STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

VIA ELECTRONIC MAIL

May 8, 2019

David Ford
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379

RE: **EM-CING-080-190411** – New Cingular Wireless PCS, LLC (AT&T) notice of intent to modify an existing telecommunications facility located at 74 Birdsey Avenue, Meriden, Connecticut.

Dear Mr. Ford:

The Connecticut Siting Council (Council) is in receipt of your correspondence of May 6, 2019 submitted in response to the Council's April 17, 2019 notification of an incomplete request for exempt modification with regard to the above-referenced matter.

The submission renders the request for exempt modification complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman
Executive Director

MAB/IN/emr

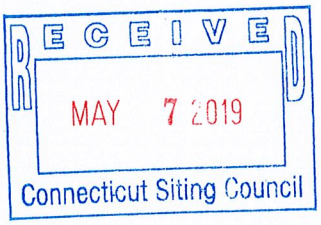
David Ford

From: David Ford
Sent: Monday, May 06, 2019 11:32 AM
To: Evan.Robidoux@ct.gov; CSC-DL Siting Council
Cc: Aaron Meyers; David Ford
Subject: RE: Council Incomplete Letter for EM-CING-080-190411-BirdseyRd-Meriden
Attachments: CT5279_Meriden Birdsey Avenue_CDs__Rev2_5-03-19.pdf; 50096234 - Meriden Birdsey Avenue Mount Analysis Report_04.30.19.pdf; em-cing-080-190411 _incompleteltr_BirdseyRd.pdf

Evan,

In response to the 4/17/19 CSC memo, attached please find the revised Drawings and Mount Analysis.

Hard copies will arrive tomorrow.



Thanks

David Ford
Centerline Communications
(508) 821-6509

From: Aaron Meyers
Sent: Thursday, April 18, 2019 8:51 AM
To: David Ford <dford@clinellc.com>
Subject: FW: Council Incomplete Letter for EM-CING-080-190411-BirdseyRd-Meriden

Please see attached. Issue stemming from the MA.

From: Robidoux, Evan <Evan.Robidoux@ct.gov>
Sent: Thursday, April 18, 2019 8:18 AM
To: Aaron Meyers <ameyers@clinellc.com>
Cc: CSC-DL Siting Council <Siting.Council@ct.gov>
Subject: Council Incomplete Letter for EM-CING-080-190411-BirdseyRd-Meriden

Please see the attached correspondence.

Evan Robidoux
Clerk Typist
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Dewberry

Dewberry Engineers Inc.
99 Summer Street, Suite 700
Boston, MA 02110-1200

617.695.3400
617.695.3310 fax
www.dewberry.com

Mount Analysis Report and Design Calculations For a Wireless Telecommunications Upgrade

Site Name: Meriden Birdsey Avenue
Site No.: CT5279
Site Address: 74 Birdsey Avenue
Meriden, CT 06450

Prepared for:
AT&T
550 Cochituate Road Suites 13 & 14
Framingham, MA 01701

April 30, 2019
(Rev.2)

Prepared by:
Dewberry Engineers Inc.
99 Summer Street, 7th Floor
Boston, MA 02110
Dewberry Project Number: 50096234

Analysis Condition	Utilization	Pass/Fail
Existing Mount	75.4%	*Pass*

Prepared by:

Stephanie Snider, E.I.T.
Graduate Engineer

Reviewed by:

Brandon Kelsey
Structural Project Engineer

Approved by:

Benjamin Revette, P.E.
Connecticut Professional Engineer
License No. 0028971

Table of Contents

1.0 INTRODUCTION AND PROJECT SUMMARY

The objective of this report is to assess the proposed installation of new antennas and support equipment on existing steel antenna mounts. The proposed RRH units and diplexers will be mounted at grade. This report is limited to the analysis of the existing T-Arms and the mount modification proposed by CENTEK Engineering only.

The existing structure is a 175-ft tall transmission pole located in Meriden, CT. There are currently existing antennas and support equipment mounted to T-Arm mounts in sectors Alpha, Beta, & Gamma. The existing antenna mount is attached at approximately 171-ft above grade with an approximate antenna centerline elevation of 173-ft.

2.0 EXISTING & PROPOSED ANTENNAS & EQUIPMENT

Currently, each sector has the following equipment:

- Sectors Alpha, Beta, & Gamma
  - One (1) Powerwave 7770 antenna measuring 55"H x 11"W x 5"D 9 (35.0 lb.) *
  - One (1) AM-X-CD-16-65-00T-Ret antenna measuring 72"H x 11.8" W x 5.9" D (48.5 lb.) *
  - One (1) CCI DTMABP7819VG12A TMA *
  - Two (2) Powerwave LGP 21401 TMAs *
  - One (1) RRUS-12 **
  - One (1) RRUS-11 **
  - Two (2) QBC0007F1V51-1 diplexers **
  - Two (2) Powerwave / LGP 21901 diplexers * **
  - One (1) steel antenna mount
  - Miscellaneous equipment and cables negligible in weight and profile

    * Equipment to be removed

    ** Mounted at grade

The following antennas and equipment are proposed for each sector:

- Sectors Alpha, Beta, & Gamma
  - One (1) QS66512-2 antenna measuring 72" H x 12" W x 9.6" D (126 lb.)
  - One (1) SBNHH-1D85B antenna measuring 72.9" H x 11.9" W x 7.1" D (57.1 lb.)
  - Two (2) CCI BPD7823VG12A TMAs measuring 10.63" H x 3.75" W x 11.04" D (26 lb.)
  - Two (2) Kaelus 2117F00V1TMAs measuring 9.84" H x 4.65" W x 11.81" D (26 lb.)
  - One (1) RRUS-12 **
  - One (1) RRUS-32 **
  - One (1) 4478 B5 RRH **
  - One (1) 4426 B66 RRH **
  - Two (2) QBC0007F1V51-1 diplexers **
  - Two (2) TPX-070821 diplexers **

Note: Existing and proposed equipment assumes previous installation (RFDS 08/28/17) has not yet been installed

For the final configuration utilized for this analysis, refer to the table below.

Table 1: APPURTENANCE LOADING on TOWER			
Elev.	Status	Appurtenance Description	Mounting Location
173'	**Final**	**(3) – SBNHH-1D85B**	**Position 1**
173'	**Final**	**(3) – QS66512-2**	**Position 3**
173'	**Final**	**(6) – CCI TMA BPD7823VG12A**	**Position 1**
173'	**Final**	**(6) – Kaelus TMA 2117F00V1**	**Position 3**
0'	**Final**	**(6) – RRUS-12**	**Shelter**
0'	**Final**	**(3) – RRUS-32**	
0'	**Final**	**(3) – RRUS-11**	
0'	**Final**	**(3) – 4478 B5 RRH**	
0'	**Final**	**(3) – 4426 B66 RRH**	
0'	**Final**	**(12) – QBC0007F1V51-1**	
0'	**Final**	**(6) – TPX-070821**	

3.0 CODES, STANDARDS, AND REFERENCES

The structure was analyzed and the proposed installation designed per the provisions of the following codes, standards, and references:

- *International Building Code (IBC) 2015,* International Code Council
- *2018 Connecticut Building Code – Amendments to IBC 2015*
- *TIA-222-H Structural Standard for Antenna Supporting Structures and Antennas*
- *Steel Construction Manual 14th Ed,* American Institute of Steel Construction
- *AT&T Mount Technical Directive – R13 (Modified 04/04/19)*
- Radio Frequency Data Sheet (RFDS) AT&T dated 05/05/18
- Previous analysis by Dewberry Engineers dated 08/23/18
- Structural Analysis of Pole by CENTEK Engineering dated 01/29/19

4.0 LOADING AND PERFORMANCE CRITERIA

The following code-specified strength limit state (LRFD) load combinations were considered in the analysis of the antenna mount *(TIA-222-H)*:

1. $1.2D + 1.0W$
2. $1.2D + 1.0D_i + 1.0W_i$
3. $1.4D$
4. $1.2D + 1.5L_m + 1.0W_m$
5. $1.2D + 1.5L_v$

The following Code-specified serviceability load combination was considered in the deflection of the antenna mounts (TIA-222-H):

1. $1.0D + 1.0W_{service}$

Where:

D = dead load of structure, steel, and new equipment.
D_i = dead load of ice
W = design wind load
W_i = design ice wind load
$W_{service}$ = service wind load
W_m = design maintenance wind load
L_m = design maintenance load *(0 lb. for T-Arm per AT&T directive)*
L_v = design maintenance load *(0 lb. for T-Arm per AT&T directive)*

The following site-specific design parameters were considered in this analysis per the provisions of *TIA-222-H:*

Risk Category:	II	
Exposure Category:	C	Sect. 2.6.5.1.2, TIA
Ultimate Design Wind Speed:	125 mph	*Appendix N, CT SBC 2018*
Design Ice Wind Speed:	50 mph	*Hazard Tool, ASCE 7-16*
Design Ice Thickness:	1.0 in.	*Hazard Tool, ASCE 7-16*
Gust Effect Factor	1.0	*Sect. 16.6, TIA*
Wind Direction Probability Factor	0.95	*Sect. 16.6, TIA*
Serviceability Wind Speed:	60 mph	*Sect. 2.8.3, TIA*
Maintenance Wind Speed	30 mph	Sect. 16.3, TIA

*AT&T directive states maintenance loads need not be considered for T-Arm mounts

5.0 ANALYSIS ASSUMPTIONS

- Mount is assumed to be Valmont P/N: 802738 T-Arm monopole mount
- Mount modification proposed by CENTEK Engineering includes installing a L3x3x1/4 angle handrail 2'-6" above the bottom rail and connecting the handrail of each sector using additional L3x3x1/4 angle
- Mount analysis was modeling with all sectors connected according to the proposed modification
- Existing and proposed equipment assumes previous installation (RFDS 08/28/17) has not yet been installed
- Antennas will be mount equally spaced from the center of the mount
- TMA units mounted directly behind the proposed antennas
- RRH units and additional support equipment mounted at grade
- According to Site Pro emails all existing mount members are 35 ksi steel
- All proposed mount members are 36 ksi steel

6.0 REQUIRED FIELD VERIFICATIONS

- Stand-off arm minimum of HSS 4x4x1/4 with maximum length of 4'-0"
- Bottom rail minimum of 3.5" O.D. pipe
- Mounting pipes minimum of 2-3/8" O.D. pipe and length of 6'-3"

7.0 CALCULATIONS

Calculations for this analysis and the design of the proposed installation are included in the Appendices of this report.

8.0 CONCLUSIONS, COMMENTARY, AND RECOMMENDATIONS

The analysis concludes that the existing T-Arm mounts with proposed modifications, as described in the pole analysis report provided, **do have sufficient structural capacity** to support the proposed installation. Under the proposed conditions, the maximum utilization of a single structural member is 75.4%.

This analysis is limited to the existing T-Arm mount with modifications only. If actual field conditions vary from what was assumed in this analysis, the results and conclusions expressed herein are invalid and further evaluation is recommended for any proposed installation to continue. All proposed equipment shall be installed according to the latest associated construction drawings by Dewberry.

Dewberry Engineers Inc. reserves the right to add to or modify this report if more information becomes available. The conclusions reached by Dewberry Engineers Inc. in this report are only applicable to the previously mentioned existing structural elements supporting the proposed wireless telecommunications installation. The results of this report are based on the assumption that existing structural elements have been installed per the original design documents, have been well maintained, and are uncompromised. This report does not imply that a thorough inspection of the existing structure has been performed. Any deviation of the support condition, loading, location, placement, equipment configuration, etc., will require Dewberry Engineers Inc. to generate an additional structural analysis. Further, no structural qualification is made or implied by this report of any existing structural elements.

APPENDIX A

Dewberry®

Job Number	50096234
Made by:	SMS
Date:	04/24/19
Checked by:	BGK
Date:	04/25/19

(Meriden Birdsey Ave) - Design Wind Load

\\Capecod\Projects\50093723\50096234-CT5279 Meriden Birdseye Avenue\Tech\Rev.2\50096234 - Meriden Birdsey Ave Analysis Calc. (TIA-222-H).xlsx

Wind Load Design Criteria

Site Name: Meriden Birdsey Ave

General Information & Design Input from TIA-222-H

Item	Value	Description	Reference
V_{ult} =	125.00	Ultimate Design Wind Speed (mph)	*Appendix N, CT State Building Code 2018*
V_i =	50.00	Design Ice Wind Speed (mph)	*Hazard Tool, ASCE 7-16*
K_d =	0.95	Wind Direction Probability Factor	*Sect. 16.6, TIA*
Class	II	Risk Category	*Table 2-1, TIA*
I =	1.00	Importance Factor (Ice Thickness)	*Table 2-3, TIA*
z = h =	173.00	ft. (A.G.L.)	*Max. Center of Appurtenance*
Exp. Cat.	C	Exposure Category	*Sect. 2.6.5.1.2, TIA*
z_g =	900.00	Exposure Category Coeff.	*Table 2-4, TIA*
α' =	9.50	Exposure Category Coeff.	*Table 2-4, TIA*
$K_{z\,(min)}$ =	0.85	Exposure Category Coeff.	*Table 2-4, TIA*
K_c =	1.00	Terrain Constant	*Table 2-4, TIA*
K_t =	N/A	Topographic Constant	*Table 2-5, TIA ("N/A" if Topo. Cat. = 1)*
K_z =	1.42	$= 2.01(z/z_g)^{(2/\alpha')}$	*Sect. 2.6.5.2, TIA*
Topo. Cat.	1	Topographic Category (1-4)	*Sect. 2.6.6.2.1, TIA*
e =	2.72	Natural Logarithmic base	
f =	N/A	Height Attenuation Factor	*Table 2-5, TIA ("N/A" if Topo. Cat. = 1)*
H =	N/A	ft. Height of crest above surrounding terrain	
K_h =	N/A	$e^{((f*z)/H)}$	*Sect. 2.6.6.2.1, TIA*
K_{zt} =	1.00	$= [1+((K_c*K_t)/K_h)]^2$	*Sect. 2.6.6.2.1, TIA*
K_s =	N/A	Rooftop Wind Speed-Up Factor	*Sect. 2.6.7, TIA*
K_e =	1.00	Ground Elevation Factor	*Sect. 2.6.8, TIA*
K_{iz} =	1.18	$= (z/33)^{0.10} \leq 1.4$ (Height escalation factor)	*Sect. 2.6.10, TIA*
G_h =	1.00	Gust Effect Factor	*Sect. 16.6, TIA*
K_a =	0.90	Shielding Factor	*Sect. 16.6, TIA*
t_i =	1.00	Design Ice Thickness	*Hazard Tool, ASCE 7-16*
t_{iz} =	1.18	$= t_i(I)K_{iz}(K_{zt})^{0.35}$	*Sect. 2.6.10, TIA*
$q_{z\,design}$ =	54.0 psf	$= 0.00256(K_z)(K_{zt})(K_s)(K_e)(K_d)(V^2)$	*Sect. 2.6.11.6, TIA*
$q_{z\,ice}$ =	8.7 psf	$= 0.00256(K_z)(K_{zt})(K_s)(K_e)(K_d)(V_i^2)$	*Sect. 2.6.11.6, TIA*

Design Wind Forces:

Section 2.6.11.2

$F_A = q_{z\,design} G_h (EPA)_A$ *(where $(EPA)_A$ = effective projected area of the appurtenance = $C_a A_a$)*

$F_{Ai} = q_{z\,ice} G_h (EPA)_{Ai}$

(see calculation tables on following pages)

Design Ice Weight:

Section 2.6.10

$F_i = [\pi(t_{iz})(D_c + t_{iz})]*56$ lb/ft³ *(where D_c = largest out to out dimension of member)*

(see calculation tables on following pages)

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(Meriden Birdsey Ave) - Design Wind Load

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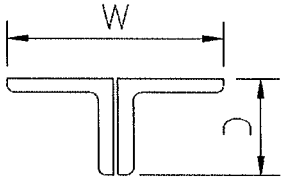
Element Definition

Description	Dimensions (in.)			Weight	Length /	
	W	D	H	(lb)	# Supports	
SBNHH-1D85B	11.90	7.10	72.90	57.10	2.00	
QS66512-2	12.00	9.60	72.00	126.00	2.00	
Kaelus TMA2117F00V1	11.81	4.65	9.84	26.00	1.00	
CCI TMABPD7823VG12A	11.04	3.75	10.63	26.00	1.00	
STRUCTURAL MEMBERS						
(Mounting Pipe) 2-3/8" OD Pipe	2.38	2.38	12.00	STAAD	*Pipe*	*(See Note 2)*
3.5" OD Pipe	3.50	3.50	12.00	STAAD	*Pipe*	
4" Square Tube	4.00	4.00	12.00	STAAD	*Tube*	
L3x3	3.00	3.00	12.00	STAAD	*Angle*	

Note:

1) *For Double Angles assume the following:*



2) *For mounting pipes that **do not** support equipment or portions which are not shielded by equipment, create an additional entry below.*

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(Meriden Birdsey Ave) - Design Wind Load

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Design Wind Load

Members	Dimensions (ft.)			Area $(A_a)_n$	Area $(A_a)_t$	Aspect Ratio	Aspect Ratio	C_{an}	C_{at}
	Width (Normal)	Depth (Tangent)	Height (or span)	(normal) (sf)	(tangent) (sf)	(normal)	(tangent)	(normal) Table 2-8	(tangent) Table 2-8
SBNHH-1D85B	0.99	0.59	6.08	6.02	3.59	6.14	10.31	1.36	1.51
QS66512-2	1.00	0.80	6.00	6.00	4.80	6.00	7.50	1.36	1.42
Kaelus TMA2117F00V1	0.98	0.39	0.82	0.80	0.32	0.84	2.10	1.20	1.20
CCI TMABPD7823VG12A	0.92	0.31	0.89	0.82	0.28	0.97	2.87	1.20	1.22
STRUCTURAL MEMBERS									
2-3/8" OD Pipe	0.20	0.20	1.00	0.20	0.20	5.00	5.00	0.76	0.76
3.5" OD Pipe	0.29	0.29	1.00	0.29	0.29	3.45	3.45	0.72	0.72
4" Square Tube	0.33	0.33	1.00	0.33	0.33	3.03	3.03	1.22	1.22
L3x3	0.25	0.25	1.00	0.25	0.25	4.00	4.00	1.27	1.27

Design Effective Projected Area & Wind Loads

Members	EPA_a @ 0.0° (sf)	EPA_a @ 30.0° (sf)	EPA_a @ 60.0° (sf)	EPA_a @ 90.0° (sf)	F_a @ 0.0° (lb)	F_a @ 30.0° (lb)	F_a @ 60.0° (lb)	F_a @ 90.0° (lb)	Gravity Load @ Support (lb)
SBNHH-1D85B	7.37	6.75	5.50	4.88	198.9	182.1	148.5	131.7	28.6
QS66512-2	7.34	7.04	6.44	6.13	198.3	190.1	173.8	165.6	63.0
Kaelus TMA2117F00V1	0.86	0.73	0.48	0.35	46.7	39.7	25.7	18.7	26.0
CCI TMABPD7823VG12A	0.89	0.74	0.45	0.31	47.8	40.0	24.4	16.6	26.0
STRUCTURAL MEMBERS									
2-3/8" OD Pipe	0.14	-	-	-	7.4	-	-	-	-
3.5" OD Pipe	0.19	-	-	-	10.1	-	-	-	-
4" Square Tube	0.36	-	-	-	19.6	-	-	-	-
L3x3	0.29	-	-	-	15.4	-	-	-	-

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Job Number	50096234
Made by:	SMS
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(Meriden Birdsey Ave) - Design Wind Load

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Design Ice Wind Load

- Design ice thickness included in tabulated dimensions below.

Members	Dimensions (ft.)			Area $(A_a)_{ni}$	Area $(A_a)_{ti}$	Aspect Ratio	Aspect Ratio	C_{ani}	C_{ati}
	Width *(Normal)*	Depth *(Tangent)*	Height *(or span)*	*(normal)* *(sf)*	*(tangent)* *(sf)*	*(normal)*	*(tangent)*	*(normal)* *Table 2-8*	*(tangent)* *Table 2-8*
SBNHH-1D85B	1.19	0.79	6.27	7.46	4.95	5.27	7.94	1.32	1.43
QS66512-2	1.20	1.00	6.20	7.44	6.20	5.17	6.20	1.32	1.36
Kaelus TMA2117F00V1	1.18	0.58	1.02	1.20	0.59	0.86	1.76	1.20	1.20
CCI TMABPD7823VG12A	1.12	0.51	1.08	1.21	0.55	0.96	2.12	1.20	1.20
STRUCTURAL MEMBERS									
2-3/8" OD Pipe	0.40	0.40	1.00	0.40	0.40	2.50	2.50	0.70	0.70
3.5" OD Pipe	0.49	0.49	1.00	0.49	0.49	2.04	2.04	0.70	0.70
4" Square Tube	0.53	0.53	1.00	0.53	0.53	1.89	1.89	1.20	1.20
L3x3	0.45	0.45	1.00	0.45	0.45	2.22	2.22	1.20	1.20

Design Effective Projected Area & Wind Loads with Ice

Members	EPA_{ai} @ 0.0° *(sf)*	EPA_{ai} @ 30.0° *(sf)*	EPA_{ai} @ 60.0° *(sf)*	EPA_{ai} @ 90.0° *(sf)*	F_{ai} @ 0.0° *(lb)*	F_{ai} @ 30.0° *(lb)*	F_{ai} @ 60.0° *(lb)*	F_{ai} @ 90.0° *(lb)*	Ice Load F_i @ Support *(lb)*
SBNHH-1D85B	8.86	8.24	6.99	6.37	38.6	35.8	30.4	27.7	65.8
QS66512-2	8.84	8.53	7.90	7.59	38.4	37.1	34.4	33.0	71.6
Kaelus TMA2117F00V1	1.30	1.13	0.80	0.64	11.3	9.8	7.0	5.5	16.4
CCI TMABPD7823VG12A	1.31	1.13	0.77	0.59	11.4	9.8	6.7	5.2	16.4
STRUCTURAL MEMBERS									
2-3/8" OD Pipe	0.25	-	-	-	2.2	-	-	-	5.1
3.5" OD Pipe	0.31	-	-	-	2.7	-	-	-	6.7
4" Square Tube	0.57	-	-	-	5.0	-	-	-	9.9
L3x3	0.49	-	-	-	4.2	-	-	-	7.8

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Job Number	50096234
Made by:	SMS
Date:	04/24/19
Checked by:	BGK
Date:	04/25/19

(Meriden Birdsey Ave) - Serviceability Wind Load

\\Capecod\Projects\50093723\50096234-CT5279 Meriden Birdseye Avenue\Tech\Rev.2\50096234 - Meriden Birdsey Ave Analysis Calc. (TIA-222-H).xls

Serviceability Wind Load Design Criteria

General Information & Design Input from TIA-222-H

Item	Value	Description	Reference
V_s =	60.00	Service Wind Speed (mph)	*Sect. 2.8.3, TIA*
V_m =	30.00	Maintenance Wind Speed (mph)	*Sect. 16.3, TIA*
K_d =	0.95	Wind Direction Probability Factor	*Sect. 16.6, TIA*
Class	II	Risk Category	*Table 2-1, TIA*
z = h =	173.00	ft. (A.G.L.)	*Max. Center of Appurtenance*
Exp. Cat.	C	Exposure Category	*Sect. 2.6.5.1.2, TIA*
z_g =	900.00	Exposure Category Coeff.	*Table 2-4, TIA*
α' =	9.50	Exposure Category Coeff.	*Table 2-4, TIA*
$K_{z\,(min)}$ =	0.85	Exposure Category Coeff.	*Table 2-4, TIA*
K_c =	1.00	Terrain Constant	*Table 2-4, TIA*
K_t =	N/A	Topographic Constant	*Table 2-5, TIA ("N/A" if Topo. Cat. = 1)*
K_z =	1.42	$= 2.01(z/z_g)^{(2/\alpha')}$	*Sect. 2.6.5.2, TIA*
Topo. Cat.	1	Topographic Category (1-4)	*Sect. 2.6.6.2.1, TIA*
e =	2.72	Natural Logarithmic base	
f =	N/A	Height Attenuation Factor	*Table 2-5, TIA ("N/A" if Topo. Cat. = 1)*
H =	N/A	ft. Height of crest above surrounding terrain	
K_h =	N/A	$e^{((f*z)/H)}$	*Sect. 2.6.6.2.1, TIA*
K_{zt} =	1.00	$= [1+((K_c*K_t)/K_h)]^2$	*Sect. 2.6.6.2.1, TIA*
K_s =	N/A	Rooftop Wind Speed-Up Factor	*Sect. 2.6.7, TIA*
K_e =	1.00	Ground Elevation Factor	*Sect. 2.6.8, TIA*
G_h =	1.00	Gust Effect Factor	*Sect. 16.6, TIA*
K_a =	0.90	Shielding Factor	*Sect. 16.6, TIA*
$q_{z\ service}$ =	11.2 psf	$= 0.00256(K_z)(K_{zt})(K_s)(K_e)(K_d)(V_s^2)$	*Sect. 2.6.11.6, TIA*
$q_{z\ maint}$ =	3.2 psf	$= 0.00256(K_z)(K_{zt})(K_s)(K_e)(K_d)(V_m^2)$	*Sect. 2.6.11.6, TIA*

Design Serviceability and Maintenance Wind Forces:

Section 2.6.11.2

$F_{As} = q_{z\ service} G_h (EPA)_A$

$F_{Am} = q_{z\ maint} G_h (EPA)_A$

(where $(EPA)_A$ = effective projected area of the appurtenance = $C_a A_a$)

(see calculation tables on following pages)

Dewberry®

Job Number	50096234
Made by:	SMS
Date:	04/24/19
Checked by:	BGK
Date:	04/25/19

(Meriden Birdsey Ave) - Serviceability Wind Load

\\Capecod\Projects\50093723\50096234-CT5279 Meriden Birdseye Avenue\Tech\Rev.2\50096234 - Meriden Birdsey Ave Analysis Calc. (TIA-222-H).xlsx

Element Definition:

	Description	Dimensions (in.)			Weight	Length /
		W	D	H	(lb)	# Supports
	SBNHH-1D85B	11.90	7.10	72.90	57.10	2.00
	QS66512-2	12.00	9.60	72.00	126.00	2.00
	Kaelus TMA2117F00V1	11.81	4.65	9.84	26.00	1.00
	CCI TMABPD7823VG12A	11.04	3.75	10.63	26.00	1.00
	STRUCTURAL MEMBERS					
(Mounting Pipe)	2-3/8" OD Pipe	2.38	2.38	12.00	STAAD	Pipe
	3.5" OD Pipe	3.50	3.50	12.00	STAAD	Pipe
	4" Square Tube	4.00	4.00	12.00	STAAD	Tube
	L3x3	3.00	3.00	12.00	STAAD	Angle

Service & Maintenance Wind Load

Members	Dimensions (ft.)			Area $(A_a)_n$	Area $(A_a)_t$	Aspect	Aspect	C_{an}	C_{at}
	Width	Depth	Height	*(normal)*	*(tangent)*	Ratio	Ratio	*(normal)*	*(tangent)*
	(Normal)	*(Tangent)*	*(or span)*	*(sf)*	*(sf)*	*(normal)*	*(tangent)*	*Table 2-8*	*Table 2-8*
SBNHH-1D85B	0.99	0.59	6.08	6.02	3.59	6.14	10.31	1.36	1.51
QS66512-2	1.00	0.80	6.00	6.00	4.80	6.00	7.50	1.36	1.42
Kaelus TMA2117F00V1	0.98	0.39	0.82	0.80	0.32	0.84	2.10	1.20	1.20
CCI TMABPD7823VG12A	0.92	0.31	0.89	0.82	0.28	0.97	2.87	1.20	1.22
STRUCTURAL MEMBERS									
2-3/8" OD Pipe	0.20	0.20	1.00	0.20	0.20	5.00	5.00	0.76	0.76
3.5" OD Pipe	0.29	0.29	1.00	0.29	0.29	3.45	3.45	0.72	0.72
4" Square Tube	0.33	0.33	1.00	0.33	0.33	3.03	3.03	1.22	1.22
L3x3	0.25	0.25	1.00	0.25	0.25	4.00	4.00	1.27	1.27

Dewberry

Job Number	50096234
Made by:	SMS
Date:	04/24/19
Checked by:	BGK
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(Meriden Birdsey Ave) - Serviceability Wind Load

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Service Effective Projected Area & Wind Loads

Members	EPA_{as} @ 0.0° (sf)	EPA_{as} @ 30.0° (sf)	EPA_{as} @ 60.0° (sf)	EPA_{as} @ 90.0° (sf)	F_{as} @ 0.0° (lb)	F_{as} @ 30.0° (lb)	F_{as} @ 60.0° (lb)	F_{as} @ 90.0° (lb)
SBNHH-1D85B	7.37	6.75	5.50	4.88	41.3	37.8	30.8	27.3
QS66512-2	7.34	7.04	6.44	6.13	41.1	39.4	36.0	34.4
Kaelus TMA2117F00V1	0.86	0.73	0.48	0.35	9.7	8.2	5.3	3.9
CCI TMABPD7823VG12A	0.89	0.74	0.45	0.31	9.9	8.3	5.1	3.4
STRUCTURAL MEMBERS								
2-3/8" OD Pipe	0.14	-	-	-	1.5	-	-	-
3.5" OD Pipe	0.19	-	-	-	2.1	-	-	-
4" Square Tube	0.36	-	-	-	4.1	-	-	-
L3x3	0.29	-	-	-	3.2	-	-	-

Maintenance Effective Projected Area & Wind Loads

Members	EPA_{am} @ 0.0° (sf)	EPA_{am} @ 30.0° (sf)	EPA_{am} @ 60.0° (sf)	EPA_{am} @ 90.0° (sf)	F_{am} @ 0.0° (lb)	F_{am} @ 30.0° (lb)	F_{am} @ 60.0° (lb)	F_{am} @ 90.0° (lb)
SBNHH-1D85B	7.37	6.75	5.50	4.88	11.8	10.8	8.8	7.8
QS66512-2	7.34	7.04	6.44	6.13	11.8	11.3	10.3	9.8
Kaelus TMA2117F00V1	0.86	0.73	0.48	0.35	2.8	2.4	1.5	1.1
CCI TMABPD7823VG12A	0.89	0.74	0.45	0.31	2.8	2.4	1.4	1.0
STRUCTURAL MEMBERS								
2-3/8" OD Pipe	0.14	-	-	-	0.4	-	-	-
3.5" OD Pipe	0.19	-	-	-	0.6	-	-	-
4" Square Tube	0.36	-	-	-	1.2	-	-	-
L3x3	0.29	-	-	-	0.9	-	-	-

Dewberry

Job Number	50096234
Made by:	SMS
Date:	04/24/19
Checked by:	BGK
Date:	04/25/19

(Meriden Birdsey Ave) - Load Input for STAAD Model

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STAAD Gravity Load Input

Equipment	Dead Load *(lb per support)*	Ice Load *(lb per support)*
SBNHH-1D85B	28.6	65.8
QS66512-2	63.0	71.6
Kaelus TMA2117F00V1	26.0	16.4
CCI TMABPD7823VG12A	26.0	16.4

Maintenance Loads - Sect. 16.3, TIA * AT&T policy does not allow walking on or suspending from T-Arm mounts, maintenance loads are not applied

L_M = 0 lbs - vertical concentrated downward force applied in each mounting pipe location independently

L_V = 0 lbs - vertical concentrated downward force applied at the center of each simply supported horizontal member and at the end of each horizontal cantilevered members independently (excluding tie-backs)

STAAD Wind Load Calculation

Equipment	Axis	Case #1 0°	Case #2 30°	Case #3 60°	Case #4 90°	Case #5 120°	Case #6 150°	Case #7 180°	Case #8 210°	Case #9 240°	Case #10 270°	Case #11 300°	Case #12 330°
Not Shielded (1 - 4)	z	$-F_0$	Same as Case #4	Same as Case #1	-	Same as Case #1	Same as Case #2	Same as Case #3	Same as Case #4	Same as Case #1	Same as Case #2	Same as Case #3	Same as Case #4
	x	-			F_{90}								
Shielded (1 - 4)	z	N/A			-								
	x	-			F_{90}								
Not Shielded (5 - 12)	z	$-F_{60}$			-								
	x	-			F_{30}								
Shielded (5 - 12)	z	$-F_{60}$			-								
	x	-			N/A								

Dewberry

Job Number	50096234
Made by:	SMS
Date:	04/24/19
Checked by:	BGK
Date:	04/25/19

(Meriden Birdsey Ave) - Load Input for STAAD Model

\\Capecod\Projects\50093723\50096234-CT5279 Meriden Birdseye Avenue\Tech\Rev.2\50096234 - Meriden Birdsey Ave Analysis Calc. (TIA-222-H).xlsx

STAAD Load Input (Design Wind Load)

Positions 1 - 4

Equipment	Axis	Case #1 0°	Case #2 30°	Case #3 60°	Case #4 90°
SBNHH-1D85B	z	-198.9	Same as Case #4	Same as Case #1	-
(Not Shielded)	x	-			131.7
QS66512-2	z	-198.3			-
(Not Shielded)	x	-			165.6
Kaelus TMA2117F00V1	z	N/A			-
(Shielded)	x	-			18.7
CCI TMABPD7823VG12A	z	N/A			-
(Shielded)	x	-			16.6

Positions 5 - 12

Equipment	Axis	Case #1 0°	Case #2 30°	Case #3 60°	Case #4 90°
SBNHH-1D85B	z	-148.5	Same as Case #4	Same as Case #1	-
(Not Shielded)	x	-			182.1
QS66512-2	z	-173.8			-
(Not Shielded)	x	-			190.1
Kaelus TMA2117F00V1	z	-25.7			-
(Shielded)	x	-			N/A
CCI TMABPD7823VG12A	z	-24.4			-
(Shielded)	x	-			N/A

Dewberry

Job Number	50096234
Made by:	SMS
Date:	04/24/19
Checked by:	BGK
Date:	04/25/19

(Meriden Birdsey Ave) - Load Input for STAAD Model

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STAAD Load Input (Design Wind on Ice Load)

Positions 1 - 4

Equipment	Axis	Case #1 0°	Case #2 30°	Case #3 60°	Case #4 90°
SBNHH-1D85B	z	-38.6			-
(Not Shielded)	x	-			27.7
QS66512-2	z	-38.4			-
(Not Shielded)	x	-			33.0
Kaelus TMA2117F00V1	z	N/A			-
(Shielded)	x	-			5.5
CCI TMABPD7823VG12A	z	N/A			-
(Shielded)	x	-	Same as Case #4	Same as Case #1	5.2

Positions 5 - 12

Equipment	Axis	Case #1 0°	Case #2 30°	Case #3 60°	Case #4 90°
SBNHH-1D85B	z	-30.4			-
(Not Shielded)	x	-			35.8
QS66512-2	z	-34.4			-
(Not Shielded)	x	-			37.1
Kaelus TMA2117F00V1	z	-7.0			-
(Shielded)	x	-			N/A
CCI TMABPD7823VG12A	z	-6.7			-
(Shielded)	x	-	Same as Case #4	Same as Case #1	N/A

Dewberry

Job Number	50096234
Made by:	SMS
Date:	04/24/19
Checked by:	BGK
Date:	04/25/19

(Meriden Birdsey Ave) - Load Input for STAAD Model

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STAAD Load Input (Service Wind Load)

Positions 1 - 4

Equipment	Axis	Case #1 0°	Case #2 30°	Case #3 60°	Case #4 90°
SBNHH-1D85B	z	-41.3	Same as Case #4	Same as Case #1	-
(Not Shielded)	x	-			27.3
QS66512-2	z	-41.1			-
(Not Shielded)	x	-			34.4
Kaelus TMA2117F00V1	z	N/A			-
(Shielded)	x	-			3.9
CCI TMABPD7823VG12A	z	N/A			-
(Shielded)	x	-			3.4

Positions 5 - 12

Equipment	Axis	Case #1 0°	Case #2 30°	Case #3 60°	Case #4 90°
SBNHH-1D85B	z	-30.8	Same as Case #4	Same as Case #1	-
(Not Shielded)	x	-			37.8
QS66512-2	z	-36.0			-
(Not Shielded)	x	-			39.4
Kaelus TMA2117F00V1	z	-5.3			-
(Shielded)	x	-			N/A
CCI TMABPD7823VG12A	z	-5.1			-
(Shielded)	x	-			N/A

Dewberry

Job Number	50096234
Made by:	SMS
Date:	04/24/19
Checked by:	BGK
Date:	04/25/19

(Meriden Birdsey Ave) - Load Input for STAAD Model

\\Capecod\Projects\50093723\50096234-CT5279 Meriden Birdseye Avenue\Tech\Rev.2\50096234 - Meriden Birdsey Ave Analysis Calc. (TIA-222-H).xlsx

STAAD Load Input (Maintenance Wind Load)

Positions 1 - 4

Equipment	Axis	Case #1 0°	Case #2 30°	Case #3 60°	Case #4 90°
SBNHH-1D85B	z	-11.8			-
(Not Shielded)	x	-			7.8
QS66512-2	z	-11.8			-
(Not Shielded)	x	-			9.8
Kaelus TMA2117F00V1	z	N/A			-
(Shielded)	x	-			1.1
CCI TMABPD7823VG12A	z	N/A			-
(Shielded)	x	-	Same as Case #4	Same as Case #1	1.0

Positions 5 - 12

Equipment	Axis	Case #1 0°	Case #2 30°	Case #3 60°	Case #4 90°
SBNHH-1D85B	z	-8.8			-
(Not Shielded)	x	-			10.8
QS66512-2	z	-10.3			-
(Not Shielded)	x	-			11.3
Kaelus TMA2117F00V1	z	-1.5			-
(Shielded)	x	-			N/A
CCI TMABPD7823VG12A	z	-1.4			-
(Shielded)	x	-	Same as Case #4	Same as Case #1	N/A

Job Information

	Engineer	Checked	Approved
Name:	SMS	BGK	
Date:	04/24/19	04/25/19	

Project ID	
Project Name	

Structure Type	SPACE FRAME

Number of Nodes	93	Highest Node	98
Number of Elements	81	Highest Beam	82

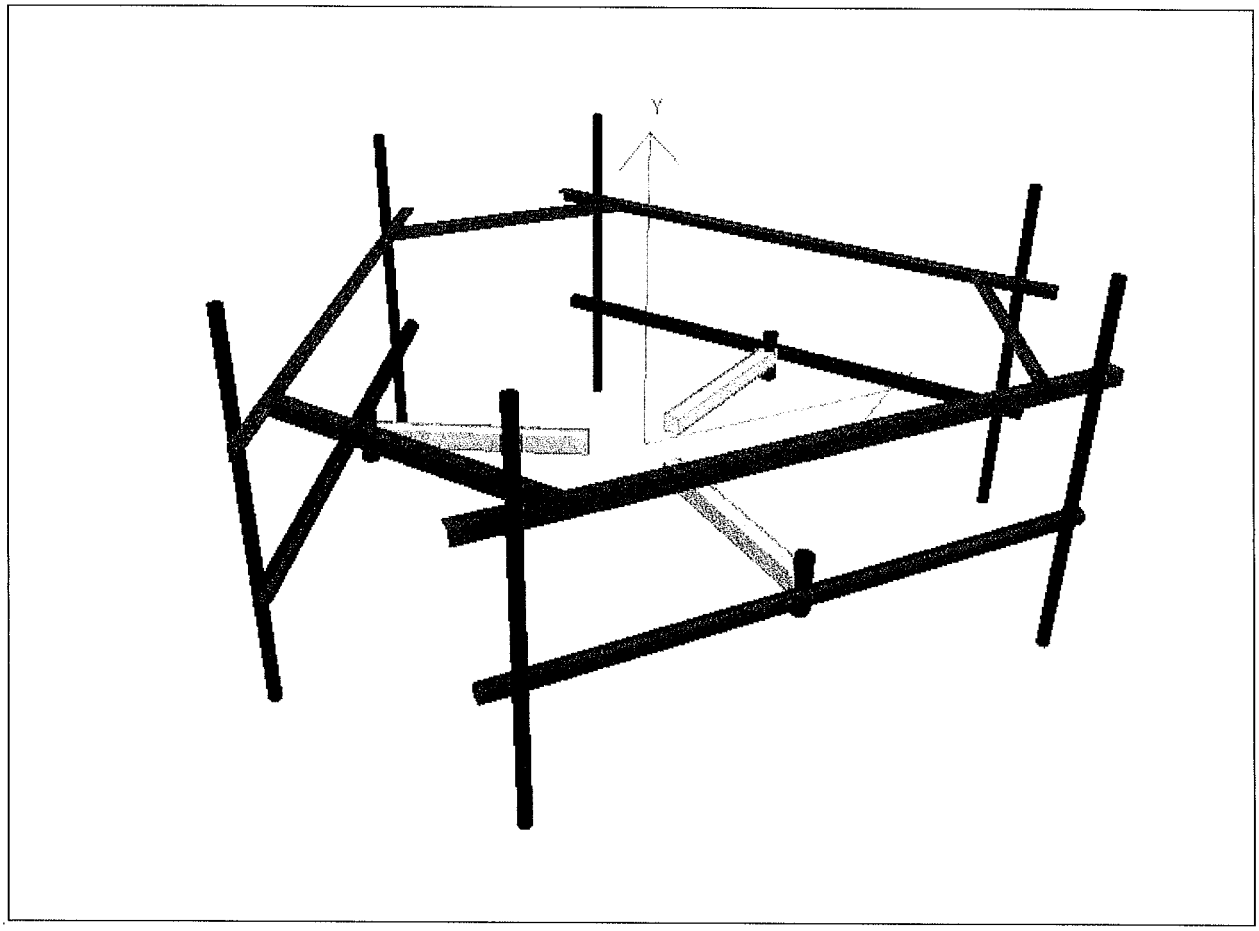
Number of Basic Load Cases	8
Number of Combination Load Cases	12

Included in this printout are data for:

All	The Whole Structure

Included in this printout are results for load cases:

Type	L/C	Name
Primary	1	DEAD
Primary	2	WL#1
Primary	3	WL#4
Primary	4	DI
Primary	5	WLI#1
Primary	6	WLI#4
Primary	7	WLS#1
Primary	8	WLS#4
Combination	13	1.2D+1.0WL#1
Combination	14	1.2D+1.0WL#4
Combination	15	1.2D-1.0WL#1
Combination	16	1.2D-1.0WL#4
Combination	17	1.2D+1.0DI+1.0WI#1
Combination	18	1.2D+1.0DI+1.0WI#4
Combination	19	1.2D+1.0DI-1.0WI#1
Combination	20	1.2D+1.0DI-1.0WI#4
Combination	21	1.0D+1.0WLS#1
Combination	22	1.0D+1.0WLS#4
Combination	23	1.0D-1.0WLS#1
Combination	24	1.0D-1.0WLS#4



3D Rendered View

Nodes

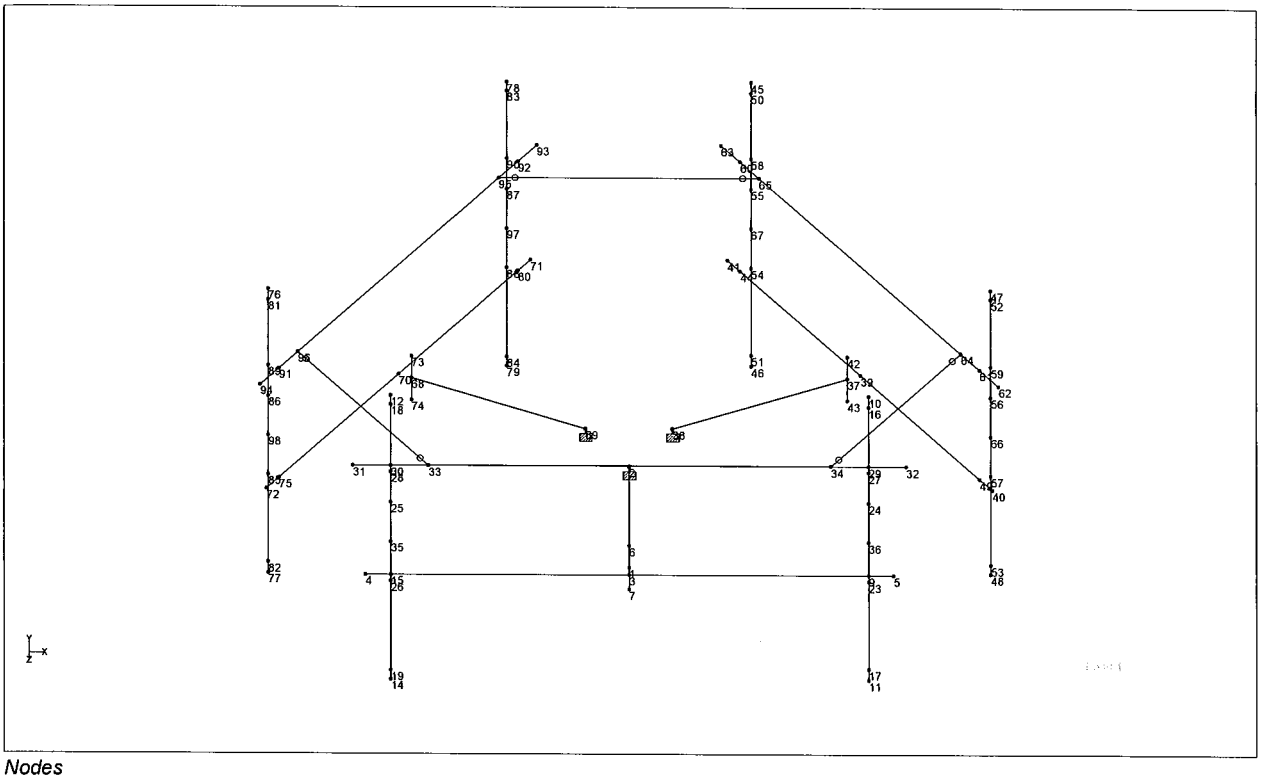
Node	X (ft)	Y (ft)	Z (ft)
1	0.000	0.000	5.000
2	0.000	0.000	1.000
3	0.000	0.000	5.300
4	-5.250	0.000	5.300
5	5.250	0.000	5.300
6	0.000	0.500	5.000
7	0.000	-0.500	5.000
9	4.750	0.000	5.300
10	4.750	4.250	5.550
11	4.750	-2.250	5.550
12	-4.750	4.250	5.550
14	-4.750	-2.250	5.550
15	-4.750	0.000	5.300

Nodes Cont...

Node	X (ft)	Y (ft)	Z (ft)
16	4.750	4.000	5.550
17	4.750	-2.000	5.550
18	-4.750	4.042	5.550
19	-4.750	-2.042	5.550
23	4.750	0.000	5.550
24	4.750	1.800	5.550
25	-4.750	1.800	5.550
26	-4.750	0.000	5.550
27	4.750	2.500	5.550
28	-4.750	2.500	5.550
29	4.750	2.500	5.300
30	-4.750	2.500	5.300
31	-5.500	2.500	5.300
32	5.500	2.500	5.300
33	-4.000	2.500	5.300
34	4.000	2.500	5.300
35	-4.750	0.900	5.550
36	4.750	0.900	5.550
37	4.330	0.000	-2.500
38	0.866	0.000	-0.500
39	4.590	0.000	-2.650
40	7.215	0.000	1.897
41	1.965	0.000	-7.197
42	4.330	0.500	-2.500
43	4.330	-0.500	-2.500
44	2.215	0.000	-6.764
45	2.431	4.250	-6.889
46	2.431	-2.250	-6.889
47	7.181	4.250	1.338
48	7.181	-2.250	1.338
49	6.965	0.000	1.463
50	2.431	4.000	-6.889
51	2.431	-2.000	-6.889
52	7.181	4.042	1.338
53	7.181	-2.042	1.338
54	2.431	0.000	-6.889
55	2.431	1.800	-6.889
56	7.181	1.800	1.338
57	7.181	0.000	1.338
58	2.431	2.500	-6.889
59	7.181	2.500	1.338
60	2.215	2.500	-6.764
61	6.965	2.500	1.463
62	7.340	2.500	2.113
63	1.840	2.500	-7.413

Nodes Cont...

Node	X (ft)	Y (ft)	Z (ft)
64	6.590	2.500	0.814
65	2.590	2.500	-6.114
66	7.181	0.900	1.338
67	2.431	0.900	-6.889
68	-4.330	0.000	-2.500
69	-0.866	0.000	-0.500
70	-4.590	0.000	-2.650
71	-1.965	0.000	-7.197
72	-7.215	0.000	1.897
73	-4.330	0.500	-2.500
74	-4.330	-0.500	-2.500
75	-6.965	0.000	1.464
76	-7.182	4.250	1.339
77	-7.182	-2.250	1.339
78	-2.432	4.250	-6.888
79	-2.432	-2.250	-6.888
80	-2.215	0.000	-6.763
81	-7.182	4.000	1.339
82	-7.182	-2.000	1.339
83	-2.432	4.042	-6.888
84	-2.432	-2.042	-6.888
85	-7.182	0.000	1.339
86	-7.182	1.800	1.339
87	-2.432	1.800	-6.888
88	-2.432	0.000	-6.888
89	-7.182	2.500	1.339
90	-2.432	2.500	-6.888
91	-6.965	2.500	1.464
92	-2.215	2.500	-6.763
93	-1.840	2.500	-7.413
94	-7.340	2.500	2.113
95	-2.590	2.500	-6.114
96	-6.590	2.500	0.814
97	-2.432	0.900	-6.888
98	-7.182	0.900	1.339



Nodes

Beams

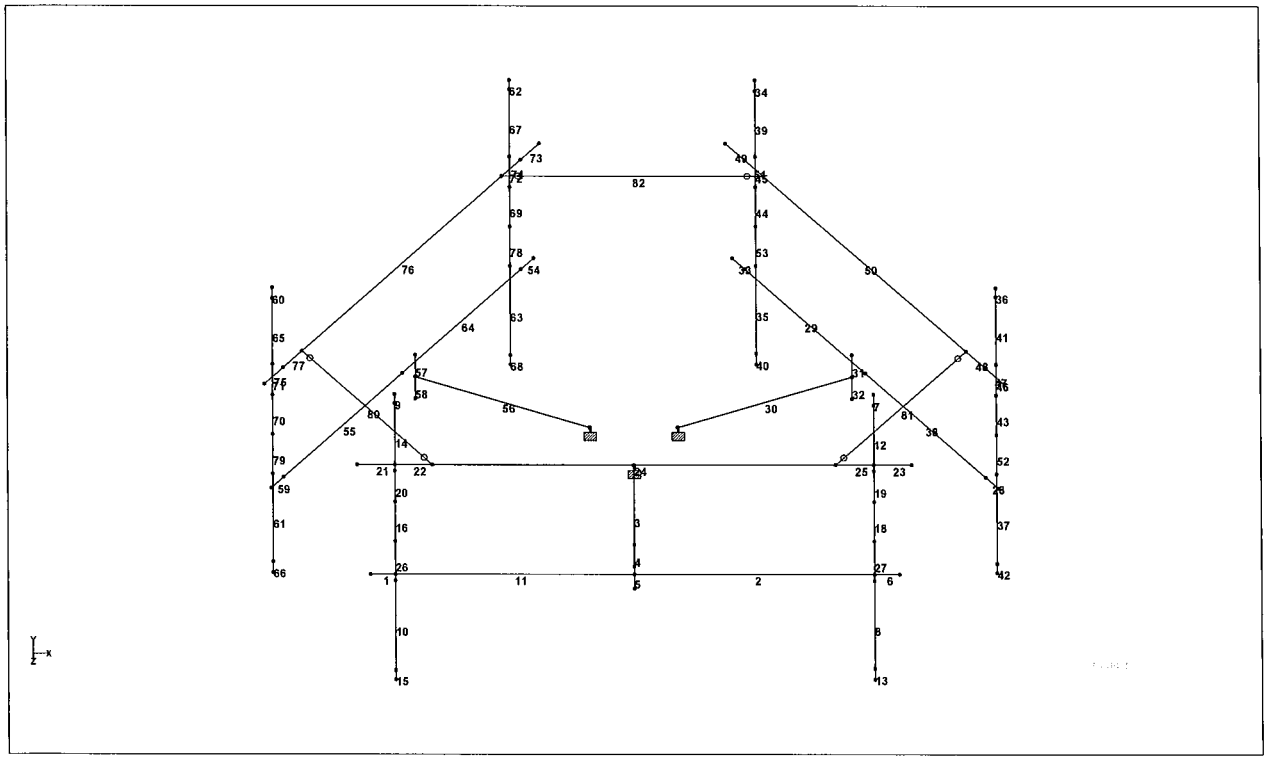
Beam	Node A	Node B	Length (ft)	Property	β (degrees)
1	4	15	0.500	2	0
2	3	9	4.750	2	0
3	2	1	4.000	1	0
4	6	1	0.500	2	0
5	1	7	0.500	2	0
6	9	5	0.500	2	0
7	10	16	0.250	5	0
8	23	17	2.000	5	0
9	12	18	0.208	5	0
10	26	19	2.042	5	0
11	15	3	4.750	2	0
12	16	27	1.500	5	0
13	17	11	0.250	5	0
14	18	28	1.542	5	0
15	19	14	0.208	5	0
16	25	35	0.900	5	0
18	24	36	0.900	5	0
19	27	24	0.700	5	0
20	28	25	0.700	5	0

Beams Cont...

Beam	Node A	Node B	Length (ft)	Property	β (degrees)
21	31	30	0.750	4	45
22	30	33	0.750	4	45
23	29	32	0.750	4	45
24	33	34	8.000	4	45
25	34	29	0.750	4	45
26	35	26	0.900	5	0
27	36	23	0.900	5	0
28	40	49	0.500	2	0
29	39	44	4.750	2	0
30	38	37	4.000	1	0
31	42	37	0.500	2	0
32	37	43	0.500	2	0
33	44	41	0.500	2	0
34	45	50	0.250	3	0
35	54	51	2.000	3	0
36	47	52	0.208	3	0
37	57	53	2.042	3	0
38	49	39	4.750	2	0
39	50	58	1.500	3	0
40	51	46	0.250	3	0
41	52	59	1.542	3	0
42	53	48	0.208	3	0
43	56	66	0.900	3	0
44	55	67	0.900	3	0
45	58	55	0.700	3	0
46	59	56	0.700	3	0
47	62	61	0.750	4	45
48	61	64	0.750	4	45
49	60	63	0.750	4	45
50	64	65	8.000	4	45
51	65	60	0.750	4	45
52	66	57	0.900	3	0
53	67	54	0.900	3	0
54	71	80	0.500	2	0
55	70	75	4.750	2	0
56	69	68	4.000	1	0
57	73	68	0.500	2	0
58	68	74	0.500	2	0
59	75	72	0.500	2	0
60	76	81	0.250	3	0
61	85	82	2.000	3	0
62	78	83	0.208	3	0
63	88	84	2.042	3	0
64	80	70	4.750	2	0
65	81	89	1.500	3	0

Beams Cont...

Beam	Node A	Node B	Length (ft)	Property	β (degrees)
66	82	77	0.250	3	0
67	83	90	1.542	3	0
68	84	79	0.208	3	0
69	87	97	0.900	3	0
70	86	98	0.900	3	0
71	89	86	0.700	3	0
72	90	87	0.700	3	0
73	93	92	0.750	4	45
74	92	95	0.750	4	45
75	91	94	0.750	4	45
76	95	96	8.000	4	45
77	96	91	0.750	4	45
78	97	88	0.900	3	0
79	98	85	0.900	3	0
80	96	33	5.180	4	45
81	34	64	5.180	4	45
82	65	95	5.180	4	45



Beams

Section Properties

Prop	Section	Area (in^2)	I_{yy} (in^4)	I_{zz} (in^4)	J (in^4)	Material
1	HSST4X4X0.25	3.370	7.800	7.800	12.455	STEEL
2	PIPS30	2.070	2.850	2.850	5.689	STEEL
3	PIPS20	1.020	0.627	0.627	1.262	STEEL
4	L30304	1.440	1.982	0.506	0.031	STEEL
5	PIPS20	1.020	0.627	0.627	1.262	STEEL

Materials

Mat	Name	E (kip/in^2)	ν	Density (kip/in^3)	α (/°F)
1	STEEL	29E+3	0.300	0.000	6E -6
2	STAINLESSSTEEL	28E+3	0.300	0.000	10E -6
3	ALUMINUM	10E+3	0.330	0.000	13E -6
4	CONCRETE	3.15E+3	0.170	0.000	5E -6

Supports

Node	X (kip/in)	Y (kip/in)	Z (kip/in)	rX (kip-ft/deg)	rY (kip-ft/deg)	rZ (kip-ft/deg)
2	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
38	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
69	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed

Releases

Beam ends not shown in this table are fixed in all directions.

Beam	Node	x	y	z	rx	ry	rz
80	96	Fixed	Fixed	Fixed	Fixed	Pin	Pin
80	33	Fixed	Fixed	Fixed	Fixed	Pin	Pin
81	34	Fixed	Fixed	Fixed	Fixed	Pin	Pin
81	64	Fixed	Fixed	Fixed	Fixed	Pin	Pin
82	65	Fixed	Fixed	Fixed	Fixed	Pin	Pin
82	95	Fixed	Fixed	Fixed	Fixed	Pin	Pin

Primary Load Cases

Number	Name	Type
1	DEAD	Dead
2	WL#1	Wind
3	WL#4	Wind
4	DI	Ice
5	WLI#1	Wind on Ice
6	WLI#4	Wind on Ice
7	WLS#1	Wind
8	WLS#4	Wind

Combination Load Cases

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
13	1.2D+1.0WL#1	1	DEAD	1.20
		2	WL#1	1.00
14	1.2D+1.0WL#4	1	DEAD	1.20
		3	WL#4	1.00
15	1.2D-1.0WL#1	1	DEAD	1.20
		2	WL#1	-1.00
16	1.2D-1.0WL#4	1	DEAD	1.20
		3	WL#4	-1.00
17	1.2D+1.0DI+1.0WI#1	1	DEAD	1.20
		5	WLI#1	1.00
		4	DI	1.00
18	1.2D+1.0DI+1.0WI#4	1	DEAD	1.20
		6	WLI#4	1.00
		4	DI	1.00
19	1.2D+1.0DI-1.0WI#1	1	DEAD	1.20
		5	WLI#1	-1.00
		4	DI	1.00
20	1.2D+1.0DI-1.0WI#4	1	DEAD	1.20
		6	WLI#4	-1.00
		4	DI	1.00
21	1.0D+1.0WLS#1	1	DEAD	1.00
		7	WLS#1	1.00
22	1.0D+1.0WLS#4	1	DEAD	1.00
		8	WLS#4	1.00
23	1.0D-1.0WLS#1	1	DEAD	1.00
		7	WLS#1	-1.00
24	1.0D-1.0WLS#4	1	DEAD	1.00
		8	WLS#4	-1.00

1 DEAD : Node Loads

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
16	-	-0.029	-	-	-	-
17	-	-0.029	-	-	-	-
18	-	-0.063	-	-	-	-
19	-	-0.063	-	-	-	-
24	-	-0.026	-	-	-	-
25	-	-0.026	-	-	-	-
35	-	-0.026	-	-	-	-
36	-	-0.026	-	-	-	-
50	-	-0.029	-	-	-	-
51	-	-0.029	-	-	-	-
52	-	-0.063	-	-	-	-
53	-	-0.063	-	-	-	-
55	-	-0.026	-	-	-	-
56	-	-0.026	-	-	-	-
66	-	-0.026	-	-	-	-
67	-	-0.026	-	-	-	-
81	-	-0.029	-	-	-	-
82	-	-0.029	-	-	-	-
83	-	-0.063	-	-	-	-
84	-	-0.063	-	-	-	-
86	-	-0.026	-	-	-	-
87	-	-0.026	-	-	-	-
97	-	-0.026	-	-	-	-
98	-	-0.026	-	-	-	-

1 DEAD : Selfweight

Direction	Factor	Assigned Geometry
Y	-1.000	ALL

2 WL#1 : Node Loads

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
16	-	-	-0.199	-	-	-
17	-	-	-0.199	-	-	-
18	-	-	-0.198	-	-	-
19	-	-	-0.198	-	-	-
50	-	-	-0.148	-	-	-
51	-	-	-0.148	-	-	-
52	-	-	-0.174	-	-	-
53	-	-	-0.174	-	-	-
55	-	-	-0.026	-	-	-
56	-	-	-0.024	-	-	-
66	-	-	-0.024	-	-	-
67	-	-	-0.026	-	-	-
81	-	-	-0.148	-	-	-
82	-	-	-0.148	-	-	-
83	-	-	-0.174	-	-	-
84	-	-	-0.174	-	-	-
86	-	-	-0.026	-	-	-
87	-	-	-0.024	-	-	-
97	-	-	-0.024	-	-	-
98	-	-	-0.026	-	-	-

2 WL#1 : Beam Loads

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
1	UNI	lbf/ft	GZ	-10.100	-	-	-	-
2	UNI	lbf/ft	GZ	-10.100	-	-	-	-
3	UNI	lbf/ft	GZ	-19.600	-	-	-	-
4	UNI	lbf/ft	GZ	-10.100	-	-	-	-
5	UNI	lbf/ft	GZ	-10.100	-	-	-	-
6	UNI	lbf/ft	GZ	-10.100	-	-	-	-
11	UNI	lbf/ft	GZ	-10.100	-	-	-	-
21	UNI	lbf/ft	GZ	-15.400	-	-	-	-
22	UNI	lbf/ft	GZ	-15.400	-	-	-	-
23	UNI	lbf/ft	GZ	-15.400	-	-	-	-
24	UNI	lbf/ft	GZ	-15.400	-	-	-	-
25	UNI	lbf/ft	GZ	-15.400	-	-	-	-
28	UNI	lbf/ft	GZ	-10.100	-	-	-	-
29	UNI	lbf/ft	GZ	-10.100	-	-	-	-
30	UNI	lbf/ft	GZ	-19.600	-	-	-	-
31	UNI	lbf/ft	GZ	-10.100	-	-	-	-
32	UNI	lbf/ft	GZ	-10.100	-	-	-	-
33	UNI	lbf/ft	GZ	-10.100	-	-	-	-
34	UNI	lbf/ft	GZ	-7.400	-	-	-	-

2 WL#1 : Beam Loads Cont...

Beam	Type	Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
35	UNI lbf/ft	GZ	-7.400	-	-	-	-
36	UNI lbf/ft	GZ	-7.400	-	-	-	-
37	UNI lbf/ft	GZ	-7.400	-	-	-	-
38	UNI lbf/ft	GZ	-10.100	-	-	-	-
39	UNI lbf/ft	GZ	-7.400	-	-	-	-
40	UNI lbf/ft	GZ	-7.400	-	-	-	-
41	UNI lbf/ft	GZ	-7.400	-	-	-	-
42	UNI lbf/ft	GZ	-7.400	-	-	-	-
43	UNI lbf/ft	GZ	-7.400	-	-	-	-
44	UNI lbf/ft	GZ	-7.400	-	-	-	-
45	UNI lbf/ft	GZ	-7.400	-	-	-	-
46	UNI lbf/ft	GZ	-7.400	-	-	-	-
47	UNI lbf/ft	GZ	-15.400	-	-	-	-
48	UNI lbf/ft	GZ	-15.400	-	-	-	-
49	UNI lbf/ft	GZ	-15.400	-	-	-	-
50	UNI lbf/ft	GZ	-15.400	-	-	-	-
51	UNI lbf/ft	GZ	-15.400	-	-	-	-
52	UNI lbf/ft	GZ	-7.400	-	-	-	-
53	UNI lbf/ft	GZ	-7.400	-	-	-	-
54	UNI lbf/ft	GZ	-10.100	-	-	-	-
55	UNI lbf/ft	GZ	-10.100	-	-	-	-
56	UNI lbf/ft	GZ	-19.600	-	-	-	-
57	UNI lbf/ft	GZ	-10.100	-	-	-	-
58	UNI lbf/ft	GZ	-10.100	-	-	-	-
59	UNI lbf/ft	GZ	-10.100	-	-	-	-
60	UNI lbf/ft	GZ	-7.400	-	-	-	-
61	UNI lbf/ft	GZ	-7.400	-	-	-	-
62	UNI lbf/ft	GZ	-7.400	-	-	-	-
63	UNI lbf/ft	GZ	-7.400	-	-	-	-
64	UNI lbf/ft	GZ	-10.100	-	-	-	-
65	UNI lbf/ft	GZ	-7.400	-	-	-	-
66	UNI lbf/ft	GZ	-7.400	-	-	-	-
67	UNI lbf/ft	GZ	-7.400	-	-	-	-
68	UNI lbf/ft	GZ	-7.400	-	-	-	-
69	UNI lbf/ft	GZ	-7.400	-	-	-	-
70	UNI lbf/ft	GZ	-7.400	-	-	-	-
71	UNI lbf/ft	GZ	-7.400	-	-	-	-
72	UNI lbf/ft	GZ	-7.400	-	-	-	-
73	UNI lbf/ft	GZ	-15.400	-	-	-	-
74	UNI lbf/ft	GZ	-15.400	-	-	-	-
75	UNI lbf/ft	GZ	-15.400	-	-	-	-
76	UNI lbf/ft	GZ	-15.400	-	-	-	-
77	UNI lbf/ft	GZ	-15.400	-	-	-	-
78	UNI lbf/ft	GZ	-7.400	-	-	-	-
79	UNI lbf/ft	GZ	-7.400	-	-	-	-

2 WL#1 : Beam Loads Cont...

Beam	Type	Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
80	UNI lbf/ft	GZ	-15.400	-	-	-	-
81	UNI lbf/ft	GZ	-15.400	-	-	-	-
82	UNI lbf/ft	GZ	-15.400	-	-	-	-

3 WL#4 : Node Loads

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
16	0.132	-	-	-	-	-
17	0.132	-	-	-	-	-
18	0.166	-	-	-	-	-
19	0.166	-	-	-	-	-
24	0.019	-	-	-	-	-
25	0.017	-	-	-	-	-
35	0.017	-	-	-	-	-
36	0.019	-	-	-	-	-
50	0.182	-	-	-	-	-
51	0.182	-	-	-	-	-
52	0.190	-	-	-	-	-
53	0.190	-	-	-	-	-
81	0.182	-	-	-	-	-
82	0.182	-	-	-	-	-
83	0.190	-	-	-	-	-
84	0.190	-	-	-	-	-

3 WL#4 : Beam Loads

Beam	Type	Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
1	UNI lbf/ft	GX	10.100	-	-	-	-
2	UNI lbf/ft	GX	10.100	-	-	-	-
3	UNI lbf/ft	GX	19.600	-	-	-	-
4	UNI lbf/ft	GX	10.100	-	-	-	-
5	UNI lbf/ft	GX	10.100	-	-	-	-
6	UNI lbf/ft	GX	10.100	-	-	-	-
7	UNI lbf/ft	GX	7.400	-	-	-	-
8	UNI lbf/ft	GX	7.400	-	-	-	-
9	UNI lbf/ft	GX	7.400	-	-	-	-
10	UNI lbf/ft	GX	7.400	-	-	-	-
11	UNI lbf/ft	GX	10.100	-	-	-	-
12	UNI lbf/ft	GX	7.400	-	-	-	-
13	UNI lbf/ft	GX	7.400	-	-	-	-
14	UNI lbf/ft	GX	7.400	-	-	-	-
15	UNI lbf/ft	GX	7.400	-	-	-	-

3 WL#4 : Beam Loads Cont...

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
16	UNI	lbf/ft	GX	7.400	-	-	-	-
18	UNI	lbf/ft	GX	7.400	-	-	-	-
19	UNI	lbf/ft	GX	7.400	-	-	-	-
20	UNI	lbf/ft	GX	7.400	-	-	-	-
21	UNI	lbf/ft	GX	15.400	-	-	-	-
22	UNI	lbf/ft	GX	15.400	-	-	-	-
23	UNI	lbf/ft	GX	15.400	-	-	-	-
24	UNI	lbf/ft	GX	15.400	-	-	-	-
25	UNI	lbf/ft	GX	15.400	-	-	-	-
26	UNI	lbf/ft	GX	7.400	-	-	-	-
27	UNI	lbf/ft	GX	7.400	-	-	-	-
28	UNI	lbf/ft	GX	10.100	-	-	-	-
29	UNI	lbf/ft	GX	10.100	-	-	-	-
30	UNI	lbf/ft	GX	19.600	-	-	-	-
31	UNI	lbf/ft	GX	10.100	-	-	-	-
32	UNI	lbf/ft	GX	10.100	-	-	-	-
33	UNI	lbf/ft	GX	10.100	-	-	-	-
38	UNI	lbf/ft	GX	10.100	-	-	-	-
47	UNI	lbf/ft	GX	15.400	-	-	-	-
48	UNI	lbf/ft	GX	15.400	-	-	-	-
49	UNI	lbf/ft	GX	15.400	-	-	-	-
50	UNI	lbf/ft	GX	15.400	-	-	-	-
51	UNI	lbf/ft	GX	15.400	-	-	-	-
54	UNI	lbf/ft	GX	10.100	-	-	-	-
55	UNI	lbf/ft	GX	10.100	-	-	-	-
56	UNI	lbf/ft	GX	19.600	-	-	-	-
57	UNI	lbf/ft	GX	10.100	-	-	-	-
58	UNI	lbf/ft	GX	10.100	-	-	-	-
59	UNI	lbf/ft	GX	10.100	-	-	-	-
64	UNI	lbf/ft	GX	10.100	-	-	-	-
73	UNI	lbf/ft	GX	15.400	-	-	-	-
74	UNI	lbf/ft	GX	15.400	-	-	-	-
75	UNI	lbf/ft	GX	15.400	-	-	-	-
76	UNI	lbf/ft	GX	15.400	-	-	-	-
77	UNI	lbf/ft	GX	15.400	-	-	-	-
80	UNI	lbf/ft	GX	15.400	-	-	-	-
81	UNI	lbf/ft	GX	15.400	-	-	-	-
82	UNI	lbf/ft	GX	15.400	-	-	-	-

4 DI : Node Loads

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
16	-	-0.066	-	-	-	-
17	-	-0.066	-	-	-	-
18	-	-0.072	-	-	-	-
19	-	-0.072	-	-	-	-
24	-	-0.016	-	-	-	-
25	-	-0.016	-	-	-	-
35	-	-0.016	-	-	-	-
36	-	-0.016	-	-	-	-
50	-	-0.066	-	-	-	-
51	-	-0.066	-	-	-	-
52	-	-0.072	-	-	-	-
53	-	-0.072	-	-	-	-
55	-	-0.016	-	-	-	-
56	-	-0.016	-	-	-	-
66	-	-0.016	-	-	-	-
67	-	-0.016	-	-	-	-
81	-	-0.066	-	-	-	-
82	-	-0.066	-	-	-	-
83	-	-0.072	-	-	-	-
84	-	-0.072	-	-	-	-
86	-	-0.016	-	-	-	-
87	-	-0.016	-	-	-	-
97	-	-0.016	-	-	-	-
98	-	-0.016	-	-	-	-

4 DI : Beam Loads

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
1	UNI	lbf/ft	GY	-6.700	-	-	-	-
2	UNI	lbf/ft	GY	-6.700	-	-	-	-
3	UNI	lbf/ft	GY	-9.900	-	-	-	-
4	UNI	lbf/ft	GY	-6.700	-	-	-	-
5	UNI	lbf/ft	GY	-6.700	-	-	-	-
6	UNI	lbf/ft	GY	-6.700	-	-	-	-
7	UNI	lbf/ft	GY	-5.100	-	-	-	-
8	UNI	lbf/ft	GY	-5.100	-	-	-	-
9	UNI	lbf/ft	GY	-5.100	-	-	-	-
10	UNI	lbf/ft	GY	-5.100	-	-	-	-
11	UNI	lbf/ft	GY	-6.700	-	-	-	-
12	UNI	lbf/ft	GY	-5.100	-	-	-	-
13	UNI	lbf/ft	GY	-5.100	-	-	-	-
14	UNI	lbf/ft	GY	-5.100	-	-	-	-
15	UNI	lbf/ft	GY	-5.100	-	-	-	-

4 DI : Beam Loads Cont...

Beam	Type	Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
16	UNI lbf/ft	GY	-5.100	-	-	-	-
18	UNI lbf/ft	GY	-5.100	-	-	-	-
19	UNI lbf/ft	GY	-5.100	-	-	-	-
20	UNI lbf/ft	GY	-5.100	-	-	-	-
21	UNI lbf/ft	GY	-7.800	-	-	-	-
22	UNI lbf/ft	GY	-7.800	-	-	-	-
23	UNI lbf/ft	GY	-7.800	-	-	-	-
24	UNI lbf/ft	GY	-7.800	-	-	-	-
25	UNI lbf/ft	GY	-7.800	-	-	-	-
26	UNI lbf/ft	GY	-5.100	-	-	-	-
27	UNI lbf/ft	GY	-5.100	-	-	-	-
28	UNI lbf/ft	GY	-6.700	-	-	-	-
29	UNI lbf/ft	GY	-6.700	-	-	-	-
30	UNI lbf/ft	GY	-9.900	-	-	-	-
31	UNI lbf/ft	GY	-6.700	-	-	-	-
32	UNI lbf/ft	GY	-6.700	-	-	-	-
33	UNI lbf/ft	GY	-6.700	-	-	-	-
34	UNI lbf/ft	GY	-5.100	-	-	-	-
35	UNI lbf/ft	GY	-5.100	-	-	-	-
36	UNI lbf/ft	GY	-5.100	-	-	-	-
37	UNI lbf/ft	GY	-5.100	-	-	-	-
38	UNI lbf/ft	GY	-6.700	-	-	-	-
39	UNI lbf/ft	GY	-5.100	-	-	-	-
40	UNI lbf/ft	GY	-5.100	-	-	-	-
41	UNI lbf/ft	GY	-5.100	-	-	-	-
42	UNI lbf/ft	GY	-5.100	-	-	-	-
43	UNI lbf/ft	GY	-5.100	-	-	-	-
44	UNI lbf/ft	GY	-5.100	-	-	-	-
45	UNI lbf/ft	GY	-5.100	-	-	-	-
46	UNI lbf/ft	GY	-5.100	-	-	-	-
47	UNI lbf/ft	GY	-7.800	-	-	-	-
48	UNI lbf/ft	GY	-7.800	-	-	-	-
49	UNI lbf/ft	GY	-7.800	-	-	-	-
50	UNI lbf/ft	GY	-7.800	-	-	-	-
51	UNI lbf/ft	GY	-7.800	-	-	-	-
52	UNI lbf/ft	GY	-5.100	-	-	-	-
53	UNI lbf/ft	GY	-5.100	-	-	-	-
54	UNI lbf/ft	GY	-6.700	-	-	-	-
55	UNI lbf/ft	GY	-6.700	-	-	-	-
56	UNI lbf/ft	GY	-9.900	-	-	-	-
57	UNI lbf/ft	GY	-6.700	-	-	-	-
58	UNI lbf/ft	GY	-6.700	-	-	-	-
59	UNI lbf/ft	GY	-6.700	-	-	-	-
60	UNI lbf/ft	GY	-5.100	-	-	-	-
61	UNI lbf/ft	GY	-5.100	-	-	-	-

4 DI : Beam Loads Cont...

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
62	UNI	lbf/ft	GY	-5.100	-	-	-	-
63	UNI	lbf/ft	GY	-5.100	-	-	-	-
64	UNI	lbf/ft	GY	-6.700	-	-	-	-
65	UNI	lbf/ft	GY	-5.100	-	-	-	-
66	UNI	lbf/ft	GY	-5.100	-	-	-	-
67	UNI	lbf/ft	GY	-5.100	-	-	-	-
68	UNI	lbf/ft	GY	-5.100	-	-	-	-
69	UNI	lbf/ft	GY	-5.100	-	-	-	-
70	UNI	lbf/ft	GY	-5.100	-	-	-	-
71	UNI	lbf/ft	GY	-5.100	-	-	-	-
72	UNI	lbf/ft	GY	-5.100	-	-	-	-
73	UNI	lbf/ft	GY	-7.800	-	-	-	-
74	UNI	lbf/ft	GY	-7.800	-	-	-	-
75	UNI	lbf/ft	GY	-7.800	-	-	-	-
76	UNI	lbf/ft	GY	-7.800	-	-	-	-
77	UNI	lbf/ft	GY	-7.800	-	-	-	-
78	UNI	lbf/ft	GY	-5.100	-	-	-	-
79	UNI	lbf/ft	GY	-5.100	-	-	-	-
80	UNI	lbf/ft	GY	-7.800	-	-	-	-
81	UNI	lbf/ft	GY	-7.800	-	-	-	-
82	UNI	lbf/ft	GY	-7.800	-	-	-	-

5 WLI#1 : Node Loads

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
16	-	-	-0.039	-	-	-
17	-	-	-0.039	-	-	-
18	-	-	-0.038	-	-	-
19	-	-	-0.038	-	-	-
50	-	-	-0.030	-	-	-
51	-	-	-0.030	-	-	-
52	-	-	-0.034	-	-	-
53	-	-	-0.034	-	-	-
55	-	-	-0.007	-	-	-
56	-	-	-0.007	-	-	-
66	-	-	-0.007	-	-	-
67	-	-	-0.007	-	-	-
81	-	-	-0.030	-	-	-
82	-	-	-0.030	-	-	-
83	-	-	-0.034	-	-	-
84	-	-	-0.034	-	-	-
86	-	-	-0.007	-	-	-
87	-	-	-0.007	-	-	-

5 WLI#1 : Node Loads Cont...

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
97	-	-	-0.007	-	-	-
98	-	-	-0.007	-	-	-

5 WLI#1 : Beam Loads

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
1	UNI	lbf/ft	GZ	-2.700	-	-	-	-
2	UNI	lbf/ft	GZ	-2.700	-	-	-	-
3	UNI	lbf/ft	GZ	-5.000	-	-	-	-
4	UNI	lbf/ft	GZ	-2.700	-	-	-	-
5	UNI	lbf/ft	GZ	-2.700	-	-	-	-
6	UNI	lbf/ft	GZ	-2.700	-	-	-	-
11	UNI	lbf/ft	GZ	-2.700	-	-	-	-
21	UNI	lbf/ft	GZ	-4.200	-	-	-	-
22	UNI	lbf/ft	GZ	-4.200	-	-	-	-
23	UNI	lbf/ft	GZ	-4.200	-	-	-	-
24	UNI	lbf/ft	GZ	-4.200	-	-	-	-
25	UNI	lbf/ft	GZ	-4.200	-	-	-	-
28	UNI	lbf/ft	GZ	-2.700	-	-	-	-
29	UNI	lbf/ft	GZ	-2.700	-	-	-	-
30	UNI	lbf/ft	GZ	-5.000	-	-	-	-
31	UNI	lbf/ft	GZ	-2.700	-	-	-	-
32	UNI	lbf/ft	GZ	-2.700	-	-	-	-
33	UNI	lbf/ft	GZ	-2.700	-	-	-	-
34	UNI	lbf/ft	GZ	-2.200	-	-	-	-
35	UNI	lbf/ft	GZ	-2.200	-	-	-	-
36	UNI	lbf/ft	GZ	-2.200	-	-	-	-
37	UNI	lbf/ft	GZ	-2.200	-	-	-	-
38	UNI	lbf/ft	GZ	-2.700	-	-	-	-
39	UNI	lbf/ft	GZ	-2.200	-	-	-	-
40	UNI	lbf/ft	GZ	-2.200	-	-	-	-
41	UNI	lbf/ft	GZ	-2.200	-	-	-	-
42	UNI	lbf/ft	GZ	-2.200	-	-	-	-
43	UNI	lbf/ft	GZ	-2.200	-	-	-	-
44	UNI	lbf/ft	GZ	-2.200	-	-	-	-
45	UNI	lbf/ft	GZ	-2.200	-	-	-	-
46	UNI	lbf/ft	GZ	-2.200	-	-	-	-
47	UNI	lbf/ft	GZ	-4.200	-	-	-	-
48	UNI	lbf/ft	GZ	-4.200	-	-	-	-
49	UNI	lbf/ft	GZ	-4.200	-	-	-	-
50	UNI	lbf/ft	GZ	-4.200	-	-	-	-
51	UNI	lbf/ft	GZ	-4.200	-	-	-	-
52	UNI	lbf/ft	GZ	-2.200	-	-	-	-

5 WLI#1 : Beam Loads Cont...

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
53	UNI	lbf/ft	GZ	-2.200	-	-	-	-
54	UNI	lbf/ft	GZ	-2.700	-	-	-	-
55	UNI	lbf/ft	GZ	-2.700	-	-	-	-
56	UNI	lbf/ft	GZ	-5.000	-	-	-	-
57	UNI	lbf/ft	GZ	-2.700	-	-	-	-
58	UNI	lbf/ft	GZ	-2.700	-	-	-	-
59	UNI	lbf/ft	GZ	-2.700	-	-	-	-
60	UNI	lbf/ft	GZ	-2.200	-	-	-	-
61	UNI	lbf/ft	GZ	-2.200	-	-	-	-
62	UNI	lbf/ft	GZ	-2.200	-	-	-	-
63	UNI	lbf/ft	GZ	-2.200	-	-	-	-
64	UNI	lbf/ft	GZ	-2.700	-	-	-	-
65	UNI	lbf/ft	GZ	-2.200	-	-	-	-
66	UNI	lbf/ft	GZ	-2.200	-	-	-	-
67	UNI	lbf/ft	GZ	-2.200	-	-	-	-
68	UNI	lbf/ft	GZ	-2.200	-	-	-	-
69	UNI	lbf/ft	GZ	-2.200	-	-	-	-
70	UNI	lbf/ft	GZ	-2.200	-	-	-	-
71	UNI	lbf/ft	GZ	-2.200	-	-	-	-
72	UNI	lbf/ft	GZ	-2.200	-	-	-	-
73	UNI	lbf/ft	GZ	-4.200	-	-	-	-
74	UNI	lbf/ft	GZ	-4.200	-	-	-	-
75	UNI	lbf/ft	GZ	-4.200	-	-	-	-
76	UNI	lbf/ft	GZ	-4.200	-	-	-	-
77	UNI	lbf/ft	GZ	-4.200	-	-	-	-
78	UNI	lbf/ft	GZ	-2.200	-	-	-	-
79	UNI	lbf/ft	GZ	-2.200	-	-	-	-
80	UNI	lbf/ft	GZ	-4.200	-	-	-	-
81	UNI	lbf/ft	GZ	-4.200	-	-	-	-
82	UNI	lbf/ft	GZ	-4.200	-	-	-	-

6 WLI#4 : Node Loads

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
16	0.028	-	-	-	-	-
17	0.028	-	-	-	-	-
18	0.033	-	-	-	-	-
19	0.033	-	-	-	-	-
24	0.005	-	-	-	-	-
25	0.005	-	-	-	-	-
35	0.005	-	-	-	-	-
36	0.005	-	-	-	-	-
50	0.036	-	-	-	-	-
51	0.036	-	-	-	-	-
52	0.037	-	-	-	-	-
53	0.037	-	-	-	-	-
81	0.036	-	-	-	-	-
82	0.036	-	-	-	-	-
83	0.037	-	-	-	-	-
84	0.037	-	-	-	-	-

6 WLI#4 : Beam Loads

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
1	UNI	lbf/ft	GX	2.700	-	-	-	-
2	UNI	lbf/ft	GX	2.700	-	-	-	-
3	UNI	lbf/ft	GX	5.000	-	-	-	-
4	UNI	lbf/ft	GX	2.700	-	-	-	-
5	UNI	lbf/ft	GX	2.700	-	-	-	-
6	UNI	lbf/ft	GX	2.700	-	-	-	-
7	UNI	lbf/ft	GX	2.200	-	-	-	-
8	UNI	lbf/ft	GX	2.200	-	-	-	-
9	UNI	lbf/ft	GX	2.200	-	-	-	-
10	UNI	lbf/ft	GX	2.200	-	-	-	-
11	UNI	lbf/ft	GX	2.700	-	-	-	-
12	UNI	lbf/ft	GX	2.200	-	-	-	-
13	UNI	lbf/ft	GX	2.200	-	-	-	-
14	UNI	lbf/ft	GX	2.200	-	-	-	-
15	UNI	lbf/ft	GX	2.200	-	-	-	-
16	UNI	lbf/ft	GX	2.200	-	-	-	-
18	UNI	lbf/ft	GX	2.200	-	-	-	-
19	UNI	lbf/ft	GX	2.200	-	-	-	-
20	UNI	lbf/ft	GX	2.200	-	-	-	-
21	UNI	lbf/ft	GX	4.200	-	-	-	-
22	UNI	lbf/ft	GX	4.200	-	-	-	-
23	UNI	lbf/ft	GX	4.200	-	-	-	-
24	UNI	lbf/ft	GX	4.200	-	-	-	-

6 WLI#4 : Beam Loads Cont...

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
25	UNI	lbf/ft	GX	4.200	-	-	-	-
26	UNI	lbf/ft	GX	2.200	-	-	-	-
27	UNI	lbf/ft	GX	2.200	-	-	-	-
28	UNI	lbf/ft	GX	2.700	-	-	-	-
29	UNI	lbf/ft	GX	2.700	-	-	-	-
30	UNI	lbf/ft	GX	5.000	-	-	-	-
31	UNI	lbf/ft	GX	2.700	-	-	-	-
32	UNI	lbf/ft	GX	2.700	-	-	-	-
33	UNI	lbf/ft	GX	2.700	-	-	-	-
38	UNI	lbf/ft	GX	2.700	-	-	-	-
47	UNI	lbf/ft	GX	4.200	-	-	-	-
48	UNI	lbf/ft	GX	4.200	-	-	-	-
49	UNI	lbf/ft	GX	4.200	-	-	-	-
50	UNI	lbf/ft	GX	4.200	-	-	-	-
51	UNI	lbf/ft	GX	4.200	-	-	-	-
54	UNI	lbf/ft	GX	2.700	-	-	-	-
55	UNI	lbf/ft	GX	2.700	-	-	-	-
56	UNI	lbf/ft	GX	5.000	-	-	-	-
57	UNI	lbf/ft	GX	2.700	-	-	-	-
58	UNI	lbf/ft	GX	2.700	-	-	-	-
59	UNI	lbf/ft	GX	2.700	-	-	-	-
64	UNI	lbf/ft	GX	2.700	-	-	-	-
73	UNI	lbf/ft	GX	4.200	-	-	-	-
74	UNI	lbf/ft	GX	4.200	-	-	-	-
75	UNI	lbf/ft	GX	4.200	-	-	-	-
76	UNI	lbf/ft	GX	4.200	-	-	-	-
77	UNI	lbf/ft	GX	4.200	-	-	-	-
80	UNI	lbf/ft	GX	4.200	-	-	-	-
81	UNI	lbf/ft	GX	4.200	-	-	-	-
82	UNI	lbf/ft	GX	4.200	-	-	-	-

7 WLS#1 : Node Loads

Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
16	-	-	-0.041	-	-	-
17	-	-	-0.041	-	-	-
18	-	-	-0.041	-	-	-
19	-	-	-0.041	-	-	-
50	-	-	-0.031	-	-	-
51	-	-	-0.031	-	-	-
52	-	-	-0.036	-	-	-
53	-	-	-0.036	-	-	-
55	-	-	-0.005	-	-	-
56	-	-	-0.005	-	-	-
66	-	-	-0.005	-	-	-
67	-	-	-0.005	-	-	-
81	-	-	-0.031	-	-	-
82	-	-	-0.031	-	-	-
83	-	-	-0.036	-	-	-
84	-	-	-0.036	-	-	-
86	-	-	-0.005	-	-	-
87	-	-	-0.005	-	-	-
97	-	-	-0.005	-	-	-
98	-	-	-0.005	-	-	-

7 WLS#1 : Beam Loads

Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
1	UNI	lbf/ft	GZ	-2.100	-	-	-	-
2	UNI	lbf/ft	GZ	-2.100	-	-	-	-
3	UNI	lbf/ft	GZ	-4.100	-	-	-	-
4	UNI	lbf/ft	GZ	-2.100	-	-	-	-
5	UNI	lbf/ft	GZ	-2.100	-	-	-	-
6	UNI	lbf/ft	GZ	-2.100	-	-	-	-
11	UNI	lbf/ft	GZ	-2.100	-	-	-	-
21	UNI	lbf/ft	GZ	-3.200	-	-	-	-
22	UNI	lbf/ft	GZ	-3.200	-	-	-	-
23	UNI	lbf/ft	GZ	-3.200	-	-	-	-
24	UNI	lbf/ft	GZ	-3.200	-	-	-	-
25	UNI	lbf/ft	GZ	-3.200	-	-	-	-
28	UNI	lbf/ft	GZ	-2.100	-	-	-	-
29	UNI	lbf/ft	GZ	-2.100	-	-	-	-
30	UNI	lbf/ft	GZ	-4.100	-	-	-	-
31	UNI	lbf/ft	GZ	-2.100	-	-	-	-
32	UNI	lbf/ft	GZ	-2.100	-	-	-	-
33	UNI	lbf/ft	GZ	-2.100	-	-	-	-
34	UNI	lbf/ft	GZ	-1.500	-	-	-	-

7 WLS#1 : Beam Loads Cont...

Beam	Type	Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
35	UNI lbf/ft	GZ	-1.500	-	-	-	-
36	UNI lbf/ft	GZ	-1.500	-	-	-	-
37	UNI lbf/ft	GZ	-1.500	-	-	-	-
38	UNI lbf/ft	GZ	-2.100	-	-	-	-
39	UNI lbf/ft	GZ	-1.500	-	-	-	-
40	UNI lbf/ft	GZ	-1.500	-	-	-	-
41	UNI lbf/ft	GZ	-1.500	-	-	-	-
42	UNI lbf/ft	GZ	-1.500	-	-	-	-
43	UNI lbf/ft	GZ	-1.500	-	-	-	-
44	UNI lbf/ft	GZ	-1.500	-	-	-	-
45	UNI lbf/ft	GZ	-1.500	-	-	-	-
46	UNI lbf/ft	GZ	-1.500	-	-	-	-
47	UNI lbf/ft	GZ	-3.200	-	-	-	-
48	UNI lbf/ft	GZ	-3.200	-	-	-	-
49	UNI lbf/ft	GZ	-3.200	-	-	-	-
50	UNI lbf/ft	GZ	-3.200	-	-	-	-
51	UNI lbf/ft	GZ	-3.200	-	-	-	-
52	UNI lbf/ft	GZ	-1.500	-	-	-	-
53	UNI lbf/ft	GZ	-1.500	-	-	-	-
54	UNI lbf/ft	GZ	-2.100	-	-	-	-
55	UNI lbf/ft	GZ	-2.100	-	-	-	-
56	UNI lbf/ft	GZ	-4.100	-	-	-	-
57	UNI lbf/ft	GZ	-2.100	-	-	-	-
58	UNI lbf/ft	GZ	-2.100	-	-	-	-
59	UNI lbf/ft	GZ	-2.100	-	-	-	-
60	UNI lbf/ft	GZ	-1.500	-	-	-	-
61	UNI lbf/ft	GZ	-1.500	-	-	-	-
62	UNI lbf/ft	GZ	-1.500	-	-	-	-
63	UNI lbf/ft	GZ	-1.500	-	-	-	-
64	UNI lbf/ft	GZ	-2.100	-	-	-	-
65	UNI lbf/ft	GZ	-1.500	-	-	-	-
66	UNI lbf/ft	GZ	-1.500	-	-	-	-
67	UNI lbf/ft	GZ	-1.500	-	-	-	-
68	UNI lbf/ft	GZ	-1.500	-	-	-	-
69	UNI lbf/ft	GZ	-1.500	-	-	-	-
70	UNI lbf/ft	GZ	-1.500	-	-	-	-
71	UNI lbf/ft	GZ	-1.500	-	-	-	-
72	UNI lbf/ft	GZ	-1.500	-	-	-	-
73	UNI lbf/ft	GZ	-3.200	-	-	-	-
74	UNI lbf/ft	GZ	-3.200	-	-	-	-
75	UNI lbf/ft	GZ	-3.200	-	-	-	-
76	UNI lbf/ft	GZ	-3.200	-	-	-	-
77	UNI lbf/ft	GZ	-3.200	-	-	-	-
78	UNI lbf/ft	GZ	-1.500	-	-	-	-
79	UNI lbf/ft	GZ	-1.500	-	-	-	-

7 WLS#1 : Beam Loads Cont...

Beam	Type	Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
80	UNI lbf/ft	GZ	-3.200	-	-	-	-
81	UNI lbf/ft	GZ	-3.200	-	-	-	-
82	UNI lbf/ft	GZ	-3.200	-	-	-	-

8 WLS#4 : Node Loads

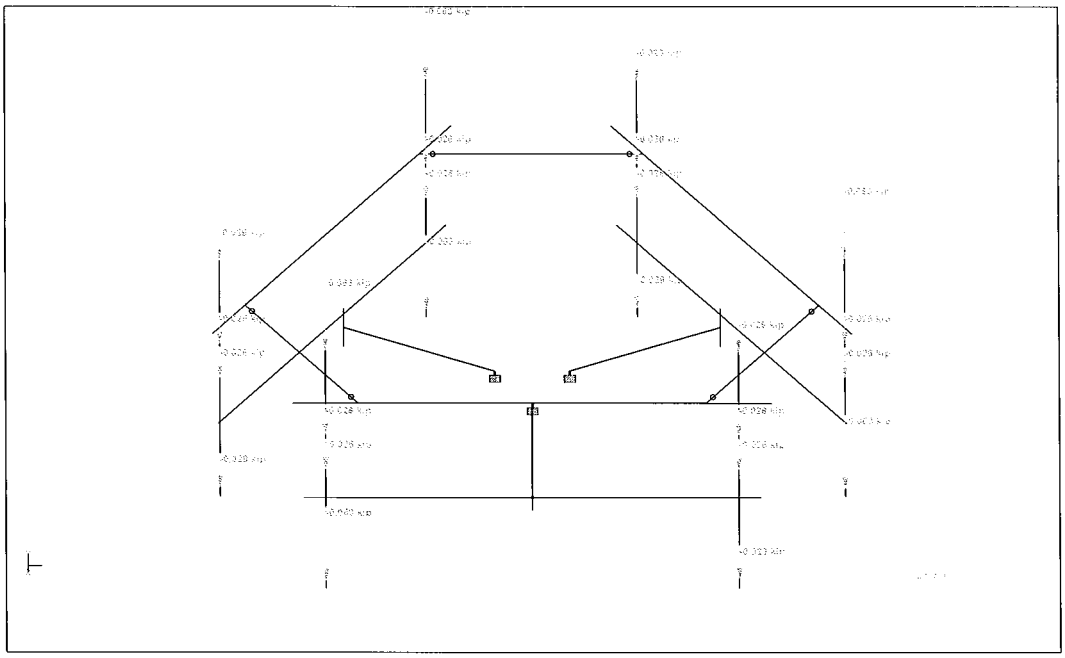
Node	FX (kip)	FY (kip)	FZ (kip)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
16	0.027	-	-	-	-	-
17	0.027	-	-	-	-	-
18	0.034	-	-	-	-	-
19	0.034	-	-	-	-	-
24	0.004	-	-	-	-	-
25	0.003	-	-	-	-	-
35	0.003	-	-	-	-	-
36	0.004	-	-	-	-	-
50	0.038	-	-	-	-	-
51	0.038	-	-	-	-	-
52	0.039	-	-	-	-	-
53	0.039	-	-	-	-	-
81	0.038	-	-	-	-	-
82	0.038	-	-	-	-	-
83	0.039	-	-	-	-	-
84	0.039	-	-	-	-	-

8 WLS#4 : Beam Loads

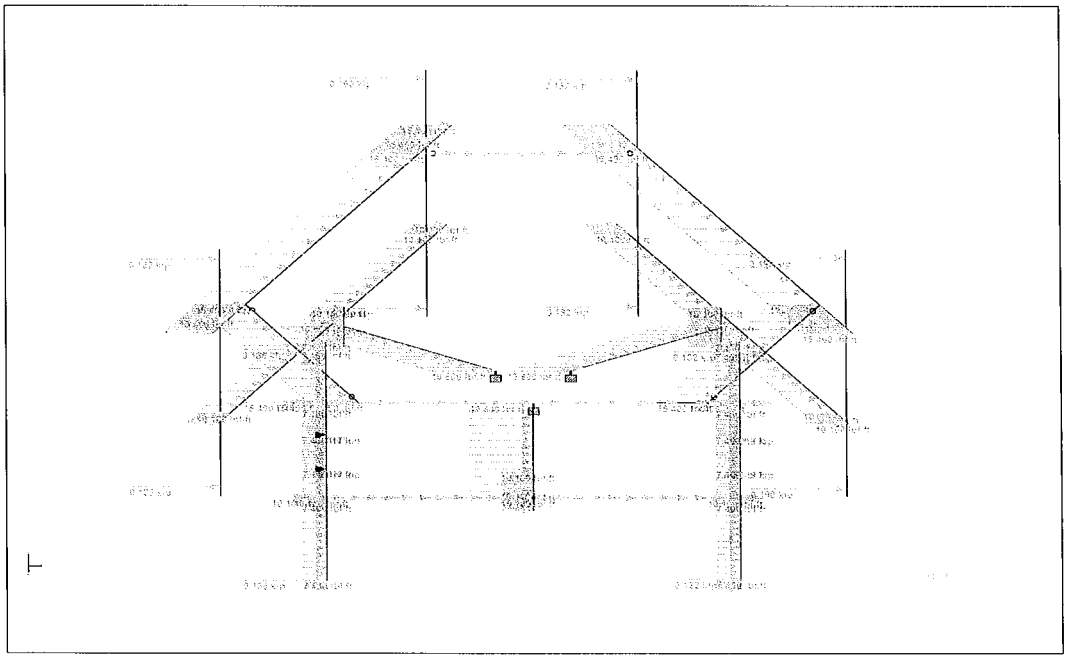
Beam	Type	Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
1	UNI lbf/ft	GX	2.100	-	-	-	-
2	UNI lbf/ft	GX	2.100	-	-	-	-
3	UNI lbf/ft	GX	4.100	-	-	-	-
4	UNI lbf/ft	GX	2.100	-	-	-	-
5	UNI lbf/ft	GX	2.100	-	-	-	-
6	UNI lbf/ft	GX	2.100	-	-	-	-
7	UNI lbf/ft	GX	1.500	-	-	-	-
8	UNI lbf/ft	GX	1.500	-	-	-	-
9	UNI lbf/ft	GX	1.500	-	-	-	-
10	UNI lbf/ft	GX	1.500	-	-	-	-
11	UNI lbf/ft	GX	2.100	-	-	-	-
12	UNI lbf/ft	GX	1.500	-	-	-	-
13	UNI lbf/ft	GX	1.500	-	-	-	-
14	UNI lbf/ft	GX	1.500	-	-	-	-
15	UNI lbf/ft	GX	1.500	-	-	-	-

8 WLS#4 : Beam Loads Cont...

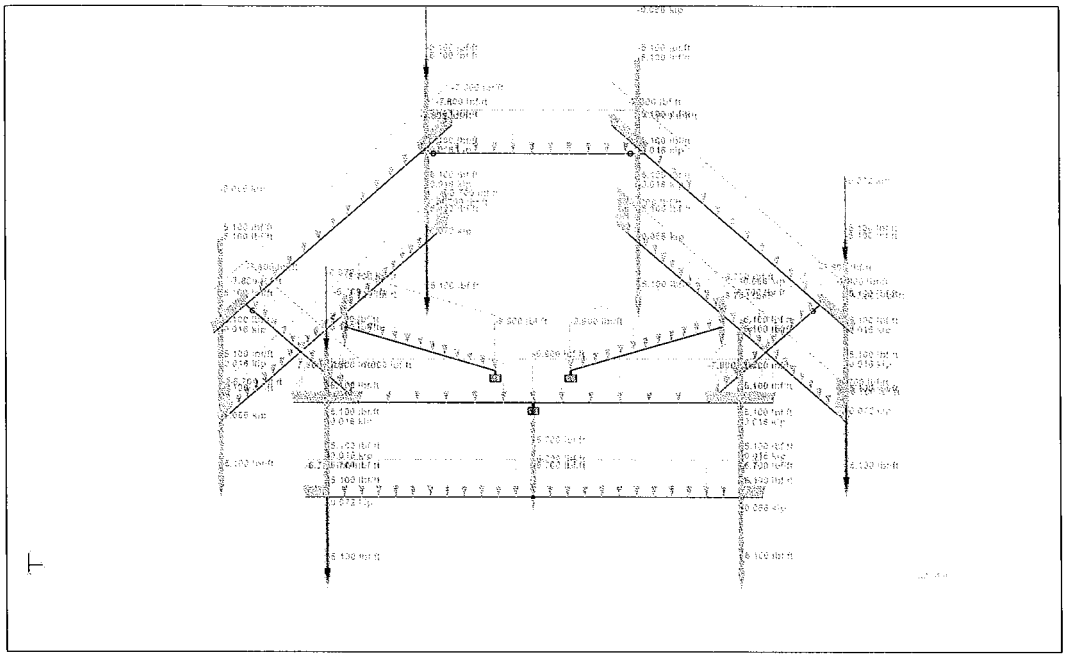
Beam	Type		Direction	Fa	Da (ft)	Fb	Db	Ecc. (ft)
16	UNI	lbf/ft	GX	1.500	-	-	-	-
18	UNI	lbf/ft	GX	1.500	-	-	-	-
19	UNI	lbf/ft	GX	1.500	-	-	-	-
20	UNI	lbf/ft	GX	1.500	-	-	-	-
21	UNI	lbf/ft	GX	3.200	-	-	-	-
22	UNI	lbf/ft	GX	3.200	-	-	-	-
23	UNI	lbf/ft	GX	3.200	-	-	-	-
24	UNI	lbf/ft	GX	3.200	-	-	-	-
25	UNI	lbf/ft	GX	3.200	-	-	-	-
26	UNI	lbf/ft	GX	1.500	-	-	-	-
27	UNI	lbf/ft	GX	1.500	-	-	-	-
28	UNI	lbf/ft	GX	2.100	-	-	-	-
29	UNI	lbf/ft	GX	2.100	-	-	-	-
30	UNI	lbf/ft	GX	4.100	-	-	-	-
31	UNI	lbf/ft	GX	2.100	-	-	-	-
32	UNI	lbf/ft	GX	2.100	-	-	-	-
33	UNI	lbf/ft	GX	2.100	-	-	-	-
38	UNI	lbf/ft	GX	2.100	-	-	-	-
47	UNI	lbf/ft	GX	3.200	-	-	-	-
48	UNI	lbf/ft	GX	3.200	-	-	-	-
49	UNI	lbf/ft	GX	3.200	-	-	-	-
50	UNI	lbf/ft	GX	3.200	-	-	-	-
51	UNI	lbf/ft	GX	3.200	-	-	-	-
54	UNI	lbf/ft	GX	2.100	-	-	-	-
55	UNI	lbf/ft	GX	2.100	-	-	-	-
56	UNI	lbf/ft	GX	4.100	-	-	-	-
57	UNI	lbf/ft	GX	2.100	-	-	-	-
58	UNI	lbf/ft	GX	2.100	-	-	-	-
59	UNI	lbf/ft	GX	2.100	-	-	-	-
64	UNI	lbf/ft	GX	2.100	-	-	-	-
73	UNI	lbf/ft	GX	3.200	-	-	-	-
74	UNI	lbf/ft	GX	3.200	-	-	-	-
75	UNI	lbf/ft	GX	3.200	-	-	-	-
76	UNI	lbf/ft	GX	3.200	-	-	-	-
77	UNI	lbf/ft	GX	3.200	-	-	-	-
80	UNI	lbf/ft	GX	3.200	-	-	-	-
81	UNI	lbf/ft	GX	3.200	-	-	-	-
82	UNI	lbf/ft	GX	3.200	-	-	-	-



Dead Loads



Typical Wind Loads



Ice Loads

Utilization Ratio

Beam	Analysis Property	Design Property	Actual Ratio	Allowable Ratio	Ratio (Act./Allow.)	Clause	L/C	Ax (in^2)	Iz (in^4)	Iy (in^4)	Ix (in^4)
1	PIPS30	PIPS30	0.000	1.000	0.000	SHEAR-Y	17	2.070	2.850	2.850	5.700
2	PIPS30	PIPS30	0.488	1.000	0.488	LRFD-H1-1B-	13	2.070	2.850	2.850	5.700
3	HSST4X4X0	HSST4X4X0	0.579	1.000	0.579	HSS FLEX+A	16	3.370	7.800	7.800	12.800
4	PIPS30	PIPS30	0.000	1.000	0.000	SHEAR-Z	2	2.070	2.850	2.850	5.700
5	PIPS30	PIPS30	0.000	1.000	0.000	SHEAR-Z	2	2.070	2.850	2.850	5.700
6	PIPS30	PIPS30	0.000	1.000	0.000	SHEAR-Y	17	2.070	2.850	2.850	5.700
7	PIPS20	PIPS20	0.000	1.000	0.000	SHEAR-Y	3	1.020	0.627	0.627	1.254
8	PIPS20	PIPS20	0.213	1.000	0.213	LRFD-H1-1B-	13	1.020	0.627	0.627	1.254
9	PIPS20	PIPS20	0.000	1.000	0.000	SHEAR-Y	3	1.020	0.627	0.627	1.254
10	PIPS20	PIPS20	0.218	1.000	0.218	LRFD-H1-1B-	13	1.020	0.627	0.627	1.254
11	PIPS30	PIPS30	0.501	1.000	0.501	LRFD-H1-1B-	13	2.070	2.850	2.850	5.700
12	PIPS20	PIPS20	0.160	1.000	0.160	LRFD-H1-1B-	13	1.020	0.627	0.627	1.254
13	PIPS20	PIPS20	0.000	1.000	0.000	SHEAR-Y	3	1.020	0.627	0.627	1.254
14	PIPS20	PIPS20	0.165	1.000	0.165	LRFD-H1-1B-	13	1.020	0.627	0.627	1.254
15	PIPS20	PIPS20	0.000	1.000	0.000	SHEAR-Y	3	1.020	0.627	0.627	1.254
16	PIPS20	PIPS20	0.536	1.000	0.536	LRFD-H1-1B-	13	1.020	0.627	0.627	1.254
18	PIPS20	PIPS20	0.535	1.000	0.535	LRFD-H1-1B-	13	1.020	0.627	0.627	1.254
19	PIPS20	PIPS20	0.322	1.000	0.322	LRFD-H1-1B-	13	1.020	0.627	0.627	1.254
20	PIPS20	PIPS20	0.325	1.000	0.325	LRFD-H1-1B-	13	1.020	0.627	0.627	1.254
21	L30304	L30304	0.002	1.000	0.002	LRFD-H1-1B-	13	1.440	0.493	1.996	0.030
22	L30304	L30304	0.257	1.000	0.257	LRFD-H1-1B-	3	1.440	0.493	1.996	0.030
23	L30304	L30304	0.002	1.000	0.002	LRFD-H1-1B-	13	1.440	0.493	1.996	0.030

Utilization Ratio Cont...

Beam	Analysis Property	Design Property	Actual Ratio	Allowable Ratio	Ratio (Act./Allow.)	Clause	L/C	Ax (in^2)	Iz (in^4)	Iy (in^4)	Ix (in^4)
24	L30304	L30304	0.263	1.000	0.263	LRFD-H1-1B-	14	1.440	0.493	1.996	0.030
25	L30304	L30304	0.242	1.000	0.242	LRFD-H1-1B-	16	1.440	0.493	1.996	0.030
26	PIPS20	PIPS20	0.752	1.000	0.752	LRFD-H1-1B-	13	1.020	0.627	0.627	1.254
27	PIPS20	PIPS20	0.754	1.000	0.754	LRFD-H1-1B-	13	1.020	0.627	0.627	1.254
28	PIPS30	PIPS30	0.000	1.000	0.000	SHEAR-Y	17	2.070	2.850	2.850	5.700
29	PIPS30	PIPS30	0.420	1.000	0.420	LRFD-H1-1B-	16	2.070	2.850	2.850	5.700
30	HSST4X4X0	HSST4X4X0	0.619	1.000	0.619	HSS FLEX+A	13	3.370	7.800	7.800	12.800
31	PIPS30	PIPS30	0.000	1.000	0.000	SHEAR-Z	2	2.070	2.850	2.850	5.700
32	PIPS30	PIPS30	0.000	1.000	0.000	SHEAR-Z	2	2.070	2.850	2.850	5.700
33	PIPS30	PIPS30	0.000	1.000	0.000	SHEAR-Y	17	2.070	2.850	2.850	5.700
34	PIPS20	PIPS20	0.000	1.000	0.000	SHEAR-Z	2	1.020	0.627	0.627	1.254
35	PIPS20	PIPS20	0.195	1.000	0.195	LRFD-H1-1B-	14	1.020	0.627	0.627	1.254
36	PIPS20	PIPS20	0.000	1.000	0.000	SHEAR-Z	2	1.020	0.627	0.627	1.254
37	PIPS20	PIPS20	0.209	1.000	0.209	LRFD-H1-1B-	14	1.020	0.627	0.627	1.254
38	PIPS30	PIPS30	0.425	1.000	0.425	LRFD-H1-1B-	16	2.070	2.850	2.850	5.700
39	PIPS20	PIPS20	0.147	1.000	0.147	LRFD-H1-1B-	14	1.020	0.627	0.627	1.254
40	PIPS20	PIPS20	0.000	1.000	0.000	SHEAR-Z	2	1.020	0.627	0.627	1.254
41	PIPS20	PIPS20	0.158	1.000	0.158	LRFD-H1-1B-	14	1.020	0.627	0.627	1.254
42	PIPS20	PIPS20	0.000	1.000	0.000	SHEAR-Z	2	1.020	0.627	0.627	1.254
43	PIPS20	PIPS20	0.498	1.000	0.498	LRFD-H1-1B-	16	1.020	0.627	0.627	1.254
44	PIPS20	PIPS20	0.421	1.000	0.421	LRFD-H1-1B-	16	1.020	0.627	0.627	1.254
45	PIPS20	PIPS20	0.263	1.000	0.263	LRFD-H1-1B-	16	1.020	0.627	0.627	1.254
46	PIPS20	PIPS20	0.278	1.000	0.278	LRFD-H1-1B-	16	1.020	0.627	0.627	1.254
47	L30304	L30304	0.002	1.000	0.002	LRFD-H1-1B-	3	1.440	0.493	1.996	0.030
48	L30304	L30304	0.238	1.000	0.238	LRFD-H1-1B-	2	1.440	0.493	1.996	0.030
49	L30304	L30304	0.002	1.000	0.002	LRFD-H1-1B-	3	1.440	0.493	1.996	0.030
50	L30304	L30304	0.255	1.000	0.255	LRFD-H1-1B-	15	1.440	0.493	1.996	0.030
51	L30304	L30304	0.224	1.000	0.224	LRFD-H1-1B-	15	1.440	0.493	1.996	0.030
52	PIPS20	PIPS20	0.733	1.000	0.733	LRFD-H1-1B-	16	1.020	0.627	0.627	1.254
53	PIPS20	PIPS20	0.621	1.000	0.621	LRFD-H1-1B-	15	1.020	0.627	0.627	1.254
54	PIPS30	PIPS30	0.000	1.000	0.000	SHEAR-Y	17	2.070	2.850	2.850	5.700
55	PIPS30	PIPS30	0.402	1.000	0.402	LRFD-H1-1B-	14	2.070	2.850	2.850	5.700
56	HSST4X4X0	HSST4X4X0	0.608	1.000	0.608	HSS FLEX+A	13	3.370	7.800	7.800	12.800
57	PIPS30	PIPS30	0.000	1.000	0.000	SHEAR-Z	2	2.070	2.850	2.850	5.700
58	PIPS30	PIPS30	0.000	1.000	0.000	SHEAR-Z	2	2.070	2.850	2.850	5.700
59	PIPS30	PIPS30	0.000	1.000	0.000	SHEAR-Y	17	2.070	2.850	2.850	5.700
60	PIPS20	PIPS20	0.000	1.000	0.000	SHEAR-Z	2	1.020	0.627	0.627	1.254
61	PIPS20	PIPS20	0.195	1.000	0.195	LRFD-H1-1B-	14	1.020	0.627	0.627	1.254
62	PIPS20	PIPS20	0.000	1.000	0.000	SHEAR-Z	2	1.020	0.627	0.627	1.254
63	PIPS20	PIPS20	0.209	1.000	0.209	LRFD-H1-1B-	14	1.020	0.627	0.627	1.254
64	PIPS30	PIPS30	0.453	1.000	0.453	LRFD-H1-1B-	14	2.070	2.850	2.850	5.700
65	PIPS20	PIPS20	0.147	1.000	0.147	LRFD-H1-1B-	14	1.020	0.627	0.627	1.254
66	PIPS20	PIPS20	0.000	1.000	0.000	SHEAR-Z	2	1.020	0.627	0.627	1.254
67	PIPS20	PIPS20	0.158	1.000	0.158	LRFD-H1-1B-	14	1.020	0.627	0.627	1.254
68	PIPS20	PIPS20	0.000	1.000	0.000	SHEAR-Z	2	1.020	0.627	0.627	1.254

Utilization Ratio Cont...

Beam	Analysis Property	Design Property	Actual Ratio	Allowable Ratio	Ratio (Act./Allow.)	Clause	L/C	Ax (in^2)	Iz (in^4)	Iy (in^4)	Ix (in^4)
69	PIPS20	PIPS20	0.429	1.000	0.429	LRFD-H1-1B-	14	1.020	0.627	0.627	1.254
70	PIPS20	PIPS20	0.482	1.000	0.482	LRFD-H1-1B-	14	1.020	0.627	0.627	1.254
71	PIPS20	PIPS20	0.266	1.000	0.266	LRFD-H1-1B-	14	1.020	0.627	0.627	1.254
72	PIPS20	PIPS20	0.273	1.000	0.273	LRFD-H1-1B-	14	1.020	0.627	0.627	1.254
73	L30304	L30304	0.002	1.000	0.002	LRFD-H1-1B-	14	1.440	0.493	1.996	0.030
74	L30304	L30304	0.223	1.000	0.223	LRFD-H1-1B-	15	1.440	0.493	1.996	0.030
75	L30304	L30304	0.002	1.000	0.002	LRFD-H1-1B-	14	1.440	0.493	1.996	0.030
76	L30304	L30304	0.256	1.000	0.256	LRFD-H1-1B-	15	1.440	0.493	1.996	0.030
77	L30304	L30304	0.236	1.000	0.236	LRFD-H1-1B-	2	1.440	0.493	1.996	0.030
78	PIPS20	PIPS20	0.658	1.000	0.658	LRFD-H1-1B-	15	1.020	0.627	0.627	1.254
79	PIPS20	PIPS20	0.713	1.000	0.713	LRFD-H1-1B-	14	1.020	0.627	0.627	1.254
80	L30304	L30304	0.033	1.000	0.033	LRFD-H1-1B-	14	1.440	0.493	1.996	0.030
81	L30304	L30304	0.033	1.000	0.033	LRFD-H1-1B-	16	1.440	0.493	1.996	0.030
82	L30304	L30304	0.038	1.000	0.038	LRFD-H1-1B-	15	1.440	0.493	1.996	0.030

Failed Members

There is no data of this type.

Node Displacement Summary

	Node	L/C	X (in)	Y (in)	Z (in)	Resultant (in)	rX (rad)	rY (rad)	rZ (rad)
Max X	45	22:1.0D+1.0WI	**0.363**	-0.081	0.024	0.373	0.001	-0.001	-0.006
Min X	10	24:1.0D-1.0WL	**-0.288**	-0.008	0.059	0.294	-0.000	-0.002	0.005
Max Y	32	24:1.0D-1.0WL	-0.171	**0.038**	0.076	0.191	-0.000	-0.002	0.005
Min Y	71	21:1.0D+1.0WI	0.062	**-0.415**	-0.010	0.420	-0.007	-0.001	0.000
Max Z	10	23:1.0D-1.0WL	-0.118	-0.128	**0.343**	0.385	0.006	-0.001	0.003
Min Z	76	21:1.0D+1.0WI	-0.045	-0.033	**-0.341**	0.346	-0.006	-0.002	-0.000
Max rX	12	23:1.0D-1.0WL	-0.076	-0.330	0.342	0.482	**0.006**	0.001	0.001
Min rX	71	21:1.0D+1.0WI	0.062	-0.415	-0.010	0.420	**-0.007**	-0.001	0.000
Max rY	41	24:1.0D-1.0WL	-0.128	-0.116	0.049	0.180	-0.000	**0.003**	0.001
Min rY	40	23:1.0D-1.0WL	-0.107	-0.387	0.110	0.416	0.004	**-0.003**	-0.003
Max rZ	4	24:1.0D-1.0WL	-0.045	-0.409	-0.105	0.424	0.002	-0.002	**0.006**
Min rZ	45	22:1.0D+1.0WI	0.363	-0.081	0.024	0.373	0.001	-0.001	**-0.006**
Max Rst	12	23:1.0D-1.0WL	-0.076	-0.330	0.342	**0.482**	0.006	0.001	0.001

Relative Horizontal Displacement - TIA-222-H (1.5% cantilever length)
1.75 ft. x 12 x 0.015 = 0.315 in.
(Node 12 - Node 28)
0.482 in. - 0.395 in. = 0.087 in. < 0.315 in. OK

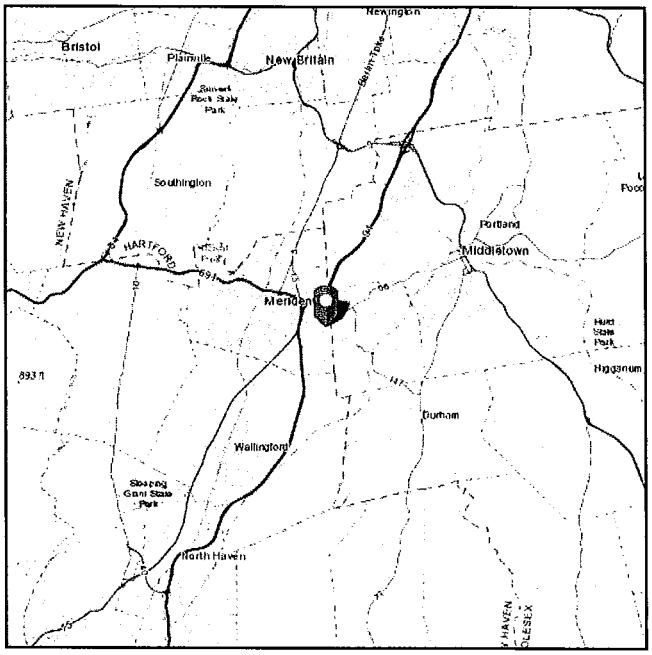
APPENDIX B

ASCE 7 Hazards Report

Address:
74 Birdsey Ave
Meriden, Connecticut
06450

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class:

Elevation: 381.74 ft (NAVD 88)
Latitude: 41.523378
Longitude: -72.751252



Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Thu Apr 25 2019

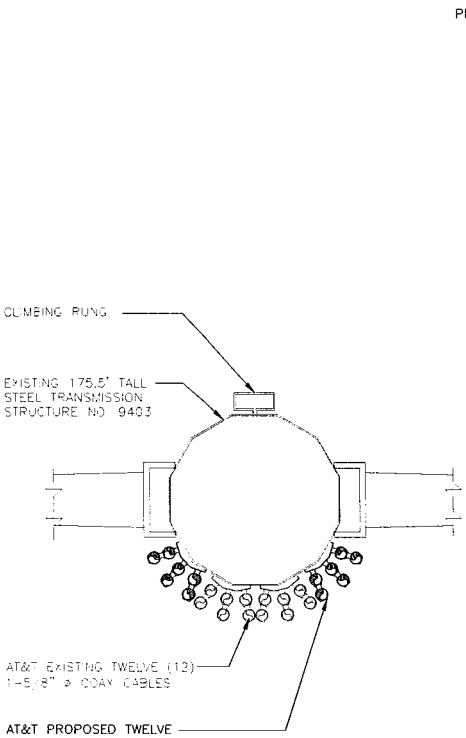
Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

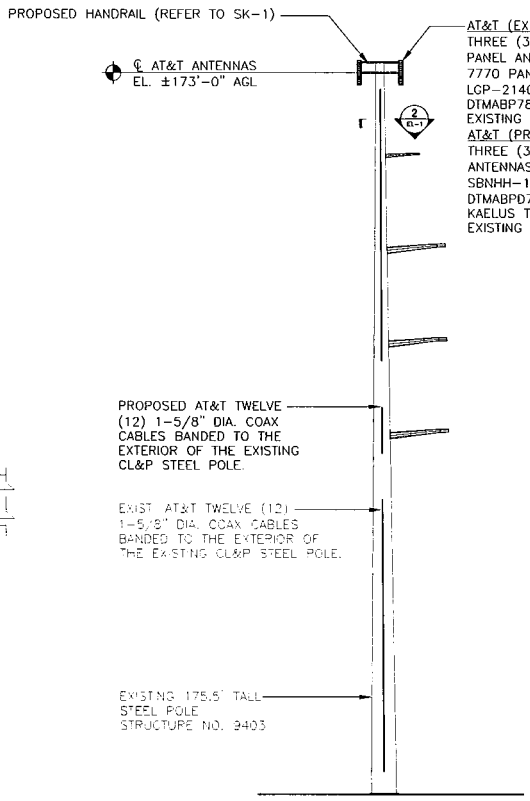
The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated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

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.



2 / EL-1 **COAX CABLE PLAN**
SCALE: 3/4" = 1'-0"



1 / EL-1 **TOWER ELEVATION**
SCALE: NOT TO SCALE

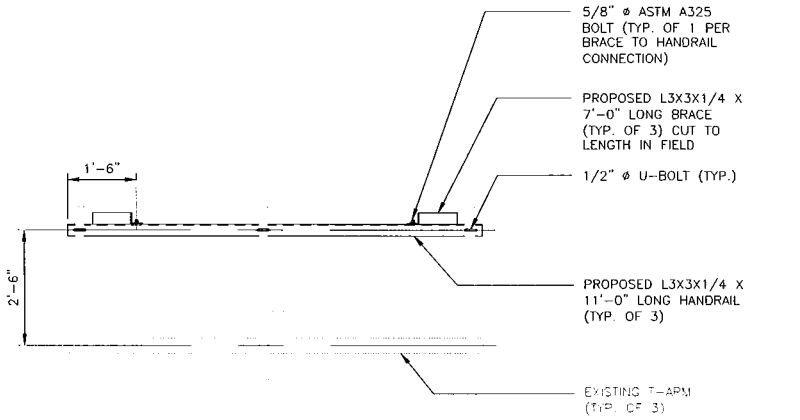
NO.	DATE	BY	DESCRIPTION
1	11/29/18	LK	ISSUED FOR CONSTRUCTION

AT&T MOBILITY
CT5279
STRUCTURE 9403

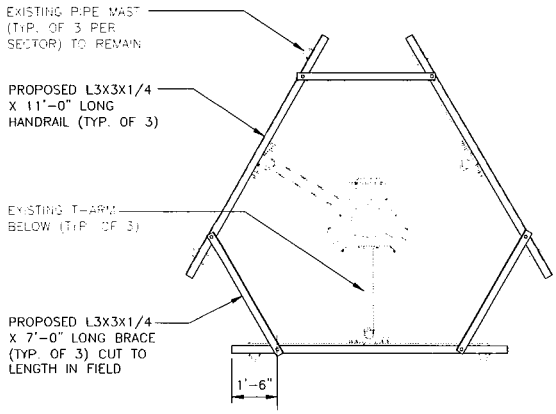
DATE: 10/30/18
SCALE: AS SHOWN
JOB NO. 18015.00

TOWER / MAST ELEVATION AND FEEDLINE PLANS

SHEET NO.
EL-1



2 SK-1 **MOUNT MOD ELEVATION**
SCALE: NOT TO SCALE



1 SK-1 **MOUNT MOD PLAN**
SCALE: NOT TO SCALE

REV	DATE	DESCRIPTION
0	10/30/18	ISSUED FOR CONSTRUCTION
1	12/20/18	PER COMMENTS

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MERIDEN CT, 06451

DATE: 10/30/18
SCALE: AS SHOWN
JOB NO. 1801S.00

MOUNT MODIFICATION

SHEET NO.
SK-1

Section 1 - RFDS GENERAL INFORMATION

RFDS NAME:	CTL05279	DATE:	03/19/2018	RF DESIGN ENG:	Mohammad Minhaj Hussain	RF PERF ENG:	
ISSUE:	Bronze Standard	Approved? (Y/N):	Yes	RF DESIGN PHONE:	510-493-3024	RF PERF PHONE:	
REVISION:	Preliminary	RF MANAGER:	John Benedetto	RF DESIGN EMAIL:	mh705r@att.com	RF PERF EMAIL:	
INITIATIVE/PROJECT:	5G NR Upgrade[850] LTE 5C[AWS J] Note :PDs will be updated with 5G 6630 info during final RFDS					RFDS VERSION:	1.00
						GSM FREQUENCY:	
						UMTS FREQUENCY:	850
						LTE FREQUENCY:	700, 850, 1900, AWS, WCS
						5G FREQUENCY:	850

RFDS PROGRAM TYPE:	2018 LTE Multi Carrier		
RFDS TECHNOLOGY:	LTE		
STATE/STATUS:	Preliminary/Approved		
RFDS ID:	2310503		
Created By:	mh705r	Updated By:	mh705r
Date Created:	4/1/2018 9:40:26 PM	Date Updated:	5/5/2018 12:08:10 AM

I-PLAN JOB # 1:	NER-RCTB-18-02310	IPLAN PRD GRP || SUB GRP #1:	Cell Site RF Modifications || 5G NR Upgrade
I-PLAN JOB # 2:	NER-RCTB-18-02386	IPLAN PRD GRP || SUB GRP #2:	LTE Next Carrier || LTE 5C
I-PLAN JOB # 3:		IPLAN PRD GRP || SUB GRP #3:	
I-PLAN JOB # 4:		IPLAN PRD GRP || SUB GRP #4:	
I-PLAN JOB # 5:		IPLAN PRD GRP || SUB GRP #5:	
I-PLAN JOB # 6:		IPLAN PRD GRP || SUB GRP #6:	
I-PLAN JOB # 7:		IPLAN PRD GRP || SUB GRP #7:	
I-PLAN JOB # 8:		IPLAN PRD GRP || SUB GRP #8:	

Section 2 - LOCATION INFORMATION

UBID:	25924	FA LOCATION CODE:	10105380	LOCATION NAME:	MERIDEN BIRDSEY AVENUE
REGION:	NORTHEAST	MARKET CLUSTER:	NEW ENGLAND	MARKET:	CONNECTICUT
ADDRESS:	74 BIRDSEY AVENUE	CITY:	MERIDEN	STATE:	CT
ZIP CODE:	06450	COUNTY:	NEW HAVEN	LONG (DEC. DEG.):	-72.7503989
LATITUDE (D-M-S):	41d 31m 26.01084s	LONGITUDE (D-M-S):	-72d -45m -1.43604s	LAT (DEC. DEG.):	41.5238919
DIRECTIONS, ACCESS AND EQUIPMENT LOCATION:	CT-279 (UPDATED 5/7/2004)MIDDLEFIELD WEST BLACKTAKE I-91 NORTH TO EXIT 18 AND TAKE A RIGHT ON EAST MAIN STREET GO ABOUT 1 MILE AND TURN RIGHT ON CONE AVE TAKE YOUR FIRST LEFT ON BIRDSEYE AVE THEN TAKE YOUR FIRST RIGHT INTO PBA CLUB TOWER IS IN BACK ON POWER LINE DEMARC IS LOCATED IN HOFFMAN BOX NEXT TO THE SITE. T-1 IS NOT LINE POWERED IF WE LOOSE COMMERCIAL POWER THE T-1 GOES DOWN.ADDRESS: 74 BIRDSEYE AVE , MERIDEN, CT 06450ACCESS: 24/7 . GATE CODE:0 8899CONTACT: 203-630-6201SECURITY: NO ISSUESPOWER COMPANY: NORTHEAST UTILITIES (800) 286-2000 METER # IM 685 584FIRE: (203) 235-2537 POLICE: (203) 630-6201 T-1 CIRCUIT NUMBERS HCGS 707645SNIET: (800) 448-1008 AND (203) 420-3131 (24HR REPAIR)				

ORACLE PTN # 1:	2051A0GKKD	PACE JOB # 1:	MRCTB032126
ORACLE PTN # 2:	2051A0GGZ8	PACE JOB # 2:	MRCTB031617
ORACLE PTN # 3:		PACE JOB # 3:	
ORACLE PTN # 4:		PACE JOB # 4:	
ORACLE PTN # 5:		PACE JOB # 5:	
ORACLE PTN # 6:		PACE JOB # 6:	
ORACLE PTN # 7:		PACE JOB # 7:	
ORACLE PTN # 8:		PACE JOB # 8:	
BORDER CELL WITH CONTOUR COORD:		SEARCH RING NAME:	
AM STUDY REQ'D (Y/N):	No	SEARCH_RING_ID:	
FREQ COORD:		BTA:	MSA / RSA:
OPS DISTRICT:	CT-North	LAC(GSM):	
OPS ZONE:	NE_CT_5_MDSK_N_CS	LAC(UMTS):	05988
RF DISTRICT:	NPO Triage	BSC(GSM):	
RF ZONE:	Holsest	RNC(UMTS):	BRPTCT04CRBR07
PARENT NAME(GSM):		MME POOL ID(LTE):	FF01
PARENT NAME(UMTS):	BRIDGEPORT RNC07 ERICSSON 3820		

Section 3 - LICENSE COVERAGE/FILING INFORMATION

CGSA - NO FILING TRIGGERED (Yes/No):	No	CGSA LOSS:		PCS REDUCED - UPS ZIP:	
CGSA - MINOR FILING NEEDED (Yes/No):	No	CGSA EXT AGMT NEEDED:		PCS POPS REDUCED:	
CGSA - MAJOR FILING NEEDED (Yes/No):	Yes	CGSA SCORECARD UPDATED:			

CGSA CALL SIGNS:	

Section 4 - TOWER/REGULATORY INFORMATION

STRUCTURE AT&T OWNED?:	Yes	GROUND ELEVATION (ft):	0	STRUCTURE TYPE:	UTILITY
ADDITIONAL REGULATORY?:	Yes	HEIGHT OVERALL (ft):	160.00	FCC ASR NUMBER:	NR
SUB-LEASE RIGHTS?:	Yes	STRUCTURE HEIGHT (ft):	160.00		
LIGHTING TYPE:	NOT REQUIRED				

MARKET LOCATION 700 MHz Band:	
MARKET LOCATION 850 MHz Band:	
MARKET LOCATION 1900 MHz Band:	
MARKET LOCATION AWS Band:	
MARKET LOCATION WCS Band:	
MARKET LOCATION Future Band:	

Section 5 - E-911 INFORMATION - existing

	PSAP NAME	PSAP ID	E911 PHASE	RPC SVC PROVIDER	LMU REQUIRED	ESRK	DATE LIVE E911	DATE LIVE PH2
SECTOR A E-911						0		
SECTOR B						0		
SECTOR C						0		
SECTOR D								
SECTOR E								
SECTOR F								
OMNI								

Section 5 - E-911 INFORMATION - final

	PSAP NAME	PSAP ID	E911 PHASE	RPC SVC PROVIDER	LMU REQUIRED	ESRK	DATE LIVE E911	DATE LIVE PH2
SECTOR A E-911						0		
SECTOR B						0		
SECTOR C						0		
SECTOR D								
SECTOR E								
SECTOR F								
OMNI								

Section 6 - RBS GENERAL INFORMATION - existing

	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS	5G 1ST RBS								
RBS ID:	172458	229744	367110									
CTB COMMON ID:	CTU5279	CTV5279	CTL05279									
CELL ID / BCF:	CTU5279	CTU5279	CTL05279									
BTA/TID:	318V	318U	318L									
4-8 DIGIT SITE ID:	5279	5279	5279									
COW OR TOY?:	No	No	No									
CELL SITE TYPE:	SECTORIZED	SECTORIZED	SECTORIZED									
SITE TYPE:	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL									
BTS LOCATION ID:	INTERNAL	INTERNAL	INTERNAL									
BASE STATION TYPE:	BASE	OVERLAY	BASE									
EQUIPMENT NAME:	MERIDEN EAST	MERIDEN EAST	MERIDEN BIRDSEY AVENUE									
DISASTER PRIORITY:	1	1	3									

Section 6 - RBS GENERAL INFORMATION - final

	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS	5G 1ST RBS								
RBS ID:	229744		367110	RFDS_36158188								
CTB COMMON ID:	CTV5279		CTL05279	CTN0005279								
CELL ID / BCF:	CTU5279		CTL05279	CTN0005279								
BTA/TID:	318U		318L	318L								
4-8 DIGIT SITE ID:	5279		5279	5279								
COW OR TOY?:	No		No	No								
CELL SITE TYPE:	SECTORIZED		SECTORIZED	SECTORIZED								
SITE TYPE:	MACRO-CONVENTIONAL		MACRO-CONVENTIONAL	MACRO-CONVENTIONAL								
BTS LOCATION ID:	INTERNAL		INTERNAL	INTERNAL								
BASE STATION TYPE:	OVERLAY		BASE	BASE								
EQUIPMENT NAME:	MERIDEN EAST		MERIDEN BIRDSEY AVENUE	MERIDEN BIRDSEY AVENUE								
DISASTER PRIORITY:	1		3	3								

Section 7 - RBS SPECIFIC INFORMATION - existing

	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS	5G 1ST RBS								
RAC:												
EQUIPMENT VENDOR:	ERICSSON	ERICSSON	ERICSSON									
EQUIPMENT TYPE:	3206 INDOOR	3206 INDOOR	6601 INDOOR MU									
BASEBAND CONFIGURATION:												
LOCATION:												
CABINET LOCATION:												
MARKET STATE CODE:			CT									
AGPS:	Yes	Yes	Yes									
NODE B NUMBER:	0	0	5279									

Section 7 - RBS SPECIFIC INFORMATION - final

	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS	5G 1ST RBS								
RAC:												
EQUIPMENT VENDOR:	ERICSSON		ERICSSON	ERICSSON								
EQUIPMENT TYPE:	3206 INDOOR		6601 INDOOR MU	6630								
BASEBAND CONFIGURATION:			1x6601 / 1x5216 / 2xXMU03	xxxxx / 1x6630 / xxxxx								
LOCATION:												
CABINET LOCATION:												
MARKET STATE CODE:			CT	CT								
AGPS:	Yes		Yes	Yes								
NODE B NUMBER:	0		5279	5279								

Section 8 - RBS/SECTOR ASSOCIATION - existing

	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS	PO 1ST RBS
CTS Common ID	CTU52791	CTV52791	CTL05279	
Soft Sector IDs	CTU52797	CTV52791	CTL05279_7A_1	
	CTU52798	CTV52792	CTL05279_7B_1	
	CTU52799	CTV52793	CTL05279_7C_1	
		CTV5279A	CTL05279_8A_1	
		CTV5279B	CTL05279_8A_2	
		CTV5279C	CTL05279_8B_1	
			CTL05279_8B_2	
			CTL05279_9C_1	
			CTL05279_9C_2	

Section 8 - RBS/SECTOR ASSOCIATION - final

	UMTS 1ST RBS	UMTS 2ND RBS	LTE 1ST RBS	PO 1ST RBS
CTS Common ID	CTV5279		CTL05279	CTN0005279
Soft Sector IDs	CTV52791		CTL05279_2A_2	CTN0005279_8A_1
	CTV52792		CTL05279_2B_2	CTN0005279_8B_1
	CTV52793		CTL05279_2C_2	CTN0005279_8C_1
	CTV5279A		CTL05279_3A_1	
	CTV5279B		CTL05279_3B_1	
	CTV5279C		CTL05279_3C_1	
			CTL05279_7A_1	
			CTL05279_7B_1	
			CTL05279_7C_1	
			CTL05279_8A_1	
			CTL05279_8B_1	
			CTL05279_8C_1	
			CTL05279_9A_1	
			CTL05279_9A_2	
			CTL05279_9B_1	
			CTL05279_9B_2	
			CTL05279_9C_1	
			CTL05279_9C_2	

Section 9 - SOFT SECTOR ID - existing

		UMTS - 1ST 850	UMTS - 1ST 1900	UMTS - 2ND 850	LTE - 1ST 700	LTE - 1ST 850	LTE - 1ST 1900	LTE - 1ST WCS	LTE - 2ND 1900	LTE - 4TH 1900	LTE - 4TH AWS	5G - 1ST 850																	
USBD (excluding Hard Sector)		25924 850 3G 1	25924 1900 3G 1	25924 850 3G 2																									
SECTOR A	SOFT SECTOR ID	CTV52791	CTU52797	CTV5279A	CTL05279_7A_1		CTL05279_9A_1		CTL05279_9A_2																				
SECTOR B		CTV52792	CTU52798	CTV5279B	CTL05279_7B_1		CTL05279_9B_1		CTL05279_9B_2																				
SECTOR C		CTV52793	CTU52799	CTV5279C	CTL05279_7C_1		CTL05279_9C_1		CTL05279_9C_2																				
SECTOR D																													
SECTOR E																													
SECTOR F																													
OMNI																													

Section 9 - SOFT SECTOR ID - final

		UMTS - 1ST 850	UMTS - 1ST 1900	UMTS - 2ND 850	LTE - 1ST 700	LTE - 1ST 850	LTE - 1ST 1900	LTE - 1ST WCS	LTE - 2ND 1900	LTE - 4TH 1900	LTE - 4TH AWS	5G - 1ST 850																	
USBD (excluding Hard Sector)		25924 850 3G 1		25924 850 3G 2																									
SECTOR A	SOFT SECTOR ID	CTV52791		CTV5279A	CTL05279_7A_1		CTL05279_9A_1																						
SECTOR B		CTV52792		CTV5279B	CTL05279_7B_1		CTL05279_9B_1																						
SECTOR C		CTV52793		CTV5279C	CTL05279_7C_1		CTL05279_9C_1																						
SECTOR D																													
SECTOR E																													
SECTOR F																													
OMNI																													

Section 9 - Cell Number - existing

	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 1900	LTE 3RD LTE 4TH 1900	LTE 4TH AWS	5G 1ST 850																
USEID (excluding Hard Sector)	25924 850 3G 1	25924 1900 3G 1	25924 850 3G 2																								
SECTOR A CELL NUMBER				15		8		178																			
SECTOR B				16		9		179																			
SECTOR C				17		10		180																			
SECTOR D																											
SECTOR E																											
SECTOR F																											
OMNI																											

Section 9 - Cell Number - final

	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 1900	LTE 3RD LTE 4TH 1900	LTE 4TH AWS	5G 1ST 850																
USEID (excluding Hard Sector)	25924 850 3G 1		25924 850 3G 2																								
SECTOR A CELL NUMBER				15	[redacted]	8	[redacted]		[redacted]	[redacted]	[redacted]																
SECTOR B				16	[redacted]	9	[redacted]		[redacted]	[redacted]	[redacted]																
SECTOR C				17	[redacted]	10	[redacted]		[redacted]	[redacted]	[redacted]																
SECTOR D																											
SECTOR E																											
SECTOR F																											
OMNI																											

Section 10 - CID/SAC - existing

	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 1900	LTE 4TH 1900	LTE 4TH AWS	AWS 1ST 1700																	
SECTOR A CID/SAC	52791	52797	42791																									
SECTOR B	52792	52798	42792																									
SECTOR C	52793	52799	42793																									
SECTOR D																												
SECTOR E																												
SECTOR F																												
OMNI																												

Section 10 - CID/SAC - final

	UMTS 1ST 850	UMTS 1ST 1900	UMTS 2ND 850	LTE 1ST 700	LTE 1ST 850	LTE 1ST 1900	LTE 1ST WCS	LTE 2ND 1900	LTE 4TH 1900	LTE 4TH AWS	AWS 1ST 1700																	
SECTOR A CID/SAC	52791		42791																									
SECTOR B	52792		42792																									
SECTOR C	52793		42793																									
SECTOR D																												
SECTOR E																												
SECTOR F																												
OMNI																												

Section 15A - CURRENT TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION # (LEFT to RIGHT from BACK OF ANTENNA (Unless otherwise specified))	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	7770		OS66512-2				
ANTENNA VENDOR	Powerwave		Quintel				
ANTENNA SIZE (H x W x D)	55X11X5		72X12X9 6				
ANTENNA WEIGHT	35		111				
AZIMUTH	60		50				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	173		173				
ANTENNA TIP HEIGHT	175		176				
MECHANICAL DOWNTILT	0		0				
FEEDER AMOUNT	2		4				
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna #1 # of inches)							
Antenna RET Motor (QTY/MODEL)	2 Powerwave 7020		Bailsn				
SURGE ARRESTOR (QTY/MODEL)			12 APTDC-BDFDM-0B				
DIPLEXER (QTY/MODEL)	2 Powerwave / LGP 21901		4 OSC0007F1V51-1				
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)	1 Kathrein / 860-10006		LTE RRH				
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	2 Powerwave LGP 21401 (DB - 850 Bypass)		2 Kaelus TMA2117F00V1-1 (Twin PCS-WCS w/700/850 BP)				
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2 Polyphaser 1000860						
PDU FOR TMAS (QTY/MODEL)	1 LGP 12104 (1900 AND 850 Bypass TMA)						
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)			1 RRUS-11 (REUSE ONLY)				
RRH - 850 band (QTY/MODEL)			1 RRUS-12				
RRH - 1900 band (QTY/MODEL)			2 RRUS-12				
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)			1 RRUS-32				
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1							
Local Market Note 2							
Local Market Note 3							

PORT SPECIFIC FIELDS	PORT NUMBER	UMTS (Cell ID)	LTE (UMTS Cell ID)	ATOLL TXID	ATOLL CELL ID	TDRS	TECHNOLOGY(TYPE) (UMTS / LTE)	ANTENNA (ATOLL)	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom) (Only needed for LTE)	FEEDER TYPE	FEEDER LENGTH (Feet)	SAM KIT MODEL#	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODEL#	MATCHPLAT E POWER (Watts)	ERP (Watts)	Antenna RET Band	CABLE NUMBER	CABLE ID (CSMH)
ANTENNA POSITION 1	PORT 1			CTV52791	CTV52791		UMTS 850	7770 00 850 06	13 5	60	6	None	Andrew 1-5/8	200 05						289 07		1	
	PORT 2			CTV52791	CTV52791A		UMTS 850	7770 00 850 06	13 5	60	6	Bottom	Andrew 1-5/8	200 05						289 07		1	
ANTENNA POSITION 3	PORT 1			CTL05279_7A_1	CTL05279_7A_1		LTE 700	OS66512-2_722MHz_04DT	13 3	60	4	Bottom	Andrew 1-5/8	200 05						1475 7065		5	
	PORT 2			CTL05279_8A_1	CTL05279_8A_1		LTE 850	OS66512-2_850MHz_04DT	13 6	60	4	Bottom	Andrew 1-5/8	200 05						1000		5	

	PORT 3			CTL05279_9A_1	CTL05279_9A_1		LTE 1900	QS66512-2_1930MHz_03DT	15 9	60	3	Bottom	Andrew 1-5/8	200 05						7328 7514		6	
	PORT 4			CTL05279_3A_1	CTL05279_3A_1		LTE WCS	QS66512-2_2355MHz_03DT	16 7	60	3	Bottom	Andrew 1-5/8	200 05						1255 2856		8	
	PORT 7			CTL05279_9A_2	CTL05279_9A_2		LTE 1900	QS66512-2_1930MHz_03DT	15 9	60	3	Bottom	Andrew 1-5/8	200 05						7328 7514		6	

Section 15B - CURRENT TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION # (LEFT to RIGHT from BACK OF ANTENNA) (Select antenna type from list)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	7770				QS66512-2									
ANTENNA VENDOR	Powerwave				Quintel									
ANTENNA SIZE (H x W x D)	55X11X5				72X12X9.6									
ANTENNA WEIGHT	35				111									
AZIMUTH	200				200									
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	173				173									
ANTENNA TIP HEIGHT	175				176									
MECHANICAL DOWNTILT	0				0									
FEEDER AMOUNT	2				4									
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020				Built-in								
SURGE ARRESTOR (QTY/MODEL)					12	APTDC-BDFDM-DB								
DIPLEXER (QTY/MODEL)	2	Powerwave / LGP 21901			4	OBC0007F IV51-1								
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)						LTE RRH								
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	2	Powerwave LGP 21401 (DB - 850 Bypass)			2	Katelus TMA2117F00V1-1 (Twin PCS-WCS w/700/850 BP)								
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser 1000850												
PDU FOR TMA'S (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)					1	RRUS-11 (REUSE ONLY)								
RRH - 850 band (QTY/MODEL)					1	RRUS-12								
RRH - 1900 band (QTY/MODEL)					2	RRUS-12								
RRH - AWS band (QTY/MODEL)														
RRH - WCS band (QTY/MODEL)					1	RRUS-32								
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1														
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS (Select value from list)	PORT NUMBER	USED (CSMg)	USED (AISG)	ATOLL TXD	ATOLL CELL ID	TUNX	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom) (Applicable for QUINTEL)	FEEDER TYPE	FEEDER LENGTH (Feet)	RX/ANT INT MODULE?	TMA/LNA or LLC (QTY)	TRIPLEXER or LLC (MODEL)	TRIPLEXER or LLC (QTY)	RCP/ANCP MODULE?	HATCH PLATE POWER (Watts)	RRH or Model	Antenna RET Name	CABLE ID NUMBER	CABLE ID (CSMg)
ANTENNA POSITION 1	PORT 1			CTV52792	CTV52792		UMTS 850	7770 00 850 10	13 5	200	10	None	Andrew 1-5/8	200 05							289 07		9	
	PORT 2			CTV52792	CTV52798		UMTS 850	7770 00 850 10	13 5	200	10	Bottom	Andrew 1-5/8	200 05							289 07		9	
ANTENNA POSITION 3	PORT 1			CTL05279_7B_1	CTL05279_7B_1		LTE 700	QS66512-2_722MHz_10DT	13 1	200	10	Bottom	Andrew 1-5/8	200 05							1475 7065		13	
	PORT 2			CTL05279_8B_1	CTL05279_8B_1		LTE 850	QS66512-2_850MHz_10DT	13 5	200	10	Bottom	Andrew 1-5/8	200 05							1000		13	
	PORT 3			CTL05279_9B_1	CTL05279_9B_1		LTE 1900	QS66512-	15 9	200	6	Bottom	Andrew 1-5/8	200 05							7328 7514		14	

								2_1930MHz_06DT																
	PORT 4			CTL05279_3B_1	CTL05279_3B_1		LTE WCS	QS66512-2_2355MHz_03DT	16.7	200	3	Bottom	Andrew 1-5/8	200.05						1285.2868		14	
	PORT 7			CTL05279_9B_2	CTL05279_9B_2		LTE 1900	QS66512-2_1930MHz_06DT	15.9	200	6	Bottom	Andrew 1-5/8	200.05						7328.7514		14	

Section 15C - CURRENT TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION # LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	7770				QS66512-2									
ANTENNA VENDOR	Powerwave				Quintel									
ANTENNA SIZE (H x W x D)	55X11X5				72X12X9 6									
ANTENNA WEIGHT	35				111									
AZIMUTH	320				320									
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	173				173									
ANTENNA TIP HEIGHT	175				175									
MECHANICAL DOWNTILT	0				0									
FEEDER AMOUNT	2				4									
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # ? # of inches)														
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020				Built-in								
SURGE ARRESTOR (QTY/MODEL)					12	APTDC-BOFDM-DB								
DIPLEXER (QTY/MODEL)	2	Powerwave / LGP 21901			4	QBC0007F1V51-1								
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)						LTE RRH								
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	2	Powerwave LGP 21401 (DB - 650 Bypass)			2	Kaelus TMA2117F00V1-1 (Twin PCS-WCS w/700/850 BP)								
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser 1000660												
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)					1	RRUS-11 (REUSE ONLY)								
RRH - 850 band (QTY/MODEL)					1	RRUS-12								
RRH - 1900 band (QTY/MODEL)					2	RRUS-12								
RRH - AWS band (QTY/MODEL)														
RRH - WCS band (QTY/MODEL)					1	RRUS-32								
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)														
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1														
Local Market Note 2														
Local Market Note 3														

PORT SPECIFIC FIELDS	PORT NUMBER	USED (Y/N)	USED (Year)	ATOLL TRX	ATOLL CELL ID	TRX	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL ID	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Intermediate mount)	FEEDER TYPE	FEEDER LENGTH (feet)	PLANT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCP MODULE?	MATCH PLATE MODULE?	RRH POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSMIC)
ANTENNA POSITION 1	PORT 1			CTV52793	CTV52793		UMTS 850	7770 00 850 10	13 5	320	10	None	Andrew 1-5/8	200 05							289 07		17	
	PORT 2			CTV52793	CTV5279C		UMTS 850	7770 00 850 10	13 5	320	10	Bottom	Andrew 1-5/8	200 05							289 07		17	
ANTENNA POSITION 3	PORT 1			CTL05279_7C_1	CTL05279_7C_1		LTE 700	QS66512-2_722MHz_10DT	13 1	320	10	Bottom	Andrew 1-5/8	200 05							1475 7065		21	
	PORT 2			CTL05279_8C_1	CTL05279_8C_1		LTE 850	QS66512-2_850MHz_10DT	13 5	320	10	Bottom	Andrew 1-5/8	200 05							1000		21	
	PORT 3			CTL05279_9C_1	CTL05279_9C_1		LTE 1900	QS66512-	16	320	2	Bottom	Andrew 1-5/8	200 05							7328 7514		22	

							2_1930MHz_02DT																
	PORT 6			CTL05279_3C_1	CTL05279_3C_1		LTE WCS	Q566512-2_2355MHz_03DT	16.7	320	3	Bottom	Andrew 1-5/8	200.05						1285.2866		22	
	PORT 7			CTL05279_9C_2	CTL05279_9C_2		LTE 1900	Q566512-2_1930MHz_02DT	16	320	2	Bottom	Andrew 1-5/8	200.05						7328.7514		22	

Section 16A - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (Unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
Existing Antenna?					Yes									
ANTENNA MAKE - MODEL	SBNHH-1D65B													
ANTENNA VENDOR	Andrew													
ANTENNA SIZE (H x W x D)	72.9X11.9X7.1													
ANTENNA WEIGHT	42.1													
AZIMUTH	60													
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	173													
ANTENNA TIP HEIGHT	175													
MECHANICAL DOWNTILT	0													
FEEDER AMOUNT	2													
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)		Built-in												
SURGE ARRESTOR (QTY/MODEL)	4	TSXDC-4310FM			4	TSXDC-4310FM								
DIPLEXER (QTY/MODEL)	2	TPX-070821												
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)														
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	2	TMABPD7823VG12A												
CURRENT INJECTORS FOR TMA (QTY/MODEL)														
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)														
RRH - 850 band (QTY/MODEL)					1	4478 B5								
RRH - 1900 band (QTY/MODEL)														
RRH - AWS band (QTY/MODEL)	1	4426 B66												
RRH - WCS band (QTY/MODEL)														
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)	2	K SBT 782-11055												
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	SOW - Replace UMTS Antenna to 65' BW Hex Model - Replace Diplexers to Triplexers - Replace TMA's with new AWS Compatible TMA's- Add new 2 Coax per sector - Add LTE RRH @ Bottom along with SA - Upgrade LTE 850 RRH- Add 2nd XMU - Add SBTs - Add 1x6630													
Local Market Note 2														
Local Market Note 3	1x5216+2xXMU+1x6630													

PORT SPECIFIC FIELDS	PORT NUMBER	S1 1900 (CDMA)	UMTS (Gsm)	ATOLL TOP	ATOLL CELL ID	TMA Y/N	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Middle/Bottom) (approximate for SA)	FEEDER TYPE	FEEDER LENGTH (feet)	XSAIT RT MODULE?	TRIPLEXER in LLC (QTY)	TRIPLEXER - LLC (MODEL)	ACS/AWCPA MODULE?	RATCHPLAT E POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (Cellsite)
ANTENNA POSITION 1	PORT 1			CTV52791	CTV52791		UMTS 850	SBNHH-1D65B_847MHz_06DT	14.39	60	6	None	Andrew 1-5/8	200.05						289.07		1	
	PORT 2			CTV52791	CTV5279A		UMTS 850	SBNHH-1D65B_847MHz_06DT	14.39	60	6	Bottom	Andrew 1-5/8	200.05						289.07		1	
	PORT 3			CTL05279_2A_2	CTL05279_2A_2		LTE AWS	SBNHH-1D65B_2170MHz_03DT	18.05	60	3	Bottom	Andrew 1-5/8	200.05						3837.0724		2	

ANTENNA POSITION 3	PORT 2			CTL05279_8A_1	CTL05279_8A_1		LTE 850	QS66512-2_850MHz_04DT	13.6	60	4	Bottom	Andrew 1-5/8	200.05						1000		5	
	PORT 5			CTN0005279_8A_1	CTN0005279_8A_1		LTE 850	QS66512-2_850MHz_04DT	13.6	60	4	Bottom	Andrew 1-5/8	200.05						1000		5	

Section 16B - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION # (LEFT to RIGHT from BACK OF ANTENNA unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
Existing Antenna?					Yes									
ANTENNA MAKE - MODEL	SBNHH-1D65B													
ANTENNA VENDOR	Andrew													
ANTENNA SIZE (H x W x D)	72.9X11.9X7.1													
ANTENNA WEIGHT	42.1													
AZIMUTH	200													
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	173													
ANTENNA TIP HEIGHT	175													
MECHANICAL DOWNTILT	0													
FEEDER AMOUNT	2													
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)		Burlen												
SURGE ARRESTOR (QTY/MODEL)	4	TSXDC-4310FM			4	TSXDC-4310FM								
DIPLEXER (QTY/MODEL)	2	TPX-070821												
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)														
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	2	TMABPD7823VG12A												
CURRENT INJECTORS FOR TMA (QTY/MODEL)														
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)														
RRH - 850 band (QTY/MODEL)					1	4478 B5								
RRH - 1900 band (QTY/MODEL)														
RRH - AWS band (QTY/MODEL)	1	4426 B66												
RRH - WCS band (QTY/MODEL)														
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)	2	K SBT 782-11065												
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	SOW - Replace UMTS Antenna to 65" BW Hex Model - Replace Diplexers to Triplexers - Replace TMA's with new AWS Compatible TMA's- Add new 2 Coax per sector - Add LTE RRH @ Bottom along with SA - Upgrade LTE 850 RRH- Add 2nd XMU - Add SBTs - Add 1x6630													
Local Market Note 2														
Local Market Note 3	1x5216+2xXMU+1x6630													

PORT # FROM # TO ANTENNA	PORT NUMBER	(MHz) (Ceiling)	(MHz) (Azul)	ATOLL TAG	ATOLL CELL ID	TURN UP	TECHNOLOGY/FREQ (MHz)	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL DOWN TILT	RRH LOCATION (Top/Bottom/ Horizontal/No RRH)	FEEDER TYPE	FEEDER LENGTH (feet)	XSAFT NIT MODULE?	TRIPLEXER (Y/N)	TRIPLEXER (LLC (GIT)	TRIPLEXER (LLC (MODEL)	RCP/PRINCIPA MODULE?	RATCHPLAT A POWER (Watts)	ERP (Watts)	Antenna RET Model	CABLE # NUMBER	CABLE ID (Cable#)
ANTENNA POSITION 1	PORT 1			CTV52792	CTV52792		UMTS 850	SBNHH-1D65B_847MHz_10DT	14.37	200	10	None	Andrew 1-5/8	200.05							289.07		9	
	PORT 2			CTV52792	CTV5279B		UMTS 850	SBNHH-1D65B_847MHz_10DT	14.37	200	10	Bottom	Andrew 1-5/8	200.05							289.07		9	
	PORT 3			CTL05279_2B_2	CTL05279_2B_2		LTE AWS	SBNHH-1D65B_2170MHz_06DT	17.97	200	6	Bottom	Andrew 1-5/8	200.05							3837.0724		10	

ANTENNA POSITION 3	PORT 2			CTL05279_8B_1	CTL05279_8B_1		LTE 850	QS66512-2_850MHz_10DT	13 5	200	10	Bottom	Andrew 1-5/8	200 05						1000		13	
	PORT 5			CTN0005279_8B_1	CTN0005279_8B_1		LTE 850	QS66512-2_850MHz_10DT	13 5	200	10	Bottom	Andrew 1-5/8	200 05						1000		13	

Section 16C - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION # LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
Existing Antenna?					Yes									
ANTENNA MAKE - MODEL	SBNHH-1D65B													
ANTENNA VENDOR	Andrew													
ANTENNA SIZE (H x W x D)	72.9X11.9X7.1													
ANTENNA WEIGHT	42.1													
AZIMUTH	320													
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	173													
ANTENNA TIP HEIGHT	175													
MECHANICAL DOWNTILT	0													
FEEDER AMOUNT	2													
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)														
Antenna RET Motor (QTY/MODEL)		Built-in												
SURGE ARRESTOR (QTY/MODEL)	4	TSXDC-4310FM			4	TSXDC-4310FM								
DIPLEXER (QTY/MODEL)	2	TPX-070821												
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)														
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	2	TMASPD7823VG12A												
CURRENT INJECTORS FOR TMA (QTY/MODEL)														
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
OC TRUNK (QTY/MODEL)														
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)														
RRH - 850 band (QTY/MODEL)					1	4478 B5								
RRH - 1900 band (QTY/MODEL)														
RRH - AWS band (QTY/MODEL)	1	4426 B66												
RRH - WCS band (QTY/MODEL)														
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)	2	K SBT 782-11055												
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	SOW - Replace UMTS Antenna to 65" 8W Hex Model - Replace Diplexers to Triplexers - Replace TMA's with new AWS Compatible TMA's- Add new 2 Coax per sector - Add LTE RRH @ Bottom along with SA - Upgrade LTE 850 RRH- Add 2nd XMU - Add SBTs - Add 1x6630													
Local Market Note 2														
Local Market Note 3	1x5216+2xXMU+1x6630													

PORT SPECIFIC FIELDS	PORT NUMBER	USID (Cellsite)	USID (Alias)	ATOLL TXID	ATOLL CELL ID	TXRX	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RHU LOCATION (Top/Bottom/ Integrated/No RHU)	JUMPER TYPE	FEEDER LENGTH (feet)	DIPLEXER MODULE?	TRIPLEXER MODULE?	TRIPLEXER W LLC (QTY)	TRIPLEXER W LLC (MODEL)	BOOSTER MODULE?	HATCHPLATE POWER (Watts)	EIRP (Watts)	Antenna RET Model	CABLE #	CABLE ID (CSMO)
ANTENNA POSITION 1	PORT 1			CTV52793	CTV52793		UMTS 850	SBNHH-1D65B_647MHz_10DT	14.37	320	10	None	Andrew 1-5/8	200.05							289.07		17	
	PORT 2			CTV52793	CTV5279C		UMTS 850	SBNHH-1D65B_647MHz_10DT	14.37	320	10	Bottom	Andrew 1-5/8	200.05							289.07		17	
	PORT 3			CTL05279_2C_2	CTL05279_2C_2		LTE AWS	SBNHH-1D65B_2170MHz_02DT	18.05	320	2	Bottom	Andrew 1-5/8	200.05							3837.0724		18	

ANTENNA POSITION 3	PORT 2			CTL05279_8C_1	CTL05279_8C_1		LTE 850	QS66512-2_850MHz_10DT	13 5	320	10	Bottom	Andrew 1-5/8	200 05						1000		21	
	PORT 5			CTN0005279_8C_1	CTN0005279_8C_1		LTE 850	QS66512-2_850MHz_10DT	13 5	320	10	Bottom	Andrew 1-5/8	200 05						1000		21	

Section 17A - FINAL TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION #: LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	SBNHH-1D65B				QS66512-2									
ANTENNA VENDOR	Andrew				Quintel									
ANTENNA SIZE (H x W x D)	72.9X11.9X7.1				72X12X9.6									
ANTENNA WEIGHT	42.1				111									
AZIMUTH	60				60									
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	173				173									
ANTENNA TIP HEIGHT	176				176									
MECHANICAL DOWNTILT	0				0									
FEEDER AMOUNT	4				4									
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)					1									
Antenna RET Motor (QTY/MODEL)		Built-in				Built-in								
SURGE ARRESTOR (QTY/MODEL)	4	TSXDC-4310FM			16	APTDC-BOFDM-DB(12)+TSXDC-4310FM(4)								
DIPLEXER (QTY/MODEL)	2	TPX-070821			4	QBC0007F IV51-1								
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)	1	Kathrein / 860-10006				LTE RRH								
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	2	TMABPD7823VG12A			2	Kaelus TMA2117F00V1-1 (Twin PCS-WCS w/700/850 BP)								
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser 1000860												
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)					1	RRUS-11 (REUSE ONLY)								
RRH - 850 band (QTY/MODEL)					1	4478 B5								
RRH - 1900 band (QTY/MODEL)					2	RRUS-12								
RRH - AWS band (QTY/MODEL)	1	4426 B66												
RRH - WCS band (QTY/MODEL)					1	RRUS-32								
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)	2	K SBT 782-11055												
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	SOW - Replace UMTS Antenna to 85' RW Hex Model - Replace Diplexers to Triplexers - Replace TMA's with new AWS Compatible TMA's- Add new 2 Coax per sector - Add LTE RRH @ Bottom along with SA - Upgrade LTE 850 RRH- Add 2nd XMU - Add SBTs - Add 1x6630													
Local Market Note 2														
Local Market Note 3	1x5216+2xXMU+1x6630													

PORT SPECIFIC FIELDS	PORT NUMBER	UMTS (CSMA)	LMES (Alcatel)	ATOLL TRX	ATOLL CELL ID	TMA	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Intermediate/None)	FEEDER TYPE	FEEDER LENGTH (feet)	DIPLEXER / DUPLEXER / MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	BOOSTER/TMA MODULE?	HATCHPLATE POWER (Watts)	RRH POWER (Watts)	Antenna RET Relay	CABLE NUMBER	CABLE ID (CSMA)
ANTENNA POSITION 1	PORT 1	25924 A 850 3G 1		CTV52791	CTV52791		UMTS 850	SBNHH-1D65B_847MHz_06DT	14.39	60	6	None	Andrew 1-5/8	200.05						289.07		1	
	PORT 2	25924 A 850 3G 2		CTV52791	CTV52791A		UMTS 850	SBNHH-1D65B_847MHz_06DT	14.39	60	5	Bottom	Andrew 1-5/8	200.05						289.07		1	
	PORT 3	25924 A AWS 4G tmp4		CTL05279_2A_2	CTL05279_2A_2		LTE AWS	SBNHH-	18.05	60	3	Bottom	Andrew 1-5/8	200.05						3837.0724		2	

ANTENNA POSITION 3	PORT 1	25924 A 700 4G 1		CTL05279_7A_1	CTL05279_7A_1		LTE 700	QS66512-2_722MHz_04DT	13.3	60	4	Bottom	Andrew 1-5/8	200.05						1475.7065		5	
	PORT 2	25924 A 850 4G tmp1		CTL05279_8A_1	CTL05279_8A_1		LTE 850	QS66512-2_850MHz_04DT	13.6	60	4	Bottom	Andrew 1-5/8	200.05						1000		5	
	PORT 3	25924 A 1900 4G 1		CTL05279_9A_1	CTL05279_9A_1		LTE 1900	QS66512-2_1930MHz_03DT	15.9	60	3	Bottom	Andrew 1-5/8	200.05						7328.7514		6	
	PORT 4	25924 A WCS 4G tmp1		CTL05279_3A_1	CTL05279_3A_1		LTE WCS	QS66512-2_2355MHz_03DT	16.7	60	3	Bottom	Andrew 1-5/8	200.05						1285.2666		6	
	PORT 5	25924 A 850 5G tmp1		CTN0005279_8A_1	CTN0005279_8A_1		LTE 850	QS66512-2_850MHz_04DT	13.6	60	4	Bottom	Andrew 1-5/8	200.05						1000		5	
	PORT 7	25924 A 1900 4G tmp4		CTL05279_9A_2	CTL05279_9A_2		LTE 1900	QS66512-2_1930MHz_03DT	15.9	60	3	Bottom	Andrew 1-5/8	200.05						7328.7514		6	

Section 17B - FINAL TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	SBNHH-1D65B				QS66512-2									
ANTENNA VENDOR	Andrew				Quintel									
ANTENNA SIZE (H x W x D)	72.9X11.9X7.1				72X12X9.6									
ANTENNA WEIGHT	42.1				111									
AZIMUTH	200				200									
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	173				173									
ANTENNA TIP HEIGHT	176				176									
MECHANICAL DOWNTILT	0				0									
FEEDER AMOUNT	4				4									
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna #? # of inches)														
Antenna RET Motor (QTY/MODEL)		Built-in				Built-in								
SURGE ARRESTOR (QTY/MODEL)	4	TSXDC-4310FM			16	APTDC-BDFDM-DB(12)+TSXDC-4310FM(4)								
DIPLEXER (QTY/MODEL)	2	TPX-070821			4	QBC0007F1V51-1								
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)						LTE RRH								
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	2	TMABPD7823VG12A			2	Kaelus TMA2117F00V1-1 (Twin PCS-WCS w/700/850 BP)								
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser 1000860												
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)					1	RRUS-11 (REUSE ONLY)								
RRH - 850 band (QTY/MODEL)					1	4478 B5								
RRH - 1900 band (QTY/MODEL)					2	RRUS-12								
RRH - AWS band (QTY/MODEL)	1	4426 B66												
RRH - WCS band (QTY/MODEL)					1	RRUS-32								
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)	2	K SBT 782-11065												
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	SOW - Replace UMTS Antenna to 85° BW Hex Model - Replace Diplexers to Triplexers - Replace TMA's with new AWS Compatible TMA's- Add new 2 Coax per sector - Add LTE RRH @ Bottom along with SA - Upgrade LTE 850 RRH- Add 2nd XMU - Add SBTs - Add 1x6630													
Local Market Note 2														
Local Market Note 3	1x5216+2xXMU+1x6630													

PORT SPECIFIC RRUS	PORT NUMBER	USED (Cell#)	USED (Mod)	ATOLL TXID	ATOLL CELL ID	TXRX	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/ na)	FEEDER TYPE	FEEDER LENGTH (feet)	MAIN BT MODULE?	TMA/LNA? w/ LLC (CT)	TMA/LNA? w/ LLC (T) (MODEL)	RAYCAP MODULE?	ANTICIPATED POWER (Watts)	EIRP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSMS)
ANTENNA POSITION 1	PORT 1	25924 B 850 3G 1		CTV52792	CTV52792		UMTS 850	SBNHH-1D65B_847MHz_10DT	14.37	200	10	None	Andrew 1-5/8	200.05						289.07		9	
	PORT 2	25924 B 850 3G 2		CTV52792	CTV52798		UMTS 850	SBNHH-1D65B_847MHz_10DT	14.37	200	10	Bottom	Andrew 1-5/8	200.05						289.07		9	
	PORT 3	25924 B AWS 4G tmp4		CTL05279_2B_2	CTL05279_2B_2		LTE AWS	SBNHH-	17.97	200	6	Bottom	Andrew 1-5/8	200.05						3837.0724		10	

								1D85B_2170MHz_06DT																
ANTENNA POSITION 3	PORT 1	25924 B 700 4G 1		CTL05279_7B_1	CTL05279_7B_1		LTE 700	QS66512-2_722MHz_10DT	13 1	200	10	Bottom	Andrew 1-5/8	200 05						1475 7065		13	
	PORT 2	25924 B 850 4G tmp1		CTL05279_8B_1	CTL05279_5B_1		LTE 850	QS66512-2_850MHz_10DT	13 5	200	10	Bottom	Andrew 1-5/8	200 05						1000		13	
	PORT 3	25924 B 1900 4G 1		CTL05279_5B_1	CTL05279_2B_1		LTE 1900	QS66512-2_1930MHz_06DT	15 9	200	6	Bottom	Andrew 1-5/8	200 05						7328 7514		14	
	PORT 4	25924 B WCS 4G tmp1		CTL05279_3B_1	CTL05279_3B_1		LTE WCS	QS66512-2_2355MHz_03DT	16 7	200	3	Bottom	Andrew 1-5/8	200 05						1285 2866		14	
	PORT 5	25924 B 850 5G tmp1		CTN0005279_8B_1	CTN0005279_8B_1		LTE 850	QS66512-2_850MHz_10DT	13 5	200	10	Bottom	Andrew 1-5/8	200 05						1000		13	
	PORT 7	25924 B 1900 4G tmp4		CTL05279_5B_2	CTL05279_8B_2		LTE 1900	QS66512-2_1930MHz_06DT	15 9	200	6	Bottom	Andrew 1-5/8	200 05						7328 7514		14	

Section 17C - FINAL TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION # (LEFT to RIGHT ROS BACK OF ANTENNA (unless otherwise specified))	ANTENNA POSITION 1		ANTENNA POSITION 2		ANTENNA POSITION 3		ANTENNA POSITION 4		ANTENNA POSITION 5		ANTENNA POSITION 6		ANTENNA POSITION 7	
ANTENNA MAKE - MODEL	SBNHH-1D65B				QS66512-2									
ANTENNA VENDOR	Andrew				Quintel									
ANTENNA SIZE (H x W x D)	72.9X11.9X7.1				72X12X9.6									
ANTENNA WEIGHT	42.1				111									
AZIMUTH	320				320									
MAGNETIC DECLINATION														
RADIATION CENTER (feet)	173				173									
ANTENNA TIP HEIGHT	176				176									
MECHANICAL DOWNTILT	0				0									
FEEDER AMOUNT	4				4									
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)														
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)														
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # ? # of inches)														
Antenna RET Motor (QTY/MODEL)		Built-in				Built-in								
SURGE ARRESTOR (QTY/MODEL)	4	TSXDC-4310FM			16	APTDC-BDFDM-D0(12)+TSXDC-4310FM(4)								
DIPLEXER (QTY/MODEL)	2	TPX-070821			4	OBC0007F1V51-1								
DUPLEXER (QTY/MODEL)														
Antenna RET CONTROL UNIT (QTY/MODEL)						LTE RRH								
DC BLOCK (QTY/MODEL)														
TMA/LNA (QTY/MODEL)	2	TMABPD7823VG12A			2	Kaelus TMA2117F00V1-1 (Twin PCS-WCS w/700/850 BP)								
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser 1000860												
PDU FOR TMAS (QTY/MODEL)														
FILTER (QTY/MODEL)														
SQUID (QTY/MODEL)														
FIBER TRUNK (QTY/MODEL)														
DC TRUNK (QTY/MODEL)														
REPEATER (QTY/MODEL)														
RRH - 700 band (QTY/MODEL)					1	RRUS-11 (REUSE ONLY)								
RRH - 850 band (QTY/MODEL)					1	4478 B5								
RRH - 1900 band (QTY/MODEL)					2	RRUS-12								
RRH - AWS band (QTY/MODEL)	1	4426 B66												
RRH - WCS band (QTY/MODEL)					1	RRUS-32								
Additional RRH #1 - any band (QTY/MODEL)														
Additional RRH #2 - any band (QTY/MODEL)														
Additional Component 1 (QTY/MODEL)	2	KSBT 782-11055												
Additional Component 2 (QTY/MODEL)														
Additional Component 3 (QTY/MODEL)														
Local Market Note 1	SCW - Replace UMTS Antenna to 65° BW Hex Model - Replace Diplexers to Triplexers - Replace TMA's with new AWS Compatible TMA's- Add new 2 Coax per sector - Add LTE RRH @ Bottom along with SA - Upgrade LTE 850 RRH- Add 2nd XMU - Add SBTs - Add 1x6630													
Local Market Note 2														
Local Market Note 3	1x5216+2xXMU+1x6630.													

PORT SPECIFIC RELOS	PORT NUMBER	USED (Cable)	USED (Aux)	ATOLL TRX	ATOLL CELL ID	TYPE	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/ Integrated/N/A)	FEEDER TYPE	FEEDER LENGTH (feet)	EXACT RET MODULE?	TRIPLEXER or LLC (QTY)	TMA LOCATION (LLC MODEL)	RCP AREA MODULE?	HATCHPLATE POWER (Watts)	EIRP (Watts)	Antenna RET Number	CABLE NUMBER	CABLE ID (CESIS)
ANTENNA POSITION 1	PORT 1	25924 C 850 3G 1		CTV52793	CTV52793		UMTS 850	SBNHH-1D65B_847MHz_10DT	14.37	320	10	None	Andrew 1-5/8	200.05						289.07		17	
	PORT 2	25924 C 850 3G 2		CTV52793	CTV52793C		UMTS 850	SBNHH-1D65B_847MHz_10DT	14.37	320	10	Bottom	Andrew 1-5/8	200.05						289.07		17	
	PORT 3	25924 C AWS 4G Imp4		CTL05279_2C_2	CTL05279_2C_2		LTE AWS	SBNHH-	18.05	320	2	Bottom	Andrew 1-5/8	200.05						3837.0724		18	

								1065B_2170MHz_02DT																
ANTENNA POSITION 3	PORT 1	25924 C 700 4G 1		CTL05279_7C_1	CTL05279_7C_1		LTE 700	QS66512-2_722MHz_10DT	13.1	320	10	Bottom	Andrew 1-5/8	200 05						1475 7065		21	
	PORT 2	25924 C 850 4G tmp1		CTL05279_8C_1	CTL05279_8C_1		LTE 850	QS66512-2_850MHz_10DT	13.5	320	10	Bottom	Andrew 1-5/8	200 05						1000		21	
	PORT 3	25924 C 1900 4G 1		CTL05279_9C_1	CTL05279_9C_1		LTE 1900	QS66512-2_1930MHz_02DT	16	320	2	Bottom	Andrew 1-5/8	200 05						7328 7514		22	
	PORT 4	25924 C WCS 4G tmp1		CTL05279_3C_1	CTL05279_3C_1		LTE WCS	QS66512-2_2355MHz_03DT	16.7	320	3	Bottom	Andrew 1-5/8	200 05						1285 2858		22	
	PORT 5	25924 C 850 5G tmp1		CTN0005279_8C_1	CTN0005279_8C_1		LTE 850	QS66512-2_850MHz_10DT	13.5	320	10	Bottom	Andrew 1-5/8	200 05						1000		21	
	PORT 7	25924 C 1900 4G tmp4		CTL05279_9C_2	CTL05279_9C_2		LTE 1900	QS66512-2_1930MHz_02DT	16	320	2	Bottom	Andrew 1-5/8	200 05						7328 7514		22	

Diagram - Sector	A	Diagram File Name - CT5279_A_B_C_LTE_REV 1.vsd					
Atoll Site Name -	CTL05279	Location Name -	MERIDEN BIRDSEY AVENUE	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND

Comments: "Important Note: For detailed radio to antenna wiring refer to the latest 4T4R Antenna/ radio Port connections Field Notice (RF-HW-2016-265)"

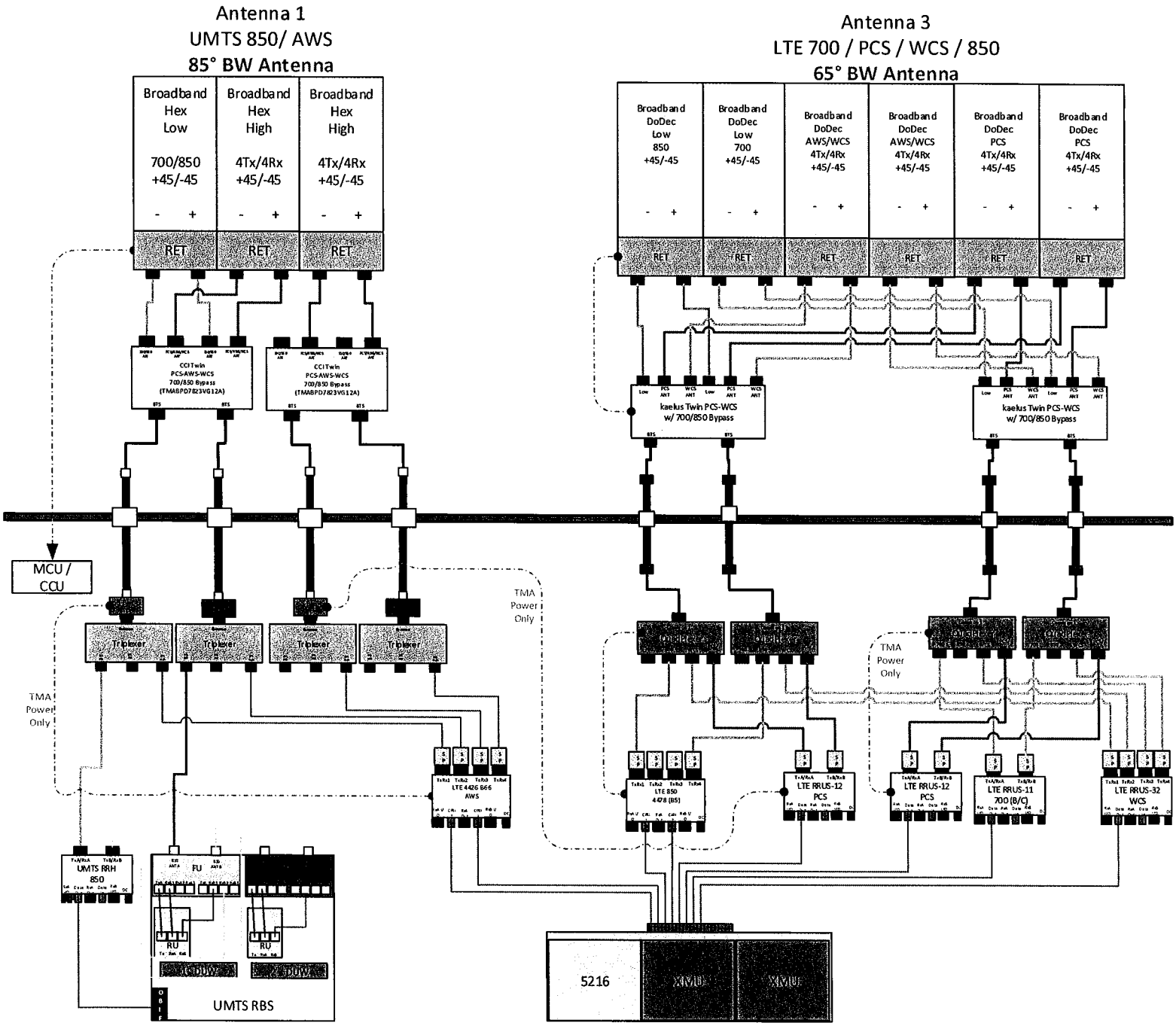


Diagram - Sector	B	Diagram File Name - CT5279_A_B_C_LTE_REV.1.vsd					
Atoll Site Name -	CTL05279	Location Name -	MERIDEN BIRDSEY AVENUE	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND

Comments: "Important Note: For detailed radio to antenna wiring refer to the latest 4T4R Antenna/ radio Port connections Field Notice (RF-HW-2016-265)"

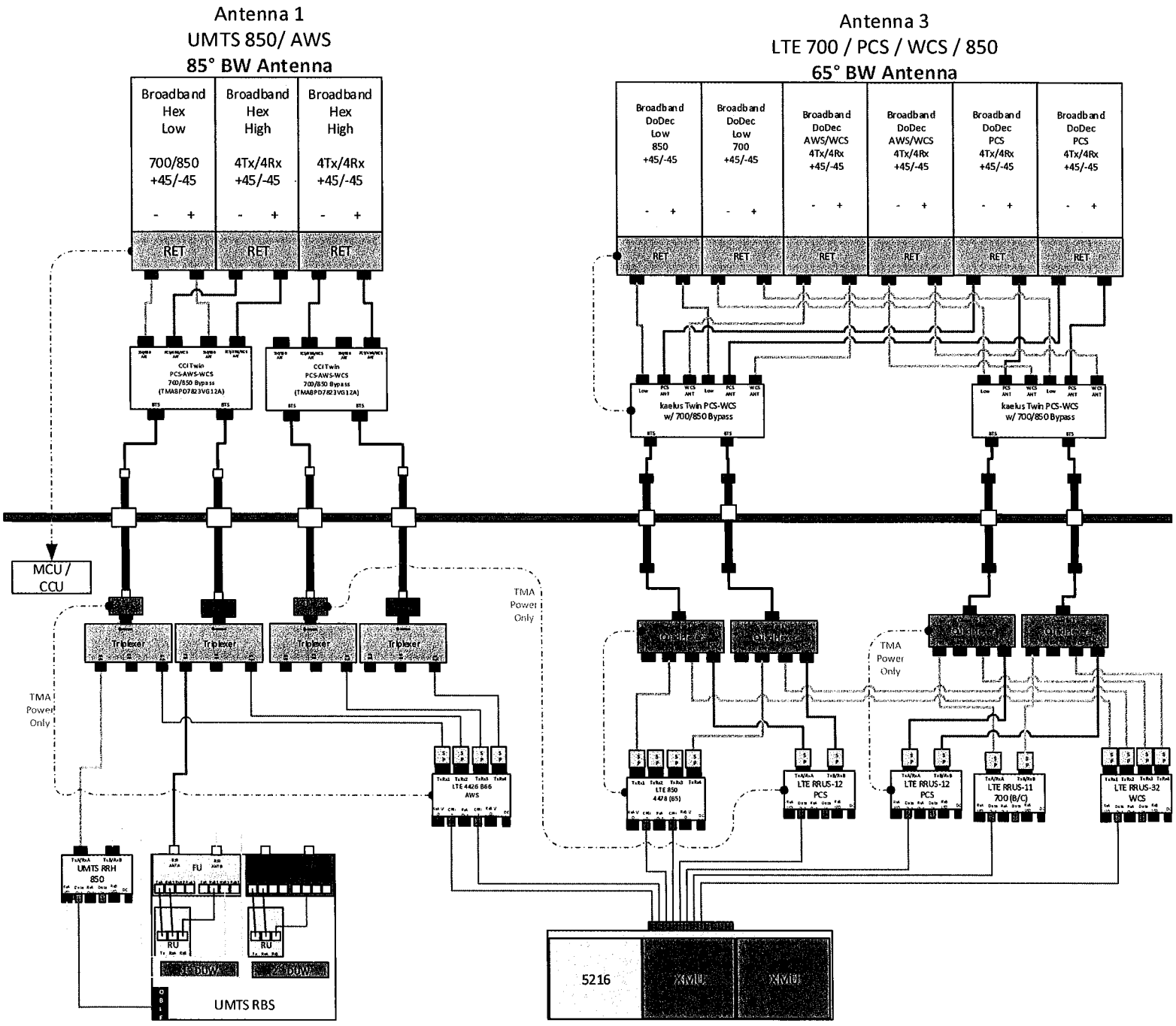
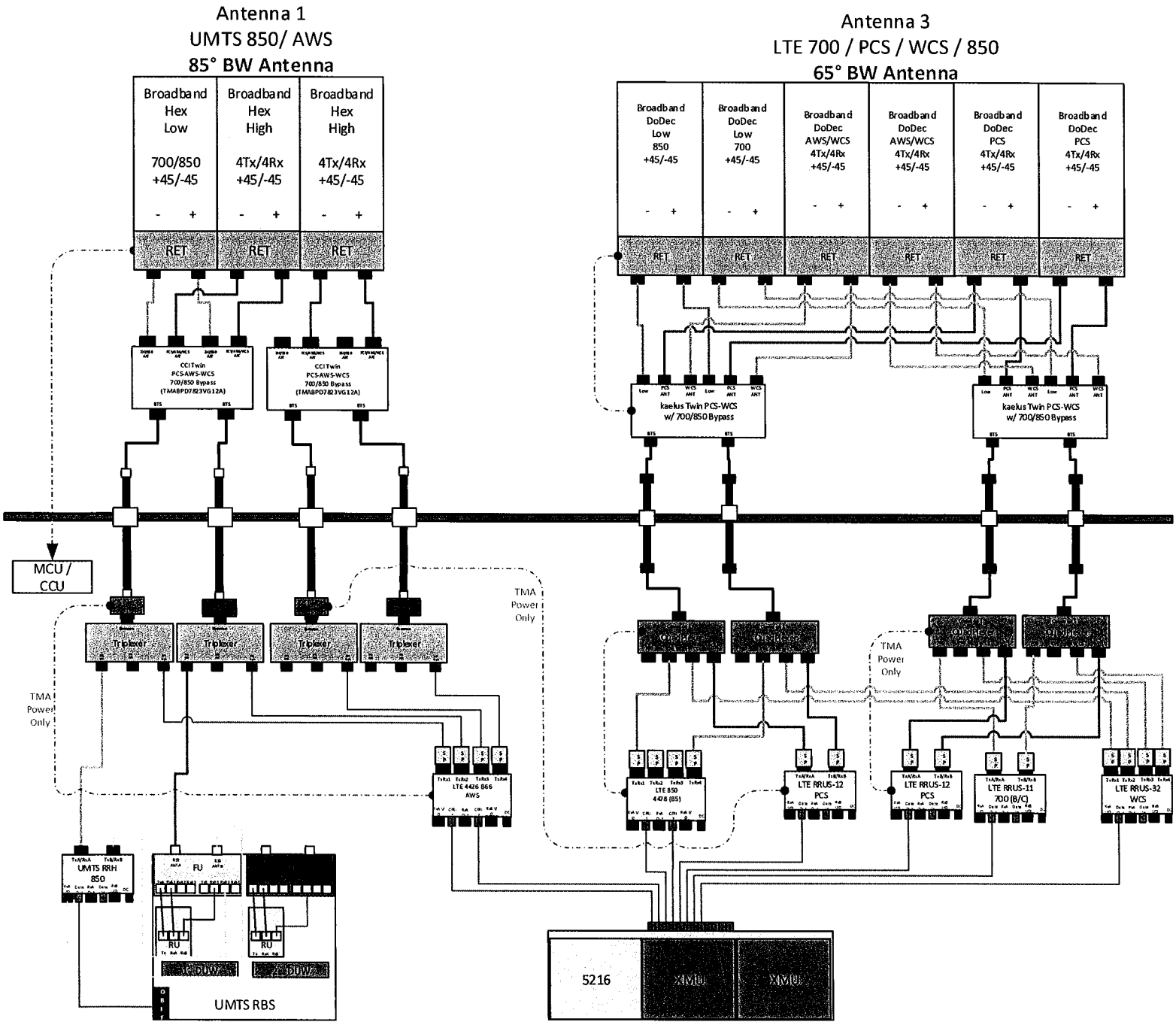


Diagram - Sector C Diagram File Name - CT5279_A_B_C_LTE_REV.1.vsd

Atoll Site Name - CTL05279 Location Name - MERIDEN BIRDSEY AVENUE Market - CONNECTICUT Market Cluster - NEW ENGLAND

Comments: "Important Note: For detailed radio to antenna wiring refer to the latest 4T4R Antenna/ radio Port connections Field Notice (RF-HW-2016-265)"



NOTES			
Date Time (Eastern)	Version	ATTUID	Note
4/1/2018 9:55:48 PM	1.00	mh705r	LTE Preliminary RFDS Created

WORKFLOW SUMMARY							
Date	FROM State / Status	FROM ATTUID	TO State / Status	TO ATTUID	Operation	Comments	PACE Status
05/05/2018	Preliminary In Progress	mh705r	Preliminary Submitted for Approval	RC475S	Promote	LTE Preliminary RFDS	NER-RCTB-18-02310 MRCTB032126 SUCCESS 05/05/2018 12:10:16 AM NER-RCTB-18-02386 MRCTB031617 SUCCESS 05/05/2018 12:10:16 AM
05/09/2018	Preliminary Submitted for Approval	RC475S	Preliminary Approved	LW826K	Promote		

PROJECT INFORMATION

SCOPE OF WORK:	TOWER – REPLACE (6) EXISTING ANTENNAS WITH (3) NEW ANDREW 6' HEX ANTENNAS IN POSITION 1 & (3) NEW 12–PORT ANTENNAS IN POSITION 3. REPLACE (9) EXISTING TMAS WITH (12) NEW TMAS ON EXISTING TRANSMISSION TOWER. ADD (6) NEW COAX CABLES. EQUIPMENT AREA – INSTALL (3) RRUS–12 850, (3) RRUS–32, (3) 4426 RRUS, (3) RRU 4478 B5 RADIOS WITH (12) TSXDC–4310FM SURGE ARRESTORS TO ANTENNA AT POSITION 1 & (12) TSXDC–4301FM SURGE ARRESTORS TO ANTENNA AT POSITION 3. SWAP DUS TO 5216 & ADD XMU'S. ADD SBT'S & (1) RBS 6630.
SITE ADDRESS:	74 BIRDSEY AVENUE MERIDEN, CT 06450
LATITUDE:	41° 31' 22.50" N (NAD 83)*
LONGITUDE:	72° 44' 57.65" W (NAD 83)* *PER EXISTING AT&T PLANS
JURISDICTION:	CITY OF MERIDEN
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY
NAME OF APPLICANT:	AT&T MOBILITY 500 ENTERPRISE DRIVE SUITE 3A ROCKY HILL, CT 06067
TOWER OWNER:	CONNECTICUT LIGHT & POWER
STRUCTURE NUMBER:	9403

SITE NAME: MERIDEN BIRDSEY AVENUE
SITE NUMBER: CT5279 LTE 3C/4C/5C/5G NR
PACE NO:. MRCTB02240 (3C) / MRCTB025041 (4C) / MRCTB031617 (5C) / MRCTB032126 (5G NR)
FA LOCATION CODE: 10105380

DRAWING INDEX

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C01	PROPOSED SITE PLAN	2
C02	PROPOSED ELEVATION & CONSTRUCTION DETAILS	2
C03	EQUIPMENT PLUMBING DIAGRAM	2
C04	PROPOSED EQUIPMENT SPECIFICATIONS – I	2
C05	PROPOSED EQUIPMENT SPECIFICATIONS – II	2
E01	GROUNDING DETAILS	2

THIS DOCUMENT WAS DEVELOPED TO REFLECT A SPECIFIC SITE AND ITS SITE CONDITIONS AND IS NOT TO BE USED FOR ANOTHER SITE OR WHEN OTHER CONDITIONS PERTAIN. REUSE OF THIS DOCUMENT IS AT THE SOLE RISK OF THE USER.

STRUCTURAL NOTE:

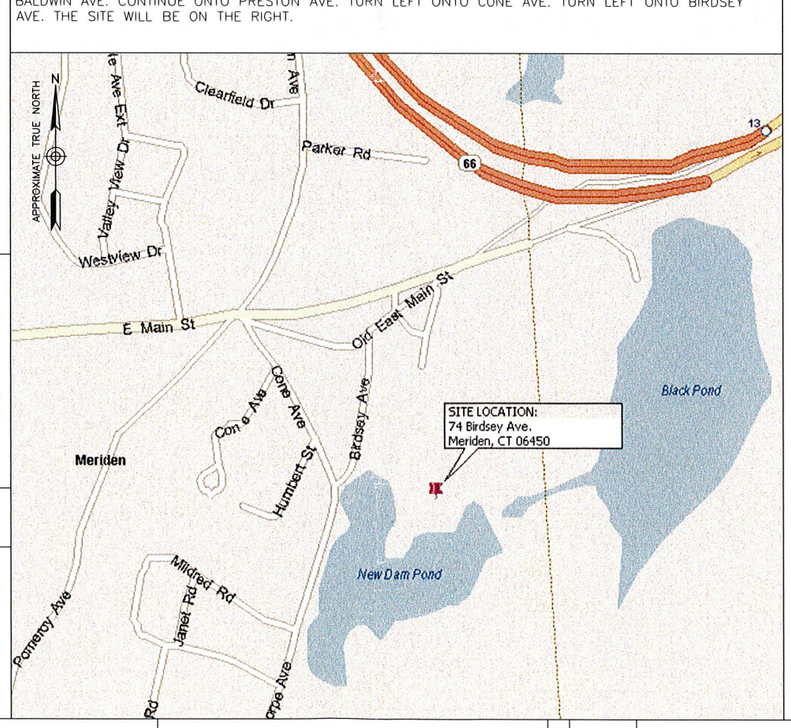
1. AS REQUIRED UNDER TIA/EIA 222H – STANDARD, CENTERLINE COMMUNICATIONS SHALL PROVIDE A STRUCTURAL ANALYSIS OF THE TOWER PREPARED BY A LICENSED CONNECTICUT STRUCTURAL ENGINEER CERTIFYING THAT, THE EXISTING TOWER AND ANY REQUIRED IMPROVEMENTS AND REINFORCEMENTS HAVE SUFFICIENT CAPACITY TO SUPPORT ALL EXISTING AND PROPOSED ANTENNAS, SUPPORTS AND APPURTENANCES AND COMPLIES WITH THE CURRENT CONNECTICUT STATE BUILDING CODE AND EIA/TIA CRITERIA. THE CONTRACTOR IS RESPONSIBLE TO CONFIRM THAT ANY IMPROVEMENTS AND REINFORCEMENTS REQUIRED BY THE STRUCTURAL ANALYSIS CERTIFICATION ARE PROPERLY INSTALLED PRIOR TO THE ADDITION OF ANTENNAS, SUPPORTS AND APPURTENANCES PROPOSED ON THESE DRAWINGS OR OTHERWISE NOTED IN THE STRUCTURAL ANALYSIS.

CONTACT INFORMATION

CONTACT	CONTACT	COMPANY	PHONE NO.
ENGINEERING:	BENJAMIN REVETTE, P.E.	DEWBERRY ENGINEERS INC.	(617) 695–3400
SAC:	DAVID FORD	CENTERLINE COMMUNICATIONS	(508) 821–6509

VICINITY MAP

DIRECTIONS : TAKE I–91 S. TAKE EXIT 19 FOR BALDWIN AVE. TOWARD PRESTON AVE. TURN LEFT ONTO BALDWIN AVE. CONTINUE ONTO PRESTON AVE. TURN LEFT ONTO CONE AVE. TURN LEFT ONTO BIRDSEY AVE. THE SITE WILL BE ON THE RIGHT.



APPLICABLE BUILDING CODES AND STANDARDS

CONTRACTOR'S WORK SHALL COMPLY WITH PROJECT STANDARD NOTES, SYMBOLS AND DETAILS (SEE DRAWING INDEX FOR STANDARD NOTES AND DETAILS INCLUDED WITH TYPICAL DRAWING PACKAGE). CONTRACTOR WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:
INTERNATIONAL BUILDING CODE (IBC)

ELECTRICAL CODE:
NATIONAL ELECTRICAL CODE (NEC)

CONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS.
AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION
TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222–H, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:
TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM
IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")

TELCORDIA GR–1503, COAXIAL CABLE CONNECTIONS

ANSI T1.311, FOR TELECOM – DC POWER SYSTEMS – TELECOM, ENVIRONMENTAL PROTECTION

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

Dewberry®
Dewberry Engineers Inc.
280 SUMMER STREET
10TH FLOOR
BOSTON, MA 02210
PHONE: 617.695.3400
FAX: 617.695.3310

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET
WEST BRIDGEWATER, MA 02379

at&t Mobility
500 ENTERPRISE DRIVE
SUITE 3A
ROCKY HILL, CT 06067

MERIDEN BIRDSEY AVENUE
SITE NO. CT5279 3C/4C/5C/5G NR

74 BIRDSEY AVENUE
MERIDEN, CT 06450

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	05/03/19	ISSUED FOR CONSTRUCTION	AJB	DAS	BBR
1	02/11/19	ISSUED FOR CONSTRUCTION	AJB	DAS	BBR
0	12/14/18	ISSUED FOR CONSTRUCTION	AJB	DAS	BBR
A	08/16/18	ISSUED FOR REVIEW	AJB	DAS	BBR

SCALE: AS SHOWN | DESIGNED BY: DAS | DRAWN BY: MR

STATE OF CONNECTICUT
BENJAMIN B. REVETTE
29971
LICENSED
PROFESSIONAL ENGINEER

AT&T MOBILITY
ROCKY HILL, 06067

TITLE SHEET

DEWBERRY NO.	DRAWING NUMBER	REV
50093723/50096234	T01	2

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   PROJECT MANAGEMENT – CENTERLINE COMMUNICATIONS
   CONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY
   OEM – ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF PROJECT MANAGEMENT.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
5. DRAWINGS PROVIDED HERE ARE NOT TO SCALE UNLESS OTHERWISE NOTED AND ARE INTENDED TO SHOW OUTLINE ONLY.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY PROJECT MANAGEMENT.
9. CONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. CONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. CONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH PROJECT MANAGEMENT.
10. THE CONTRACTOR SHALL PROTECT EXISTING & PROPOSED IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
11. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
14. CONTRACTOR SHALL NOTIFY DEWBERRY 48 HOURS IN ADVANCE OF POURING CONCRETE, OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS & POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEER REVIEW.
15. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. CONTRACTOR SHALL NOTIFY PROJECT MANAGEMENT OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
16. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY CONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
17. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.

SITE WORK GENERAL NOTES:

1. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO:
   A) FALL PROTECTION
   B) CONFINED SPACE
   C) ELECTRICAL SAFETY
   D) TRENCHING & EXCAVATION.
3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES, TOP SOIL AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
5. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, OWNER AND/OR LOCAL UTILITIES.
6. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE AT&T SPECIFICATION FOR SITE SIGNAGE.
8. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE TRANSMISSION EQUIPMENT AND TOWER AREAS.
9. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
10. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION, SEE SOIL COMPACTION NOTES.
11. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
12. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL JURISDICTION'S GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000 PSI) MAY BE USED. ALL CONCRETING WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE (UNO). SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST EARTH.....3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER .....2 IN.
   #5 AND SMALLER & WWF.....1 1/2 IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL .....3/4 IN.
   BEAMS AND COLUMNS.....1 1/2 IN.
5. A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
7. CONCRETE CYLINDER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC 1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
   (A) RESULTS OF CONCRETE CYLINDER TESTS PERFORMED AT THE SUPPLIER'S PLANT,
   (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
   FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
8. AS AN ALTERNATIVE TO ITEM 7, TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS UNLESS NOTED OTHERWISE. STRUCTURAL STEEL SHALL BE ASTM–A–36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE PERFORMED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".
2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". PAINTED SURFACES SHALL BE TOUCHED UP.
3. BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE 3/4"Ø CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
4. NON–STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.
5. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
6. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL.
7. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION & TOPSOIL EXPOSE UNDISTURBED NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
3. AS AN ALTERNATIVE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.
4. COMPACTED SUBBASE SHALL BE UNIFORM & LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING 1" SIEVE.
5. AS AN ALTERNATIVE TO ITEMS 2 AND 3 PROOFROLL THE SUBGRADE SOILS WITH 5 PASSES OF A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND–OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). ANY SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL–GRADED GRANULAR FILL, AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

1. HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
   CONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, AT&T ANTENNA PLATFORM LOCATION AND ANTENNAS TO BE REPLACED.
2. COORDINATION OF WORK:
   CONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH PROJECT MANAGEMENT.
3. CABLE LADDER RACK:
   CONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO ANY NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
2. CONTRACTOR SHALL MODIFY EXISTING CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO NEW BTS EQUIPMENT. CONTRACTOR SHALL SUBMIT MODIFICATIONS TO PROJECT MANAGEMENT FOR APPROVAL.
3. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
4. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
5. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
6. CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.
7. EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA, AND MATCH EXISTING INSTALLATION REQUIREMENTS.
8. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
9. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
10. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
11. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
12. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL.) PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC & OSHA AND MATCH EXISTING INSTALLATION REQUIREMENTS.
13. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (SIZE 6 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
14. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
15. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
16. ALL POWER AND POWER GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
17. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
18. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
19. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
20. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
21. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
22. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
23. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
24. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
25. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
26. CABINETS, BOXES, AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
27. WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
28. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
29. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED, OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
30. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
31. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM PROJECT MANAGEMENT BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
32. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

Dewberry®
Dewberry Engineers Inc.
280 SUMMER STREET
10TH FLOOR
BOSTON, MA 02210
PHONE: 617.695.3400
FAX: 617.695.3310

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET
WEST BRIDGEWATER, MA 02379

at&t Mobility
500 ENTERPRISE DRIVE
SUITE 3A
ROCKY HILL, CT 06067

MERIDEN BIRDSEY AVENUE
SITE NO. CT5279 3C/4C/5C/5G NR

74 BIRDSEY AVENUE
MERIDEN, CT 06450

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	05/03/19	ISSUED FOR CONSTRUCTION	AJB	DAS	BBR
1	02/11/19	ISSUED FOR CONSTRUCTION	AJB	DAS	BBR
0	12/14/18	ISSUED FOR CONSTRUCTION	AJB	DAS	BBR
A	08/16/18	ISSUED FOR REVIEW	AJB	DAS	BBR

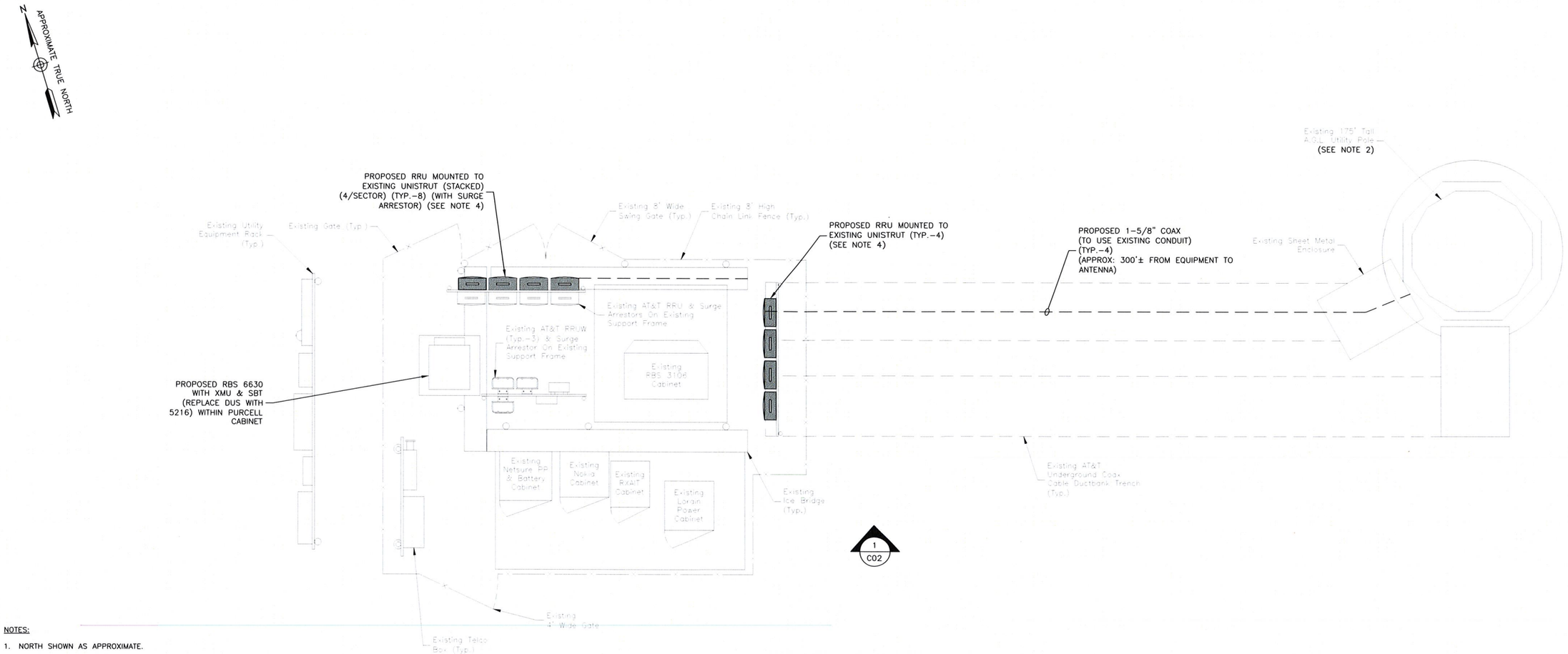
SCALE: AS SHOWN | DESIGNED BY: DAS | DRAWN BY: MR

STATE OF CONNECTICUT
BENJAMIN B. REVELL
25977
LICENSED
PROFESSIONAL ENGINEER

AT&T MOBILITY
ROCKY HILL, 06067

GENERAL NOTES

DEWBERRY NO.	DRAWING NUMBER	REV
50093723/50096234	G01	2



PROPOSED SITE PLAN

1

SCALE: 3/16"=1' FOR 11"x17"
3/8"=1' FOR 22"x34"

0' 2' 4' 6'

NOTES:

1. NORTH SHOWN AS APPROXIMATE.
2. ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, SURGE ARRESTORS, RRU'S, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS BY CENTEK ENGINEERING DATED 01/29/19, MOUNT MODIFICATION DRAWINGS BY CENTEK ENGINEERING DATED 10/30/18, MOUNT ANALYSIS BY DEWBERRY ENGINEERS INC. DATED 04/30/19 & MANUFACTURER RECOMMENDATIONS. SEE STRUCTURAL NOTE ON SHEET T01.
3. NOT ALL INFORMATION SHOWN FOR CLARITY.
4. EQUIPMENT MODIFICATION SCOPE:

   TOWER – REPLACE (6) EXISTING ANTENNAS WITH (3) NEW ANDREW 6' HEX ANTENNAS IN POSITION 1 & (3) NEW 12-PORT ANTENNAS IN POSITION 3. REPLACE (9) EXISTING TMAS WITH (12) NEW TMAS ON EXISTING TRANSMISSION TOWER. ADD (6) NEW COAX CABLES.

   EQUIPMENT AREA – INSTALL (3) RRUS-12 850, (3) RRUS-32, (3) 4426 RRUS, (3) RRU 4478 B5 RADIOS WITH (12) TSXDC-4310FM SURGE ARRESTORS TO ANTENNA AT POSITION 1 & (12) TSXDC-4301FM SURGE ARRESTORS TO ANTENNA AT POSITION 3. SWAP DUS TO 5216 & ADD XMU'S. ADD SBT'S & (1) RBS 6630.
5. ALL SPACING REQUIREMENTS FOR PROPOSED RRU MOUNTS SHALL BE CONFIRMED & SHALL NOT IMPEDE CLIMBING PEGS, TIE OFF FEATURES, OR OTHER EXISTING SAFETY FEATURES. ALL MOUNTS SHALL MAINTAIN EXISTING/PROPOSED MANUFACTURER REQUIREMENTS & SHALL NOT INTERFERE WITH OTHER RAD CENTERS OR EQUIPMENT.
6. CONTRACTOR SHALL VERIFY ANTENNA SPACING IN FIELD & RELOCATE PIPE MASTS AS REQUIRED TO MEET ANTENNA SPACING REQUIREMENTS. THE ANTENNA SPACING REQUIREMENTS ARE AS FOLLOWS:
   - 3'-0" MINIMUM SEPARATION BETWEEN LTE ANTENNAS
   - 6'-0" MINIMUM SEPARATION BETWEEN 700BC & 700DE

Dewberry®
Dewberry Engineers Inc.
280 SUMMER STREET
10TH FLOOR
BOSTON, MA 02210
PHONE: 617.695.3400
FAX: 617.695.3310

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET
WEST BRIDGEWATER, MA 02379

at&t Mobility
500 ENTERPRISE DRIVE
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SCALE: AS SHOWN | DESIGNED BY: DAS | DRAWN BY: MR

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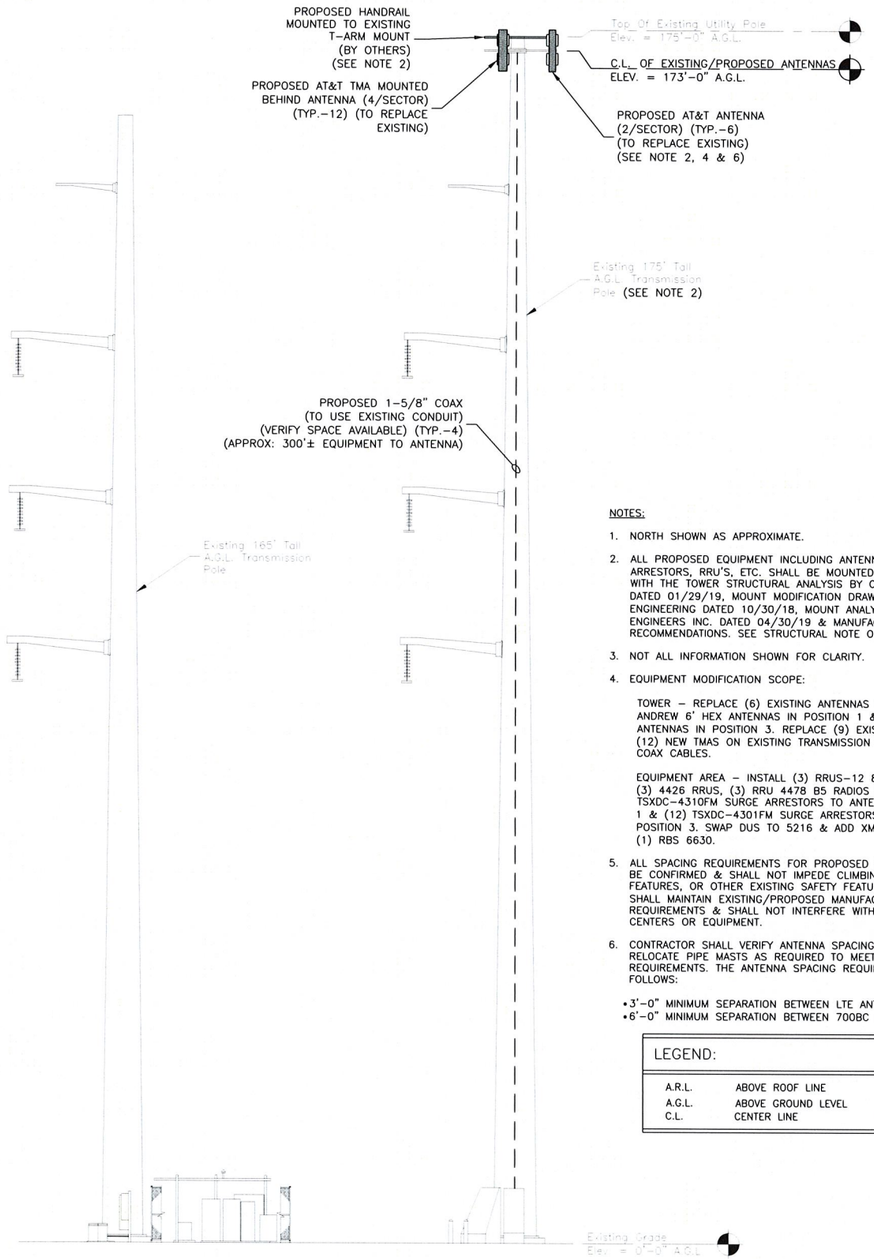
PROPOSED SITE PLAN

DEWBERRY NO.	DRAWING NUMBER	REV
50093723/50096234	C01	2

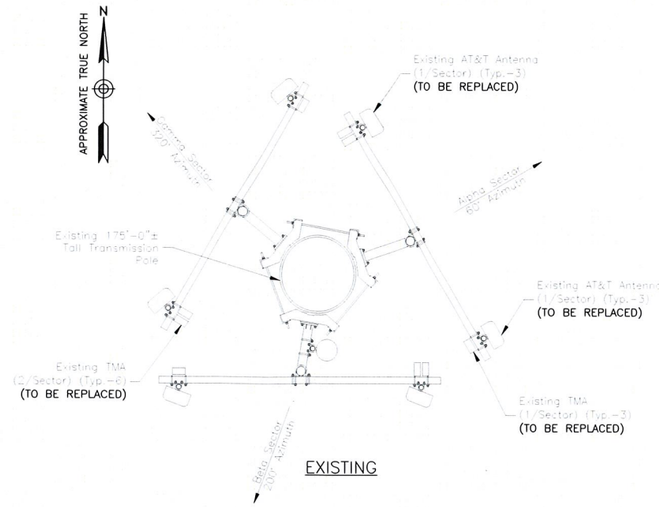


PROPOSED ELEVATION

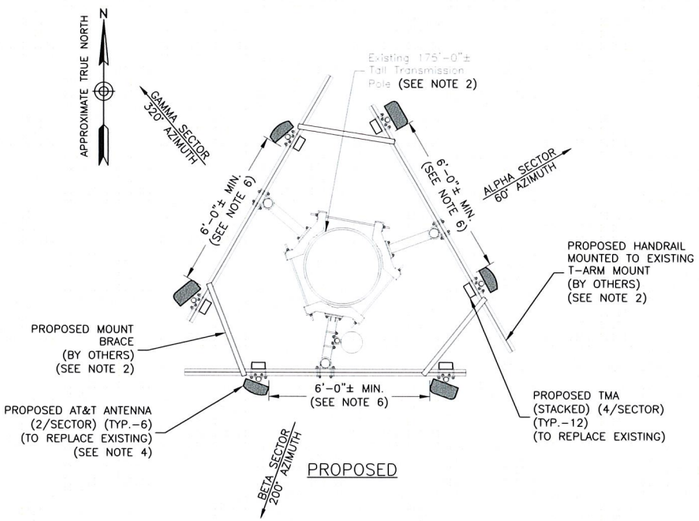
SCALE: 3/64"=1' FOR 11"x17"
3/32"=1' FOR 22"x34"

1

0' 8' 16' 24'



EXISTING



PROPOSED

ANTENNA ORIENTATION PLAN

SCALE: N.T.S.

2

NOTES:

1. NORTH SHOWN AS APPROXIMATE.
2. ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, SURGE ARRESTORS, RRU'S, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS BY CENTEK ENGINEERING DATED 01/29/19, MOUNT MODIFICATION DRAWINGS BY CENTEK ENGINEERING DATED 10/30/18, MOUNT ANALYSIS BY DEWBERRY ENGINEERS INC. DATED 04/30/19 & MANUFACTURER RECOMMENDATIONS. SEE STRUCTURAL NOTE ON SHEET T01.
3. NOT ALL INFORMATION SHOWN FOR CLARITY.
4. EQUIPMENT MODIFICATION SCOPE:

   TOWER – REPLACE (6) EXISTING ANTENNAS WITH (3) NEW ANDREW 6' HEX ANTENNAS IN POSITION 1 & (3) NEW 12-PORT ANTENNAS IN POSITION 3. REPLACE (9) EXISTING TMAS WITH (12) NEW TMAS ON EXISTING TRANSMISSION TOWER. ADD (6) NEW COAX CABLES.

   EQUIPMENT AREA – INSTALL (3) RRUS-12 850, (3) RRUS-32, (3) 4426 RRUS, (3) RRU 4478 B5 RADIOS WITH (12) TSXDC-4310FM SURGE ARRESTORS TO ANTENNA AT POSITION 1 & (12) TSXDC-4301FM SURGE ARRESTORS TO ANTENNA AT POSITION 3. SWAP DUS TO 5216 & ADD XMU'S. ADD SBT'S & (1) RBS 6630.
5. ALL SPACING REQUIREMENTS FOR PROPOSED RRU MOUNTS SHALL BE CONFIRMED & SHALL NOT IMPEDE CLIMBING PEGS, TIE OFF FEATURES, OR OTHER EXISTING SAFETY FEATURES. ALL MOUNTS SHALL MAINTAIN EXISTING/PROPOSED MANUFACTURER REQUIREMENTS & SHALL NOT INTERFERE WITH OTHER RAD CENTERS OR EQUIPMENT.
6. CONTRACTOR SHALL VERIFY ANTENNA SPACING IN FIELD & RELOCATE PIPE MASTS AS REQUIRED TO MEET ANTENNA SPACING REQUIREMENTS. THE ANTENNA SPACING REQUIREMENTS ARE AS FOLLOWS:

   •3'-0" MINIMUM SEPARATION BETWEEN LTE ANTENNAS
   •6'-0" MINIMUM SEPARATION BETWEEN 700BC & 700DE

LEGEND:	
A.R.L.	ABOVE ROOF LINE
A.G.L.	ABOVE GROUND LEVEL
C.L.	CENTER LINE

FINAL EQUIPMENT CONFIGURATION

SECTOR	BAND	ANTENNA	SIZE (INCHES) (LxWxD)	RAD. CENTER	AZIMUTH	TMA	RRU	SIZE (INCHES) (LxWxD)	FEEDER	FIBER
ALPHA	UMTS 850/AWS	(P) SBNHH-1D85B	72.9 x 11.9 x 7.1	173'±	60°	(P) BPD7823VG12A TMA (P) BPD7823VG12A TMA	(P) RRUS 4426 B66 (AT GRADE)	27.2 x 12.1 x 7.0	(E) 2 (P) 2	(E) 1
	–	–	–	–	–	–	–	–	–	–
	LTE 700/PCS/WCS/850	(P) QS66512-2	72.0 x 12.0 x 9.6	173'±	60°	(P) 2117F00V-1 TMA (P) 2117F00V-1 TMA	(E) RRUS-11 700 (BE) (E) RRUS-12 PCS (P) RRUS-12 850 (P) RRUS 4478 B5 (P) RRUS-32 WCS	19.7 x 17.0 x 7.2 20.4 x 18.5 x 7.5 20.4 x 18.5 x 7.5 16.5 x 13.4 x 7.7 27.2 x 12.1 x 7.0	(E) 2 (P) 2	–
	–	–	–	–	–	–	–	–	–	–
BETA	UMTS 850/AWS	(P) SBNHH-1D85B	72.9 x 11.9 x 7.1	173'±	200°	(P) BPD7823VG12A TMA (P) BPD7823VG12A TMA	(P) RRUS 4426 B66 (AT GRADE)	27.2 x 12.1 x 7.0	(E) 2 (P) 2	(E) 1
	–	–	–	–	–	–	–	–	–	–
	LTE 700/PCS/WCS/850	(P) QS66512-2	72.0 x 12.0 x 9.6	173'±	200°	(P) 2117F00V-1 TMA (P) 2117F00V-1 TMA	(E) RRUS-11 700 (BE) (E) RRUS-12 PCS (P) RRUS-12 850 (P) RRUS 4478 B5 (P) RRUS-32 WCS	19.7 x 17.0 x 7.2 20.4 x 18.5 x 7.5 20.4 x 18.5 x 7.5 16.5 x 13.4 x 7.7 27.2 x 12.1 x 7.0	(E) 2 (P) 2	–
	–	–	–	–	–	–	–	–	–	–
GAMMA	UMTS 850/AWS	(P) SBNHH-1D85B	72.9 x 11.9 x 7.1	173'±	320°	(P) BPD7823VG12A TMA (P) BPD7823VG12A TMA	(P) RRUS 4426 B66 (AT GRADE)	27.2 x 12.1 x 7.0	(E) 2 (P) 2	(E) 1
	–	–	–	–	–	–	–	–	–	–
	LTE 700/PCS/WCS/850	(P) QS66512-2	72.0 x 12.0 x 9.6	173'±	320°	(P) 2117F00V-1 TMA (P) 2117F00V-1 TMA	(E) RRUS-11 700 (BE) (E) RRUS-12 PCS (P) RRUS-12 850 (P) RRUS 4478 B5 (P) RRUS-32 WCS	19.7 x 17.0 x 7.2 20.4 x 18.5 x 7.5 20.4 x 18.5 x 7.5 16.5 x 13.4 x 7.7 27.2 x 12.1 x 7.0	(E) 2 (P) 2	–
	–	–	–	–	–	–	–	–	–	–

*RF SCHEDULE BASED ON VERSION 1.00 RFDS FOR CT5279 DATED 05/05/18. CONTRACTOR TO VERIFY FINAL EQUIPMENT CONFIGURATION AND SEPARATIONS WITH AT&T PRIOR TO CONSTRUCTION.

FINAL EQUIPMENT CONFIGURATION

SCALE: N.T.S.

Dewberry®
Dewberry Engineers Inc.
280 SUMMER STREET
10TH FLOOR
BOSTON, MA 02210
PHONE: 617.695.3400
FAX: 617.695.3310

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET
WEST BRIDGEWATER, MA 02379

at&t Mobility
500 ENTERPRISE DRIVE
SUITE 3A
ROCKY HILL, CT 06067

MERIDEN BIRDSEY AVENUE
SITE NO. CT5279 3C/4C/5C/5G NR

74 BIRDSEY AVENUE
MERIDEN, CT 06450

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	05/03/19	ISSUED FOR CONSTRUCTION	AJB	DAS	BBR
1	02/11/19	ISSUED FOR CONSTRUCTION	AJB	DAS	BBR
0	12/14/18	ISSUED FOR CONSTRUCTION	AJB	DAS	BBR
A	08/16/18	ISSUED FOR REVIEW	AJB	DAS	BBR

SCALE: AS SHOWN | DESIGNED BY: DAS | DRAWN BY: MR

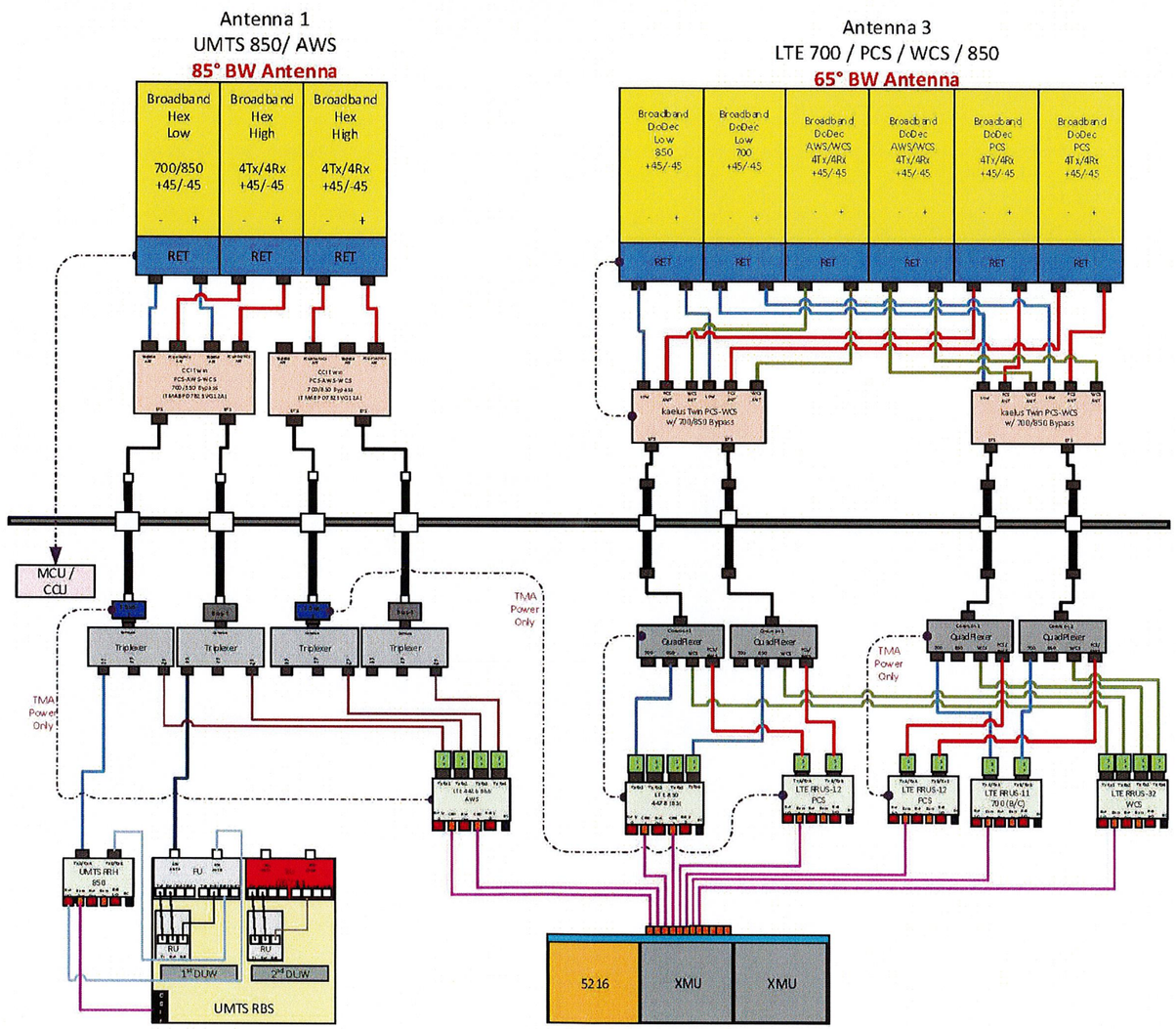
STATE OF CONNECTICUT BENJAMIN B. REVETT 26977 LICENSED PROFESSIONAL ENGINEER

AT&T MOBILITY
ROCKY HILL, 06067

PROPOSED ELEVATION & CONSTRUCTION DETAILS

DEWBERRY NO.	DRAWING NUMBER	REV
50093723/50096234	C02	2

Diagram - Sector	A	Diagram File Name - CT5279_A_B_C_LTE_REV.1.vsd					
Atoll Site Name -	CTL05279	Location Name -	MERIDEN BIRDSEY AVENUE	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND
Comments: "Important Note: For detailed radio to antenna wiring refer to the latest 4T4R Antenna/ radio Port connections Field Notice (RF-HW-2016-265)"							



EQUIPMENT PLUMBING DIAGRAM (1)
SCALE: N.T.S.

NOTES:

1. EQUIPMENT PLUMBING DIAGRAM PER RFDS VERSION 1.00 DATED 05/05/18.
2. CONTRACTOR TO VERIFY FINAL EQUIPMENT CONFIGURATION AND SEPARATIONS WITH AT&T PRIOR TO CONSTRUCTION.

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10TH FLOOR
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MERIDEN BIRDSEY AVENUE
SITE NO. CT5279 3C/4C/5C/5G NR

74 BIRDSEY AVENUE
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0	12/14/18	ISSUED FOR CONSTRUCTION	AJB	DAS	BBR
A	08/16/18	ISSUED FOR REVIEW	AJB	DAS	BBR

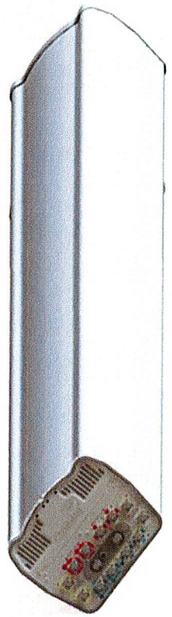
SCALE: AS SHOWN | DESIGNED BY: DAS | DRAWN BY: MR

STATE OF CONNECTICUT · BENJAMIN B. REVELL · 28977 · LICENSED PROFESSIONAL ENGINEER

AT&T MOBILITY
ROCKY HILL, 06067

EQUIPMENT PLUMBING DIAGRAM

DEWBERRY NO.	DRAWING NUMBER	REV
50093723/50096234	C03	2



Electrical Characteristics	2x Ports 1&2	2x Ports 3&4	4x Ports 5-8			4 Ports 9-12
Operating Frequency (MHz)	698-806*	824-894	1695-1780 and 2110-2400			1850-1990
	698-806	824-894	1695-1780	2110-2180	2300-2400	1850-1990
Azimuth beamwidth[1]	67°	64°	68°	63°	58°	69°
Elevation beamwidth[1]	12°	10°	6.5°	5.5°	4.5°	5.5°
Gain[1] (dBi)	13.2	13.5	16.2	16.5	17.0	16.0
Polarization	±45°	±45°		±45°		±45°
				±45°		±45°
Electrical down-tilt range	2°-10°	2°-10°		2° – 7°		2° – 7°
Upper SLL (20° > mainbeam)[1]	-17dB	-19dB	-18dB	-18B	-18dB	-16dB
Front to Back Ratio(180°±10°)[1]	≥27dB	≥29dB	≥28dB	≥28dB	≥28dB	≥27dB
Port to Port isolation[1]	≥28dB	≥30dB	≥30dB	≥30dB	≥30dB	≥30dB
Return loss (VSWR)	14dB(1.5)	14dB(1.5)	14dB(1.5)	14dB(1.5)	14dB (1.5)	14dB(1.5)
X Polar Discrimination (at 0°)	>18dB	>16dB	>20dB	>20dB	>18dB	>20dB
Max Power handling (per any port)	500 watts	500 watts		250 watts		250 watts
Total Composite Power (all ports)				1750 watts		
PIM (3rd Order) (2x43dBm)	>153dBc	>153dBc		>153dBc		>153dBc
XBand PIM (3rd Order) (2x43dBm)				>159dBc		

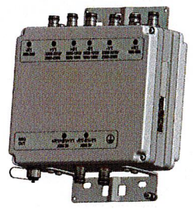
Mechanical Characteristics	
Dimensions	L 72"(1828mm) x W 12"(304mm) x D 9.6"(245mm)
Weight (excl mounting brackets)	111lbs (50.3kg)
No. of Connectors	12x 4.3-10.0 DIN Female Long Neck
Max Wind Speed	150mph (67m/s)
Effective Projected Area	Front: 2.6ft² (0.24m²) Side: 5.0ft²(0.46m²)
Wind Load @160km/h (45m/s)	Front: 284.7N (64 lbs), Side: 535.5N (120.4 lbs)
Operating Temperature	-40°C to +65°C

QS66512-2 ANTENNA SPECIFICATIONS (1)

SCALE: N.T.S.

TECHNICAL SPECIFICATIONS

BAND NAME	1900	WCS
DOWNLINK		
Passband	1930 - 1990MHz	2350 - 2360MHz
Insertion loss	0.5dB typical	
Return loss	18dB minimum	
Maximum input power	160W (average) / 2kW (PEP)	120W (average) / 1.2kW (PEP)
UPLINK		
Passband	1850 - 1910MHz	2305 - 2315MHz
Gain	13dB	12dB
Variable gain	3dB to 13dB in 1dB steps (controlled by AISG commands)	2dB to 12dB in 1dB steps (controlled by AISG commands)
Gain variation	±1dB maximum	
Return loss	18dB minimum operating, 12dB in bypass	
Bypass loss	2.5dB typical	3.3dB typical
Noise figure	1.4dB typical	1.7dB typical
Output IP3	+30dBm typical	
Maximum input power with no damage	+12dBm maximum	
Rejection	27.5dB minimum@2324.84 - 2341.285MHz	
LOW BAND PATH		
Passband	698 - 896MHz	
Return loss	18dB minimum	
Insertion loss	0.35dB typical	
Maximum input power with no damage	200W (average) / 2kW (PEP)	
ELECTRICAL		
Impedance	50Ohms	
Intermodulation products	-153dBc maximum in RX band with 2 x 20W carriers	



TMA2117F00V1 SPECFICATIONS (3)

SCALE: N.T.S.

Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	14.5	14.4	17.0	17.6	17.9	17.9
Beamwidth, Horizontal, degrees	83	86	81	79	79	79
Beamwidth, Vertical, degrees	12.3	11.1	5.7	5.3	5.0	4.6
Beam Tilt, degrees	0–12	0–12	0–8	0–8	0–8	0–8
USLS (First Lobe), dB	19	18	15	16	17	18
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	25	25	25	25
VSWR | Return Loss, dB	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port at 50°C, maximum, watts	300	300	300	300	300	250
Polarization	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

Wind Speed, maximum	241 km/h | 150 mph

Dimensions

Length	1851.0 mm | 72.9 in
Width	301.0 mm | 11.9 in
Depth	180.0 mm | 7.1 in
Net Weight, without mounting kit	19.1 kg | 42.1 lb

Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
Internal RET	High band (2) | Low band (1)
Power Consumption, idle state, maximum	2 W
Power Consumption, normal conditions, maximum	13 W
Protocol	3GPP/AISG 2.0 (Multi-RET)
RET Interface	8-pin DIN Female | 8-pin DIN Male
RET Interface, quantity	1 female | 1 male

Packed Dimensions

Length	1970.0 mm | 77.6 in
Width	409.0 mm | 16.1 in
Depth	299.0 mm | 11.8 in
Shipping Weight	31.2 kg | 68.8 lb

SBNHH-1D85B ANTENNA SPECIFICATIONS (2)

SCALE: N.T.S.

General Specifications

Interface	7-16 DIN Female Bulkhead
Interface 2	7-16 DIN Male
Device Type	dc Pass
Ordering Note	CommScope® standard product in Asia Pacific
Body Style	Bulkhead

Electrical Specifications

Operating Frequency Band	698 – 2700 MHz
3rd Order IMD	-117.0 dBm | -160.0 -dBc
3rd Order IMD Test Method	Two +43 dBm carriers
Average Power	3000 W
Connector Impedance	50 ohm
dc Current, continuous	3 A
Gas Tube Voltage	350 V
Lightning Surge Capability	10 times @ 30 kA
Lightning Surge Capability Test Method	IEEE C62.42-1991
Lightning Surge Capability Waveform	8/20 waveform
Lightning Surge Current	30 kA
Lightning Surge Current Waveform	8/20 waveform
Peak Power, maximum	40.00 kW
Insertion Loss, typical	0.07 dB

SURGE ARRESTOR SPECIFICATIONS (4)

SCALE: N.T.S.

Dewberry®
Dewberry Engineers Inc.
280 SUMMER STREET
10TH FLOOR
BOSTON, MA 02210
PHONE: 617.695.3400
FAX: 617.695.3310

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET
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MERIDEN BIRDSEY AVENUE
SITE NO. CT5279 3C/4C/5C/5G NR

74 BIRDSEY AVENUE
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A	08/16/18	ISSUED FOR REVIEW	AJB	DAS	BBR

SCALE: AS SHOWN | DESIGNED BY: DAS | DRAWN BY: MR

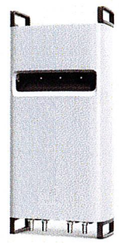
STATE OF CONNECTICUT · BENJAMIN B. REVERE · 29977 · LICENSED PROFESSIONAL ENGINEER

AT&T MOBILITY
ROCKY HILL, 06067

PROPOSED EQUIPMENT SPECIFICATIONS – 1

DEWBERRY NO.	DRAWING NUMBER	REV
50093723/50096234	C04	2

- AWS
  - TX = 2110 – 2180 MHz
  - RX = 1710 – 1780 MHz
- CPRI 2 ports x 10 Gbps. Install 2 SFPs and connect 2 fiber pairs to the RRUS32 during initial install.
- Only use Ericsson supplied and approved SFPs RDH10247/3
- 6 external alarm inputs
- Max wind load @ 50m/sec = 350N
- Breaker size = 30A, DC Power Consumption = 880W (for dimensioning)
- 200mm horizontal separation required for side by side mounting
- 200mm separation required from antenna backplane to radio
- 600mm/800mm vertical outdoor/indoor separation required
- Min, Max DC cable size from squid to radio = 10,8 AWG
  - Adapter is required for 2-wire connection
  - Shielded DC cable is required
- Ground cable size = 2AWG
- Dimensions (incl. handles, feet and sunshield)
  - Height: 27.2" (690 mm)
  - Width: 12.1" (306 mm)
  - Depth: 7.0" (178 mm)
- Weight, excl. mounting hardware = 53 lbs (24 kg)



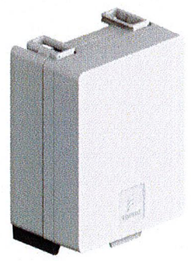
- WCS A+B blocks
  - TX = 2350 – 2360 MHz
  - RX = 2305 – 2315 MHz
- CPRI 2 ports x 10 Gbps
- Only use Ericsson supplied and approved SFPs
- 6 external alarm inputs
- Max wind load @ 50m/sec = 350N
- Breaker size = 20A, DC Power Consumption = 800W
- 200mm horizontal separation required for side by side mounting
- 200mm separation required for antenna backplane to radio
- 600mm/800mm vertical outdoor/indoor separation required
- Max DC cable size from squid to radio = 8AWG
  - Adapter is required for 2-wire connection
  - Shielded DC cable is required
- Ground cable size = 2AWG
- Dimensions (incl. handles, feet and sunshield)
  - Height: 27.2" (690 mm)
  - Width: 12.1" (306 mm)
  - Depth: 7.0" (178 mm)
- Weight, excl. mounting hardware = 53 lbs (24 kg)

4426 B66 & RRUS-32 WCS SPECIFICATIONS

SCALE: N.T.S.

1

- B5
  - TX = 869 – 894 MHz
  - RX = 824 – 849 MHz
- CPRI 2 ports x 2.5/4.9/9.8/10.1 Gbps. Install 2 SFPs and connect 2 fiber pairs to the RRUS 4478 during initial install.
- Only use Ericsson supplied and approved SFPs
  - 2x SFP3 RDH 10247/25 for cellular A OR B block
  - 2x SFP7 RDH 10265/25 for cellular A AND B block
    - Exception cases: 2xSFP7 RDH 10265/3 for CPRI Length 1.4 – 10km
    - 2xSFP7 RDH 10270/1 & RDH 10270/2 for CPRI length > 10km
- 2 external alarm inputs
- Max wind load @ 50m/sec = 260N
- Breaker size = 25A, DC Power Consumption = 805W (for dimensioning)
- 200mm horizontal separation required for side by side mounting
- 200mm separation required from antenna backplane to radio
- 400mm vertical outdoor/indoor separation required between 2 radios
- 500mm vertical separation below antenna
- Min, Max DC cable size from squid to radio = 10,8 AWG
  - Adapter is required for 2-wire connection
  - Shielded DC cable is required
- Ground cable size = 2AWG
- Dimensions (incl. handles, feet and sunshield, w/o fan unit)
  - Height: 16.5" (420 mm)
  - Width: 13.4" (340 mm)
  - Depth: 7.7" (196 mm)
- Weight, excl. mounting hardware = 59.9 lbs (27.2 kg)



4478 B5 SPECIFICATIONS

SCALE: N.T.S.

2

NOTES:

1. EQUIPMENT PLUMBING DIAGRAM PER RFDS VERSION 1.00 DATED 05/05/18.
2. CONTRACTOR TO VERIFY FINAL EQUIPMENT CONFIGURATION AND SEPARATIONS WITH AT&T PRIOR TO CONSTRUCTION.

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SCALE: AS SHOWN | DESIGNED BY: DAS | DRAWN BY: MR

STATE OF CONNECTICUT
BENJAMIN B. REVETT III
29977
LICENSED
PROFESSIONAL ENGINEER

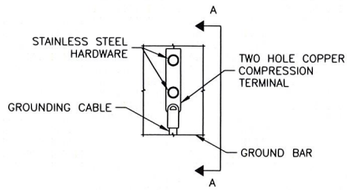
AT&T MOBILITY
ROCKY HILL, 06067

PROPOSED EQUIPMENT SPECIFICATIONS – II

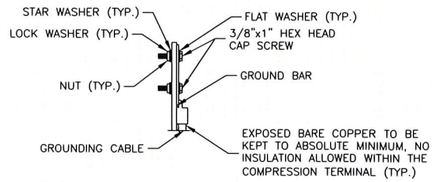
DEWBERRY NO.	DRAWING NUMBER	REV
50093723/50096234	C05	2

GROUNDING NOTES:

1. THE CONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ). THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE CONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS. ALL AVAILABLE GROUNDING ELECTRODES SHALL BE CONNECTED TOGETHER IN ACCORDANCE WITH THE NEC.
3. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. USE OF OTHER METHODS MUST BE PRE-APPROVED BY CONTRACTOR IN WRITING.
4. THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS ON TOWER SITES AND 10 OHMS OR LESS ON ROOFTOP SITES. WHEN ADDING ELECTRODES, CONTRACTOR SHALL MAINTAIN A MINIMUM DISTANCE BETWEEN THE ADDED ELECTRODE AND ANY OTHER EXISTING ELECTRODE EQUAL TO THE BURIED LENGTH OF THE ROD. IDEALLY, CONTRACTOR SHALL STRIVE TO KEEP THE SEPARATION DISTANCE EQUAL TO TWICE THE BURIED LENGTH OF THE RODS.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
6. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE AND UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
7. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO TRANSMISSION EQUIPMENT.
8. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK-TO-BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. IN ALL CASES, BENDS SHALL BE MADE WITH A MINIMUM BEND RADIUS OF 8 INCHES.
11. EACH INTERIOR TRANSMISSION CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH 6 AWG STRANDED, GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRE UNLESS NOTED OTHERWISE IN THE DETAILS. EACH OUTDOOR CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE BURIED GROUND RING WITH 2 AWG SOLID TIN-PLATED COPPER WIRE UNLESS NOTED OTHERWISE IN THE DETAILS.
12. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE 2 AWG SOLID TIN-PLATED COPPER UNLESS OTHERWISE INDICATED.
13. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE. CONNECTIONS TO ABOVE GRADE UNITS SHALL BE MADE WITH EXOTHERMIC WELDS WHERE PRACTICAL OR WITH 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS. HIGH PRESSURE CRIMP CONNECTORS MAY ONLY BE USED WITH WRITTEN PERMISSION FROM CENTERLINE COMMUNICATIONS COMMUNICATIONS MARKET REPRESENTATIVE.
14. EXOTHERMIC WELDS SHALL BE PERMITTED ON TOWERS ONLY WITH THE EXPRESS APPROVAL OF THE TOWER MANUFACTURER OR THE CONTRACTORS STRUCTURAL ENGINEER.
15. ALL WIRE TO WIRE GROUND CONNECTIONS TO THE INTERIOR GROUND RING SHALL BE FORMED USING HIGH PRESS CRIMPS OR SPLIT BOLT CONNECTORS WHERE INDICATED IN THE DETAILS.
16. ON ROOFTOP SITES WHERE EXOTHERMIC WELDS ARE A FIRE HAZARD COPPER COMPRESSION CAP CONNECTORS MAY BE USED FOR WIRE TO WIRE CONNECTORS. 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS SHALL BE USED FOR CONNECTION TO ALL ROOFTOP TRANSMISSION EQUIPMENT AND STRUCTURAL STEEL.
17. COAX BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR USING TWO-HOLE MECHANICAL TYPE BRASS CONNECTORS AND STAINLESS STEEL HARDWARE.
18. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
19. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
20. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
21. BOND ALL METALLIC OBJECTS WITHIN 6 FT OF THE BURIED GROUND RING WITH 2 AWG SOLID TIN-PLATED COPPER GROUND CONDUCTOR. DURING EXCAVATION FOR NEW GROUND CONDUCTORS, IF EXISTING GROUND CONDUCTORS ARE ENCOUNTERED, BOND EXISTING GROUND CONDUCTORS TO NEW CONDUCTORS.
22. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT WITH LISTED BONDING FITTINGS.



ELEVATION

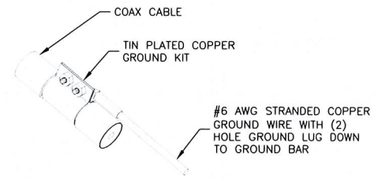


NOTES:

1. DOUBLING UP OR STACKING OF CONNECTIONS IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

TYPICAL GROUND BAR MECHANICAL CONNECTION DETAIL (1)

SCALE: N.T.S.

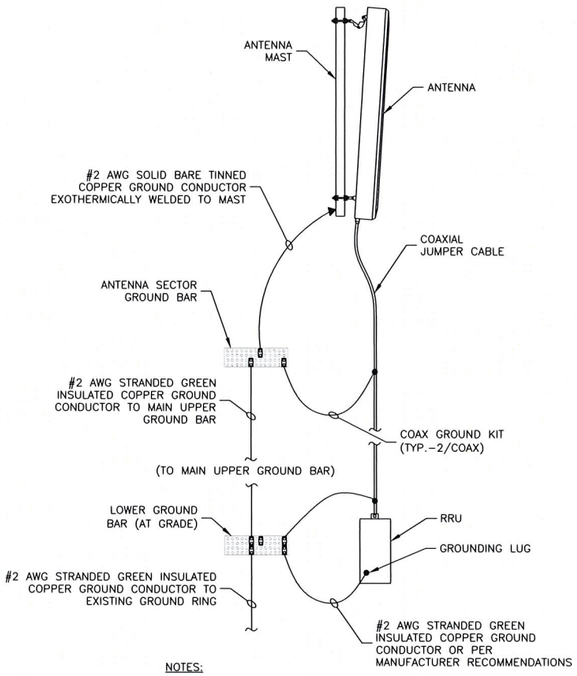


NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND. ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TIN PLATED COPPER WITH TWO-HOLE LUG, SIZE PER COAX DIAMETER.
3. WEATHER SEAL GROUND KIT PER CARRIER REQUIREMENTS.
4. COAX CABLE GROUND KIT LOCATION & QUANTITY SHALL BE PER CARRIER SPECIFICATIONS & STANDARDS.

COAX GROUNDING DETAIL (3)

SCALE: N.T.S.



NOTES:

1. VERIFY EXISTING GROUNDING SYSTEM IS INSTALLED PER AT&T STANDARDS.
2. BOND NEW EQUIPMENT INTO EXISTING GROUND SYSTEM IN ACCORDANCE WITH AT&T STANDARDS & MANUFACTURER RECOMMENDATIONS.

TYPICAL ANTENNA GROUNDING DETAIL (2)

SCALE: N.T.S

Dewberry®
Dewberry Engineers Inc.
280 SUMMER STREET
10TH FLOOR
BOSTON, MA 02210
PHONE: 617.695.3400
FAX: 617.695.3310

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET
WEST BRIDGEWATER, MA 02379

at&t Mobility
500 ENTERPRISE DRIVE
SUITE 3A
ROCKY HILL, CT 06067

MERIDEN BIRDSEYE AVENUE
SITE NO. CT5279 3C/4C/5C/5G NR

74 BIRDSEY AVENUE
MERIDEN, CT 06450

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	05/03/19	ISSUED FOR CONSTRUCTION	AJB	DAS	BBR
1	02/11/19	ISSUED FOR CONSTRUCTION	AJB	DAS	BBR
0	12/14/18	ISSUED FOR CONSTRUCTION	AJB	DAS	BBR
A	08/16/18	ISSUED FOR REVIEW	AJB	DAS	BBR

SCALE: AS SHOWN | DESIGNED BY: DAS | DRAWN BY: MR

STATE OF CONNECTICUT
BENJAMIN B. REVELL
29971
LICENSED
PROFESSIONAL ENGINEER

AT&T MOBILITY
ROCKY HILL, 06067

GROUNDING DETAILS

DEWBERRY NO.	DRAWING NUMBER	REV
50093723/50096234	E01	2