
			C	0.219	2.535		0.8	1	23.239			
T6 40.00-20.00	164.00	2631.37	A	0.196	2.61	28	0.8	1	24.134	1924.93	96.25	C
			B	0.196	2.61		0.8	1	24.134			
			C	0.196	2.61		0.8	1	24.134			
T7 20.00-0.00	164.00	2709.25	A	0.179	2.668	24	0.8	1	25.356	1762.74	88.14	C
			B	0.179	2.668		0.8	1	25.356			
			C	0.179	2.668		0.8	1	25.356			

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	SO32729; Tower 773613; Foundation 773614	11 of 47
	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date 11:34:28 02/21/25
	Client Atlas Tower	Designed by AG

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
Sum Weight:	910.20	11611.80						OTM	641910.97 lb-ft	10891.50		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
T1 125.90-120.00	0.00	152.77	A	0.216	2.545	38	0.85	1	3.362	276.65	46.89	C
			B	0.216	2.545		0.85	1	3.362			
			C	0.216	2.545		0.85	1	3.362			
T2 120.00-100.00	98.40	786.87	A	0.218	2.536	37	0.85	1	13.682	1391.71	69.59	A
			B	0.218	2.536		0.85	1	13.682			
			C	0.218	2.536		0.85	1	13.682			
T3 100.00-80.00	155.80	1045.32	A	0.2	2.596	36	0.85	1	16.258	1763.79	88.19	A
			B	0.2	2.596		0.85	1	16.258			
			C	0.2	2.596		0.85	1	16.258			
T4 80.00-60.00	164.00	1729.37	A	0.2	2.596	34	0.85	1	18.262	1856.63	92.83	A
			B	0.2	2.596		0.85	1	18.262			
			C	0.2	2.596		0.85	1	18.262			
T5 60.00-40.00	164.00	2556.85	A	0.219	2.535	31	0.85	1	23.871	2080.24	104.01	A
			B	0.219	2.535		0.85	1	23.871			
			C	0.219	2.535		0.85	1	23.871			
T6 40.00-20.00	164.00	2631.37	A	0.196	2.61	28	0.85	1	24.844	1971.93	98.60	A
			B	0.196	2.61		0.85	1	24.844			
			C	0.196	2.61		0.85	1	24.844			
T7 20.00-0.00	164.00	2709.25	A	0.179	2.668	24	0.85	1	26.148	1808.82	90.44	A
			B	0.179	2.668		0.85	1	26.148			
			C	0.179	2.668		0.85	1	26.148			
Sum Weight:	910.20	11611.80						OTM	657065.03 lb-ft	11149.76		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
T1 125.90-120.00	0.00	298.69	A	0.329	2.221	10	1	1	5.413	105.81	17.93	C
			B	0.329	2.221		1	1	5.413			
			C	0.329	2.221		1	1	5.413			
T2 120.00-100.00	248.57	1323.65	A	0.304	2.285	10	1	1	20.186	498.94	24.95	C
			B	0.304	2.285		1	1	20.186			
			C	0.304	2.285		1	1	20.186			
T3 100.00-80.00	404.17	1668.16	A	0.269	2.382	10	1	1	23.635	639.14	31.96	C
			B	0.269	2.382		1	1	23.635			
			C	0.269	2.382		1	1	23.635			
T4	423.55	2406.08	A	0.252	2.433	9	1	1	27.020	693.38	34.67	C

tnxTower Nello Corporation 1201 S. Sheridan Street South Bend, IN. 46619 Phone: 800-806-3556 FAX:	Job	SO32729; Tower 773613; Foundation 773614	Page	12 of 47
	Project	NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date	11:34:28 02/21/25
	Client	Atlas Tower	Designed by	AG

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
80.00-60.00			B	0.252	2.433		1	1	27.020			
			C	0.252	2.433		1	1	27.020			
T5	415.90	3418.30	A	0.262	2.401	9	1	1	34.691	772.41	38.62	C
60.00-40.00			B	0.262	2.401		1	1	34.691			
			C	0.262	2.401		1	1	34.691			
T6	404.89	3499.69	A	0.235	2.483	8	1	1	36.145	734.17	36.71	C
40.00-20.00			B	0.235	2.483		1	1	36.145			
			C	0.235	2.483		1	1	36.145			
T7 20.00-0.00	383.40	3529.17	A	0.212	2.556	7	1	1	37.406	665.23	33.26	C
			B	0.212	2.556		1	1	37.406			
			C	0.212	2.556		1	1	37.406			
Sum Weight:	2280.49	16143.76						OTM	241249.37 lb-ft	4109.07		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
T1	0.00	298.69	A	0.329	2.221	10	0.8	1	4.939	96.55	16.36	C
125.90-120.00			B	0.329	2.221		0.8	1	4.939			
			C	0.329	2.221		0.8	1	4.939			
T2	248.57	1323.65	A	0.304	2.285	10	0.8	1	18.554	466.89	23.34	A
120.00-100.00			B	0.304	2.285		0.8	1	18.554			
			C	0.304	2.285		0.8	1	18.554			
T3	404.17	1668.16	A	0.269	2.382	10	0.8	1	21.734	601.83	30.09	C
100.00-80.00			B	0.269	2.382		0.8	1	21.734			
			C	0.269	2.382		0.8	1	21.734			
T4	423.55	2406.08	A	0.252	2.433	9	0.8	1	25.200	658.75	32.94	C
80.00-60.00			B	0.252	2.433		0.8	1	25.200			
			C	0.252	2.433		0.8	1	25.200			
T5	415.90	3418.30	A	0.262	2.401	9	0.8	1	32.166	728.26	36.41	C
60.00-40.00			B	0.262	2.401		0.8	1	32.166			
			C	0.262	2.401		0.8	1	32.166			
T6	404.89	3499.69	A	0.235	2.483	8	0.8	1	33.302	687.99	34.40	C
40.00-20.00			B	0.235	2.483		0.8	1	33.302			
			C	0.235	2.483		0.8	1	33.302			
T7 20.00-0.00	383.40	3529.17	A	0.212	2.556	7	0.8	1	34.235	619.36	30.97	C
			B	0.212	2.556		0.8	1	34.235			
			C	0.212	2.556		0.8	1	34.235			
Sum Weight:	2280.49	16143.76						OTM	226751.90 lb-ft	3859.62		

Tower Forces - With Ice - Wind 90 To Face

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	SO32729; Tower 773613; Foundation 773614	13 of 47
	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date 11:34:28 02/21/25
	Client Atlas Tower	Designed by AG

Section Elevation <i>ft</i>	Add Weight <i>lb</i>	Self Weight <i>lb</i>	F a c e	<i>e</i>	C_F	q_z <i>psf</i>	D_F	D_R	A_E <i>ft²</i>	F <i>lb</i>	w <i>plf</i>	Ctrl. Face
T1 125.90-120.00	0.00	298.69	A	0.329	2.221	10	0.85	1	5.058	98.86	16.76	C
			B	0.329	2.221		0.85	1	5.058			
			C	0.329	2.221		0.85	1	5.058			
T2 120.00-100.00	248.57	1323.65	A	0.304	2.285	10	0.85	1	18.962	474.90	23.74	A
			B	0.304	2.285		0.85	1	18.962			
			C	0.304	2.285		0.85	1	18.962			
T3 100.00-80.00	404.17	1668.16	A	0.269	2.382	10	0.85	1	22.209	612.00	30.60	A
			B	0.269	2.382		0.85	1	22.209			
			C	0.269	2.382		0.85	1	22.209			
T4 80.00-60.00	423.55	2406.08	A	0.252	2.433	9	0.85	1	25.655	668.20	33.41	A
			B	0.252	2.433		0.85	1	25.655			
			C	0.252	2.433		0.85	1	25.655			
T5 60.00-40.00	415.90	3418.30	A	0.262	2.401	9	0.85	1	32.797	740.04	37.00	A
			B	0.262	2.401		0.85	1	32.797			
			C	0.262	2.401		0.85	1	32.797			
T6 40.00-20.00	404.89	3499.69	A	0.235	2.483	8	0.85	1	34.012	700.19	35.01	A
			B	0.235	2.483		0.85	1	34.012			
			C	0.235	2.483		0.85	1	34.012			
T7 20.00-0.00	383.40	3529.17	A	0.212	2.556	7	0.85	1	35.028	631.40	31.57	A
			B	0.212	2.556		0.85	1	35.028			
			C	0.212	2.556		0.85	1	35.028			
Sum Weight:	2280.49	16143.76						OTM	230569.25 lb-ft	3925.59		

Tower Forces - Service - Wind Normal To Face

Section Elevation <i>ft</i>	Add Weight <i>lb</i>	Self Weight <i>lb</i>	F a c e	<i>e</i>	C_F	q_z <i>psf</i>	D_F	D_R	A_E <i>ft²</i>	F <i>lb</i>	w <i>plf</i>	Ctrl. Face
T1 125.90-120.00	0.00	152.77	A	0.216	2.545	10	1	1	3.718	83.27	14.11	C
			B	0.216	2.545		1	1	3.718			
			C	0.216	2.545		1	1	3.718			
T2 120.00-100.00	98.40	786.87	A	0.218	2.536	10	1	1	14.906	405.52	20.28	C
			B	0.218	2.536		1	1	14.906			
			C	0.218	2.536		1	1	14.906			
T3 100.00-80.00	155.80	1045.32	A	0.2	2.596	10	1	1	18.129	519.30	25.97	C
			B	0.2	2.596		1	1	18.129			
			C	0.2	2.596		1	1	18.129			
T4 80.00-60.00	164.00	1729.37	A	0.2	2.596	9	1	1	21.801	576.43	28.82	C
			B	0.2	2.596		1	1	21.801			
			C	0.2	2.596		1	1	21.801			
T5 60.00-40.00	164.00	2556.85	A	0.219	2.535	9	1	1	28.711	654.89	32.74	C
			B	0.219	2.535		1	1	28.711			
			C	0.219	2.535		1	1	28.711			
T6 40.00-20.00	164.00	2631.37	A	0.196	2.61	8	1	1	30.367	630.38	31.52	C
			B	0.196	2.61		1	1	30.367			
			C	0.196	2.61		1	1	30.367			
T7 20.00-0.00	164.00	2709.25	A	0.179	2.668	7	1	1	32.214	583.40	29.17	C
			B	0.179	2.668		1	1	32.214			
			C	0.179	2.668		1	1	32.214			
Sum Weight:	910.20	11611.80						OTM	199421.43 lb-ft	3453.18		

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	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date 11:34:28 02/21/25
	Client Atlas Tower	Designed by AG

Tower Forces - Service - Wind 60 To Face

Section Elevation <i>ft</i>	Add Weight <i>lb</i>	Self Weight <i>lb</i>	F a c e	<i>e</i>	C_F	q_z <i>psf</i>	D_F	D_R	A_E <i>ft²</i>	F <i>lb</i>	w <i>plf</i>	Ctrl. Face
T1 125.90-120.00	0.00	152.77	A	0.216	2.545	10	0.8	1	3.244	72.65	12.31	C
			B	0.216	2.545		0.8	1	3.244			
			C	0.216	2.545		0.8	1	3.244			
T2 120.00-100.00	98.40	786.87	A	0.218	2.536	10	0.8	1	13.274	369.95	18.50	A
			B	0.218	2.536		0.8	1	13.274			
			C	0.218	2.536		0.8	1	13.274			
T3 100.00-80.00	155.80	1045.32	A	0.2	2.596	10	0.8	1	16.228	478.64	23.93	C
			B	0.2	2.596		0.8	1	16.228			
			C	0.2	2.596		0.8	1	16.228			
T4 80.00-60.00	164.00	1729.37	A	0.2	2.596	9	0.8	1	19.980	539.48	26.97	C
			B	0.2	2.596		0.8	1	19.980			
			C	0.2	2.596		0.8	1	19.980			
T5 60.00-40.00	164.00	2556.85	A	0.219	2.535	9	0.8	1	26.186	608.27	30.41	C
			B	0.219	2.535		0.8	1	26.186			
			C	0.219	2.535		0.8	1	26.186			
T6 40.00-20.00	164.00	2631.37	A	0.196	2.61	8	0.8	1	27.524	581.86	29.09	C
			B	0.196	2.61		0.8	1	27.524			
			C	0.196	2.61		0.8	1	27.524			
T7 20.00-0.00	164.00	2709.25	A	0.179	2.668	7	0.8	1	29.043	535.52	26.78	C
			B	0.179	2.668		0.8	1	29.043			
			C	0.179	2.668		0.8	1	29.043			
Sum Weight:	910.20	11611.80						OTM	183692.91 lb-ft	3186.37		

Tower Forces - Service - Wind 90 To Face

Section Elevation <i>ft</i>	Add Weight <i>lb</i>	Self Weight <i>lb</i>	F a c e	<i>e</i>	C_F	q_z <i>psf</i>	D_F	D_R	A_E <i>ft²</i>	F <i>lb</i>	w <i>plf</i>	Ctrl. Face
T1 125.90-120.00	0.00	152.77	A	0.216	2.545	10	0.85	1	3.362	75.31	12.76	C
			B	0.216	2.545		0.85	1	3.362			
			C	0.216	2.545		0.85	1	3.362			
T2 120.00-100.00	98.40	786.87	A	0.218	2.536	10	0.85	1	13.682	378.84	18.94	A
			B	0.218	2.536		0.85	1	13.682			
			C	0.218	2.536		0.85	1	13.682			
T3 100.00-80.00	155.80	1045.32	A	0.2	2.596	10	0.85	1	16.703	489.64	24.48	A
			B	0.2	2.596		0.85	1	16.703			
			C	0.2	2.596		0.85	1	16.703			
T4 80.00-60.00	164.00	1729.37	A	0.2	2.596	9	0.85	1	20.436	549.51	27.48	A
			B	0.2	2.596		0.85	1	20.436			
			C	0.2	2.596		0.85	1	20.436			
T5 60.00-40.00	164.00	2556.85	A	0.219	2.535	9	0.85	1	26.817	620.66	31.03	A
			B	0.219	2.535		0.85	1	26.817			
			C	0.219	2.535		0.85	1	26.817			
T6 40.00-20.00	164.00	2631.37	A	0.196	2.61	8	0.85	1	28.235	594.65	29.73	A
			B	0.196	2.61		0.85	1	28.235			
			C	0.196	2.61		0.85	1	28.235			

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	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK Client Atlas Tower	Date 11:34:28 02/21/25 Designed by AG

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
T7 20.00-0.00	164.00	2709.25	A	0.179	2.668	7	0.85	1	29.836	548.06	27.40	A
			B	0.179	2.668		0.85	1	29.836			
			C	0.179	2.668		0.85	1	29.836			
Sum Weight:	910.20	11611.80						OTM	187818.03 lb-ft	3256.67		

Mast Vectors - No Ice

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
T1	125.90-120.00	0	Wind Normal	305.89	0.00	-305.89	-37608.97	0.00	0.00
		30	Wind 90	276.65	138.32	-239.58	-29456.81	-17006.90	0.00
		60	Wind 60	266.90	231.14	-133.45	-16407.71	-28418.98	0.00
		90	Wind 90	276.65	276.65	0.00	0.00	-34013.80	0.00
		120	Wind Normal	305.89	264.91	152.94	18804.48	-32570.32	0.00
		150	Wind 90	276.65	138.32	239.58	29456.81	-17006.90	0.00
		180	Wind 60	266.90	0.00	266.90	32815.41	0.00	0.00
		210	Wind 90	276.65	-138.32	239.58	29456.81	17006.90	0.00
		240	Wind Normal	305.89	-264.91	152.94	18804.48	32570.32	0.00
		270	Wind 90	276.65	-276.65	0.00	0.00	34013.80	0.00
		300	Wind 60	266.90	-231.14	-133.45	-16407.71	28418.98	0.00
		330	Wind 90	276.65	-138.32	-239.58	-29456.81	17006.90	0.00
T2	120.00-100.00	0	Wind Normal	1489.71	0.00	-1489.71	-163801.20	-42.61	123.95
		30	Wind 90	1391.71	695.85	-1205.26	-132511.45	-76586.65	211.21
		60	Wind 60	1354.25	1172.81	-677.12	-74416.85	-129051.91	230.01
		90	Wind 90	1382.12	1382.12	0.00	66.70	-152075.32	187.18
		120	Wind Normal	1480.11	1281.82	740.06	81472.98	-141042.41	106.06
		150	Wind 90	1386.91	693.46	1201.10	132187.88	-76322.81	-3.48
		180	Wind 60	1359.04	0.00	1359.04	149561.49	-42.61	-123.95
		210	Wind 90	1391.71	-695.85	1205.26	132644.86	76501.42	-211.21
		240	Wind Normal	1484.91	-1285.97	742.46	81736.82	141414.17	-230.01
		270	Wind 90	1382.12	-1382.12	0.00	66.70	151990.10	-187.18
		300	Wind 60	1349.45	-1168.66	-674.72	-74153.01	128509.71	-106.06
		330	Wind 90	1386.91	-693.46	-1201.10	-132054.47	76237.58	3.48
T3	100.00-80.00	0	Wind Normal	1872.75	0.00	-1872.75	-168486.87	-78.93	180.53
		30	Wind 90	1763.79	881.89	-1527.49	-137413.02	-79449.44	252.94
		60	Wind 60	1723.38	1492.49	-861.69	-77491.39	-134403.16	238.18
		90	Wind 90	1754.59	1754.59	0.00	60.74	-157992.20	159.61
		120	Wind Normal	1863.55	1613.89	931.78	83920.67	-145328.59	57.65
		150	Wind 90	1754.59	877.30	1519.52	136817.65	-79035.56	-59.76
		180	Wind 60	1723.38	0.00	1723.38	155165.01	-78.93	-180.53
		210	Wind 90	1763.79	-881.89	1527.49	137534.50	79291.59	-252.94
		240	Wind Normal	1872.75	-1621.85	936.38	84334.55	145887.59	-238.18
		270	Wind 90	1754.59	-1754.59	0.00	60.74	157834.34	-159.61
		300	Wind 60	1714.18	-1484.53	-857.09	-77077.51	133528.45	-57.65
		330	Wind 90	1754.59	-877.30	-1519.52	-136696.16	78877.71	59.76
T4	80.00-60.00	0	Wind Normal	1955.52	0.00	-1955.52	-136794.51	-97.38	210.70
		30	Wind 90	1856.63	928.31	-1607.89	-112460.18	-65079.35	330.65
		60	Wind 60	1819.79	1575.98	-909.89	-63600.64	-110416.08	339.26
		90	Wind 90	1847.90	1847.90	0.00	91.90	-129450.69	256.96
		120	Wind Normal	1946.80	1685.98	973.40	68229.78	-118115.66	128.55
		150	Wind 90	1847.90	923.95	1600.33	112115.15	-64774.03	-34.30
		180	Wind 60	1819.79	0.00	1819.79	127476.96	-97.38	-210.70

<i>tnxTower</i> <i>Nello Corporation</i> <i>1201 S. Sheridan Street</i> <i>South Bend, IN. 46619</i> <i>Phone: 800-806-3556</i> <i>FAX:</i>	Job SO32729; Tower 773613; Foundation 773614	Page 16 of 47
	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date 11:34:28 02/21/25
	Client Atlas Tower	Designed by AG

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
T5	60.00-40.00	210	Wind 90	1856.63	-928.31	1607.89	112643.97	64884.59	-330.65
		240	Wind Normal	1955.52	-1693.53	977.76	68535.10	118449.73	-339.26
		270	Wind 90	1847.90	-1847.90	0.00	91.90	129255.93	-256.96
		300	Wind 60	1811.06	-1568.43	-905.53	-63295.32	109692.50	-128.55
		330	Wind 90	1847.90	-923.95	-1600.33	-111931.36	64579.28	34.30
		0	Wind Normal	2205.97	0.00	-2205.97	-110188.94	-115.83	233.07
		30	Wind 90	2080.24	1040.12	-1801.54	-89967.59	-52121.95	366.61
		60	Wind 60	2034.72	1762.12	-1017.36	-50758.45	-88221.96	376.67
		90	Wind 90	2072.12	2072.12	0.00	109.65	-103721.73	285.80
		120	Wind Normal	2197.85	1903.39	1098.92	55055.78	-95285.31	143.60
		150	Wind 90	2072.12	1036.06	1794.51	89835.00	-51918.78	-37.08
		180	Wind 60	2034.72	0.00	2034.72	101845.85	-115.83	-233.07
T6	40.00-20.00	210	Wind 90	2080.24	-1040.12	1801.54	90186.90	51890.29	-366.61
		240	Wind Normal	2205.97	-1910.43	1102.99	55258.95	95405.55	-376.67
		270	Wind 90	2072.12	-2072.12	0.00	109.65	103490.08	-285.80
		300	Wind 60	2026.60	-1755.08	-1013.30	-50555.28	87638.41	-143.60
		330	Wind 90	2072.12	-1036.06	-1794.51	-89615.69	51687.13	37.08
		0	Wind Normal	2103.19	0.00	-2103.19	-62968.16	-134.28	242.33
		30	Wind 90	1971.93	985.96	-1707.74	-51104.74	-29713.17	381.83
		60	Wind 60	1924.93	1667.04	-962.46	-28746.54	-50145.41	392.69
		90	Wind 90	1964.63	1964.63	0.00	127.40	-59073.12	298.34
		120	Wind Normal	2095.89	1815.09	1047.94	31565.72	-54587.03	150.37
		150	Wind 90	1964.63	982.31	1701.42	51169.94	-29603.70	-37.89
		180	Wind 60	1924.93	0.00	1924.93	57875.28	-134.28	-242.33
T7	20.00-0.00	210	Wind 90	1971.93	-985.96	1707.74	51359.55	29444.61	-381.83
		240	Wind Normal	2103.19	-1821.41	1051.59	31675.19	54508.09	-392.69
		270	Wind 90	1964.63	-1964.63	0.00	127.40	58804.56	-298.34
		300	Wind 60	1917.63	-1660.72	-958.82	-28637.06	49687.24	-150.37
		330	Wind 90	1964.63	-982.31	-1701.42	-50915.13	29335.14	37.89
		0	Wind Normal	1938.64	0.00	-1938.64	-19241.21	-152.73	238.28
		30	Wind 90	1808.82	904.41	-1566.48	-15519.65	-9196.81	375.94
		60	Wind 60	1762.74	1526.57	-881.37	-8668.52	-15418.47	386.92
		90	Wind 90	1802.50	1802.50	0.00	145.16	-18177.74	294.24
		120	Wind Normal	1932.32	1673.44	966.16	9806.77	-16887.12	148.65
		150	Wind 90	1802.50	901.25	1561.01	15755.28	-9165.23	-36.77
		180	Wind 60	1762.74	0.00	1762.74	17772.52	-152.73	-238.28
T7	20.00-0.00	210	Wind 90	1808.82	-904.41	1566.48	15809.97	8891.36	-375.94
		240	Wind Normal	1938.64	-1678.91	969.32	9838.34	16636.36	-386.92
		270	Wind 90	1802.50	-1802.50	0.00	145.16	17872.28	-294.24
		300	Wind 60	1756.42	-1521.10	-878.21	-8636.95	15058.32	-148.65
		330	Wind 90	1802.50	-901.25	-1561.01	-15464.96	8859.78	36.77

Mast Totals - No Ice

Wind Azimuth °	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
0	0.00	-11871.66	-699089.86	-621.75	1228.86
30	5574.88	-9655.98	-568433.45	-329154.26	1919.17
60	9428.16	-5443.35	-320090.09	-556075.98	1963.73
90	11100.51	0.00	601.56	-654504.59	1482.12
120	10238.50	5911.20	348856.18	-603816.44	734.88
150	5552.65	9617.47	567337.70	-327827.01	-209.28
180	0.00	10891.50	642512.53	-621.75	-1228.86
210	-5574.88	9655.98	569636.57	327910.77	-1919.17
240	-10277.01	5933.43	350183.43	604871.82	-1963.73
270	-11100.51	0.00	601.56	653261.10	-1482.12

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	SO32729; Tower 773613; Foundation 773614	17 of 47
	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date 11:34:28 02/21/25
	Client Atlas Tower	Designed by AG

<i>Wind Azimuth</i> °	<i>V_x</i> lb	<i>V_z</i> lb	<i>OTM_x</i> lb-ft	<i>OTM_z</i> lb-ft	<i>Torque</i> lb-ft
300	-9389.66	-5421.12	-318762.84	552533.61	-734.88
330	-5552.65	-9617.47	-566134.58	326583.51	209.28

Mast Vectors - With Ice

<i>Section No.</i>	<i>Section Elevation ft</i>	<i>Wind Azimuth</i> °	<i>Directionality</i>	<i>F</i> lb	<i>V_x</i> lb	<i>V_z</i> lb	<i>OTM_x</i> lb-ft	<i>OTM_z</i> lb-ft	<i>Torque</i> lb-ft
T1	125.90-120.00	0	Wind Normal	105.81	0.00	-105.81	-13009.39	0.00	0.00
		30	Wind 90	98.86	49.43	-85.62	-10526.77	-6077.63	0.00
		60	Wind 60	96.55	83.61	-48.27	-5935.28	-10280.20	0.00
		90	Wind 90	98.86	98.86	0.00	0.00	-12155.26	0.00
		120	Wind Normal	105.81	91.63	52.91	6504.70	-11266.46	0.00
		150	Wind 90	98.86	49.43	85.62	10526.77	-6077.63	0.00
		180	Wind 60	96.55	0.00	96.55	11870.55	0.00	0.00
		210	Wind 90	98.86	-49.43	85.62	10526.77	6077.63	0.00
		240	Wind Normal	105.81	-91.63	52.91	6504.70	11266.46	0.00
		270	Wind 90	98.86	-98.86	0.00	0.00	12155.26	0.00
		300	Wind 60	96.55	-83.61	-48.27	-5935.28	10280.20	0.00
		330	Wind 90	98.86	-49.43	-85.62	-10526.77	6077.63	0.00
T2	120.00-100.00	0	Wind Normal	498.94	0.00	-498.94	-54714.61	-107.64	43.19
		30	Wind 90	474.90	237.45	-411.27	-45071.71	-26227.09	73.07
		60	Wind 60	465.58	403.20	-232.79	-25438.42	-44460.13	80.15
		90	Wind 90	472.29	472.29	0.00	168.50	-52059.26	65.74
		120	Wind Normal	496.33	429.83	248.16	27466.42	-47389.02	36.96
		150	Wind 90	473.59	236.80	410.14	45284.32	-26155.27	-1.73
		180	Wind 60	466.89	0.00	466.89	51525.99	-107.64	-43.19
		210	Wind 90	474.90	-237.45	411.27	45408.71	26011.80	-73.07
		240	Wind Normal	497.63	-430.96	248.82	27538.24	47298.13	-80.15
		270	Wind 90	472.29	-472.29	0.00	168.50	51843.97	-65.74
		300	Wind 60	464.27	-402.07	-232.14	-25366.60	44120.45	-36.96
		330	Wind 90	473.59	-236.80	-410.14	-44947.31	25939.98	1.73
T3	100.00-80.00	0	Wind Normal	639.14	0.00	-639.14	-57370.22	-183.02	54.24
		30	Wind 90	612.00	306.00	-530.00	-47547.81	-27722.81	79.80
		60	Wind 60	601.83	521.20	-300.92	-26930.03	-47091.33	78.70
		90	Wind 90	609.49	609.49	0.00	152.50	-55037.27	56.51
		120	Wind Normal	636.64	551.34	318.32	28801.19	-49804.02	24.46
		150	Wind 90	609.49	304.75	527.84	47657.67	-27610.14	-14.15
		180	Wind 60	601.83	0.00	601.83	54317.54	-183.02	-54.24
		210	Wind 90	612.00	-306.00	530.00	47852.81	27356.77	-79.80
		240	Wind Normal	639.14	-553.51	319.57	28913.86	49633.11	-78.70
		270	Wind 90	609.49	-609.49	0.00	152.50	54671.23	-56.51
		300	Wind 60	599.33	-519.04	-299.67	-26817.36	46530.15	-24.46
		330	Wind 90	609.49	-304.75	-527.84	-47352.67	27244.10	14.15
T4	80.00-60.00	0	Wind Normal	693.38	0.00	-693.38	-48299.27	-223.75	63.02
		30	Wind 90	668.20	334.10	-578.68	-40270.38	-23610.72	107.55
		60	Wind 60	658.75	570.50	-329.38	-22819.27	-40158.44	117.07
		90	Wind 90	665.82	665.82	0.00	237.04	-46831.47	95.22
		120	Wind Normal	691.00	598.42	345.50	24422.08	-42113.48	54.05
		150	Wind 90	665.82	332.91	576.62	40600.51	-23527.61	-1.61
		180	Wind 60	658.75	0.00	658.75	46349.65	-223.75	-63.02
		210	Wind 90	668.20	-334.10	578.68	40744.46	23163.22	-107.55
		240	Wind Normal	693.38	-600.48	346.69	24505.19	41809.93	-117.07
		270	Wind 90	665.82	-665.82	0.00	237.04	46383.97	-95.22
		300	Wind 60	656.38	-568.44	-328.19	-22736.16	39566.99	-54.05
		330	Wind 90	665.82	-332.91	-576.62	-40126.43	23080.11	1.61
T5	60.00-40.00	0	Wind Normal	772.41	0.00	-772.41	-38342.74	-263.15	69.40

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	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date 11:34:28 02/21/25
	Client Atlas Tower	Designed by AG

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
T6	40.00-20.00	30	Wind 90	740.04	370.02	-640.89	-31766.68	-18764.04	118.56
		60	Wind 60	728.26	630.69	-364.13	-17928.72	-31797.77	129.07
		90	Wind 90	737.82	737.82	0.00	277.80	-37154.33	105.00
		120	Wind Normal	770.20	667.01	385.10	19532.76	-33613.73	59.67
		150	Wind 90	737.82	368.91	638.97	32226.49	-18708.74	-1.65
		180	Wind 60	728.26	0.00	728.26	36690.84	-263.15	-69.40
		210	Wind 90	740.04	-370.02	640.89	32322.28	18237.74	-118.56
		240	Wind Normal	772.41	-668.93	386.21	19588.07	33183.21	-129.07
		270	Wind 90	737.82	-737.82	0.00	277.80	36628.02	-105.00
		300	Wind 60	726.05	-628.78	-363.02	-17873.41	31175.67	-59.67
		330	Wind 90	737.82	-368.91	-638.97	-31670.89	18182.43	1.65
		0	Wind Normal	734.17	0.00	-734.17	-21710.67	-300.19	71.78
		30	Wind 90	700.19	350.10	-606.38	-17877.25	-10803.08	122.47
		60	Wind 60	687.99	595.81	-343.99	-10005.49	-18174.59	133.19
		90	Wind 90	698.21	698.21	0.00	314.30	-21246.38	108.21
		120	Wind Normal	732.18	634.09	366.09	11296.98	-19322.75	61.41
		150	Wind 90	698.21	349.10	604.66	18454.23	-10773.28	-1.85
		180	Wind 60	687.99	0.00	687.99	20953.87	-300.19	-71.78
T7	20.00-0.00	210	Wind 90	700.19	-350.10	606.38	18505.84	10202.71	-122.47
		240	Wind Normal	734.17	-635.81	367.08	11326.78	18773.99	-133.19
		270	Wind 90	698.21	-698.21	0.00	314.30	20646.00	-108.21
		300	Wind 60	686.00	-594.09	-343.00	-9975.69	17522.60	-61.41
		330	Wind 90	698.21	-349.10	-604.66	-17825.64	10172.91	1.85
		0	Wind Normal	665.23	0.00	-665.23	-6313.16	-330.63	69.93
		30	Wind 90	631.40	315.70	-546.81	-5128.91	-3487.63	118.66
		60	Wind 60	619.36	536.38	-309.68	-2757.62	-5694.44	128.53
		90	Wind 90	629.68	629.68	0.00	339.18	-6627.45	103.96
		120	Wind Normal	663.51	574.62	331.76	3656.75	-6076.84	58.60
		150	Wind 90	629.68	314.84	545.32	5792.38	-3479.04	-2.47
		180	Wind 60	619.36	0.00	619.36	6532.76	-330.63	-69.93
		210	Wind 90	631.40	-315.70	546.81	5807.26	2826.37	-118.66
		240	Wind Normal	665.23	-576.11	332.62	3665.34	5430.46	-128.53
		270	Wind 90	629.68	-629.68	0.00	339.18	5966.18	-103.96
		300	Wind 60	617.64	-534.89	-308.82	-2749.02	5018.28	-58.60
		330	Wind 90	629.68	-314.84	-545.32	-5114.02	2817.77	2.47

Mast Totals - With Ice

Wind Azimuth °	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
0	0.00	-4109.07	-239760.06	-1408.39	371.57
30	1962.79	-3399.66	-198189.52	-116693.01	620.12
60	3341.40	-1929.16	-111814.82	-197656.89	666.71
90	3912.18	0.00	1489.31	-231111.41	534.65
120	3546.95	2047.83	121680.88	-209586.30	295.14
150	1956.74	3389.18	200542.36	-116331.72	-23.46
180	0.00	3859.62	228241.21	-1408.39	-371.57
210	-1962.79	3399.66	201168.14	113876.24	-620.12
240	-3557.43	2053.88	122042.18	207395.30	-666.71
270	-3912.18	0.00	1489.31	228294.63	-534.65
300	-3330.92	-1923.11	-111453.53	194214.34	-295.14
330	-1956.74	-3389.18	-197563.74	113514.94	23.46

<i>tnxTower</i> <i>Nello Corporation</i> <i>1201 S. Sheridan Street</i> <i>South Bend, IN. 46619</i> <i>Phone: 800-806-3556</i> <i>FAX:</i>	Job SO32729; Tower 773613; Foundation 773614	Page 19 of 47
	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date 11:34:28 02/21/25
	Client Atlas Tower	Designed by AG

Mast Vectors - Service

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
T1	125.90-120.00	0	Wind Normal	83.27	0.00	-83.27	-10237.60	0.00	0.00
		30	Wind 90	75.31	37.65	-65.22	-8018.49	-4629.48	0.00
		60	Wind 60	72.65	62.92	-36.33	-4466.37	-7735.98	0.00
		90	Wind 90	75.31	75.31	0.00	0.00	-9258.95	0.00
		120	Wind Normal	83.27	72.11	41.63	5118.80	-8866.02	0.00
		150	Wind 90	75.31	37.65	65.22	8018.49	-4629.48	0.00
		180	Wind 60	72.65	0.00	72.65	8932.74	0.00	0.00
		210	Wind 90	75.31	-37.65	65.22	8018.49	4629.48	0.00
		240	Wind Normal	83.27	-72.11	41.63	5118.80	8866.02	0.00
		270	Wind 90	75.31	-75.31	0.00	0.00	9258.95	0.00
		300	Wind 60	72.65	-62.92	-36.33	-4466.37	7735.98	0.00
		330	Wind 90	75.31	-37.65	-65.22	-8018.49	4629.48	0.00
T2	120.00-100.00	0	Wind Normal	405.52	0.00	-405.52	-44540.06	-42.61	33.74
		30	Wind 90	378.84	189.42	-328.08	-36022.62	-20878.80	57.49
		60	Wind 60	368.64	319.25	-184.32	-20208.59	-35160.46	62.61
		90	Wind 90	376.23	376.23	0.00	66.70	-41427.70	50.95
		120	Wind Normal	402.90	348.93	201.45	22226.45	-38424.41	28.87
		150	Wind 90	377.53	188.77	326.95	36031.64	-20806.98	-0.95
		180	Wind 60	369.95	0.00	369.95	40760.94	-42.61	-33.74
		210	Wind 90	378.84	-189.42	328.08	36156.03	20793.57	-57.49
		240	Wind Normal	404.21	-350.06	202.11	22298.27	38463.58	-62.61
		270	Wind 90	376.23	-376.23	0.00	66.70	41342.47	-50.95
		300	Wind 60	367.34	-318.12	-183.67	-20136.77	34950.84	-28.87
		330	Wind 90	377.53	-188.77	-326.95	-35898.23	20721.75	0.95
T3	100.00-80.00	0	Wind Normal	519.30	0.00	-519.30	-46676.39	-78.93	49.14
		30	Wind 90	489.64	244.82	-424.04	-38102.97	-22112.76	68.85
		60	Wind 60	478.64	414.52	-239.32	-21478.10	-37385.31	64.84
		90	Wind 90	487.14	487.14	0.00	60.74	-43921.27	43.45
		120	Wind Normal	516.80	447.56	258.40	23316.65	-40359.33	15.69
		150	Wind 90	487.14	243.57	421.87	38029.32	-22000.10	-16.27
		180	Wind 60	478.64	0.00	478.64	43138.44	-78.93	-49.14
		210	Wind 90	489.64	-244.82	424.04	38224.46	21954.90	-68.85
		240	Wind Normal	519.30	-449.73	259.65	23429.31	40396.62	-64.84
		270	Wind 90	487.14	-487.14	0.00	60.74	43763.41	-43.45
		300	Wind 60	476.14	-412.35	-238.07	-21365.44	37032.31	-15.69
		330	Wind 90	487.14	-243.57	-421.87	-37907.83	21842.24	16.27
T4	80.00-60.00	0	Wind Normal	576.43	0.00	-576.43	-40258.27	-97.38	57.36
		30	Wind 90	549.51	274.76	-475.89	-33220.45	-19330.27	90.01
		60	Wind 60	539.48	467.21	-269.74	-18790.00	-32801.78	92.35
		90	Wind 90	547.14	547.14	0.00	91.90	-38396.95	69.95
		120	Wind Normal	574.06	497.15	287.03	20183.87	-34897.69	34.99
		150	Wind 90	547.14	273.57	473.83	33260.30	-19247.16	-9.34
		180	Wind 60	539.48	0.00	539.48	37855.69	-97.38	-57.36
		210	Wind 90	549.51	-274.76	475.89	33404.25	19135.52	-90.01
		240	Wind Normal	576.43	-499.20	288.22	20266.98	34846.89	-92.35
		270	Wind 90	547.14	-547.14	0.00	91.90	38202.19	-69.95
		300	Wind 60	537.11	-465.15	-268.55	-18706.89	32463.07	-34.99
		330	Wind 90	547.14	-273.57	-473.83	-33076.50	19052.41	9.34
T5	60.00-40.00	0	Wind Normal	654.89	0.00	-654.89	-32634.73	-115.83	63.44
		30	Wind 90	620.66	310.33	-537.51	-26765.85	-15632.41	99.80
		60	Wind 60	608.27	526.78	-304.14	-15097.15	-26454.77	102.53
		90	Wind 90	618.45	618.45	0.00	109.65	-31038.38	77.80
		120	Wind Normal	652.68	565.23	326.34	16426.53	-28377.50	39.09
		150	Wind 90	618.45	309.23	535.59	26889.36	-15577.10	-10.09
		180	Wind 60	608.27	0.00	608.27	30523.24	-115.83	-63.44
		210	Wind 90	620.66	-310.33	537.51	26985.16	15400.75	-99.80
		240	Wind Normal	654.89	-567.15	327.44	16481.84	28241.64	-102.53
		270	Wind 90	618.45	-618.45	0.00	109.65	30806.72	-77.80

<i>tnxTower</i> <i>Nello Corporation</i> <i>1201 S. Sheridan Street</i> <i>South Bend, IN. 46619</i> <i>Phone: 800-806-3556</i> <i>FAX:</i>	Job SO32729; Tower 773613; Foundation 773614	Page 20 of 47
	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date 11:34:28 02/21/25
	Client Atlas Tower	Designed by AG

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
T6	40.00-20.00	300	Wind 60	606.06	-524.86	-303.03	-15041.84	26127.33	-39.09
		330	Wind 90	618.45	-309.23	-535.59	-26670.06	15345.45	10.09
		0	Wind Normal	630.38	0.00	-630.38	-18784.01	-134.28	65.96
		30	Wind 90	594.65	297.33	-514.98	-15322.06	-9054.03	103.94
		60	Wind 60	581.86	503.90	-290.93	-8600.45	-15251.37	106.90
		90	Wind 90	592.66	592.66	0.00	127.40	-17914.18	81.21
		120	Wind Normal	628.39	544.21	314.20	9553.31	-16460.43	40.93
		150	Wind 90	592.66	296.33	513.26	15525.25	-9024.23	-10.32
		180	Wind 60	581.86	0.00	581.86	17583.11	-134.28	-65.96
		210	Wind 90	594.65	-297.33	514.98	15576.87	8785.47	-103.94
		240	Wind Normal	630.38	-545.93	315.19	9583.11	16243.49	-106.90
		270	Wind 90	592.66	-592.66	0.00	127.40	17645.63	-81.21
T7	20.00-0.00	300	Wind 60	579.87	-502.18	-289.94	-8570.65	14931.20	-40.93
		330	Wind 90	592.66	-296.33	-513.26	-15270.44	8755.67	10.32
		0	Wind Normal	583.40	0.00	-583.40	-5688.82	-152.73	64.86
		30	Wind 90	548.06	274.03	-474.63	-4601.17	-2893.02	102.33
		60	Wind 60	535.52	463.77	-267.76	-2532.42	-4790.42	105.33
		90	Wind 90	546.34	546.34	0.00	145.16	-5616.12	80.09
		120	Wind Normal	581.68	503.75	290.84	3053.55	-5190.21	40.46
		150	Wind 90	546.34	273.17	473.14	4876.60	-2884.43	-10.01
		180	Wind 60	535.52	0.00	535.52	5500.31	-152.73	-64.86
		210	Wind 90	548.06	-274.03	474.63	4891.49	2587.57	-102.33
		240	Wind Normal	583.40	-505.24	291.70	3062.15	4899.64	-105.33
		270	Wind 90	546.34	-546.34	0.00	145.16	5310.67	-80.09
		300	Wind 60	533.80	-462.28	-266.90	-2523.82	4470.08	-40.46
		330	Wind 90	546.34	-273.17	-473.14	-4586.28	2578.97	10.01

Mast Totals - Service

Wind Azimuth °	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
0	0.00	-3453.18	-198819.87	-621.75	334.51
30	1628.34	-2820.36	-162053.62	-94530.76	522.42
60	2758.35	-1592.53	-91173.08	-159580.08	534.55
90	3243.26	0.00	601.56	-187573.55	403.45
120	2978.93	1719.89	99879.16	-172575.60	200.04
150	1622.28	2809.88	162630.96	-94169.47	-56.97
180	0.00	3186.37	184294.47	-621.75	-334.51
210	-1628.34	2820.36	163256.74	93287.27	-522.42
240	-2978.93	1725.94	100240.45	171957.88	-534.55
270	-3243.26	0.00	601.56	186330.05	-403.45
300	-2747.86	-1586.48	-90811.79	157710.81	-200.04
330	-1622.28	-2809.88	-161427.84	92925.97	56.97

Discrete Appurtenance Pressures - No Ice G_H = 0.850

Description	Aiming Azimuth °	Weight lb	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _A Ac Front ft²	C _A Ac Side ft²
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	120.00	1.315	38	208.00	208.00
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	110.00	1.291	37	208.00	208.00

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	Project	NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date	11:34:28 02/21/25
	Client	Atlas Tower	Designed by	AG

Description	Aiming Azimuth °	Weight lb	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _{AAc} Front ft ²	C _{AAc} Side ft ²
Dish Pipe Mount	0.0000	103.00	0.00	-2.89	100.00	1.266	36	0.00	1.80
Dish Pipe Mount	240.0000	103.00	-2.87	1.66	90.00	1.238	36	0.00	1.80
	Sum	7278.00							
	Weight:								

Discrete Appurtenance Vectors - No Ice

30,000 sq in CaAa - Elevation 120 - None C							
Wind Azimuth °	F _a lb	F _s lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
0	6691.28	0.00	0.00	-6691.28	-802954.09	0.00	0.00
30	6691.28	0.00	3345.64	-5794.82	-695378.64	-401477.04	0.00
60	6691.28	0.00	5794.82	-3345.64	-401477.04	-695378.64	0.00
90	6691.28	0.00	6691.28	0.00	0.00	-802954.09	0.00
120	6691.28	0.00	5794.82	3345.64	401477.04	-695378.64	0.00
150	6691.28	0.00	3345.64	5794.82	695378.64	-401477.04	0.00
180	6691.28	0.00	0.00	6691.28	802954.09	0.00	0.00
210	6691.28	0.00	-3345.64	5794.82	695378.64	401477.04	0.00
240	6691.28	0.00	-5794.82	3345.64	401477.04	695378.64	0.00
270	6691.28	0.00	-6691.28	0.00	0.00	802954.09	0.00
300	6691.28	0.00	-5794.82	-3345.64	-401477.04	695378.64	0.00
330	6691.28	0.00	-3345.64	-5794.82	-695378.64	401477.04	0.00

30,000 sq in CaAa - Elevation 110 - None B							
Wind Azimuth °	F _a lb	F _s lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
0	6569.83	0.00	0.00	-6569.83	-722681.05	0.00	0.00
30	6569.83	0.00	3284.91	-5689.64	-625860.14	-361340.52	0.00
60	6569.83	0.00	5689.64	-3284.91	-361340.52	-625860.14	0.00
90	6569.83	0.00	6569.83	0.00	0.00	-722681.05	0.00
120	6569.83	0.00	5689.64	3284.91	361340.52	-625860.14	0.00
150	6569.83	0.00	3284.91	5689.64	625860.14	-361340.52	0.00
180	6569.83	0.00	0.00	6569.83	722681.05	0.00	0.00
210	6569.83	0.00	-3284.91	5689.64	625860.14	361340.52	0.00
240	6569.83	0.00	-5689.64	3284.91	361340.52	625860.14	0.00
270	6569.83	0.00	-6569.83	0.00	0.00	722681.05	0.00
300	6569.83	0.00	-5689.64	-3284.91	-361340.52	625860.14	0.00
330	6569.83	0.00	-3284.91	-5689.64	-625860.14	361340.52	0.00

Dish Pipe Mount - Elevation 100 - From Leg A							
Wind Azimuth °	F _a lb	F _s lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
0	0.00	0.00	0.00	0.00	-297.34	0.00	0.00
30	0.00	27.86	27.86	0.00	-297.34	-2786.24	-80.43
60	0.00	48.26	48.26	0.00	-297.34	-4825.91	-139.31
90	0.00	55.72	55.72	0.00	-297.34	-5572.48	-160.86
120	0.00	48.26	48.26	0.00	-297.34	-4825.91	-139.31
150	0.00	27.86	27.86	0.00	-297.34	-2786.24	-80.43
180	0.00	0.00	0.00	0.00	-297.34	0.00	0.00
210	0.00	27.86	-27.86	0.00	-297.34	2786.24	80.43
240	0.00	48.26	-48.26	0.00	-297.34	4825.91	139.31

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	Client	Atlas Tower	Designed by	AG

Dish Pipe Mount - Elevation 100 - From Leg A							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
270	0.00	55.72	-55.72	0.00	-297.34	5572.48	160.86
300	0.00	48.26	-48.26	0.00	-297.34	4825.91	139.31
330	0.00	27.86	-27.86	0.00	-297.34	2786.24	80.43

Dish Pipe Mount - Elevation 90 - From Leg C							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	47.20	-23.60	-40.88	-3507.95	2420.15	-156.69
30	0.00	27.25	-13.63	-23.60	-1953.05	1522.43	-90.47
60	0.00	0.00	0.00	0.00	170.97	296.12	0.00
90	0.00	27.25	13.63	23.60	2294.99	-930.18	90.47
120	0.00	47.20	23.60	40.88	3849.88	-1827.90	156.69
150	0.00	54.50	27.25	47.20	4419.01	-2156.48	180.94
180	0.00	47.20	23.60	40.88	3849.88	-1827.90	156.69
210	0.00	27.25	13.63	23.60	2294.99	-930.18	90.47
240	0.00	0.00	0.00	0.00	170.97	296.12	0.00
270	0.00	27.25	-13.63	-23.60	-1953.05	1522.43	-90.47
300	0.00	47.20	-23.60	-40.88	-3507.95	2420.15	-156.69
330	0.00	54.50	-27.25	-47.20	-4077.07	2748.73	-180.94

Discrete Appurtenance Totals - No Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	-23.60	-13301.99	-1529440.41	2420.15	-156.69
30	6644.79	-11508.06	-1323489.17	-764081.38	-170.90
60	11532.72	-6630.56	-762943.93	-1325768.57	-139.31
90	13330.46	23.60	1997.65	-1532137.80	-70.40
120	11556.32	6671.43	766370.11	-1327892.59	17.38
150	6685.67	11531.66	1325360.46	-767760.29	100.50
180	23.60	13301.99	1529187.68	-1827.90	156.69
210	-6644.79	11508.06	1323236.43	764673.63	170.90
240	-11532.72	6630.56	762691.20	1326360.82	139.31
270	-13330.46	-23.60	-2250.39	1532730.05	70.40
300	-11556.32	-6671.43	-766622.85	1328484.84	-17.38
330	-6685.67	-11531.66	-1325613.19	768352.54	-100.50

Discrete Appurtenance Pressures - With Ice $G_H = 0.850$

Description	Aiming Azimuth °	Weight lb	Offset _x ft	Offset _z ft	z ft	K_z	q_z psf	C_{AAc} Front ft ²	C_{AAc} Side ft ²	t_z in
30,000 sq in CaAa	0.0000	4903.64	0.00	0.00	120.00	1.315	10	255.79	255.79	0.5689
30,000 sq in CaAa	0.0000	4891.79	0.00	0.00	110.00	1.291	10	255.37	255.37	0.5640
Dish Pipe Mount	0.0000	120.88	0.00	-2.89	100.00	1.266	10	0.00	2.14	0.5586
Dish Pipe Mount	240.0000	120.69	-2.87	1.66	90.00	1.238	10	0.00	2.13	0.5528
Sum		10036.99								

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	Client	Atlas Tower	Designed by	AG

Description	Aiming Azimuth °	Weight lb	Offset _x ft	Offset _z ft	z ft	K _z	q _z psf	C _{AAc} Front ft ²	C _{AAc} Side ft ²	t _z in
	Weight:									

Discrete Appurtenance Vectors - With Ice

30,000 sq in CaAa - Elevation 120 - None C							
Wind Azimuth °	F _a lb	F _s lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
0	2239.92	0.00	0.00	-2239.92	-268790.45	0.00	0.00
30	2239.92	0.00	1119.96	-1939.83	-232779.36	-134395.22	0.00
60	2239.92	0.00	1939.83	-1119.96	-134395.22	-232779.36	0.00
90	2239.92	0.00	2239.92	0.00	0.00	-268790.45	0.00
120	2239.92	0.00	1939.83	1119.96	134395.22	-232779.36	0.00
150	2239.92	0.00	1119.96	1939.83	232779.36	-134395.22	0.00
180	2239.92	0.00	0.00	2239.92	268790.45	0.00	0.00
210	2239.92	0.00	-1119.96	1939.83	232779.36	134395.22	0.00
240	2239.92	0.00	-1939.83	1119.96	134395.22	232779.36	0.00
270	2239.92	0.00	-2239.92	0.00	0.00	268790.45	0.00
300	2239.92	0.00	-1939.83	-1119.96	-134395.22	232779.36	0.00
330	2239.92	0.00	-1119.96	-1939.83	-232779.36	134395.22	0.00

30,000 sq in CaAa - Elevation 110 - None B							
Wind Azimuth °	F _a lb	F _s lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
0	2195.70	0.00	0.00	-2195.70	-241527.34	0.00	0.00
30	2195.70	0.00	1097.85	-1901.53	-209168.81	-120763.67	0.00
60	2195.70	0.00	1901.53	-1097.85	-120763.67	-209168.81	0.00
90	2195.70	0.00	2195.70	0.00	0.00	-241527.34	0.00
120	2195.70	0.00	1901.53	1097.85	120763.67	-209168.81	0.00
150	2195.70	0.00	1097.85	1901.53	209168.81	-120763.67	0.00
180	2195.70	0.00	0.00	2195.70	241527.34	0.00	0.00
210	2195.70	0.00	-1097.85	1901.53	209168.81	120763.67	0.00
240	2195.70	0.00	-1901.53	1097.85	120763.67	209168.81	0.00
270	2195.70	0.00	-2195.70	0.00	0.00	241527.34	0.00
300	2195.70	0.00	-1901.53	-1097.85	-120763.67	209168.81	0.00
330	2195.70	0.00	-1097.85	-1901.53	-209168.81	120763.67	0.00

Dish Pipe Mount - Elevation 100 - From Leg A							
Wind Azimuth °	F _a lb	F _s lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
0	0.00	0.00	0.00	0.00	-348.94	0.00	0.00
30	0.00	9.00	9.00	0.00	-348.94	-899.68	-25.97
60	0.00	15.58	15.58	0.00	-348.94	-1558.29	-44.98
90	0.00	17.99	17.99	0.00	-348.94	-1799.35	-51.94
120	0.00	15.58	15.58	0.00	-348.94	-1558.29	-44.98
150	0.00	9.00	9.00	0.00	-348.94	-899.68	-25.97
180	0.00	0.00	0.00	0.00	-348.94	0.00	0.00
210	0.00	9.00	-9.00	0.00	-348.94	899.68	25.97
240	0.00	15.58	-15.58	0.00	-348.94	1558.29	44.98
270	0.00	17.99	-17.99	0.00	-348.94	1799.35	51.94
300	0.00	15.58	-15.58	0.00	-348.94	1558.29	44.98
330	0.00	9.00	-9.00	0.00	-348.94	899.68	25.97

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	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date 11:34:28 02/21/25
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Dish Pipe Mount - Elevation 90 - From Leg C							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	15.22	-7.61	-13.18	-985.64	1031.70	-50.51
30	0.00	8.78	-4.39	-7.61	-484.39	742.30	-29.16
60	0.00	0.00	0.00	0.00	200.33	346.98	0.00
90	0.00	8.78	4.39	7.61	885.05	-48.34	29.16
120	0.00	15.22	7.61	13.18	1386.29	-337.74	50.51
150	0.00	17.57	8.78	15.22	1569.76	-443.66	58.33
180	0.00	15.22	7.61	13.18	1386.29	-337.74	50.51
210	0.00	8.78	4.39	7.61	885.05	-48.34	29.16
240	0.00	0.00	0.00	0.00	200.33	346.98	0.00
270	0.00	8.78	-4.39	-7.61	-484.39	742.30	-29.16
300	0.00	15.22	-7.61	-13.18	-985.64	1031.70	-50.51
330	0.00	17.57	-8.78	-15.22	-1169.11	1137.62	-58.33

Discrete Appurtenance Totals - With Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	-7.61	-4448.80	-511652.36	1031.70	-50.51
30	2222.42	-3848.97	-442781.49	-255316.27	-55.14
60	3856.95	-2217.81	-255307.50	-443159.47	-44.98
90	4458.01	7.61	536.11	-512165.48	-22.78
120	3864.55	2230.99	256196.25	-443844.19	5.53
150	2235.59	3856.58	443168.99	-256502.23	32.36
180	7.61	4448.80	511355.14	-337.74	50.51
210	-2222.42	3848.97	442484.27	256010.23	55.14
240	-3856.95	2217.81	255010.28	443853.43	44.98
270	-4458.01	-7.61	-833.33	512859.44	22.78
300	-3864.55	-2230.99	-256493.47	444538.15	-5.53
330	-2235.59	-3856.58	-443466.21	257196.19	-32.36

Discrete Appurtenance Pressures - Service $G_H = 0.850$

Description	Aiming Azimuth °	Weight lb	Offset _x ft	Offset _z ft	z ft	K_z	q_z psf	$C_{A/C}$ Front ft ²	$C_{A/C}$ Side ft ²
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	120.00	1.315	10	208.00	208.00
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	110.00	1.291	10	208.00	208.00
Dish Pipe Mount	0.0000	103.00	0.00	-2.89	100.00	1.266	10	0.00	1.80
Dish Pipe Mount	240.0000	103.00	-2.87	1.66	90.00	1.238	10	0.00	1.80
Sum Weight:		7278.00							

Discrete Appurtenance Vectors - Service

30,000 sq in CaAa - Elevation 120 - None C

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	Client	Atlas Tower	Designed by	AG

<i>Wind Azimuth</i> °	<i>F_a</i> lb	<i>F_s</i> lb	<i>V_x</i> lb	<i>V_z</i> lb	<i>OTM_x</i> lb-ft	<i>OTM_z</i> lb-ft	<i>Torque</i> lb-ft
0	1821.45	0.00	0.00	-1821.45	-218573.51	0.00	0.00
30	1821.45	0.00	910.72	-1577.42	-189290.21	-109286.76	0.00
60	1821.45	0.00	1577.42	-910.72	-109286.76	-189290.21	0.00
90	1821.45	0.00	1821.45	0.00	0.00	-218573.51	0.00
120	1821.45	0.00	1577.42	910.72	109286.76	-189290.21	0.00
150	1821.45	0.00	910.72	1577.42	189290.21	-109286.76	0.00
180	1821.45	0.00	0.00	1821.45	218573.51	0.00	0.00
210	1821.45	0.00	-910.72	1577.42	189290.21	109286.76	0.00
240	1821.45	0.00	-1577.42	910.72	109286.76	189290.21	0.00
270	1821.45	0.00	-1821.45	0.00	0.00	218573.51	0.00
300	1821.45	0.00	-1577.42	-910.72	-109286.76	189290.21	0.00
330	1821.45	0.00	-910.72	-1577.42	-189290.21	109286.76	0.00

<i>30,000 sq in CaAa - Elevation 110 - None B</i>							
<i>Wind Azimuth</i> °	<i>F_a</i> lb	<i>F_s</i> lb	<i>V_x</i> lb	<i>V_z</i> lb	<i>OTM_x</i> lb-ft	<i>OTM_z</i> lb-ft	<i>Torque</i> lb-ft
0	1788.38	0.00	0.00	-1788.38	-196722.25	0.00	0.00
30	1788.38	0.00	894.19	-1548.79	-170366.47	-98361.13	0.00
60	1788.38	0.00	1548.79	-894.19	-98361.13	-170366.47	0.00
90	1788.38	0.00	1788.38	0.00	0.00	-196722.25	0.00
120	1788.38	0.00	1548.79	894.19	98361.13	-170366.47	0.00
150	1788.38	0.00	894.19	1548.79	170366.47	-98361.13	0.00
180	1788.38	0.00	0.00	1788.38	196722.25	0.00	0.00
210	1788.38	0.00	-894.19	1548.79	170366.47	98361.13	0.00
240	1788.38	0.00	-1548.79	894.19	98361.13	170366.47	0.00
270	1788.38	0.00	-1788.38	0.00	0.00	196722.25	0.00
300	1788.38	0.00	-1548.79	-894.19	-98361.13	170366.47	0.00
330	1788.38	0.00	-894.19	-1548.79	-170366.47	98361.13	0.00

<i>Dish Pipe Mount - Elevation 100 - From Leg A</i>							
<i>Wind Azimuth</i> °	<i>F_a</i> lb	<i>F_s</i> lb	<i>V_x</i> lb	<i>V_z</i> lb	<i>OTM_x</i> lb-ft	<i>OTM_z</i> lb-ft	<i>Torque</i> lb-ft
0	0.00	0.00	0.00	0.00	-297.34	0.00	0.00
30	0.00	7.58	7.58	0.00	-297.34	-758.45	-21.89
60	0.00	13.14	13.14	0.00	-297.34	-1313.67	-37.92
90	0.00	15.17	15.17	0.00	-297.34	-1516.90	-43.79
120	0.00	13.14	13.14	0.00	-297.34	-1313.67	-37.92
150	0.00	7.58	7.58	0.00	-297.34	-758.45	-21.89
180	0.00	0.00	0.00	0.00	-297.34	0.00	0.00
210	0.00	7.58	-7.58	0.00	-297.34	758.45	21.89
240	0.00	13.14	-13.14	0.00	-297.34	1313.67	37.92
270	0.00	15.17	-15.17	0.00	-297.34	1516.90	43.79
300	0.00	13.14	-13.14	0.00	-297.34	1313.67	37.92
330	0.00	7.58	-7.58	0.00	-297.34	758.45	21.89

<i>Dish Pipe Mount - Elevation 90 - From Leg C</i>							
<i>Wind Azimuth</i> °	<i>F_a</i> lb	<i>F_s</i> lb	<i>V_x</i> lb	<i>V_z</i> lb	<i>OTM_x</i> lb-ft	<i>OTM_z</i> lb-ft	<i>Torque</i> lb-ft
0	0.00	12.85	-6.42	-11.13	-830.48	874.31	-42.65
30	0.00	7.42	-3.71	-6.42	-407.22	629.94	-24.63
60	0.00	0.00	0.00	0.00	170.97	296.12	0.00
90	0.00	7.42	3.71	6.42	749.15	-37.69	24.63

<i>tnxTower</i> <i>Nello Corporation</i> <i>1201 S. Sheridan Street</i> <i>South Bend, IN. 46619</i> <i>Phone: 800-806-3556</i> <i>FAX:</i>	Job	SO32729; Tower 773613; Foundation 773614	Page	26 of 47
	Project	NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date	11:34:28 02/21/25
	Client	Atlas Tower	Designed by	AG

<i>Dish Pipe Mount - Elevation 90 - From Leg C</i>							
<i>Wind Azimuth</i> °	<i>F_a</i> lb	<i>F_s</i> lb	<i>V_x</i> lb	<i>V_z</i> lb	<i>OTM_x</i> lb-ft	<i>OTM_z</i> lb-ft	<i>Torque</i> lb-ft
120	0.00	12.85	6.42	11.13	1172.41	-282.06	42.65
150	0.00	14.84	7.42	12.85	1327.33	-371.50	49.25
180	0.00	12.85	6.42	11.13	1172.41	-282.06	42.65
210	0.00	7.42	3.71	6.42	749.15	-37.69	24.63
240	0.00	0.00	0.00	0.00	170.97	296.12	0.00
270	0.00	7.42	-3.71	-6.42	-407.22	629.94	-24.63
300	0.00	12.85	-6.42	-11.13	-830.48	874.31	-42.65
330	0.00	14.84	-7.42	-12.85	-985.40	963.75	-49.25

Discrete Appurtenance Totals - Service

<i>Wind Azimuth</i> °	<i>V_x</i> lb	<i>V_z</i> lb	<i>OTM_x</i> lb-ft	<i>OTM_z</i> lb-ft	<i>Torque</i> lb-ft
0	-6.42	-3620.96	-416423.57	874.31	-42.65
30	1808.79	-3132.63	-360361.23	-207776.39	-46.52
60	3139.34	-1804.92	-207774.25	-360674.23	-37.92
90	3628.71	6.42	451.82	-416850.35	-19.16
120	3145.77	1816.04	208522.96	-361252.41	4.73
150	1819.92	3139.05	360686.68	-208777.83	27.36
180	6.42	3620.96	416170.84	-282.06	42.65
210	-1808.79	3132.63	360108.50	208368.64	46.52
240	-3139.34	1804.92	207521.51	361266.48	37.92
270	-3628.71	-6.42	-704.55	417442.60	19.16
300	-3145.77	-1816.04	-208775.69	361844.66	-4.73
330	-1819.92	-3139.05	-360939.42	209370.08	-27.36

Dish Pressures - No Ice

<i>Elevation</i> ft	<i>Dish Description</i>	<i>Aiming Azimuth</i> °	<i>Weight</i> lb	<i>Offset_x</i> ft	<i>Offset_z</i> ft	<i>K_z</i>	<i>A_A</i> ft ²	<i>q_z</i> psf
100.00	6' Solid w/Radome	0.0000	162.00	0.00	-2.89	1.266	28.27	36
90.00	6' Solid w/Radome	240.0000	162.00	-2.87	1.66	1.238	28.27	36
	Sum		324.00					
	Weight:							

Dish Vectors - No Ice

<i>6' Solid w/Radome - Elevation 100 - From Leg A</i>											
<i>Wind Azimuth</i> °	<i>C_A</i>	<i>C_S</i>	<i>C_M</i>	<i>F_A</i> lb	<i>F_S</i> lb	<i>F_M</i> lb-ft	<i>V_x</i> lb	<i>V_z</i> lb	<i>OTM_x</i> lb-ft	<i>OTM_z</i> lb-ft	<i>Torque</i> lb-ft
0	-0.001770	0.000000	0.000000	-605.11	0.00	0.00	0.00	-605.11	-60978.82	0.00	0.00
30	-0.001330	-0.000700	-0.000132	-454.69	-239.31	-270.76	239.31	-454.69	-45936.49	-23930.97	-961.59
60	-0.000420	-0.000890	-0.000404	-143.59	-304.27	-828.70	304.27	-143.59	-14826.23	-30426.52	-1707.03
90	0.000340	-0.001040	-0.000390	116.24	-355.55	-799.98	355.55	116.24	11155.96	-35554.58	-1826.35
120	0.001070	-0.001280	0.000002	365.80	-437.59	4.10	437.59	365.80	36112.54	-43759.49	-1259.12
150	0.001950	-0.001050	0.000277	666.65	-358.96	568.19	358.96	666.65	66197.19	-35896.45	-468.05
180	0.002210	0.000000	0.000000	755.53	0.00	0.00	0.00	755.53	75085.83	0.00	0.00

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	Client Atlas Tower	Designed by AG

6' Solid w/Radome - Elevation 100 - From Leg A											
Wind Azimuth °	C _A	C _S	C _M	F _A	F _S	F _M	V _x	V _z	OTM _x	OTM _z	Torque
				lb	lb	lb-ft	lb	lb	lb-ft	lb-ft	lb-ft
210	0.001950	0.001050	-0.000277	666.65	358.96	-568.19	-358.96	666.65	66197.19	35896.45	468.05
240	0.001070	0.001280	-0.000002	365.80	437.59	-4.10	-437.59	365.80	36112.54	43759.49	1259.12
270	0.000340	0.001040	0.000390	116.24	355.55	799.98	-355.55	116.24	11155.96	35554.58	1826.35
300	-0.000420	0.000890	0.000404	-143.59	304.27	828.70	-304.27	-143.59	-14826.23	30426.52	1707.03
330	-0.001330	0.000700	0.000132	-454.69	239.31	270.76	-239.31	-454.69	-45936.49	23930.97	961.59

6' Solid w/Radome - Elevation 90 - From Leg C											
Wind Azimuth °	C _A	C _S	C _M	F _A	F _S	F _M	V _x	V _z	OTM _x	OTM _z	Torque
				lb	lb	lb-ft	lb	lb	lb-ft	lb-ft	lb-ft
0	0.001070	-0.001280	0.000002	357.78	-428.00	4.01	95.85	-549.54	-49190.02	-8160.44	-1416.83
30	0.001950	-0.001050	0.000277	652.02	-351.09	555.73	389.12	-630.06	-56436.94	-34555.46	-609.81
60	0.002210	0.000000	0.000000	738.96	0.00	0.00	639.96	-369.48	-32984.33	-57130.54	0.00
90	0.001950	0.001050	-0.000277	652.02	351.09	-555.73	740.21	-21.96	-1707.43	-66153.55	609.81
120	0.001070	0.001280	-0.000002	357.78	428.00	-4.01	523.84	191.77	17527.86	-46680.03	1416.83
150	0.000340	0.001040	0.000390	113.69	347.75	782.43	272.33	244.31	22257.15	-24043.80	1936.86
180	-0.000420	0.000890	0.000404	-140.44	297.59	810.52	27.17	327.94	29783.41	-1979.92	1798.45
210	-0.001330	0.000700	0.000132	-444.71	234.06	264.82	-268.10	425.06	38524.20	24595.07	1041.85
240	-0.001770	0.000000	0.000000	-591.84	0.00	0.00	-512.55	295.92	26901.58	46594.90	0.00
270	-0.001330	-0.000700	-0.000132	-444.71	-234.06	-264.82	-502.16	19.66	2037.86	45660.47	-1041.85
300	-0.000420	-0.000890	-0.000404	-140.44	-297.59	-810.52	-270.42	-187.50	-16606.37	24803.22	-1798.45
330	0.000340	-0.001040	-0.000390	113.69	-347.75	-782.43	-75.42	-358.00	-31951.12	7253.36	-1936.86

Dish Totals - No Ice

Wind Azimuth °	V _x	V _z	OTM _x	OTM _z	Torque
	lb	lb	lb-ft	lb-ft	lb-ft
0	95.85	-1154.66	-110168.83	-8160.44	-1416.83
30	628.43	-1084.75	-102373.43	-58486.43	-1571.40
60	944.22	-513.07	-47810.57	-87557.06	-1707.03
90	1095.76	94.28	9448.53	-101708.13	-1216.54
120	961.44	557.57	53640.40	-90439.51	157.71
150	631.29	910.96	88454.34	-59940.25	1468.81
180	27.17	1083.47	104869.24	-1979.92	1798.45
210	-627.07	1091.71	104721.38	60491.52	1509.90
240	-950.14	661.72	63014.12	90354.39	1259.12
270	-857.71	135.89	13193.82	81215.05	784.50
300	-574.68	-331.09	-31432.60	55229.74	-91.41
330	-314.73	-812.69	-77887.61	31184.33	-975.27

Dish Pressures - With Ice

Elevation ft	Dish Description	Aiming Azimuth °	Weight lb	Offset _x ft	Offset _z ft	K _z	A _A ft ²	q _z psf	t _z in
100.00	6' Solid w/Radome	0.0000	339.64	0.00	-2.89	1.266	29.16	10	0.5586
90.00	6' Solid w/Radome	240.0000	337.78	-2.87	1.66	1.238	29.15	10	0.5528
	Sum Weight:		677.42						

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	Client	Atlas Tower	Designed by	AG

Dish Vectors - With Ice

6' Solid w/Radome - Elevation 100 - From Leg A											
Wind Azimuth °	C _A	C _S	C _M	F _A	F _S	F _M	V _x	V _z	OTM _x	OTM _z	Torque
				lb	lb	lb-ft	lb	lb	lb-ft	lb-ft	lb-ft
0	-0.001770	0.000000	0.000000	-169.92	0.00	0.00	0.00	-169.92	-17972.41	0.00	0.00
30	-0.001330	-0.000700	-0.000132	-127.68	-67.20	-76.03	67.20	-127.68	-13748.42	-6719.98	-270.02
60	-0.000420	-0.000890	-0.000404	-40.32	-85.44	-232.70	85.44	-40.32	-5012.45	-8543.97	-479.35
90	0.000340	-0.001040	-0.000390	32.64	-99.84	-224.64	99.84	32.64	2283.53	-9983.97	-512.85
120	0.001070	-0.001280	0.000002	102.72	-122.88	1.15	122.88	102.72	9291.51	-12287.96	-353.57
150	0.001950	-0.001050	0.000277	187.20	-100.80	159.55	100.80	187.20	17739.48	-10079.97	-131.43
180	0.002210	0.000000	0.000000	212.16	0.00	0.00	0.00	212.16	20235.47	0.00	0.00
210	0.001950	0.001050	-0.000277	187.20	100.80	-159.55	-100.80	187.20	17739.48	10079.97	131.43
240	0.001070	0.001280	-0.000002	102.72	122.88	-1.15	-122.88	102.72	9291.51	12287.96	353.57
270	0.000340	0.001040	0.000390	32.64	99.84	224.64	-99.84	32.64	2283.53	9983.97	512.85
300	-0.000420	0.000890	0.000404	-40.32	85.44	232.70	-85.44	-40.32	-5012.45	8543.97	479.35
330	-0.001330	0.000700	0.000132	-127.68	67.20	76.03	-67.20	-127.68	-13748.42	6719.98	270.02

6' Solid w/Radome - Elevation 90 - From Leg C											
Wind Azimuth °	C _A	C _S	C _M	F _A	F _S	F _M	V _x	V _z	OTM _x	OTM _z	Torque
				lb	lb	lb-ft	lb	lb	lb-ft	lb-ft	lb-ft
0	0.001070	-0.001280	0.000002	100.43	-120.15	1.13	26.91	-154.27	-13323.32	-1450.41	-397.73
30	0.001950	-0.001050	0.000277	183.03	-98.56	156.00	109.23	-176.87	-15357.66	-8859.96	-171.18
60	0.002210	0.000000	0.000000	207.44	0.00	0.00	179.65	-103.72	-8774.10	-15197.18	0.00
90	0.001950	0.001050	-0.000277	183.03	98.56	-156.00	207.79	-6.16	5.88	-17730.10	171.18
120	0.001070	0.001280	-0.000002	100.43	120.15	-1.13	147.05	53.83	5405.57	-12263.54	397.73
150	0.000340	0.001040	0.000390	31.91	97.62	219.64	76.45	68.58	6733.17	-5909.15	543.71
180	-0.000420	0.000890	0.000404	-39.42	83.54	227.53	7.63	92.06	8845.92	284.57	504.86
210	-0.001330	0.000700	0.000132	-124.84	65.70	74.34	-75.26	119.32	11299.61	7744.65	292.46
240	-0.001770	0.000000	0.000000	-166.14	0.00	0.00	-143.88	83.07	8036.94	13920.39	0.00
270	-0.001330	-0.000700	-0.000132	-124.84	-65.70	-74.34	-140.97	5.52	1057.25	13658.08	-292.46
300	-0.000420	-0.000890	-0.000404	-39.42	-83.54	-227.53	-75.91	-52.64	-4176.51	7803.08	-504.86
330	0.000340	-0.001040	-0.000390	31.91	-97.62	-219.64	-21.17	-100.50	-8484.05	2876.52	-543.71

Dish Totals - With Ice

Wind Azimuth °	V _x	V _z	OTM _x	OTM _z	Torque
	lb	lb	lb-ft	lb-ft	lb-ft
0	26.91	-324.19	-31295.73	-1450.41	-397.73
30	176.43	-304.55	-29106.08	-15579.93	-441.21
60	265.09	-144.04	-13786.55	-23741.15	-479.35
90	307.63	26.48	2289.41	-27714.07	-341.67
120	269.93	156.55	14697.07	-24551.50	44.16
150	177.25	255.78	24472.65	-15989.11	412.28
180	7.63	304.22	29081.39	284.57	504.86
210	-176.06	306.52	29039.09	17824.61	423.90
240	-266.76	185.79	17328.45	26208.35	353.57
270	-240.81	38.16	3340.78	23642.04	220.39
300	-161.35	-92.96	-9188.96	16347.05	-25.51
330	-88.37	-228.18	-22232.48	9596.50	-273.69

Dish Pressures - Service

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Elevation ft	Dish Description	Aiming Azimuth °	Weight lb	Offset _x ft	Offset _z ft	K _z	A _A ft ²	q _z psf
100.00	6' Solid w/Radome	0.0000	162.00	0.00	-2.89	1.266	28.27	10
90.00	6' Solid w/Radome	240.0000	162.00	-2.87	1.66	1.238	28.27	10
	Sum		324.00					
	Weight:							

Dish Vectors - Service

6' Solid w/Radome - Elevation 100 - From Leg A											
Wind Azimuth °	C _A	C _S	C _M	F _A	F _S	F _M	V _x	V _z	OTM _x	OTM _z	Torque
				lb	lb	lb-ft	lb	lb	lb-ft	lb-ft	lb-ft
0	-0.001770	0.000000	0.000000	-164.72	0.00	0.00	0.00	-164.72	-16939.50	0.00	0.00
30	-0.001330	-0.000700	-0.000132	-123.77	-65.14	-73.70	65.14	-123.77	-12844.80	-6514.29	-261.76
60	-0.000420	-0.000890	-0.000404	-39.09	-82.82	-225.58	82.82	-39.09	-4376.23	-8282.45	-464.67
90	0.000340	-0.001040	-0.000390	31.64	-96.78	-217.76	96.78	31.64	2696.43	-9678.37	-497.15
120	0.001070	-0.001280	0.000002	99.58	-119.12	1.12	119.12	99.58	9489.90	-11911.84	-342.75
150	0.001950	-0.001050	0.000277	181.47	-97.71	154.67	97.71	181.47	17679.30	-9771.44	-127.41
180	0.002210	0.000000	0.000000	205.67	0.00	0.00	0.00	205.67	20098.89	0.00	0.00
210	0.001950	0.001050	-0.000277	181.47	97.71	-154.67	-97.71	181.47	17679.30	9771.44	127.41
240	0.001070	0.001280	-0.000002	99.58	119.12	-1.12	-119.12	99.58	9489.90	11911.84	342.75
270	0.000340	0.001040	0.000390	31.64	96.78	217.76	-96.78	31.64	2696.43	9678.37	497.15
300	-0.000420	0.000890	0.000404	-39.09	82.82	225.58	-82.82	-39.09	-4376.23	8282.45	464.67
330	-0.001330	0.000700	0.000132	-123.77	65.14	73.70	-65.14	-123.77	-12844.80	6514.29	261.76

6' Solid w/Radome - Elevation 90 - From Leg C											
Wind Azimuth °	C _A	C _S	C _M	F _A	F _S	F _M	V _x	V _z	OTM _x	OTM _z	Torque
				lb	lb	lb-ft	lb	lb	lb-ft	lb-ft	lb-ft
0	0.001070	-0.001280	0.000002	97.39	-116.51	1.09	26.09	-149.59	-13194.40	-1882.40	-385.68
30	0.001950	-0.001050	0.000277	177.49	-95.57	151.27	105.92	-171.51	-15167.09	-9067.43	-166.00
60	0.002210	0.000000	0.000000	201.15	0.00	0.00	174.20	-100.58	-8783.02	-15212.63	0.00
90	0.001950	0.001050	-0.000277	177.49	95.57	-151.27	201.50	-5.98	-269.08	-17668.80	166.00
120	0.001070	0.001280	-0.000002	97.39	116.51	-1.09	142.60	52.20	4966.99	-12367.88	385.68
150	0.000340	0.001040	0.000390	30.95	94.66	212.99	74.13	66.51	6254.36	-6206.04	527.24
180	-0.000420	0.000890	0.000404	-38.23	81.01	220.63	7.40	89.27	8303.09	-199.99	489.56
210	-0.001330	0.000700	0.000132	-121.06	63.71	72.09	-72.98	115.71	10682.44	7034.03	283.60
240	-0.001770	0.000000	0.000000	-161.11	0.00	0.00	-139.52	80.55	7518.63	13022.65	0.00
270	-0.001330	-0.000700	-0.000132	-121.06	-63.71	-72.09	-136.69	5.35	750.43	12768.28	-283.60
300	-0.000420	-0.000890	-0.000404	-38.23	-81.01	-220.63	-73.61	-51.04	-4324.74	7090.70	-489.56
330	0.000340	-0.001040	-0.000390	30.95	-94.66	-212.99	-20.53	-97.45	-8501.77	2313.42	-527.24

Dish Totals - Service

Wind Azimuth °	V _x	V _z	OTM _x	OTM _z	Torque
	lb	lb	lb-ft	lb-ft	lb-ft
0	26.09	-314.31	-30133.90	-1882.40	-385.68
30	171.07	-295.28	-28011.90	-15581.72	-427.75
60	257.03	-139.66	-13159.25	-23495.09	-464.67
90	298.28	25.66	2427.35	-27347.18	-331.16
120	261.71	151.78	14456.89	-24279.73	42.93
150	171.85	247.97	23933.66	-15977.47	399.83
180	7.40	294.93	28401.99	-199.99	489.56
210	-170.70	297.18	28361.74	16805.47	411.01
240	-258.64	180.13	17008.53	24934.49	342.75
270	-233.48	36.99	3446.86	22446.66	213.55

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<i>Wind Azimuth</i> °	<i>V_x</i> <i>lb</i>	<i>V_z</i> <i>lb</i>	<i>OTM_x</i> <i>lb-ft</i>	<i>OTM_z</i> <i>lb-ft</i>	<i>Torque</i> <i>lb-ft</i>
300	-156.44	-90.13	-8700.97	15373.15	-24.88
330	-85.67	-221.22	-21346.57	8827.71	-265.48

User Load Vectors - No Ice

User Load Totals - No Ice

<i>Wind Azimuth</i> °	<i>V_x</i> <i>lb</i>	<i>V_z</i> <i>lb</i>	<i>OTM_x</i> <i>lb-ft</i>	<i>OTM_z</i> <i>lb-ft</i>	<i>Torque</i> <i>lb-ft</i>
0	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00
210	0.00	0.00	0.00	0.00	0.00
240	0.00	0.00	0.00	0.00	0.00
270	0.00	0.00	0.00	0.00	0.00
300	0.00	0.00	0.00	0.00	0.00
330	0.00	0.00	0.00	0.00	0.00

User Load Vectors - With Ice

User Load Totals - With Ice

<i>Wind Azimuth</i> °	<i>V_x</i> <i>lb</i>	<i>V_z</i> <i>lb</i>	<i>OTM_x</i> <i>lb-ft</i>	<i>OTM_z</i> <i>lb-ft</i>	<i>Torque</i> <i>lb-ft</i>
0	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00
210	0.00	0.00	0.00	0.00	0.00
240	0.00	0.00	0.00	0.00	0.00
270	0.00	0.00	0.00	0.00	0.00
300	0.00	0.00	0.00	0.00	0.00
330	0.00	0.00	0.00	0.00	0.00

User Load Vectors - Service

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User Load Totals - Service

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00
120	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00
210	0.00	0.00	0.00	0.00	0.00
240	0.00	0.00	0.00	0.00	0.00
270	0.00	0.00	0.00	0.00	0.00
300	0.00	0.00	0.00	0.00	0.00
330	0.00	0.00	0.00	0.00	0.00

User Load Vectors - Seismic

H1 - Elevation 10								
Wind Azimuth °	Offset _x ft	Offset _z ft	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	0.00	134.80	0.00	-134.80	-1348.00	0.00	0.00
30	0.00	0.00	134.80	67.40	-116.74	-1167.40	-674.00	0.00
60	0.00	0.00	134.80	116.74	-67.40	-674.00	-1167.40	0.00
90	0.00	0.00	134.80	134.80	0.00	0.00	-1348.00	0.00
120	0.00	0.00	134.80	116.74	67.40	674.00	-1167.40	0.00
150	0.00	0.00	134.80	67.40	116.74	1167.40	-674.00	0.00
180	0.00	0.00	134.80	0.00	134.80	1348.00	0.00	0.00
210	0.00	0.00	134.80	-67.40	116.74	1167.40	674.00	0.00
240	0.00	0.00	134.80	-116.74	67.40	674.00	1167.40	0.00
270	0.00	0.00	134.80	-134.80	0.00	0.00	1348.00	0.00
300	0.00	0.00	134.80	-116.74	-67.40	-674.00	1167.40	0.00
330	0.00	0.00	134.80	-67.40	-116.74	-1167.40	674.00	0.00

H2 - Elevation 30								
Wind Azimuth °	Offset _x ft	Offset _z ft	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	0.00	197.10	0.00	-197.10	-5913.00	0.00	0.00
30	0.00	0.00	197.10	98.55	-170.69	-5120.81	-2956.50	0.00
60	0.00	0.00	197.10	170.69	-98.55	-2956.50	-5120.81	0.00
90	0.00	0.00	197.10	197.10	0.00	0.00	-5913.00	0.00
120	0.00	0.00	197.10	170.69	98.55	2956.50	-5120.81	0.00
150	0.00	0.00	197.10	98.55	170.69	5120.81	-2956.50	0.00
180	0.00	0.00	197.10	0.00	197.10	5913.00	0.00	0.00
210	0.00	0.00	197.10	-98.55	170.69	5120.81	2956.50	0.00
240	0.00	0.00	197.10	-170.69	98.55	2956.50	5120.81	0.00
270	0.00	0.00	197.10	-197.10	0.00	0.00	5913.00	0.00
300	0.00	0.00	197.10	-170.69	-98.55	-2956.50	5120.81	0.00
330	0.00	0.00	197.10	-98.55	-170.69	-5120.81	2956.50	0.00

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<i>H3 - Elevation 50</i>								
<i>Wind Azimuth</i> °	<i>Offset_x</i> ft	<i>Offset_z</i> ft	<i>F</i> lb	<i>V_x</i> lb	<i>V_z</i> lb	<i>OTM_x</i> lb-ft	<i>OTM_z</i> lb-ft	<i>Torque</i> lb-ft
0	0.00	0.00	324.60	0.00	-324.60	-16230.00	0.00	0.00
30	0.00	0.00	324.60	162.30	-281.11	-14055.59	-8115.00	0.00
60	0.00	0.00	324.60	281.11	-162.30	-8115.00	-14055.59	0.00
90	0.00	0.00	324.60	324.60	0.00	0.00	-16230.00	0.00
120	0.00	0.00	324.60	281.11	162.30	8115.00	-14055.59	0.00
150	0.00	0.00	324.60	162.30	281.11	14055.59	-8115.00	0.00
180	0.00	0.00	324.60	0.00	324.60	16230.00	0.00	0.00
210	0.00	0.00	324.60	-162.30	281.11	14055.59	8115.00	0.00
240	0.00	0.00	324.60	-281.11	162.30	8115.00	14055.59	0.00
270	0.00	0.00	324.60	-324.60	0.00	0.00	16230.00	0.00
300	0.00	0.00	324.60	-281.11	-162.30	-8115.00	14055.59	0.00
330	0.00	0.00	324.60	-162.30	-281.11	-14055.59	8115.00	0.00

<i>H4 - Elevation 70</i>								
<i>Wind Azimuth</i> °	<i>Offset_x</i> ft	<i>Offset_z</i> ft	<i>F</i> lb	<i>V_x</i> lb	<i>V_z</i> lb	<i>OTM_x</i> lb-ft	<i>OTM_z</i> lb-ft	<i>Torque</i> lb-ft
0	0.00	0.00	350.20	0.00	-350.20	-24514.00	0.00	0.00
30	0.00	0.00	350.20	175.10	-303.28	-21229.75	-12257.00	0.00
60	0.00	0.00	350.20	303.28	-175.10	-12257.00	-21229.75	0.00
90	0.00	0.00	350.20	350.20	0.00	0.00	-24514.00	0.00
120	0.00	0.00	350.20	303.28	175.10	12257.00	-21229.75	0.00
150	0.00	0.00	350.20	175.10	303.28	21229.75	-12257.00	0.00
180	0.00	0.00	350.20	0.00	350.20	24514.00	0.00	0.00
210	0.00	0.00	350.20	-175.10	303.28	21229.75	12257.00	0.00
240	0.00	0.00	350.20	-303.28	175.10	12257.00	21229.75	0.00
270	0.00	0.00	350.20	-350.20	0.00	0.00	24514.00	0.00
300	0.00	0.00	350.20	-303.28	-175.10	-12257.00	21229.75	0.00
330	0.00	0.00	350.20	-175.10	-303.28	-21229.75	12257.00	0.00

<i>H5 - Elevation 90</i>								
<i>Wind Azimuth</i> °	<i>Offset_x</i> ft	<i>Offset_z</i> ft	<i>F</i> lb	<i>V_x</i> lb	<i>V_z</i> lb	<i>OTM_x</i> lb-ft	<i>OTM_z</i> lb-ft	<i>Torque</i> lb-ft
0	0.00	0.00	564.70	0.00	-564.70	-50823.00	0.00	0.00
30	0.00	0.00	564.70	282.35	-489.04	-44014.01	-25411.50	0.00
60	0.00	0.00	564.70	489.04	-282.35	-25411.50	-44014.01	0.00
90	0.00	0.00	564.70	564.70	0.00	0.00	-50823.00	0.00
120	0.00	0.00	564.70	489.04	282.35	25411.50	-44014.01	0.00
150	0.00	0.00	564.70	282.35	489.04	44014.01	-25411.50	0.00
180	0.00	0.00	564.70	0.00	564.70	50823.00	0.00	0.00
210	0.00	0.00	564.70	-282.35	489.04	44014.01	25411.50	0.00
240	0.00	0.00	564.70	-489.04	282.35	25411.50	44014.01	0.00
270	0.00	0.00	564.70	-564.70	0.00	0.00	50823.00	0.00
300	0.00	0.00	564.70	-489.04	-282.35	-25411.50	44014.01	0.00
330	0.00	0.00	564.70	-282.35	-489.04	-44014.01	25411.50	0.00

<i>H6 - Elevation 110</i>								
<i>Wind Azimuth</i> °	<i>Offset_x</i> ft	<i>Offset_z</i> ft	<i>F</i> lb	<i>V_x</i> lb	<i>V_z</i> lb	<i>OTM_x</i> lb-ft	<i>OTM_z</i> lb-ft	<i>Torque</i> lb-ft
0	0.00	0.00	6608.00	0.00	-6608.00	-726880.00	0.00	0.00
30	0.00	0.00	6608.00	3304.00	-5722.70	-629496.55	-363440.00	0.00

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H6 - Elevation 110								
Wind Azimuth °	Offset _x ft	Offset _z ft	F lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
60	0.00	0.00	6608.00	5722.70	-3304.00	-363440.00	-629496.55	0.00
90	0.00	0.00	6608.00	6608.00	0.00	0.00	-726880.00	0.00
120	0.00	0.00	6608.00	5722.70	3304.00	363440.00	-629496.55	0.00
150	0.00	0.00	6608.00	3304.00	5722.70	629496.55	-363440.00	0.00
180	0.00	0.00	6608.00	0.00	6608.00	726880.00	0.00	0.00
210	0.00	0.00	6608.00	-3304.00	5722.70	629496.55	363440.00	0.00
240	0.00	0.00	6608.00	-5722.70	3304.00	363440.00	629496.55	0.00
270	0.00	0.00	6608.00	-6608.00	0.00	0.00	726880.00	0.00
300	0.00	0.00	6608.00	-5722.70	-3304.00	-363440.00	629496.55	0.00
330	0.00	0.00	6608.00	-3304.00	-5722.70	-629496.55	363440.00	0.00

H7 - Elevation 125.9								
Wind Azimuth °	Offset _x ft	Offset _z ft	F lb	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
0	0.00	0.00	157.80	0.00	-157.80	-19867.02	0.00	0.00
30	0.00	0.00	157.80	78.90	-136.66	-17205.34	-9933.51	0.00
60	0.00	0.00	157.80	136.66	-78.90	-9933.51	-17205.34	0.00
90	0.00	0.00	157.80	157.80	0.00	0.00	-19867.02	0.00
120	0.00	0.00	157.80	136.66	78.90	9933.51	-17205.34	0.00
150	0.00	0.00	157.80	78.90	136.66	17205.34	-9933.51	0.00
180	0.00	0.00	157.80	0.00	157.80	19867.02	0.00	0.00
210	0.00	0.00	157.80	-78.90	136.66	17205.34	9933.51	0.00
240	0.00	0.00	157.80	-136.66	78.90	9933.51	17205.34	0.00
270	0.00	0.00	157.80	-157.80	0.00	0.00	19867.02	0.00
300	0.00	0.00	157.80	-136.66	-78.90	-9933.51	17205.34	0.00
330	0.00	0.00	157.80	-78.90	-136.66	-17205.34	9933.51	0.00

User Load Totals - Seismic

Wind Azimuth °	V _x lb	V _z lb	OTM _x lb-ft	OTM _z lb-ft	Torque lb-ft
0	0.00	-8337.20	-845575.02	0.00	0.00
30	4168.60	-7220.23	-732289.45	-422787.51	0.00
60	7220.23	-4168.60	-422787.51	-732289.45	0.00
90	8337.20	0.00	0.00	-845575.02	0.00
120	7220.23	4168.60	422787.51	-732289.45	0.00
150	4168.60	7220.23	732289.45	-422787.51	0.00
180	0.00	8337.20	845575.02	0.00	0.00
210	-4168.60	7220.23	732289.45	422787.51	0.00
240	-7220.23	4168.60	422787.51	732289.45	0.00
270	-8337.20	0.00	0.00	845575.02	0.00
300	-7220.23	-4168.60	-422787.51	732289.45	0.00
330	-4168.60	-7220.23	-732289.45	422787.51	0.00

Force Totals

tnxTower Nello Corporation 1201 S. Sheridan Street South Bend, IN. 46619 Phone: 800-806-3556 FAX:	Job SO32729; Tower 773613; Foundation 773614	Page 34 of 47
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Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M_x lb-ft	Sum of Overturning Moments, M_z lb-ft	Sum of Torques lb-ft
Leg Weight	8204.63					
Bracing Weight	3407.17					
Total Member Self-Weight	11611.80			276.44	140.13	
Total Weight	20124.00			276.44	140.13	
Wind 0 deg - No Ice		72.25	-26328.31	-2338699.11	-6362.05	-344.67
Wind 30 deg - No Ice		12848.11	-22248.79	-1994296.05	-1151722.07	176.87
Wind 60 deg - No Ice		21905.10	-12586.97	-1130844.59	-1969401.60	117.39
Wind 90 deg - No Ice		25526.73	117.88	12047.74	-2288350.52	195.18
Wind 120 deg - No Ice		22756.26	13140.20	1168866.69	-2022148.55	909.96
Wind 150 deg - No Ice		12869.61	22060.10	1981152.49	-1155527.55	1360.04
Wind 180 deg - No Ice		50.77	25276.96	2276569.45	-4429.57	726.28
Wind 210 deg - No Ice		-12846.74	22255.74	1997594.38	1153075.92	-238.37
Wind 240 deg - No Ice		-22759.87	13225.71	1175888.75	2021587.02	-565.30
Wind 270 deg - No Ice		-25288.68	112.29	11544.99	2267206.19	-627.22
Wind 300 deg - No Ice		-21520.66	-12423.64	-1116818.28	1936248.19	-843.67
Wind 330 deg - No Ice		-12553.05	-21961.82	-1969635.38	1126120.39	-866.50
Member Ice	4531.96					
Total Weight Ice	29138.66			920.91	-90.29	
Wind 0 deg - Ice		19.30	-8882.06	-782708.15	-1827.10	-76.67
Wind 30 deg - Ice		4361.64	-7553.18	-670077.09	-387589.21	123.78
Wind 60 deg - Ice		7463.44	-4291.01	-380908.87	-664557.52	142.38
Wind 90 deg - Ice		8677.82	34.08	4314.83	-770990.96	170.21
Wind 120 deg - Ice		7681.44	4435.37	392574.21	-677981.99	344.82
Wind 150 deg - Ice		4369.58	7501.54	668183.99	-388823.07	421.17
Wind 180 deg - Ice		15.24	8612.64	768677.74	-1461.55	183.80
Wind 210 deg - Ice		-4361.27	7555.15	672691.50	387711.08	-141.09
Wind 240 deg - Ice		-7681.14	4457.49	394380.90	677457.08	-268.15
Wind 270 deg - Ice		-8610.99	30.55	3996.76	764796.12	-291.49
Wind 300 deg - Ice		-7356.83	-4247.05	-377135.95	655099.54	-326.17
Wind 330 deg - Ice		-4280.71	-7473.93	-663262.42	380307.63	-282.59
Total Weight	20124.00			276.44	140.13	
Wind 0 deg - Service		19.67	-7388.45	-645978.90	-1008.09	-93.82
Wind 30 deg - Service		3608.19	-6248.27	-551028.31	-317267.13	48.15
Wind 60 deg - Service		6154.72	-3537.11	-312708.13	-543127.65	31.95
Wind 90 deg - Service		7170.25	32.09	2879.17	-631149.33	53.13
Wind 120 deg - Service		6386.41	3687.70	322257.45	-557485.99	247.70
Wind 150 deg - Service		3614.05	6196.91	546649.74	-318303.02	370.22
Wind 180 deg - Service		13.82	7102.26	628265.74	-482.05	197.70
Wind 210 deg - Service		-3607.82	6250.16	551125.42	319083.12	-64.89
Wind 240 deg - Service		-6387.39	3710.98	324168.94	558780.60	-153.88
Wind 270 deg - Service		-7105.45	30.57	2742.31	626841.05	-170.74
Wind 300 deg - Service		-6050.07	-3492.65	-308890.01	535550.37	-229.66
Wind 330 deg - Service		-3527.87	-6170.16	-544315.39	311745.51	-235.87
Seismic Vertical	0.00					
Seismic Horizontal 0 deg		0.00	-8337.20	-845575.02	0.00	0.00
Seismic Horizontal 30 deg		4168.60	-7220.23	-732289.45	-422787.51	0.00
Seismic Horizontal 60 deg		7220.23	-4168.60	-422787.51	-732289.45	0.00
Seismic Horizontal 90 deg		8337.20	0.00	0.00	-845575.02	0.00
Seismic Horizontal 120 deg		7220.23	4168.60	422787.51	-732289.45	0.00
Seismic Horizontal 150 deg		4168.60	7220.23	732289.45	-422787.51	0.00
Seismic Horizontal 180 deg		0.00	8337.20	845575.02	0.00	0.00
Seismic Horizontal 210 deg		-4168.60	7220.23	732289.45	422787.51	0.00
Seismic Horizontal 240 deg		-7220.23	4168.60	422787.51	732289.45	0.00
Seismic Horizontal 270 deg		-8337.20	0.00	0.00	845575.02	0.00
Seismic Horizontal 300 deg		-7220.23	-4168.60	-422787.51	732289.45	0.00
Seismic Horizontal 330 deg		-4168.60	-7220.23	-732289.45	422787.51	0.00

<i>tnxTower</i> <i>Nello Corporation</i> <i>1201 S. Sheridan Street</i> <i>South Bend, IN. 46619</i> <i>Phone: 800-806-3556</i> <i>FAX:</i>	Job SO32729; Tower 773613; Foundation 773614	Page 35 of 47
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Load Combinations

<i>Comb. No.</i>	<i>Description</i>
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
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	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service
51	1.2 Dead+1.0 Ev+1.0 Eh 0 deg
52	0.9 Dead+1.0 Ev+1.0 Eh 0 deg
53	1.2 Dead+1.0 Ev+1.0 Eh 30 deg
54	0.9 Dead+1.0 Ev+1.0 Eh 30 deg
55	1.2 Dead+1.0 Ev+1.0 Eh 60 deg
56	0.9 Dead+1.0 Ev+1.0 Eh 60 deg
57	1.2 Dead+1.0 Ev+1.0 Eh 90 deg
58	0.9 Dead+1.0 Ev+1.0 Eh 90 deg
59	1.2 Dead+1.0 Ev+1.0 Eh 120 deg

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Comb. No.	Description
60	0.9 Dead-1.0 Ev+1.0 Eh 120 deg
61	1.2 Dead+1.0 Ev+1.0 Eh 150 deg
62	0.9 Dead-1.0 Ev+1.0 Eh 150 deg
63	1.2 Dead+1.0 Ev+1.0 Eh 180 deg
64	0.9 Dead-1.0 Ev+1.0 Eh 180 deg
65	1.2 Dead+1.0 Ev+1.0 Eh 210 deg
66	0.9 Dead-1.0 Ev+1.0 Eh 210 deg
67	1.2 Dead+1.0 Ev+1.0 Eh 240 deg
68	0.9 Dead-1.0 Ev+1.0 Eh 240 deg
69	1.2 Dead+1.0 Ev+1.0 Eh 270 deg
70	0.9 Dead-1.0 Ev+1.0 Eh 270 deg
71	1.2 Dead+1.0 Ev+1.0 Eh 300 deg
72	0.9 Dead-1.0 Ev+1.0 Eh 300 deg
73	1.2 Dead+1.0 Ev+1.0 Eh 330 deg
74	0.9 Dead-1.0 Ev+1.0 Eh 330 deg

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T1	125.9 - 120	Leg	Max Tension	18	1022.03	-0.00	0.00
			Max. Compression	14	-1056.97	0.75	-41.95
			Max. Mx	20	-7.20	-143.71	4.49
			Max. My	4	-7.22	68.54	-127.55
			Max. Vy	20	47.49	-0.00	-0.00
			Max. Vx	4	41.67	0.00	-0.00
		Diagonal	Max Tension	2	1365.74	0.00	0.00
			Max. Compression	14	-1420.98	0.00	0.00
			Max. Mx	14	-1415.39	14.98	-0.40
			Max. My	16	-115.78	2.52	6.14
			Max. Vy	14	6.02	14.98	-0.40
			Max. Vx	16	1.79	0.00	0.00
		Top Girt	Max Tension	14	665.72	0.00	0.00
			Max. Compression	2	-640.70	0.00	0.00
			Max. Mx	26	6.17	-6.15	0.00
			Max. My	6	-322.76	0.00	0.00
			Max. Vy	26	-7.03	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
T2	120 - 100	Leg	Max Tension	15	41762.04	-27.36	1.59
			Max. Compression	10	-47726.43	340.05	-22.85
			Max. Mx	2	-47706.74	340.60	-3.43
			Max. My	16	-1567.29	-25.00	672.57
			Max. Vy	14	-2365.04	-41.95	-0.75
			Max. Vx	4	-2125.76	4.41	144.60
		Diagonal	Max Tension	20	6207.25	0.00	0.00
			Max. Compression	20	-6327.09	0.00	0.00
			Max. Mx	10	5332.59	31.98	2.17
			Max. My	12	-3797.94	-2.28	27.28
			Max. Vy	10	-12.14	31.98	2.17
			Max. Vx	12	-9.32	0.00	0.00
		Leg	Max Tension	15	90703.02	-353.40	-1.55
			Max. Compression	18	-98511.79	703.66	-5.12
			Max. Mx	18	-98511.79	703.66	-5.12
			Max. My	12	-3851.41	-2.69	-717.65
			Max. Vy	6	-307.73	-401.62	-0.82
			Max. Vx	24	359.35	10.71	280.31
T3	100 - 80	Diagonal	Max Tension	12	5661.94	0.00	0.00
			Max. Compression	12	-5756.76	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T4	80 - 60	Leg	Max. Mx	2	4089.61	27.01	0.46
			Max. My	22	-4848.13	-6.32	-4.90
			Max. Vy	35	-10.89	15.81	-0.76
			Max. Vx	22	1.49	0.00	0.00
			Max Tension	15	125258.72	-867.99	3.93
			Max. Compression	18	-135300.92	1502.89	-5.77
			Max. Mx	18	-135300.92	1502.89	-5.77
			Max. My	12	-4258.95	-0.89	-1349.76
		Diagonal	Max. Vy	2	-150.31	1502.88	8.91
			Max. Vx	4	100.94	1.68	-979.33
			Max Tension	4	5416.05	0.00	0.00
			Max. Compression	4	-5602.91	0.00	0.00
			Max. Mx	18	4000.31	31.11	-1.05
			Max. My	14	-4607.42	-3.39	-3.30
			Max. Vy	33	14.73	20.33	-1.98
			Max. Vx	14	0.87	0.00	0.00
T5	60 - 40	Leg	Max Tension	15	154288.29	-1736.80	3.11
			Max. Compression	18	-167373.09	1854.30	-4.66
			Max. Mx	18	-146680.06	1983.84	-3.39
			Max. My	16	-5407.40	-13.51	1931.59
			Max. Vy	14	140.35	-1954.98	3.23
			Max. Vx	16	-112.62	-13.51	1931.59
		Diagonal	Max Tension	4	4754.13	0.00	0.00
			Max. Compression	4	-4900.49	0.00	0.00
			Max. Mx	18	4092.98	41.43	-1.72
			Max. My	14	-4056.63	-1.54	-3.08
			Max. Vy	33	21.01	30.69	-2.51
			Max. Vx	32	0.90	0.00	0.00
		Leg	Max Tension	15	179276.22	-1778.55	3.97
			Max. Compression	18	-195500.26	1815.19	-5.15
			Max. Mx	18	-176862.96	1854.30	-4.66
			Max. My	16	-6573.15	-2.74	1867.13
			Max. Vy	37	-135.27	-730.21	1.03
			Max. Vx	4	72.37	-2.67	-1863.35
T6	40 - 20	Diagonal	Max Tension	4	4574.44	0.00	0.00
			Max. Compression	4	-4736.82	0.00	0.00
			Max. Mx	2	3891.20	42.26	1.67
			Max. My	32	-879.63	27.54	-3.11
			Max. Vy	33	23.37	35.72	-2.96
			Max. Vx	32	-0.94	0.00	0.00
		Leg	Max Tension	15	201147.17	-1766.28	6.50
			Max. Compression	18	-220565.67	-0.00	-0.00
			Max. Mx	35	-78395.74	3275.31	-3.66
			Max. My	16	-7714.86	-85.25	3098.99
			Max. Vy	37	-673.24	-2253.47	0.74
			Max. Vx	16	519.48	-85.25	3098.99
T7	20 - 0	Diagonal	Max Tension	5	4816.35	0.00	0.00
			Max. Compression	10	-5062.37	0.00	0.00
			Max. Mx	33	168.14	47.85	-3.62
			Max. My	37	-2368.54	36.55	4.07
			Max. Vy	33	25.56	47.85	-3.62
			Max. Vx	37	-1.06	0.00	0.00

Maximum Reactions

tnxTower Nello Corporation 1201 S. Sheridan Street South Bend, IN. 46619 Phone: 800-806-3556 FAX:	Job	Page
	SO32729; Tower 773613; Foundation 773614	38 of 47
	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK Client Atlas Tower	Date 11:34:28 02/21/25 Designed by AG

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Leg C	Max. Vert	18	225210.66	14623.83	-8415.51
	Max. H _x	18	225210.66	14623.83	-8415.51
	Max. H _z	7	-204564.38	-13520.29	7798.38
	Min. Vert	7	-204564.38	-13520.29	7798.38
	Min. H _x	7	-204564.38	-13520.29	7798.38
	Min. H _z	18	225210.66	14623.83	-8415.51
Leg B	Max. Vert	10	224925.03	-14609.76	-8386.11
	Max. H _x	23	-201251.92	13309.79	7639.26
	Max. H _z	23	-201251.92	13309.79	7639.26
	Min. Vert	23	-201251.92	13309.79	7639.26
	Min. H _x	10	224925.03	-14609.76	-8386.11
	Min. H _z	10	224925.03	-14609.76	-8386.11
Leg A	Max. Vert	2	225201.63	-18.42	16874.60
	Max. H _x	21	4970.29	955.93	268.89
	Max. H _z	2	225201.63	-18.42	16874.60
	Min. Vert	15	-205079.38	32.59	-15622.81
	Min. H _x	9	4924.00	-985.29	264.24
	Min. H _z	15	-205079.38	32.59	-15622.81

Tower Mast Reaction Summary

Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _z lb-ft	Torque lb-ft
Dead Only	20124.00	0.00	0.00	276.60	140.03	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	24148.80	72.25	-26328.31	-2350739.70	-6351.54	-351.78
0.9 Dead+1.0 Wind 0 deg - No Ice	18111.60	72.25	-26328.31	-2347757.40	-6388.56	-349.91
1.2 Dead+1.0 Wind 30 deg - No Ice	24148.80	12848.11	-22248.79	-2004594.01	-1157670.26	179.77
0.9 Dead+1.0 Wind 30 deg - No Ice	18111.60	12848.11	-22248.79	-2002053.64	-1156197.93	181.91
1.2 Dead+1.0 Wind 60 deg - No Ice	24148.80	21905.11	-12586.97	-1136687.69	-1979619.60	112.35
0.9 Dead+1.0 Wind 60 deg - No Ice	18111.60	21905.11	-12586.97	-1135278.00	-1977066.63	113.75
1.2 Dead+1.0 Wind 90 deg - No Ice	24148.80	25526.73	117.87	12146.06	-2300204.58	183.68
0.9 Dead+1.0 Wind 90 deg - No Ice	18111.60	25526.73	117.88	12050.77	-2297236.81	183.99
1.2 Dead+1.0 Wind 120 deg - No Ice	24148.80	22756.26	13140.20	1174970.28	-2032573.44	911.91
0.9 Dead+1.0 Wind 120 deg - No Ice	18111.60	22756.26	13140.20	1173355.54	-2029967.48	911.48
1.2 Dead+1.0 Wind 150 deg - No Ice	24148.80	12869.61	22060.10	1991522.60	-1161483.17	1375.09
0.9 Dead+1.0 Wind 150 deg - No Ice	18111.60	12869.61	22060.10	1988827.50	-1160007.56	1374.04
1.2 Dead+1.0 Wind 180 deg - No Ice	24148.80	50.77	25276.96	2288492.78	-4407.92	733.31
0.9 Dead+1.0 Wind 180 deg - No Ice	18111.60	50.77	25276.96	2285404.04	-4447.14	731.47
1.2 Dead+1.0 Wind 210 deg - No Ice	24148.80	-12846.74	22255.75	2008026.71	1159096.34	-241.23
0.9 Dead+1.0 Wind 210 deg - No Ice	18111.60	-12846.74	22255.74	2005313.95	1157535.51	-243.38

<i>tnxTower</i> <i>Nello Corporation</i> <i>1201 S. Sheridan Street</i> <i>South Bend, IN. 46619</i> <i>Phone: 800-806-3556</i> <i>FAX:</i>	Job	Page
	SO32729; Tower 773613; Foundation 773614	39 of 47
	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date 11:34:28 02/21/25
	Client Atlas Tower	Designed by AG

<i>Load Combination</i>	<i>Vertical lb</i>	<i>Shear_x lb</i>	<i>Shear_z lb</i>	<i>Overturning Moment, M_x lb-ft</i>	<i>Overturning Moment, M_z lb-ft</i>	<i>Torque lb-ft</i>
1.2 Dead+1.0 Wind 240 deg - No Ice	24148.80	-22759.87	13225.71	1182016.91	2032075.46	-560.11
0.9 Dead+1.0 Wind 240 deg - No Ice	18111.60	-22759.87	13225.71	1180394.65	2029382.42	-561.55
1.2 Dead+1.0 Wind 270 deg - No Ice	24148.80	-25288.68	112.29	11644.52	2279034.10	-615.81
0.9 Dead+1.0 Wind 270 deg - No Ice	18111.60	-25288.68	112.29	11549.65	2276001.51	-616.14
1.2 Dead+1.0 Wind 300 deg - No Ice	24148.80	-21520.66	-12423.64	-1122594.57	1946393.69	-845.36
0.9 Dead+1.0 Wind 300 deg - No Ice	18111.60	-21520.66	-12423.64	-1121200.19	1943788.79	-844.96
1.2 Dead+1.0 Wind 330 deg - No Ice	24148.80	-12553.05	-21961.82	-1979824.05	1132032.86	-881.36
0.9 Dead+1.0 Wind 330 deg - No Ice	18111.60	-12553.05	-21961.82	-1977310.41	1130500.44	-880.31
1.2 Dead+1.0 Ice+1.0 Temp	33163.46	-0.00	-0.00	976.30	-62.41	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	33163.46	19.30	-8882.05	-788069.76	-1800.06	-79.74
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	33163.46	4361.64	-7553.17	-674672.14	-390239.19	121.20
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	33163.46	7463.43	-4291.01	-383506.73	-669135.51	140.74
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	33163.46	8677.81	34.08	4390.45	-776300.08	169.96
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	33163.46	7681.43	4435.37	395338.59	-682631.73	346.28
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	33163.46	4369.58	7501.54	672874.54	-391480.60	423.89
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	33163.46	15.24	8612.64	774072.21	-1432.06	186.82
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	33163.46	-4361.26	7555.15	677406.87	390437.23	-138.47
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	33163.46	-7681.13	4457.48	397155.02	682177.78	-266.52
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	33163.46	-8610.99	30.55	4070.96	770143.73	-291.19
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	33163.46	-7356.82	-4247.05	-379711.63	659698.13	-327.51
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	33163.46	-4280.71	-7473.93	-667818.23	382990.90	-285.32
Dead+Wind 0 deg - Service	20124.00	19.67	-7388.45	-648161.26	-1632.53	-95.41
Dead+Wind 30 deg - Service	20124.00	3608.19	-6248.27	-552809.07	-319261.07	45.84
Dead+Wind 60 deg - Service	20124.00	6154.72	-3537.11	-313461.68	-546102.31	30.83
Dead+Wind 90 deg - Service	20124.00	7170.25	32.09	3492.04	-634502.03	53.45
Dead+Wind 120 deg - Service	20124.00	6386.41	3687.70	324249.89	-560510.97	248.17
Dead+Wind 150 deg - Service	20124.00	3614.05	6196.91	549622.21	-320301.22	370.70
Dead+Wind 180 deg - Service	20124.00	13.82	7102.26	631594.21	-1104.33	199.32
Dead+Wind 210 deg - Service	20124.00	-3607.82	6250.16	554113.30	319842.52	-62.56
Dead+Wind 240 deg - Service	20124.00	-6387.39	3710.98	326167.81	560567.85	-152.75
Dead+Wind 270 deg - Service	20124.00	-7105.45	30.57	3355.01	628935.75	-171.03
Dead+Wind 300 deg - Service	20124.00	-6050.07	-3492.65	-309629.28	537255.75	-230.11
Dead+Wind 330 deg - Service	20124.00	-3527.87	-6170.16	-546071.70	312477.85	-236.38
1.2 Dead+1.0 Ev+1.0 Eh 0 deg	24148.80	-0.00	-8337.20	-849754.30	172.93	-2.80
0.9 Dead-1.0 Ev+1.0 Eh 0 deg	18111.60	-0.00	-8337.20	-848701.84	128.77	-2.10
1.2 Dead+1.0 Ev+1.0 Eh 30 deg	24148.80	4168.60	-7220.23	-735864.84	-424871.11	-3.37
0.9 Dead-1.0 Ev+1.0 Eh 30 deg	18111.60	4168.60	-7220.23	-734964.37	-424347.46	-2.46
1.2 Dead+1.0 Ev+1.0 Eh 60 deg	24148.75	7220.10	-4168.53	-424712.90	-736023.89	-2.12
0.9 Dead-1.0 Ev+1.0 Eh 60 deg	18111.60	7220.23	-4168.60	-424227.38	-735084.45	-1.58
1.2 Dead+1.0 Ev+1.0 Eh 90 deg	24148.80	8337.20	-0.00	329.24	-849913.05	-0.30
0.9 Dead-1.0 Ev+1.0 Eh 90 deg	18111.60	8337.20	-0.00	247.21	-848822.12	-0.29

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	Client Atlas Tower	Designed by AG

<i>Load Combination</i>	<i>Vertical lb</i>	<i>Shear_x lb</i>	<i>Shear_z lb</i>	<i>Overturning Moment, M_x lb-ft</i>	<i>Overturning Moment, M_z lb-ft</i>	<i>Torque lb-ft</i>
1.2 Dead+1.0 Ev+1.0 Eh 120 deg	24148.80	7220.23	4168.60	425372.88	-736022.21	0.68
0.9 Dead-1.0 Ev+1.0 Eh 120 deg	18111.60	7220.23	4168.60	424723.12	-735083.57	0.51
1.2 Dead+1.0 Ev+1.0 Eh 150 deg	24148.80	4168.60	7220.23	736527.02	-424868.96	1.48
0.9 Dead-1.0 Ev+1.0 Eh 150 deg	18111.60	4168.60	7220.23	735461.54	-424345.86	1.17
1.2 Dead+1.0 Ev+1.0 Eh 180 deg	24148.75	-0.00	8337.05	850417.21	173.00	2.80
0.9 Dead-1.0 Ev+1.0 Eh 180 deg	18111.60	-0.00	8337.20	849199.14	128.82	2.09
1.2 Dead+1.0 Ev+1.0 Eh 210 deg	24148.80	-4168.60	7220.23	736527.04	425214.93	3.37
0.9 Dead-1.0 Ev+1.0 Eh 210 deg	18111.60	-4168.60	7220.23	735461.55	424603.47	2.46
1.2 Dead+1.0 Ev+1.0 Eh 240 deg	24148.80	-7220.23	4168.60	425372.92	736368.13	2.12
0.9 Dead-1.0 Ev+1.0 Eh 240 deg	18111.60	-7220.23	4168.60	424723.15	735341.15	1.59
1.2 Dead+1.0 Ev+1.0 Eh 270 deg	24148.80	-8337.20	-0.00	329.31	850258.92	0.30
0.9 Dead-1.0 Ev+1.0 Eh 270 deg	18111.60	-8337.20	-0.00	247.26	849079.67	0.29
1.2 Dead+1.0 Ev+1.0 Eh 300 deg	24148.75	-7220.10	-4168.53	-424712.83	736369.74	-0.68
0.9 Dead-1.0 Ev+1.0 Eh 300 deg	18111.60	-7220.23	-4168.60	-424227.33	735341.99	-0.51
1.2 Dead+1.0 Ev+1.0 Eh 330 deg	24148.80	-4168.60	-7220.23	-735864.79	425216.97	-1.48
0.9 Dead-1.0 Ev+1.0 Eh 330 deg	18111.60	-4168.60	-7220.23	-734964.33	424605.00	-1.17

Solution Summary

<i>Load Comb.</i>	<i>Sum of Applied Forces</i>			<i>Sum of Reactions</i>			<i>% Error</i>
	<i>PX lb</i>	<i>PY lb</i>	<i>PZ lb</i>	<i>PX lb</i>	<i>PY lb</i>	<i>PZ lb</i>	
1	0.00	-20124.00	0.00	0.00	20124.00	0.00	0.000%
2	72.25	-24148.80	-26328.31	-72.25	24148.80	26328.31	0.000%
3	72.25	-18111.60	-26328.31	-72.25	18111.60	26328.31	0.000%
4	12848.11	-24148.80	-22248.79	-12848.11	24148.80	22248.79	0.000%
5	12848.11	-18111.60	-22248.79	-12848.11	18111.60	22248.79	0.000%
6	21905.10	-24148.80	-12586.97	-21905.11	24148.80	12586.97	0.000%
7	21905.10	-18111.60	-12586.97	-21905.11	18111.60	12586.97	0.000%
8	25526.73	-24148.80	117.88	-25526.73	24148.80	-117.87	0.000%
9	25526.73	-18111.60	117.88	-25526.73	18111.60	-117.88	0.000%
10	22756.26	-24148.80	13140.20	-22756.26	24148.80	-13140.20	0.000%
11	22756.26	-18111.60	13140.20	-22756.26	18111.60	-13140.20	0.000%
12	12869.61	-24148.80	22060.10	-12869.61	24148.80	-22060.10	0.000%
13	12869.61	-18111.60	22060.10	-12869.61	18111.60	-22060.10	0.000%
14	50.77	-24148.80	25276.96	-50.77	24148.80	-25276.96	0.000%
15	50.77	-18111.60	25276.96	-50.77	18111.60	-25276.96	0.000%
16	-12846.74	-24148.80	22255.74	12846.74	24148.80	-22255.75	0.000%
17	-12846.74	-18111.60	22255.74	12846.74	18111.60	-22255.74	0.000%
18	-22759.87	-24148.80	13225.71	22759.87	24148.80	-13225.71	0.000%
19	-22759.87	-18111.60	13225.71	22759.87	18111.60	-13225.71	0.000%
20	-25288.68	-24148.80	112.29	25288.68	24148.80	-112.29	0.000%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
21	-25288.68	-18111.60	112.29	25288.68	18111.60	-112.29	0.000%
22	-21520.66	-24148.80	-12423.64	21520.66	24148.80	12423.64	0.000%
23	-21520.66	-18111.60	-12423.64	21520.66	18111.60	12423.64	0.000%
24	-12553.05	-24148.80	-21961.82	12553.05	24148.80	21961.82	0.000%
25	-12553.05	-18111.60	-21961.82	12553.05	18111.60	21961.82	0.000%
26	-0.00	-33163.46	0.00	0.00	33163.46	0.00	0.000%
27	19.30	-33163.46	-8882.06	-19.30	33163.46	8882.05	0.000%
28	4361.64	-33163.46	-7553.18	-4361.64	33163.46	7553.17	0.000%
29	7463.44	-33163.46	-4291.01	-7463.43	33163.46	4291.01	0.000%
30	8677.82	-33163.46	34.08	-8677.81	33163.46	-34.08	0.000%
31	7681.44	-33163.46	4435.37	-7681.43	33163.46	-4435.37	0.000%
32	4369.58	-33163.46	7501.54	-4369.58	33163.46	-7501.54	0.000%
33	15.24	-33163.46	8612.64	-15.24	33163.46	-8612.64	0.000%
34	-4361.27	-33163.46	7555.15	4361.26	33163.46	-7555.15	0.000%
35	-7681.14	-33163.46	4457.49	7681.13	33163.46	-4457.48	0.000%
36	-8610.99	-33163.46	30.55	8610.99	33163.46	-30.55	0.000%
37	-7356.83	-33163.46	-4247.05	7356.82	33163.46	4247.05	0.000%
38	-4280.71	-33163.46	-7473.93	4280.71	33163.46	7473.93	0.000%
39	19.67	-20124.00	-7388.45	-19.67	20124.00	7388.45	0.000%
40	3608.19	-20124.00	-6248.27	-3608.19	20124.00	6248.27	0.000%
41	6154.72	-20124.00	-3537.11	-6154.72	20124.00	3537.11	0.000%
42	7170.25	-20124.00	32.09	-7170.25	20124.00	-32.09	0.000%
43	6386.41	-20124.00	3687.70	-6386.41	20124.00	-3687.70	0.000%
44	3614.05	-20124.00	6196.91	-3614.05	20124.00	-6196.91	0.000%
45	13.82	-20124.00	7102.26	-13.82	20124.00	-7102.26	0.000%
46	-3607.82	-20124.00	6250.16	3607.82	20124.00	-6250.16	0.000%
47	-6387.39	-20124.00	3710.98	6387.39	20124.00	-3710.98	0.000%
48	-7105.45	-20124.00	30.57	7105.45	20124.00	-30.57	0.000%
49	-6050.07	-20124.00	-3492.65	6050.07	20124.00	3492.65	0.000%
50	-3527.87	-20124.00	-6170.16	3527.87	20124.00	6170.16	0.000%
51	0.00	-24148.80	-8337.20	0.00	24148.80	8337.20	0.000%
52	0.00	-18111.60	-8337.20	0.00	18111.60	8337.20	0.000%
53	4168.60	-24148.80	-7220.23	-4168.60	24148.80	7220.23	0.000%
54	4168.60	-18111.60	-7220.23	-4168.60	18111.60	7220.23	0.000%
55	7220.23	-24148.80	-4168.60	-7220.10	24148.75	4168.53	0.001%
56	7220.23	-18111.60	-4168.60	-7220.23	18111.60	4168.60	0.000%
57	8337.20	-24148.80	0.00	-8337.20	24148.80	0.00	0.000%
58	8337.20	-18111.60	0.00	-8337.20	18111.60	0.00	0.000%
59	7220.23	-24148.80	4168.60	-7220.23	24148.80	-4168.60	0.000%
60	7220.23	-18111.60	4168.60	-7220.23	18111.60	-4168.60	0.000%
61	4168.60	-24148.80	7220.23	-4168.60	24148.80	-7220.23	0.000%
62	4168.60	-18111.60	7220.23	-4168.60	18111.60	-7220.23	0.000%
63	0.00	-24148.80	8337.20	0.00	24148.75	-8337.05	0.001%
64	0.00	-18111.60	8337.20	0.00	18111.60	-8337.20	0.000%
65	-4168.60	-24148.80	7220.23	4168.60	24148.80	-7220.23	0.000%
66	-4168.60	-18111.60	7220.23	4168.60	18111.60	-7220.23	0.000%
67	-7220.23	-24148.80	4168.60	7220.23	24148.80	-4168.60	0.000%
68	-7220.23	-18111.60	4168.60	7220.23	18111.60	-4168.60	0.000%
69	-8337.20	-24148.80	0.00	8337.20	24148.80	0.00	0.000%
70	-8337.20	-18111.60	0.00	8337.20	18111.60	0.00	0.000%
71	-7220.23	-24148.80	-4168.60	7220.10	24148.75	4168.53	0.001%
72	-7220.23	-18111.60	-4168.60	7220.23	18111.60	4168.60	0.000%
73	-4168.60	-24148.80	-7220.23	4168.60	24148.80	7220.23	0.000%
74	-4168.60	-18111.60	-7220.23	4168.60	18111.60	7220.23	0.000%

Non-Linear Convergence Results

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	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date 11:34:28 02/21/25
	Client Atlas Tower	Designed by AG

<i>Load Combination</i>	<i>Converged?</i>	<i>Number of Cycles</i>	<i>Displacement Tolerance</i>	<i>Force Tolerance</i>
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00000001
3	Yes	4	0.00000001	0.00000001
4	Yes	4	0.00000001	0.00000128
5	Yes	4	0.00000001	0.00000119
6	Yes	4	0.00000001	0.00000001
7	Yes	4	0.00000001	0.00000001
8	Yes	4	0.00000001	0.00000133
9	Yes	4	0.00000001	0.00000123
10	Yes	4	0.00000001	0.00000001
11	Yes	4	0.00000001	0.00000001
12	Yes	4	0.00000001	0.00000139
13	Yes	4	0.00000001	0.00000129
14	Yes	4	0.00000001	0.00000001
15	Yes	4	0.00000001	0.00000001
16	Yes	4	0.00000001	0.00000129
17	Yes	4	0.00000001	0.00000120
18	Yes	4	0.00000001	0.00000001
19	Yes	4	0.00000001	0.00000001
20	Yes	4	0.00000001	0.00000130
21	Yes	4	0.00000001	0.00000120
22	Yes	4	0.00000001	0.00000001
23	Yes	4	0.00000001	0.00000001
24	Yes	4	0.00000001	0.00000135
25	Yes	4	0.00000001	0.00000125
26	Yes	4	0.00000001	0.00000001
27	Yes	4	0.00000001	0.00000001
28	Yes	4	0.00000001	0.00000001
29	Yes	4	0.00000001	0.00000001
30	Yes	4	0.00000001	0.00000001
31	Yes	4	0.00000001	0.00000001
32	Yes	4	0.00000001	0.00000001
33	Yes	4	0.00000001	0.00000001
34	Yes	4	0.00000001	0.00000001
35	Yes	4	0.00000001	0.00000001
36	Yes	4	0.00000001	0.00000001
37	Yes	4	0.00000001	0.00000001
38	Yes	4	0.00000001	0.00000001
39	Yes	4	0.00000001	0.00000001
40	Yes	4	0.00000001	0.00000001
41	Yes	4	0.00000001	0.00000001
42	Yes	4	0.00000001	0.00000001
43	Yes	4	0.00000001	0.00000001
44	Yes	4	0.00000001	0.00000001
45	Yes	4	0.00000001	0.00000001
46	Yes	4	0.00000001	0.00000001
47	Yes	4	0.00000001	0.00000001
48	Yes	4	0.00000001	0.00000001
49	Yes	4	0.00000001	0.00000001
50	Yes	4	0.00000001	0.00000001
51	Yes	4	0.00000001	0.00000001
52	Yes	4	0.00000001	0.00000001
53	Yes	4	0.00000001	0.00000001
54	Yes	4	0.00000001	0.00000001
55	Yes	4	0.00000001	0.00000001
56	Yes	4	0.00000001	0.00000001
57	Yes	4	0.00000001	0.00000001
58	Yes	4	0.00000001	0.00000001
59	Yes	4	0.00000001	0.00000001
60	Yes	4	0.00000001	0.00000001
61	Yes	4	0.00000001	0.00000001
62	Yes	4	0.00000001	0.00000001

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	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK Client Atlas Tower	Date 11:34:28 02/21/25 Designed by AG

63	Yes	4	0.00000001	0.00000001
64	Yes	4	0.00000001	0.00000001
65	Yes	4	0.00000001	0.00000001
66	Yes	4	0.00000001	0.00000001
67	Yes	4	0.00000001	0.00000001
68	Yes	4	0.00000001	0.00000001
69	Yes	4	0.00000001	0.00000001
70	Yes	4	0.00000001	0.00000001
71	Yes	4	0.00000001	0.00000001
72	Yes	4	0.00000001	0.00000001
73	Yes	4	0.00000001	0.00000001
74	Yes	4	0.00000001	0.00000001

Maximum Tower Deflections - Service Wind

Section No.	Elevation <i>ft</i>	Horz. Deflection <i>in</i>	Gov. Load Comb.	Tilt °	Twist °
T1	125.9 - 120	3.865	47	0.2812	0.0079
T2	120 - 100	3.520	47	0.2827	0.0079
T3	100 - 80	2.343	47	0.2428	0.0086
T4	80 - 60	1.424	47	0.1676	0.0051
T5	60 - 40	0.799	47	0.1144	0.0027
T6	40 - 20	0.374	47	0.0767	0.0015
T7	20 - 0	0.107	47	0.0383	0.0006

Critical Deflections and Radius of Curvature - Service Wind

Elevation <i>ft</i>	Appurtenance	Gov. Load Comb.	Deflection <i>in</i>	Tilt °	Twist °	Radius of Curvature <i>ft</i>
125.90	H7	47	3.865	0.2812	0.0079	45629
120.00	30,000 sq in CaAa	47	3.520	0.2827	0.0079	43884
110.00	30,000 sq in CaAa	47	2.919	0.2708	0.0086	48563
100.00	6' Solid w/Radome	47	2.343	0.2428	0.0086	14707
90.00	6' Solid w/Radome	47	1.842	0.2052	0.0061	14604
70.00	H4	47	1.080	0.1377	0.0039	19366
50.00	H3	47	0.566	0.0950	0.0020	29427
30.00	H2	47	0.219	0.0578	0.0011	27865
10.00	H1	47	0.041	0.0191	0.0003	46850

Maximum Tower Deflections - Design Wind

Section No.	Elevation <i>ft</i>	Horz. Deflection <i>in</i>	Gov. Load Comb.	Tilt °	Twist °
T1	125.9 - 120	14.117	2	1.0295	0.0290
T2	120 - 100	12.853	2	1.0349	0.0290
T3	100 - 80	8.543	18	0.8880	0.0315
T4	80 - 60	5.181	18	0.6123	0.0187
T5	60 - 40	2.902	18	0.4172	0.0100

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Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T6	40 - 20	1.354	2	0.2793	0.0055
T7	20 - 0	0.385	2	0.1392	0.0024

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
125.90	H7	2	14.117	1.0295	0.0290	12427
120.00	30,000 sq in CaAa	2	12.853	1.0349	0.0290	11952
110.00	30,000 sq in CaAa	2	10.653	0.9911	0.0318	13248
100.00	6' Solid w/Radome	18	8.543	0.8880	0.0315	4012
90.00	6' Solid w/Radome	18	6.711	0.7503	0.0224	3980
70.00	H4	18	3.928	0.5024	0.0143	5280
50.00	H3	18	2.053	0.3460	0.0073	8024
30.00	H2	2	0.791	0.2101	0.0039	7630
10.00	H1	2	0.146	0.0692	0.0011	12857

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	125.9 - 120	P2x.154	5.90	5.90	89.9 K=1.00	1.0745	-1056.97	26762.20	0.039 ¹
T2	120 - 100	P3x.216	20.02	5.00	51.6 K=1.00	2.2285	-47726.40	82532.90	0.578 ¹
T3	100 - 80	P4x.237	20.02	5.00	39.8 K=1.00	3.1741	-98511.80	127223.00	0.774 ¹
T4	80 - 60	P6x.28	20.02	6.67	35.7 K=1.00	5.5813	-135301.00	228860.00	0.591 ¹
T5	60 - 40	P8x.322	20.02	6.67	27.3 K=1.00	8.3993	-167373.00	357982.00	0.468 ¹
T6	40 - 20	P8x.322	20.02	6.67	27.3 K=1.00	8.3993	-195500.00	357982.00	0.546 ¹
T7	20 - 0	P8x.322	20.02	6.67	27.3 K=1.00	8.3993	-220566.00	357982.00	0.616 ¹

¹ P_u / φP_n controls

Diagonal Design Data (Compression)

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Section No.	Elevation <i>ft</i>	Size	<i>L</i> <i>ft</i>	<i>L_u</i> <i>ft</i>	<i>Kl/r</i>	<i>A</i> <i>in²</i>	<i>P_u</i> <i>lb</i>	ϕP_n <i>lb</i>	Ratio $\frac{P_u}{\phi P_n}$
T1	125.9 - 120	L1 3/4x1 3/4x1/8	6.86	3.24	112.0 K=1.00	0.4219	-1420.98	9631.15	0.148 ¹
T2	120 - 100	L2x2x1/8	6.69	3.27	98.8 K=1.00	0.4844	-6327.09	13049.50	0.485 ¹
T3	100 - 80	L2x2x1/8	8.05	3.91	117.9 K=1.00	0.4844	-5186.42	9966.75	0.520 ¹
T4	80 - 60	L2x2x3/16	10.22	4.91	149.6 K=1.00	0.7150	-5086.76	9140.81	0.556 ¹
T5	60 - 40	L2 1/2x2 1/2x3/16	11.40	5.41	131.2 K=1.00	0.9020	-4796.55	14994.70	0.320 ¹
T6	40 - 20	L2 1/2x2 1/2x3/16	12.65	6.05	146.7 K=1.00	0.9020	-4660.53	12004.30	0.388 ¹
T7	20 - 0	L2 1/2x2 1/2x3/16	13.95	6.71	162.6 K=1.00	0.9020	-5062.37	9765.99	0.518 ¹

¹ $P_u / \phi P_n$ controls

Top Girt Design Data (Compression)

Section No.	Elevation <i>ft</i>	Size	<i>L</i> <i>ft</i>	<i>L_u</i> <i>ft</i>	<i>Kl/r</i>	<i>A</i> <i>in²</i>	<i>P_u</i> <i>lb</i>	ϕP_n <i>lb</i>	Ratio $\frac{P_u}{\phi P_n}$
T1	125.9 - 120	L1 3/4x1 3/4x1/8	3.50	3.30	114.3 K=1.00	0.4219	-640.70	9249.83	0.069 ¹

¹ $P_u / \phi P_n$ controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation <i>ft</i>	Size	<i>L</i> <i>ft</i>	<i>L_u</i> <i>ft</i>	<i>Kl/r</i>	<i>A</i> <i>in²</i>	<i>P_u</i> <i>lb</i>	ϕP_n <i>lb</i>	Ratio $\frac{P_u}{\phi P_n}$
T1	125.9 - 120	P2x.154	5.90	5.90	89.9	1.0745	1022.03	48353.90	0.021 ¹
T2	120 - 100	P3x.216	20.02	5.00	51.6	2.2285	41762.00	100281.00	0.416 ¹
T3	100 - 80	P4x.237	20.02	5.00	39.8	3.1741	90703.00	142832.00	0.635 ¹
T4	80 - 60	P6x.28	20.02	6.67	35.7	5.5813	125259.00	251161.00	0.499 ¹
T5	60 - 40	P8x.322	20.02	6.67	27.3	8.3993	154288.00	377967.00	0.408 ¹
T6	40 - 20	P8x.322	20.02	6.67	27.3	8.3993	179276.00	377967.00	0.474 ¹

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	Client	Atlas Tower	Designed by	AG

Section No.	Elevation <i>ft</i>	Size	<i>L</i> <i>ft</i>	<i>L_u</i> <i>ft</i>	<i>Kl/r</i>	<i>A</i> <i>in²</i>	<i>P_u</i> <i>lb</i>	ϕP_n <i>lb</i>	Ratio $\frac{P_u}{\phi P_n}$
T7	20 - 0	P8x.322	20.02	6.67	27.3	8.3993	201147.00	377967.00	0.532 ¹

¹ $P_u / \phi P_n$ controls

Diagonal Design Data (Tension)

Section No.	Elevation <i>ft</i>	Size	<i>L</i> <i>ft</i>	<i>L_u</i> <i>ft</i>	<i>Kl/r</i>	<i>A</i> <i>in²</i>	<i>P_u</i> <i>lb</i>	ϕP_n <i>lb</i>	Ratio $\frac{P_u}{\phi P_n}$
T1	125.9 - 120	L1 3/4x1 3/4x1/8	6.86	3.24	71.2	0.3164	1365.74	15424.80	0.089 ¹
T2	120 - 100	L2x2x1/8	6.69	3.27	62.7	0.3633	6207.25	17710.00	0.350 ¹
T3	100 - 80	L2x2x1/8	7.21	3.49	67.0	0.3633	5661.94	17710.00	0.320 ¹
T4	80 - 60	L2x2x3/16	9.49	4.56	88.6	0.5363	5416.05	26142.20	0.207 ¹
T5	60 - 40	L2 1/2x2 1/2x3/16	10.61	5.02	77.5	0.6765	4754.13	32979.40	0.144 ¹
T6	40 - 20	L2 1/2x2 1/2x3/16	11.81	5.63	86.9	0.6765	4574.44	32979.40	0.139 ¹
T7	20 - 0	L2 1/2x2 1/2x3/16	13.95	6.71	103.4	0.6765	4816.35	32979.40	0.146 ¹

¹ $P_u / \phi P_n$ controls

Top Girt Design Data (Tension)

Section No.	Elevation <i>ft</i>	Size	<i>L</i> <i>ft</i>	<i>L_u</i> <i>ft</i>	<i>Kl/r</i>	<i>A</i> <i>in²</i>	<i>P_u</i> <i>lb</i>	ϕP_n <i>lb</i>	Ratio $\frac{P_u}{\phi P_n}$
T1	125.9 - 120	L1 3/4x1 3/4x1/8	3.50	3.30	72.6	0.3164	665.72	15424.80	0.043 ¹

¹ $P_u / \phi P_n$ controls

Section Capacity Table

Section No.	Elevation <i>ft</i>	Component Type	Size	Critical Element	<i>P</i> <i>lb</i>	ϕP_{allow} <i>lb</i>	% Capacity	Pass Fail
T1	125.9 - 120	Leg	P2x.154	3	-1056.97	26762.20	3.9	Pass

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	Project NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK	Date 11:34:28 02/21/25
	Client Atlas Tower	Designed by AG

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T2	120 - 100	Diagonal	L1 3/4x1 3/4x1/8	7	-1420.98	9631.15	14.8	Pass
		Top Girt	L1 3/4x1 3/4x1/8	4	-640.70	9249.83	6.9	Pass
		Leg	P3x.216	14	-47726.40	82532.90	57.8	Pass
T3	100 - 80	Diagonal	L2x2x1/8	22	-6327.09	13049.50	48.5	Pass
		Leg	P4x.237	40	-98511.80	127223.00	77.4	Pass
T4	80 - 60	Diagonal	L2x2x1/8	47	-5186.42	9966.75	52.0	Pass
		Leg	P6x.28	67	-135301.00	228860.00	59.1	Pass
T5	60 - 40	Diagonal	L2x2x3/16	74	-5086.76	9140.81	55.6	Pass
		Leg	P8x.322	88	-167373.00	357982.00	46.8	Pass
T6	40 - 20	Diagonal	L2 1/2x2 1/2x3/16	95	-4796.55	14994.70	32.0	Pass
		Leg	P8x.322	109	-195500.00	357982.00	54.6	Pass
T7	20 - 0	Diagonal	L2 1/2x2 1/2x3/16	116	-4660.53	12004.30	38.8	Pass
		Leg	P8x.322	130	-220566.00	357982.00	61.6	Pass
		Diagonal	L2 1/2x2 1/2x3/16	134	-5062.37	9765.99	51.8	Pass
							Summary	
						Leg (T3)	77.4	Pass
						Diagonal (T4)	55.6	Pass
						Top Girt (T1)	6.9	Pass
						RATING =	77.4	Pass

Combined Foundation Design

Order/Quote Number:	SO32729
Part Number:	773614
Tower Model:	NSX 12.5' x 125.9'
Company:	Atlas Tower
Site:	NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough., AK

Tower Reactions (Factored)	
Shear:	26,328 kips
Moment:	2350,850 ft-kips
Weight:	24,149 kips
Leg Compression:	225,211 kips
Leg Uplift:	205,079 kips
Leg Shear:	16,872 kips

Site Details	
Soil Type:	Sand
Soil Unit Weight (Backfill):	110 pcf
Allowable Bearing Pressure:	10773 psf
Factor of Safety:	2
Ultimate Bearing Pressure:	21,546 psf
Bearing Pressure Type:	Net Bearing Pressure
Angle of Internal Friction:	30 degrees
Cohesion:	0 psf
Sliding Friction Coefficient:	0.25
Frost Depth (Neglected):	- ft
Min. Bearing Depth:	6 ft
Water Depth:	999 ft
Rock Depth:	4 ft
Passive Pressure Coefficient:	3.00
Active Pressure Coefficient:	0.33

Design Dimensions	
Tower Base Width:	12.5 ft
Base Leg Diameter (Nominal):	8 in
Base Leg Member:	
Tower Bracing System:	
Pier Extension:	0.5 ft
Pier Diameter:	3 ft
Depth:	6 ft
Pad Thickness:	1.5 ft
Pad Width:	22.5 ft
Tower Offset:	☒ Tower Center is Offset
Eccentricity:	1.80 ft
Distance Between Piers:	10.83 ft
Edge 1	5.00 ft
Edge 2	5.84 ft
Edge 3	5.84 ft
Soil Corrosion Risk:	

Weight								
Concrete Pad Volume (cubic yd)	Concrete Pier Volume (cubic yd)	Total Concrete Volume (cubic yd)	Concrete Weight (kips)	Soil Volume (cubic yd)	Soil Weight (kips)	Soil Weight Removed (kips)	Total Dead Load (kips)	Total Factored Dead Load (LC 0.9D controls) (kips)
28,13	1,31	32,05	129,81	80,84	240,10	334,13	388,02	351,03

Lateral Capacity											
Minimum Depth Required (ft)	Soil Unit Weight Below GWT (pcf)	@ Depth Neglected (ksf)	@ Top of Footing (ksf)	Ultimate Passive Pressure @ Bottom of Footing (ksf)	@ Top of Pressure Zone (ksf)	@ GWT (ksf)	Average (ksf)	Ultimate Active Pressure @ Top of Footing (ksf)	@ Bottom of Footing (ksf)	@ GWT (ksf)	Average (ksf)
6	47.6	1.98	1.49	1.98	1.98	329.67	1.98	0.17	0.22	36.63	0.19
OK											

Effective Pad Thickness (ft)	Effective Pad Area (sq ft)	Nominal Passive Resistance (kips)	Nominal Active Loading (kips)	Nominal Friction Resistance (kips)	Design Lateral Resistance (kips)
0	0	0.00	0.00	97.00	72.75
					OK
					36.2%

Overturning							
Weight of Soil Wedge on Back Face (kips)	Moment Resistance From Weight (ft-kips)	Moment Resistance from Soil Wedge (ft-kips)	Moment Resistance from Passive Pressure (ft-kips)	Moment Loading from Active Pressure (ft-kips)	Overturning Moment (ft-kips)	Design Overturning Resistance (ft-kips)	Maximum Eccentricity (LC: 0.9D) (ft)
25,72	3916.39	608,42	0,00	0,00	2554,86	4372,71	7,3
						OK	OK
						58,4%	71,9%

Bearing Pressure												
Case 1: Entire Mat is in Positive Bearing	Case 2: Back Edge of Mat is Uplifting											
Minimum Pressure (ksf)	Maximum Pressure (ksf)	Entire Mat is in Positive Bearing (TRUE/FALSE)	Adjusted Bearing Width (ft)	Minimum Pressure (ksf)	Maximum Pressure (ksf)	Back Edge of Mat is Uplifting (TRUE/FALSE)	Maximum Gross Bearing Pressure (ksf)	Maximum Net Bearing Pressure (ksf)	Width of Bearing Section ft	Net Bearing Pressure at Pier 1 (ksf)	Net Bearing Pressure at Pier 2 (ksf)	Maximum Bearing Pressure (ksf)
-0,59	2,12	FALSE	13,75	0,00	2,51	TRUE	2,51	1,85	13,75	0,86	0,00	1,85
												OK
												11,4%

Pad Reinforcement Design			Flexural Strength Reduction Factor =				0.9	ACI-318-14 21.2.2		ACI-318-14 8.5.1.1		
Number of Bars	Bar Size	Bar Length (in)	Bar Diameter (in)	Bar Weight (lb/ft)	Total Bar Weight (lb)	Bar Area (sq in)	Total Bar Area per Layer per Direction (sq in)	Minimum Bar Area Required (sq in)	Ctr-Ctr Spacing (in)	Clear Spacing (in)		
34	7	264	0.88	2.04	6116	0.60	20.40	4.37	8.0	7.1		
							OK		OK	OK		
									Constructability:	OK		

Foundation Design Reactions	
Additional Load Factor:	1,00
Shear:	26,328 kips
Moment:	2350,850 ft-kips
Weight:	24,149 kips
Compression:	225,211 kips
Uplift:	205,079 kips
Individual Shear:	16,872 kips

Geotechnical Report:	
Company:	Sinott Gering and Schmitt Towers, Inc.
Date:	12/13/2024
Project:	2410116
Seismic Site Class:	C
Design Response Acc., S _{DS} :	1,200 g
Design Response Acc., S _{DI} :	0,560 g
Seismic Design Category:	D

Material Specifications	
Concrete Unit Weight:	150 pcf
Concrete Strength:	4500 psi
Rebar Yield Strength:	60 ksi
Clear Cover:	3 in
Clear Cover (Top of Pier):	3 in
Clear Cover Tolerance, +/- (Top of Piers):	1 in

Development Length Requirements	
Pad Reinforcement Location Factor:	1,0
Pier Reinforcement Location Factor:	1,0
Coating Factor:	1,0
Lightweight Concrete Factor:	1,0
Transverse Reinforcement Index:	0,0 in
Pad Development Length Reduction:	☐ No Reduction
Compressive Development Length Red:	☒ Yes; Utilize Reduction
Tension Development Length Reduction:	☐ No Reduction
Pad Ties Development Length Reduction:	☐ No Ties in Pad

Maximum Foundation Capacity Rating:	71.9%
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ANSI/TIA-222-H - Design Factors	
Uplift Resistance Factor, Phi:	0,75
Compressive Resistance Factor, Phi:	0,75
Bearing Capacity Resistance, Phi:	0,75
Lateral Resistance Factor, Phi:	0,75

Summary Check	
Minimum Depth:	OK
Lateral Check:	OK
Overturning Check:	OK
Maximum Eccentricity Check:	OK
Bearing Check:	OK
Concrete Strength Check:	OK
Max Pad Reinforcement Spacing:	OK
Min. Pad Reinforcement Spacing:	OK
Pad Constructability Check:	OK
Min. Pad Reinforcement Check:	OK
Pad Reinforcement Yield Check:	OK
Pad Flexural Check:	OK
Pad Development Length:	OK
One Way Shear Check:	OK
Two-Way Shear Check:	OK
Vertical Bar Quantity Check:	OK
Min/Max Vertical Bar Spacing Check:	OK
Pier Constructability Check:	OK
Minimum Vertical Reinforcement:	OK
Pier Compressive Strength:	OK
Pier Reinforcement Stress:	OK
Compressive Development in Pier:	OK
Compressive Development in Footing:	OK
Tensile Development in Pier:	OK
Tensile Development in Footing:	HOOK REQ'D
Hook Development Length:	OK
Space of Hook:	OK
Rebar Engaged by Anchors:	OK
Plate & Rebar Spacing Check:	OK
Anchor Embedment Clearance:	PIER ONLY
Anchor Strength Check:	OK
Anchor Concrete Punching Check:	OK

Flexural Strength									Required Development Length (in)	Available Development Length (in)
Effective Depth (in)	Effective Width (in)	Compressive Zone Depth (in)	Concrete Strength Factor	Edge Unbraced Length (ft)	Inner Unbraced Length (ft)	Corner Unbraced Length (ft)	Factored Moment (ft-kips)	Design Moment (ft-kips)		
14,13	270,00	1,185	0,83	5,84	7,83	6,33	882,60	1242,28	23,48	49,05
Yield Check:									OK	OK
									71.0%	

Concrete Shear Capacity										
Shear Strength Reduction Factor = 0.75										
One-Way Shear						Two-Way Shear				
Effective Shear Depth (ft)	Effective Shear Width (ft)	Factored Shear Force (kips)	Nominal Concrete Shear Strength (kips)	Nominal Rebar Shear Strength (kips)	Design Shear Strength (kips)	Shear Perimeter (ft)	Factored Shear Force (kips)	Nominal Concrete Shear Strength (kips)	Nominal Rebar Shear Strength (kips)	Design Shear Strength (kips)
1,14	22,50	133,00	495,82	0,00	371,87	13,01	213,60	538,01	0,00	403,51
OK						OK				
35.8%						52.9%				

Tie Reinforcement Design													
Number of Bars	Bar Size	Bar Diameter (in)	Bar Weight (lb/ft)	Total Bar Weight (lb)	Bar Area (sq in)	Min. Seismic Hook Extension (in)	Total Length (in)	Zone	Maximum Tie Spacing (in)	Zone Distance (in)	Number of Tie Spaces	Actual Tie Spacing (in)	Number of Ties per Zone
11	4	0,50	0,67	67	0,20	3,0	110,2	End	5	5	1	5	2
								Top	0	0	0	0	0
								Middle	6	52	9	5 12/16	9
								Pad	N/A	N/A	N/A	N/A	N/A
						6,0 overlap (min)							

Shear (Compression)										Shear (Uplift)		
Factored Axial Force N_u (lb)	Distance to Tension Reinf. d (in)	Ratio of A_s to $b_w d$	Concrete Weight W_c (lb)	Pier Gross Area A_g (in ²)	Nom. Strength Concrete V_c (kip)	Minimum Bar Area A_{min} (in ²)	Total Bar Area A_s (in ²)	Nom. Strength Reinforcement V_s (kip)	Des. Shear Strength ϕV_n (kip)	Factored Axial Force N_u (lb)	Nom. Shear Concrete V_c (kip)	Des. Shear Strength ϕV_n (kip)
225299	28,800	0,011	88,357	1017,876	154,496	0,000	0,400	230,400	288,672	225123	77,572	230,979
OK						OK		OK		OK		
								5.8%		7.3%		

Splice Length - Ties									
Bar Size	Reinf. Location Factor, α	Coating Factor, β	Reinf. Size Factor, γ	Lightwt. Aggregate Factor, λ	Spacing or Cover, c (in)	Transverse Reinf. Index, K_v	Development Length ℓ_d (in)	Splice Length Tolerance (in)	Splice Length $1.3 * \ell_d$ (in)
4	1.0	1.0	0.8	1.0	2.88	0.0	12.0	1.0	18.0

Pier Vertical Reinforcement Design												
Number of Bars	Bar Size	Bar Diameter (in)	Hook Bend Radius (in)	Hook Extension Length (in)	90 degree Std. Hook Length (in)	Bar Length (in)	Bar Area (sq in)	Pier Gross Area (sq in)	Total Bar Area (sq in)	Minimum Bar Area Required (sq in)	Ctr-Ctr Spacing (in)	Clear Spacing (in)
14	8	1,00	3,00	12,00	15,00	84,00	0,79	1017,88	11,06	5,09	6,2	5,2
OK										OK	OK	
										Constructability:	OK	

Development Length - Vertical Pier Reinforcement				Tension Development		Hook Development Length				Space for Hook			
Compressive Development				Tension Development			Basic Development Length	Concrete Cover Factor	Required Development Length	Development Length Available	Hook Orientation	Space Available for Hook	Space Required for Hook
Required Length (in)	Required Length Adj. (in)	Available in Pier (in)	Available in Footing (in)	Required Length (in)	Available in Pier (in)	Available in Footing (in)	(in)		(in)	(in)		(in)	(in)
18.00	8.00	57.00	13.25	26.83	57.00	13.25	17.89	0.7	12.5	13.25	Hooks Extend Outward	42.50	15.0
ACI-318-14 25.4.9.2		ACI-318-14 22.4.10		ACI-318-14 25.4.2.3.4		ACI-318-14 25.4.3.1		ACI-318-14 Table 25.4.3.2		ACI-318-14 25.4.3.1		OK	
		OK		OK		HOOK REQ'D						OK	
ACI-318-14 25.3.1													

Pier Axial Strength - Compression and Tension							Reinforcement Stress						
Pier Gross Area (in ²)	Nominal Compressive Strength (kip)	Compressive Strength Reduction Factor	Design Compressive Strength (kip)	Nominal Tensile Strength (kip)	Tensile Strength Reduction Factor	Design Tensile Strength (kip)	Diameter of Reinforcement Circle (in)	Equivalent Pipe			Reinforcement Stress (ksi)	Design Stress (ksi)	
						Outer Diameter (in)		Inner Diameter (in)	Thickness (in)	Section Modulus (in ^ 3)			
1017,88	4514,67	0,65	2347,63	663,60	0,90	597,24	28,00	28,13	27,87	0,251	77,1	31,68	54
ACI-318-14 22.4.2.2 CI-318-14 Table 21.3							OK		ACI-318-14 22.4.3.1 ACI-318-14 Table 21.2				
9.6%							34.3%		58.7%				
							OK						

Anchor Bolt Design													
Bolt Threads per Inch	Gross Area (in ²)	Bolt Net Area (in ²)	Ultimate Tensile Stress (ksi)	Bolt Yield Strength (ksi)	Bolt Nominal Tensile Strength (kip)	Nominal Shear Rupture Strength (kip)	Nominal Compression Yield Strength	Nominal Shear Yield Strength (kip)	Anchor Bolt Interaction Equation	Embedment Depth of Anchor (in)	Pier Allowable Embedment Depth (in)	Footing Embedment Top Limit (in)	Footing Embedment Bot. Limit (in)
8	0.785	0.606	125	105	75.718	49.087	63.603	19.081	0.455	54,500	60,000	66,750	71,250
TIA-222-H 4.9.6.1					TIA-222-H 4.9.9		TIA-222-H 4.9.9	TIA-222-H 4.9.9	TIA-222-H 4.9.9		OK		
											PIER ONLY		
TIA-222-H 4.9.9													

Anchor Bolts and Embedment Plate													
Anchor Bolt PN	Number of Bolts	Bolt Diameter (in)	Bolt Length (in)	Length Protruding From Concrete			Plate PN	Plate O.D. or Width (in)	Plate Thickness (in)	Bolt Circle Diameter (in)	Rebar Engaged by Bolts (in)	Length Required (in)	Gap Btwn Rebar & Plate (in)
				Specified (in)	Tolerance Above (in)	Tolerance Below (in)							
102970	8	1,00	60	5,75	0,1875	-0,25	139912	14,50	0,5	12	40,06	26,83	6,25
Std. Pattern											OK	ACK318-14 25.4 2.3	

Notes

- Foundation design is based on the Geotechnical Report dated 12/13/2024, by Sinnott Gering and Schmitt Towers, Inc., Project No. 2410116.
- Groundwater was not encountered during the geotechnical investigation.
- Rock conditions were encountered about 4 feet bgs in the geotechnical investigation (see geo report for details). The contractor should anticipate difficult excavation below this depth and be prepared with the necessary equipment to remove such material in order to create a level bearing surface. The depth to rock material may vary across the foundation footprint. The entire footing shall bear on leveled, competent rock or bear on a layer of lean concrete (2000 psi) placed in direct contact with competent rock.
- This mat design assumes an ultimate bearing capacity of 21546 psf (allowable bearing capacity of 10773 psf) based on the geotechnical report. The bearing surface shall be inspected prior to concrete placement.
- During placement, concrete shall be suitably consolidated. Proper curing methods shall be used directly following concrete placement as established by the contractor. Concrete shall develop a minimum compressive strength of 3000 psi prior to backfill and compaction operations, and backfill shall be compacted to a minimum moist unit weight of 110 pcf.

Combined (MAT) Foundation Design Summary

Max. Foundation Capacity Rating:	71.9%
----------------------------------	-------

FOUNDATION DIMENSIONS	
Tower Width:	12.5 ft
Pier Extension:	0.5 ft
Depth:	6 ft
Pad Width:	22.5 ft
Pad Thickness:	1.5 ft
Pier Diameter:	3 ft
Clear Cover:	3 in
Volume:	32.1 yd ³

MAT REINFORCEMENT	
Bar Size:	7
Bar Length:	264 in
Bar Center to Center Spacing:	8.0 in
Quantity per Layer per Direction:	34
Total Quantity:	136
Weight per Bar:	45.0 lbs
Total Weight:	6116 lbs

PIER REINFORCEMENT	
Bar Size:	8
Bar Length:	84 in
Bend Radius:	3 in
Standard Hook Length:	15 in
Hook Orientation:	Hooks Extend Outward
Bar Center to Center Spacing:	6.2 in
Quantity per Pier:	14
Total Quantity:	42
Weight per Pier:	262 lbs
Total Weight:	785 lbs

TIE REINFORCEMENT	
Bar Size:	4
Bar Length:	111 in
Circular Tie Outer Diameter:	30 in
Overlap:	6 in
Tie Termination Type:	3" Seismic Hooks
Quantity of Ties in Pad:	N/A
Quantity per Pier:	11
Bar Center to Center Spacing:	5.8 in
Total Quantity:	33
Weight per Pier:	67 lbs
Total Weight:	201 lbs

TOWER REACTIONS	
Tower Shear:	26.3 kip
Tower Moment:	2350.9 ft-kip
Tower Weight:	24.1 kip
Leg Compression:	225.2 kip
Leg Uplift:	205.1 kip
Leg Shear:	16.9 kip

MATERIAL SPECIFICATIONS	
Concrete Strength:	4500 psi
Concrete Weight:	150 pcf
Soil Strength (Ultimate Bearing):	21,546 psf
Rebar Yield Strength:	60 ksi

ANCHORING DETAILS	
Anchor P/N:	102970
Anchor Diameter:	1 in
Anchor Length:	60 in
Anchor Quantity per Leg:	8
	Std. Pattern
Anchor Projection:	5.75 in
	+ 0.1875" -0.25"
Bolt Circle Diameter:	12 in
Template P/N	139912

STRUCTURAL FILL CRITERIA	
Loose Lift Thickness:	8 in
Percent Compaction:	98%
ASTM Standard:	D698
Optimum Moisture Content	2%
Tolerance:	-2%

BACKFILL CRITERIA (NON-STRUCTURAL)	
Loose Lift Thickness:	8 in
Percent Compaction:	95%
ASTM Standard:	D698
Optimum Moisture Content	2%
Tolerance:	-2%

ECO #:	7883
--------	------

ADDITIONAL NOTES

- Foundation design is based on the Geotechnical Report dated 12/13/2024, by Sinnott Gering and Schmitt Towers, Inc.; Project No. 2410116.
- Groundwater was not encountered during the geotechnical investigation.
- Rock conditions were encountered about 4 feet bgs in the geotechnical investigation (see geo report for details). The contractor should anticipate difficult excavation below this depth and be prepared with the necessary equipment to remove such material in order to create a level bearing surface. The depth to rock material may vary across the foundation footprint. The entire footing shall bear on leveled, competent rock or bear on a layer of lean concrete (2000 psi) placed in direct contact with competent rock.
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- During placement, concrete shall be suitably consolidated. Proper curing methods shall be used directly following concrete placement as established by the contractor. Concrete shall develop a minimum compressive strength of 3000 psi prior to backfill and compaction operations, and backfill shall be compacted to a minimum moist unit weight of 110 pcf.



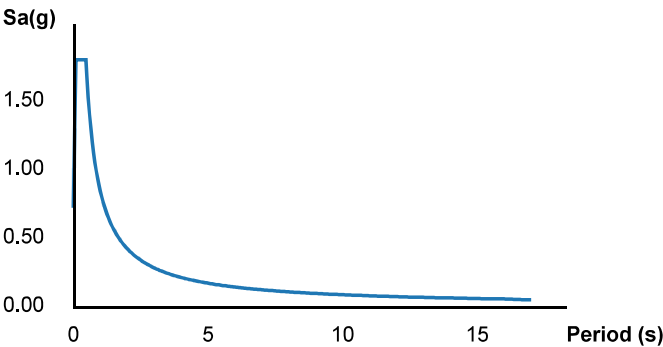
Hazards by Location

Search Information

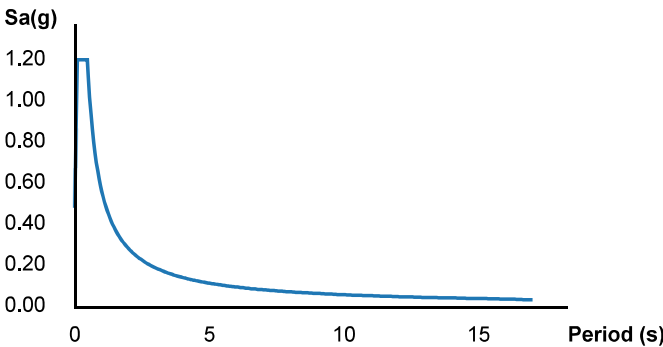
Coordinates: 62.187783, -150.031444
Elevation: 416 ft
Timestamp: 2024-12-20T20:44:17.323Z
Hazard Type: Seismic
Reference Document: ASCE7-16
Risk Category: II
Site Class: C



MCER Horizontal Response Spectrum



Design Horizontal Response Spectrum



Basic Parameters

Name	Value	Description
S_S	1.5	MCE _R ground motion (period=0.2s)
S_1	0.6	MCE _R ground motion (period=1.0s)
S_{MS}	1.8	Site-modified spectral acceleration value
S_{M1}	0.84	Site-modified spectral acceleration value
S_{DS}	1.2	Numeric seismic design value at 0.2s SA
S_{D1}	0.56	Numeric seismic design value at 1.0s SA

▼Additional Information

Name	Value	Description
SDC	D	Seismic design category
F_a	1.2	Site amplification factor at 0.2s
F_v	1.4	Site amplification factor at 1.0s
CR_S	1.091	Coefficient of risk (0.2s)
CR_1	1.043	Coefficient of risk (1.0s)

PGA	0.5	MCE _G peak ground acceleration
F _{PGA}	1.2	Site amplification factor at PGA
PGA _M	0.6	Site modified peak ground acceleration
T _L	16	Long-period transition period (s)
SsRT	1.681	Probabilistic risk-targeted ground motion (0.2s)
SsUH	1.541	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.679	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.651	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Please note that the ATC Hazards by Location website will not be updated to support ASCE 7-22. [Find out why.](#)

Disclaimer

Hazard loads are provided by the U.S. Geological Survey [Seismic Design Web Services](#).

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TOWER SEISMIC ANALYSIS

EARTHQUAKE LOADING

ANSI/TIA-222-H / SEI/ASCE 7

Tower Parameters

Tower Type:	Latticed Self-Support	Latticed Self-Support Parameters	
Structure Class:	II	Base Face Width of Structure:	$w_o = 12.5$ ft
Seismic Site Class:	C	Top Face Width of Structure:	$w_t = 3.5$ ft
Height of Structure:	$H = 125.9$ ft	Length of Straight Section:	$L_s = 5$ ft
Design Base Shear Due to Wind:	$V_w = 25.804$ kips		
Design Base Moment Due to Wind:	$M_w = 2330.77$ kip-ft	N/A	$I_{bot} =$ in ⁴
Total Weight of Structure:	$W = 17.799$ kips	N/A	$I_{top} =$ in ⁴
Height to Level under Consideration:	$H_z =$ ft		
Weight of Level under Consideration:	$W_z = 0.000$ kips	N/A	$n_g =$
Spectral Response Acceleration at Short Periods (0.2-Second) - Mapped:	$S_s = 1.500$	N/A	$N_i =$
	150% g	N/A	$G_r =$ ft
Spectral Response Acceleration at 1-Second Periods - Mapped:	$S_1 = 0.600$		
	60% g		

Steel Guy Cables [None]

Guy Level i (Elevation) (ft)	Guy Diameter (in)	Average Chord Length @ Level i (ft)	Initial Tension (%)

Guy Level i (ft)	Wires per Strand	Guy Tensile Area (in ²)	Tension (lbs)

Guy Level i (ft)	Guy Weight (lbs)	Equivalent Guy Stiffness

Total: 0.00 0.00000

Table of Weights

	Level i [Elevation] (ft)	Structure Weight (lbs)	Transmission Feed] Line Weight (lbs)	Microwave Dish Weight (lbs)	Appurtenance Weight (lbs)	Total Weight (lbs)
1	10.0	2709.3	164.0			2873.3
2	20.0					
3	30.0	1843.8	164.0			2007.8
4	40.0					
5	50.0	1784.8	164.0			1948.8
6	60.0					
7	70.0	1288.2	164.0			1452.2
8	80.0					
9	90.0	1045.3	155.8	103.0		1407.1
10	100.0			103.0		
11	110.0	786.9	98.4		3536.0	7957.3
12	120.0				3536.0	
13	125.9	152.8	0.0			152.8
14						
15						0.0
16						0.0
17						0.0
18						0.0
19						0.0
20						0.0
21						0.0
22						0.0
23						0.0
24						0.0
25						0.0
26						0.0
27						0.0
28						0.0
29						0.0
30						0.0
Total (lbs): 9611.1 + 910.2 + 206 + 7072 = 17,799.3						

~ Earthquake Effects May Be Ignored ~

> Use Seismic Analysis Procedure Method 2

Computed Earthquake Design Data

Importance Factor:	I = 1.00		Response Modification Coefficient:	R = 3.0
Steel Modulus of Elasticity:	E = 29000	ksi	Acceleration-Based Site Coefficient at Short Periods (0.2-Second):	F _a = 1.200
Acceleration Due to Gravity:	g = 32.174	ft/s ²		
Number of Tower Levels (10' Sections):	n = 13		Design Spectral Response Acceleration at Short Periods (0.2-Second):	S _{DS} = 1.200
Weight for Fundamental Frequencies:	W ₁ = 9.638	kips		
Weight within Top 5% of Structure:	W ₂ = 3.699	kips	Velocity-Based Site Coefficient for a 1-Second Period:	F _v = 1.500
Average Face Width of Structure:	w _a = 7.821	ft		
Number of Levels @ Top Third of Tower:	n _u =		Design Spectral Response Acceleration for a 1-Second Period:	S _{D1} = 0.600
Weight of Apprt. @ Top Third of Tower:	W _u =	kips		
Weight of Structure Excluding App.:	W _L =	kips	Natural Frequency Conversion Factor for Guyed Masts:	C _g =
Average Moment of Inertia of Pole:	I _{avg} =	in ⁴		
Equivalent Stiffness of Guy Cables:	K _g =		Simplified Natural Frequency Conversion Factor for Guyed Masts:	K _m =
Fundamental Frequency of Structure:	f ₁ = 1.904	Hertz		
			Coefficient for Fundamental Frequencies of Latticed Self-Supports:	K _s = 4540

Seismic Analysis Results: Induced Earthquake Loading

Distribution of Seismic Forces (lbs)

20 ft	Eh1 = 134.8	69057
40 ft	Eh2 = 197.1	lbs
60 ft	Eh3 = 324.6	lbs
80 ft	Eh4 = 350.2	lbs
100 ft	Eh5 = 564.7	lbs
120 ft	Eh6 = 6608.0	lbs
125.9 ft	Eh7 = 157.8	lbs

Equivalent Lateral Force Procedure (Method 1)

Seismic Force Distribution Exponent:	k _e = 1.060	
Lateral Seismic Force @ ft:	F _{SZ} = 0.000	kips
Total Seismic Shear at Base:	V_S = 6.779	kips
Seismic Overturning Moment:	M_S =	kip-ft

~ PERMITTED ~

Equivalent Modal Analysis Procedure (Method 2)

Modal Acceleration Coefficient:	a = 0.000	
Modal Acceleration Coefficient:	b = 0.000	
Modal Acceleration Coefficient:	c = 0.000	
Design Spectral Response Acceleration:	S _A = 1.143	
Acceleration Coefficient at height z:	S _{az} = 0.000	
Lateral Seismic Force @ ft:	F _{SZ} = 0.000	kips
Total Seismic Shear at Base:	V_S = 8.337	kips
Seismic Overturning Moment:	M_S = 927.37	kip-ft



Corporate Headquarters

1201 South Sheridan St.
South Bend, IN 46619
Phone: (800) 806-3556
Fax: 574-288-5860
www.nelloinc.com

Date:	12/26/2024
Engineer:	KYW
SO#:	32729
Client:	Atlas Tower
Project:	NS 125.9' - Talkeetna - Brown - Matanuska-Susitna Borough, AK
Site Address:	33693 S Noel Wien Ave, Talkeetna, AK
Coordinates:	Latitude: 62.187783 Longitude: -150.031444

TOWER SEISMIC ANALYSIS - RESULTS SUMMARY

ANSI/TIA-222-H / SEI/ASCE 7

Equivalent Modal Analysis Procedure

Tower Type / Seismic Force Resisting System:	Latticed Self-Support
Construction Type:	Type IIB
Use Group:	Group U
Risk (Occupancy) Category:	II
Seismic Site Class:	C
Seismic Design Category:	D
Structure Class:	II
Height of Structure:	H = 125.9 ft
Design Base Shear Due to Wind:	$V_w = 25.804$ kips
Design Base Moment Due to Wind:	$M_w = 2330.77$ kip-ft
Total Weight of Structure:	W = 17.799 kips
Importance Factor:	I = 1.00
Mapped Spectral Response Acceleration at Short Periods (0.2-Second):	$S_s = 1.500$ 150% g
Mapped Spectral Response Acceleration at 1-Second Periods:	$S_1 = 0.600$ 60% g
Response Modification Coefficient:	R = 3.0
Design Spectral Response Acceleration at Short Periods (0.2-Second):	$S_{DS} = 1.200$
Design Spectral Response Acceleration for a 1-Second Period:	$S_{D1} = 0.600$
Total Axial Load at Base:	$P_s = 21.359$ kips
Total Seismic Shear at Base:	$V_s = 8.337$ kips
Seismic Shear Check:	OK
TNX: Total Seismic Shear at Base:	$V_s =$ kips
TNX Full Structural Analysis Seismic Check:	OK
Seismic Overturning Moment at Base:	$M_s = 927.37$ kip-ft
Seismic OTM Check:	OK

RESULT: - WIND is the Controlling Load Case for Structural Design
 - Tower is adequately designed to resist lateral seismic forces
 ~ Earthquake Effects May Be Ignored ~

Full Structural Analysis is NOT required per TIA-222-H 2.7.3