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October 7, 2020

**VIA EMAIL & OVERNIGHT DELIVERY**

Members of the Connecticut Siting Council  
Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051

Re: Tower Sharing Request by New Cingular Wireless PCS, LLC  
Premises: 190-200 Colt Highway, Farmington, Connecticut

Dear Members of the Siting Council:

Pursuant to Connecticut General Statutes (C.G.S.) § 16-50aa, New Cingular Wireless PCS, LLC (“AT&T” or “the Applicant”) hereby requests an order from the Connecticut Siting Council (the “Council”) approving the proposed shared use of a communications tower and associated compound at the parcel identified as 190-200 Colt Highway (aka Route 6) in the Town of Farmington (the “Colt Highway Facility”). The authorized owner of the tower facility, Communications Site Management LLC, and AT&T have agreed to share the use of the Colt Highway Facility as detailed below. Additionally, annexed here as **Attachment 1** is the Letter of Authorization between the Applicant and Communications Site Management LLC authorizing the Applicant to prepare and file an application for the Applicant’s use of the existing tower.

**The Colt Highway Facility**

The Colt Highway Facility consists of an approximately 1,290’ guyed tower (the “Tower”) and associated equipment, with the top of the highest appurtenance on the Tower reaching a height of approximately 1,339’ above ground level (“AGL”). The tower and compound are located on an approximately 20.2 -acre parcel owned by Communications Site Management LLC. In Docket No. 55, dated February 19, 1986, the Siting Council issued a Certificate for the Colt Highway Facility.

**AT&T Wireless’ Facility**

As depicted on the plans annexed hereto as **Attachment 2** prepared by ProTerra Design Group, LLC dated September 29, 2020 including a site plan, compound plan, and tower elevation, AT&T proposes the shared use of the Colt Highway Facility to provide FCC licensed services. AT&T will install 6 antennas and 9 remote radiohead units on a sector frame mount attached to the existing tower at the centerline height of approximately the 221’ AGL. As also depicted on the drawings, AT&T will install its unmanned equipment upon a proposed 9’ x 9’ elevated platform on concrete



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piers within AT&T's 10' x 15' leased area located within the existing fenced compound. AT&T will sub-meter from the landlord's power source which is backed-up by existing on-site generators. AT&T therefore does not propose the addition of any generator.

Connecticut General Statutes § 16-50aa provides that, upon written request for shared use approval, an order approving such use shall be issued "if the Council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns." (C.G.S. § 16-50aa(c)(1)). Further, upon approval of such shared use, it is exclusive, and no local zoning or land use approvals are required. (C.G.S. § 16-50x). Shared use of the Colt Highway Facility satisfies the approval criteria set forth in C.G.S. § 16-50aa as follows:

- A. Technical Feasibility: As evidenced in the structural analysis prepared by Turris Corp, and dated August 19, 2020, annexed hereto as **Attachment 3** and the mount modification design prepared by Hudson Design Group, LLC dated December 4, 2019 annexed hereto as **Attachment 4**, AT&T confirmed that the Colt Highway Facility, with proposed reinforcements, is capable of supporting the addition of AT&T's antennas and tower mounted equipment in addition to the existing loading. The proposed shared use of this tower is therefore technically feasible.
  
- B. Legal Feasibility: Pursuant to C.G.S. § 16-50aa, the Council is authorized to issue an order approving shared use of the existing Colt Highway Facility. (C.G.S. § 16-50aa(c)(1)). Under the authority vested in the Council by C.G.S. § 16-50aa, an order by the Council approving the shared use of a tower would permit the Applicant to obtain a building permit for the proposed installation. The Council originally approved Docket No. 55 in 1986 to permit modifications to the existing broadcast tower to establish a Community Antenna Television facility. The Council has since approved applications to attach and modify various equipment at the Colt Highway Facility for transmitting and receiving signals in electromagnetic spectrum.
  
- C. Environmental Feasibility: The proposed shared use would have a minimal environmental effect, for the following reasons:
  - 1. Given the height of the existing tower, AT&T's proposed installation would have a *de minimis* visual impact and would not cause any significant change or alteration in the physical or environmental characteristics of the facility;



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2. The installation by AT&T will not increase the height of the tower;
  3. The proposed installation will not increase the noise levels at the site boundaries by six decibels or more;
  4. Operation of AT&T's antennas at this site will not exceed the total radio frequency electromagnetic radiation power density level adopted by the FCC and Connecticut Department of Health. AT&T's proposed antenna installation along with the existing equipment is calculated to create less than 1% of the FCC Standard for General Public/Uncontrolled Maximum Permissible Exposure ("MPE") at the base of the tower and no more than 6% of the FCC Standard for General Public/Uncontrolled MPE from any other measured locations nearby. Please see the assessment of RF power density dated August 26, 2020, prepared by C Squared Systems, LLC, annexed hereto as **Attachment 5**; and
  5. The proposed shared use of the Colt Highway Facility would not require any water or sanitary facilities or discharges into any waterbodies nor will there be any additional air emissions since the Applicant does not propose any new emergency back-up generator. Further, the installation will not generate any traffic other than for periodic maintenance visits.
- D. Economic Feasibility: The Applicant and the tower owner entered into a mutual agreement to share use of the Colt Highway Facility on terms agreeable to both parties. The proposed tower sharing is therefore economically feasible.
- E. Public Safety: As stated above and evidenced in attachments hereto the tower is structurally capable of supporting AT&T's installation and emissions are well within the maximum permitted by the FCC and the Connecticut Department of Health. Further, the addition of AT&T's telecommunications service in the Farmington area through shared use of the Colt Highway Facility is expected to enhance the safety and welfare of local residents and travelers through the Route 6 corridor and surrounding area resulting in an improvement to public safety in this area of the State.

### **Notice of Tower Share Filing**

Pursuant to R.C.S.A. Section 16-50j-88 and the August 2013 Tower Share Filing Guide, copies of AT&T's tower share filing request were sent to the property owner, as well as the chief elected official of Farmington, and the Farmington Planning and Zoning Department. Copies of each notice and their respective FedEx labels are included in **Attachment 6**.



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**Conclusion**

As explained above, the proposed shared use of the Colt Highway Facility satisfies the criteria set forth in C.G.S. §16-50aa and advances the General Assembly's and the Siting Council's goal of preventing the proliferation of towers in the State of Connecticut. AT&T therefore requests the Siting Council issue an order approving the proposed shared use of the Colt Highway Facility.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'Daniel Patrick', is written over a horizontal line.

Daniel Patrick  
On behalf of AT&T

Attachments

cc: Melanie Bachman, Executive Director  
C.J. Thomas, Town of Farmington Town Council Chairman  
Shannon Rutherford, P.E., Town of Farmington Town Planner  
Communications Site Management, LLC  
AT&T  
Lucia Chiochio, Esq.  
Julie Durkin

# **ATTACHMENT 1**

September 28, 2020

**Mr. Mark Roberts**  
**SAI Communications (Agent for AT&T Mobility)**  
**12 Industrial Way**  
**Salem, NH 03079**

**Re: Letter of Authorization**

**Applicant: AT&T Mobility**

**Site Address: 200 Colt Highway**  
**Farmington, CT**

Dear Mr. Roberts,

Communications Site Management is the owner of the tower at the above-referenced address on which AT&T Mobility intends to install a wireless antenna facility. As the owner of the property, permission is hereby granted to AT&T Mobility and its agents for the purpose of consummating any applications necessary to gain the required approvals or permits from the Connecticut Siting Council and/or the Town of Farmington. This authorization may be withdrawn at any time by Communications Site Management LLC by written notice.

Any fees or charges associated with all applications or permits, and any conditions placed on the Applicant shall be the responsibility of AT&T Mobility, its subsidiaries and agents.

Sincerely,

COMMUNICATIONS SITE MANAGEMENT, LLC

By: 

Name: David Emery

Title: Division Manager  
Hereunto Duly Authorized

# **ATTACHMENT 2**



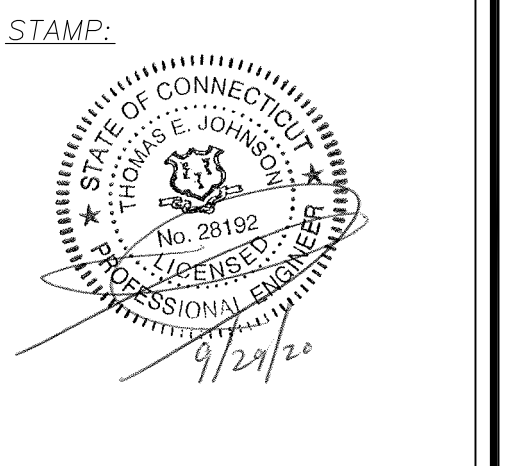


CONSULTANTS:

| NO. | DATE     | REVISIONS         |
|-----|----------|-------------------|
| A   | 05/29/20 | ISSUED FOR REVIEW |
| B   | 09/29/20 | FOR PERMITTING    |

**TITLE:** SITE NAME: FARMINGTON COLT HIGHWAY  
LOCATION ID: CT2907  
ADDRESS: 190-200 COLT HWY (RTE 6)  
FARMINGTON, CT 06032

**APPLICANT:** NEW CIRCULAR WIRELESS PCS, LLC  
(AT&T) 4/4/6 AFM MOBILITY  
C/O SAI COMMUNICATIONS  
660 COCHITUATE ROAD  
FRAMINGHAM, MA 01701



**STAMP:**

DATE: 09/29/20  
DRAWN: STZ  
CHECK: JMM/TEJ  
SCALE: SEE PLAN  
JOB NO.: 14-027  
SHEET TITLE:

**ABUTTERS MAP**

**GENERAL NOTES**

1. PROTERRA DESIGN GROUP, LLC HAS NOT PERFORMED A BOUNDARY RE-TRACEMENT OR EXISTING CONDITIONS SURVEY TO DETERMINE THE LOCATION OF STRUCTURES IN RELATION TO THE PROPERTY LINE IN CONJUNCTION WITH THIS PROJECT. THE DIMENSIONS DEPICTED HEREIN ARE BASED UPON COMPILED RECORD INFORMATION AND MAY CHANGE AS MORE ACCURATE SURVEY DATA MAY BECOME AVAILABLE.
2. THE PROJECT OWNER'S WIRELESS FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. THE DESIGN OF THE TOWER, FOUNDATION AND ANTENNA MOUNTING HARDWARE SHALL MEET THE ANSI/EIA/TIA-222-G STANDARDS FOR STRUCTURAL STEEL ANTENNA SUPPORTING STRUCTURES AND STATE BUILDING CODE REQUIREMENTS. STRUCTURAL CALCULATIONS WILL BE PREPARED BY A REGISTERED PROFESSIONAL ENGINEER AND SUBMITTED WITH A BUILDING PERMIT APPLICATION FOR REVIEW AND APPROVAL BY THE LOCAL BUILDING CODE ENFORCEMENT OFFICIAL. PROTERRA IS NOT DESIGNING, BUILDING, INSPECTING, OR OTHERWISE INVOLVED WITH CONSTRUCTION OR MODIFICATION OF THE GUYED TOWER.
4. ONCE THE FACILITY BECOMES FULLY OPERATIONAL, NORMAL AND ROUTINE MAINTENANCE BY TOWER OWNER'S AND CARRIER'S TECHNICIANS WILL BE PERFORMED. THE ESTIMATED VEHICULAR TRAFFIC GENERATED BY THESE VISITS IS PREDICTED TO BE LESS THAN THE TYPICAL TRAFFIC GENERATED BY A SINGLE-FAMILY DWELLING.

**REFERENCES**

PROPERTY LINES FROM TOWN OF FARMINGTON GIS. A PROPERTY LINE AND/OR BOUNDARY RETRACEMENT HAS NOT BEEN PERFORMED. EXISTING FEATURES FROM FIELD VISIT BY PROTERRA DESIGN GROUP.

FLOODPLAIN - FEMA FIRM MAP COMMUNITY PANEL NUMBER 09003C0479F, REVISED SEPTEMBER 26, 2008. ENTIRE AREA IN ZONE "X", AREAS OF MINIMAL FLOODING (NO SHADING).

ZONING INFORMATION: "FARMINGTON ZONING DISTRICTS AND AQUIFER PROTECTION AREAS" MAP AMENDED TO JULY 2, 2015.

**ZONING SUMMARY TABLE**

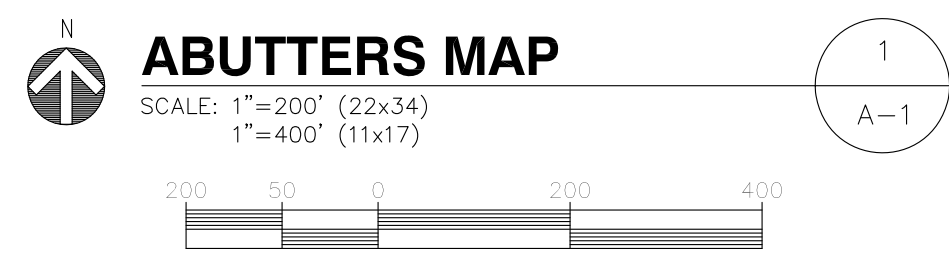
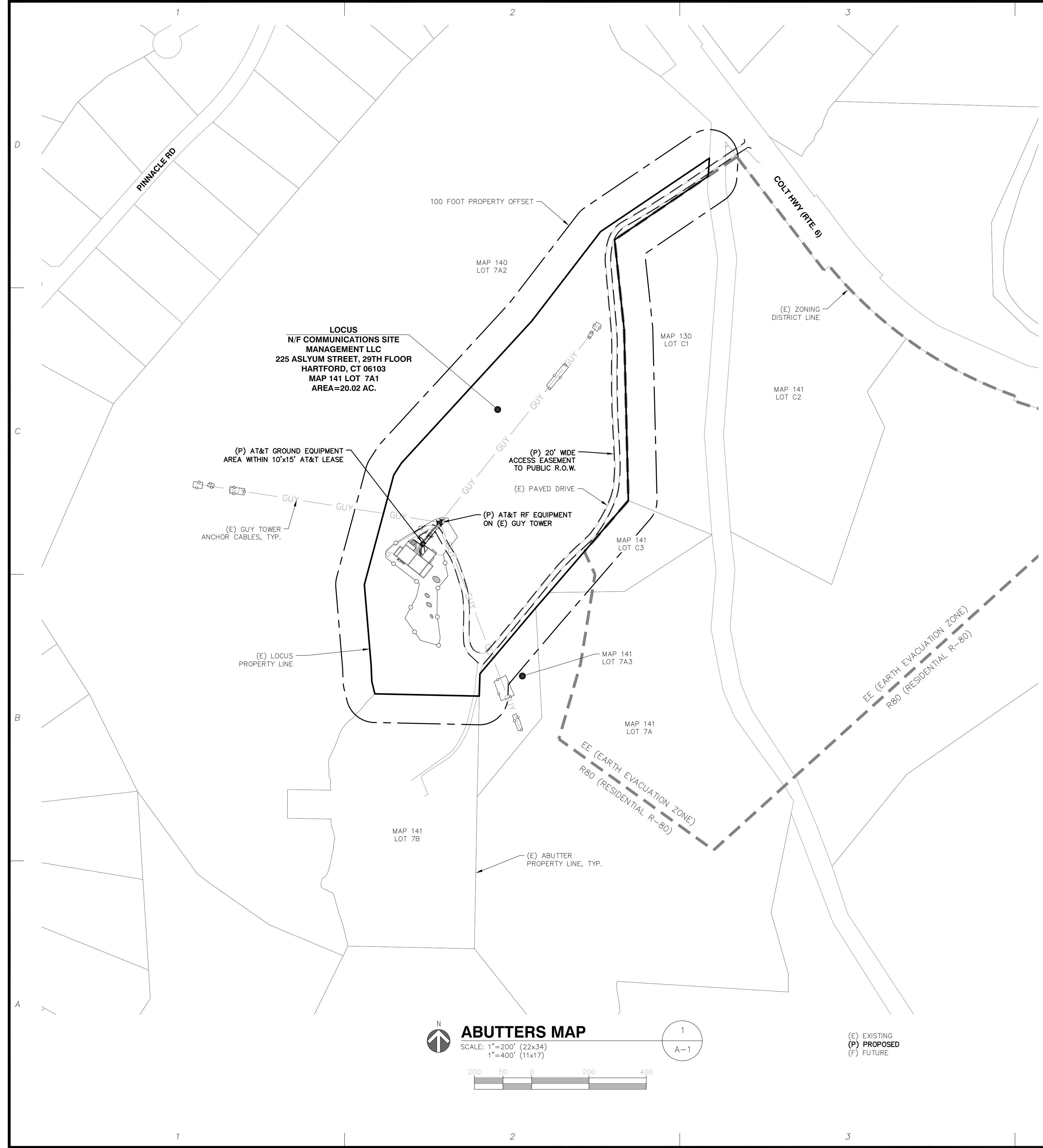
ZONING DISTRICT: R80 - RESIDENTIAL R80  
ASSESSORS ID: PARCEL#: 141 7A1  
(E) & (P) USE: WIRELESS COMMUNICATIONS FACILITY

| DIMENSION                               | PROVIDED | CONSTRAINT |
|---|----------|------------|
| (P) AT&T EQUIPMENT AREA - FRONT SETBACK | >50'±    | 50' MIN.   |
| (P) AT&T EQUIPMENT AREA - SIDE SETBACK  | >40'±    | 40' MIN.   |
| (P) AT&T EQUIPMENT AREA - REAR SETBACK  | >50'±    | 50' MIN.   |

NOTE: THE PROPOSED INSTALLATION WILL BE CO-LOCATED ON AN EXISTING GUYED TOWER WITH GROUND EQUIPMENT LOCATED WITHIN AN EXISTING COMPOUND. IT HAS BEEN ASSUMED THAT THE CURRENT EXISTING TOWER AND GROUND LEVEL EQUIPMENT INSTALLATION WAS LAWFULLY APPROVED BY THE AUTHORITIES HAVING JURISDICTION AND IS LOCATED ON THE LOT AS SHOWN ON THE ASSESSORS MAP.

**ABUTTERS LIST**

| Parcel ID | Site Address       | Owner Name   | Mailing Address             | Mailing City | Mailing State | Mailing Zip |
|-----------|--------------------|--|-----------------------------|--------------|---------------|-------------|
| 141 7A1   | 190 COLT HIGHWAY   | COMMUNICATIONS SITE MGMT LLC                         | 225 ASYLUM ST 29 FLOOR      | HARTFORD     | CT            | 06103-0000  |
| 141 7B    | 200 COLT HIGHWAY   | OUTLET BROADCASTING INC                              | ONE COMCAST CENTER, 32ND FL | PHILADELPHIA | PA            | 19103-0000  |
| 141 C2    | 8126 COLT HIGHWAY  | COMMUNICATIONS SITE MGMT LLC                         | 225 ASYLUM ST 29TH FL       | HARTFORD     | CT            | 06103-0000  |
| 130 C1    | 8797 SETTLEMENT RD | COMMUNICATIONS SITE MGMT LLC                         | 225 ASYLUM ST 29TH FL       | HARTFORD     | CT            | 06103-0000  |
| 140 7A2   | 8800 SETTLEMENT RD | CHASE FAMILY LTD PTN #5 COMMUNICATIONS SITE MGMT LLC | 225 ASYLUM ST 29TH FL       | HARTFORD     | CT            | 06103-0000  |
| 141 C3    | 8802 SETTLEMENT RD | COMMUNICATIONS SITE MGMT LLC                         | 225 ASYLUM ST 29TH FL       | HARTFORD     | CT            | 06103-0000  |
| 141 7A3   | 8803 SETTLEMENT RD | COMMUNICATIONS SITE MGMT LLC                         | 225 ASYLUM ST 29TH FL       | HARTFORD     | CT            | 06103-0000  |
| 141 7A    | 8808 SETTLEMENT RD | TILCON INC   | P O BOX 1357                | NEW BRITAIN  | CT            | 06050-0000  |



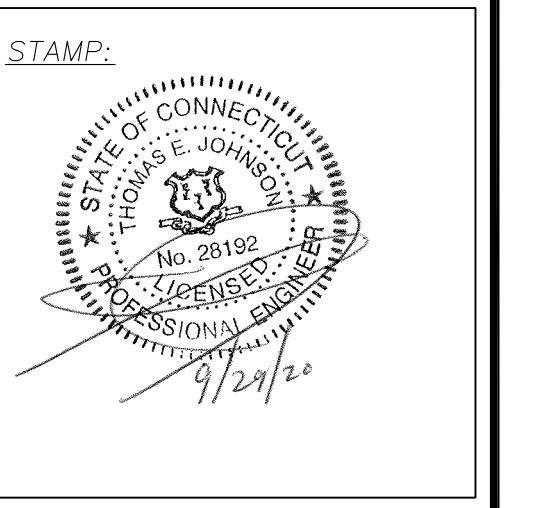
CONSULTANTS:

|     |          |                   |
|-----|----------|-------------------|
| NO. | DATE     | REVISIONS         |
| A   | 05/29/20 | ISSUED FOR REVIEW |
| B   | 09/29/20 | FOR PERMITTING    |

|     |      |           |
|-----|------|-----------|
| NO. | DATE | REVISIONS |
|     |      |           |
|     |      |           |

**TITLE:** SITE NAME: FARMINGTON COLT HIGHWAY  
LOCATION ID: CT2907  
ADDRESS: 190-200 COLT HWY (RTE 6)  
FARMINGTON, CT 06032

**APPLICANT:** NEW CIRCULAR WIRELESS PCS, LLC  
(“AT&T”) 476/6 AT&T MOBILITY  
C/O SAI COMMUNICATIONS  
660 COCHITUATE ROAD  
FRAMINGHAM, MA 01701



**DATE:** 09/29/20  
**DRAWN:** STZ  
**CHECK:** JMM/TEJ  
**SCALE:** SEE PLAN  
**JOB NO.:** 14-027  
**SHEET TITLE:**

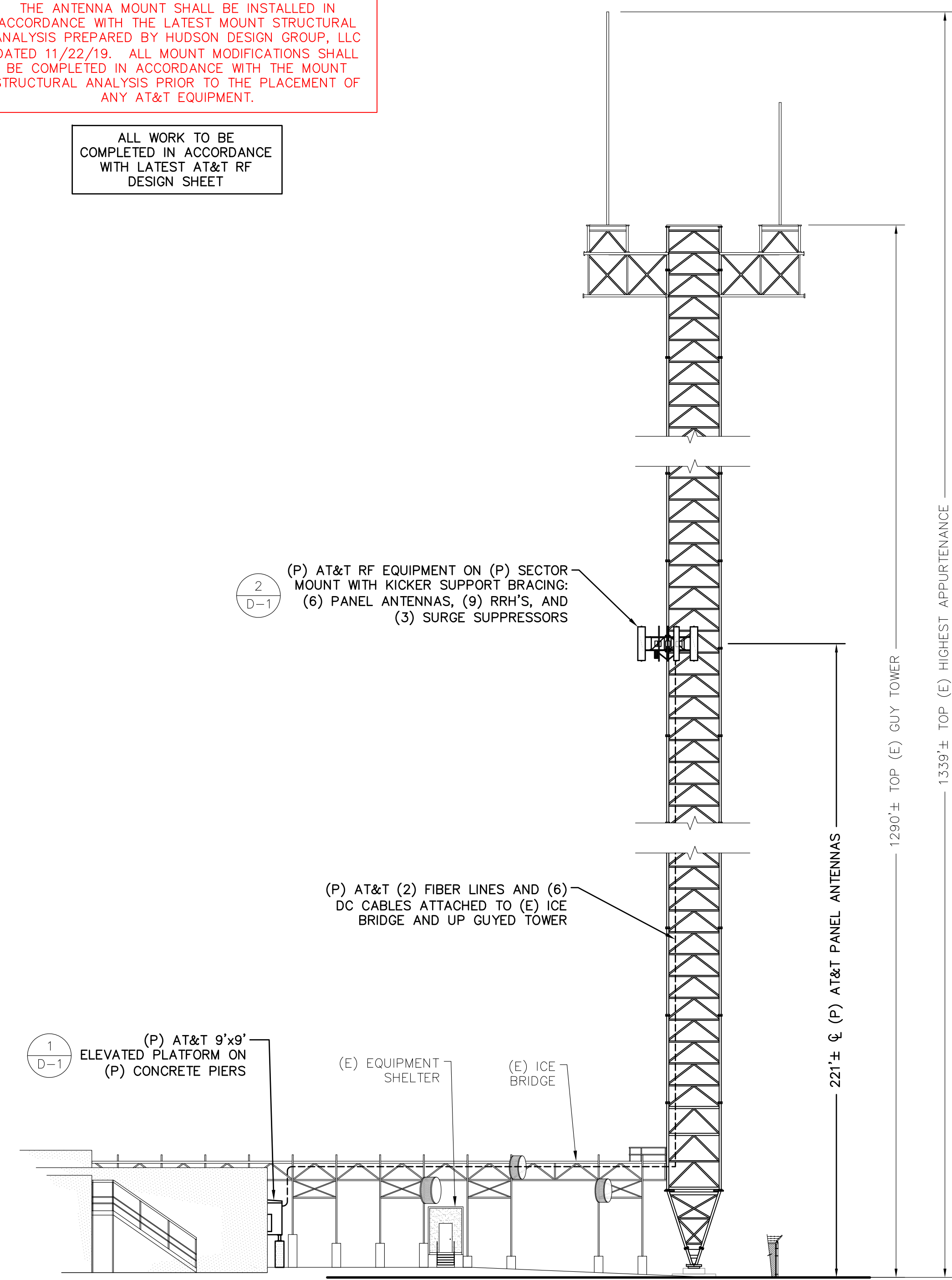
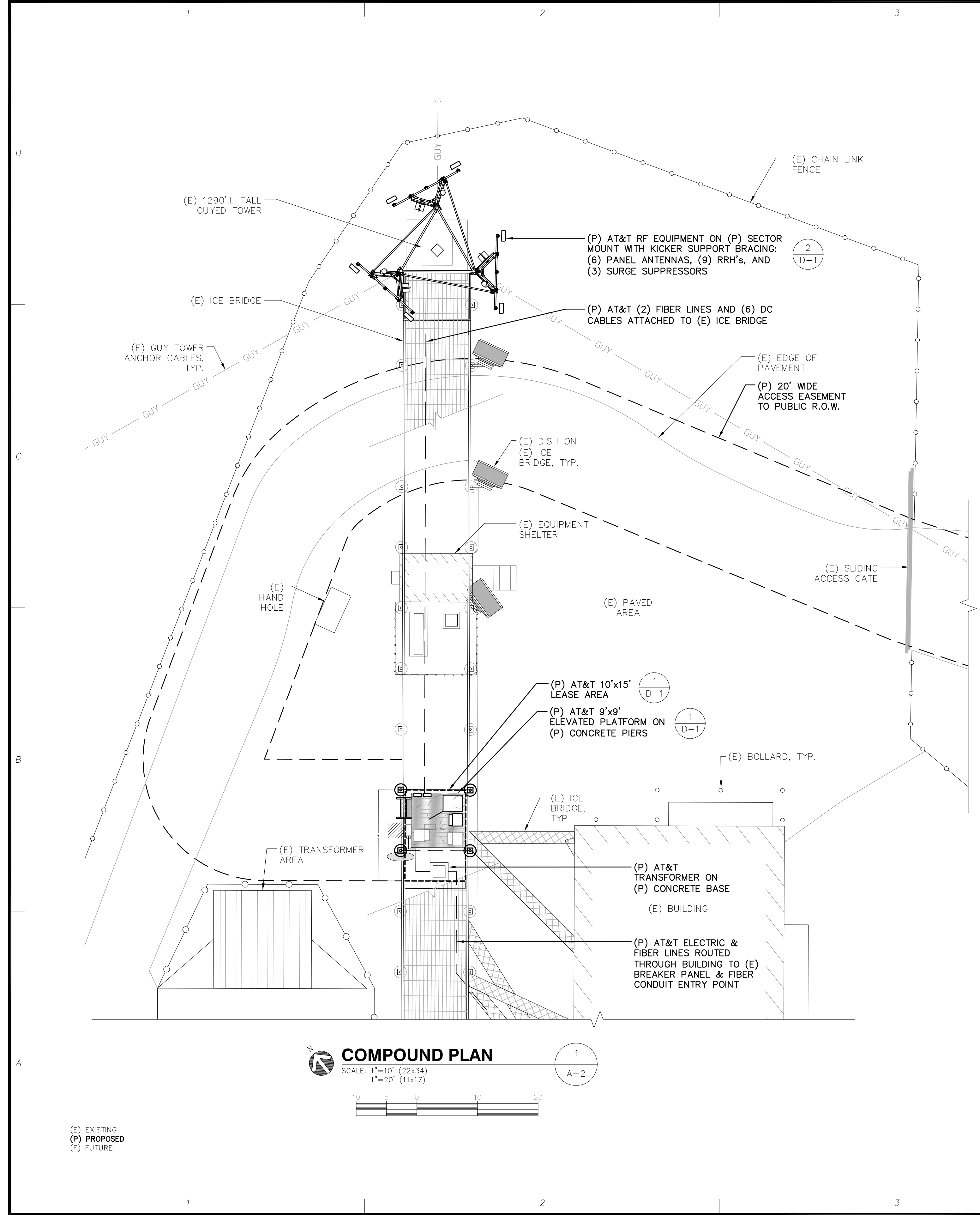
**COMPOUND PLAN & ELEVATION**

ALL TOWER TOP EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS PREPARED BY TURRIS CORP. DATED 08/24/20 AND TOWER MODIFICATION PLANS PREPARED BY TURRIS CORP. DATED 08/18/20. ALL TOWER MODIFICATIONS NOTED THEREIN, INCLUDING POST MODIFICATION INSPECTION REPORT SHALL BE COMPLETED PRIOR TO THE PLACEMENT OF ANY AT&T EQUIPMENT.

THE ANTENNA MOUNT SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST MOUNT STRUCTURAL ANALYSIS PREPARED BY HUDSON DESIGN GROUP, LLC DATED 11/22/19. ALL MOUNT MODIFICATIONS SHALL BE COMPLETED IN ACCORDANCE WITH THE MOUNT STRUCTURAL ANALYSIS PRIOR TO THE PLACEMENT OF ANY AT&T EQUIPMENT.

ALL WORK TO BE COMPLETED IN ACCORDANCE WITH LATEST AT&T RF DESIGN SHEET

NOTE: NOT ALL TOWER APPURTENANCES SHOWN FOR CLARITY



(E) EXISTING  
(P) PROPOSED  
(F) FUTURE

CONSULTANTS:

NO. DATE REVISIONS

TITLE: **SITE NAME: FARMINGTON COLT HIGHWAY**  
**LOCATION ID: CT2907**  
**ADDRESS: 190-200 COLT HWY (RTE 6)**  
**FARMINGTON, CT 06032**

APPLICANT: **NEW CIRCULAR WIRELESS PCS, LLC**  
(“AT&T”) 400/6 AFM MOBILITY  
C/O SAI COMMUNICATIONS  
660 COCHITUATE ROAD  
FRAMINGHAM, MA 01701

STAMP:

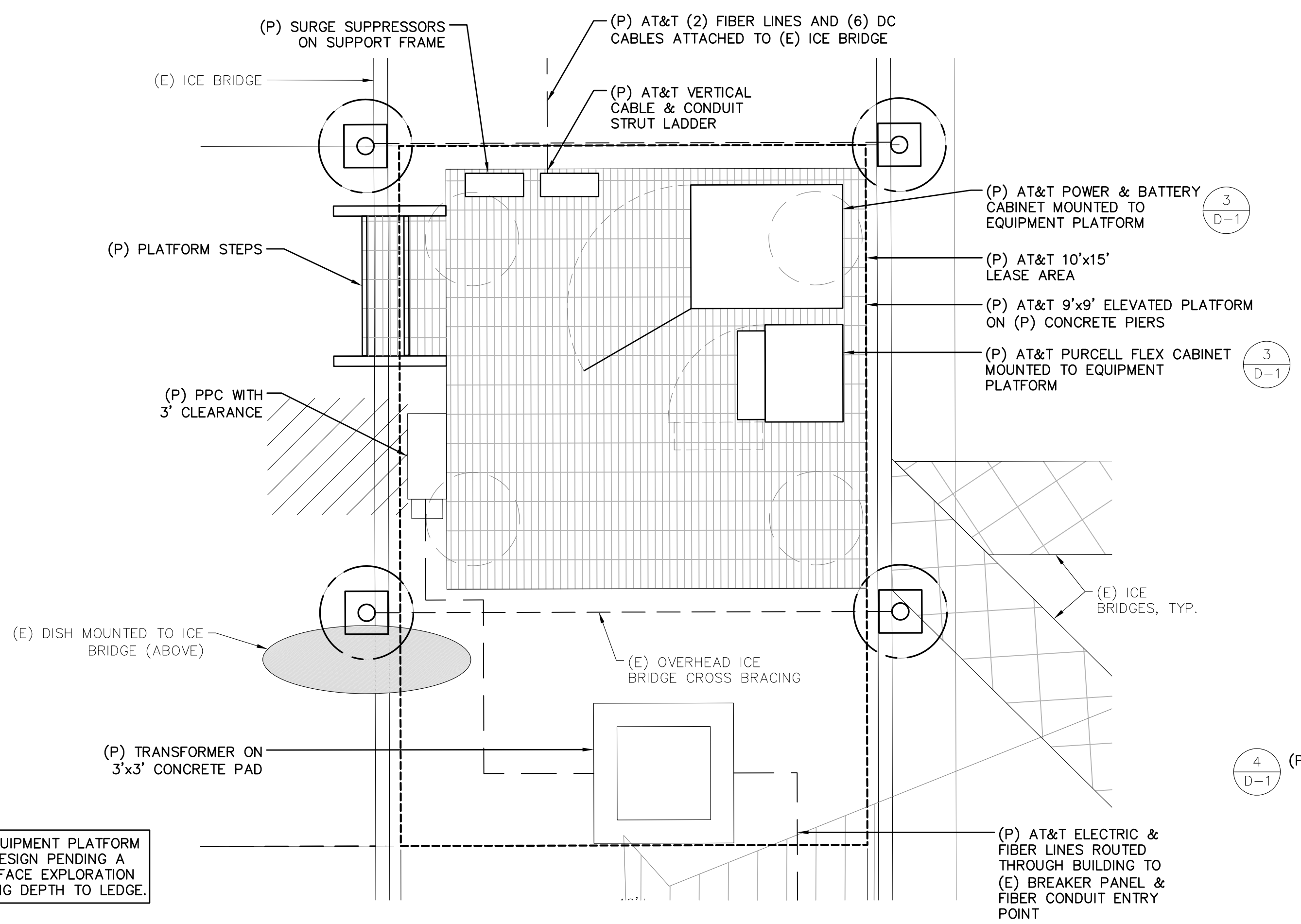
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SCALE: SEE PLAN  
JOB NO.: 14-027  
SHEET TITLE:

**TENANT  
DETAILS**

**D-1**

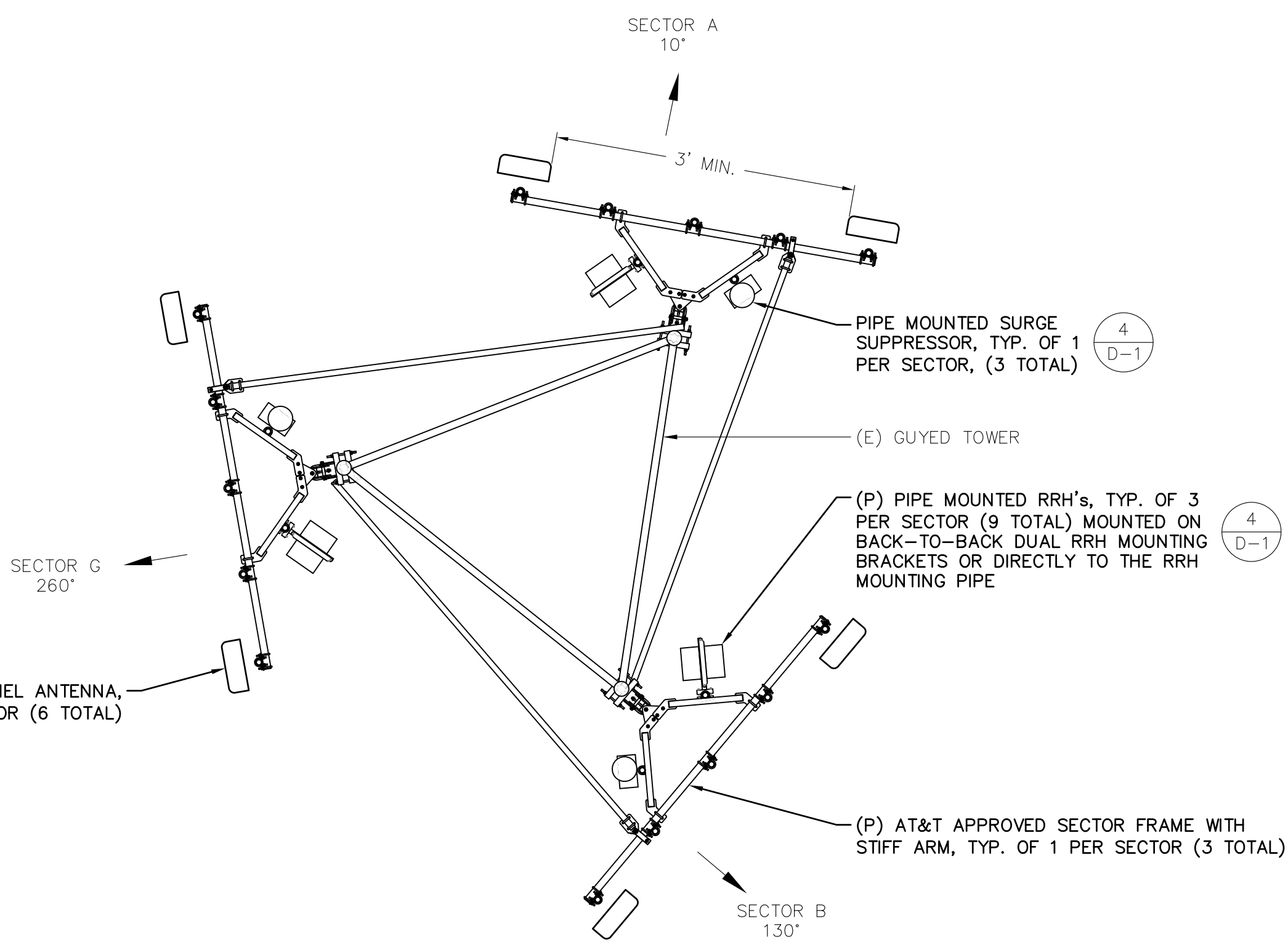
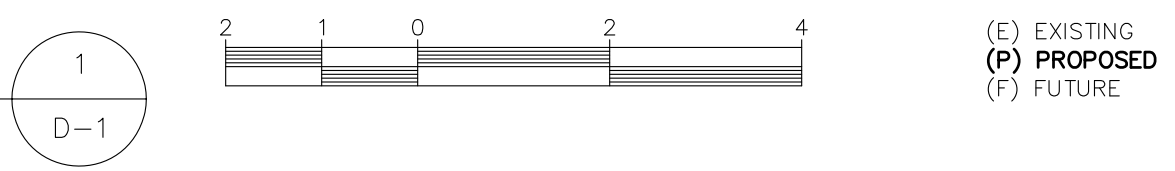
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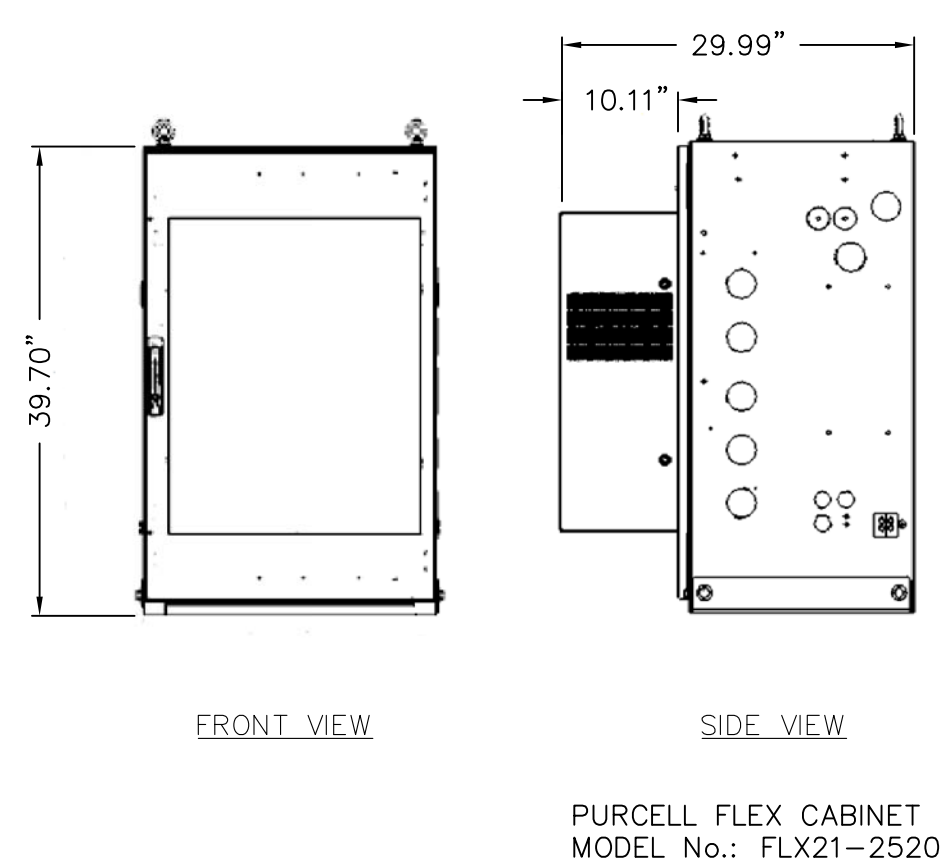
**GROUND EQUIPMENT LAYOUT PLAN**

SCALE: 1"=2' (22x34)  
1"=4' (11x17)



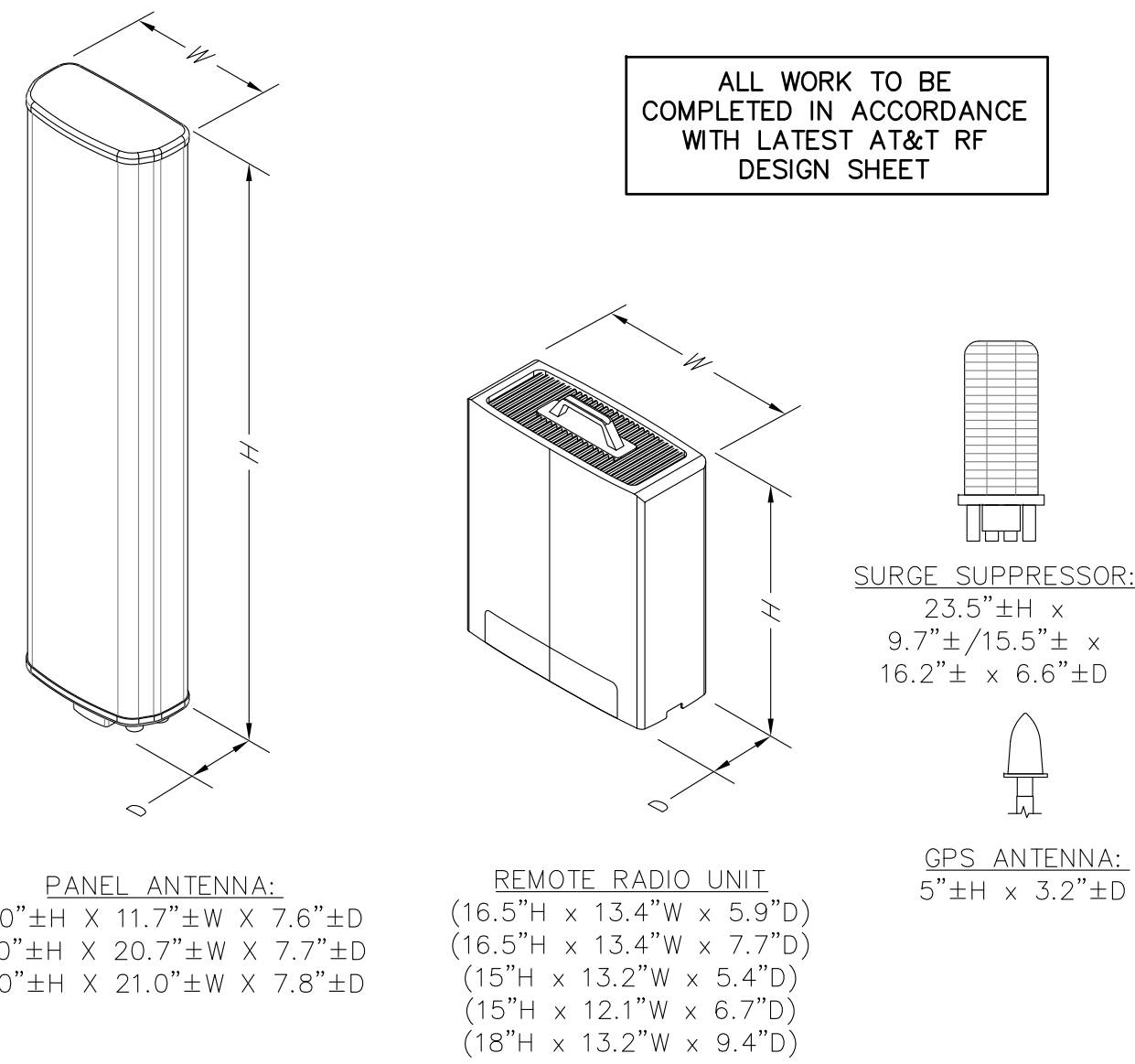
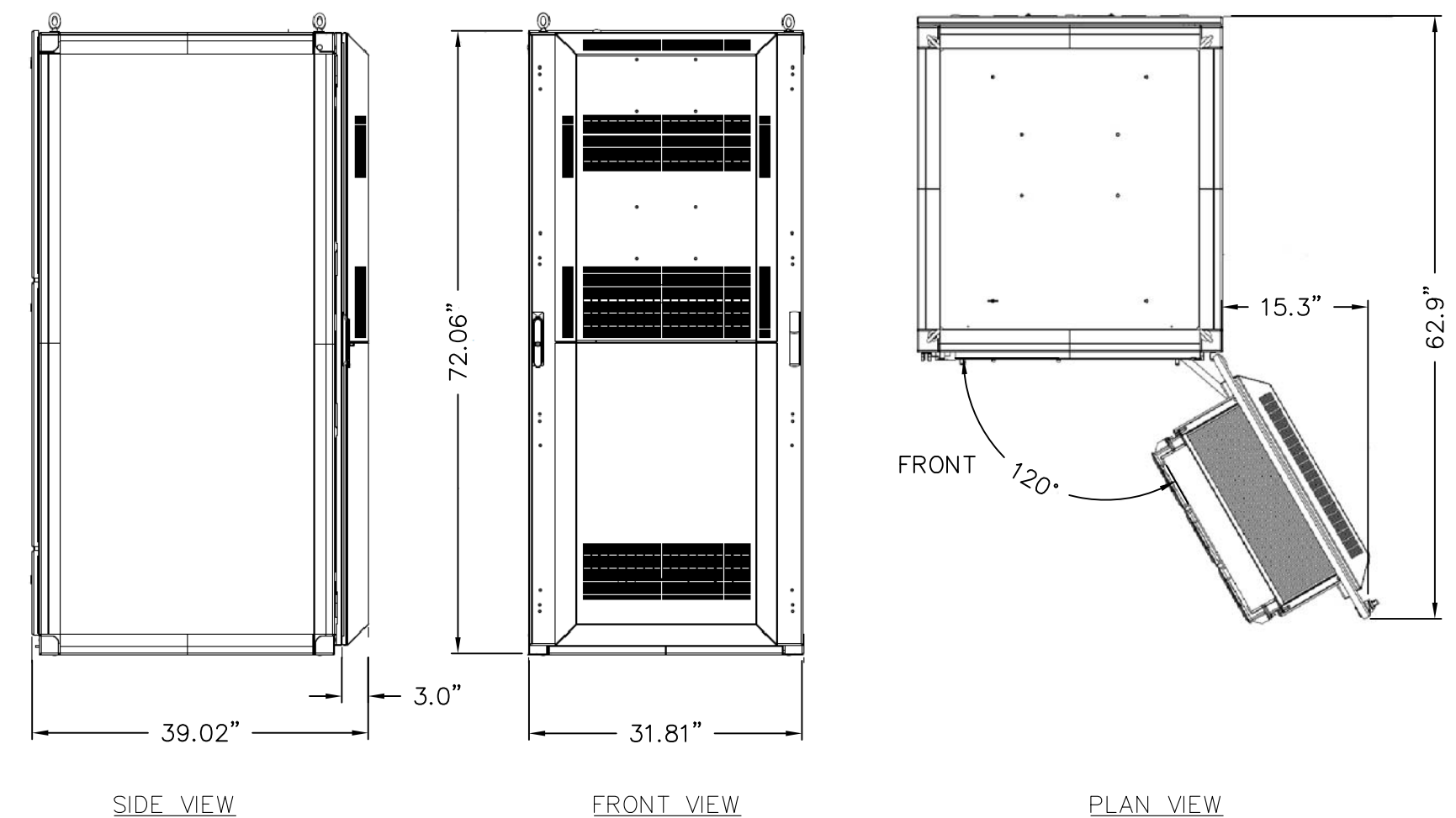
**ANTENNA PLAN**

SCALE: NONE



**EQUIPMENT CABINET DETAILS**

SCALE: NONE



**ANTENNA EQUIPMENT**

SCALE: NONE

ALL WORK TO BE COMPLETED IN ACCORDANCE WITH LATEST AT&T RF DESIGN SHEET

# **ATTACHMENT 3**



PROJECT:  
**STRUCTURAL ANALYSIS**  
of  
**Existing 1339ft**  
**LRM3700 Guyed Mast**

CUSTOMER:  
**QC Development**  
**Communications Site Management LLC**

SITE:  
**Rattlesnake Mountain**  
**(aka Farmington), CT**

TURRIS FILE:  
**20-0415**  
**August 19, 2020**



Turris Project: 20-0415  
August 19, 2020

**STRUCTURAL ANALYSIS OF**  
**Existing 1339 Ft. LRM3700 Guyed Mast**  
**at Rattlesnake (aka Farmington), CT**  
**FOR:**  
**QC Development**  
**Communications Site Management LLC**

Attention: Mark Roberts  
QC Development

CC: Joe Legere  
Communications Site Management LLC.  
Goodwin Square  
225 Asylum Street, 29<sup>th</sup> Floor  
Hartford, CT 06103

Prepared by: Simon Pong  
TURRIS CORP.  
70 Todd Road, Georgetown, ON, Canada L7G 4R7  
Phone: (905) 877-8885 Fax: (905) 877-8835

Reviewed By: Tony Fonseca, P.E.  
Turris Engineering Inc.  
9 Apple Lane, Moorestown, NJ 08057  
Phone: (856) 206-9561 Fax: (856) 206-0479 Mob: (803) 873-1562

**Introduction**

We have completed the structural analysis of the existing 1339ft LRM3700 guyed mast at Rattlesnake (aka Farmington), CT, and are pleased to submit our report for your attention. The purpose of this analysis is to evaluate the tower for compliance with ANSI/TIA-222-G with proposed loading based on the following information provided by QC Development:

*Table 1 – Proposed Loading*

| ID  | Pos | Description             | Qty | Elev (ft) | Tx Line             | Qty    | AZ         | Comments   |
|-----|-----|-------------------------|-----|-----------|---------------------|--------|------------|--|
| 106 | 106 | CCI TPA65R-BU8DA-K      | 3   | 217       | 1" DC<br>1/2" FIBER | 8<br>2 | 10/130/260 | AT&T<br><br>12' V-Boom (Site Pro VFA12-WLL-30120) w/ stabilizer (SitePro1 SFS-V) and steel pipes |
|     |     | CCI HPA65R-BU8DA        | 3   |           |                     |        |            |  |
|     |     | CCI DMP65R-BU8DA-K      | 3   |           |                     |        |            |  |
|     |     | RRH 4478 B14            | 3   |           |                     |        |            |  |
|     |     | RRH 4415 B30            | 3   |           |                     |        |            |  |
|     |     | RRH RRUS-E2             | 3   |           |                     |        |            |  |
|     |     | RRH 4449 B5/B12         | 3   |           |                     |        |            |  |
|     |     | RRH 8843 B2/B66A        | 3   |           |                     |        |            |  |
|     |     | Raycap DC6-48-60-18-8C  | 2   |           |                     |        |            |  |
|     |     | Raycap DC6-48-60-08C-EV | 2   |           |                     |        |            |  |

Note: Elevation refers to the base of the antenna

We trust the analysis and recommendations presented in the report will meet your requirements. However, please do not hesitate to contact us if you have any questions, or require any further information regarding this study.

**1.0 Terms of Reference**

The following documents and drawings were examined:

- Previous Analysis: Turris (Job: 19-0406R2) dated August 16, 2019
- Tower Profile: Radian dwg. No. 37-1030-E01-01 Rev. 2 dated Jan/10/2005.
- Tower Foundations: LeBlanc dwg. No. 3.7A1001-FE10 Issue 2 dated Aug/31/84.  
LeBlanc dwg. No. 3.7A1001-FE1 Issue 1 dated May/7/84.  
LeBlanc dwg. No. 3.7A1001-FE2 Issue 1 dated May/1/84.  
LeBlanc dwg. No. 3.7A1001-FE3 Issue 1 dated Apr/30/84.  
LeBlanc dwg. No. 3.7A1001-FE4 Issue 1 dated Apr/30/84.  
LeBlanc dwg. No. 3.7A1001-FE5 Issue 1 dated May/1/84.  
LeBlanc dwg. No. 3.7A1001-FE6 Issue 1 dated Apr/30/84.
- Tower Foundations: Radian dwg. No. 37-1030-F01-01 Rev. 0 dated Oct/4/2004.  
Radian dwg. No. 37-1030-F02-01 Rev. 0 dated Oct/5/2004.  
Radian dwg. No. 37-1030-F03-01 Rev. 0 dated Oct/5/2004.  
Turris dwg. No. 14-0799-F01-01 Rev. 0 dated Dec/4/2014
- Tower Reinforcing: Turris dwg. No. 20-0415-XE01-01 Rev. 1 dated Aug/18/2020
- Antenna Inventory: Mapping by Communications Site Management, LLC dated December 22, 2014 and refer to Appendix A.
- Soil Report: Dr. Clarence Welti, Geotechnical Engineering Reports dated January 30, 2004 and dated February 1984

A tower inspection was not performed in conjunction with this analysis. The tower and loading data used in this analysis are based on and is as accurate as the data furnished/obtained.

## 2.0 Analysis Parameters

- Standard: ANSI/TIA-222-G (2018 CT Building Code)
- County: Hartford, CT
- Basic Wind Speed: 97 mph  $V_{nominal}$  (125 mph  $V_{ultimate}$ )
- Basic Wind Speed With Ice: 50 mph
- Design Ice Thickness: 1.00 in
- Structure Class: II
- Exposure Category: B
- Topographic Category: 5
- Type of Hill: 3D Axisymmetrical Hill
- Height of Crest: 250 ft
- Distance from Crest to Tower: 0 ft
- Distance upwind of Crest: 670 ft

## 3.0 Analysis Parameters

- All tower members and guys are assumed in good, non-corroded conditions with yield strength as per profile.
- The tower and its foundation system have been properly constructed as per the original design drawings and specifications and able to resist the original design loads.
- This analysis assumes that all previous reinforcing recommendations and antenna rearrangement have been implemented.
- Bolt and/ or welded connections are assumed to develop the full capacity of the connected member.
- All existing/future tx lines less than 3" in diameter are considered grouped together in blocks based on an assumed arrangement for this analysis.
- This analysis assumes that the back-to-back diagonals at sections 6, 7, 12, 13, 19, 20, 21, and 33 had been upgraded with (1) 5/8" stitch bolt on each side of the existing middle stitch bolt.
- This analysis assumes that the antenna mount at elevation 120' has the structural capacities to support the equipment at elev. 120'.
- The base foundation was analyzed based on the soil parameters as stated in the original foundation drawing (Dwg. 3.7A1001-FE10 Issue 2). Allowable bearing capacity = 50 ksf.
- Evaluation of the existing candelabra arms is excluded from this report as there are no proposed loading changes on the candelabra arms.



#### 4.0 Analysis Results

Appendix A shows the tower profile, along with the antennas, transmission lines and ancillary loading considered in this analysis. The existing structure was analyzed using the comprehensive computer program "TSTower". As per the customer's request, any members overstress exceeding 99% are considered unacceptable and require reinforcing or replacement. Graphical and tabular results are presented in Appendix B. The tower reinforcing Turriss dwg. No. 20-0415-XE01-01 Rev. 1 dated Aug/18/2020 is incorporated into this analysis:

##### Maximum Stress Ratios

| Leg     |       |             |       |            |
|---------|-------|-------------|-------|------------|
| Section | Panel | Member size | Ratio | Comment    |
| 15      | 3     | SR 6        | 0.99  | Acceptable |

| Diagonal |       |             |       |            |
|----------|-------|-------------|-------|------------|
| Section  | Panel | Member size | Ratio | Comment    |
| 2        | 1     | 2L3x2x5/16  | 0.97  | Acceptable |

| Horizontal |       |               |       |            |
|------------|-------|---------------|-------|------------|
| Section    | Panel | Member size   | Ratio | Comment    |
| 19         | 3     | 2L3x2 1/2x3/8 | 0.69  | Acceptable |

| Guy   |             |       |            |  |
|-------|-------------|-------|------------|--|
| Level | Member size | Ratio | Comment    |  |
| 7     | UH 2 1/16   | 0.64  | Acceptable |  |

Base foundation is acceptable.  
Anchor foundations are acceptable.

#### 5.0 Conclusions & Recommendations

The existing 1339 ft LRM3700 guyed tower at Rattlesnake (aka Farmington), CT, and associated foundations are considered in compliance with ANSI/TIA-222-G with the assumptions and listed documentations as stated in this report.

Prepared by:

Simon Pong, P.Eng., P.E.  
Senior Project Engineer

Reviewed by:

  
  
Aug 24/2020

John Wahba, Ph.D, P.Eng., P.E.  
Principal Engineer

## **SCOPE & LIMITATIONS FOR THE PROVISION OF PROFESSIONAL ENGINEERING SERVICES FOR STRUCTURES**

All engineering services performed by Turriss Corp. (Turriss) in connection with the structural analysis of the tower is limited to the strength of the members and does not account for any variations due fabrication, including welding and connection capacities and installations, except as outlined in this Report.

This analysis report is based on assumptions that the information below, but is not necessarily limited to:

- information supplied by the client regarding the structure and its components, foundations, soil conditions, appurtenances loading on the structure, and other site-specific information.
- information from documents and/or drawings in the possession of Turriss Corporation, or acquired from field inspections.

It is the responsibility of the client to ensure that the information provided to Turriss, and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications provided, and are in non-corroded condition and have not deteriorated. Therefore, we assume that the member capacities have not changed from the "as new" condition.

All services will be performed to meet the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed to in writing. If wind and ice loads or other relevant parameters are to be different than the minimum values recommended by the standards, the client shall specify the requirement.

All services are performed in accordance with generally accepted engineering principles and practices. Turriss is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

Furthermore, Turriss assumes no obligations to revise any of the information or conclusions contained in this Report in the event that such engineering and analysis procedures and formulas are hereafter modified or revised. In addition, under no circumstances will Turriss have any obligations or responsibility whatsoever for or on account of consequential or incidental damages sustained by any person, firm or organization as a result of any information or conclusions contained in the report and the maximum liability of Turriss Corp., if any, pursuant to this Report shall be limited to the total funds actually received by Turriss Corp. for preparation of this Report.

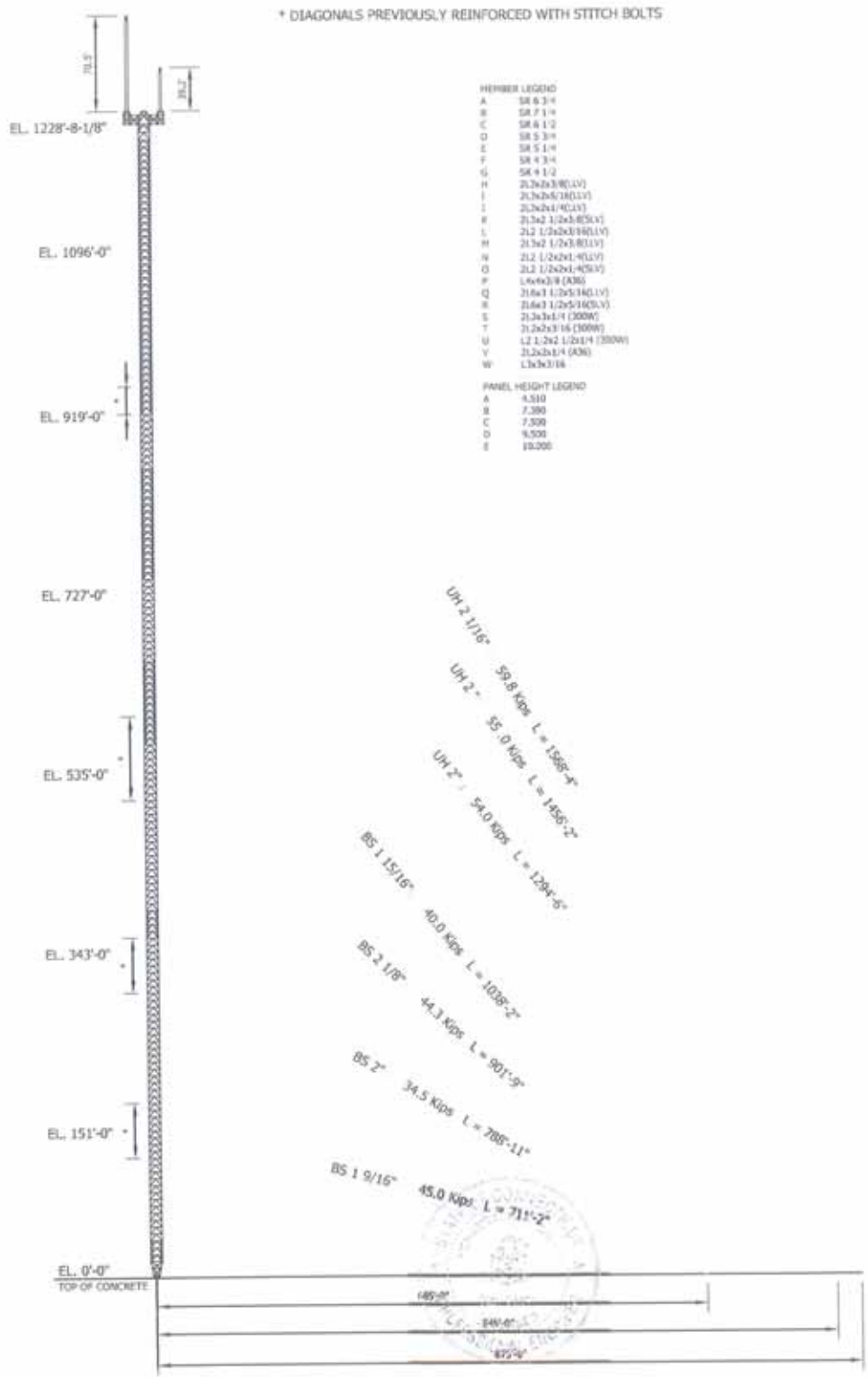


Turris Project: 20-0415  
August 19, 2020

**APPENDIX A**  
**Tower Profile and Antenna Loading Chart**

DESIGN SPECIFICATION: ANSI/TIA-222-G  
 BASIC WIND SPEED (No Ice): 97 mph  
 BASIC WIND SPEED (With Ice): 50 mph  
 DESIGN ICE THICKNESS: 1.00 inch  
 EXPOSURE CATEGORY: B  
 STRUCTURE CLASS: II  
 TOPOGRAPHIC CATEGORY: 5  
 IMPORTANCE FACTOR: 1.00

| SECTION NO. | SECTION NAME         | 1     | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 |
|-------------|----------------------|-------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|             | PANEL TYPE           | 6     |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|             | PANEL HEIGHT (FO)    | 7.260 |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|             | MEMBERS (AS27 (P/S)) | A     | B |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|             | DIAGONALS (DOWN)     | H     | I |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|             | HORIZONTALS (DOWN)   | L     | M |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|             | RED. SHEET           | S     | T |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|             | RED. SHEET           | U     | V |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|             | PIPING (DOWN)        | W     | X |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |



- MEMBER LEGEND
- A SR 6 3/4
  - B SR 7 1/4
  - C SR 4 1/2
  - D SR 5 3/4
  - E SR 5 1/4
  - F SR 4 3/4
  - G SR 4 1/2
  - H 2L2x2x1/4(11)
  - I 2L2x2x1/4(11)
  - J 2L2x2x1/4(11)
  - K 2L2x2x1/4(11)
  - L 2L2x2x1/4(11)
  - M 2L2x2x1/4(11)
  - N 2L2x2x1/4(11)
  - O 2L2x2x1/4(11)
  - P 1x6x3/8 (AN)
  - Q 2L6x3x1/2x5/16(11)
  - R 2L6x3x1/2x5/16(11)
  - S 2L3x3x1/4 (200W)
  - T 2L2x2x1/4 (200W)
  - U L2x2x1/4 (200W)
  - V 2L2x2x1/4 (AN)
  - W L3x3x1/4
- PANEL HEIGHT LEGEND
- A 4.510
  - B 7.380
  - C 7.500
  - D 9.500
  - E 10.200

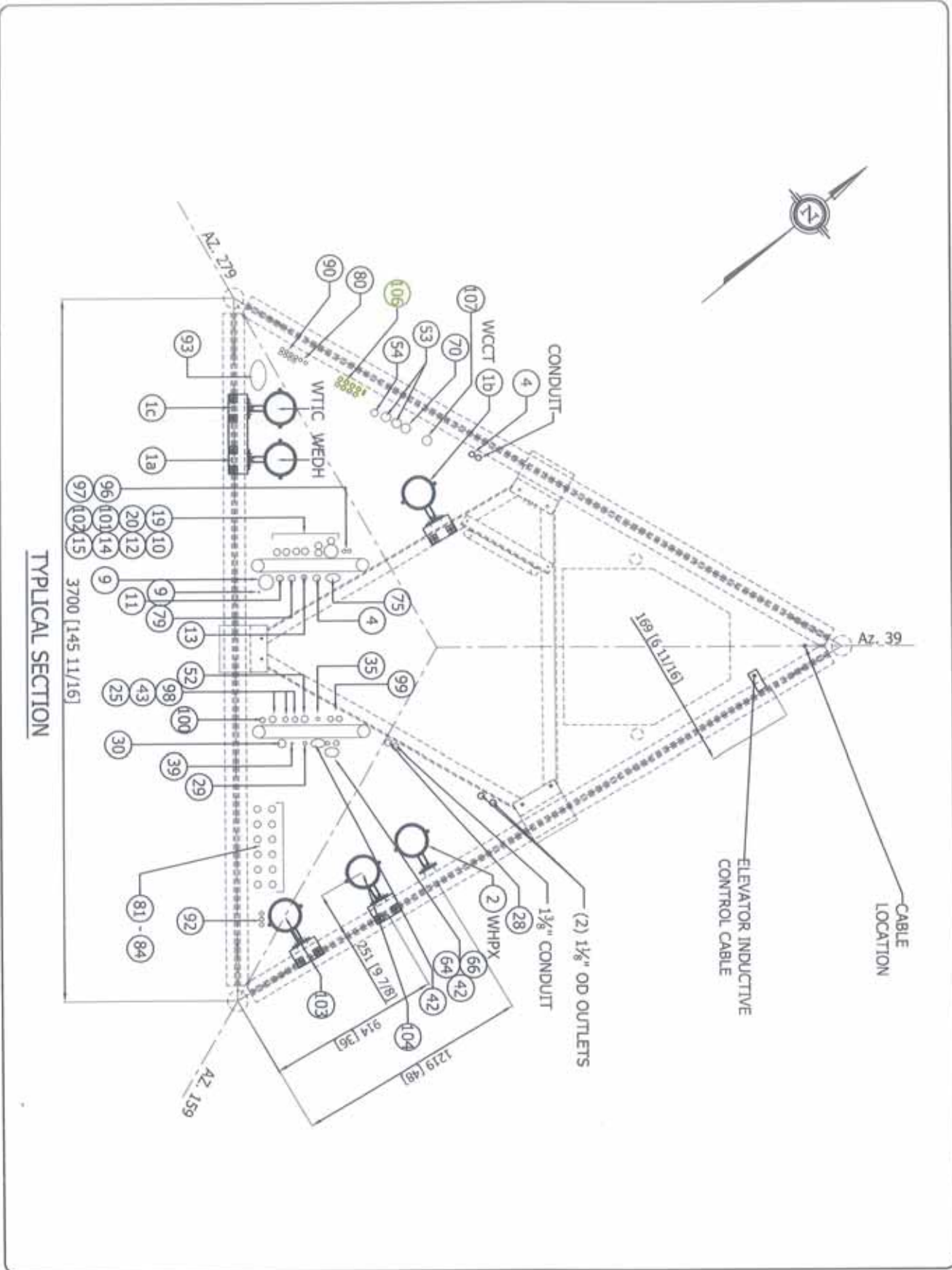
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 PROGRESSIVE PROJECTS  
 10 Tull Road  
 Georgetown, Ontario, L7G 4K7, Canada  
 Tel: +1 905 877 8865 Fax: +1 905 877 8835  
 www.turriseng.com

PROJECT: 1339 FT GUYED TOWER  
 LOCATION: QC Development  
 SITE NAME: Rattinsaka Mountain (Farmington), CT  
 DATE: 10/2019

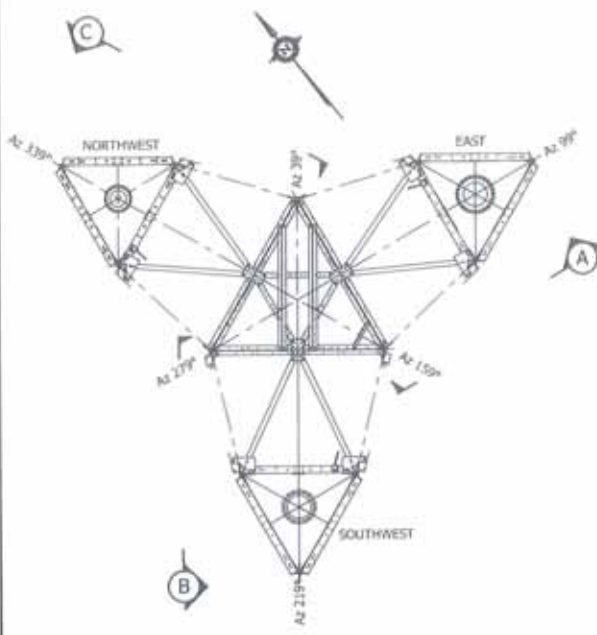
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|------|-------------|------|------|------|
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| DATE    | REV. | PROJECT NO. | DATE |
|---------|------|-------------|------|
| 10/2019 | 1/1  | 19-1213     | 8    |

TOWER PROFILE  
 19-1213-0001-01

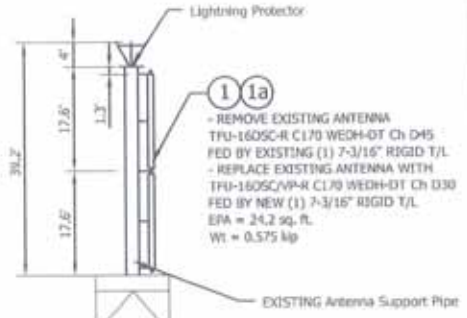


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|---|---|---------|-------------|---------|------|--|--|--|--|---|-------------------|--|--|--|--|--|--|--|--|--|--|---|---|------|----|---------|------|--|--|--|--|--|--|--|--|--|--|--|--|
|  <p><b>TURRIS</b><br/>ENGINEERING<br/>CONSULTING</p> <p>2000 West 10th Street<br/>Suite 100<br/>Tulsa, Oklahoma 74103<br/>Phone: (918) 438-1111<br/>Fax: (918) 438-1112<br/>www.turris.com</p> | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>REV.</td> <td>DESCRIPTION</td> <td>ISSUE</td> <td>DATE</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>   | REV.    | DESCRIPTION | ISSUE   | DATE |  |  |  |  | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;">DRAWING REFERENCE</td> </tr> <tr> <td style="width: 50%;"> </td> <td style="width: 50%;"> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table> | DRAWING REFERENCE |  |  |  |  |  |  |  |  |  | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"> <p style="text-align: center;">11307 QUARD MAST</p> <p style="text-align: center;">QC Development</p> <p style="text-align: center;">Sullivan &amp; Associates (Fremington), CT</p> </td> <td style="width: 50%;"> <p style="text-align: center;">TOWER CROSS SECTION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DATE</td> <td>BY</td> <td>CHECKED</td> <td>DATE</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> </td> </tr> </table> | <p style="text-align: center;">11307 QUARD MAST</p> <p style="text-align: center;">QC Development</p> <p style="text-align: center;">Sullivan &amp; Associates (Fremington), CT</p> | <p style="text-align: center;">TOWER CROSS SECTION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DATE</td> <td>BY</td> <td>CHECKED</td> <td>DATE</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> | DATE | BY | CHECKED | DATE |  |  |  |  |  |  |  |  |  |  |  |  |
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|   |   |         |             |         |      |  |  |  |  |   |                   |  |  |  |  |  |  |  |  |  |  |   |   |      |    |         |      |  |  |  |  |  |  |  |  |  |  |  |  |



**TOP CANDELABRA LAYOUT  
PLAN VIEW**

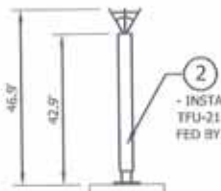
**STACK DATA (Ch 30)**  
 TOTAL EPA = 124 sq.ft.  
 TOTAL Wt = 12.6 kip  
 D1 = 17.6 ft.



**(A) ELEV. VIEW (EAST)**

**1a**  
 - REMOVE EXISTING ANTENNA  
 TPU-160SC-R C170 WEDH-DT Ch D45  
 FED BY EXISTING (1) 7-3/16" RIGID T/L  
 - REPLACE EXISTING ANTENNA WITH  
 TPU-160SC/VP-R C170 WEDH-DT Ch D30  
 FED BY NEW (1) 7-3/16" RIGID T/L  
 EPA = 24.2 sq. ft.  
 Wt = 0.575 kip

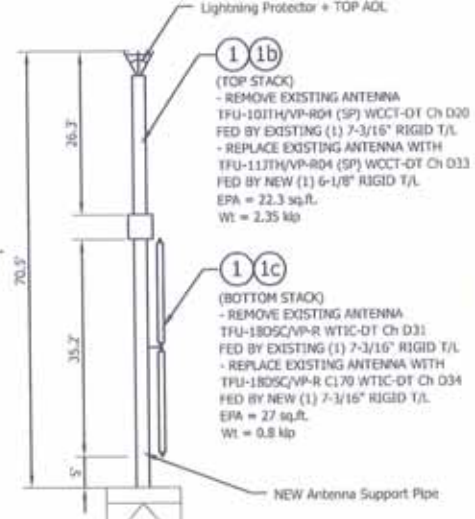
**STACK DATA (Ch 28)**  
 TOTAL EPA = 43.8 sq.ft.  
 TOTAL Wt = 4.9 kip  
 D1 = 23.1 ft.



**(B) ELEV. VIEW (SOUTHWEST)**

**2**  
 - INSTALL NEW ANTENNA  
 TPU-21ETT/VP-R C170 WHPX Ch 28  
 FED BY NEW (1) 6-1/8" RIGID T/L

**STACK DATA (Ch 33 / Ch 34)**  
 TOTAL EPA = 149.07 sq.ft.  
 TOTAL Wt = 10.5 kip  
 D1 = 26.22 ft.



**(C) ELEV. VIEW (NORTHWEST)**

**1b**  
 (TOP STACK)  
 - REMOVE EXISTING ANTENNA  
 TPU-10JTH/VP-R04 (5P) WCCT-DT Ch D00  
 FED BY EXISTING (1) 7-3/16" RIGID T/L  
 - REPLACE EXISTING ANTENNA WITH  
 TPU-11JTH/VP-R04 (5P) WCCT-DT Ch D33  
 FED BY NEW (1) 6-1/8" RIGID T/L  
 EPA = 22.3 sq.ft.  
 Wt = 2.35 kip

**1c**  
 (BOTTOM STACK)  
 - REMOVE EXISTING ANTENNA  
 TPU-180SC/VP-R WTIC-DT Ch D31  
 FED BY EXISTING (1) 7-3/16" RIGID T/L  
 - REPLACE EXISTING ANTENNA WITH  
 TPU-180SC/VP-R C170 WTIC-DT Ch D34  
 FED BY NEW (1) 7-3/16" RIGID T/L  
 EPA = 27 sq.ft.  
 Wt = 0.8 kip

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www.turris.com

|          |                                       |
|----------|---------------------------------------|
| PROJECT  | 1339 FT GUYED TOWER                   |
| DESIGNER | QC Development                        |
| CLIENT   | Rattlesnake Mountain (Farmington), CT |
| DATE     |                                       |

| REV. | DESCRIPTION | DATE | CHK. | APP. |
|------|-------------|------|------|------|
|      |             |      |      |      |

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
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| TOWER PROFILE SECTION VIEW |      |             |         |    |
|----------------------------|------|-------------|---------|----|
| DATE                       | REV. | PROJECT NO. | SCALE   | BY |
| DEC 26, 2019               | 01   |             | 1/4"=1' |    |
|                            |      |             |         |    |
| 19-2273-0002-01            |      |             |         |    |

## APPENDIX A Antenna Loading Chart

| ID                                  | Pos | Description                             | Qty    | Elev (ft)           | Tx Line         | Qty    | AZ                 | Location               | Customer                           | Status |
|-------------------------------------|-----|---|--------|---------------------|-----------------|--------|--------------------|------------------------|------------------------------------|--------|
| Top Candelabra loading              |     |   |        |                     |                 |        |                    |                        |                                    |        |
| 1                                   | 1a  | TFU-16DSC/VP-R C170<br>WEDH-DT Ch D30   | 1      | 1248.25-<br>1287.45 | 7-3/16"         | 1      |                    | East Arm               | CPBN (WEDH)                        | E      |
| 1                                   | 1b  | TFU-11JTH/VP-R04 (SP)<br>WCCT-DT Ch D33 | 1      | 1248.25-<br>1318.75 | 6-1/8"          | 1      |                    | NW Arm Top<br>Stack    | Tegna Broadcast<br>Holdings (WCCT) | E      |
| 1                                   | 1c  | TFU-18DSC/VP-R C170<br>WTIC-DT Ch 34    | 1      |                     | 7-3/16"         | 1      |                    | NW Arm Bottom<br>Stack | Tegna Broadcast<br>Holdings (WTIC) | E      |
| 2                                   | 2   | TFU-21ETT/VP-R C170<br>Ch D28           | 1      | 1248.25-<br>1295.15 | 6-1/8"          | 1      |                    | SW Arm Top<br>Stack    | Ion Media Networks<br>(WHPX)       | E      |
| Miscellaneous loading on tower mast |     |   |        |                     |                 |        |                    |                        |                                    |        |
| 4                                   | 4   | Radio Waves PR09-DRB-2C                 | 1      | 1221.16             | 1 5/8" + 1"     | 1 Each | 39                 |                        | ProscanIII WTIC                    | E      |
| 9                                   | 9   | FM ERI-1183-1CP                         | 1      | 847.81              | 3 5/8" + 1 5/8" | 1      | 1 Bay Each<br>Face |                        | WRCH                               | E      |
| 10                                  | 10  | DB809-H                                 | 1      | 802.9               | 3 1/8"          | 1      | 39                 |                        | Comsite                            | E      |
| 11                                  | 11  | DB413                                   | 1<br>1 | 779.8<br>778.38     | 1 5/8"          | 1      | 39                 | S Face                 | Comsite                            | E      |
| 12                                  | 12  | DB413                                   | 1<br>1 | 761.65<br>756.23    | 1 5/8"          | 1      | 39                 | S Face                 | Comsite                            | E      |
| 13                                  | 13  |   |        | 750                 | 1 1/4"          | 1      |                    |                        | Comsite                            |        |
| 14                                  | 14  | ANT150D6-9                              | 1      | 747.75              | 1 5/8"          | 1      | 159                |                        | CNG                                | E      |
| 15                                  | 15  | DB809-H                                 | 1      | 729.78              | 1 5/8"          | 1      | 39                 |                        | Comsite                            | E      |
| 16                                  |     | DB254C                                  | 1<br>1 | 716.15<br>713.69    | None            | None   |                    | S Face                 | Comsite                            | E      |
| 17                                  |     | DB8983P                                 | 1      | 715                 | None            | None   | 279                |                        | Comsite                            | E      |
| 18                                  |     | DB420B                                  | 1      | 704.63              | None            | None   | 39                 |                        | Comsite                            | E      |
| 19                                  | 19  | DB809K                                  | 1      | 690.47              | 1 5/8"          | 1      | 39                 |                        | WRCH                               | E      |
| 20                                  | 20  | DB224                                   | 1      | 670.48              | 1 5/8"          | 1      | 39                 |                        | Tilcon                             | E      |
| 25                                  | 25  | Scala OGB9-900K                         | 1      | 519.38              | 1 5/8"          | 1      | 39                 |                        | American Messaging                 | E      |
| 26                                  |     | Dish Mounts & I/G                       | 3      | 510.8               | None            | None   | 39, 159, 279       |                        | Comsite                            | E      |
| 28                                  | 28  | BA80-67                                 | 1      | 440.81              | 1 5/8"          | 1      | 39                 |                        | Goosetown                          | E      |
| 29                                  | 29  | DB Dipole, 12' Whip                     | 1      | 410.45              | 7/8"            | 1      | 39                 |                        | WRCH                               | E      |
| 30                                  | 30  | SHPXA-4BC-HW-SP<br>(without radome)     | 1      | 384.74              | 3 1/8"          | 1      | 159                |                        | WRCH                               | E      |
| 35                                  | 35  | Scala OGB9-900N                         | 1      | 323.45              | 7/8"            | 1      | 279                |                        | American Messaging                 | E      |
| 36                                  |     | I/G                                     | 3      | 309.11              | None            | None   | 1 Each Face        |                        | Comsite                            | E      |
| 39                                  | 39  | Scala MF-950M                           | 1      | 304.3               | 7/8"            | 1      | 279                |                        | WRCH                               | E      |
| 42                                  | 42  | PXL8                                    | 1      | 285.12              | EW 63           | 2      | 279                |                        | WTIC/WEDH                          | E      |
| 43                                  | 43  | MF900B                                  | 1      | 271.02              | 1 1/4"          | 1      | 279                |                        | WTIC                               | E      |
| 52                                  | 52  | BMR 10A                                 | 1      | 174                 | 1 5/8"          | 1      | 39                 |                        | Farmington PD                      | E      |
| 53                                  | 53  | DB950F65T4E-M                           | 2      | 160.3               | 2 1/4"          | 2      | 279                |                        | Sprint                             | E      |
| 54                                  | 54  | DB950F65T4E-M                           | 1      | 160                 | 2 1/4"          | 1      | 39                 |                        | Sprint                             | F      |
| 64                                  | 64  | PD400                                   | 1      | 120.51              | 7/8"            | 1      | 159                |                        | Postal Insp.                       | E      |
| 66                                  | 66  | PD1110                                  | 1      | 107.46              | 1 1/4"          | 1      | 159                |                        | American Messaging                 | E      |
| 67                                  |     | Ice Guards                              | 1      | 96                  | None            | None   | 39                 |                        | Comsite                            | E      |
| 70                                  | 70  | A-18A24                                 | 1      | 73.89               | 2 1/4"          | 1      | 39                 |                        | Sprint                             | E      |
| 71                                  |     | Dish Mount                              | 1      | 60                  | None            | None   | 39                 |                        | Comsite                            | E      |
| 72                                  |     | Dish Mount                              | 1      | 54                  | None            | None   | 39                 |                        | Comsite                            | E      |
| 73                                  |     | Dish Mount                              | 1      | 43                  | None            | None   | 39                 |                        | Comsite                            | E      |
| 74                                  |     | Ice Guards                              | 1      | 40.2                | None            | None   | 39                 |                        | WTIC                               | E      |

| ID  | Pos | Description                     | Qty | Elev (ft)            | Tx Line                        | Qty  | AZ           | Location   | Customer                        | Status |                  |   |
|-----|-----|---------------------------------|-----|----------------------|--------------------------------|------|--------------|--|---------------------------------|--------|------------------|---|
| 75  | 75  | PL6                             | 1   | 29.05                | EW63                           | 1    | 39           |  | WTIC                            | E      |                  |   |
| 79  | 79  | Scala PR-950U                   | 1   | 330.08               | 1 5/8"                         | 1    | 159          |  | WJMJ                            | E      |                  |   |
| 80  | 80  | Scala PR-950U                   | 1   | 48.07                | 7/8"                           | 1    | 279          |  | WJMJ                            | E      |                  |   |
| 81a | 81  | Swedcom SCE-6016 Rev 2          | 1   | 116                  | 1 5/8"                         | 12   | 0            |  | Verizon Wireless                | E      |                  |   |
| 81b |     | Swedcom SACP 2x5516             | 1   | 116                  |                                |      | 0            |  | Verizon Wireless                | E      |                  |   |
| 81c |     | CSS- X7C-FRO-660-VR4            | 1   | 116                  |                                |      | 0            |  | Verizon Wireless                | E      |                  |   |
| 81d |     | Swedcom SCE-6016 Rev 2          | 1   | 116                  |                                |      | 0            |  | Verizon Wireless                | E      |                  |   |
| 82  | 82  | Andrew CBC721-DF                | 2   | 116                  |                                |      |              |  | 39                              |        | Verizon Wireless | E |
| 83a | 83  | Swedcom SCE-6016 Rev 2          | 1   | 116                  |                                |      |              |  | 270                             |        | Verizon Wireless | E |
| 83b |     | CSS/ X7C-FRO-660-VR4            | 1   | 116                  |                                |      |              |  | 270                             |        | Verizon Wireless | E |
| 83c |     | Swedcom SACP 2x5516             | 1   | 116                  |                                |      |              |  | 270                             |        | Verizon Wireless | E |
| 83d |     | Swedcom SCE-6016 Rev 2          | 1   | 116                  |                                |      |              |  | 270                             |        | Verizon Wireless | E |
| 84  | 84  | Andrew CBC721-DF                | 2   | 116                  |                                |      |              |  | 39                              |        | Verizon Wireless | E |
| 86  |     | 12' lightweight T-frame         | 1   | 116                  |                                |      |              |  | 0                               |        | Verizon Wireless | E |
| 88  |     | 12' lightweight T-frame         | 1   | 116                  |                                |      |              |  | 270                             |        | Verizon Wireless | E |
| 90  | 90  | Andrew VHLP 2.5 (30")           | 6   | 198.71               | 7/8"                           | 9    | 39, 159, 279 | 2 Dishes on Each Lg                                    | Clearw                          | E      |                  |   |
| 91  |     | Ice Shield (2'6"x 2'6")         | 1   | 37                   | None                           | None | 159          |  | Comsite                         | E      |                  |   |
| 92  | 92  | Camera Sony SNC-RZ50N           | 1   | 35.27                | Cat 5 cable + RG 6             | 1+2  | 159          |  | Comsite                         | E      |                  |   |
| 93  | 93  | TA-2355-DAB-M-T2                | 1   | 457.58               | EW20                           | 1    | 39           |  | SiriusXM                        | E      |                  |   |
| 94  | 94  | Prodelin VSAT #1183 (1.8m dish) | 1   | 35                   | RG6-QS (.298" dia. coax cable) | 1    |              | Leg 8 of WG Bridge                                     | SiriusXM                        | E      |                  |   |
| 95  | 95  | Trimble GPS Unit #57860-30      | 1   | 34                   | RG6-QS (.298" dia. coax cable) | 1    |              | Leg 7 of WG Bridge                                     | SiriusXM                        | E      |                  |   |
| 96  | 96  | Scala MF-950M                   | 1   | 230                  | 7/8"                           | 1    | 279          | Backup STL   | WRCH                            | E      |                  |   |
| 97  | 97  | -                               | -   | 217                  | 7/8"                           | 1    | -            |  | Comsite                         | E      |                  |   |
| 98  | 98  | Commander 1142-2CN              | 1   | 84                   | AVA5-50FX                      | 1    | 279          | 6' Site Pro PSA6 Side arm mount                        | Farmington PD                   | E      |                  |   |
| 99  | 99  | Radiowaves HPD2-4.7             | 1   | 84                   | AVA5-50FX                      | 2    | 279          | Shares Side Arm with item 98                           | Farmington PD                   | E      |                  |   |
| 100 | 100 | DB Spectra DS1F06F36U-D         | 1   | 77                   | AVA5-50FX                      | 1    | 159          | 6' Site Pro PSA6 Side arm mount                        | Farmington PD                   | E      |                  |   |
| 101 | 101 | Telewave ANT150D6-9             | 1   | 680                  | 1 5/8"                         | 1    | East leg     | 2' stand-offs  | Dattco                          | E      |                  |   |
| 102 | 102 | Telewave ANT150D6-9             | 1   | 780                  | 1 5/8"                         | 1    | East leg     | 2' stand-offs  | Dattco                          | E      |                  |   |
| 103 | 103 | Bay ERI 1193-1CP-DA FM          | 1   | 1054.127<br>1044.127 | 4 1/16"                        | 1    | 287/47/125   | Stand-off mounts. (2) on West face. and (1) on Leg 159 | ORTV. Inc (WJMJ)                | E      |                  |   |
| 104 | 104 | DCA TFU-16WB-1-R C160 Ch 25 DTV | 1   | 1096-1124.9          | 6-1/8"                         | 1    | 39           | Side Mount   | Tegna Broadcast Holdings & CPBN | E      |                  |   |
| 105 |     | Ice Guard                       | 1   | 1117.9               | None                           | None |              | East and West Face Mount                               | Tegna Broadcast Holdings & CPBN | E      |                  |   |





Turris Project: 20-0415  
August 19, 2020

| ID  | Pos | Description             | Qty | Elev (ft) | Tx Line               | Qty    | AZ                              | Location   | Customer | Status |
|-----|-----|-------------------------|-----|-----------|-----------------------|--------|---------------------------------|--|----------|--------|
| 106 | 106 | CCI TPA65R-BU8DA-K      | 3   | 217       | 1" DC<br>1/2" FIBER   | 8<br>2 | 10/130/260                      | 12' V-Boom<br>(Site Pro VFA12-<br>WLL-30120) w/<br>stabilizer<br>(SitePro1 SFS-<br>V) and steel<br>pipes | AT&T     | P      |
|     |     | CCI HPA65R-BU8DA        | 3   |           |                       |        |                                 |  |          |        |
|     |     | CCI DMP65R-BU8DA-K      | 3   |           |                       |        |                                 |  |          |        |
|     |     | RRH 4478 B14            | 3   |           |                       |        |                                 |  |          |        |
|     |     | RRH 4415 B30            | 3   |           |                       |        |                                 |  |          |        |
|     |     | RRH RRUS-E2             | 3   |           |                       |        |                                 |  |          |        |
|     |     | RRH 4449 B5/B12         | 3   |           |                       |        |                                 |  |          |        |
|     |     | RRH 8843 B2/B66A        | 3   |           |                       |        |                                 |  |          |        |
|     |     | Raycap DC6-48-60-18-8C  | 2   |           |                       |        |                                 |  |          |        |
|     |     | Raycap DC6-48-60-08C-EV | 2   |           |                       |        |                                 |  |          |        |
| 107 | 107 | Dielectric DLP-12B      | 1   | 570       | Draka RFA<br>1-5/8-50 | 1      | 110<br>(mount on 39<br>deg leg) | Venture<br>Technologies Group  | E        |        |

Notes:

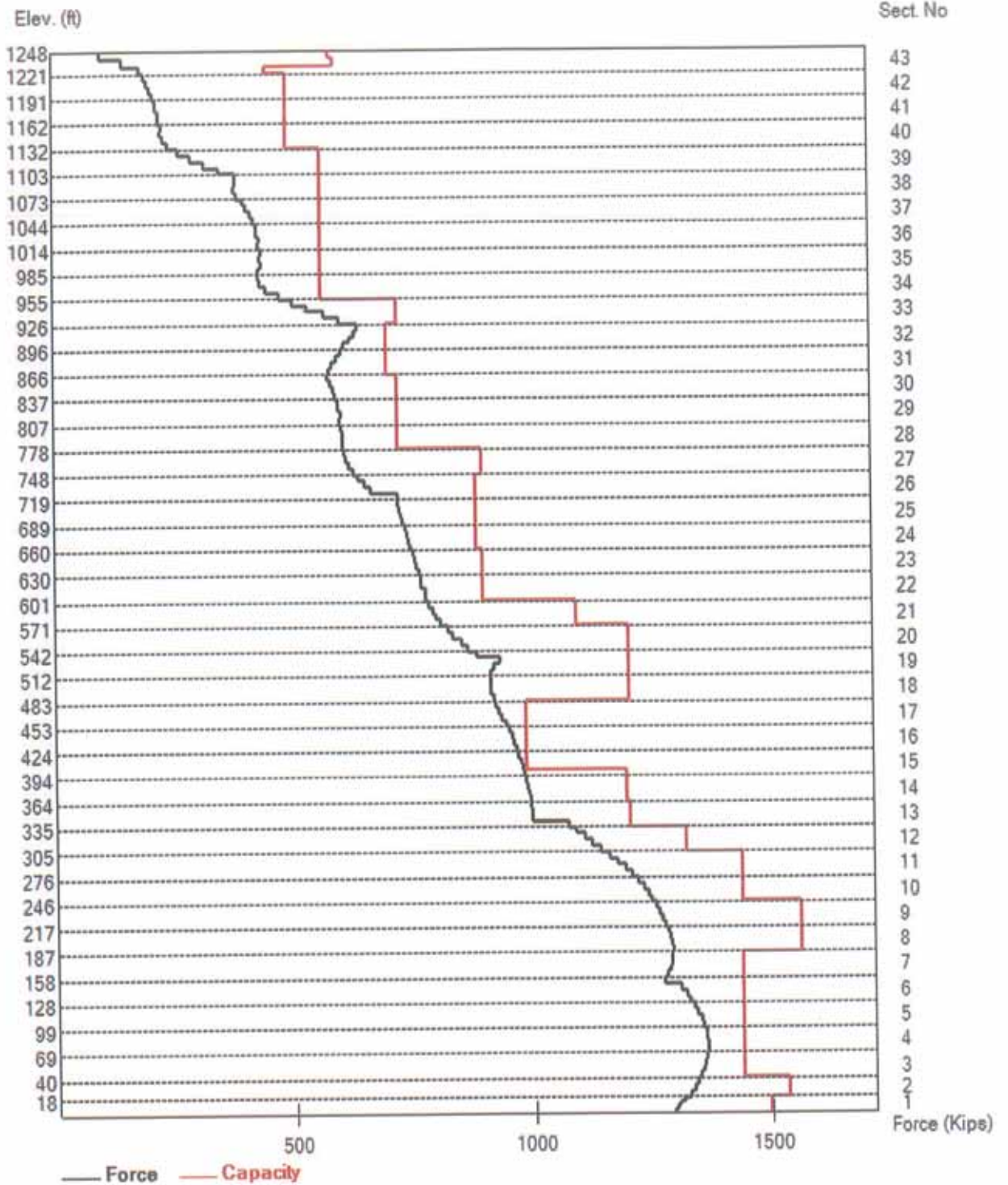
- 1) All measurements are to the base of the antennas unless noted otherwise.
- 2) ID 75 line is not attached to the cable ladder. The line goes from the waveguide bridge to the dish.

**APPENDIX B**  
**Results of Analysis**

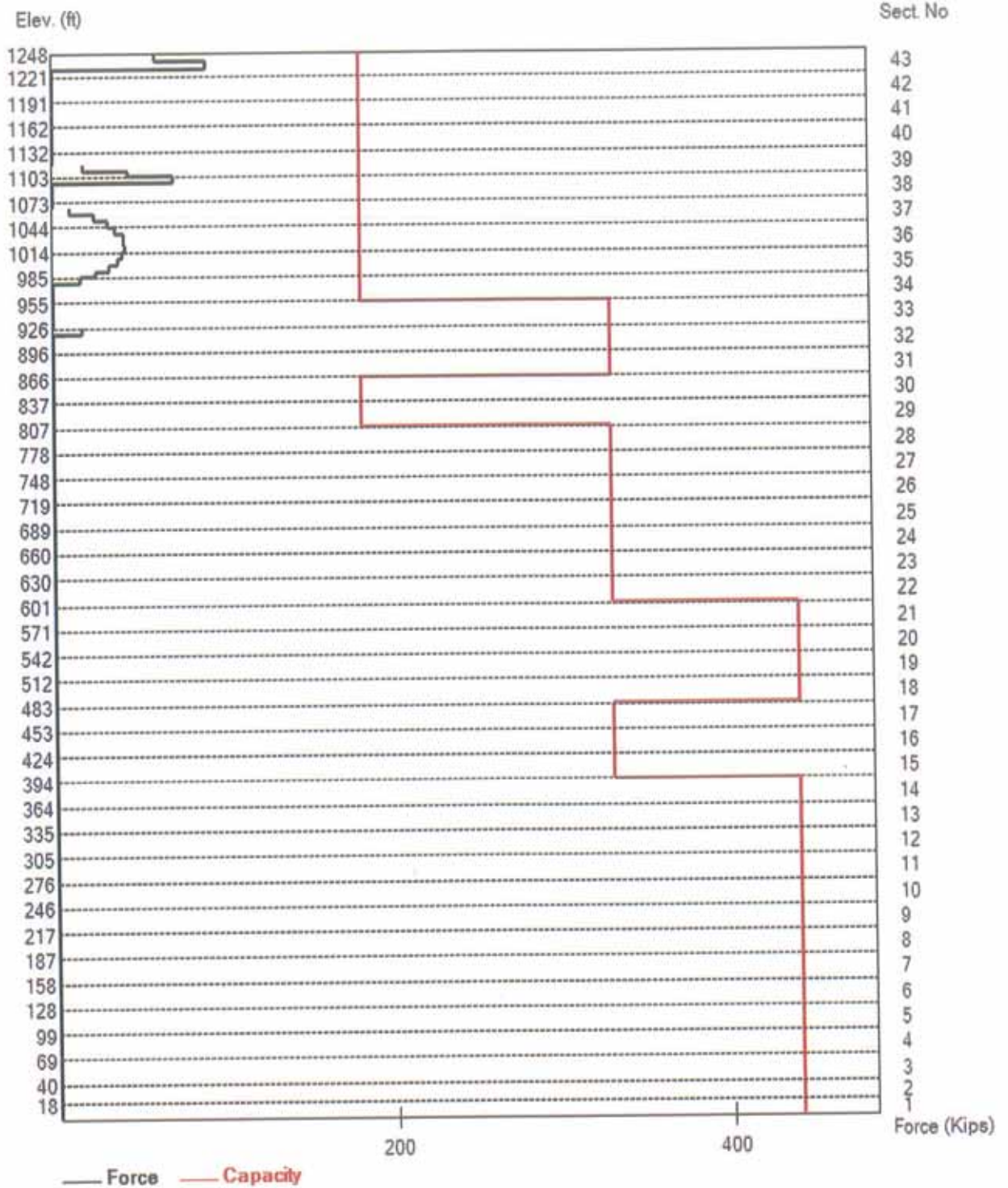
| Guy Elevation (ft) | Guy Maximum Stress Levels (% of Rated Capacity) |
|--------------------|---|
| 1228.68            | 64  |
| 1096.00            | 62  |
| 919.00             | 59  |
| 727.00             | 60  |
| 535.00             | 56  |
| 343.00             | 50  |
| 151.00             | 63  |

| Elevation (ft) | Maximum Beam Rotation (Degrees) for Serviceability Conditions |
|----------------|---|
| 1221.16        | 0.99  |
| 802.90         | 0.58  |
| 780.00         | 0.58  |
| 747.75         | 0.59  |
| 729.78         | 0.60  |
| 690.47         | 0.62  |
| 680.00         | 0.62  |
| 670.48         | 0.63  |
| 410.45         | 0.65  |
| 330.08         | 0.62  |
| 285.12         | 0.61  |
| 221.00         | 0.53  |
| 198.71         | 0.51  |
| 116.00         | 0.36  |
| 107.46         | 0.35  |
| 84.00          | 0.29  |
| 77.00          | 0.27  |
| 48.07          | 0.23  |
| 29.05          | 0.22  |

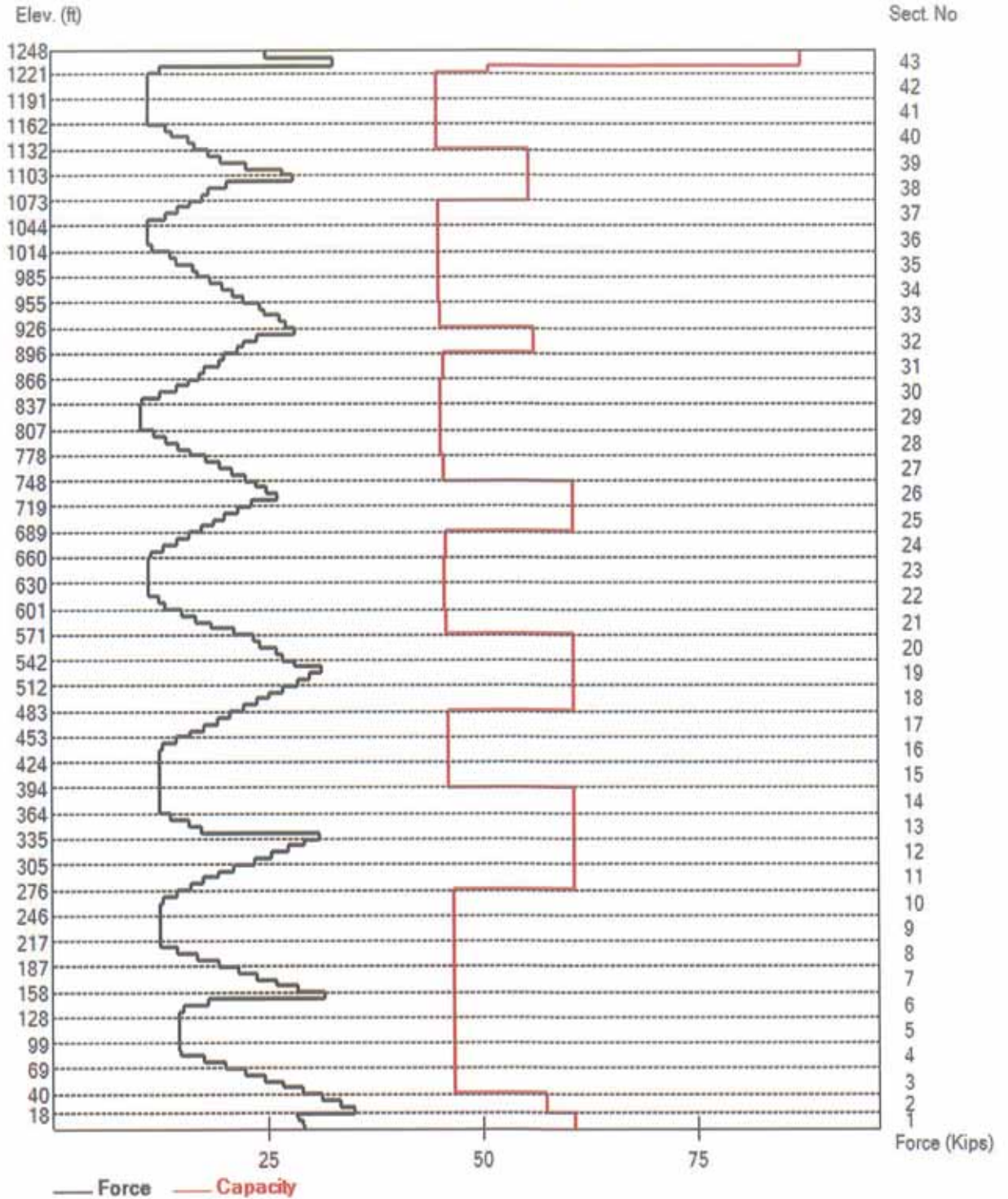
**Leg Load Compression Diagram**  
Max. Envelope (All Loading Cases)



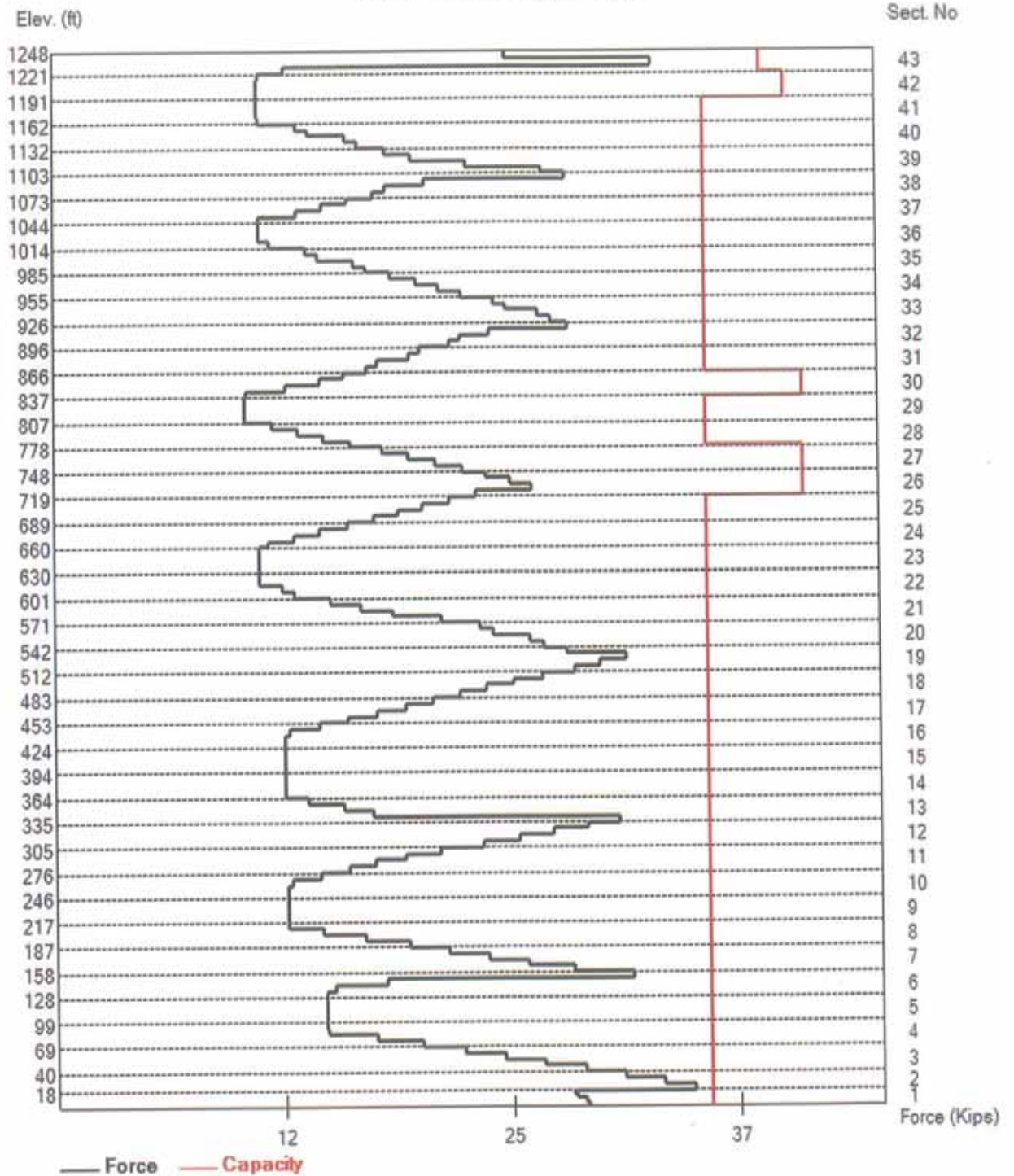
**Leg Load Tension Diagram**  
Max. Envelope (All Loading Cases)



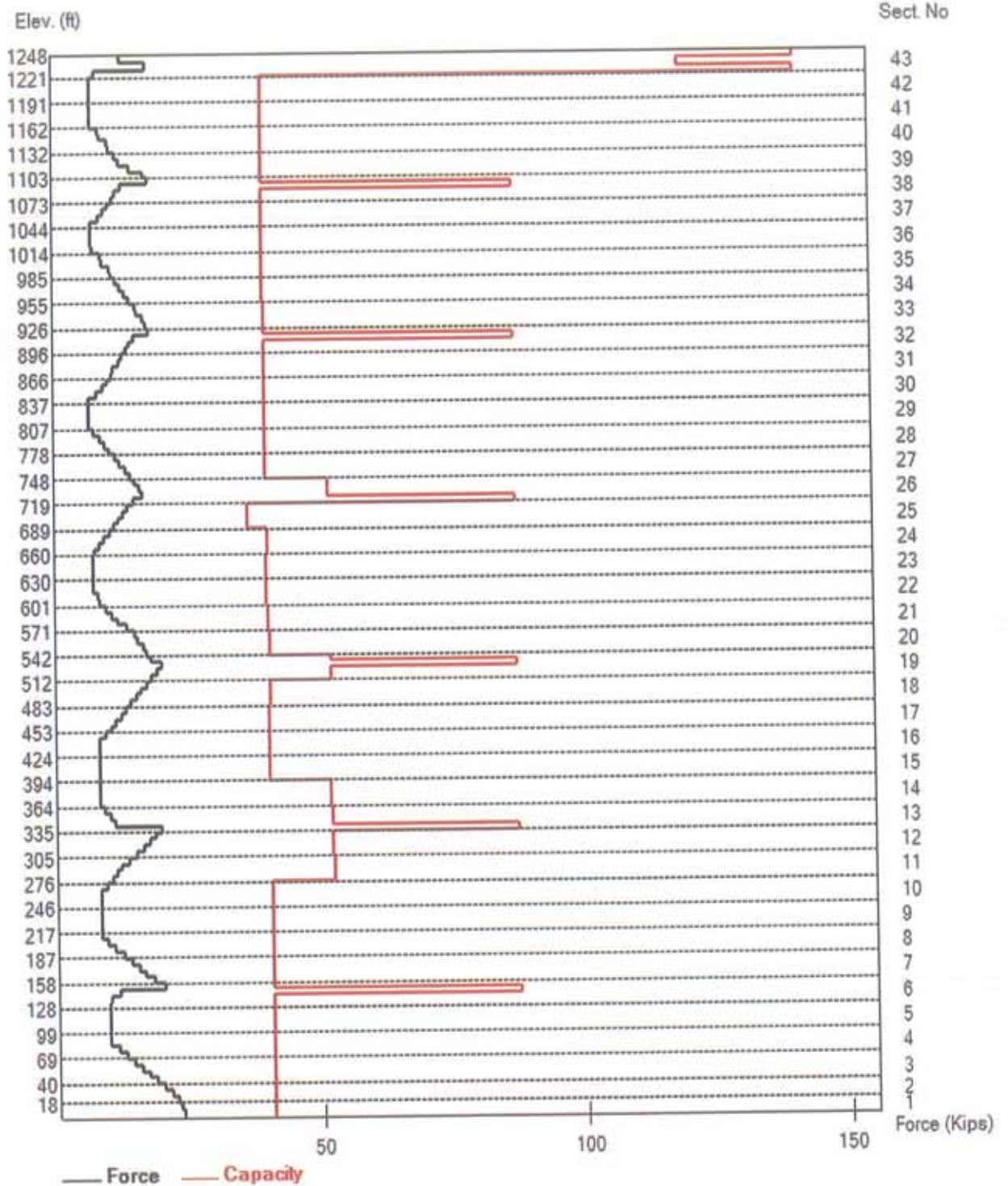
**Diag. Load Compression Diagram**  
Max. Envelope (All Loading Cases)



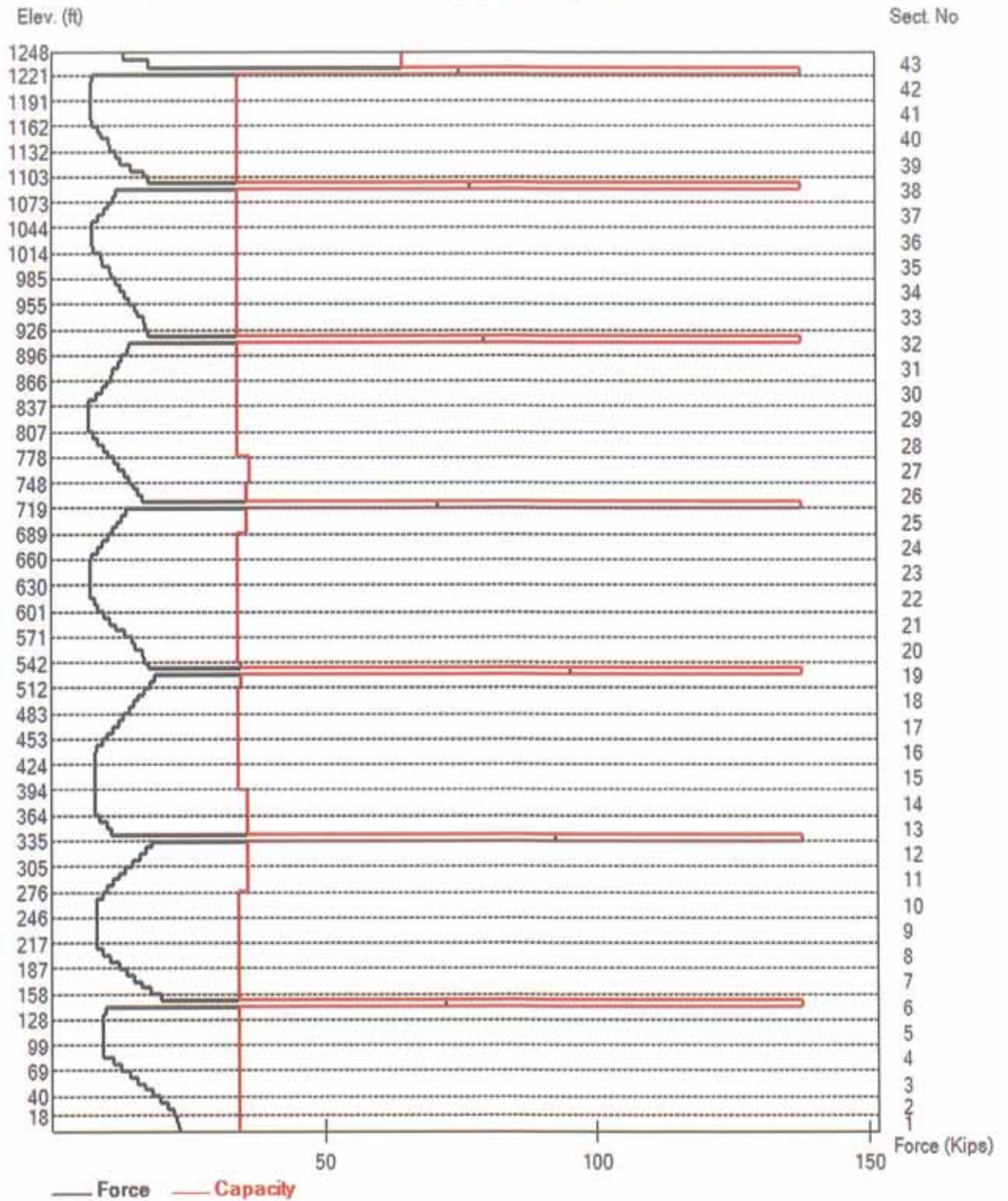
**Diag. Load Tension Diagram**  
Max. Envelope (All Loading Cases)



**Horiz. Load Compression Diagram**  
Max. Envelope (All Loading Cases)



**Horiz. Load Tension Diagram**  
Max. Envelope (All Loading Cases)





PROJECT TYPE: PASSING ANALYSIS & CONS DRWS

SITE NAME: FARMINGTON, CT

SITE ADDRESS: FARMINGTON, CT 06032, UNITED STATES

TURRIS TOWER I.D: 20-0415

### KEY PLAN (NTS)



**TURRIS** ENGINEERING  
PROCUREMENT  
PROJECT MGMT  
70 Todd Road  
Georgetown Ontario L7G 4K7, Canada  
Tel: +1 (905) 877-8805 Fax: +1 (905) 877-8835  
www.turriscorp.com

### TOWER IMAGE



### GEOGRAPHIC COORDINATES

LATITUDE: 41.7036170, LONGITUDE:-72.8319440

### DRAWING INDEX

| No. | DESCRIPTION                          | DRAWING NO.    | REV. |
|-----|--------------------------------------|----------------|------|
| 1   | GENERAL NOTES                        | 20-0415-N01-01 | 0    |
| 2   | TOWER PROFILE                        | 20-0415-E01-01 | 0    |
| 3   | REINFORCING - SECTION #2 ELEV. VIEW  | 20-0415-E02-01 | 1    |
| 4   | REINFORCING - SECTION #2 PLAN VIEW   | 20-0415-E02-02 | 1    |
| 5   | REINFORCING - SECTION #15 ELEV. VIEW | 20-0415-E03-01 | 1    |
| 6   | REINFORCING - SECTION #15 PLAN VIEW  | 20-0415-E03-02 | 1    |
| 7   | FABRICATION DWG                      | --             | 0    |

| REV.            | DESCRIPTION                   | DWN. | CHK. | APP. |
|-----------------|-------------------------------|------|------|------|
| 1               | CONN. PLATE REVISED, ADD BOLT | DLI  | NRH  | SPG  |
| DATE: AUG.04.20 |                               |      |      |      |



| DWG REFERENCE |
|---------------|
|               |
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|               |
|               |

|           |                              |
|-----------|------------------------------|
| PROJECT   | Passing Analysis & Cons Drws |
| CUSTOMER  | QC Development               |
| SITE NAME | Farmington, CT               |

|             |                               |            |     |             |                    |      |   |
|-------------|-------------------------------|------------|-----|-------------|--------------------|------|---|
| TITLE       | INSTALLATION<br>DRAWING INDEX |            |     |             |                    |      |   |
| DATE        | JUL. 20. 20                   | DWG. BY    | DLI | PROJECT NO. | 20-0415            | REV. | 1 |
| DESIGNED BY | SPG                           | CHECKED BY | NRH | DWG. NO.    | 20-0415-XE01-01R01 |      |   |

**GENERAL**

1. THE GENERAL STRUCTURAL NOTES ARE INTENDED TO AUGMENT THE DRAWINGS AND SPECIFICATIONS. SHOULD CONFLICTS EXIST BETWEEN THE DRAWINGS, SPECIFICATIONS AND/OR THE GENERAL STRUCTURAL NOTES, THE STRICTEST PROVISION SHALL GOVERN.
2. DESIGN OF STRUCTURAL MEMBERS, CONNECTIONS AND ELEMENTS MUST CONFORM TO THE STRICTEST REQUIREMENTS OF THE GENERAL NOTES, APPLICABLE CODES, STANDARDS, AND SPECIFICATIONS, AND MUST REFLECT THE INTENT OF THE CONTRACT DOCUMENT. THE DESIGN MUST BE APPROVED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER. ANY SUBSTITUTION MUST CONFORM TO THE INTENT OF THE CONTRACT AND SHALL BE NOTIFIED TO AND BE APPROVED BY THE CUSTOMER OR ITS REPRESENTATIVE FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION.
3. DESIGN ASSUMES THAT MAINTENANCE AND INSPECTION WILL BE PERFORMED OVER THE LIFE OF THE STRUCTURE IN ACCORDANCE WITH ANSI/TIA/EIA-222-G LATEST RATIFIED EDITION.

**APPLICABLE CODES AND STANDARDS**

1. ANSI/TIA-222-G, STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS, LATEST RATIFIED EDITION.
2. AISC, AMERICAN INSTITUTE OF STEEL CONSTRUCTION, STEEL CONSTRUCTION MANUAL, LATEST RATIFIED EDITION.
3. AWS, AMERICAN WELDING SOCIETY, STRUCTURAL WELDING CODE, LATEST RATIFIED EDITION.
4. ACI 318, AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY, LATEST RATIFIED EDITION.
5. ACI 315, AMERICAN CONCRETE INSTITUTE, DETAILS AND DETAILING OF CONCRETE REINFORCEMENT, LATEST RATIFIED EDITION.
6. CRSI, CONCRETE STEEL REINFORCING INSTITUTE, MANUAL OF STANDARD PRACTICE, LATEST RATIFIED EDITION.

**STRUCTURAL STEEL**

1. DESIGN, DETAILING, FABRICATION, AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE LATEST ANSI/TIA-222-G AND AISC STANDARDS.
2. ALL STEEL SHALL BE ASTM A572 GR.50KSI OR EQUIVALENT MATERIAL UNLESS NOTED OTHERWISE.
3. ALL STRUCTURAL BOLTS SHALL CONFORM TO ASTM A325 TYPE X WITH ONE ANCO LOCKNUT UNLESS NOTED OTHERWISE. WASHERS SHALL BE PLACED ON THE A325 BOLT HEAD SIDE OR NUT SIDE WHICHEVER TO BE TURNED. WITH THE EXCEPTION OF FOUNDATION ANCHOR BOLTS WHICH ARE REQUIRED TO BE "SNUG-TIGHT", ALL BOLTS SHALL BE TIGHTENED USING THE TURN-OF-THE-NUT METHOD AS DESCRIBED IN "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS". NO BOLTS SHALL BE REUSED.
4. ALL BOLTS SHALL BE HOT-DIPPED GALVANIZED, EXCEPT THAT HOT-DIP OR MECHANICALLY GALVANIZED A490 BOLTS SHALL NOT BE USED. A490 BOLTS SHALL BE COLD SPRAY GALVANIZED AND PAINTED WITH A TWO PART EPOXY MASTIC PAINT.
5. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION AS PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED AS PER ASTM A152 OR B695. VENT HOLES SHALL BE PROVIDED FOR GALVANIZING.
6. CONTRACTOR SHALL SUBMIT DETAILED, ENGINEERED, AND CHECKED SHOP DRAWINGS FOR ALL STRUCTURAL STEEL TO THE ENGINEER FOR APPROVAL PRIOR TO THE START OF FABRICATION.
7. ALL FIELD CUTTING, DRILLING OF STRUCTURAL STEEL SHALL BE APPROVED BY THE ENGINEER PRIOR TO PROCEEDING, AND SHALL BE CLEANED AND TOUCHED UP WITH TWO COATS OF ZINC-RICH PAINT, ACCORDANCE TO ASTM STANDARD A780.

**WELDING**

1. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST RATIFIED EDITION OF THE AWS WELDING CODE.
2. MINIMUM WELD SIZE TO BE 3/16" FILLET WELD UNLES NOTED OTHERWISE ON THE DRAWINGS. ALL ELECTRODES TO BE E70XX.
3. ALL CONNECTIONS SHALL BE SEAL WELDED FOR GALVANIZING.

**GENERAL FIELD INSTALLATION**

1. THE STRUCTURE IS DESIGNED TO BE STABLE AFTER THE CONSTRUCTION IS FULLY COMPLETED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND SAFE EXECUTION OF ALL SHORING, BRACING, TEMPORARY SUPPORTS, ANY ERECTION MEANS AND METHODS DURING THE COURSE OF CONSTRUCTION. ALL PRECAUTIONS AND EFFORTS SHALL BE TAKEN TO ENSURE THE STABILITY OF THE MOUNT DURING THE ERECTION.
2. MOUNT SHALL BE ERECTED AND PLUMBED IN CALM WEATHER DAYS AT LESS THAN 20MPH WIND.
3. ONLY QUALIFIED CONTRACTORS EXPERIENCED IN TOWER AND FOUNDATION CONSTRUCTION SHALL BE ENGAGED TO PERFORM ALL WORK INDICATED ON THESE DRAWINGS.
4. ALL METHODS, MATERIALS, AND WORKMANSHIP SHALL ADHERE TO GOOD CONSTRUCTION PRACTICE. DIMENSIONS AND ELEVATIONS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO FABRICATION AND ERECTION TO ASSURE PROPER FIT AND ALIGNMENT OF THE STRUCTURAL COMPONENTS IN ACCORDANCE WITH THE INTENT OF THE CONTRACT DOCUMENTS.
5. ALL CONSTRUCTION SHALL COMPLY FULLY WITH THE APPLICABLE PROVISIONS OF OSHA AND THE LOCAL GOVERNING STANDARDS AND CODES, LATEST RATIFIED EDITION, AND ALL REQUIREMENTS SPECIFIED IN THE STANDARDS AND CODES SHALL BE ADHERED TO AS IF THEY WERE CALLED FOR OR SHOWN ON THE DRAWINGS.
6. THE CREW SHOULD COMPLY WITH ALL INSTALLATION PROCEDURES, SAFEGUARDS AND MEANS AND METHODS OF CONSTRUCTION. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENT OF OSHA
7. AS BUILT PLUMB TENSION MEASUREMENTS SHALL BE RECORDED AT COMPLETION AND SUBMITTED TO THE ENGINEER.

**Nut Rotation from Snug-Tight Condition for Turn-of-Nut Pretensioning <sup>a,b</sup>**

| Bolt Length <sup>c</sup>                                     | Disposition of Outer Face of Bolted Parts |  |  |
|--|---|--|--|
|  | Both faces normal to bolt axis            | One face normal to bolt axis, other sloped not more than 1:20 <sup>d</sup> | Both faces sloped not more than 1:20 from normal to bolt axis <sup>d</sup> |
| Not more than 4d <sub>b</sub>                                | 1/3 turn                                  | 1/2 turn   | 2/3 turn   |
| More than 4d <sub>b</sub> but not more than 8d <sub>b</sub>  | 1/2 turn                                  | 2/3 turn   | 5/6 turn   |
| More than 8d <sub>b</sub> but not more than 12d <sub>b</sub> | 2/3 turn                                  | 5/6 turn   | 1 turn   |

<sup>a</sup> Nut rotation is relative to the bolt regardless of the element (nut or bolt) being turned. For required nut rotations of 1/2 turn and less, the tolerance is ±30°; for required nut rotations of 2/3 turn and more, the tolerance is ±45°.

<sup>b</sup> Applicable only to joints in which all material within the grip is steel.

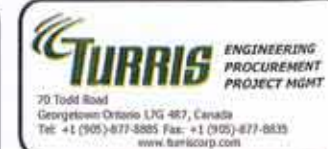
<sup>c</sup> When the bolt length exceeds 12d<sub>b</sub>, the required nut rotation shall be determined by actual testing in a suitable tension calibrator that simulates the conditions of solidly fitting steel.

<sup>d</sup> Beveled washer not used.

**Minimum Bolt Pretension for Pretensioned and Slip-Critical Joints**

| Nominal Bolt Diameter d <sub>b</sub> in. | Specified Minimum Bolt Pretension T <sub>m</sub> , kips <sup>a</sup> |                 |
|--|--|-----------------|
|  | ASTM A325 & F1852 Bolts  | ASTM A490 Bolts |
| 1/2                                      | 12   | 15              |
| 5/8                                      | 19   | 24              |
| 3/4                                      | 28   | 35              |
| 7/8                                      | 39   | 49              |
| 1  | 51   | 64              |
| 1 1/8                                    | 56   | 80              |
| 1 1/4                                    | 71   | 102             |
| 1 3/8                                    | 85   | 121             |
| 1 1/2                                    | 103  | 148             |

<sup>a</sup> Equal to 70% of the specified minimum tensile strength of bolts as specified in ASTM Specifications for tests of full-size ASTM A325 & A490 bolts with UNC threads loaded in axial tension, rounded to the nearest kip.



| REV. | DESCRIPTION | DWG. | CHK. | APP. |
|------|-------------|------|------|------|
|------|-------------|------|------|------|



| NO. | DESCRIPTION |
|-----|-------------|
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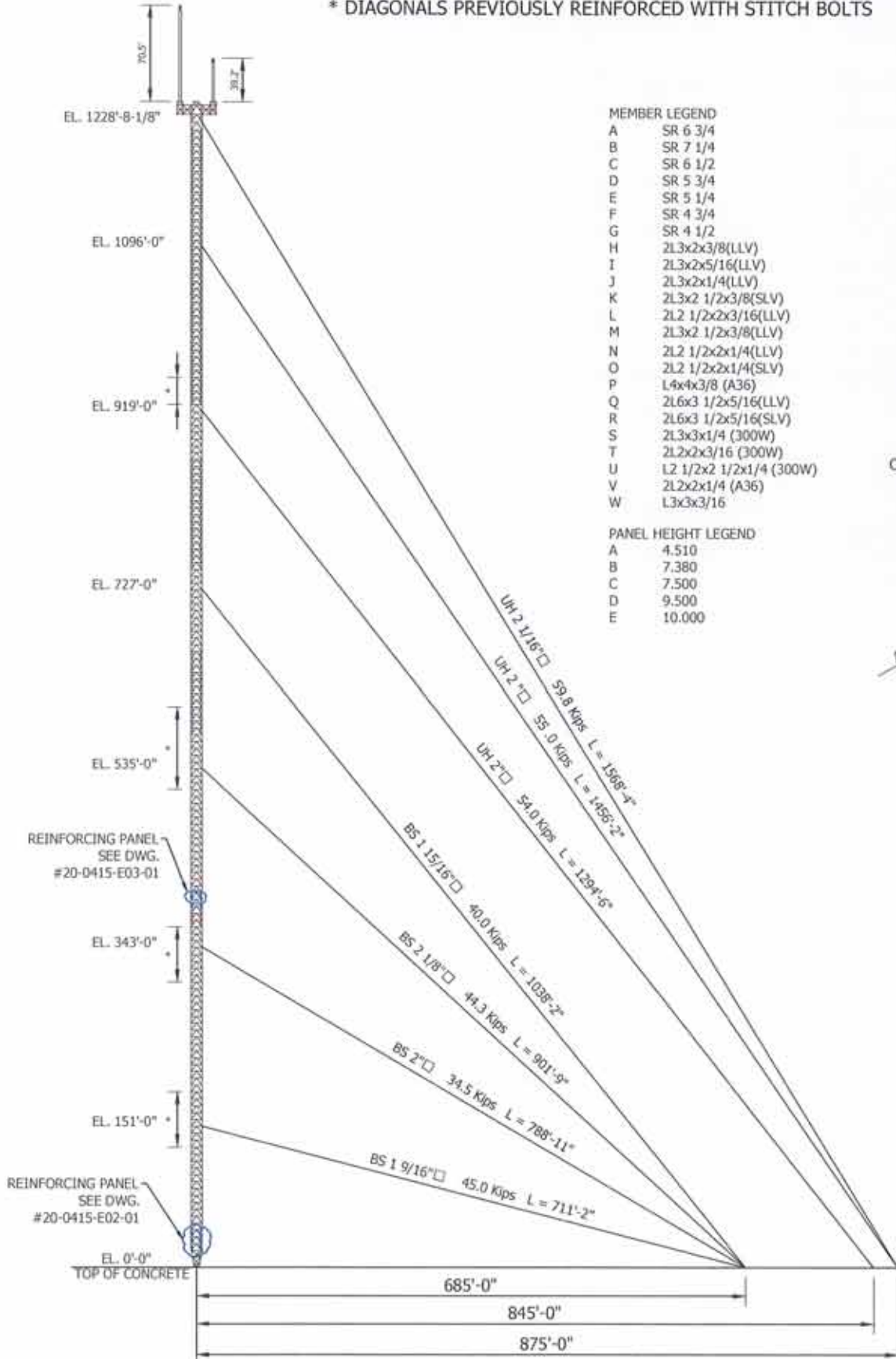
|           |                              |
|-----------|------------------------------|
| PROJECT   | Passing Analysis & Cons Drws |
| CUSTOMER  | QC Development               |
| SITE NAME | Farmington, CT               |

|               |            |                |      |
|---------------|------------|----------------|------|
| GENERAL NOTES |            |                |      |
| DATE          | DWG. BY    | PROJECT NO.    | REV. |
| JUL 17 20     | DJI        | 20-0415        | 0    |
| DESIGNED BY   | CHECKED BY | DWG. NO.       |      |
| SPG           | NRK        | 20-0415-N01-01 |      |

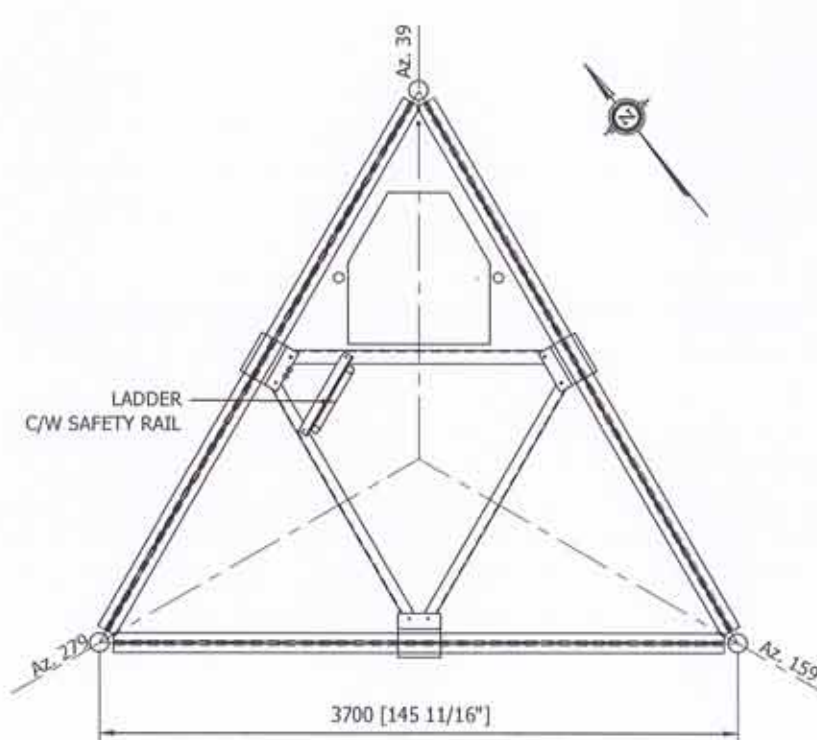
DESIGN SPECIFICATION: ANSI/TIA-222-G-2005 Add.2  
 BASIC WIND SPEED (No Ice): 96.45 mph  
 BASIC WIND SPEED (With Ice): 50 mph  
 DESIGN ICE THICKNESS: 1.00 inch  
 EXPOSURE CATEGORY: B  
 STRUCTURE CLASS: II  
 TOPOGRAPHIC CATEGORY: 5  
 IMPORTANCE FACTOR: 1.00

\* DIAGONALS PREVIOUSLY REINFORCED WITH STITCH BOLTS

| SECTION NO. | SECTION NAME | PANEL TYPE | PANEL HEIGHT (ft) | MEMBER | SECTION | REMARKS |
|-------------|--------------|------------|-------------------|--------|---------|---------|
| 1           |              | A          | 58.7              | A      | C       |         |
| 2           |              | A          | 58.7              | B      | B       |         |
| 3           |              | A          | 58.7              | C      | A       |         |
| 4           |              | A          | 58.7              | D      | A       |         |
| 5           |              | A          | 58.7              | E      | A       |         |
| 6           |              | A          | 58.7              | F      | A       |         |
| 7           |              | A          | 58.7              | G      | A       |         |
| 8           |              | A          | 58.7              | H      | A       |         |
| 9           |              | A          | 58.7              | I      | A       |         |
| 10          |              | A          | 58.7              | J      | A       |         |
| 11          |              | A          | 58.7              | K      | A       |         |
| 12          |              | A          | 58.7              | L      | A       |         |
| 13          |              | A          | 58.7              | M      | A       |         |
| 14          |              | A          | 58.7              | N      | A       |         |
| 15          |              | A          | 58.7              | O      | A       |         |
| 16          |              | A          | 58.7              | P      | A       |         |
| 17          |              | A          | 58.7              | Q      | A       |         |
| 18          |              | A          | 58.7              | R      | A       |         |
| 19          |              | A          | 58.7              | S      | A       |         |
| 20          |              | A          | 58.7              | T      | A       |         |
| 21          |              | A          | 58.7              | U      | A       |         |
| 22          |              | A          | 58.7              | V      | A       |         |
| 23          |              | A          | 58.7              | W      | A       |         |
| 24          |              | A          | 58.7              |        | A       |         |
| 25          |              | A          | 58.7              |        | A       |         |
| 26          |              | A          | 58.7              |        | A       |         |
| 27          |              | A          | 58.7              |        | A       |         |
| 28          |              | A          | 58.7              |        | A       |         |
| 29          |              | A          | 58.7              |        | A       |         |
| 30          |              | A          | 58.7              |        | A       |         |
| 31          |              | A          | 58.7              |        | A       |         |
| 32          |              | A          | 58.7              |        | A       |         |
| 33          |              | A          | 58.7              |        | A       |         |
| 34          |              | A          | 58.7              |        | A       |         |
| 35          |              | A          | 58.7              |        | A       |         |
| 36          |              | A          | 58.7              |        | A       |         |
| 37          |              | A          | 58.7              |        | A       |         |
| 38          |              | A          | 58.7              |        | A       |         |
| 39          |              | A          | 58.7              |        | A       |         |
| 40          |              | A          | 58.7              |        | A       |         |
| 41          |              | A          | 58.7              |        | A       |         |
| 42          |              | A          | 58.7              |        | A       |         |
| 43          |              | A          | 58.7              |        | A       |         |
| 44          |              | A          | 58.7              |        | A       |         |
| 45          |              | A          | 58.7              |        | A       |         |



- MEMBER LEGEND
- A SR 6 3/4
  - B SR 7 1/4
  - C SR 6 1/2
  - D SR 5 3/4
  - E SR 5 1/4
  - F SR 4 3/4
  - G SR 4 1/2
  - H 2L3x2x3/8(LLV)
  - I 2L3x2x5/16(LLV)
  - J 2L3x2x1/4(LLV)
  - K 2L3x2 1/2x3/8(SLV)
  - L 2L 1/2x2x3/16(LLV)
  - M 2L3x2 1/2x3/8(LLV)
  - N 2L 1/2x2x1/4(LLV)
  - O 2L 1/2x2x1/4(SLV)
  - P L4x4x3/8 (A36)
  - Q 2L6x3 1/2x5/16(LLV)
  - R 2L6x3 1/2x5/16(SLV)
  - S 2L3x3x1/4 (300W)
  - T 2L2x2x3/16 (300W)
  - U L2 1/2x2 1/2x1/4 (300W)
  - V 2L2x2x1/4 (A36)
  - W L3x3x3/16
- PANEL HEIGHT LEGEND
- A 4.510
  - B 7.380
  - C 7.500
  - D 9.500
  - E 10.000



TYPICAL SECTION

**TURRIS** ENGINEERING  
 PROCUREMENT  
 PROJECT MGMT  
 70 Todd Road  
 Georgetown Ontario L7G 4K7, Canada  
 Tel: +1 (905) 877-8885 Fax: +1 (905) 877-8835  
 www.turriscorp.com

| REV. | DESCRIPTION | OWN. | CHK. | APP. |
|------|-------------|------|------|------|
|------|-------------|------|------|------|

Professional Engineer Seal: STATE OF CONNECTICUT, PROFESSIONAL ENGINEER, No. 21395, AUGUST 14, 2020

| DWG REFERENCE |  |
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| PROJECT   | Passing Analysis & Cons Drws. |
| CUSTOMER  | QC Development                |
| SITE NAME | Farmington, CT                |

|             |                |
|-------------|----------------|
| TITLE       | TOWER PROFILE  |
| DATE        | JUL 17, 20     |
| DRAWN BY    | DLI            |
| CHECKED BY  | NRB            |
| PROJECT NO. | 20-0415        |
| DWG. NO.    | 20-0415-E01-01 |
| REV.        | 0              |

**LEGEND:**

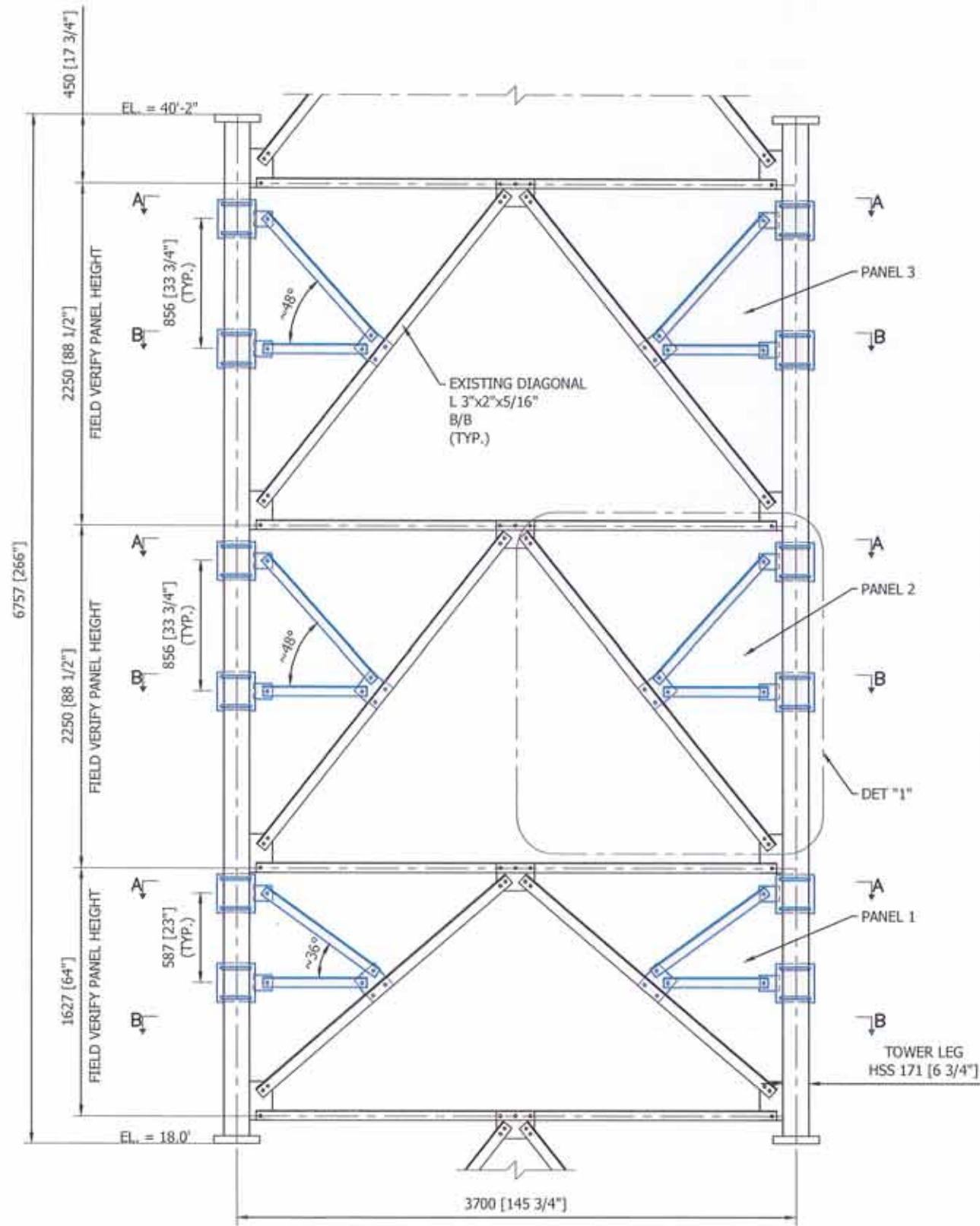
SHADED AREAS INDICATED ELEMENTS INCLUDE IN THIS SCOPE

**BILL OF REINFORCING MATERIAL - SECTION 2 PANEL 1 & PANEL 3**

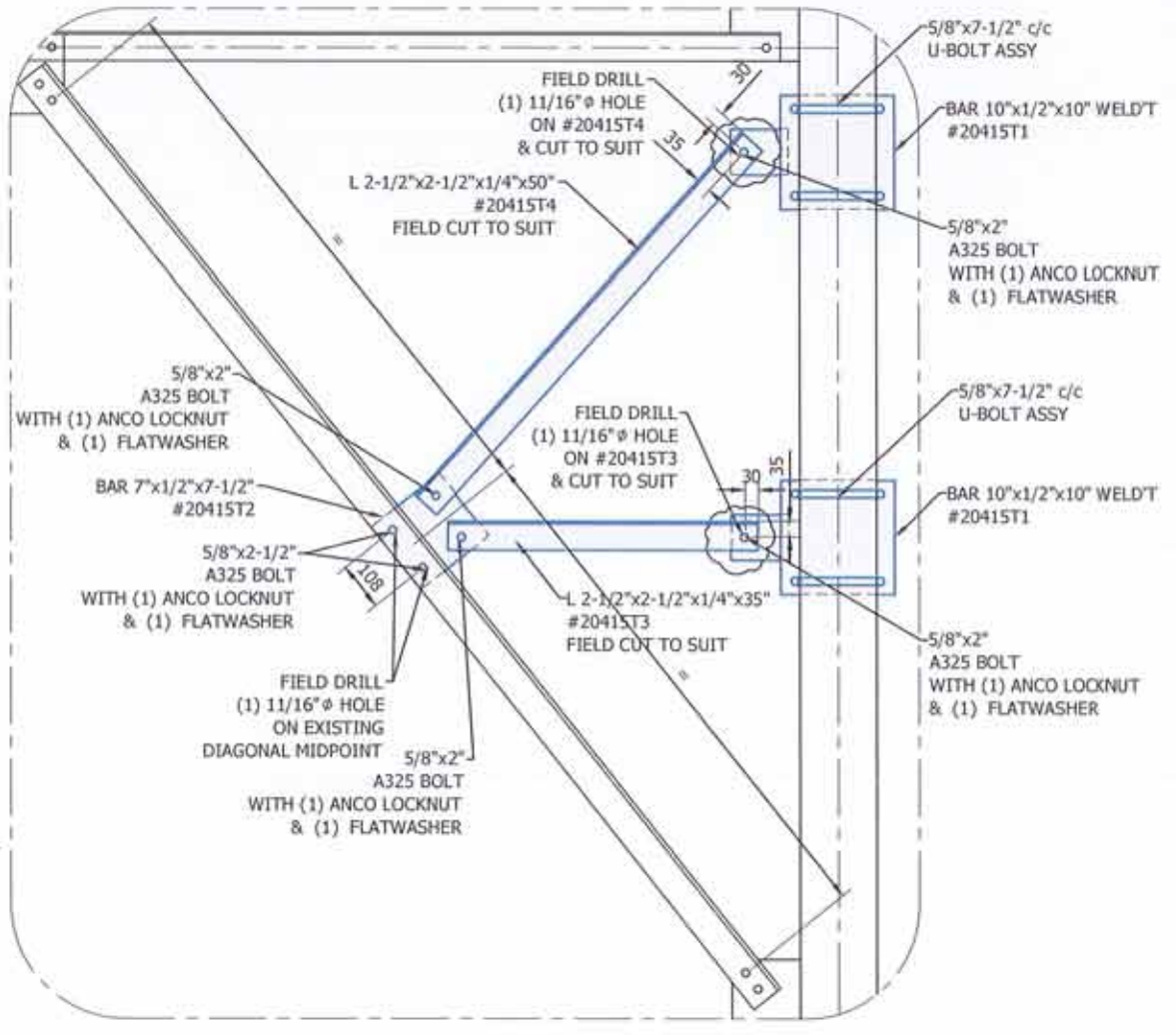
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|----------|------|--|
| #20415T1 | 18   | BAR 10"x1/2"x10" WELD'T                        |
| #20415T2 | 18   | BAR 7"x1/2"x7-1/2" (300W)                      |
| #20415T3 | 18   | L 2-1/2"x2-1/2"x1/4"x35" (300W)                |
| #20415T4 | 18   | L 2-1/2"x2-1/2"x1/4"x50" (300W)                |
| #110277  | 36   | U-BOLT ASSY 5/8"x7-1/2"C/C (4) Nuts, (2) FW    |
| #110654  | 72   | BOLT ONLY 5/8" x 2" (16 x 51mm) A325 - HDG     |
| #110656  | 36   | BOLT ONLY 5/8" x 2-1/2" (16 x 64mm) A325 - HDG |
| #110205  | 108  | 5/8" (15.9mm) F-436 FLATWASHER - HDG           |
| #110510  | 108  | 5/8" ANCO LOCKNUT PIN TYPE                     |

**TURRIS ENGINEERING**  
 PROUREMENT PROJECT MGMT  
 70 Todd Road  
 Georgetown Ontario L7G 4R2, Canada  
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 www.turriscorp.com

| REV. | DESCRIPTION                   | DWN. | CHK. | APP. |
|------|-------------------------------|------|------|------|
| 1    | CONN. PLATE REVISED, ADD BOLT |      | DLI  | NRR  |
|      | DATE: AUG.04.20               |      |      | SPG  |



**ELEV. VIEW**



**DET '1'**

STATE OF CONNECTICUT  
 PROFESSIONAL ENGINEER  
 No. 2109  
 LICENSED  
 August 18/20


DWG REFERENCE

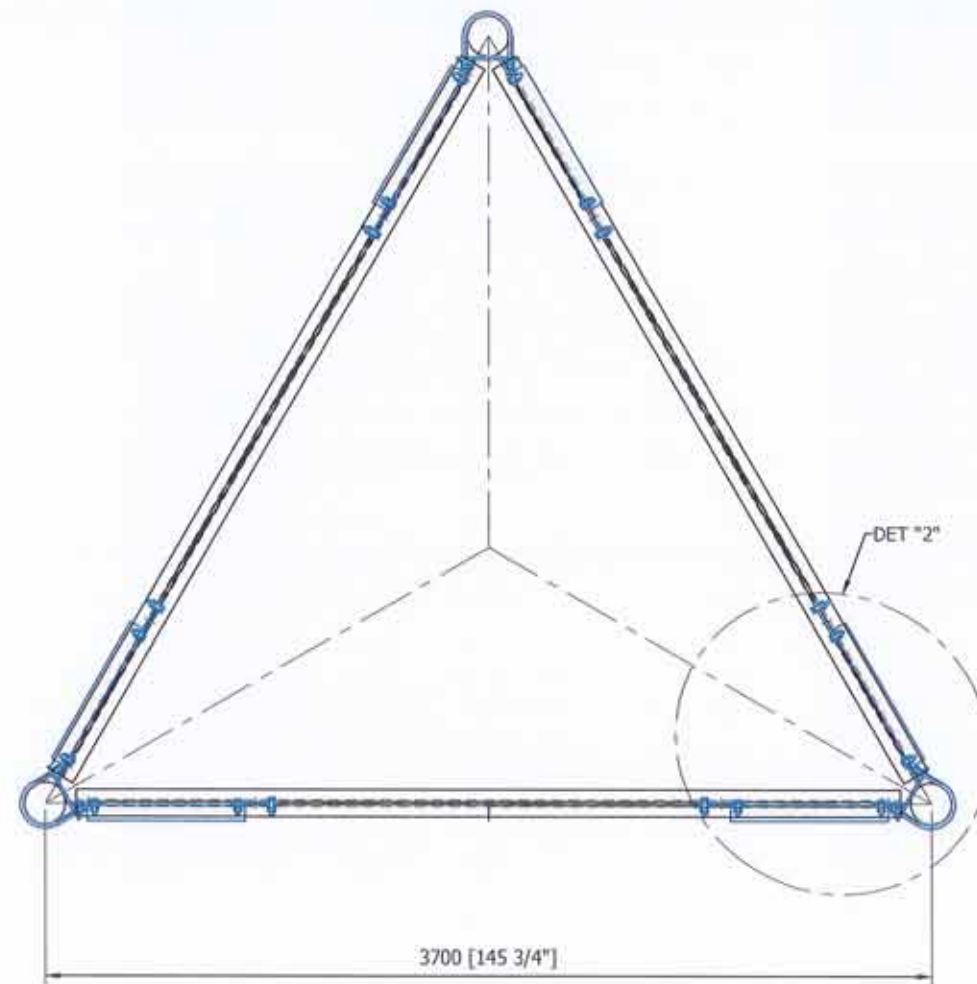
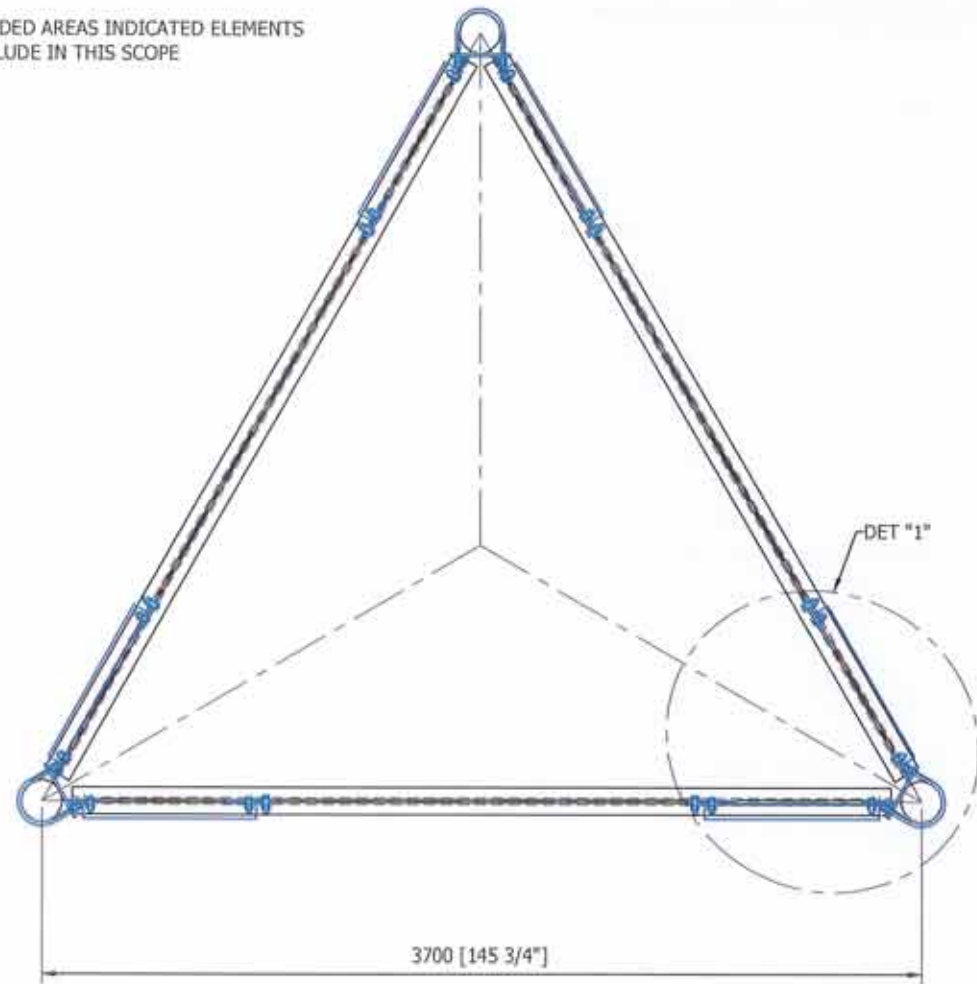
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PROJECT: Passing Analysis & Cons Drws  
 CUSTOMER: QC Development  
 SITE NAME: Farmington, CT

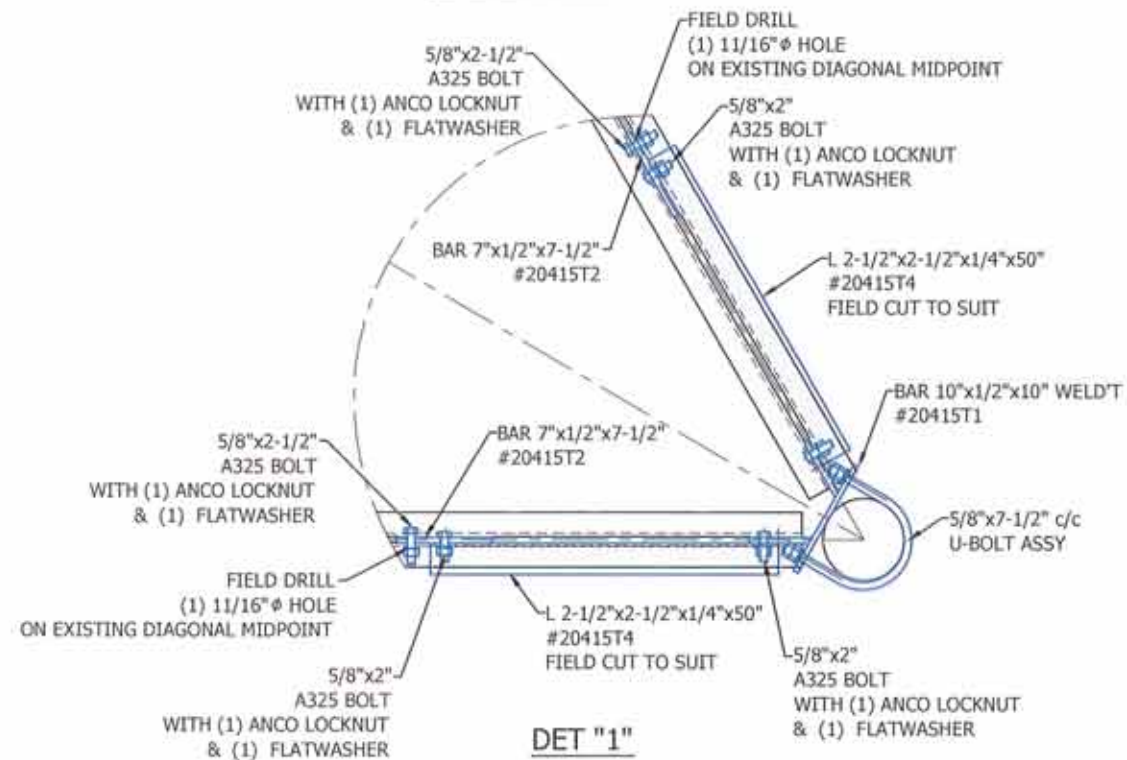
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|-----------------|-----------------|----------------------|--------------|
| DATE: JUL.17.20 | DRAWN BY: DLI   | PROJECT NO.: 20-0415 | SHEET NO.: 1 |
| DATE: AUG.04.20 | CHECKED BY: NRR | DATE: 20-0415-E02-01 |              |

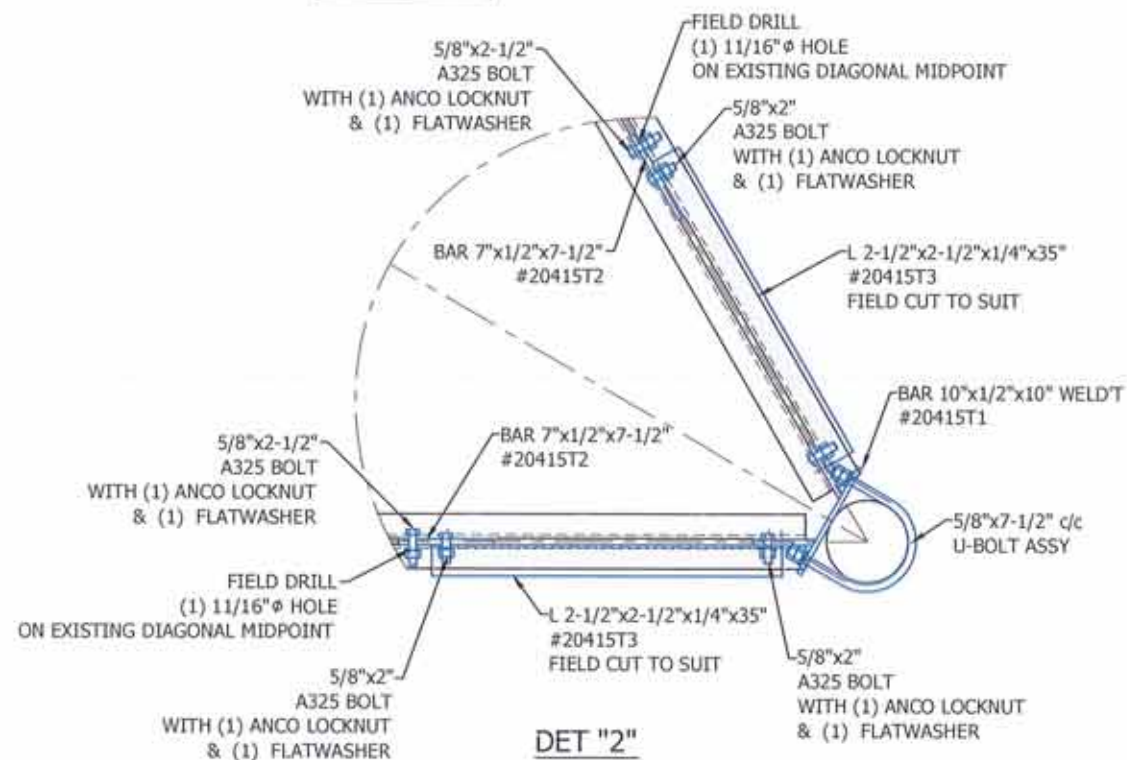
LEGEND:  
 SHADED AREAS INDICATED ELEMENTS  
 INCLUDE IN THIS SCOPE



**SECTION A-A**



**SECTION B-B**



| REV.            | DESCRIPTION                   | OWN. | CHK. | APP. |
|-----------------|-------------------------------|------|------|------|
| 1               | CONV. PLATE REVISED, ADD BOLT | DLI  | NRR  | SPG  |
| DATE: AUG.04.20 |                               |      |      |      |



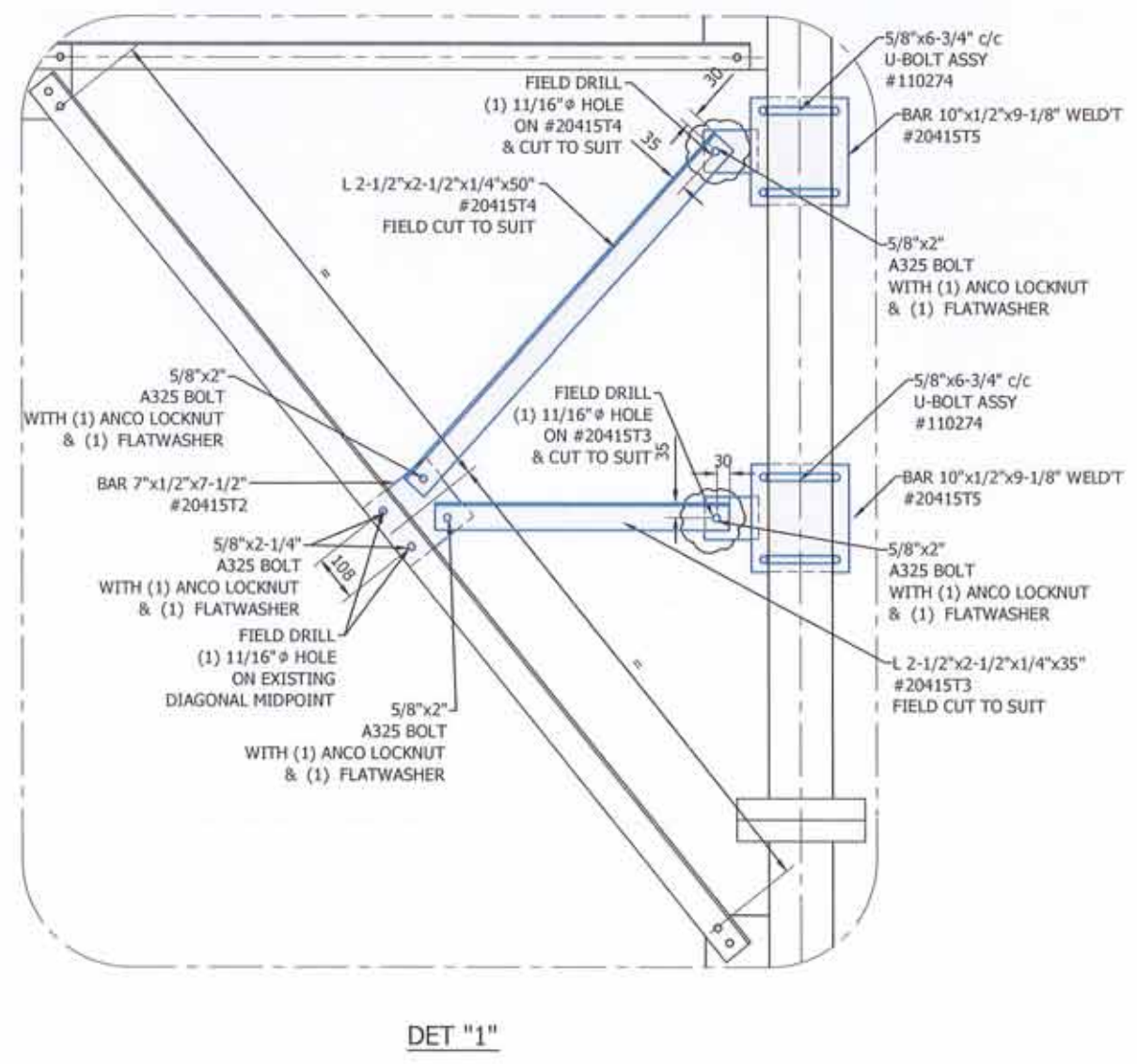
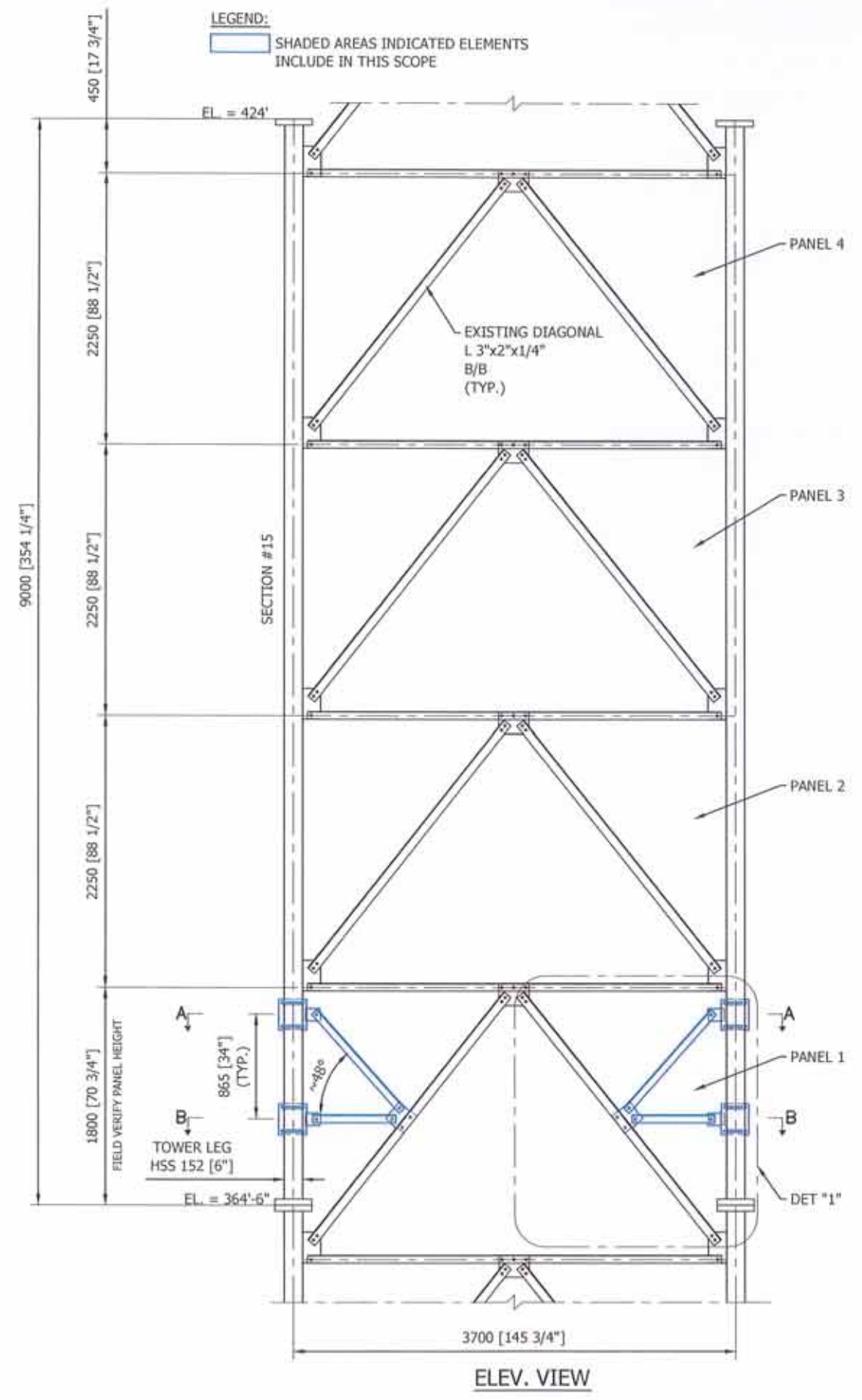
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| PROJECT   | Passing Analysis & Cons Drws |
| CUSTOMER  | QC Development               |
| SITE NAME | Farmington, CT               |

|             |  |            |          |             |                |           |   |
|-------------|--|------------|----------|-------------|----------------|-----------|---|
| DATE        | JUL 17 20                                    | SCALE      | AS SHOWN | PROJECT NO. | 20-0415        | SHEET NO. | 1 |
| TITLE       | REINFORCING SECTION 2 PANEL 1 TO 3 PLAN VIEW |            |          |             |                |           |   |
| DESIGNED BY | SPG  | CHECKED BY | NRR      | DATE        | 20-0415-E02-02 |           |   |

**BILL OF REINFORCING MATERIAL - SECTION 15 PANEL 1**

| MARK     | QTY. | DESCRIPTION                                    |
|----------|------|--|
| #20415T5 | 6    | BAR 10"x1/2"x9-1/8" WELD'T                     |
| #20415T2 | 6    | BAR 7"x1/2"x7-1/2" (300W)                      |
| #20415T3 | 6    | L 2-1/2"x2-1/2"x1/4"x35" (300W)                |
| #20415T4 | 6    | L 2-1/2"x2-1/2"x1/4"x50" (300W)                |
| #110274  | 12   | U-BOLT ASSY 5/8"x6-3/4"C/C (4) Nuts, (2) FW    |
| #110654  | 24   | BOLT ONLY 5/8" x 2" (16 x 51mm) A325 - HDG     |
| #110655  | 12   | BOLT ONLY 5/8" x 2-1/4" (16 x 57mm) A325 - HDG |
| #110205  | 36   | 5/8" (15.9mm) F-436 FLATWASHER - HDG           |
| #110510  | 36   | 5/8" ANCO LOCKNUT PIN TYPE                     |



**DWG REFERENCE**

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**PROJECT**  
Passing Analysis & Cons Drws


**CUSTOMER**  
QC Development

**SITE NAME**  
Farmington, CT

**TITLE**  
REINFORCING  
SECTION 15 PANEL 1  
ELEV. VIEW

| REV. | DATE      | BY  | CHK. | APP. |
|------|-----------|-----|------|------|
| 1    | JUL 17 20 | DJT | NRR  | SPG  |

PROJECT NO. 20-0415  
SHEET NO. 1  
DATE: 20-0415-E03-01

LEGEND:  
 SHADED AREAS INDICATED ELEMENTS  
 INCLUDE IN THIS SCOPE

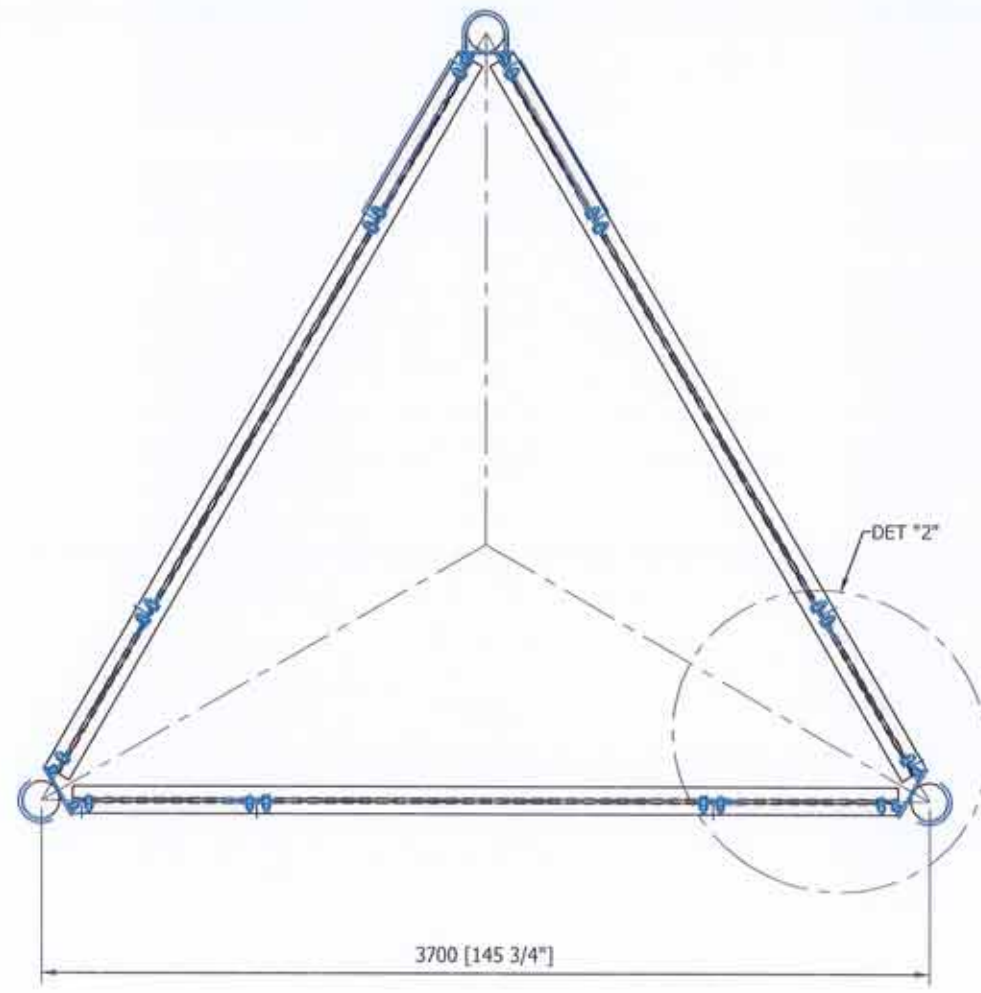
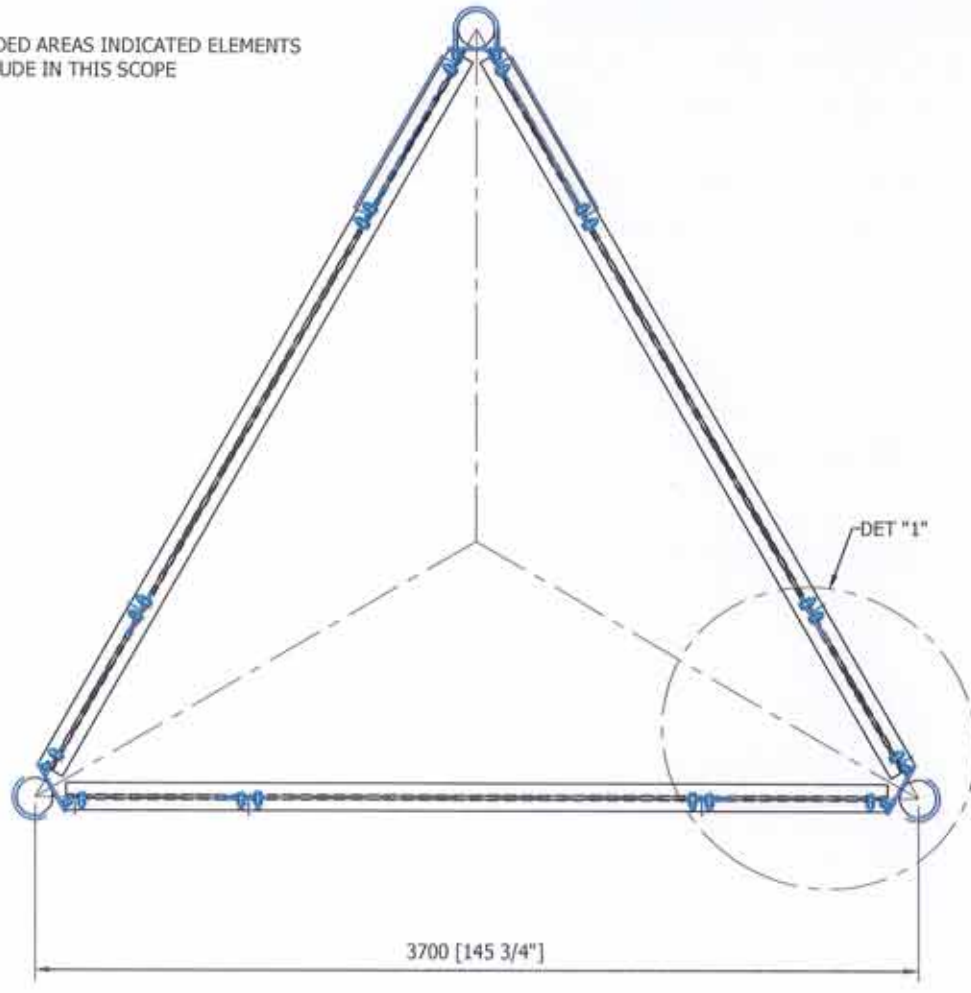
| REV.            | DESCRIPTION                      | DWN. | CHK. | APP. |
|-----------------|----------------------------------|------|------|------|
| 1               | CONN. PLATE REVISED,<br>ADD BOLT |      | DLJ  | NRR  |
| DATE: AUG.04.20 |                                  |      |      |      |



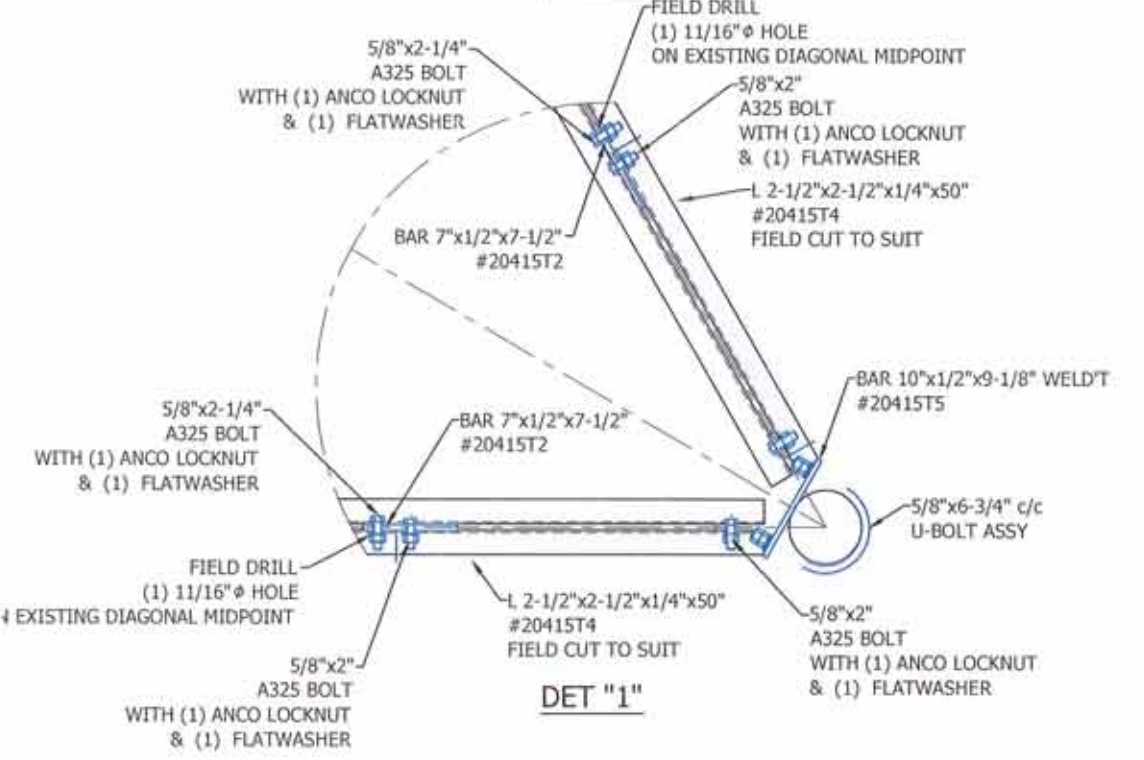
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| PROJECT   | Passing Analysis & Cons Drws. |
| CUSTOMER  | QC Development                |
| SITE NAME | Farmington, CT                |

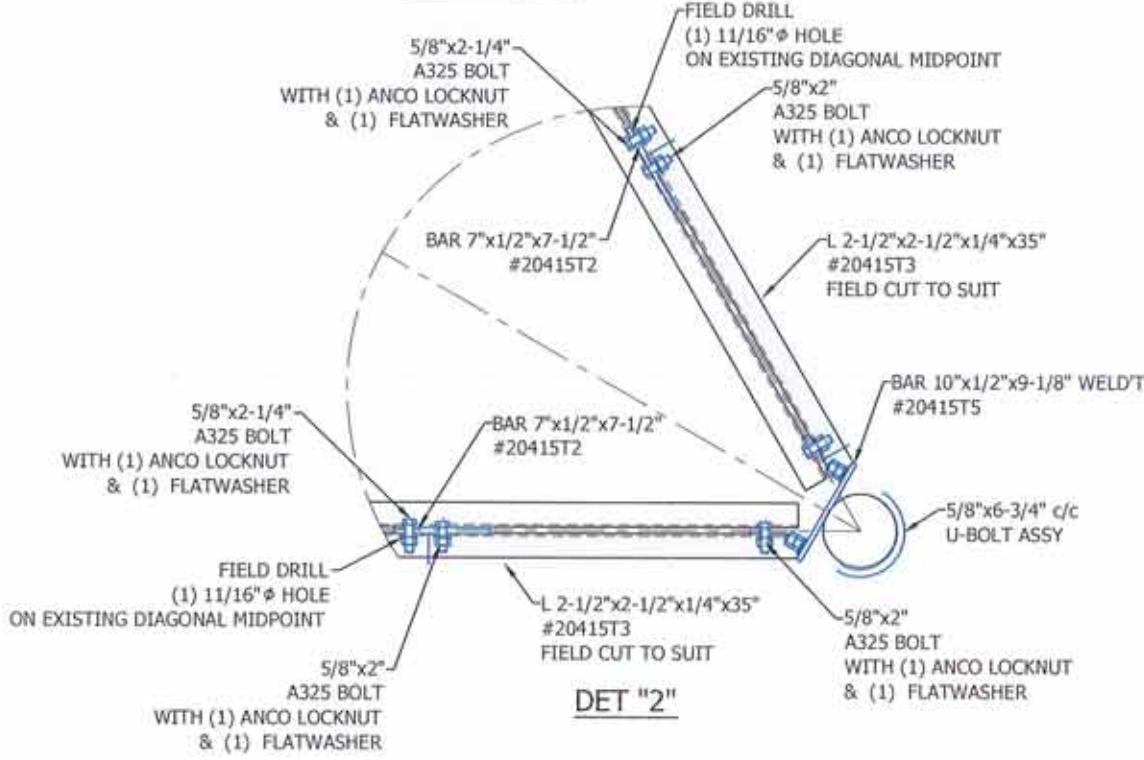
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|--------------------|----------|-------------|------|
| TITLE              |          |             |      |
| REINFORCING        |          |             |      |
| SECTION 15 PANEL 1 |          |             |      |
| PLAN VIEW          |          |             |      |
| DATE               | DWG BY   | PROJECT NO. | REV. |
| JUL.19.20          | DLJ      | 20-0415     | 1    |
| DESIGN BY          | CHECK BY | DRAWN BY    |      |
| SPG                | NRR      |             |      |
| 20-0415-E03-02     |          |             |      |



**SECTION A-A**



**SECTION B-B**



# **ATTACHMENT 4**



**STRUCTURAL NOTES:**

- DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
- DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
- STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
- STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
- STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
- FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
- CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D.I.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
- INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
- UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
- EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
- EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
- WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
- ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
- NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
- SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

**SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):**

**GENERAL:** WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

| SPECIAL INSPECTION CHECKLIST   |  |
|--|--|
| <b>BEFORE CONSTRUCTION</b>   |  |
| CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD) | REPORT ITEM  |
| N/A  | ENGINEER OF RECORD APPROVED SHOP DRAWINGS <sup>1</sup>         |
| N/A  | MATERIAL SPECIFICATIONS REPORT <sup>2</sup>                    |
| N/A  | FABRICATOR NDE INSPECTION                                      |
| N/A  | PACKING SLIPS <sup>3</sup>                                     |
| ADDITIONAL TESTING AND INSPECTIONS:  |  |
| <b>DURING CONSTRUCTION</b>   |  |
| CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD) | REPORT ITEM  |
| <b>REQUIRED</b>  | STEEL INSPECTIONS  |
| N/A  | HIGH STRENGTH BOLT INSPECTIONS                                 |
| N/A  | HIGH WIND ZONE INSPECTIONS <sup>4</sup>                        |
| N/A  | FOUNDATION INSPECTIONS   |
| N/A  | CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT             |
| N/A  | POST INSTALLED ANCHOR VERIFICATION <sup>5</sup>                |
| N/A  | GROUT VERIFICATION   |
| N/A  | CERTIFIED WELD INSPECTION                                      |
| N/A  | EARTHWORK: LIFT AND DENSITY                                    |
| N/A  | ON SITE COLD GALVANIZING VERIFICATION                          |
| N/A  | GUY WIRE TENSION REPORT  |
| ADDITIONAL TESTING AND INSPECTIONS:  |  |
| <b>AFTER CONSTRUCTION</b>  |  |
| CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD) | REPORT ITEM  |
| <b>REQUIRED</b>  | MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS <sup>6</sup> |
| N/A  | POST INSTALLED ANCHOR PULL-OUT TESTING                         |
| <b>REQUIRED</b>  | PHOTOGRAPHS  |
| ADDITIONAL TESTING AND INSPECTIONS:  |  |

**NOTES:**

- REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
- PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
- PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
- HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
- ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
- AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

**NOTES:**

- ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"Ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
- SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
- SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
- VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
- CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
- EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.



**SITE NUMBER: CT2907**  
**SITE NAME: FARMINGTON COLT HIGHWAY**  
190 COLT HIGHWAY  
FARMINGTON, CT 06032  
HARTFORD COUNTY

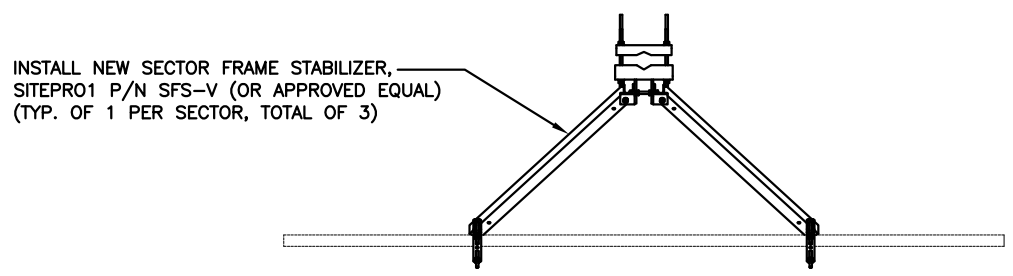


|                 |          |                         |              |     |       |
|-----------------|----------|-------------------------|--------------|-----|-------|
| 0               | 12/04/19 | ISSUED FOR CONSTRUCTION | EB           | JC  | DPH   |
| NO.             | DATE     | REVISIONS               | BY           | CHK | APP'D |
| SCALE: AS SHOWN |          | DESIGNED BY: JC         | DRAWN BY: AR |     |       |



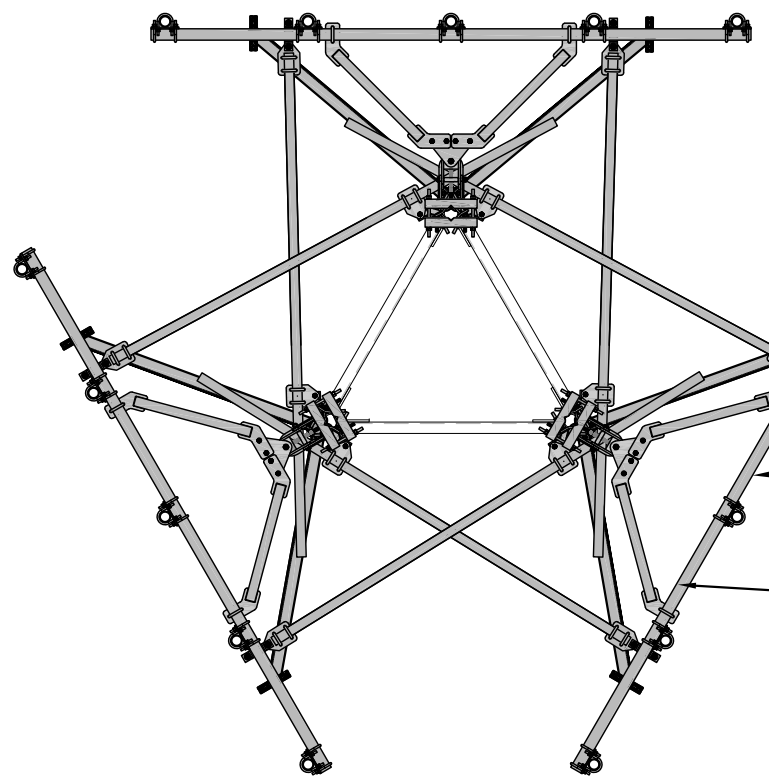
|                  |                |     |
|------------------|----------------|-----|
| AT&T             |                |     |
| STRUCTURAL NOTES |                |     |
| NSB 2019         |                |     |
| SITE NUMBER      | DRAWING NUMBER | REV |
| CT2907           | SN-1           | 0   |

**NOTE:**  
 REFER TO MOUNT ANALYSIS BY:  
 HUDSON DESIGN GROUP, LLC,  
 DATED: NOVEMBER 22, 2019 FOR  
 THE CAPACITY OF THE EXISTING  
 STRUCTURES TO SUPPORT THE  
 PROPOSED EQUIPMENT.



INSTALL NEW SECTOR FRAME STABILIZER,  
 SITEPRO1 P/N SFS-V (OR APPROVED EQUAL)  
 (TYP. OF 1 PER SECTOR, TOTAL OF 3)

**PROPOSED SECTOR FRAME STABILIZER KIT** 1  
 SCALE: N.T.S. S-1



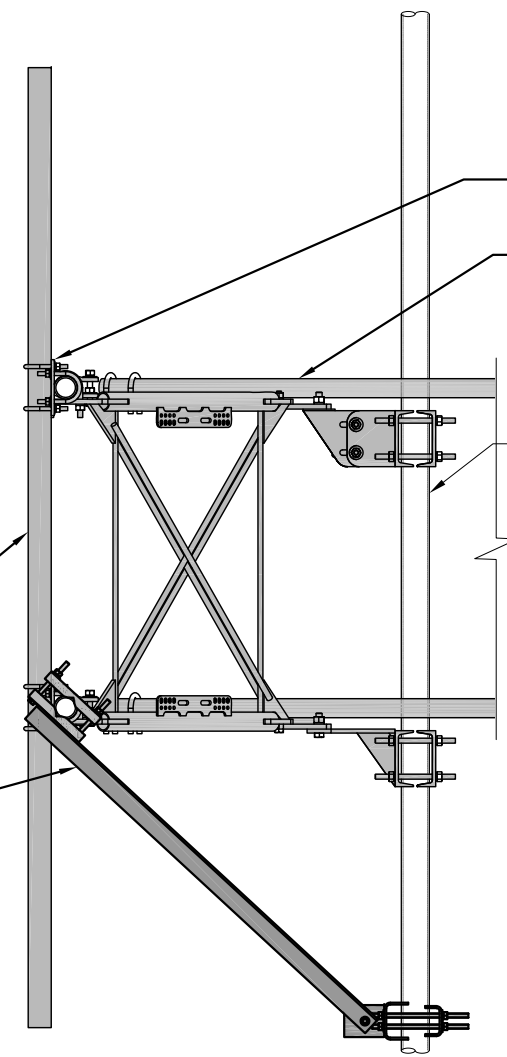
INSTALL 2.5" STD. (2.88" O.D.)  
 STEEL PIPE MAST, SECURED TO  
 THE PROPOSED MOUNT AT  
 ANTENNA LOCATIONS (TYP. OF 2  
 PER SECTOR, TOTAL OF 6)

INSTALL NEW SECTOR FRAME  
 STABILIZER, SITEPRO1 P/N  
 SFS-V (OR APPROVED EQUAL)  
 (TYP. OF 1 PER SECTOR,  
 TOTAL OF 3)

PROPOSED SITEPRO1 VALMONT  
 ANTENNA MOUNT #VFA12-WLL-30120  
 WITH TIE-BACK (TYP. OF 1 PER  
 SECTOR, TOTAL OF 3)

PROPOSED CROSSOVER PLATE KIT  
 (TYP. OF 4 PER SECTOR, TOTAL OF 12)

**PROPOSED V-BOOM ANTENNA MOUNT PLAN** 2  
 22x34 SCALE: 1/2"=1'-0"  
 11x17 SCALE: 1/4"=1'-0" S-1



PROPOSED CROSSOVER PLATE KIT  
 (TYP. OF 4 PER SECTOR, TOTAL OF 12)

PROPOSED SITEPRO1 VALMONT ANTENNA  
 MOUNT #VFA12-WLL-30120 WITH TIE-BACK  
 (TYP. OF 1 PER SECTOR, TOTAL OF 3)

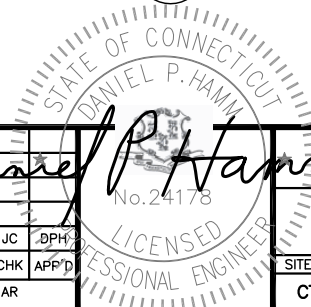
EXISTING TOWER LEG

INSTALL 2.5" STD. (2.88" O.D.)  
 STEEL PIPE MAST, SECURED TO  
 THE PROPOSED MOUNT AT  
 ANTENNA LOCATIONS (TYP. OF 2  
 PER SECTOR, TOTAL OF 6)

INSTALL NEW SECTOR FRAME  
 STABILIZER, SITEPRO1 P/N  
 SFS-V (OR APPROVED EQUAL)  
 SECURED TO PROPOSED MOUNT  
 & TOWER (TYP. OF 1 PER  
 SECTOR, TOTAL OF 3)

**MOUNT REINFORCEMENT ELEVATION DETAIL** 3  
 22x34 SCALE: 1"=1'-0"  
 11x17 SCALE: 1/2"=1'-0" S-1

|                 |          |                         |              |     |       |
|-----------------|----------|-------------------------|--------------|-----|-------|
| 0               | 12/04/19 | ISSUED FOR CONSTRUCTION | EB           | JC  | DPH   |
| NO.             | DATE     | REVISIONS               | BY           | CHK | APP'D |
| SCALE: AS SHOWN |          | DESIGNED BY: JC         | DRAWN BY: AR |     |       |



|                           |                |     |
|---------------------------|----------------|-----|
| AT&T                      |                |     |
| MOUNT MODIFICATION DESIGN |                |     |
| NSB 2019                  |                |     |
| SITE NUMBER               | DRAWING NUMBER | REV |
| CT2907                    | S-1            | 0   |

# **ATTACHMENT 5**

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Calculated Radio Frequency Emissions



CT2907

Farmington Scott Swamp

190-200 Colt Highway, Farmington, CT 06032

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August 26, 2020

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## 1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed installation of AT&T antenna arrays to be mounted on an extension of the existing monopole tower located at 190-200 Colt Highway in Farmington, CT. The coordinates of the tower are 41° 42' 13.14" N, 72° 49' 54.28" W.

AT&T is proposing the following:

- 1) Install nine (9) multi-band antennas (three per sector) to support its commercial LTE network and the FirstNet National Public Safety Broadband Network (“NPSBN”).
- 2) Install fifteen (15) Remote Radio Units (five per sector).
- 3) Install four (4) Surge Suppressors.
- 4) Install 6’-8” x 6’-8” equipment cabinet within 10’ x 15’ lease area.

This report considers the planned antenna configuration for AT&T<sup>1</sup> to derive the resulting % MPE of its proposed installation.



**Figure 1: View of CT5206**

|                                      |                                      |
|--------------------------------------|--------------------------------------|
| Site Address                         | 190-200 Colt Highway, Farmington, CT |
| Latitude                             | 41° 42' 13.14" N                     |
| Longitude                            | 72° 49' 54.28" W                     |
| Site Elevation AMSL                  | 711'                                 |
| AT&T Antenna Centerline AGL          | 221'                                 |
| Cellular License Information         | KNKA239                              |
| PCS License Information              | WPSL626, WQXQ394, WPTF536, KNLG442   |
| LTE License Information              | WPWV366, WQJU451                     |
| AWS License Information              | WQVN685                              |
| WCS License Information              | KNLB312, KNLB204, WPQL636, KNLB297   |
| Name of Individual Conducting Survey | Marc Salas                           |
| Date and Time of Survey              | 8/6/2020; 11:00AM – 12:30PM          |

**Table 1: Site Specific Data**

<sup>1</sup> As referenced to AT&T’s Radio Frequency Design Sheet updated 11/14/2019.

## 2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter ( $\text{mW}/\text{cm}^2$ ). The general population exposure limits for the various frequency ranges are defined in the attached “FCC Limits for Maximum Permissible Exposure (MPE)” in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

### 3. Measurement Procedure

Frequencies from 300 KHz to 50 GHz were measured using the Narda Probe EA 5091, E-Field, shaped, FCC probe in conjunction with the NBM550 survey meter. The EA 5091 probe is “shaped” such that in a mixed signal environment (i.e.: more than one frequency band is used in a particular location), it accurately measures the percent of MPE.

From FCC OET Bulletin No. 65 - Edition 97-01 – “A useful characteristic of broadband probes used in multiple-frequency RF environments is a frequency-dependent response that corresponds to the variation in MPE limits with frequency. Broadband probes having such a "shaped" response permit direct assessment of compliance at sites where RF fields result from antennas transmitting over a wide range of frequencies. Such probes can express the composite RF field as a percentage of the applicable MPEs”.

**Probe Description** - As suggested in FCC OET Bulletin No. 65 - Edition 97-01, the response of the measurement instrument should be essentially isotropic, (i.e., independent of orientation or rotation angle of the probe). For this reason, the Narda EA 5091 probe was used for these measurements.

**Sampling Description** - At each measurement location, a spatially averaged measurement is collected over the height of an average human body. The NBM550 survey meter performs a time average measurement while the user slowly moves the probe over a distance range of 20 cm to 200 cm (about 6 feet) above ground level. The results recorded at each measurement location include average values over the spatial distance.

**Instrumentation Information** - A summary of specifications for the equipment used is provided in the table below.

|                             |                        |                       |  |                            |
|-----------------------------|------------------------|-----------------------|--|----------------------------|
| <b>Manufacturer</b>         | Narda Microwave        |                       |  |                            |
| <b>Probe</b>                | EA 5091, Serial# 01116 |                       |  |                            |
| <b>Calibration Date</b>     | May 2020               |                       |  |                            |
| <b>Calibration Interval</b> | 24 Months              |                       |  |                            |
| <b>Meter</b>                | NBM550, Serial# E-1069 |                       |  |                            |
| <b>Calibration Date</b>     | May 2020               |                       |  |                            |
| <b>Calibration Interval</b> | 24 Months              |                       |  |                            |
| <b>Probe Specifications</b> | <b>Frequency Range</b> | <b>Field Measured</b> | <b>Standard</b>                          | <b>Measurement Range</b>   |
|                             | 300 KHz-50 GHz         | Electric Field        | U.S. FCC 1997<br>Occupational/Controlled | 0.5 – 600 % of<br>Standard |

**Table 2: Instrumentation Information**

**Instrument Measurement Uncertainty** - The total measurement uncertainty of the NARDA measurement probe and meter is no greater than ±2 dB. The factors which contribute to this include the probe’s frequency response deviation, calibration uncertainty, ellipse ratio, and isotropic response. Every effort is taken to reduce the overall uncertainty during measurement collection including pointing the probe directly at the likely highest source of emissions.



#### 4. RF Exposure Calculation Methods

The power density calculation results were generated using the following formula as outlined in FCC bulletin OET 65, and Connecticut Siting Council recommendations:

$$\text{Power Density} = \left( \frac{EIRP}{\pi \times R^2} \right) \times \text{Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance =  $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna

V = Vertical Distance from bottom of antenna

Off Beam Loss is determined by the selected antenna patterns

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all antenna channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not consider actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the final installations.

## 5. Calculation Results

Table 3 below outlines the power density information for the site. The proposed AT&T antennas are directional in nature; therefore, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical pattern of the proposed AT&T antennas. The calculated results for AT&T in Table 3 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

| Carrier | Antenna Height (Feet) | Operating Frequency (MHz) | Number of Trans. | ERP Per Transmitter (Watts) | Power Density (mw/cm <sup>2</sup> ) | Limit        | % MPE        |
|---------|-----------------------|---------------------------|------------------|-----------------------------|-------------------------------------|--------------|--------------|
| AT&T    | 221                   | 722                       | 1                | 1730                        | 0.0013                              | 0.4813       | 0.28%        |
| AT&T    | 221                   | 739                       | 1                | 3156                        | 0.0025                              | 0.4927       | 0.50%        |
| AT&T    | 221                   | 763                       | 1                | 3541                        | 0.0028                              | 0.5087       | 0.54%        |
| AT&T    | 221                   | 885                       | 1                | 3883                        | 0.0030                              | 0.5900       | 0.51%        |
| AT&T    | 221                   | 1900                      | 1                | 5877                        | 0.0046                              | 1.0000       | 0.46%        |
| AT&T    | 221                   | 2100                      | 1                | 9665                        | 0.0075                              | 1.0000       | 0.75%        |
| AT&T    | 221                   | 2300                      | 1                | 6153                        | 0.0048                              | 1.0000       | 0.48%        |
|         |                       |                           |                  |                             |                                     | <b>Total</b> | <b>3.52%</b> |

**Table 3: Carrier Information<sup>2 3 4</sup>**

<sup>2</sup> Please note that % MPE values listed are rounded to two decimal points and the total % MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not identically match the total value reflected in the table.

<sup>3</sup> In the case where antenna models are not uniform across all 3 sectors for the same frequency band, the antenna model with the highest gain was used for the calculations to present a worse-case scenario.

<sup>4</sup> Antenna height listed for AT&T is in reference to the ProTerra Design Group, LLC. Lease Exhibit dated December 12, 2019 (Rev. 6).

## 6. Survey Results

Results and a description of each survey location are detailed in the table and photos below. Measurements were performed on August 6, 2020, between the hours of 11:00 AM and 12:30 PM. The calculated % MPE contribution from the proposed AT&T installation at each survey point are shown and then added to the existing, measured % MPE values in the “Composite % MPE” column. All % MPE values are in reference to the FCC Uncontrolled/General Population exposure limit.

| Measurement Point | Latitude             | Longitude            | Dist. From Tower | Measured % MPE | Calculated % MPE | Composite % MPE |
|-------------------|----------------------|----------------------|------------------|----------------|------------------|-----------------|
| 1                 | 41°42'12.29"N        | 72°49'54.14"W        | 87               | 4.45%          | 0.33%            | 4.78%           |
| 2                 | 41°42'13.10"N        | 72°49'54.24"W        | 5                | 2.03%          | 0.03%            | 2.06%           |
| 3                 | 41°42'12.90"N        | 72°49'55.15"W        | 71               | 1.53%          | 0.17%            | 1.70%           |
| 4                 | 41°42'12.57"N        | 72°49'55.60"W        | 115              | 1.90%          | 0.32%            | 2.22%           |
| 5                 | <b>41°42'11.54"N</b> | <b>72°49'55.82"W</b> | <b>200</b>       | <b>4.49%</b>   | <b>0.59%</b>     | <b>5.07%</b>    |
| 6                 | 41°42'9.85"N         | 72°49'55.75"W        | 352              | 3.29%          | 1.19%            | 4.48%           |
| 7                 | 41°42'9.06"N         | 72°49'54.46"W        | 415              | 2.97%          | 1.05%            | 4.01%           |
| 8                 | 41°42'10.55"N        | 72°49'55.09"W        | 270              | 1.78%          | 1.16%            | 2.94%           |
| 9                 | 41°42'11.63"N        | 72°49'54.67"W        | 157              | 1.91%          | 0.76%            | 2.67%           |
| 10                | 41°42'12.40"N        | 72°49'54.89"W        | 89               | 3.13%          | 0.36%            | 3.49%           |
| 11                | 41°42'9.45"N         | 72°49'53.26"W        | 383              | 0.82%          | 0.96%            | 1.79%           |
| 12                | 41°42'8.31"N         | 72°49'52.59"W        | 507              | 1.18%          | 0.95%            | 2.13%           |
| 13                | <b>41°42'6.71"N</b>  | <b>72°49'52.81"W</b> | <b>662</b>       | <b>0.27%</b>   | <b>2.64%</b>     | <b>2.92%</b>    |
| 14                | 41°42'10.06"N        | 72°49'50.23"W        | 438              | 0.88%          | 0.56%            | 1.45%           |
| 15                | 41°42'17.40"N        | 72°49'46.32"W        | 742              | 1.05%          | 0.27%            | 1.32%           |
| 16                | 41°42'24.52"N        | 72°49'43.29"W        | 1424             | 0.83%          | 0.56%            | 1.39%           |

Table 4: Measured & Calculated Results



Figure 2: Aerial View of Tower & Measurement Locations (Near)

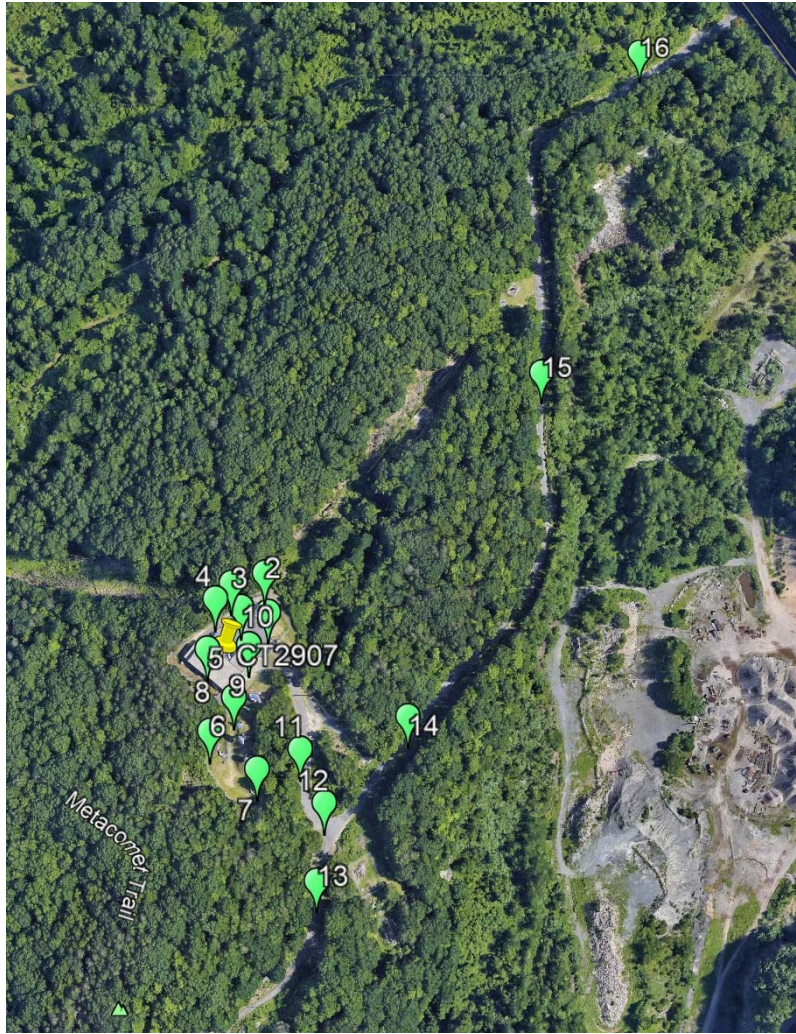


Figure 3: Aerial View of Tower & Measurement Locations (Far)

## 7. Survey Locations

The photos below detail the location of each measurement location.



**Figure 4: Measurement Location 1 (Compound Access Gate)**



**Figure 5: Measurement Location 2 (Base of Tower)**



**Figure 6: Measurement Location 3 (Northwest Edge of Compound)**



Figure 7: Measurement Location 4 (West Edge of Compound)





Figure 8: Measurement Location 5 (South of Building)



**Figure 9: Measurement Location 6 (Southwest Gate)**



Figure 10: Measurement Location 7 (Southeast Gate)



Figure 11: Measurement Location 8 (Near Dishes)



Figure 12: Measurement Location 9 (East of Building)



Figure 13: Measurement Location 10 (Near Proposed Lease Area)

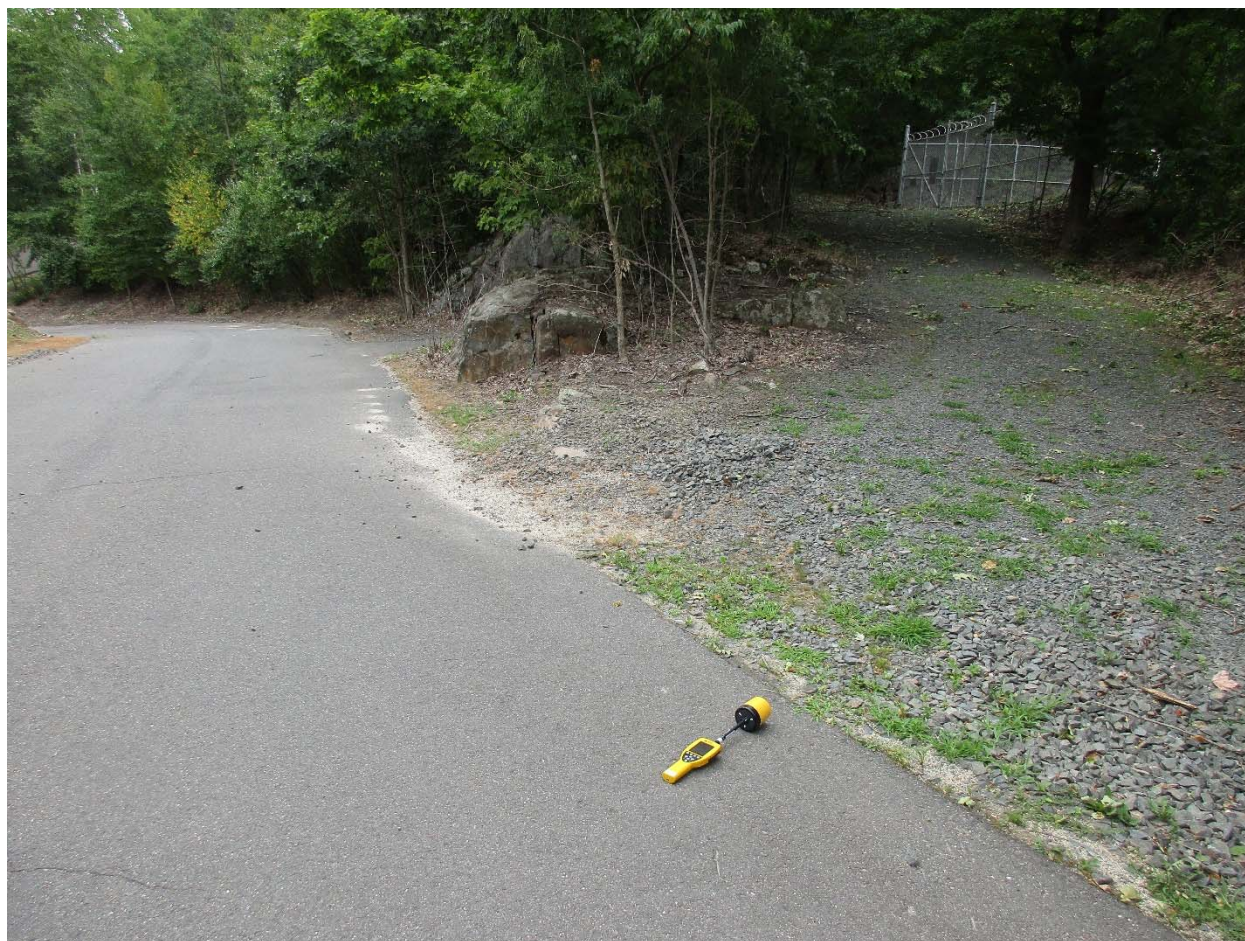


Figure 14: Measurement Location 11 (Access Road near South Compound Gate)



Figure 15: Measurement Location 12 (Access Road Fork)





Figure 16: Measurement Location 13 (WVIT Tower Gate)



Figure 17: Measurement Location 14 (Along Access Road)



Figure 18: Measurement Location 15 (Along Access Road)



Figure 19: Measurement Location 16 (Access Road near Main Gate)

## 8. Conclusion

A number of locations in the vicinity of 190-200 Colt Highway in Farmington, CT, were surveyed and found to be well within the mandated General Population/Uncontrolled limits for Maximum Permissible Exposure, as delineated in the Federal Communications Commission's Radio Frequency exposure rules published in 47 CFR 1.1307(b)(1)-(b)(3).

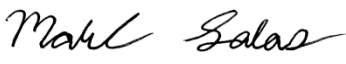
The maximum measured power density of all surveyed points, based on the 1997 FCC standard for exposure to the general population, was 4.49% MPE. This measurement was taken at Point 5, approximately 200' southwest of the tower. The composite power density (measured + calculated) at this point is 5.07% MPE with the addition of the proposed AT&T equipment.

The maximum calculated power density due to AT&T's proposed installation is 3.52%. This calculation assumes even, flat, terrain from the base of the tower.

The above analysis verifies that with AT&T's planned modifications, the facility does not approach power density levels that would be considered harmful on the ground level, as outlined by the FCC in the OET Bulletin 65 Ed. 97-01.


## 9. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in FCC OET Bulletin 65 Edition 97-01, ANSI/IEEE Std. C95.1, and ANSI/IEEE Std. C95.3.

  
\_\_\_\_\_

Report Prepared By: Marc Salas  
RF Engineer  
C Squared Systems, LLC

August 24, 2020  
Date

  
\_\_\_\_\_

Reviewed/Approved By: Martin J. Lavin  
Senior RF Engineer  
C Squared Systems, LLC

August 26, 2020  
Date

## **Attachment A: References**

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

IEEE C95.1-2005, IEEE Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz IEEE-SA Standards Board

IEEE C95.3-2002 (R2008), IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100 kHz-300 GHz IEEE-SA Standards Board

**Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)**

**(A) Limits for Occupational/Controlled Exposure <sup>5</sup>**

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (E) (A/m) | Power Density (S) (mW/cm <sup>2</sup> ) | Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|---|---|
| 0.3-3.0               | 614                               | 1.63                              | (100)*                                  | 6   |
| 3.0-30                | 1842/f                            | 4.89/f                            | (900/f <sup>2</sup> )*                  | 6   |
| 30-300                | 61.4                              | 0.163                             | 1.0                                     | 6   |
| 300-1500              | -                                 | -                                 | f/300                                   | 6   |
| 1500-100,000          | -                                 | -                                 | 5                                       | 6   |

**(B) Limits for General Population/Uncontrolled Exposure <sup>6</sup>**

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (E) (A/m) | Power Density (S) (mW/cm <sup>2</sup> ) | Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|---|---|
| 0.3-1.34              | 614                               | 1.63                              | (100)*                                  | 30  |
| 1.34-30               | 824/f                             | 2.19/f                            | (180/f <sup>2</sup> )*                  | 30  |
| 30-300                | 27.5                              | 0.073                             | 0.2                                     | 30  |
| 300-1500              | -                                 | -                                 | f/1500                                  | 30  |
| 1500-100,000          | -                                 | -                                 | 1.0                                     | 30  |

f = frequency in MHz \* Plane-wave equivalent power density

**Table 5: FCC Limits for Maximum Permissible Exposure (MPE)**

<sup>5</sup> Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure

<sup>6</sup> General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure

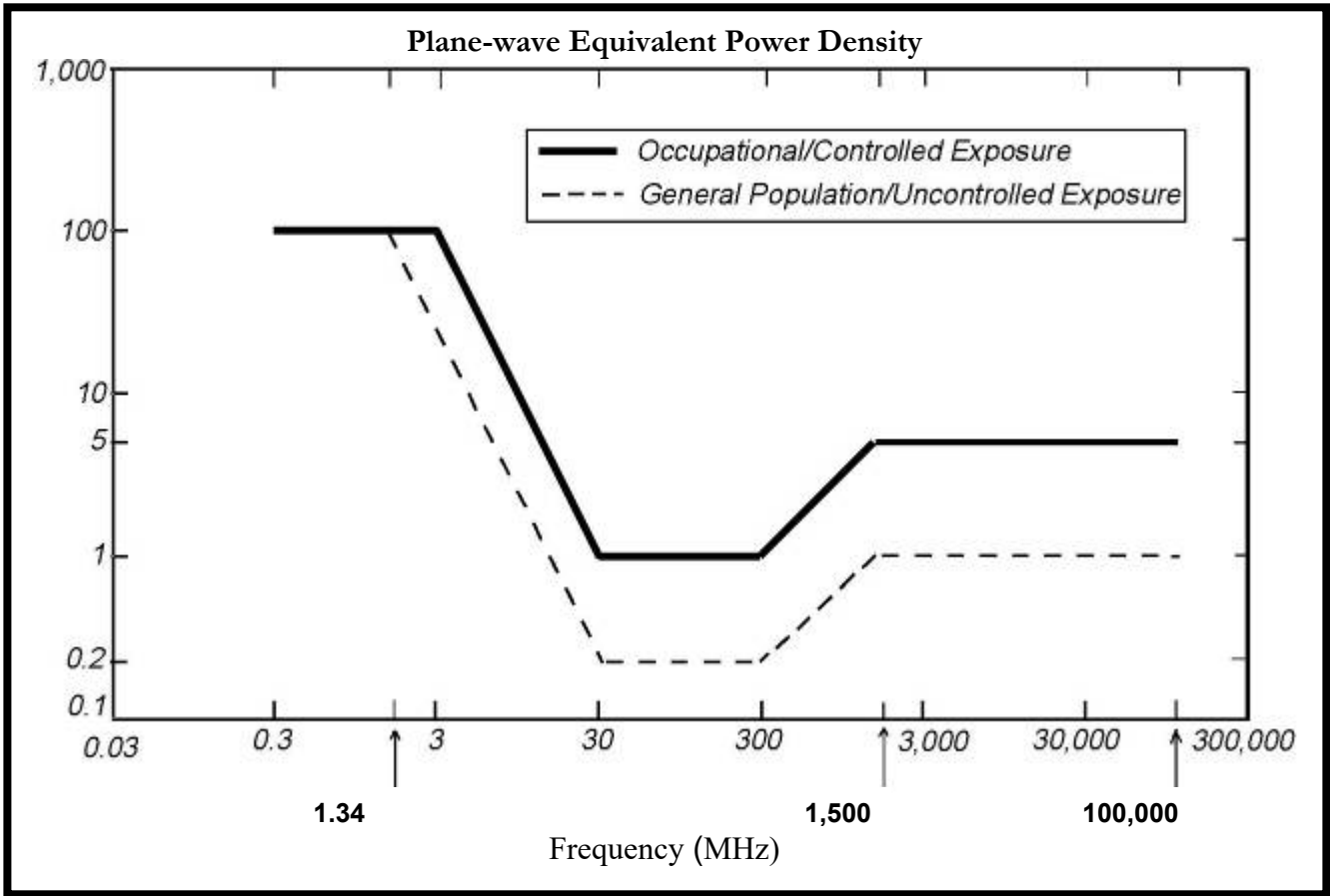
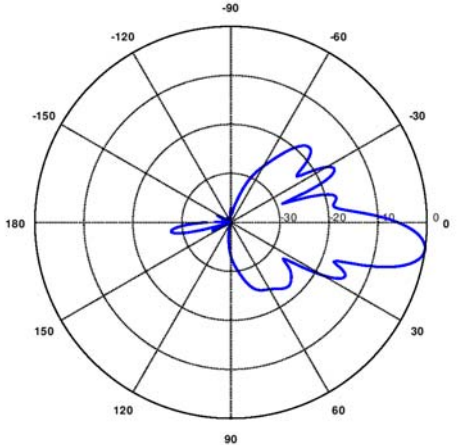
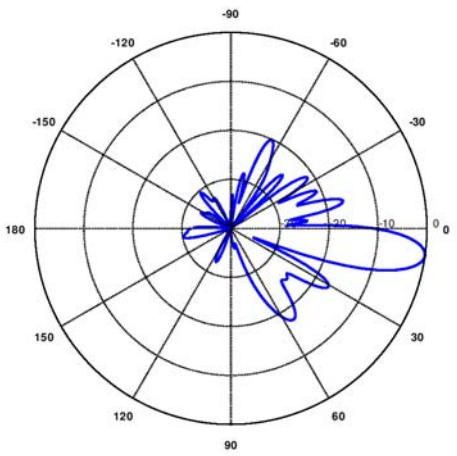
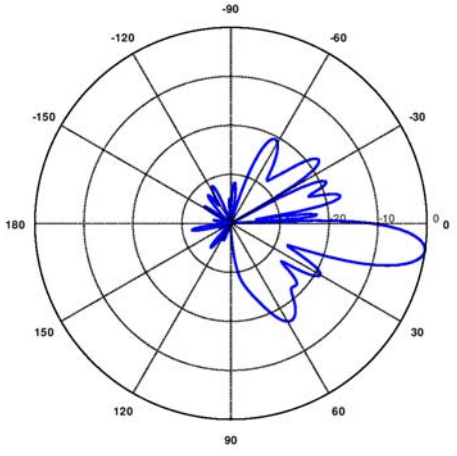


Figure 20: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

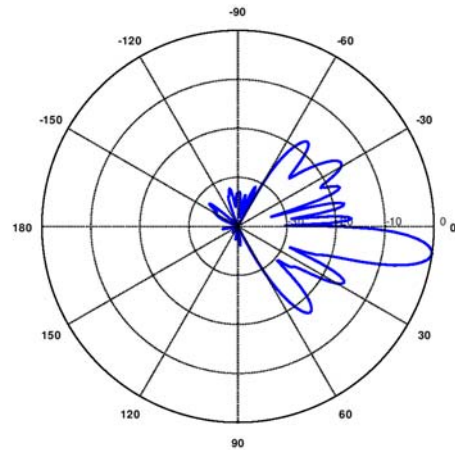


### Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

|  |  |
|--|--|
| <p><b>722 MHz</b></p> <p>Manufacturer: CCI<br/>           Model #: HPA65R-BU8A<br/>           Frequency Band: 698-806 MHz<br/>           Gain: 15.5 dBi<br/>           Vertical Beamwidth: 9.7°<br/>           Horizontal Beamwidth: 67°<br/>           Polarization: ±45°<br/>           Dimensions (L x W x D): 96.0" x 11.7" x 7.6"</p> |    |
| <p><b>739 MHz</b></p> <p>Manufacturer: CCI<br/>           Model #: DPM65R-BU8D<br/>           Frequency Band: 698-798 MHz<br/>           Gain: 15.1 dBi<br/>           Vertical Beamwidth: 9.5°<br/>           Horizontal Beamwidth: 75°<br/>           Polarization: ±45°<br/>           Dimensions (L x W x D): 96.0" x 20.7" x 7.7"</p> |   |
| <p><b>763 MHz</b></p> <p>Manufacturer: CCI<br/>           Model #: TPA65R-BU8D<br/>           Frequency Band: 698-806 MHz<br/>           Gain: 15.6 dBi<br/>           Vertical Beamwidth: 9.5°<br/>           Horizontal Beamwidth: 73°<br/>           Polarization: ±45°<br/>           Dimensions (L x W x D): 96.0" x 21.0" x 7.8"</p> |  |

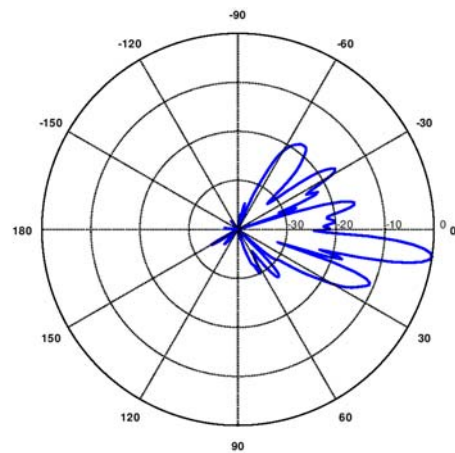
### 885 MHz

Manufacturer: CCI  
 Model #: DPM65R-BU8D  
 Frequency Band: 824-896 MHz  
 Gain: 16.0 dBi  
 Vertical Beamwidth: 8.0°  
 Horizontal Beamwidth: 64°  
 Polarization: ±45°  
 Dimensions (L x W x D): 96.0" x 20.7" x 7.7"



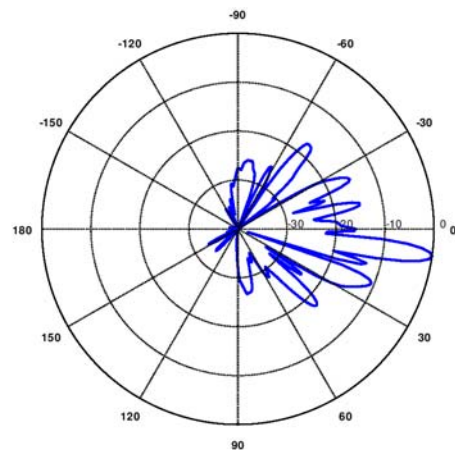
### 1900 MHz

Manufacturer: CCI  
 Model #: TPA65R-BU8D  
 Frequency Band: 1850-1990 MHz  
 Gain: 18.1 dBi  
 Vertical Beamwidth: 5.1°  
 Horizontal Beamwidth: 66°  
 Polarization: ±45°  
 Dimensions (L x W x D): 96.0" x 21.0" x 7.8"



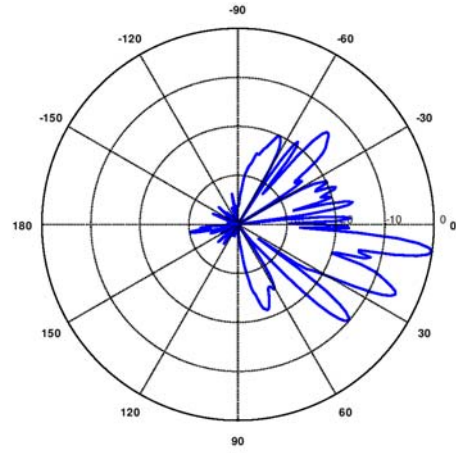
### 2100 MHz

Manufacturer: CCI  
 Model #: DPM65R-BU8D  
 Frequency Band: 1920-2180 MHz  
 Gain: 18.2 dBi  
 Vertical Beamwidth: 4.8°  
 Horizontal Beamwidth: 68°  
 Polarization: ±45°  
 Dimensions (L x W x D): 96.0" x 20.7" x 7.7"



**2300 MHz**

Manufacturer: CCI  
Model #: TPA65R-BU8D  
Frequency Band: 2300-2400 MHz  
Gain: 18.2 dBi  
Vertical Beamwidth: 4.1°  
Horizontal Beamwidth: 60°  
Polarization: ±45°  
Dimensions (L x W x D): 96.0" x 21.0" x 7.8"



# **ATTACHMENT 6**



445 Hamilton Avenue, 14th Floor  
White Plains, New York 10601  
T 914 761 1300  
F 914 761 5372  
cuddyfeder.com

Daniel Patrick  
[dpatrick@cuddyfeder.com](mailto:dpatrick@cuddyfeder.com)

October 7, 2020

**OVERNIGHT FEDEX**

C.J. Thomas, Town Council Chairman  
Town of Farmington  
1 Monteith Drive  
Farmington, CT 06032

Re: Tower Sharing Request by New Cingular Wireless PCS, LLC  
Premises: 190-200 Colt Highway, Farmington, Connecticut

Dear Chairman Thomas:

We are writing to you on behalf of our client New Cingular Wireless PCS, LLC ("AT&T") with respect to the above referenced request to the Connecticut Siting Council ("Council") for shared use approval to allow AT&T to install its wireless communications equipment on the existing communications tower and at the associated compound at 190-200 Colt Highway Road in the Town of Farmington. AT&T proposes to install 6 antennas and 9 remote radiohead units mounted on a sector frame mount attached to the existing tower at the centerline height of approximately the 221' upon the existing 1,290' (1,339' to the top of highest appurtenance) guyed tower as well as unmanned equipment on a raised platform within the existing fenced compound.

Enclosed herein is a copy of the submission made to the Council requesting approval of the tower share which includes information regarding the technical, legal, environmental, and economic feasibility of AT&T's proposed installation.

Should you have any questions please feel free to contact me at the address above or the Council at 860.827.2935.

Very truly yours,



Daniel Patrick  
Enclosure

cc: Lucia Chiochio, Esq.

ORIGIN ID: NESA (914) 761-1300  
DANIEL PATRICK  
GUDDY & FEDER LLP  
445 HAMILTON AVENUE  
SUITE 1400  
WHITE PLAINS, NY 10601  
UNITED STATES US

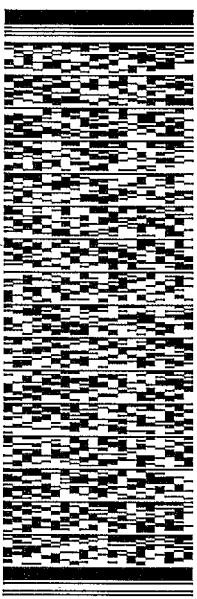
SHIP DATE: 07OCT20  
ACTWTGT: 3.00 LB  
CAD: 106899673/IN/ET4280

BILL SENDER

TO  
**C. J. THOMAS, TOWN COUNCIL CHAIRMAN**  
TOWN OF FARMINGTON  
1 MONTEITH DRIVE

**FARMINGTON CT 06032**  
(914) 761-1300 X 1875 REF: 1844-3602  
NOV DEPT:  
PO

56B, J21A27E/B766

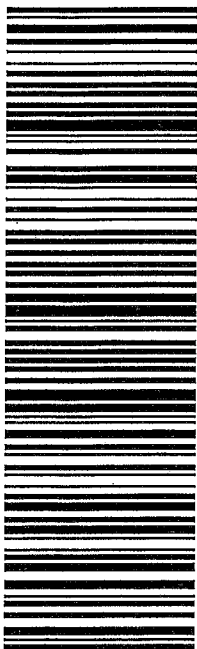


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445 Hamilton Avenue, 14th Floor  
White Plains, New York 10601  
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F 914 761 5372  
cuddyfeder.com

Daniel Patrick  
[dpatrik@cuddyfeder.com](mailto:dpatrik@cuddyfeder.com)

October 7, 2020

**OVERNIGHT FEDEX**

Shannon Rutherford, P.E., Town Planner  
Town of Farmington  
1 Monteith Drive  
Farmington, CT 06032

Re: Tower Sharing Request by New Cingular Wireless PCS, LLC  
Premises: 190-200 Colt Highway, Farmington, Connecticut

Dear Ms. Rutherford:

We are writing to you on behalf of our client New Cingular Wireless PCS, LLC ("AT&T") with respect to the above referenced request to the Connecticut Siting Council ("Council") for shared use approval to allow AT&T to install its wireless communications equipment on the existing communications tower and at the associated compound at 190-200 Colt Highway Road in the Town of Farmington. AT&T proposes to install 6 antennas and 9 remote radiohead units mounted on a sector frame mount attached to the existing tower at the centerline height of approximately the 221' upon the existing 1,290' (1,339' to the top of highest appurtenance) guyed tower as well as unmanned equipment on a raised platform within the existing fenced compound.

Enclosed herein is a copy of the submission made to the Council requesting approval of the tower share which includes information regarding the technical, legal, environmental, and economic feasibility of AT&T's proposed installation.

Should you have any questions please feel free to contact me at the address above or the Council at 860.827.2935.

Very truly yours,



Daniel Patrick  
Enclosure

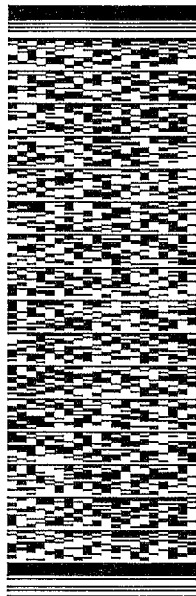
cc: Lucia Chiochio, Esq.

ORIGIN ID: NESA (914) 761-1300  
DANIEL PATRICK  
CUDDY & FEDER LLP  
445 HAMILTON AVENUE  
SUITE 1400  
WHITE PLAINS, NY 10601  
UNITED STATES US

SHIP DATE: 07/OCT/20  
ACTWT: 3.00 LB  
CAD: 106899673/IN/E/4280  
BILL SENDER

TO SHANNON RUTHERFORD, P.E., TOWNPLANNER  
TOWN OF FARMINGTON  
1 MONTEITH DRIVE

FARMINGTON CT 06032  
(914) 761-1300 X 1875 REF: 1844-3602  
INV: DEPT:  
P.O.

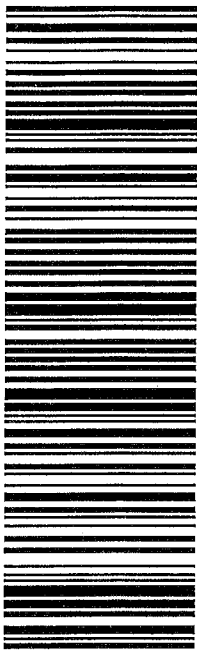


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cuddyfeder.com

Daniel Patrick  
[dpatrick@cuddyfeder.com](mailto:dpatrick@cuddyfeder.com)

October 7, 2020

**OVERNIGHT FEDEX**

Communications Site Management LLC  
225 Asylum Street, 29<sup>th</sup> Floor  
Hartford, CT 06103

Re: Tower Sharing Request by New Cingular Wireless PCS, LLC  
Premises: 190-200 Colt Highway, Farmington, Connecticut

Dear Sir or Madam:

We are writing to you on behalf of our client New Cingular Wireless PCS, LLC ("AT&T") with respect to the above referenced request to the Connecticut Siting Council ("Council") for shared use approval to allow AT&T to install its wireless communications equipment on the existing communications tower and at the associated compound at 190-200 Colt Highway Road in the Town of Farmington. AT&T proposes to install 6 antennas and 9 remote radiohead units mounted on a sector frame mount attached to the existing tower at the centerline height of approximately the 221' upon the existing 1,290' (1,339' to the top of highest appurtenance) guyed tower as well as unmanned equipment on a raised platform within the existing fenced compound.

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Daniel Patrick  
Enclosure

cc: Lucia Chiocchio, Esq.

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DANIEL PATRICK  
CUDDY & FEDER LLP  
445 HAMILTON AVENUE  
SUITE 1400  
WHITE PLAINS, NY 10601  
UNITED STATES US

SHIP DATE: 07/OCT/20  
ACT/WT: 3.00 LB  
CAD: 106899673/NET/4280

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TO COMMUNICATIONS SITE MANAGEMENT, LLC

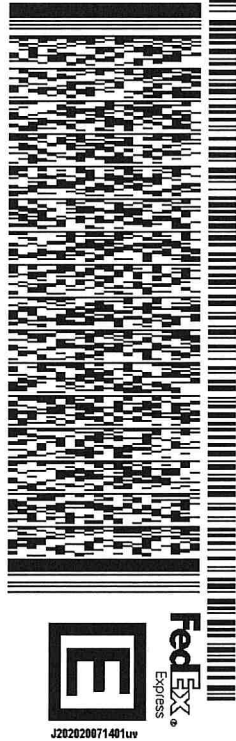
225 ASYLUM STREET, 29TH FLOOR

HARTFORD CT 06103

INV: (914) 761-1300 X 1875

REF: 1944-3602

DEPT: PO:

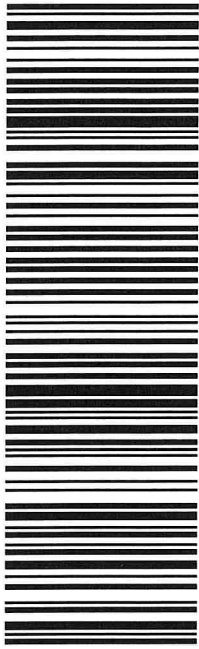


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# Town of Farmington, CT

Property Listing Report

Map Block Lot 141 7A1

Building # 1 Unique Identifier 03750190

## Property Information

|                   |   |
|-------------------|---|
| Property Location | 190 COLT HIGHWAY                            |
| Mailing Address   | 225 ASLYUM ST 29 FLOOR<br>HARTFORD CT 06103 |
| Land Use          | Industrial/Office                           |
| Zoning Code       | R80   |
| Neighborhood      | 99  |

|              |                              |
|--------------|------------------------------|
| Owner        | COMMUNICATIONS SITE MGMT LLC |
| Co-Owner     | % CHASE ENTERPRISES          |
| Book / Page  | 0619/0171                    |
| Land Class   | Commercial                   |
| Census Tract | 4602                         |
| Acreage      | 20.02                        |

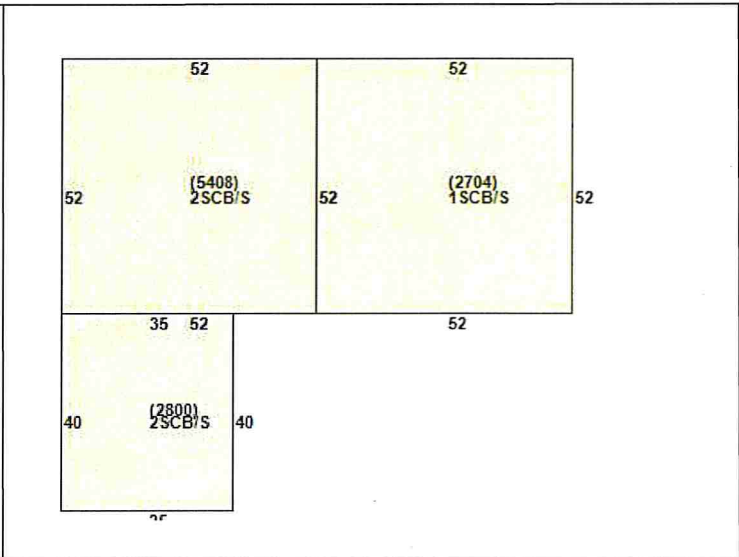
## Valuation Summary

(Assessed value = 70% of Appraised Value)

| Item         | Appraised | Assessed |
|--------------|-----------|----------|
| Buildings    | 679449    | 475610   |
| Outbuildings | 4704      | 3290     |
| Land         | 1531920   | 825020   |
| Total        | 2216073   | 1303920  |

## Utility Information

|              |    |
|--------------|----|
| Electric     | No |
| Gas          | No |
| Sewer        | No |
| Public Water | No |
| Well         | No |



## Primary Construction Details

|                   |                  |
|-------------------|------------------|
| Year Built        | 1996             |
| Building Desc.    | Commercial       |
| Building Style    |                  |
| Stories           | 2                |
| Exterior Walls    | 8" CB            |
| Exterior Walls 2  |                  |
| Interior Walls    | Painted Concrete |
| Interior Walls 2  | Drywall          |
| Interior Floors 1 | Carpet           |
| Interior Floors 2 | Concrete         |

|                |             |
|----------------|-------------|
| Heating Fuel   | Natural Gas |
| Heating Type   | FHA         |
| AC Type        | Central     |
| Bedrooms       | 0           |
| Full Bathrooms | 0           |
| Half Bathrooms | 0           |
| Extra Fixtures | 0           |
| Total Rooms    | 0           |
| Bath Style     | NA          |
| Kitchen Style  |             |
| Occupancy      | 0           |

|                    |            |
|--------------------|------------|
| Building Use       | Ind/Office |
| Building Condition | Average    |
| Frame Type         | C          |
| Fireplaces         | 0          |
| Bsmt Gar           | 0          |
| Fin Bsmt Area      |            |
| Fin Bsmt Quality   |            |
| Building Grade     | 0          |
| Roof Style         |            |
| Roof Cover         | Other      |

ORIGIN ID: NESA (914) 761-1300  
 DANIEL PATRICK  
 CUDDY & FEDER LLP  
 445 HAMILTON AVENUE  
 SUITE 1400  
 WHITE PLAINS, NY 10601  
 UNITED STATES US

SHIP DATE: 07OCT20  
 ACTWGT: 3.00 LB  
 CAD: 106899673/INLET4280

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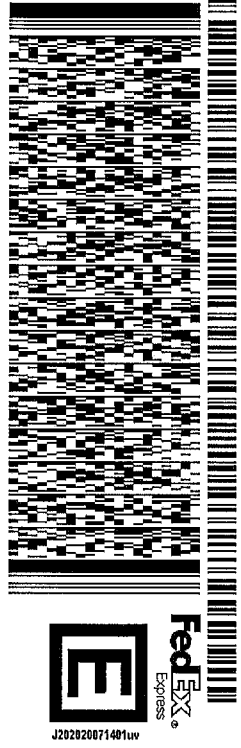
TO COMMUNICATIONS SITE MANAGEMENT, LLC

225 ASYLUM STREET, 29TH FLOOR

HARTFORD CT 06103

(914) 761-1300 X 1875 REF: 1844-3602

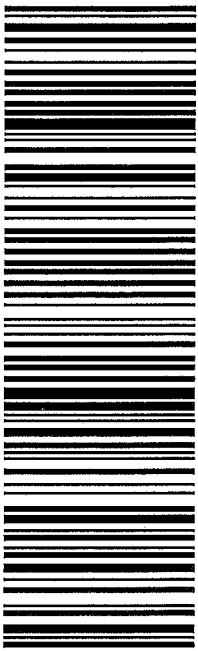
PO: DEPT:



TRK# 77117 3366 2512  
0201

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# Town of Farmington, CT

Property Listing Report

Map Block Lot 141 7A1

Building # 1

Unique Identifier 03750190

## Detached Outbuildings

| Type    | Description | Area (sq ft) | Condition | Year Built |
|---------|-------------|--------------|-----------|------------|
| Fencing | Fencing     | 1600         | Average   | 1996       |
|         |             |              |           |            |
|         |             |              |           |            |
|         |             |              |           |            |
|         |             |              |           |            |
|         |             |              |           |            |
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|         |             |              |           |            |
|         |             |              |           |            |
|         |             |              |           |            |

## Attached Extra Features

| Type           | Description    | Area (sq ft) | Condition | Year Built |
|----------------|----------------|--------------|-----------|------------|
| Overhead Doors | Steel Electric | 1            | Average   | 1996       |
|                |                |              |           |            |
|                |                |              |           |            |
|                |                |              |           |            |
|                |                |              |           |            |
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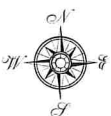
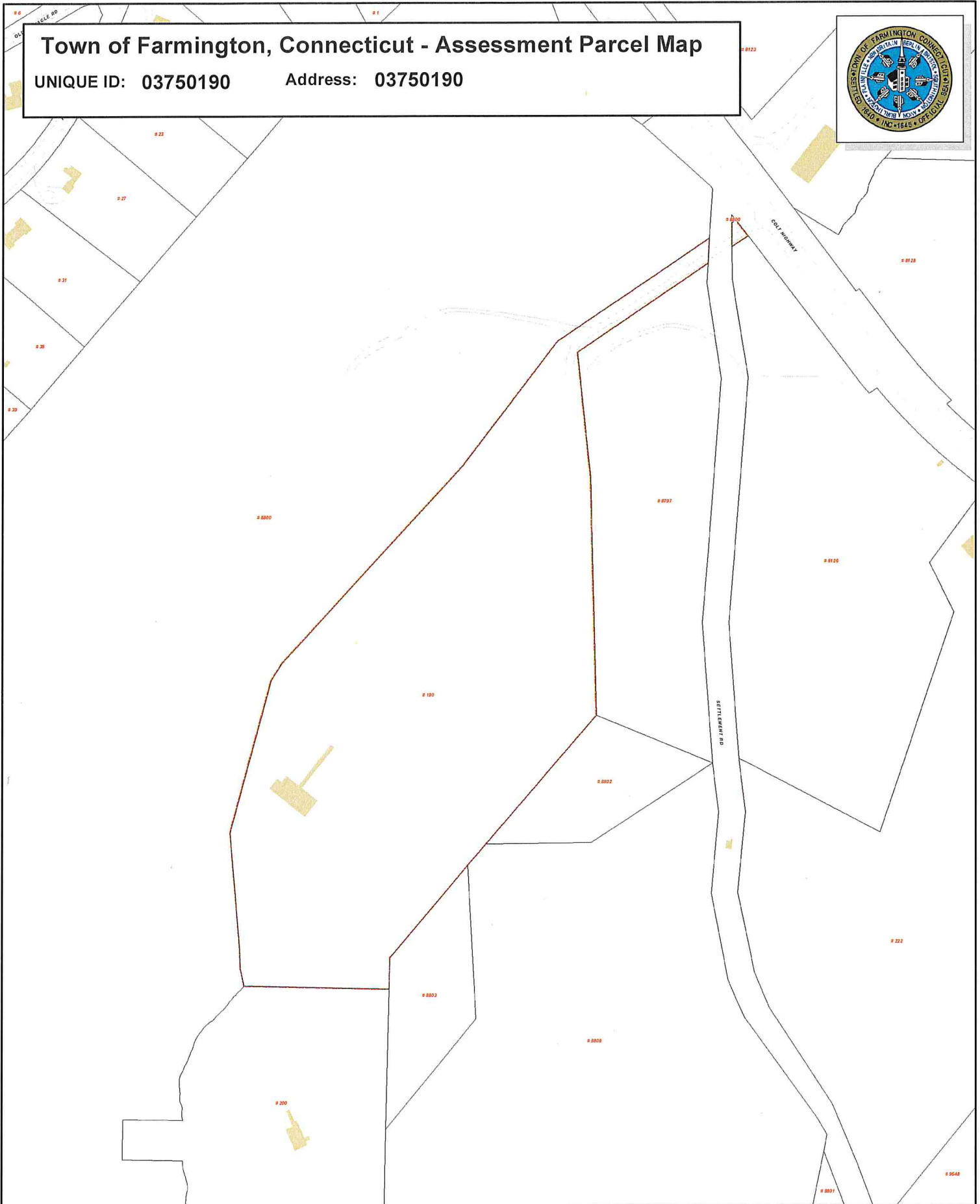
## Sales History

| Owner of Record              | Book/ Page | Sale Date | Sale Price |
|------------------------------|------------|-----------|------------|
| COMMUNICATIONS SITE MGMT LLC | 0619_0171  | 3/2/2000  | 0          |
| CHASE FAMILY LTD PTN 6       | 0306_0637  | 8/14/1984 | 0          |
| CHASE ENTERPRISES            | 0303_0738  | 5/18/1984 | 0          |
| CHASE FAMILY LTD PTN #5      | 0303_0736  | 5/18/1984 | 250000     |
| CHASE FAMILY INTERESTS #7    | 0522_0135  | 1/1/1900  | 0          |
| CHASE FAMILY LTD PTR #7      | 0408_0595  | 1/1/1900  | 0          |

# Town of Farmington, Connecticut - Assessment Parcel Map

UNIQUE ID: 03750190

Address: 03750190



Approximate Scale: 1 inch = 300 feet

Map Produced July 2020

Disclaimer: This map is for informational purposes only. All information is subject to verification by any user. The Town of Farmington and its mapping contractors assume no legal responsibility for the information contained herein.