MARY CAULFIELD
978-994-0252
CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET
WEST BRIDGEWATER MA 02379

1 LBS

1 OF 1

SHIP TO:
CONNECTICUT SITING COUNCIL
860-827-2935
TEN FRANKLIN SQUARE
NEW BRITAIN CT 06051-2655

CT 067 9-06

UPS GROUND
TRACKING #: 1Z 9Y4 503 03 3957 0503

BILLING: P/P

Reference#1: CT5270: CSC refiled

UIS 20.5.12. WNTNV50 03.0A 07/2018

MARY CAULFIELD
978-994-0252
CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET
WEST BRIDGEWATER MA 02379

1 LBS

1 OF 1

SHIP TO:
J. CHRISTOPHER KERVICK
TOWN OF WINDSOR LOCKS
FIRST SELECTMEN'S OFFICE
50 CHURCH STREET
WINDSOR LOCKS CT 06096-2331

CT 060 9-02

UPS GROUND

TRACKING #: 1Z 9Y4 503 03 3340 2722

BILLING: P/P

Reference#1: CT5270: CSC refiled 1st Selectman

UIS 20.5.12. WNTNV50 03.0A 07/2018

MARY CAULFIELD
978-994-0252
CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET
WEST BRIDGEWATER MA 02379

1 LBS

1 OF 1

SHIP TO:
JENNIFER RODRIQUEZ, TOWN PLANNER
TOWN OF WINDSOR LOCKS
50 CHURCH STREET
WINDSOR LOCKS CT 06096-2331

CT 060 9-02

UPS GROUND

TRACKING #: 1Z 9Y4 503 03 3695 8332

BILLING: P/P

Reference#1: CT5270: CSC refiled Town Planner

UIS 20.5.12. WNTNV50 03.0A 07/2018

MARY CAULFIELD
978-994-0252
CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET
WEST BRIDGEWATER MA 02379

1 LBS

1 OF 1

SHIP TO:
CARLA SHORTER
SBA COMMUNICATIONS CORPORATION
8051 CONGRESS AVENUE
BOCA RATON FL 33487-1307

FL 332 6-07

UPS GROUND
TRACKING #: 1Z 9Y4 503 03 2280 6941

BILLING: P/P

Reference#1: CT5270: CSC refiled SBA

UIS 20.5.12. WNTNV50 03.0A 07/2018

Mary Caulfield, Site Acquisition Consultant
c/o New Cingular Wireless, PCS LLC (AT&T)
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379
Mobile: (978) 994-0252
MCaulfield@centerlinecommunications.com

August 2, 2018

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: Notice of Exempt Modification // Site Number: CT5270 (Name: Windsor Locks)
2-4 Volunteer Drive, Windsor Locks, CT 06082
N 41.9281055555556// W -72.6467833333333

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC ("AT&T") currently maintains 6 total antennas at the 164-foot mount on the existing 195-foot monopole tower, located at 2 Volunteer Drive, Windsor Locks, CT. The tower is owned by MCM Acquisition 2017, LLC, an SBA Corporation entity. The property is owned by the Town of Windsor Locks. AT&T now intends to add 3 new LTE (1900/2300 band) antennas for its LTE upgrade. AT&T also intends to install 6 new remote radios; and certain in-cabinet upgrades at the base.

Note that this facility was originally approved prior to the Council's jurisdiction, on 6/29/1999 by the Town of Windsor Locks Planning Department through Zoning Sign-off.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to J. Christopher Kervick, First Selectman and representative for the Town of Windsor Locks as Property Owner, Jennifer Rodriquez, Town Planner, as well as SBA Communications, the tower owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

Attached to accommodate this filing are construction drawings dated a May 23, 2018 by Hudson Design Group LLC, a structural analysis dated July 26, 2018 by Tower Engineering Solutions, a mount analysis dated May 18, 2018 by Hudson Design Group LLC, and an Emissions Analysis Report dated March 26, 2018 by Centerline Communications, LLC.

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed modifications will not cause an ineligible change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading, pursuant to the structural analysis by Tower Engineering Solutions, dated July 26, 2018.

For the foregoing reasons, AT&T respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

_____

Mary Caulfield, Site Acquisition Consultant
c/o New Cingular Wireless, PCS LLC (AT&T)
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379
Mobile: (978) 994-0252
MCaulfield@centerlinecommunications.com

cc: J. Christopher Kervick, Town of Windsor Locks First Selectman / Property Owner
Jennifer Rodriquez, Town of Windsor Town Planner
SBA Corporation, Tower Owner

Tower Engineering Solutions
Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

Existing 195 ft PIROD Self Supporting Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT22108-A

Customer Site Name: Windsor Locks @ Volunteer Drive

Carrier Name: AT&T

Carrier Site ID / Name: CT5270 / Windsor Locks

Site Location: 2-4 Volunteer Drive

Windsor Locks, Connecticut

HARTFORD County

Latitude: 41.928100

Longitude: -72.646800

STATE OF CONNECTICUT
HANMING YOU
28931
LICENSED
PROFESSIONAL ENGINEER

7/26/18

Analysis Result:

Max Structural Usage: 83.7% [Pass]

Max Foundation Usage: 46.0% [Pass]

Additional Usage Caused by Mount Modification: + 0.0%

Report Prepared by: Matthew Baker

Tower Engineering Solutions
Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

Existing 195 ft PIROD Self Supporting Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT22108-A

Customer Site Name: Windsor Locks @ Volunteer Drive

Carrier Name: AT&T

Carrier Site ID / Name: CT5270 / Windsor Locks

Site Location: 2-4 Volunteer Drive

Windsor Locks, Connecticut

HARTFORD County

Latitude: 41.928100

Longitude: -72.646800

Analysis Result:

Max Structural Usage: 83.7% [Pass]

Max Foundation Usage: 46.0% [Pass]

Additional Usage Caused by Mount Modification: + 0.0%

Report Prepared by: Matthew Baker

Introduction

The purpose of this report is to summarize the analysis results on the 195 ft PIROD Self Supporting Tower to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	PiROD Eng. File #A-115761-1, Archive #F-0078802, dated 10/06/00
Foundation Drawing	PiROD Eng. File #A-115761-1, Archive #F-0078802, dated 10/06/00
Geotechnical Report	Tectonic Engineering Consultants W.O. #2295 01, dated 05/18/99
Modification Drawings	N/A

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-G**.** In accordance with this standard, the structure was analyzed using **TESTowers,** a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed V_{ult} = 125.0 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 97.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2012 IBC / 2016 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft

This structural analysis is based upon the tower being classified as a Structure Class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	203.4	1	Andrew - DB224-A	Direct	(1) 7/8"	WLPD
2	183.7	5	Andrew - 20' Dipoles w/ (4) Element	(3) T-Frame	(8) 7/8"	
3	182.8	1	2.5" Ø x 20.0' Omni			
4	180.6	1	1.3" Ø x 13.0' Omni			
5	179.1	1	1.3" Ø x 10.0' Omni			
-	168.3	1	Raycap - DC6-48-60-18-8F - SP	Direct	(9) 1 5/8" (1)1 5/16"	AT&T
-	165.0	3	Andrew - 8.0' x 1.0' x 6.5" Panel	(3) T-Frame		
-	164.8	3	Kathrein - 80010121 - Panel			
-		6	14.5" x 9.5" x 3.0" TMA			
-	163.9	3	Ericsson - RRUS 11 B12 - RRU			
15	146.8	1	Raycap - RRFDC-3315-PF-48 - SP	Direct	(12) 1 5/8" (1) 1 1/4"	Verizon
16	145.7	1	6.0' x 1.0' x 6.5" Panel	(3) T- Frame		
17		2	Amphenol - BXA-70063/6CF-EDIN - Panel			
18		3	Antel - BXA-171063-12CF-EDIN-5 - Panel			
19	145.5	3	Alcatel-Lucent - 9442 RRH2x40 AWS - RRH			
20	138.3	3	EMS - RR90-17-02DP - Panel	(3) T- Frame	(18) 1 5/8"	T-Mobile
21		3	RFS - 4.7'x1.1'x3.5' Panel			
22		3	7" x 6" x 3" TMA			
23	137.8	3	Andrew - LNX-6515DS-A1M - Panel			
24	116.8	3	RFS - APXVSPP18-C-A20 - Panel	(3) T- Frame	(4) 1-1/4" Fiber	Sprint Nextel
25	115.0	3	RFS - APXVTM14-C-I20 - Panel			
26		3	Alcatel-Lucent - TD-RRH8x20-25 - RRH			
27	110.3	3	Alcatel-Lucent - 800 MHz RRH	Direct		
28	107.6	3	Alcatel-Lucent - 1900 MHz RRH	Direct		
29	104.6	1	Andrew - 3.3' Dish	(3) Standoffs	(2) 1/2" (1) 1-5/16" Conduit	Clearwire
30	104.0	1	Andrew - VHLP1-23-DW1			
31		3	Argus - LLPX310R-V1 - Panel			
32	103.8	3	Alcatel-Lucent - SPI-22132825WB -			
33	102.4	1	12" x 12" x 6.38" Junction Box	Direct		
34	75.9	1	3.5" Ø x 8" GPS	(1) Standoff	(1) 1/2"	Unknown
35	60.0	1	PCTEL - GPS-TMG-HR-26N - GPS	Direct	(1) 1/2"	Sprint Nextel

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
6	161.5	3	Kathrein - 800 10121 - Panel	(3) Sector Frame w/ Mods	(9) 1 5/8" *(2) 0.78" DC Power *(1) 0.39" Fiber	AT&T
7		3	Andrew - SBNH-1D6565C - Panel			
8		3	Cci - TPA-65R-LCUUUU-H8 - Panel			
9		6	Powerwave - LGP21401 - TMA			
10		6	Kathrein - 860 10025 - RET			
11		3	Ericsson - RRUS 11 (Band 12) (55 lb) - RRU			
12		3	Ericsson - RRUS 32 B2 - RRU			
13		3	Ericsson - RRUS 32 B30 - RRU			
14		2	Raycap - DC6-48-60-18-8F - SP			

*Inside (1) 3" Conduit

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

Tower Component	Legs	Diagonals	Horizontals
Max. Usage:	**63.5%**	**83.7%**	**54.6%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Compression (Kips)	Uplift (Kips)	Shear (Kips)
Analysis Reactions	335.0	286.5	35.5

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

The maximum twist and sway of the microwave dishes under the operational wind speed as specified in the Analysis Criteria are listed in the table below:

Elevation (ft)	Antenna / Dish	Carrier	Twist (deg)	Sway (deg)
101.4	Andrew - 3.3' Dish	Clearwire	0.016	0.136
101.4	Andrew - VHLP1-23-DW1 - Dish	Clearwire	0.016	0.136

It is recommended that the carriers review the twist and sway values of the microwave dishes.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-G Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.

3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.

4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.

5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.

6. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

7. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

8. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Structure: CT22108-A-SBA

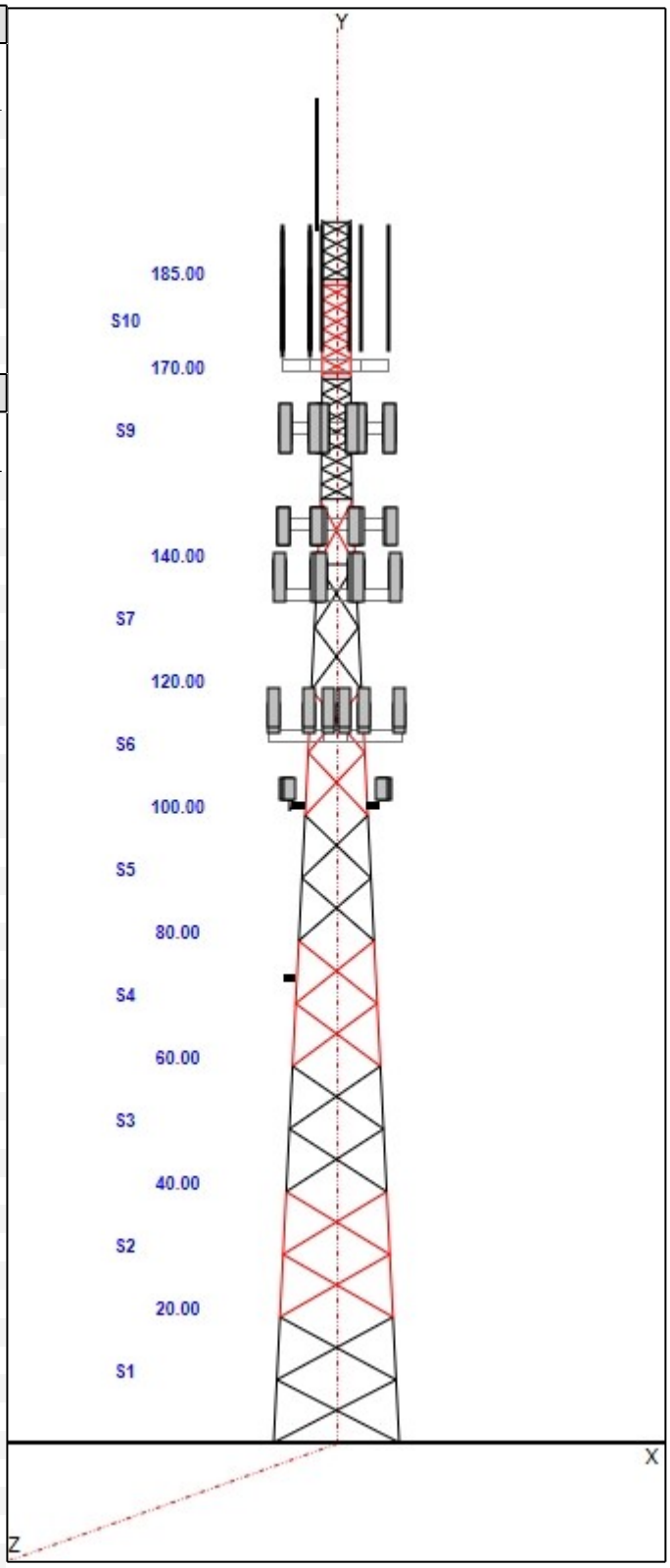
Site Name:	Windsor Locks @ Volunteer Drive			**Code:**	EIA/TIA-222-G	7/26/2018
Type:	Self Support	**Base Shape:**	Triangle	**Basic WS:**	97.00	
Height:	195.00 (ft)	**Base Width:**	20.00	**Basic Ice WS:**	50.00	
Base Elev:	5.00 (ft)	**Top Width:**	4.50	**Operational WS:**	60.00	Page: 1

Section Properties

Sect	Leg Members	Diagonal Members	Horizontal Members
1	12B 12"BD 2.25"	DAE 3.5X3.5X0.3125	
2	12B 12"BD 2.25"	SAE 3.5X3.5X0.3125	
3-4	12B 12"BD 2"	SAE 3X3X0.3125	
5	12B 12"BD 1.75"	SAE 3X3X0.3125	
6	12B 12"BD 1.75"	SAE 3X3X0.1875	
7	12B 12"BD 1.5"	SAE 2.5X2.5X0.1875	SAE 2.5X2.5X0.1875
8	12B 12"BD 1.25"	SAE 2.5X2.5X0.1875	
9	SOL 2" SOLID	SOL 7/8" SOLID	SOL 1" SOLID
10-11	SOL 1 3/4" SOLID	SOL 3/4" SOLID	SOL 7/8" SOLID

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description
195.00	195.00	1	Lightning Rod
195.00	195.00	1	Beacon
195.00	203.40	1	Andrew - DB224-A
171.50	171.50	3	15' T-Frame
171.50	183.70	5	Andrew - 20' Dipoles w/ (4) Element
171.50	182.80	1	2.5" Ø x 20.0' Omni
171.50	180.60	1	1.3" Ø x 13.0' Omni
171.50	179.10	1	1.3" Ø x 10.0' Omni
161.50	161.50	3	T-Frame
161.50	161.50	2	(3) Stabilizer Kit (4' FW)
161.50	161.50	1	(3) Stabilizer Kit (4' FW)
161.50	161.50	1	(3) Stabilizer Kit (4' FW)
161.50	161.50	3	Kathrein - 800 10121
161.50	161.50	3	Andrew - SBNH-1D6565C
161.50	161.50	3	Cci - TPA-65R-LCUUUU-H8
161.50	161.50	6	Powerwave - LGP21401 - TMA
161.50	161.50	6	Kathrein - 860 10025 - RET
161.50	161.50	3	Ericsson - RRUS 11 (Band 12) (55 lb) - RRU
161.50	161.50	3	Ericsson - RRUS 32 B2 - RRU
161.50	161.50	3	Ericsson - RRUS 32 B30 - RRU
161.50	161.50	2	Raycap - DC6-48-60-18-8F - SP
146.80	146.80	1	Raycap - RRFDC-3315-PF-48 - SP
146.00	146.00	3	Sector Frame
146.00	145.70	1	6.0' x 1.0' x 6.5" Panel
146.00	145.70	2	Amphenol - BXA-70063/6CF-EDIN
146.00	145.70	3	Antel - BXA-171063-12CF-EDIN-5
146.00	145.50	3	Alcatel-Lucent - 9442 RRH2x40 AWS - RRH
135.00	135.00	3	Sector Frame
135.00	138.30	3	EMS - RR90-17-02DP
135.00	138.30	3	4.7'x1.1'x3.5' Panel
135.00	138.30	3	7" x 6" x 3" TMA
135.00	137.80	3	Andrew - LNX-6515DS-A1M
112.30	112.30	3	Sector Frame-Pipe/Rod
112.30	116.80	3	RFS - APXVSPP18-C-A20
112.30	115.00	3	RFS - APXVTM14-C-I20
112.30	115.00	3	Alcatel-Lucent - TD-RRH8x20-25 - RRH
110.30	110.30	3	Alcatel-Lucent - 800 MHz RRH
107.60	107.60	3	Alcatel-Lucent - 1900 MHz RRH
102.40	102.40	1	12" x 12" x 6.38" Junction Box
101.40	101.40	3	Standoffs



Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

101.40	104.60	1	Andrew - 3.3' Dish
101.40	104.00	1	Andrew - VHLP1-23-DW1
101.40	104.00	3	Argus - LLPX310R-V4
101.40	103.80	3	Alcatel-Lucent - SPI-22132825WB
74.00	75.90	1	3.5" Ø x 8" GPS
74.00	74.00	1	Standoff
60.00	60.00	1	PCTEL - GPS-TMG-HR-26N - GPS

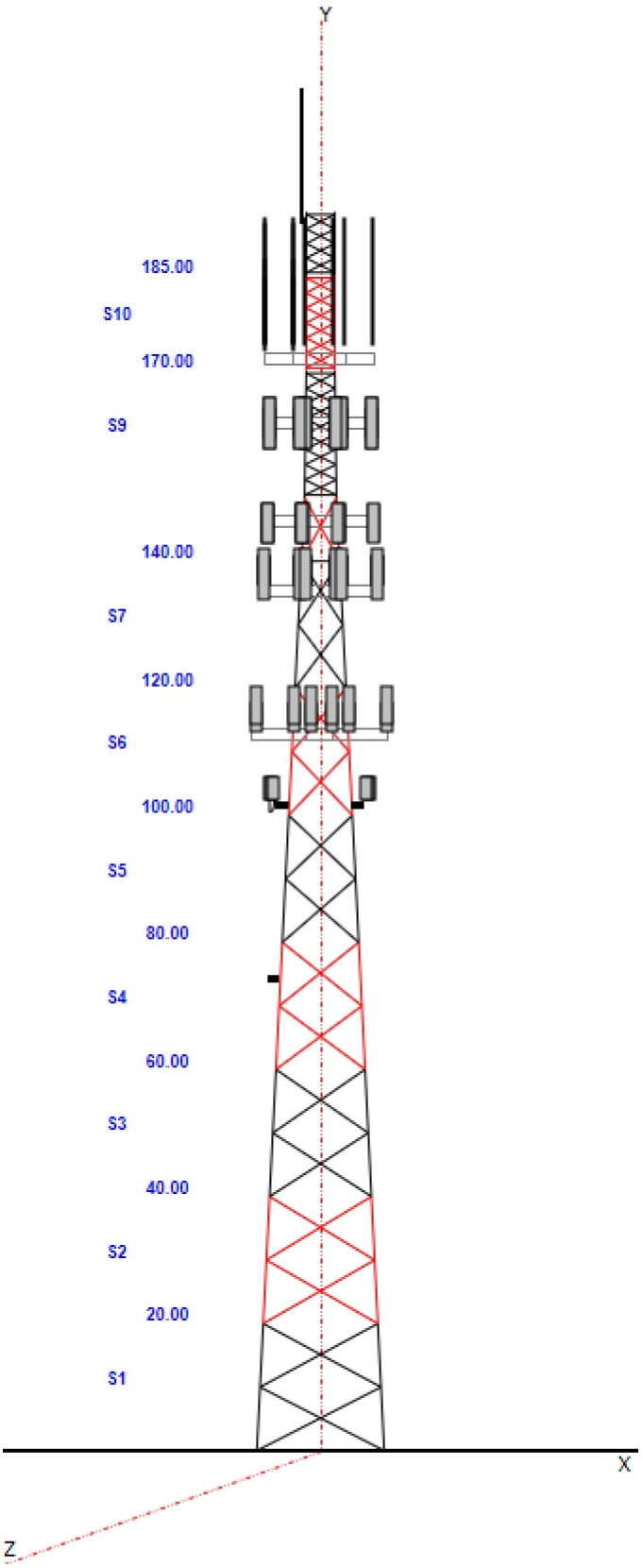
Linear Appurtenances

Elev From (ft)	Elev To (ft)	Qty	Description
0.00	195.00	1	7/8" Coax
0.00	171.50	8	7/8" Coax
0.00	161.50	9	1 5/8" Coax
0.00	161.50	1	3" Conduit
0.00	161.50	1	3/8" Fiber
0.00	161.50	2	7/8" DC Power
0.00	146.00	1	1 1/4" Coax
0.00	146.00	6	1 5/8" Coax
0.00	146.00	6	1 5/8" Coax
0.00	135.00	18	1 5/8" Coax
0.00	112.30	4	1-1/4" Fiber
0.00	101.40	1	1-5/16" Conduit
0.00	101.40	2	1/2" Coax
0.00	74.00	1	1/2" Coax
0.00	60.00	1	1/2" Coax

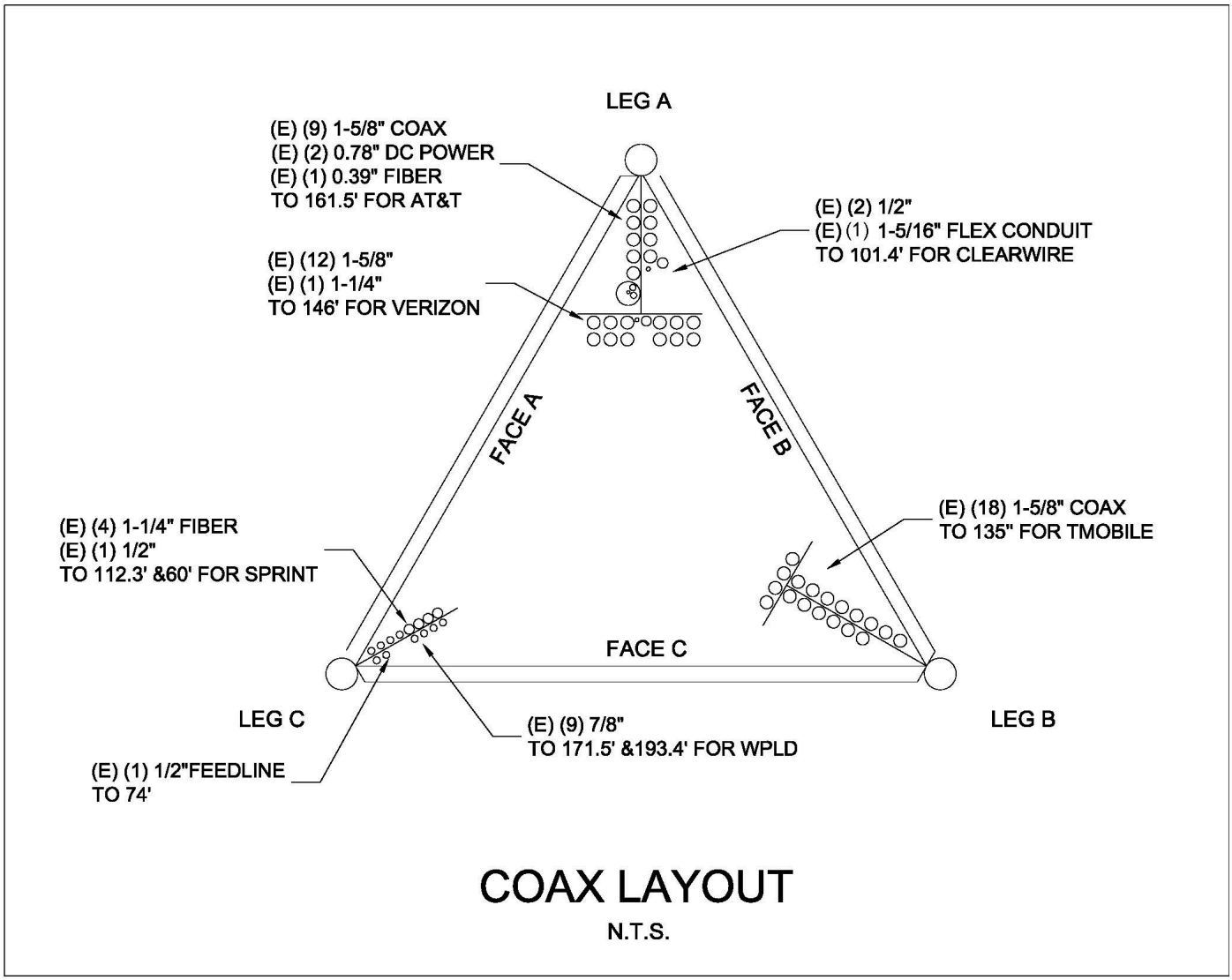
Base Reactions

Leg			Overturning		
Max Uplift:	-286.46	(kips	Moment:	5442.14	(ft-kips)
Max Down:	334.45	(kips	Total Down:	60.74	(kips)
Max Shear:	35.41	(kips	Total Shear:	52.70	(kips)

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.



Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.



COAX LAYOUT

N.T.S.

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

Loading Summary

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	7/26/2018	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 5	

Tower Engineering Solutions

Discrete Appurtenances Properties

Attach Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	Ice Weight (lb)	Ice CaAa (sf)	Len (in)	Width (in)	Depth (in)	Ka	Orientation Factor	Vert Ecc (ft)
195.00	Lightning Rod	1	5.00	0.500	33.67	2.889	72.000	1.000	1.000	1.00	1.00	0.000
195.00	Beacon	1	36.00	2.720	218.31	4.019	28.000	17.500	17.500	1.00	1.00	0.000
195.00	Andrew - DB224-A	1	35.00	5.650	275.06	29.777	255.000	0.000	0.000	1.00	1.00	8.400
171.50	15' T-Frame	3	400.00	10.000	779.69	21.865	0.000	0.000	0.000	0.75	0.75	0.000
171.50	Andrew - 20' Dipoles w/ (4) Element	5	60.00	7.520	361.51	23.681	240.000	3.000	3.000	1.00	1.00	12.20
171.50	2.5" Ø x 20.0' Omni	1	55.00	6.000	259.86	15.648	240.000	3.000	3.000	1.00	1.00	11.30
171.50	1.3" Ø x 13.0' Omni	1	40.00	3.900	173.84	10.227	156.000	3.000	3.000	1.00	1.00	9.100
171.50	1.3" Ø x 10.0' Omni	1	25.00	3.000	128.42	7.904	120.000	3.000	3.000	1.00	1.00	7.600
161.50	T-Frame	3	400.00	10.000	775.88	21.746	0.000	0.000	0.000	0.75	0.75	0.000
161.50	(3) Stabilizer Kit (4' FW)	2	140.00	3.700	376.80	8.915	0.000	0.000	0.000	0.75	1.00	0.000
161.50	(3) Stabilizer Kit (4' FW)	1	140.00	3.700	376.80	8.915	0.000	0.000	0.000	0.75	1.00	0.000
161.50	(3) Stabilizer Kit (4' FW)	1	140.00	3.700	376.80	8.915	0.000	0.000	0.000	0.75	1.00	0.000
161.50	Kathrein - 800 10121	3	46.30	5.150	200.93	7.986	54.500	10.300	5.900	0.80	0.82	0.000
161.50	Andrew - SBNH-1D6565C	3	66.10	11.470	375.55	15.846	96.400	11.900	7.100	0.80	0.84	0.000
161.50	Cci - TPA-65R-LCUUUU-H8	3	75.00	13.300	513.93	15.562	96.000	14.400	8.600	0.80	0.83	0.000
161.50	Powerwave - LGP21401 - TMA	6	14.10	1.290	47.75	2.415	14.400	9.200	2.600	0.80	0.50	0.000
161.50	Kathrein - 860 10025 - RET	6	1.20	0.180	9.27	0.690	7.600	2.400	2.000	0.80	0.50	0.000
161.50	Ericsson - RRUS 11 (Band 12) (55	3	50.70	2.520	145.99	3.704	17.000	17.800	9.200	0.80	0.67	0.000
161.50	Ericsson - RRUS 32 B2 - RRU	3	53.00	2.740	152.61	4.027	27.200	12.100	7.000	0.80	0.67	0.000
161.50	Ericsson - RRUS 32 B30 - RRU	3	60.00	2.740	172.76	4.027	27.200	12.100	7.000	0.80	0.67	0.000
161.50	Raycap - DC6-48-60-18-8F - SP	2	31.80	0.920	115.02	1.510	24.000	11.000	11.000	0.80	1.00	0.000
146.80	Raycap - RRFDC-3315-PF-48 - SP	1	26.90	2.500	155.47	3.340	19.100	15.700	10.200	1.00	1.00	0.000
146.00	Sector Frame	3	500.00	17.500	1430.78	36.069	0.000	0.000	0.000	0.75	0.75	0.000
146.00	6.0' x 1.0' x 6.5" Panel	1	45.00	8.160	265.06	11.897	72.000	12.000	6.000	0.80	0.81	-0.300
146.00	Amphenol - BXA-70063/6CF-EDIN	2	17.00	7.570	214.73	11.255	71.000	11.200	5.200	0.80	0.78	-0.300
146.00	Antel - BXA-171063-12CF-EDIN-5	3	15.00	4.780	142.76	7.926	72.400	6.100	4.100	0.80	0.88	-0.300
146.00	Alcatel-Lucent - 9442 RRH2x40	3	50.70	2.250	129.08	3.674	15.400	8.200	15.000	0.80	0.67	-0.500
135.00	Sector Frame	3	450.00	14.000	914.20	23.284	0.000	0.000	0.000	0.75	0.75	0.000
135.00	EMS - RR90-17-02DP	3	13.50	4.360	155.00	5.705	56.000	8.000	2.800	0.80	0.73	3.300
135.00	4.7'x1.1'x3.5' Panel	3	40.00	5.810	206.71	8.577	54.000	12.000	6.000	0.80	0.78	3.300
135.00	7" x 6" x 3" TMA	3	0.10	0.010	0.10	0.010	6.000	6.000	0.000	0.80	0.50	3.300
135.00	Andrew - LNX-6515DS-A1M	3	49.80	11.470	352.66	15.780	96.400	11.900	7.100	0.80	0.84	2.800
112.30	Sector Frame-Pipe/Rod	3	450.00	14.000	906.81	23.136	0.000	0.000	0.000	0.75	0.75	0.000
112.30	RFS - APXVSPP18-C-A20	3	57.00	8.020	281.43	11.647	72.000	11.800	7.000	0.80	0.83	4.500
112.30	RFS - APXVTM14-C-I20	3	56.20	6.340	269.07	7.811	56.300	12.600	6.300	0.80	0.78	2.700
112.30	Alcatel-Lucent - TD-RRH8x20-25 -	3	70.00	4.050	196.89	5.885	26.100	18.600	6.700	0.80	0.67	2.700
110.30	Alcatel-Lucent - 800 MHz RRH	3	53.00	2.490	149.03	3.975	19.700	13.000	10.800	0.80	0.67	0.000
107.60	Alcatel-Lucent - 1900 MHz RRH	3	44.00	3.800	185.74	5.605	23.000	13.000	17.000	0.80	0.67	0.000
102.40	12" x 12" x 6.38" Junction Box	1	10.00	1.400	63.17	2.481	12.000	12.000	8.000	1.00	1.00	0.000
101.40	Standoffs	3	120.00	4.500	253.38	11.182	0.000	0.000	0.000	0.75	0.75	0.000
101.40	Andrew - 3.3' Dish	1	140.00	8.920	372.43	11.157	36.000	36.000	0.000	1.00	1.00	3.200
101.40	Andrew - VHLP1-23-DW1	1	14.00	1.610	59.10	2.576	15.300	15.300	8.700	1.00	1.00	2.600
101.40	Argus - LLPX310R-V4	3	28.70	4.310	144.33	6.426	42.100	11.800	4.500	0.80	0.73	2.600
101.40	Alcatel-Lucent - SPI-22132825WB	3	33.10	1.820	89.05	3.063	16.100	11.600	6.000	0.80	0.67	2.400
74.00	3.5" Ø x 8" GPS	1	10.00	0.160	16.90	0.638	8.000	2.000	2.000	1.00	1.00	1.900
74.00	Standoff	1	120.00	4.500	250.27	11.026	0.000	0.000	0.000	1.00	1.00	0.000
60.00	PCTEL - GPS-TMG-HR-26N - GPS	1	0.60	0.090	6.45	0.308	5.000	3.200	3.200	1.00	1.00	0.000
	Totals:	**114**	**11,158.50**		**33,367.48**						**Number of Appurtenances :**	**47**

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

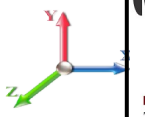
Linear Appurtenances Properties

Elev. From (ft)	Elev. To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	195.00	7/8" Coax	1	1.11	0.52	100.00	3	Individual NR		N	1.00	1.00	
0.00	171.50	7/8" Coax	8	1.11	0.52	50.00	3	Block		N	1.00	0.66	
0.00	161.50	1 5/8" Coax	9	1.98	1.04	50.00	2	Block		N	1.00	0.59	
0.00	161.50	3" Conduit	1	3.02	1.78	100.00	2	Individual NR		N	1.00	1.00	
0.00	161.50	3/8" Fiber	1	0.38	0.06	100.00	2	Individual NR		N	1.00	1.00	0
0.00	161.50	7/8" DC Power	2	0.88	0.65	100.00	2	Individual NR		N	1.00	1.00	0
0.00	146.00	1 1/4" Coax	1	1.55	0.66	100.00	2	Individual NR		N	1.00	1.00	0
0.00	146.00	1 5/8" Coax	6	1.98	1.04	33.30	2	Block		N	1.00	0.47	
0.00	146.00	1 5/8" Coax	6	1.98	1.04	33.30	2	Block		N	1.00	1.00	0
0.00	135.00	1 5/8" Coax	18	1.98	1.04	50.00	1	Block		N	1.00	1.00	
0.00	112.30	1-1/4" Fiber	4	1.25	0.95	100.00	3	Individual IR		N	1.00	0.59	
0.00	101.40	1-5/16" Conduit	1	1.38	1.13	100.00	1	Individual NR		N	1.00	1.00	0
0.00	101.40	1/2" Coax	2	0.65	0.16	100.00	1	Individual NR		N	1.00	1.00	0
0.00	74.00	1/2" Coax	1	0.65	0.16	100.00	3	Individual NR		N	1.00	1.00	0
0.00	60.00	1/2" Coax	1	0.65	0.16	100.00	3	Individual NR		N	1.00	1.00	

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

Section Forces

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	7/26/2018	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 7	



Tower Engineering Solutions

Load Case: 1.2D + 1.6W Normal Wind — 1.2D + 1.6W 97 mph Wind at Normal To Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	17.40	24.365	23.64	0.00	0.12	2.88	1.00	1.00	0.00	35.27	125.53	0.00	9,730.5	0.0	2400.35	1826.80	4,227.15
2	30.0	20.77	22.326	23.64	0.00	0.13	2.84	1.00	1.00	0.00	32.73	125.53	0.00	7,322.9	0.0	2630.08	2180.67	4,810.75
3	50.0	22.85	17.472	22.04	0.00	0.13	2.86	1.00	1.00	0.00	27.28	125.53	0.00	6,212.5	0.0	2422.68	2398.36	4,821.04
4	70.0	24.39	15.857	22.04	0.00	0.14	2.81	1.00	1.00	0.00	25.58	124.12	0.00	6,064.7	0.0	2383.53	2534.19	4,917.72
5	90.0	25.63	14.383	18.83	0.00	0.14	2.79	1.00	1.00	0.00	23.37	123.37	0.00	5,155.6	0.0	2273.88	2663.18	4,937.06
6	110.0	26.69	12.992	18.83	0.00	0.17	2.71	1.00	1.00	0.00	22.05	116.00	0.00	4,500.7	0.0	2165.60	2686.84	4,852.43
7	130.0	27.60	10.974	17.23	0.00	0.19	2.63	1.00	1.00	0.00	19.67	99.81	0.00	3,762.5	0.0	1942.09	2276.95	4,219.04
8	145.0	28.22	4.586	7.81	0.00	0.21	2.56	1.00	1.00	0.00	8.71	29.94	0.00	1,382.5	0.0	856.41	578.54	1,434.95
9	160.0	28.79	0.000	13.44	0.00	0.14	2.82	1.00	1.00	0.00	7.74	34.92	0.00	1,773.0	0.0	854.95	828.98	1,683.93
10	177.5	29.41	0.000	8.71	0.00	0.13	2.87	1.00	1.00	0.00	5.00	2.50	0.00	855.1	0.0	573.12	71.93	645.05
11	190.0	29.82	0.000	6.00	0.00	0.13	2.85	1.00	1.00	0.00	3.45	0.93	0.00	585.8	0.0	398.71	27.01	425.73
														47,345.8	**0.0**			**36,974.85**

Load Case: 1.2D + 1.6W 60° Wind — 1.2D + 1.6W 97 mph Wind at 60° From Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

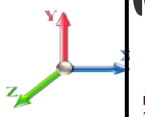
Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	17.40	24.365	23.64	0.00	0.12	2.88	0.80	1.00	0.00	30.40	125.53	0.00	9,730.5	0.0	2068.74	1826.80	3,895.54
2	30.0	20.77	22.326	23.64	0.00	0.13	2.84	0.80	1.00	0.00	28.27	125.53	0.00	7,322.9	0.0	2271.30	2180.67	4,451.97
3	50.0	22.85	17.472	22.04	0.00	0.13	2.86	0.80	1.00	0.00	23.79	125.53	0.00	6,212.5	0.0	2112.37	2398.36	4,510.74
4	70.0	24.39	15.857	22.04	0.00	0.14	2.81	0.80	1.00	0.00	22.41	124.12	0.00	6,064.7	0.0	2088.01	2534.19	4,622.20
5	90.0	25.63	14.383	18.83	0.00	0.14	2.79	0.80	1.00	0.00	20.50	123.37	0.00	5,155.6	0.0	1994.01	2663.18	4,657.19
6	110.0	26.69	12.992	18.83	0.00	0.17	2.71	0.80	1.00	0.00	19.45	116.00	0.00	4,500.7	0.0	1910.39	2686.84	4,597.22
7	130.0	27.60	10.974	17.23	0.00	0.19	2.63	0.80	1.00	0.00	17.47	99.81	0.00	3,762.5	0.0	1725.36	2276.95	4,002.31
8	145.0	28.22	4.586	7.81	0.00	0.21	2.56	0.80	1.00	0.00	7.79	29.94	0.00	1,382.5	0.0	766.25	578.54	1,344.79
9	160.0	28.79	0.000	13.44	0.00	0.14	2.82	0.80	1.00	0.00	7.74	34.92	0.00	1,773.0	0.0	854.95	828.98	1,683.93
10	177.5	29.41	0.000	8.71	0.00	0.13	2.87	0.80	1.00	0.00	5.00	2.50	0.00	855.1	0.0	573.12	71.93	645.05
11	190.0	29.82	0.000	6.00	0.00	0.13	2.85	0.80	1.00	0.00	3.45	0.93	0.00	585.8	0.0	398.71	27.01	425.73
														47,345.8	**0.0**			**34,836.68**

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

Section Forces

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	7/26/2018	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 8	



Tower Engineering Solutions

Load Case: 1.2D + 1.6W 90° Wind — 1.2D + 1.6W 97 mph Wind at 90° From Face

Wind Load Factor: 1.60
Dead Load Factor: 1.20
Ice Dead Load Factor: 0.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	17.40	24.365	23.64	0.00	0.12	2.88	0.85	1.00	0.00	31.62	125.53	0.00	9,730.5	0.0	2151.64	1826.80	3,978.44
2	30.0	20.77	22.326	23.64	0.00	0.13	2.84	0.85	1.00	0.00	29.38	125.53	0.00	7,322.9	0.0	2360.99	2180.67	4,541.66
3	50.0	22.85	17.472	22.04	0.00	0.13	2.86	0.85	1.00	0.00	24.66	125.53	0.00	6,212.5	0.0	2189.95	2398.36	4,588.31
4	70.0	24.39	15.857	22.04	0.00	0.14	2.81	0.85	1.00	0.00	23.20	124.12	0.00	6,064.7	0.0	2161.89	2534.19	4,696.08
5	90.0	25.63	14.383	18.83	0.00	0.14	2.79	0.85	1.00	0.00	21.21	123.37	0.00	5,155.6	0.0	2063.98	2663.18	4,727.16
6	110.0	26.69	12.992	18.83	0.00	0.17	2.71	0.85	1.00	0.00	20.10	116.00	0.00	4,500.7	0.0	1974.19	2686.84	4,661.03
7	130.0	27.60	10.974	17.23	0.00	0.19	2.63	0.85	1.00	0.00	18.02	99.81	0.00	3,762.5	0.0	1779.54	2276.95	4,056.49
8	145.0	28.22	4.586	7.81	0.00	0.21	2.56	0.85	1.00	0.00	8.02	29.94	0.00	1,382.5	0.0	788.79	578.54	1,367.33
9	160.0	28.79	0.000	13.44	0.00	0.14	2.82	0.85	1.00	0.00	7.74	34.92	0.00	1,773.0	0.0	854.95	828.98	1,683.93
10	177.5	29.41	0.000	8.71	0.00	0.13	2.87	0.85	1.00	0.00	5.00	2.50	0.00	855.1	0.0	573.12	71.93	645.05
11	190.0	29.82	0.000	6.00	0.00	0.13	2.85	0.85	1.00	0.00	3.45	0.93	0.00	585.8	0.0	398.71	27.01	425.73
														47,345.8	**0.0**			**35,371.22**

Load Case: 0.9D + 1.6W Normal Wind — 0.9D + 1.6W 97 mph Wind at Normal To Face

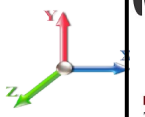
Wind Load Factor: 1.60
Dead Load Factor: 0.90
Ice Dead Load Factor: 0.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	17.40	24.365	23.64	0.00	0.12	2.88	1.00	1.00	0.00	35.27	125.53	0.00	7,297.9	0.0	2400.35	1826.80	4,227.15
2	30.0	20.77	22.326	23.64	0.00	0.13	2.84	1.00	1.00	0.00	32.73	125.53	0.00	5,492.2	0.0	2630.08	2180.67	4,810.75
3	50.0	22.85	17.472	22.04	0.00	0.13	2.86	1.00	1.00	0.00	27.28	125.53	0.00	4,659.4	0.0	2422.68	2398.36	4,821.04
4	70.0	24.39	15.857	22.04	0.00	0.14	2.81	1.00	1.00	0.00	25.58	124.12	0.00	4,548.5	0.0	2383.53	2534.19	4,917.72
5	90.0	25.63	14.383	18.83	0.00	0.14	2.79	1.00	1.00	0.00	23.37	123.37	0.00	3,866.7	0.0	2273.88	2663.18	4,937.06
6	110.0	26.69	12.992	18.83	0.00	0.17	2.71	1.00	1.00	0.00	22.05	116.00	0.00	3,375.6	0.0	2165.60	2686.84	4,852.43
7	130.0	27.60	10.974	17.23	0.00	0.19	2.63	1.00	1.00	0.00	19.67	99.81	0.00	2,821.9	0.0	1942.09	2276.95	4,219.04
8	145.0	28.22	4.586	7.81	0.00	0.21	2.56	1.00	1.00	0.00	8.71	29.94	0.00	1,036.9	0.0	856.41	578.54	1,434.95
9	160.0	28.79	0.000	13.44	0.00	0.14	2.82	1.00	1.00	0.00	7.74	34.92	0.00	1,329.8	0.0	854.95	828.98	1,683.93
10	177.5	29.41	0.000	8.71	0.00	0.13	2.87	1.00	1.00	0.00	5.00	2.50	0.00	641.3	0.0	573.12	71.93	645.05
11	190.0	29.82	0.000	6.00	0.00	0.13	2.85	1.00	1.00	0.00	3.45	0.93	0.00	439.3	0.0	398.71	27.01	425.73
														35,509.3	**0.0**			**36,974.85**

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

Section Forces

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	7/26/2018	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 9	



Tower Engineering Solutions

Load Case: 0.9D + 1.6W 60° Wind — 0.9D + 1.6W 97 mph Wind at 60° From Face

Wind Load Factor: 1.60
Dead Load Factor: 0.90
Ice Dead Load Factor: 0.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	17.40	24.365	23.64	0.00	0.12	2.88	0.80	1.00	0.00	30.40	125.53	0.00	7,297.9	0.0	2068.74	1826.80	3,895.54
2	30.0	20.77	22.326	23.64	0.00	0.13	2.84	0.80	1.00	0.00	28.27	125.53	0.00	5,492.2	0.0	2271.30	2180.67	4,451.97
3	50.0	22.85	17.472	22.04	0.00	0.13	2.86	0.80	1.00	0.00	23.79	125.53	0.00	4,659.4	0.0	2112.37	2398.36	4,510.74
4	70.0	24.39	15.857	22.04	0.00	0.14	2.81	0.80	1.00	0.00	22.41	124.12	0.00	4,548.5	0.0	2088.01	2534.19	4,622.20
5	90.0	25.63	14.383	18.83	0.00	0.14	2.79	0.80	1.00	0.00	20.50	123.37	0.00	3,866.7	0.0	1994.01	2663.18	4,657.19
6	110.0	26.69	12.992	18.83	0.00	0.17	2.71	0.80	1.00	0.00	19.45	116.00	0.00	3,375.6	0.0	1910.39	2686.84	4,597.22
7	130.0	27.60	10.974	17.23	0.00	0.19	2.63	0.80	1.00	0.00	17.47	99.81	0.00	2,821.9	0.0	1725.36	2276.95	4,002.31
8	145.0	28.22	4.586	7.81	0.00	0.21	2.56	0.80	1.00	0.00	7.79	29.94	0.00	1,036.9	0.0	766.25	578.54	1,344.79
9	160.0	28.79	0.000	13.44	0.00	0.14	2.82	0.80	1.00	0.00	7.74	34.92	0.00	1,329.8	0.0	854.95	828.98	1,683.93
10	177.5	29.41	0.000	8.71	0.00	0.13	2.87	0.80	1.00	0.00	5.00	2.50	0.00	641.3	0.0	573.12	71.93	645.05
11	190.0	29.82	0.000	6.00	0.00	0.13	2.85	0.80	1.00	0.00	3.45	0.93	0.00	439.3	0.0	398.71	27.01	425.73
														35,509.3	**0.0**			**34,836.68**

Load Case: 0.9D + 1.6W 90° Wind — 0.9D + 1.6W 97 mph Wind at 90° From Face

Wind Load Factor: 1.60
Dead Load Factor: 0.90
Ice Dead Load Factor: 0.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	17.40	24.365	23.64	0.00	0.12	2.88	0.85	1.00	0.00	31.62	125.53	0.00	7,297.9	0.0	2151.64	1826.80	3,978.44
2	30.0	20.77	22.326	23.64	0.00	0.13	2.84	0.85	1.00	0.00	29.38	125.53	0.00	5,492.2	0.0	2360.99	2180.67	4,541.66
3	50.0	22.85	17.472	22.04	0.00	0.13	2.86	0.85	1.00	0.00	24.66	125.53	0.00	4,659.4	0.0	2189.95	2398.36	4,588.31
4	70.0	24.39	15.857	22.04	0.00	0.14	2.81	0.85	1.00	0.00	23.20	124.12	0.00	4,548.5	0.0	2161.89	2534.19	4,696.08
5	90.0	25.63	14.383	18.83	0.00	0.14	2.79	0.85	1.00	0.00	21.21	123.37	0.00	3,866.7	0.0	2063.98	2663.18	4,727.16
6	110.0	26.69	12.992	18.83	0.00	0.17	2.71	0.85	1.00	0.00	20.10	116.00	0.00	3,375.6	0.0	1974.19	2686.84	4,661.03
7	130.0	27.60	10.974	17.23	0.00	0.19	2.63	0.85	1.00	0.00	18.02	99.81	0.00	2,821.9	0.0	1779.54	2276.95	4,056.49
8	145.0	28.22	4.586	7.81	0.00	0.21	2.56	0.85	1.00	0.00	8.02	29.94	0.00	1,036.9	0.0	788.79	578.54	1,367.33
9	160.0	28.79	0.000	13.44	0.00	0.14	2.82	0.85	1.00	0.00	7.74	34.92	0.00	1,329.8	0.0	854.95	828.98	1,683.93
10	177.5	29.41	0.000	8.71	0.00	0.13	2.87	0.85	1.00	0.00	5.00	2.50	0.00	641.3	0.0	573.12	71.93	645.05
11	190.0	29.82	0.000	6.00	0.00	0.13	2.85	0.85	1.00	0.00	3.45	0.93	0.00	439.3	0.0	398.71	27.01	425.73
														35,509.3	**0.0**			**35,371.22**

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

Section Forces

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	7/26/2018	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi Normal Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	4.62	24.365	62.44	38.80	0.22	2.54	1.00	1.00	1.85	60.45	165.10	67.77	21,415.	11684.8	602.67	444.50	1,047.17
2	30.0	5.52	22.326	63.53	39.89	0.24	2.47	1.00	1.00	2.01	59.33	168.37	73.77	17,771.	10448.9	687.43	542.32	1,229.75
3	50.0	6.07	17.472	61.40	39.36	0.25	2.44	1.00	1.00	2.10	53.36	170.23	77.18	16,522.	10310.4	672.79	604.26	1,277.05
4	70.0	6.48	15.857	60.28	38.25	0.27	2.37	1.00	1.00	2.17	51.49	170.15	70.20	16,316.	10251.6	671.80	606.94	1,278.74
5	90.0	6.81	14.383	55.72	36.89	0.30	2.31	1.00	1.00	2.22	47.69	170.43	66.69	15,184.	10028.9	636.78	638.96	1,275.75
6	110.0	7.09	12.992	54.30	35.47	0.34	2.19	1.00	1.00	2.27	46.28	159.09	46.90	13,833.	9333.2	611.10	634.48	1,245.58
7	130.0	7.33	10.974	53.66	36.43	0.41	2.04	1.00	1.00	2.30	45.44	133.87	46.05	12,184.	8421.5	577.18	523.84	1,101.01
8	145.0	7.50	4.586	24.44	16.62	0.46	1.95	1.00	1.00	2.33	20.85	41.15	21.72	4,517.7	3135.2	259.60	140.48	400.07
9	160.0	7.65	0.000	66.16	52.71	0.62	1.79	1.00	1.00	2.35	50.36	44.85	25.84	6,862.9	5089.9	586.66	139.17	725.83
10	177.5	7.81	0.000	48.26	39.54	0.64	1.79	1.00	1.00	2.37	37.18	2.91	5.93	3,500.2	2645.1	440.96	24.74	465.69
11	190.0	7.92	0.000	33.63	27.63	0.67	1.78	1.00	1.00	2.39	26.57	0.93	3.98	2,417.7	1831.9	318.20	13.21	331.41
														130,527.2	**83181.4**			**10,378.06**

Load Case: 1.2D + 1.0Di + 1.0Wi 60° Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	4.62	24.365	62.44	38.80	0.22	2.54	0.80	1.00	1.85	55.58	165.10	67.77	21,415.	11684.8	554.09	444.50	998.59
2	30.0	5.52	22.326	63.53	39.89	0.24	2.47	0.80	1.00	2.01	54.87	168.37	73.77	17,771.	10448.9	635.69	542.32	1,178.02
3	50.0	6.07	17.472	61.40	39.36	0.25	2.44	0.80	1.00	2.10	49.86	170.23	77.18	16,522.	10310.4	628.73	604.26	1,232.98
4	70.0	6.48	15.857	60.28	38.25	0.27	2.37	0.80	1.00	2.17	48.32	170.15	70.20	16,316.	10251.6	630.42	606.94	1,237.36
5	90.0	6.81	14.383	55.72	36.89	0.30	2.31	0.80	1.00	2.22	44.81	170.43	66.69	15,184.	10028.9	598.37	638.96	1,237.34
6	110.0	7.09	12.992	54.30	35.47	0.34	2.19	0.80	1.00	2.27	43.68	159.09	46.90	13,833.	9333.2	576.79	634.48	1,211.27
7	130.0	7.33	10.974	53.66	36.43	0.41	2.04	0.80	1.00	2.30	43.24	133.87	46.05	12,184.	8421.5	549.30	523.84	1,073.13
8	145.0	7.50	4.586	24.44	16.62	0.46	1.95	0.80	1.00	2.33	19.93	41.15	21.72	4,517.7	3135.2	248.18	140.48	388.65
9	160.0	7.65	0.000	66.16	52.71	0.62	1.79	0.80	1.00	2.35	50.36	44.85	25.84	6,862.9	5089.9	586.66	139.17	725.83
10	177.5	7.81	0.000	48.26	39.54	0.64	1.79	0.80	1.00	2.37	37.18	2.91	5.93	3,500.2	2645.1	440.96	24.74	465.69
11	190.0	7.92	0.000	33.63	27.63	0.67	1.78	0.80	1.00	2.39	26.57	0.93	3.98	2,417.7	1831.9	318.20	13.21	331.41
														130,527.2	**83181.4**			**10,080.28**

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

Section Forces

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	7/26/2018	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 11	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 90° Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	4.62	24.365	62.44	38.80	0.22	2.54	0.85	1.00	1.85	56.80	165.10	67.77	21,415.	11684.8	566.23	444.50	1,010.74
2	30.0	5.52	22.326	63.53	39.89	0.24	2.47	0.85	1.00	2.01	55.98	168.37	73.77	17,771.	10448.9	648.63	542.32	1,190.95
3	50.0	6.07	17.472	61.40	39.36	0.25	2.44	0.85	1.00	2.10	50.74	170.23	77.18	16,522.	10310.4	639.74	604.26	1,244.00
4	70.0	6.48	15.857	60.28	38.25	0.27	2.37	0.85	1.00	2.17	49.12	170.15	70.20	16,316.	10251.6	640.77	606.94	1,247.71
5	90.0	6.81	14.383	55.72	36.89	0.30	2.31	0.85	1.00	2.22	45.53	170.43	66.69	15,184.	10028.9	607.97	638.96	1,246.94
6	110.0	7.09	12.992	54.30	35.47	0.34	2.19	0.85	1.00	2.27	44.33	159.09	46.90	13,833.	9333.2	585.37	634.48	1,219.85
7	130.0	7.33	10.974	53.66	36.43	0.41	2.04	0.85	1.00	2.30	43.79	133.87	46.05	12,184.	8421.5	556.27	523.84	1,080.10
8	145.0	7.50	4.586	24.44	16.62	0.46	1.95	0.85	1.00	2.33	20.16	41.15	21.72	4,517.7	3135.2	251.03	140.48	391.51
9	160.0	7.65	0.000	66.16	52.71	0.62	1.79	0.85	1.00	2.35	50.36	44.85	25.84	6,862.9	5089.9	586.66	139.17	725.83
10	177.5	7.81	0.000	48.26	39.54	0.64	1.79	0.85	1.00	2.37	37.18	2.91	5.93	3,500.2	2645.1	440.96	24.74	465.69
11	190.0	7.92	0.000	33.63	27.63	0.67	1.78	0.85	1.00	2.39	26.57	0.93	3.98	2,417.7	1831.9	318.20	13.21	331.41
														130,527.2	**83181.4**			**10,154.72**

Load Case: 1.0D + 1.0W Normal Wind — 1.0D + 1.0W 60 mph Wind at Normal To Face

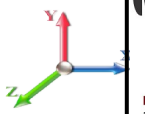
Wind Load Factor: 1.00
Dead Load Factor: 1.00
Ice Dead Load Factor: 0.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	6.66	24.365	23.64	0.00	0.12	2.88	1.00	1.00	0.00	37.65	125.53	0.00	8,108.7	0.0	612.73	436.85	1,049.57
2	30.0	7.95	22.326	23.64	0.00	0.13	2.84	1.00	1.00	0.00	35.28	125.53	0.00	6,102.4	0.0	677.86	521.47	1,199.32
3	50.0	8.74	17.472	22.04	0.00	0.13	2.86	1.00	1.00	0.00	29.62	125.53	0.00	5,177.1	0.0	629.08	573.53	1,202.61
4	70.0	9.33	15.857	22.04	0.00	0.14	2.81	1.00	1.00	0.00	27.92	124.12	0.00	5,053.9	0.0	622.12	606.01	1,228.13
5	90.0	9.81	14.383	18.83	0.00	0.14	2.79	1.00	1.00	0.00	25.06	123.37	0.00	4,296.3	0.0	583.06	636.85	1,219.91
6	110.0	10.21	12.992	18.83	0.00	0.17	2.71	1.00	1.00	0.00	23.70	116.00	0.00	3,750.6	0.0	556.70	642.51	1,199.22
7	130.0	10.56	10.974	17.23	0.00	0.19	2.63	1.00	1.00	0.00	20.84	99.81	0.00	3,135.4	0.0	492.15	544.49	1,036.65
8	145.0	10.80	4.586	7.81	0.00	0.21	2.56	1.00	1.00	0.00	9.09	29.94	0.00	1,152.1	0.0	213.67	138.35	352.02
9	160.0	11.02	0.000	13.44	0.00	0.14	2.82	1.00	1.00	0.00	7.74	34.92	0.00	1,477.5	0.0	204.45	198.24	402.68
10	177.5	11.25	0.000	8.71	0.00	0.13	2.87	1.00	1.00	0.00	5.00	2.50	0.00	712.6	0.0	137.05	17.20	154.25
11	190.0	11.41	0.000	6.00	0.00	0.13	2.85	1.00	1.00	0.00	3.45	0.93	0.00	488.2	0.0	95.35	6.46	101.81
														39,454.8	**0.0**			**9,146.16**

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

Section Forces

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	7/26/2018	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 12	



Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60° Wind — 1.0D + 1.0W 60 mph Wind at 60° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	6.66	24.365	23.64	0.00	0.12	2.88	0.80	1.00	0.00	32.78	125.53	0.00	8,108.7	0.0	533.43	436.85	970.28
2	30.0	7.95	22.326	23.64	0.00	0.13	2.84	0.80	1.00	0.00	30.81	125.53	0.00	6,102.4	0.0	592.06	521.47	1,113.53
3	50.0	8.74	17.472	22.04	0.00	0.13	2.86	0.80	1.00	0.00	26.13	125.53	0.00	5,177.1	0.0	554.87	573.53	1,128.40
4	70.0	9.33	15.857	22.04	0.00	0.14	2.81	0.80	1.00	0.00	24.75	124.12	0.00	5,053.9	0.0	551.45	606.01	1,157.46
5	90.0	9.81	14.383	18.83	0.00	0.14	2.79	0.80	1.00	0.00	22.18	123.37	0.00	4,296.3	0.0	516.13	636.85	1,152.98
6	110.0	10.21	12.992	18.83	0.00	0.17	2.71	0.80	1.00	0.00	21.10	116.00	0.00	3,750.6	0.0	495.68	642.51	1,138.19
7	130.0	10.56	10.974	17.23	0.00	0.19	2.63	0.80	1.00	0.00	18.65	99.81	0.00	3,135.4	0.0	440.33	544.49	984.82
8	145.0	10.80	4.586	7.81	0.00	0.21	2.56	0.80	1.00	0.00	8.17	29.94	0.00	1,152.1	0.0	192.11	138.35	330.46
9	160.0	11.02	0.000	13.44	0.00	0.14	2.82	0.80	1.00	0.00	7.74	34.92	0.00	1,477.5	0.0	204.45	198.24	402.68
10	177.5	11.25	0.000	8.71	0.00	0.13	2.87	0.80	1.00	0.00	5.00	2.50	0.00	712.6	0.0	137.05	17.20	154.25
11	190.0	11.41	0.000	6.00	0.00	0.13	2.85	0.80	1.00	0.00	3.45	0.93	0.00	488.2	0.0	95.35	6.46	101.81
														39,454.8	**0.0**			**8,634.86**

Load Case: 1.0D + 1.0W 90° Wind — 1.0D + 1.0W 60 mph Wind at 90° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.00

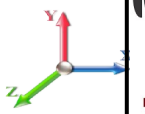
Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	6.66	24.365	23.64	0.00	0.12	2.88	0.85	1.00	0.00	34.00	125.53	0.00	8,108.7	0.0	553.25	436.85	990.10
2	30.0	7.95	22.326	23.64	0.00	0.13	2.84	0.85	1.00	0.00	31.93	125.53	0.00	6,102.4	0.0	613.51	521.47	1,134.98
3	50.0	8.74	17.472	22.04	0.00	0.13	2.86	0.85	1.00	0.00	27.00	125.53	0.00	5,177.1	0.0	573.42	573.53	1,146.95
4	70.0	9.33	15.857	22.04	0.00	0.14	2.81	0.85	1.00	0.00	25.54	124.12	0.00	5,053.9	0.0	569.12	606.01	1,175.13
5	90.0	9.81	14.383	18.83	0.00	0.14	2.79	0.85	1.00	0.00	22.90	123.37	0.00	4,296.3	0.0	532.86	636.85	1,169.72
6	110.0	10.21	12.992	18.83	0.00	0.17	2.71	0.85	1.00	0.00	21.75	116.00	0.00	3,750.6	0.0	510.93	642.51	1,153.44
7	130.0	10.56	10.974	17.23	0.00	0.19	2.63	0.85	1.00	0.00	19.20	99.81	0.00	3,135.4	0.0	453.28	544.49	997.78
8	145.0	10.80	4.586	7.81	0.00	0.21	2.56	0.85	1.00	0.00	8.40	29.94	0.00	1,152.1	0.0	197.50	138.35	335.85
9	160.0	11.02	0.000	13.44	0.00	0.14	2.82	0.85	1.00	0.00	7.74	34.92	0.00	1,477.5	0.0	204.45	198.24	402.68
10	177.5	11.25	0.000	8.71	0.00	0.13	2.87	0.85	1.00	0.00	5.00	2.50	0.00	712.6	0.0	137.05	17.20	154.25
11	190.0	11.41	0.000	6.00	0.00	0.13	2.85	0.85	1.00	0.00	3.45	0.93	0.00	488.2	0.0	95.35	6.46	101.81
														39,454.8	**0.0**			**8,762.68**

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

Force/Stress Compression Summary

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	7/26/2018	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 13	



Tower Engineering Solutions

LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	20	12B - 12"BD 2.25"	-324.86	1.2D + 1.6W Normal Wind	10.02	100	100	100	24.38	50.00	514.03	63.2	Member X
2	40	12B - 12"BD 2.25"	-293.02	1.2D + 1.6W Normal Wind	10.02	100	100	100	24.38	50.00	514.03	57.0	Member X
3	60	12B - 12"BD 2"	-257.41	1.2D + 1.6W Normal Wind	10.02	100	100	100	24.41	50.00	405.83	63.4	Member X
4	80	12B - 12"BD 2"	-220.41	1.2D + 1.6W Normal Wind	10.02	100	100	100	24.41	50.00	405.83	54.3	Member X
5	100	12B - 12"BD 1.75"	-181.08	1.2D + 1.6W Normal Wind	10.02	100	100	100	25.99	50.00	308.82	58.6	Member X
6	120	12B - 12"BD 1.75"	-138.39	1.2D + 1.6W Normal Wind	10.02	100	100	100	25.99	50.00	308.82	44.8	Member X
7	140	12B - 12"BD 1.5"	-97.96	1.2D + 1.6W Normal Wind	10.02	100	100	100	30.32	50.00	222.99	43.9	Member X
8	150	12B - 12"BD 1.25"	-55.31	1.2D + 1.6W Normal Wind	10.02	100	100	100	36.38	50.00	150.33	36.8	Member X
9	170	SOL - 2" SOLID	-46.88	1.2D + 1.6W Normal Wind	2.40	100	100	100	57.51	50.00	111.01	42.2	Member X
10	185	SOL - 1 3/4" SOLID	-11.56	1.2D + 1.6W Normal Wind	0.42	100	100	100	11.44	50.00	107.21	10.8	Member X
11	195	SOL - 1 3/4" SOLID	-2.19	1.2D + 1.0Di + 1.0Wi Normal	2.29	100	100	100	62.85	50.00	81.08	2.7	Member X

Splices

		Top Splice						Bottom Splice					
Sect	Top Elev	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts
1	20	1.2D + 1.6W Normal Wind	301.85	0.00	0.0			1.2D + 1.6W Normal Wind	334.82	0.00			
2	40	1.2D + 1.6W Normal Wind	266.85	0.00	0.0			1.2D + 1.6W Normal Wind	301.85	0.00		1/4 A325	6
3	60	1.2D + 1.6W Normal Wind	230.26	0.00	0.0			1.2D + 1.6W Normal Wind	266.85	0.00		1/4 A325	6
4	80	1.2D + 1.6W Normal Wind	191.69	0.00	0.0			1.2D + 1.6W Normal Wind	230.26	0.00		1/4 A325	6
5	100	1.2D + 1.6W Normal Wind	149.95	0.00	0.0			1.2D + 1.6W Normal Wind	191.69	0.00		1 A325	6
6	120	1.2D + 1.6W Normal Wind	108.54	0.00	0.0			1.2D + 1.6W Normal Wind	149.95	0.00		1 A325	6
7	140	1.2D + 1.6W Normal Wind	69.76	0.00	0.0			1.2D + 1.6W Normal Wind	108.54	0.00		1 A325	6
8	150	1.2D + 1.6W Normal Wind	50.76	0.00	0.0			1.2D + 1.6W Normal Wind	69.76	0.00		1 A325	6
9	170	1.2D + 1.6W Normal Wind	11.67	0.00	0.0			1.2D + 1.6W Normal Wind	50.76	0.00		1 A325	6
10	185	1.2D + 1.0Di + 1.0Wi Normal Wi	2.82	0.00	0.0			1.2D + 1.6W Normal Wind	11.67	0.00			
11	195	1.2D + 1.0Di + 1.0Wi 90° Wind	0.40	0.00	0.0			1.2D + 1.0Di + 1.0Wi Normal Wi	2.82	0.00			

HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	20										0.00	0	0				
2	40										0.00	0	0				
3	60										0.00	0	0				
4	80										0.00	0	0				
5	100										0.00	0	0				
6	120										0.00	0	0				
7	140	SAE - 2.5X2.5X0.1875	-2.48	0.9D + 1.6W Normal Wind	6.00	100	100	100	145.45	36.00	9.63	1	1	31.81	17.94	26	Member Z
8	150										0.00	0	0				
9	170	SOL - 1" SOLID	-1.06	0.9D + 1.6W Normal Wind	4.99	100	100	100	167.65	50.00	6.31	0	0			17	Member X
10	185	SOL - 7/8" SOLID	-2.48	1.2D + 1.6W Normal Wind	4.50	100	100	100	172.76	50.00	4.55	0	0			55	Member X
11	195	SOL - 7/8" SOLID	-0.76	0.9D + 1.6W 90° Wind	4.50	100	100	100	172.76	50.00	4.55	0	0			17	Member X

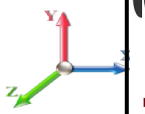
DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	20	DAE - 3.5X3.5X0.3125	-9.96	1.2D + 1.6W Normal Wind	21.92	50	50	50	204.79	36.00	22.52	1	1	43.49	75.0	44	Member Y
2	40	SAE - 3.5X3.5X0.3125	-9.22	1.2D + 1.6W 90° Wind	20.16	50	50	50	175.28	36.00	15.37	1	1	43.49	37.5	60	Member Z
3	60	SAE - 3X3X0.3125	-8.96	1.2D + 1.6W 90° Wind	18.45	50	50	50	187.93	36.00	11.39	1	1	43.49	37.5	79	Member Z

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

Force/Stress Compression Summary

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	7/26/2018	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 14	



Tower Engineering Solutions

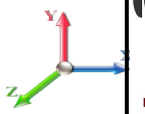
DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
4	80	SAE - 3X3X0.3125	-8.70	1.2D + 1.6W 90° Wind	16.80	50	50	50	171.17	36.00	13.73	1	1	43.49	37.5	63	Member Z
5	100	SAE - 3X3X0.3125	-8.61	1.2D + 1.6W 90° Wind	15.24	50	50	50	155.27	36.00	16.68	1	1	31.81	29.9	52	Member Z
6	120	SAE - 3X3X0.1875	-7.90	1.2D + 1.6W 90° Wind	13.80	50	50	50	138.89	36.00	12.77	1	1	31.81	17.9	62	Member Z
7	140	SAE - 2.5X2.5X0.1875	-7.03	1.2D + 1.6W 90° Wind	12.50	50	50	50	151.56	36.00	8.87	1	1	31.81	17.9	79	Member Z
8	150	SAE - 2.5X2.5X0.1875	-8.14	1.2D + 1.6W Normal Wind	11.42	50	50	50	138.38	36.00	10.64	1	1	31.81	17.9	77	Member Z
9	170	SOL - 7/8" SOLID	-3.51	1.2D + 1.6W 90° Wind	5.51	50	50	50	135.94	50.00	7.35	0	0			48	Member X
10	185	SOL - 3/4" SOLID	-3.90	1.2D + 1.6W Normal Wind	5.08	50	50	50	146.35	50.00	4.66	0	0			84	Member X
11	195	SOL - 3/4" SOLID	-1.17	1.2D + 1.6W 60° Wind	5.05	50	50	50	145.44	50.00	4.72	0	0			25	Member X

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

Force/Stress Tension Summary

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	7/26/2018	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 15	



TES Tower Engineering Solutions

LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	20	12B - 12"BD 2.25"	279.65	0.9D + 1.6W 60° Wind	50	536.85	52.1	Member
2	40	12B - 12"BD 2.25"	252.52	0.9D + 1.6W 60° Wind	50	536.85	47.0	Member
3	60	12B - 12"BD 2"	222.25	0.9D + 1.6W 60° Wind	50	423.90	52.4	Member
4	80	12B - 12"BD 2"	189.66	0.9D + 1.6W 60° Wind	50	423.90	44.7	Member
5	100	12B - 12"BD 1.75"	154.71	0.9D + 1.6W 60° Wind	50	324.45	47.7	Member
6	120	12B - 12"BD 1.75"	116.10	0.9D + 1.6W 60° Wind	50	324.45	35.8	Member
7	140	12B - 12"BD 1.5"	80.12	0.9D + 1.6W 60° Wind	50	238.50	33.6	Member
8	150	12B - 12"BD 1.25"	42.02	0.9D + 1.6W 60° Wind	50	165.60	25.4	Member
9	170	SOL - 2" SOLID	35.55	0.9D + 1.6W 60° Wind	50	141.37	25.1	Member
10	185	SOL - 1 3/4" SOLID	4.59	0.9D + 1.6W 60° Wind	50	108.24	4.2	Member
11	195	SOL - 1 3/4" SOLID	1.16	0.9D + 1.6W 60° Wind	50	108.24	1.2	Bolt Shear

Splices

		Top Splice					Bottom Splice				
Sect	Top Elev	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts
1	20	0.9D + 1.6W 60° Wind	258.85	0.00	0.0			0.9D + 1.6W 60° Wind	288.5	0.00			
2	40	0.9D + 1.6W 60° Wind	229.03	0.00	0.0			0.9D + 1.6W 60° Wind	258.8	457.92	56.5	1 1/4 A325	6
3	60	0.9D + 1.6W 60° Wind	197.29	0.00	0.0			0.9D + 1.6W 60° Wind	229.0	457.92	50.0	1 1/4 A325	6
4	80	0.9D + 1.6W 60° Wind	163.10	0.00	0.0			0.9D + 1.6W 60° Wind	197.2	457.92	43.1	1 1/4 A325	6
5	100	0.9D + 1.6W 60° Wind	124.97	0.00	0.0			0.9D + 1.6W 60° Wind	163.1	318.06	51.3	1 A325	6
6	120	0.9D + 1.6W 60° Wind	89.12	0.00	0.0			0.9D + 1.6W 60° Wind	124.9	318.06	39.3	1 A325	6
7	140	0.9D + 1.6W 60° Wind	54.12	0.00	0.0			0.9D + 1.6W 60° Wind	89.12	318.06	28.0	1 A325	6
8	150	0.9D + 1.6W 60° Wind	34.50	0.00	0.0			0.9D + 1.6W 60° Wind	54.12	318.06	17.0	1 A325	6
9	170	0.9D + 1.6W Normal Wind	4.40	0.00	0.0			0.9D + 1.6W 60° Wind	34.50	318.06	10.8	1 A325	6
10	185	0.9D + 1.6W 60° Wind	1.14	0.00	0.0			0.9D + 1.6W Normal Wind	4.40	0.00			
11	195		0.00	0.00	0.0			0.9D + 1.6W 60° Wind	1.14	0.00			

HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	20	-			36	0.00	0	0					
2	40	-			36	0.00	0	0					
3	60	-			36	0.00	0	0					
4	80	-			36	0.00	0	0					
5	100	-			36	0.00	0	0					
6	120	-			36	0.00	0	0					
7	140	SAE - 2.5X2.5X0.1875	2.74	1.2D + 1.6W 60° Wind	36	22.55	1	1	31.81	17.94	10.66	25.7	Blck Shear
8	150	-			36	0.00	0	0					
9	170	SOL - 1" SOLID	1.91	1.2D + 1.6W Normal Wi	50	35.34	0	0				5.4	Member
10	185	SOL - 7/8" SOLID	1.82	1.2D + 1.6W 60° Wind	50	27.06	0	0				6.7	Member
11	195	SOL - 7/8" SOLID	0.99	0.9D + 1.6W 60° Wind	50	27.06	0	0				3.7	Member

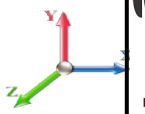
DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	20	DAE - 3.5X3.5X0.3125	9.09	1.2D + 1.6W 90° Wind	36	122.35	1	1	43.49	75.04	47.40	20.9	Bolt Shear
2	40	SAE - 3.5X3.5X0.3125	9.00	1.2D + 1.6W 90° Wind	36	54.17	1	1	43.49	37.52	23.70	38.0	Blck Shear
3	60	SAE - 3X3X0.3125	8.65	0.9D + 1.6W 90° Wind	36	44.05	1	1	43.49	37.52	20.30	42.6	Blck Shear
4	80	SAE - 3X3X0.3125	8.44	0.9D + 1.6W 90° Wind	36	44.05	1	1	43.49	37.52	20.30	41.6	Blck Shear

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

Force/Stress Tension Summary

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	7/26/2018	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 16	



Tower Engineering Solutions

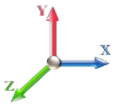
DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
5	100	SAE - 3X3X0.3125	8.50	1.2D + 1.6W 90° Wind	36	46.60	1	1	31.81	29.91	19.47	43.7	Blck Shear
6	120	SAE - 3X3X0.1875	7.64	0.9D + 1.6W 90° Wind	36	28.68	1	1	31.81	17.94	11.68	65.4	Blck Shear
7	140	SAE - 2.5X2.5X0.1875	6.88	1.2D + 1.6W 90° Wind	36	22.55	1	1	31.81	17.94	10.66	64.5	Blck Shear
8	150	SAE - 2.5X2.5X0.1875	7.64	0.9D + 1.6W 60° Wind	36	22.55	1	1	31.81	17.94	10.66	71.6	Blck Shear
9	170	SOL - 7/8" SOLID	3.65	1.2D + 1.6W Normal Wi	50	27.06	0	0				13.5	Member
10	185	SOL - 3/4" SOLID	2.95	1.2D + 1.6W 60° Wind	50	19.88	0	0				14.8	Member
11	195	SOL - 3/4" SOLID	0.87	0.9D + 1.6W 90° Wind	50	19.88	0	0				4.4	Member

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

Support Forces Summary

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	7/26/2018	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 17	



Tower Engineering Solutions

Load Case	Node	FX (kips)	FY (kips)	FZ (kips)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal Wind	1	-0.01	334.45	-35.41	
	1a	12.68	-136.86	-8.64	
	1b	-12.68	-136.85	-8.65	
1.2D + 1.6W 60° Wind	1	-1.14	172.96	-17.90	
	1a	-15.91	169.61	8.07	
	1b	-26.74	-281.83	-15.45	
1.2D + 1.6W 90° Wind	1	-1.37	20.33	-1.63	
	1a	-26.24	282.76	14.49	
	1b	-23.49	-242.36	-12.87	
0.9D + 1.6W Normal Wind	1	-0.01	328.92	-34.98	
	1a	13.04	-141.69	-8.85	
	1b	-13.03	-141.68	-8.87	
0.9D + 1.6W 60° Wind	1	-1.15	167.66	-17.47	
	1a	-15.54	164.36	7.85	
	1b	-27.10	-286.46	-15.66	
0.9D + 1.6W 90° Wind	1	-1.38	15.25	-1.21	
	1a	-25.87	277.35	14.28	
	1b	-23.84	-247.05	-13.07	
1.2D + 1.0Di + 1.0Wi Normal Wind	1	0.00	153.83	-7.44	
	1a	6.59	3.87	-3.93	
	1b	-6.59	3.91	-3.93	
1.2D + 1.0Di + 1.0Wi 60° Wind	1	-0.17	103.33	-2.32	
	1a	-2.01	101.57	1.07	
	1b	-10.81	-43.29	-6.25	
1.2D + 1.0Di + 1.0Wi 90° Wind	1	-0.20	54.05	2.63	
	1a	-5.15	137.68	2.92	
	1b	-9.72	-30.12	-5.55	
1.0D + 1.0W Normal Wind	1	0.00	93.26	-9.66	
	1a	2.23	-21.33	-1.62	
	1b	-2.23	-21.32	-1.62	
1.0D + 1.0W 60° Wind	1	-0.30	54.04	-5.38	
	1a	-4.76	53.17	2.46	
	1b	-5.68	-56.59	-3.28	
1.0D + 1.0W 90° Wind	1	-0.35	16.94	-1.40	
	1a	-7.29	80.66	4.04	
	1b	-4.88	-46.99	-2.64	

Max Reactions

Leg			Overturning		
Max Uplift:	-286.46	(kips)	Moment:	5442.14	(ft-kips)
Max Down:	334.45	(kips)	Total Down:	60.74	(kips)
Max Shear:	35.41	(kips)	Total Shear:	52.70	(kips)

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

Analysis Summary

Structure:	CT22108-A-SBA	**Code:**	EIA/TIA-222-G	7/26/2018	
Site Name:	Windsor Locks @ Volunteer Drive	**Exposure:**	C		
Height:	195.00 (ft)	**Crest Height:**	0.00		
Base Elev:	5.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

Max Reactions

Leg			Overturning		
Max Uplift:	-286.46	(kips)	Moment:	5442.14	(ft-kips)
Max Down:	334.45	(kips)	Total Down:	60.74	(kips)
Max Shear:	35.41	(kips)	Total Shear:	52.70	(kips)

Anchor Bolts

Bolt Size (in.):	1.25	Number Bolts:	6
Yield Strength (Ksi):	105.00	Tensile Strength (Ksi):	150.00
Detail Type:	C		

Interaction Ratio: 0.50

Max Usages

Max Leg: 63.4% (1.2D + 1.6W Normal Wind - Sect 3)
Max Diag: 83.7% (1.2D + 1.6W Normal Wind - Sect 10)
Max Horiz: 54.6% (1.2D + 1.6W Normal Wind - Sect 10)

Max Deflection, Twist and Sway

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
0.9D + 1.6W 97 mph Wind at 60° From Face	60.00	0.1559	0.0331	0.2968
	70.00	0.2105	-0.0167	0.3473
	100.00	0.4395	0.0647	0.5328
	110.00	0.5383	0.0730	0.5923
	130.00	0.7669	0.0908	0.7217
	150.00	1.0404	0.1140	0.8674
	162.40	1.2343	1.1095	0.9288
	170.42	1.3563	1.7190	1.9273
	195.00	1.7520	1.8223	1.3167
0.9D + 1.6W 97 mph Wind at 90° From Face	60.00	0.1555	-0.0355	0.2972
	70.00	0.2104	-0.0419	0.3464
	100.00	0.4387	-0.0666	0.5303
	110.00	0.5372	-0.0740	0.5865
	130.00	0.7641	-0.0877	0.7110
	150.00	1.0365	-0.0952	0.8527
	162.40	1.2268	-0.3406	0.9000
	170.42	1.3343	-0.4767	0.9955
	195.00	1.7156	-0.4762	0.9278
0.9D + 1.6W 97 mph Wind at Normal To Face	60.00	0.1620	0.0061	0.3089
	70.00	0.2204	0.0001	0.3600
	100.00	0.4569	0.0142	0.5596
	110.00	0.5598	0.0164	0.6264
	130.00	0.7994	0.0190	0.7737
	150.00	1.0877	-0.0222	0.9125
	162.40	1.2958	-0.2623	0.9912
	170.42	1.4601	-0.3937	3.3183
	195.00	1.9081	0.3793	2.4147

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

1.0D + 1.0W 60 mph Wind at 60° From Face	60.00	0.0378	-0.0064	0.0719
	70.00	0.0513	-0.0076	0.0841
	100.00	0.1065	-0.0120	0.1289
	110.00	0.1305	-0.0133	0.1435
	130.00	0.1856	-0.0154	0.1740
	150.00	0.2521	0.0161	0.2098
	162.40	0.2988	0.1143	0.2214
	170.42	0.3282	0.1715	0.4448
	195.00	0.4235	0.1718	0.3004
1.0D + 1.0W 60 mph Wind at 90° From Face	60.00	0.0380	-0.0086	0.0722
	70.00	0.0512	-0.0101	0.0841
	100.00	0.1067	-0.0161	0.1285
	110.00	0.1305	-0.0178	0.1422
	130.00	0.1855	-0.0211	0.1719
	150.00	0.2511	-0.0229	0.2062
	162.40	0.2970	-0.0822	0.2172
	170.42	0.3229	-0.1149	0.2365
	195.00	0.4148	-0.1135	0.2236
1.0D + 1.0W 60 mph Wind at Normal To Face	60.00	0.0396	0.0014	0.0752
	70.00	0.0538	0.0000	0.0874
	100.00	0.1112	0.0033	0.1358
	110.00	0.1362	0.0038	0.1518
	130.00	0.1943	0.0044	0.1874
	150.00	0.2636	0.0051	0.2199
	162.40	0.3139	-0.0604	0.2393
	170.42	0.3535	-0.0902	0.7953
	195.00	0.4618	0.0880	0.5798
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face	60.00	0.0513	0.0080	0.0975
	70.00	0.0680	-0.0060	0.1152
	100.00	0.1461	0.0155	0.1820
	110.00	0.1801	0.0176	0.2061
	130.00	0.2600	0.0221	0.2590
	150.00	0.3606	0.0286	0.3259
	162.40	0.4348	0.3125	0.3590
	170.42	0.4824	0.4813	0.9508
	195.00	0.6407	0.4876	1.0710
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face	60.00	0.0507	-0.0101	0.0974
	70.00	0.0680	-0.0120	0.1144
	100.00	0.1447	-0.0192	0.1805
	110.00	0.1784	-0.0215	0.2029
	130.00	0.2576	-0.0261	0.2548
	150.00	0.3567	-0.0298	0.3169
	162.40	0.4289	-0.1539	0.3471
	170.42	0.4689	-0.2227	0.5990
	195.00	0.6175	-0.2207	0.7805
1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face	60.00	0.0515	0.0015	0.1012
	70.00	0.0702	0.0000	0.1186
	100.00	0.1501	-0.0034	0.1910
	110.00	0.1855	-0.0039	0.2163
	130.00	0.2705	-0.0045	0.2776
	150.00	0.3763	-0.0062	0.3424
	162.40	0.4573	-0.1267	0.3929
	170.42	0.5260	-0.1916	1.5919
	195.00	0.7132	0.1869	1.6388
1.2D + 1.6W 97 mph Wind at 60° From Face	60.00	0.1561	0.0331	0.2973
	70.00	0.2108	-0.0166	0.3479
	100.00	0.4403	0.0648	0.5339
	110.00	0.5392	0.0731	0.5937
	130.00	0.7683	0.0909	0.7234
	150.00	1.0427	0.1142	0.8699
	162.40	1.2371	1.1120	0.9314
	170.42	1.3594	1.7229	1.9291
	195.00	1.7562	1.8286	1.3180

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

1.2D + 1.6W 97 mph Wind at 90° From Face	60.00	0.1558	-0.0355	0.2977
	70.00	0.2107	-0.0419	0.3470
	100.00	0.4394	-0.0667	0.5315
	110.00	0.5381	-0.0741	0.5878
	130.00	0.7655	-0.0877	0.7127
	150.00	1.0386	-0.0953	0.8551
	162.40	1.2295	-0.3405	0.9024
	170.42	1.3373	-0.4765	0.9933
	195.00	1.7196	-0.4760	0.9303
1.2D + 1.6W 97 mph Wind at Normal To Face	60.00	0.1623	0.0060	0.3095
	70.00	0.2208	0.0001	0.3606
	100.00	0.4578	0.0142	0.5609
	110.00	0.5610	0.0163	0.6279
	130.00	0.8012	0.0189	0.7757
	150.00	1.0901	-0.0221	0.9148
	162.40	1.2988	-0.2624	0.9940
	170.42	1.4636	-0.3937	3.3233
	195.00	1.9127	0.3791	2.4177

Copyright © 2018 by Tower Engineering Solutions, LLC. All rights reserved.

Last revised on June 29, 2018

Mat Foundation Design for Self Supporting Tower

			Date: 7/26/2018
Customer Name:	SBA Communications Corp	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	195
Site Nmber:	CT22108-A-SBA	Engineer Name:	M. Baker
Engr. Number:	56836	Engineer Login ID:	

Foundation Info Obtained from: Drawings/Calculations

Analysis or Design? Analysis

Number of Tower Legs: 3 Legs

Base Reactions (Factored):

(1). Individual Leg:

Axial Load (Kips):	334.5	Uplift Force (Kips):	286.5
Shear Force (Kips):	35.4		

(2). Tower Base:

Total Vertical Load (Kips):	60.7	Total Shear Force (Kips):	52.7
Moment (Kips-ft):	5442.1		

Foundation Geometries:

Leg distance (Center-to-Center ft.):		20.0	Mods required -Yes/No ?:	No	
Diameter of Pier (ft.):	Square	2.9	Pier Height A. G. (ft.):	5.00	
Tower center to mat center (ft):		0.00	Depth of Base BG (ft.):	10.0	
Length of Pad (ft.):		29.5	Width of Pad (ft.):	29.5	
Thickness of Pad (ft):		3.50			

Material Properties and Reabr Info:

Concrete Strength (psi):	4500	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	27	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

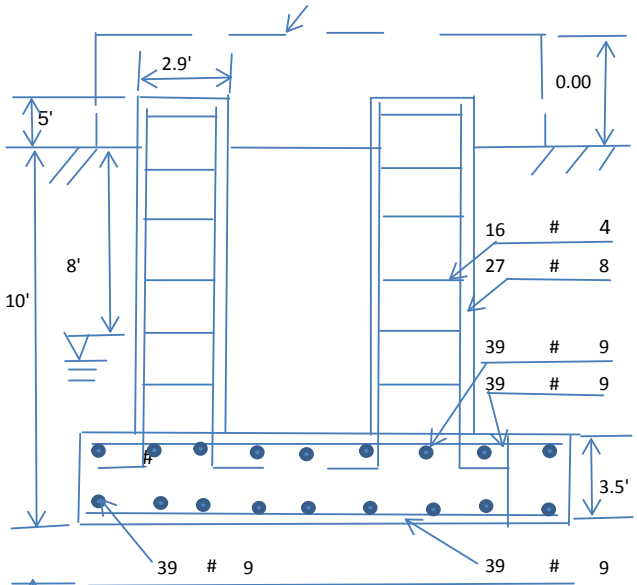
Qty. of Rebar in Pad (L):	39	Qty. of Rebar in Pad (W):	39

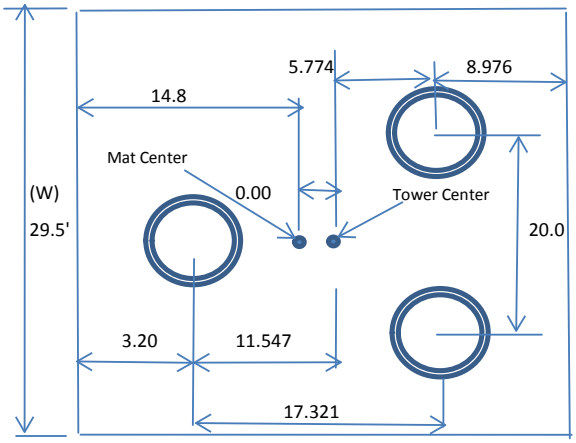
Rebar at the top of the concrete pad:

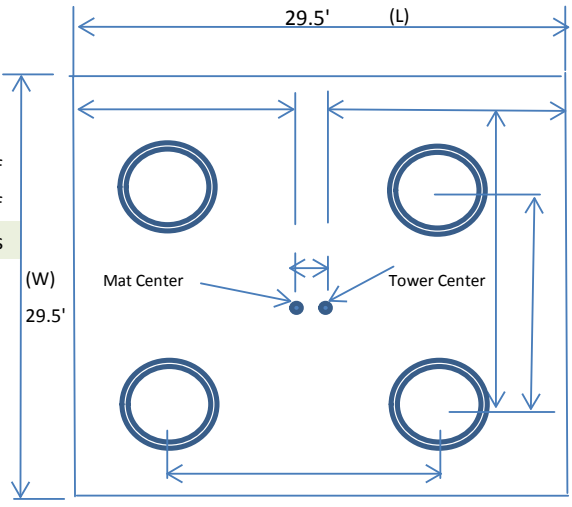
Qty. of Rebar in Pad (L):	39	Qty. of Rebar in Pad (W):	39

Soil Design Parameters:

Soil Unit Weight (pcf):	100.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	8.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	7000	Consider ties in concrete shear strength:	Yes	







Allowable overstress %: 5.00% **TES Engr. Number:** 56836 Page 2/2 Date: 7/26/2018

Apply 1.35 for e/w per G/H: 1

Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 Compression Strength Reduction Factor: 0.75

Total Dry Soil Volume (cu. Ft.):	5494.28	Total Dry Soil Weight (Kips):	549.43
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	549.43	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1592.61	Total Dry Concrete Weight (Kips):	238.89
Total Buoyant Concrete Volume (cu. Ft.):	1740.50	Total Buoyant Concrete Weight (Kips):	152.47
Total Effective Concrete Weight (Kips):	391.36	Total Vertical Load on Base (Kips):	1001.53

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	2420.20	<	Allowable Factored Soil Bearing (psf):	5250	0.46	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	13384.9	>	Design Factored Momont (kips-ft):	6108	0.46	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.19	OK!				

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75			
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:	1.00			
(1) Concrete Pier:					Load/ Capacity Ratio	
Vertical Steel Rebar Area (sq. in./each):	0.79		Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	1095.4	>	Design Factored Moment (Mu, Kips-Ft)	407.2	0.37	OK!
Calculated Shear Capacity (Kips):	103.3	>	Design Factored Shear (Kips):	35.4	0.34	OK!
Calculated Tension Capacity (Tn, Kips):	1151.8	>	Design Factored Tension (Tu Kips):	286.5	0.25	OK!
Calculated Compression Capacity (Pn, Kips):	2342.2	>	Design Factored Axial Load (Pu Kips):	334.5	0.14	OK!
Moment & Tension Strength Combination:	0.37	OK!	Check Tie Spacing (Design/Req'd):	1		OK!
Pier Reinforcement Ratio:	0.018	Reinforcement Ratio is satisfied per ACI				
(2).Concrete Pad:						
One-Way Design Shear Capacity (L or W Direction, Kips):	1369.2	>	One-Way Factored Shear (L/W-Dir Kips	289.8	0.21	OK!
One-Way Design Shear Capacity (Diagonal Dir., Kips):	1063.2	>	One-Way Factored Shear (Dia. Dir, Kips	236.1	0.22	OK!
Lower Steel Pad Reinforcement Ratio (L or W-Direct.):	0.0029		Lower Steel Reinf. Ratio (Dia. Dir.):	0.0026		
Lower Steel Pad Moment Capacity (L or W-Dir. Kips-ft):	6589.5	>	Moment at Bottom (L-Direct. K-Ft):	1724.0	0.26	OK!
Lower Steel Pad Moment Capacity (Dia. Direction,K-ft):	6237.8	>	Moment at Bottom (Dia. Dir. K-Ft):	1474.3	0.24	OK!
Upper Steel Pad Reinforcement Ratio (L or W -Direction):	0.0029		Upper Steel Reinf. Ratio (Dia. Dir.):	0.0026		
Upper Steel Pad Moment Capacity (L or W-Dir., Kips-ft):	6589.5	>	Moment at the top (L-Dir Kips-Ft):	647.1	0.10	OK!
Upper Steel Pad Moment Capacity (Dia. Direction, K-ft):	6237.8	>	Moment at the top (Dia. Dir., K-Ft):	403.7	0.06	OK!
Punching Failure Capacity (Kips):	1536.4	>	Punch. Failure Factored Shear (K):	334.5	0.22	OK!

May 18, 2018

CENTERLINE COMMUNICATIONS at&t

Centerline Communications
95 Ryan Drive
Raynham, MA 02767

RE:		
	Site Number:	CT5270 (LTE 2C/3C)
	FA Number:	10071333
	PACE Number:	MRCTB024349
	PTN Number:	2051A0BGEV
	Site Name:	Windsor Locks
	Site Address:	2 Volunteer Drive Windsor Locks, CT 06096

To Whom It May Concern:

Hudson Design Group LLC (HDG) has been authorized by Centerline Communications to perform a mount analysis on the existing AT&T antenna mounts to determine their capability of supporting the following equipment loading:

- (3) 800-10121 Antennas (54.5"x10.3"x5.9" – Wt. = 47 lbs./ each)
- (3) SBNH-1D6565C Antennas (96.4"x11.9"x7.1" – Wt. = 61 lbs. /each)
- (3) RRUS-11 RRH's (19.7"x17.0"x7.2" – Wt. = 51 lbs/each)
- (6) LGP 21401 TMA's (14.0"x7.0"x2.7" – Wt. = 18 lbs. / each)
- (1) Squid Surge Arrestor (24.0"x9.7"ø – Wt. = 33 lbs) (Tower Mounted)
- **(3) TPA-65R-LCUUUU-H8 Antennas (96"x14.4"x8.6" – Wt. = 75 lbs. /each)**
- **(3) RRUS-32 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs/each)**
- **(3) RRUS-32 B2 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs/each)**
- **(1) Squid Surge Arrestor (24.0"x9.7"ø – Wt. = 33 lbs) (Tower Mounted)**

**Proposed Loading Shown in Bold.*

No original structural design documents or fabrication drawings were available for the existing mounts. HDG's subconsultant, ProVertic LLC, conducted a survey climb and mapping of the existing AT&T antenna mounts on March 20, 2018.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-G, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2012 with 2005 Connecticut Supplement with 2016 Amendments, and AT&T Mount Technical Directive – R7.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-G Annex B, the max basic wind speed for this site is equal to 105 mph with a max basic wind speed with ice of 50 mph. Per the AT&T Mount Technical Directive and Appendix N of the Connecticut State Building Code, an ultimate wind speed of 125 mph converted to a nominal wind speed of 97 mph was used for this analysis.
- HDG considers this site to be exposure category B; tower is located in an urban/suburban or wooded area with numerous closely spaced obstructions.
- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- The mount has been analyzed with load combinations consisting of 500 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 4.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.

Based on our analysis, we have determined that the existing antenna mounts **ARE NOT CAPABLE** of supporting the proposed antenna installation. HDG recommends the following modifications:

- **Secure the existing pipe masts to the existing mount with a minimum of two points of connection (typ. of 4 per sector, total of 12).**
- **Install new 2" std. (2.38" O.D.) pipe brace secured to the existing mount and the tower leg (typ. of 1 per sector, total of 3).**
- **Relocate existing pipe brace (typ. of 1 per sector, total of 3).**

	Member	Controlling Load Case	Stress Ratio	Pass/Fail
Existing LTE 2C/3C Mount Rating	39	LC45	115%	**FAIL**
Proposed 2C/3C Mount Rating	38/39	LC44	86%	**PASS**

Reference Documents:

- Mount mapping report prepared by ProVertic LLC.

This determination was based on the following limitations and assumptions:

1. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The existing mount has been adequately secured to the tower structure per the mount manufacturer's specifications.

5. All components pertaining to AT&T's mounts must be tightened and re-plumbed prior to the installation of new appurtenances.
6. HDG performed a localized analysis on the mount itself and not on the supporting tower structure.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
Hudson Design Group LLC

Michael Cabral
Structural Dept. Head

Daniel P. Hamm, PE
Principal

FIELD PHOTOS:

p: 978.557.5553 f: 978.336.5586 a: 45 Beechwood Dr., N. Andover, MA 01845
p: 413.588.8139 f: 413.517.0590 a: 116 Pleasant Street, Ste 302, Easthampton, MA 01027

p: 978.557.5553 f: 978.336.5586 a: 45 Beechwood Dr., N. Andover, MA 01845
p: 413.588.8139 f: 413.517.0590 a: 116 Pleasant Street, Ste 302, Easthampton, MA 01027

HUDSON
Design Group LLC

Wind & Ice
Calculations

Date: 5/21/2018
Project Name: Windsor Locks
Project Number: CT5270
Designed By: AK Checked By: MSC

HUDSON Design Group LLC

Determine Ca:

Table 2-8

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Round	C < 32 (Subcritical)	0.7	0.8	1.2
	32 ≤ C ≤ 64 (Transitional)	$3.76/(C^{0.485})$	$3.37/(C^{0.415})$	$38.4/(C^{1.0})$
	C > 64 (Supercritical)	0.5	0.6	0.6

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
(Aspect ratio is independent of the spacing between support points of a linear appurtenance,

Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = 2.35 in | **Angle =** 0 (deg) | **Equivalent Angle =** 180 (deg)

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
800-10121 Antenna	54.5	10.3	5.9	3.90	5.29	1.32	120	51	12
TPA-65R-LCUUUU-H8 Antenna	96.0	14.4	8.6	9.60	6.67	1.39	309	115	30
SBNH-1D6565C Antenna	96.4	11.9	7.1	7.97	8.10	1.44	266	104	26
RRUS-32 RRH	27.2	12.1	7.0	2.29	2.25	1.20	64	28	6
RRUS-32 RRH (Shielded)	27.2	1.8	7.0	0.34	15.11	1.67	13	15	1
RRUS-11 RRH	19.7	17.0	7.2	2.33	1.16	1.20	65	27	6
RRUS-11 RRH (Shielded)	19.7	6.7	7.2	0.92	2.94	1.22	26	15	2
2" Pipe	2.4	12.0		0.20	0.20	1.20	6	6	1
4" Pipe	4.5	12.0		0.38	0.38	1.20	10	8	1

Date: 5/21/2018
Project Name: Windsor Locks
Project Number: CT5270
Designed By: AK Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle = 30 (deg) | Ice Thickness = 2.35 in. | Equivalent Angle = 210 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	120	76	109
TPA-65R-LCUUUU-H8 Antenna	96.0	14.4	8.6	9.60	5.73	6.67	11.16	1.39	1.54	309	205	283
SBNH-1D6565C Antenna	96.4	11.9	7.1	7.97	4.75	8.10	13.58	1.44	1.62	266	179	244
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	64	39	57
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	34	39	35
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	65	28	56
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	32	28	31

WIND LOADS WITH ICE:

800-10121 Antenna	59.2	15.0	10.6	6.16	4.36	3.95	5.59	1.26	1.34	48	36	45
TPA-65R-LCUUUU-H8 Antenna	100.7	19.1	13.3	13.35	9.30	5.27	7.57	1.32	1.42	109	82	102
SBNH-1D6565C Antenna	101.1	16.6	11.8	11.65	8.28	6.09	8.57	1.36	1.45	98	74	92
RRUS-32 RRH	31.9	16.8	11.7	3.72	2.59	1.90	2.73	1.20	1.21	28	19	26
RRUS-32 RRH (Shielded)	31.9	8.4	11.7	1.86	2.59	3.80	2.73	1.26	1.21	14	19	16
RRUS-11 RRH	24.4	21.7	11.9	3.68	2.02	1.12	2.05	1.20	1.20	27	15	24
RRUS-11 RRH (Shielded)	24.4	10.8	11.9	1.84	2.02	2.25	2.05	1.20	1.20	14	15	14

WIND LOADS AT 30 MPH:

800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	12	7	10
TPA-65R-LCUUUU-H8 Antenna	96.0	14.4	8.6	9.60	5.73	6.67	11.16	1.39	1.54	30	20	27
SBNH-1D6565C Antenna	96.4	11.9	7.1	7.97	4.75	8.10	13.58	1.44	1.62	26	17	23
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	6
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	3	4	3
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	6	3	5
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	3	3	3

Date: 5/21/2018
Project Name: Windsor Locks
Project Number: CT5270
Designed By: AK Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	60	(deg)	Ice Thickness =	2.35	in.	Equivalent Angle =	240	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	120	76	87
TPA-65R-LCUUUU-H8 Antenna	96.0	14.4	8.6	9.60	5.73	6.67	11.16	1.39	1.54	309	205	231
SBNH-1D6565C Antenna	96.4	11.9	7.1	7.97	4.75	8.10	13.58	1.44	1.62	266	179	200
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	64	39	45
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	49	39	41
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	65	28	37
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	49	28	33

WIND LOADS WITH ICE:

800-10121 Antenna	59.2	15.0	10.6	6.16	4.36	3.95	5.59	1.26	1.34	48	36	39
TPA-65R-LCUUUU-H8 Antenna	100.7	19.1	13.3	13.35	9.30	5.27	7.57	1.32	1.42	109	82	89
SBNH-1D6565C Antenna	101.1	16.6	11.8	11.65	8.28	6.09	8.57	1.36	1.45	98	74	80
RRUS-32 RRH	31.9	16.8	11.7	3.72	2.59	1.90	2.73	1.20	1.21	28	19	21
RRUS-32 RRH (Shielded)	31.9	12.6	11.7	2.79	2.59	2.53	2.73	1.20	1.21	21	19	20
RRUS-11 RRH	24.4	21.7	11.9	3.68	2.02	1.12	2.05	1.20	1.20	27	15	18
RRUS-11 RRH (Shielded)	24.4	16.3	11.9	2.76	2.02	1.50	2.05	1.20	1.20	20	15	16

WIND LOADS AT 30 MPH:

800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	12	7	8
TPA-65R-LCUUUU-H8 Antenna	96.0	14.4	8.6	9.60	5.73	6.67	11.16	1.39	1.54	30	20	22
SBNH-1D6565C Antenna	96.4	11.9	7.1	7.97	4.75	8.10	13.58	1.44	1.62	26	17	19
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	4
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	6	3	4
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	5	3	3

Date: 5/21/2018
Project Name: Windsor Locks
Project Number: CT5270
Designed By: AK Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	90	(deg)	Ice Thickness =	2.35	in.	Equivalent Angle =	270	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	120	76	76
TPA-65R-LCUUUU-H8 Antenna	96.0	14.4	8.6	9.60	5.73	6.67	11.16	1.39	1.54	309	205	205
SBNH-1D6565C Antenna	96.4	11.9	7.1	7.97	4.75	8.10	13.58	1.44	1.62	266	179	179
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	64	39	39
RRUS-32 RRH (Shielded)	27.2	1.8	7.0	0.34	1.32	15.11	3.89	1.67	1.26	13	39	39
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	65	28	28
RRUS-11 RRH (Shielded)	19.7	6.7	7.2	0.92	0.99	2.94	2.74	1.22	1.21	26	28	28

WIND LOADS WITH ICE:

800-10121 Antenna	59.2	15.0	10.6	6.16	4.36	3.95	5.59	1.26	1.34	48	36	36
TPA-65R-LCUUUU-H8 Antenna	100.7	19.1	13.3	13.35	9.30	5.27	7.57	1.32	1.42	109	82	82
SBNH-1D6565C Antenna	101.1	16.6	11.8	11.65	8.28	6.09	8.57	1.36	1.45	98	74	74
RRUS-32 RRH	31.9	16.8	11.7	3.72	2.59	1.90	2.73	1.20	1.21	28	19	19
RRUS-32 RRH (Shielded)	31.9	6.5	11.7	1.44	2.59	4.91	2.73	1.31	1.21	12	19	19
RRUS-11 RRH	24.4	21.7	11.9	3.68	2.02	1.12	2.05	1.20	1.20	27	15	15
RRUS-11 RRH (Shielded)	24.4	11.4	11.9	1.93	2.02	2.14	2.05	1.20	1.20	14	15	15

WIND LOADS AT 30 MPH:

800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	12	7	7
TPA-65R-LCUUUU-H8 Antenna	96.0	14.4	8.6	9.60	5.73	6.67	11.16	1.39	1.54	30	20	20
SBNH-1D6565C Antenna	96.4	11.9	7.1	7.97	4.75	8.10	13.58	1.44	1.62	26	17	17
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	4
RRUS-32 RRH (Shielded)	27.2	1.8	7.0	0.34	1.32	15.11	3.89	1.67	1.26	1	4	4
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	6	3	3
RRUS-11 RRH (Shielded)	19.7	6.7	7.2	0.92	0.99	2.94	2.74	1.22	1.21	2	3	3

Date: 5/21/2018
Project Name: Windsor Locks
Project Number: CT5270
Designed By: AK Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	120	(deg)	Ice Thickness =	2.35	in.	Equivalent Angle =	300	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	120	76	87
TPA-65R-LCUUUU-H8 Antenna	96.0	14.4	8.6	9.60	5.73	6.67	11.16	1.39	1.54	309	205	231
SBNH-1D6565C Antenna	96.4	11.9	7.1	7.97	4.75	8.10	13.58	1.44	1.62	266	179	200
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	64	39	45
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	49	39	41
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	65	28	37
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	49	28	33

WIND LOADS WITH ICE:

800-10121 Antenna	59.2	15.0	10.6	6.16	4.36	3.95	5.59	1.26	1.34	48	36	39
TPA-65R-LCUUUU-H8 Antenna	100.7	19.1	13.3	13.35	9.30	5.27	7.57	1.32	1.42	109	82	89
SBNH-1D6565C Antenna	101.1	16.6	11.8	11.65	8.28	6.09	8.57	1.36	1.45	98	74	80
RRUS-32 RRH	31.9	16.8	11.7	3.72	2.59	1.90	2.73	1.20	1.21	28	19	21
RRUS-32 RRH (Shielded)	31.9	12.6	11.7	2.79	2.59	2.53	2.73	1.20	1.21	21	19	20
RRUS-11 RRH	24.4	21.7	11.9	3.68	2.02	1.12	2.05	1.20	1.20	27	15	18
RRUS-11 RRH (Shielded)	24.4	16.3	11.9	2.76	2.02	1.50	2.05	1.20	1.20	20	15	16

WIND LOADS AT 30 MPH:

800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	12	7	8
TPA-65R-LCUUUU-H8 Antenna	96.0	14.4	8.6	9.60	5.73	6.67	11.16	1.39	1.54	30	20	22
SBNH-1D6565C Antenna	96.4	11.9	7.1	7.97	4.75	8.10	13.58	1.44	1.62	26	17	19
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	4
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	6	3	4
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	5	3	3

Date: 5/21/2018
Project Name: Windsor Locks
Project Number: CT5270
Designed By: AK Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	150	(deg)	Ice Thickness =	2.35	in.	Equivalent Angle =	330	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	120	76	109
TPA-65R-LCUUUU-H8 Antenna	96.0	14.4	8.6	9.60	5.73	6.67	11.16	1.39	1.54	309	205	283
SBNH-1D6565C Antenna	96.4	11.9	7.1	7.97	4.75	8.10	13.58	1.44	1.62	266	179	244
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	64	39	57
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	34	39	35
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	65	28	56
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	32	28	31

WIND LOADS WITH ICE:

800-10121 Antenna	59.2	15.0	10.6	6.16	4.36	3.95	5.59	1.26	1.34	48	36	45
TPA-65R-LCUUUU-H8 Antenna	100.7	19.1	13.3	13.35	9.30	5.27	7.57	1.32	1.42	109	82	102
SBNH-1D6565C Antenna	101.1	16.6	11.8	11.65	8.28	6.09	8.57	1.36	1.45	98	74	92
RRUS-32 RRH	31.9	16.8	11.7	3.72	2.59	1.90	2.73	1.20	1.21	28	19	26
RRUS-32 RRH (Shielded)	31.9	8.4	11.7	1.86	2.59	3.80	2.73	1.26	1.21	14	19	16
RRUS-11 RRH	24.4	21.7	11.9	3.68	2.02	1.12	2.05	1.20	1.20	27	15	24
RRUS-11 RRH (Shielded)	24.4	10.8	11.9	1.84	2.02	2.25	2.05	1.20	1.20	14	15	14

WIND LOADS AT 30 MPH:

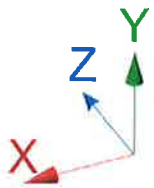
800-10121 Antenna	54.5	10.3	5.9	3.90	2.23	5.29	9.24	1.32	1.47	12	7	10
TPA-65R-LCUUUU-H8 Antenna	96.0	14.4	8.6	9.60	5.73	6.67	11.16	1.39	1.54	30	20	27
SBNH-1D6565C Antenna	96.4	11.9	7.1	7.97	4.75	8.10	13.58	1.44	1.62	26	17	23
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	6
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	3	4	3
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	6	3	5
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	3	3	3

HUDSON
Design Group LLC

Mount Calculations
(Unmodified 2C/3C Configuration)

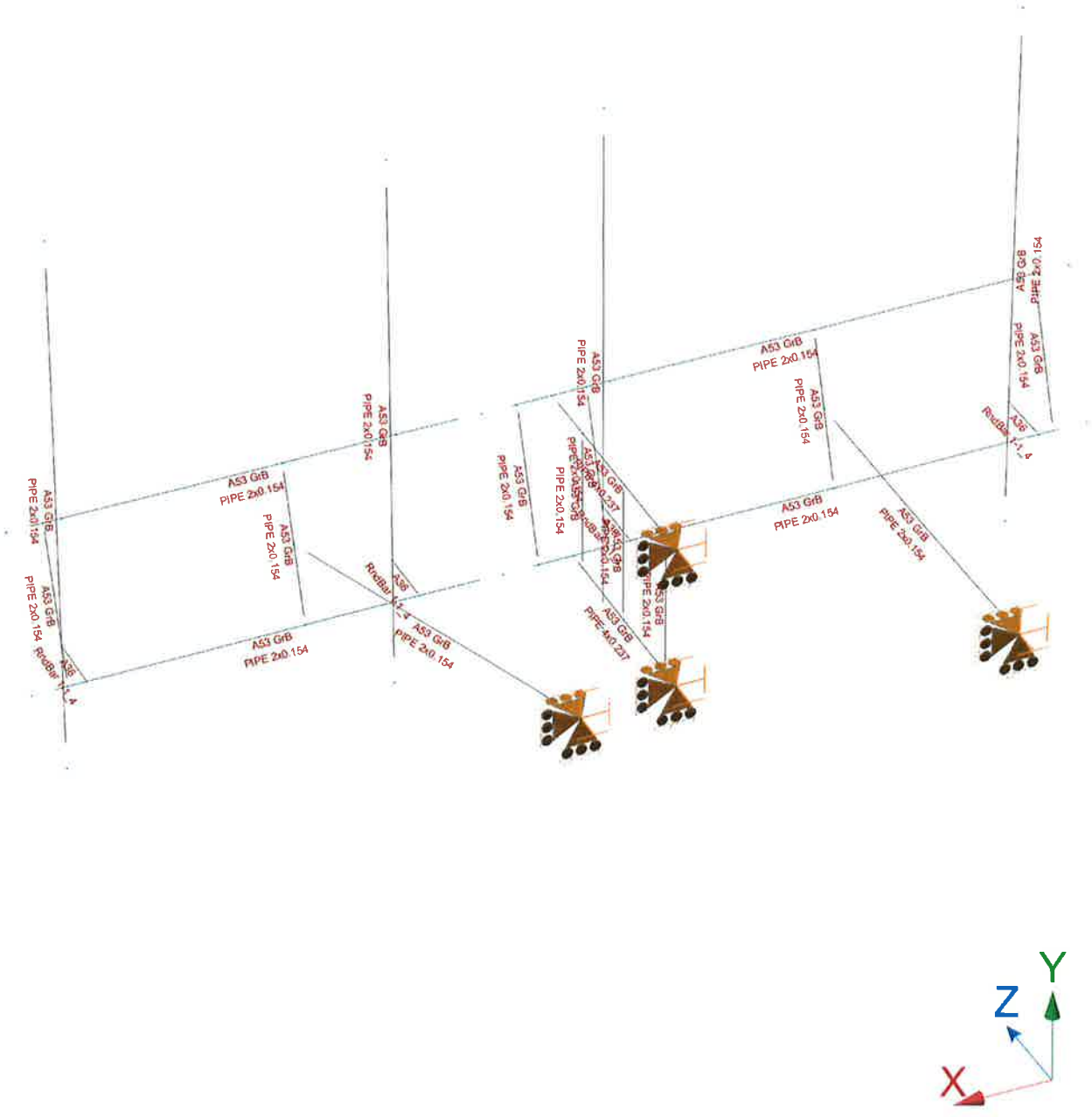
Bentley

Current Date: 5/18/2018 3:17 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5270\CT5270.etz\



Bentley

Current Date: 5/18/2018 3:17 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5270\CT5270.etz\



Bentley

Current Date: 5/21/2018 4:46 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5270\CT5270.etz\

Load data

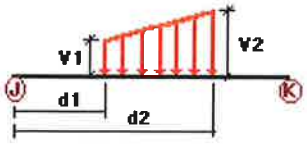
GLOSSARY

Comb : Indicates if load condition is a load combination

Load conditions

Condition	Description	Comb.	Category
D	Dead Load	No	DL
Wo	Wind Load (NO ICE)	No	WIND
W30	WL 30deg	No	WIND
W60	WL 60deg	No	WIND
W90	WL 90deg	No	WIND
W120	WL 120deg	No	WIND
W150	WL 150deg	No	WIND
Di	Ice Load	No	LL
WI0	WL ICE 0deg	No	WIND
WI30	WL ICE 30deg	No	WIND
WI60	WL ICE 60deg	No	WIND
WI90	WL ICE 90deg	No	WIND
WI120	WL ICE 120deg	No	WIND
WI150	WL ICE 150deg	No	WIND
WL0	WL 30 mph 0deg	No	WIND
WL30	WL 30 mph 30deg	No	WIND
WL60	WL 30 mph 60deg	No	WIND
WL90	WL 30 mph 90deg	No	WIND
WL120	WL 30 mph 120deg	No	WIND
WL150	WL 30 mph 150deg	No	WIND
LL1	250 lb Live Load	No	LL
LL2	500 lb Live Load	No	LL
W180	-Wo	Yes	
W210	-W30	Yes	
W240	-W60	Yes	
W270	-W90	Yes	
W300	-W120	Yes	
W330	-W150	Yes	
WI180	-WI0	Yes	
WI210	-WI30	Yes	
WI240	-WI60	Yes	
WI270	-WI90	Yes	
WI300	-WI120	Yes	
WI330	-WI150	Yes	
WL180	-WL0	Yes	
WL210	-WL30	Yes	
WL240	-WL60	Yes	
WL270	-WL90	Yes	
WL300	-WL120	Yes	
WL330	-WL150	Yes	

Distributed force on members

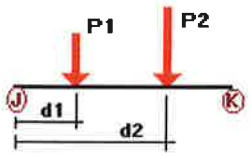


Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
Wo	6	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	7	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	8	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	9	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	11	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	25	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	26	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	28	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	29	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	38	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	39	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	40	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	41	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	60	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	61	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
W30	6	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	7	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	8	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	9	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	11	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	25	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	26	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	z	-0.006	-0.006	0.00	Yes	100.00	Yes
	28	z	-0.006	-0.006	0.00	Yes	100.00	Yes
	29	z	-0.006	-0.006	0.00	Yes	100.00	Yes
	38	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	39	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	40	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	41	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	60	z	-0.006	-0.006	0.00	Yes	100.00	Yes
	61	z	-0.006	-0.006	0.00	Yes	100.00	Yes
W60	6	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	7	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	8	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	9	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	11	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	25	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	26	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	28	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	29	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	38	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	39	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	40	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	41	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	60	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	61	X	-0.006	-0.006	0.00	Yes	100.00	Yes
W90	6	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	7	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	8	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	9	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	11	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	25	X	-0.01	-0.01	0.00	Yes	100.00	Yes

	26	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	28	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	29	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	38	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	39	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	40	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	41	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	60	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	61	X	-0.006	-0.006	0.00	Yes	100.00	Yes
W120	6	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	7	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	8	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	9	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	11	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	25	x	-0.01	-0.01	0.00	Yes	100.00	Yes
	26	x	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	28	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	29	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	38	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	39	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	40	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	41	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	60	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	61	X	-0.006	-0.006	0.00	Yes	100.00	Yes
W150	6	Z	0.006	0.006	0.00	Yes	100.00	Yes
	7	Z	0.006	0.006	0.00	Yes	100.00	Yes
	8	Z	0.006	0.006	0.00	Yes	100.00	Yes
	9	Z	0.006	0.006	0.00	Yes	100.00	Yes
	11	Z	0.006	0.006	0.00	Yes	100.00	Yes
	25	Z	0.01	0.01	0.00	Yes	100.00	Yes
	26	Z	0.01	0.01	0.00	Yes	100.00	Yes
	27	Z	0.006	0.006	0.00	Yes	100.00	Yes
	28	Z	0.006	0.006	0.00	Yes	100.00	Yes
	29	Z	0.006	0.006	0.00	Yes	100.00	Yes
	38	Z	0.006	0.006	0.00	Yes	100.00	Yes
	39	Z	0.006	0.006	0.00	Yes	100.00	Yes
	40	Z	0.006	0.006	0.00	Yes	100.00	Yes
	41	Z	0.006	0.006	0.00	Yes	100.00	Yes
	60	Z	0.006	0.006	0.00	Yes	100.00	Yes
	61	Z	0.006	0.006	0.00	Yes	100.00	Yes
Di	6	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	7	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	8	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	9	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	10	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	11	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	21	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	23	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	24	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	25	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	26	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	27	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	28	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	29	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	31	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
	32	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
	34	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
	38	Y	-0.004	-0.004	0.00	Yes	100.00	Yes

39	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
40	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
41	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
53	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
54	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
56	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
57	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
58	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
59	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
60	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
61	Y	-0.004	-0.004	0.00	Yes	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	21	y	-0.031	7.27	No
		y	-0.031	0.73	No
		y	-0.051	1.00	No
	23	y	-0.024	5.52	No
		y	-0.024	2.48	No
		y	-0.018	1.00	No
		y	-0.018	7.00	No
	57	y	-0.038	7.25	No
		y	-0.038	0.75	No
		y	-0.06	3.00	No
		y	-0.06	3.00	No
Wo	21	z	-0.133	7.27	No
		z	-0.133	0.73	No
		z	-0.026	1.00	No
	23	z	-0.06	5.52	No
		z	-0.06	2.48	No
	57	z	-0.155	7.25	No
		z	-0.155	0.75	No
		z	-0.013	3.00	No
		z	-0.013	3.00	No
W30	21	2	-0.123	7.27	No
		2	-0.123	0.73	No
		2	-0.031	1.00	No
	23	2	-0.055	5.52	No
		2	-0.055	2.48	No
	57	2	-0.142	7.25	No
		2	-0.142	0.75	No
		2	-0.035	3.00	No
		2	-0.035	3.00	No
W60	21	2	-0.101	7.27	No
		2	-0.101	0.73	No
		2	-0.033	1.00	No
	23	2	-0.044	5.52	No
		2	-0.044	2.48	No

	57	2	-0.116	7.25	No
		2	-0.116	0.75	No
		2	-0.041	3.00	No
		2	-0.041	3.00	No
W90	21	x	-0.09	7.27	No
		x	-0.09	0.73	No
		x	-0.028	3.00	No
	23	x	-0.039	5.52	No
		x	-0.039	2.48	No
	57	x	-0.103	7.25	No
		x	-0.103	0.75	No
		x	-0.039	3.00	No
		x	-0.039	3.00	No
W120	21	3	0.101	7.27	No
		3	0.101	0.73	No
		3	0.101	7.27	No
		3	0.101	0.73	No
	23	3	0.044	5.52	No
		3	0.044	2.48	No
	57	3	0.116	7.25	No
		3	0.116	0.75	No
		3	0.041	3.00	No
		3	0.041	3.00	No
W150	21	3	0.123	7.27	No
		3	0.123	0.73	No
		3	0.031	2.00	No
	23	3	0.055	5.52	No
		3	0.055	2.48	No
	57	3	0.142	7.25	No
		3	0.142	0.75	No
		3	0.035	2.00	No
		3	0.035	2.00	No
Di	21	y	-0.07	7.27	No
		y	-0.07	0.73	No
		y	-0.045	1.00	No
	23	y	-0.036	5.52	No
		y	-0.036	2.48	No
		y	-0.013	1.00	No
		y	-0.013	7.00	No
	57	y	-0.084	7.25	No
		y	-0.084	0.75	No
		y	-0.045	3.00	No
		y	-0.045	3.00	No
WI0	21	z	-0.052	7.27	No
		z	-0.052	0.73	No
		z	-0.015	1.00	No
	23	z	-0.026	5.52	No
		z	-0.026	2.48	No
	57	z	-0.058	7.25	No
		z	-0.058	0.75	No
		z	-0.015	3.00	No
		z	-0.015	3.00	No
WI30	21	2	-0.047	7.27	No
		2	-0.047	0.73	No
		2	-0.014	1.00	No
	23	2	-0.023	5.52	No
		2	-0.023	2.48	No
	57	2	-0.052	7.25	No
		2	-0.052	0.75	No
		2	-0.016	3.00	No

WI60	21	2	-0.041	7.27	No
		2	-0.041	0.73	No
		2	-0.016	1.00	No
	23	2	-0.02	5.52	No
		2	-0.02	2.48	No
	57	2	-0.045	7.25	No
		2	-0.045	0.75	No
		2	-0.02	3.00	No
		2	-0.02	3.00	No
WI90	21	x	-0.038	7.27	No
		x	-0.038	0.73	No
		x	-0.015	2.00	No
	23	x	-0.019	5.52	No
		x	-0.019	2.48	No
	57	x	-0.041	7.25	No
		x	-0.041	0.75	No
		x	-0.019	2.00	No
		x	-0.019	2.00	No
WI120	21	3	0.041	7.27	No
		3	0.041	0.73	No
		3	0.016	1.00	No
	23	3	0.02	5.52	No
		3	0.02	2.48	No
	57	3	0.045	7.25	No
		3	0.045	0.75	No
		3	0.02	3.00	No
WI150	21	3	0.047	7.27	No
		3	0.047	0.73	No
		3	0.014	2.00	No
	23	3	0.023	5.52	No
		3	0.023	2.48	No
	57	3	0.052	7.25	No
		3	0.052	0.75	No
		3	0.016	2.00	No
		3	0.016	2.00	No
WL0	21	z	-0.013	7.27	No
		z	-0.013	0.73	No
		z	-0.003	1.00	No
	23	z	-0.006	5.52	No
		z	-0.006	2.48	No
	57	z	-0.015	7.25	No
		z	-0.015	0.75	No
		z	-0.002	3.00	No
		z	-0.002	3.00	No
WL30	21	2	-0.012	7.27	No
		2	-0.012	0.73	No
		2	-0.003	1.00	No
	23	2	-0.006	5.52	No
		2	-0.006	2.48	No
	57	2	-0.014	7.25	No
		2	-0.014	0.75	No
		2	-0.004	3.00	No
		2	-0.004	3.00	No
WL60	21	2	-0.01	7.27	No
		2	-0.01	0.73	No
		2	-0.004	1.00	No
	23	2	-0.005	5.52	No
		2	-0.005	2.48	No
	57	2	-0.012	7.25	No
		2	-0.012	0.75	No

		2	-0.004	3.00	No
		2	-0.004	3.00	No
WL90	21	x	-0.009	7.27	No
		x	-0.009	0.73	No
		x	-0.003	2.00	No
	23	x	-0.004	5.52	No
		x	-0.004	2.48	No
	57	x	-0.01	7.25	No
		x	-0.01	0.75	No
		x	-0.004	2.00	No
		x	-0.004	2.00	No
WL120	21	3	0.01	7.27	No
		3	0.01	0.73	No
		3	0.004	1.00	No
	23	3	0.005	5.52	No
		3	0.005	2.48	No
	57	3	0.012	7.25	No
		3	0.012	0.75	No
		3	0.004	3.00	No
		3	0.004	3.00	No
WL150	21	3	0.012	7.27	No
		3	0.012	0.73	No
		3	0.003	2.00	No
	23	3	0.006	5.52	No
		3	0.006	2.48	No
	57	3	0.014	7.25	No
		3	0.014	0.75	No
		3	0.004	2.00	No
		3	0.004	2.00	No
LL1	38	y	-0.25	0.00	No
	40	y	-0.25	6.00	No
LL2	21	y	-0.50	4.00	No

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
D	Dead Load	No	0.00	-1.00	0.00
Wo	Wind Load (NO ICE)	No	0.00	0.00	0.00
W30	WL 30deg	No	0.00	0.00	0.00
W60	WL 60deg	No	0.00	0.00	0.00
W90	WL 90deg	No	0.00	0.00	0.00
W120	WL 120deg	No	0.00	0.00	0.00
W150	WL 150deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
WI0	WL ICE 0deg	No	0.00	0.00	0.00
WI30	WL ICE 30deg	No	0.00	0.00	0.00
WI60	WL ICE 60deg	No	0.00	0.00	0.00
WI90	WL ICE 90deg	No	0.00	0.00	0.00
WI120	WL ICE 120deg	No	0.00	0.00	0.00
WI150	WL ICE 150deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30deg	No	0.00	0.00	0.00
WL60	WL 30 mph 60deg	No	0.00	0.00	0.00
WL90	WL 30 mph 90deg	No	0.00	0.00	0.00

WL120	WL 30 mph 120deg	No	0.00	0.00	0.00
WL150	WL 30 mph 150deg	No	0.00	0.00	0.00
LL1	250 lb Live Load	No	0.00	0.00	0.00
LL2	500 lb Live Load	No	0.00	0.00	0.00
W180	-Wo	Yes	0.00	0.00	0.00
W210	-W30	Yes	0.00	0.00	0.00
W240	-W60	Yes	0.00	0.00	0.00
W270	-W90	Yes	0.00	0.00	0.00
W300	-W120	Yes	0.00	0.00	0.00
W330	-W150	Yes	0.00	0.00	0.00
WI180	-WI0	Yes	0.00	0.00	0.00
WI210	-WI30	Yes	0.00	0.00	0.00
WI240	-WI60	Yes	0.00	0.00	0.00
WI270	-WI90	Yes	0.00	0.00	0.00
WI300	-WI120	Yes	0.00	0.00	0.00
WI330	-WI150	Yes	0.00	0.00	0.00
WL180	-WL0	Yes	0.00	0.00	0.00
WL210	-WL30	Yes	0.00	0.00	0.00
WL240	-WL60	Yes	0.00	0.00	0.00
WL270	-WL90	Yes	0.00	0.00	0.00
WL300	-WL120	Yes	0.00	0.00	0.00
WL330	-WL150	Yes	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
D	0.00	0.00	0.00
Wo	0.00	0.00	0.00
W30	0.00	0.00	0.00
W60	0.00	0.00	0.00
W90	0.00	0.00	0.00
W120	0.00	0.00	0.00
W150	0.00	0.00	0.00
Di	0.00	0.00	0.00
WI0	0.00	0.00	0.00
WI30	0.00	0.00	0.00
WI60	0.00	0.00	0.00
WI90	0.00	0.00	0.00
WI120	0.00	0.00	0.00
WI150	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
WL60	0.00	0.00	0.00
WL90	0.00	0.00	0.00
WL120	0.00	0.00	0.00
WL150	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
W180	0.00	0.00	0.00
W210	0.00	0.00	0.00
W240	0.00	0.00	0.00
W270	0.00	0.00	0.00
W300	0.00	0.00	0.00
W330	0.00	0.00	0.00

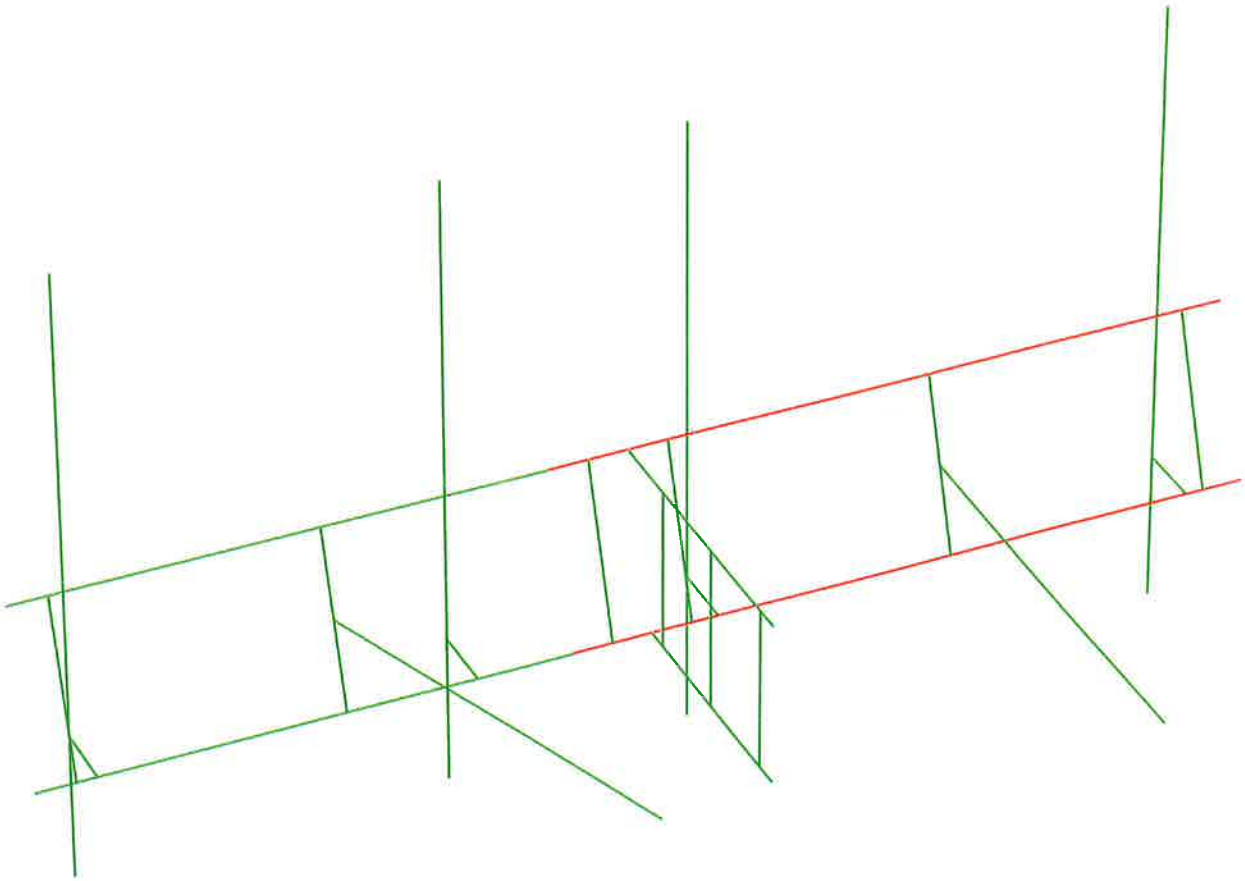
WI180	0.00	0.00	0.00
WI210	0.00	0.00	0.00
WI240	0.00	0.00	0.00
WI270	0.00	0.00	0.00
WI300	0.00	0.00	0.00
WI330	0.00	0.00	0.00
WL180	0.00	0.00	0.00
WL210	0.00	0.00	0.00
WL240	0.00	0.00	0.00
WL270	0.00	0.00	0.00
WL300	0.00	0.00	0.00
WL330	0.00	0.00	0.00

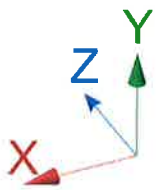
Bentley

Current Date: 5/18/2018 3:18 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5270\CT5270.etz\

Design status

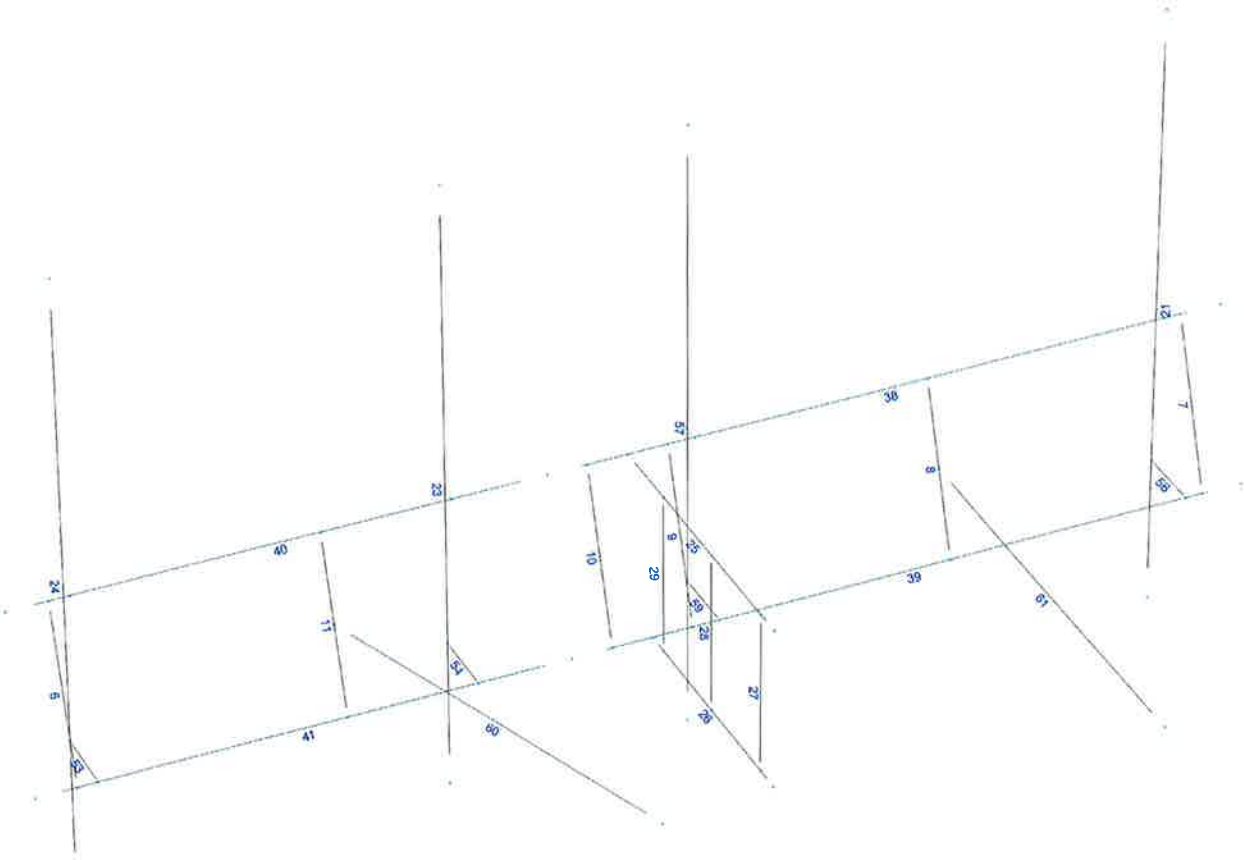
- Not designed
- Error on design
- Design O.K.
- With warnings

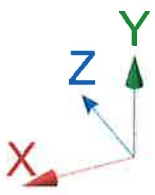




Bentley

Current Date: 5/18/2018 3:18 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5270\CT5270.etz\





Bentley

Current Date: 5/21/2018 4:46 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5270\CT5270.etz\

Steel Code Check

Report: Summary - For all selected load conditions

Load conditions to be included in design :

W180=-Wo
W210=-W30
W240=-W60
W270=-W90
W300=-W120
W330=-W150
WI180=-WI0
WI210=-WI30
WI240=-WI60
WI270=-WI90
WI300=-WI120
WI330=-WI150
WL180=-WL0
WL210=-WL30
WL240=-WL60
WL270=-WL90
WL300=-WL120
WL330=-WL150
LC1=1.2D+1.6Wo
LC2=1.2D+1.6W30
LC3=1.2D+1.6W60
LC4=1.2D+1.6W90
LC5=1.2D+1.6W120
LC6=1.2D+1.6W150
LC7=1.2D-1.6Wo
LC8=1.2D-1.6W30
LC9=1.2D-1.6W60
LC10=1.2D-1.6W90
LC11=1.2D-1.6W120
LC12=1.2D-1.6W150
LC13=0.9D+1.6Wo
LC14=0.9D+1.6W30
LC15=0.9D+1.6W60
LC16=0.9D+1.6W90
LC17=0.9D+1.6W120
LC18=0.9D+1.6W150
LC19=0.9D-1.6Wo
LC20=0.9D-1.6W30
LC21=0.9D-1.6W60
LC22=0.9D-1.6W90
LC23=0.9D-1.6W120
LC24=0.9D-1.6W150
LC25=1.2D+Di+WI0
LC26=1.2D+Di+WI30
LC27=1.2D+Di+WI60
LC28=1.2D+Di+WI90
LC29=1.2D+Di+WI120
LC30=1.2D+Di+WI150
LC31=1.2D+Di-WI0
LC32=1.2D+Di-WI30
LC33=1.2D+Di-WI60
LC34=1.2D+Di-WI90
LC35=1.2D+Di-WI120

LC36=1.2D+Di-WI150
LC37=0.9D
LC38=1.2D+1.6LL1
LC39=1.2D+1.6WL0+LL2
LC40=1.2D+1.6WL30+LL2
LC41=1.2D+1.6WL60+LL2
LC42=1.2D+1.6WL90+LL2
LC43=1.2D+1.6WL120+LL2
LC44=1.2D+1.6WL150+LL2
LC45=1.2D-1.6WL0+LL2
LC46=1.2D-1.6WL30+LL2
LC47=1.2D-1.6WL60+LL2
LC48=1.2D-1.6WL90+LL2
LC49=1.2D-1.6WL120+LL2
LC50=1.2D-1.6WL150+LL2

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	PIPE 2x0.154	**6**	LC1 at 0.00%	0.05	OK	Eq. H1-1b
			LC10 at 0.00%	0.04	OK	Eq. H1-1b
			LC11 at 0.00%	0.04	OK	Eq. H1-1b
			LC12 at 0.00%	0.05	OK	Eq. H1-1b
			LC13 at 0.00%	0.04	OK	Eq. H1-1b
			LC14 at 100.00%	0.04	OK	Eq. H1-1b
			LC15 at 100.00%	0.04	OK	Eq. H1-1b
			LC16 at 100.00%	0.03	OK	Eq. H1-1b
			LC17 at 100.00%	0.04	OK	Eq. H1-1b
			LC18 at 100.00%	0.03	OK	Eq. H1-1b
			LC19 at 100.00%	0.03	OK	Eq. H1-1b
			LC2 at 100.00%	0.05	OK	Eq. H1-1b
			LC20 at 100.00%	0.02	OK	Eq. H1-1b
			LC21 at 0.00%	0.03	OK	Eq. H1-1b
			LC22 at 0.00%	0.03	OK	Eq. H1-1b
			LC23 at 0.00%	0.03	OK	Eq. H1-1b
			LC24 at 0.00%	0.04	OK	Eq. H1-1b
			LC25 at 100.00%	0.08	OK	Eq. H1-1b
			LC26 at 100.00%	0.08	OK	Eq. H1-1b
			LC27 at 100.00%	0.08	OK	Eq. H1-1b
			LC28 at 100.00%	0.08	OK	Eq. H1-1b
			LC29 at 100.00%	0.08	OK	Eq. H1-1b
			LC3 at 100.00%	0.04	OK	Eq. H1-1b
			LC30 at 100.00%	0.08	OK	Eq. H1-1b
			LC31 at 100.00%	0.08	OK	Eq. H1-1b
			LC32 at 100.00%	0.08	OK	Eq. H1-1b
			LC33 at 100.00%	0.08	OK	Eq. H1-1b
			LC34 at 100.00%	0.08	OK	Eq. H1-1b
			LC35 at 100.00%	0.08	OK	Eq. H1-1b
			LC36 at 100.00%	0.08	OK	Eq. H1-1b
			LC37 at 100.00%	0.03	OK	Eq. H1-1b
			LC38 at 100.00%	**0.30**	**OK**	Eq. H1-1b
			LC39 at 100.00%	0.04	OK	Eq. H1-1b
			LC4 at 100.00%	0.04	OK	Eq. H1-1b
			LC40 at 100.00%	0.04	OK	Eq. H1-1b
			LC41 at 100.00%	0.04	OK	Eq. H1-1b
			LC42 at 100.00%	0.04	OK	Eq. H1-1b
			LC43 at 100.00%	0.04	OK	Eq. H1-1b
			LC44 at 100.00%	0.04	OK	Eq. H1-1b
			LC45 at 100.00%	0.04	OK	Eq. H1-1b
			LC46 at 100.00%	0.04	OK	Eq. H1-1b
			LC47 at 100.00%	0.04	OK	Eq. H1-1b
			LC48 at 100.00%	0.04	OK	Eq. H1-1b
			LC49 at 100.00%	0.04	OK	Eq. H1-1b
			LC5 at 100.00%	0.05	OK	Eq. H1-1b
			LC50 at 100.00%	0.04	OK	Eq. H1-1b
			LC6 at 100.00%	0.04	OK	Eq. H1-1b

	LC7 at 100.00%	0.04	OK	Eq. H1-1b
	LC8 at 100.00%	0.03	OK	Eq. H1-1b
	LC9 at 0.00%	0.04	OK	Eq. H1-1b
	W180 at 0.00%	0.01	OK	Eq. H1-1b
	W210 at 100.00%	0.01	OK	Eq. H1-1b
	W240 at 100.00%	0.00	OK	Eq. H1-1b
	W270 at 100.00%	0.00	OK	Eq. H1-1b
	W300 at 100.00%	0.00	OK	Eq. H1-1b
	W330 at 0.00%	0.01	OK	Eq. H1-1b
	WI180 at 100.00%	0.00	OK	Eq. H1-1b
	WI210 at 0.00%	0.00	OK	Eq. H1-1b
	WI240 at 0.00%	0.00	OK	Eq. H1-1b
	WI270 at 0.00%	0.00	OK	Eq. H1-1b
	WI300 at 100.00%	0.00	OK	Eq. H1-1b
	WI330 at 100.00%	0.00	OK	Eq. H1-1b
	WL180 at 100.00%	0.00	OK	Eq. H1-1b
	WL210 at 0.00%	0.00	OK	Eq. H1-1b
	WL240 at 0.00%	0.00	OK	Eq. H1-1b
	WL270 at 0.00%	0.00	OK	Eq. H1-1b
	WL300 at 100.00%	0.00	OK	Eq. H1-1b
	WL330 at 100.00%	0.00	OK	Eq. H1-1b
7	LC1 at 100.00%	0.28	OK	Eq. H1-1b
	LC10 at 100.00%	0.10	OK	Eq. H1-1b
	LC11 at 100.00%	0.29	OK	Eq. H1-1b
	LC12 at 100.00%	0.26	OK	Eq. H1-1b
	LC13 at 100.00%	0.25	OK	Eq. H1-1b
	LC14 at 0.00%	0.21	OK	Eq. H1-1b
	LC15 at 0.00%	0.18	OK	Eq. H1-1b
	LC16 at 0.00%	0.16	OK	Eq. H1-1b
	LC17 at 100.00%	0.13	OK	Eq. H1-1b
	LC18 at 100.00%	0.10	OK	Eq. H1-1b
	LC19 at 100.00%	0.11	OK	Eq. H1-1b
	LC2 at 0.00%	0.24	OK	Eq. H1-1b
	LC20 at 0.00%	0.05	OK	Eq. H1-1b
	LC21 at 100.00%	0.06	OK	Eq. H1-1b
	LC22 at 100.00%	0.07	OK	Eq. H1-1b
	LC23 at 100.00%	0.27	OK	Eq. H1-1b
	LC24 at 100.00%	0.24	OK	Eq. H1-1b
	LC25 at 100.00%	0.29	OK	Eq. H1-1b
	LC26 at 100.00%	0.29	OK	Eq. H1-1b
	LC27 at 100.00%	0.29	OK	Eq. H1-1b
	LC28 at 100.00%	0.29	OK	Eq. H1-1b
	LC29 at 100.00%	0.27	OK	Eq. H1-1b
	LC3 at 0.00%	0.21	OK	Eq. H1-1b
	LC30 at 100.00%	0.27	OK	Eq. H1-1b
	LC31 at 100.00%	0.27	OK	Eq. H1-1b
	LC32 at 100.00%	0.27	OK	Eq. H1-1b
	LC33 at 100.00%	0.27	OK	Eq. H1-1b
	LC34 at 100.00%	0.27	OK	Eq. H1-1b
	LC35 at 100.00%	0.29	OK	Eq. H1-1b
	LC36 at 100.00%	0.29	OK	Eq. H1-1b
	LC37 at 100.00%	0.09	OK	Eq. H1-1b
	LC38 at 0.00%	**0.45**	**OK**	Eq. H1-1b
	LC39 at 100.00%	0.44	OK	Eq. H1-1b
	LC4 at 0.00%	0.19	OK	Eq. H1-1b
	LC40 at 100.00%	0.44	OK	Eq. H1-1b
	LC41 at 100.00%	0.44	OK	Eq. H1-1b
	LC42 at 100.00%	0.44	OK	Eq. H1-1b
	LC43 at 100.00%	0.43	OK	Eq. H1-1b
	LC44 at 100.00%	0.43	OK	Eq. H1-1b
	LC45 at 100.00%	0.43	OK	Eq. H1-1b
	LC46 at 100.00%	0.43	OK	Eq. H1-1b
	LC47 at 100.00%	0.43	OK	Eq. H1-1b

	LC48 at 100.00%	0.44	OK	Eq. H1-1b
	LC49 at 100.00%	0.44	OK	Eq. H1-1b
	LC5 at 0.00%	0.12	OK	
	LC50 at 100.00%	0.44	OK	Eq. H1-1b
	LC6 at 0.00%	0.10	OK	
	LC7 at 0.00%	0.11	OK	
	LC8 at 100.00%	0.08	OK	Eq. H1-1b
	LC9 at 100.00%	0.09	OK	Eq. H1-1b
	W180 at 100.00%	0.11	OK	Eq. H1-1b
	W210 at 0.00%	0.08	OK	Eq. H1-1b
	W240 at 0.00%	0.07	OK	Eq. H1-1b
	W270 at 0.00%	0.05	OK	Eq. H1-1b
	W300 at 100.00%	0.13	OK	Eq. H1-1b
	W330 at 100.00%	0.11	OK	Eq. H1-1b
	WI180 at 100.00%	0.05	OK	Eq. H1-1b
	WI210 at 0.00%	0.03	OK	Eq. H1-1b
	WI240 at 0.00%	0.03	OK	Eq. H1-1b
	WI270 at 0.00%	0.02	OK	Eq. H1-1b
	WI300 at 100.00%	0.04	OK	Eq. H1-1b
	WI330 at 100.00%	0.04	OK	Eq. H1-1b
	WL180 at 100.00%	0.01	OK	Eq. H1-1b
	WL210 at 0.00%	0.01	OK	Eq. H1-1b
	WL240 at 0.00%	0.01	OK	Eq. H1-1b
	WL270 at 0.00%	0.01	OK	Eq. H1-1b
	WL300 at 100.00%	0.01	OK	Eq. H1-1b
	WL330 at 100.00%	0.01	OK	Eq. H1-1b
8	LC1 at 46.88%	0.58	OK	Eq. H3-6
	LC10 at 0.00%	0.31	OK	Eq. H1-1b
	LC11 at 46.88%	0.66	OK	Eq. H3-6
	LC12 at 46.88%	0.48	OK	Eq. H1-1b
	LC13 at 46.88%	0.59	OK	Eq. H3-6
	LC14 at 100.00%	0.20	OK	Eq. H1-1b
	LC15 at 100.00%	0.17	OK	Eq. H1-1b
	LC16 at 100.00%	0.17	OK	Eq. H1-1b
	LC17 at 46.88%	0.77	OK	Eq. H3-6
	LC18 at 46.88%	0.64	OK	Eq. H3-6
	LC19 at 46.88%	0.67	OK	Eq. H3-6
	LC2 at 100.00%	0.26	OK	Eq. H1-1b
	LC20 at 0.00%	0.26	OK	Eq. H1-1b
	LC21 at 0.00%	0.25	OK	Eq. H1-1b
	LC22 at 0.00%	0.25	OK	Eq. H1-1b
	LC23 at 46.88%	0.67	OK	Eq. H3-6
	LC24 at 46.88%	0.56	OK	Eq. H3-6
	LC25 at 0.00%	0.53	OK	Eq. H1-1b
	LC26 at 0.00%	0.51	OK	Eq. H1-1b
	LC27 at 0.00%	0.51	OK	Eq. H1-1b
	LC28 at 0.00%	0.51	OK	Eq. H1-1b
	LC29 at 0.00%	0.61	OK	Eq. H3-6
	LC3 at 100.00%	0.23	OK	Eq. H1-1b
	LC30 at 0.00%	0.61	OK	Eq. H3-6
	LC31 at 0.00%	0.62	OK	Eq. H3-6
	LC32 at 0.00%	0.54	OK	Eq. H1-1b
	LC33 at 0.00%	0.54	OK	Eq. H1-1b
	LC34 at 0.00%	0.54	OK	Eq. H1-1b
	LC35 at 0.00%	0.53	OK	Eq. H1-1b
	LC36 at 0.00%	0.53	OK	Eq. H1-1b
	LC37 at 0.00%	0.18	OK	Eq. H1-1b
	LC38 at 100.00%	0.70	OK	Eq. H1-1b
	LC39 at 0.00%	0.86	OK	Eq. H3-6
	LC4 at 100.00%	0.23	OK	Eq. H1-1b
	LC40 at 0.00%	0.87	OK	Eq. H3-6
	LC41 at 0.00%	0.87	OK	Eq. H3-6
	LC42 at 0.00%	0.87	OK	Eq. H3-6

	LC43 at 0.00%	0.90	OK	Eq. H3-6
	LC44 at 0.00%	0.90	OK	Eq. H3-6
	LC45 at 0.00%	**0.90**	**OK**	Eq. H3-6
	LC46 at 0.00%	0.88	OK	Eq. H3-6
	LC47 at 0.00%	0.88	OK	Eq. H3-6
	LC48 at 0.00%	0.88	OK	Eq. H3-6
	LC49 at 0.00%	0.86	OK	Eq. H3-6
	LC5 at 46.88%	0.79	OK	Eq. H3-6
	LC50 at 0.00%	0.86	OK	Eq. H3-6
	LC6 at 46.88%	0.66	OK	Eq. H3-6
	LC7 at 46.88%	0.69	OK	Eq. H3-6
	LC8 at 0.00%	0.32	OK	Eq. H1-1b
	LC9 at 0.00%	0.31	OK	Eq. H1-1b
	W180 at 46.88%	0.30	OK	Eq. H1-1b
	W210 at 46.88%	0.11	OK	Eq. H1-1b
	W240 at 46.88%	0.08	OK	Eq. H1-1b
	W270 at 46.88%	0.07	OK	Eq. H1-1b
	W300 at 46.88%	0.40	OK	Eq. H3-6
	W330 at 46.88%	0.29	OK	Eq. H1-1b
	WI180 at 46.88%	0.11	OK	Eq. H1-1b
	WI210 at 46.88%	0.03	OK	Eq. H1-1b
	WI240 at 46.88%	0.03	OK	Eq. H1-1b
	WI270 at 46.88%	0.02	OK	Eq. H1-1b
	WI300 at 46.88%	0.09	OK	Eq. H1-1b
	WI330 at 46.88%	0.10	OK	Eq. H1-1b
	WL180 at 46.88%	0.03	OK	Eq. H1-1b
	WL210 at 46.88%	0.01	OK	Eq. H1-1b
	WL240 at 46.88%	0.01	OK	Eq. H1-1b
	WL270 at 46.88%	0.01	OK	Eq. H1-1b
	WL300 at 46.88%	0.02	OK	Eq. H1-1b
	WL330 at 46.88%	0.03	OK	Eq. H1-1b
9	LC1 at 0.00%	0.16	OK	Eq. H1-1b
	LC10 at 100.00%	0.22	OK	Eq. H1-1b
	LC11 at 0.00%	0.11	OK	Eq. H1-1b
	LC12 at 0.00%	0.17	OK	Eq. H1-1b
	LC13 at 0.00%	0.13	OK	Eq. H1-1b
	LC14 at 100.00%	0.10	OK	Eq. H1-1b
	LC15 at 100.00%	0.09	OK	Eq. H1-1b
	LC16 at 0.00%	0.10	OK	Eq. H1-1b
	LC17 at 100.00%	0.31	OK	Eq. H1-1b
	LC18 at 100.00%	0.31	OK	Eq. H1-1b
	LC19 at 100.00%	0.31	OK	Eq. H1-1b
	LC2 at 100.00%	0.14	OK	Eq. H1-1b
	LC20 at 100.00%	0.17	OK	Eq. H1-1b
	LC21 at 100.00%	0.18	OK	Eq. H1-1b
	LC22 at 100.00%	0.17	OK	Eq. H1-1b
	LC23 at 0.00%	0.11	OK	Eq. H1-1b
	LC24 at 0.00%	0.14	OK	Eq. H1-1b
	LC25 at 100.00%	0.35	OK	Eq. H1-1b
	LC26 at 100.00%	0.39	OK	Eq. H1-1b
	LC27 at 100.00%	0.38	OK	Eq. H1-1b
	LC28 at 100.00%	0.39	OK	Eq. H1-1b
	LC29 at 100.00%	0.43	OK	Eq. H1-1b
	LC3 at 0.00%	0.13	OK	Eq. H1-1b
	LC30 at 100.00%	0.43	OK	Eq. H1-1b
	LC31 at 100.00%	**0.44**	**OK**	Eq. H1-1b
	LC32 at 100.00%	0.40	OK	Eq. H1-1b
	LC33 at 100.00%	0.40	OK	Eq. H1-1b
	LC34 at 100.00%	0.40	OK	Eq. H1-1b
	LC35 at 100.00%	0.36	OK	Eq. H1-1b
	LC36 at 100.00%	0.35	OK	Eq. H1-1b
	LC37 at 100.00%	0.14	OK	Eq. H1-1b
	LC38 at 100.00%	0.42	OK	Eq. H1-1b

	LC39 at 100.00%	0.35	OK	Eq. H1-1b
	LC4 at 100.00%	0.16	OK	Eq. H1-1b
	LC40 at 100.00%	0.36	OK	Eq. H1-1b
	LC41 at 100.00%	0.36	OK	Eq. H1-1b
	LC42 at 100.00%	0.36	OK	Eq. H1-1b
	LC43 at 100.00%	0.38	OK	Eq. H1-1b
	LC44 at 100.00%	0.38	OK	Eq. H1-1b
	LC45 at 100.00%	0.38	OK	Eq. H1-1b
	LC46 at 100.00%	0.37	OK	Eq. H1-1b
	LC47 at 100.00%	0.37	OK	Eq. H1-1b
	LC48 at 100.00%	0.37	OK	Eq. H1-1b
	LC49 at 100.00%	0.35	OK	Eq. H1-1b
	LC5 at 100.00%	0.36	OK	Eq. H1-1b
	LC50 at 100.00%	0.35	OK	Eq. H1-1b
	LC6 at 100.00%	0.35	OK	Eq. H1-1b
	LC7 at 100.00%	0.35	OK	Eq. H1-1b
	LC8 at 100.00%	0.22	OK	Eq. H1-1b
	LC9 at 100.00%	0.23	OK	Eq. H1-1b
	W180 at 0.00%	0.12	OK	Eq. H1-1b
	W210 at 100.00%	0.07	OK	Eq. H1-1b
	W240 at 100.00%	0.06	OK	Eq. H1-1b
	W270 at 100.00%	0.05	OK	Eq. H1-1b
	W300 at 0.00%	0.13	OK	Eq. H1-1b
	W330 at 0.00%	0.12	OK	Eq. H1-1b
	WI180 at 0.00%	0.05	OK	Eq. H1-1b
	WI210 at 100.00%	0.02	OK	Eq. H1-1b
	WI240 at 100.00%	0.02	OK	Eq. H1-1b
	WI270 at 100.00%	0.02	OK	Eq. H1-1b
	WI300 at 0.00%	0.04	OK	Eq. H1-1b
	WI330 at 0.00%	0.04	OK	Eq. H1-1b
	WL180 at 0.00%	0.01	OK	Eq. H1-1b
	WL210 at 100.00%	0.01	OK	Eq. H1-1b
	WL240 at 100.00%	0.01	OK	Eq. H1-1b
	WL270 at 100.00%	0.01	OK	Eq. H1-1b
	WL300 at 0.00%	0.01	OK	Eq. H1-1b
	WL330 at 0.00%	0.01	OK	Eq. H1-1b
10	LC1 at 100.00%	0.15	OK	Eq. H1-1b
	LC10 at 100.00%	0.13	OK	Eq. H1-1b
	LC11 at 100.00%	0.15	OK	Eq. H1-1b
	LC12 at 100.00%	0.15	OK	Eq. H1-1b
	LC13 at 100.00%	0.11	OK	Eq. H1-1b
	LC14 at 100.00%	0.19	OK	Eq. H1-1b
	LC15 at 100.00%	0.19	OK	Eq. H1-1b
	LC16 at 100.00%	0.18	OK	Eq. H1-1b
	LC17 at 100.00%	0.16	OK	Eq. H1-1b
	LC18 at 100.00%	0.16	OK	Eq. H1-1b
	LC19 at 100.00%	0.16	OK	Eq. H1-1b
	LC2 at 100.00%	0.24	OK	Eq. H1-1b
	LC20 at 100.00%	0.07	OK	Eq. H1-1b
	LC21 at 100.00%	0.07	OK	Eq. H1-1b
	LC22 at 100.00%	0.08	OK	Eq. H1-1b
	LC23 at 100.00%	0.11	OK	Eq. H1-1b
	LC24 at 100.00%	0.11	OK	Eq. H1-1b
	LC25 at 100.00%	0.36	OK	Eq. H1-1b
	LC26 at 100.00%	0.38	OK	Eq. H1-1b
	LC27 at 100.00%	0.38	OK	Eq. H1-1b
	LC28 at 100.00%	0.38	OK	Eq. H1-1b
	LC29 at 100.00%	0.38	OK	Eq. H1-1b
	LC3 at 100.00%	0.24	OK	Eq. H1-1b
	LC30 at 100.00%	0.38	OK	Eq. H1-1b
	LC31 at 100.00%	0.38	OK	Eq. H1-1b
	LC32 at 100.00%	0.36	OK	Eq. H1-1b
	LC33 at 100.00%	0.35	OK	Eq. H1-1b

	LC34 at 100.00%	0.36	OK	Eq. H1-1b
	LC35 at 100.00%	0.36	OK	Eq. H1-1b
	LC36 at 100.00%	0.36	OK	Eq. H1-1b
	LC37 at 100.00%	0.13	OK	Eq. H1-1b
	LC38 at 100.00%	**0.43**	**OK**	Eq. H1-1b
	LC39 at 100.00%	0.32	OK	Eq. H1-1b
	LC4 at 100.00%	0.23	OK	Eq. H1-1b
	LC40 at 100.00%	0.33	OK	Eq. H1-1b
	LC41 at 100.00%	0.32	OK	Eq. H1-1b
	LC42 at 100.00%	0.32	OK	Eq. H1-1b
	LC43 at 100.00%	0.32	OK	Eq. H1-1b
	LC44 at 100.00%	0.32	OK	Eq. H1-1b
	LC45 at 100.00%	0.32	OK	Eq. H1-1b
	LC46 at 100.00%	0.31	OK	Eq. H1-1b
	LC47 at 100.00%	0.31	OK	Eq. H1-1b
	LC48 at 100.00%	0.31	OK	Eq. H1-1b
	LC49 at 100.00%	0.32	OK	Eq. H1-1b
	LC5 at 100.00%	0.21	OK	Eq. H1-1b
	LC50 at 100.00%	0.32	OK	Eq. H1-1b
	LC6 at 100.00%	0.21	OK	Eq. H1-1b
	LC7 at 100.00%	0.21	OK	Eq. H1-1b
	LC8 at 100.00%	0.11	OK	Eq. H1-1b
	LC9 at 100.00%	0.11	OK	Eq. H1-1b
	W180 at 0.00%	0.03	OK	Eq. H1-1b
	W210 at 0.00%	0.07	OK	Eq. H1-1b
	W240 at 0.00%	0.07	OK	Eq. H1-1b
	W270 at 0.00%	0.06	OK	Eq. H1-1b
	W300 at 0.00%	0.03	OK	Eq. H1-1b
	W330 at 0.00%	0.03	OK	Eq. H1-1b
	WI180 at 0.00%	0.01	OK	Eq. H1-1b
	WI210 at 0.00%	0.03	OK	Eq. H1-1b
	WI240 at 0.00%	0.03	OK	Eq. H1-1b
	WI270 at 0.00%	0.03	OK	Eq. H1-1b
	WI300 at 0.00%	0.01	OK	Eq. H1-1b
	WI330 at 0.00%	0.01	OK	Eq. H1-1b
	WL180 at 0.00%	0.00	OK	Eq. H1-1b
	WL210 at 0.00%	0.01	OK	Eq. H1-1b
	WL240 at 0.00%	0.01	OK	Eq. H1-1b
	WL270 at 0.00%	0.01	OK	Eq. H1-1b
	WL300 at 0.00%	0.00	OK	Eq. H1-1b
	WL330 at 0.00%	0.00	OK	Eq. H1-1b
11	LC1 at 0.00%	0.12	OK	Eq. H1-1b
	LC10 at 100.00%	0.08	OK	Eq. H1-1b
	LC11 at 100.00%	0.10	OK	Eq. H1-1b
	LC12 at 0.00%	0.13	OK	Eq. H1-1b
	LC13 at 46.88%	0.13	OK	Eq. H1-1b
	LC14 at 0.00%	0.14	OK	Eq. H1-1b
	LC15 at 100.00%	0.15	OK	Eq. H1-1b
	LC16 at 100.00%	0.15	OK	Eq. H1-1b
	LC17 at 100.00%	0.11	OK	Eq. H1-1b
	LC18 at 46.88%	0.16	OK	Eq. H1-1b
	LC19 at 46.88%	0.17	OK	Eq. H1-1b
	LC2 at 0.00%	0.16	OK	Eq. H1-1b
	LC20 at 50.00%	0.11	OK	Eq. H1-1b
	LC21 at 46.88%	0.08	OK	Eq. H1-1b
	LC22 at 46.88%	0.07	OK	Eq. H1-1b
	LC23 at 0.00%	0.07	OK	Eq. H1-1b
	LC24 at 46.88%	0.12	OK	Eq. H1-1b
	LC25 at 100.00%	0.24	OK	Eq. H1-1b
	LC26 at 100.00%	0.25	OK	Eq. H1-1b
	LC27 at 100.00%	0.25	OK	Eq. H1-1b
	LC28 at 100.00%	0.25	OK	Eq. H1-1b
	LC29 at 100.00%	0.24	OK	Eq. H1-1b

	LC3 at 100.00%	0.18	OK	Eq. H1-1b
	LC30 at 100.00%	0.24	OK	Eq. H1-1b
	LC31 at 100.00%	0.24	OK	Eq. H1-1b
	LC32 at 100.00%	0.23	OK	Eq. H1-1b
	LC33 at 100.00%	0.23	OK	Eq. H1-1b
	LC34 at 100.00%	0.23	OK	Eq. H1-1b
	LC35 at 100.00%	0.24	OK	Eq. H1-1b
	LC36 at 100.00%	0.24	OK	Eq. H1-1b
	LC37 at 100.00%	0.09	OK	Eq. H1-1b
	LC38 at 100.00%	**0.56**	**OK**	Eq. H1-1b
	LC39 at 100.00%	0.17	OK	Eq. H1-1b
	LC4 at 100.00%	0.18	OK	Eq. H1-1b
	LC40 at 100.00%	0.18	OK	Eq. H1-1b
	LC41 at 100.00%	0.18	OK	Eq. H1-1b
	LC42 at 100.00%	0.18	OK	Eq. H1-1b
	LC43 at 100.00%	0.18	OK	Eq. H1-1b
	LC44 at 100.00%	0.18	OK	Eq. H1-1b
	LC45 at 100.00%	0.18	OK	Eq. H1-1b
	LC46 at 100.00%	0.17	OK	Eq. H1-1b
	LC47 at 100.00%	0.17	OK	Eq. H1-1b
	LC48 at 100.00%	0.17	OK	Eq. H1-1b
	LC49 at 100.00%	0.18	OK	Eq. H1-1b
	LC5 at 100.00%	0.14	OK	Eq. H1-1b
	LC50 at 100.00%	0.18	OK	Eq. H1-1b
	LC6 at 46.88%	0.16	OK	Eq. H1-1b
	LC7 at 46.88%	0.17	OK	Eq. H1-1b
	LC8 at 50.00%	0.12	OK	Eq. H1-1b
	LC9 at 100.00%	0.08	OK	Eq. H1-1b
	W180 at 46.88%	0.09	OK	Eq. H1-1b
	W210 at 50.00%	0.05	OK	Eq. H1-1b
	W240 at 46.88%	0.06	OK	Eq. H1-1b
	W270 at 46.88%	0.05	OK	Eq. H1-1b
	W300 at 46.88%	0.05	OK	Eq. H1-1b
	W330 at 46.88%	0.09	OK	Eq. H1-1b
	WI180 at 46.88%	0.02	OK	Eq. H1-1b
	WI210 at 46.88%	0.02	OK	Eq. H1-1b
	WI240 at 46.88%	0.02	OK	Eq. H1-1b
	WI270 at 46.88%	0.02	OK	Eq. H1-1b
	WI300 at 46.88%	0.01	OK	Eq. H1-1b
	WI330 at 46.88%	0.02	OK	Eq. H1-1b
	WL180 at 46.88%	0.00	OK	Eq. H1-1b
	WL210 at 46.88%	0.01	OK	Eq. H1-1b
	WL240 at 46.88%	0.00	OK	Eq. H1-1b
	WL270 at 46.88%	0.00	OK	Eq. H1-1b
	WL300 at 46.88%	0.00	OK	Eq. H1-1b
	WL330 at 46.88%	0.00	OK	Eq. H1-1b
21	LC1 at 47.92%	0.63	OK	Eq. H1-1b
	LC10 at 47.92%	0.39	OK	Eq. H1-1b
	LC11 at 47.92%	0.81	OK	Eq. H1-1b
	LC12 at 47.92%	0.57	OK	Eq. H1-1b
	LC13 at 47.92%	0.63	OK	Eq. H1-1b
	LC14 at 47.92%	0.61	OK	Eq. H1-1b
	LC15 at 47.92%	0.53	OK	Eq. H1-1b
	LC16 at 47.92%	0.39	OK	Eq. H1-1b
	LC17 at 47.92%	0.81	OK	Eq. H1-1b
	LC18 at 47.92%	0.57	OK	Eq. H1-1b
	LC19 at 47.92%	0.63	OK	Eq. H1-1b
	LC2 at 47.92%	0.61	OK	Eq. H1-1b
	LC20 at 47.92%	0.61	OK	Eq. H1-1b
	LC21 at 47.92%	0.53	OK	Eq. H1-1b
	LC22 at 47.92%	0.39	OK	Eq. H1-1b
	LC23 at 47.92%	0.81	OK	Eq. H1-1b
	LC24 at 47.92%	0.57	OK	Eq. H1-1b

	LC25 at 47.92%	0.18	OK	Eq. H1-1b
	LC26 at 50.00%	0.20	OK	Eq. H1-1b
	LC27 at 50.00%	0.19	OK	Eq. H1-1b
	LC28 at 50.00%	0.17	OK	Eq. H1-1b
	LC29 at 50.00%	0.19	OK	Eq. H1-1b
	LC3 at 47.92%	0.53	OK	Eq. H1-1b
	LC30 at 50.00%	0.19	OK	Eq. H1-1b
	LC31 at 50.00%	0.21	OK	Eq. H1-1b
	LC32 at 47.92%	0.16	OK	Eq. H1-1b
	LC33 at 47.92%	0.15	OK	Eq. H1-1b
	LC34 at 47.92%	0.13	OK	Eq. H1-1b
	LC35 at 47.92%	0.15	OK	Eq. H1-1b
	LC36 at 47.92%	0.15	OK	Eq. H1-1b
	LC37 at 50.00%	0.03	OK	Eq. H1-1b
	LC38 at 50.00%	0.13	OK	Eq. H1-1b
	LC39 at 50.00%	0.12	OK	Eq. H1-1b
	LC4 at 47.92%	0.39	OK	Eq. H1-1b
	LC40 at 50.00%	0.18	OK	Eq. H1-1b
	LC41 at 50.00%	0.18	OK	Eq. H1-1b
	LC42 at 50.00%	0.17	OK	Eq. H1-1b
	LC43 at 50.00%	0.18	OK	Eq. H1-1b
	LC44 at 50.00%	0.18	OK	Eq. H1-1b
	LC45 at 50.00%	0.19	OK	Eq. H1-1b
	LC46 at 50.00%	0.10	OK	Eq. H1-1b
	LC47 at 50.00%	0.10	OK	Eq. H1-1b
	LC48 at 50.00%	0.11	OK	Eq. H1-1b
	LC49 at 50.00%	0.12	OK	Eq. H1-1b
	LC5 at 47.92%	**0.81**	**OK**	Eq. H1-1b
	LC50 at 50.00%	0.12	OK	Eq. H1-1b
	LC6 at 47.92%	0.57	OK	Eq. H1-1b
	LC7 at 47.92%	0.63	OK	Eq. H1-1b
	LC8 at 47.92%	0.61	OK	Eq. H1-1b
	LC9 at 47.92%	0.53	OK	Eq. H1-1b
	W180 at 47.92%	0.39	OK	Sec. F1
	W210 at 47.92%	0.38	OK	Sec. F1
	W240 at 47.92%	0.33	OK	Sec. F1
	W270 at 47.92%	0.24	OK	Sec. F1
	W300 at 47.92%	0.50	OK	Sec. F1
	W330 at 47.92%	0.35	OK	Sec. F1
	WI180 at 47.92%	0.16	OK	Sec. F1
	WI210 at 47.92%	0.15	OK	Sec. F1
	WI240 at 47.92%	0.14	OK	Sec. F1
	WI270 at 47.92%	0.12	OK	Sec. F1
	WI300 at 47.92%	0.14	OK	Sec. F1
	WI330 at 47.92%	0.14	OK	Sec. F1
	WL180 at 47.92%	0.04	OK	Sec. F1
	WL210 at 47.92%	0.04	OK	Sec. F1
	WL240 at 47.92%	0.03	OK	Sec. F1
	WL270 at 47.92%	0.03	OK	Sec. F1
	WL300 at 47.92%	0.03	OK	Sec. F1
	WL330 at 47.92%	0.03	OK	Sec. F1
23	LC1 at 50.00%	0.13	OK	Eq. H1-1b
	LC10 at 50.00%	0.11	OK	Eq. H1-1b
	LC11 at 50.00%	0.11	OK	Eq. H1-1b
	LC12 at 50.00%	0.13	OK	Eq. H1-1b
	LC13 at 50.00%	0.12	OK	Eq. H1-1b
	LC14 at 47.92%	0.10	OK	Eq. H1-1b
	LC15 at 47.92%	0.08	OK	Eq. H1-1b
	LC16 at 47.92%	0.07	OK	Eq. H1-1b
	LC17 at 50.00%	0.13	OK	Eq. H1-1b
	LC18 at 50.00%	0.15	OK	Eq. H1-1b
	LC19 at 50.00%	0.16	OK	Eq. H1-1b
	LC2 at 47.92%	0.10	OK	Eq. H1-1b

	LC20 at 50.00%	0.13	OK	Eq. H1-1b
	LC21 at 50.00%	0.10	OK	Eq. H1-1b
	LC22 at 50.00%	0.10	OK	Eq. H1-1b
	LC23 at 50.00%	0.10	OK	Eq. H1-1b
	LC24 at 50.00%	0.12	OK	Eq. H1-1b
	LC25 at 50.00%	0.12	OK	Eq. H1-1b
	LC26 at 50.00%	0.12	OK	Eq. H1-1b
	LC27 at 50.00%	0.12	OK	Eq. H1-1b
	LC28 at 50.00%	0.12	OK	Eq. H1-1b
	LC29 at 50.00%	0.16	OK	Eq. H1-1b
	LC3 at 47.92%	0.08	OK	Eq. H1-1b
	LC30 at 50.00%	0.16	OK	Eq. H1-1b
	LC31 at 50.00%	0.17	OK	Eq. H1-1b
	LC32 at 50.00%	0.16	OK	Eq. H1-1b
	LC33 at 50.00%	0.15	OK	Eq. H1-1b
	LC34 at 50.00%	0.15	OK	Eq. H1-1b
	LC35 at 50.00%	0.12	OK	Eq. H1-1b
	LC36 at 50.00%	0.12	OK	Eq. H1-1b
	LC37 at 50.00%	0.05	OK	Eq. H1-1b
	LC38 at 50.00%	**0.22**	**OK**	Eq. H1-1b
	LC39 at 50.00%	0.09	OK	Eq. H1-1b
	LC4 at 47.92%	0.07	OK	Eq. H1-1b
	LC40 at 50.00%	0.08	OK	Eq. H1-1b
	LC41 at 50.00%	0.08	OK	Eq. H1-1b
	LC42 at 50.00%	0.08	OK	Eq. H1-1b
	LC43 at 50.00%	0.09	OK	Eq. H1-1b
	LC44 at 50.00%	0.09	OK	Eq. H1-1b
	LC45 at 50.00%	0.09	OK	Eq. H1-1b
	LC46 at 50.00%	0.09	OK	Eq. H1-1b
	LC47 at 50.00%	0.09	OK	Eq. H1-1b
	LC48 at 50.00%	0.09	OK	Eq. H1-1b
	LC49 at 50.00%	0.08	OK	Eq. H1-1b
	LC5 at 50.00%	0.15	OK	Eq. H1-1b
	LC50 at 50.00%	0.09	OK	Eq. H1-1b
	LC6 at 50.00%	0.17	OK	Eq. H1-1b
	LC7 at 50.00%	0.18	OK	Eq. H1-1b
	LC8 at 50.00%	0.15	OK	Eq. H1-1b
	LC9 at 50.00%	0.12	OK	Eq. H1-1b
	W180 at 50.00%	0.07	OK	Eq. H1-1b
	W210 at 47.92%	0.06	OK	Sec. F1
	W240 at 47.92%	0.05	OK	Sec. F1
	W270 at 47.92%	0.04	OK	Sec. F1
	W300 at 50.00%	0.05	OK	Eq. H1-1b
	W330 at 50.00%	0.06	OK	Eq. H1-1b
	WI180 at 47.92%	0.03	OK	Sec. F1
	WI210 at 47.92%	0.02	OK	Sec. F1
	WI240 at 47.92%	0.02	OK	Sec. F1
	WI270 at 47.92%	0.02	OK	Sec. F1
	WI300 at 47.92%	0.02	OK	Sec. F1
	WI330 at 47.92%	0.02	OK	Sec. F1
	WL180 at 47.92%	0.01	OK	Sec. F1
	WL210 at 47.92%	0.01	OK	Sec. F1
	WL240 at 47.92%	0.01	OK	Sec. F1
	WL270 at 47.92%	0.00	OK	Sec. F1
	WL300 at 47.92%	0.01	OK	Sec. F1
	WL330 at 47.92%	0.01	OK	Sec. F1
24	LC1 at 50.00%	0.02	OK	Eq. H1-1b
	LC10 at 50.00%	0.01	OK	Eq. H1-1b
	LC11 at 50.00%	0.01	OK	Eq. H1-1b
	LC12 at 50.00%	0.02	OK	Eq. H1-1b
	LC13 at 50.00%	0.01	OK	Eq. H1-1b
	LC14 at 50.00%	0.02	OK	Eq. H1-1b
	LC15 at 50.00%	0.01	OK	Eq. H1-1b

	LC16 at 50.00%	0.01	OK	Eq. H1-1b
	LC17 at 50.00%	0.01	OK	Eq. H1-1b
	LC18 at 50.00%	0.01	OK	Eq. H1-1b
	LC19 at 50.00%	0.01	OK	Eq. H1-1b
	LC2 at 50.00%	0.02	OK	Eq. H1-1b
	LC20 at 50.00%	0.00	OK	Eq. H1-1b
	LC21 at 50.00%	0.01	OK	Eq. H1-1b
	LC22 at 50.00%	0.01	OK	Eq. H1-1b
	LC23 at 50.00%	0.01	OK	Eq. H1-1b
	LC24 at 50.00%	0.01	OK	Eq. H1-1b
	LC25 at 50.00%	0.03	OK	Eq. H1-1b
	LC26 at 50.00%	0.03	OK	Eq. H1-1b
	LC27 at 50.00%	0.03	OK	Eq. H1-1b
	LC28 at 50.00%	0.03	OK	Eq. H1-1b
	LC29 at 50.00%	0.03	OK	Eq. H1-1b
	LC3 at 50.00%	0.02	OK	Eq. H1-1b
	LC30 at 50.00%	0.03	OK	Eq. H1-1b
	LC31 at 50.00%	0.03	OK	Eq. H1-1b
	LC32 at 50.00%	0.03	OK	Eq. H1-1b
	LC33 at 50.00%	0.03	OK	Eq. H1-1b
	LC34 at 50.00%	0.03	OK	Eq. H1-1b
	LC35 at 50.00%	0.03	OK	Eq. H1-1b
	LC36 at 50.00%	0.03	OK	Eq. H1-1b
	LC37 at 50.00%	0.01	OK	Eq. H1-1b
	LC38 at 50.00%	**0.09**	**OK**	Eq. H1-1b
	LC39 at 50.00%	0.02	OK	Eq. H1-1b
	LC4 at 50.00%	0.02	OK	Eq. H1-1b
	LC40 at 50.00%	0.02	OK	Eq. H1-1b
	LC41 at 50.00%	0.02	OK	Eq. H1-1b
	LC42 at 50.00%	0.02	OK	Eq. H1-1b
	LC43 at 50.00%	0.02	OK	Eq. H1-1b
	LC44 at 50.00%	0.02	OK	Eq. H1-1b
	LC45 at 50.00%	0.02	OK	Eq. H1-1b
	LC46 at 50.00%	0.02	OK	Eq. H1-1b
	LC47 at 50.00%	0.02	OK	Eq. H1-1b
	LC48 at 50.00%	0.02	OK	Eq. H1-1b
	LC49 at 50.00%	0.02	OK	Eq. H1-1b
	LC5 at 50.00%	0.02	OK	Eq. H1-1b
	LC50 at 50.00%	0.02	OK	Eq. H1-1b
	LC6 at 50.00%	0.01	OK	Eq. H1-1b
	LC7 at 50.00%	0.01	OK	Eq. H1-1b
	LC8 at 50.00%	0.01	OK	Eq. H1-1b
	LC9 at 50.00%	0.01	OK	Eq. H1-1b
	W180 at 50.00%	0.00	OK	Eq. H1-1b
	W210 at 50.00%	0.00	OK	Eq. H1-1b
	W240 at 50.00%	0.00	OK	Eq. H1-1b
	W270 at 50.00%	0.00	OK	Eq. H1-1b
	W300 at 50.00%	0.00	OK	Eq. H1-1b
	W330 at 50.00%	0.00	OK	Eq. H1-1b
	WI180 at 75.00%	0.00	OK	Eq. H1-1b
	WI210 at 50.00%	0.00	OK	Eq. H1-1b
	WI240 at 50.00%	0.00	OK	Eq. H1-1b
	WI270 at 50.00%	0.00	OK	Eq. H1-1b
	WI300 at 75.00%	0.00	OK	Eq. H1-1b
	WI330 at 75.00%	0.00	OK	Eq. H1-1b
	WL180 at 75.00%	0.00	OK	Eq. H1-1b
	WL210 at 50.00%	0.00	OK	Eq. H1-1b
	WL240 at 50.00%	0.00	OK	Eq. H1-1b
	WL270 at 50.00%	0.00	OK	Eq. H1-1b
	WL300 at 75.00%	0.00	OK	Eq. H1-1b
	WL330 at 75.00%	0.00	OK	Eq. H1-1b
27	LC1 at 100.00%	0.05	OK	Eq. H1-1b
	LC10 at 0.00%	0.05	OK	Eq. H1-1b

LC11 at 100.00%	0.05	OK	Eq. H1-1b
LC12 at 100.00%	0.05	OK	Eq. H1-1b
LC13 at 100.00%	0.04	OK	Eq. H1-1b
LC14 at 100.00%	0.07	OK	Eq. H1-1b
LC15 at 0.00%	0.06	OK	Eq. H1-1b
LC16 at 0.00%	0.06	OK	Eq. H1-1b
LC17 at 0.00%	0.05	OK	Eq. H1-1b
LC18 at 0.00%	0.05	OK	Eq. H1-1b
LC19 at 0.00%	0.05	OK	Eq. H1-1b
LC2 at 100.00%	0.08	OK	Eq. H1-1b
LC20 at 0.00%	0.05	OK	Eq. H1-1b
LC21 at 0.00%	0.05	OK	Eq. H1-1b
LC22 at 0.00%	0.05	OK	Eq. H1-1b
LC23 at 100.00%	0.04	OK	Eq. H1-1b
LC24 at 100.00%	0.04	OK	Eq. H1-1b
LC25 at 100.00%	0.12	OK	Eq. H1-1b
LC26 at 100.00%	0.13	OK	Eq. H1-1b
LC27 at 100.00%	0.13	OK	Eq. H1-1b
LC28 at 100.00%	0.13	OK	Eq. H1-1b
LC29 at 100.00%	0.12	OK	Eq. H1-1b
LC3 at 0.00%	0.08	OK	Eq. H1-1b
LC30 at 100.00%	0.12	OK	Eq. H1-1b
LC31 at 100.00%	0.12	OK	Eq. H1-1b
LC32 at 100.00%	0.12	OK	Eq. H1-1b
LC33 at 100.00%	0.12	OK	Eq. H1-1b
LC34 at 100.00%	0.12	OK	Eq. H1-1b
LC35 at 100.00%	0.12	OK	Eq. H1-1b
LC36 at 100.00%	0.12	OK	Eq. H1-1b
LC37 at 100.00%	0.04	OK	Eq. H1-1b
LC38 at 100.00%	0.10	OK	Eq. H1-1b
LC39 at 100.00%	0.13	OK	Eq. H1-1b
LC4 at 0.00%	0.07	OK	Eq. H1-1b
LC40 at 100.00%	**0.13**	**OK**	Eq. H1-1b
LC41 at 100.00%	0.13	OK	Eq. H1-1b
LC42 at 100.00%	0.13	OK	Eq. H1-1b
LC43 at 100.00%	0.13	OK	Eq. H1-1b
LC44 at 100.00%	0.13	OK	Eq. H1-1b
LC45 at 100.00%	0.13	OK	Eq. H1-1b
LC46 at 100.00%	0.12	OK	Eq. H1-1b
LC47 at 100.00%	0.13	OK	Eq. H1-1b
LC48 at 100.00%	0.13	OK	Eq. H1-1b
LC49 at 100.00%	0.13	OK	Eq. H1-1b
LC5 at 0.00%	0.07	OK	Eq. H1-1b
LC50 at 100.00%	0.13	OK	Eq. H1-1b
LC6 at 0.00%	0.07	OK	Eq. H1-1b
LC7 at 0.00%	0.07	OK	Eq. H1-1b
LC8 at 0.00%	0.06	OK	Eq. H1-1b
LC9 at 0.00%	0.06	OK	Eq. H1-1b
W180 at 0.00%	0.01	OK	Eq. H1-1b
W210 at 100.00%	0.01	OK	Eq. H1-1b
W240 at 0.00%	0.01	OK	Eq. H1-1b
W270 at 0.00%	0.01	OK	Eq. H1-1b
W300 at 0.00%	0.01	OK	Eq. H1-1b
W330 at 0.00%	0.01	OK	Eq. H1-1b
WI180 at 0.00%	0.00	OK	Eq. H1-1b
WI210 at 100.00%	0.01	OK	Eq. H1-1b
WI240 at 100.00%	0.01	OK	Eq. H1-1b
WI270 at 100.00%	0.01	OK	Eq. H1-1b
WI300 at 0.00%	0.00	OK	Eq. H1-1b
WI330 at 0.00%	0.00	OK	Eq. H1-1b
WL180 at 0.00%	0.00	OK	Eq. H1-1b
WL210 at 100.00%	0.00	OK	Eq. H1-1b
WL240 at 100.00%	0.00	OK	Eq. H1-1b
WL270 at 100.00%	0.00	OK	Eq. H1-1b

	WL300 at 0.00%	0.00	OK	Eq. H1-1b
	WL330 at 0.00%	0.00	OK	Eq. H1-1b
28	LC1 at 100.00%	0.14	OK	Eq. H1-1b
	LC10 at 100.00%	0.16	OK	Eq. H1-1b
	LC11 at 100.00%	0.14	OK	Eq. H1-1b
	LC12 at 100.00%	0.14	OK	Eq. H1-1b
	LC13 at 100.00%	0.10	OK	Eq. H1-1b
	LC14 at 100.00%	0.14	OK	Eq. H1-1b
	LC15 at 100.00%	0.14	OK	Eq. H1-1b
	LC16 at 100.00%	0.13	OK	Eq. H1-1b
	LC17 at 0.00%	0.14	OK	Eq. H1-1b
	LC18 at 0.00%	0.14	OK	Eq. H1-1b
	LC19 at 0.00%	0.14	OK	Eq. H1-1b
	LC2 at 100.00%	0.18	OK	Eq. H1-1b
	LC20 at 100.00%	0.12	OK	Eq. H1-1b
	LC21 at 100.00%	0.13	OK	Eq. H1-1b
	LC22 at 100.00%	0.13	OK	Eq. H1-1b
	LC23 at 100.00%	0.10	OK	Eq. H1-1b
	LC24 at 100.00%	0.10	OK	Eq. H1-1b
	LC25 at 100.00%	0.32	OK	Eq. H1-1b
	LC26 at 100.00%	0.33	OK	Eq. H1-1b
	LC27 at 100.00%	0.33	OK	Eq. H1-1b
	LC28 at 100.00%	0.33	OK	Eq. H1-1b
	LC29 at 100.00%	0.33	OK	Eq. H1-1b
	LC3 at 100.00%	0.17	OK	Eq. H1-1b
	LC30 at 100.00%	0.33	OK	Eq. H1-1b
	LC31 at 100.00%	**0.33**	**OK**	Eq. H1-1b
	LC32 at 100.00%	0.32	OK	Eq. H1-1b
	LC33 at 100.00%	0.32	OK	Eq. H1-1b
	LC34 at 100.00%	0.32	OK	Eq. H1-1b
	LC35 at 100.00%	0.32	OK	Eq. H1-1b
	LC36 at 100.00%	0.32	OK	Eq. H1-1b
	LC37 at 100.00%	0.12	OK	Eq. H1-1b
	LC38 at 100.00%	0.29	OK	Eq. H1-1b
	LC39 at 100.00%	0.27	OK	Eq. H1-1b
	LC4 at 100.00%	0.17	OK	Eq. H1-1b
	LC40 at 100.00%	0.27	OK	Eq. H1-1b
	LC41 at 100.00%	0.27	OK	Eq. H1-1b
	LC42 at 100.00%	0.27	OK	Eq. H1-1b
	LC43 at 100.00%	0.27	OK	Eq. H1-1b
	LC44 at 100.00%	0.27	OK	Eq. H1-1b
	LC45 at 100.00%	0.27	OK	Eq. H1-1b
	LC46 at 100.00%	0.27	OK	Eq. H1-1b
	LC47 at 100.00%	0.27	OK	Eq. H1-1b
	LC48 at 100.00%	0.27	OK	Eq. H1-1b
	LC49 at 100.00%	0.27	OK	Eq. H1-1b
	LC5 at 0.00%	0.18	OK	Eq. H1-1b
	LC50 at 100.00%	0.27	OK	Eq. H1-1b
	LC6 at 0.00%	0.18	OK	Eq. H1-1b
	LC7 at 0.00%	0.18	OK	Eq. H1-1b
	LC8 at 100.00%	0.16	OK	Eq. H1-1b
	LC9 at 100.00%	0.16	OK	Eq. H1-1b
	W180 at 0.00%	0.02	OK	Eq. H1-1b
	W210 at 0.00%	0.03	OK	
	W240 at 0.00%	0.02	OK	
	W270 at 0.00%	0.02	OK	
	W300 at 100.00%	0.02	OK	Eq. H1-1b
	W330 at 0.00%	0.02	OK	Eq. H1-1b
	WI180 at 100.00%	0.01	OK	Eq. H1-1b
	WI210 at 0.00%	0.01	OK	
	WI240 at 0.00%	0.01	OK	
	WI270 at 0.00%	0.01	OK	
	WI300 at 100.00%	0.01	OK	Eq. H1-1b

	WI330 at 100.00%	0.01	OK	Eq. H1-1b
	WL180 at 100.00%	0.00	OK	Eq. H1-1b
	WL210 at 0.00%	0.00	OK	
	WL240 at 0.00%	0.00	OK	
	WL270 at 0.00%	0.00	OK	
	WL300 at 100.00%	0.00	OK	Eq. H1-1b
	WL330 at 100.00%	0.00	OK	Eq. H1-1b
29	LC1 at 100.00%	0.17	OK	Eq. H1-1b
	LC10 at 100.00%	0.19	OK	Eq. H1-1b
	LC11 at 0.00%	0.18	OK	Eq. H1-1b
	LC12 at 100.00%	0.17	OK	Eq. H1-1b
	LC13 at 100.00%	0.12	OK	Eq. H1-1b
	LC14 at 0.00%	0.25	OK	Eq. H1-1b
	LC15 at 0.00%	0.23	OK	Eq. H1-1b
	LC16 at 0.00%	0.22	OK	Eq. H1-1b
	LC17 at 100.00%	0.20	OK	Eq. H1-1b
	LC18 at 100.00%	0.20	OK	Eq. H1-1b
	LC19 at 100.00%	0.20	OK	Eq. H1-1b
	LC2 at 0.00%	0.30	OK	Eq. H1-1b
	LC20 at 0.00%	0.19	OK	Eq. H1-1b
	LC21 at 0.00%	0.17	OK	Eq. H1-1b
	LC22 at 100.00%	0.16	OK	Eq. H1-1b
	LC23 at 0.00%	0.13	OK	Eq. H1-1b
	LC24 at 100.00%	0.12	OK	Eq. H1-1b
	LC25 at 100.00%	0.44	OK	Eq. H1-1b
	LC26 at 0.00%	0.47	OK	Eq. H1-1b
	LC27 at 0.00%	0.47	OK	Eq. H1-1b
	LC28 at 0.00%	0.47	OK	Eq. H1-1b
	LC29 at 100.00%	0.47	OK	Eq. H1-1b
	LC3 at 0.00%	0.29	OK	Eq. H1-1b
	LC30 at 100.00%	0.47	OK	Eq. H1-1b
	LC31 at 100.00%	0.47	OK	Eq. H1-1b
	LC32 at 100.00%	0.44	OK	Eq. H1-1b
	LC33 at 100.00%	0.44	OK	Eq. H1-1b
	LC34 at 100.00%	0.44	OK	Eq. H1-1b
	LC35 at 100.00%	0.44	OK	Eq. H1-1b
	LC36 at 100.00%	0.44	OK	Eq. H1-1b
	LC37 at 100.00%	0.16	OK	Eq. H1-1b
	LC38 at 100.00%	0.39	OK	Eq. H1-1b
	LC39 at 0.00%	0.50	OK	Eq. H1-1b
	LC4 at 0.00%	0.27	OK	Eq. H1-1b
	LC40 at 0.00%	**0.51**	**OK**	Eq. H1-1b
	LC41 at 0.00%	0.51	OK	Eq. H1-1b
	LC42 at 0.00%	0.51	OK	Eq. H1-1b
	LC43 at 0.00%	0.51	OK	Eq. H1-1b
	LC44 at 0.00%	0.51	OK	Eq. H1-1b
	LC45 at 0.00%	0.51	OK	Eq. H1-1b
	LC46 at 0.00%	0.50	OK	Eq. H1-1b
	LC47 at 0.00%	0.50	OK	Eq. H1-1b
	LC48 at 0.00%	0.50	OK	Eq. H1-1b
	LC49 at 0.00%	0.50	OK	Eq. H1-1b
	LC5 at 100.00%	0.26	OK	Eq. H1-1b
	LC50 at 0.00%	0.50	OK	Eq. H1-1b
	LC6 at 100.00%	0.26	OK	Eq. H1-1b
	LC7 at 100.00%	0.26	OK	Eq. H1-1b
	LC8 at 0.00%	0.22	OK	Eq. H1-1b
	LC9 at 100.00%	0.21	OK	Eq. H1-1b
	W180 at 0.00%	0.03	OK	Eq. H1-1b
	W210 at 0.00%	0.06	OK	Eq. H1-1b
	W240 at 0.00%	0.05	OK	Eq. H1-1b
	W270 at 0.00%	0.04	OK	Eq. H1-1b
	W300 at 0.00%	0.03	OK	Eq. H1-1b
	W330 at 0.00%	0.03	OK	Eq. H1-1b

	WI180 at 100.00%	0.01	OK	Eq. H1-1b
	WI210 at 0.00%	0.02	OK	Eq. H1-1b
	WI240 at 0.00%	0.02	OK	Eq. H1-1b
	WI270 at 0.00%	0.02	OK	Eq. H1-1b
	WI300 at 100.00%	0.01	OK	Eq. H1-1b
	WI330 at 100.00%	0.01	OK	Eq. H1-1b
	WL180 at 100.00%	0.00	OK	Eq. H1-1b
	WL210 at 0.00%	0.01	OK	Eq. H1-1b
	WL240 at 0.00%	0.01	OK	Eq. H1-1b
	WL270 at 0.00%	0.01	OK	Eq. H1-1b
	WL300 at 100.00%	0.00	OK	Eq. H1-1b
	WL330 at 0.00%	0.00	OK	Eq. H1-1b
38	LC1 at 43.75%	0.75	OK	Eq. H1-1b
	LC10 at 78.13%	0.37	OK	Eq. H1-1b
	LC11 at 43.75%	0.87	OK	Eq. H1-1b
	LC12 at 43.75%	0.72	OK	Eq. H1-1b
	LC13 at 43.75%	0.72	OK	Eq. H1-1b
	LC14 at 87.50%	0.60	OK	Eq. H1-1b
	LC15 at 87.50%	0.63	OK	Eq. H1-1b
	LC16 at 87.50%	0.58	OK	Eq. H1-1b
	LC17 at 43.75%	1.10	N.G.	Eq. H1-1b
	LC18 at 43.75%	0.90	OK	Eq. H1-1b
	LC19 at 43.75%	0.94	OK	Eq. H1-1b
	LC2 at 87.50%	0.66	OK	Eq. H1-1b
	LC20 at 78.13%	0.37	OK	Eq. H1-1b
	LC21 at 78.13%	0.38	OK	Eq. H1-1b
	LC22 at 78.13%	0.35	OK	Eq. H1-1b
	LC23 at 43.75%	0.85	OK	Eq. H1-1b
	LC24 at 43.75%	0.69	OK	Eq. H1-1b
	LC25 at 87.50%	0.54	OK	Eq. H1-1b
	LC26 at 87.50%	0.68	OK	Eq. H1-1b
	LC27 at 87.50%	0.68	OK	Eq. H1-1b
	LC28 at 87.50%	0.68	OK	Eq. H1-1b
	LC29 at 87.50%	0.62	OK	Eq. H1-1b
	LC3 at 87.50%	0.70	OK	Eq. H1-1b
	LC30 at 87.50%	0.63	OK	Eq. H1-1b
	LC31 at 87.50%	0.63	OK	Eq. H1-1b
	LC32 at 87.50%	0.49	OK	Eq. H1-1b
	LC33 at 87.50%	0.49	OK	Eq. H1-1b
	LC34 at 87.50%	0.49	OK	Eq. H1-1b
	LC35 at 87.50%	0.55	OK	Eq. H1-1b
	LC36 at 87.50%	0.54	OK	Eq. H1-1b
	LC37 at 87.50%	0.20	OK	Eq. H1-1b
	LC38 at 43.75%	0.55	OK	Eq. H1-1b
	LC39 at 87.50%	0.80	OK	Eq. H1-1b
	LC4 at 87.50%	0.65	OK	Eq. H1-1b
	LC40 at 87.50%	0.85	OK	Eq. H1-1b
	LC41 at 87.50%	0.85	OK	Eq. H1-1b
	LC42 at 87.50%	0.85	OK	Eq. H1-1b
	LC43 at 87.50%	0.83	OK	Eq. H1-1b
	LC44 at 87.50%	0.83	OK	Eq. H1-1b
	LC45 at 87.50%	0.83	OK	Eq. H1-1b
	LC46 at 87.50%	0.77	OK	Eq. H1-1b
	LC47 at 87.50%	0.77	OK	Eq. H1-1b
	LC48 at 87.50%	0.78	OK	Eq. H1-1b
	LC49 at 87.50%	0.79	OK	Eq. H1-1b
	LC5 at 43.75%	**1.14**	**N.G.**	Eq. H1-1b
	LC50 at 87.50%	0.79	OK	Eq. H1-1b
	LC6 at 43.75%	0.94	OK	Eq. H1-1b
	LC7 at 43.75%	0.98	OK	Eq. H1-1b
	LC8 at 78.13%	0.40	OK	Eq. H1-1b
	LC9 at 78.13%	0.40	OK	Eq. H1-1b
	W180 at 43.75%	0.51	OK	Eq. H1-1b

	W210 at 82.81%	0.27	OK	Eq. H1-1b
	W240 at 87.50%	0.29	OK	Eq. H1-1b
	W270 at 87.50%	0.26	OK	Eq. H1-1b
	W300 at 43.75%	0.61	OK	Eq. H1-1b
	W330 at 43.75%	0.48	OK	Eq. H1-1b
	WI180 at 43.75%	0.19	OK	Eq. H1-1b
	WI210 at 82.81%	0.10	OK	Eq. H1-1b
	WI240 at 82.81%	0.10	OK	Eq. H1-1b
	WI270 at 82.81%	0.10	OK	Eq. H1-1b
	WI300 at 43.75%	0.16	OK	Eq. H1-1b
	WI330 at 43.75%	0.17	OK	Eq. H1-1b
	WL180 at 43.75%	0.05	OK	Eq. H1-1b
	WL210 at 82.81%	0.03	OK	Eq. H1-1b
	WL240 at 82.81%	0.02	OK	Eq. H1-1b
	WL270 at 82.81%	0.02	OK	Eq. H1-1b
	WL300 at 43.75%	0.04	OK	Eq. H1-1b
	WL330 at 43.75%	0.04	OK	Eq. H1-1b
39	LC1 at 44.53%	0.56	OK	Eq. H1-1b
	LC10 at 87.50%	0.39	OK	Eq. H1-1b
	LC11 at 44.53%	0.67	OK	Eq. H1-1b
	LC12 at 44.53%	0.53	OK	Eq. H1-1b
	LC13 at 44.53%	0.55	OK	Eq. H1-1b
	LC14 at 87.50%	0.36	OK	Eq. H1-1b
	LC15 at 87.50%	0.31	OK	Eq. H1-1b
	LC16 at 87.50%	0.28	OK	Eq. H1-1b
	LC17 at 43.75%	0.84	OK	Eq. H1-1b
	LC18 at 43.75%	0.68	OK	Eq. H1-1b
	LC19 at 43.75%	0.70	OK	Eq. H1-1b
	LC2 at 87.50%	0.46	OK	Eq. H1-1b
	LC20 at 44.53%	0.30	OK	Eq. H1-1b
	LC21 at 82.03%	0.29	OK	Eq. H1-1b
	LC22 at 87.50%	0.30	OK	Eq. H1-1b
	LC23 at 44.53%	0.67	OK	Eq. H1-1b
	LC24 at 44.53%	0.53	OK	Eq. H1-1b
	LC25 at 87.50%	0.78	OK	Eq. H1-1b
	LC26 at 87.50%	0.87	OK	Eq. H1-1b
	LC27 at 87.50%	0.87	OK	Eq. H1-1b
	LC28 at 87.50%	0.87	OK	Eq. H1-1b
	LC29 at 87.50%	0.91	OK	Eq. H1-1b
	LC3 at 87.50%	0.40	OK	Eq. H1-1b
	LC30 at 87.50%	0.92	OK	Eq. H1-1b
	LC31 at 87.50%	0.93	OK	Eq. H1-1b
	LC32 at 87.50%	0.83	OK	Eq. H1-1b
	LC33 at 87.50%	0.83	OK	Eq. H1-1b
	LC34 at 87.50%	0.83	OK	Eq. H1-1b
	LC35 at 87.50%	0.79	OK	Eq. H1-1b
	LC36 at 87.50%	0.78	OK	Eq. H1-1b
	LC37 at 87.50%	0.29	OK	Eq. H1-1b
	LC38 at 87.50%	0.79	OK	Eq. H1-1b
	LC39 at 87.50%	1.10	N.G.	Eq. H1-1b
	LC4 at 87.50%	0.38	OK	Eq. H1-1b
	LC40 at 87.50%	1.13	N.G.	Eq. H1-1b
	LC41 at 87.50%	1.13	N.G.	Eq. H1-1b
	LC42 at 87.50%	1.13	N.G.	Eq. H1-1b
	LC43 at 87.50%	1.15	N.G.	Eq. H1-1b
	LC44 at 87.50%	1.15	N.G.	Eq. H1-1b
	LC45 at 87.50%	**1.15**	**N.G.**	Eq. H1-1b
	LC46 at 87.50%	1.12	N.G.	Eq. H1-1b
	LC47 at 87.50%	1.12	N.G.	Eq. H1-1b
	LC48 at 87.50%	1.12	N.G.	Eq. H1-1b
	LC49 at 87.50%	1.10	N.G.	Eq. H1-1b
	LC5 at 43.75%	0.88	OK	Eq. H1-1b
	LC50 at 87.50%	1.10	N.G.	Eq. H1-1b

	LC6 at 43.75%	0.72	OK	Eq. H1-1b
	LC7 at 43.75%	0.74	OK	Eq. H1-1b
	LC8 at 44.53%	0.36	OK	Eq. H1-1b
	LC9 at 87.50%	0.37	OK	Eq. H1-1b
	W180 at 43.75%	0.36	OK	Eq. H1-1b
	W210 at 87.50%	0.10	OK	Eq. H1-1b
	W240 at 87.50%	0.14	OK	Eq. H1-1b
	W270 at 87.50%	0.13	OK	Eq. H1-1b
	W300 at 43.75%	0.46	OK	Eq. H1-1b
	W330 at 43.75%	0.35	OK	Eq. H1-1b
	WI180 at 44.53%	0.12	OK	Eq. H1-1b
	WI210 at 87.50%	0.04	OK	Eq. H1-1b
	WI240 at 87.50%	0.04	OK	Eq. H1-1b
	WI270 at 87.50%	0.04	OK	Eq. H1-1b
	WI300 at 44.53%	0.10	OK	Eq. H1-1b
	WI330 at 43.75%	0.11	OK	Eq. H1-1b
	WL180 at 43.75%	0.03	OK	Eq. H1-1b
	WL210 at 87.50%	0.01	OK	Eq. H1-1b
	WL240 at 87.50%	0.01	OK	Eq. H1-1b
	WL270 at 87.50%	0.01	OK	Eq. H1-1b
	WL300 at 44.53%	0.02	OK	Eq. H1-1b
	WL330 at 43.75%	0.03	OK	Eq. H1-1b
40	LC1 at 17.50%	0.14	OK	Eq. H1-1b
	LC10 at 0.00%	0.23	OK	Eq. H1-1b
	LC11 at 17.50%	0.13	OK	Eq. H1-1b
	LC12 at 17.50%	0.13	OK	Eq. H1-1b
	LC13 at 17.50%	0.12	OK	Eq. H1-1b
	LC14 at 0.00%	0.17	OK	Eq. H1-1b
	LC15 at 0.00%	0.19	OK	Eq. H1-1b
	LC16 at 0.00%	0.18	OK	Eq. H1-1b
	LC17 at 17.50%	0.14	OK	Eq. H1-1b
	LC18 at 41.25%	0.14	OK	Eq. H1-1b
	LC19 at 41.25%	0.14	OK	Eq. H1-1b
	LC2 at 0.00%	0.20	OK	Eq. H1-1b
	LC20 at 0.00%	0.20	OK	Eq. H1-1b
	LC21 at 0.00%	0.23	OK	Eq. H1-1b
	LC22 at 0.00%	0.21	OK	Eq. H1-1b
	LC23 at 17.50%	0.12	OK	Eq. H1-1b
	LC24 at 17.50%	0.11	OK	Eq. H1-1b
	LC25 at 0.00%	0.23	OK	Eq. H1-1b
	LC26 at 0.00%	0.25	OK	Eq. H1-1b
	LC27 at 0.00%	0.25	OK	Eq. H1-1b
	LC28 at 0.00%	0.25	OK	Eq. H1-1b
	LC29 at 0.00%	0.23	OK	Eq. H1-1b
	LC3 at 0.00%	0.22	OK	Eq. H1-1b
	LC30 at 0.00%	0.23	OK	Eq. H1-1b
	LC31 at 0.00%	0.23	OK	Eq. H1-1b
	LC32 at 0.00%	0.21	OK	Eq. H1-1b
	LC33 at 0.00%	0.21	OK	Eq. H1-1b
	LC34 at 0.00%	0.21	OK	Eq. H1-1b
	LC35 at 0.00%	0.23	OK	Eq. H1-1b
	LC36 at 0.00%	0.23	OK	Eq. H1-1b
	LC37 at 0.00%	0.08	OK	Eq. H1-1b
	LC38 at 42.50%	**0.42**	**OK**	Eq. H1-1b
	LC39 at 0.00%	0.20	OK	Eq. H1-1b
	LC4 at 0.00%	0.21	OK	Eq. H1-1b
	LC40 at 0.00%	0.21	OK	Eq. H1-1b
	LC41 at 0.00%	0.21	OK	Eq. H1-1b
	LC42 at 0.00%	0.21	OK	Eq. H1-1b
	LC43 at 0.00%	0.20	OK	Eq. H1-1b
	LC44 at 0.00%	0.20	OK	Eq. H1-1b
	LC45 at 0.00%	0.20	OK	Eq. H1-1b
	LC46 at 0.00%	0.19	OK	Eq. H1-1b

	LC47 at 0.00%	0.19	OK	Eq. H1-1b
	LC48 at 0.00%	0.19	OK	Eq. H1-1b
	LC49 at 0.00%	0.20	OK	Eq. H1-1b
	LC5 at 17.50%	0.16	OK	Eq. H1-1b
	LC50 at 0.00%	0.20	OK	Eq. H1-1b
	LC6 at 41.25%	0.16	OK	Eq. H1-1b
	LC7 at 41.25%	0.17	OK	Eq. H1-1b
	LC8 at 0.00%	0.22	OK	Eq. H1-1b
	LC9 at 0.00%	0.24	OK	Eq. H1-1b
	W180 at 42.50%	0.06	OK	Eq. H1-1b
	W210 at 0.00%	0.10	OK	Eq. H1-1b
	W240 at 0.00%	0.11	OK	Eq. H1-1b
	W270 at 0.00%	0.10	OK	Eq. H1-1b
	W300 at 17.50%	0.05	OK	Eq. H1-1b
	W330 at 42.50%	0.05	OK	Eq. H1-1b
	WI180 at 17.50%	0.02	OK	Eq. H1-1b
	WI210 at 0.00%	0.04	OK	Eq. H1-1b
	WI240 at 0.00%	0.04	OK	Eq. H1-1b
	WI270 at 0.00%	0.03	OK	Eq. H1-1b
	WI300 at 17.50%	0.02	OK	Eq. H1-1b
	WI330 at 17.50%	0.02	OK	Eq. H1-1b
	WL180 at 17.50%	0.01	OK	Eq. H1-1b
	WL210 at 0.00%	0.01	OK	Eq. H1-1b
	WL240 at 0.00%	0.01	OK	Eq. H1-1b
	WL270 at 0.00%	0.01	OK	Eq. H1-1b
	WL300 at 17.50%	0.00	OK	Eq. H1-1b
	WL330 at 17.50%	0.01	OK	Eq. H1-1b
41	LC1 at 41.25%	0.10	OK	Eq. H1-1b
	LC10 at 0.00%	0.13	OK	Eq. H1-1b
	LC11 at 0.00%	0.12	OK	Eq. H1-1b
	LC12 at 41.25%	0.10	OK	Eq. H1-1b
	LC13 at 41.25%	0.09	OK	Eq. H1-1b
	LC14 at 0.00%	0.11	OK	Eq. H1-1b
	LC15 at 41.25%	0.16	OK	Eq. H1-1b
	LC16 at 41.25%	0.15	OK	Eq. H1-1b
	LC17 at 41.25%	0.12	OK	Eq. H1-1b
	LC18 at 41.25%	0.16	OK	Eq. H1-1b
	LC19 at 41.25%	0.16	OK	Eq. H1-1b
	LC2 at 0.00%	0.13	OK	Eq. H1-1b
	LC20 at 42.50%	0.15	OK	Eq. H1-1b
	LC21 at 0.00%	0.12	OK	Eq. H1-1b
	LC22 at 0.00%	0.11	OK	Eq. H1-1b
	LC23 at 0.00%	0.10	OK	Eq. H1-1b
	LC24 at 41.25%	0.09	OK	Eq. H1-1b
	LC25 at 41.25%	0.24	OK	Eq. H1-1b
	LC26 at 41.25%	0.25	OK	Eq. H1-1b
	LC27 at 41.25%	0.25	OK	Eq. H1-1b
	LC28 at 41.25%	0.25	OK	Eq. H1-1b
	LC29 at 41.25%	0.24	OK	Eq. H1-1b
	LC3 at 41.25%	0.19	OK	Eq. H1-1b
	LC30 at 41.25%	0.24	OK	Eq. H1-1b
	LC31 at 41.25%	0.24	OK	Eq. H1-1b
	LC32 at 41.25%	0.23	OK	Eq. H1-1b
	LC33 at 41.25%	0.23	OK	Eq. H1-1b
	LC34 at 41.25%	0.23	OK	Eq. H1-1b
	LC35 at 41.25%	0.24	OK	Eq. H1-1b
	LC36 at 41.25%	0.24	OK	Eq. H1-1b
	LC37 at 41.25%	0.08	OK	Eq. H1-1b
	LC38 at 41.25%	**0.47**	**OK**	Eq. H1-1b
	LC39 at 41.25%	0.15	OK	Eq. H1-1b
	LC4 at 41.25%	0.18	OK	Eq. H1-1b
	LC40 at 41.25%	0.16	OK	Eq. H1-1b
	LC41 at 41.25%	0.16	OK	Eq. H1-1b

	LC42 at 41.25%	0.16	OK	Eq. H1-1b
	LC43 at 41.25%	0.15	OK	Eq. H1-1b
	LC44 at 41.25%	0.15	OK	Eq. H1-1b
	LC45 at 41.25%	0.15	OK	Eq. H1-1b
	LC46 at 41.25%	0.15	OK	Eq. H1-1b
	LC47 at 41.25%	0.15	OK	Eq. H1-1b
	LC48 at 41.25%	0.15	OK	Eq. H1-1b
	LC49 at 41.25%	0.15	OK	Eq. H1-1b
	LC5 at 41.25%	0.15	OK	Eq. H1-1b
	LC50 at 41.25%	0.15	OK	Eq. H1-1b
	LC6 at 41.25%	0.19	OK	Eq. H1-1b
	LC7 at 41.25%	0.19	OK	Eq. H1-1b
	LC8 at 42.50%	0.16	OK	Eq. H1-1b
	LC9 at 0.00%	0.13	OK	Eq. H1-1b
	W180 at 42.50%	0.06	OK	Eq. H1-1b
	W210 at 42.50%	0.07	OK	Eq. H1-1b
	W240 at 0.00%	0.05	OK	Eq. H1-1b
	W270 at 0.00%	0.05	OK	Eq. H1-1b
	W300 at 0.00%	0.04	OK	Eq. H1-1b
	W330 at 42.50%	0.06	OK	Eq. H1-1b
	WI180 at 0.00%	0.01	OK	Eq. H1-1b
	WI210 at 0.00%	0.01	OK	Eq. H1-1b
	WI240 at 0.00%	0.01	OK	Eq. H1-1b
	WI270 at 0.00%	0.01	OK	Eq. H1-1b
	WI300 at 0.00%	0.01	OK	Eq. H1-1b
	WI330 at 0.00%	0.01	OK	Eq. H1-1b
	WL180 at 0.00%	0.00	OK	Eq. H1-1b
	WL210 at 0.00%	0.00	OK	Eq. H1-1b
	WL240 at 0.00%	0.00	OK	Eq. H1-1b
	WL270 at 0.00%	0.00	OK	Eq. H1-1b
	WL300 at 0.00%	0.00	OK	Eq. H1-1b
	WL330 at 0.00%	0.00	OK	Eq. H1-1b
57	LC1 at 47.92%	0.65	OK	Eq. H1-1b
	LC10 at 47.92%	0.50	OK	Eq. H1-1b
	LC11 at 47.92%	0.56	OK	Eq. H1-1b
	LC12 at 47.92%	**0.74**	**OK**	Eq. H1-1b
	LC13 at 47.92%	0.65	OK	Eq. H1-1b
	LC14 at 47.92%	0.65	OK	Eq. H1-1b
	LC15 at 47.92%	0.56	OK	Eq. H1-1b
	LC16 at 47.92%	0.50	OK	Eq. H1-1b
	LC17 at 47.92%	0.56	OK	Eq. H1-1b
	LC18 at 47.92%	0.74	OK	Eq. H1-1b
	LC19 at 47.92%	0.65	OK	Eq. H1-1b
	LC2 at 47.92%	0.65	OK	Eq. H1-1b
	LC20 at 47.92%	0.65	OK	Eq. H1-1b
	LC21 at 47.92%	0.56	OK	Eq. H1-1b
	LC22 at 47.92%	0.50	OK	Eq. H1-1b
	LC23 at 47.92%	0.56	OK	Eq. H1-1b
	LC24 at 47.92%	0.74	OK	Eq. H1-1b
	LC25 at 47.92%	0.18	OK	Eq. H1-1b
	LC26 at 50.00%	0.27	OK	Eq. H1-1b
	LC27 at 50.00%	0.28	OK	Eq. H1-1b
	LC28 at 50.00%	0.29	OK	Eq. H1-1b
	LC29 at 50.00%	0.28	OK	Eq. H1-1b
	LC3 at 47.92%	0.56	OK	Eq. H1-1b
	LC30 at 50.00%	0.32	OK	Eq. H1-1b
	LC31 at 50.00%	0.31	OK	Eq. H1-1b
	LC32 at 47.92%	0.16	OK	Eq. H1-1b
	LC33 at 47.92%	0.16	OK	Eq. H1-1b
	LC34 at 47.92%	0.18	OK	Eq. H1-1b
	LC35 at 47.92%	0.14	OK	Eq. H1-1b
	LC36 at 47.92%	0.20	OK	Eq. H1-1b
	LC37 at 50.00%	0.06	OK	Eq. H1-1b

	LC38 at 50.00%	0.17	OK	Eq. H1-1b
	LC39 at 50.00%	0.13	OK	Eq. H1-1b
	LC4 at 47.92%	0.50	OK	Eq. H1-1b
	LC40 at 50.00%	0.23	OK	Eq. H1-1b
	LC41 at 50.00%	0.22	OK	Eq. H1-1b
	LC42 at 50.00%	0.22	OK	Eq. H1-1b
	LC43 at 50.00%	0.23	OK	Eq. H1-1b
	LC44 at 50.00%	0.24	OK	Eq. H1-1b
	LC45 at 50.00%	0.23	OK	Eq. H1-1b
	LC46 at 50.00%	0.14	OK	Eq. H1-1b
	LC47 at 50.00%	0.14	OK	Eq. H1-1b
	LC48 at 50.00%	0.14	OK	Eq. H1-1b
	LC49 at 50.00%	0.14	OK	Eq. H1-1b
	LC5 at 50.00%	0.56	OK	Eq. H1-1b
	LC50 at 50.00%	0.13	OK	Eq. H1-1b
	LC6 at 47.92%	0.74	OK	Eq. H1-1b
	LC7 at 47.92%	0.65	OK	Eq. H1-1b
	LC8 at 47.92%	0.65	OK	Eq. H1-1b
	LC9 at 47.92%	0.56	OK	Eq. H1-1b
	W180 at 47.92%	0.40	OK	Sec. F1
	W210 at 47.92%	0.40	OK	Sec. F1
	W240 at 47.92%	0.34	OK	Sec. F1
	W270 at 47.92%	0.31	OK	Sec. F1
	W300 at 47.92%	0.34	OK	Sec. F1
	W330 at 47.92%	0.45	OK	Sec. F1
	WI180 at 47.92%	0.16	OK	Sec. F1
	WI210 at 47.92%	0.14	OK	Sec. F1
	WI240 at 47.92%	0.14	OK	Sec. F1
	WI270 at 47.92%	0.16	OK	Sec. F1
	WI300 at 47.92%	0.12	OK	Sec. F1
	WI330 at 47.92%	0.18	OK	Sec. F1
	WL180 at 47.92%	0.04	OK	Sec. F1
	WL210 at 47.92%	0.04	OK	Sec. F1
	WL240 at 47.92%	0.04	OK	Sec. F1
	WL270 at 47.92%	0.04	OK	Sec. F1
	WL300 at 47.92%	0.04	OK	Sec. F1
	WL330 at 47.92%	0.05	OK	Sec. F1
60	LC1 at 100.00%	0.06	OK	Eq. H1-1b
	LC10 at 100.00%	0.25	OK	Eq. H1-1b
	LC11 at 100.00%	0.12	OK	Eq. H1-1b
	LC12 at 100.00%	0.05	OK	Eq. H1-1b
	LC13 at 100.00%	0.05	OK	Eq. H1-1b
	LC14 at 100.00%	0.18	OK	Eq. H1-1b
	LC15 at 100.00%	0.22	OK	Eq. H1-1b
	LC16 at 100.00%	0.19	OK	Eq. H1-1b
	LC17 at 100.00%	0.08	OK	Eq. H1-1b
	LC18 at 0.00%	0.06	OK	Eq. H1-1b
	LC19 at 0.00%	0.07	OK	Eq. H1-1b
	LC2 at 100.00%	0.17	OK	Eq. H1-1b
	LC20 at 100.00%	0.23	OK	Eq. H1-1b
	LC21 at 100.00%	0.27	OK	Eq. H1-1b
	LC22 at 100.00%	0.24	OK	Eq. H1-1b
	LC23 at 100.00%	0.11	OK	Eq. H1-1b
	LC24 at 100.00%	0.05	OK	Eq. H1-1b
	LC25 at 100.00%	0.06	OK	Eq. H1-1b
	LC26 at 0.00%	0.05	OK	Eq. H1-1b
	LC27 at 0.00%	0.05	OK	Eq. H1-1b
	LC28 at 0.00%	0.05	OK	Eq. H1-1b
	LC29 at 0.00%	0.05	OK	Eq. H1-1b
	LC3 at 100.00%	0.21	OK	Eq. H1-1b
	LC30 at 0.00%	0.05	OK	Eq. H1-1b
	LC31 at 0.00%	0.06	OK	Eq. H1-1b
	LC32 at 100.00%	0.10	OK	Eq. H1-1b

	LC33 at 100.00%	0.10	OK	Eq. H1-1b
	LC34 at 100.00%	0.10	OK	Eq. H1-1b
	LC35 at 100.00%	0.06	OK	Eq. H1-1b
	LC36 at 100.00%	0.06	OK	Eq. H1-1b
	LC37 at 100.00%	0.03	OK	Eq. H1-1b
	LC38 at 100.00%	0.20	OK	Eq. H1-1b
	LC39 at 100.00%	0.14	OK	Eq. H1-1b
	LC4 at 100.00%	0.18	OK	Eq. H1-1b
	LC40 at 100.00%	0.17	OK	Eq. H1-1b
	LC41 at 100.00%	0.16	OK	Eq. H1-1b
	LC42 at 100.00%	0.16	OK	Eq. H1-1b
	LC43 at 100.00%	0.15	OK	Eq. H1-1b
	LC44 at 100.00%	0.15	OK	Eq. H1-1b
	LC45 at 100.00%	0.15	OK	Eq. H1-1b
	LC46 at 100.00%	0.13	OK	Eq. H1-1b
	LC47 at 100.00%	0.13	OK	Eq. H1-1b
	LC48 at 100.00%	0.13	OK	Eq. H1-1b
	LC49 at 100.00%	0.14	OK	Eq. H1-1b
	LC5 at 100.00%	0.08	OK	Eq. H1-1b
	LC50 at 100.00%	0.14	OK	Eq. H1-1b
	LC6 at 0.00%	0.07	OK	Eq. H1-1b
	LC7 at 0.00%	0.07	OK	Eq. H1-1b
	LC8 at 100.00%	0.24	OK	Eq. H1-1b
	LC9 at 100.00%	**0.28**	**OK**	Eq. H1-1b
	W180 at 0.00%	0.03	OK	Eq. H1-1b
	W210 at 100.00%	0.13	OK	Eq. H1-1b
	W240 at 100.00%	0.15	OK	Eq. H1-1b
	W270 at 100.00%	0.14	OK	Eq. H1-1b
	W300 at 100.00%	0.06	OK	Eq. H1-1b
	W330 at 0.00%	0.03	OK	Eq. H1-1b
	WI180 at 0.00%	0.01	OK	Eq. H1-1b
	WI210 at 100.00%	0.05	OK	Eq. H1-1b
	WI240 at 100.00%	0.05	OK	Eq. H1-1b
	WI270 at 100.00%	0.04	OK	Eq. H1-1b
	WI300 at 0.00%	0.01	OK	Eq. H1-1b
	WI330 at 0.00%	0.01	OK	Eq. H1-1b
	WL180 at 0.00%	0.00	OK	Eq. H1-1b
	WL210 at 100.00%	0.01	OK	Eq. H1-1b
	WL240 at 100.00%	0.01	OK	Eq. H1-1b
	WL270 at 100.00%	0.01	OK	Eq. H1-1b
	WL300 at 0.00%	0.00	OK	Eq. H1-1b
	WL330 at 0.00%	0.00	OK	Eq. H1-1b
61	LC1 at 0.00%	0.51	OK	Eq. H1-1b
	LC10 at 100.00%	0.15	OK	Eq. H1-1b
	LC11 at 0.00%	0.61	OK	Eq. H1-1b
	LC12 at 0.00%	0.49	OK	Eq. H1-1b
	LC13 at 0.00%	0.52	OK	Eq. H1-1b
	LC14 at 100.00%	0.32	OK	Eq. H1-1b
	LC15 at 100.00%	0.38	OK	Eq. H1-1b
	LC16 at 100.00%	0.35	OK	Eq. H1-1b
	LC17 at 0.00%	0.61	OK	Eq. H1-1b
	LC18 at 0.00%	0.50	OK	Eq. H1-1b
	LC19 at 0.00%	0.52	OK	Eq. H1-1b
	LC2 at 100.00%	0.36	OK	Eq. H1-1b
	LC20 at 100.00%	0.07	OK	Eq. H1-1b
	LC21 at 100.00%	0.13	OK	Eq. H1-1b
	LC22 at 100.00%	0.12	OK	Eq. H1-1b
	LC23 at 0.00%	0.61	OK	Eq. H1-1b
	LC24 at 0.00%	0.49	OK	Eq. H1-1b
	LC25 at 100.00%	0.37	OK	Eq. H1-1b
	LC26 at 100.00%	0.42	OK	Eq. H1-1b
	LC27 at 100.00%	0.42	OK	Eq. H1-1b
	LC28 at 100.00%	0.42	OK	Eq. H1-1b

		LC29 at 100.00%	0.39	OK	Eq. H1-1b
		LC3 at 100.00%	0.42	OK	Eq. H1-1b
		LC30 at 100.00%	0.39	OK	Eq. H1-1b
		LC31 at 100.00%	0.39	OK	Eq. H1-1b
		LC32 at 100.00%	0.33	OK	Eq. H1-1b
		LC33 at 100.00%	0.33	OK	Eq. H1-1b
		LC34 at 100.00%	0.33	OK	Eq. H1-1b
		LC35 at 100.00%	0.37	OK	Eq. H1-1b
		LC36 at 100.00%	0.37	OK	Eq. H1-1b
		LC37 at 100.00%	0.13	OK	Eq. H1-1b
		LC38 at 100.00%	0.37	OK	Eq. H1-1b
		LC39 at 100.00%	0.55	OK	Eq. H1-1b
		LC4 at 100.00%	0.40	OK	Eq. H1-1b
		LC40 at 100.00%	0.57	OK	Eq. H1-1b
		LC41 at 100.00%	0.57	OK	Eq. H1-1b
		LC42 at 100.00%	0.57	OK	Eq. H1-1b
		LC43 at 100.00%	0.55	OK	Eq. H1-1b
		LC44 at 100.00%	0.56	OK	Eq. H1-1b
		LC45 at 100.00%	0.56	OK	Eq. H1-1b
		LC46 at 100.00%	0.53	OK	Eq. H1-1b
		LC47 at 100.00%	0.53	OK	Eq. H1-1b
		LC48 at 100.00%	0.54	OK	Eq. H1-1b
		LC49 at 100.00%	0.55	OK	Eq. H1-1b
		LC5 at 0.00%	**0.61**	**OK**	Eq. H1-1b
		LC50 at 100.00%	0.55	OK	Eq. H1-1b
		LC6 at 0.00%	0.50	OK	Eq. H1-1b
		LC7 at 0.00%	0.52	OK	Eq. H1-1b
		LC8 at 100.00%	0.08	OK	Eq. H1-1b
		LC9 at 100.00%	0.14	OK	Eq. H1-1b
		W180 at 0.00%	0.32	OK	Eq. H1-1b
		W210 at 100.00%	0.12	OK	Eq. H1-1b
		W240 at 100.00%	0.16	OK	Eq. H1-1b
		W270 at 100.00%	0.14	OK	Eq. H1-1b
		W300 at 0.00%	0.39	OK	Eq. H1-1b
		W330 at 0.00%	0.31	OK	Eq. H1-1b
		WI180 at 0.00%	0.13	OK	Eq. H1-1b
		WI210 at 100.00%	0.05	OK	Eq. H1-1b
		WI240 at 100.00%	0.05	OK	Eq. H1-1b
		WI270 at 100.00%	0.05	OK	Eq. H1-1b
		WI300 at 0.00%	0.10	OK	Eq. H1-1b
		WI330 at 0.00%	0.11	OK	Eq. H1-1b
		WL180 at 0.00%	0.03	OK	Eq. H1-1b
		WL210 at 100.00%	0.01	OK	Eq. H1-1b
		WL240 at 100.00%	0.01	OK	Eq. H1-1b
		WL270 at 100.00%	0.01	OK	Eq. H1-1b
		WL300 at 0.00%	0.03	OK	Eq. H1-1b
		WL330 at 0.00%	0.03	OK	Eq. H1-1b
PIPE 4x0.237	**25**	LC1 at 100.00%	0.12	OK	Eq. H1-1b
		LC10 at 100.00%	0.42	OK	Eq. H1-1b
		LC11 at 100.00%	0.16	OK	Eq. H1-1b
		LC12 at 100.00%	0.12	OK	Eq. H1-1b
		LC13 at 100.00%	0.08	OK	Eq. H1-1b
		LC14 at 100.00%	0.46	OK	Eq. H1-1b
		LC15 at 100.00%	0.53	OK	Eq. H1-1b
		LC16 at 100.00%	0.50	OK	Eq. H1-1b
		LC17 at 100.00%	0.28	OK	Eq. H1-1b
		LC18 at 100.00%	0.19	OK	Eq. H1-1b
		LC19 at 100.00%	0.19	OK	Eq. H1-1b
		LC2 at 100.00%	0.50	OK	Eq. H1-1b
		LC20 at 100.00%	0.37	OK	Eq. H1-1b
		LC21 at 100.00%	0.45	OK	Eq. H1-1b
		LC22 at 100.00%	0.41	OK	Eq. H1-1b
		LC23 at 100.00%	0.15	OK	Eq. H1-1b

	LC24 at 100.00%	0.08	OK	Eq. H1-1b
	LC25 at 100.00%	0.37	OK	Eq. H1-1b
	LC26 at 100.00%	0.46	OK	Eq. H1-1b
	LC27 at 100.00%	0.46	OK	Eq. H1-1b
	LC28 at 100.00%	0.46	OK	Eq. H1-1b
	LC29 at 100.00%	0.39	OK	Eq. H1-1b
	LC3 at 100.00%	**0.58**	**OK**	Eq. H1-1b
	LC30 at 100.00%	0.39	OK	Eq. H1-1b
	LC31 at 100.00%	0.39	OK	Eq. H1-1b
	LC32 at 100.00%	0.30	OK	Eq. H1-1b
	LC33 at 100.00%	0.30	OK	Eq. H1-1b
	LC34 at 100.00%	0.31	OK	Eq. H1-1b
	LC35 at 100.00%	0.37	OK	Eq. H1-1b
	LC36 at 100.00%	0.37	OK	Eq. H1-1b
	LC37 at 100.00%	0.13	OK	Eq. H1-1b
	LC38 at 100.00%	0.30	OK	Eq. H1-1b
	LC39 at 100.00%	0.47	OK	Eq. H1-1b
	LC4 at 100.00%	0.54	OK	Eq. H1-1b
	LC40 at 100.00%	0.51	OK	Eq. H1-1b
	LC41 at 100.00%	0.50	OK	Eq. H1-1b
	LC42 at 100.00%	0.50	OK	Eq. H1-1b
	LC43 at 100.00%	0.48	OK	Eq. H1-1b
	LC44 at 100.00%	0.48	OK	Eq. H1-1b
	LC45 at 100.00%	0.48	OK	Eq. H1-1b
	LC46 at 100.00%	0.44	OK	Eq. H1-1b
	LC47 at 100.00%	0.44	OK	Eq. H1-1b
	LC48 at 100.00%	0.45	OK	Eq. H1-1b
	LC49 at 100.00%	0.47	OK	Eq. H1-1b
	LC5 at 100.00%	0.32	OK	Eq. H1-1b
	LC50 at 100.00%	0.47	OK	Eq. H1-1b
	LC6 at 100.00%	0.23	OK	Eq. H1-1b
	LC7 at 100.00%	0.23	OK	Eq. H1-1b
	LC8 at 100.00%	0.38	OK	Eq. H1-1b
	LC9 at 100.00%	0.46	OK	Eq. H1-1b
	W180 at 100.00%	0.03	OK	Eq. H1-1b
	W210 at 100.00%	0.20	OK	Eq. H1-1b
	W240 at 100.00%	0.25	OK	Eq. H1-1b
	W270 at 100.00%	0.23	OK	Eq. H1-1b
	W300 at 100.00%	0.09	OK	Eq. H1-1b
	W330 at 100.00%	0.03	OK	Eq. H1-1b
	WI180 at 100.00%	0.01	OK	Eq. H1-1b
	WI210 at 100.00%	0.08	OK	Eq. H1-1b
	WI240 at 100.00%	0.08	OK	Eq. H1-1b
	WI270 at 100.00%	0.08	OK	Eq. H1-1b
	WI300 at 100.00%	0.01	OK	Eq. H1-1b
	WI330 at 0.00%	0.01	OK	Eq. H1-1b
	WL180 at 100.00%	0.00	OK	Eq. H1-1b
	WL210 at 100.00%	0.02	OK	Eq. H1-1b
	WL240 at 100.00%	0.02	OK	Eq. H1-1b
	WL270 at 100.00%	0.02	OK	Eq. H1-1b
	WL300 at 0.00%	0.00	OK	Eq. H1-1b
	WL330 at 0.00%	0.00	OK	Eq. H1-1b
26	LC1 at 100.00%	0.14	OK	Eq. H1-1b
	LC10 at 100.00%	0.40	OK	Eq. H1-1b
	LC11 at 100.00%	0.24	OK	Eq. H1-1b
	LC12 at 100.00%	0.14	OK	Eq. H1-1b
	LC13 at 100.00%	0.10	OK	Eq. H1-1b
	LC14 at 100.00%	0.21	OK	Eq. H1-1b
	LC15 at 100.00%	0.30	OK	Eq. H1-1b
	LC16 at 100.00%	0.29	OK	Eq. H1-1b
	LC17 at 100.00%	0.18	OK	Eq. H1-1b
	LC18 at 100.00%	0.12	OK	Eq. H1-1b
	LC19 at 100.00%	0.12	OK	Eq. H1-1b

		LC2 at 100.00%	0.23	OK	Eq. H1-1b
		LC20 at 100.00%	0.27	OK	Eq. H1-1b
		LC21 at 100.00%	0.37	OK	Eq. H1-1b
		LC22 at 100.00%	0.36	OK	Eq. H1-1b
		LC23 at 100.00%	0.20	OK	Eq. H1-1b
		LC24 at 100.00%	0.10	OK	Eq. H1-1b
		LC25 at 100.00%	0.33	OK	Eq. H1-1b
		LC26 at 100.00%	0.30	OK	Eq. H1-1b
		LC27 at 100.00%	0.30	OK	Eq. H1-1b
		LC28 at 100.00%	0.30	OK	Eq. H1-1b
		LC29 at 100.00%	0.34	OK	Eq. H1-1b
		LC3 at 100.00%	0.32	OK	Eq. H1-1b
		LC30 at 100.00%	0.34	OK	Eq. H1-1b
		LC31 at 100.00%	0.34	OK	Eq. H1-1b
		LC32 at 100.00%	0.37	OK	Eq. H1-1b
		LC33 at 100.00%	0.37	OK	Eq. H1-1b
		LC34 at 100.00%	0.37	OK	Eq. H1-1b
		LC35 at 100.00%	0.33	OK	Eq. H1-1b
		LC36 at 100.00%	0.33	OK	Eq. H1-1b
		LC37 at 100.00%	0.11	OK	Eq. H1-1b
		LC38 at 100.00%	0.24	OK	Eq. H1-1b
		LC39 at 100.00%	0.39	OK	Eq. H1-1b
		LC4 at 100.00%	0.31	OK	Eq. H1-1b
		LC40 at 100.00%	0.38	OK	Eq. H1-1b
		LC41 at 100.00%	0.38	OK	Eq. H1-1b
		LC42 at 100.00%	0.38	OK	Eq. H1-1b
		LC43 at 100.00%	0.40	OK	Eq. H1-1b
		LC44 at 100.00%	0.40	OK	Eq. H1-1b
		LC45 at 100.00%	0.40	OK	Eq. H1-1b
		LC46 at 100.00%	**0.41**	**OK**	Eq. H1-1b
		LC47 at 100.00%	0.41	OK	Eq. H1-1b
		LC48 at 100.00%	0.41	OK	Eq. H1-1b
		LC49 at 100.00%	0.39	OK	Eq. H1-1b
		LC5 at 100.00%	0.20	OK	Eq. H1-1b
		LC50 at 100.00%	0.39	OK	Eq. H1-1b
		LC6 at 100.00%	0.17	OK	Eq. H1-1b
		LC7 at 100.00%	0.17	OK	Eq. H1-1b
		LC8 at 100.00%	0.31	OK	Eq. H1-1b
		LC9 at 100.00%	0.41	OK	Eq. H1-1b
		W180 at 7.81%	0.03	OK	Eq. H1-1b
		W210 at 100.00%	0.10	OK	Eq. H1-1b
		W240 at 100.00%	0.16	OK	Eq. H1-1b
		W270 at 100.00%	0.15	OK	Eq. H1-1b
		W300 at 100.00%	0.08	OK	Eq. H1-1b
		W330 at 7.81%	0.03	OK	Eq. H1-1b
		WI180 at 7.81%	0.01	OK	Eq. H1-1b
		WI210 at 100.00%	0.04	OK	Eq. H1-1b
		WI240 at 100.00%	0.04	OK	Eq. H1-1b
		WI270 at 100.00%	0.03	OK	Eq. H1-1b
		WI300 at 7.81%	0.01	OK	Eq. H1-1b
		WI330 at 7.81%	0.01	OK	Eq. H1-1b
		WL180 at 7.81%	0.00	OK	Eq. H1-1b
		WL210 at 100.00%	0.01	OK	Eq. H1-1b
		WL240 at 100.00%	0.01	OK	Eq. H1-1b
		WL270 at 100.00%	0.01	OK	Eq. H1-1b
		WL300 at 7.81%	0.00	OK	Eq. H1-1b
		WL330 at 7.81%	0.00	OK	Eq. H1-1b
RndBar 1-1_4	**31**	LC1 at 0.00%	0.04	OK	
		LC10 at 0.00%	0.03	OK	
		LC11 at 0.00%	0.03	OK	
		LC12 at 0.00%	0.04	OK	
		LC13 at 0.00%	0.03	OK	
		LC14 at 0.00%	0.04	OK	

	LC15 at 0.00%	0.03	OK	
	LC16 at 0.00%	0.03	OK	
	LC17 at 0.00%	0.02	OK	
	LC18 at 0.00%	0.02	OK	
	LC19 at 0.00%	0.02	OK	
	LC2 at 0.00%	0.04	OK	
	LC20 at 0.00%	0.01	OK	
	LC21 at 0.00%	0.02	OK	
	LC22 at 0.00%	0.02	OK	
	LC23 at 0.00%	0.02	OK	
	LC24 at 0.00%	0.03	OK	
	LC25 at 0.00%	0.06	OK	
	LC26 at 0.00%	0.06	OK	
	LC27 at 0.00%	0.06	OK	
	LC28 at 0.00%	0.06	OK	
	LC29 at 0.00%	0.06	OK	
	LC3 at 0.00%	0.04	OK	
	LC30 at 0.00%	0.06	OK	
	LC31 at 0.00%	0.06	OK	
	LC32 at 0.00%	0.06	OK	
	LC33 at 0.00%	0.06	OK	
	LC34 at 0.00%	0.06	OK	
	LC35 at 0.00%	0.06	OK	
	LC36 at 0.00%	0.06	OK	
	LC37 at 0.00%	0.02	OK	
	LC38 at 0.00%	**0.24**	**OK**	
	LC39 at 0.00%	0.04	OK	
	LC4 at 0.00%	0.04	OK	
	LC40 at 0.00%	0.04	OK	
	LC41 at 0.00%	0.04	OK	
	LC42 at 0.00%	0.04	OK	
	LC43 at 0.00%	0.04	OK	
	LC44 at 0.00%	0.04	OK	
	LC45 at 0.00%	0.04	OK	
	LC46 at 0.00%	0.04	OK	
	LC47 at 0.00%	0.04	OK	
	LC48 at 0.00%	0.04	OK	
	LC49 at 0.00%	0.04	OK	
	LC5 at 0.00%	0.03	OK	
	LC50 at 0.00%	0.04	OK	
	LC6 at 0.00%	0.02	OK	
	LC7 at 0.00%	0.02	OK	
	LC8 at 0.00%	0.02	OK	
	LC9 at 0.00%	0.03	OK	
	W180 at 0.00%	0.01	OK	Eq. H1-1b
	W210 at 0.00%	0.01	OK	
	W240 at 0.00%	0.01	OK	Eq. H1-1b
	W270 at 0.00%	0.00	OK	Eq. H1-1b
	W300 at 0.00%	0.00	OK	Eq. H1-1b
	W330 at 0.00%	0.01	OK	Eq. H1-1b
	WI180 at 0.00%	0.00	OK	Eq. H1-1b
	WI210 at 0.00%	0.00	OK	Eq. H1-1b
	WI240 at 0.00%	0.00	OK	Eq. H1-1b
	WI270 at 0.00%	0.00	OK	Eq. H1-1b
	WI300 at 0.00%	0.00	OK	Eq. H1-1b
	WI330 at 0.00%	0.00	OK	Eq. H1-1b
	WL180 at 0.00%	0.00	OK	Eq. H1-1b
	WL210 at 0.00%	0.00	OK	Eq. H1-1b
	WL240 at 0.00%	0.00	OK	Eq. H1-1b
	WL270 at 0.00%	0.00	OK	Eq. H1-1b
	WL300 at 0.00%	0.00	OK	Eq. H1-1b
	WL330 at 0.00%	0.00	OK	Eq. H1-1b
32	LC1 at 0.00%	0.14	OK	

LC10 at 0.00%	0.08	OK	Eq. H1-1b
LC11 at 0.00%	0.14	OK	
LC12 at 0.00%	0.14	OK	
LC13 at 0.00%	0.10	OK	
LC14 at 0.00%	0.24	OK	
LC15 at 0.00%	0.24	OK	
LC16 at 0.00%	0.23	OK	
LC17 at 0.00%	0.15	OK	
LC18 at 0.00%	0.15	OK	
LC19 at 0.00%	0.16	OK	
LC2 at 0.00%	0.28	OK	
LC20 at 0.00%	0.08	OK	Eq. H1-1b
LC21 at 0.00%	0.08	OK	Eq. H1-1b
LC22 at 0.00%	0.07	OK	Eq. H1-1b
LC23 at 0.00%	0.10	OK	
LC24 at 0.00%	0.10	OK	
LC25 at 0.00%	0.33	OK	
LC26 at 0.00%	0.37	OK	
LC27 at 0.00%	0.37	OK	
LC28 at 0.00%	0.36	OK	
LC29 at 0.00%	0.34	OK	
LC3 at 0.00%	0.28	OK	
LC30 at 0.00%	0.34	OK	
LC31 at 0.00%	0.34	OK	
LC32 at 0.00%	0.31	OK	
LC33 at 0.00%	0.31	OK	
LC34 at 0.00%	0.31	OK	
LC35 at 0.00%	0.33	OK	
LC36 at 0.00%	0.33	OK	
LC37 at 0.00%	0.13	OK	
LC38 at 0.00%	**0.57**	**OK**	
LC39 at 0.00%	0.23	OK	
LC4 at 0.00%	0.27	OK	
LC40 at 0.00%	0.24	OK	
LC41 at 0.00%	0.24	OK	
LC42 at 0.00%	0.24	OK	
LC43 at 0.00%	0.23	OK	
LC44 at 0.00%	0.23	OK	
LC45 at 0.00%	0.23	OK	
LC46 at 0.00%	0.22	OK	
LC47 at 0.00%	0.22	OK	
LC48 at 0.00%	0.22	OK	
LC49 at 0.00%	0.23	OK	
LC5 at 0.00%	0.19	OK	
LC50 at 0.00%	0.23	OK	
LC6 at 0.00%	0.20	OK	
LC7 at 0.00%	0.20	OK	
LC8 at 0.00%	0.08	OK	Eq. H1-1b
LC9 at 0.00%	0.08	OK	Eq. H1-1b
W180 at 0.00%	0.04	OK	Eq. H1-1b
W210 at 0.00%	0.07	OK	
W240 at 0.00%	0.07	OK	
W270 at 0.00%	0.06	OK	
W300 at 0.00%	0.03	OK	Eq. H1-1b
W330 at 0.00%	0.03	OK	Eq. H1-1b
WI180 at 0.00%	0.02	OK	Eq. H1-1b
WI210 at 0.00%	0.03	OK	
WI240 at 0.00%	0.03	OK	
WI270 at 0.00%	0.03	OK	
WI300 at 0.00%	0.01	OK	Eq. H1-1b
WI330 at 0.00%	0.02	OK	Eq. H1-1b
WL180 at 0.00%	0.00	OK	Eq. H1-1b
WL210 at 0.00%	0.01	OK	
WL240 at 0.00%	0.01	OK	

	WL270 at 0.00%	0.01	OK	
	WL300 at 0.00%	0.00	OK	Eq. H1-1b
	WL330 at 0.00%	0.00	OK	Eq. H1-1b
34	LC1 at 100.00%	0.66	OK	Eq. H1-1b
	LC10 at 0.00%	0.47	OK	
	LC11 at 100.00%	**0.84**	**OK**	Eq. H1-1b
	LC12 at 100.00%	0.60	OK	Eq. H1-1b
	LC13 at 100.00%	0.66	OK	Eq. H1-1b
	LC14 at 0.00%	0.50	OK	
	LC15 at 0.00%	0.44	OK	
	LC16 at 0.00%	0.30	OK	
	LC17 at 100.00%	0.80	OK	Eq. H1-1b
	LC18 at 100.00%	0.57	OK	Eq. H1-1b
	LC19 at 100.00%	0.63	OK	Eq. H1-1b
	LC2 at 0.00%	0.49	OK	Eq. H3-6
	LC20 at 0.00%	0.64	OK	
	LC21 at 0.00%	0.58	OK	
	LC22 at 0.00%	0.44	OK	
	LC23 at 100.00%	0.83	OK	Eq. H1-1b
	LC24 at 100.00%	0.60	OK	Eq. H1-1b
	LC25 at 100.00%	0.21	OK	Eq. H1-1b
	LC26 at 0.00%	0.14	OK	Eq. H1-1b
	LC27 at 0.00%	0.13	OK	Eq. H1-1b
	LC28 at 0.00%	0.13	OK	Eq. H1-1b
	LC29 at 0.00%	0.27	OK	Eq. H3-6
	LC3 at 0.00%	0.41	OK	
	LC30 at 0.00%	0.27	OK	Eq. H3-6
	LC31 at 0.00%	0.29	OK	Eq. H3-6
	LC32 at 0.00%	0.35	OK	
	LC33 at 0.00%	0.34	OK	
	LC34 at 0.00%	0.32	OK	
	LC35 at 100.00%	0.19	OK	Eq. H1-1b
	LC36 at 0.00%	0.19	OK	
	LC37 at 0.00%	0.07	OK	
	LC38 at 0.00%	0.36	OK	
	LC39 at 0.00%	0.32	OK	
	LC4 at 0.00%	0.28	OK	
	LC40 at 0.00%	0.28	OK	Eq. H3-6
	LC41 at 0.00%	0.28	OK	Eq. H3-6
	LC42 at 0.00%	0.29	OK	Eq. H3-6
	LC43 at 0.00%	0.35	OK	Eq. H3-6
	LC44 at 0.00%	0.35	OK	Eq. H3-6
	LC45 at 0.00%	0.36	OK	Eq. H3-6
	LC46 at 0.00%	0.38	OK	
	LC47 at 0.00%	0.38	OK	
	LC48 at 0.00%	0.37	OK	
	LC49 at 0.00%	0.32	OK	
	LC5 at 100.00%	0.80	OK	Eq. H1-1b
	LC50 at 0.00%	0.32	OK	
	LC6 at 100.00%	0.56	OK	Eq. H1-1b
	LC7 at 100.00%	0.62	OK	Eq. H1-1b
	LC8 at 0.00%	0.66	OK	
	LC9 at 0.00%	0.60	OK	
	W180 at 100.00%	0.40	OK	Eq. H1-1b
	W210 at 0.00%	0.36	OK	
	W240 at 0.00%	0.32	OK	
	W270 at 0.00%	0.23	OK	
	W300 at 100.00%	0.51	OK	Eq. H1-1b
	W330 at 100.00%	0.36	OK	Eq. H1-1b
	WI180 at 100.00%	0.17	OK	Eq. H1-1b
	WI210 at 0.00%	0.14	OK	
	WI240 at 0.00%	0.13	OK	
	WI270 at 0.00%	0.11	OK	

	WI300 at 100.00%	0.14	OK	Eq. H1-1b
	WI330 at 100.00%	0.14	OK	Eq. H1-1b
	WL180 at 100.00%	0.04	OK	Eq. H1-1b
	WL210 at 0.00%	0.04	OK	
	WL240 at 0.00%	0.03	OK	
	WL270 at 0.00%	0.03	OK	
	WL300 at 100.00%	0.03	OK	Eq. H1-1b
	WL330 at 100.00%	0.04	OK	Eq. H1-1b
53	LC1 at 100.00%	0.02	OK	Eq. H1-1b
	LC10 at 100.00%	0.02	OK	Eq. H1-1b
	LC11 at 100.00%	0.01	OK	Eq. H1-1b
	LC12 at 100.00%	0.02	OK	Eq. H1-1b
	LC13 at 100.00%	0.02	OK	Eq. H1-1b
	LC14 at 100.00%	0.02	OK	Eq. H1-1b
	LC15 at 100.00%	0.02	OK	Eq. H1-1b
	LC16 at 100.00%	0.02	OK	Eq. H1-1b
	LC17 at 100.00%	0.02	OK	Eq. H1-1b
	LC18 at 100.00%	0.03	OK	Eq. H1-1b
	LC19 at 100.00%	0.03	OK	Eq. H1-1b
	LC2 at 100.00%	0.02	OK	Eq. H1-1b
	LC20 at 100.00%	0.01	OK	Eq. H1-1b
	LC21 at 100.00%	0.01	OK	Eq. H1-1b
	LC22 at 100.00%	0.01	OK	Eq. H1-1b
	LC23 at 100.00%	0.01	OK	Eq. H1-1b
	LC24 at 100.00%	0.02	OK	Eq. H1-1b
	LC25 at 100.00%	0.04	OK	Eq. H1-1b
	LC26 at 100.00%	0.04	OK	Eq. H1-1b
	LC27 at 100.00%	0.04	OK	Eq. H1-1b
	LC28 at 100.00%	0.04	OK	Eq. H1-1b
	LC29 at 100.00%	0.04	OK	Eq. H1-1b
	LC3 at 100.00%	0.03	OK	Eq. H1-1b
	LC30 at 100.00%	0.04	OK	Eq. H1-1b
	LC31 at 100.00%	0.04	OK	Eq. H1-1b
	LC32 at 100.00%	0.04	OK	Eq. H1-1b
	LC33 at 100.00%	0.04	OK	Eq. H1-1b
	LC34 at 100.00%	0.04	OK	Eq. H1-1b
	LC35 at 100.00%	0.04	OK	Eq. H1-1b
	LC36 at 100.00%	0.04	OK	Eq. H1-1b
	LC37 at 100.00%	0.02	OK	Eq. H1-1b
	LC38 at 100.00%	**0.14**	**OK**	Eq. H1-1b
	LC39 at 100.00%	0.02	OK	Eq. H1-1b
	LC4 at 100.00%	0.03	OK	Eq. H1-1b
	LC40 at 100.00%	0.02	OK	Eq. H1-1b
	LC41 at 100.00%	0.02	OK	Eq. H1-1b
	LC42 at 100.00%	0.02	OK	Eq. H1-1b
	LC43 at 100.00%	0.02	OK	Eq. H1-1b
	LC44 at 100.00%	0.02	OK	Eq. H1-1b
	LC45 at 100.00%	0.02	OK	Eq. H1-1b
	LC46 at 100.00%	0.02	OK	Eq. H1-1b
	LC47 at 100.00%	0.02	OK	Eq. H1-1b
	LC48 at 100.00%	0.02	OK	Eq. H1-1b
	LC49 at 100.00%	0.02	OK	Eq. H1-1b
	LC5 at 100.00%	0.03	OK	Eq. H1-1b
	LC50 at 100.00%	0.02	OK	Eq. H1-1b
	LC6 at 100.00%	0.03	OK	Eq. H1-1b
	LC7 at 100.00%	0.03	OK	Eq. H1-1b
	LC8 at 100.00%	0.02	OK	Eq. H1-1b
	LC9 at 100.00%	0.01	OK	Eq. H1-1b
	W180 at 100.00%	0.01	OK	Eq. H1-1b
	W210 at 100.00%	0.00	OK	Eq. H1-1b
	W240 at 100.00%	0.00	OK	Eq. H1-1b
	W270 at 100.00%	0.00	OK	Eq. H1-1b
	W300 at 100.00%	0.00	OK	Eq. H1-1b

	W330 at 100.00%	0.01	OK	Eq. H1-1b
	WI180 at 100.00%	0.00	OK	Eq. H1-1b
	WI210 at 100.00%	0.00	OK	Eq. H1-1b
	WI240 at 100.00%	0.00	OK	Eq. H1-1b
	WI270 at 100.00%	0.00	OK	Eq. H1-1b
	WI300 at 100.00%	0.00	OK	Eq. H1-1b
	WI330 at 100.00%	0.00	OK	Eq. H1-1b
	WL180 at 100.00%	0.00	OK	Eq. H1-1b
	WL210 at 100.00%	0.00	OK	Eq. H1-1b
	WL240 at 100.00%	0.00	OK	Eq. H1-1b
	WL270 at 100.00%	0.00	OK	Eq. H1-1b
	WL300 at 100.00%	0.00	OK	Eq. H1-1b
	WL330 at 100.00%	0.00	OK	Eq. H1-1b
54	LC1 at 0.00%	0.05	OK	
	LC10 at 0.00%	0.04	OK	Eq. H1-1b
	LC11 at 0.00%	0.06	OK	Eq. H1-1b
	LC12 at 0.00%	0.05	OK	
	LC13 at 100.00%	0.04	OK	Eq. H1-1b
	LC14 at 0.00%	0.09	OK	Eq. H1-1b
	LC15 at 0.00%	0.10	OK	Eq. H1-1b
	LC16 at 0.00%	0.09	OK	Eq. H1-1b
	LC17 at 0.00%	0.08	OK	Eq. H1-1b
	LC18 at 0.00%	0.09	OK	Eq. H1-1b
	LC19 at 0.00%	0.09	OK	Eq. H1-1b
	LC2 at 0.00%	0.11	OK	Eq. H1-1b
	LC20 at 0.00%	0.03	OK	
	LC21 at 18.75%	0.03	OK	Eq. H1-1b
	LC22 at 0.00%	0.03	OK	Eq. H1-1b
	LC23 at 0.00%	0.04	OK	Eq. H1-1b
	LC24 at 100.00%	0.04	OK	Eq. H1-1b
	LC25 at 0.00%	0.15	OK	Eq. H1-1b
	LC26 at 0.00%	0.16	OK	Eq. H1-1b
	LC27 at 0.00%	0.16	OK	Eq. H1-1b
	LC28 at 0.00%	0.16	OK	Eq. H1-1b
	LC29 at 0.00%	0.16	OK	Eq. H1-1b
	LC3 at 0.00%	0.12	OK	Eq. H1-1b
	LC30 at 0.00%	0.16	OK	Eq. H1-1b
	LC31 at 0.00%	0.16	OK	Eq. H1-1b
	LC32 at 0.00%	0.14	OK	Eq. H1-1b
	LC33 at 0.00%	0.14	OK	Eq. H1-1b
	LC34 at 0.00%	0.14	OK	Eq. H1-1b
	LC35 at 0.00%	0.15	OK	Eq. H1-1b
	LC36 at 0.00%	0.15	OK	Eq. H1-1b
	LC37 at 0.00%	0.06	OK	Eq. H1-1b
	LC38 at 0.00%	**0.22**	**OK**	Eq. H1-1b
	LC39 at 0.00%	0.09	OK	
	LC4 at 0.00%	0.11	OK	Eq. H1-1b
	LC40 at 0.00%	0.09	OK	Eq. H1-1b
	LC41 at 0.00%	0.09	OK	Eq. H1-1b
	LC42 at 0.00%	0.09	OK	Eq. H1-1b
	LC43 at 0.00%	0.09	OK	Eq. H1-1b
	LC44 at 0.00%	0.09	OK	Eq. H1-1b
	LC45 at 0.00%	0.09	OK	Eq. H1-1b
	LC46 at 0.00%	0.09	OK	
	LC47 at 0.00%	0.09	OK	
	LC48 at 0.00%	0.09	OK	
	LC49 at 0.00%	0.09	OK	
	LC5 at 0.00%	0.10	OK	Eq. H1-1b
	LC50 at 0.00%	0.09	OK	
	LC6 at 0.00%	0.11	OK	Eq. H1-1b
	LC7 at 0.00%	0.11	OK	Eq. H1-1b
	LC8 at 0.00%	0.04	OK	Eq. H1-1b
	LC9 at 0.00%	0.04	OK	Eq. H1-1b

	W180 at 0.00%	0.02	OK	Eq. H1-1b
	W210 at 0.00%	0.02	OK	Eq. H1-1b
	W240 at 0.00%	0.03	OK	Eq. H1-1b
	W270 at 0.00%	0.02	OK	Eq. H1-1b
	W300 at 0.00%	0.01	OK	Eq. H1-1b
	W330 at 0.00%	0.02	OK	Eq. H1-1b
	WI180 at 0.00%	0.01	OK	Eq. H1-1b
	WI210 at 0.00%	0.01	OK	Eq. H1-1b
	WI240 at 0.00%	0.01	OK	Eq. H1-1b
	WI270 at 0.00%	0.01	OK	Eq. H1-1b
	WI300 at 0.00%	0.00	OK	Eq. H1-1b
	WI330 at 0.00%	0.01	OK	Eq. H1-1b
	WL180 at 0.00%	0.00	OK	Eq. H1-1b
	WL210 at 0.00%	0.00	OK	Eq. H1-1b
	WL240 at 0.00%	0.00	OK	Eq. H1-1b
	WL270 at 0.00%	0.00	OK	Eq. H1-1b
	WL300 at 0.00%	0.00	OK	Eq. H1-1b
	WL330 at 0.00%	0.00	OK	Eq. H1-1b
56	LC1 at 100.00%	0.47	OK	Eq. H1-1b
	LC10 at 0.00%	0.15	OK	Eq. H1-1b
	LC11 at 100.00%	0.63	OK	Eq. H1-1b
	LC12 at 100.00%	0.43	OK	Eq. H1-1b
	LC13 at 100.00%	0.47	OK	Eq. H1-1b
	LC14 at 0.00%	0.16	OK	
	LC15 at 0.00%	0.13	OK	
	LC16 at 0.00%	0.12	OK	
	LC17 at 100.00%	0.65	OK	Eq. H1-1b
	LC18 at 100.00%	0.45	OK	Eq. H1-1b
	LC19 at 100.00%	0.49	OK	Eq. H1-1b
	LC2 at 0.00%	0.16	OK	
	LC20 at 0.00%	0.13	OK	Eq. H1-1b
	LC21 at 0.00%	0.11	OK	Eq. H1-1b
	LC22 at 0.00%	0.13	OK	Eq. H1-1b
	LC23 at 100.00%	0.63	OK	Eq. H1-1b
	LC24 at 100.00%	0.43	OK	Eq. H1-1b
	LC25 at 100.00%	0.09	OK	Eq. H1-1b
	LC26 at 0.00%	0.15	OK	Eq. H1-1b
	LC27 at 0.00%	0.15	OK	Eq. H1-1b
	LC28 at 0.00%	0.15	OK	Eq. H1-1b
	LC29 at 0.00%	0.25	OK	Eq. H1-1b
	LC3 at 0.00%	0.14	OK	
	LC30 at 0.00%	0.25	OK	Eq. H1-1b
	LC31 at 0.00%	0.26	OK	Eq. H1-1b
	LC32 at 0.00%	0.18	OK	Eq. H1-1b
	LC33 at 0.00%	0.17	OK	Eq. H1-1b
	LC34 at 0.00%	0.18	OK	Eq. H1-1b
	LC35 at 0.00%	0.08	OK	
	LC36 at 0.00%	0.09	OK	
	LC37 at 0.00%	0.05	OK	Eq. H1-1b
	LC38 at 0.00%	0.18	OK	Eq. H1-1b
	LC39 at 0.00%	0.22	OK	Eq. H1-1b
	LC4 at 0.00%	0.12	OK	
	LC40 at 0.00%	0.25	OK	Eq. H1-1b
	LC41 at 0.00%	0.26	OK	Eq. H1-1b
	LC42 at 0.00%	0.26	OK	Eq. H1-1b
	LC43 at 0.00%	0.30	OK	Eq. H1-1b
	LC44 at 0.00%	0.30	OK	Eq. H1-1b
	LC45 at 0.00%	0.30	OK	Eq. H1-1b
	LC46 at 0.00%	0.27	OK	Eq. H1-1b
	LC47 at 0.00%	0.27	OK	Eq. H1-1b
	LC48 at 0.00%	0.27	OK	Eq. H1-1b
	LC49 at 0.00%	0.23	OK	Eq. H1-1b
	LC5 at 100.00%	**0.66**	**OK**	Eq. H1-1b

	LC50 at 0.00%	0.23	OK	Eq. H1-1b
	LC6 at 100.00%	0.46	OK	Eq. H1-1b
	LC7 at 100.00%	0.50	OK	Eq. H1-1b
	LC8 at 0.00%	0.15	OK	Eq. H1-1b
	LC9 at 0.00%	0.12	OK	Eq. H1-1b
	W180 at 100.00%	0.30	OK	Eq. H1-1b
	W210 at 0.00%	0.08	OK	
	W240 at 0.00%	0.07	OK	
	W270 at 0.00%	0.06	OK	
	W300 at 100.00%	0.40	OK	Eq. H1-1b
	W330 at 100.00%	0.28	OK	Eq. H1-1b
	WI180 at 100.00%	0.12	OK	Eq. H1-1b
	WI210 at 0.00%	0.03	OK	
	WI240 at 0.00%	0.03	OK	
	WI270 at 0.00%	0.02	OK	
	WI300 at 100.00%	0.10	OK	Eq. H1-1b
	WI330 at 100.00%	0.11	OK	Eq. H1-1b
	WL180 at 100.00%	0.03	OK	Eq. H1-1b
	WL210 at 0.00%	0.01	OK	
	WL240 at 0.00%	0.01	OK	
	WL270 at 0.00%	0.01	OK	
	WL300 at 100.00%	0.03	OK	Eq. H1-1b
	WL330 at 100.00%	0.03	OK	Eq. H1-1b
58	LC1 at 100.00%	0.60	OK	Eq. H1-1b
	LC10 at 0.00%	0.73	OK	Eq. H3-6
	LC11 at 100.00%	0.51	OK	Eq. H1-1b
	LC12 at 100.00%	0.67	OK	Eq. H1-1b
	LC13 at 100.00%	0.58	OK	Eq. H1-1b
	LC14 at 0.00%	0.64	OK	Eq. H3-6
	LC15 at 0.00%	0.52	OK	
	LC16 at 0.00%	0.46	OK	
	LC17 at 100.00%	0.45	OK	Eq. H3-6
	LC18 at 100.00%	0.60	OK	Eq. H3-6
	LC19 at 100.00%	0.52	OK	Eq. H3-6
	LC2 at 0.00%	0.61	OK	Eq. H3-6
	LC20 at 0.00%	0.96	OK	Eq. H3-6
	LC21 at 0.00%	0.79	OK	Eq. H3-6
	LC22 at 0.00%	0.67	OK	Eq. H3-6
	LC23 at 100.00%	0.49	OK	Eq. H1-1b
	LC24 at 100.00%	0.65	OK	Eq. H1-1b
	LC25 at 100.00%	0.41	OK	Eq. H3-6
	LC26 at 100.00%	0.18	OK	Eq. H1-1b
	LC27 at 100.00%	0.18	OK	Eq. H1-1b
	LC28 at 100.00%	0.19	OK	Eq. H1-1b
	LC29 at 0.00%	0.31	OK	
	LC3 at 0.00%	0.49	OK	
	LC30 at 0.00%	0.31	OK	
	LC31 at 0.00%	0.32	OK	
	LC32 at 0.00%	0.44	OK	
	LC33 at 0.00%	0.44	OK	
	LC34 at 0.00%	0.46	OK	
	LC35 at 100.00%	0.37	OK	Eq. H3-6
	LC36 at 100.00%	0.42	OK	Eq. H3-6
	LC37 at 0.00%	0.10	OK	
	LC38 at 0.00%	0.34	OK	
	LC39 at 100.00%	0.33	OK	Eq. H3-6
	LC4 at 0.00%	0.43	OK	
	LC40 at 0.00%	0.25	OK	
	LC41 at 0.00%	0.26	OK	
	LC42 at 0.00%	0.26	OK	
	LC43 at 0.00%	0.33	OK	
	LC44 at 0.00%	0.33	OK	
	LC45 at 0.00%	0.33	OK	

	LC46 at 0.00%	0.39	OK	
	LC47 at 0.00%	0.38	OK	
	LC48 at 0.00%	0.39	OK	
	LC49 at 100.00%	0.32	OK	Eq. H3-6
	LC5 at 0.00%	0.46	OK	Eq. H3-6
	LC50 at 100.00%	0.34	OK	Eq. H3-6
	LC6 at 100.00%	0.59	OK	Eq. H3-6
	LC7 at 100.00%	0.52	OK	Eq. H3-6
	LC8 at 0.00%	**1.03**	**N.G.**	Eq. H3-6
	LC9 at 0.00%	0.85	OK	Eq. H3-6
	W180 at 100.00%	0.33	OK	Eq. H1-1b
	W210 at 0.00%	0.45	OK	
	W240 at 0.00%	0.39	OK	
	W270 at 0.00%	0.35	OK	
	W300 at 100.00%	0.27	OK	Eq. H1-1b
	W330 at 100.00%	0.37	OK	Eq. H1-1b
	WI180 at 100.00%	0.14	OK	Eq. H1-1b
	WI210 at 0.00%	0.15	OK	
	WI240 at 0.00%	0.16	OK	
	WI270 at 0.00%	0.18	OK	
	WI300 at 100.00%	0.10	OK	Eq. H1-1b
	WI330 at 100.00%	0.14	OK	Eq. H1-1b
	WL180 at 100.00%	0.03	OK	Eq. H1-1b
	WL210 at 0.00%	0.04	OK	
	WL240 at 0.00%	0.04	OK	
	WL270 at 0.00%	0.04	OK	
	WL300 at 100.00%	0.03	OK	Eq. H1-1b
	WL330 at 100.00%	0.04	OK	Eq. H1-1b
59	LC1 at 100.00%	0.44	OK	Eq. H1-1b
	LC10 at 0.00%	0.14	OK	Eq. H1-1b
	LC11 at 100.00%	0.37	OK	Eq. H1-1b
	LC12 at 100.00%	0.46	OK	Eq. H1-1b
	LC13 at 100.00%	0.44	OK	Eq. H1-1b
	LC14 at 0.00%	0.16	OK	
	LC15 at 0.00%	0.13	OK	
	LC16 at 0.00%	0.12	OK	
	LC17 at 100.00%	0.39	OK	Eq. H1-1b
	LC18 at 100.00%	0.48	OK	Eq. H1-1b
	LC19 at 100.00%	0.46	OK	Eq. H1-1b
	LC2 at 0.00%	0.17	OK	
	LC20 at 0.00%	0.16	OK	Eq. H1-1b
	LC21 at 0.00%	0.13	OK	Eq. H1-1b
	LC22 at 0.00%	0.12	OK	Eq. H1-1b
	LC23 at 100.00%	0.37	OK	Eq. H1-1b
	LC24 at 100.00%	0.46	OK	Eq. H1-1b
	LC25 at 0.00%	0.19	OK	Eq. H1-1b
	LC26 at 0.00%	0.15	OK	Eq. H1-1b
	LC27 at 0.00%	0.16	OK	Eq. H1-1b
	LC28 at 0.00%	0.18	OK	Eq. H1-1b
	LC29 at 0.00%	0.17	OK	Eq. H1-1b
	LC3 at 0.00%	0.14	OK	
	LC30 at 0.00%	0.16	OK	Eq. H1-1b
	LC31 at 0.00%	0.16	OK	Eq. H1-1b
	LC32 at 0.00%	0.20	OK	Eq. H1-1b
	LC33 at 0.00%	0.19	OK	Eq. H1-1b
	LC34 at 0.00%	0.18	OK	Eq. H1-1b
	LC35 at 0.00%	0.19	OK	Eq. H1-1b
	LC36 at 0.00%	0.20	OK	Eq. H1-1b
	LC37 at 0.00%	0.06	OK	Eq. H1-1b
	LC38 at 0.00%	0.21	OK	Eq. H1-1b
	LC39 at 0.00%	0.24	OK	Eq. H1-1b
	LC4 at 0.00%	0.13	OK	
	LC40 at 0.00%	0.23	OK	Eq. H1-1b

LC41 at 0.00%	0.23	OK	Eq. H1-1b
LC42 at 0.00%	0.23	OK	Eq. H1-1b
LC43 at 0.00%	0.23	OK	Eq. H1-1b
LC44 at 0.00%	0.23	OK	Eq. H1-1b
LC45 at 0.00%	0.23	OK	Eq. H1-1b
LC46 at 0.00%	0.24	OK	Eq. H1-1b
LC47 at 0.00%	0.24	OK	Eq. H1-1b
LC48 at 0.00%	0.24	OK	Eq. H1-1b
LC49 at 0.00%	0.24	OK	Eq. H1-1b
LC5 at 100.00%	0.40	OK	Eq. H1-1b
LC50 at 0.00%	0.24	OK	Eq. H1-1b
LC6 at 100.00%	**0.48**	**OK**	Eq. H1-1b
LC7 at 100.00%	0.47	OK	Eq. H1-1b
LC8 at 0.00%	0.18	OK	Eq. H1-1b
LC9 at 0.00%	0.16	OK	Eq. H1-1b
W180 at 100.00%	0.28	OK	Eq. H1-1b
W210 at 0.00%	0.08	OK	
W240 at 0.00%	0.06	OK	
W270 at 0.00%	0.06	OK	
W300 at 100.00%	0.24	OK	Eq. H1-1b
W330 at 100.00%	0.29	OK	Eq. H1-1b
WI180 at 100.00%	0.11	OK	Eq. H1-1b
WI210 at 0.00%	0.03	OK	
WI240 at 0.00%	0.02	OK	
WI270 at 0.00%	0.02	OK	
WI300 at 100.00%	0.09	OK	Eq. H1-1b
WI330 at 100.00%	0.11	OK	Eq. H1-1b
WL180 at 100.00%	0.03	OK	Eq. H1-1b
WL210 at 0.00%	0.01	OK	
WL240 at 0.00%	0.01	OK	
WL270 at 0.00%	0.01	OK	
WL300 at 100.00%	0.02	OK	Eq. H1-1b
WL330 at 100.00%	0.03	OK	Eq. H1-1b

Bentley

Current Date: 5/18/2018 3:18 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5270\CT5270.etz\

Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
1	0.00	0.00	0.00	0
3	0.00	-2.08	-0.665	0
5	7.50	0.00	0.00	0
6	-7.50	0.00	0.00	0
7	7.50	-2.08	-0.665	0
8	-7.50	-2.08	-0.665	0
9	7.00	0.00	0.00	0
10	7.00	-2.08	-0.665	0
11	3.75	0.00	0.00	0
12	3.75	-2.08	-0.665	0
13	0.50	0.00	0.00	0
14	0.50	-2.08	-0.665	0
15	-7.00	0.00	0.00	0
16	-7.00	-2.08	-0.665	0
19	-3.75	0.00	0.00	0
20	-3.75	-2.08	-0.665	0
21	-0.50	0.00	0.00	0
22	-0.50	-2.08	-0.665	0
24	6.75	-2.08	-0.665	0
25	6.75	0.00	0.00	0
28	2.167	0.00	0.00	0
29	2.167	-2.08	-0.665	0

38	-6.791	0.00	0.00	0
40	-6.791	-2.08	-0.665	0
52	6.75	0.00	0.20	0
53	2.167	0.00	0.20	0
55	-6.791	0.00	0.20	0
56	6.75	4.00	0.20	0
57	2.167	4.00	0.20	0
59	-6.791	4.00	0.20	0
60	6.75	-4.00	0.20	0
61	2.167	-4.00	0.20	0
63	-6.791	-4.00	0.20	0
64	0.00	0.00	-3.875	0
65	0.00	-2.08	-3.875	0
66	0.00	0.00	-3.542	0
67	0.00	-2.08	-3.542	0
68	0.00	0.00	-2.252	0
69	0.00	-2.08	-2.252	0
70	0.00	0.00	-0.962	0
71	0.00	-2.08	-0.962	0
76	1.00	0.00	0.00	0
77	1.00	-2.08	-0.665	0
94	-6.791	-2.08	0.20	0
96	2.167	-2.08	0.20	0
97	6.75	-2.08	0.20	0
98	-0.833	0.00	0.00	0
99	-0.833	-2.08	-0.665	0
100	-0.833	0.00	0.20	0
101	-0.833	4.00	0.20	0
102	-0.833	-4.00	0.20	0
103	-0.833	-2.08	0.20	0
104	3.75	-1.04	-0.3325	0
105	-3.75	-1.04	-0.3325	0
106	-3.75	-1.04	-6.00	0
107	2.00	-1.04	-5.3325	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
64	1	1	1	1	1	1
65	1	1	1	1	1	1
106	1	1	1	1	1	1
107	1	1	1	1	1	1

Members

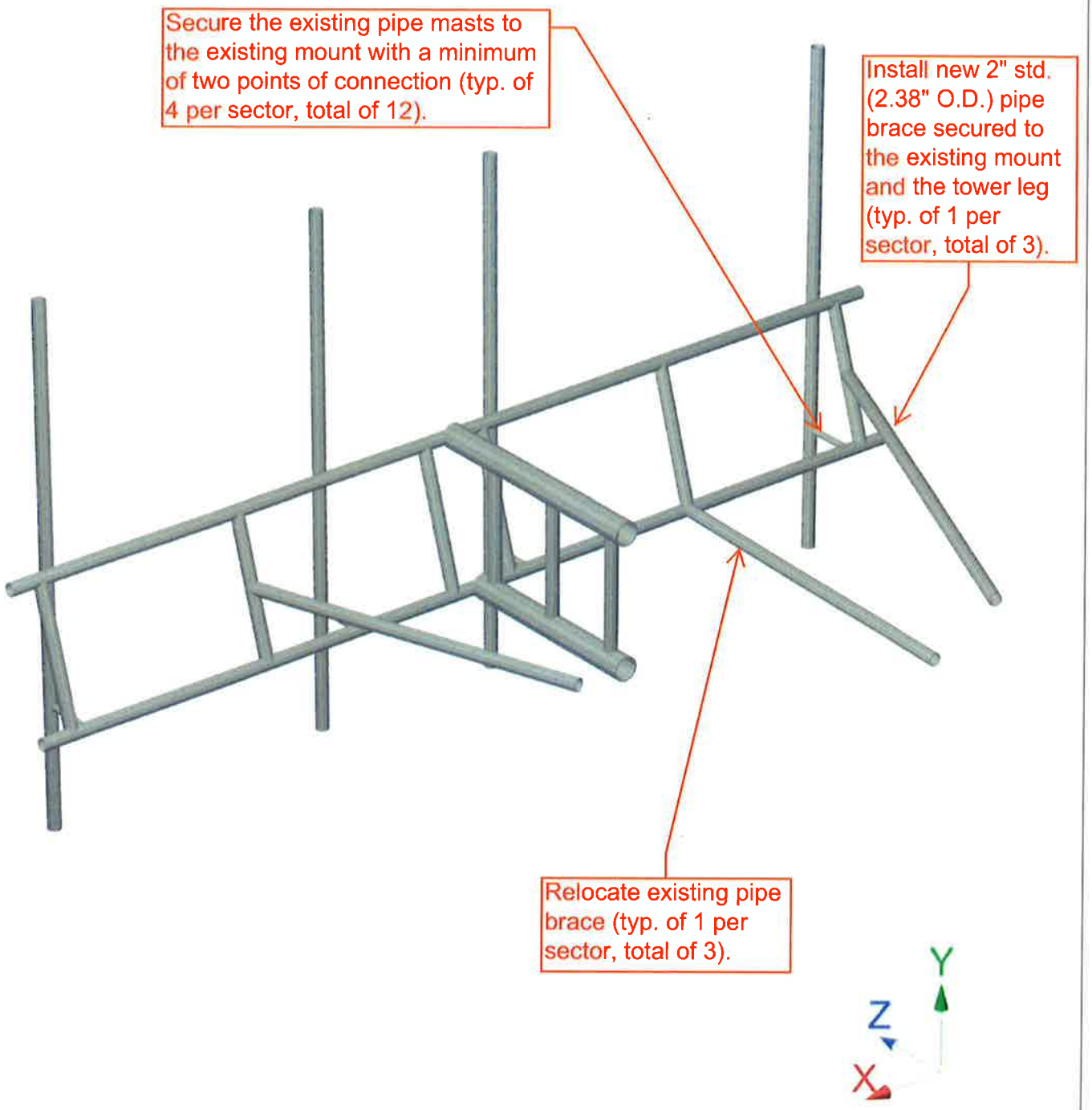
Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
6	9	10		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
7	15	16		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
8	19	20		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
9	21	22		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
10	13	14		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
11	11	12		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
21	59	63		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
23	57	61		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
24	56	60		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
25	1	64		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
26	3	65		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
27	66	67		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
28	68	69		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
29	70	71		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
38	6	76		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
39	8	77		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
40	76	5		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
41	77	7		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
53	97	24		RndBar 1-1_4	A36	0.00	0.00	0.00
54	29	96		RndBar 1-1_4	A36	0.00	0.00	0.00
56	40	94		RndBar 1-1_4	A36	0.00	0.00	0.00
57	101	102		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
59	99	103		RndBar 1-1_4	A36	0.00	0.00	0.00
60	104	107		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
61	105	106		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

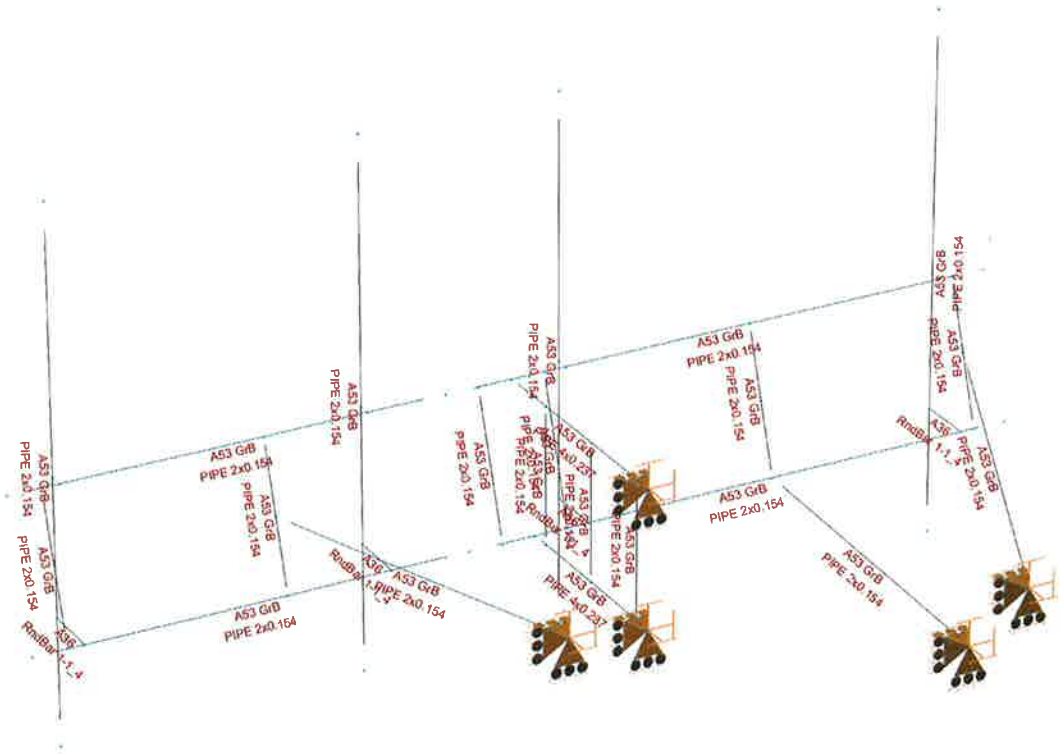
HUDSON
Design Group LLC

Mount Calculations
(Modified 2C/3C Configuration)

Bentley

Current Date: 5/18/2018 3:09 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5270\CT5270 (mod).etz\




A53 GrB
PIPE 2x0.154
A53 GrB
PIPE 4x0.237
A36
RndBar 1 1/4
Y
Z
X

Bentley

Current Date: 5/21/2018 5:01 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5270\CT5270 (mod).etz\

Load data

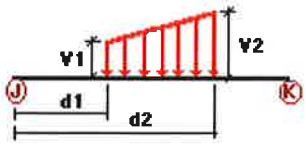
GLOSSARY

Comb : Indicates if load condition is a load combination

Load conditions

Condition	Description	Comb.	Category
D	Dead Load	No	DL
Wo	Wind Load (NO ICE)	No	WIND
W30	WL 30deg	No	WIND
W60	WL 60deg	No	WIND
W90	WL 90deg	No	WIND
W120	WL 120deg	No	WIND
W150	WL 150deg	No	WIND
Di	Ice Load	No	LL
WI0	WL ICE 0deg	No	WIND
WI30	WL ICE 30deg	No	WIND
WI60	WL ICE 60deg	No	WIND
WI90	WL ICE 90deg	No	WIND
WI120	WL ICE 120deg	No	WIND
WI150	WL ICE 150deg	No	WIND
WL0	WL 30 mph 0deg	No	WIND
WL30	WL 30 mph 30deg	No	WIND
WL60	WL 30 mph 60deg	No	WIND
WL90	WL 30 mph 90deg	No	WIND
WL120	WL 30 mph 120deg	No	WIND
WL150	WL 30 mph 150deg	No	WIND
LL1	250 lb Live Load	No	LL
LL2	500 lb Live Load	No	LL
W180	-Wo	Yes	
W210	-W30	Yes	
W240	-W60	Yes	
W270	-W90	Yes	
W300	-W120	Yes	
W330	-W150	Yes	
WI180	-WI0	Yes	
WI210	-WI30	Yes	
WI240	-WI60	Yes	
WI270	-WI90	Yes	
WI300	-WI120	Yes	
WI330	-WI150	Yes	
WL180	-WL0	Yes	
WL210	-WL30	Yes	
WL240	-WL60	Yes	
WL270	-WL90	Yes	
WL300	-WL120	Yes	
WL330	-WL150	Yes	

Distributed force on members

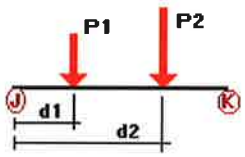


Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
Wo	6	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	7	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	8	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	9	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	10	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	11	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	25	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	26	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	28	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	29	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	38	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	39	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	40	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	41	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	60	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	61	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	62	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
W30	6	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	7	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	8	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	9	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	10	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	11	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	25	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	26	Z	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	28	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	29	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	38	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	39	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	40	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	41	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	60	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	61	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	62	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
W60	6	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	7	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	8	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	9	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	10	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	11	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	25	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	26	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	28	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	29	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	38	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	39	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	40	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	41	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	60	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	61	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	62	X	-0.006	-0.006	0.00	Yes	100.00	Yes

W90	6	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	7	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	8	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	9	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	10	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	11	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	25	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	26	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	28	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	29	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	38	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	39	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	40	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	41	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	60	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	61	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	62	X	-0.006	-0.006	0.00	Yes	100.00	Yes
W120	6	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	7	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	8	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	9	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	10	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	11	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	25	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	26	X	-0.01	-0.01	0.00	Yes	100.00	Yes
	27	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	28	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	29	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	38	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	39	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	40	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	41	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	60	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	61	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	62	X	-0.006	-0.006	0.00	Yes	100.00	Yes
W150	6	Z	0.006	0.006	0.00	Yes	100.00	Yes
	7	Z	0.006	0.006	0.00	Yes	100.00	Yes
	8	Z	0.006	0.006	0.00	Yes	100.00	Yes
	9	Z	0.006	0.006	0.00	Yes	100.00	Yes
	10	Z	0.006	0.006	0.00	Yes	100.00	Yes
	11	Z	0.006	0.006	0.00	Yes	100.00	Yes
	25	Z	0.01	0.01	0.00	Yes	100.00	Yes
	26	Z	0.01	0.01	0.00	Yes	100.00	Yes
	27	Z	0.006	0.006	0.00	Yes	100.00	Yes
	28	Z	0.006	0.006	0.00	Yes	100.00	Yes
	29	Z	0.006	0.006	0.00	Yes	100.00	Yes
	38	Z	0.006	0.006	0.00	Yes	100.00	Yes
	39	Z	0.006	0.006	0.00	Yes	100.00	Yes
	40	Z	0.006	0.006	0.00	Yes	100.00	Yes
	41	Z	0.006	0.006	0.00	Yes	100.00	Yes
	60	Z	0.006	0.006	0.00	Yes	100.00	Yes
	61	Z	0.006	0.006	0.00	Yes	100.00	Yes
	62	Z	0.006	0.006	0.00	Yes	100.00	Yes
Di	6	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	7	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	8	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	9	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	10	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	11	Y	-0.004	-0.004	0.00	Yes	100.00	Yes

21	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
23	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
24	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
25	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
26	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
27	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
28	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
29	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
31	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
32	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
34	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
38	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
39	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
40	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
41	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
53	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
54	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
56	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
57	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
58	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
59	Y	-0.003	-0.003	0.00	Yes	100.00	Yes
60	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
61	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
62	Y	-0.004	-0.004	0.00	Yes	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	21	y	-0.031	7.27	No
		y	-0.031	0.73	No
		y	-0.051	1.00	No
	23	y	-0.024	5.52	No
		y	-0.024	2.48	No
		y	-0.018	1.00	No
		y	-0.018	7.00	No
	57	y	-0.038	7.25	No
		y	-0.038	0.75	No
		y	-0.06	3.00	No
		y	-0.06	3.00	No
Wo	21	z	-0.133	7.27	No
		z	-0.133	0.73	No
		z	-0.026	1.00	No
	23	z	-0.06	5.52	No
		z	-0.06	2.48	No
	57	z	-0.155	7.25	No
		z	-0.155	0.75	No
		z	-0.013	3.00	No
		z	-0.013	3.00	No
W30	21	2	-0.123	7.27	No

		2	-0.123	0.73	No
		2	-0.031	1.00	No
	23	2	-0.055	5.52	No
		2	-0.055	2.48	No
	57	2	-0.142	7.25	No
		2	-0.142	0.75	No
		2	-0.035	3.00	No
		2	-0.035	3.00	No
W60	21	2	-0.101	7.27	No
		2	-0.101	0.73	No
		2	-0.033	1.00	No
	23	2	-0.044	5.52	No
		2	-0.044	2.48	No
	57	2	-0.116	7.25	No
		2	-0.116	0.75	No
		2	-0.041	3.00	No
		2	-0.041	3.00	No
W90	21	x	-0.09	7.27	No
		x	-0.09	0.73	No
		x	-0.028	3.00	No
	23	x	-0.039	5.52	No
		x	-0.039	2.48	No
	57	x	-0.103	7.25	No
		x	-0.103	0.75	No
		x	-0.039	3.00	No
		x	-0.039	3.00	No
W120	21	3	0.101	7.27	No
		3	0.101	0.73	No
		3	0.101	7.27	No
		3	0.101	0.73	No
	23	3	0.044	5.52	No
		3	0.044	2.48	No
	57	3	0.116	7.25	No
		3	0.116	0.75	No
		3	0.041	3.00	No
		3	0.041	3.00	No
W150	21	3	0.123	7.27	No
		3	0.123	0.73	No
		3	0.031	2.00	No
	23	3	0.055	5.52	No
		3	0.055	2.48	No
	57	3	0.142	7.25	No
		3	0.142	0.75	No
		3	0.035	2.00	No
		3	0.035	2.00	No
Di	21	y	-0.07	7.27	No
		y	-0.07	0.73	No
		y	-0.045	1.00	No
	23	y	-0.036	5.52	No
		y	-0.036	2.48	No
		y	-0.013	1.00	No
		y	-0.013	7.00	No
	57	y	-0.084	7.25	No
		y	-0.084	0.75	No
		y	-0.045	3.00	No
		y	-0.045	3.00	No
Wl0	21	z	-0.052	7.27	No
		z	-0.052	0.73	No
		z	-0.015	1.00	No
	23	z	-0.026	5.52	No

		z	-0.026	2.48	No
	57	z	-0.058	7.25	No
		z	-0.058	0.75	No
		z	-0.015	3.00	No
		z	-0.015	3.00	No
WI30	21	2	-0.047	7.27	No
		2	-0.047	0.73	No
		2	-0.014	1.00	No
	23	2	-0.023	5.52	No
		2	-0.023	2.48	No
	57	2	-0.052	7.25	No
		2	-0.052	0.75	No
		2	-0.016	3.00	No
WI60	21	2	-0.041	7.27	No
		2	-0.041	0.73	No
		2	-0.016	1.00	No
	23	2	-0.02	5.52	No
		2	-0.02	2.48	No
	57	2	-0.045	7.25	No
		2	-0.045	0.75	No
		2	-0.02	3.00	No
		2	-0.02	3.00	No
WI90	21	x	-0.038	7.27	No
		x	-0.038	0.73	No
		x	-0.015	2.00	No
	23	x	-0.019	5.52	No
		x	-0.019	2.48	No
	57	x	-0.041	7.25	No
		x	-0.041	0.75	No
		x	-0.019	2.00	No
		x	-0.019	2.00	No
WI120	21	3	0.041	7.27	No
		3	0.041	0.73	No
		3	0.016	1.00	No
	23	3	0.02	5.52	No
		3	0.02	2.48	No
	57	3	0.045	7.25	No
		3	0.045	0.75	No
		3	0.02	3.00	No
WI150	21	3	0.047	7.27	No
		3	0.047	0.73	No
		3	0.014	2.00	No
	23	3	0.023	5.52	No
		3	0.023	2.48	No
	57	3	0.052	7.25	No
		3	0.052	0.75	No
		3	0.016	2.00	No
		3	0.016	2.00	No
WL0	21	z	-0.013	7.27	No
		z	-0.013	0.73	No
		z	-0.003	1.00	No
	23	z	-0.006	5.52	No
		z	-0.006	2.48	No
	57	z	-0.015	7.25	No
		z	-0.015	0.75	No
		z	-0.002	3.00	No
		z	-0.002	3.00	No
WL30	21	2	-0.012	7.27	No
		2	-0.012	0.73	No
		2	-0.003	1.00	No

	23	2	-0.006	5.52	No
		2	-0.006	2.48	No
	57	2	-0.014	7.25	No
		2	-0.014	0.75	No
		2	-0.004	3.00	No
		2	-0.004	3.00	No
WL60	21	2	-0.01	7.27	No
		2	-0.01	0.73	No
		2	-0.004	1.00	No
	23	2	-0.005	5.52	No
		2	-0.005	2.48	No
	57	2	-0.012	7.25	No
		2	-0.012	0.75	No
		2	-0.004	3.00	No
		2	-0.004	3.00	No
WL90	21	x	-0.009	7.27	No
		x	-0.009	0.73	No
		x	-0.003	2.00	No
	23	x	-0.004	5.52	No
		x	-0.004	2.48	No
	57	x	-0.01	7.25	No
		x	-0.01	0.75	No
		x	-0.004	2.00	No
		x	-0.004	2.00	No
WL120	21	3	0.01	7.27	No
		3	0.01	0.73	No
		3	0.004	1.00	No
	23	3	0.005	5.52	No
		3	0.005	2.48	No
	57	3	0.012	7.25	No
		3	0.012	0.75	No
		3	0.004	3.00	No
		3	0.004	3.00	No
WL150	21	3	0.012	7.27	No
		3	0.012	0.73	No
		3	0.003	2.00	No
	23	3	0.006	5.52	No
		3	0.006	2.48	No
	57	3	0.014	7.25	No
		3	0.014	0.75	No
		3	0.004	2.00	No
		3	0.004	2.00	No
LL1	38	y	-0.25	0.00	No
	40	y	-0.25	6.00	No
LL2	21	y	-0.50	0.00	No

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
D	Dead Load	No	0.00	-1.00	0.00
Wo	Wind Load (NO ICE)	No	0.00	0.00	0.00
W30	WL 30deg	No	0.00	0.00	0.00
W60	WL 60deg	No	0.00	0.00	0.00
W90	WL 90deg	No	0.00	0.00	0.00

W120	WL 120deg	No	0.00	0.00	0.00
W150	WL 150deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
WI0	WL ICE 0deg	No	0.00	0.00	0.00
WI30	WL ICE 30deg	No	0.00	0.00	0.00
WI60	WL ICE 60deg	No	0.00	0.00	0.00
WI90	WL ICE 90deg	No	0.00	0.00	0.00
WI120	WL ICE 120deg	No	0.00	0.00	0.00
WI150	WL ICE 150deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30deg	No	0.00	0.00	0.00
WL60	WL 30 mph 60deg	No	0.00	0.00	0.00
WL90	WL 30 mph 90deg	No	0.00	0.00	0.00
WL120	WL 30 mph 120deg	No	0.00	0.00	0.00
WL150	WL 30 mph 150deg	No	0.00	0.00	0.00
LL1	250 lb Live Load	No	0.00	0.00	0.00
LL2	500 lb Live Load	No	0.00	0.00	0.00
W180	-Wo	Yes	0.00	0.00	0.00
W210	-W30	Yes	0.00	0.00	0.00
W240	-W60	Yes	0.00	0.00	0.00
W270	-W90	Yes	0.00	0.00	0.00
W300	-W120	Yes	0.00	0.00	0.00
W330	-W150	Yes	0.00	0.00	0.00
WI180	-WI0	Yes	0.00	0.00	0.00
WI210	-WI30	Yes	0.00	0.00	0.00
WI240	-WI60	Yes	0.00	0.00	0.00
WI270	-WI90	Yes	0.00	0.00	0.00
WI300	-WI120	Yes	0.00	0.00	0.00
WI330	-WI150	Yes	0.00	0.00	0.00
WL180	-WL0	Yes	0.00	0.00	0.00
WL210	-WL30	Yes	0.00	0.00	0.00
WL240	-WL60	Yes	0.00	0.00	0.00
WL270	-WL90	Yes	0.00	0.00	0.00
WL300	-WL120	Yes	0.00	0.00	0.00
WL330	-WL150	Yes	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
D	0.00	0.00	0.00
Wo	0.00	0.00	0.00
W30	0.00	0.00	0.00
W60	0.00	0.00	0.00
W90	0.00	0.00	0.00
W120	0.00	0.00	0.00
W150	0.00	0.00	0.00
Di	0.00	0.00	0.00
WI0	0.00	0.00	0.00
WI30	0.00	0.00	0.00
WI60	0.00	0.00	0.00
WI90	0.00	0.00	0.00
WI120	0.00	0.00	0.00
WI150	0.00	0.00	0.00
WL0	0.00	0.00	0.00

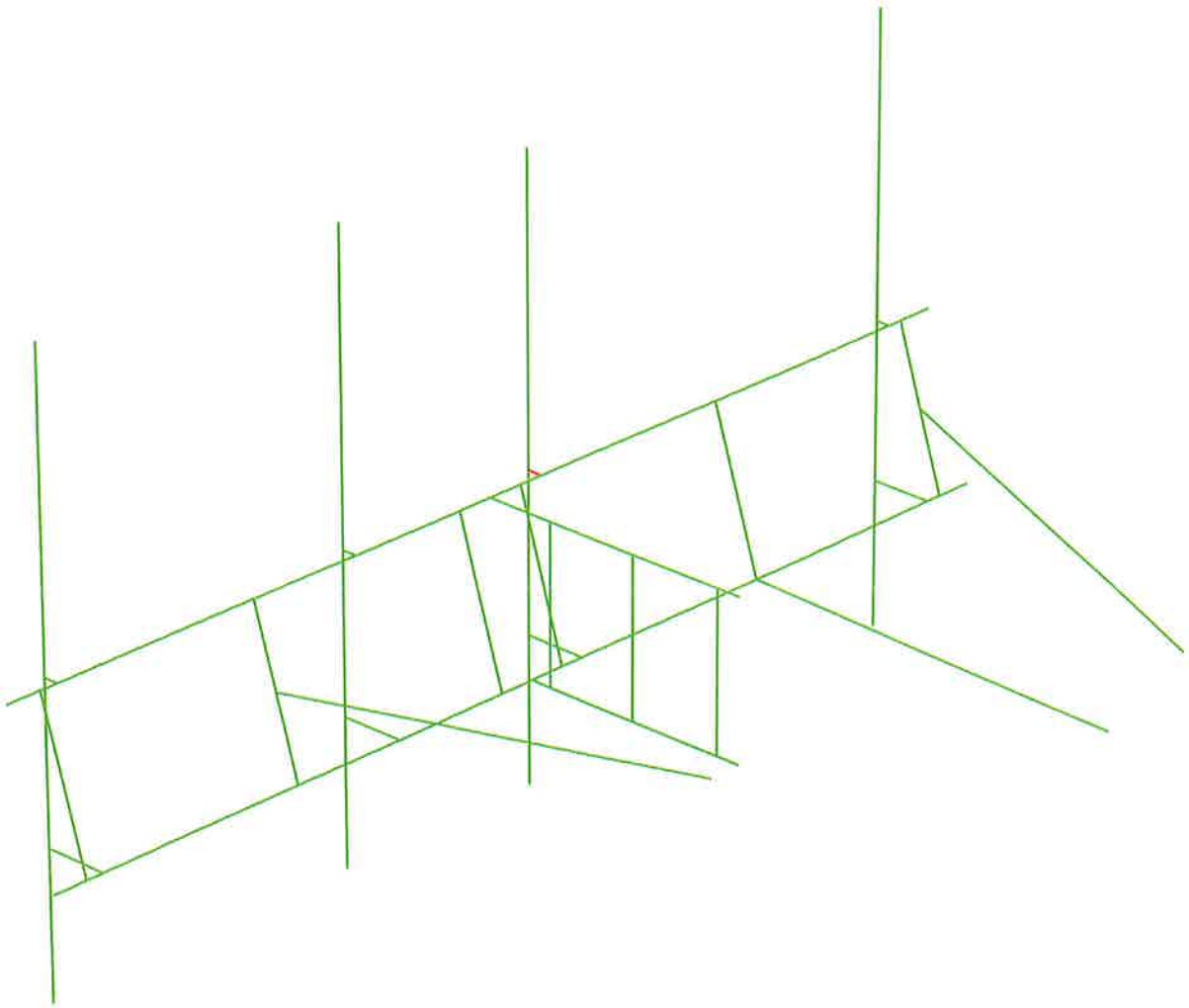
WL30	0.00	0.00	0.00
WL60	0.00	0.00	0.00
WL90	0.00	0.00	0.00
WL120	0.00	0.00	0.00
WL150	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
W180	0.00	0.00	0.00
W210	0.00	0.00	0.00
W240	0.00	0.00	0.00
W270	0.00	0.00	0.00
W300	0.00	0.00	0.00
W330	0.00	0.00	0.00
WI180	0.00	0.00	0.00
WI210	0.00	0.00	0.00
WI240	0.00	0.00	0.00
WI270	0.00	0.00	0.00
WI300	0.00	0.00	0.00
WI330	0.00	0.00	0.00
WL180	0.00	0.00	0.00
WL210	0.00	0.00	0.00
WL240	0.00	0.00	0.00
WL270	0.00	0.00	0.00
WL300	0.00	0.00	0.00
WL330	0.00	0.00	0.00

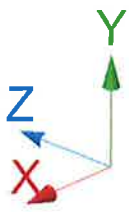
Bentley

Current Date: 5/21/2018 5:04 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5270\CT5270 (mod).etz\

Design status

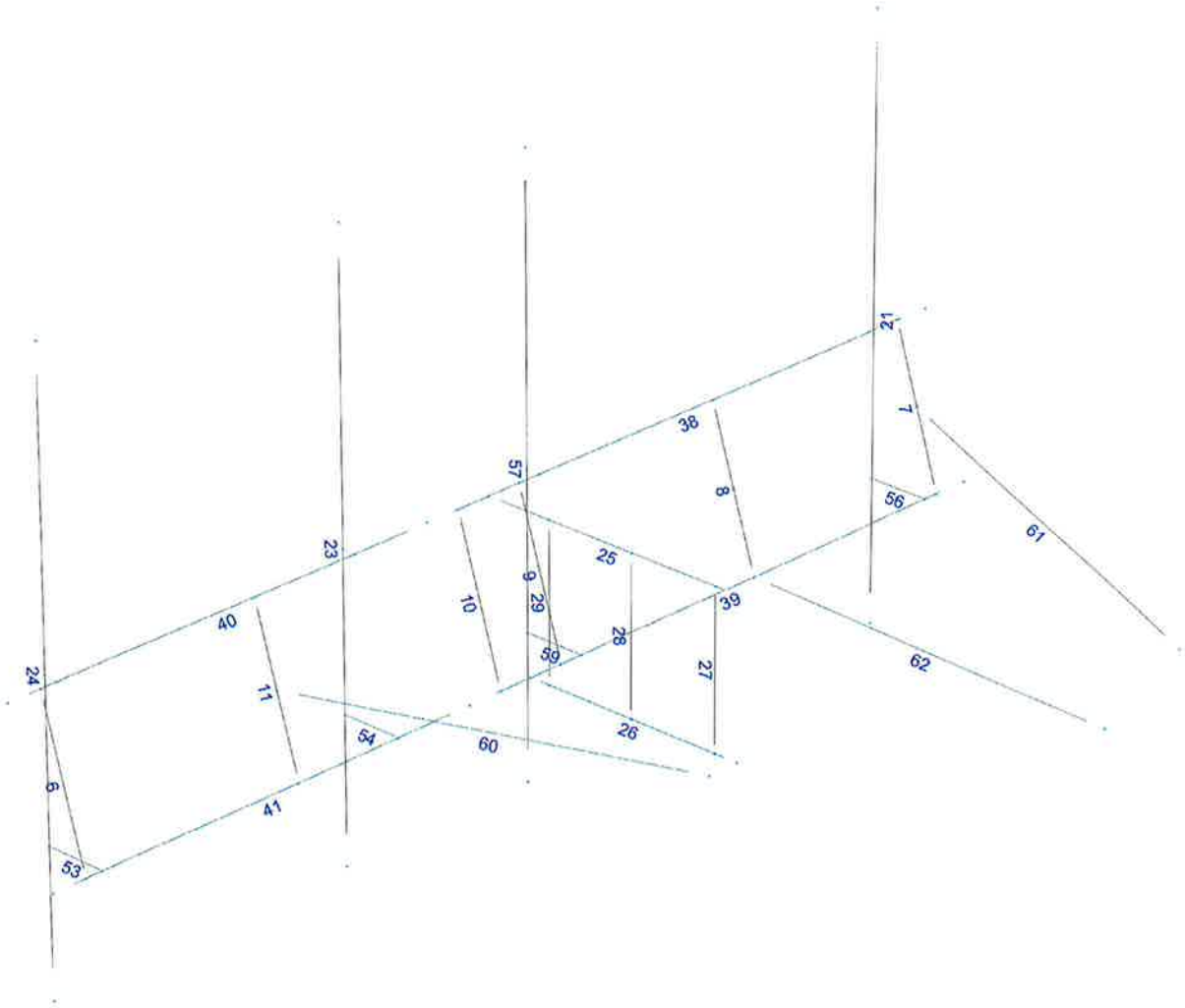
- Not designed
- Error on design
- Design O.K.
- With warnings

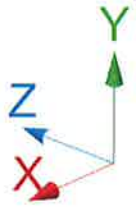




Bentley

Current Date: 5/21/2018 5:05 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5270\CT5270 (mod).etz\





Bentley

Current Date: 5/21/2018 5:01 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5270\CT5270 (mod).etz\

Steel Code Check

Report: Summary - For all selected load conditions

Load conditions to be included in design :

W180=-Wo
W210=-W30
W240=-W60
W270=-W90
W300=-W120
W330=-W150
WI180=-WI0
WI210=-WI30
WI240=-WI60
WI270=-WI90
WI300=-WI120
WI330=-WI150
WL180=-WL0
WL210=-WL30
WL240=-WL60
WL270=-WL90
WL300=-WL120
WL330=-WL150
LC1=1.2D+1.6Wo
LC2=1.2D+1.6W30
LC3=1.2D+1.6W60
LC4=1.2D+1.6W90
LC5=1.2D+1.6W120
LC6=1.2D+1.6W150
LC7=1.2D-1.6Wo
LC8=1.2D-1.6W30
LC9=1.2D-1.6W60
LC10=1.2D-1.6W90
LC11=1.2D-1.6W120
LC12=1.2D-1.6W150
LC13=0.9D+1.6Wo
LC14=0.9D+1.6W30
LC15=0.9D+1.6W60
LC16=0.9D+1.6W90
LC17=0.9D+1.6W120
LC18=0.9D+1.6W150
LC19=0.9D-1.6Wo
LC20=0.9D-1.6W30
LC21=0.9D-1.6W60
LC22=0.9D-1.6W90
LC23=0.9D-1.6W120
LC24=0.9D-1.6W150
LC25=1.2D+Di+WI0
LC26=1.2D+Di+WI30
LC27=1.2D+Di+WI60
LC28=1.2D+Di+WI90
LC29=1.2D+Di+WI120
LC30=1.2D+Di+WI150
LC31=1.2D+Di-WI0
LC32=1.2D+Di-WI30
LC33=1.2D+Di-WI60
LC34=1.2D+Di-WI90
LC35=1.2D+Di-WI120

LC36=1.2D+Di-WI150
LC37=0.9D
LC38=1.2D+1.6LL1
LC39=1.2D+1.6WL0+LL2
LC40=1.2D+1.6WL30+LL2
LC41=1.2D+1.6WL60+LL2
LC42=1.2D+1.6WL90+LL2
LC43=1.2D+1.6WL120+LL2
LC44=1.2D+1.6WL150+LL2
LC45=1.2D-1.6WL0+LL2
LC46=1.2D-1.6WL30+LL2
LC47=1.2D-1.6WL60+LL2
LC48=1.2D-1.6WL90+LL2
LC49=1.2D-1.6WL120+LL2
LC50=1.2D-1.6WL150+LL2

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	PIPE 2x0.154	**6**	LC1 at 0.00%	0.05	OK	Eq. H1-1b
			LC10 at 0.00%	0.04	OK	Eq. H1-1b
			LC11 at 0.00%	0.04	OK	Eq. H1-1b
			LC12 at 0.00%	0.05	OK	Eq. H1-1b
			LC13 at 0.00%	0.04	OK	Eq. H1-1b
			LC14 at 100.00%	0.04	OK	Eq. H1-1b
			LC15 at 100.00%	0.04	OK	Eq. H1-1b
			LC16 at 100.00%	0.03	OK	Eq. H1-1b
			LC17 at 100.00%	0.03	OK	Eq. H1-1b
			LC18 at 100.00%	0.03	OK	Eq. H1-1b
			LC19 at 100.00%	0.03	OK	Eq. H1-1b
			LC2 at 100.00%	0.05	OK	Eq. H1-1b
			LC20 at 100.00%	0.02	OK	Eq. H1-1b
			LC21 at 0.00%	0.03	OK	Eq. H1-1b
			LC22 at 0.00%	0.03	OK	Eq. H1-1b
			LC23 at 0.00%	0.03	OK	Eq. H1-1b
			LC24 at 0.00%	0.04	OK	Eq. H1-1b
			LC25 at 100.00%	0.08	OK	Eq. H1-1b
			LC26 at 100.00%	0.08	OK	Eq. H1-1b
			LC27 at 100.00%	0.08	OK	Eq. H1-1b
			LC28 at 100.00%	0.08	OK	Eq. H1-1b
			LC29 at 100.00%	0.08	OK	Eq. H1-1b
			LC3 at 100.00%	0.04	OK	Eq. H1-1b
			LC30 at 100.00%	0.08	OK	Eq. H1-1b
			LC31 at 100.00%	0.08	OK	Eq. H1-1b
			LC32 at 100.00%	0.08	OK	Eq. H1-1b
			LC33 at 100.00%	0.08	OK	Eq. H1-1b
			LC34 at 100.00%	0.08	OK	Eq. H1-1b
			LC35 at 100.00%	0.08	OK	Eq. H1-1b
			LC36 at 100.00%	0.08	OK	Eq. H1-1b
			LC37 at 100.00%	0.03	OK	Eq. H1-1b
			LC38 at 100.00%	**0.30**	**OK**	Eq. H1-1b
			LC39 at 100.00%	0.04	OK	Eq. H1-1b
			LC4 at 100.00%	0.04	OK	Eq. H1-1b
			LC40 at 100.00%	0.04	OK	Eq. H1-1b
			LC41 at 100.00%	0.04	OK	Eq. H1-1b
			LC42 at 100.00%	0.04	OK	Eq. H1-1b
			LC43 at 100.00%	0.04	OK	Eq. H1-1b
			LC44 at 100.00%	0.04	OK	Eq. H1-1b
			LC45 at 100.00%	0.04	OK	Eq. H1-1b
			LC46 at 100.00%	0.04	OK	Eq. H1-1b
			LC47 at 100.00%	0.04	OK	Eq. H1-1b
			LC48 at 100.00%	0.04	OK	Eq. H1-1b
			LC49 at 100.00%	0.04	OK	Eq. H1-1b
			LC5 at 100.00%	0.04	OK	Eq. H1-1b
			LC50 at 100.00%	0.04	OK	Eq. H1-1b
			LC6 at 100.00%	0.04	OK	Eq. H1-1b

	LC7 at 100.00%	0.04	OK	Eq. H1-1b
	LC8 at 100.00%	0.03	OK	Eq. H1-1b
	LC9 at 0.00%	0.04	OK	Eq. H1-1b
	W180 at 0.00%	0.01	OK	Eq. H1-1b
	W210 at 100.00%	0.01	OK	Eq. H1-1b
	W240 at 100.00%	0.00	OK	Eq. H1-1b
	W270 at 100.00%	0.00	OK	Eq. H1-1b
	W300 at 100.00%	0.00	OK	Eq. H1-1b
	W330 at 0.00%	0.01	OK	Eq. H1-1b
	WI180 at 100.00%	0.00	OK	Eq. H1-1b
	WI210 at 0.00%	0.00	OK	Eq. H1-1b
	WI240 at 0.00%	0.00	OK	Eq. H1-1b
	WI270 at 0.00%	0.00	OK	Eq. H1-1b
	WI300 at 100.00%	0.00	OK	Eq. H1-1b
	WI330 at 100.00%	0.00	OK	Eq. H1-1b
	WL180 at 100.00%	0.00	OK	Eq. H1-1b
	WL210 at 0.00%	0.00	OK	Eq. H1-1b
	WL240 at 0.00%	0.00	OK	Eq. H1-1b
	WL270 at 0.00%	0.00	OK	Eq. H1-1b
	WL300 at 100.00%	0.00	OK	Eq. H1-1b
	WL330 at 100.00%	0.00	OK	Eq. H1-1b
7	LC1 at 46.88%	0.44	OK	Eq. H1-1b
	LC10 at 100.00%	0.13	OK	Eq. H1-1b
	LC11 at 46.88%	0.51	OK	Eq. H1-1b
	LC12 at 46.88%	0.41	OK	Eq. H1-1b
	LC13 at 46.88%	0.45	OK	Eq. H1-1b
	LC14 at 0.00%	0.20	OK	Eq. H1-1b
	LC15 at 0.00%	0.19	OK	Eq. H1-1b
	LC16 at 0.00%	0.17	OK	Eq. H1-1b
	LC17 at 46.88%	0.54	OK	Eq. H1-1b
	LC18 at 46.88%	0.45	OK	Eq. H1-1b
	LC19 at 46.88%	0.48	OK	Eq. H1-1b
	LC2 at 0.00%	0.23	OK	Eq. H1-1b
	LC20 at 100.00%	0.11	OK	Eq. H1-1b
	LC21 at 100.00%	0.10	OK	Eq. H1-1b
	LC22 at 100.00%	0.10	OK	Eq. H1-1b
	LC23 at 46.88%	0.51	OK	Eq. H1-1b
	LC24 at 46.88%	0.42	OK	Eq. H1-1b
	LC25 at 100.00%	0.28	OK	Eq. H1-1b
	LC26 at 0.00%	0.29	OK	Eq. H1-1b
	LC27 at 0.00%	0.29	OK	Eq. H1-1b
	LC28 at 0.00%	0.29	OK	Eq. H1-1b
	LC29 at 100.00%	0.27	OK	Eq. H1-1b
	LC3 at 0.00%	0.22	OK	Eq. H1-1b
	LC30 at 100.00%	0.27	OK	Eq. H1-1b
	LC31 at 100.00%	0.28	OK	Eq. H1-1b
	LC32 at 100.00%	0.27	OK	Eq. H1-1b
	LC33 at 100.00%	0.27	OK	Eq. H1-1b
	LC34 at 100.00%	0.27	OK	Eq. H1-1b
	LC35 at 100.00%	0.28	OK	Eq. H1-1b
	LC36 at 100.00%	0.28	OK	Eq. H1-1b
	LC37 at 100.00%	0.09	OK	Eq. H1-1b
	LC38 at 0.00%	0.48	OK	Eq. H1-1b
	LC39 at 100.00%	0.42	OK	Eq. H1-1b
	LC4 at 0.00%	0.20	OK	Eq. H1-1b
	LC40 at 100.00%	0.42	OK	Eq. H1-1b
	LC41 at 100.00%	0.42	OK	Eq. H1-1b
	LC42 at 100.00%	0.42	OK	Eq. H1-1b
	LC43 at 100.00%	0.42	OK	Eq. H1-1b
	LC44 at 100.00%	0.42	OK	Eq. H1-1b
	LC45 at 100.00%	0.42	OK	Eq. H1-1b
	LC46 at 100.00%	0.42	OK	Eq. H1-1b
	LC47 at 100.00%	0.42	OK	Eq. H1-1b

	LC48 at 100.00%	0.42	OK	Eq. H1-1b
	LC49 at 100.00%	0.42	OK	Eq. H1-1b
	LC5 at 46.88%	**0.55**	**OK**	Eq. H1-1b
	LC50 at 100.00%	0.42	OK	Eq. H1-1b
	LC6 at 46.88%	0.46	OK	Eq. H1-1b
	LC7 at 46.88%	0.48	OK	Eq. H1-1b
	LC8 at 100.00%	0.14	OK	Eq. H1-1b
	LC9 at 100.00%	0.13	OK	Eq. H1-1b
	W180 at 46.88%	0.29	OK	Eq. H1-1b
	W210 at 0.00%	0.07	OK	Eq. H1-1b
	W240 at 0.00%	0.06	OK	Eq. H1-1b
	W270 at 0.00%	0.05	OK	Eq. H1-1b
	W300 at 46.88%	0.33	OK	Eq. H1-1b
	W330 at 46.88%	0.27	OK	Eq. H1-1b
	WI180 at 46.88%	0.11	OK	Eq. H1-1b
	WI210 at 0.00%	0.03	OK	Eq. H1-1b
	WI240 at 0.00%	0.03	OK	Eq. H1-1b
	WI270 at 0.00%	0.02	OK	Eq. H1-1b
	WI300 at 46.88%	0.09	OK	Eq. H1-1b
	WI330 at 46.88%	0.10	OK	Eq. H1-1b
	WL180 at 46.88%	0.03	OK	Eq. H1-1b
	WL210 at 0.00%	0.01	OK	Eq. H1-1b
	WL240 at 0.00%	0.01	OK	Eq. H1-1b
	WL270 at 0.00%	0.00	OK	Eq. H1-1b
	WL300 at 46.88%	0.02	OK	Eq. H1-1b
	WL330 at 46.88%	0.02	OK	Eq. H1-1b
8	LC1 at 100.00%	0.27	OK	Eq. H1-1b
	LC10 at 0.00%	0.32	OK	Eq. H1-1b
	LC11 at 100.00%	0.25	OK	Eq. H1-1b
	LC12 at 100.00%	0.28	OK	Eq. H1-1b
	LC13 at 100.00%	0.21	OK	Eq. H1-1b
	LC14 at 100.00%	0.26	OK	Eq. H1-1b
	LC15 at 100.00%	0.24	OK	Eq. H1-1b
	LC16 at 100.00%	0.24	OK	Eq. H1-1b
	LC17 at 0.00%	0.31	OK	Eq. H1-1b
	LC18 at 0.00%	0.29	OK	Eq. H1-1b
	LC19 at 0.00%	0.30	OK	Eq. H1-1b
	LC2 at 100.00%	0.33	OK	Eq. H1-1b
	LC20 at 100.00%	0.29	OK	Eq. H1-1b
	LC21 at 100.00%	0.29	OK	Eq. H1-1b
	LC22 at 100.00%	0.27	OK	Eq. H1-1b
	LC23 at 100.00%	0.18	OK	Eq. H1-1b
	LC24 at 100.00%	0.22	OK	Eq. H1-1b
	LC25 at 100.00%	0.57	OK	Eq. H1-1b
	LC26 at 100.00%	0.58	OK	Eq. H1-1b
	LC27 at 100.00%	0.58	OK	Eq. H1-1b
	LC28 at 100.00%	0.58	OK	Eq. H1-1b
	LC29 at 100.00%	0.57	OK	Eq. H1-1b
	LC3 at 100.00%	0.31	OK	Eq. H1-1b
	LC30 at 100.00%	0.57	OK	Eq. H1-1b
	LC31 at 100.00%	0.57	OK	Eq. H1-1b
	LC32 at 100.00%	0.56	OK	Eq. H1-1b
	LC33 at 100.00%	0.56	OK	Eq. H1-1b
	LC34 at 100.00%	0.56	OK	Eq. H1-1b
	LC35 at 100.00%	0.57	OK	Eq. H1-1b
	LC36 at 100.00%	0.57	OK	Eq. H1-1b
	LC37 at 100.00%	0.19	OK	Eq. H1-1b
	LC38 at 100.00%	0.72	OK	Eq. H1-1b
	LC39 at 100.00%	0.80	OK	Eq. H1-1b
	LC4 at 100.00%	0.30	OK	Eq. H1-1b
	LC40 at 100.00%	**0.80**	**OK**	Eq. H1-1b
	LC41 at 100.00%	0.80	OK	Eq. H1-1b
	LC42 at 100.00%	0.80	OK	Eq. H1-1b

	LC43 at 100.00%	0.80	OK	Eq. H1-1b
	LC44 at 100.00%	0.80	OK	Eq. H1-1b
	LC45 at 100.00%	0.80	OK	Eq. H1-1b
	LC46 at 100.00%	0.79	OK	Eq. H1-1b
	LC47 at 100.00%	0.79	OK	Eq. H1-1b
	LC48 at 100.00%	0.79	OK	Eq. H1-1b
	LC49 at 100.00%	0.80	OK	Eq. H1-1b
	LC5 at 0.00%	0.37	OK	Eq. H1-1b
	LC50 at 100.00%	0.80	OK	Eq. H1-1b
	LC6 at 0.00%	0.35	OK	Eq. H1-1b
	LC7 at 0.00%	0.36	OK	Eq. H1-1b
	LC8 at 0.00%	0.33	OK	Eq. H1-1b
	LC9 at 0.00%	0.33	OK	Eq. H1-1b
	W180 at 100.00%	0.10	OK	Eq. H1-1b
	W210 at 100.00%	0.11	OK	Eq. H1-1b
	W240 at 100.00%	0.11	OK	Eq. H1-1b
	W270 at 100.00%	0.10	OK	Eq. H1-1b
	W300 at 0.00%	0.08	OK	Eq. H1-1b
	W330 at 100.00%	0.10	OK	Eq. H1-1b
	WI180 at 100.00%	0.04	OK	Eq. H1-1b
	WI210 at 100.00%	0.03	OK	Eq. H1-1b
	WI240 at 100.00%	0.04	OK	Eq. H1-1b
	WI270 at 100.00%	0.03	OK	Eq. H1-1b
	WI300 at 100.00%	0.03	OK	Eq. H1-1b
	WI330 at 100.00%	0.03	OK	Eq. H1-1b
	WL180 at 100.00%	0.01	OK	Eq. H1-1b
	WL210 at 100.00%	0.01	OK	Eq. H1-1b
	WL240 at 100.00%	0.01	OK	Eq. H1-1b
	WL270 at 100.00%	0.01	OK	Eq. H1-1b
	WL300 at 100.00%	0.01	OK	Eq. H1-1b
	WL330 at 100.00%	0.01	OK	Eq. H1-1b
9	LC1 at 0.00%	0.18	OK	Eq. H1-1b
	LC10 at 100.00%	0.22	OK	Eq. H1-1b
	LC11 at 0.00%	0.15	OK	Eq. H1-1b
	LC12 at 0.00%	0.19	OK	Eq. H1-1b
	LC13 at 0.00%	0.17	OK	Eq. H1-1b
	LC14 at 100.00%	0.08	OK	Eq. H1-1b
	LC15 at 100.00%	0.08	OK	Eq. H1-1b
	LC16 at 100.00%	0.08	OK	Eq. H1-1b
	LC17 at 100.00%	0.21	OK	Eq. H1-1b
	LC18 at 100.00%	0.23	OK	Eq. H1-1b
	LC19 at 100.00%	0.23	OK	Eq. H1-1b
	LC2 at 100.00%	0.11	OK	Eq. H1-1b
	LC20 at 100.00%	0.18	OK	Eq. H1-1b
	LC21 at 100.00%	0.19	OK	Eq. H1-1b
	LC22 at 100.00%	0.18	OK	Eq. H1-1b
	LC23 at 0.00%	0.15	OK	Eq. H1-1b
	LC24 at 0.00%	0.18	OK	Eq. H1-1b
	LC25 at 100.00%	0.33	OK	Eq. H1-1b
	LC26 at 100.00%	0.35	OK	Eq. H1-1b
	LC27 at 100.00%	0.35	OK	Eq. H1-1b
	LC28 at 100.00%	0.35	OK	Eq. H1-1b
	LC29 at 100.00%	0.38	OK	Eq. H1-1b
	LC3 at 100.00%	0.10	OK	Eq. H1-1b
	LC30 at 100.00%	0.38	OK	Eq. H1-1b
	LC31 at 100.00%	**0.38**	**OK**	Eq. H1-1b
	LC32 at 100.00%	0.37	OK	Eq. H1-1b
	LC33 at 100.00%	0.37	OK	Eq. H1-1b
	LC34 at 100.00%	0.37	OK	Eq. H1-1b
	LC35 at 100.00%	0.34	OK	Eq. H1-1b
	LC36 at 100.00%	0.33	OK	Eq. H1-1b
	LC37 at 100.00%	0.13	OK	Eq. H1-1b
	LC38 at 100.00%	0.38	OK	Eq. H1-1b

	LC39 at 100.00%	0.30	OK	Eq. H1-1b
	LC4 at 100.00%	0.11	OK	Eq. H1-1b
	LC40 at 100.00%	0.30	OK	Eq. H1-1b
	LC41 at 100.00%	0.30	OK	Eq. H1-1b
	LC42 at 100.00%	0.30	OK	Eq. H1-1b
	LC43 at 100.00%	0.32	OK	Eq. H1-1b
	LC44 at 100.00%	0.32	OK	Eq. H1-1b
	LC45 at 100.00%	0.32	OK	Eq. H1-1b
	LC46 at 100.00%	0.31	OK	Eq. H1-1b
	LC47 at 100.00%	0.31	OK	Eq. H1-1b
	LC48 at 100.00%	0.31	OK	Eq. H1-1b
	LC49 at 100.00%	0.30	OK	Eq. H1-1b
	LC5 at 100.00%	0.26	OK	Eq. H1-1b
	LC50 at 100.00%	0.30	OK	Eq. H1-1b
	LC6 at 100.00%	0.27	OK	Eq. H1-1b
	LC7 at 100.00%	0.27	OK	Eq. H1-1b
	LC8 at 100.00%	0.22	OK	Eq. H1-1b
	LC9 at 100.00%	0.23	OK	Eq. H1-1b
	W180 at 0.00%	0.10	OK	Eq. H1-1b
	W210 at 100.00%	0.06	OK	Eq. H1-1b
	W240 at 100.00%	0.06	OK	Eq. H1-1b
	W270 at 100.00%	0.05	OK	Eq. H1-1b
	W300 at 0.00%	0.08	OK	Eq. H1-1b
	W330 at 0.00%	0.10	OK	Eq. H1-1b
	WI180 at 0.00%	0.04	OK	Eq. H1-1b
	WI210 at 100.00%	0.02	OK	Eq. H1-1b
	WI240 at 100.00%	0.03	OK	Eq. H1-1b
	WI270 at 100.00%	0.02	OK	Eq. H1-1b
	WI300 at 0.00%	0.03	OK	Eq. H1-1b
	WI330 at 0.00%	0.04	OK	Eq. H1-1b
	WL180 at 0.00%	0.01	OK	Eq. H1-1b
	WL210 at 100.00%	0.01	OK	Eq. H1-1b
	WL240 at 100.00%	0.01	OK	Eq. H1-1b
	WL270 at 100.00%	0.01	OK	Eq. H1-1b
	WL300 at 0.00%	0.01	OK	Eq. H1-1b
	WL330 at 0.00%	0.01	OK	Eq. H1-1b
10	LC1 at 100.00%	0.15	OK	Eq. H1-1b
	LC10 at 100.00%	0.13	OK	Eq. H1-1b
	LC11 at 100.00%	0.15	OK	Eq. H1-1b
	LC12 at 100.00%	0.15	OK	Eq. H1-1b
	LC13 at 100.00%	0.10	OK	Eq. H1-1b
	LC14 at 100.00%	0.18	OK	Eq. H1-1b
	LC15 at 100.00%	0.18	OK	Eq. H1-1b
	LC16 at 100.00%	0.17	OK	Eq. H1-1b
	LC17 at 100.00%	0.16	OK	Eq. H1-1b
	LC18 at 100.00%	0.16	OK	Eq. H1-1b
	LC19 at 100.00%	0.16	OK	Eq. H1-1b
	LC2 at 100.00%	0.22	OK	Eq. H1-1b
	LC20 at 100.00%	0.07	OK	Eq. H1-1b
	LC21 at 100.00%	0.07	OK	Eq. H1-1b
	LC22 at 100.00%	0.08	OK	Eq. H1-1b
	LC23 at 100.00%	0.10	OK	Eq. H1-1b
	LC24 at 100.00%	0.10	OK	Eq. H1-1b
	LC25 at 100.00%	0.35	OK	Eq. H1-1b
	LC26 at 100.00%	0.37	OK	Eq. H1-1b
	LC27 at 100.00%	0.37	OK	Eq. H1-1b
	LC28 at 100.00%	0.37	OK	Eq. H1-1b
	LC29 at 100.00%	0.36	OK	Eq. H1-1b
	LC3 at 100.00%	0.23	OK	Eq. H1-1b
	LC30 at 100.00%	0.36	OK	Eq. H1-1b
	LC31 at 100.00%	0.36	OK	Eq. H1-1b
	LC32 at 100.00%	0.35	OK	Eq. H1-1b
	LC33 at 100.00%	0.34	OK	Eq. H1-1b

	LC34 at 100.00%	0.35	OK	Eq. H1-1b
	LC35 at 100.00%	0.35	OK	Eq. H1-1b
	LC36 at 100.00%	0.35	OK	Eq. H1-1b
	LC37 at 100.00%	0.13	OK	Eq. H1-1b
	LC38 at 100.00%	**0.41**	**OK**	Eq. H1-1b
	LC39 at 100.00%	0.29	OK	Eq. H1-1b
	LC4 at 100.00%	0.22	OK	Eq. H1-1b
	LC40 at 100.00%	0.30	OK	Eq. H1-1b
	LC41 at 100.00%	0.30	OK	Eq. H1-1b
	LC42 at 100.00%	0.30	OK	Eq. H1-1b
	LC43 at 100.00%	0.30	OK	Eq. H1-1b
	LC44 at 100.00%	0.30	OK	Eq. H1-1b
	LC45 at 100.00%	0.30	OK	Eq. H1-1b
	LC46 at 100.00%	0.29	OK	Eq. H1-1b
	LC47 at 100.00%	0.29	OK	Eq. H1-1b
	LC48 at 100.00%	0.29	OK	Eq. H1-1b
	LC49 at 100.00%	0.29	OK	Eq. H1-1b
	LC5 at 100.00%	0.20	OK	Eq. H1-1b
	LC50 at 100.00%	0.29	OK	Eq. H1-1b
	LC6 at 100.00%	0.20	OK	Eq. H1-1b
	LC7 at 100.00%	0.20	OK	Eq. H1-1b
	LC8 at 100.00%	0.11	OK	Eq. H1-1b
	LC9 at 100.00%	0.11	OK	Eq. H1-1b
	W180 at 0.00%	0.02	OK	Eq. H1-1b
	W210 at 0.00%	0.07	OK	Eq. H1-1b
	W240 at 0.00%	0.07	OK	Eq. H1-1b
	W270 at 0.00%	0.06	OK	Eq. H1-1b
	W300 at 0.00%	0.02	OK	Eq. H1-1b
	W330 at 0.00%	0.03	OK	Eq. H1-1b
	WI180 at 0.00%	0.01	OK	Eq. H1-1b
	WI210 at 0.00%	0.03	OK	Eq. H1-1b
	WI240 at 0.00%	0.03	OK	Eq. H1-1b
	WI270 at 0.00%	0.03	OK	Eq. H1-1b
	WI300 at 0.00%	0.01	OK	Eq. H1-1b
	WI330 at 0.00%	0.01	OK	Eq. H1-1b
	WL180 at 0.00%	0.00	OK	Eq. H1-1b
	WL210 at 0.00%	0.01	OK	Eq. H1-1b
	WL240 at 0.00%	0.01	OK	Eq. H1-1b
	WL270 at 0.00%	0.01	OK	Eq. H1-1b
	WL300 at 0.00%	0.00	OK	Eq. H1-1b
	WL330 at 0.00%	0.00	OK	Eq. H1-1b
11	LC1 at 0.00%	0.12	OK	Eq. H1-1b
	LC10 at 100.00%	0.08	OK	Eq. H1-1b
	LC11 at 100.00%	0.10	OK	Eq. H1-1b
	LC12 at 0.00%	0.12	OK	Eq. H1-1b
	LC13 at 46.88%	0.11	OK	Eq. H1-1b
	LC14 at 0.00%	0.13	OK	Eq. H1-1b
	LC15 at 100.00%	0.15	OK	Eq. H1-1b
	LC16 at 100.00%	0.14	OK	Eq. H1-1b
	LC17 at 100.00%	0.10	OK	Eq. H1-1b
	LC18 at 46.88%	0.14	OK	Eq. H1-1b
	LC19 at 46.88%	0.14	OK	Eq. H1-1b
	LC2 at 0.00%	0.16	OK	Eq. H1-1b
	LC20 at 50.00%	0.11	OK	Eq. H1-1b
	LC21 at 46.88%	0.08	OK	Eq. H1-1b
	LC22 at 46.88%	0.07	OK	Eq. H1-1b
	LC23 at 0.00%	0.08	OK	Eq. H1-1b
	LC24 at 46.88%	0.11	OK	Eq. H1-1b
	LC25 at 100.00%	0.23	OK	Eq. H1-1b
	LC26 at 100.00%	0.24	OK	Eq. H1-1b
	LC27 at 100.00%	0.24	OK	Eq. H1-1b
	LC28 at 100.00%	0.24	OK	Eq. H1-1b
	LC29 at 100.00%	0.23	OK	Eq. H1-1b

	LC3 at 100.00%	0.18	OK	Eq. H1-1b
	LC30 at 100.00%	0.23	OK	Eq. H1-1b
	LC31 at 100.00%	0.23	OK	Eq. H1-1b
	LC32 at 100.00%	0.22	OK	Eq. H1-1b
	LC33 at 100.00%	0.22	OK	Eq. H1-1b
	LC34 at 100.00%	0.22	OK	Eq. H1-1b
	LC35 at 100.00%	0.23	OK	Eq. H1-1b
	LC36 at 100.00%	0.23	OK	Eq. H1-1b
	LC37 at 100.00%	0.09	OK	Eq. H1-1b
	LC38 at 100.00%	**0.55**	**OK**	Eq. H1-1b
	LC39 at 100.00%	0.16	OK	Eq. H1-1b
	LC4 at 100.00%	0.17	OK	Eq. H1-1b
	LC40 at 100.00%	0.17	OK	Eq. H1-1b
	LC41 at 100.00%	0.17	OK	Eq. H1-1b
	LC42 at 100.00%	0.17	OK	Eq. H1-1b
	LC43 at 100.00%	0.16	OK	Eq. H1-1b
	LC44 at 100.00%	0.16	OK	Eq. H1-1b
	LC45 at 100.00%	0.16	OK	Eq. H1-1b
	LC46 at 100.00%	0.16	OK	Eq. H1-1b
	LC47 at 100.00%	0.16	OK	Eq. H1-1b
	LC48 at 100.00%	0.16	OK	Eq. H1-1b
	LC49 at 100.00%	0.16	OK	Eq. H1-1b
	LC5 at 100.00%	0.13	OK	Eq. H1-1b
	LC50 at 100.00%	0.16	OK	Eq. H1-1b
	LC6 at 46.88%	0.14	OK	Eq. H1-1b
	LC7 at 46.88%	0.15	OK	Eq. H1-1b
	LC8 at 50.00%	0.12	OK	Eq. H1-1b
	LC9 at 100.00%	0.08	OK	Eq. H1-1b
	W180 at 46.88%	0.08	OK	Eq. H1-1b
	W210 at 50.00%	0.05	OK	Eq. H1-1b
	W240 at 46.88%	0.06	OK	Eq. H1-1b
	W270 at 46.88%	0.05	OK	Eq. H1-1b
	W300 at 46.88%	0.03	OK	Eq. H1-1b
	W330 at 46.88%	0.08	OK	Eq. H1-1b
	WI180 at 46.88%	0.01	OK	Eq. H1-1b
	WI210 at 46.88%	0.02	OK	Eq. H1-1b
	WI240 at 46.88%	0.02	OK	Eq. H1-1b
	WI270 at 46.88%	0.02	OK	Eq. H1-1b
	WI300 at 46.88%	0.01	OK	Eq. H1-1b
	WI330 at 46.88%	0.01	OK	Eq. H1-1b
	WL180 at 46.88%	0.00	OK	Eq. H1-1b
	WL210 at 46.88%	0.01	OK	Eq. H1-1b
	WL240 at 46.88%	0.00	OK	Eq. H1-1b
	WL270 at 46.88%	0.00	OK	Eq. H1-1b
	WL300 at 46.88%	0.00	OK	Eq. H1-1b
	WL330 at 46.88%	0.00	OK	Eq. H1-1b
21	LC1 at 47.92%	0.63	OK	Eq. H1-1b
	LC10 at 47.92%	0.39	OK	Eq. H1-1b
	LC11 at 47.92%	**0.81**	**OK**	Eq. H1-1b
	LC12 at 47.92%	0.57	OK	Eq. H1-1b
	LC13 at 47.92%	0.63	OK	Eq. H1-1b
	LC14 at 47.92%	0.61	OK	Eq. H1-1b
	LC15 at 47.92%	0.53	OK	Eq. H1-1b
	LC16 at 47.92%	0.39	OK	Eq. H1-1b
	LC17 at 47.92%	0.81	OK	Eq. H1-1b
	LC18 at 47.92%	0.57	OK	Eq. H1-1b
	LC19 at 47.92%	0.63	OK	Eq. H1-1b
	LC2 at 47.92%	0.61	OK	Eq. H1-1b
	LC20 at 47.92%	0.61	OK	Eq. H1-1b
	LC21 at 47.92%	0.53	OK	Eq. H1-1b
	LC22 at 47.92%	0.39	OK	Eq. H1-1b
	LC23 at 47.92%	0.81	OK	Eq. H1-1b
	LC24 at 47.92%	0.57	OK	Eq. H1-1b

	LC25 at 47.92%	0.18	OK	Eq. H1-1b
	LC26 at 50.00%	0.21	OK	Eq. H1-1b
	LC27 at 50.00%	0.21	OK	Eq. H1-1b
	LC28 at 50.00%	0.19	OK	Eq. H1-1b
	LC29 at 50.00%	0.22	OK	Eq. H1-1b
	LC3 at 47.92%	0.53	OK	Eq. H1-1b
	LC30 at 50.00%	0.22	OK	Eq. H1-1b
	LC31 at 50.00%	0.24	OK	Eq. H1-1b
	LC32 at 47.92%	0.16	OK	Eq. H1-1b
	LC33 at 47.92%	0.15	OK	Eq. H1-1b
	LC34 at 47.92%	0.13	OK	Eq. H1-1b
	LC35 at 50.00%	0.15	OK	Eq. H1-1b
	LC36 at 50.00%	0.15	OK	Eq. H1-1b
	LC37 at 50.00%	0.04	OK	Eq. H1-1b
	LC38 at 50.00%	0.14	OK	Eq. H1-1b
	LC39 at 50.00%	0.13	OK	Eq. H1-1b
	LC4 at 47.92%	0.39	OK	Eq. H1-1b
	LC40 at 50.00%	0.20	OK	Eq. H1-1b
	LC41 at 50.00%	0.20	OK	Eq. H1-1b
	LC42 at 50.00%	0.19	OK	Eq. H1-1b
	LC43 at 50.00%	0.21	OK	Eq. H1-1b
	LC44 at 50.00%	0.21	OK	Eq. H1-1b
	LC45 at 50.00%	0.22	OK	Eq. H1-1b
	LC46 at 50.00%	0.12	OK	Eq. H1-1b
	LC47 at 50.00%	0.12	OK	Eq. H1-1b
	LC48 at 50.00%	0.13	OK	Eq. H1-1b
	LC49 at 50.00%	0.13	OK	Eq. H1-1b
	LC5 at 47.92%	0.81	OK	Eq. H1-1b
	LC50 at 50.00%	0.13	OK	Eq. H1-1b
	LC6 at 47.92%	0.57	OK	Eq. H1-1b
	LC7 at 47.92%	0.63	OK	Eq. H1-1b
	LC8 at 47.92%	0.61	OK	Eq. H1-1b
	LC9 at 47.92%	0.53	OK	Eq. H1-1b
	W180 at 47.92%	0.39	OK	Sec. F1
	W210 at 47.92%	0.38	OK	Sec. F1
	W240 at 47.92%	0.33	OK	Sec. F1
	W270 at 47.92%	0.24	OK	Sec. F1
	W300 at 47.92%	0.50	OK	Sec. F1
	W330 at 47.92%	0.35	OK	Sec. F1
	WI180 at 47.92%	0.16	OK	Sec. F1
	WI210 at 47.92%	0.15	OK	Sec. F1
	WI240 at 47.92%	0.14	OK	Sec. F1
	WI270 at 47.92%	0.12	OK	Sec. F1
	WI300 at 47.92%	0.14	OK	Sec. F1
	WI330 at 47.92%	0.14	OK	Sec. F1
	WL180 at 47.92%	0.04	OK	Sec. F1
	WL210 at 47.92%	0.04	OK	Sec. F1
	WL240 at 47.92%	0.03	OK	Sec. F1
	WL270 at 47.92%	0.03	OK	Sec. F1
	WL300 at 47.92%	0.03	OK	Sec. F1
	WL330 at 47.92%	0.03	OK	Sec. F1
23	LC1 at 50.00%	0.13	OK	Eq. H1-1b
	LC10 at 50.00%	0.11	OK	Eq. H1-1b
	LC11 at 50.00%	0.11	OK	Eq. H1-1b
	LC12 at 50.00%	0.13	OK	Eq. H1-1b
	LC13 at 50.00%	0.12	OK	Eq. H1-1b
	LC14 at 47.92%	0.10	OK	Eq. H1-1b
	LC15 at 47.92%	0.08	OK	Eq. H1-1b
	LC16 at 47.92%	0.07	OK	Eq. H1-1b
	LC17 at 50.00%	0.12	OK	Eq. H1-1b
	LC18 at 50.00%	0.14	OK	Eq. H1-1b
	LC19 at 50.00%	0.15	OK	Eq. H1-1b
	LC2 at 47.92%	0.10	OK	Eq. H1-1b

	LC20 at 50.00%	0.13	OK	Eq. H1-1b
	LC21 at 50.00%	0.10	OK	Eq. H1-1b
	LC22 at 50.00%	0.09	OK	Eq. H1-1b
	LC23 at 50.00%	0.10	OK	Eq. H1-1b
	LC24 at 50.00%	0.12	OK	Eq. H1-1b
	LC25 at 50.00%	0.12	OK	Eq. H1-1b
	LC26 at 50.00%	0.12	OK	Eq. H1-1b
	LC27 at 50.00%	0.12	OK	Eq. H1-1b
	LC28 at 50.00%	0.12	OK	Eq. H1-1b
	LC29 at 50.00%	0.16	OK	Eq. H1-1b
	LC3 at 47.92%	0.08	OK	Eq. H1-1b
	LC30 at 50.00%	0.16	OK	Eq. H1-1b
	LC31 at 50.00%	0.16	OK	Eq. H1-1b
	LC32 at 50.00%	0.15	OK	Eq. H1-1b
	LC33 at 50.00%	0.15	OK	Eq. H1-1b
	LC34 at 50.00%	0.15	OK	Eq. H1-1b
	LC35 at 50.00%	0.12	OK	Eq. H1-1b
	LC36 at 50.00%	0.12	OK	Eq. H1-1b
	LC37 at 50.00%	0.05	OK	Eq. H1-1b
	LC38 at 50.00%	**0.21**	**OK**	Eq. H1-1b
	LC39 at 50.00%	0.08	OK	Eq. H1-1b
	LC4 at 47.92%	0.07	OK	Eq. H1-1b
	LC40 at 50.00%	0.07	OK	Eq. H1-1b
	LC41 at 50.00%	0.07	OK	Eq. H1-1b
	LC42 at 50.00%	0.07	OK	Eq. H1-1b
	LC43 at 50.00%	0.09	OK	Eq. H1-1b
	LC44 at 50.00%	0.09	OK	Eq. H1-1b
	LC45 at 50.00%	0.09	OK	Eq. H1-1b
	LC46 at 50.00%	0.09	OK	Eq. H1-1b
	LC47 at 50.00%	0.08	OK	Eq. H1-1b
	LC48 at 50.00%	0.08	OK	Eq. H1-1b
	LC49 at 50.00%	0.08	OK	Eq. H1-1b
	LC5 at 50.00%	0.14	OK	Eq. H1-1b
	LC50 at 50.00%	0.08	OK	Eq. H1-1b
	LC6 at 50.00%	0.16	OK	Eq. H1-1b
	LC7 at 50.00%	0.17	OK	Eq. H1-1b
	LC8 at 50.00%	0.14	OK	Eq. H1-1b
	LC9 at 50.00%	0.12	OK	Eq. H1-1b
	W180 at 47.92%	0.07	OK	Sec. F1
	W210 at 47.92%	0.06	OK	Sec. F1
	W240 at 47.92%	0.05	OK	Sec. F1
	W270 at 47.92%	0.04	OK	Sec. F1
	W300 at 47.92%	0.05	OK	Sec. F1
	W330 at 47.92%	0.06	OK	Sec. F1
	WI180 at 47.92%	0.03	OK	Sec. F1
	WI210 at 47.92%	0.02	OK	Eq. H1-1b
	WI240 at 47.92%	0.02	OK	Sec. F1
	WI270 at 47.92%	0.02	OK	Sec. F1
	WI300 at 47.92%	0.02	OK	Sec. F1
	WI330 at 47.92%	0.02	OK	Sec. F1
	WL180 at 47.92%	0.01	OK	Sec. F1
	WL210 at 47.92%	0.01	OK	Sec. F1
	WL240 at 47.92%	0.01	OK	Sec. F1
	WL270 at 47.92%	0.00	OK	Sec. F1
	WL300 at 47.92%	0.01	OK	Sec. F1
	WL330 at 47.92%	0.01	OK	Sec. F1
24	LC1 at 50.00%	0.02	OK	Eq. H1-1b
	LC10 at 50.00%	0.01	OK	Eq. H1-1b
	LC11 at 50.00%	0.01	OK	Eq. H1-1b
	LC12 at 50.00%	0.02	OK	Eq. H1-1b
	LC13 at 50.00%	0.01	OK	Eq. H1-1b
	LC14 at 50.00%	0.02	OK	Eq. H1-1b
	LC15 at 50.00%	0.01	OK	Eq. H1-1b

	LC16 at 50.00%	0.01	OK	Eq. H1-1b
	LC17 at 50.00%	0.01	OK	Eq. H1-1b
	LC18 at 50.00%	0.01	OK	Eq. H1-1b
	LC19 at 50.00%	0.01	OK	Eq. H1-1b
	LC2 at 50.00%	0.02	OK	Eq. H1-1b
	LC20 at 50.00%	0.00	OK	Eq. H1-1b
	LC21 at 50.00%	0.01	OK	Eq. H1-1b
	LC22 at 50.00%	0.01	OK	Eq. H1-1b
	LC23 at 50.00%	0.01	OK	Eq. H1-1b
	LC24 at 50.00%	0.01	OK	Eq. H1-1b
	LC25 at 50.00%	0.03	OK	Eq. H1-1b
	LC26 at 50.00%	0.03	OK	Eq. H1-1b
	LC27 at 50.00%	0.03	OK	Eq. H1-1b
	LC28 at 50.00%	0.03	OK	Eq. H1-1b
	LC29 at 50.00%	0.03	OK	Eq. H1-1b
	LC3 at 50.00%	0.02	OK	Eq. H1-1b
	LC30 at 50.00%	0.03	OK	Eq. H1-1b
	LC31 at 50.00%	0.03	OK	Eq. H1-1b
	LC32 at 50.00%	0.02	OK	Eq. H1-1b
	LC33 at 50.00%	0.02	OK	Eq. H1-1b
	LC34 at 50.00%	0.03	OK	Eq. H1-1b
	LC35 at 50.00%	0.03	OK	Eq. H1-1b
	LC36 at 50.00%	0.03	OK	Eq. H1-1b
	LC37 at 50.00%	0.01	OK	Eq. H1-1b
	LC38 at 50.00%	**0.09**	**OK**	Eq. H1-1b
	LC39 at 50.00%	0.02	OK	Eq. H1-1b
	LC4 at 50.00%	0.02	OK	Eq. H1-1b
	LC40 at 50.00%	0.02	OK	Eq. H1-1b
	LC41 at 50.00%	0.02	OK	Eq. H1-1b
	LC42 at 50.00%	0.02	OK	Eq. H1-1b
	LC43 at 50.00%	0.02	OK	Eq. H1-1b
	LC44 at 50.00%	0.02	OK	Eq. H1-1b
	LC45 at 50.00%	0.02	OK	Eq. H1-1b
	LC46 at 50.00%	0.02	OK	Eq. H1-1b
	LC47 at 50.00%	0.02	OK	Eq. H1-1b
	LC48 at 50.00%	0.02	OK	Eq. H1-1b
	LC49 at 50.00%	0.02	OK	Eq. H1-1b
	LC5 at 50.00%	0.01	OK	Eq. H1-1b
	LC50 at 50.00%	0.02	OK	Eq. H1-1b
	LC6 at 50.00%	0.01	OK	Eq. H1-1b
	LC7 at 50.00%	0.01	OK	Eq. H1-1b
	LC8 at 50.00%	0.01	OK	Eq. H1-1b
	LC9 at 50.00%	0.01	OK	Eq. H1-1b
	W180 at 50.00%	0.00	OK	Eq. H1-1b
	W210 at 50.00%	0.00	OK	Eq. H1-1b
	W240 at 50.00%	0.00	OK	Eq. H1-1b
	W270 at 50.00%	0.00	OK	Eq. H1-1b
	W300 at 50.00%	0.00	OK	Eq. H1-1b
	W330 at 50.00%	0.00	OK	Eq. H1-1b
	WI180 at 75.00%	0.00	OK	Eq. H1-1b
	WI210 at 50.00%	0.00	OK	Eq. H1-1b
	WI240 at 50.00%	0.00	OK	Eq. H1-1b
	WI270 at 50.00%	0.00	OK	Eq. H1-1b
	WI300 at 75.00%	0.00	OK	Eq. H1-1b
	WI330 at 75.00%	0.00	OK	Eq. H1-1b
	WL180 at 75.00%	0.00	OK	Eq. H1-1b
	WL210 at 50.00%	0.00	OK	Eq. H1-1b
	WL240 at 50.00%	0.00	OK	Eq. H1-1b
	WL270 at 50.00%	0.00	OK	Eq. H1-1b
	WL300 at 75.00%	0.00	OK	Eq. H1-1b
	WL330 at 75.00%	0.00	OK	Eq. H1-1b
27	LC1 at 100.00%	0.05	OK	Eq. H1-1b
	LC10 at 0.00%	0.05	OK	Eq. H1-1b

LC11 at 100.00%	0.05	OK	Eq. H1-1b
LC12 at 100.00%	0.05	OK	Eq. H1-1b
LC13 at 100.00%	0.03	OK	Eq. H1-1b
LC14 at 100.00%	0.06	OK	Eq. H1-1b
LC15 at 0.00%	0.06	OK	Eq. H1-1b
LC16 at 0.00%	0.05	OK	Eq. H1-1b
LC17 at 0.00%	0.05	OK	Eq. H1-1b
LC18 at 0.00%	0.05	OK	Eq. H1-1b
LC19 at 0.00%	0.06	OK	Eq. H1-1b
LC2 at 100.00%	0.07	OK	Eq. H1-1b
LC20 at 0.00%	0.05	OK	Eq. H1-1b
LC21 at 0.00%	0.05	OK	Eq. H1-1b
LC22 at 0.00%	0.05	OK	Eq. H1-1b
LC23 at 100.00%	0.03	OK	Eq. H1-1b
LC24 at 100.00%	0.03	OK	Eq. H1-1b
LC25 at 100.00%	0.11	OK	Eq. H1-1b
LC26 at 100.00%	0.12	OK	Eq. H1-1b
LC27 at 100.00%	0.12	OK	Eq. H1-1b
LC28 at 100.00%	**0.12**	**OK**	Eq. H1-1b
LC29 at 100.00%	0.12	OK	Eq. H1-1b
LC3 at 0.00%	0.07	OK	Eq. H1-1b
LC30 at 100.00%	0.12	OK	Eq. H1-1b
LC31 at 100.00%	0.12	OK	Eq. H1-1b
LC32 at 100.00%	0.11	OK	Eq. H1-1b
LC33 at 100.00%	0.11	OK	Eq. H1-1b
LC34 at 100.00%	0.11	OK	Eq. H1-1b
LC35 at 100.00%	0.11	OK	Eq. H1-1b
LC36 at 100.00%	0.11	OK	Eq. H1-1b
LC37 at 100.00%	0.04	OK	Eq. H1-1b
LC38 at 100.00%	0.09	OK	Eq. H1-1b
LC39 at 100.00%	0.12	OK	Eq. H1-1b
LC4 at 0.00%	0.07	OK	Eq. H1-1b
LC40 at 100.00%	0.12	OK	Eq. H1-1b
LC41 at 100.00%	0.12	OK	Eq. H1-1b
LC42 at 100.00%	0.12	OK	Eq. H1-1b
LC43 at 100.00%	0.12	OK	Eq. H1-1b
LC44 at 100.00%	0.12	OK	Eq. H1-1b
LC45 at 100.00%	0.12	OK	Eq. H1-1b
LC46 at 100.00%	0.12	OK	Eq. H1-1b
LC47 at 100.00%	0.12	OK	Eq. H1-1b
LC48 at 100.00%	0.12	OK	Eq. H1-1b
LC49 at 100.00%	0.12	OK	Eq. H1-1b
LC5 at 0.00%	0.07	OK	Eq. H1-1b
LC50 at 100.00%	0.12	OK	Eq. H1-1b
LC6 at 0.00%	0.07	OK	Eq. H1-1b
LC7 at 0.00%	0.07	OK	Eq. H1-1b
LC8 at 0.00%	0.06	OK	Eq. H1-1b
LC9 at 0.00%	0.06	OK	Eq. H1-1b
W180 at 0.00%	0.01	OK	Eq. H1-1b
W210 at 0.00%	0.01	OK	Eq. H1-1b
W240 at 0.00%	0.01	OK	Eq. H1-1b
W270 at 0.00%	0.01	OK	Eq. H1-1b
W300 at 0.00%	0.01	OK	Eq. H1-1b
W330 at 0.00%	0.01	OK	Eq. H1-1b
WI180 at 0.00%	0.00	OK	Eq. H1-1b
WI210 at 100.00%	0.01	OK	Eq. H1-1b
WI240 at 100.00%	0.01	OK	Eq. H1-1b
WI270 at 100.00%	0.01	OK	Eq. H1-1b
WI300 at 0.00%	0.00	OK	Eq. H1-1b
WI330 at 0.00%	0.00	OK	Eq. H1-1b
WL180 at 0.00%	0.00	OK	Eq. H1-1b
WL210 at 100.00%	0.00	OK	Eq. H1-1b
WL240 at 100.00%	0.00	OK	Eq. H1-1b
WL270 at 100.00%	0.00	OK	Eq. H1-1b

	WL300 at 0.00%	0.00	OK	Eq. H1-1b
	WL330 at 0.00%	0.00	OK	Eq. H1-1b
28	LC1 at 100.00%	0.13	OK	Eq. H1-1b
	LC10 at 100.00%	0.17	OK	Eq. H1-1b
	LC11 at 100.00%	0.13	OK	Eq. H1-1b
	LC12 at 100.00%	0.13	OK	Eq. H1-1b
	LC13 at 100.00%	0.09	OK	Eq. H1-1b
	LC14 at 100.00%	0.13	OK	Eq. H1-1b
	LC15 at 100.00%	0.13	OK	Eq. H1-1b
	LC16 at 100.00%	0.13	OK	Eq. H1-1b
	LC17 at 0.00%	0.14	OK	Eq. H1-1b
	LC18 at 0.00%	0.14	OK	Eq. H1-1b
	LC19 at 0.00%	0.14	OK	Eq. H1-1b
	LC2 at 100.00%	0.17	OK	Eq. H1-1b
	LC20 at 100.00%	0.13	OK	Eq. H1-1b
	LC21 at 100.00%	0.13	OK	Eq. H1-1b
	LC22 at 100.00%	0.13	OK	Eq. H1-1b
	LC23 at 100.00%	0.09	OK	Eq. H1-1b
	LC24 at 100.00%	0.09	OK	Eq. H1-1b
	LC25 at 100.00%	0.31	OK	Eq. H1-1b
	LC26 at 100.00%	0.32	OK	Eq. H1-1b
	LC27 at 100.00%	0.32	OK	Eq. H1-1b
	LC28 at 100.00%	0.32	OK	Eq. H1-1b
	LC29 at 100.00%	0.33	OK	Eq. H1-1b
	LC3 at 100.00%	0.17	OK	Eq. H1-1b
	LC30 at 100.00%	0.33	OK	Eq. H1-1b
	LC31 at 100.00%	**0.33**	**OK**	Eq. H1-1b
	LC32 at 100.00%	0.32	OK	Eq. H1-1b
	LC33 at 100.00%	0.32	OK	Eq. H1-1b
	LC34 at 100.00%	0.32	OK	Eq. H1-1b
	LC35 at 100.00%	0.31	OK	Eq. H1-1b
	LC36 at 100.00%	0.31	OK	Eq. H1-1b
	LC37 at 100.00%	0.12	OK	Eq. H1-1b
	LC38 at 100.00%	0.29	OK	Eq. H1-1b
	LC39 at 100.00%	0.25	OK	Eq. H1-1b
	LC4 at 100.00%	0.17	OK	Eq. H1-1b
	LC40 at 100.00%	0.26	OK	Eq. H1-1b
	LC41 at 100.00%	0.26	OK	Eq. H1-1b
	LC42 at 100.00%	0.26	OK	Eq. H1-1b
	LC43 at 100.00%	0.26	OK	Eq. H1-1b
	LC44 at 100.00%	0.26	OK	Eq. H1-1b
	LC45 at 100.00%	0.26	OK	Eq. H1-1b
	LC46 at 100.00%	0.25	OK	Eq. H1-1b
	LC47 at 100.00%	0.25	OK	Eq. H1-1b
	LC48 at 100.00%	0.25	OK	Eq. H1-1b
	LC49 at 100.00%	0.25	OK	Eq. H1-1b
	LC5 at 100.00%	0.18	OK	Eq. H1-1b
	LC50 at 100.00%	0.25	OK	Eq. H1-1b
	LC6 at 0.00%	0.18	OK	Eq. H1-1b
	LC7 at 0.00%	0.18	OK	Eq. H1-1b
	LC8 at 100.00%	0.17	OK	Eq. H1-1b
	LC9 at 100.00%	0.17	OK	Eq. H1-1b
	W180 at 0.00%	0.02	OK	Eq. H1-1b
	W210 at 0.00%	0.02	OK	
	W240 at 0.00%	0.02	OK	
	W270 at 100.00%	0.02	OK	Eq. H1-1b
	W300 at 0.00%	0.02	OK	Eq. H1-1b
	W330 at 0.00%	0.02	OK	Eq. H1-1b
	WI180 at 100.00%	0.01	OK	Eq. H1-1b
	WI210 at 0.00%	0.01	OK	
	WI240 at 0.00%	0.01	OK	
	WI270 at 0.00%	0.01	OK	
	WI300 at 100.00%	0.01	OK	Eq. H1-1b

	WI330 at 100.00%	0.01	OK	Eq. H1-1b
	WL180 at 100.00%	0.00	OK	Eq. H1-1b
	WL210 at 0.00%	0.00	OK	
	WL240 at 0.00%	0.00	OK	
	WL270 at 0.00%	0.00	OK	
	WL300 at 100.00%	0.00	OK	Eq. H1-1b
	WL330 at 100.00%	0.00	OK	Eq. H1-1b
29	LC1 at 100.00%	0.15	OK	Eq. H1-1b
	LC10 at 100.00%	0.20	OK	Eq. H1-1b
	LC11 at 0.00%	0.16	OK	Eq. H1-1b
	LC12 at 100.00%	0.15	OK	Eq. H1-1b
	LC13 at 100.00%	0.10	OK	Eq. H1-1b
	LC14 at 0.00%	0.22	OK	Eq. H1-1b
	LC15 at 0.00%	0.21	OK	Eq. H1-1b
	LC16 at 0.00%	0.19	OK	Eq. H1-1b
	LC17 at 100.00%	0.20	OK	Eq. H1-1b
	LC18 at 0.00%	0.21	OK	Eq. H1-1b
	LC19 at 0.00%	0.21	OK	Eq. H1-1b
	LC2 at 0.00%	0.27	OK	Eq. H1-1b
	LC20 at 0.00%	0.20	OK	Eq. H1-1b
	LC21 at 0.00%	0.18	OK	Eq. H1-1b
	LC22 at 100.00%	0.16	OK	Eq. H1-1b
	LC23 at 0.00%	0.11	OK	Eq. H1-1b
	LC24 at 100.00%	0.10	OK	Eq. H1-1b
	LC25 at 100.00%	0.42	OK	Eq. H1-1b
	LC26 at 0.00%	0.45	OK	Eq. H1-1b
	LC27 at 0.00%	0.45	OK	Eq. H1-1b
	LC28 at 0.00%	0.45	OK	Eq. H1-1b
	LC29 at 100.00%	0.45	OK	Eq. H1-1b
	LC3 at 0.00%	0.26	OK	Eq. H1-1b
	LC30 at 100.00%	0.45	OK	Eq. H1-1b
	LC31 at 100.00%	0.45	OK	Eq. H1-1b
	LC32 at 100.00%	0.42	OK	Eq. H1-1b
	LC33 at 100.00%	0.42	OK	Eq. H1-1b
	LC34 at 100.00%	0.42	OK	Eq. H1-1b
	LC35 at 100.00%	0.42	OK	Eq. H1-1b
	LC36 at 100.00%	0.42	OK	Eq. H1-1b
	LC37 at 100.00%	0.15	OK	Eq. H1-1b
	LC38 at 100.00%	0.36	OK	Eq. H1-1b
	LC39 at 0.00%	0.45	OK	Eq. H1-1b
	LC4 at 0.00%	0.25	OK	Eq. H1-1b
	LC40 at 0.00%	**0.47**	**OK**	Eq. H1-1b
	LC41 at 0.00%	0.47	OK	Eq. H1-1b
	LC42 at 0.00%	0.47	OK	Eq. H1-1b
	LC43 at 0.00%	0.46	OK	Eq. H1-1b
	LC44 at 0.00%	0.46	OK	Eq. H1-1b
	LC45 at 0.00%	0.46	OK	Eq. H1-1b
	LC46 at 0.00%	0.45	OK	Eq. H1-1b
	LC47 at 0.00%	0.45	OK	Eq. H1-1b
	LC48 at 0.00%	0.45	OK	Eq. H1-1b
	LC49 at 0.00%	0.45	OK	Eq. H1-1b
	LC5 at 100.00%	0.25	OK	Eq. H1-1b
	LC50 at 0.00%	0.45	OK	Eq. H1-1b
	LC6 at 100.00%	0.26	OK	Eq. H1-1b
	LC7 at 0.00%	0.26	OK	Eq. H1-1b
	LC8 at 0.00%	0.23	OK	Eq. H1-1b
	LC9 at 100.00%	0.21	OK	Eq. H1-1b
	W180 at 0.00%	0.04	OK	Eq. H1-1b
	W210 at 0.00%	0.07	OK	Eq. H1-1b
	W240 at 0.00%	0.05	OK	Eq. H1-1b
	W270 at 0.00%	0.04	OK	Eq. H1-1b
	W300 at 100.00%	0.03	OK	Eq. H1-1b
	W330 at 0.00%	0.04	OK	Eq. H1-1b

	WI180 at 100.00%	0.01	OK	Eq. H1-1b
	WI210 at 0.00%	0.02	OK	Eq. H1-1b
	WI240 at 0.00%	0.03	OK	Eq. H1-1b
	WI270 at 0.00%	0.02	OK	Eq. H1-1b
	WI300 at 100.00%	0.01	OK	Eq. H1-1b
	WI330 at 100.00%	0.01	OK	Eq. H1-1b
	WL180 at 100.00%	0.00	OK	Eq. H1-1b
	WL210 at 0.00%	0.01	OK	Eq. H1-1b
	WL240 at 0.00%	0.01	OK	Eq. H1-1b
	WL270 at 0.00%	0.01	OK	Eq. H1-1b
	WL300 at 100.00%	0.00	OK	Eq. H1-1b
	WL330 at 100.00%	0.00	OK	Eq. H1-1b
38	LC1 at 82.03%	0.33	OK	Eq. H3-6
	LC10 at 78.13%	0.35	OK	Eq. H1-1b
	LC11 at 82.03%	0.29	OK	Eq. H1-1b
	LC12 at 82.03%	0.36	OK	Eq. H3-6
	LC13 at 82.03%	0.29	OK	Eq. H3-6
	LC14 at 87.50%	0.50	OK	Eq. H1-1b
	LC15 at 87.50%	0.56	OK	Eq. H1-1b
	LC16 at 87.50%	0.53	OK	Eq. H1-1b
	LC17 at 87.50%	0.61	OK	Eq. H1-1b
	LC18 at 87.50%	0.60	OK	Eq. H1-1b
	LC19 at 87.50%	0.58	OK	Eq. H1-1b
	LC2 at 87.50%	0.57	OK	Eq. H1-1b
	LC20 at 78.13%	0.33	OK	Eq. H1-1b
	LC21 at 88.28%	0.35	OK	Eq. H1-1b
	LC22 at 78.13%	0.32	OK	Eq. H1-1b
	LC23 at 87.50%	0.28	OK	Eq. H1-1b
	LC24 at 82.03%	0.32	OK	Eq. H3-6
	LC25 at 87.50%	0.53	OK	Eq. H1-1b
	LC26 at 87.50%	0.70	OK	Eq. H1-1b
	LC27 at 87.50%	0.70	OK	Eq. H1-1b
	LC28 at 87.50%	0.70	OK	Eq. H1-1b
	LC29 at 87.50%	0.69	OK	Eq. H1-1b
	LC3 at 87.50%	0.63	OK	Eq. H1-1b
	LC30 at 87.50%	0.71	OK	Eq. H1-1b
	LC31 at 87.50%	0.71	OK	Eq. H1-1b
	LC32 at 87.50%	0.54	OK	Eq. H1-1b
	LC33 at 87.50%	0.54	OK	Eq. H1-1b
	LC34 at 87.50%	0.54	OK	Eq. H1-1b
	LC35 at 87.50%	0.54	OK	Eq. H1-1b
	LC36 at 87.50%	0.53	OK	Eq. H1-1b
	LC37 at 87.50%	0.21	OK	Eq. H1-1b
	LC38 at 82.03%	0.51	OK	Eq. H1-1b
	LC39 at 87.50%	0.79	OK	Eq. H1-1b
	LC4 at 87.50%	0.60	OK	Eq. H1-1b
	LC40 at 87.50%	0.86	OK	Eq. H1-1b
	LC41 at 87.50%	0.86	OK	Eq. H1-1b
	LC42 at 87.50%	0.85	OK	Eq. H1-1b
	LC43 at 87.50%	0.86	OK	Eq. H1-1b
	LC44 at 87.50%	**0.86**	**OK**	Eq. H1-1b
	LC45 at 87.50%	0.86	OK	Eq. H1-1b
	LC46 at 87.50%	0.79	OK	Eq. H1-1b
	LC47 at 87.50%	0.79	OK	Eq. H1-1b
	LC48 at 87.50%	0.80	OK	Eq. H1-1b
	LC49 at 87.50%	0.79	OK	Eq. H1-1b
	LC5 at 87.50%	0.68	OK	Eq. H1-1b
	LC50 at 87.50%	0.79	OK	Eq. H1-1b
	LC6 at 87.50%	0.67	OK	Eq. H1-1b
	LC7 at 87.50%	0.65	OK	Eq. H1-1b
	LC8 at 78.13%	0.35	OK	Eq. H1-1b
	LC9 at 78.13%	0.37	OK	Eq. H1-1b
	W180 at 87.50%	0.23	OK	Eq. H1-1b

	W210 at 82.81%	0.22	OK	Eq. H1-1b
	W240 at 82.81%	0.24	OK	Eq. H1-1b
	W270 at 82.81%	0.22	OK	Eq. H1-1b
	W300 at 87.50%	0.25	OK	Eq. H1-1b
	W330 at 87.50%	0.24	OK	Eq. H1-1b
	WI180 at 87.50%	0.09	OK	Eq. H1-1b
	WI210 at 82.81%	0.09	OK	Eq. H1-1b
	WI240 at 82.81%	0.09	OK	Eq. H1-1b
	WI270 at 82.81%	0.09	OK	Eq. H1-1b
	WI300 at 87.50%	0.07	OK	Eq. H1-1b
	WI330 at 87.50%	0.09	OK	Eq. H1-1b
	WL180 at 87.50%	0.02	OK	Eq. H1-1b
	WL210 at 82.81%	0.02	OK	Eq. H1-1b
	WL240 at 82.81%	0.02	OK	Eq. H1-1b
	WL270 at 82.81%	0.02	OK	Eq. H1-1b
	WL300 at 87.50%	0.02	OK	Eq. H1-1b
	WL330 at 87.50%	0.02	OK	Eq. H1-1b
39	LC1 at 87.50%	0.23	OK	Eq. H1-1b
	LC10 at 87.50%	0.39	OK	Eq. H1-1b
	LC11 at 87.50%	0.27	OK	Eq. H1-1b
	LC12 at 87.50%	0.21	OK	Eq. H1-1b
	LC13 at 87.50%	0.15	OK	Eq. H1-1b
	LC14 at 87.50%	0.30	OK	Eq. H1-1b
	LC15 at 87.50%	0.37	OK	Eq. H1-1b
	LC16 at 87.50%	0.35	OK	Eq. H1-1b
	LC17 at 43.75%	0.36	OK	Eq. H1-1b
	LC18 at 87.50%	0.34	OK	Eq. H1-1b
	LC19 at 43.75%	0.33	OK	Eq. H1-1b
	LC2 at 87.50%	0.35	OK	Eq. H1-1b
	LC20 at 82.03%	0.25	OK	Eq. H1-1b
	LC21 at 82.03%	0.30	OK	Eq. H1-1b
	LC22 at 87.50%	0.31	OK	Eq. H1-1b
	LC23 at 87.50%	0.20	OK	Eq. H1-1b
	LC24 at 87.50%	0.13	OK	Eq. H1-1b
	LC25 at 87.50%	0.66	OK	Eq. H1-1b
	LC26 at 87.50%	0.69	OK	Eq. H1-1b
	LC27 at 87.50%	0.69	OK	Eq. H1-1b
	LC28 at 87.50%	0.69	OK	Eq. H1-1b
	LC29 at 87.50%	0.71	OK	Eq. H1-1b
	LC3 at 87.50%	0.42	OK	Eq. H1-1b
	LC30 at 87.50%	0.71	OK	Eq. H1-1b
	LC31 at 87.50%	0.71	OK	Eq. H1-1b
	LC32 at 87.50%	0.68	OK	Eq. H1-1b
	LC33 at 87.50%	0.68	OK	Eq. H1-1b
	LC34 at 87.50%	0.68	OK	Eq. H1-1b
	LC35 at 87.50%	0.66	OK	Eq. H1-1b
	LC36 at 87.50%	0.66	OK	Eq. H1-1b
	LC37 at 87.50%	0.24	OK	Eq. H1-1b
	LC38 at 43.75%	0.61	OK	Eq. H1-1b
	LC39 at 87.50%	0.84	OK	Eq. H1-1b
	LC4 at 87.50%	0.40	OK	Eq. H1-1b
	LC40 at 87.50%	0.85	OK	Eq. H1-1b
	LC41 at 87.50%	0.85	OK	Eq. H1-1b
	LC42 at 87.50%	0.85	OK	Eq. H1-1b
	LC43 at 87.50%	0.85	OK	Eq. H1-1b
	LC44 at 87.50%	**0.86**	**OK**	Eq. H1-1b
	LC45 at 87.50%	0.85	OK	Eq. H1-1b
	LC46 at 87.50%	0.84	OK	Eq. H1-1b
	LC47 at 87.50%	0.84	OK	Eq. H1-1b
	LC48 at 87.50%	0.84	OK	Eq. H1-1b
	LC49 at 87.50%	0.84	OK	Eq. H1-1b
	LC5 at 43.75%	0.41	OK	Eq. H1-1b
	LC50 at 87.50%	0.83	OK	Eq. H1-1b

	LC6 at 87.50%	0.42	OK	Eq. H1-1b
	LC7 at 87.50%	0.40	OK	Eq. H1-1b
	LC8 at 87.50%	0.30	OK	Eq. H1-1b
	LC9 at 87.50%	0.38	OK	Eq. H1-1b
	W180 at 43.75%	0.11	OK	Eq. H1-1b
	W210 at 87.50%	0.12	OK	Eq. H1-1b
	W240 at 87.50%	0.17	OK	Eq. H1-1b
	W270 at 87.50%	0.16	OK	Eq. H1-1b
	W300 at 43.75%	0.12	OK	Eq. H1-1b
	W330 at 43.75%	0.10	OK	Eq. H1-1b
	WI180 at 43.75%	0.05	OK	Eq. H1-1b
	WI210 at 87.50%	0.05	OK	Eq. H1-1b
	WI240 at 87.50%	0.05	OK	Eq. H1-1b
	WI270 at 87.50%	0.04	OK	Eq. H1-1b
	WI300 at 43.75%	0.04	OK	Eq. H1-1b
	WI330 at 43.75%	0.04	OK	Eq. H1-1b
	WL180 at 43.75%	0.01	OK	Eq. H1-1b
	WL210 at 87.50%	0.01	OK	Eq. H1-1b
	WL240 at 87.50%	0.01	OK	Eq. H1-1b
	WL270 at 87.50%	0.01	OK	Eq. H1-1b
	WL300 at 43.75%	0.01	OK	Eq. H1-1b
	WL330 at 43.75%	0.01	OK	Eq. H1-1b
40	LC1 at 0.00%	0.13	OK	Eq. H1-1b
	LC10 at 0.00%	0.24	OK	Eq. H1-1b
	LC11 at 17.50%	0.12	OK	Eq. H1-1b
	LC12 at 0.00%	0.13	OK	Eq. H1-1b
	LC13 at 17.50%	0.11	OK	Eq. H1-1b
	LC14 at 0.00%	0.17	OK	Eq. H1-1b
	LC15 at 0.00%	0.19	OK	Eq. H1-1b
	LC16 at 0.00%	0.18	OK	Eq. H1-1b
	LC17 at 17.50%	0.11	OK	Eq. H1-1b
	LC18 at 41.25%	0.12	OK	Eq. H1-1b
	LC19 at 41.25%	0.13	OK	Eq. H1-1b
	LC2 at 0.00%	0.19	OK	Eq. H1-1b
	LC20 at 0.00%	0.21	OK	Eq. H1-1b
	LC21 at 0.00%	0.24	OK	Eq. H1-1b
	LC22 at 0.00%	0.22	OK	Eq. H1-1b
	LC23 at 17.50%	0.11	OK	Eq. H1-1b
	LC24 at 42.50%	0.11	OK	Eq. H1-1b
	LC25 at 0.00%	0.22	OK	Eq. H1-1b
	LC26 at 0.00%	0.23	OK	Eq. H1-1b
	LC27 at 0.00%	0.23	OK	Eq. H1-1b
	LC28 at 0.00%	0.23	OK	Eq. H1-1b
	LC29 at 0.00%	0.21	OK	Eq. H1-1b
	LC3 at 0.00%	0.21	OK	Eq. H1-1b
	LC30 at 0.00%	0.20	OK	Eq. H1-1b
	LC31 at 0.00%	0.20	OK	Eq. H1-1b
	LC32 at 0.00%	0.19	OK	Eq. H1-1b
	LC33 at 0.00%	0.19	OK	Eq. H1-1b
	LC34 at 0.00%	0.19	OK	Eq. H1-1b
	LC35 at 0.00%	0.22	OK	Eq. H1-1b
	LC36 at 0.00%	0.22	OK	Eq. H1-1b
	LC37 at 0.00%	0.08	OK	Eq. H1-1b
	LC38 at 42.50%	**0.42**	**OK**	Eq. H1-1b
	LC39 at 0.00%	0.17	OK	Eq. H1-1b
	LC4 at 0.00%	0.20	OK	Eq. H1-1b
	LC40 at 0.00%	0.18	OK	Eq. H1-1b
	LC41 at 0.00%	0.18	OK	Eq. H1-1b
	LC42 at 0.00%	0.18	OK	Eq. H1-1b
	LC43 at 0.00%	0.17	OK	Eq. H1-1b
	LC44 at 0.00%	0.17	OK	Eq. H1-1b
	LC45 at 0.00%	0.17	OK	Eq. H1-1b
	LC46 at 0.00%	0.16	OK	Eq. H1-1b

	LC47 at 0.00%	0.16	OK	Eq. H1-1b
	LC48 at 0.00%	0.16	OK	Eq. H1-1b
	LC49 at 0.00%	0.17	OK	Eq. H1-1b
	LC5 at 17.50%	0.13	OK	Eq. H1-1b
	LC50 at 0.00%	0.17	OK	Eq. H1-1b
	LC6 at 41.25%	0.15	OK	Eq. H1-1b
	LC7 at 41.25%	0.15	OK	Eq. H1-1b
	LC8 at 0.00%	0.23	OK	Eq. H1-1b
	LC9 at 0.00%	0.26	OK	Eq. H1-1b
	W180 at 42.50%	0.05	OK	Eq. H1-1b
	W210 at 0.00%	0.10	OK	Eq. H1-1b
	W240 at 0.00%	0.11	OK	Eq. H1-1b
	W270 at 0.00%	0.10	OK	Eq. H1-1b
	W300 at 17.50%	0.04	OK	Eq. H1-1b
	W330 at 42.50%	0.05	OK	Eq. H1-1b
	WI180 at 17.50%	0.02	OK	Eq. H1-1b
	WI210 at 0.00%	0.04	OK	Eq. H1-1b
	WI240 at 0.00%	0.04	OK	Eq. H1-1b
	WI270 at 0.00%	0.03	OK	Eq. H1-1b
	WI300 at 18.75%	0.01	OK	Eq. H1-1b
	WI330 at 17.50%	0.02	OK	Eq. H1-1b
	WL180 at 17.50%	0.00	OK	Eq. H1-1b
	WL210 at 0.00%	0.01	OK	Eq. H1-1b
	WL240 at 0.00%	0.01	OK	Eq. H1-1b
	WL270 at 0.00%	0.01	OK	Eq. H1-1b
	WL300 at 17.50%	0.00	OK	Eq. H1-1b
	WL330 at 17.50%	0.00	OK	Eq. H1-1b
41	LC1 at 41.25%	0.09	OK	Eq. H1-1b
	LC10 at 0.00%	0.14	OK	Eq. H1-1b
	LC11 at 41.25%	0.10	OK	Eq. H1-1b
	LC12 at 41.25%	0.09	OK	Eq. H1-1b
	LC13 at 41.25%	0.08	OK	Eq. H1-1b
	LC14 at 0.00%	0.11	OK	Eq. H1-1b
	LC15 at 41.25%	0.15	OK	Eq. H1-1b
	LC16 at 41.25%	0.15	OK	Eq. H1-1b
	LC17 at 41.25%	0.09	OK	Eq. H1-1b
	LC18 at 41.25%	0.14	OK	Eq. H1-1b
	LC19 at 41.25%	0.15	OK	Eq. H1-1b
	LC2 at 0.00%	0.13	OK	Eq. H1-1b
	LC20 at 42.50%	0.14	OK	Eq. H1-1b
	LC21 at 0.00%	0.13	OK	Eq. H1-1b
	LC22 at 0.00%	0.13	OK	Eq. H1-1b
	LC23 at 41.25%	0.07	OK	Eq. H1-1b
	LC24 at 41.25%	0.08	OK	Eq. H1-1b
	LC25 at 41.25%	0.23	OK	Eq. H1-1b
	LC26 at 41.25%	0.24	OK	Eq. H1-1b
	LC27 at 41.25%	0.24	OK	Eq. H1-1b
	LC28 at 41.25%	0.24	OK	Eq. H1-1b
	LC29 at 41.25%	0.23	OK	Eq. H1-1b
	LC3 at 41.25%	0.18	OK	Eq. H1-1b
	LC30 at 41.25%	0.23	OK	Eq. H1-1b
	LC31 at 41.25%	0.23	OK	Eq. H1-1b
	LC32 at 41.25%	0.22	OK	Eq. H1-1b
	LC33 at 41.25%	0.22	OK	Eq. H1-1b
	LC34 at 41.25%	0.22	OK	Eq. H1-1b
	LC35 at 41.25%	0.23	OK	Eq. H1-1b
	LC36 at 41.25%	0.23	OK	Eq. H1-1b
	LC37 at 41.25%	0.08	OK	Eq. H1-1b
	LC38 at 41.25%	**0.45**	**OK**	Eq. H1-1b
	LC39 at 41.25%	0.14	OK	Eq. H1-1b
	LC4 at 41.25%	0.18	OK	Eq. H1-1b
	LC40 at 41.25%	0.14	OK	Eq. H1-1b
	LC41 at 41.25%	0.14	OK	Eq. H1-1b

	LC42 at 41.25%	0.14	OK	Eq. H1-1b
	LC43 at 41.25%	0.14	OK	Eq. H1-1b
	LC44 at 41.25%	0.14	OK	Eq. H1-1b
	LC45 at 41.25%	0.14	OK	Eq. H1-1b
	LC46 at 41.25%	0.13	OK	Eq. H1-1b
	LC47 at 41.25%	0.13	OK	Eq. H1-1b
	LC48 at 41.25%	0.13	OK	Eq. H1-1b
	LC49 at 41.25%	0.14	OK	Eq. H1-1b
	LC5 at 41.25%	0.12	OK	Eq. H1-1b
	LC50 at 41.25%	0.14	OK	Eq. H1-1b
	LC6 at 41.25%	0.17	OK	Eq. H1-1b
	LC7 at 41.25%	0.17	OK	Eq. H1-1b
	LC8 at 42.50%	0.16	OK	Eq. H1-1b
	LC9 at 0.00%	0.14	OK	Eq. H1-1b
	W180 at 42.50%	0.06	OK	Eq. H1-1b
	W210 at 42.50%	0.07	OK	Eq. H1-1b
	W240 at 0.00%	0.06	OK	Eq. H1-1b
	W270 at 0.00%	0.05	OK	Eq. H1-1b
	W300 at 18.75%	0.01	OK	Eq. H1-1b
	W330 at 42.50%	0.06	OK	Eq. H1-1b
	WI180 at 0.00%	0.01	OK	Eq. H1-1b
	WI210 at 0.00%	0.01	OK	Eq. H1-1b
	WI240 at 0.00%	0.01	OK	Eq. H1-1b
	WI270 at 0.00%	0.01	OK	Eq. H1-1b
	WI300 at 0.00%	0.00	OK	Eq. H1-1b
	WI330 at 0.00%	0.01	OK	Eq. H1-1b
	WL180 at 0.00%	0.00	OK	Eq. H1-1b
	WL210 at 0.00%	0.00	OK	Eq. H1-1b
	WL240 at 0.00%	0.00	OK	Eq. H1-1b
	WL270 at 0.00%	0.00	OK	Eq. H1-1b
	WL300 at 0.00%	0.00	OK	Eq. H1-1b
	WL330 at 0.00%	0.00	OK	Eq. H1-1b
57	LC1 at 47.92%	0.65	OK	Eq. H1-1b
	LC10 at 47.92%	0.50	OK	Eq. H1-1b
	LC11 at 47.92%	0.56	OK	Eq. H1-1b
	LC12 at 47.92%	**0.74**	**OK**	Eq. H1-1b
	LC13 at 47.92%	0.65	OK	Eq. H1-1b
	LC14 at 47.92%	0.65	OK	Eq. H1-1b
	LC15 at 47.92%	0.56	OK	Eq. H1-1b
	LC16 at 47.92%	0.50	OK	Eq. H1-1b
	LC17 at 47.92%	0.56	OK	Eq. H1-1b
	LC18 at 47.92%	0.74	OK	Eq. H1-1b
	LC19 at 47.92%	0.65	OK	Eq. H1-1b
	LC2 at 47.92%	0.65	OK	Eq. H1-1b
	LC20 at 47.92%	0.65	OK	Eq. H1-1b
	LC21 at 47.92%	0.56	OK	Eq. H1-1b
	LC22 at 47.92%	0.50	OK	Eq. H1-1b
	LC23 at 47.92%	0.56	OK	Eq. H1-1b
	LC24 at 47.92%	0.74	OK	Eq. H1-1b
	LC25 at 47.92%	0.18	OK	Eq. H1-1b
	LC26 at 50.00%	0.24	OK	Eq. H1-1b
	LC27 at 50.00%	0.25	OK	Eq. H1-1b
	LC28 at 50.00%	0.26	OK	Eq. H1-1b
	LC29 at 50.00%	0.24	OK	Eq. H1-1b
	LC3 at 47.92%	0.56	OK	Eq. H1-1b
	LC30 at 50.00%	0.28	OK	Eq. H1-1b
	LC31 at 50.00%	0.27	OK	Eq. H1-1b
	LC32 at 47.92%	0.16	OK	Eq. H1-1b
	LC33 at 47.92%	0.16	OK	Eq. H1-1b
	LC34 at 47.92%	0.18	OK	Eq. H1-1b
	LC35 at 47.92%	0.14	OK	Eq. H1-1b
	LC36 at 47.92%	0.20	OK	Eq. H1-1b
	LC37 at 50.00%	0.05	OK	Eq. H1-1b

	LC38 at 50.00%	0.14	OK	Eq. H1-1b
	LC39 at 50.00%	0.09	OK	Eq. H1-1b
	LC4 at 47.92%	0.50	OK	Eq. H1-1b
	LC40 at 50.00%	0.18	OK	Eq. H1-1b
	LC41 at 50.00%	0.18	OK	Eq. H1-1b
	LC42 at 50.00%	0.18	OK	Eq. H1-1b
	LC43 at 50.00%	0.18	OK	Eq. H1-1b
	LC44 at 50.00%	0.19	OK	Eq. H1-1b
	LC45 at 50.00%	0.18	OK	Eq. H1-1b
	LC46 at 50.00%	0.10	OK	Eq. H1-1b
	LC47 at 50.00%	0.10	OK	Eq. H1-1b
	LC48 at 50.00%	0.10	OK	Eq. H1-1b
	LC49 at 50.00%	0.10	OK	Eq. H1-1b
	LC5 at 47.92%	0.56	OK	Eq. H1-1b
	LC50 at 50.00%	0.08	OK	Eq. H1-1b
	LC6 at 47.92%	0.74	OK	Eq. H1-1b
	LC7 at 47.92%	0.65	OK	Eq. H1-1b
	LC8 at 47.92%	0.65	OK	Eq. H1-1b
	LC9 at 47.92%	0.56	OK	Eq. H1-1b
	W180 at 47.92%	0.40	OK	Sec. F1
	W210 at 47.92%	0.40	OK	Sec. F1
	W240 at 47.92%	0.34	OK	Sec. F1
	W270 at 47.92%	0.31	OK	Sec. F1
	W300 at 47.92%	0.34	OK	Sec. F1
	W330 at 47.92%	0.45	OK	Sec. F1
	Wl180 at 47.92%	0.16	OK	Sec. F1
	Wl210 at 47.92%	0.14	OK	Sec. F1
	Wl240 at 47.92%	0.14	OK	Sec. F1
	Wl270 at 47.92%	0.16	OK	Sec. F1
	Wl300 at 47.92%	0.12	OK	Sec. F1
	Wl330 at 47.92%	0.18	OK	Sec. F1
	WL180 at 47.92%	0.04	OK	Sec. F1
	WL210 at 47.92%	0.04	OK	Sec. F1
	WL240 at 47.92%	0.04	OK	Sec. F1
	WL270 at 47.92%	0.04	OK	Sec. F1
	WL300 at 47.92%	0.04	OK	Sec. F1
	WL330 at 47.92%	0.05	OK	Sec. F1
60	LC1 at 100.00%	0.06	OK	Eq. H1-1b
	LC10 at 100.00%	0.26	OK	Eq. H1-1b
	LC11 at 100.00%	0.10	OK	Eq. H1-1b
	LC12 at 100.00%	0.06	OK	Eq. H1-1b
	LC13 at 0.00%	0.06	OK	Eq. H1-1b
	LC14 at 100.00%	0.17	OK	Eq. H1-1b
	LC15 at 100.00%	0.21	OK	Eq. H1-1b
	LC16 at 100.00%	0.18	OK	Eq. H1-1b
	LC17 at 0.00%	0.04	OK	Eq. H1-1b
	LC18 at 0.00%	0.09	OK	Eq. H1-1b
	LC19 at 0.00%	0.10	OK	Eq. H1-1b
	LC2 at 100.00%	0.15	OK	Eq. H1-1b
	LC20 at 100.00%	0.24	OK	Eq. H1-1b
	LC21 at 100.00%	0.27	OK	Eq. H1-1b
	LC22 at 100.00%	0.25	OK	Eq. H1-1b
	LC23 at 100.00%	0.09	OK	Eq. H1-1b
	LC24 at 100.00%	0.05	OK	Eq. H1-1b
	LC25 at 100.00%	0.08	OK	Eq. H1-1b
	LC26 at 0.00%	0.05	OK	Eq. H1-1b
	LC27 at 0.00%	0.05	OK	Eq. H1-1b
	LC28 at 0.00%	0.05	OK	Eq. H1-1b
	LC29 at 100.00%	0.07	OK	Eq. H1-1b
	LC3 at 100.00%	0.19	OK	Eq. H1-1b
	LC30 at 100.00%	0.08	OK	Eq. H1-1b
	LC31 at 100.00%	0.07	OK	Eq. H1-1b
	LC32 at 100.00%	0.12	OK	Eq. H1-1b

	LC33 at 100.00%	0.12	OK	Eq. H1-1b
	LC34 at 100.00%	0.12	OK	Eq. H1-1b
	LC35 at 100.00%	0.08	OK	Eq. H1-1b
	LC36 at 100.00%	0.08	OK	Eq. H1-1b
	LC37 at 100.00%	0.04	OK	Eq. H1-1b
	LC38 at 100.00%	0.23	OK	Eq. H1-1b
	LC39 at 100.00%	0.10	OK	Eq. H1-1b
	LC4 at 100.00%	0.17	OK	Eq. H1-1b
	LC40 at 100.00%	0.12	OK	Eq. H1-1b
	LC41 at 100.00%	0.12	OK	Eq. H1-1b
	LC42 at 100.00%	0.12	OK	Eq. H1-1b
	LC43 at 0.00%	0.11	OK	Eq. H1-1b
	LC44 at 0.00%	0.11	OK	Eq. H1-1b
	LC45 at 0.00%	0.11	OK	Eq. H1-1b
	LC46 at 0.00%	0.11	OK	Eq. H1-1b
	LC47 at 0.00%	0.11	OK	Eq. H1-1b
	LC48 at 0.00%	0.11	OK	Eq. H1-1b
	LC49 at 0.00%	0.10	OK	Eq. H1-1b
	LC5 at 0.00%	0.05	OK	Eq. H1-1b
	LC50 at 100.00%	0.10	OK	Eq. H1-1b
	LC6 at 0.00%	0.10	OK	Eq. H1-1b
	LC7 at 0.00%	0.10	OK	Eq. H1-1b
	LC8 at 100.00%	0.25	OK	Eq. H1-1b
	LC9 at 100.00%	**0.28**	**OK**	Eq. H1-1b
	W180 at 0.00%	0.05	OK	Eq. H1-1b
	W210 at 100.00%	0.13	OK	Eq. H1-1b
	W240 at 100.00%	0.15	OK	Eq. H1-1b
	W270 at 100.00%	0.14	OK	Eq. H1-1b
	W300 at 100.00%	0.04	OK	Eq. H1-1b
	W330 at 0.00%	0.05	OK	Eq. H1-1b
	WI180 at 0.00%	0.01	OK	Eq. H1-1b
	WI210 at 100.00%	0.05	OK	Eq. H1-1b
	WI240 at 100.00%	0.04	OK	Eq. H1-1b
	WI270 at 100.00%	0.04	OK	Eq. H1-1b
	WI300 at 0.00%	0.01	OK	Eq. H1-1b
	WI330 at 0.00%	0.01	OK	Eq. H1-1b
	WL180 at 0.00%	0.00	OK	Eq. H1-1b
	WL210 at 100.00%	0.01	OK	Eq. H1-1b
	WL240 at 100.00%	0.01	OK	Eq. H1-1b
	WL270 at 100.00%	0.01	OK	Eq. H1-1b
	WL300 at 0.00%	0.00	OK	Eq. H1-1b
	WL330 at 0.00%	0.00	OK	Eq. H1-1b
61	LC1 at 0.00%	0.33	OK	Eq. H1-1b
	LC10 at 100.00%	0.13	OK	Eq. H1-1b
	LC11 at 0.00%	0.35	OK	Eq. H1-1b
	LC12 at 0.00%	0.31	OK	Eq. H1-1b
	LC13 at 0.00%	0.32	OK	Eq. H1-1b
	LC14 at 100.00%	0.26	OK	Eq. H1-1b
	LC15 at 100.00%	0.29	OK	Eq. H1-1b
	LC16 at 100.00%	0.27	OK	Eq. H1-1b
	LC17 at 0.00%	0.30	OK	Eq. H1-1b
	LC18 at 0.00%	0.26	OK	Eq. H1-1b
	LC19 at 0.00%	0.27	OK	Eq. H1-1b
	LC2 at 100.00%	0.29	OK	Eq. H1-1b
	LC20 at 100.00%	0.07	OK	Eq. H1-1b
	LC21 at 100.00%	0.10	OK	Eq. H1-1b
	LC22 at 100.00%	0.10	OK	Eq. H1-1b
	LC23 at 0.00%	0.34	OK	Eq. H1-1b
	LC24 at 0.00%	0.30	OK	Eq. H1-1b
	LC25 at 100.00%	0.31	OK	Eq. H1-1b
	LC26 at 100.00%	0.32	OK	Eq. H1-1b
	LC27 at 100.00%	0.32	OK	Eq. H1-1b
	LC28 at 100.00%	0.32	OK	Eq. H1-1b

	LC29 at 100.00%	0.28	OK	Eq. H1-1b
	LC3 at 100.00%	0.32	OK	Eq. H1-1b
	LC30 at 100.00%	0.28	OK	Eq. H1-1b
	LC31 at 100.00%	0.28	OK	Eq. H1-1b
	LC32 at 100.00%	0.27	OK	Eq. H1-1b
	LC33 at 100.00%	0.27	OK	Eq. H1-1b
	LC34 at 100.00%	0.27	OK	Eq. H1-1b
	LC35 at 100.00%	0.31	OK	Eq. H1-1b
	LC36 at 100.00%	0.31	OK	Eq. H1-1b
	LC37 at 100.00%	0.10	OK	Eq. H1-1b
	LC38 at 100.00%	0.27	OK	Eq. H1-1b
	LC39 at 100.00%	0.41	OK	Eq. H1-1b
	LC4 at 100.00%	0.30	OK	Eq. H1-1b
	LC40 at 100.00%	**0.41**	**OK**	Eq. H1-1b
	LC41 at 100.00%	0.41	OK	Eq. H1-1b
	LC42 at 100.00%	0.41	OK	Eq. H1-1b
	LC43 at 100.00%	0.39	OK	Eq. H1-1b
	LC44 at 100.00%	0.39	OK	Eq. H1-1b
	LC45 at 100.00%	0.39	OK	Eq. H1-1b
	LC46 at 100.00%	0.39	OK	Eq. H1-1b
	LC47 at 100.00%	0.39	OK	Eq. H1-1b
	LC48 at 100.00%	0.39	OK	Eq. H1-1b
	LC49 at 100.00%	0.41	OK	Eq. H1-1b
	LC5 at 0.00%	0.29	OK	Eq. H1-1b
	LC50 at 100.00%	0.41	OK	Eq. H1-1b
	LC6 at 0.00%	0.25	OK	Eq. H1-1b
	LC7 at 0.00%	0.27	OK	Eq. H1-1b
	LC8 at 100.00%	0.09	OK	Eq. H1-1b
	LC9 at 100.00%	0.12	OK	Eq. H1-1b
	W180 at 0.00%	0.18	OK	Eq. H1-1b
	W210 at 100.00%	0.10	OK	Eq. H1-1b
	W240 at 100.00%	0.12	OK	Eq. H1-1b
	W270 at 100.00%	0.11	OK	Eq. H1-1b
	W300 at 0.00%	0.18	OK	Eq. H1-1b
	W330 at 0.00%	0.16	OK	Eq. H1-1b
	WI180 at 0.00%	0.08	OK	Eq. H1-1b
	WI210 at 100.00%	0.03	OK	Eq. H1-1b
	WI240 at 100.00%	0.03	OK	Eq. H1-1b
	WI270 at 100.00%	0.03	OK	Eq. H1-1b
	WI300 at 0.00%	0.06	OK	Eq. H1-1b
	WI330 at 0.00%	0.06	OK	Eq. H1-1b
	WL180 at 0.00%	0.02	OK	Eq. H1-1b
	WL210 at 100.00%	0.01	OK	Eq. H1-1b
	WL240 at 100.00%	0.01	OK	Eq. H1-1b
	WL270 at 100.00%	0.01	OK	Eq. H1-1b
	WL300 at 0.00%	0.02	OK	Eq. H1-1b
	WL330 at 0.00%	0.02	OK	Eq. H1-1b
62	LC1 at 0.00%	0.22	OK	Eq. H1-1b
	LC10 at 100.00%	0.15	OK	Eq. H1-1b
	LC11 at 0.00%	0.19	OK	Eq. H1-1b
	LC12 at 0.00%	0.21	OK	Eq. H1-1b
	LC13 at 0.00%	0.21	OK	Eq. H1-1b
	LC14 at 100.00%	0.25	OK	Eq. H1-1b
	LC15 at 100.00%	0.30	OK	Eq. H1-1b
	LC16 at 100.00%	0.28	OK	Eq. H1-1b
	LC17 at 0.00%	0.13	OK	Eq. H1-1b
	LC18 at 0.00%	0.15	OK	Eq. H1-1b
	LC19 at 0.00%	0.15	OK	Eq. H1-1b
	LC2 at 100.00%	0.27	OK	Eq. H1-1b
	LC20 at 0.00%	0.13	OK	Eq. H1-1b
	LC21 at 0.00%	0.13	OK	Eq. H1-1b
	LC22 at 0.00%	0.12	OK	Eq. H1-1b
	LC23 at 0.00%	0.18	OK	Eq. H1-1b

		LC24 at 0.00%	0.20	OK	Eq. H1-1b
		LC25 at 100.00%	0.31	OK	Eq. H1-1b
		LC26 at 100.00%	0.33	OK	Eq. H1-1b
		LC27 at 100.00%	0.33	OK	Eq. H1-1b
		LC28 at 100.00%	0.33	OK	Eq. H1-1b
		LC29 at 100.00%	0.32	OK	Eq. H1-1b
		LC3 at 100.00%	0.33	OK	Eq. H1-1b
		LC30 at 100.00%	0.32	OK	Eq. H1-1b
		LC31 at 100.00%	0.32	OK	Eq. H1-1b
		LC32 at 100.00%	0.31	OK	Eq. H1-1b
		LC33 at 100.00%	0.31	OK	Eq. H1-1b
		LC34 at 100.00%	0.31	OK	Eq. H1-1b
		LC35 at 100.00%	0.31	OK	Eq. H1-1b
		LC36 at 100.00%	0.31	OK	Eq. H1-1b
		LC37 at 100.00%	0.11	OK	Eq. H1-1b
		LC38 at 100.00%	0.26	OK	Eq. H1-1b
		LC39 at 100.00%	0.46	OK	Eq. H1-1b
		LC4 at 100.00%	0.31	OK	Eq. H1-1b
		LC40 at 100.00%	**0.47**	**OK**	Eq. H1-1b
		LC41 at 100.00%	0.47	OK	Eq. H1-1b
		LC42 at 100.00%	0.47	OK	Eq. H1-1b
		LC43 at 100.00%	0.47	OK	Eq. H1-1b
		LC44 at 100.00%	0.47	OK	Eq. H1-1b
		LC45 at 100.00%	0.47	OK	Eq. H1-1b
		LC46 at 100.00%	0.46	OK	Eq. H1-1b
		LC47 at 100.00%	0.46	OK	Eq. H1-1b
		LC48 at 100.00%	0.46	OK	Eq. H1-1b
		LC49 at 100.00%	0.46	OK	Eq. H1-1b
		LC5 at 0.00%	0.12	OK	Eq. H1-1b
		LC50 at 100.00%	0.46	OK	Eq. H1-1b
		LC6 at 0.00%	0.14	OK	Eq. H1-1b
		LC7 at 0.00%	0.14	OK	Eq. H1-1b
		LC8 at 0.00%	0.12	OK	Eq. H1-1b
		LC9 at 100.00%	0.14	OK	Eq. H1-1b
		W180 at 0.00%	0.11	OK	Eq. H1-1b
		W210 at 100.00%	0.11	OK	Eq. H1-1b
		W240 at 100.00%	0.13	OK	Eq. H1-1b
		W270 at 100.00%	0.12	OK	Eq. H1-1b
		W300 at 0.00%	0.09	OK	Eq. H1-1b
		W330 at 0.00%	0.11	OK	Eq. H1-1b
		WI180 at 0.00%	0.04	OK	Eq. H1-1b
		WI210 at 100.00%	0.04	OK	Eq. H1-1b
		WI240 at 100.00%	0.04	OK	Eq. H1-1b
		WI270 at 100.00%	0.04	OK	Eq. H1-1b
		WI300 at 0.00%	0.04	OK	Eq. H1-1b
		WI330 at 0.00%	0.04	OK	Eq. H1-1b
		WL180 at 0.00%	0.01	OK	Eq. H1-1b
		WL210 at 100.00%	0.01	OK	Eq. H1-1b
		WL240 at 100.00%	0.01	OK	Eq. H1-1b
		WL270 at 100.00%	0.01	OK	Eq. H1-1b
		WL300 at 0.00%	0.01	OK	Eq. H1-1b
		WL330 at 0.00%	0.01	OK	Eq. H1-1b
PIPE 4x0.237	**25**	LC1 at 100.00%	0.16	OK	Eq. H1-1b
		LC10 at 100.00%	0.44	OK	Eq. H1-1b
		LC11 at 100.00%	0.12	OK	Eq. H1-1b
		LC12 at 100.00%	0.16	OK	Eq. H1-1b
		LC13 at 100.00%	0.12	OK	Eq. H1-1b
		LC14 at 100.00%	0.44	OK	Eq. H1-1b
		LC15 at 100.00%	0.51	OK	Eq. H1-1b
		LC16 at 100.00%	0.48	OK	Eq. H1-1b
		LC17 at 100.00%	0.21	OK	Eq. H1-1b
		LC18 at 100.00%	0.13	OK	Eq. H1-1b
		LC19 at 100.00%	0.13	OK	Eq. H1-1b

	LC2 at 100.00%	0.48	OK	Eq. H1-1b
	LC20 at 100.00%	0.38	OK	Eq. H1-1b
	LC21 at 100.00%	0.46	OK	Eq. H1-1b
	LC22 at 100.00%	0.42	OK	Eq. H1-1b
	LC23 at 100.00%	0.10	OK	Eq. H1-1b
	LC24 at 100.00%	0.12	OK	Eq. H1-1b
	LC25 at 100.00%	0.34	OK	Eq. H1-1b
	LC26 at 100.00%	0.42	OK	Eq. H1-1b
	LC27 at 100.00%	0.42	OK	Eq. H1-1b
	LC28 at 100.00%	0.41	OK	Eq. H1-1b
	LC29 at 100.00%	0.34	OK	Eq. H1-1b
	LC3 at 100.00%	**0.55**	**OK**	Eq. H1-1b
	LC30 at 100.00%	0.34	OK	Eq. H1-1b
	LC31 at 100.00%	0.34	OK	Eq. H1-1b
	LC32 at 100.00%	0.27	OK	Eq. H1-1b
	LC33 at 100.00%	0.27	OK	Eq. H1-1b
	LC34 at 100.00%	0.27	OK	Eq. H1-1b
	LC35 at 100.00%	0.34	OK	Eq. H1-1b
	LC36 at 100.00%	0.34	OK	Eq. H1-1b
	LC37 at 100.00%	0.12	OK	Eq. H1-1b
	LC38 at 100.00%	0.25	OK	Eq. H1-1b
	LC39 at 100.00%	0.40	OK	Eq. H1-1b
	LC4 at 100.00%	0.52	OK	Eq. H1-1b
	LC40 at 100.00%	0.43	OK	Eq. H1-1b
	LC41 at 100.00%	0.43	OK	Eq. H1-1b
	LC42 at 100.00%	0.43	OK	Eq. H1-1b
	LC43 at 100.00%	0.40	OK	Eq. H1-1b
	LC44 at 100.00%	0.40	OK	Eq. H1-1b
	LC45 at 100.00%	0.40	OK	Eq. H1-1b
	LC46 at 100.00%	0.37	OK	Eq. H1-1b
	LC47 at 100.00%	0.37	OK	Eq. H1-1b
	LC48 at 100.00%	0.37	OK	Eq. H1-1b
	LC49 at 100.00%	0.40	OK	Eq. H1-1b
	LC5 at 100.00%	0.25	OK	Eq. H1-1b
	LC50 at 100.00%	0.40	OK	Eq. H1-1b
	LC6 at 100.00%	0.17	OK	Eq. H1-1b
	LC7 at 100.00%	0.17	OK	Eq. H1-1b
	LC8 at 100.00%	0.40	OK	Eq. H1-1b
	LC9 at 100.00%	0.48	OK	Eq. H1-1b
	W180 at 0.00%	0.04	OK	Eq. H1-1b
	W210 at 100.00%	0.21	OK	Eq. H1-1b
	W240 at 100.00%	0.25	OK	Eq. H1-1b
	W270 at 100.00%	0.23	OK	Eq. H1-1b
	W300 at 100.00%	0.06	OK	Eq. H1-1b
	W330 at 0.00%	0.04	OK	Eq. H1-1b
	WI180 at 0.00%	0.01	OK	Eq. H1-1b
	WI210 at 100.00%	0.08	OK	Eq. H1-1b
	WI240 at 100.00%	0.08	OK	Eq. H1-1b
	WI270 at 100.00%	0.07	OK	Eq. H1-1b
	WI300 at 0.00%	0.01	OK	Eq. H1-1b
	WI330 at 0.00%	0.01	OK	Eq. H1-1b
	WL180 at 0.00%	0.00	OK	Eq. H1-1b
	WL210 at 100.00%	0.02	OK	Eq. H1-1b
	WL240 at 100.00%	0.02	OK	Eq. H1-1b
	WL270 at 100.00%	0.02	OK	Eq. H1-1b
	WL300 at 0.00%	0.00	OK	Eq. H1-1b
	WL330 at 0.00%	0.00	OK	Eq. H1-1b
26	LC1 at 100.00%	0.11	OK	Eq. H1-1b
	LC10 at 100.00%	0.43	OK	Eq. H1-1b
	LC11 at 100.00%	0.17	OK	Eq. H1-1b
	LC12 at 100.00%	0.11	OK	Eq. H1-1b
	LC13 at 100.00%	0.10	OK	Eq. H1-1b
	LC14 at 100.00%	0.22	OK	Eq. H1-1b

		LC15 at 100.00%	0.32	OK	Eq. H1-1b
		LC16 at 100.00%	0.31	OK	Eq. H1-1b
		LC17 at 100.00%	0.10	OK	Eq. H1-1b
		LC18 at 100.00%	0.21	OK	Eq. H1-1b
		LC19 at 100.00%	0.21	OK	Eq. H1-1b
		LC2 at 100.00%	0.24	OK	Eq. H1-1b
		LC20 at 100.00%	0.30	OK	Eq. H1-1b
		LC21 at 100.00%	0.40	OK	Eq. H1-1b
		LC22 at 100.00%	0.39	OK	Eq. H1-1b
		LC23 at 100.00%	0.13	OK	Eq. H1-1b
		LC24 at 100.00%	0.10	OK	Eq. H1-1b
		LC25 at 100.00%	0.31	OK	Eq. H1-1b
		LC26 at 100.00%	0.30	OK	Eq. H1-1b
		LC27 at 100.00%	0.30	OK	Eq. H1-1b
		LC28 at 100.00%	0.30	OK	Eq. H1-1b
		LC29 at 100.00%	0.36	OK	Eq. H1-1b
		LC3 at 100.00%	0.33	OK	Eq. H1-1b
		LC30 at 100.00%	0.36	OK	Eq. H1-1b
		LC31 at 100.00%	0.36	OK	Eq. H1-1b
		LC32 at 100.00%	0.38	OK	Eq. H1-1b
		LC33 at 100.00%	0.38	OK	Eq. H1-1b
		LC34 at 100.00%	0.38	OK	Eq. H1-1b
		LC35 at 100.00%	0.32	OK	Eq. H1-1b
		LC36 at 100.00%	0.32	OK	Eq. H1-1b
		LC37 at 100.00%	0.11	OK	Eq. H1-1b
		LC38 at 100.00%	0.25	OK	Eq. H1-1b
		LC39 at 100.00%	0.37	OK	Eq. H1-1b
		LC4 at 100.00%	0.32	OK	Eq. H1-1b
		LC40 at 100.00%	0.36	OK	Eq. H1-1b
		LC41 at 100.00%	0.37	OK	Eq. H1-1b
		LC42 at 100.00%	0.37	OK	Eq. H1-1b
		LC43 at 100.00%	0.39	OK	Eq. H1-1b
		LC44 at 100.00%	0.39	OK	Eq. H1-1b
		LC45 at 100.00%	0.39	OK	Eq. H1-1b
		LC46 at 100.00%	0.40	OK	Eq. H1-1b
		LC47 at 100.00%	0.40	OK	Eq. H1-1b
		LC48 at 100.00%	0.40	OK	Eq. H1-1b
		LC49 at 100.00%	0.38	OK	Eq. H1-1b
		LC5 at 100.00%	0.14	OK	Eq. H1-1b
		LC50 at 100.00%	0.37	OK	Eq. H1-1b
		LC6 at 100.00%	0.25	OK	Eq. H1-1b
		LC7 at 100.00%	0.25	OK	Eq. H1-1b
		LC8 at 100.00%	0.34	OK	Eq. H1-1b
		LC9 at 100.00%	**0.44**	**OK**	Eq. H1-1b
		W180 at 100.00%	0.05	OK	Eq. H1-1b
		W210 at 100.00%	0.12	OK	Eq. H1-1b
		W240 at 100.00%	0.17	OK	Eq. H1-1b
		W270 at 100.00%	0.17	OK	Eq. H1-1b
		W300 at 100.00%	0.03	OK	Eq. H1-1b
		W330 at 100.00%	0.05	OK	Eq. H1-1b
		WI180 at 100.00%	0.02	OK	Eq. H1-1b
		WI210 at 100.00%	0.04	OK	Eq. H1-1b
		WI240 at 100.00%	0.04	OK	Eq. H1-1b
		WI270 at 100.00%	0.04	OK	Eq. H1-1b
		WI300 at 100.00%	0.02	OK	Eq. H1-1b
		WI330 at 100.00%	0.02	OK	Eq. H1-1b
		WL180 at 100.00%	0.01	OK	Eq. H1-1b
		WL210 at 100.00%	0.01	OK	Eq. H1-1b
		WL240 at 100.00%	0.01	OK	Eq. H1-1b
		WL270 at 100.00%	0.01	OK	Eq. H1-1b
		WL300 at 100.00%	0.01	OK	Eq. H1-1b
		WL330 at 100.00%	0.01	OK	Eq. H1-1b
RndBar 1-1_4	**31**	LC1 at 0.00%	0.04	OK	

LC10 at 0.00%	0.03	OK	
LC11 at 0.00%	0.03	OK	
LC12 at 0.00%	0.04	OK	
LC13 at 0.00%	0.03	OK	
LC14 at 0.00%	0.04	OK	
LC15 at 0.00%	0.03	OK	
LC16 at 0.00%	0.03	OK	
LC17 at 0.00%	0.02	OK	
LC18 at 0.00%	0.01	OK	
LC19 at 0.00%	0.01	OK	
LC2 at 0.00%	0.04	OK	
LC20 at 0.00%	0.01	OK	
LC21 at 0.00%	0.02	OK	
LC22 at 0.00%	0.02	OK	
LC23 at 0.00%	0.02	OK	
LC24 at 0.00%	0.03	OK	
LC25 at 0.00%	0.06	OK	
LC26 at 0.00%	0.06	OK	
LC27 at 0.00%	0.06	OK	
LC28 at 0.00%	0.06	OK	
LC29 at 0.00%	0.06	OK	
LC3 at 0.00%	0.04	OK	
LC30 at 0.00%	0.06	OK	
LC31 at 0.00%	0.06	OK	
LC32 at 0.00%	0.06	OK	
LC33 at 0.00%	0.06	OK	
LC34 at 0.00%	0.06	OK	
LC35 at 0.00%	0.06	OK	
LC36 at 0.00%	0.06	OK	
LC37 at 0.00%	0.02	OK	
LC38 at 0.00%	**0.24**	**OK**	
LC39 at 0.00%	0.04	OK	
LC4 at 0.00%	0.04	OK	
LC40 at 0.00%	0.04	OK	
LC41 at 0.00%	0.04	OK	
LC42 at 0.00%	0.04	OK	
LC43 at 0.00%	0.03	OK	
LC44 at 0.00%	0.03	OK	
LC45 at 0.00%	0.03	OK	
LC46 at 0.00%	0.03	OK	
LC47 at 0.00%	0.03	OK	
LC48 at 0.00%	0.03	OK	
LC49 at 0.00%	0.04	OK	
LC5 at 0.00%	0.03	OK	
LC50 at 0.00%	0.04	OK	
LC6 at 0.00%	0.02	OK	
LC7 at 0.00%	0.02	OK	
LC8 at 0.00%	0.02	OK	
LC9 at 0.00%	0.03	OK	
W180 at 0.00%	0.01	OK	Eq. H1-1b
W210 at 0.00%	0.01	OK	
W240 at 0.00%	0.01	OK	Eq. H1-1b
W270 at 0.00%	0.00	OK	Eq. H1-1b
W300 at 0.00%	0.00	OK	Eq. H1-1b
W330 at 0.00%	0.01	OK	Eq. H1-1b
WI180 at 0.00%	0.00	OK	Eq. H1-1b
WI210 at 0.00%	0.00	OK	Eq. H1-1b
WI240 at 0.00%	0.00	OK	Eq. H1-1b
WI270 at 0.00%	0.00	OK	Eq. H1-1b
WI300 at 0.00%	0.00	OK	Eq. H1-1b
WI330 at 0.00%	0.00	OK	Eq. H1-1b
WL180 at 0.00%	0.00	OK	Eq. H1-1b
WL210 at 0.00%	0.00	OK	Eq. H1-1b
WL240 at 0.00%	0.00	OK	Eq. H1-1b

	WL270 at 0.00%	0.00	OK	Eq. H1-1b
	WL300 at 0.00%	0.00	OK	Eq. H1-1b
	WL330 at 0.00%	0.00	OK	Eq. H1-1b
32	LC1 at 0.00%	0.14	OK	
	LC10 at 0.00%	0.08	OK	Eq. H1-1b
	LC11 at 0.00%	0.15	OK	
	LC12 at 0.00%	0.15	OK	
	LC13 at 0.00%	0.10	OK	
	LC14 at 0.00%	0.24	OK	
	LC15 at 0.00%	0.24	OK	
	LC16 at 0.00%	0.22	OK	
	LC17 at 0.00%	0.14	OK	
	LC18 at 0.00%	0.14	OK	
	LC19 at 0.00%	0.14	OK	
	LC2 at 0.00%	0.28	OK	
	LC20 at 0.00%	0.08	OK	Eq. H1-1b
	LC21 at 0.00%	0.08	OK	Eq. H1-1b
	LC22 at 0.00%	0.07	OK	Eq. H1-1b
	LC23 at 0.00%	0.11	OK	
	LC24 at 0.00%	0.10	OK	
	LC25 at 0.00%	0.33	OK	
	LC26 at 0.00%	0.36	OK	
	LC27 at 0.00%	0.36	OK	
	LC28 at 0.00%	0.36	OK	
	LC29 at 0.00%	0.33	OK	
	LC3 at 0.00%	0.28	OK	
	LC30 at 0.00%	0.33	OK	
	LC31 at 0.00%	0.33	OK	
	LC32 at 0.00%	0.30	OK	
	LC33 at 0.00%	0.30	OK	
	LC34 at 0.00%	0.30	OK	
	LC35 at 0.00%	0.33	OK	
	LC36 at 0.00%	0.33	OK	
	LC37 at 0.00%	0.12	OK	
	LC38 at 0.00%	**0.56**	**OK**	
	LC39 at 0.00%	0.21	OK	
	LC4 at 0.00%	0.26	OK	
	LC40 at 0.00%	0.23	OK	
	LC41 at 0.00%	0.23	OK	
	LC42 at 0.00%	0.22	OK	
	LC43 at 0.00%	0.22	OK	
	LC44 at 0.00%	0.22	OK	
	LC45 at 0.00%	0.22	OK	
	LC46 at 0.00%	0.20	OK	
	LC47 at 0.00%	0.20	OK	
	LC48 at 0.00%	0.21	OK	
	LC49 at 0.00%	0.21	OK	
	LC5 at 0.00%	0.18	OK	
	LC50 at 0.00%	0.21	OK	
	LC6 at 0.00%	0.18	OK	
	LC7 at 0.00%	0.19	OK	
	LC8 at 0.00%	0.08	OK	Eq. H1-1b
	LC9 at 0.00%	0.08	OK	Eq. H1-1b
	W180 at 0.00%	0.04	OK	Eq. H1-1b
	W210 at 0.00%	0.07	OK	
	W240 at 0.00%	0.07	OK	
	W270 at 0.00%	0.06	OK	
	W300 at 0.00%	0.03	OK	Eq. H1-1b
	W330 at 0.00%	0.03	OK	Eq. H1-1b
	WI180 at 0.00%	0.02	OK	Eq. H1-1b
	WI210 at 0.00%	0.03	OK	
	WI240 at 0.00%	0.03	OK	
	WI270 at 0.00%	0.03	OK	

	WI300 at 0.00%	0.02	OK	Eq. H1-1b
	WI330 at 0.00%	0.02	OK	Eq. H1-1b
	WL180 at 0.00%	0.00	OK	Eq. H1-1b
	WL210 at 0.00%	0.01	OK	
	WL240 at 0.00%	0.01	OK	
	WL270 at 0.00%	0.01	OK	
	WL300 at 0.00%	0.00	OK	Eq. H1-1b
	WL330 at 0.00%	0.00	OK	Eq. H1-1b
34	LC1 at 100.00%	0.50	OK	Eq. H1-1b
	LC10 at 0.00%	0.48	OK	
	LC11 at 100.00%	0.66	OK	Eq. H1-1b
	LC12 at 100.00%	0.45	OK	Eq. H1-1b
	LC13 at 100.00%	0.49	OK	Eq. H1-1b
	LC14 at 0.00%	0.52	OK	Eq. H3-6
	LC15 at 0.00%	0.42	OK	
	LC16 at 0.00%	0.29	OK	
	LC17 at 100.00%	0.72	OK	Eq. H3-6
	LC18 at 100.00%	0.48	OK	Eq. H3-6
	LC19 at 100.00%	0.54	OK	Eq. H3-6
	LC2 at 0.00%	0.50	OK	Eq. H3-6
	LC20 at 0.00%	0.66	OK	
	LC21 at 0.00%	0.58	OK	
	LC22 at 0.00%	0.45	OK	
	LC23 at 100.00%	0.65	OK	Eq. H1-1b
	LC24 at 100.00%	0.44	OK	Eq. H1-1b
	LC25 at 100.00%	0.23	OK	Eq. H3-6
	LC26 at 0.00%	0.14	OK	Eq. H1-1b
	LC27 at 0.00%	0.13	OK	Eq. H1-1b
	LC28 at 0.00%	0.13	OK	Eq. H1-1b
	LC29 at 0.00%	0.27	OK	
	LC3 at 0.00%	0.39	OK	
	LC30 at 0.00%	0.27	OK	
	LC31 at 0.00%	0.28	OK	
	LC32 at 0.00%	0.38	OK	
	LC33 at 0.00%	0.37	OK	
	LC34 at 0.00%	0.35	OK	
	LC35 at 100.00%	0.21	OK	Eq. H3-6
	LC36 at 100.00%	0.21	OK	Eq. H3-6
	LC37 at 0.00%	0.08	OK	
	LC38 at 0.00%	0.40	OK	
	LC39 at 0.00%	0.35	OK	
	LC4 at 0.00%	0.27	OK	Eq. H3-6
	LC40 at 0.00%	0.31	OK	
	LC41 at 0.00%	0.31	OK	
	LC42 at 0.00%	0.32	OK	
	LC43 at 0.00%	0.38	OK	
	LC44 at 0.00%	0.37	OK	
	LC45 at 0.00%	0.38	OK	
	LC46 at 0.00%	0.42	OK	
	LC47 at 0.00%	0.41	OK	
	LC48 at 0.00%	0.40	OK	
	LC49 at 0.00%	0.35	OK	
	LC5 at 100.00%	**0.73**	**OK**	Eq. H3-6
	LC50 at 0.00%	0.35	OK	
	LC6 at 100.00%	0.49	OK	Eq. H3-6
	LC7 at 100.00%	0.55	OK	Eq. H3-6
	LC8 at 0.00%	0.68	OK	
	LC9 at 0.00%	0.60	OK	
	W180 at 100.00%	0.30	OK	Eq. H1-1b
	W210 at 0.00%	0.36	OK	
	W240 at 0.00%	0.31	OK	
	W270 at 0.00%	0.23	OK	
	W300 at 100.00%	0.40	OK	Eq. H1-1b

	W330 at 100.00%	0.27	OK	Eq. H1-1b
	WI180 at 100.00%	0.13	OK	Eq. H1-1b
	WI210 at 0.00%	0.14	OK	
	WI240 at 0.00%	0.13	OK	
	WI270 at 0.00%	0.11	OK	
	WI300 at 100.00%	0.11	OK	Eq. H1-1b
	WI330 at 100.00%	0.11	OK	Eq. H1-1b
	WL180 at 100.00%	0.03	OK	Eq. H1-1b
	WL210 at 0.00%	0.03	OK	
	WL240 at 0.00%	0.03	OK	
	WL270 at 0.00%	0.03	OK	
	WL300 at 100.00%	0.03	OK	Eq. H1-1b
	WL330 at 100.00%	0.03	OK	Eq. H1-1b
53	LC1 at 100.00%	0.02	OK	Eq. H1-1b
	LC10 at 100.00%	0.01	OK	Eq. H1-1b
	LC11 at 100.00%	0.02	OK	Eq. H1-1b
	LC12 at 100.00%	0.02	OK	Eq. H1-1b
	LC13 at 100.00%	0.02	OK	Eq. H1-1b
	LC14 at 100.00%	0.02	OK	Eq. H1-1b
	LC15 at 100.00%	0.02	OK	Eq. H1-1b
	LC16 at 100.00%	0.02	OK	Eq. H1-1b
	LC17 at 100.00%	0.02	OK	Eq. H1-1b
	LC18 at 100.00%	0.02	OK	Eq. H1-1b
	LC19 at 100.00%	0.02	OK	Eq. H1-1b
	LC2 at 100.00%	0.02	OK	Eq. H1-1b
	LC20 at 100.00%	0.01	OK	Eq. H1-1b
	LC21 at 100.00%	0.01	OK	Eq. H1-1b
	LC22 at 100.00%	0.01	OK	Eq. H1-1b
	LC23 at 100.00%	0.01	OK	Eq. H1-1b
	LC24 at 100.00%	0.01	OK	Eq. H1-1b
	LC25 at 100.00%	0.04	OK	Eq. H1-1b
	LC26 at 100.00%	0.04	OK	Eq. H1-1b
	LC27 at 100.00%	0.04	OK	Eq. H1-1b
	LC28 at 100.00%	0.04	OK	Eq. H1-1b
	LC29 at 100.00%	0.04	OK	Eq. H1-1b
	LC3 at 100.00%	0.03	OK	Eq. H1-1b
	LC30 at 100.00%	0.04	OK	Eq. H1-1b
	LC31 at 100.00%	0.04	OK	Eq. H1-1b
	LC32 at 100.00%	0.04	OK	Eq. H1-1b
	LC33 at 100.00%	0.04	OK	Eq. H1-1b
	LC34 at 100.00%	0.04	OK	Eq. H1-1b
	LC35 at 100.00%	0.04	OK	Eq. H1-1b
	LC36 at 100.00%	0.04	OK	Eq. H1-1b
	LC37 at 100.00%	0.01	OK	Eq. H1-1b
	LC38 at 100.00%	**0.13**	**OK**	Eq. H1-1b
	LC39 at 100.00%	0.02	OK	Eq. H1-1b
	LC4 at 100.00%	0.02	OK	Eq. H1-1b
	LC40 at 100.00%	0.02	OK	Eq. H1-1b
	LC41 at 100.00%	0.02	OK	Eq. H1-1b
	LC42 at 100.00%	0.02	OK	Eq. H1-1b
	LC43 at 100.00%	0.02	OK	Eq. H1-1b
	LC44 at 100.00%	0.02	OK	Eq. H1-1b
	LC45 at 100.00%	0.02	OK	Eq. H1-1b
	LC46 at 100.00%	0.02	OK	Eq. H1-1b
	LC47 at 100.00%	0.02	OK	Eq. H1-1b
	LC48 at 100.00%	0.02	OK	Eq. H1-1b
	LC49 at 100.00%	0.02	OK	Eq. H1-1b
	LC5 at 100.00%	0.02	OK	Eq. H1-1b
	LC50 at 100.00%	0.02	OK	Eq. H1-1b
	LC6 at 100.00%	0.03	OK	Eq. H1-1b
	LC7 at 100.00%	0.03	OK	Eq. H1-1b
	LC8 at 100.00%	0.02	OK	Eq. H1-1b
	LC9 at 100.00%	0.01	OK	Eq. H1-1b

	W180 at 100.00%	0.01	OK	Eq. H1-1b
	W210 at 100.00%	0.00	OK	Eq. H1-1b
	W240 at 100.00%	0.00	OK	Eq. H1-1b
	W270 at 100.00%	0.00	OK	Eq. H1-1b
	W300 at 100.00%	0.00	OK	Eq. H1-1b
	W330 at 100.00%	0.01	OK	Eq. H1-1b
	WI180 at 100.00%	0.00	OK	Eq. H1-1b
	WI210 at 100.00%	0.00	OK	Eq. H1-1b
	WI240 at 100.00%	0.00	OK	Eq. H1-1b
	WI270 at 100.00%	0.00	OK	Eq. H1-1b
	WI300 at 100.00%	0.00	OK	Eq. H1-1b
	WI330 at 100.00%	0.00	OK	Eq. H1-1b
	WL180 at 100.00%	0.00	OK	Eq. H1-1b
	WL210 at 100.00%	0.00	OK	Eq. H1-1b
	WL240 at 100.00%	0.00	OK	Eq. H1-1b
	WL270 at 100.00%	0.00	OK	Eq. H1-1b
	WL300 at 100.00%	0.00	OK	Eq. H1-1b
	WL330 at 100.00%	0.00	OK	Eq. H1-1b
54	LC1 at 0.00%	0.05	OK	
	LC10 at 0.00%	0.04	OK	Eq. H1-1b
	LC11 at 0.00%	0.06	OK	Eq. H1-1b
	LC12 at 0.00%	0.05	OK	
	LC13 at 0.00%	0.04	OK	
	LC14 at 0.00%	0.09	OK	Eq. H1-1b
	LC15 at 0.00%	0.10	OK	Eq. H1-1b
	LC16 at 0.00%	0.10	OK	Eq. H1-1b
	LC17 at 0.00%	0.07	OK	Eq. H1-1b
	LC18 at 0.00%	0.08	OK	Eq. H1-1b
	LC19 at 0.00%	0.09	OK	Eq. H1-1b
	LC2 at 0.00%	0.11	OK	Eq. H1-1b
	LC20 at 0.00%	0.03	OK	
	LC21 at 0.00%	0.03	OK	Eq. H1-1b
	LC22 at 0.00%	0.03	OK	Eq. H1-1b
	LC23 at 0.00%	0.04	OK	Eq. H1-1b
	LC24 at 0.00%	0.04	OK	
	LC25 at 0.00%	0.15	OK	Eq. H1-1b
	LC26 at 0.00%	0.16	OK	Eq. H1-1b
	LC27 at 0.00%	0.16	OK	Eq. H1-1b
	LC28 at 0.00%	0.16	OK	Eq. H1-1b
	LC29 at 0.00%	0.16	OK	Eq. H1-1b
	LC3 at 0.00%	0.12	OK	Eq. H1-1b
	LC30 at 0.00%	0.16	OK	Eq. H1-1b
	LC31 at 0.00%	0.16	OK	Eq. H1-1b
	LC32 at 0.00%	0.14	OK	Eq. H1-1b
	LC33 at 0.00%	0.14	OK	Eq. H1-1b
	LC34 at 0.00%	0.14	OK	Eq. H1-1b
	LC35 at 0.00%	0.15	OK	Eq. H1-1b
	LC36 at 0.00%	0.15	OK	Eq. H1-1b
	LC37 at 0.00%	0.06	OK	Eq. H1-1b
	LC38 at 0.00%	**0.22**	**OK**	Eq. H1-1b
	LC39 at 0.00%	0.08	OK	Eq. H1-1b
	LC4 at 0.00%	0.11	OK	Eq. H1-1b
	LC40 at 0.00%	0.09	OK	Eq. H1-1b
	LC41 at 0.00%	0.09	OK	Eq. H1-1b
	LC42 at 0.00%	0.09	OK	Eq. H1-1b
	LC43 at 0.00%	0.09	OK	Eq. H1-1b
	LC44 at 0.00%	0.09	OK	Eq. H1-1b
	LC45 at 0.00%	0.09	OK	Eq. H1-1b
	LC46 at 0.00%	0.08	OK	Eq. H1-1b
	LC47 at 0.00%	0.08	OK	Eq. H1-1b
	LC48 at 0.00%	0.08	OK	Eq. H1-1b
	LC49 at 0.00%	0.08	OK	Eq. H1-1b
	LC5 at 0.00%	0.09	OK	Eq. H1-1b

	LC50 at 0.00%	0.08	OK	Eq. H1-1b
	LC6 at 0.00%	0.10	OK	Eq. H1-1b
	LC7 at 0.00%	0.11	OK	Eq. H1-1b
	LC8 at 0.00%	0.04	OK	
	LC9 at 0.00%	0.04	OK	Eq. H1-1b
	W180 at 0.00%	0.02	OK	Eq. H1-1b
	W210 at 0.00%	0.02	OK	Eq. H1-1b
	W240 at 0.00%	0.03	OK	Eq. H1-1b
	W270 at 0.00%	0.02	OK	Eq. H1-1b
	W300 at 0.00%	0.01	OK	Eq. H1-1b
	W330 at 0.00%	0.02	OK	Eq. H1-1b
	WI180 at 0.00%	0.01	OK	Eq. H1-1b
	WI210 at 0.00%	0.01	OK	Eq. H1-1b
	WI240 at 0.00%	0.01	OK	Eq. H1-1b
	WI270 at 0.00%	0.01	OK	Eq. H1-1b
	WI300 at 0.00%	0.00	OK	Eq. H1-1b
	WI330 at 0.00%	0.00	OK	Eq. H1-1b
	WL180 at 0.00%	0.00	OK	Eq. H1-1b
	WL210 at 0.00%	0.00	OK	Eq. H1-1b
	WL240 at 0.00%	0.00	OK	Eq. H1-1b
	WL270 at 0.00%	0.00	OK	Eq. H1-1b
	WL300 at 0.00%	0.00	OK	Eq. H1-1b
	WL330 at 0.00%	0.00	OK	Eq. H1-1b
56	LC1 at 100.00%	0.42	OK	Eq. H1-1b
	LC10 at 0.00%	0.14	OK	Eq. H1-1b
	LC11 at 100.00%	0.58	OK	Eq. H1-1b
	LC12 at 100.00%	0.38	OK	Eq. H1-1b
	LC13 at 100.00%	0.42	OK	Eq. H1-1b
	LC14 at 0.00%	0.15	OK	
	LC15 at 0.00%	0.13	OK	
	LC16 at 0.00%	0.11	OK	
	LC17 at 100.00%	0.62	OK	Eq. H1-1b
	LC18 at 100.00%	0.42	OK	Eq. H1-1b
	LC19 at 100.00%	0.46	OK	Eq. H1-1b
	LC2 at 0.00%	0.16	OK	
	LC20 at 0.00%	0.13	OK	Eq. H1-1b
	LC21 at 0.00%	0.09	OK	Eq. H1-1b
	LC22 at 0.00%	0.12	OK	Eq. H1-1b
	LC23 at 100.00%	0.59	OK	Eq. H1-1b
	LC24 at 100.00%	0.39	OK	Eq. H1-1b
	LC25 at 0.00%	0.10	OK	Eq. H1-1b
	LC26 at 0.00%	0.19	OK	Eq. H1-1b
	LC27 at 0.00%	0.19	OK	Eq. H1-1b
	LC28 at 0.00%	0.19	OK	Eq. H1-1b
	LC29 at 0.00%	0.28	OK	Eq. H1-1b
	LC3 at 0.00%	0.13	OK	
	LC30 at 0.00%	0.28	OK	Eq. H1-1b
	LC31 at 0.00%	0.29	OK	Eq. H1-1b
	LC32 at 0.00%	0.21	OK	Eq. H1-1b
	LC33 at 0.00%	0.20	OK	Eq. H1-1b
	LC34 at 0.00%	0.21	OK	Eq. H1-1b
	LC35 at 0.00%	0.12	OK	Eq. H1-1b
	LC36 at 0.00%	0.12	OK	Eq. H1-1b
	LC37 at 0.00%	0.07	OK	Eq. H1-1b
	LC38 at 0.00%	0.23	OK	Eq. H1-1b
	LC39 at 0.00%	0.28	OK	Eq. H1-1b
	LC4 at 0.00%	0.12	OK	
	LC40 at 0.00%	0.31	OK	Eq. H1-1b
	LC41 at 0.00%	0.32	OK	Eq. H1-1b
	LC42 at 0.00%	0.31	OK	Eq. H1-1b
	LC43 at 0.00%	0.35	OK	Eq. H1-1b
	LC44 at 0.00%	0.35	OK	Eq. H1-1b
	LC45 at 0.00%	0.35	OK	Eq. H1-1b

	LC46 at 0.00%	0.32	OK	Eq. H1-1b
	LC47 at 0.00%	0.32	OK	Eq. H1-1b
	LC48 at 0.00%	0.32	OK	Eq. H1-1b
	LC49 at 0.00%	0.29	OK	Eq. H1-1b
	LC5 at 100.00%	**0.62**	**OK**	Eq. H1-1b
	LC50 at 0.00%	0.29	OK	Eq. H1-1b
	LC6 at 0.00%	0.43	OK	Eq. H1-1b
	LC7 at 100.00%	0.46	OK	Eq. H1-1b
	LC8 at 0.00%	0.15	OK	Eq. H1-1b
	LC9 at 0.00%	0.11	OK	Eq. H1-1b
	W180 at 100.00%	0.27	OK	Eq. H1-1b
	W210 at 0.00%	0.08	OK	
	W240 at 0.00%	0.06	OK	
	W270 at 0.00%	0.05	OK	
	W300 at 100.00%	0.38	OK	Eq. H1-1b
	W330 at 100.00%	0.25	OK	Eq. H1-1b
	WI180 at 100.00%	0.11	OK	Eq. H1-1b
	WI210 at 0.00%	0.03	OK	
	WI240 at 0.00%	0.03	OK	
	WI270 at 0.00%	0.02	OK	
	WI300 at 100.00%	0.09	OK	Eq. H1-1b
	WI330 at 100.00%	0.10	OK	Eq. H1-1b
	WL180 at 100.00%	0.03	OK	Eq. H1-1b
	WL210 at 0.00%	0.01	OK	
	WL240 at 0.00%	0.01	OK	
	WL270 at 0.00%	0.01	OK	
	WL300 at 100.00%	0.02	OK	Eq. H1-1b
	WL330 at 100.00%	0.02	OK	Eq. H1-1b
58	LC1 at 100.00%	0.63	OK	Eq. H1-1b
	LC10 at 0.00%	0.74	OK	Eq. H3-6
	LC11 at 100.00%	0.55	OK	Eq. H1-1b
	LC12 at 100.00%	0.70	OK	Eq. H1-1b
	LC13 at 100.00%	0.61	OK	Eq. H1-1b
	LC14 at 0.00%	0.69	OK	Eq. H3-6
	LC15 at 0.00%	0.58	OK	
	LC16 at 0.00%	0.51	OK	
	LC17 at 100.00%	0.42	OK	Eq. H1-1b
	LC18 at 100.00%	0.58	OK	Eq. H1-1b
	LC19 at 100.00%	0.51	OK	Eq. H1-1b
	LC2 at 0.00%	0.67	OK	Eq. H3-6
	LC20 at 0.00%	0.98	OK	Eq. H3-6
	LC21 at 0.00%	0.81	OK	Eq. H3-6
	LC22 at 0.00%	0.69	OK	Eq. H3-6
	LC23 at 100.00%	0.53	OK	Eq. H1-1b
	LC24 at 100.00%	0.68	OK	Eq. H1-1b
	LC25 at 100.00%	0.38	OK	Eq. H3-6
	LC26 at 100.00%	0.17	OK	Eq. H1-1b
	LC27 at 100.00%	0.18	OK	Eq. H1-1b
	LC28 at 100.00%	0.18	OK	Eq. H1-1b
	LC29 at 0.00%	0.24	OK	
	LC3 at 0.00%	0.55	OK	
	LC30 at 0.00%	0.28	OK	Eq. H3-6
	LC31 at 0.00%	0.27	OK	Eq. H3-6
	LC32 at 0.00%	0.39	OK	
	LC33 at 0.00%	0.40	OK	
	LC34 at 0.00%	0.41	OK	
	LC35 at 100.00%	0.35	OK	Eq. H3-6
	LC36 at 100.00%	0.39	OK	Eq. H3-6
	LC37 at 0.00%	0.08	OK	
	LC38 at 0.00%	0.28	OK	
	LC39 at 100.00%	0.27	OK	Eq. H3-6
	LC4 at 0.00%	0.49	OK	
	LC40 at 0.00%	0.15	OK	

	LC41 at 0.00%	0.16	OK	
	LC42 at 0.00%	0.16	OK	
	LC43 at 0.00%	0.23	OK	
	LC44 at 0.00%	0.23	OK	
	LC45 at 0.00%	0.23	OK	
	LC46 at 0.00%	0.30	OK	
	LC47 at 0.00%	0.30	OK	
	LC48 at 0.00%	0.30	OK	
	LC49 at 100.00%	0.26	OK	Eq. H3-6
	LC5 at 0.00%	0.42	OK	Eq. H1-1b
	LC50 at 100.00%	0.28	OK	Eq. H3-6
	LC6 at 100.00%	0.56	OK	Eq. H1-1b
	LC7 at 100.00%	0.49	OK	Eq. H1-1b
	LC8 at 0.00%	**1.04**	**N.G.**	Eq. H3-6
	LC9 at 0.00%	0.87	OK	Eq. H3-6
	W180 at 100.00%	0.35	OK	Eq. H1-1b
	W210 at 0.00%	0.47	OK	
	W240 at 0.00%	0.41	OK	
	W270 at 0.00%	0.37	OK	
	W300 at 100.00%	0.30	OK	Eq. H1-1b
	W330 at 100.00%	0.39	OK	Eq. H1-1b
	WI180 at 100.00%	0.14	OK	Eq. H1-1b
	WI210 at 0.00%	0.16	OK	
	WI240 at 0.00%	0.17	OK	
	WI270 at 0.00%	0.18	OK	
	WI300 at 100.00%	0.11	OK	Eq. H1-1b
	WI330 at 100.00%	0.15	OK	Eq. H1-1b
	WL180 at 100.00%	0.04	OK	Eq. H1-1b
	WL210 at 0.00%	0.05	OK	
	WL240 at 0.00%	0.04	OK	
	WL270 at 0.00%	0.04	OK	
	WL300 at 100.00%	0.03	OK	Eq. H1-1b
	WL330 at 100.00%	0.04	OK	Eq. H1-1b
59	LC1 at 100.00%	0.43	OK	Eq. H1-1b
	LC10 at 0.00%	0.16	OK	Eq. H1-1b
	LC11 at 100.00%	0.36	OK	Eq. H1-1b
	LC12 at 100.00%	0.45	OK	Eq. H1-1b
	LC13 at 100.00%	0.44	OK	Eq. H1-1b
	LC14 at 0.00%	0.15	OK	
	LC15 at 0.00%	0.12	OK	
	LC16 at 0.00%	0.11	OK	
	LC17 at 100.00%	0.37	OK	Eq. H1-1b
	LC18 at 100.00%	0.46	OK	Eq. H1-1b
	LC19 at 100.00%	0.44	OK	Eq. H1-1b
	LC2 at 0.00%	0.16	OK	
	LC20 at 0.00%	0.19	OK	Eq. H1-1b
	LC21 at 0.00%	0.16	OK	Eq. H1-1b
	LC22 at 0.00%	0.15	OK	Eq. H1-1b
	LC23 at 100.00%	0.36	OK	Eq. H1-1b
	LC24 at 100.00%	0.46	OK	Eq. H1-1b
	LC25 at 0.00%	0.18	OK	Eq. H1-1b
	LC26 at 0.00%	0.12	OK	Eq. H1-1b
	LC27 at 0.00%	0.13	OK	Eq. H1-1b
	LC28 at 0.00%	0.15	OK	Eq. H1-1b
	LC29 at 0.00%	0.14	OK	Eq. H1-1b
	LC3 at 0.00%	0.13	OK	
	LC30 at 100.00%	0.13	OK	Eq. H1-1b
	LC31 at 0.00%	0.13	OK	Eq. H1-1b
	LC32 at 0.00%	0.19	OK	Eq. H1-1b
	LC33 at 0.00%	0.18	OK	Eq. H1-1b
	LC34 at 0.00%	0.16	OK	Eq. H1-1b
	LC35 at 0.00%	0.17	OK	Eq. H1-1b
	LC36 at 0.00%	0.18	OK	Eq. H1-1b

LC37 at 0.00%	0.05	OK	Eq. H1-1b
LC38 at 0.00%	0.18	OK	Eq. H1-1b
LC39 at 0.00%	0.20	OK	Eq. H1-1b
LC4 at 0.00%	0.12	OK	
LC40 at 0.00%	0.18	OK	Eq. H1-1b
LC41 at 0.00%	0.18	OK	Eq. H1-1b
LC42 at 0.00%	0.19	OK	Eq. H1-1b
LC43 at 0.00%	0.18	OK	Eq. H1-1b
LC44 at 0.00%	0.18	OK	Eq. H1-1b
LC45 at 0.00%	0.18	OK	Eq. H1-1b
LC46 at 0.00%	0.21	OK	Eq. H1-1b
LC47 at 0.00%	0.20	OK	Eq. H1-1b
LC48 at 0.00%	0.20	OK	Eq. H1-1b
LC49 at 0.00%	0.20	OK	Eq. H1-1b
LC5 at 100.00%	0.37	OK	Eq. H1-1b
LC50 at 0.00%	0.21	OK	Eq. H1-1b
LC6 at 100.00%	**0.47**	**OK**	Eq. H1-1b
LC7 at 100.00%	0.44	OK	Eq. H1-1b
LC8 at 0.00%	0.21	OK	Eq. H1-1b
LC9 at 0.00%	0.18	OK	Eq. H1-1b
W180 at 100.00%	0.27	OK	Eq. H1-1b
W210 at 0.00%	0.09	OK	Eq. H1-1b
W240 at 0.00%	0.07	OK	Eq. H1-1b
W270 at 0.00%	0.06	OK	Eq. H1-1b
W300 at 100.00%	0.23	OK	Eq. H1-1b
W330 at 100.00%	0.29	OK	Eq. H1-1b
WI180 at 100.00%	0.11	OK	Eq. H1-1b
WI210 at 0.00%	0.03	OK	Eq. H1-1b
WI240 at 0.00%	0.02	OK	
WI270 at 0.00%	0.02	OK	
WI300 at 100.00%	0.08	OK	Eq. H1-1b
WI330 at 100.00%	0.11	OK	Eq. H1-1b
WL180 at 100.00%	0.03	OK	Eq. H1-1b
WL210 at 0.00%	0.01	OK	Eq. H1-1b
WL240 at 0.00%	0.01	OK	Eq. H1-1b
WL270 at 0.00%	0.01	OK	
WL300 at 100.00%	0.02	OK	Eq. H1-1b
WL330 at 100.00%	0.03	OK	Eq. H1-1b

Bentley

Current Date: 5/18/2018 3:20 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT5270\CT5270 (mod).etz\

Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
1	0.00	0.00	0.00	0
3	0.00	-2.08	-0.665	0
5	7.50	0.00	0.00	0
6	-7.50	0.00	0.00	0
7	7.50	-2.08	-0.665	0
8	-7.50	-2.08	-0.665	0
9	7.00	0.00	0.00	0
10	7.00	-2.08	-0.665	0
11	3.75	0.00	0.00	0
12	3.75	-2.08	-0.665	0
13	0.50	0.00	0.00	0
14	0.50	-2.08	-0.665	0
15	-7.00	0.00	0.00	0
16	-7.00	-2.08	-0.665	0
19	-3.75	0.00	0.00	0
20	-3.75	-2.08	-0.665	0
21	-0.50	0.00	0.00	0
22	-0.50	-2.08	-0.665	0
24	6.75	-2.08	-0.665	0
25	6.75	0.00	0.00	0
28	2.167	0.00	0.00	0
29	2.167	-2.08	-0.665	0

38	-6.791	0.00	0.00	0
40	-6.791	-2.08	-0.665	0
52	6.75	0.00	0.20	0
53	2.167	0.00	0.20	0
55	-6.791	0.00	0.20	0
56	6.75	4.00	0.20	0
57	2.167	4.00	0.20	0
59	-6.791	4.00	0.20	0
60	6.75	-4.00	0.20	0
61	2.167	-4.00	0.20	0
63	-6.791	-4.00	0.20	0
64	0.00	0.00	-3.875	0
65	0.00	-2.08	-3.875	0
66	0.00	0.00	-3.542	0
67	0.00	-2.08	-3.542	0
68	0.00	0.00	-2.252	0
69	0.00	-2.08	-2.252	0
70	0.00	0.00	-0.962	0
71	0.00	-2.08	-0.962	0
76	1.00	0.00	0.00	0
77	1.00	-2.08	-0.665	0
94	-6.791	-2.08	0.20	0
96	2.167	-2.08	0.20	0
97	6.75	-2.08	0.20	0
98	-0.833	0.00	0.00	0
99	-0.833	-2.08	-0.665	0
100	-0.833	0.00	0.20	0
101	-0.833	4.00	0.20	0
102	-0.833	-4.00	0.20	0
103	-0.833	-2.08	0.20	0
104	3.75	-1.04	-0.3325	0
105	-3.75	-1.04	-0.3325	0
106	-4.00	-1.04	-7.00	0
107	2.00	-1.04	-5.3325	0
108	-7.00	-1.04	-0.3325	0
109	-3.50	-2.08	-6.3325	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
64	1	1	1	1	1	1
65	1	1	1	1	1	1
106	1	1	1	1	1	1
107	1	1	1	1	1	1
109	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
6	9	10		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
7	15	16		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
8	19	20		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
9	21	22		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
10	13	14		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
11	11	12		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
21	59	63		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
23	57	61		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
24	56	60		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
25	1	64		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
26	3	65		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
27	66	67		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
28	68	69		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
29	70	71		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
39	8	77		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
40	76	5		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
41	77	7		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
53	97	24		RndBar 1-1_4	A36	0.00	0.00	0.00
54	29	96		RndBar 1-1_4	A36	0.00	0.00	0.00
56	40	94		RndBar 1-1_4	A36	0.00	0.00	0.00
57	101	102		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
59	99	103		RndBar 1-1_4	A36	0.00	0.00	0.00
60	104	107		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
61	108	106		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
62	20	109		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
38	6	76		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT5270
FA#: 10071333

Windsor Locks
2 Volunteer Drive
Windsor Locks, CT 06096

March 26, 2018

Centerline Communications Project Number: 950012-076

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**12.28 %**

March 26, 2018

AT&T Mobility – New England
Attn: John Benedetto, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT5270 – Windsor Locks**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility located at **2 Volunteer Drive, Windsor Locks, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately 467 $\mu W/cm^2$ and 567 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **2 Volunteer Drive, Windsor Locks, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
UMTS	850 MHz	2	30
UMTS	1900 MHz (PCS)	2	30
LTE	1900 MHz (PCS)	4	40
LTE	2300 MHz (WCS)	4	30
LTE	700 MHz	2	40

Table 1: Channel Data Table

The following antennas listed in *Table 2* were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Kathrein 800-10121	164
A	2	CCI TPA-65R-LCUUUU-H8	164
A	3	Commscope SBNH-1D6565C	164
B	1	Kathrein 800-10121	164
B	2	CCI TPA-65R-LCUUUU-H8	164
B	3	Commscope SBNH-1D6565C	164
C	1	Kathrein 800-10121	164
C	2	CCI TPA-65R-LCUUUU-H8	164
C	3	Commscope SBNH-1D6565C	164

Table 2: Antenna Data

All calculations were done with respect to uncontrolled / general population threshold limits.

RESULTS

Per the calculations completed for the proposed AT&T configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Kathrein 800-10121	850 MHz / 1900 MHz (PCS)	11.45 / 14.35	4	120	2,471.44	0.45
Antenna A2	CCI TPA-65R-LCUUUU-H8	1900 MHz (PCS) / 2300 MHz (WCS)	13.75 / 14.45	8	280	7,137.54	1.03
Antenna A3	Commscope SBNH-1D6565C	700 MHz	13.65	2	80	1,853.92	0.57
						Sector A Composite MPE%	**2.05**
Antenna B1	Kathrein 800-10121	850 MHz / 1900 MHz (PCS)	11.45 / 14.35	4	120	2,471.44	0.45
Antenna B2	CCI TPA-65R-LCUUUU-H8	1900 MHz (PCS) / 2300 MHz (WCS)	13.75 / 14.45	8	280	7,137.54	1.03
Antenna B3	Commscope SBNH-1D6565C	700 MHz	13.65	2	80	1,853.92	0.57
						Sector B Composite MPE%	**2.05**
Antenna C1	Kathrein 800-10121	850 MHz / 1900 MHz (PCS)	11.45 / 14.35	4	120	2,471.44	0.45
Antenna C2	CCI TPA-65R-LCUUUU-H8	1900 MHz (PCS) / 2300 MHz (WCS)	13.75 / 14.45	8	280	7,137.54	1.03
Antenna C3	Commscope SBNH-1D6565C	700 MHz	13.65	2	80	1,853.92	0.57
						Sector C Composite MPE%	**2.05**

Table 3: AT&T Emissions Levels

The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum AT&T MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each AT&T Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max Sector Value	**2.05 %**
T-Mobile	0.85 %
Verizon Wireless	3.16 %
Clearwire	0.10 %
Clearwire MW	0.21 %
Sprint	4.47 %
Windsor Fire Dept	1.44 %
Site Total MPE %:	**12.28 %**

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	2.05 %
AT&T Sector B Total:	2.05 %
AT&T Sector C Total:	2.05 %
Site Total:	12.28 %

Table 5: Site MPE Summary

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

AT&T _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	418.91	164	1.21	850 MHz	567	0.21%
AT&T 1900 MHz (PCS) UMTS	2	816.81	164	2.35	1900 MHz (PCS)	1000	0.24%
AT&T 1900 MHz (PCS) LTE	4	948.55	164	5.46	1900 MHz (PCS)	1000	0.55%
AT&T 2300 MHz (WCS) LTE	4	835.84	164	4.81	2300 MHz (WCS)	1000	0.48%
AT&T 700 MHz LTE	2	926.96	164	2.67	700 MHz	467	0.57%
						Total:	**2.05%**

Table 6: AT&T Maximum Sector MPE Power Values

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

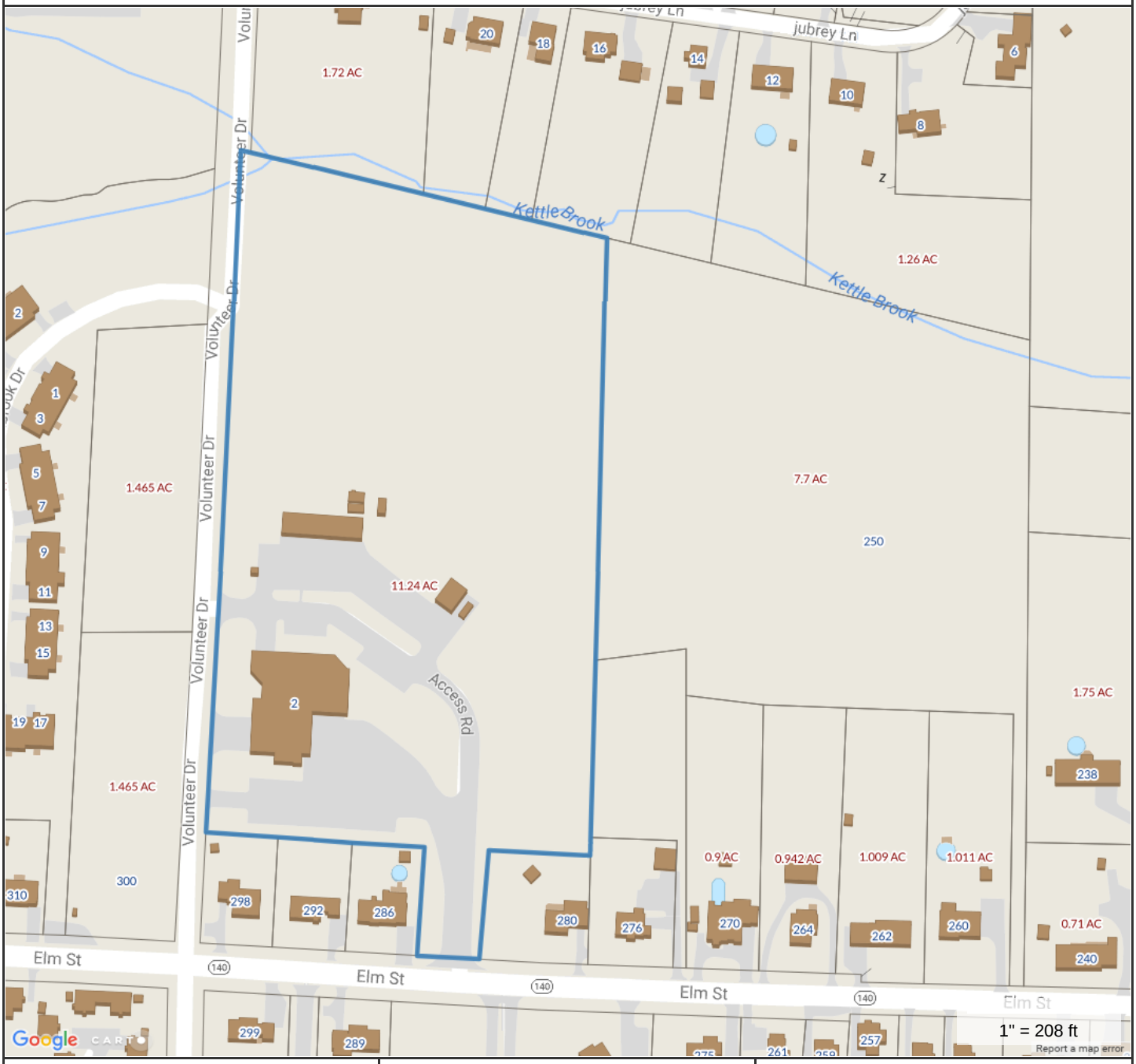
AT&T Sector	Power Density Value (%)
Sector A:	2.05 %
Sector B:	2.05 %
Sector C:	2.05 %
AT&T Maximum Total (per sector):	2.05 %
Site Total:	12.28 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **12.28 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

Scott Heffernan
RF Engineering Director
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767

2-4 Volunteer Drive Windsor Locks CT



Property Information

Property ID	23300
Location	2 VOLUNTEER DRIVE
Owner	WINDSOR LOCKS TOWN OF

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

Town of Windsor Locks, CT makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Parcels updated 11/15/2017
Properties updated 11/15/2017

4 VOLUNTEER DRIVE

Location	4 VOLUNTEER DRIVE	**Mblu**	34/ 62/ 80/ 4/
UID	00023300	**Owner**	WINDSOR LOCKS TOWN OF
Assessment	$1,292,200	**Appraisal**	$1,845,800
PID	1943	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2013	$1,328,100	$517,700	$1,845,800
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2013	$929,800	$362,400	$1,292,200

Owner of Record

Owner	WINDSOR LOCKS TOWN OF	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	50 CHURCH ST WINDSOR LOCKS, CT 06096	**Book & Page**	113/299
		Sale Date	11/16/1972

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
WINDSOR LOCKS TOWN OF	$0		113/299	11/16/1972

Building Information

Building 1 : Section 1

Year Built:	1975
Living Area:	16,268
Replacement Cost:	$1,619,556
Building Percent Good:	75
Replacement Cost Less Depreciation:	$1,214,700

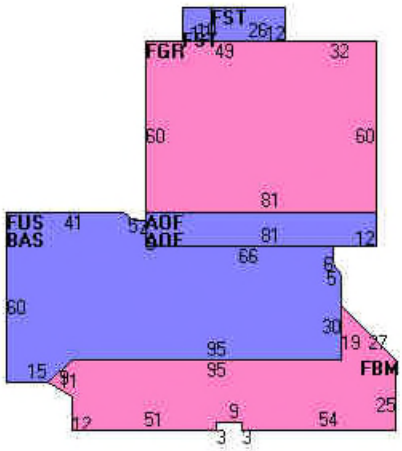
Building Attributes	
Field	**Description**

STYLE	Other Municip
MODEL	Ind/Comm
Stories:	1
Occupancy	
Exterior Wall A	Brick
Exterior Wall B	
Roof Structure	Flat
Roof Cover	Tar & Gravel
Interior Wall A	Drywall/Sheet
Interior Wall B	Minim/Masonry
Interior Floor A	Ceram Clay Til
Interior Floor B	Carpet
Heating Fuel	Oil
Heating Type	Forced Air-Duc
AC Type	Central
Bldg Use	Municipal
Total Rooms	
Total Bedrooms	00
Total Baths	0
Fireplace Types	
Fireplaces	
Heat/AC	Heat/AC Pkg
Frame Type	Masonry
Baths/Plumbing	Average
Ceiling/Wall	Ceil and Walls
Rooms/Prtns	Average
Wall Height	11.00
% Comn Wall	0.00

Building Photo

(http://images.vgsi.com/photos/WindsorlocksCTPhotos//00\00\3

Building Layout



(http://images.vgsi.com/photos/WindsorlocksCTPhotos//Sketches

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	5,418	5,418
FUS	Upper Sty	5,418	5,418
FBM	Fin Bsmt	3,056	3,056
AOF	Office	1,944	1,944
FST	Utility	432	432
FGR	Fin Garage	4,860	0
		21,128	16,268

Extra Features

Extra Features				Legend
Code	**Description**	**Size**	**Value**	**Bldg #**
SPRK	Sprinklers	15836.00 S.F.	$9,500	1

Parcel Information

Use Code	901I
Description	Municipal
Deeded Acres	11.20

Land

Land Use

Use Code	901I
Description	Municipal
Zone	RESA
Neighborhood	
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	11.20
Frontage	947
Depth	0
Assessed Value	$362,400
Appraised Value	$517,700

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
GAR1	Garage	G	Good	2592.00 S.F.	$50,500	1
PAV	Paving	A	Asphalt	46600.00 S.F.	$38,400	1
GAR1	Garage	A	Average	800.00 S.F.	$15,000	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2013	$1,324,100	$517,700	$1,841,800
2012	$1,324,100	$337,500	$1,661,600
2007	$1,585,800	$294,000	$1,879,800

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2013	$927,000	$362,400	$1,289,400
2012	$927,000	$236,300	$1,163,300
2007	$1,110,200	$205,900	$1,316,100

(c) 2016 Vision Government Solutions, Inc. All rights reserved.

PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE EXISTING LATTICE TOWER:
- NEW AT&T ANTENNA: (TPA-65R-LCUUUU-H8) (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- NEW AT&T RRUS: RRUS-32 B2 (PCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- NEW AT&T RRUS: RRUS-32 (WCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- NEW AT&T SURGE ARRESTOR: (DC6-48-60-18-8C) (TOTAL OF 1)
- NEW JUMPER CABLES: COAX JUMPER (2) PER SECTOR FROM EACH RRU (TOTAL OF 6)
- NEW FIBER JUMPERS: FIBER JUMPERS (3) FROM THE SQUID TO EACH RRU (TOTAL OF 9)

- SECURE THE EXISTING PIPE MASTS TO THE EXISTING MOUNT WITH A MINIMUM OF TWO POINTS OF CONNECTION (TYP. OF 4 PER SECTOR, TOTAL OF 12)

- RELOCATED EXISTING PIPE BRACE (TYP. OF 1 PER SECTOR, TOTAL OF 3)

- INSTALL NEW 2" STD. (2.38" O.D.) PIPE BRACE SECURED TO THE EXISTING MOUNT AND THE TOWER LEG (TYP. OF 1 PER SECTOR, TOTAL OF 3)

ITEMS TO BE MOUNTED INSIDE EXISTING EQUIPMENT SHELTER:
- INSTALL (1) FIBER BOX ON ICE BRIDGE POST.
- INSTALL (1) FIBER TRAY & (1) DC12 IN EXISTING LTE RACK.
- SWAP BBU TO 5216 & ADD (1) XMU IN EXISTING LTE RACK.
- INSTALL (2) 150AMP POLE BREAKER IN EXISTING GALAXY POWER PLANT.
- INSTALL (1) 48V CONVERTER SHELF IN LTE RACK & INSTALL (5) CONVERTER MODS, (4) FOR NEW SHELF & (1) FOR EXISTING.
- INSTALL (6) 30AMP BREAKERS & (1) 25AMP BREAKER IN EXISTING & PROPOSED CONVERTER SHELF.

ITEMS TO REMAIN:
- (6) ANTENNAS, (3) RRU'S, (9) 1-5/8" COAX CABLES, (2) DC POWER CABLES, & (1) FIBER RUNS.

SQUID ALARMING (NOT TO BE DAISY CHAINED).
- THE 1ST SQUID INSTALLED WILL BE ALARMED TO THE LOWEST BAND (OR FIRST INSTALLED RRH/RRU ON THE ALPHA SECTOR, IN THE EVENT THE ALARM CABLE CANNOT BE CONNECTED TO ALPHA IT WILL BE ACCEPTABLE TO ALARM TO THE CLOSEST PHYSICAL SECTOR ON AN EXCEPTION BASIS.
- 2ND SQUID INSTALLED WILL BE ALARMED TO THE LOWEST BAND (OR FIRST INSTALLED) RRH/RRU ON THE BETA SECTOR.
- 3RD SQUID INSTALLED WILL BE ALARMED TO THE LOWEST BAND (OR FIRST INSTALLED) RRH/RRU ON THE GAMMA SECTOR.

SITE ADDRESS:	2 VOLUNTEER DRIVE WINDSOR LOCKS, CT 06096
LATITUDE:	41.9277919° N 41° 55' 40.05" N
LONGITUDE:	72.6474989° W 72° 38' 50.99" W
TYPE OF SITE:	LATTICE TOWER/INDOOR EQUIPMENT
STRUCTURE HEIGHT:	195'-0"± A.G.L
RAD CENTER:	164'-0"± A.G.L
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	1
GN-1	GENERAL NOTES	1
A-1	COMPOUND & EQUIPMENT PLAN	1
A-2	ANTENNA LAYOUT & ELEVATION	1
A-3	DETAILS	1
SN-1	STRUCTURAL NOTES	1
S-1	STRUCTURAL DETAILS	1
G-1	GROUNDING DETAILS	1
RF-1	RF PLUMBING DIAGRAM	1

SITE NUMBER: CT5270

SITE NAME: WINDSOR LOCKS

PROJECT: LTE 2C/3C 2018 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

MERGE ONTO I-91 N VIA THE RAMP ON THE LEFT TOWARD HARTFORD. 20.0 MILES. TAKE EXIT 42 TOWARD CT-159 / WINDSOR LOCKS. 0.2 MILES. TURN LEFT ONTO LAWNACRE RD. 0.1 MILES. LAWNACRE RD BECOMES S MAIN ST / CT-159 N. 0.9 MILES. TURN LEFT ONTO ELM ST / CT-140. 1.0 MILES. TURN RIGHT ONTO VOLUNTEER DR. <0.1 MILES. END AT 2 VOLUNTEER DR. WINDSOR LOCKS, CT 06096

GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T MOBILITY REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
4. CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.

72 HOURS

CALL
BEFORE YOU DIG
CALL TOLL FREE 1-800-922-4455
OR CALL 811

UNDERGROUND SERVICE ALERT

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
95 RYAN DRIVE
RAYNHAM, MA 02767

SITE NUMBER: CT5270
SITE NAME: WINDSOR LOCKS
2 VOLUNTEER DRIVE
WINDSOR LOCKS, CT 06096
HARTFORD COUNTY

500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	05/23/18	ISSUED FOR CONSTRUCTION	MR	AT	DJC
A	02/21/18	ISSUED FOR REVIEW	GA	AT	DJC

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GA

DEREK J. CREASEY — No. 28356 — STATE OF CONNECTICUT — LICENSED PROFESSIONAL ENGINEER

AT&T

TITLE SHEET
(LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT5270	T-1	1

GROUNDING NOTES

1. THE SUBCONTRACTOR 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 SUBCONTRACTOR 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 IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. 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 BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

   CONTRACTOR – CENTERLINE
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR 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 CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR 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. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR 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 SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR 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. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH LTE SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR 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.

19. 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.

20. APPLICABLE BUILDING CODES:
    SUBCONTRACTOR'S 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: IBC 2012 WITH 2016 CT BUILDING CODE AMENDMENTS
    ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
    LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS

    SUBCONTRACTOR'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, FOURTEENTH EDITION;

    TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL

    EQUIPMENT AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

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.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	P	PROPOSED	TYP	TYPICAL
E	EXISTING	NTS	NOT TO SCALE	UG	UNDER GROUND
EGB	EQUIPMENT GROUND BAR	RAD	RADIATION CENTER LINE (ANTENNA)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
95 RYAN DRIVE
RAYNHAM, MA 02767

SITE NUMBER: CT5270
SITE NAME: WINDSOR LOCKS
2 VOLUNTEER DRIVE
WINDSOR LOCKS, CT 06096
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	05/23/18	ISSUED FOR CONSTRUCTION	MR	AT	DJC
A	02/21/18	ISSUED FOR REVIEW	GA	AT	DJC

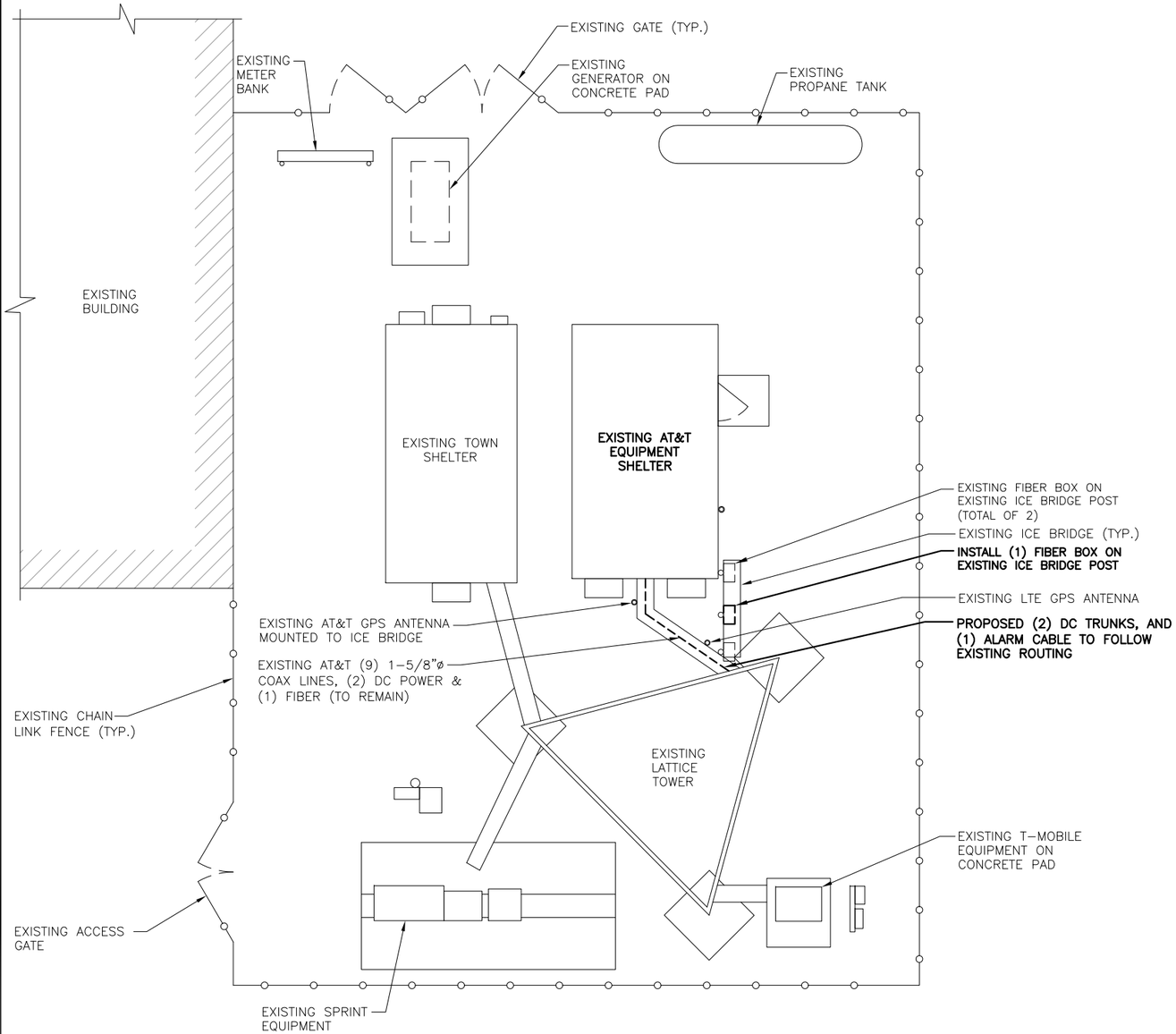
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GA

STATE OF CONNECTICUT · DEREK J. CREASEY · No. 23587 · LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES
(LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT5270	GN-1	1



MAGNETIC NORTH 14°32' TRUE NORTH

COMPOUND PLAN (1 / A-1)
22x34 SCALE: 3/16"=1'-0"
11x17 SCALE: 3/32"=1'-0"

0 2'-8" 5'-4" 10'-8" 16'-0"

NOTE:

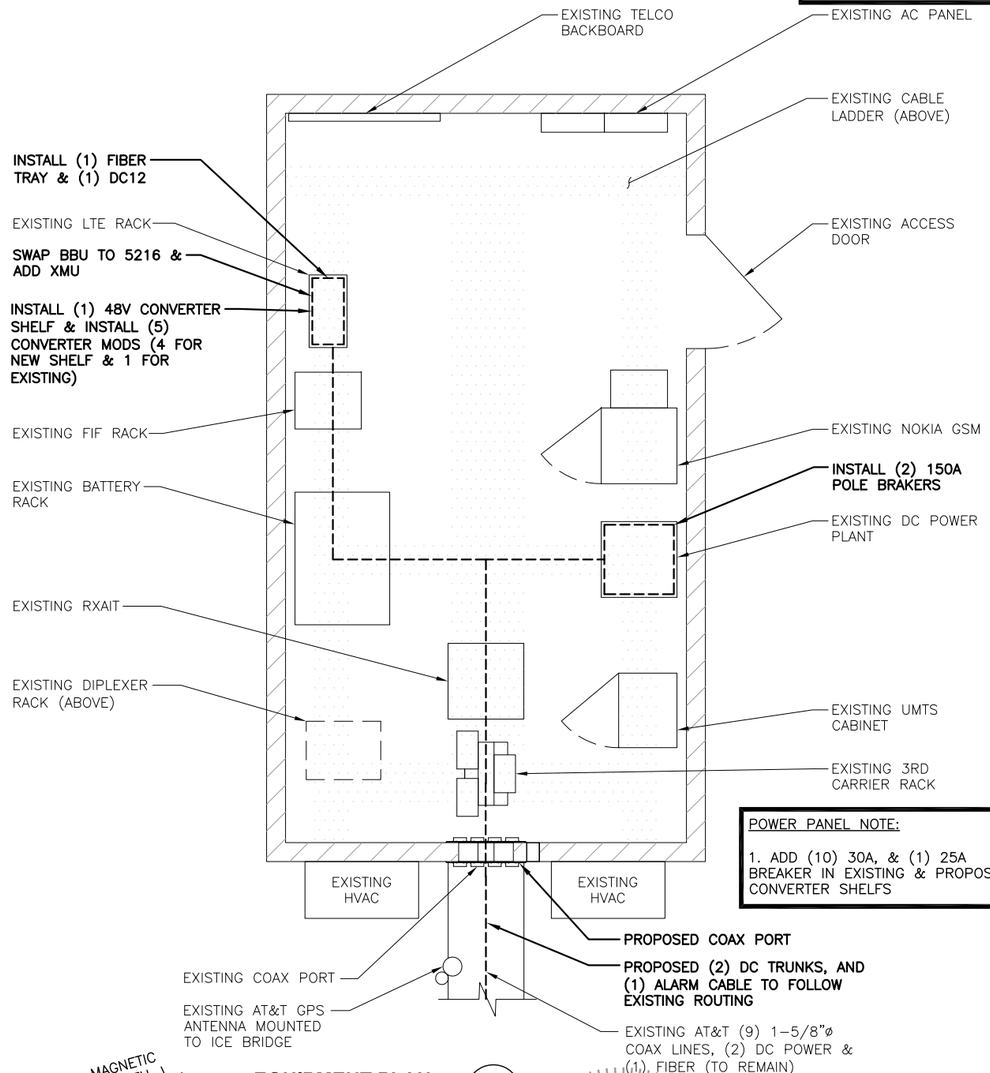
HDG RECOMMENDS THE EXISTING ANTENNA MOUNT BE MAPPED IN ITS ENTIRETY & A STRUCTURAL ANALYSIS BE PERFORMED PRIOR TO THE ANTENNA INSTALLATION.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: MAY 18, 2018

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



POWER PANEL NOTE:

1. ADD (10) 30A, & (1) 25A BREAKER IN EXISTING & PROPOSED CONVERTER SHELFS

MAGNETIC NORTH 14°32' TRUE NORTH

EQUIPMENT PLAN (2 / A-1)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

0 1'-0" 2'-0" 4'-0" 6'-0"

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
95 RYAN DRIVE
RAYNHAM, MA 02767

SITE NUMBER: CT5270
SITE NAME: WINDSOR LOCKS
2 VOLUNTEER DRIVE
WINDSOR LOCKS, CT 06096
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	05/23/18	ISSUED FOR CONSTRUCTION	MR	AT	DJC
A	02/21/18	ISSUED FOR REVIEW	GA	AT	DJC

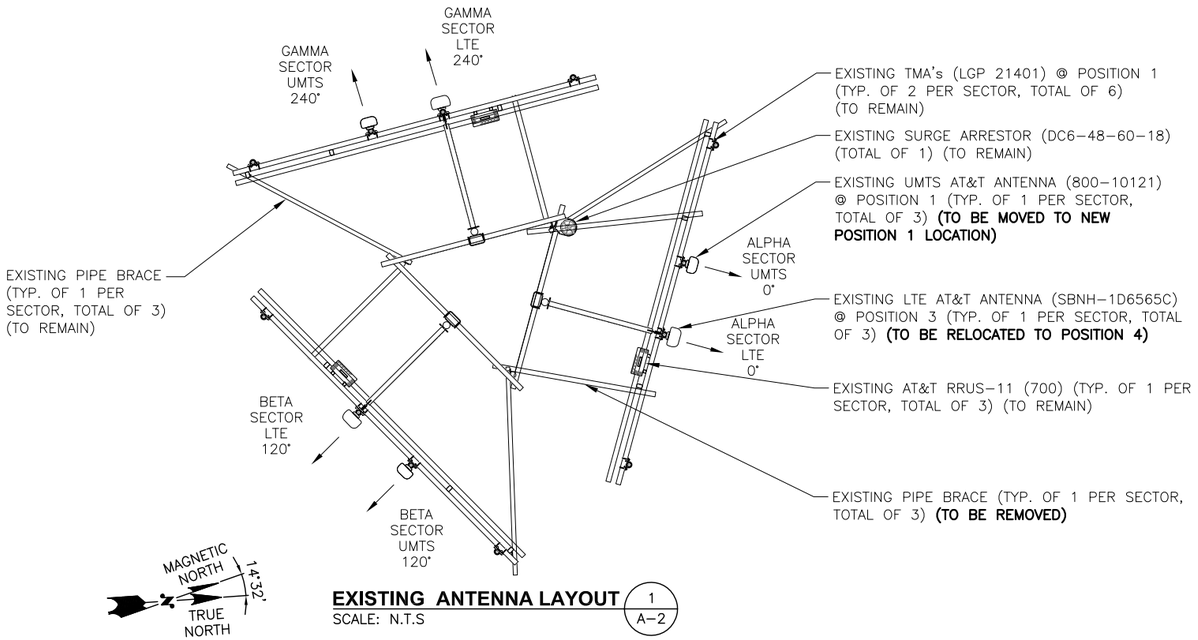
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GA

STATE OF CONNECTICUT · DEREK J. CREASEY · No. 29561 · LICENSED PROFESSIONAL ENGINEER

AT&T

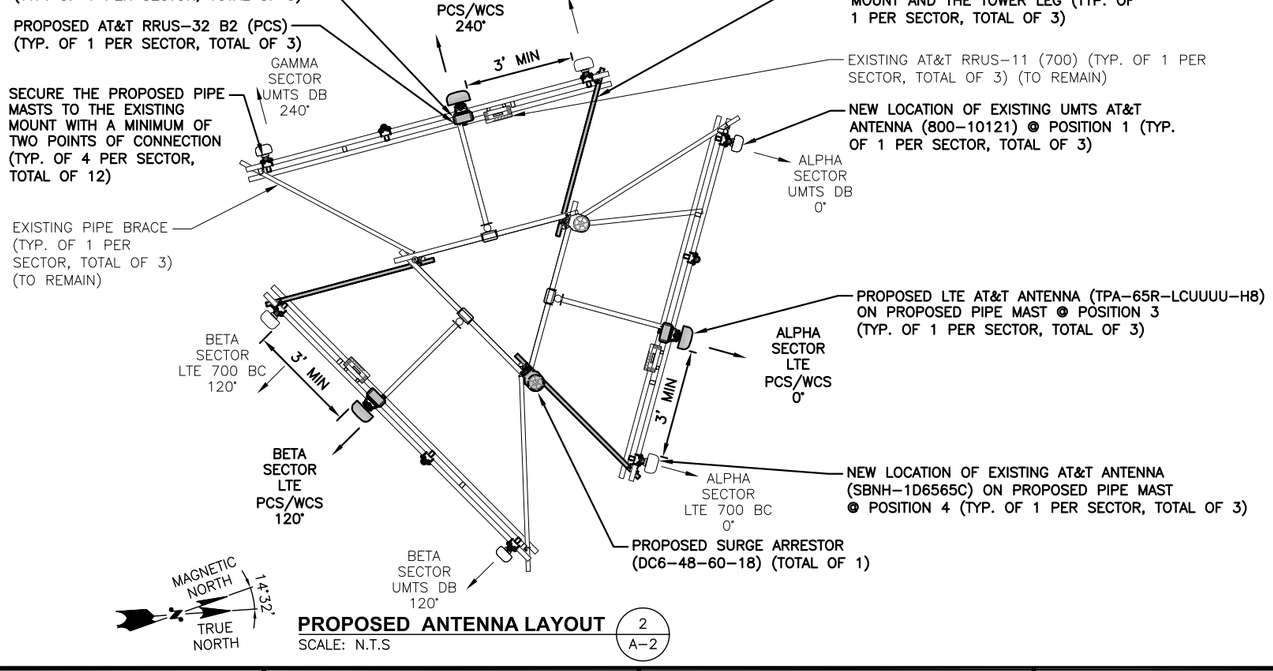
COMPOUND & EQUIPMENT PLAN (LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT5270	A-1	1



EXISTING ANTENNA LAYOUT (1 / A-2)

SCALE: N.T.S



PROPOSED ANTENNA LAYOUT (2 / A-2)

SCALE: N.T.S

NOTE:

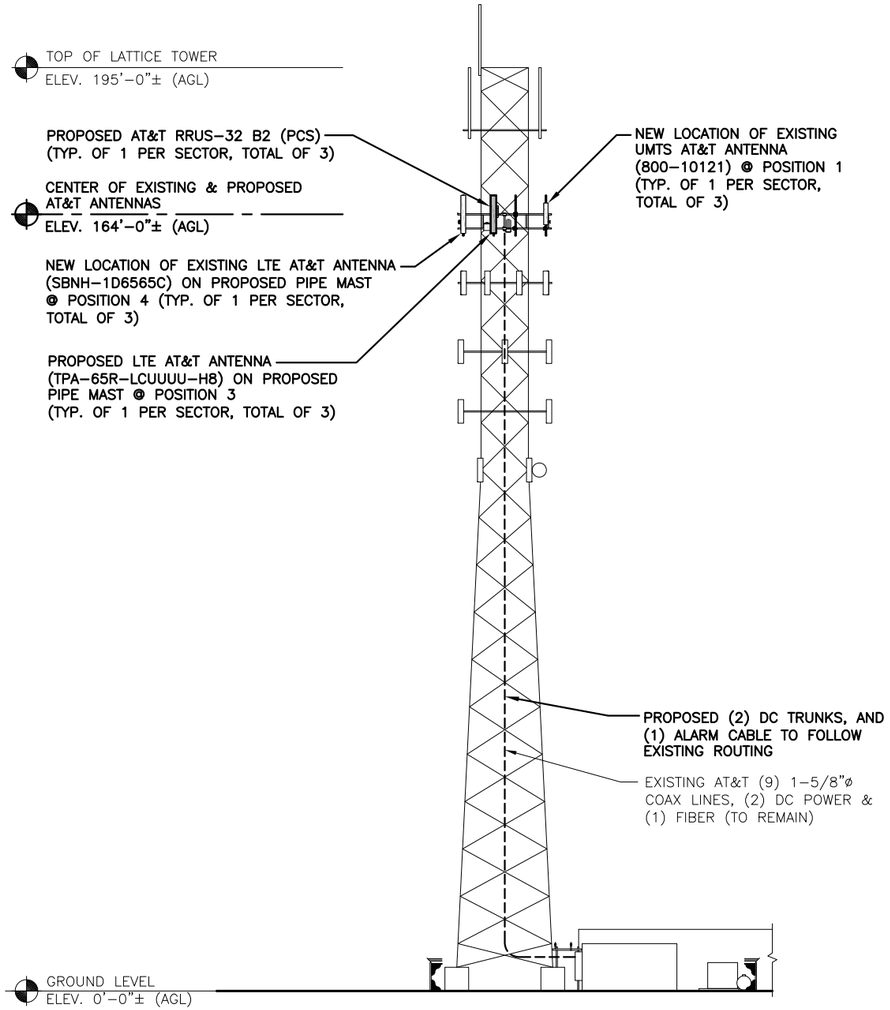
HDG RECOMMENDS THE EXISTING ANTENNA MOUNT BE MAPPED IN ITS ENTIRETY & A STRUCTURAL ANALYSIS BE PERFORMED PRIOR TO THE ANTENNA INSTALLATION.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: MAY 18, 2018

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



ELEVATION (3 / A-2)

22x34 SCALE: 3/32"=1'-0"
11x17 SCALE: 3/64"=1'-0"

0 5'-4" 10'-8" 21'-4" 32'-0"

HDG HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
95 RYAN DRIVE
RAYNHAM, MA 02767

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

SITE NUMBER: CT5270
SITE NAME: WINDSOR LOCKS
2 VOLUNTEER DRIVE
WINDSOR LOCKS, CT 06096
HARTFORD COUNTY

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	05/23/18	ISSUED FOR CONSTRUCTION	MR	AT	DJC
A	02/21/18	ISSUED FOR REVIEW	GA	AT	DJC

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GA

STATE OF CONNECTICUT — No. 23... — LICENSED PROFESSIONAL ENGINEER

AT&T

ANTENNA LAYOUT & ELEVATION (LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT5270	A-2	1

NOTE:

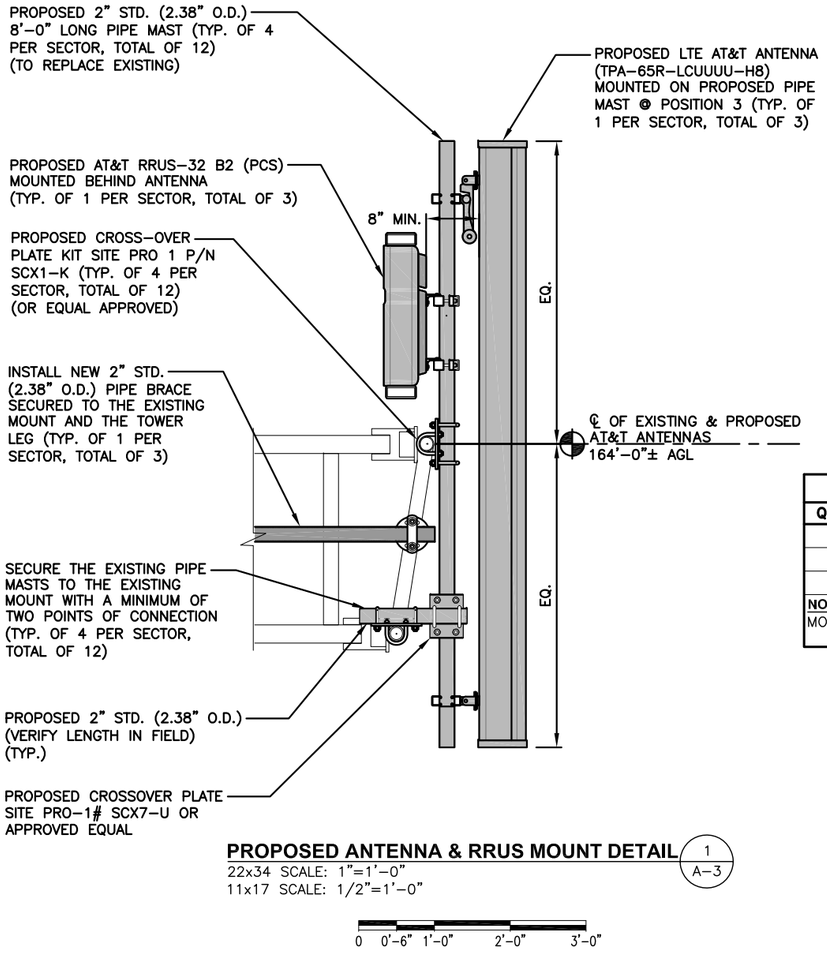
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: MAY 18, 2018

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L X W X D)	RAD CENTER	AZIMUTH	TMAS	RRUS	SIZE (INCHES) (L X W X D)	COAX	RAYCAP
A1	EXISTING	UMTS DB	800-10121	54.5X10.3X5.9	164'-0"±	0°	(E)(2) LGP 21401	–	–	(2)1-5/8 COX	--
A2	–	–	–	–	–	–	–	–	–	–	(E) (1) RAYCAP DC6-48-60 -18-8C
A3	**PROPOSED**	**LTE PCS/WCS**	**TPA-65R-LCUUUU-H8**	**96X14.4X8.6**	**164'-0"±**	**0°**	–	**(P) RRUS-32 B2 (P) RRUS-32**	27.2X12.1X7.0 27.2X12.1X7.0	–	
A4	EXISTING	LTE 700 BC	SBNH-1D6565C	96.4X11.9X7.1	164'-0"±	0°	–	(E) RRUS-11	–	–	
B1	EXISTING	UMTS DB	800-10121	54.5X10.3X5.9	164'-0"±	120°	(E)(2) LGP 21401	–	–	(2)1-5/8 COAX	--
B2	–	–	–	–	–	–	–	–	–	–	(P) (1) RAYCAP DC6-48-60 -0-8C
B3	**PROPOSED**	**LTE PCS/WCS**	**TPA-65R-LCUUUU-H8**	**96X14.4X8.6**	**164'-0"±**	**120°**	–	**(P) RRUS-32 B2 (P) RRUS-32**	27.2X12.1X7.0 27.2X12.1X7.0	–	
B4	EXISTING	LTE 700 BC	SBNH-1D6565C	96.4X11.9X7.1	164'-0"±	120°	–	(E) RRUS-11	–	–	
C1	EXISTING	UMTS DB	800-10121	54.5X10.3X5.9	164'-0"±	240°	(E)(2) LGP 21401	–	–	(2)1-5/8 COAXX	--
C2	–	–	–	–	–	–	–				SHARE
C3	**PROPOSED**	**LTE PCS/WCS**	**TPA-65R-LCUUUU-H8**	**96X14.4X8.6**	**164'-0"±**	**240°**	–	**(P) RRUS-32 B2 (P) RRUS-32**	27.2X12.1X7.0 27.2X12.1X7.0	–	
C4	EXISTING	LTE 700 BC	SBNH-1D6565C	96.4X11.9X7.1	164'-0"±	240°	–	(E) RRUS-11	–	–	

FINAL ANTENNA CONFIGURATION TABLE (3 / A-3)



PROPOSED ANTENNA & RRUS MOUNT DETAIL (1 / A-3)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

RRU CHART				
QUANTITY	MODEL	L	W	D
3(E)	RRUS-11	19.7"	17.0"	7.2"
3(P)	RRUS-32	27.2"	12.1"	7.0"
3(P)	RRUS-32 B2	27.2"	12.1"	7.0"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

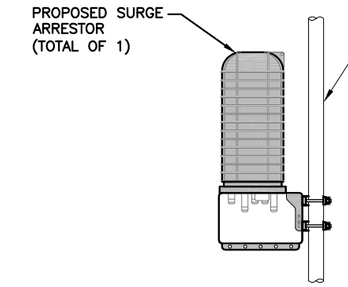
NOTE:

SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER

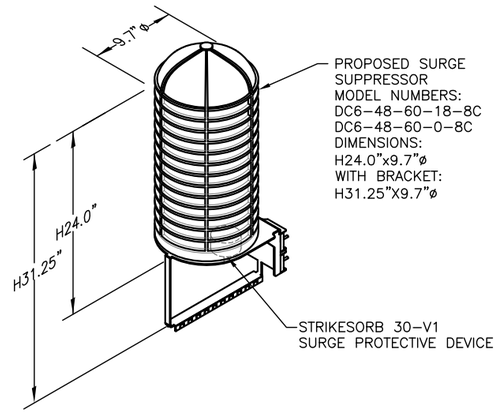
PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRUS DETAIL (2 / A-3)
SCALE: N.T.S



PROPOSED SURGE ARRESTOR MOUNTING DETAIL (4 / A-3)
SCALE: N.T.S



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL (5 / A-3)
SCALE: N.T.S

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
95 RYAN DRIVE
RAYNHAM, MA 02767

SITE NUMBER: CT5270
SITE NAME: WINDSOR LOCKS
2 VOLUNTEER DRIVE
WINDSOR LOCKS, CT 06096
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	05/23/18	ISSUED FOR CONSTRUCTION	MR	AT	DJC
A	02/21/18	ISSUED FOR REVIEW	GA	AT	DJC

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GA

STATE OF CONNECTICUT · DEREK J. CHASSIN · No. 24951 · LICENSED PROFESSIONAL ENGINEER

AT&T

DETAILS
(LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT5270	A-3	1

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND DI.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-70 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
16. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
17. ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
18. NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
19. SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

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

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

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

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

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

NOTES:

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

NOTES:

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

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
95 RYAN DRIVE
RAYNHAM, MA 02767

SITE NUMBER: CT5270
SITE NAME: WINDSOR LOCKS
2 VOLUNTEER DRIVE
WINDSOR LOCKS, CT 06096
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	05/23/18	ISSUED FOR CONSTRUCTION	MR	AT	DJC
A	02/21/18	ISSUED FOR REVIEW	GA	AT	DJC

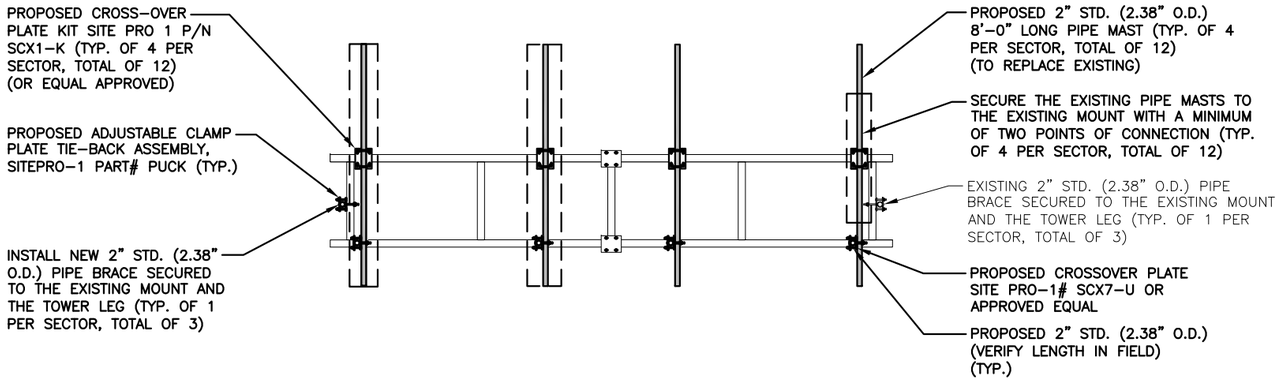
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GA

STATE OF CONNECTICUT · DEREK J. CREASER · No. 25857 · LICENSED PROFESSIONAL ENGINEER

AT&T

STRUCTURAL DETAILS
(LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT5270	S-1	1



PROPOSED MOUNT MODIFICATIONS ELEVATION 1 / S-1

22x34 SCALE: 3/8"=1'-0"
11x17 SCALE: 3/16"=1'-0"

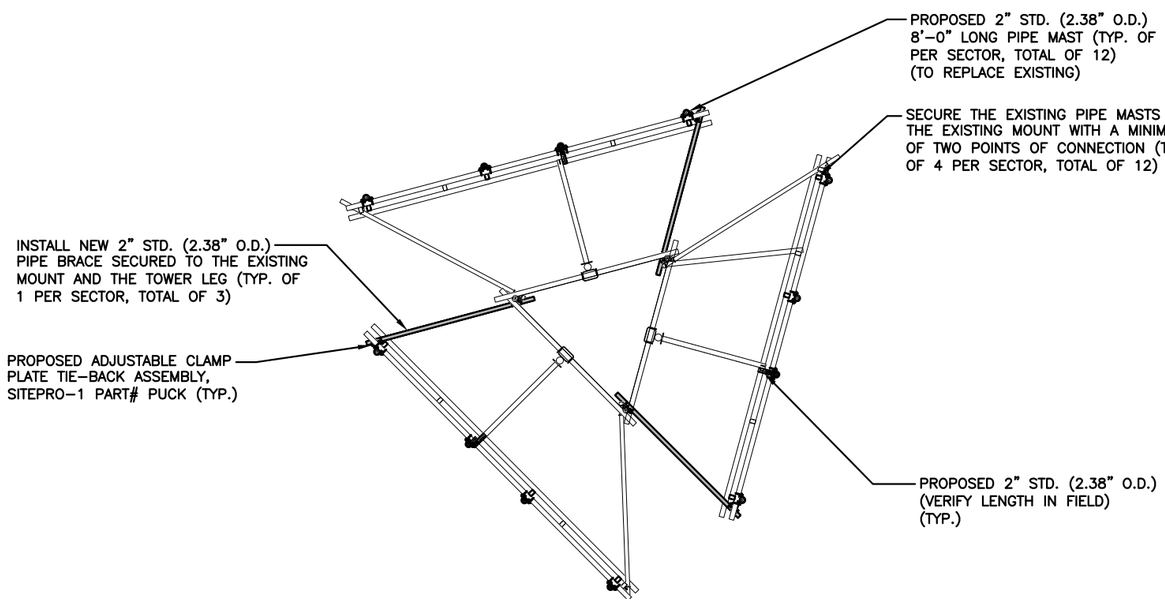
0 1'-4" 2'-8" 5'-4" 8'-0"

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: MAY 18, 2018

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

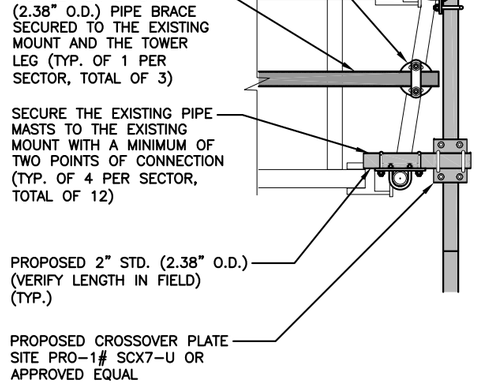


MAGNETIC NORTH 14°32' TRUE NORTH

PROPOSED MOUNT MODIFICATIONS PLAN 2 / S-1

22x34 SCALE: 1/4"=1'-0"
11x17 SCALE: 1/8"=1'-0"

0 1'-4" 2'-8" 5'-4" 8'-0"



PROPOSED MOUNT MODIFICATION DETAIL 3 / S-1

22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

0 0'-6" 1'-0" 2'-0" 3'-0"

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
95 RYAN DRIVE
RAYNHAM, MA 02767

SITE NUMBER: CT5270
SITE NAME: WINDSOR LOCKS
2 VOLUNTEER DRIVE
WINDSOR LOCKS, CT 06096
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	05/23/18	ISSUED FOR CONSTRUCTION	MR	AT	DJC
A	02/21/18	ISSUED FOR REVIEW	GA	AT	DJC

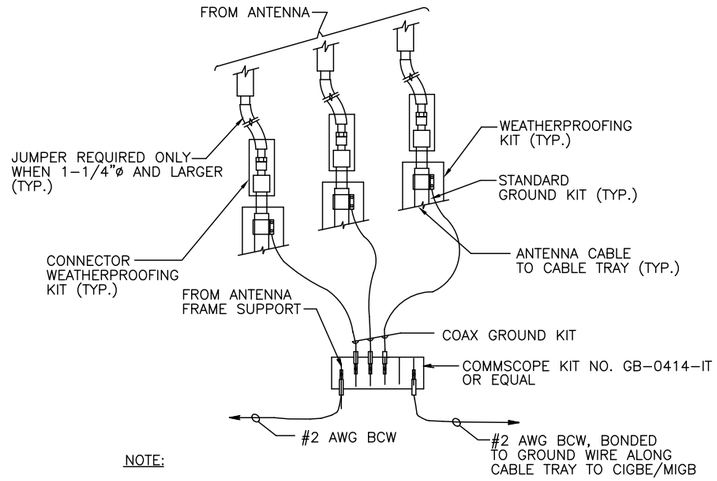
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GA

STATE OF CONNECTICUT · DEREK J. CREASEY · No. 29056 · LICENSED PROFESSIONAL ENGINEER

AT&T

STRUCTURAL NOTES
(LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT5270	S-1	1

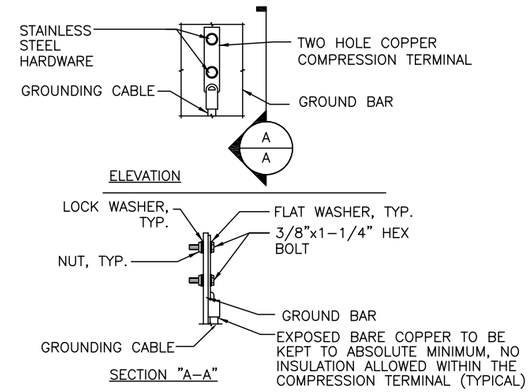


NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

GROUND WIRE TO GROUND BAR CONNECTION DETAIL (1 / G-1)

SCALE: N.T.S

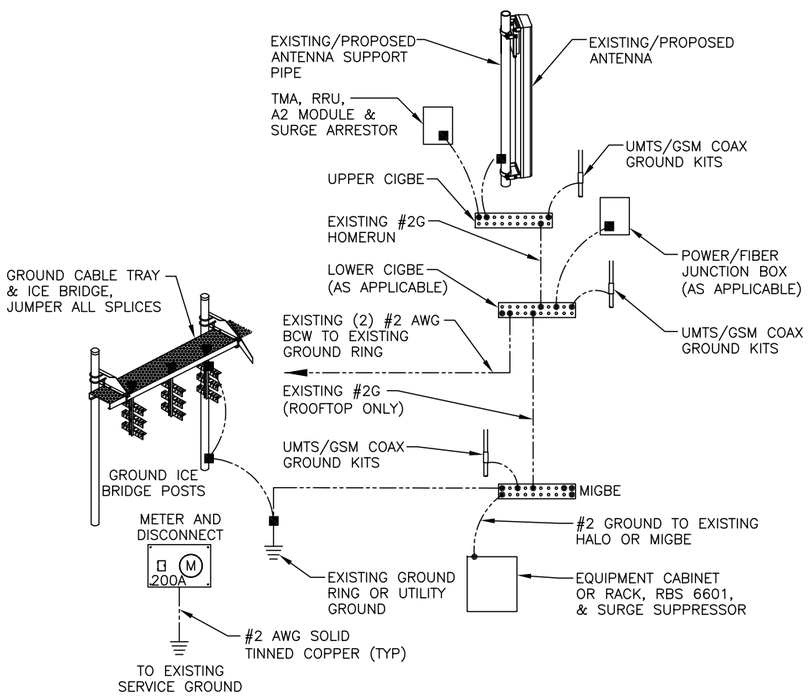


NOTE:

1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATION.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB

TYPICAL GROUND BAR CONNECTION DETAIL (3 / G-1)

SCALE: N.T.S



GROUNDING RISER DIAGRAM (2 / G-1)

SCALE: N.T.S

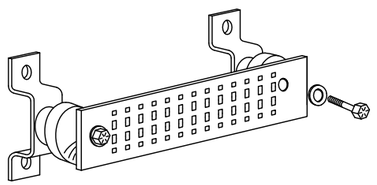
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
-48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)



GROUND BAR - DETAIL (4 / G-1)

SCALE: N.T.S

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
95 RYAN DRIVE
RAYNHAM, MA 02767

SITE NUMBER: CT5270
SITE NAME: WINDSOR LOCKS
2 VOLUNTEER DRIVE
WINDSOR LOCKS, CT 06096
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	05/23/18	ISSUED FOR CONSTRUCTION	MR	AT	DJC
A	02/21/18	ISSUED FOR REVIEW	GA	AT	DJC

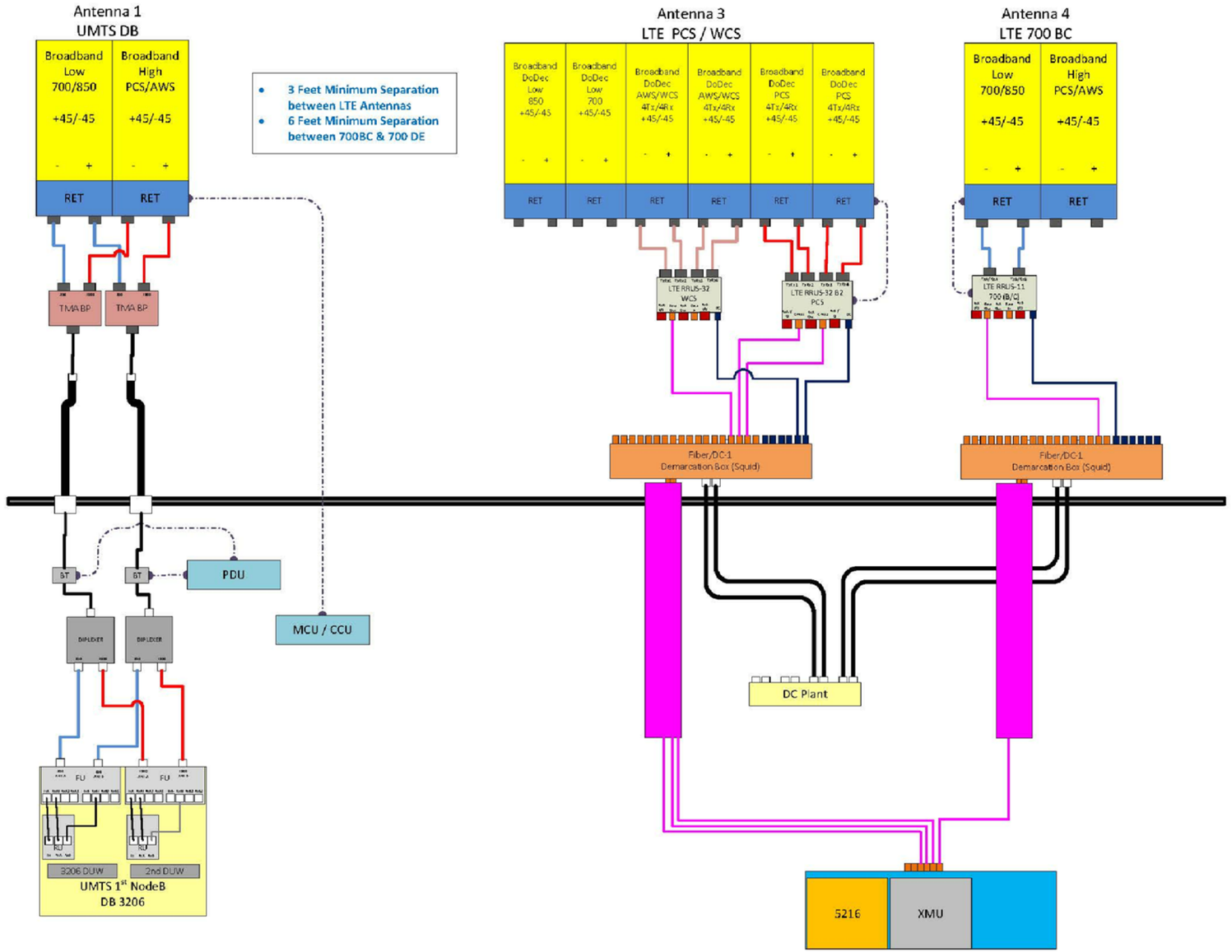
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GA

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

AT&T

GROUNDING DETAILS
(LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT5270	G-1	1



RF PLUMBING DIAGRAM 1 / RF-1

SCALE: N.T.S

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
95 RYAN DRIVE
RAYNHAM, MA 02767

SITE NUMBER: CT5270
SITE NAME: WINDSOR LOCKS
2 VOLUNTEER DRIVE
WINDSOR LOCKS, CT 06096
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	05/23/18	ISSUED FOR CONSTRUCTION	MR	AT	DJC
A	02/21/18	ISSUED FOR REVIEW	GA	AT	DJC

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GA

STATE OF CONNECTICUT
DEREK J. CREASER
No. 28551
LICENSED PROFESSIONAL ENGINEER

AT&T

RF PLUMBING DIAGRAM
(LTE 2C/3C)

SITE NUMBER	DRAWING NUMBER	REV
CT5270	RF-1	1