

PWM INC.

P.O. Box 1032 2039 Williams Street, Eureka, CA. 95502 Phone: (707) 442-8420 Fax: (707) 442-8499 Cell: (707) 499-2646

March 21, 2018

Mr. Greg Pratt
General Manager
Humboldt Transit Authority
133 V Street
Eureka, California 95501

Re: HTA Seventh Amendment to Lease

Dear Mr. Pratt:

Per your request, below is a brief summary of the current, Seventh Amendment to the AT&T Tower lease at your location.

1. The initial term of this Lease commenced on December 1, 2000 (the "Commencement Date") and shall expire upon the elapse of twenty-five (25) years, at the conclusion of the day preceding the twenty-fifth (25th) anniversary of the Commencement Date They have the option to extend their occupation of the Leased Premises, continuing all the same conditions and provisions hereof, for up to two (2) additional terms
2. Beginning on April 1, 2018, the current monthly Basic Rent pursuant to the Lease shall be increased by One Thousand Three Hundred Fifty Dollars (\$1,350.00), which shall be due and payable by Lessee to Lessor on or before the first. The total monthly Lease payment on April 1, 2018 will be \$ 7,912.00.
3. The tower modifications consists of welding steel bracing to the legs at designated locations. (see picture attached. The Structural Report lists the antenna AT&T changes on Page 3.

I am sending you this letter by email with the current Structural Analysis, Radio Frequency Study and picture of the tower modification information attached.

If you have any questions or comments please let me know by email or cell phone.

Respectfully,

PWM Inc.



Thomas J. McMurray Jr.
President

cc: Lisa McMurray
Senior Real Estate Manager

Market: Reno/Sacramento
Cell Site Number: CNU0923/CCL00923
Cell Site Name: Eureka HTA
Fixed Asset Number: 10130073
Address: 133 V Street, Eureka, CA 95501

AMENDMENT NUMBER SEVEN TO LEASE

THIS AMENDMENT NUMBER SEVEN TO LEASE (the "Seventh Amendment") is entered into on this _____ day of _____, 2018, between Humboldt Transit Authority, a joint powers public agency located in Humboldt County, California ("Lessor") and New Cingular Wireless PCS, LLC, a Delaware limited liability company, successor-in-interest to Edge Wireless, LLC, ("Lessee"), with respect to the following facts:

WHEREAS, Lessor and Lessee entered into a certain Lease dated December 1, 2000, as amended by that certain Amendment Number One to Lease effective February 1, 2002, as amended by that certain Second Amendment to Lease effective April 1, 2003, as amended by that certain Amendment Number Three to Lease effective June 1, 2005, as amended by that certain Amendment Number Four to Lease effective October 1, 2009, as amended by that certain Amendment Number Five to Lease effective November 11, 2010, and as amended by that certain Amendment Number Six to Lease dated June 19, 2013, (hereinafter collectively the "Lease"), concerning the lease of a portion of the real property commonly known as 133 V Street, Eureka, Humboldt County, California 95501.

WHEREAS, Lessor and Lessee desire to amend the Lease to (i) reflect Lessee's proposed equipment modifications, (ii) increase the duration of the initial term and (iii) increase the monthly Basic Rent accordingly;

NOW THEREFORE, in consideration of the mutual covenants and agreements herein contained, the parties hereto agree as follows:

1. That portion of ARTICLE I. PREMISES, Section 1.01, is hereby deleted in its entirety and replaced to read as follows:

Section 1.01 Lessor hereby leases to Lessee, and Lessee hereby hires and takes from Lessor, for the term, at the rental, and upon conditions hereinafter set forth, a portion of the Excess Capacity, mutually designated by Lessee and Lessor, consisting of an area of space of approximately forty (40) square feet in and adjacent to the Communications Room located adjacent to the Tower, which space is hereinafter designated as AT&T space on Exhibit B, attached hereto and made a part hereof. Lessee is not permitted to place any additional receiving and/or transmitting equipment in or adjacent to the Communication Room, exceeding forty (40) square feet without an amendment to this Lease. Space on the Tower to attach receiving and transmitting equipment, and the placement of which is shown on the attached Exhibit C and Exhibit D, attached hereto and made a part hereof, along with utility cabling and other necessary appurtenances hereafter referred to collectively as the ("Leased Premises"). Other than the equipment listed below, Lessee is not permitted to place any additional receiving and/or transmitting equipment in or adjacent to the Communication Room area or on the Tower without an amendment to this Lease.

Equipment to be placed in the Communications Room:

1. One (1) 21" w. x 24" d. x 84" h. FIF rack
2. One (1) 26" w. x 25" d. x 84" h. rack with four (4) 155 AH batteries and one (1) DC-12
3. One (1) 32.25" w. x 20.75" d. x 84" h. RBS cabinet
4. One (1) 32.25" w. x 20.75" d. x 84" h. RBS cabinet
5. One (1) 50" w. x 32" d. x 84" h. DC power plant with twelve (12) 155 AH batteries and twelve (12) rectifiers
6. Lessee is permitted to run necessary cabling and wiring in and adjacent to the Communications Room.
7. Installation of facilities for a Fiber Feed Ethernet System including building penetrations, conduits, electrical wiring, backboard and miscellaneous attachment hardware as shown on Exhibit D.

Equipment to be placed on the Tower:

1. Occupy attachment locations upon the Tower for two (2) Commscope JAHH-65B-R3B panel antennas (72.0" h. x 13.8" w. x 8.2" d.), one (1) Quintel QS6458-5 panel antenna (72.0" h. x 16.9" w. x 9.6" d.) mounted at a centerline height of ninety-seven feet (97'-0") above ground level. Three (3) Ericsson RRUS-11 (17.3" h. x 17.8" w. x 7.19" d.) mounted at a centerline height of ninety-four feet (94'-0") above ground level. Two (2) Commscope JAHH-65B-R3B panel antennas (72.0" h. x 13.8" w. x 8.2" d.) and one (1) Quintel QS6458-5 panel antenna (72.0" h. x 16.9" w. x 9.6" d.) mounted at a centerline height of ninety feet (90'-0") above ground level. Three (3) Ericsson RRUS-32 B2 (27.2" h. x 12.1" w. x 7.0" d.), three (3) Ericsson RRUS-32 B66 (27.2" h. x 12.1" w. x 7.0" d.) and two (2) Raycap DC6-48-60-18-8F Surge Suppressors (23.5" h. x 9.7" diameter) mounted at a centerline height of eighty-five feet six inches (85'-6") above ground level. One (1) Quintel QS6458-5 panel antenna (72.0" h. x 16.9" w. x 9.6" d.), two (2) Kathrein 800-10965K panel antennas (78.7" h. x 20.0" w. x 6.9" d.) and six (6) KMW KUNAPA108001 TMA's (14.83" h. x 8.66" w. x 3.48" d.) mounted at a centerline height of eighty-one feet (81'-0") above ground level. Three (3) Ericsson RRUS-4478 B14 (17.3" h. x 17.8" w. x 7.19" d.) mounted at a centerline height of seventy-seven feet nine inches (77'-9") above ground level and twelve (12) 1-5/8" coax, four (4) 3/4" DC power trunk cables and two (2) 3/8" fiber trunk cables; as described on Exhibit C and Exhibit D attached hereto.

One (1) two (2) foot microwave planar antenna mounted at a centerline height of fifty feet (50'-0"), above ground level on the North leg of the Tower with one (1) 1/2" coax cable. One (1) four (4) foot microwave dish, with radome, mounted at a centerline height of thirty-seven feet (37'-0"), above ground level on the North leg of the Tower with one (1) 1/2" coax cable; as described on Exhibit C and Exhibit D attached hereto. If the planar and/or microwave dish are removed, no reduction in rent will be due the Lessee during

the term or any renewal term of this Lease. Lessor does not guarantee that space will be available or that the Tower will be capable of supporting equipment currently described in this Lease and not placed on the Tower or the planar or microwave dish if they are removed at any time during the term or any renewal term of the Lease. All of Lessee's Equipment and mounting methods shall be subject to approval by Lessor. Any additional or substitution of equipment to be installed upon the Tower by Lessee shall require an amendment to the Lease.

2. That portion of ARTICLE III. TERM, Section 3.01. is hereby deleted in its entirety and replaced to read as follows:

Section 3.01. The initial term of this Lease shall commence on December 1, 2000 (the "Commencement Date") and shall expire upon the elapse of twenty-five (25) years, at the conclusion of the day preceding the twenty-fifth (25th) anniversary of the Commencement Date. Thereafter, provided that Lessee has faithfully performed its obligations under this Lease, Lessee shall have the option, to extend its occupation of the Leased Premises, continuing all the same conditions and provisions hereof, for up to two (2) additional terms of five (5) years each (each a "Renewal Term"). This Lease shall automatically renew unless Lessee notifies Lessor in writing of Lessee's intention that such renewal will not occur at least sixty (60) days prior to the commencement of such Renewal Term.

3. That portion of ARTICLE IV. RENT, Section 4.01. is hereby amended as follows:

Section 4.01. Beginning on April 1, 2018, the current monthly Basic Rent pursuant to the Lease shall be increased by One Thousand Three Hundred Fifty Dollars (\$1,350.00), which shall be due and payable by Lessee to Lessor on or before the first (1st) day of each calendar month, with rent subject annually to adjust as set out in paragraph 4.02.

4. Exhibit B is hereby deleted in its entirety and replaced to read as shown on the attached Exhibit B.
5. Exhibit C is hereby deleted in its entirety and replaced to read as shown on the attached Exhibit C.
6. Exhibit D is hereby amended to read as shown on the attached Exhibit D.
7. No addition, modification or substitution of equipment may be installed by Lessee on the Tower, in or adjacent to the Communication Room or within the Building without a further amendment to the Lease.
8. The Lease, as amended, sets forth the entire agreement between Lessor and Lessee relating to the subject matter hereof. Neither party relies on any representation or warranty, express or implied, not expressly set forth therein. Except as specifically amended or reiterated above, all terms and conditions of the Lease shall remain in full force and effect. All of the terms and conditions of this Seventh Amendment are hereby fully agreed to by the parties.

IN WITNESS WHEREOF, Lessor and Lessee have caused this Amendment Number Seven to Lease to be executed by their respective duly authorized representatives as of the day and year first above written.

Lessor:

Humboldt Transit Authority,
a joint powers public agency

By: _____

Name: _____

Title: _____

Dated: _____

Lessee:

New Cingular Wireless PCS, LLC,
a Delaware limited liability company
By: AT&T Mobility Corporation
Its: Manager

By:  _____

Name: **Michael Guibord** _____

Title: **5001 Executive Pkwy** _____

Dated: **San Ramon CA 94583** _____

3/14/18

Exhibit B - Enlarged Site Plan

Exhibit C - Tower Equipment and Leased Tower Space

Exhibit D - Approved Construction Drawings

Exhibit B is hereby deleted in its entirety and replaced to read as follows:

Exhibit B

ENLARGED SITE PLAN

[This page is reserved to attach the approved Enlarged Site Plan, prepared by Peek Site-Com, dated October 5, 2017, stamped by Registered Professional Engineer, Chris Oliveira; page A-1.1, one (1) total page to be attached.]

PROPRIETARY INFORMATION

THE INFORMATION CONTAINED IN THIS SET OF DRAWINGS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO PECK SITE-COM IS STRICTLY PROHIBITED



733 V STREET
EUREKA, CA 95501

REV#	DATE	DESCRIPTION	BY
1	9-14-17	90% CONSTRUCTION DOC'S	RB
2	10-5-17	100% CONSTRUCTION DOC'S	RB

COORDINATING ENGINEER: _____

Peek Site-Com
12852 Earhart Ave., Suite 101
Auburn, California 95602
Phone (530) 885-6160
E-Mail info@peeksite.com



SHEET NUMBER: _____
 SHEET TITLE: _____
 ENLARGED SITE PLAN
 CCL009823
 RB
 DATE: _____
 DRAWN BY: _____
 REVISION: _____

A-1.1 0

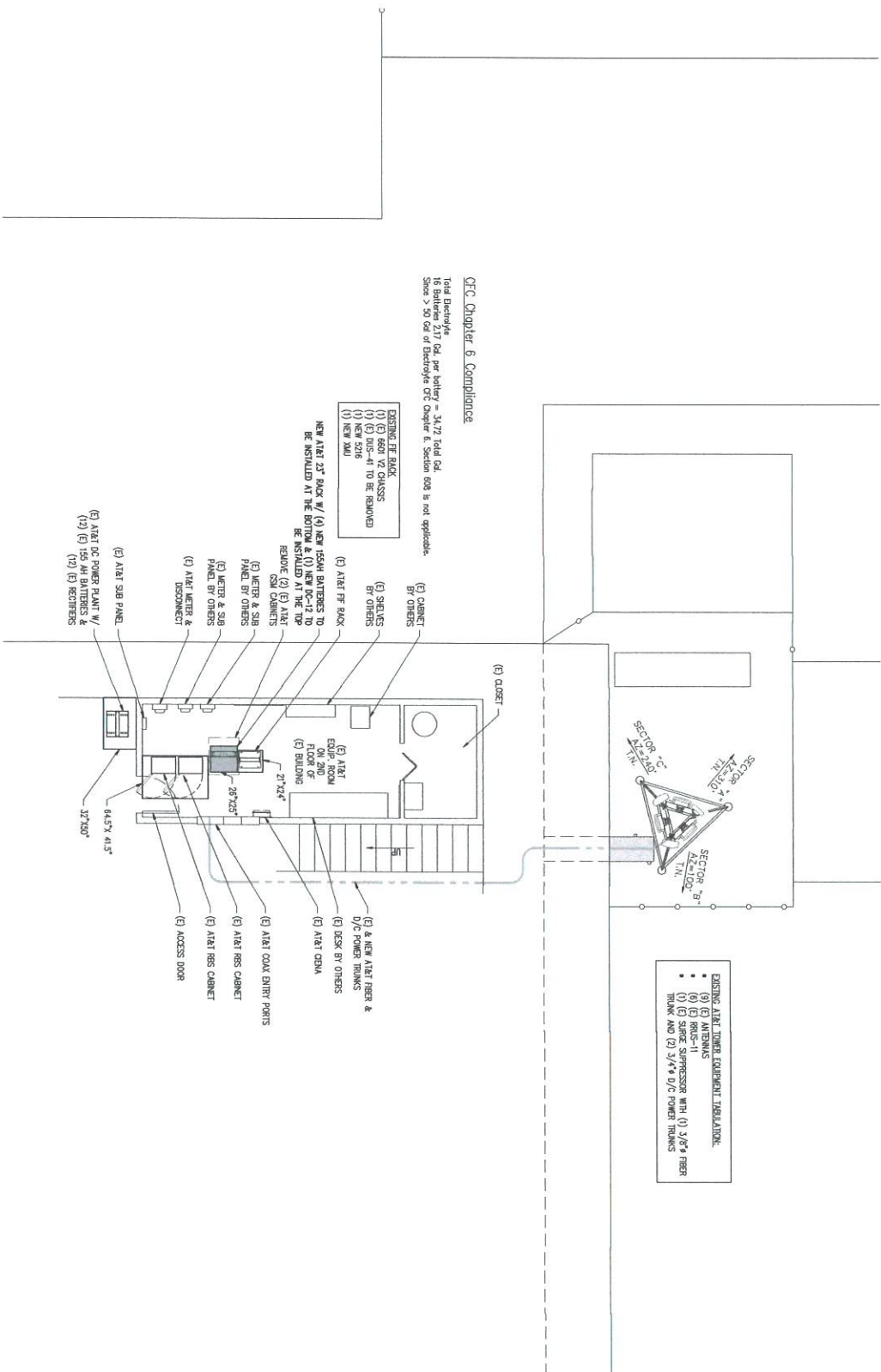


Exhibit C is hereby deleted in its entirety and replaced to read as follows:

Exhibit C

TOWER EQUIPMENT AND LEASED TOWER SPACE

1. Two (2) Commscope JAHH-65B-R3B panel antennas (72.0" h. x 13.8" w. x 8.2" d.), one (1) Quintel QS6458-5 panel antenna (72.0" h. x 16.9" w. x 9.6" d.) mounted at a centerline height of ninety-seven feet (97'-0") above ground level. Three (3) Ericsson RRUS-11 (17.3" h. x 17.8" w. x 7.19" d.) mounted at a centerline height of ninety-four feet (94'-0") above ground level. Two (2) Commscope JAHH-65B-R3B panel antennas (72.0" h. x 13.8" w. x 8.2" d.) and one (1) Quintel QS6458-5 panel antenna (72.0" h. x 16.9" w. x 9.6" d.) mounted at a centerline height of ninety feet (90'-0") above ground level. Three (3) Ericsson RRUS-32 B2 (27.2" h. x 12.1" w. x 7.0" d.), three (3) Ericsson RRUS-32 B66 (27.2" h. x 12.1" w. x 7.0" d.) and two (2) Raycap DC6-48-60-18-8F Surge Suppressors (23.5" h. x 9.7" diameter) mounted at a centerline height of eighty-five feet six inches (85'-6") above ground level. One (1) Quintel QS6458-5 panel antenna (72.0" h. x 16.9" w. x 9.6" d.), two (2) Kathrein 800-10965K panel antennas (78.7" h. x 20.0" w. x 6.9" d.) and six (6) KMW KUNAPA108001 TMA's (14.83" h. x 8.66" w. x 3.48" d.) mounted at a centerline height of eighty-one feet (81'-0") above ground level. Three (3) Ericsson RRUS-4478 B14 (17.3" h. x 17.8" w. x 7.19" d.) mounted at a centerline height of seventy-seven feet nine inches (77'-9") above ground level and twelve (12) 1-5/8" coax, four (4) 3/4" DC power trunk cables and two (2) 3/8" fiber trunk cables.
2. One (1) two (2) foot microwave planar antenna mounted at a centerline height of fifty feet (50'-0"), above ground level on the North leg of the Tower with one (1) 1/2" coax cable. One (1) four (4) foot microwave dish, with radome, mounted at a centerline height of thirty-seven feet (37'-0"), above ground level on the North leg of the Tower with one (1) 1/2" coax cable.

Exhibit D is hereby amended to read as follows:

Exhibit D

APPROVED CONSTRUCTION DRAWINGS

[This page is reserved to attach the approved 100% Construction Drawings, prepared by Peek Site-Com, dated October 5, 2017, stamped by Registered Professional Engineer, Chris Oliveira; pages T-1, A-1 through A-2, S-1 and RF-1, nine (9) total pages to be attached.]

1. WORKERS TO BE USED SHALL, WITHOUT EXCEPTION, HAVE RECEIVED AND THE SET OF A.S. IS
PROHIBED TO BE USED FOR CONSTRUCTION PURPOSES ANY, UNLESS NOT OBTAINED. THE GENERAL
CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORKERS' SAFETY AND HEALTH.
CONTRACTOR'S OBLIGATIONS TO THE WORKERS SHALL BE THE SAME AS THE OBLIGATIONS OF THE
EMPLOYER.
2. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORKERS' SAFETY AND HEALTH.
CONTRACTOR'S OBLIGATIONS TO THE WORKERS SHALL BE THE SAME AS THE OBLIGATIONS OF THE
EMPLOYER.
3. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORKERS' SAFETY AND HEALTH.
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9. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORKERS' SAFETY AND HEALTH.
CONTRACTOR'S OBLIGATIONS TO THE WORKERS SHALL BE THE SAME AS THE OBLIGATIONS OF THE
EMPLOYER.
10. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORKERS' SAFETY AND HEALTH.
CONTRACTOR'S OBLIGATIONS TO THE WORKERS SHALL BE THE SAME AS THE OBLIGATIONS OF THE
EMPLOYER.
11. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORKERS' SAFETY AND HEALTH.
CONTRACTOR'S OBLIGATIONS TO THE WORKERS SHALL BE THE SAME AS THE OBLIGATIONS OF THE
EMPLOYER.
12. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORKERS' SAFETY AND HEALTH.
CONTRACTOR'S OBLIGATIONS TO THE WORKERS SHALL BE THE SAME AS THE OBLIGATIONS OF THE
EMPLOYER.
13. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORKERS' SAFETY AND HEALTH.
CONTRACTOR'S OBLIGATIONS TO THE WORKERS SHALL BE THE SAME AS THE OBLIGATIONS OF THE
EMPLOYER.
14. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE WORKERS' SAFETY AND HEALTH.
CONTRACTOR'S OBLIGATIONS TO THE WORKERS SHALL BE THE SAME AS THE OBLIGATIONS OF THE
EMPLOYER.

LEGEND

— A —	ATMUM CABLE (HARD CABLE)
— T —	TELEPHONE SERVICE (HARD CABLE)
— E —	POWER SERVICE (HARD CABLE)
— G —	GROUND LINE (HARD CABLE)
— A —	ATMUM CABLE (FIBER)
— T —	TELEPHONE SERVICE (FIBER)
— E —	POWER SERVICE (FIBER)
— G —	GROUND LINE (FIBER)
— P —	PROPERTY BOUNDARY LINE
— L —	NATURAL PROPERTY OF LINE

PROJECT SUMMARY	
STREET NAME	CITY OF BURLINGTON
STREET NUMBER	0240903
STREET ADDRESS	111 W STREET
PROPERTY OWNER	CITY OF BURLINGTON
OWNER ADDRESS	100 STATE STREET
	BURLINGTON, VT 05401
APPLICANT	LEH
APPLICANT ADDRESS	220 WITT AVE
	SOUTH BURLINGTON, VT 05401
ASSESSOR'S PARCEL NUMBER	001-097-010
LAND USE	4108-131
CONSTRUCTION TYPE	2
CONSTRUCTION	REPAIRS/RENOVATION
COUNTY	CITY OF BURLINGTON

SHEET INDEX

T-1	TITLE SHEET
A-1	OVERALL SITE PLAN
A-1-1	ENLARGED SITE PLAN
A-1-2	ANTENNA PLAN
A-1-3	DETAILS
A-1-4	ELEVATIONS
S-1	STRUCTURAL DETAILS
RF-1	RF REFERENCE SHEET

[illegible]

SITE NUMBER: CCL00923
SITE NAME: CA270-EUREKA
133 V STREET
EUREKA, CA 95501

PROJECT SUMMARY

SHEET INDEX

PAGE#: MRSFR041431
PTN#: 3701A0BMR4
PAGE#: MRSFR040223
PTN#: 3701A0BN93
PAGE#: MRSFR041847
PTN#: 3701A0BKTO
FA#: 10130073

CA270-EUREKA HTA
133 V STREET
EUREKA, CA 95501



at&t
2700 WALT AVE
SACRAMENTO, CA 95821

PROPRIETARY INFORMATION

THE INFORMATION CONTAINED IN THIS SET OF DRAWINGS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO PEAK SITE-COM IS STRICTLY PROHIBITED

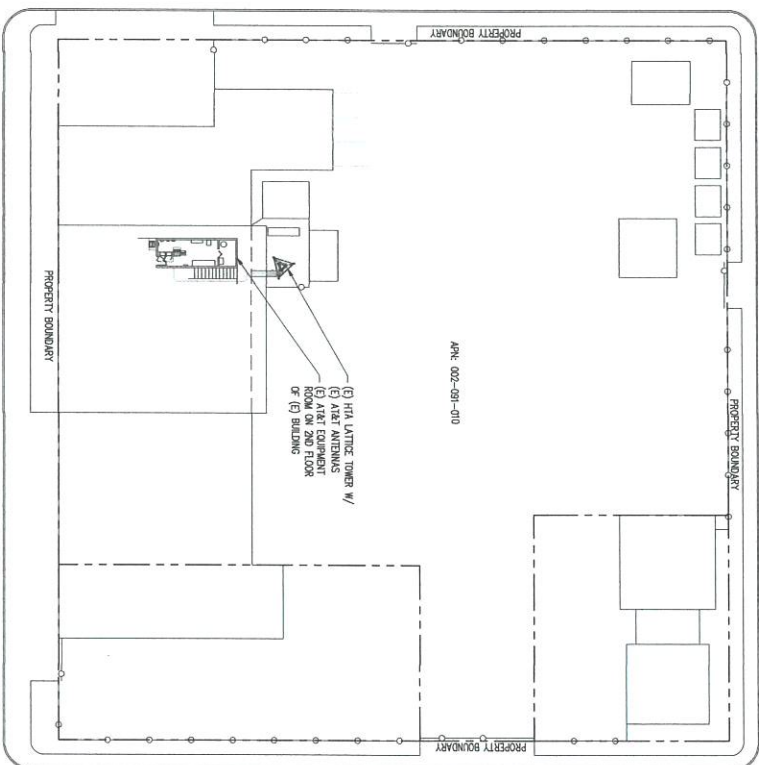

Peek Site-Com
12852 Earhart Ave., Suite 101
Auburn, California 95602
Phone (530) 885-6160
E-Mail info@peeksite.com



CCU00923	...	RB
SHEET TITLE: =====		
<i>TITLE SHEET</i>		
SHEET NUMBER: =====		REVISION: =====

0.11

NO SURVEY WAS PROVIDED TO PEEK SITE-COM. SITE LAYOUT WAS DERIVED FROM FIELD NOTES, AND OBSERVATIONS



OVERALL SITE PLAN



—

PROPRIETARY INFORMATION

THE INFORMATION CONTAINED IN THIS SET OF DRAWINGS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO PEAK SITE-COM IS STRICTLY PROHIBITED



CA270-EUREKA HTA
133 V STREET
EUREKA, CA 95501

REV	DATE	DESCRIPTION	BY
1	9-14-17	90% CONSTRUCTION DOC'S	RB
2	10-5-17	100% CONSTRUCTION DOC'S	RB

COORDINATING ENGINEER: _____

 **Peek Site-Com**
12852 Earhart Ave., Suite 101
Auburn, California 95602
Phone (530) 885-6160
E-Mail info@peeksitecom.com

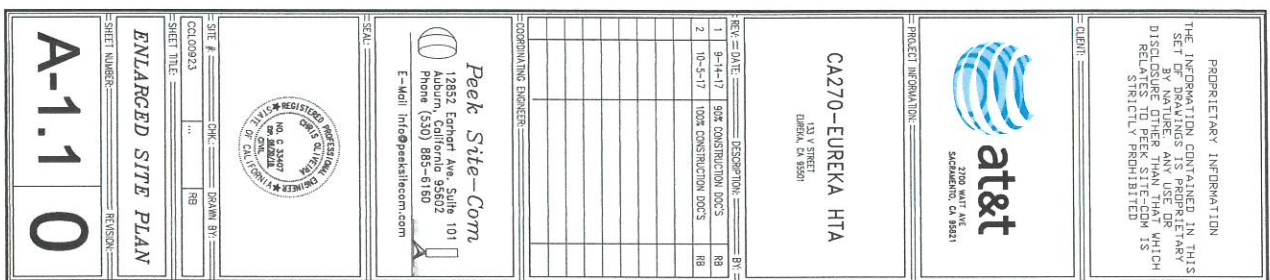


SITE # _____		CHK: _____	DRAWN BY: _____
CC100923	***	RB	

OVERALL SITE PLAN

SHEET NUMBER: _____ REVISION: _____

A-1 O



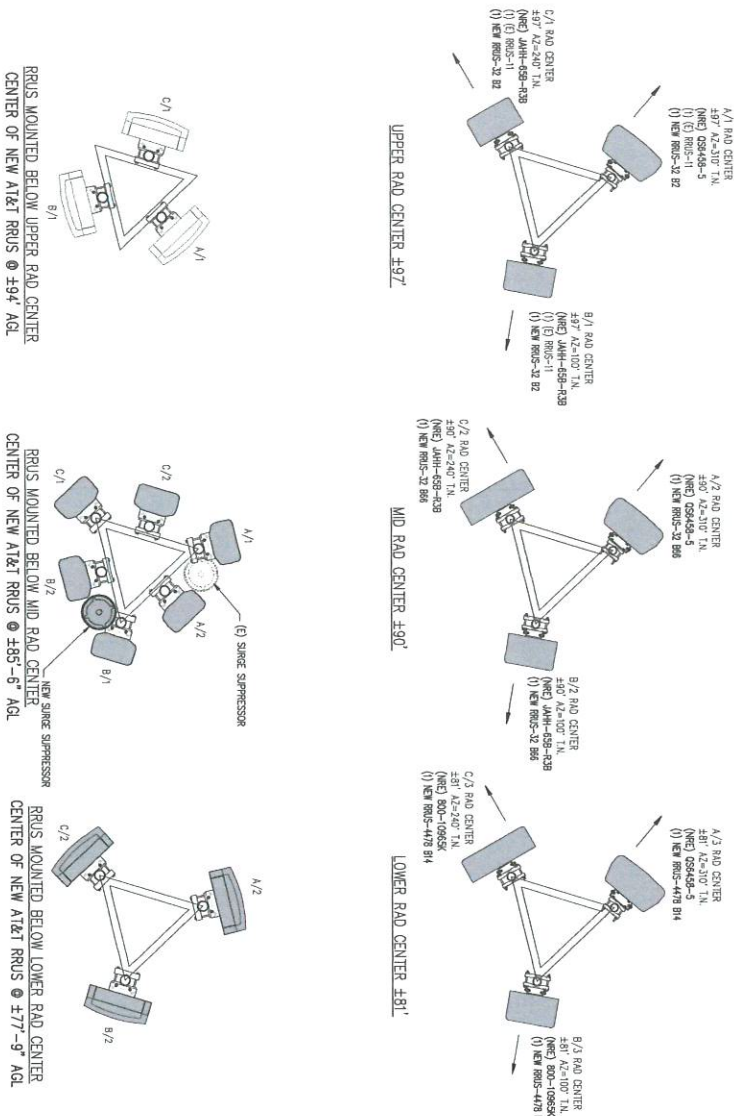
FINAL ANTENNA CONFIGURATION TABLE

SECTION/POS	RAD CENTER	PHYSICAL	EXISTING ANTENNA MODEL	NEW ANTENNA MODEL	ANT STATUS	ICB/FREQUENCY	REU
A/1	± 97'	310'	58H-105454	059454-5	NRC	LIE 800/PCS	(1) (E) RRU5-11 & (1) NEW RRU5-32 B2
A/2	± 90'	310'	7732	059454-5	NRC	LIE 800/PCS	(1) NEW RRU5-32 B86
A/3	± 87'	310'	7732	059454-5	NRC	LIE 2C 1900	(1) NEW RRU5-4478 B14
B/1	± 97'	100'	800-107500K	JHH-659-438	NRC	LIE 700/PCS	(1) (E) RRU5-11 & (1) NEW RRU5-32 B2
B/2	± 90'	100'	7732	JHH-659-438	NRC	LIE 800/PCS	(1) NEW RRU5-32 B86
B/3	± 87'	100'	7732	800-1065K	NRC	LIE 2C 1900	(1) NEW RRU5-4478 B14
C/1	± 97'	240'	800-106500K	JHH-659-438	NRC	LIE 700/PCS	(1) (E) RRU5-11 & (1) NEW RRU5-32 B2
C/2	± 90'	240'	7732	JHH-659-438	NRC	LIE 800/PCS	(1) NEW RRU5-32 B86
C/3	± 87'	240'	7732	800-1065K	NRC	LIE 2C 1900	(1) NEW RRU5-4478 B14

LEGEND:
 B - ANTENNA BY OTHERS
 ER - EXISTING ANTENNA TO REMAIN
 NRC - NEW ANTENNA TO REPLACE EXISTING
 NR0 - NEW ANTENNA TO REPLACE EXISTING
 N - NEW ANTENNA TO BE INSTALLED
 FBO - FUTURE BY OTHERS
 ** - AT GROUND LEVEL
 NOTE:
 (3) (E) RRU5-11 TO BE REMOVED

ANTENNA CONFIGURATION CHART

1



PROPOSED ANTENNA PLAN



SCALE: 3/4"=1'-0"

2

PROPRIETARY INFORMATION
 THE INFORMATION CONTAINED IN THIS SET OF DRAWINGS IS PROPRIETARY AND IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF AT&T INTELLECTUAL PROPERTY.
 STRICTLY PROHIBITED



PROJECT INFORMATION

CAZ70-EUREKA HTA
 133 V STREET
 EUREKA, CA 95501

REV: DATE: DESCRIPTION: BY:

1	9-14-17	80% CONSTRUCTION DDC'S	RB
2	10-5-17	100% CONSTRUCTION DDC'S	RB

COORDINATING ENGINEER
 Peek Site-Cor
 12852 Export Ave., Suite 101
 Auburn, California 95602
 Phone (530) 885-6180
 E-Mail: info@peeksite.com



ANTENNA PLAN

A-1.2 0



at&t
2700 WALT AVE
SACRAMENTO, CA 9582

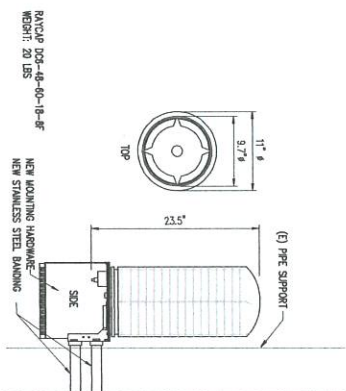
CA270-EUREKA HTA
133 V STREET
EUREKA, CA 95501

[illegible]

 **Peek Site-Comm**
12852 Earhart Ave., Suite 10
Auburn, California 95602
Phone (530) 885-6150
E-Mail info@peeksitecomm.com

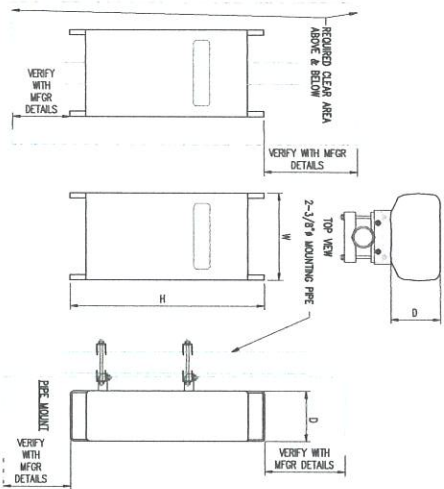


SHEET NUMBER:	COL00923	...	RB
SHEET TITLE: DETAILS			
REVISION:			

A-1.4
O

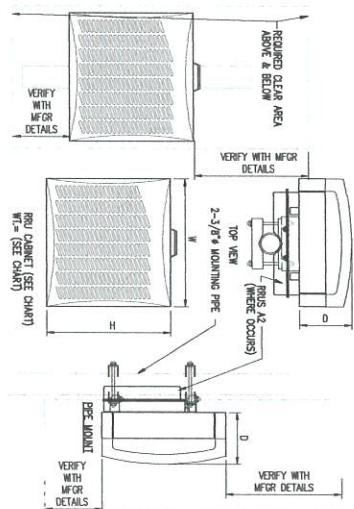
NEW SURGE SUPPRESSOR DETAIL

SCALE: N.T.S.	1
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TYPE	HEIGHT	WIDTH	DEPTH	WEIGHT
RRUS-32 B2	27.2"	12.1"	7.0"	60 LBS
RRUS-32 B30	27.2"	12.1"	7.0"	60 LBS
RRUS-32 B66	27.2"	12.1"	7.0"	60 LBS
RRUS-32 B66A	27.2"	12.1"	7.0"	60 LBS

NOTE: SEE RF SHEET FOR
RRU PLACEMENT

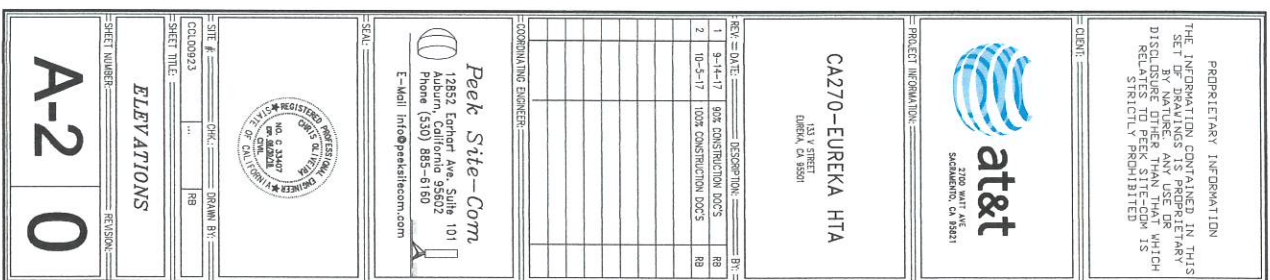


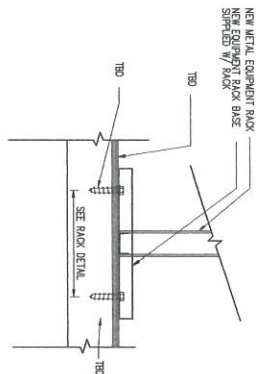
TYPE	HEIGHT	WIDTH	DEPTH	WEIGHT
RRU-11	17.3"	12.8"	7.19"	50 LBS
RRUS-E2	18.5"	20.4"	7.5"	50 LBS
RRU-12	18.5"	20.4"	7.5"	50 LBS
A2	15"	12.8"	3.5"	21 LBS
RRUS-4478 B14	17.3"	17.6"	7.19"	60 LBS

NOTE: SEE RF SHEET FOR
RRU PLACEMENT

RRUS DETAIL

SCALE: N.T.S. 2

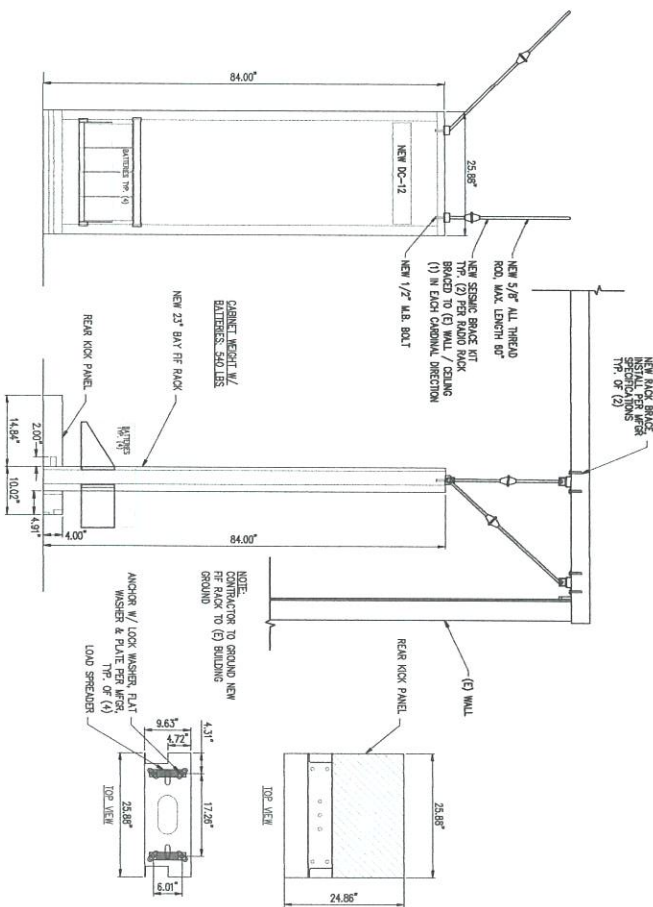




RACK BOLT-DOWN DETAIL

SCALE N.T.S.

1



NEW 23' RACK DETAIL

SCALE N.T.S.

2

PROPRIETARY INFORMATION
THE INFORMATION CONTAINED IN THIS SET OF DRAWINGS IS PROPRIETARY TO AT&T. NO PART OF THIS SET OF DRAWINGS IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF AT&T. ANY DISCLOSURE OTHER THAN THAT WHICH RELATES TO PEAK SITE-COM IS STRICTLY PROHIBITED.



PROJECT INFORMATION

CA270-EUREKA HTA
100 Y STREET
EUREKA, CA 95501

REV = DATE = DESCRIPTION = BY =

1	9-14-17	80% CONSTRUCTION DDC'S	RB
2	10-9-17	100% CONSTRUCTION DDC'S	RB

COORDINATING ENGINEER

Peek Site-Com
12852 Eppert Ave, Suite 101
Auburn, California 95602
Phone (530) 885-6160
E-Mail info@peeksitecom.com



SHEET # 00100923
CHK: RB
DRAWN BY: RB

STRUCTURAL DETAILS

SHEET NUMBER = REVISION

S-1 0



WESTERN
UTILITY / TELECOM, INC.

**120 ft. Magnum Tower Self Supporting Tower
Structural Analysis With Modifications**

**Prepared for:
PWM, Inc.
P.O. Box 1032
Eureka, CA 95502**

**Site: CCL00923 Eureka HTA
AT&T Equipment Upgrade
133 V Street
Eureka, CA 95501**

Analysis Results: Structure Acceptable*

*Results based on wind criteria and antenna
loading indicated within structural analysis report.

Structure Usage (After Mod Install):

Leg Members	- 97%
Diagonal Members	- 92%
Girt Members	- 83%
Foundation	- 95%

Analysis Performed By:



January 17, 2018

Western UT Project No. 17-0458

Thomas McMurray VI
PWM, Inc.
P.O. Box 1032
Eureka, CA 95502

Re: Site Number CCL00923 Eureka HTA – 133 V Street, Eureka, CA 95501.

Dear Mr. McMurray:

We have completed the structural analysis for the existing Self Supporting Tower, located at the above referenced site. The purpose of this analysis is to determine that the existing Self Supporting Tower design with the proposed modifications installed is in conformance with the ANSI/TIA-222 Rev G Addendum 2 standard and local building codes for the proposed antenna loads installation. Refer to the Review and Recommendations section at the end of this report for the analysis results.

Description of Structure:

The structure is a 120 ft. Magnum Tower Self Supporting Tower.

Refer to Magnum Tower original design calculations, project number 1602.00 dated February 1, 2001 for a detailed description of the structure.

Method of analysis:

The tower was analyzed using Semaan Engineering Solutions' software suite for communication structures. The structural analysis is performed using the SAPS finite element engine. The method is 3D, non-linear, which accounts for the second order geometric effects due to the displacements. It also treats guys as exact cable elements and therefore is ideal for guyed towers. The analysis was performed in conformance with **ANSI/TIA-222 Rev G Addendum 2 and local building codes for a basic wind speed of 85 mph with no ice (3-second gust), Exposure C.** This wind speed is equivalent to $V_{ult} = 110$ mph wind speed per the 2016 CBC. This is in conformance with the 2016 CBC Section 1609.1.1, Exception 5. Wind is applied to the structure, accessories and antennas.

Structure loading:

The following loads were used in the tower analysis:

Existing Antenna Loads:

Elev (ft)	Qty	Antennas	Mounts	Coax	Carrier
120.0	1	16' Omni	Leg Mount	(1) 7/8	HTA
114.0	1	6' Omni	Leg Mount	(1) 7/8	
110.0	3	56" x 8" Panel	Leg Mount	(6) 7/8	Sprint
94.0	3	RRUS11	Leg Mount	-	AT&T
85.5	1	Surge Suppressor DC6-48-60	Leg Mount	-	
67.0	1	Single Bay Dipole Loop	Leg Mount	(1) 1/2	HTA
50.0	1	2' Square Panel	Leg Mount	(1) 1/2	AT&T
46.5	1	Single Bay Dipole Loop	Leg Mount	(1) 1/2	HTA
37.0	1	4' Ø Std w/Radome	Dish Mount	(1) 1/2	AT&T
30.0	1	CCTV Camera	Leg Mount	(1) 1/4	HTA
28.0	2	CCTV Camera	Leg Mount	(1) 1" Conduit	
19.0	1	GPS Antenna	Leg Mount	(1) 1/4	
16.0	1	GPS Antenna	Leg Mount	(1) 1/4	

Proposed Antenna Loads:

Elev (ft)	Qty	Antennas	Mounts	Coax	Carrier	
97.0	1	Quintel QS6458-5	Leg Mount	(1) (N) Fiber Trunk, (2) (N) Pwr Trunks, (1) (E) Fiber Trunk & (2) (E) DC Power Trunks	AT&T	
	2	Commscope JAHH-65B-R3B	Leg Mount			
90.0	1	Quintel QS6458-5	Leg Mount			
	2	Commscope JAHH-65B-R3B	Leg Mount			
85.5	3	RRUS 32 B2	Leg Mount			
	3	RRUS 32 B66	Leg Mount			
	1	Surge Suppressor DC6-48-60	Leg Mount			
81.0	1	Quintel QS6458-5	Leg Mount			(12) 1 5/8
	2	Kathrein 800-10965K	Leg Mount			
	6	DTMA	Leg Mount			
77.75	3	RRUS 4478 B14	Leg Mount			

The (6) coax lines for Sprint's antennas at the 110' level are assumed to be installed on one tower face on two stacked rows such that only (3) of them are exposed to the wind, with the other (3) shielded behind them.

The (12) coax lines for AT&T's antennas at the 81' level are assumed to be installed on one tower face on two stacked rows such that only (6) of them are exposed to the wind, with the other (6) shielded behind them.

Results of Analysis:

Refer to the attached Computer Summary sheets for detailed analysis results.

Structure:

The existing Self Supporting Tower with the proposed modifications is structurally capable of supporting the existing and proposed antennas. The maximum structure usage is: 97.0% Legs, 92.0% Diagonals, and 93.0% Horizontals.

Maximum leg usage is: 107% (without mods) and 97% (with mods)

Foundation:

Twr Forces	Original Design Capacity	Current Analysis Reactions	% Of Design
OTM (ft.-kips)	810.0	769.4	95.0
Shear (Kips)	15.00	12.78	85.2

The structure base reactions resulting from this analysis do not exceed the ones shown on the original structure drawings.

Review and Recommendations:

Based on the analysis results, the existing structure with the proposed modifications meet the requirements per the ANSI/TIA-222 Rev G standards for a basic wind speed of 85 mph with no ice.



(E) 120' Magnum SS Tower @ CCL00923 Eureka HTA

Standard Engineering Conditions

This structural analysis is based on the accuracy of information supplied by the client. The results of our analysis also assume a properly installed and maintained tower, where the tower members are not damaged or corroded, and all connections are properly tightened.

It is the responsibility of the client to ensure that the information provided to Western Utility Telecom, Inc. is correct and complete. Western Utility Telecom, Inc. assumes that the structure has been installed in accordance with all Manufacturers' specifications and installation drawings.

Western Utility Telecom, Inc. has performed this analysis in accordance with the requirements of ANSI/TIA 222 Revision G Addendum 2 standards, unless otherwise instructed by the client. In the absence of wind speed criteria, Western Utility Telecom, Inc. will use that shown on the original design drawings, or the minimum wind speed as specified by ANSI/TIA 222 Addendum 2 Revision G standards.

All engineering methods used, and recommendations made by this firm are in accordance with generally accepted engineering principles and practices. If the current tower loading and conditions change or, are different than that considered in this report, it is recommended that the client immediately notify Western Utility Telecom, Inc. No warranty is expressed or implied by Western Utility Telecom, Inc., and disclaims any liability in connection with any damage or failure of any tower member if such a failure was to occur due to inadequacies in the design, materials, manufacturing, or erection of the structure.

Western Utility Telecom, Inc.

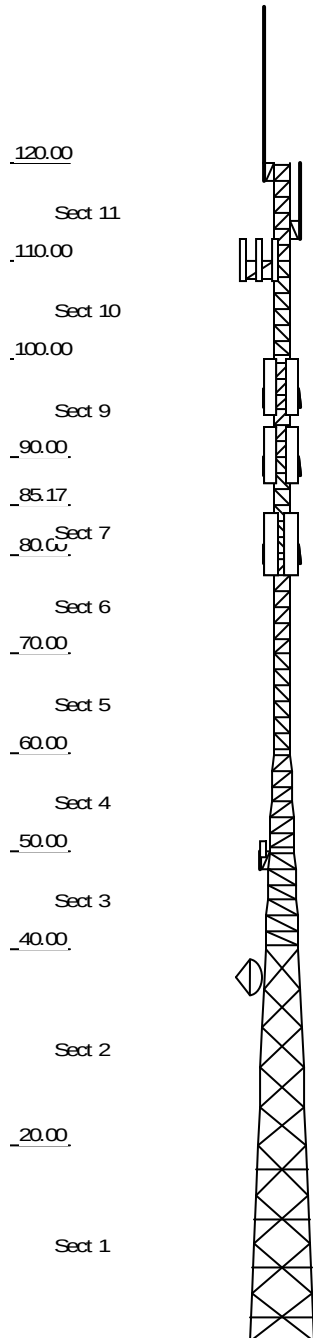
5032 Salem-Dallas Hwy

Salem, OR 97304

Ph: (503) 587-0101

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Loads: 85 mph no ice



Uplift 124.88 k Moment 769.29 ft-k
Vert 135.64 k Total Down 12.12 k
Horiz 8.76 k Total Shear 12.78 k

Job Information

Tower : HTA - Eureka-MOD

Location : 133 V Street, Eureka, CA 95501

Code: ANSI/TIA-222 Rev G

Shape : Triangle

Base Width : 6.75 ft

Client : PWM, Inc.

Top Width : 2.00 ft

Sections Properties

Section	Leg Members		Diagonal Members	Horizontal Members
1	PX	35ksi	4" DIA PIPE	SAE 36ksi 2X2X0.125
2	SPC	35ksi	L3x3/8 w/PX3½	SAE 36ksi 2X2X0.125
3	SOL	36ksi	2 1/4" SOLID	SOL 36ksi 1" SOLID
4	SOL	36ksi	2 1/4" SOLID	SOL 36ksi 7/8" SOLID
5	SPC	36ksi	L2x2x½ w/2" SR	SOL 36ksi 3/4" SOLID
6	SOL	36ksi	2" SOLID	SOL 36ksi 3/4" SOLID
7 - 9	SOL	36ksi	1 1/4" SOLID	SOL 36ksi 5/8" SOLID
10 - 11	SOL	36ksi	7/8" SOLID	SOL 36ksi 5/8" SOLID

Discrete Appurtenance

Elev (ft)	Type	Qty	Description
120.00	Whip	1	16' Omni
114.00	Whip	1	6' Omni
110.00	Panel	3	56" x 8" Panel
97.00	Panel	2	Commscope JAHH-65B-R3B
97.00	Panel	1	Quintel QS6458-5
94.00		3	RRUS11
90.00	Panel	2	Commscope JAHH-65B-R3B
90.00	Panel	1	Quintel QS6458-5
85.50		3	RRUS 32 B2
85.50		3	RRUS 32 B66
85.50		2	Surge Suppressor DC6-48-60
81.00		6	DTMA
81.00	Panel	2	Kathrein 800-10965K
81.00	Panel	1	Quintel QS6458-5
77.75		3	RRUS 4478 B14
67.00	Other	1	Single Bay Dipole Loop
62.00	Other	1	Obstruction Lights
50.00	Panel	1	2' Square Panel
46.50	Other	1	Single Bay Dipole Loop
37.00	Dish	1	4' Ø Std w/Radome
30.00		1	CCTV Camera
28.00		2	CCTV Camera
19.00	Other	1	GPS Antenna
16.00	Other	1	GPS Antenna

Linear Appurtenance

Elev (ft)		Qty	Description
From	To		
0.000	120.00	1	7/8" Coax
0.000	114.00	1	7/8" Coax
0.000	110.00	6	7/8" Coax
0.000	85.500	4	DC Pwr Trunk
0.000	85.500	2	2 1/2" Fiber Trunk
0.000	81.000	12	1 5/8" Coax
0.000	67.000	1	1/2" Coax
0.000	48.000	1	1/2" Coax
0.000	46.500	1	1/2" Coax
0.000	36.000	1	1/2" Coax
0.000	30.000	1	1/4" Coax
0.000	28.000	1	1" Conduit
0.000	19.000	1	1/4" Coax
0.000	16.000	1	1/4" Coax

Western Utility Telecom, Inc.

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Fx: (503) 316-1864
www.WesternUtilityTelecom.com

Site Number: HTA - Eureka-MOD

Location: 133 V Street, Eureka, CA 95501

Code: ANSI/TIA-222 Rev G

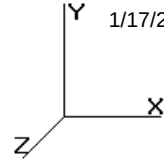
Struct Class : II

Exposure : C

Topo : 1

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1/17/2018 2:28:16 PM

**Section Forces****LoadCase 1.2D + 1.6W Normal - Pat1**

85.00 mph Normal to Face with No Ice - Pattern 1

Gust Response Factor 0.85

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Sect Seq	Wind		Total Flat	Total Round	Ice Round	Sol Ratio	Cf	Df	Dr	Ice	Eff	Linear	Ice	Total Weight	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
	Height (ft)	qz	Area (sqft)	Area (sqft)	Area (sqft)					Thick (in)	Area (sqft)	Area (sqft)	Area (sqft)						
10	115.0	20.49	0.00	2.89	0.00	0.14	2.81	1.00	1.00	0.00	1.64	1.29	0.00	185.4	0.0	128.12	25.98	154.10	
9	105.0	20.10	0.00	2.99	0.00	0.14	2.79	1.00	1.00	0.00	1.70	7.40	0.00	234.1	0.0	129.46	145.67	275.12	
8	95.00	19.68	0.00	3.51	0.00	0.17	2.71	1.00	1.00	0.00	2.00	7.40	0.00	303.3	0.0	145.08	142.63	287.71	
7	85.00	19.23	0.00	3.62	0.00	0.17	2.69	1.00	1.00	0.00	2.06	11.10	0.00	363.0	0.0	145.15	215.58	360.73	
6	75.00	18.73	0.00	4.92	0.00	0.23	2.51	1.00	1.00	0.00	2.85	25.63	0.00	780.7	0.0	182.26	534.57	716.84	
5	65.00	18.17	4.93	1.69	0.00	0.29	2.31	1.00	1.00	0.00	5.94	26.01	0.00	902.2	0.0	339.32	525.45	864.78	
4	55.00	17.54	0.00	6.05	0.00	0.23	2.49	1.00	1.00	0.00	3.52	26.17	0.00	974.0	0.0	208.68	510.09	718.77	
3	45.00	16.82	0.00	6.92	0.00	0.21	2.58	1.00	1.00	0.00	3.98	26.96	0.00	1,085.2	0.0	234.98	501.92	736.90	
2	30.00	15.44	24.49	0.00	0.00	0.26	2.41	1.00	1.00	0.00	24.49	56.41	0.00	2,327.7	0.0	1,241.03	959.42	2,200.45	
1	10.00	13.36	13.85	15.02	0.00	0.23	2.51	1.00	1.00	0.00	22.56	59.05	0.00	2,199.1	0.0	1,027.23	864.77	1,892.01	
														9,354.6	0.0				8,207.39

LoadCase 1.2D + 1.6W Normal - Pat2

85.00 mph Normal to Face with No Ice - Pattern 2

Gust Response Factor 0.85

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Sect Seq	Wind Height (ft)		qz	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)		
0	10	115.0	12.30	0.00	2.89	0.00	0.14	2.81	1.00	1.00	0.00	1.64	1.29	0.00	185.4	0.0	76.87	15.59	92.46		
0	9	105.0	12.06	0.00	2.99	0.00	0.14	2.79	1.00	1.00	0.00	1.70	7.40	0.00	234.1	0.0	77.67	87.40	165.07		
0	8	95.00	11.81	0.00	3.51	0.00	0.17	2.71	1.00	1.00	0.00	2.00	7.40	0.00	303.3	0.0	87.05	85.58	172.63		
0	7	85.00	11.54	0.00	3.62	0.00	0.17	2.69	1.00	1.00	0.00	2.06	11.10	0.00	363.0	0.0	87.09	129.35	216.44		
0	6	75.00	11.24	0.00	4.92	0.00	0.23	2.51	1.00	1.00	0.00	2.85	25.63	0.00	780.7	0.0	109.36	320.74	430.10		
0	5	65.00	10.90	4.93	1.69	0.00	0.29	2.31	1.00	1.00	0.00	5.94	26.01	0.00	902.2	0.0	203.59	315.27	518.87		
0	4	55.00	10.53	0.00	6.05	0.00	0.23	2.49	1.00	1.00	0.00	3.52	26.17	0.00	974.0	0.0	125.21	306.05	431.26		
0	3	45.00	10.09	0.00	6.92	0.00	0.21	2.58	1.00	1.00	0.00	3.98	26.96	0.00	1,085.2	0.0	140.99	301.15	442.14		
0	2	30.00	9.27	24.49	0.00	0.00	0.26	2.41	1.00	1.00	0.00	24.49	56.41	0.00	2,327.7	0.0	744.62	575.65	1,320.27		
0	1	10.00	8.02	13.85	15.02	0.00	0.23	2.51	1.00	1.00	0.00	22.56	59.05	0.00	2,199.1	0.0	616.34	518.86	1,135.20		
																9,354.6	0.0				4,924.44

LoadCase 1.2D + 1.6W Normal - Pat3

85.00 mph Normal to Face with No Ice - Pattern 3

Gust Response Factor 0.85

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Sect Seq	Height (ft)	qz	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
10	115.0	20.49	0.00	2.89	0.00	0.14	2.81	1.00	1.00	0.00	1.64	1.29	0.00	185.4	0.0	128.12	25.98	154.10

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Site Number: HTA - Eureka-MOD

Location: 133 V Street, Eureka, CA 95501

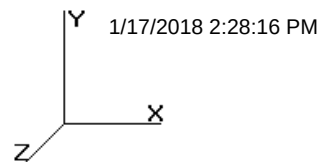
Code: ANSI/TIA-222 Rev G

Struct Class : II

Exposure : C

Topo : 1

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**Section Forces**

9	105.0	20.10	0.00	2.99	0.00	0.14	2.79	1.00	1.00	0.00	1.70	7.40	0.00	234.1	0.0	129.46	145.67	275.12
8	95.00	19.68	0.00	3.51	0.00	0.17	2.71	1.00	1.00	0.00	2.00	7.40	0.00	303.3	0.0	145.08	142.63	287.71
7	85.00	19.23	0.00	3.62	0.00	0.17	2.69	1.00	1.00	0.00	2.06	11.10	0.00	363.0	0.0	145.15	215.58	360.73
6	75.00	18.73	0.00	4.92	0.00	0.23	2.51	1.00	1.00	0.00	2.85	25.63	0.00	780.7	0.0	182.26	534.57	716.84
5	65.00	18.17	4.93	1.69	0.00	0.29	2.31	1.00	1.00	0.00	5.94	26.01	0.00	902.2	0.0	339.32	525.45	864.78
4	55.00	17.54	0.00	6.05	0.00	0.23	2.49	1.00	1.00	0.00	3.52	26.17	0.00	974.0	0.0	208.68	510.09	718.77
3	45.00	16.82	0.00	6.92	0.00	0.21	2.58	1.00	1.00	0.00	3.98	26.96	0.00	1,085.2	0.0	234.98	501.92	736.90
2	30.00	15.44	24.49	0.00	0.00	0.26	2.41	1.00	1.00	0.00	24.49	56.41	0.00	2,327.7	0.0	1,241.03	959.42	2,200.45
1	10.00	13.36	13.85	15.02	0.00	0.23	2.51	1.00	1.00	0.00	22.56	59.05	0.00	2,199.1	0.0	1,027.23	864.77	1,892.01
														9,354.6	0.0			
																	8,207.39	

LoadCase 1.2D + 1.6W 60 deg - Pat1

85.00 mph 60 deg with No Ice - Pattern 1

Gust Response Factor 0.85

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Sect Seq	Wind Height (ft)		Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice		Struct Force (lb)	Linear Force (lb)	Total Force (lb)			
													Linear Area (sqft)	Total Weight (lb)				Weight Ice (lb)		
10	115.0	20.49	0.00	2.89	0.00	0.14	2.81	0.80	1.00	0.00	1.64	1.29	0.00	185.4	0.0	128.12	25.98	154.10		
9	105.0	20.10	0.00	2.99	0.00	0.14	2.79	0.80	1.00	0.00	1.70	7.40	0.00	234.1	0.0	129.46	145.67	275.12		
8	95.00	19.68	0.00	3.51	0.00	0.17	2.71	0.80	1.00	0.00	2.00	7.40	0.00	303.3	0.0	145.08	142.63	287.71		
7	85.00	19.23	0.00	3.62	0.00	0.17	2.69	0.80	1.00	0.00	2.06	11.10	0.00	363.0	0.0	145.15	215.58	360.73		
6	75.00	18.73	0.00	4.92	0.00	0.23	2.51	0.80	1.00	0.00	2.85	25.63	0.00	780.7	0.0	182.26	534.57	716.84		
5	65.00	18.17	4.93	1.69	0.00	0.29	2.31	0.80	1.00	0.00	4.96	26.01	0.00	902.2	0.0	283.00	525.45	808.45		
4	55.00	17.54	0.00	6.05	0.00	0.23	2.49	0.80	1.00	0.00	3.52	26.17	0.00	974.0	0.0	208.68	510.09	718.77		
3	45.00	16.82	0.00	6.92	0.00	0.21	2.58	0.80	1.00	0.00	3.98	26.96	0.00	1,085.2	0.0	234.98	501.92	736.90		
2	30.00	15.44	24.49	0.00	0.00	0.26	2.41	0.80	1.00	0.00	19.59	56.41	0.00	2,327.7	0.0	992.83	959.42	1,952.24		
1	10.00	13.36	13.85	15.02	0.00	0.23	2.51	0.80	1.00	0.00	19.79	59.05	0.00	2,199.1	0.0	901.09	864.77	1,765.86		
														9,354.6	0.0					
																	7,776.72			

LoadCase 1.2D + 1.6W 60 deg - Pat2

85.00 mph 60 deg with No Ice - Pattern 2

Gust Response Factor 0.85

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Sect Seq	Wind Height (ft)		qz	Total		Ice		Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice		Struct Force (lb)	Linear Force (lb)	Total Force (lb)
				Flat Area (sqft)	Round Area (sqft)	Round Area (sqft)	Total Weight (lb)								Weight Ice (lb)				
0	10	115.0	12.30	0.00	2.89	0.00	0.14	2.81	0.80	1.00	0.00	1.64	1.29	0.00	185.4	0.0	76.87	15.59	92.46
0	9	105.0	12.06	0.00	2.99	0.00	0.14	2.79	0.80	1.00	0.00	1.70	7.40	0.00	234.1	0.0	77.67	87.40	165.07
0	8	95.00	11.81	0.00	3.51	0.00	0.17	2.71	0.80	1.00	0.00	2.00	7.40	0.00	303.3	0.0	87.05	85.58	172.63
0	7	85.00	11.54	0.00	3.62	0.00	0.17	2.69	0.80	1.00	0.00	2.06	11.10	0.00	363.0	0.0	87.09	129.35	216.44
0	6	75.00	11.24	0.00	4.92	0.00	0.23	2.51	0.80	1.00	0.00	2.85	25.63	0.00	780.7	0.0	109.36	320.74	430.10
0	5	65.00	10.90	4.93	1.69	0.00	0.29	2.31	0.80	1.00	0.00	4.96	26.01	0.00	902.2	0.0	169.80	315.27	485.07
0	4	55.00	10.53	0.00	6.05	0.00	0.23	2.49	0.80	1.00	0.00	3.52	26.17	0.00	974.0	0.0	125.21	306.05	431.26
0	3	45.00	10.09	0.00	6.92	0.00	0.21	2.58	0.80	1.00	0.00	3.98	26.96	0.00	1,085.2	0.0	140.99	301.15	442.14
0	2	30.00	9.27	24.49	0.00	0.00	0.26	2.41	0.80	1.00	0.00	19.59	56.41	0.00	2,327.7	0.0	595.70	575.65	1,171.35
0	1	10.00	8.02	13.85	15.02	0.00	0.23	2.51	0.80	1.00	0.00	19.79	59.05	0.00	2,199.1	0.0	540.65	518.86	1,059.52
																9,354.6	0.0		
																		4,666.03	

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Site Number: HTA - Eureka-MOD

Location: 133 V Street, Eureka, CA 95501

Code: ANSI/TIA-222 Rev G

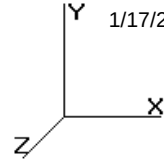
Struct Class : II

Exposure : C

Topo : 1

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**Section Forces****LoadCase 1.2D + 1.6W 60 deg - Pat3**

85.00 mph 60 deg with No Ice - Pattern 3

Gust Response Factor 0.85

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Sect Seq	Wind Height (ft)		qz	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)		
10	115.0	20.49		0.00	2.89	0.00	0.14	2.81	0.80	1.00	0.00	1.64	1.29	0.00	185.4	0.0	128.12	25.98	154.10		
9	105.0	20.10		0.00	2.99	0.00	0.14	2.79	0.80	1.00	0.00	1.70	7.40	0.00	234.1	0.0	129.46	145.67	275.12		
8	95.00	19.68		0.00	3.51	0.00	0.17	2.71	0.80	1.00	0.00	2.00	7.40	0.00	303.3	0.0	145.08	142.63	287.71		
7	85.00	19.23		0.00	3.62	0.00	0.17	2.69	0.80	1.00	0.00	2.06	11.10	0.00	363.0	0.0	145.15	215.58	360.73		
6	75.00	18.73		0.00	4.92	0.00	0.23	2.51	0.80	1.00	0.00	2.85	25.63	0.00	780.7	0.0	182.26	534.57	716.84		
5	65.00	18.17		4.93	1.69	0.00	0.29	2.31	0.80	1.00	0.00	4.96	26.01	0.00	902.2	0.0	283.00	525.45	808.45		
4	55.00	17.54		0.00	6.05	0.00	0.23	2.49	0.80	1.00	0.00	3.52	26.17	0.00	974.0	0.0	208.68	510.09	718.77		
3	45.00	16.82		0.00	6.92	0.00	0.21	2.58	0.80	1.00	0.00	3.98	26.96	0.00	1,085.2	0.0	234.98	501.92	736.90		
2	30.00	15.44		24.49	0.00	0.00	0.26	2.41	0.80	1.00	0.00	19.59	56.41	0.00	2,327.7	0.0	992.83	959.42	1,952.24		
1	10.00	13.36		13.85	15.02	0.00	0.23	2.51	0.80	1.00	0.00	19.79	59.05	0.00	2,199.1	0.0	901.09	864.77	1,765.86		
																9,354.6	0.0				7,776.72

LoadCase 1.2D + 1.6W 90 deg - Pat1

85.00 mph 90 deg with No Ice - Pattern 1

Gust Response Factor 0.85

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Sect Seq	Wind Height (ft)		Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
10	115.0	20.49	0.00	2.89	0.00	0.14	2.81	0.85	1.00	0.00	1.64	1.29	0.00	185.4	0.0	128.12	25.98	154.10	
9	105.0	20.10	0.00	2.99	0.00	0.14	2.79	0.85	1.00	0.00	1.70	7.40	0.00	234.1	0.0	129.46	145.67	275.12	
8	95.00	19.68	0.00	3.51	0.00	0.17	2.71	0.85	1.00	0.00	2.00	7.40	0.00	303.3	0.0	145.08	142.63	287.71	
7	85.00	19.23	0.00	3.62	0.00	0.17	2.69	0.85	1.00	0.00	2.06	11.10	0.00	363.0	0.0	145.15	215.58	360.73	
6	75.00	18.73	0.00	4.92	0.00	0.23	2.51	0.85	1.00	0.00	2.85	25.63	0.00	780.7	0.0	182.26	534.57	716.84	
5	65.00	18.17	4.93	1.69	0.00	0.29	2.31	0.85	1.00	0.00	5.20	26.01	0.00	902.2	0.0	297.08	525.45	822.53	
4	55.00	17.54	0.00	6.05	0.00	0.23	2.49	0.85	1.00	0.00	3.52	26.17	0.00	974.0	0.0	208.68	510.09	718.77	
3	45.00	16.82	0.00	6.92	0.00	0.21	2.58	0.85	1.00	0.00	3.98	26.96	0.00	1,085.2	0.0	234.98	501.92	736.90	
2	30.00	15.44	24.49	0.00	0.00	0.26	2.41	0.85	1.00	0.00	20.82	56.41	0.00	2,327.7	0.0	1,054.88	959.42	2,014.29	
1	10.00	13.36	13.85	15.02	0.00	0.23	2.51	0.85	1.00	0.00	20.48	59.05	0.00	2,199.1	0.0	932.62	864.77	1,797.40	
														9,354.6	0.0				7,884.39

LoadCase 1.2D + 1.6W 90 deg - Pat2

85.00 mph 90 deg with No Ice - Pattern 2

Gust Response Factor 0.85

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Sect Seq	Wind Height (ft)	qz	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
0	10	115.0	12.30	0.00	2.89	0.00	0.14	2.81	0.85	1.00	0.00	1.64	1.29	0.00	185.4	0.0	76.87	15.59	92.46

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Site Number: HTA - Eureka-MOD

Location: 133 V Street, Eureka, CA 95501

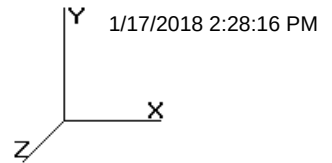
Code: ANSI/TIA-222 Rev G

Struct Class : II

Exposure : C

Topo : 1

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**Section Forces**

0	9	105.0	12.06	0.00	2.99	0.00	0.14	2.79	0.85	1.00	0.00	1.70	7.40	0.00	234.1	0.0	77.67	87.40	165.07
0	8	95.00	11.81	0.00	3.51	0.00	0.17	2.71	0.85	1.00	0.00	2.00	7.40	0.00	303.3	0.0	87.05	85.58	172.63
0	7	85.00	11.54	0.00	3.62	0.00	0.17	2.69	0.85	1.00	0.00	2.06	11.10	0.00	363.0	0.0	87.09	129.35	216.44
0	6	75.00	11.24	0.00	4.92	0.00	0.23	2.51	0.85	1.00	0.00	2.85	25.63	0.00	780.7	0.0	109.36	320.74	430.10
0	5	65.00	10.90	4.93	1.69	0.00	0.29	2.31	0.85	1.00	0.00	5.20	26.01	0.00	902.2	0.0	178.25	315.27	493.52
0	4	55.00	10.53	0.00	6.05	0.00	0.23	2.49	0.85	1.00	0.00	3.52	26.17	0.00	974.0	0.0	125.21	306.05	431.26
0	3	45.00	10.09	0.00	6.92	0.00	0.21	2.58	0.85	1.00	0.00	3.98	26.96	0.00	1,085.2	0.0	140.99	301.15	442.14
0	2	30.00	9.27	24.49	0.00	0.00	0.26	2.41	0.85	1.00	0.00	20.82	56.41	0.00	2,327.7	0.0	632.93	575.65	1,208.58
0	1	10.00	8.02	13.85	15.02	0.00	0.23	2.51	0.85	1.00	0.00	20.48	59.05	0.00	2,199.1	0.0	559.57	518.86	1,078.44
															9,354.6	0.0			
																		4,730.63	

LoadCase 1.2D + 1.6W 90 deg - Pat3

85.00 mph 90 deg with No Ice - Pattern 3

Gust Response Factor 0.85

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Sect Seq	Wind Height (ft)		qz	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
10	115.0	20.49		0.00	2.89	0.00	0.14	2.81	0.85	1.00	0.00	1.64	1.29	0.00	185.4	0.0	128.12	25.98	154.10	
9	105.0	20.10		0.00	2.99	0.00	0.14	2.79	0.85	1.00	0.00	1.70	7.40	0.00	234.1	0.0	129.46	145.67	275.12	
8	95.00	19.68		0.00	3.51	0.00	0.17	2.71	0.85	1.00	0.00	2.00	7.40	0.00	303.3	0.0	145.08	142.63	287.71	
7	85.00	19.23		0.00	3.62	0.00	0.17	2.69	0.85	1.00	0.00	2.06	11.10	0.00	363.0	0.0	145.15	215.58	360.73	
6	75.00	18.73		0.00	4.92	0.00	0.23	2.51	0.85	1.00	0.00	2.85	25.63	0.00	780.7	0.0	182.26	534.57	716.84	
5	65.00	18.17		4.93	1.69	0.00	0.29	2.31	0.85	1.00	0.00	5.20	26.01	0.00	902.2	0.0	297.08	525.45	822.53	
4	55.00	17.54		0.00	6.05	0.00	0.23	2.49	0.85	1.00	0.00	3.52	26.17	0.00	974.0	0.0	208.68	510.09	718.77	
3	45.00	16.82		0.00	6.92	0.00	0.21	2.58	0.85	1.00	0.00	3.98	26.96	0.00	1,085.2	0.0	234.98	501.92	736.90	
2	30.00	15.44		24.49	0.00	0.00	0.26	2.41	0.85	1.00	0.00	20.82	56.41	0.00	2,327.7	0.0	1,054.88	959.42	2,014.29	
1	10.00	13.36		13.85	15.02	0.00	0.23	2.51	0.85	1.00	0.00	20.48	59.05	0.00	2,199.1	0.0	932.62	864.77	1,797.40	
															9,354.6	0.0				7,884.39

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Site Number: HTA - Eureka-MOD

Location: 133 V Street, Eureka, CA 95501

Code: ANSI/TIA-222 Rev G

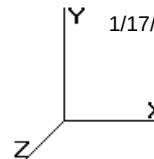
Struct Class : II

Exposure : C

Topo : 1

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**Tower Loading****Discrete Appurtenance Properties**

Attach Elev (ft)	Description	Qty	No Ice		Ice		Len (ft)	Width (in)	Depth (in)	Ka	Orientation Factor	Vert Ecc (ft)
			Weight (lb)	CaAa (sf)	Weight (lb)	CaAa (sf)						
120.00	16' Omni	1	111.00	4.500	0.00	0.000	16.00	0.000	0.000	1.00	1.00	8.000
114.00	6' Omni	1	99.00	3.000	0.00	0.000	6.000	0.000	0.000	1.00	1.00	3.000
110.00	56" x 8" Panel	3	35.00	4.360	0.00	0.000	4.667	8.000	2.400	0.80	1.00	0.000
97.00	Commscope JAHH-65B-R3B	2	63.30	9.660	0.00	0.000	6.000	13.80	8.200	0.80	1.00	0.000
97.00	Quintel QS6458-5	1	102.00	11.830	0.00	0.000	6.000	16.90	9.600	0.80	1.00	0.000
94.00	RRUS11	3	44.00	3.670	0.00	0.000	2.080	15.07	6.650	0.80	1.00	0.000
90.00	Commscope JAHH-65B-R3B	2	63.30	9.660	0.00	0.000	6.000	13.80	8.200	0.80	1.00	0.000
90.00	Quintel QS6458-5	1	102.00	11.830	0.00	0.000	6.000	16.90	9.600	0.80	1.00	0.000
85.50	RRUS 32 B2	3	60.00	3.200	0.00	0.000	2.260	12.10	7.000	0.80	1.00	0.000
85.50	RRUS 32 B66	3	60.00	3.200	0.00	0.000	2.260	12.10	7.000	0.80	1.00	0.000
85.50	Surge Suppressor DC6-48-60	2	32.80	2.670	0.00	0.000	2.000	10.00	10.00	1.00	1.00	0.000
81.00	DTMA	6	20.00	1.750	0.00	0.000	1.000	15.00	3.800	0.80	1.00	0.000
81.00	Kathrein 800-10965K	2	109.00	15.300	0.00	0.000	6.560	20.00	6.900	0.80	1.00	0.000
81.00	Quintel QS6458-5	1	102.00	11.830	0.00	0.000	6.000	16.90	9.600	0.80	1.00	0.000
77.75	RRUS 4478 B14	3	60.00	3.000	0.00	0.000	1.440	17.80	17.19	0.80	1.00	0.000
67.00	Single Bay Dipole Loop	1	8.30	2.880	0.00	0.000	5.000	21.00	3.000	1.00	1.00	2.500
62.00	Obstruction Lights	1	20.00	2.000	0.00	0.000	0.000	0.000	0.000	1.00	1.00	0.000
50.00	2' Square Panel	1	40.00	5.600	0.00	0.000	2.000	24.00	6.000	1.00	1.00	0.000
46.50	Single Bay Dipole Loop	1	8.30	2.880	0.00	0.000	5.000	21.00	3.000	1.00	1.00	2.500
37.00	4' Ø Std w/Radome	1	119.00	10.850	0.00	0.000	4.000	0.000	0.000	1.00	1.00	0.000
30.00	CCTV Camera	1	45.00	2.000	0.00	0.000	0.000	0.000	0.000	1.00	1.00	0.000
28.00	CCTV Camera	2	45.00	2.000	0.00	0.000	0.000	0.000	0.000	1.00	1.00	0.000
19.00	GPS Antenna	1	10.00	0.150	0.00	0.000	0.000	0.000	0.000	1.00	1.00	0.000
16.00	GPS Antenna	1	10.00	0.150	0.00	0.000	0.000	0.000	0.000	1.00	1.00	0.000
Totals		44	2300.40		0.00		Number of Appurtenances : 24					

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	120.00	7/8" Coax	1	1.11	0.52	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	114.00	7/8" Coax	1	1.11	0.52	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	110.00	7/8" Coax	6	1.11	0.52	50	Lin App	Block	0.00	N	1.00	1.00	0.00
0.00	85.50	2 1/2" Fiber Trunk	2	2.50	1.50	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	85.50	DC Pwr Trunk	4	1.55	0.66	50	Lin App	Block	0.00	N	1.00	0.00	0.00
0.00	81.00	1 5/8" Coax	12	1.98	1.04	50	Lin App	Block	0.00	N	1.00	1.00	0.00
0.00	67.00	1/2" Coax	1	0.65	0.16	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	48.00	1/2" Coax	1	0.65	0.16	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	46.50	1/2" Coax	1	0.65	0.16	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	36.00	1/2" Coax	1	0.65	0.16	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	30.00	1/4" Coax	1	0.35	0.08	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	28.00	1" Conduit	1	1.11	0.52	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	19.00	1/4" Coax	1	0.35	0.08	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	16.00	1/4" Coax	1	0.35	0.08	0	Lin App	Individual	0.00	N	1.00	1.00	0.00

Western Utility Telecom, Inc.

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Salem, OR 97304
Ph: (503) 587-0101
Fx: (503) 316-1864
www.WesternUtilityTelecom.com

Site Number: HTA - Eureka-MOD

Location: 133 V Street, Eureka, CA 95501

Code: ANSI/TIA-222 Rev G

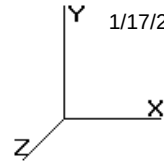
Struct Class : II

Exposure : C

Topo : 1

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**Force/Stress Summary**

Section: 1		4" Section		Bot Elev (ft): 0.00				Height (ft): 20.000															
				Force		Len		Bracing %		F'y		phi		Num		Num		Shear		Bear		Use	
				(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%	Controls					
LEG	PX - 4" DIA PIPE	-133.46	1.2D + 1.6W	5.01	50	50	50	19.3	35.0	136.30	0	0	0.00	0.00	97	Member X							
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0								
DIAG	SAE - 2X2X0.125	-1.80	1.2D + 1.6W	8.243	75	50	50	124.3	36.0	6.90	1	1	10.04	6.96	26	Member Z							
Max Tension Member				Force	Load Case	Fy	Fu	phi	Pn	Num	Num	Shear	Bear	Use	Controls								
				(kip)		(ksi)	(ksi)	(kip)	Bolts	Holes	Cap (kip)	Cap (kip)	%										
LEG	PX - 4" DIA PIPE	123.33	1.2D + 1.6W 60	35	60	138.91	0	0	0.00	0.00	88	Member											
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0												
DIAG	SAE - 2X2X0.125	1.66	1.2D + 1.6W 60	36	58	13.11	1	1	0.00	6.96	12	Member											

Section: 2		3.5" Section		Bot Elev (ft): 20.00				Height (ft): 20.000															
				Force		Len		Bracing %		F'y		phi		Num		Num		Shear		Bear		Use	
				(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%	Controls					
LEG	SPC - L3x3/8 w/PX3½	-120.97	1.2D + 1.6W	4.00	100	100	100	31.3	35.0	166.26	0	0	0.00	0.00	72	Member X							
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0								
DIAG	SAE - 2X2X0.125	-1.35	1.2D + 1.6W 60	6.411	100	100	100	193.3	36.0	2.90	1	1	10.04	6.96	46	Member Z							
Max Tension Member				Force	Load Case	Fy	Fu	phi	Pn	Num	Num	Shear	Bear	Use	Controls								
				(kip)		(ksi)	(ksi)	(kip)	Bolts	Holes	Cap (kip)	Cap (kip)	%										
LEG	SPC - L3x3/8 w/PX3½	112.77	1.2D + 1.6W 60	35	60	174.83	0	0	0.00	0.00	64	Member											
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0												
DIAG	SAE - 2X2X0.125	1.24	1.2D + 1.6W 60	36	58	13.11	1	1	0.00	6.96	9	Member											

Section: 3		2.25" Lwr Section		Bot Elev (ft): 40.00				Height (ft): 10.000															
				Force		Len		Bracing %		F'y		phi		Num		Num		Shear		Bear		Use	
				(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%	Controls					
LEG	SOL - 2 1/4" SOLID	-109.63	1.2D + 1.6W	1.56	100	100	100	33.2	36.0	121.55	0	0	0.00	0.00	90	Member X							
HORIZ	SOL - 3/4" SOLID	-0.84	1.2D + 1.6W 90	3.557	100	100	100	159.3	36.0	3.93	0	0	0.00	0.00	21	Member X							
DIAG	SOL - 1" SOLID	-0.57	1.2D + 1.6W	3.714	100	100	100	124.8	36.0	11.22	0	0	0.00	0.00	5	Member X							
Max Tension Member				Force	Load Case	Fy	Fu	phi	Pn	Num	Num	Shear	Bear	Use	Controls								
				(kip)		(ksi)	(ksi)	(kip)	Bolts	Holes	Cap (kip)	Cap (kip)	%										
LEG	SOL - 2 1/4" SOLID	103.76	1.2D + 1.6W 60	36	58	128.83	0	0	0.00	0.00	80	Member											
HORIZ	SOL - 3/4" SOLID	0.49	1.2D + 1.6W	36	58	14.31	0	0	0.00	0.00	3	Member											
DIAG	SOL - 1" SOLID	1.12	1.2D + 1.6W 60	36	58	25.45	0	0	0.00	0.00	4	Member											

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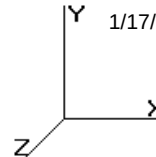
Struct Class : II

Exposure : C

Topo : 1

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**Force/Stress Summary**

Section: 4 2.25" Upr Section Bot Elev (ft): 50.00 Height (ft): 10.000															
		Force		Len	Bracing %			F'y	phi	Num	Num	Shear	Bear	Use	
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Pn	Bolts	Holes	phiRnv	phiRn	%
Max Compression Member															Controls
LEG	SOL - 2 1/4" SOLID	-106.46	1.2D + 1.6W	1.56	100	100	100	33.2	36.0	121.55	0	0	0.00	0.00	87 Member X
HORIZ	SOL - 3/4" SOLID	-0.92	1.2D + 1.6W	2.027	100	100	100	90.8	36.0	9.28	0	0	0.00	0.00	9 Member X
DIAG	SOL - 7/8" SOLID	-1.67	1.2D + 1.6W 90	2.604	100	100	100	100.0	36.0	11.51	0	0	0.00	0.00	14 Member X
Max Tension Member		Force	Load Case	Fy	Fu	phi	Pn	Num	Num	Shear	Bear	Use			
		(kip)		(ksi)	(ksi)	(kip)	Bolts	Holes		Cap (kip)	Cap (kip)	%	Controls		
LEG	SOL - 2 1/4" SOLID	101.29	1.2D + 1.6W 60	36	58	128.83	0	0		0.00	0.00	78	Member		
HORIZ	SOL - 3/4" SOLID	1.02	1.2D + 1.6W	36	58	14.31	0	0		0.00	0.00	7	Member		
DIAG	SOL - 7/8" SOLID	0.77	1.2D + 1.6W	36	58	19.48	0	0		0.00	0.00	3	Member		

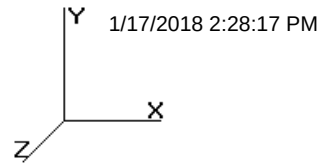
Section: 5 2" Vrt Section Bot Elev (ft): 60.00 Height (ft): 10.000															
		Force		Len	Bracing %			F'y	phi	Num	Num	Shear	Bear	Use	
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Pn	Bolts	Holes	phiRnv	phiRn	%
Max Compression Member															Controls
LEG	SPC - L2x2x1/4W/2" SR	-104.89	1.2D + 1.6W	0.33	100	100	100	3.0	36.0	131.80	0	0	0.00	0.00	79 Member Z
HORIZ	SOL - 5/8" SOLID	-4.52	1.2D + 1.6W 60	2.000	100	100	100	107.7	36.0	5.40	0	0	0.00	0.00	83 Member X
DIAG	SOL - 3/4" SOLID	-6.58	1.2D + 1.6W	2.568	100	100	100	115.0	36.0	7.13	0	0	0.00	0.00	92 Member X
Max Tension Member		Force	Load Case	Fy	Fu	phi	Pn	Num	Num	Shear	Bear	Use			
		(kip)		(ksi)	(ksi)	(kip)	Bolts	Holes		Cap (kip)	Cap (kip)	%	Controls		
LEG	SPC - L2x2x1/4W/2" SR	100.02	1.2D + 1.6W 60	36	58	131.87	0	0		0.00	0.00	75	Member		
HORIZ	SOL - 5/8" SOLID	4.03	1.2D + 1.6W	36	58	9.94	0	0		0.00	0.00	40	Member		
DIAG	SOL - 3/4" SOLID	7.06	1.2D + 1.6W 60	36	58	14.31	0	0		0.00	0.00	49	Member		

Section: 6 2" Vrt Section Bot Elev (ft): 70.00 Height (ft): 10.000															
		Force		Len	Bracing %			F'y	phi	Num	Num	Shear	Bear	Use	
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Pn	Bolts	Holes	phiRnv	phiRn	%
Max Compression Member															Controls
LEG	SOL - 2" SOLID	-66.41	1.2D + 1.6W	1.61	100	100	100	38.7	36.0	94.03	0	0	0.00	0.00	70 Member X
HORIZ	SOL - 5/8" SOLID	-3.47	1.2D + 1.6W 90	2.000	100	100	100	107.7	36.0	5.40	0	0	0.00	0.00	64 Member X
DIAG	SOL - 3/4" SOLID	-5.91	1.2D + 1.6W 60	2.568	100	100	100	115.0	36.0	7.13	0	0	0.00	0.00	82 Member X
Max Tension Member		Force	Load Case	Fy	Fu	phi	Pn	Num	Num	Shear	Bear	Use			
		(kip)		(ksi)	(ksi)	(kip)	Bolts	Holes		Cap (kip)	Cap (kip)	%	Controls		
LEG	SOL - 2" SOLID	62.90	1.2D + 1.6W 60	36	58	101.74	0	0		0.00	0.00	61	Member		
HORIZ	SOL - 5/8" SOLID	3.83	1.2D + 1.6W 60	36	58	9.94	0	0		0.00	0.00	38	Member		
DIAG	SOL - 3/4" SOLID	5.19	1.2D + 1.6W	36	58	14.31	0	0		0.00	0.00	36	Member		

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 Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure : C
 Topo : 1

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Force/Stress Summary

Section: 7		1.25" Vrt Section		Bot Elev (ft): 80.00				Height (ft): 10.000								
		Force		Len	Bracing %			F'y	phi	Num	Num	Shear	Bear	Use		
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Pn	Bolts	Holes	phiRnv	phiRn	%	Controls
Max Compression Member																
LEG	SOL - 1 1/4" SOLID	-36.78	1.2D + 1.6W	0.33	50	50	50	6.4	36.0	39.68	0	0	0.00	0.00	92	Member X
HORIZ SOL - 5/8" SOLID		-2.55	1.2D + 1.6W 60	2.000	100	100	100	107.7	36.0	5.40	0	0	0.00	0.00	47	Member X
DIAG SOL - 5/8" SOLID		-3.18	1.2D + 1.6W	2.568	100	100	100	138.3	36.0	3.63	0	0	0.00	0.00	87	Member X
Max Tension Member		Force		Fy	Fu	phi	Pn	Num	Num	Shear		Bear	Use			
		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		Cap (kip)		Cap (kip)	%		Controls	
LEG	SOL - 1 1/4" SOLID	33.53	1.2D + 1.6W 60	36	58	39.76	0	0		0.00		0.00	84		Member	
HORIZ SOL - 5/8" SOLID		2.21	1.2D + 1.6W	36	58	9.94	0	0		0.00		0.00	22		Member	
DIAG SOL - 5/8" SOLID		3.61	1.2D + 1.6W 60	36	58	9.94	0	0		0.00		0.00	36		Member	

Section: 8		1.25" Vrt Section		Bot Elev (ft): 90.00				Height (ft): 10.000								
		Force		Len	Bracing %			F'y	phi	Num	Num	Shear	Bear	Use		
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Pn	Bolts	Holes	phiRnv	phiRn	%	Controls
Max Compression Member																
LEG	SOL - 1 1/4" SOLID	-16.19	1.2D + 1.6W	1.61	50	50	50	30.9	36.0	37.81	0	0	0.00	0.00	42	Member X
HORIZ SOL - 5/8" SOLID		-1.26	1.2D + 1.6W	2.000	100	100	100	107.7	36.0	5.40	0	0	0.00	0.00	23	Member X
DIAG SOL - 5/8" SOLID		-1.83	1.2D + 1.6W 60	2.568	100	100	100	138.3	36.0	3.63	0	0	0.00	0.00	50	Member X
Max Tension Member		Force		Fy	Fu	phi	Pn	Num	Num	Shear		Bear	Use			
		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		Cap (kip)		Cap (kip)	%		Controls	
LEG	SOL - 1 1/4" SOLID	14.19	1.2D + 1.6W 60	36	58	39.76	0	0		0.00		0.00	35		Member	
HORIZ SOL - 5/8" SOLID		1.41	1.2D + 1.6W 60	36	58	9.94	0	0		0.00		0.00	14		Member	
DIAG SOL - 5/8" SOLID		1.62	1.2D + 1.6W	36	58	9.94	0	0		0.00		0.00	16		Member	

Section: 9		7/8" Vrt Section		Bot Elev (ft): 100.0				Height (ft): 10.000								
		Force		Len	Bracing %			F'y	phi	Num	Num	Shear	Bear	Use		
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Pn	Bolts	Holes	phiRnv	phiRn	%	Controls
Max Compression Member																
LEG	SOL - 7/8" SOLID	-6.70	1.2D + 1.6W	1.61	100	100	100	88.4	36.0	12.92	0	0	0.00	0.00	51	Member X
HORIZ SOL - 5/8" SOLID		-0.57	1.2D + 1.6W	2.000	100	100	100	107.7	36.0	5.40	0	0	0.00	0.00	10	Member X
DIAG SOL - 5/8" SOLID		-0.90	1.2D + 1.6W 90	2.568	100	100	100	138.3	36.0	3.63	0	0	0.00	0.00	24	Member X
Max Tension Member		Force		Fy	Fu	phi	Pn	Num	Num	Shear		Bear	Use			
		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		Cap (kip)		Cap (kip)	%		Controls	
LEG	SOL - 7/8" SOLID	5.58	1.2D + 1.6W 60	36	58	19.48	0	0		0.00		0.00	28		Member	
HORIZ SOL - 5/8" SOLID		0.64	1.2D + 1.6W 90	36	58	9.94	0	0		0.00		0.00	6		Member	
DIAG SOL - 5/8" SOLID		0.78	1.2D + 1.6W	36	58	9.94	0	0		0.00		0.00	7		Member	

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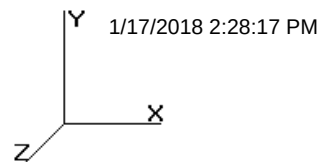
Code: ANSI/TIA-222 Rev G

Struct Class : II

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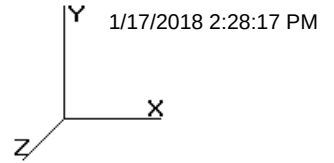
**Force/Stress Summary**
Section: 10 7/8" Vrt Section Bot Elev (ft): 110.0 Height (ft): 10.000

		Force		Len	Bracing %			F'y	phi			Shear	Bear	Use	
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	Pn	Num	Num	phiRnv	phiRn	%	Controls
Max Compression Member															
LEG	SOL - 7/8" SOLID	-2.23	1.2D + 1.6W	1.61	100	100	100	88.4	36.0	12.92	0	0	0.00	0.00	17 Member X
HORIZ	SOL - 5/8" SOLID	-0.39	1.2D + 1.6W	2.000	100	100	100	107.7	36.0	5.40	0	0	0.00	0.00	7 Member X
DIAG	SOL - 5/8" SOLID	-0.76	1.2D + 1.6W	2.568	100	100	100	138.3	36.0	3.63	0	0	0.00	0.00	20 Member X
Max Tension Member															
LEG	SOL - 7/8" SOLID	0.99	1.2D + 1.6W												
HORIZ	SOL - 5/8" SOLID	0.39	1.2D + 1.6W												
DIAG	SOL - 5/8" SOLID	0.76	1.2D + 1.6W												

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Support Forces Summary

Load Case	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.2D + 1.6W 90 deg - Pat3	1b	-6.03	-107.99	-3.68	
	1a	-6.36	115.91	3.88	
	1	-0.08	4.19	-0.20	
1.2D + 1.6W 90 deg - Pat2	1b	-4.49	-85.95	-2.86	
	1a	-4.86	93.88	3.08	
	1	0.05	4.19	-0.21	
1.2D + 1.6W 90 deg - Pat1	1b	-6.03	-107.99	-3.68	
	1a	-6.36	115.91	3.88	
	1	-0.08	4.19	-0.20	
1.2D + 1.6W 60 deg - Pat3	1b	-6.98	-124.90	-4.17	
	1a	-3.67	68.18	2.35	
	1	-0.05	68.83	-4.36	
1.2D + 1.6W 60 deg - Pat2	1b	-5.27	-99.68	-3.18	
	1a	-2.79	55.57	1.95	
	1	0.05	56.22	-3.40	
1.2D + 1.6W 60 deg - Pat1	1b	-6.98	-124.90	-4.17	
	1a	-3.67	68.18	2.35	
	1	-0.05	68.83	-4.36	
1.2D + 1.6W Normal - Pat3	1b	-3.56	-61.77	-2.01	
	1a	3.56	-61.77	-2.01	
	1	0.00	135.66	-8.76	
1.2D + 1.6W Normal - Pat2	1b	-2.71	-48.72	-1.39	
	1a	2.72	-48.73	-1.39	
	1	0.00	109.56	-6.73	
1.2D + 1.6W Normal - Pat1	1b	-3.56	-61.77	-2.01	
	1a	3.56	-61.77	-2.01	
	1	0.00	135.66	-8.76	

Max Uplift: 124.90 (kip)
 Max Down: 135.66 (kip)
 Max Shear: 8.76 (kip)

Moment: 769.42 (ft-kip) 1.2D + 1.6W Normal - Pat3
 Total Down: 12.12 (kip)
 Total Shear: 12.78 (kip)

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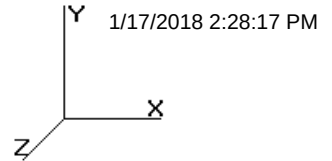
Code: ANSI/TIA-222 Rev G

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Deflections and Rotations

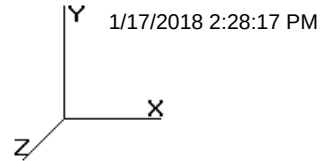
Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
85.00 mph 60 deg with No Ice - Pattern 1	15.00	0.0334	0.0143	0.2457
	20.00	0.0583	0.0185	0.3381
	28.00	0.1121	0.0247	0.4448
	36.00	0.1828	0.0298	0.5775
	46.56	0.3100	0.1058	0.8306
	50.00	0.3629	0.1452	0.9515
	61.94	0.6034	0.2572	1.4663
	66.78	0.7348	0.2610	1.6352
	78.06	1.0892	0.3243	1.9240
	80.33	1.1708	0.3564	2.2772
	85.17	1.3485	0.6014	2.1931
	90.00	1.5389	0.8468	2.3116
	93.22	1.6698	1.0108	2.3611
	96.44	1.8034	1.1751	2.4045
	110.00	2.3862	3.4868	2.5955
	113.22	2.5269	4.1732	2.5658
85.00 mph 60 deg with No Ice - Pattern 2	120.00	2.8186	5.2592	3.3511
	15.00	0.0265	0.0130	0.1981
	20.00	0.0466	0.0168	0.2741
	28.00	0.0905	0.0223	0.3632
	36.00	0.1484	0.0268	0.4750
	46.56	0.2535	0.0930	0.6892
	50.00	0.2974	0.1277	0.7886
	61.94	0.4996	0.2253	1.2434
	66.78	0.6112	0.2286	1.3919
	78.06	0.9140	0.2836	1.6468
	80.33	0.9842	0.3117	1.9652
	85.17	1.1365	0.5235	1.8805
	90.00	1.2999	0.7355	1.9801
	93.22	1.4119	0.8773	2.0204
	96.44	1.5262	1.0192	2.0547
	110.00	2.0243	3.0094	2.1974
	113.22	2.1445	3.5987	2.1609
85.00 mph 60 deg with No Ice - Pattern 3	120.00	2.3929	4.5325	3.0457
	15.00	0.0334	0.0143	0.2457
	20.00	0.0583	0.0185	0.3381
	28.00	0.1121	0.0247	0.4448
	36.00	0.1828	0.0298	0.5775
	46.56	0.3100	0.1058	0.8306
	50.00	0.3629	0.1452	0.9515
	61.94	0.6034	0.2572	1.4663
	66.78	0.7348	0.2610	1.6352
	78.06	1.0892	0.3243	1.9240
	80.33	1.1708	0.3564	2.2772
	85.17	1.3485	0.6014	2.1931
	90.00	1.5389	0.8468	2.3116
	93.22	1.6698	1.0108	2.3611
	96.44	1.8034	1.1751	2.4045

Western Utility Telecom, Inc.

5032 Salem-Dallas Hwy
 Salem, OR 97304
 Ph: (503) 587-0101
 Fx: (503) 316-1864
 www.WesternUtilityTelecom.com

Site Number: HTA - Eureka-MOD
 Location: 133 V Street, Eureka, CA 95501
 Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure : C
 Topo : 1

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85.00 mph 90 deg with No Ice - Pattern 1

110.00	2.3862	3.4868	2.5955
113.22	2.5269	4.1732	2.5658
120.00	2.8186	5.2592	3.3511
15.00	0.0326	0.0048	0.2463
20.00	0.0576	0.0068	0.3423
28.00	0.1123	0.0090	0.4449
36.00	0.1830	0.0023	0.5787
46.56	0.3110	0.0376	0.8278
50.00	0.3639	0.0574	0.9467
61.94	0.6051	0.1108	1.4708
66.78	0.7365	0.1106	1.6347
78.06	1.0899	0.1101	1.9230
80.33	1.1721	0.1124	2.2863
85.17	1.3497	0.1123	2.1837
90.00	1.5393	0.1124	2.2876
93.22	1.6693	0.1133	2.3446
96.44	1.8021	0.1143	2.3827
110.00	2.3794	0.1273	2.4587
113.22	2.5183	0.1317	2.2750
120.00	2.7982	0.1387	0.1030

85.00 mph 90 deg with No Ice - Pattern 2

15.00	0.0257	0.0037	0.1985
20.00	0.0461	0.0053	0.2773
28.00	0.0906	0.0071	0.3629
36.00	0.1485	0.0035	0.4754
46.56	0.2541	0.0348	0.6863
50.00	0.2981	0.0528	0.7865
61.94	0.5006	0.1004	1.2468
66.78	0.6123	0.1002	1.3908
78.06	0.9140	0.0999	1.6448
80.33	0.9847	0.1017	1.9770
85.17	1.1369	0.1016	1.8710
90.00	1.2993	0.1016	1.9576
93.22	1.4105	0.1024	2.0044
96.44	1.5240	0.1031	2.0341
110.00	2.0164	0.1139	2.0938
113.22	2.1347	0.1177	1.9087
120.00	2.3713	0.1240	0.4735

85.00 mph 90 deg with No Ice - Pattern 3

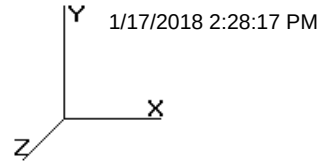
15.00	0.0326	0.0048	0.2463
20.00	0.0576	0.0068	0.3423
28.00	0.1123	0.0090	0.4449
36.00	0.1830	0.0023	0.5787
46.56	0.3110	0.0376	0.8278
50.00	0.3639	0.0574	0.9467
61.94	0.6051	0.1108	1.4708
66.78	0.7365	0.1106	1.6347
78.06	1.0899	0.1101	1.9230
80.33	1.1721	0.1124	2.2863
85.17	1.3497	0.1123	2.1837
90.00	1.5393	0.1124	2.2876
93.22	1.6693	0.1133	2.3446
96.44	1.8021	0.1143	2.3827
110.00	2.3794	0.1273	2.4587
113.22	2.5183	0.1317	2.2750
120.00	2.7982	0.1387	0.1030

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 Code: ANSI/TIA-222 Rev G
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**85.00 mph Normal to Face with No Ice - Pattern 1**

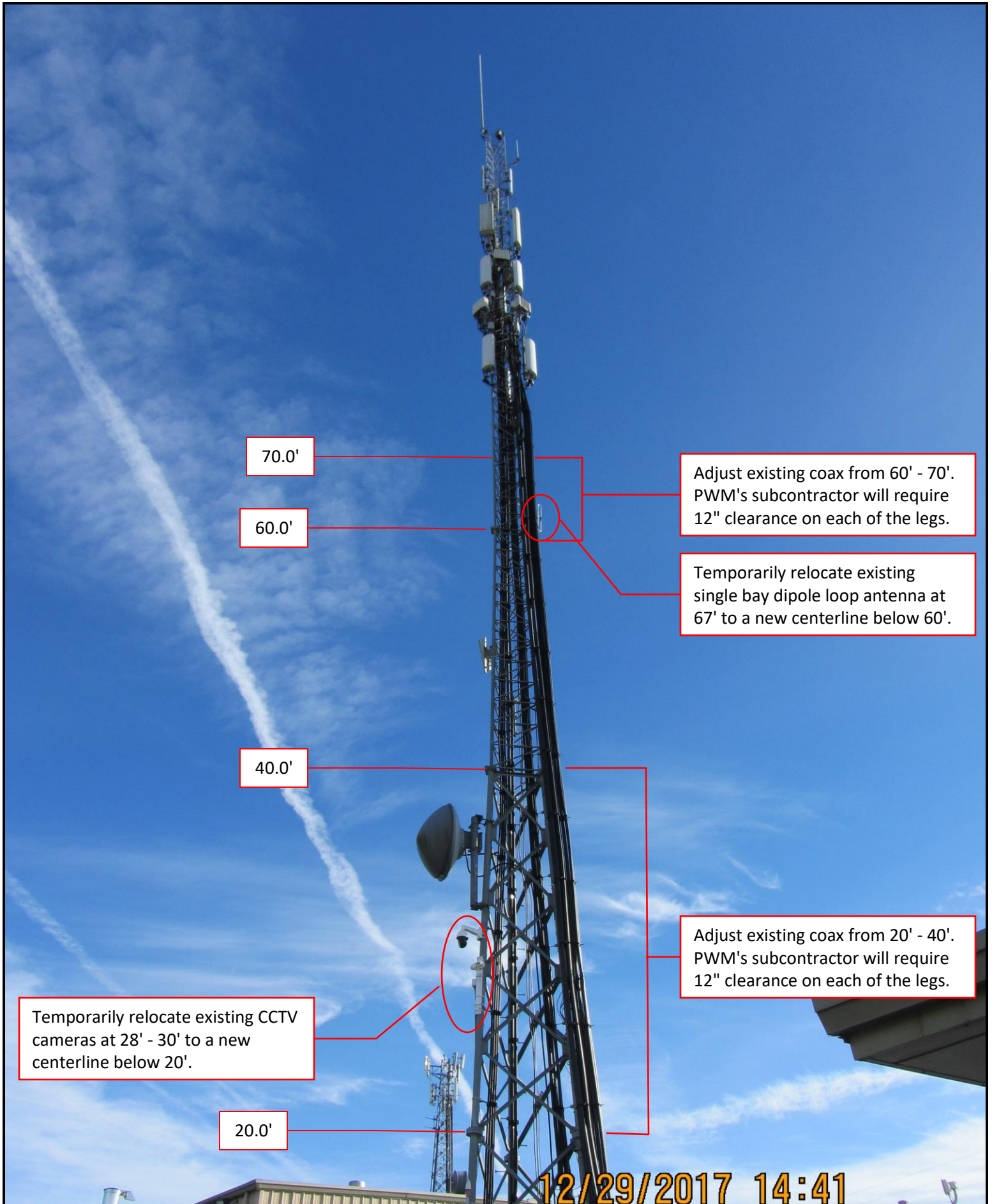
15.00	0.0342	0.0058	0.2476
20.00	0.0594	0.0078	0.3414
28.00	0.1140	0.0103	0.4497
36.00	0.1858	0.0128	0.5778
46.56	0.3129	0.0333	0.8367
50.00	0.3653	0.0438	0.9398
61.94	0.6097	0.0797	1.4790
66.78	0.7415	0.0795	1.6423
78.06	1.0970	0.0783	1.9448
80.33	1.1793	0.0802	2.3126
85.17	1.3592	0.0779	2.2145
90.00	1.5518	0.0758	2.3456
93.22	1.6849	0.0747	2.4047
96.44	1.8213	0.0740	2.4556
110.00	2.4218	0.0624	2.6110
113.22	2.5680	0.0591	2.8108
120.00	2.8910	0.0543	5.4078

85.00 mph Normal to Face with No Ice - Pattern 2

15.00	0.0271	0.0049	0.1985
20.00	0.0473	0.0065	0.2758
28.00	0.0916	0.0086	0.3661
36.00	0.1503	0.0107	0.4742
46.56	0.2549	0.0330	0.6934
50.00	0.2984	0.0367	0.7757
61.94	0.5034	0.0757	1.2519
66.78	0.6152	0.0755	1.3964
78.06	0.9187	0.0745	1.6644
80.33	0.9894	0.0759	1.9954
85.17	1.1437	0.0739	1.8998
90.00	1.3090	0.0719	2.0124
93.22	1.4231	0.0709	2.0624
96.44	1.5400	0.0702	2.1045
110.00	2.0551	0.0589	2.2439
113.22	2.1807	0.0557	2.4424
120.00	2.4600	0.0512	5.0323

85.00 mph Normal to Face with No Ice - Pattern 3

15.00	0.0342	0.0058	0.2476
20.00	0.0594	0.0078	0.3414
28.00	0.1140	0.0103	0.4497
36.00	0.1858	0.0128	0.5778
46.56	0.3129	0.0333	0.8367
50.00	0.3653	0.0438	0.9398
61.94	0.6097	0.0797	1.4790
66.78	0.7415	0.0795	1.6423
78.06	1.0970	0.0783	1.9448
80.33	1.1793	0.0802	2.3126
85.17	1.3592	0.0779	2.2145
90.00	1.5518	0.0758	2.3456
93.22	1.6849	0.0747	2.4047
96.44	1.8213	0.0740	2.4556
110.00	2.4218	0.0624	2.6110
113.22	2.5680	0.0591	2.8108
120.00	2.8910	0.0543	5.4078
120.00	0.0000	0.0000	0.0000



Temporarily relocate existing CCTV cameras at 28' - 30' to a new centerline below 20'.

Adjust existing coax from 60' - 70'. PWM's subcontractor will require 12" clearance on each of the legs.

Temporarily relocate existing single bay dipole loop antenna at 67' to a new centerline below 60'.

Adjust existing coax from 20' - 40'. PWM's subcontractor will require 12" clearance on each of the legs.

Site Information
Eureka - HTA

133 V Street, Eureka, CA 95501
40° 48' 23.94"N 124° 08' 56.16"W
Tower Height: 120 ft.
Site Elevation: 21 ft. AMSL

Eureka - HTA
CCL00923
Communication Tower

PWM INC.

P.O. Box 1032, Eureka, CA 95502
Contact: Tom McMurray
Cell: (707) 499-0901
Email: tjmacjr@pacbell.net

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MAURY L. HATFIELD, PE
(1942 – 2009)
PAUL W. LEONARD, PE
(1925 – 2011)

NON-IONIZING ELECTROMAGNETIC EXPOSURE ANALYSIS
AND

ENGINEERING CERTIFICATION

PREPARED FOR

PWM Inc.

HTA TOWER

MODIFIED AT&T PERSONAL WIRELESS FACILITY CCL00923

“EUREKA HTA”

133 V STREET

EUREKA

HUMBOLDT COUNTY, CALIFORNIA

OCTOBER 2017

INTRODUCTION

Hatfield & Dawson Consulting Engineers has been retained by PWM Inc. to evaluate the proposed modifications to the AT&T personal wireless telecommunications facility CCL00923, site designator "Eureka HTA", FA number 10130073, for compliance with current Federal Communications Commission (FCC) and local guidelines regarding Public exposure to radio frequency (RF) electromagnetic fields (EMFs). Information furnished by PWM indicates that the AT&T facility will be modified by the following actions:

- 1) Remove two (2) existing Kathrein 800-10765K panel antennas mounted at 101' centerline, remove one (1) existing Powerwave P45-16-XLH-RR panel antenna mounted at 100' centerline, and replace with two (2) new Commscope JAHH-65B-R3B panel antennas and one (1) new Quintel QS6458-5 panel antennas mounted at 97' centerline.
- 2) Remove three (3) existing Powerwave 7762 panel antennas mounted at 95' centerline and replace with two (2) new Commscope JAHH-65B-R3B panel antennas and one (1) new Quintel QS6458-5 panel antenna mounted at 90' centerline.
- 3) Remove three (3) existing Powerwave 7762 panel antennas mounted at 80' centerline and replace with two (2) new Kathrein 800-10965K panel antennas and one (1) new Quintel QS6458-5 panel antenna mounted at 81' centerline.

All of the new antennas will be installed on the Humboldt Transit Authority (HTA) project tower, 133 V Street, Eureka, CA 95501. The replacement AT&T antennas will be mounted and centered at least 81 feet above grade level. Therefore all of the AT&T panel antennas will be well above head height for persons inside nearby structures or standing at grade level near the project tower.

The AT&T personal wireless facility may operate within the 700 MHz band, the 1.9 GHz Personal Communications Service (PCS) frequency bands, and the 2.1 GHz Advanced Wireless Service (AWS) frequency bands. The approximate range of transmit frequencies, and the Public Maximum Permissible Exposure (MPE) limits established by the FCC for each AT&T operation are shown in the following table:

OPERATION	FREQUENCY(MHZ)	Public Limit
700 MHz	740 – 793	0.493 mW/cm ²
PCS	1,945 – 1,990	1.000 “ “
AWS	2,130 – 2,140	1.000 “ “

The proposed modifications to the AT&T facility will not significantly increase the Public exposure environment. The effect of all AT&T operations at the project site, in combination with existing co-located wireless operations, to the ground level general population/uncontrolled (i.e., “Public”) RF exposure environment, will be well below the FCC Public exposure limits as specified in 47 CFR §1.1310.

The operation of the AT&T facility will NOT create significant RF exposure conditions at any occupancy, habitable area or publicly accessible area. Therefore the AT&T wireless operations at the project site will not have a significant environmental impact, as defined by the FCC Public MPE limits.

FCC COMPLIANCE

The FCC has determined through calculations and technical analysis that personal wireless facilities such as those operated by AT&T are highly unlikely to cause human RF exposures in excess of FCC guideline limits. In particular, personal wireless facilities with non-building-mounted antennas greater than 10 meters (about 33 feet) above ground level are considered to have such a low impact on overall exposure conditions that they are "categorically excluded" (i.e., exempt) from the requirement for routine environmental assessment regarding RF exposure hazards.

According to FCC rules, the AT&T personal wireless facility, with all panel antennas centered at well above the 33 foot level, is exempt from further RF safety environmental assessment because it is presumed to be in compliance with the FCC RF exposure rules and guidelines. The AT&T facility is expected to be compliant with FCC rules regarding public RF exposure provided that direct access to the AT&T antennas is positively restricted.

Transmission equipment for the AT&T facility is certified by the FCC under the equipment authorization procedures set forth in the FCC rules. This assures that the facility will transmit within the desired personal wireless frequency bands, and at authorized power levels. The AT&T facility will operate in accordance with all FCC rules regarding power, signal bandwidth, interference mitigation, and good RF engineering practices.

Because the AT&T wireless facility will be in compliance with federal rules, it will also be in compliance with local regulations concerning RF emissions. The AT&T facility will provide Personal Wireless Services as described in the Telecommunications Act of 1996. Section 704(a) of the Act (same as federal rule part 47 U.S.C. §332(c)(7)) preempts local decisions premised directly or indirectly on the environmental effects of RF emissions, assuming that the wireless facility is in compliance with the rules of the FCC. The following is the complete text of 47 U.S.C. § 332(c)(7)(B)(iv):

“No State or local government or instrumentality thereof may regulate the placement, construction, or modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission’s regulations concerning such emissions.”

CONCLUSIONS BASED ON FEDERAL AND LOCAL REGULATIONS

The AT&T personal wireless facility, together with existing wireless operations at the project site, will be in compliance with current FCC and local rules regarding Public exposure to radio frequency electromagnetic fields provided that direct access to the antenna apertures on the project tower is positively restricted.

This conclusion is based on information supplied by PWM Inc. and the comparison of predicted RF conditions in specific areas with the corresponding safe exposure limits set forth in FCC rules, guidelines and recommendations. The FCC exposure limits are based on recommendations by federal and private entities with the appropriate expertise in human safety issues.

To ensure full compliance with current FCC rules regarding human exposure to radio frequency electromagnetic fields, the AT&T transmitters should be turned off whenever maintenance and repair personnel are required to work in front of the apertures of the AT&T antennas.

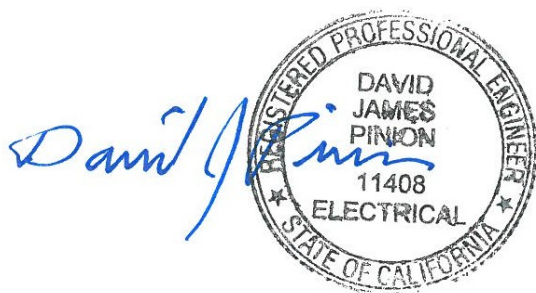
This safety procedure should apply to all existing and future wireless transmission facilities at the project site. All instances of antenna-related work require that the subject antennas be completely deactivated.

QUALIFICATIONS

I am a Senior Member of the IEEE. As a partner in the firm of Hatfield & Dawson Consulting Engineers I am registered as a Professional Engineer in the States of California, Washington, and Hawaii. I am an experienced radio engineer with over 35 years of professional engineering experience whose qualifications are a matter of record with the Federal Communications Commission, and I hold an FCC General Radiotelephone Operator License PG-12-21740.

All representations contained herein are true to the best of my knowledge.

13 October 2017

The image shows a handwritten signature in blue ink that reads "David J. Pinion". To the right of the signature is a circular professional engineer seal for the State of California. The seal contains the text "REGISTERED PROFESSIONAL ENGINEER" around the top, "DAVID JAMES PINION" in the center, "11408" below the name, "ELECTRICAL" below the number, and "STATE OF CALIFORNIA" around the bottom. There are small stars on either side of the word "ELECTRICAL".

David J. Pinion, P.E. CA PE Renewal Date 12/31/2017

Hatfield & Dawson Consulting Engineers