Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

September 5, 2017

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

RE: **Notice of Exempt Modification for Sprint/ Crown Site BU: 841293**
Sprint PCS Site ID: CT33XC101
136 Bulls Bridge Road, Kent, CT 06785 (a/k/a South Kent)
Latitude: 41° 40' 53.85''/ Longitude: -73° 29' 11.8''

Dear Ms. Bachman:

Sprint currently maintains three (3) antennas at the 124-foot level of the existing 180-foot modified EEI monopole tower at 136 Bulls Bridge Road in Kent, Connecticut. The tower is owned by Crown Castle. The property is owned by the South Kent School. Sprint intends to install (3) antennas, (3) RRUs and one hybrid-fiber cable.

This facility was approved by the Connecticut Siting Council on February 24, 1994, Docket Number 162. This approval included the following conditions:

1. The self-supporting monopole tower shall be no taller than necessary to provide the proposed cellular communications service and in no event shall the tower structure exceed a total height of 197 feet above ground level with antennas and appurtenances.

2. Prior to the commencement of construction, the Certificate holder shall prepare a Development and Management (D&M) Plan for this site in compliance with sections 16-50j-75 through 16-50j-77 of the Regulations of State Agencies. The D&M Plan shall include detailed plans for the tower and tower foundation; the locations of all antennas to be attached to this tower to ensure maximum sharing of the tower; detailed plans for an access way from a public roadway, including all improvements and gates installed in the access way; utility line installation; equipment building plans including elevations; detailed plans for site clearing and tree trimming; detailed plans for erosion and sedimentation control; and plans for the installation of the security fence. The D&M Plan shall be submitted to the Council for approval prior to the commencement of tower construction.

3. The Certificate holder shall comply with any existing and future radio frequency (RF) standard promulgated by State or federal regulatory agencies. Upon the establishment of

any new governmental RF standards, the facility granted herein shall be brought into compliance with such standards.

4. The Certificate holder shall provide the Council a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels originally calculated and provided in the application.

5. The Certificate holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing. Should any agreement, including sharing of this tower, be reached prior to construction of the tower, detailed plans for the third party's equipment shall be included in the D&M Plan.

6. If the facility does not initially provide, or permanently ceases to provide, cellular or other services following completion of construction, this Decision and Order shall be void, and the tower and all associated equipment shall be dismantled and removed or re-application for any continued or new use shall be made to the Council before any such use is made.

7. Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within three years of the effective date of this Decision and Order or within three years after all appeals to this Decision and Order have been resolved.

This modification complies with the aforementioned condition(s).

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.S.C.A. § 16-50j-73, a copy of this letter is being sent The Honorable Bruce K. Adams, First Selectman of the Town of Kent, to John Johnson, the Chairman of the Planning and Zoning Commission, and to the land owner the South Kent School. Crown Castle is the tower owner.

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

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

3. The proposed modification 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 Communication Commission safety standard.

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

6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, Sprint respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Jeffrey Barbadora.

Sincerely,

Jeffrey Barbadora
Real Estate Specialist
12 Gill Street, Suite 5800, Woburn, MA 01801
781-729-0053
Jeff.Barbadora@crowncastle.com

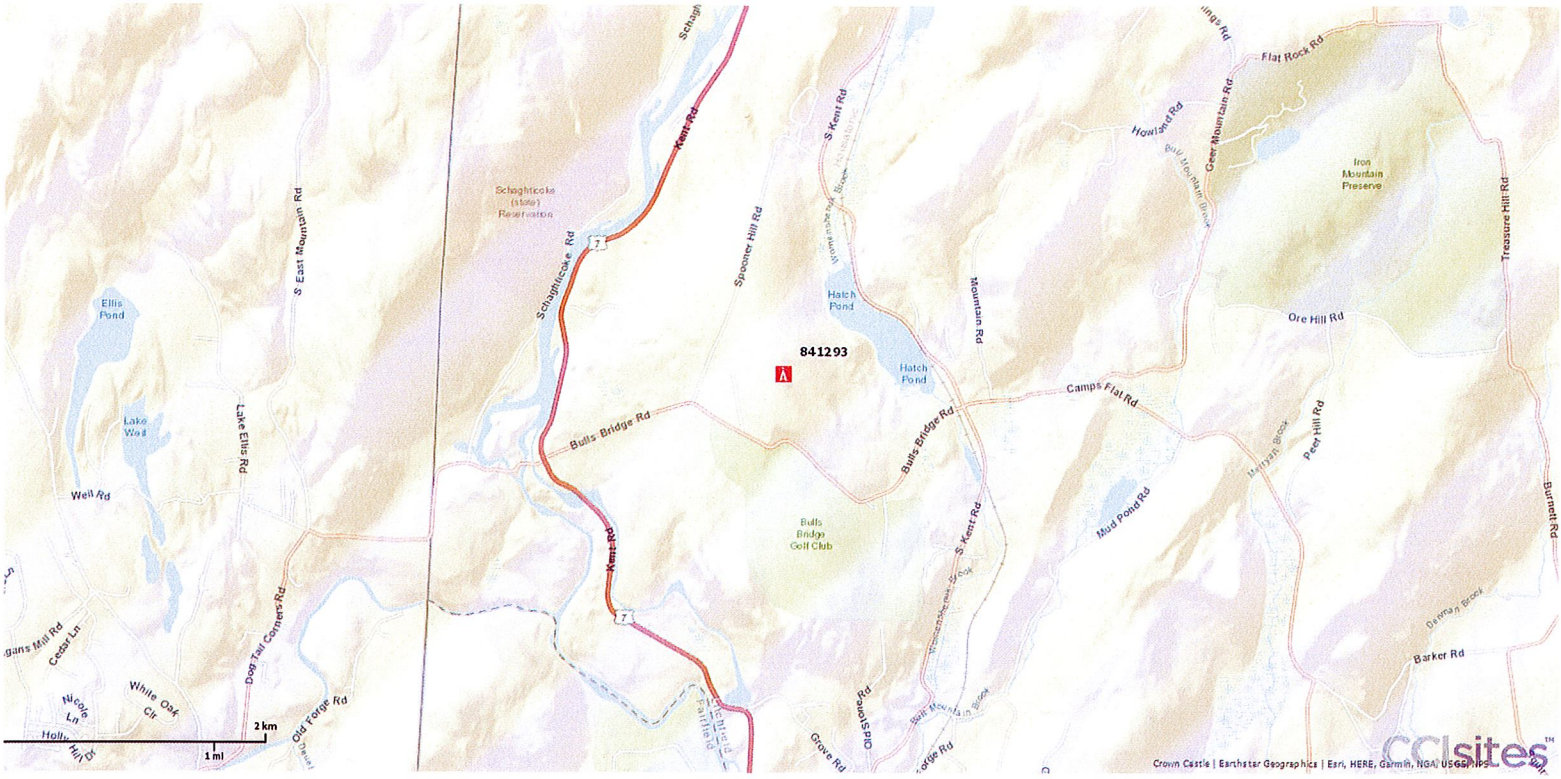
Attachments:

Tab 1: Exhibit-1: Compound plan and elevation depicting the planned changes
Tab 2: Exhibit-2: Structural Modification Report
Tab 3: Exhibit-3: General Power Density Table Report (RF Emissions Analysis Report)

cc: Mr. Bruce K. Adams, First Selectman
Town of Kent
P.O. Box 678
Kent, CT 06757

John Johnson, Chairman
Planning & Zoning Commission
Kent Town Hall
41 Kent Green Blvd.
Kent, CT 06757

South Kent School
40 Bulls Bridge Road
Kent, CT 06785


841293
Kent Rd
Bulls Bridge Rd
Schaghticoke Rd
Schaghticoke (state) Reservation
S East Mountain Rd
Lake Ellis Rd
Ellis Pond
Lake Wall
Well Rd
Dog Tail Corners Rd
Old Forge Rd
Cedar Ln
Nicole Ln
White Oak Cir
Spooner Hill Rd
S Kent Rd
Hatch Pond
Mountain Rd
Bulls Bridge Golf Club
Camps Flat Rd
Howland Rd
Geer Mountain Rd
Flat Rock Rd
Iron Mountain Preserve
Treasure Hill Rd
Ore Hill Rd
Peer Hill Rd
Mud Pond Rd
Barker Rd
Burnett Rd
Grove Rd
Old Stone Rd
2 km
1 mi
Crown Castle | Earthstar Geographics | Esri, HERE, Garmin, NGA, USGS, NPS

40 BULLS BRIDGE RD

Location 40 BULLS BRIDGE RD

Mblu 6/ 39/ 9/ /

Acct# 00019000

Owner SOUTH KENT SCHOOL CORP

Assessment $10,012,200

Appraisal $14,301,800

PID 580

Building Count 35

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$12,090,200	$2,211,600	$14,301,800
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$8,464,000	$1,548,200	$10,012,200

Owner of Record

Owner SOUTH KENT SCHOOL CORP
Co-Owner

Sale Price $0
Certificate
Book & Page
Sale Date

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
SOUTH KENT SCHOOL CORP	$0			

Building Information

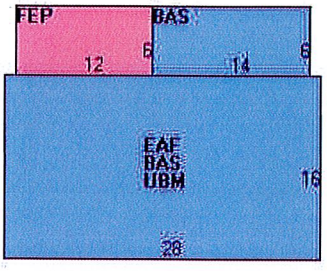
Building 1 : Section 1

Year Built: 1941
Living Area: 689
Replacement Cost: $76,934
Replacement Cost Less Depreciation: $57,700

Building Attributes	
Field	**Description**
Style	Cape Cod
Model	Residential

Grade:	03
Stories:	1 Story
Occupancy	1
Exterior Wall 1	Clapboard
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Wood Shingle
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	
Heat Fuel	Gas
Heat Type:	Steam
AC Type:	None
Total Bedrooms:	00
Total Bthrms:	0
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	1 Room
Bath Style:	
Kitchen Style:	

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	532	532
EAF	Attic, Expansion, Finished	448	157
FEP	Porch, Enclosed, Finished	72	0
UBM	Basement, Unfinished	448	0
		1,500	689

Building 1 : Section 1

Year Built: 1941
Living Area: 0
Replacement Cost: $76,934
Replacement Cost Less Depreciation: $57,700

Building Attributes	
Field	**Description**
Style	Outbuildings
Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	

Building Layout

Building Layout

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

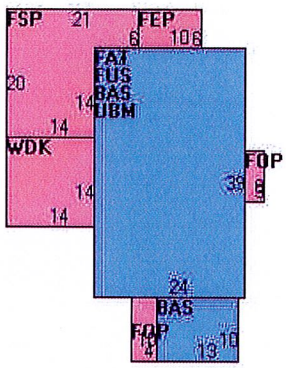
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	

Building 2 : Section 1

Year Built: 1945
Living Area: 2,189
Replacement Cost: $202,139
Replacement Cost Less Depreciation: $119,300

Building Attributes : Bldg 2 of 35	
Field	**Description**
Style	Old Style
Model	Residential
Grade:	03
Stories:	2 Stories
Occupancy	1
Exterior Wall 1	Wood Shingle
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plastered
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Forced Air-Duc
AC Type:	Central
Total Bedrooms:	6 Bedrooms
Total Bthrms:	4
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	10 Rooms
Bath Style:	Average

Building Layout



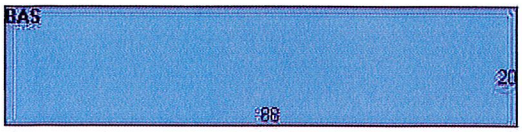
Buiiding Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,066	1,066
FUS	Upper Story, Finished	936	936
FAT	Attic, Finished	936	187
FEP	Porch, Enclosed, Finished	60	0
FOP	Porch, Open, Finished	64	0
FSP	Porch, Screen, Finished	322	0
UBM	Basement, Unfinished	936	0
WDK	Deck, Wood	196	0
		4,516	2,189

Kitchen Style:	Average

Building 3 : Section 1

Year Built: 1950
Living Area: 1,760
Replacement Cost: $38,069
Replacement Cost Less Depreciation: $25,500

Building Layout



Building Attributes : Bldg 3 of 35	
Field	**Description**
STYLE	Quonset Bldg
MODEL	Commercial
Grade	Average
Stories:	1
Occupancy	
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Metal/Tin
Interior Wall 1	Wall Brd/Wood
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Coal or Wood
Heating Type	None
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	1-1C
Heat/AC	NONE
Frame Type	WOOD FRAME
Baths/Plumbing	NONE
Ceiling/Wall	NONE
Rooms/Prtns	LIGHT
Wall Height	10
% Comn Wall	

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,760	1,760
		1,760	1,760

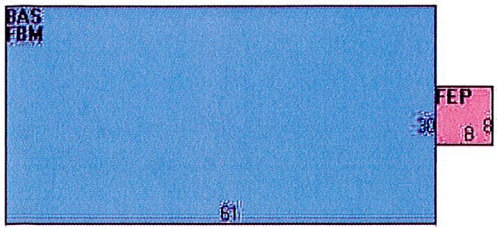
Building 5 : Section 1

Year Built: 1950
Living Area: 3,660

Replacement Cost: $337,273
Replacement Cost Less Depreciation: $263,100

Building Attributes : Bldg 5 of 35	
Field	**Description**
STYLE	Dormitory
MODEL	Commercial
Grade	Average
Stories:	1
Occupancy	
Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Metal/Tin
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Hot Water
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	09
Total Baths	2
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	9
% Comn Wall	

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,830	1,830
FBM	Basement, Finished	1,830	1,830
FEP	Porch, Enclosed, Finished	64	0
		3,724	3,660

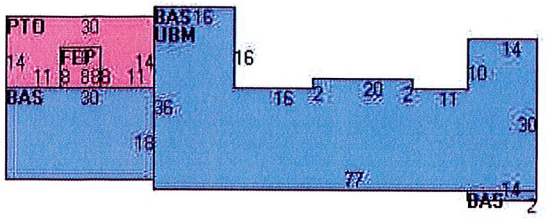
Building 6 : Section 1

Year Built: 1935
Living Area: 2,544
Replacement Cost: $338,025
Replacement Cost Less Depreciation: $253,500

Building Attributes : Bldg 6 of 35	
Field	**Description**
STYLE	Dormitory

MODEL	Commercial
Grade	Average
Stories:	1
Occupancy	
Exterior Wall 1	Clapboard
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plastered
Interior Wall 2	
Interior Floor 1	Hardwood
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Hot Water
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	04
Total Baths	2
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	9
% Comn Wall	

Building Layout

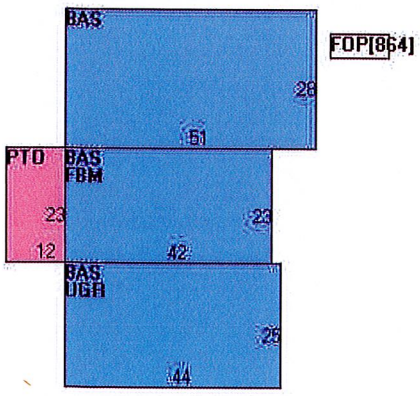


Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	2,544	2,544
FEP	Porch, Enclosed, Finished	64	0
PTO	Patio	356	0
UBM	Basement, Unfinished	1,976	0
		4,940	2,544

Building 7 : Section 1

Year Built: 1966
Living Area: 4,460
Replacement Cost: $212,729
Replacement Cost Less Depreciation: $174,400

Building Layout



Building Attributes : Bldg 7 of 35	
Field	**Description**
STYLE	Auditorium
MODEL	Commercial
Grade	Average
Stories:	1
Occupancy	
Exterior Wall 1	Clapboard

Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Carpet
Interior Floor 2	Concr-Finished
Heating Fuel	Oil
Heating Type	Hot Water
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	00
Total Baths	4
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	9
% Comn Wall	

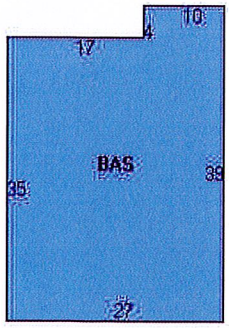
Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	3,494	3,494
FBM	Basement, Finished	966	966
FOP	Porch, Open, Finished	864	0
PTO	Patio	276	0
UGR	Bsmt Garage	1,100	0
		6,700	4,460

Building 8 : Section 1

Year Built: 1966
Living Area: 985
Replacement Cost: $185,791
Replacement Cost Less Depreciation: $152,300

Building Attributes : Bldg 8 of 35	
Field	Description
STYLE	Dormitory
MODEL	Commercial
Grade	Average
Stories:	1
Occupancy	
Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	K PINE/A WD

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	985	985
		985	985

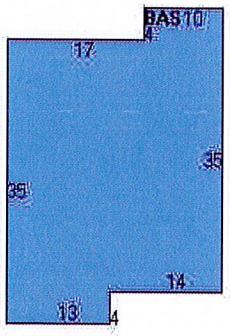
Interior Floor 1	Carpet
Interior Floor 2	Concr-Finished
Heating Fuel	Oil
Heating Type	Hot Water
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	06
Total Baths	1
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	9
% Comn Wall	

Building 9 : Section 1

Year Built: 1966
Living Area: 929
Replacement Cost: $178,117
Replacement Cost Less Depreciation: $146,100

Building Attributes : Bldg 9 of 35	
Field	**Description**
STYLE	Dormitory
MODEL	Commercial
Grade	Average
Stories:	1
Occupancy	
Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	K PINE/A WD
Interior Floor 1	Carpet
Interior Floor 2	Concr-Finished
Heating Fuel	Oil
Heating Type	Hot Water
AC Type	None

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	929	929
		929	929

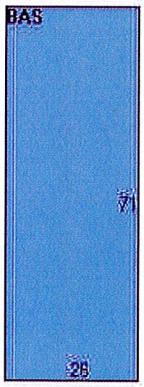
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	06
Total Baths	1
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	9
% Comn Wall	

Building 10 : Section 1

Year Built: 1988
Living Area: 1,846
Replacement Cost: $79,747
Replacement Cost Less Depreciation: $68,600

Building Attributes : Bldg 10 of 35	
Field	**Description**
STYLE	Commercial
MODEL	Commercial
Grade	Average
Stories:	1
Occupancy	
Exterior Wall 1	Board & Batten
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Metal/Tin
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Coal or Wood
Heating Type	None
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	1-1C

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,846	1,846
		1,846	1,846

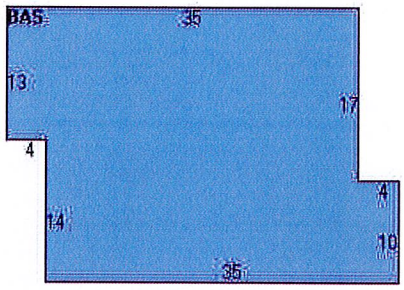
Heat/AC	NONE
Frame Type	WOOD FRAME
Baths/Plumbing	NONE
Ceiling/Wall	NONE
Rooms/Prtns	LIGHT
Wall Height	10
% Comn Wall	

Building 11 : Section 1

Year Built: 1966
Living Area: 929
Replacement Cost: $175,358
Replacement Cost Less Depreciation: $143,800

Building Attributes : Bldg 11 of 35	
Field	**Description**
STYLE	Dormitory
MODEL	Commercial
Grade	Average
Stories:	1
Occupancy	
Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	K PINE/A WD
Interior Floor 1	Carpet
Interior Floor 2	Concr-Finished
Heating Fuel	Oil
Heating Type	Hot Water
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	06
Total Baths	1
1st Floor Use:	1-1C
Heat/AC	NONE
Frame Type	MASONRY
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE

Building Layout



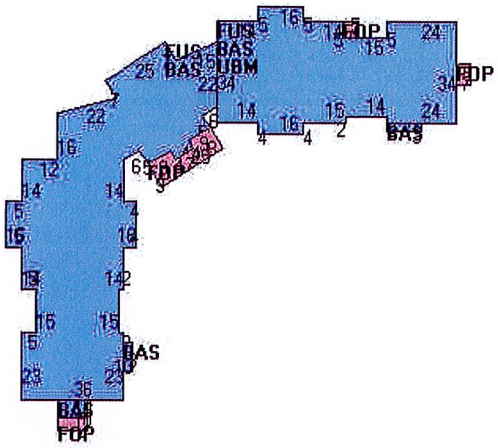
Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	929	929
		929	929

Wall Height	8
% Comn Wall	

Building 12 : Section 1

Year Built: 2006
Living Area: 14,882
Replacement Cost: $1,196,673
Replacement Cost Less Depreciation: $1,112,900

Building Layout



Building Attributes : Bldg 12 of 35	
Field	**Description**
STYLE	Dormitory
MODEL	Commercial
Grade	Average
Stories:	2
Occupancy	
Exterior Wall 1	Clapboard
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	K PINE/A WD
Interior Floor 1	Carpet
Interior Floor 2	Concr-Finished
Heating Fuel	Gas
Heating Type	Hot Water
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	09
Total Baths	3
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	9
% Comn Wall	

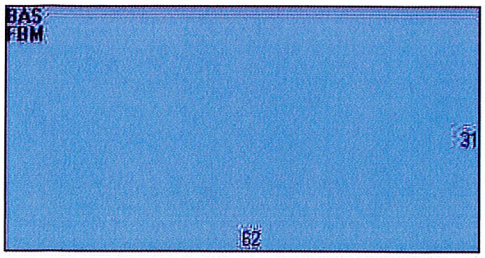
Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	7,504	7,504
FUS	Upper Story, Finished	7,378	7,378
FOP	Porch, Open, Finished	292	0
UBM	Basement, Unfinished	2,863	0
		18,037	14,882

Building 13 : Section 1

Year Built: 1959

Building Layout

Living Area: 3,844
Replacement Cost: $330,593
Replacement Cost Less Depreciation: $264,500



Building Attributes : Bldg 13 of 35	
Field	**Description**
STYLE	Dormitory
MODEL	Commercial
Grade	Average
Stories:	1
Occupancy	
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	Carpet
Heating Fuel	Oil
Heating Type	Hot Water
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	09
Total Baths	3
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	9
% Comn Wall	

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,922	1,922
FBM	Basement, Finished	1,922	1,922
		3,844	3,844

Building 14 : Section 1

Year Built: 1930
Living Area: 11,118
Replacement Cost: $757,131
Replacement Cost Less Depreciation: $567,800

Building Attributes : Bldg 14 of 35	
Field	**Description**

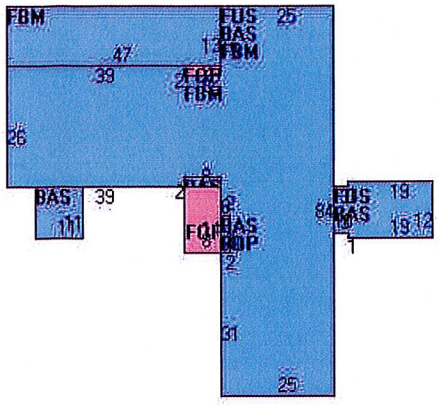
STYLE	Dormitory
MODEL	Commercial
Grade	Average
Stories:	2
Occupancy	
Exterior Wall 1	Clapboard
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Carpet
Interior Floor 2	Concr-Finished
Heating Fuel	Oil
Heating Type	Hot Water
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	09
Total Baths	6
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	10
% Comn Wall	

Building 15 : Section 1

Year Built: 1964
Living Area: 4,152
Replacement Cost: $408,672
Replacement Cost Less Depreciation: $326,900

Building Attributes : Bldg 15 of 35	
Field	**Description**
STYLE	Library
MODEL	Commercial
Grade	Average
Stories:	1
Occupancy	

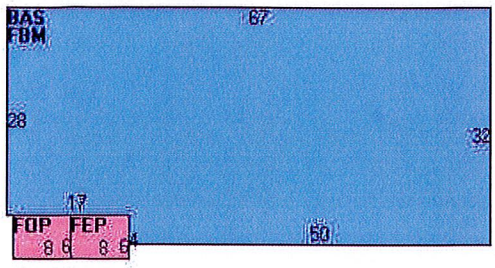
Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
FBM	Basement, Finished	3,901	3,901
BAS	First Floor	3,685	3,685
FUS	Upper Story, Finished	3,532	3,532
FOP	Porch, Open, Finished	160	0
		11,278	11,118

Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air-Duc
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	00
Total Baths	2
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	10
% Comn Wall	

Building Layout



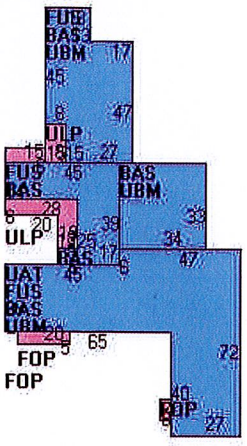
Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	2,076	2,076
FBM	Basement, Finished	2,076	2,076
FEP	Porch, Enclosed, Finished	48	0
FOP	Porch, Open, Finished	48	0
		4,248	4,152

Building 16 : Section 1

Year Built: 1920
Living Area: 14,306
Replacement Cost: $1,701,529
Replacement Cost Less Depreciation: $1,276,100

Building Attributes : Bldg 16 of 35	
Field	**Description**
STYLE	School/College
MODEL	Commercial
Grade	Average
Stories:	2
Occupancy	
Exterior Wall 1	Clapboard
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plastered

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	7,738	7,738

Interior Wall 2	
Interior Floor 1	Hardwood
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Steam
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	00
Total Baths	7
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	9
% Comn Wall	

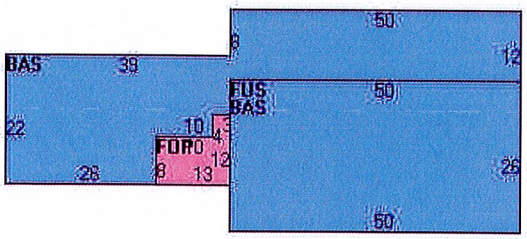
FUS	Upper Story, Finished	6,568	6,568
FOP	Porch, Open, Finished	404	0
UAT	Attic, Unfinished	3,754	0
UBM	Basement, Unfinished	7,690	0
ULP	Loading Platform, Unfinished	210	0
		26,364	14,306

Building 17 : Section 1

Year Built: 1968
Living Area: 3,942
Replacement Cost: $414,461
Replacement Cost Less Depreciation: $339,900

Building Attributes : Bldg 17 of 35	
Field	**Description**
STYLE	Dormitory
MODEL	Commercial
Grade	Average
Stories:	2
Occupancy	
Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Wood Shingle
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Electric
Heating Type	Hot Water

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	2,642	2,642
FUS	Upper Story, Finished	1,300	1,300
FOP	Porch, Open, Finished	116	0
		4,058	3,942

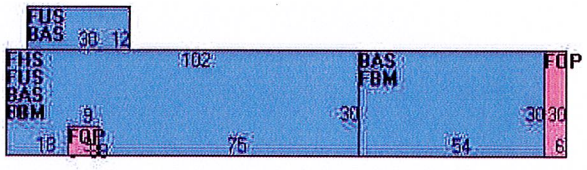
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	09
Total Baths	4
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	9
% Comn Wall	

Building 18 : Section 1

Year Built: 1945
Living Area: 14,418
Replacement Cost: $1,376,125
Replacement Cost Less Depreciation: $1,032,100

Building Attributes : Bldg 18 of 35	
Field	**Description**
STYLE	School/College
MODEL	Commercial
Grade	Average
Stories:	2.5
Occupancy	
Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plastered
Interior Wall 2	
Interior Floor 1	Hardwood
Interior Floor 2	Concr-Finished
Heating Fuel	Oil
Heating Type	Hot Water
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	09
Total Baths	7

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	4,968	4,968
FBM	Basement, Finished	4,608	4,608
FUS	Upper Story, Finished	3,348	3,348
FHS	Half Story, Finished	2,988	1,494
FOP	Porch, Open, Finished	252	0
		16,164	14,418

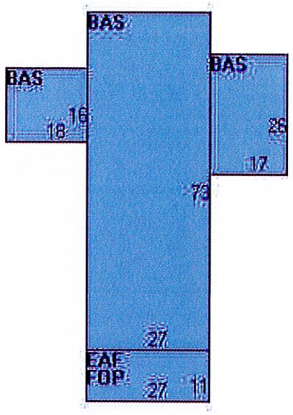
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	9
% Comn Wall	

Building 19 : Section 1

Year Built: 1939
Living Area: 2,805
Replacement Cost: $545,678
Replacement Cost Less Depreciation: $409,300

Building Attributes : Bldg 19 of 35	
Field	**Description**
STYLE	Churches
MODEL	Commercial
Grade	Average
Stories:	1
Occupancy	
Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Slate
Interior Wall 1	Plastered
Interior Wall 2	
Interior Floor 1	Hardwood
Interior Floor 2	Concr-Finished
Heating Fuel	Oil
Heating Type	Hot Water
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	2,701	2,701
EAF	Attic, Expansion, Finished	297	104
FOP	Porch, Open, Finished	297	0
		3,295	2,805

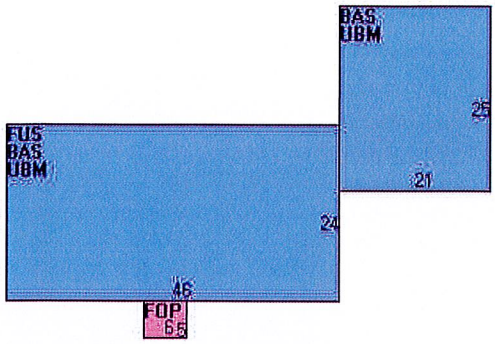
Rooms/Prtns	AVERAGE
Wall Height	16
% Comn Wall	

Building 20 : Section 1

Year Built: 1940
Living Area: 2,733
Replacement Cost: $611,437
Replacement Cost Less Depreciation: $458,600

Building Attributes : Bldg 20 of 35	
Field	**Description**
STYLE	Hospital
MODEL	Commercial
Grade	Average
Stories:	2
Occupancy	
Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asbestos Shing
Interior Wall 1	Plastered
Interior Wall 2	
Interior Floor 1	Hardwood
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Steam
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	02
Total Baths	6
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	9
% Comn Wall	

Building Layout

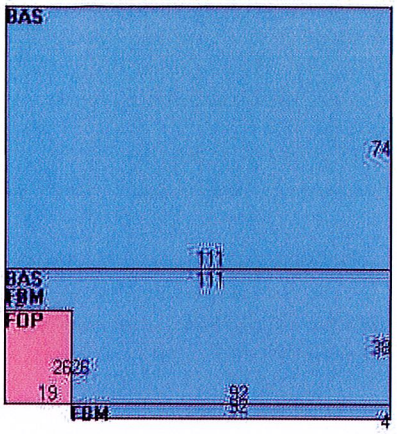


Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,629	1,629
FUS	Upper Story, Finished	1,104	1,104
FOP	Porch, Open, Finished	30	0
UBM	Basement, Unfinished	1,629	0
		4,392	2,733

Building 21 : Section 1

Year Built: 1975
Living Area: 16,030
Replacement Cost: $650,111
Replacement Cost Less Depreciation: $533,100

Building Layout



Building Attributes : Bldg 21 of 35	
Field	**Description**
STYLE	Commercial
MODEL	Commercial
Grade	Average
Stories:	1
Occupancy	
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Shed
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Hardwood
Interior Floor 2	Vinyl/Asphalt
Heating Fuel	Oil
Heating Type	Forced Air-Duc
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	00
Total Baths	4
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	MASONRY
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEILING ONLY
Rooms/Prtns	AVERAGE
Wall Height	28
% Comn Wall	

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	11,938	11,938
FBM	Basement, Finished	4,092	4,092
FOP	Porch, Open, Finished	494	0
		16,524	16,030

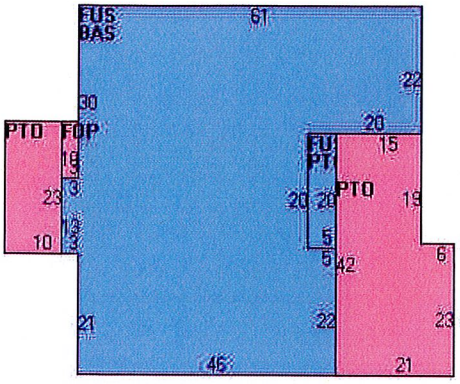
Building 22 : Section 1

Year Built: 1963
Living Area: 6,526
Replacement Cost: $700,665

Replacement Cost Less Depreciation: $560,500

Building Attributes : Bldg 22 of 35	
Field	**Description**
STYLE	School/College
MODEL	Commercial
Grade	Average
Stories:	2
Occupancy	
Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Slate
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Vinyl/Asphalt
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Hot Water
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	00
Total Baths	1
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	REINF. CONCR
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	10
% Comn Wall	

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
FUS	Upper Story, Finished	3,313	3,313
BAS	First Floor	3,213	3,213
FOP	Porch, Open, Finished	30	0
PTO	Patio	1,098	0
		7,654	6,526

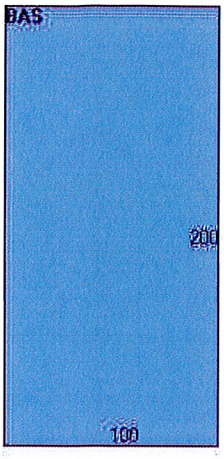
Building 23 : Section 1

Year Built: 1963
Living Area: 20,000
Replacement Cost: $1,285,000
Replacement Cost Less Depreciation: $1,028,000

Building Attributes : Bldg 23 of 35	
Field	**Description**
STYLE	School/College

MODEL	Commercial
Grade	Average
Stories:	1
Occupancy	
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Bowstring Trus
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Coal or Wood
Heating Type	None
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	1-1C
Heat/AC	NONE
Frame Type	REINF. CONCR
Baths/Plumbing	NONE
Ceiling/Wall	NONE
Rooms/Prtns	LIGHT
Wall Height	16
% Comn Wall	

Building Layout

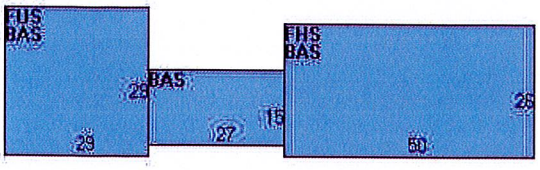


Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	20,000	20,000
		20,000	20,000

Building 24 : Section 1

Year Built: 1940
Living Area: 4,037
Replacement Cost: $399,824
Replacement Cost Less Depreciation: $299,900

Building Layout



Building Attributes : Bldg 24 of 35	
Field	**Description**
STYLE	Dormitory
MODEL	Commercial
Grade	Average
Stories:	2
Occupancy	
Exterior Wall 1	Clapboard

Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Hardwood
Interior Floor 2	Carpet
Heating Fuel	Oil
Heating Type	Hot Water
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	09
Total Baths	4
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	8
% Comn Wall	

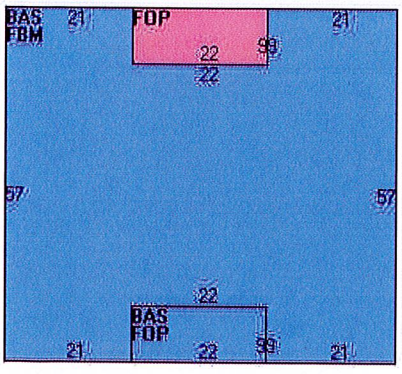
Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	2,546	2,546
FUS	Upper Story, Finished	841	841
FHS	Half Story, Finished	1,300	650
		4,687	4,037

Building 25 : Section 1

Year Built: 1970
Living Area: 6,702
Replacement Cost: $460,046
Replacement Cost Less Depreciation: $377,200

Building Attributes : Bldg 25 of 35	
Field	Description
STYLE	School/College
MODEL	Commercial
Grade	Average
Stories:	2
Occupancy	
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Irregular
Roof Cover	Wood Shingle
Interior Wall 1	Minim/Masonry
Interior Wall 2	

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	3,450	3,450
FBM	Basement, Finished	3,252	3,252

Interior Floor 1	Concr-Finished
Interior Floor 2	Vinyl/Asphalt
Heating Fuel	Oil
Heating Type	Forced Air-Duc
AC Type	None
Bldg Use	Com/Res MDL94
Total Rooms	
Total Bedrms	00
Total Baths	5
1st Floor Use:	1-1C
Heat/AC	HEAT/AC SPLIT
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	
% Comn Wall	

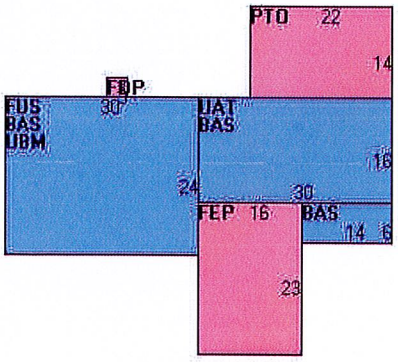
FOP	Porch, Open, Finished	396	0
		7,098	6,702

Building 26 : Section 1

Year Built: 1820
Living Area: 2,004
Replacement Cost: $219,388
Replacement Cost Less Depreciation: $188,700

Building Attributes : Bldg 26 of 35	
Field	**Description**
Style	Colonial
Model	Residential
Grade:	04
Stories:	2
Occupancy	1
Exterior Wall 1	Clapboard
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plastered
Interior Wall 2	
Interior Flr 1	Pine/Soft Wood
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Forced Air-Duc
AC Type:	None

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,284	1,284
FUS	Upper Story, Finished	720	720
FEP	Porch, Enclosed, Finished	368	0
FOP	Porch, Open, Finished	9	0
PTO	Patio	308	0
UAT	Attic, Unfinished	480	0
UBM	Basement, Unfinished	720	0

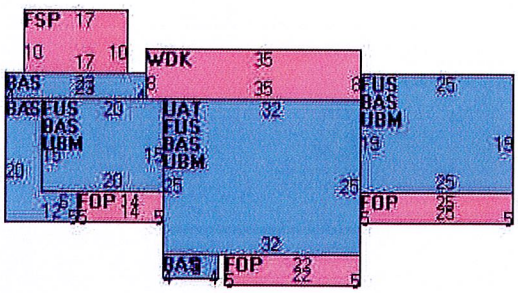
Total Bedrooms:	3 Bedrooms
Total Bthrms:	2
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	7
Bath Style:	Average
Kitchen Style:	Average

		3,889	2,004

Building 27 : Section 1

Year Built: 1920
Living Area: 3,428
Replacement Cost: $288,973
Replacement Cost Less Depreciation: $216,700

Building Layout



Building Attributes : Bldg 27 of 35	
Field	**Description**
Style	Colonial
Model	Residential
Grade:	04
Stories:	2
Occupancy	1
Exterior Wall 1	Clapboard
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plastered
Interior Wall 2	
Interior Flr 1	Pine/Soft Wood
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	None
Total Bedrooms:	5 Bedrooms
Total Bthrms:	3
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	9
Bath Style:	Average
Kitchen Style:	Average

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,853	1,853
FUS	Upper Story, Finished	1,575	1,575
FOP	Porch, Open, Finished	305	0
FSP	Porch, Screen, Finished	170	0
UAT	Attic, Unfinished	800	0
UBM	Basement, Unfinished	1,575	0
WDK	Deck, Wood	280	0
		6,558	3,428

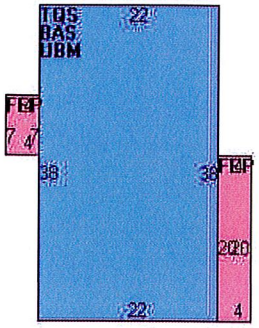
Building 28 : Section 1

Year Built: 1940

Building Layout

Living Area: 1,463
Replacement Cost: $158,198
Replacement Cost Less Depreciation: $118,600

Building Attributes : Bldg 28 of 35	
Field	**Description**
Style	Conventional
Model	Residential
Grade:	03
Stories:	1.75
Occupancy	1
Exterior Wall 1	Clapboard
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plastered
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	None
Total Bedrooms:	4 Bedrooms
Total Bthrms:	1
Total Half Baths:	1
Total Xtra Fixtrs:	
Total Rooms:	7
Bath Style:	Average
Kitchen Style:	Average



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	836	836
TQS	Three Quarter Story	836	627
FEP	Porch, Enclosed, Finished	108	0
UBM	Basement, Unfinished	836	0
		2,616	1,463

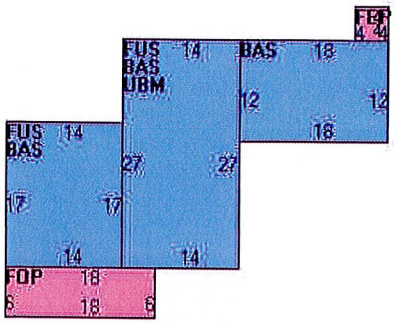
Building 29 : Section 1

Year Built: 1930
Living Area: 1,448
Replacement Cost: $162,984
Replacement Cost Less Depreciation: $122,200

Building Attributes : Bldg 29 of 35	
Field	**Description**
Style	Colonial
Model	Residential
Grade:	04
Stories:	2
Occupancy	1

Exterior Wall 1	Clapboard
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plastered
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Forced Air-Duc
AC Type:	None
Total Bedrooms:	3 Bedrooms
Total Bthrms:	1
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	8
Bath Style:	Average
Kitchen Style:	Average

Building Layout



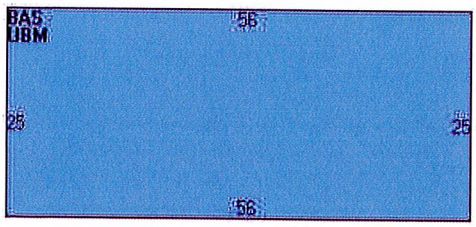
Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	832	832
FUS	Upper Story, Finished	616	616
FEP	Porch, Enclosed, Finished	16	0
FOP	Porch, Open, Finished	108	0
UBM	Basement, Unfinished	378	0
		1,950	1,448

Building 30 : Section 1

Year Built: 1945
Living Area: 1,400
Replacement Cost: $151,060
Replacement Cost Less Depreciation: $101,200

Building Attributes : Bldg 30 of 35	
Field	**Description**
Style	Ranch
Model	Residential
Grade:	03
Stories:	1
Occupancy	1
Exterior Wall 1	Wood Shingle
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,400	1,400
UBM	Basement, Unfinished	1,400	0
		2,800	1,400

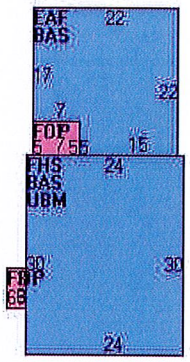
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	None
Total Bedrooms:	3 Bedrooms
Total Bthrms:	1
Total Half Baths:	1
Total Xtra Fixtrs:	
Total Rooms:	6
Bath Style:	Average
Kitchen Style:	Average

Building 31 : Section 1

Year Built: 1950
Living Area: 1,686
Replacement Cost: $176,997
Replacement Cost Less Depreciation: $138,100

Building Attributes : Bldg 31 of 35	
Field	**Description**
Style	Conventional
Model	Residential
Grade:	04
Stories:	1.5
Occupancy	1
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	None
Total Bedrooms:	3 Bedrooms
Total Bthrms:	2
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	6
Bath Style:	Average
Kitchen Style:	Average

Building Layout



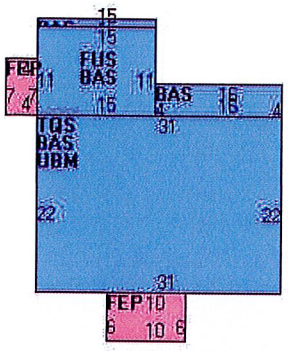
Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,169	1,169
FHS	Half Story, Finished	720	360
EAF	Attic, Expansion, Finished	449	157
FOP	Porch, Open, Finished	53	0
UBM	Basement, Unfinished	720	0
		3,111	1,686

Building 32 : Section 1

Year Built: 1750
Living Area: 1,603
Replacement Cost: $178,076
Replacement Cost Less Depreciation: $124,700

Building Attributes : Bldg 32 of 35	
Field	**Description**
Style	Colonial
Model	Residential
Grade:	04
Stories:	1.75
Occupancy	1
Exterior Wall 1	Wood Shingle
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Plastered
Interior Wall 2	
Interior Flr 1	Pine/Soft Wood
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Steam
AC Type:	None
Total Bedrooms:	4 Bedrooms
Total Bthrms:	1
Total Half Baths:	1
Total Xtra Fixtrs:	
Total Rooms:	8
Bath Style:	Average
Kitchen Style:	Average

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	926	926
TQS	Three Quarter Story	682	512
FUS	Upper Story, Finished	165	165
FEP	Porch, Enclosed, Finished	88	0
UBM	Basement, Unfinished	682	0
		2,543	1,603

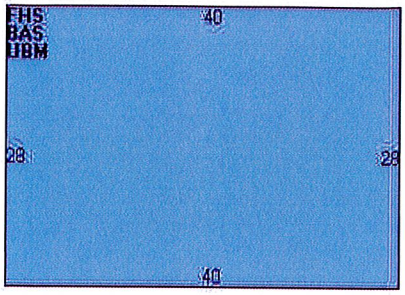
Building 33 : Section 1

Year Built: 1935
Living Area: 1,680
Replacement Cost: $146,445
Replacement Cost Less Depreciation: $109,800

Building Attributes : Bldg 33 of 35	
Field	**Description**
Style	Cape Cod
Model	Residential

Grade:	04
Stories:	1.5
Occupancy	1
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	None
Total Bedrooms:	4 Bedrooms
Total Bthrms:	2
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	7
Bath Style:	Average
Kitchen Style:	Average

Building Layout



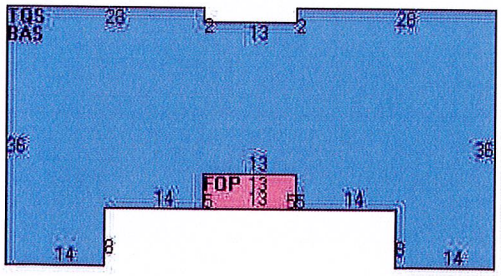
Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,120	1,120
FHS	Half Story, Finished	1,120	560
UBM	Basement, Unfinished	1,120	0
		3,360	1,680

Building 34 : Section 1

Year Built: 2013
Living Area: 3,614
Replacement Cost: $298,736
Replacement Cost Less Depreciation: $298,700

Building Attributes : Bldg 34 of 35	
Field	**Description**
Style	Ranch
Model	Residential
Grade:	05
Stories:	2
Occupancy	2
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Hardwood

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	2,065	2,065
TQS	Three Quarter Story	2,065	1,549
FOP	Porch, Open, Finished	65	0

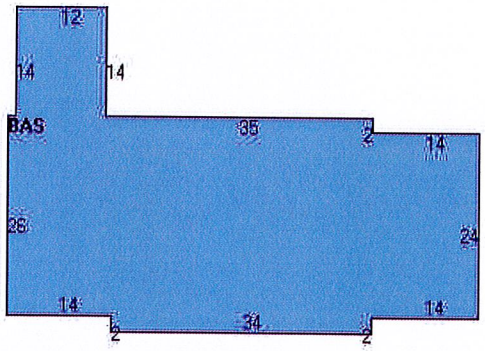
Interior Flr 2	Carpet
Heat Fuel	Gas
Heat Type:	Hot Water
AC Type:	Central
Total Bedrooms:	4 Bedrooms
Total Bthrms:	2
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	9
Bath Style:	Average
Kitchen Style:	Average

		4,195	3,614

Building 35 : Section 1

Year Built: 2013
Living Area: 1,820
Replacement Cost: $204,164
Replacement Cost Less Depreciation: $204,200

Building Layout



Building Attributes : Bldg 35 of 35	
Field	**Description**
Style	Ranch
Model	Residential
Grade:	05
Stories:	1.75
Occupancy	2
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	Carpet
Heat Fuel	Gas
Heat Type:	Hot Water
AC Type:	Central
Total Bedrooms:	4 Bedrooms
Total Bthrms:	3
Total Half Baths:	1
Total Xtra Fixtrs:	
Total Rooms:	9
Bath Style:	Average

Buiiding Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,820	1,820
		1,820	1,820

Kitchen Style:	Average

Extra Features

Extra Features				Legend
Code	**Description**	**Size**	**Value**	**Bldg #**
BGAR	BASEMENT GARAG	1 UNITS	$1,000	30
FPL1	FIREPLACE 1 ST	1 UNITS	$3,800	1
FPL1	FIREPLACE 1 ST	1 UNITS	$3,800	6
FPL1	FIREPLACE 1 ST	1 UNITS	$3,900	5
FPL1	FIREPLACE 1 ST	1 UNITS	$4,100	7
FPL1	FIREPLACE 1 ST	1 UNITS	$4,100	8
FPL1	FIREPLACE 1 ST	2 UNITS	$8,600	26
FPL2	1.5 STORY CHIM	1 UNITS	$3,800	28
FPL2	1.5 STORY CHIM	1 UNITS	$3,800	33
FPL2	1.5 STORY CHIM	1 UNITS	$3,900	31
FPL3	2 STORY CHIM	1 UNITS	$3,000	2
FPL3	2 STORY CHIM	1 UNITS	$3,800	16
FPL3	2 STORY CHIM	1 UNITS	$3,800	18
FPL3	2 STORY CHIM	2 UNITS	$7,500	24
FPL3	2 STORY CHIM	3 UNITS	$14,000	12
FPL1	FIREPLACE 1 ST	1 UNITS	$4,000	13
FPL3	2 STORY CHIM	1 UNITS	$3,500	32
FPL3	2 STORY CHIM	1 UNITS	$3,800	14
FPL3	2 STORY CHIM	2 UNITS	$7,500	27
FPO	EXTRA FPL OPEN	1 UNITS	$1,800	32

Land

Land Use

Use Code 930R
Description Exempt MDL01
Alt Land Appr No
Category

Land Line Valuation

Size (Acres) 117
Frontage 0
Depth 0
Assessed Value $1,548,200
Appraised Value $2,211,600

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
BRN4	BARN 1ST W L/B			480 S.F.	$5,000	27
FCP	CARPORT			880 S.F.	$7,900	14
FGR1	GARAGE-AVE			560 S.F.	$10,500	29

PMP1	PUMP-SING HSE			180 UNITS	$0	1
SHD1	SHED FRAME			120 S.F.	$800	32
SHD1	SHED FRAME			600 S.F.	$1,100	10
TEN	TENNIS COURT			4 UNITS	$90,000	13
TEN	TENNIS COURT			4 UNITS	$90,000	19
BRN1	BARN - 1 STORY			264 S.F.	$3,600	1
FCP	CARPORT			360 S.F.	$3,200	31
PAV1	PAVING-ASPHALT			25000 S.F.	$30,900	1
BRN1	BARN - 1 STORY			5616 S.F.	$75,800	1
SHD1	SHED FRAME			140 S.F.	$1,900	1
SPL1	POOL-INGR CONC			1250 S.F.	$17,500	7
GEN	GENERATOR			2 UNITS	$14,300	1
SHD1	SHED FRAME			200 S.F.	$2,700	1
GEN	GENERATOR			1 UNITS	$6,400	1
IMP	IMPLEMENT SHED			1440 S.F.	$6,500	1
IMP	IMPLEMENT SHED			1000 S.F.	$4,500	1
IMP	IMPLEMENT SHED			920 S.F.	$4,100	1
SLO1	SILO-WD OR CNC			576 DIAxHT	$6,000	1

DOCKET NO. 162 - An application of Springwich Cellular Limited Partnership for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a cellular telecommunications facility located on the grounds of South Kent School off Bulls Bridge Road in Kent, Connecticut. : Connecticut : Siting : Council : February 24, 1994

DECISION AND ORDER

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a cellular telecommunications tower at the proposed site in Kent, Connecticut, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need as provided by section 16-50k of the Connecticut General Statutes (CGS), be issued to Springwich Cellular Limited Partnership (Springwich), for the construction, operation, and maintenance of a cellular telecommunications tower at the proposed site on property owned by the South Kent School, off Bulls Bridge Road, Kent, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The self-supporting monopole tower shall be no taller than necessary to provide the proposed cellular communications service and in no event shall the tower structure exceed a total height of 197 feet above ground level with antennas and appurtenances.

2. Prior to the commencement of construction, the Certificate holder shall prepare a Development and Management (D&M) Plan for this site in compliance with sections 16-50j-75 through 16-50j-77 of the Regulations of State Agencies. The D&M Plan shall include detailed plans for the tower and tower foundation; the locations of all antennas to be attached to this tower to ensure maximum sharing of the tower; detailed plans for an accessway from a public roadway, including all improvements and gates installed in the accessway; utility line installation; equipment building plans including elevations; detailed plans for site clearing and tree trimming; detailed plans for erosion and sedimentation control; and plans for the installation of the security fence. The D&M Plan shall be submitted to the Council for approval prior to the commencement of tower construction.

3. The Certificate holder shall comply with any existing and future radio frequency (RF) standard promulgated by State or federal regulatory agencies. Upon the establishment of any new governmental RF standards, the facility granted herein shall be brought into compliance with such standards.

4. The Certificate holder shall provide the Council a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels originally calculated and provided in the application.

5. The Certificate holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing. Should any agreement, including sharing of this tower, be reached prior to construction of the tower, detailed plans for the third party's equipment shall be included in the D&M Plan.

6. If the facility does not initially provide, or permanently ceases to provide, cellular or other services following completion of construction, this Decision and Order shall be void, and the tower and all associated equipment shall be dismantled and removed or re-application for any continued or new use shall be made to the Council before any such use is made.

7. Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within three years of the effective date of this Decision and Order or within three years after all appeals to this Decision and Order have been resolved.

Pursuant to CGS section 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Litchfield County Times, the Kent Good Times Dispatch, and the Waterbury Republican-American.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with section 16-50j-17 of the Regulations of State Agencies.

The parties and intervenors to this proceeding are:

APPLICANT	ITS REPRESENTATIVE
Springwich Cellular Limited Partnership	Peter J. Tyrrell, Esq. Senior Attorney Springwich Cellular Limited Partnership 227 Church Street-Room 1021 New Haven, CT 06506 (203) 771-7381

PARTY	ITS REPRESENTATIVE
Litchfield County Cellular Inc.	Andrew N. Davis, Esq. John J. Russotto, Esq. Brown, Rudnick, Freed & Gesmer, P.C. 90 State House Square Hartford, CT 06103 (203) 525-8008

INTERVENOR	ITS REPRESENTATIVE
Bell Atlantic Metro Mobile	Steven R. Humphrey, Esq. Brian C.S. Freeman, Esq. Robinson & Cole One Commercial Plaza Hartford, CT 06103-3597 (203) 275-8200

CERTIFICATION

The undersigned members of the Connecticut Siting Council (Council) hereby certify that they have heard this case, or read the record thereof, in Docket No. 162, and voted as follows to approve the facility located on the grounds of South Kent School off Bulls Bridge Road in Kent, Connecticut:

Council Members	Vote Cast
Mortimer A. Gelston Chairman	Yes
Commissioner Reginald J. Smith Designee: Richard G. Patterson	Abstain
Commissioner Timothy R.E. Keeney Designee: Brian Emerick	Absent
Harry E. Covey	Yes
Daniel P. Lynch, Jr.	Yes
Gloria Dibble Pond	Absent
William H. Smith	Absent
Colin C. Tait	Yes
Dana J. Wright	Yes

Dated at New Britain, Connecticut, February 24, 1994.

7666E-2
TEF:mmb

Sprint

2.5 EQUIPMENT DEPLOYMENT

SITE NUMBER:

CT33XC101

SITE NAME:

FOREST CITY 2/SNET @ KENT SCHOOL

SITE ADDRESS:

136 BULLS BRIDGE ROAD
KENT, CT 06785

CROWN ID#: 841293

CROWN SITE NAME: KENT-BULLS BRIDGE ROAD

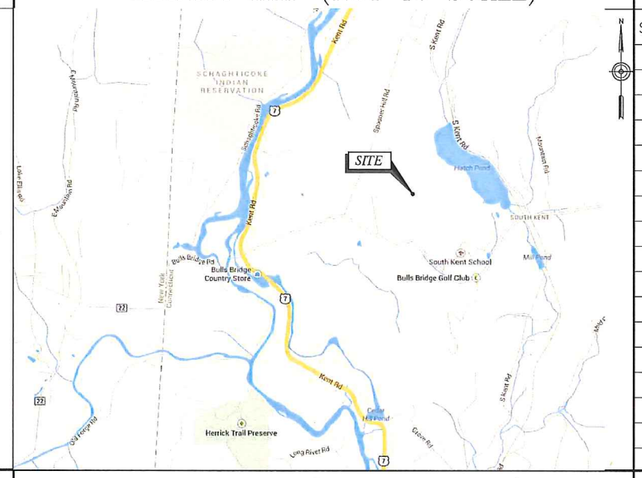
APPROVED
By Susan Vale at 12:03 pm, Jan 07, 2015

SHEET INFORMATION

SITE NUMBER:	CT33XC101
SITE NAME:	FOREST CITY 2/SNET @ KENT SCHOOL
SITE ADDRESS:	136 BULLS BRIDGE ROAD KENT, CT 06785
COUNTY:	LITCHFIELD
COORDINATES: (NAD 83)	41° 40' 53.65" N 73° 29' 11.8" W
GROUND ELEV:	781'± AMSL
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	179'-8"± AGL
STRUCTURE RAD CENTER:	124'-0"± AGL
ZONING CLASSIFICATION:	VAC
MAP-BLOCK-LOT:	6/39//9

LANDLORD:	CROWN CASTLE USA 2000 CORPORATE DRIVE CANONSBURG, PA
LOCAL POWER COMPANY:	CONNECTICUT LIGHT AND POWER CONTACT CUSTOMER SERVICE (800) 286-2000
APPLICANT:	SPRINT 1 INTERNATIONAL BLVD. SUITE 800 MAHWAH, NJ 07495 P: (201) 684-4000
ENGINEER:	JAMES QUICKSELL (845) 567-6656 EXT. 2835 JQuicksell@tectonicengineering.com
SPRINT CM:	PETER CULBERT (603) 203-6446 Peter.Culbert@sprint.com
CROWN CM:	JASON D'AMICO (860) 209-0104 jason.d'amico@crowncastle.com

VICINITY MAP (NOT TO SCALE)



SHEET INDEX

SHT. NO.	SHEET DESCRIPTION
T-1	TITLE SHEET
SP-1	GENERAL NOTES
SP-2	GENERAL NOTES
A-1	SITE PLAN
A-2	ELEVATION
A-3	ENLARGED EQUIPMENT LAYOUT PLANS
A-4	ANTENNA LAYOUT PLANS
A-5	RAN WIRING DIAGRAM
A-6	CABLE DETAILS
S-1	EQUIPMENT DETAILS
S-2	EQUIPMENT SCHEMATIC DETAILS
E-1	ELECTRICAL & GROUNDING PLANS
E-2	GROUNDING DETAILS & NOTES

GENERAL NOTES

1. THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION:
   HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED.
   FACILITY HAS NO PLUMBING OR REFRIGERANTS.
   THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATOR REQUIREMENTS.
2. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
3. DEVELOPMENT AND USE OF THIS SITE WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
   - 2005 STATE OF CONNECTICUT BUILDING CODE..
   - ANSI/TIA/EIA-222-F-1996.
   - NATIONAL ELECTRICAL CODE, LATEST EDITION.

PROJECT DESCRIPTION

1. (1) NEW 2.5 EQUIPMENT RACK INSIDE EXIST MMBTS CABINET.
2. (2) NEW RFS APXVTM14-C-120 ANTENNAS AND (1) NEW RFS APXV9TM14-ALU-I20 ANTENNA.
3. (3) NEW TD-RRH8x20-25 RRH.
4. (1) NEW 1-1/4" HYBRID CABLE.

AERIAL VIEW (NOT TO SCALE)

APPROVALS

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

CONSTRUCTION: _____ DATE: _____

LEASING/
SITE ACQUISITION: _____ DATE: _____

LANDLORD/
PROPERTY OWNER: _____ DATE: _____

R.F. ENGINEER: _____ DATE: _____

CALL TOLL FREE FOR CONNECTICUT
1-800-922-4455 OR DIAL 811
CALL TWO FULL WORKING DAYS IN ADVANCE TO LOCATE BURIED UTILITY PIPES AND CABLES

Sprint
2.5 EQUIPMENT DEPLOYMENT
1 INTERNATIONAL BLVD., SUITE 800
MAHWAH, NJ 07495
OFFICE:(201)684-4000
FAX:(201)648-4223

CROWN CASTLE

TECTONIC
• PLANNING
• ENGINEERING
• SURVEYING
• CONSTRUCTION MANAGEMENT

TECTONIC Engineering & Surveying Consultants P.C.
1279 Route 300
Newburgh, NY 12550
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SUBMITTALS

PROJECT NO: 7225.CT33XC101

NO	DATE	DESCRIPTION	BY
0	07/15/14	FOR COMMENT	JT
1	01/06/15	FOR CONSTRUCTION	MP

DATE	REVIEWED BY
1/6/15	JMQ

STAMP

STATE OF CONNECTICUT
MANOJKUMAR PATEL
No. 22038
LICENSED PROFESSIONAL ENGINEER

SITE NUMBER:
CT33XC101

SITE NAME:
FOREST CITY 2/SNET
@ KENT SCHOOL

SITE ADDRESS:
136 BULLS BRIDGE ROAD
KENT, CT 06785

SHEET TITLE:
TITLE SHEET

SHEET NO:
T-1

DIVISION 01000–GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE PROJECT OWNER'S REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. ONCE THE CONTRACTOR HAS RECEIVED AND ACCEPTED THE NOTICE TO PROCEED, CONTRACTOR WILL CONTACT THE CROWN CASTLE CONSTRUCTION MANAGER OF RECORD (NOTED ON THE FIRST PAGE ON THIS CONSTRUCTION DRAWING) A MINIMUM OF 48 HOURS PRIOR TO WORK START. UPON ARRIVAL TO THE JOB SITE, CONTRACTOR CREW IS REQUIRED CALL 1–800–788–7011 TO NOTIFY THE CROWN CASTLE NOC WORK HAS BEGUN.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT SECTIONS OF THE BASIC STATE BUILDING CODE, LATEST EDITION, AND ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK SHALL BE RELOCATED AS DIRECTED BY THE ARCHITECT/ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. THE CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, D) TRENCHING AND EXCAVATION OF ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHICH INTERFERE WITH THE EXECUTION OF THE WORK SHALL BE REMOVED AND OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT THE POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK SUBJECT TO THE APPROVAL OF THE ARCHITECT/ENGINEER.
14. THE CONTRACTOR SHALL NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE LESSEE/LICENSEE REPRESENTATIVE.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
16. THE CONTRACTOR SHALL NOTIFY THE THE RF ENGINEER FOR ANTENNA AZIMUTH VERIFICATION (DURING ANTENNA INSTALLATION) PRIOR TO CONDUCTING SWEEP TESTS.
17. THE CONTRACTOR SHALL SUBMIT AT THE END OF THE PROJECT A COMPLETE SET OF AS–BUILT DRAWINGS TO THE CLIENT REPRESENTATIVE.
18. REFER TO: CONSTRUCTION STANDARDS–SPRINT DOCUMENT EXHIBIT A–STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES REV. 4.0– 02.15.2011.DOCM.
19. REFER TO: WEATHER PROOFING SPECS: EXCERPT EXH A–WIHRPRF–STD CONSTR SPECS._15720111042185549 2.DOCM.
20. REFER TO: COLOR CODING–SPRINT NEXTEL ANT AND LINE COLOR CODING (DRAFT) V3 09–08–11.PDF
21. REFER TO LATEST DOCUMENTATION REVISION.

DIVISION 03000–CONCRETE

1.03 APPLICABLE STANDARDS (USE LATEST EDITIONS)

A. AC1–301 – SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS.
B. ACI–347 GUIDE TO FORM WORK FOR CONCRETE.
C. ASTM C33– CONCRETE AGGREGATE
D. ASTM C94 – READY MIXED CONCRETE e. ASTM C150 – PORTLAND CEMENT.
E. ASTM C260 – AIR–ENTRAINING ADMIXTURES FOR CONCRETE
F. ASTM C309– LIQUID MEMBRANE FORMING COMPOUNDS FOR CURING CONCRETE.
H. ASTM C494 – CHEMICAL ADMIXTURES FOR CONCRETE
I. ASTM A615– DEFORMED AND PLAIN BILLET–STEEL BARS FOR CONCRETE REINFORCEMENT
J. ASTM A185– STEEL WELDED WIRE FABRIC (PLAIN) FOR CONCRETE REINFORCEMENT

1.04 QUALITY ASSURANCE

CONCRETE MATERIALS AND OPERATIONS SHALL BE TESTED AND INSPECTED BY THE ARCHITECT/ENGINEER AS DIRECTED BY THE CLIENT'S REPRESENTATIVE.

3.04 SURFACE FINISHES

A. SURFACES AGAINST WHICH BACKFILL OR CONCRETE SHALL BE PLACED REQUIRE NO TREATMENT EXCEPT REPAIR OF DEFECTIVE AREAS.

B. SURFACES THAT WILL BE PERMANENTLY EXPOSED SHALL PRESENT A UNIFORM FINISH PROVIDED BY THE REMOVAL OF FINS AND THE FILLING HOLES AND OTHER IRREGULARITIES WITH DRY PACK GROUT, OR BY SACKING WITH UTILITY OR ORDINARY GROUT.

C. SURFACES THAT WOULD NORMALLY BE LEVEL AND WHICH WILL BE PERMANENTLY EXPOSED TO THE WEATHER SHALL BE SLOPED FOR DRAINAGE. UNLESS ENGINEER'S DESIGN DRAWING SPECIFIES A HORIZONTAL SURFACE OR SURFACES SUCH AS STAIR TREADS, WALLS, CURBS, AND PARAPETS SHALL BE SLOPED APPROXIMATELY 1/4" PER FOOT.

D. SURFACES THAT WILL BE COVERED BY BACKFILL OR CONCRETE SHALL BE SMOOTH SCREENED.

E. EXPOSED SLAB SURFACES SHALL BE CONSOLIDATED, SCREENED, FLOATED, AND STEEL TROWELED. HAND OR POWER–DRIVEN EQUIPMENT MAY BE USED FOR FLOATING. FLOATING SHALL BE STARTED AS SOON AS THE SCREENED SURFACE HAS ATTAINED A STIFFNESS TO PERMIT FINISHING OPERATIONS. OPERATIONS. ALL EDGES MUST HAVE A 3/4" CHAMFER.

1.04 QUALITY ASSURANCE CONCRETE MATERIALS AND OPERATIONS SHALL BE TESTED AND INSPECTED BY THE ENGINEER.

3.05 PATCHING

THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY UPON REMOVAL OF THE FORMS TO OBSERVE CONCRETE SURFACE CONDITIONS. IMPERFECTIONS SHALL BE PATCHED ACCORDING TO THE ENGINEER'S DIRECTION.

3.06 DEFECTIVE CONCRETE

THE CONTRACTOR SHALL NOTIFY OR REPLACE CONCRETE NOT CONFORMING TO REQUIRED LEVELS AND LINES, DETAILS, AND ELEVATIONS AS SPECIFIED IN ACI 301.

3.07 PROTECTION

A. IMMEDIATELY AFTER PLACEMENT. THE CONTRACTOR SHALL PROTECT THE CONCRETE FROM PREMATURE DRYING, EXCESSIVELY HOT OR COLD TEMPERATURES, AND MECHANICAL INJURY. FINISHED WORK SHALL BE PROTECTED.

B. CONCRETE SHALL BE MAINTAINED WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.

C. ALL CONCRETE SHALL BE WATER CURED PER ACCEPTABLE PRACTICES SPECIFIED BY ACI CODE (LATEST EDITION)

DIVISION 05000 – METALS

PART 1 – GENERAL

1.01 WORK INCLUDED

A. THE WORK CONSISTS OF THE FABRICATION AND INSTALLATION OF ALL MATERIALS TO BE FURNISHED. AND WITHOUT LIMITING THE GENERALITY THEREOF, INCLUDING ALL EQUIPMENT, LABOR AND SERVICES REQUIRED FOR ALL STRUCTURAL STEEL WORK AND ALL ITEMS INCIDENTAL AS SPECIFIED AND AS SHOWN ON THE DRAWINGS:

1. STEEL FRAMING INCLUDING BEAMS, ANGLES, CHANNELS AND PLATES.
2. WELDING AND BOLTING OF ATTACHMENTS.

1.02 REFERENCE STANDARDS

A. THE WORK SHALL CONFORM TO THE CODES AND STANDARDS OF THE FOLLOWING AGENCIES AS FURTHER CITED HEREIN:

1. ASTM: AMERICAN SOCIETY FOR TESTING AND MATERIALS AS PUBLISHED IN "COMPILATION OF ASTM STANDARDS IN BUILDING CODES" OR LATEST EDITION.
2. AWS: AMERICAN WELDING SOCIETY CODE OR LATEST EDITION.
3. AISC: AMERICAN INSTITUTE OF STEEL CONSTRUCTION, "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" (LATEST EDITION).

PART 2 – PRODUCTS

2.01 MATERIALS

A. STRUCTURAL STEEL: SHALL COMPLY WITH THE REQUIREMENTS OF ASTM A36 AND A992 FOR STRUCTURAL STEEL.

ALL PROPOSED STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC CODE AND ASTM SPECIFICATIONS (LATEST EDITION) ALL NEW STEEL SHALL CONFORM TO THE FOLLOWING.

1. STRUCTURAL WIDE FLANGE: ASTM A992 Fy=50KSI.
2. MISCELLANEOUS STEEL (PLATES), CHANNELS, ANGLES, ETC): ASTM A36 (Fy=36KSI).
3. STRUCTURAL TUBING: ASTM A500 Gr. B (Fy=46KSI).
4. STEEL PIPE: ASTM A53 Gr B (Fy=35KSI).

2.02 WELDING

A. ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS. CERTIFICATION DOCUMENTS SHALL BE MADE AVAILABLE FOR ENGINEER'S AND/OR OWNER'S REVIEW IF REQUESTED.

B. WELDING ELECTRODES FOR MANUAL SHIELDED METAL ARC WELDING SHALL CONFORM TO ASTM 1–233, E70 SERIES. BARE ELECTRODES AND GRANULAR FLUX USED IN THE SUBMERGED ARC PROCESS SHALL CONFORM TO AISC SPECIFICATIONS.

C. FIELD WELDING SHALL BE DONE AS PER AWS D1.1 REQUIREMENTS VISUAL INSPECTION IS ACCEPTABLE.

D. STUD WELDING SHALL BE ACCOMPLISHED BY CAPACITOR DISCHARGE (CD) WELDING TECHNIQUE USING CAPACITOR DISCHARGE STUD WELDER.

E. PROVIDE STUD FASTENERS OF MATERIALS AND SIZES SHOWN ON DRAWINGS OR AS RECOMMENDED BY THE MANUFACTURER FOR STRUCTURAL LOADINGS REQUIRED.

F. FOLLOW MANUFACTURERS SPECIFICATIONS AND INSTRUCTIONS TO PROPERLY SELECT AND INSTALL STUD WELDS.

2.03 BOLTING

A. BOLTS SHALL BE CONFORMING TO ASTM A35 HIGH STRENGTH HOT DIP GALVANIZED WITH ASTM A153 HEAVY HEX TYPE NUTS.

B. BOLTS SHALL BE 3/4" (MINIMUM) CONFORMING TO ASTM A325, HOT DIP GALVANIZED, ASTM A153 NUTS SHALL BE HEAVY HEX TYPE.

C. ALL CONNECTIONS SHALL BE 2 BOLTS MINIMUM.

D. EXCEPT WHERE SHOWN, ALL BEAM TO BEAM AND BEAM TO COLUMN CONNECTIONS TO BE DOUBLE ANGLED CONNECTIONS WITH HIGH STRENGTH BOLTS (THREADS EXCLUDED FROM SHEAR PLANE) AND HARDENED WASHERS.

E. STANDARD, OVERSIZED OR HORIZONTAL SHORT SLOTTED HOLES.

F. SNUG–TIGHT STRENGTH BEARING BOLTS MAY BE USED IN STANDARD HOLES CONFORMING TO ACIS, USING THE TURN OF THE NUT METHOD.

H. FULLY–TENSIONED HIGH STRENGTH (SLIP CRITICAL) SHALL BE USED IN OVERSIZED SLOT HOLES (RESPECTIVE OF SLOT ORIENTATION).

I. ALL BRACED CONNECTION, MOMENT CONNECTION AND CONNECTIONS NOTED AS "SLIP CRITICAL" SHALL BE BE SLIP CRITICAL JOINTS WITH CLASS A SURFACE CONDITIONS, UNLESS OTHERWISE NOTED.

J. EPOXY ANCHOR ASSEMBLIES SHALL BE AS MANUFACTURED BY HILTI OR ENGINEER APPROVED EQUAL, AS FOLLOWS:

BASE MATERIAL	ANCHOR SYSTEM
CONCRETE	HILTI HIT–HY 200
HOLLOW & GROUTED CMU OR BRICK	HILTI HIT–HY 70

2.04 FABRICATION

A. FABRICATION OF STEEL SHALL CONFORM TO THE AISC AND AWS

2.05 FINISH

A. STRUCTURAL STEEL EXPOSED TO WEATHER SHALL BE HOT–DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123. (LATEST EDITION) UNLESS OTHERWISE NOTED.

2.06 PROTECTION

A. UPON COMPLETION OF ERECTION, INSPECT ALL GALVANIZED STEEL AND PAINT ANY FIELD CUTS, WELDS OR GALVANIZED BREAKS WITH (2) COATS OF ZINC–RICH COLD GALVANIZING PAINT.

PART 3 – ERECTION

A. PROVIDE ALL ERECTION, EQUIPMENT, BRACING, PLANKING, FIELD BOLTS, NUTS, WASHERS, DRIFT PINS, AND SIMILAR MATERIALS WHICH DO NOT FORM A PART OF THE COMPLETED CONSTRUCTION, BUT ARE NECESSARY FOR ITS PROPER ERECTION.

B. ERECT AND ANCHOR ALL STRUCTURAL STEEL IN ACCORDANCE WITH AISC REFERENCE STANDARDS. ALL WORK SHALL BE ACCURATELY SET TO ESTABLISHED SUITABLE ATTACHMENTS TO THE CONSTRUCTION OF THE BUILDING

C. TEMPORARY BRACING, GUYING, AND SUPPORT SHALL BE PROVIDED TO KEEP THE STRUCTURE SET AND ALIGNED AT ALL TIMES DURING CONSTRUCTION, AND TO PREVENT DANGER TO PERSONS AND PROPERTY. CHECK ALL TEMPORARY LOADS AND STAY WITHIN SAFE CAPACITY OF ALL BUILDING COMPONENTS.

Sprint
2.5 EQUIPMENT DEPLOYMENT
1 INTERNATIONAL BLVD., SUITE 800
MAHWAH, NJ 07495
OFFICE:(201)684-4000
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CROWN CASTLE

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136 BULLS BRIDGE ROAD
KENT, CT 06785

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GENERAL NOTES

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DIVISION 13000–SPECIAL CONSTRUCTION ANTENNA INSTALLATION

PART 1 – GENERAL

1.01 WORK INCLUDED

A. ANTENNAS AND HYBRIFLEX CABLES ARE FURNISHED BY CLIENT'S REPRESENTATIVE UNDER SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPERTY.

B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND CLIENT'S REPRESENTATIVE SPECIFICATIONS.

C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.

D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE AND PROVIDE PRINTOUT OF THAT RESULT

F. INSTALL HYBRIFLEX CABLES AND TERMINATIONS BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTORS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS.

G. ANTENNA AND HYBRIFLEX CABLE GROUNDING:

1. ALL EXTERIOR #6 GREEN GROUND WIRE DAISY CHAIN CONNECTIONS ARE TO BE WEATHER SEALED WITH ANDREWS CONNECTOR/SPLICE WEATHERPROOFING KIT TYPE 3221213 OR EQUIVALENT.

2. ALL HYBRIFLEX CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF HYBRIFLEX CABLE (NOT WITHIN BENDS). 1.02 RELATED WORK FURNISH THE FOLLOWING WORK AS SPECIFIED UNDER CONSTRUCTION DOCUMENTS, BUT COORDINATE WITH QOTHER TRADES PRIOR TO BID:

   1. FLASHING OF OPENING INTO OUTSIDE WALLS.
   2. SEALING AND CAULKING ALL OPENINGS.
   3. PAINTING.
   4. CUTTING AND PATCHING.

1.03 REQUIREMENTS OF REGULATOR AGENCIES

A. FURNISH U.L. LISTED EQUIPMENT WHERE SUCH LABEL IS AVAILABLE. INSTALL IN CONFORMANCE WITH U.L. STANDARDS WHERE APPLICABLE.

B. INSTALL ANTENNA, ANTENNA CABLES, GROUNDING SYSTEM IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS IN EFFECT AT PROJECT LOCATION AND RECOMMENDATIONS OF STATE AND LOCAL BUILDING CODES HAVING JURISDICTION OVER SPECIFIC PORTIONS OF WORK. THIS WORK INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

1. EIA – ELECTRONIC INDUSTRIES ASSOCIATION RS–22. STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.

2. FAA – FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR AC 70/7480–IH, CONSTRUCTION MARKING AND LIGHTING.

3. FCC – FEDERAL COMMUNICATION COMMISSION RULES AND REGULATIONS FORM 715, OBSTRUCTION MARKING AND LIGHTING SPECIFICATION FOR ANTENNA STRUCTURES

4. AISC – AMERICAN INSTITUTE OF STEEL CONSTRUCTION FOR STRUCTURAL JOINTS USING ASTM 1325 OR A490 BOLTS.

5. NEC – NATIONAL ELECTRIC CODE – ON TOWER LIGHTING KITS.

6. UL – UNDERWRITER'S LABORATORIES APPROVED ELECTRICAL PRODUCTS.

7. IN ALL CASES, PART 77 OF THE FAA RULES AND PARTS 17 AND 22 OF THE FCC RULES ARE APPLICABLE AND IN THE EVENT OF CONFLICT, SUPERSEDE ANY OTHER STANDARDS OR SPECIFICATIONS.

8. LIFE SAFETY CODE NFPA, LATEST EDITION.

DIVISION 13000–EARTHWORK

PART 1 GENERAL

1.01 WORK INCLUDED: REFER TO SURVEY AND SITE PLAN FOR WORK INCLUDED.

1.02 RELATED WORK

A. CONSTRUCTION OF EQUIPMENT FOUNDATIONS
B. INSTALLATION OF ANTENNA SYSTEM

PART 2 PRODUCTS

2.01 MATERIALS

A. ROAD AND SITE MATERIALS; FILL MATERIAL SHALL BE ACCEPTABLE, SELECT FILL SHALL BE IN ACCORDANCE WITH LOCAL DEPARTMENT OF HIGHWAY AND PUBLIC TRANSPORTATION STANDARD SPECIFICATIONS.

B. SOIL STERILIZER SHALL BE EPA REGISTERED OF LIQUID COMPOSITION AND OF PRE–EMERGENCE DESIGN.

C. SOIL STABILIZER FABRIC SHALL BE MIRAFI OR EQUAL – 600X AT ACCESS ROAD AND COMPOUND.

D. GRAVEL FILL; WELL GRADED, HARD, DURABLE, NATURAL SAND AND GRAVEL, FREE FROM ICE AND SNOW, ROOTS, SOD RUBBISH, AND OTHER DELETERIOUS OR ORGANIC MATTER.

MATERIAL SHALL CONFORM TO THE FOLLOWING GRADATION REQUIREMENTS.

GRAVEL FILL TO BE PLACED IN LIFTS OF 9" MAXIMUM THICKNESS AND 90 % DENSITY. COMPACTED TO 95

E. NO FILL OR EMBANKMENT MATERIALS SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OF EMBANKMENT

2.02 EQUIPMENT

A. COMPACTION SHALL BE ACCOMPLISHED BY MECHANICAL MEANS. LARGER AREAS SHALL BE COMPACTED BY SHEEPS FOOT, VIBRATORY OR RUBBER TIED ROLLERS WEIGHING AT LEAST FIVE TONS. SMALLER AREAS SHALL BE COMPACTED BY POWER–DRIVER, HAND HELD TAMPERS.

B. PRIOR TO OTHER EXCAVATION AND CONSTRUCTION EFFORTS GRUB ORGANIC MATERIAL TO A MINIMUM OF 6" BELOW ORIGINAL GROUND LEVEL.

C. UNLESS OTHERWISE INSTRUCTED BY CLIENT'S REPRESENTATIVE. REMOVE TREES, BRUSH AND DEBRIS FROM THE PROPERTY TO AN AUTHORIZED DISPOSAL LOCATION.

D. PRIOR TO PLACEMENT OF FILL OR BASE MATERIALS, ROLL THE SOIL.

E. WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, LINE THE GRUBBED AREAS WITH STABILIZER MAT PRIOR TO PLACEMENT OF FILL OR BASE MATERIAL.

3.03 INSTALLATION

A. THE SITE AND TURNAROUND AREAS SHALL BE AT THE SUB–BASE COURSE ELEVATION PRIOR TO FORMING FOUNDATIONS. GRADE OR FILL THE SITE AND ACCESS ROAD AS REQUIRED TO PRODUCE EVEN DISTRIBUTION OF SPOILS RESULTING FROM FOUNDATION EXCAVATIONS. THE RESULTING GRADE SHALL CORRESPOND WITH SAID SUB–BASE COURSE, ELEVATIONS ARE TO BE CALCULATED FORM FINISHED GRADES OR SLOPES INDICATED.

B. THE ACCESS ROAD SHALL BE BROUGHT TO BASE COURSE ELEVATION PRIOR TO FOUNDATION CONSTRUCTION.

C. DO NOT CREATE DEPRESSIONS WHERE WATER MAY POND.

D. THE CONTRACT INCLUDES ALL NECESSARY GRADING, BANKING, DITCHING AND COMPLETE SURFACE COURSE FOR ACCESS ROAD. ALL ROADS OR ROUTES UTILIZED FOR ACCESS TO PUBLIC THOROUGHFARE IS INCLUDED IN SCOPE OF WORK UNLESS OTHERWISE INDICATED.

E. WHEN IMPROVING AN EXISTING ACCESS ROAD, GRADE THE EXISTING ROAD TO REMOVE ANY ORGANIC MATTER AND SMOOTH THE SURFACE BEFORE PLACING FILL OR STONE.

F. PLACE FILL OR STONE IN 3" MAXIMUM LIFTS AND COMPACT BEFORE PLACING NEXT LIFT.

G. THE FINISH GRADE, INCLUDING TOP SURFACE COURSE, SHALL EXTEND A MINIMUM OF 12" BEYOND THE SITE FENCE AND SHALL COVER THE AREA AS INDICATED.

H. RIPRAP SHALL BE APPLIED TO THE SIDE SLOPES OF ALL FENCED AREAS, PARKING AREAS AND TO ALL OTHER SLOPES GREATER THAN 2:1.

I. RIPRAP SHALL BE APPLIED TO THE SIDES OF DITCHES OR DRAINAGE SWALES AS INDICATED ON PLANS.

J. RIPRAP ENTIRE DITCH FOR 6'–0" IN ALL DIRECTIONS AT CULVERT OPENINGS.

K. SEED, FERTILIZER AND STRAW COVER SHALL BE APPLIED TO ALL OTHER DISTURBED AREAS AND DITCHES, DRAINAGE, SWALES, NOT OTHERWISE RIP–RAPPED.

L. UNDER NO CIRCUMSTANCES SHALL DITCHES, SWALES OR CULVERTS BE PLACED SO THEY DIRECT WATER TOWARDS, OR PERMIT STANDING WATER IMMEDIATELY ADJACENT TO SITE. IF OWNER DESIGNS OR IF DESIGN ELEVATIONS CONFLICT WITH THIS GUIDANCE ADVISE THE OWNER IMMEDIATELY.

M. IF A DITCH LIES WITH SLOPE GREATER THAN TEN PERCENT, MOUND DIVERSIONARY HEADWALL IN THE DITCH AT CULVERT ENTRANCES. RIP–RAP THE UPSTREAM SIDE OF THE HEADWALL AS WELL AS THE DITCH FOR 6'–0" ABOVE THE CULVERT.

N. IF A DITCH LIES WITH SLOPES GREATER THAN TEN PERCENT, MOUND DIVERSIONARY HEADWALLS IN THE DITCH FOR 6'–0" ABOVE THE CULVERT ENTRANCE.

O. SEED AND FERTILIZER SHALL BE APPLIED TO SURFACE CONDITIONS WHICH WILL ENCOURAGE ROOTING. RAKE AREAS TO BE SEEDED TO EVEN THE SURFACE AND TO LOOSEN THE SOIL.

P. SOW SEED IN TWO DIRECTIONS IN TWICE THE QUANTITY RECOMMENDED BY THE SEED PRODUCER.

Q. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE GROWTH OF SEEDED AND LANDSCAPED AREAS BY WATERING UP TO THE POINT OF RELEASE FROM THE CONTRACT. CONTINUE TO REWORK BARE AREAS UNTIL COMPLETE COVERAGE IS OBTAINED.

3.04 FIELD QUALITY CONTROL

A. COMPACTION SHALL BE D–1557 FOR SITE WORK AND 95 % MAXIMUM DENSITY UNDER SLAB AREAS. AREAS OF SETTLEMENT WILL BE EXCAVATED AND REFILLED AT CONTRACTOR'S EXPENSE. REQUIRED. USE OF EROSION CONTROL MESH OR MULCH NET SHALL BE AN ACCEPTABLE ALTERNATIVE.

B. THE COMPACTION TEST RESULTS SHALL BE AVAILABLE PRIOR TO THE CONCRETE POUR.

3.05 PROTECTION

A. PROTECT SEEDED AREAS FORM EROSION BY SPREADING STRAW TO A UNIFORM LOOSE DEPTH OF 1"–2". STAKE AND TIE DOWN AS REQUIRED. USE OF EROSION CONTROL MESH OR MULCH NET SHALL BE AN ACCEPTABLE ALTERNATIVE.

B. ALL TREES PLACED IN CONJUNCTION WITH A LANDSCAPE CONTRACT SHALL BE WRAPPED, TIED WITH HOSE PROTECTED WIRE AND SECURED TO STAKES EXTENDING 2'–0" INTO THE GROUND ON FOUR SIDES OF THE TREE.

C. ALL EXPOSED AREAS SHALL BE PROTECTED AGAINST WASHOUTS AND SOIL EROSION. STRAW BALES SHALL BE PLACED AT THE INLET APPROACH TO ALL NEW OR EXISTING CULVERTS. REFER TO DETAILS ON DRAWINGS

SYMBOLS	ABBREVIATIONS
— — — G — — — G —	GROUND WIRE
— — — E — — — E —	ELECTRIC
— — — T — — — T —	TELEPHONE
—OHW— —OHW— —OHW— —OHW— —OHW—	OVERHEAD WIRE
——— — — ———	PROPERTY LINE
—x———x———x———	CHAIN LINK FENCE
A–1	ANTENNA MARK
(E)	EXISTING
(P)	PROPOSED DETAIL
DET # / SHT #	REFERENCE
	SURFACE ELEVATION

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SUBMITTALS

PROJECT NO: 7225.CT33XC101

NO	DATE	DESCRIPTION	BY
0	07/15/14	FOR COMMENT	JT
1	01/06/15	FOR CONSTRUCTION	MP

DATE	REVIEWED BY
1/6/15	JMG

SEAL: STATE OF CONNECTICUT · ANANDKUMAR PATEL · No. 22038 · LICENSED PROFESSIONAL ENGINEER

SITE NUMBER:
CT33XC101

SITE NAME:
FOREST CITY 2/SNET
@ KENT SCHOOL

SITE ADDRESS:
136 BULLS BRIDGE ROAD
KENT, CT 06785

SHEET TITLE:
GENERAL NOTES

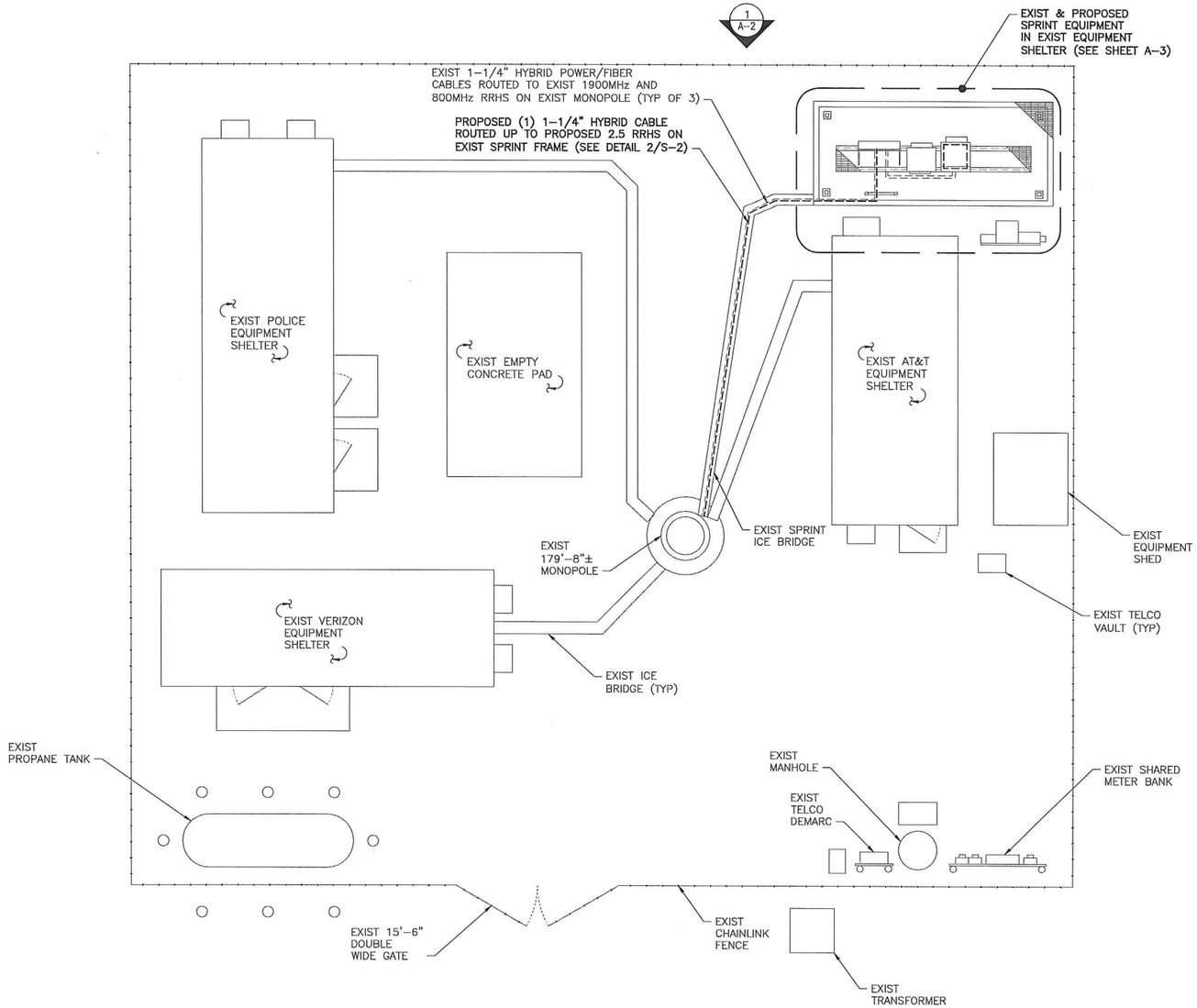
SHEET NO:
SP–2

N

APPROX.

NORTH NOTE:

NORTH SHOWN HAS BEEN ESTABLISHED USING THE USGS QUADRANGLE 7.5 MINUTE MAPS AND IS APPROXIMATE. VERIFY TRUE NORTH PRIOR TO INSTALLATION OF ANTENNAS.



1
A-1
SITE PLAN

SCALE: 3/16" = 1'-0"

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PROJECT NO: 7225.CT33XC101

NO	DATE	DESCRIPTION	BY
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1	01/06/15	FOR CONSTRUCTION	MP

DATE	REVIEWED BY
1/6/15	JMO

SEAL

STATE OF CONNECTICUT
MARK PHILIP MAHONEY
No. 22038
LICENSED PROFESSIONAL ENGINEER

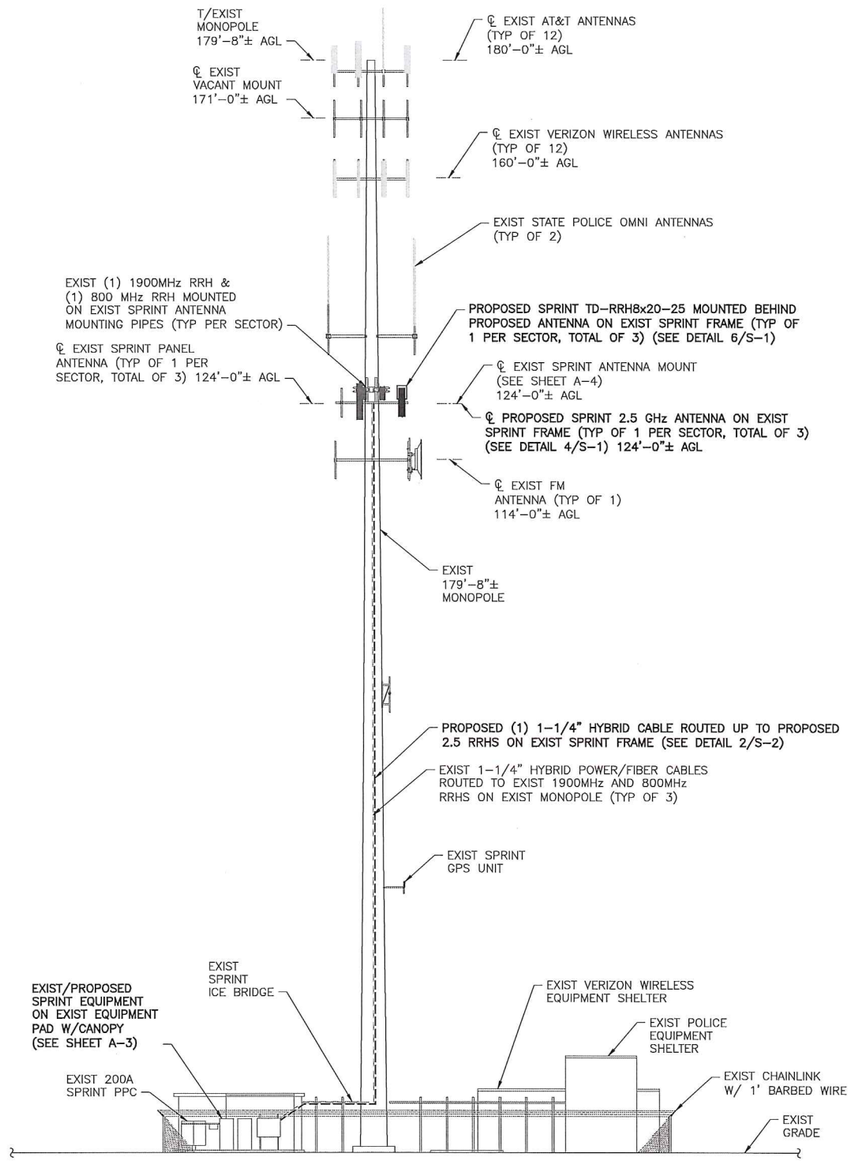
SITE NUMBER:
CT33XC101

SITE NAME:
FOREST CITY 2/SNET @ KENT SCHOOL

SITE ADDRESS:
136 BULLS BRIDGE ROAD
KENT, CT 06785

SHEET TITLE:
SITE PLAN

SHEET NO:
A-1



1 A-2 ELEVATION

SCALE: 3/32" = 1'-0"

THE EXISTING MONOPOLE SHALL BE ANALYZED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT (TO BE COORDINATED BY OTHERS).

THE EXISTING MOUNT HAS BEEN ANALYZED BY TECTONIC ENGINEERING AND FOUND TO BE ADEQUATE TO SUPPORT THE PROPOSED SPRINT UPGRADE AS DETAILED IN THE STRUCTURAL ANALYSIS EVALUATION LETTER DATED 01/06/15.

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PROJECT NO: 7225.CT33XC101

NO	DATE	DESCRIPTION	BY
0	07/15/14	FOR COMMENT	JT
1	01/06/15	FOR CONSTRUCTION	MP

DATE	REVIEWED BY
1/6/15	JMQ

SEAL
STATE OF CONNECTICUT
RAMANJUKUMAR REDDY
No. 22038
LICENSED PROFESSIONAL ENGINEER

SITE NUMBER:
CT33XC101

SITE NAME:
FOREST CITY 2/SNET
@ KENT SCHOOL

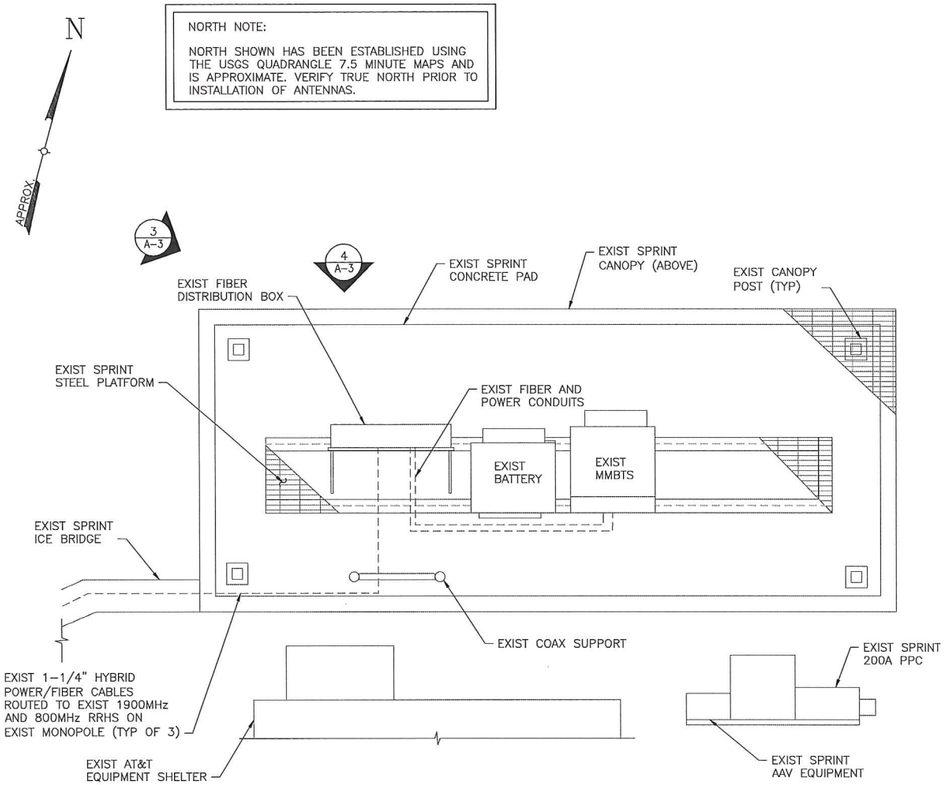
SITE ADDRESS:
136 BULLS BRIDGE ROAD
KENT, CT 06785

SHEET TITLE:
ELEVATION

SHEET NO:
A-2

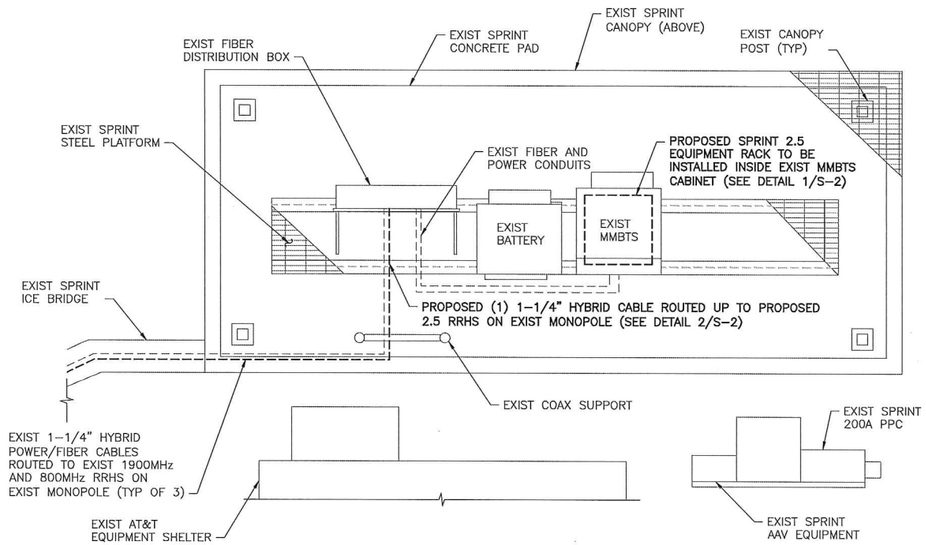
NORTH NOTE:

NORTH SHOWN HAS BEEN ESTABLISHED USING THE USGS QUADRANGLE 7.5 MINUTE MAPS AND IS APPROXIMATE. VERIFY TRUE NORTH PRIOR TO INSTALLATION OF ANTENNAS.



1 A-3 ENLARGED EQUIPMENT LAYOUT PLAN (EXIST)

SCALE: 1/2" = 1'-0"

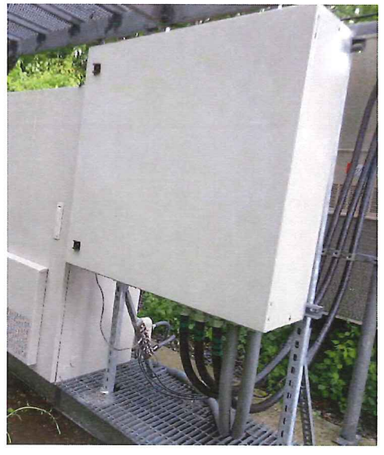


2 A-3 ENLARGED EQUIPMENT LAYOUT PLAN (FINAL)

SCALE: 1/2" = 1'-0"

3 A-3 EXIST EQUIPMENT PAD

SCALE: NTS



4 A-3 EXIST FIBER DISTRIBUTION BOX

SCALE: NTS

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PROJECT NO: 7225.CT33XC101

NO	DATE	DESCRIPTION	BY
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1	01/06/15	FOR CONSTRUCTION	MP

DATE	REVIEWED BY
1/6/15	JMC

SEAL

STATE OF CONNECTICUT
MANOJKUMAR PATEL
No. 22038
LICENSED
PROFESSIONAL ENGINEER

SITE NUMBER:
CT33XC101

SITE NAME:
FOREST CITY 2/SNET
@ KENT SCHOOL

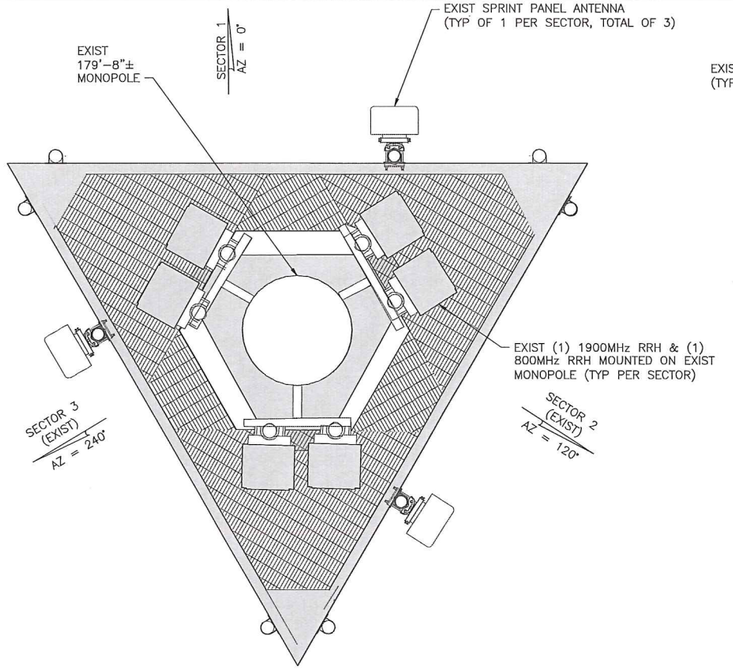
SITE ADDRESS:
136 BULLS BRIDGE ROAD
KENT, CT 06785

SHEET TITLE:
ENLARGED EQUIPMENT LAYOUT PLANS

SHEET NO:
A-3

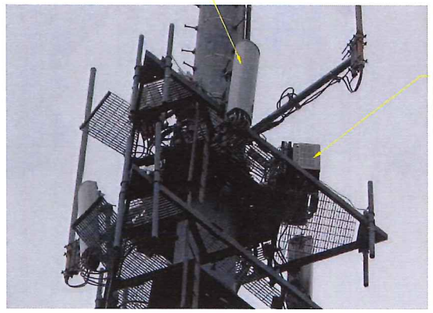
N

APPROX.



1 / A-4 ANTENNA LAYOUT PLAN (EXIST)

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



THE EXISTING MONOPOLE SHALL BE ANALYZED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT (TO BE COORDINATED BY OTHERS).

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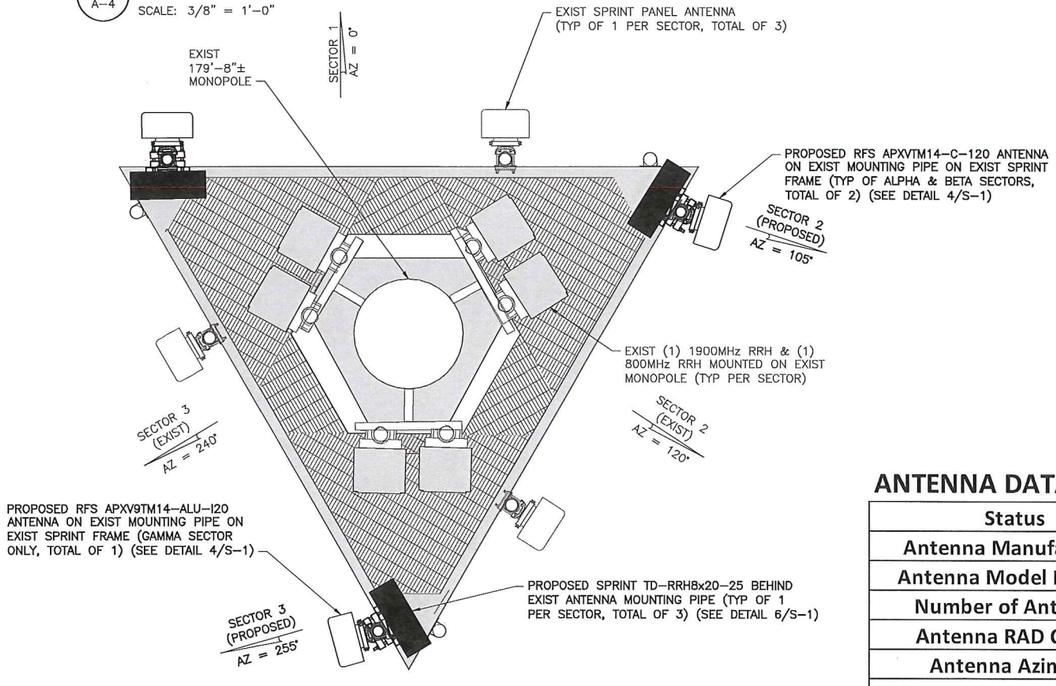
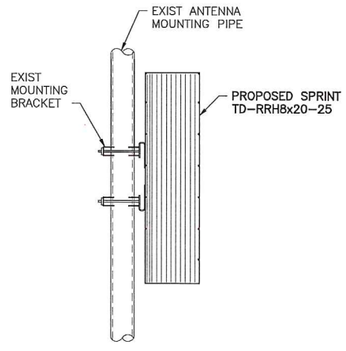


2 / A-4 ANTENNA LAYOUT PLAN (FINAL)

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



3 / A-4 RRH MOUNTING DETAIL

SCALE: 1 1/2" = 1'-0"

ANTENNA DATA

Status	Exist	Proposed
Antenna Manufacturer	RFS-CEL WAVE	RFS-CEL WAVE
Antenna Model Number	APXVSPP18C-A20	APXVTM14-C-120/APXV9TM14-ALU-I20
Number of Antennas	3	2/1
Antenna RAD Center	124'	124'
Antenna Azimuth	0/120/240	0/105/255
Antenna RRH Model Number	1900MHz/800MHz RRHS	TD-RRH8x20-25
Number of RRH	6	3

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NO	DATE	DESCRIPTION	BY
0	07/15/14	FOR COMMENT	JT
1	01/06/15	FOR CONSTRUCTION	MP

DATE	REVIEWED BY
1/6/15	SMA

SEAL

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SITE NUMBER:
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SITE NAME:
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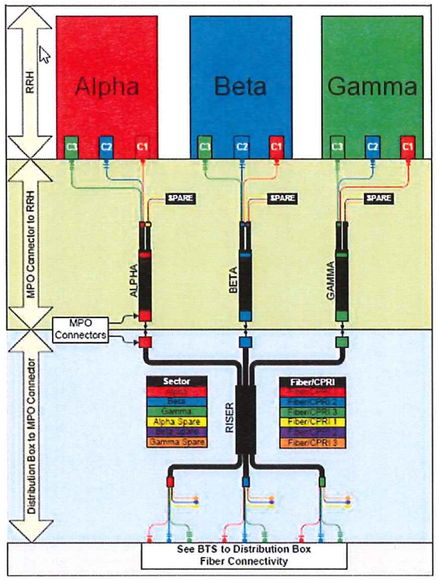
SITE ADDRESS:
136 BULLS BRIDGE ROAD
KENT, CT 06785

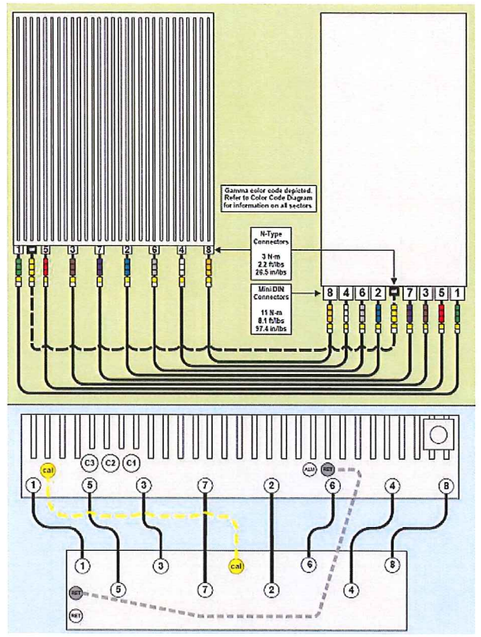
SHEET TITLE:
ANTENNA LAYOUT PLANS

SHEET NO:
A-4



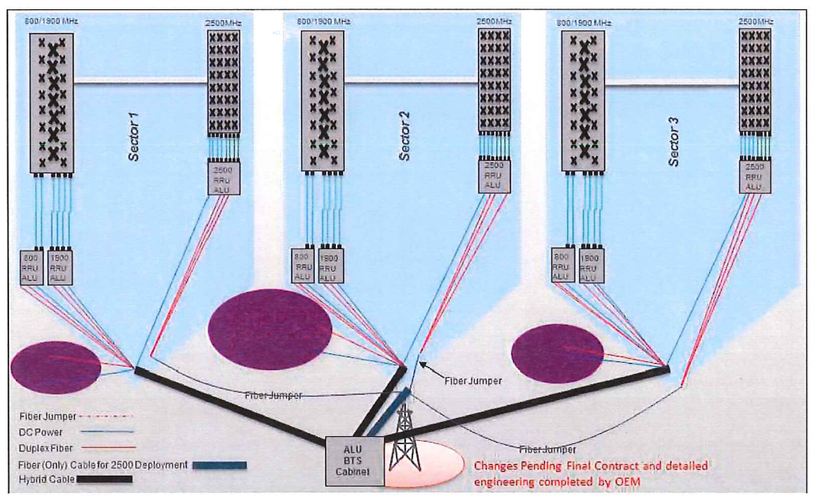
1 A–5 2.5 CABLE COLOR CODING

SCALE: N.T.S.



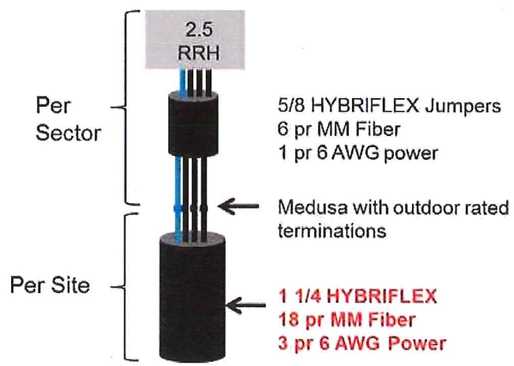
2 A–5 RRH CONNECTIVITY

SCALE: N.T.S.



3 A–5 RAN WIRING

SCALE: N.T.S.



4 A–5 CABLE SCENARIO

SCALE: N.T.S.

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PROJECT NO: 7225.CT33XC101

NO	DATE	DESCRIPTION	BY
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1	01/06/15	FOR CONSTRUCTION	MP

DATE	REVIEWED BY
1/6/15	JMC

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SITE NUMBER:
CT33XC101

SITE NAME:
FOREST CITY 2/SNET @ KENT SCHOOL

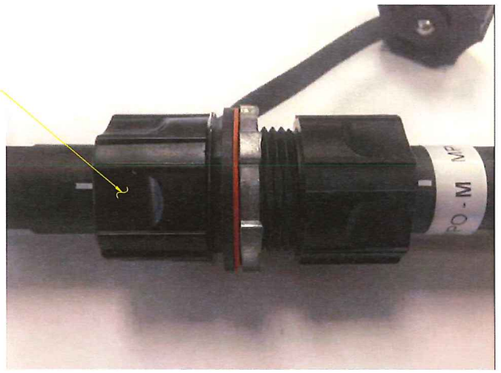
SITE ADDRESS:
136 BULLS BRIDGE ROAD
KENT, CT 06785

SHEET TITLE:
RAN WIRING DIAGRAM

SHEET NO:
A–5

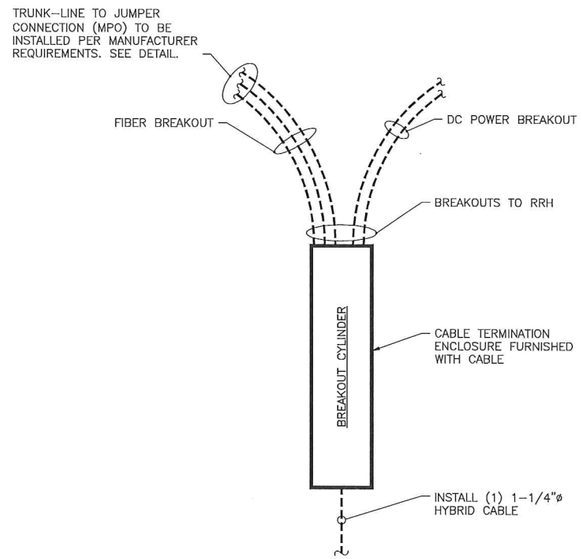
IMPORTANT!! LINE UP WHITE MARKINGS ON JUMPER AND RISER IP-MPO CONNECTOR. PUSH THE WHITE MARK ON THE JUMPER CONNECTOR FLUSH AGAINST THE RED SEAL ON THE RISER CONNECTION

IMPORTANT!! ROTATE THE BAYONET HOUSING CLOCKWISE UNTIL A CLICK SOUND IS HEARD TO ENSURE A GOOD CONNECTION

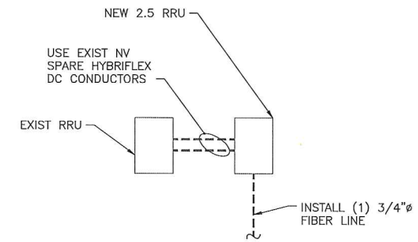


1 A-6 HYBRIFLEX RISER/JUMPER CONNECTION DETAILS

SCALE: N.T.S.



2.5 HYBRID CABLE W/FIBER & DC FEEDERS



FIBER ONLY TRUNK LINES

2 A-6 TRUNK LINE DETAILS (TYPICAL)

SCALE: N.T.S.

SPECIAL NOTES: CABLE MARKINGS AT RAD CENTER AND ALL WALL/BLDG. PENETRATIONS

- ALL COLOR CODE TAPE SHALL BE 3M-35 AND SHALL BE INSTALLED USING A MINIMUM OF (3) WRAPS OF TAPE.
- ALL COLOR BANDS INSTALLED AT THE TOWER TOP SHALL BE A MINIMUM OF 3" WIDE AND SHALL HAVE A MINIMUM OF 3/4" OF SPACING BETWEEN EACH COLOR.
- ALL COLOR BANDS INSTALLED AT OR NEAR THE GROUND MAY BE ONLY 3/4" WIDE. EACH TOP-JUMPER SHALL BE COLOR CORDED WITH (1) SET OF 3" WIDE BANDS.
- EACH MAIN COAX SHALL BE COLOR CODED WITH (1) SET OF 3" BANDS NEAR THE TOP-JUMPER CONNECTION AND WITH 3/4" COLOR BANDS JUST PRIOR TO ENTERING THE BTS OR TRANSMITTER BUILDING.
- ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" BANDS ON EACH END OF THE BOTTOM JUMPER.
- ALL COLOR CODES SHALL BE INSTALLED SO AS TO ALIGN NEATLY WITH ONE ANOTHER FROM SIDE-TO-SIDE.
- EACH COLOR BAND SHALL HAVE A MINIMUM OF (3) WRAPS AND SHALL BE NEATLY TRIMMED AND SMOOTHED OUT AS TO AVOID UNRAVELING.
- X-POLE ANTENNAS SHOULD USE "XX-1" FOR THE "+45" PORT, "XX-2" FOR THE "-45" PORT.
- COLOR BAND #4 REFERS TO THE FREQUENCY BAND: ORANGE=850, VIOLET=1900. USED ON JUMPERS ONLY.
- RF FEEDLINE SHALL BE IDENTIFIED WITH A METAL TAG (STAINLESS OR BRASS) AND STAMPED WITH THE SECTOR, ANTENNA POSITION, AND CABLE NUMBER.
- ANTENNAS MUST BE IDENTIFIED, USING THE SECTOR LETTER AND ANTENNA NUMBER, WITH A BLACK MARKER PRIOR TO INSTALLATION.

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MAHWAH, NJ 07495
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SUBMITTALS

PROJECT NO: 7225.CT33XC101

NO	DATE	DESCRIPTION	BY
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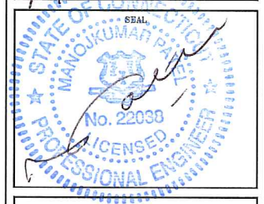
1	01/06/15	FOR CONSTRUCTION	MP

DATE	REVIEWED BY
1/6/15	SMQ



SEAL

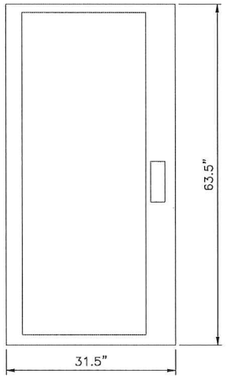
SITE NUMBER:
CT33XC101

SITE NAME:
FOREST CITY 2/SNET @ KENT SCHOOL

SITE ADDRESS:
136 BULLS BRIDGE ROAD
KENT, CT 06785

SHEET TITLE:
CABLE DETAILS

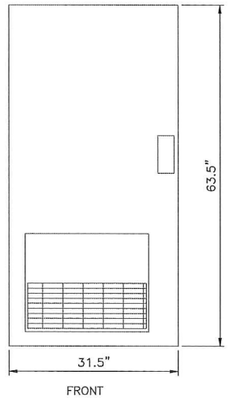
SHEET NO:
A-6



9927 MMBTS MODULAR CELL
SPECIFICATIONS:
HEIGHT: 63.5"
WIDTH: 31.5"
DEPTH: 38.0"

1/S-1 (EXIST) MMBTS CABINET

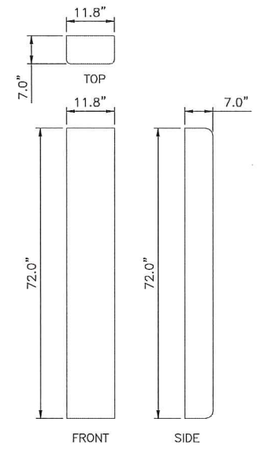
SCALE: 1" = 1'-0"



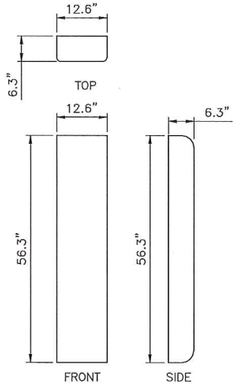
BATTERY
SPECIFICATIONS:
HEIGHT: 63.5"
WIDTH: 31.5"
DEPTH: 28.0"

2/S-1 (EXIST) BATTERY CABINET

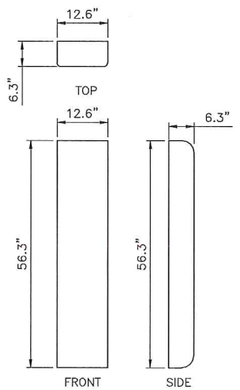
SCALE: 1" = 1'-0"



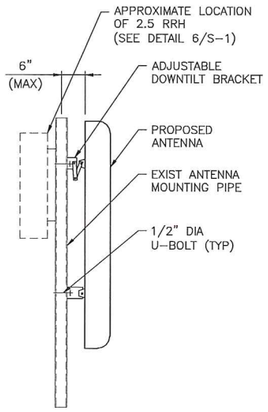
APXVSPP18-C-A20



APXV9TM14-ALU-I20



APXVTM14-C-120

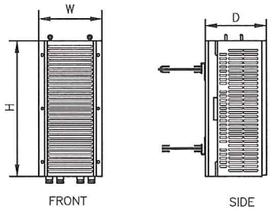


3/S-1 (EXIST) ANTENNA DETAIL

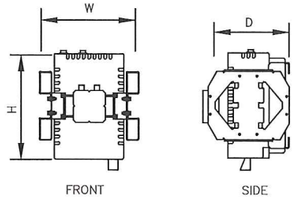
SCALE: 3/4" = 1'-0"

4/S-1 (PROPOSED) ANTENNA DETAILS

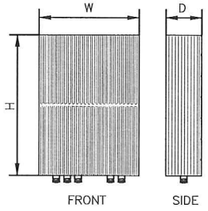
SCALE: 3/4" = 1'-0"



TYPE:	1900 MHz 4x45W
MODEL #:	RRH 1900 4X45 65MHz
HEIGHT:	25.0"
WIDTH:	11.1"
DEPTH:	11.4"
WEIGHT:	±60 LBS.



TYPE:	800 MHz 2x50W
MODEL #:	FD-RRH-2x50-800
HEIGHT:	19.7"
WIDTH:	13"
DEPTH:	10.8"
WEIGHT:	±53 LBS



TYPE:	2.5 RRH
MODEL #:	TD-RRH8x20-25
HEIGHT:	26.1"
WIDTH:	18.6"
DEPTH:	6.7"
WEIGHT:	±70 LBS

5/S-1 (EXIST) RRH DETAILS

SCALE: 1 1/2" = 1'-0"

6/S-1 (PROPOSED) RRH DETAIL

SCALE: 1" = 1'-0"

Sprint

2.5 EQUIPMENT DEPLOYMENT
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SUBMITTALS

PROJECT NO: 7225.CT33XC101

NO	DATE	DESCRIPTION	BY
0	07/15/14	FOR COMMENT	JT
1	01/06/15	FOR CONSTRUCTION	MP

DATE	REVIEWED BY
1/6/15	SMQ

SEAL

SITE NUMBER:
CT33XC101

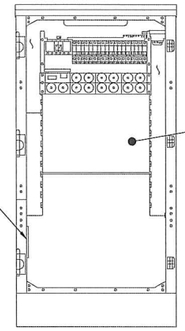
SITE NAME:
FOREST CITY 2/SNET @ KENT SCHOOL

SITE ADDRESS:
136 BULLS BRIDGE ROAD
KENT, CT 06785

SHEET TITLE:
EQUIPMENT DETAILS

SHEET NO:
S-1

NOTE:
LOCATIONS SHOWN FOR INSTALLATION OF NEW EQUIPMENT IN EXISTING CABINET ARE APPROXIMATE. ACTUAL SPACE AVAILABLE TO BE VERIFIED IN FIELD ON A SITE BY SITE BASIS.



INSTALL NEW 2.5 EQUIPMENT IN EXIST MMBTS CABINET INCLUDING BUT NOT LIMITED TO BASE BAND UNIT, CELL SITE ROUTER AND SURGE ARRESTORS. GROUND EQUIPMENT TO EXIST INTERIOR CABINET GROUND BAR

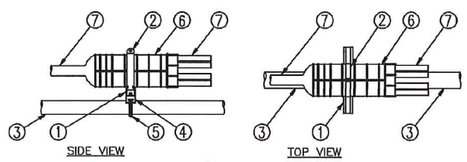
EXIST GROUND BAR TO BE UTILIZED

FRONT ELEVATION
(CABINET INTERIOR)

1 / S-2 MMBTS INTERIOR DETAIL

SCALE: N.T.S.

LEGEND:
1. P1000T-HG UNISTRUT, 12" LONG.
2. 6" PIPE HANGER.
3. EXISTING SUPPORT PIPE.
4. NEW STANDOFF BRACKET, ANDREW PART# 30848-4.
5. NEW ROUND MEMBER ADAPTER SIZED FOR EXISTING PIPE SUPPORT.
6. BREAKOUT UNIT.
7. CABLE.



3 / S-2 MEDUSA HEAD DETAIL

SCALE: NTS

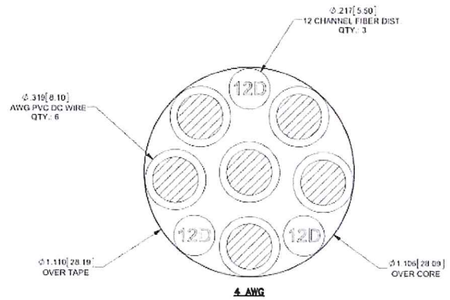
RFS HYBRIFLEX RISER CABLES SCHEDULE

Fiber Only (Existing DC Power)	Hybrid cable MN: HB058-M12-050F 12x multi-mode fiber pairs, Top: Outdoor protected connectors, Bottom:LC Connectors, 5/8 cable, 50ft	50 ft
	MN: HB058-M12-075F	75 ft
	MN: HB058-M12-100F	100 ft
	MN:HB058-M12-125F	125 ft
	MN:HB058-M12-150F	150 ft
	MN:HB058-M12-175F	175 ft
	MN:HB058-M12-200F	200 ft
8 AWG Power	Hybrid cable MN: HB114-08U3M12-050F 3x 8 AWG power pairs, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 50ft	50 ft
	MN: HB114-08U3M12-075F	75 ft
	MN: HB114-08U3M12-100F	100 ft
	MN: HB114-08U3M12-125F	125 ft
	MN: HB114-08U3M12-150F	150 ft
	MN: HB114-08U3M12-175F	175 ft
	MN: HB114-08U3M12-200F	200 ft
6 AWG Power	Hybrid cable MN: HB114-13U3M12-225F 3x 6 AWG power pairs, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable,225ft	225 ft
	MN: HB114-13U3M12-250F	250 ft
	MN: HB114-13U3M12-275F	275 ft
	MN: HB114-13U3M12-300F	300 ft
4 AWG Power	Hybrid cable MN: HB114-21U3M12-225F 3x 6 AWG power pairs, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable,225ft	325 ft
	MN: HB114-21U3M12-350F	350 ft
	MN: HB114-21U3M12-375F	375 ft

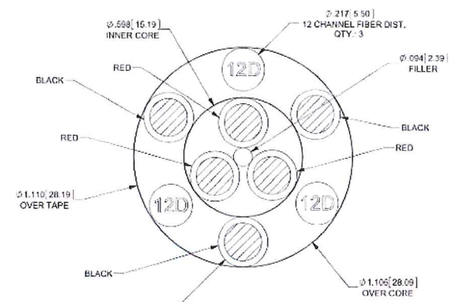
RFS HYBRIFLEX JUMPER CABLE SCHEDULE

Fiber Only	Hybrid Jumper cable MN: HBF012-M3-5F1 5 ft, 3x multi-mode fiber pairs, Outdoor & LC connectors, 1/2 cable	5 ft
	MN: HBF012-M3-10F1	10 ft
	MN: HBF012-M3-15F1	15 ft
	MN: HBF012-M3-20F1	20 ft
	MN: HBF012-M3-25F1	25 ft
	MN: HBF012-M3-30F1	30 ft
8 AWG Power	Hybrid Jumper cable MN: HBF058-08U1M3-5F1 5 ft, 1x 8 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-08U1M3-10F1	10 ft
	MN: HBF058-08U1M3-15F1	15 ft
	MN: HBF058-08U1M3-20F1	20 ft
	MN: HBF058-08U1M3-25F1	25 ft
	MN: HBF058-08U1M3-30F1	30 ft
6 AWG Power	Hybrid Jumper cable MN: HBF058-13U1M3-5F1 5 ft, 1x 6 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-13U1M3-10F1	10 ft
	MN: HBF058-13U1M3-15F1	15 ft
	MN: HBF058-13U1M3-20F1	20 ft
	MN: HBF058-13U1M3-25F1	25 ft
	MN: HBF058-13U1M3-30F1	30 ft
4 AWG Power	Hybrid Jumper cable MN: HBF078-21U1M3-5F1 5 ft, 1x 4 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 7/8 cable	5 ft
	MN: HBF078-21U1M3-10F1	10 ft
	MN: HBF078-21U1M3-15F1	15 ft
	MN: HBF078-21U1M3-20F1	20 ft
	MN: HBF078-21U1M3-25F1	25 ft
	MN: HBF078-21U1M3-30F1	30 ft

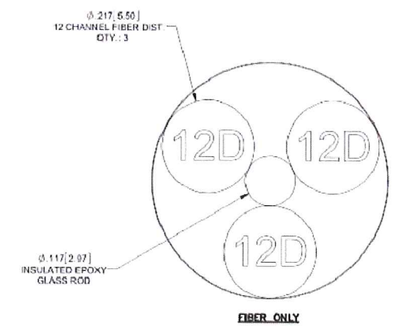
HYBRID CABLE DC CONDUCTOR SIZE GUIDELINE			
MANUF:	RFS		
CABLE	LENGTH	DC CONDUCTOR	CABLE DIAMETER
FIBER ONLY	VARIES	USE NV HYBRIFLEX	7/8"
HYBRIFLEX	<200'	8 AWG	1-1/4"
HYBRIFLEX	225-300'	6 AWG	1-1/4"
HYBRIFLEX	325-375'	4 AWG	1-1/4"



4 AWG



8 AWG & 6 AWG



FIBER ONLY

2 / S-2 2.5 HYBRID CABLE X-SECTION AND DATA

SCALE: NTS

Sprint
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1/6/15	SMA

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MANOJKUMAR PATEL
STATE OF CONNECTICUT
No. 22038
LICENSED PROFESSIONAL ENGINEER

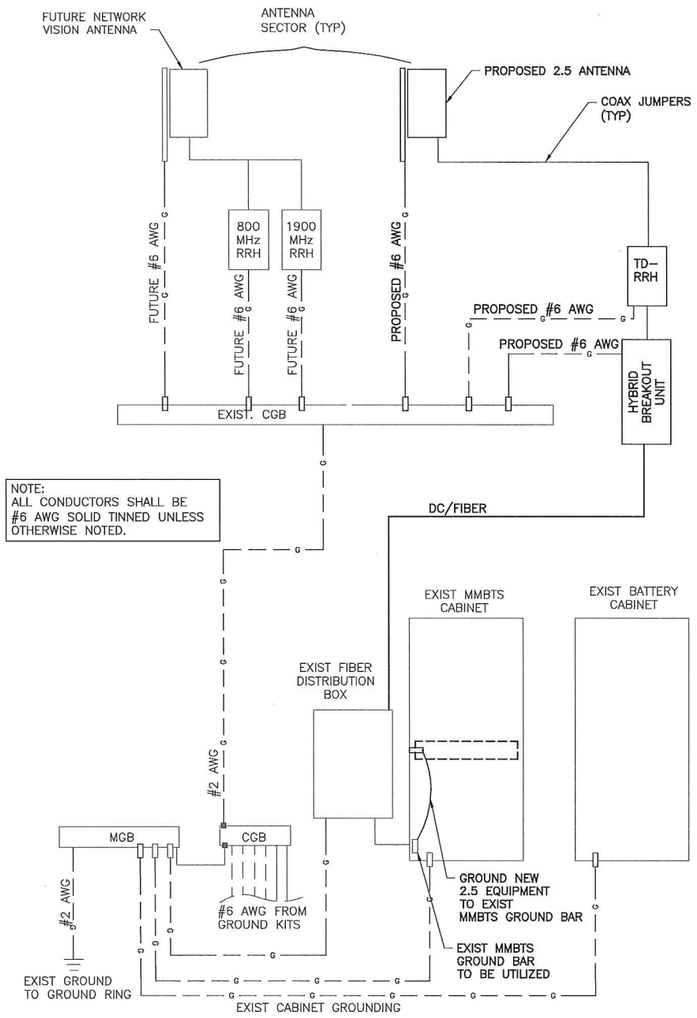
SITE NUMBER:
CT33XC101

SITE NAME:
FOREST CITY 2/SNET @ KENT SCHOOL

SITE ADDRESS:
136 BULLS BRIDGE ROAD
KENT, CT 06785

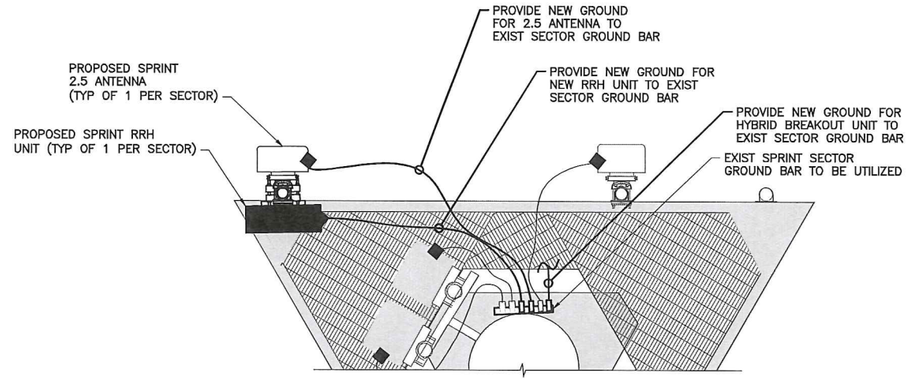
SHEET TITLE:
EQUIPMENT SCHEMATIC DETAILS

SHEET NO:
S-2



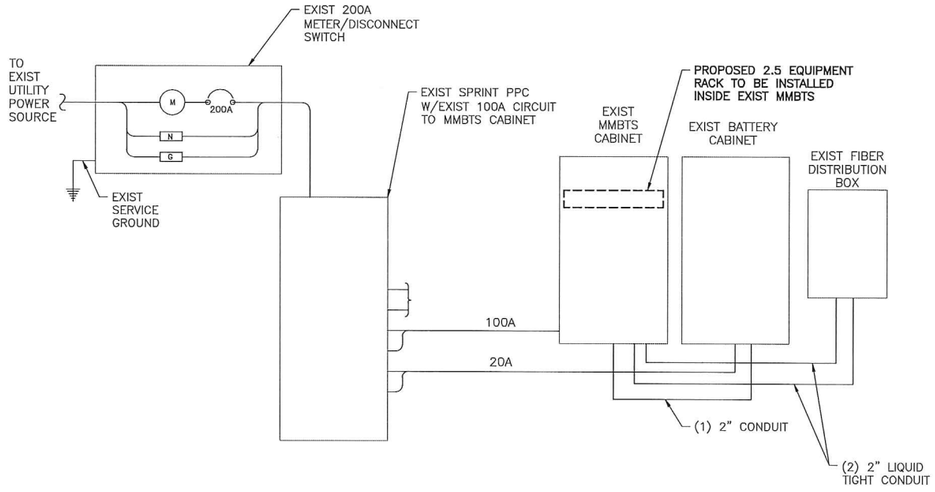
1 E-1 TYPICAL GROUNDING ONE LINE DIAGRAM

SCALE: NTS



2 E-1 TYPICAL ANTENNA GROUNDING PLAN

SCALE: NTS



3 E-1 TYPICAL ELECTRICAL & TELCO PLAN

SCALE: NTS

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2.5 EQUIPMENT DEPLOYMENT
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MANOJKUMAR PATEL
No. 22028
LICENSED PROFESSIONAL ENGINEER

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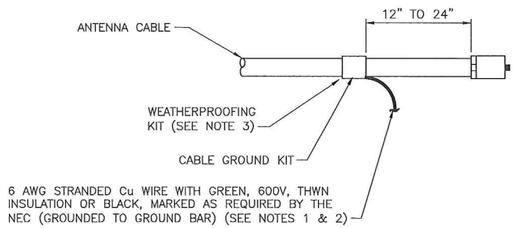
CT33XC101

SITE NAME:
FOREST CITY 2/SNET @ KENT SCHOOL

SITE ADDRESS:
136 BULLS BRIDGE ROAD
KENT, CT 06785

SHEET TITLE:
ELECTRICAL & GROUNDING PLANS

SHEET NO:
E-1



CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE

NOTES:

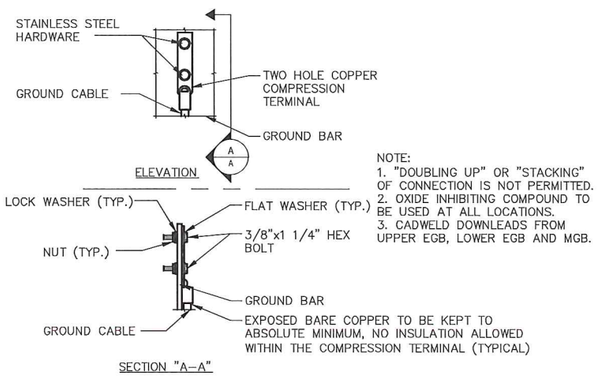
DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.

WEATHER PROOFING SHALL BE (TYPE AND PART NUMBER) AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER AND APPROVED BY CONTRACTOR.

1 / E-2 CABLE GROUNDING KIT DETAIL

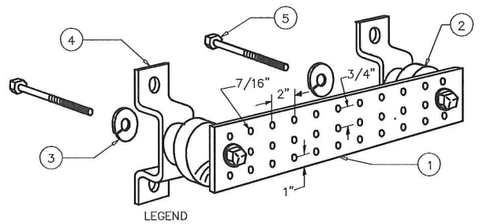
SCALE: N.T.S.



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

2 / E-2 GROUNDING BAR CONN. DETAIL

SCALE: NTS



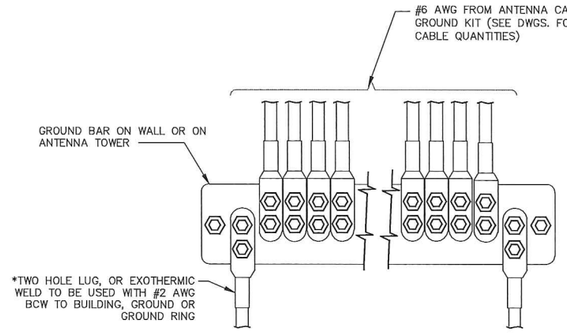
LEGEND

1- COPPER TINNED GROUND BAR, 1/4"X 4"X 20", OR OTHER LENGTH AS REQUIRED, HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
2- INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4 OR EQUAL
3- 5/8" LOCKWASHERS OR EQUAL
4- WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056 OR EQUAL
5- 5/8-11 X 1" H.H.C.S.BOLTS

NOTE:
ALL BOLTS, NUTS, WASHERS AND LOCK WASHERS SHALL BE 18-8 STAINLESS STEEL.

3 / E-2 GROUNDING BAR DETAIL

SCALE: NTS



* - GROUND BARS AT THE BOTTOM OF TOWERS/MONOPOLES SHALL ONLY USE EXOTHERMIC WELDS.

- ATTACH "DO NOT DISCONNECT" LABELS TO GROUND BARS. CAN USE BRASS TAG "DO NOT DISCONNECT" AT EACH HYBRID GROUND POINT OR BACK-A-LITE PLATE LABEL ON GROUND BAR.

- CONNECT SEQUENCE- BOLT/WASHER/NO-OX/GROUND BAR/NO-OX/WASHER/LOCK-WASHER/NUT. THIS IS REPEATED FOR EACH LUG CONNECTION POINT.

4 / E-2 ANTENNA GROUND BAR DETAIL

SCALE: NTS

GROUNDING NOTES:

1. GROUNDING SHALL BE IN ACCORDANCE WITH NEC ARTICLE 250-GROUNDING AND BONDING.

2. ALL GROUND WIRES SHALL BE #2 AWG UNLESS NOTED OTHERWISE.

3. ALL GROUNDING WIRES SHALL PROVIDE A STRAIGHT, DOWNWARD PATH TO GROUND WITH GRADUAL BENDS AS REQUIRED. GROUND WIRES SHALL NOT BE LOOPED OR SHARPLY BENT.

4. EACH EQUIPMENT CABINET SHALL BE CONNECTED TO THE MASTER ISOLATION GROUND BAR (MGB) WITH #2 AWG INSULATED STRANDED COPPER WIRE. EQUIPMENT CABINETS WALL HAVE (2) CONNECTIONS.

5. PROVIDE DEDICATED #2 AWG COPPER GROUND WIRE FROM EACH ANTENNA MOUNTING PIPE TO ASSOCIATED CIGBE.

6. THE CONTRACTOR SHALL VERIFY THAT THE EXISTING GROUND BARS HAVE ENOUGH SPACE/HOLES FOR ADDITIONAL TWO HOLE LUGS.

7. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL AND SHALL BE PROVIDED WITH GROUNDING BUSHINGS.

8. PROVIDE GROUND CONNECTIONS FOR ALL METALLIC STRUCTURES, ENCLOSURES, RACEWAYS AND OTHER CONDUCTIVE ITEMS ASSOCIATED WITH THE INSTALLATION OF CARRIER'S EQUIPMENT.

9. WHEN CABLE LENGTH IS OVER 20' THE MANUFACTURERS GROUND KIT MUST BE INSTALLED PER THE MANUFACTURERS SPECIFICATIONS.

10. REFER TO "ANTI-THEFT UPDATE TO SPRINT GROUNDING 082412.PDF" FOR GUIDELINE TO SUSPECTED OR ACTUAL THEFT OF GROUNDING.

11. HOME RUN GROUNDS ARE NOT APPROVED BY CROWN CASTLE CONSTRUCTION STANDARDS AND THAT ANTENNA BUSS BARS SHOULD BE INSTALLED DIRECTLY TO TOWER STEEL WITHOUT INSULATORS OR DOWN CONDUCTORS.

PROTECTIVE GROUNDING SYSTEM GENERAL NOTES:

1. AT ALL TERMINATIONS AT EQUIPMENT ENCLOSURES, PANEL, AND FRAMES OF EQUIPMENT AND WHERE EXPOSED FOR GROUNDING. CONDUCTOR TERMINATION SHALL BE PERFORMED UTILIZING TWO HOLE BOLTED TONGUE COMPRESSION TYPE LUGS WITH STAINLESS STEEL SELF-TAPPING SCREWS.

2. ALL CLAMPS AND SUPPORTS USED TO SUPPORT THE GROUNDING SYSTEM CONDUCTORS AND PVC CONDUITS SHALL BE PVC TYPE (NON CONDUCTIVE). DO NOT USE METAL BRACKETS OR SUPPORTS WHICH WOULD FORM A COMPLETE RING AROUND ANY GROUNDING CONDUCTOR.

3. ALL GROUNDING CONNECTIONS SHALL BE COATED WITH A COPPER SHIELD ANTI-CORROSIVE AGENT SUCH AS T&B KOPR SHIELD. VERIFY PRODUCT WITH PROJECT MANAGER.

4. ALL BOLTS, WASHERS, AND NUTS USED ON GROUNDING CONNECTIONS SHALL BE STAINLESS STEEL.

5. INSTALL GROUND BUSHING ON ALL METALLIC CONDUITS AND BOND TO THE EQUIPMENT GROUND BUS IN THE PANEL BOARD.

6. GROUND ANTENNA BASES, FRAMES, CABLE RACKS, AND OTHER METALLIC COMPONENTS WITH #2 INSULATED TINNED STRANDED COPPER GROUNDING CONDUCTORS AND CONNECT TO INSULATED SURFACE MOUNTED GROUND BARS. CONNECTION DETAILS SHALL FOLLOW MANUFACTURER'S SPECIFICATIONS FOR GROUNDING.

7. GROUND HYBRID CABLE SHIELD AT BOTH ENDS USING MANUFACTURER'S GUIDELINES.

ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
4. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
5. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THNN INSULATION.
6. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
7. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
8. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
9. GROUNDING SHALL COMPLY WITH NEC ART. 250.
10. GROUND HYBRID CABLE SHIELDS AT 3 LOCATIONS USING MANUFACTURER'S HYBRID CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
11. USE #2 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
12. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
13. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #2 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
14. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
15. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
16. BOND ANTENNA MOUNTING BRACKETS, HYBRID CABLE GROUND KITS, AND RRHs TO EGB PLACED NEAR THE ANTENNA LOCATION.
17. BOND ANTENNA EGB'S AND MGB TO GROUND RING.
18. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULT FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MINIMUM RESISTANCE REQUIRED.
19. CONTRACTOR SHALL CONDUCT ANTENNA, HYBRID CABLES, GPS COAX AND RRH RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.
20. CONTRACTOR SHALL CHECK CAPACITY OF EXISTING SERVICE & PANEL ON SITE TO DETERMINE IF CAPACITY EXISTS TO ACCOMMODATE THE ADDED LOAD OF THIS PROJECT. ADVISE ENGINEER OF ANY DISCREPANCY.
21. LOCATION OF ALL OUTLET, BOXES, ETC, AND THE TYPE OF CONNECTION (PLUG OR DIRECT) SHALL BE CONFIRMED WITH THE OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.
22. ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT (NEW AND EXISTING) SHALL BE FIELD VERIFIED WITH THE OWNERS REPRESENTATIVE AND EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN OF CONDUIT AND WIRE. ALL EQUIPMENT SHALL BE PROPERLY CONNECTED ACCORDING TO THE NAMEPLATE DATA FURNISHED ON THE EQUIPMENT.

Sprint
2.5 EQUIPMENT DEPLOYMENT
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MANOJKUMAR PATEL
No. 22038
LICENSED
PROFESSIONAL ENGINEER

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CT33XC101

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FOREST CITY 2/SNET @ KENT SCHOOL

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136 BULLS BRIDGE ROAD
KENT, CT 06785

SHEET TITLE:
GROUNDING DETAILS & NOTES

SHEET NO:
E-2

Date: **July 13, 2017**

GPD Engineering and Architecture
Professional Corporation

Marianne Dunst
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Subject:	**Structural Analysis Report**	
Carrier Designation:	***Sprint PCS* Co-Locate**	
	Carrier Site Number:	CT33XC101
	Carrier Site Name:	CT33XC101
Crown Castle Designation:	**Crown Castle BU Number:**	841293
	Crown Castle Site Name:	KENT-BULLS BRIDGE ROAD
	Crown Castle JDE Job Number:	444151
	Crown Castle Work Order Number:	1428173
	Crown Castle Application Number:	395022 Rev. 0
Engineering Firm Designation:	**GPD Project Number:**	2017777.841293.05
Site Data:	**136 Bulls Bridge Road, South Kent, Litchfield County, CT 06785** **Latitude *41° 40' 53.85"*, Longitude *-73° 29' 11.8"*** **180 Foot – Modified EEI Monopole Tower**	

Dear Marianne Dunst,

We are pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 1056702, in accordance with application 395022, revision 0.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Existing + Reserved + Proposed Equipment **Sufficient Capacity**
Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 115 mph converted to a nominal 3-second gust wind speed of 89 mph per Section 1609.3 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category C with a maximum topographic factor, K_{zt}, of 1.0 and Risk Category II were used in this analysis.

We appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Structural analysis prepared by: Benjamin Darkow

Respectfully submitted by:

Christopher J. Scheks, P.E.
Connecticut #: 0030026

7/13/2017

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1) INTRODUCTION

This tower is a 180 ft monopole tower designed by Engineered Endeavors, Inc. in December of 2000. The tower was originally designed for a wind speed of 80 mph per TIA/EIA-222-F.

The existing monopole has four major sections connected by a slip joint. It has 18 sides and is evenly tapered from 53.0" (flat-flat) at the base to 15.0" (flat-flat) at the top. The structure is galvanized and has no aviation lighting.

Modifications by GPD (Project #: 2012882.39, dated 12/13/2012) have been considered in this analysis. They consisted of installing new anchor rods and brackets to the existing tower.

2) ANALYSIS CRITERIA

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 115 mph converted to a nominal 3-second gust wind speed of 89 mph per Section 1609.3 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category C with a maximum topographic factor, K_{zt}, of 1.0 and Risk Category II were used in this analysis.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
124.0	124.0	3	RFS Celwave	APXVTM14-ALU-I20	1	1-1/4	1
		3	Alcatel Lucent	TD-RRH8x20-25			

Notes:
1) See Appendix B for the proposed feed line layout

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
180.0	185.0	3	Decibel	ASP-952	1 2 15	1/2 7/8 1-5/8	
	182.0	6	Powerwave	7770.00			
		2	KMW	AM-X-CD-16-65-00T-RET			
		1	KMW	AM-X-CD-14-65-00T-RET			
		6	Powerwave	LGP13519			
		6	Powerwave	LGP21401			
		6	Ericsson	RRUS 11			
		1	Raycap	DC6-48-60-18-8F			
	180.0	1		Platform Mount [LP 601-1]			
170.0	170.0	3	RFS Celwave	APX16DWV-16DWV-S-E-A20	2	1-5/8	
		3	Commscope	LNX-6515DS-A1M			
		3	Ericsson	RRUS 11 B2			
		3	Ericsson	RRUS 11 B4			
		3	Ericsson	RRUS 11 B12			
		1		Platform Mount [LP 303-1]			
160.0	160.0	6	Commscope	SBNHH-1D65B	2	1-5/8	1
		3	Alcatel Lucent	RRH2x60-700			
		3	Alcatel Lucent	RRH2X60-AWS			
		3	Alcatel Lucent	RRH2X60-PCS			
		1	RFS Celwave	DB-T1-6Z-8AB-0Z			
		6	Antel	LPA-80080-6CF-EDIN	12	1-5/8	
		1		Platform Mount [LP 601-1]			
134.0	144.0	2	Sinclair	SC442D-HF2LDF	2 2	1/2 1-5/8	1
	141.0	1	Sinclair	SC479-HF1LDF			
		1	Bird Tech Group	432E-83I-01-T			
	139.0	2	Decibel	DB809DK-Y	4	1-5/8	2
	134.0	1	Amphenol	WPA-700102-4CF-EDIN-9			1
		1	Tx Rx Systems	422-86A-99575-18BW			
		3	Site Pro1	RMV5-2xx T-Arm Mounts			
124.0	124.0	3	RFS Celwave	APXVSPP18-C-A20	3	1-1/4	
		3	Alcatel Lucent	800MHZ RRH			
		1		Platform Mount [LP 601-1]			
120.0	120.0	1	Eri	100-1	1	7/8	
		2		Side Arm Mount [SO 301-1]			
		1		Platform Mount [LP 601-1]			
80.0	80.0	2		Pipe Mount [PM 601-1]			3
63.0	63.0	1	GPS	GPS_A	1	1/2	
		1		Side Arm Mount [SO 701-1]			
10.0	12.0	1	Celwave	PD1121-6	1	1/2	
	10.0	1		Side Arm Mount [SO 309-1]			

Notes:
1) Reserved equipment; considered in this analysis
2) Existing equipment relocated from the 130.0' to the 134.0'
3) Abandoned equipment; considered in this analysis

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
180.0	180.0	12		7120.16		
		1		Low Profile Platform		
170.0	170.0	12		7120.16		
		1		Low Profile Platform		
160.0	160.0	12		7120.16		
		1		Low Profile Platform		
130.0	140.5	2		21' Omni		
	130.0	2		Side Arm		
124.5	124.5	9		7120.16		
		1		Low Profile Platform		
114.5	114.5	6		7120.16		
		1		Low Profile Platform		
104.5	104.5	12		7120.16		
		1		Low Profile Platform		
80.0	80.0	2		6' HP MW		

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
Geotechnical Report	GPD Project #: 2012801.85, Dated 11/13/2012	4456627	CCISITES
Tower Foundation Investigation	FDH Project #: 1403061500, dated 4/1/2014	4797649	CCISITES
Tower Manufacturer Drawings	SpectraSite Project #: CT-0014, Dated 6/25/2002	4456613	CCISITES
Tower Reinforcement Design	GPD Project #: 2012882.39, dated 12/13/2012	4456597	CCISITES
Post-Modification Inspection	GPD Project #: 2013707.52, dated 8/28/2013	4456621	CCISITES

3.1) Analysis Method

tnxTower (version 7.0.7.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.

This analysis may be affected if any assumptions are not valid or have been made in error. GPD should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	180 - 133.237	Pole	TP25.5375x15x0.25	1	-9.27	1441.72	86.2	Pass
L2	133.237 - 87.636	Pole	TP35.1887x24.2053x0.375	2	-23.03	2982.06	90.2	Pass
L3	87.636 - 43.063	Pole	TP44.3577x33.3474x0.4375	3	-36.88	4392.38	86.1	Pass
L4	43.063 - 0	Pole	TP53x42.1375x0.5	4	-40.47	5066.96	78.9	Pass
							Summary	
						Pole (L2)	90.2	Pass
						Rating =	90.2	Pass

Table 6 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	67.1	Pass
1	Base Plate	0	79.1	Pass
1	Base Foundation Structural	0	51.3	Pass
1	Base Foundation Soil Interaction	0	90.1	Pass

Structure Rating (max from all components) =	**90.2%**

Notes:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.

4.1) Recommendations

The tower has sufficient capacity to carry the proposed loading configuration. Modifications will not be required to bring the tower into compliance with the TIA-222-G standard for the proposed loading configuration.

5) DISCLAIMER OF WARRANTIES

GPD has not performed a site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by GPD in connection with this Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

This analysis is limited to the designated maximum wind and seismic conditions per the governing tower standards and code. Wind forces resulting in tower vibrations near the structure's resonant frequencies were not considered in this analysis and are outside the scope of this analysis. Lateral loading from any dynamic response was not evaluated under a time-domain based fatigue analysis.

GPD does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the capability of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice accumulation in excess of the code specified amount, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD, but are beyond the scope of this report.

Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

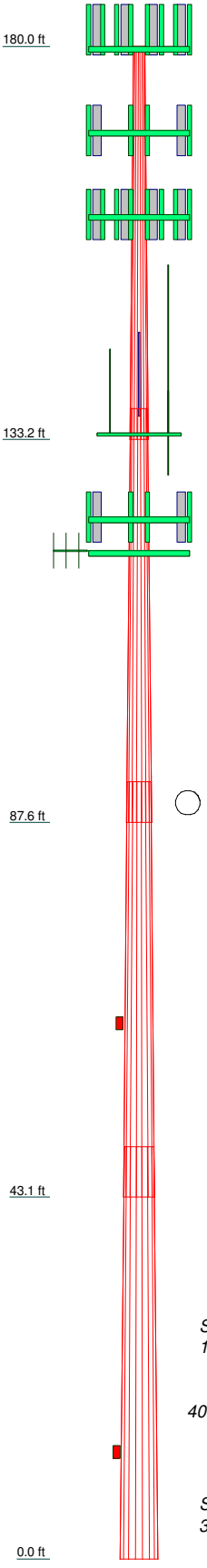
Towers are designed to carry gravity, wind, and ice loads. All members, legs, diagonals, struts, and redundant members provide structural stability to the tower with little redundancy. Absence or removal of a member can trigger catastrophic failure unless a substitute is provided before any removal. Legs carry axial loads and derive their strength from shorter unbraced lengths by the presence of redundant members and their connection to the diagonals with bolts or welds. If the bolts or welds are removed without providing any substitute to the frame, the leg is subjected to a higher unbraced length that immediately reduces its load carrying capacity. If a diagonal is also removed in addition to the connection, the unbraced length of the leg is greatly increased, jeopardizing its load carrying capacity. Failure of one leg can result in a tower collapse because there is no redundancy. Redundant members and diagonals are critical to the stability of the tower.

GPD makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A

TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	46.76	18	0.2500	3.69	15.0000	25.5375	A572-65	2.5
2	49.29	18	0.3750	4.90	24.2053	35.1887		5.9
3	49.47	18	0.4375	6.04	33.3474	44.3577		9.0
4	49.11	18	0.5000		42.1375	53.0000		12.5
								29.8



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
(2) 7770.00 w/ Mount Pipe	180	(2) SBNHH-1D65B w/ Mount Pipe	160
(2) 7770.00 w/ Mount Pipe	180	(2) SBNHH-1D65B w/ Mount Pipe	160
(2) 7770.00 w/ Mount Pipe	180	(2) SBNHH-1D65B w/ Mount Pipe	160
ASP-952	180	RRH2x60-700	160
ASP-952	180	RRH2x60-700	160
ASP-952	180	RRH2x60-700	160
AM-X-CD-16-65-00T-RET w/ Mount Pipe	180	RRH2X60-AWS	160
		RRH2X60-AWS	160
AM-X-CD-16-65-00T-RET w/ Mount Pipe	180	RRH2X60-AWS	160
AM-X-CD-14-65-00T-RET w/ Mount Pipe	180	RRH2X60-PCS	160
		RRH2X60-PCS	160
(2) LGP13519	180	RRH2X60-PCS	160
(2) LGP13519	180	DB-T1-6Z-8AB-0Z	160
(2) LGP13519	180	Platform Mount [LP 601-1]	160
(2) LGP21401	180	SC479-HF1LDF	134
(2) LGP21401	180	SC442D-HF2LDF	134
(2) LGP21401	180	SC442D-HF2LDF	134
(2) RRUS 11	180	WPA-700102-4CF-EDIN-9 w/ Mount Pipe	134
(2) RRUS 11	180	(2) DB809DK-Y	134
(2) RRUS 11	180	432E-83I-01-T	134
DC6-48-60-18-8F Surge Suppression Unit	180	422-86A-99575-18BW	134
(2) Pipe Mount 5'x2.375"	180	(2) 6' x 2" Mount Pipe	134
(2) Pipe Mount 5'x2.375"	180	6' x 2" Mount Pipe	134
(2) Pipe Mount 5'x2.375"	180	(2) 6' x 2" Mount Pipe	134
8-ft Ladder	180	(3) RMV5-2xx T-Arm Mounts	134
Platform Mount [LP 601-1]	180	APXVSPP18-C-A20 w/ Mount Pipe	124
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	170	APXVSPP18-C-A20 w/ Mount Pipe	124
		APXVSPP18-C-A20 w/ Mount Pipe	124
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	170	APXVTM14-ALU-I20 w/ Mount Pipe	124
		APXVTM14-ALU-I20 w/ Mount Pipe	124
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	170	APXVTM14-ALU-I20 w/ Mount Pipe	124
LNX-6515DS-A1M w/ Mount Pipe	170	TD-RRH8x20-25	124
LNX-6515DS-A1M w/ Mount Pipe	170	TD-RRH8x20-25	124
LNX-6515DS-A1M w/ Mount Pipe	170	TD-RRH8x20-25	124
RRUS 11 B2	170	800MHZ RRH	124
RRUS 11 B2	170	800MHZ RRH	124
RRUS 11 B2	170	800MHZ RRH	124
RRUS 11 B4	170	(2) Pipe Mount 5'x2.375"	124
RRUS 11 B4	170	(2) Pipe Mount 5'x2.375"	124
RRUS 11 B4	170	(2) Pipe Mount 5'x2.375"	124
RRUS 11 B12	170	8-ft Ladder	124
RRUS 11 B12	170	Platform Mount [LP 601-1]	124
RRUS 11 B12	170	100-1	120
Pipe Mount 6'x2.375"	170	(2) Side Arm Mount [SO 301-1]	120
Pipe Mount 6'x2.375"	170	(2) 8' x 2" Sch 40 Pipe Mount	120
Pipe Mount 6'x2.375"	170	(2) 8' x 2" Sch 40 Pipe Mount	120
Platform Mount [LP 303-1]	170	(2) 8' x 2" Sch 40 Pipe Mount	120
(2) LPA-80080-6CF-EDIN w/ Mount Pipe	160	8-ft Ladder	120
		Platform Mount [LP 601-1]	120
(2) LPA-80080-6CF-EDIN w/ Mount Pipe	160	Pipe Mount [PM 601-1]	80
		Pipe Mount [PM 601-1]	80
(2) LPA-80080-6CF-EDIN w/ Mount Pipe	160	GPS_A	63
		Side Arm Mount [SO 701-1]	63
		PD1121-6	10
		Side Arm Mount [SO 309-1]	10

ALL REACTIONS ARE FACTORED

AXIAL 117 K

SHEAR 10 K

MC 14(

TORQUE 1 kip-ft

40 mph WIND - 1.0000 in Ic

AXIAL 57 K

SHEAR 37 K

MC 502

TORQUE 4 kip-ft

REACTIONS - 89 mph WIND

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Litchfield County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 89 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 40 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 90.2%

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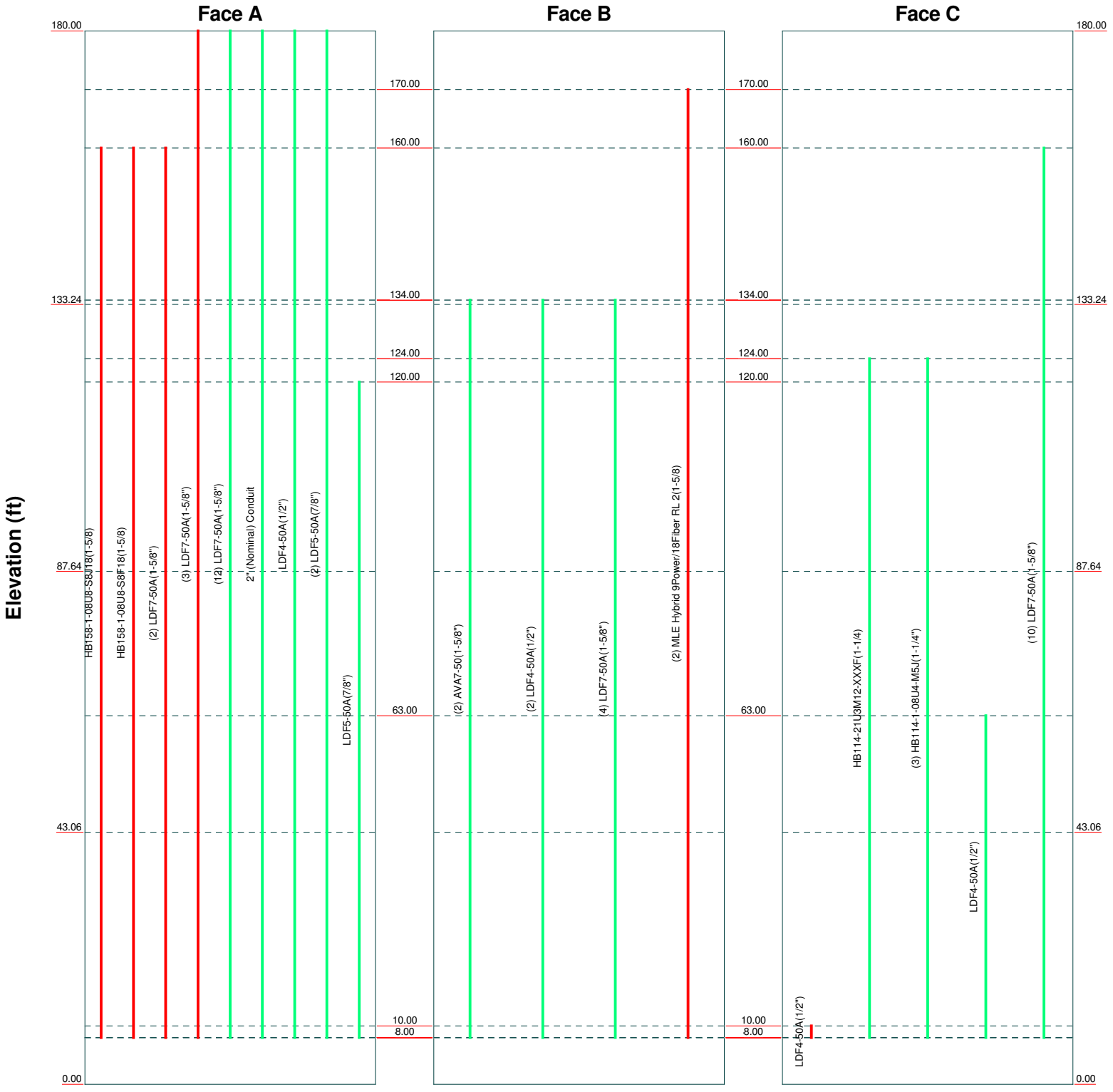
GPD Group

Job: **BU #: 841293, KENT-BULLS BRIDGE ROAD**			
Project: **2017777.841293.05**			
Client: Crown Castle International, Inc.	Drawn by: B Darkow	App'd:	
Code: TIA-222-G	Date: 07/13/17	Scale: NTS	
Path: \\AKRN05.gpdco.com\TELECOM\Crown\841293\05\Rev. 0\tnx\841293 TNX.eri		Dwg No. E-1	

Feed Line Distribution Chart
0' - 180'

Round | Flat | App In Face | App Out Face | Truss Leg



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Path: \\AKRN05.gpdco.com\TELECOM\Crown\841293\05\Rev. 0\tnx\841293 TNX.eri		Dwg No. E-7	

Tower Input Data

There is a pole section.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

1) Tower is located in Litchfield County, Connecticut.
2) ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).
3) Basic wind speed of 89 mph.
4) Structure Class II.
5) Exposure Category C.
6) Topographic Category 1.
7) Crest Height 0.00 ft.
8) Nominal ice thickness of 1.0000 in.
9) Ice thickness is considered to increase with height.
10) Ice density of 56 pcf.
11) A wind speed of 40 mph is used in combination with ice.
12) Temperature drop of 50 °F.
13) Deflections calculated using a wind speed of 60 mph.
14) A non-linear (P-delta) analysis was used.
15) Pressures are calculated at each section.
16) Stress ratio used in pole design is 1.
17) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned		Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
√	Use Code Stress Ratios		Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-G Bracing Resist. Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-G Tension Splice Exemption
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
	Secondary Horizontal Braces Leg	√	Sort Capacity Reports By Component	√	Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric				

Tapered Pole Section Geometry

Section	Elevation	Section Length	Splice Length	Number of Sides	Top Diameter	Bottom Diameter	Wall Thickness	Bend Radius	Pole Grade
	ft	ft	ft		in	in	in	in	
L1	180.00-133.24	46.76	3.69	18	15.0000	25.5375	0.2500	1.0000	A572-65 (65 ksi)
L2	133.24-87.64	49.29	4.90	18	24.2053	35.1887	0.3750	1.5000	A572-65 (65 ksi)
L3	87.64-43.06	49.47	6.04	18	33.3474	44.3577	0.4375	1.7500	A572-65 (65 ksi)
L4	43.06-0.00	49.11		18	42.1375	53.0000	0.5000	2.0000	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	15.2314	11.7041	321.7069	5.2363	7.6200	42.2188	643.8372	5.8532	2.2000	8.8
	25.9315	20.0656	1621.0711	8.9771	12.9731	124.9568	3244.2753	10.0347	4.0546	16.218
L2	25.4143	28.3640	2035.0053	8.4598	12.2963	165.4973	4072.6882	14.1847	3.6001	9.6
	35.7315	41.4370	6344.9205	12.3589	17.8759	354.9435	12698.1899	20.7224	5.5332	14.755
L3	34.9687	45.6995	6253.1737	11.6830	16.9405	369.1266	12514.5755	22.8541	5.0991	11.655
	45.0420	60.9887	14863.3039	15.5917	22.5337	659.6030	29746.1653	30.5001	7.0370	16.084
L4	44.1451	66.0788	14473.3646	14.7813	21.4059	676.1400	28965.7737	33.0457	6.5362	13.072
	53.8176	83.3175	29012.9766	18.6375	26.9240	1077.5879	58064.1291	41.6667	8.4480	16.896

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 180.00-133.24				1	1	1			
L2 133.24-87.64				1	1	1			
L3 87.64-43.06				1	1	1			
L4 43.06-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
HB158-1-08U8-S8J18(1-5/8)	A	Surface Ar (CaAa)	160.00 - 8.00	1	1	-0.500 -0.500	1.9800		1.30
HB158-1-08U8-S8F18(1-5/8)	A	Surface Ar (CaAa)	160.00 - 8.00	1	1	-0.475 -0.475	0.0000		1.70
LDF7-50A(1-5/8")	A	Surface Ar (CaAa)	160.00 - 8.00	2	2	-0.450 -0.250	0.0000		0.82
LDF7-50A(1-5/8")	A	Surface Ar (CaAa)	180.00 - 8.00	3	3	0.000 0.200	1.9800		0.82
MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	B	Surface Ar (CaAa)	170.00 - 8.00	2	2	0.150 0.450	1.6250		1.07
LDF4-50A(1/2")	C	Surface Ar (CaAa)	10.00 - 8.00	1	1	-0.200 -0.200	0.0000		0.15

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
LDF7-50A(1-5/8")	A	No	Inside Pole	180.00 - 8.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
2" (Nominal) Conduit	A	No	Inside Pole	180.00 - 8.00	1	No Ice	0.00	0.72
						1/2" Ice	0.00	0.72
						1" Ice	0.00	0.72
LDF4-50A(1/2")	A	No	Inside Pole	180.00 - 8.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15
LDF5-50A(7/8")	A	No	Inside Pole	180.00 - 8.00	2	No Ice	0.00	0.33
						1/2" Ice	0.00	0.33

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
						1" Ice	0.00	0.33
LDF5-50A(7/8")	A	No	Inside Pole	120.00 - 8.00	1	No Ice	0.00	0.33
						1/2" Ice	0.00	0.33
						1" Ice	0.00	0.33
AVA7-50(1-5/8")	B	No	Inside Pole	134.00 - 8.00	2	No Ice	0.00	0.72
						1/2" Ice	0.00	0.72
						1" Ice	0.00	0.72
LDF4-50A(1/2")	B	No	Inside Pole	134.00 - 8.00	2	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15
LDF7-50A(1-5/8")	B	No	Inside Pole	134.00 - 8.00	4	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
HB114-21U3M12-XXXF(1-1/4)	C	No	Inside Pole	124.00 - 8.00	1	No Ice	0.00	1.22
						1/2" Ice	0.00	1.22
						1" Ice	0.00	1.22
HB114-1-08U4-M5J(1-1/4")	C	No	Inside Pole	124.00 - 8.00	3	No Ice	0.00	1.08
						1/2" Ice	0.00	1.08
						1" Ice	0.00	1.08
LDF4-50A(1/2")	C	No	Inside Pole	63.00 - 8.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.15
						1" Ice	0.00	0.15
LDF7-50A(1-5/8")	C	No	Inside Pole	160.00 - 8.00	10	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	180.00-133.24	A	0.000	0.000	33.076	0.000	0.77
		B	0.000	0.000	11.948	0.000	0.08
		C	0.000	0.000	0.000	0.000	0.22
L2	133.24-87.64	A	0.000	0.000	36.116	0.000	0.85
		B	0.000	0.000	14.820	0.000	0.33
		C	0.000	0.000	0.000	0.000	0.54
L3	87.64-43.06	A	0.000	0.000	35.302	0.000	0.84
		B	0.000	0.000	14.486	0.000	0.32
		C	0.000	0.000	0.000	0.000	0.57
L4	43.06-0.00	A	0.000	0.000	27.770	0.000	0.66
		B	0.000	0.000	11.395	0.000	0.25
		C	0.000	0.000	0.000	0.000	0.45

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	180.00-133.24	A	2.334	0.000	0.000	107.916	0.000	2.40
		B		0.000	0.000	36.389	0.000	0.61
		C		0.000	0.000	0.000	0.000	0.22
L2	133.24-87.64	A	2.255	0.000	0.000	138.688	0.000	2.94
		B		0.000	0.000	45.136	0.000	0.99
		C		0.000	0.000	0.000	0.000	0.54
L3	87.64-43.06	A	2.140	0.000	0.000	132.368	0.000	2.77
		B		0.000	0.000	43.232	0.000	0.93
		C		0.000	0.000	0.000	0.000	0.57
L4	43.06-0.00	A	1.918	0.000	0.000	100.498	0.000	2.06
		B		0.000	0.000	33.000	0.000	0.70
		C		0.000	0.000	0.575	0.000	0.46

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L1	180.00-133.24	-0.2976	-0.3193	-0.4464	-0.1597
L2	133.24-87.64	-0.3210	-0.2899	-0.6621	-0.0612
L3	87.64-43.06	-0.3399	-0.3077	-0.7839	-0.0753
L4	43.06-0.00	-0.2937	-0.2663	-0.7747	-0.0737

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(2) 7770.00 w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 2.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	5.84 6.32 6.77	4.35 5.20 5.92	0.06 0.11 0.16
(2) 7770.00 w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 2.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	5.84 6.32 6.77	4.35 5.20 5.92	0.06 0.11 0.16
(2) 7770.00 w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 2.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	5.84 6.32 6.77	4.35 5.20 5.92	0.06 0.11 0.16
ASP-952	A	From Centroid-Leg	4.00 0.00 5.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	3.02 4.16 5.30	3.02 4.16 5.30	0.02 0.04 0.07
ASP-952	B	From Centroid-Leg	4.00 0.00 5.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	3.02 4.16 5.30	3.02 4.16 5.30	0.02 0.04 0.07
ASP-952	C	From Centroid-Leg	4.00 0.00 5.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	3.02 4.16 5.30	3.02 4.16 5.30	0.02 0.04 0.07
AM-X-CD-16-65-00T-RET w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 2.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	8.26 8.82 9.35	6.30 7.48 8.37	0.07 0.14 0.21
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 2.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	8.26 8.82 9.35	6.30 7.48 8.37	0.07 0.14 0.21
AM-X-CD-14-65-00T-RET w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 2.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	5.94 6.68 7.35	4.73 5.87 6.85	0.07 0.12 0.18
(2) LGP13519	A	From Centroid-Leg	4.00 0.00 2.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	0.29 0.36 0.44	0.18 0.24 0.31	0.01 0.01 0.01
(2) LGP13519	B	From Centroid-Leg	4.00 0.00 2.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	0.29 0.36 0.44	0.18 0.24 0.31	0.01 0.01 0.01
(2) LGP13519	C	From Centroid-Leg	4.00 0.00 2.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	0.29 0.36 0.44	0.18 0.24 0.31	0.01 0.01 0.01
(2) LGP21401	A	From Centroid-	4.00 0.00	0.0000	180.00	No Ice 1/2"	1.10 1.24	0.35 0.44	0.01 0.02

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
		Leg	2.00			Ice 1" Ice	1.38	0.54	0.03
(2) LGP21401	B	From Centroid-Leg	4.00 0.00 2.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	1.10 1.24 1.38	0.35 0.44 0.54	0.01 0.02 0.03
(2) LGP21401	C	From Centroid-Leg	4.00 0.00 2.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	1.10 1.24 1.38	0.35 0.44 0.54	0.01 0.02 0.03
(2) RRUS 11	A	From Centroid-Leg	4.00 0.00 2.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	2.78 2.99 3.21	1.19 1.33 1.49	0.05 0.07 0.10
(2) RRUS 11	B	From Centroid-Leg	4.00 0.00 2.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	2.78 2.99 3.21	1.19 1.33 1.49	0.05 0.07 0.10
(2) RRUS 11	C	From Centroid-Leg	4.00 0.00 2.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	2.78 2.99 3.21	1.19 1.33 1.49	0.05 0.07 0.10
DC6-48-60-18-8F Surge Suppression Unit	A	From Centroid-Leg	4.00 0.00 2.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	0.92 1.46 1.64	0.92 1.46 1.64	0.02 0.04 0.06
(2) Pipe Mount 5'x2.375"	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	1.19 1.50 1.81	1.19 1.50 1.81	0.02 0.03 0.04
(2) Pipe Mount 5'x2.375"	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	1.19 1.50 1.81	1.19 1.50 1.81	0.02 0.03 0.04
(2) Pipe Mount 5'x2.375"	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	1.19 1.50 1.81	1.19 1.50 1.81	0.02 0.03 0.04
8-ft Ladder	A	From Centroid-Leg	4.00 0.00 -4.00	0.0000	180.00	No Ice 1/2" Ice 1" Ice	7.07 9.73 11.19	7.07 9.73 11.19	0.04 0.07 0.08
Platform Mount [LP 601-1]	B	None		0.0000	180.00	No Ice 1/2" Ice 1" Ice	28.47 33.59 38.71	28.47 33.59 38.71	1.12 1.51 1.91
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	7.14 7.76 8.29	3.81 4.88 5.66	0.07 0.12 0.18
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	7.14 7.76 8.29	3.81 4.88 5.66	0.07 0.12 0.18
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	7.14 7.76 8.29	3.81 4.88 5.66	0.07 0.12 0.18
LNX-6515DS-A1M w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	11.68 12.40 13.14	9.84 11.37 12.91	0.08 0.17 0.27
LNX-6515DS-A1M w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	11.68 12.40 13.14	9.84 11.37 12.91	0.08 0.17 0.27

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
LNX-6515DS-A1M w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	11.68 12.40 13.14	9.84 11.37 12.91	0.08 0.17 0.27
RRUS 11 B2	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	2.83 3.04 3.26	1.18 1.33 1.48	0.05 0.07 0.10
RRUS 11 B2	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	2.83 3.04 3.26	1.18 1.33 1.48	0.05 0.07 0.10
RRUS 11 B2	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	2.83 3.04 3.26	1.18 1.33 1.48	0.05 0.07 0.10
RRUS 11 B4	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	2.83 3.04 3.26	1.18 1.33 1.48	0.05 0.07 0.10
RRUS 11 B4	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	2.83 3.04 3.26	1.18 1.33 1.48	0.05 0.07 0.10
RRUS 11 B4	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	2.83 3.04 3.26	1.18 1.33 1.48	0.05 0.07 0.10
RRUS 11 B12	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	2.83 3.04 3.26	1.18 1.33 1.48	0.05 0.07 0.10
RRUS 11 B12	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	2.83 3.04 3.26	1.18 1.33 1.48	0.05 0.07 0.10
RRUS 11 B12	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	2.83 3.04 3.26	1.18 1.33 1.48	0.05 0.07 0.10
Pipe Mount 6'x2.375"	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.03 0.04 0.05
Pipe Mount 6'x2.375"	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.03 0.04 0.05
Pipe Mount 6'x2.375"	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	170.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.03 0.04 0.05
Platform Mount [LP 303-1]	B	None		0.0000	170.00	No Ice 1/2" Ice 1" Ice	14.66 18.87 23.08	14.66 18.87 23.08	1.25 1.48 1.71
(2) LPA-80080-6CF-EDIN w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	4.56 5.10 5.61	10.27 11.44 12.32	0.05 0.11 0.19
(2) LPA-80080-6CF-EDIN w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	160.00	No Ice 1/2" Ice 1" Ice	4.56 5.10 5.61	10.27 11.44 12.32	0.05 0.11 0.19
(2) LPA-80080-6CF-EDIN w/ Mount Pipe	C	From Centroid-	4.00 0.00	0.0000	160.00	No Ice 1/2"	4.56 5.10	10.27 11.44	0.05 0.11

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
		Leg	0.00			Ice	5.61	12.32	0.19
						1" Ice			
(2) SBNHH-1D65B w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	160.00	No Ice	8.53	7.24	0.09
						1/2" Ice	9.19	8.52	0.16
						1" Ice	9.82	9.66	0.24
(2) SBNHH-1D65B w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	160.00	No Ice	8.53	7.24	0.09
						1/2" Ice	9.19	8.52	0.16
						1" Ice	9.82	9.66	0.24
(2) SBNHH-1D65B w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	160.00	No Ice	8.53	7.24	0.09
						1/2" Ice	9.19	8.52	0.16
						1" Ice	9.82	9.66	0.24
RRH2x60-700	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	160.00	No Ice	3.50	1.82	0.06
						1/2" Ice	3.76	2.05	0.08
						1" Ice	4.03	2.29	0.11
RRH2x60-700	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	160.00	No Ice	3.50	1.82	0.06
						1/2" Ice	3.76	2.05	0.08
						1" Ice	4.03	2.29	0.11
RRH2x60-700	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	160.00	No Ice	3.50	1.82	0.06
						1/2" Ice	3.76	2.05	0.08
						1" Ice	4.03	2.29	0.11
RRH2X60-AWS	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	160.00	No Ice	3.50	2.10	0.06
						1/2" Ice	3.76	2.34	0.08
						1" Ice	4.03	2.58	0.11
RRH2X60-AWS	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	160.00	No Ice	3.50	2.10	0.06
						1/2" Ice	3.76	2.34	0.08
						1" Ice	4.03	2.58	0.11
RRH2X60-AWS	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	160.00	No Ice	3.50	2.10	0.06
						1/2" Ice	3.76	2.34	0.08
						1" Ice	4.03	2.58	0.11
RRH2X60-PCS	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	160.00	No Ice	2.20	1.36	0.06
						1/2" Ice	2.39	1.52	0.07
						1" Ice	2.59	1.68	0.09
RRH2X60-PCS	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	160.00	No Ice	2.20	1.36	0.06
						1/2" Ice	2.39	1.52	0.07
						1" Ice	2.59	1.68	0.09
RRH2X60-PCS	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	160.00	No Ice	2.20	1.36	0.06
						1/2" Ice	2.39	1.52	0.07
						1" Ice	2.59	1.68	0.09
DB-T1-6Z-8AB-0Z	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	160.00	No Ice	4.80	2.00	0.04
						1/2" Ice	5.07	2.19	0.08
						1" Ice	5.35	2.39	0.12
Platform Mount [LP 601-1]	B	None		0.0000	160.00	No Ice	28.47	28.47	1.12
						1/2" Ice	33.59	33.59	1.51
						1" Ice	38.71	38.71	1.91
SC479-HF1LDF	A	From Centroid-Leg	4.00 0.00 7.00	0.0000	134.00	No Ice	5.06	5.06	0.03
						1/2" Ice	6.54	6.54	0.07
						1" Ice	8.04	8.04	0.11
SC442D-HF2LDF	A	From Centroid-Leg	4.00 0.00 10.00	0.0000	134.00	No Ice	7.52	7.52	0.08
						1/2" Ice	12.20	12.20	0.15
						1" Ice	14.29	14.29	0.23

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
SC442D-HF2LDF	B	From Centroid-Leg	4.00 0.00 10.00	0.0000	134.00	No Ice 1/2" Ice 1" Ice	7.52 12.20 14.29	7.52 12.20 14.29	0.08 0.15 0.23
WPA-700102-4CF-EDIN-9 w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	134.00	No Ice 1/2" Ice 1" Ice	3.81 4.17 4.54	3.97 4.58 5.19	0.03 0.07 0.11
(2) DB809DK-Y	C	From Centroid-Leg	4.00 0.00 5.00	0.0000	134.00	No Ice 1/2" Ice 1" Ice	3.39 4.55 5.73	3.39 4.55 5.73	0.03 0.06 0.09
432E-83I-01-T	A	From Centroid-Leg	4.00 0.00 7.00	0.0000	134.00	No Ice 1/2" Ice 1" Ice	1.20 1.34 1.48	0.75 0.86 0.98	0.03 0.04 0.05
422-86A-99575-18BW	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	134.00	No Ice 1/2" Ice 1" Ice	2.67 2.87 3.08	1.03 1.17 1.32	0.05 0.07 0.09
(2) 6' x 2" Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	134.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
6' x 2" Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	134.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
(2) 6' x 2" Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	134.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
(3) RMV5-2xx T-Arm Mounts	B	None		0.0000	134.00	No Ice 1/2" Ice 1" Ice	5.64 6.55 7.46	5.64 6.55 7.46	0.34 0.43 0.52
APXVSPP18-C-A20 w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	8.02 8.48 8.94	6.71 7.66 8.49	0.08 0.14 0.22
APXVSPP18-C-A20 w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	8.02 8.48 8.94	6.71 7.66 8.49	0.08 0.14 0.22
APXVSPP18-C-A20 w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	8.02 8.48 8.94	6.71 7.66 8.49	0.08 0.14 0.22
APXVTM14-ALU-I20 w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	6.58 7.03 7.47	4.96 5.75 6.47	0.08 0.13 0.19
APXVTM14-ALU-I20 w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	6.58 7.03 7.47	4.96 5.75 6.47	0.08 0.13 0.19
APXVTM14-ALU-I20 w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	6.58 7.03 7.47	4.96 5.75 6.47	0.08 0.13 0.19
TD-RRH8x20-25	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	124.00	No Ice 1/2" Ice 1" Ice	4.05 4.30 4.56	1.53 1.71 1.90	0.07 0.10 0.13
TD-RRH8x20-25	B	From Centroid-	4.00 0.00	0.0000	124.00	No Ice 1/2"	4.05 4.30	1.53 1.71	0.07 0.10

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
		Leg	0.00			Ice	4.56	1.90	0.13
						1" Ice			
TD-RRH8x20-25	C	From	4.00	0.0000	124.00	No Ice	4.05	1.53	0.07
		Centroid-	0.00			1/2"	4.30	1.71	0.10
		Leg	0.00			Ice	4.56	1.90	0.13
						1" Ice			
800MHZ RRH	A	From	4.00	0.0000	124.00	No Ice	2.13	1.77	0.05
		Centroid-	0.00			1/2"	2.32	1.95	0.07
		Leg	0.00			Ice	2.51	2.13	0.10
						1" Ice			
800MHZ RRH	B	From	4.00	0.0000	124.00	No Ice	2.13	1.77	0.05
		Centroid-	0.00			1/2"	2.32	1.95	0.07
		Leg	0.00			Ice	2.51	2.13	0.10
						1" Ice			
800MHZ RRH	C	From	4.00	0.0000	124.00	No Ice	2.13	1.77	0.05
		Centroid-	0.00			1/2"	2.32	1.95	0.07
		Leg	0.00			Ice	2.51	2.13	0.10
						1" Ice			
(2) Pipe Mount 5'x2.375"	A	From	4.00	0.0000	124.00	No Ice	1.19	1.19	0.02
		Centroid-	0.00			1/2"	1.50	1.50	0.03
		Leg	0.00			Ice	1.81	1.81	0.04
						1" Ice			
(2) Pipe Mount 5'x2.375"	B	From	4.00	0.0000	124.00	No Ice	1.19	1.19	0.02
		Centroid-	0.00			1/2"	1.50	1.50	0.03
		Leg	0.00			Ice	1.81	1.81	0.04
						1" Ice			
(2) Pipe Mount 5'x2.375"	C	From	4.00	0.0000	124.00	No Ice	1.19	1.19	0.02
		Centroid-	0.00			1/2"	1.50	1.50	0.03
		Leg	0.00			Ice	1.81	1.81	0.04
						1" Ice			
8-ft Ladder	C	From	4.00	0.0000	124.00	No Ice	7.07	7.07	0.04
		Centroid-	0.00			1/2"	9.73	9.73	0.07
		Leg	-4.00			Ice	11.19	11.19	0.08
						1" Ice			
Platform Mount [LP 601-1]	B	None		0.0000	124.00	No Ice	28.47	28.47	1.12
						1/2"	33.59	33.59	1.51
						Ice	38.71	38.71	1.91
						1" Ice			
100-1	C	From Leg	6.00	0.0000	120.00	No Ice	4.80	6.00	0.02
			0.00			1/2"	5.07	6.30	0.08
			0.00			Ice	5.35	6.61	0.16
						1" Ice			
(2) Side Arm Mount [SO 301-1]	C	From Leg	4.00	0.0000	120.00	No Ice	1.00	0.90	0.02
			0.00			1/2"	1.39	1.42	0.03
			0.00			Ice	1.78	1.94	0.04
						1" Ice			
(2) 8' x 2" Sch 40 Pipe Mount	A	From Leg	4.00	0.0000	120.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice			
(2) 8' x 2" Sch 40 Pipe Mount	B	From Leg	4.00	0.0000	120.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice			
(2) 8' x 2" Sch 40 Pipe Mount	C	From Leg	4.00	0.0000	120.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice			
8-ft Ladder	C	From	4.00	0.0000	120.00	No Ice	7.07	7.07	0.04
		Centroid-	0.00			1/2"	9.73	9.73	0.07
		Leg	-4.00			Ice	11.19	11.19	0.08
						1" Ice			
Platform Mount [LP 601-1]	B	None		0.0000	120.00	No Ice	28.47	28.47	1.12
						1/2"	33.59	33.59	1.51
						Ice	38.71	38.71	1.91
						1" Ice			

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Pipe Mount [PM 601-1]	A	From Leg	0.50 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	3.00 3.74 4.48	0.90 1.12 1.34	0.07 0.08 0.09
Pipe Mount [PM 601-1]	C	From Face	0.50 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	3.00 3.74 4.48	0.90 1.12 1.34	0.07 0.08 0.09
GPS_A	C	From Leg	1.00 0.00 0.00	0.0000	63.00	No Ice 1/2" Ice 1" Ice	0.26 0.32 0.39	0.26 0.32 0.39	0.00 0.00 0.01
Side Arm Mount [SO 701-1]	C	From Leg	0.50 0.00 0.00	0.0000	63.00	No Ice 1/2" Ice 1" Ice	0.85 1.14 1.43	1.67 2.34 3.01	0.07 0.08 0.09
PD1121-6	C	From Leg	1.00 0.00 2.00	0.0000	10.00	No Ice 1/2" Ice 1" Ice	0.23 0.41 0.60	0.23 0.41 0.60	0.00 0.00 0.00
Side Arm Mount [SO 309-1]	C	From Leg	0.50 0.00 0.00	0.0000	10.00	No Ice 1/2" Ice 1" Ice	2.82 4.07 5.32	2.20 3.16 4.12	0.04 0.06 0.08

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp

Comb. No.	Description
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	180 - 133.237	57.849	46	3.2679	0.0111
L2	136.93 - 87.636	31.201	46	2.4318	0.0040
L3	92.534 - 43.063	13.009	46	1.4421	0.0021
L4	49.107 - 0	3.410	46	0.6529	0.0007

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
180.00	(2) 7770.00 w/ Mount Pipe	46	57.849	3.2679	0.0111	16776
170.00	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	46	51.243	3.0820	0.0089	8387
160.00	(2) LPA-80080-6CF-EDIN w/ Mount Pipe	46	44.779	2.8941	0.0067	4192
134.00	SC479-HF1LDF	46	29.675	2.3687	0.0040	1997
124.00	APXVSPP18-C-A20 w/ Mount Pipe	46	24.846	2.1467	0.0037	2179
120.00	100-1	46	23.072	2.0561	0.0035	2264
80.00	Pipe Mount [PM 601-1]	46	9.476	1.1880	0.0016	3058
63.00	GPS_A	46	5.670	0.8781	0.0010	3026
10.00	PD1121-6	46	0.381	0.1232	0.0001	14732

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	180 - 133.237	227.346	16	12.9185	0.0428
L2	136.93 - 87.636	123.145	16	9.6260	0.0150
L3	92.534 - 43.063	51.482	16	5.7141	0.0080
L4	49.107 - 0	13.508	16	2.5872	0.0028

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
180.00	(2) 7770.00 w/ Mount Pipe	16	227.346	12.9185	0.0431	4650
170.00	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	16	201.542	12.1899	0.0342	2322
160.00	(2) LPA-80080-6CF-EDIN w/ Mount Pipe	16	176.288	11.4499	0.0260	1156
134.00	SC479-HF1LDF	16	117.155	9.3770	0.0154	540
124.00	APXVSPP18-C-A20 w/ Mount Pipe	16	98.180	8.5003	0.0143	583
120.00	100-1	16	91.197	8.1421	0.0136	602
80.00	Pipe Mount [PM 601-1]	16	37.509	4.7080	0.0061	783
63.00	GPS_A	16	22.451	3.4797	0.0040	770
10.00	PD1121-6	16	1.509	0.4881	0.0005	3724

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	180 - 133.237 (1)	TP25.5375x15x0.25	46.76	0.00	0.0	19.4053	-9.27	1441.72	0.006
L2	133.237 - 87.636 (2)	TP35.1887x24.2053x0.375	49.29	0.00	0.0	40.1380	-23.03	2982.06	0.008
L3	87.636 - 43.063 (3)	TP44.3577x33.3474x0.4375	49.47	0.00	0.0	59.1208	-36.88	4392.38	0.008
L4	43.063 - 0 (4)	TP53x42.1375x0.5	49.11	0.00	0.0	68.2005	-40.47	5066.96	0.008

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	180 - 133.237 (1)	TP25.5375x15x0.25	618.61	723.32	0.855	0.00	723.32	0.000
L2	133.237 - 87.636 (2)	TP35.1887x24.2053x0.375	1841.46	2061.22	0.893	0.00	2061.22	0.000
L3	87.636 - 43.063 (3)	TP44.3577x33.3474x0.4375	3271.71	3836.25	0.853	0.00	3836.25	0.000
L4	43.063 - 0 (4)	TP53x42.1375x0.5	3481.02	4460.94	0.780	0.00	4460.94	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	180 - 133.237 (1)	TP25.5375x15x0.25	19.54	720.86	0.027	0.78	1448.40	0.001
L2	133.237 - 87.636 (2)	TP35.1887x24.2053x0.375	31.25	1491.03	0.021	2.81	4127.48	0.001
L3	87.636 - 43.063 (3)	TP44.3577x33.3474x0.4375	34.39	2196.19	0.016	2.87	7681.88	0.000
L4	43.063 - 0 (4)	TP53x42.1375x0.5	35.07	2563.03	0.014	2.86	8932.75	0.000

Pole Interaction Design Data

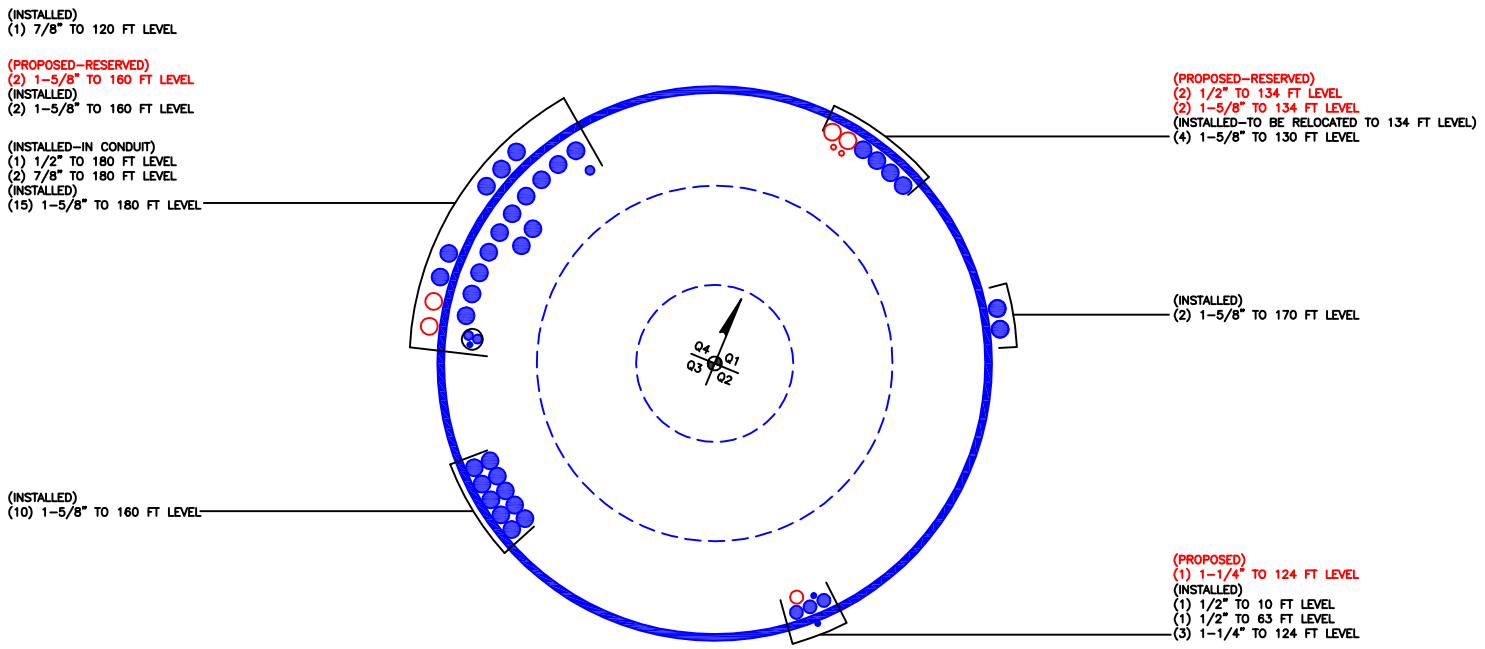
Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	180 - 133.237 (1)	0.006	0.855	0.000	0.027	0.001	0.862	1.000	4.8.2
L2	133.237 - 87.636 (2)	0.008	0.893	0.000	0.021	0.001	0.902	1.000	4.8.2
L3	87.636 - 43.063 (3)	0.008	0.853	0.000	0.016	0.000	0.861	1.000	4.8.2
L4	43.063 - 0 (4)	0.008	0.780	0.000	0.014	0.000	0.789	1.000	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	180 - 133.237	Pole	TP25.5375x15x0.25	1	-9.27	1441.72	86.2	Pass
L2	133.237 - 87.636	Pole	TP35.1887x24.2053x0.375	2	-23.03	2982.06	90.2	Pass
L3	87.636 - 43.063	Pole	TP44.3577x33.3474x0.4375	3	-36.88	4392.38	86.1	Pass
L4	43.063 - 0	Pole	TP53x42.1375x0.5	4	-40.47	5066.96	78.9	Pass
						Summary	ELC:	Load Case 7
						Pole (L2)	90.2	Pass
						Rating =	90.2	Pass

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 841293 TOWER ID: C_BASELEVEL

CROWN REGION ADDRESS

USA

28/02/14	UPDATED PER WORK ORDER # 715841	KW
04/03/14	APPLICATION ADDED PER WORK ORDER # 721184	KT
10/06/14	UPDATED PER WORK ORDER # 760550	CJH
18/06/14	UPDATED PER WORK ORDER # 740844	CJH
18/06/14	UPDATED PER WORK ORDER # 758148	TDG
31/07/15	UPDATED PER WORK ORDER # 1089855	AH
1/12/2015	UPDATED PER WORK ORDER 1124402 1155178	BRM
19/09/16	UPDATED PER WORK ORDER 1301468	CJK
10/07/17	UPDATED PER WORK ORDER 1428162	JMP

DRAWN BY: SLS
CHECKED BY:
DRAWING DATE: 05-02-14

SITE NUMBER:
SITE NAME:

SITE NAME

KENT-BULLS BRIDGE ROAD

BUSINESS UNIT NUMBER

841293

SITE ADDRESS

136 BULLS BRIDGE ROAD
SOUTH KENT, CT 06785
LITCHFIELD COUNTY
USA

SHEET TITLE

BASE LEVEL

SHEET NUMBER

A1-0

BASE LEVEL DRAWING	1" = 1'-0"	1

PLOT DATE: 10/9/2018 FILE NAME: 841293_BASELEVEL.dwg
Xref R:\TEMPLATES\TYPICAL BLOCKS FOR TEMPLATES\TITLE BLOCK STD-VER 8.1.dwg

APPENDIX C

ADDITIONAL CALCULATIONS

Anchor Rod Interaction, TIA-222-G
BU #: 841293, KENT-BULLS BRIDGE ROAD
2017777.841293.05

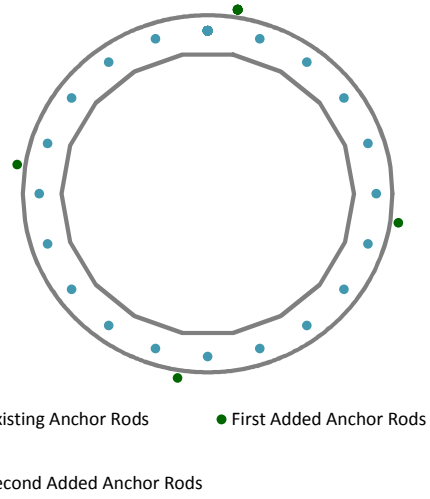
tnx Reactions		
Overturning Moment=	5028.25	k*ft
Axial Force =	56.86	k
Shear Force =	36.83	k

Existing Anchor Rods		
Number of Rods =	20	
Rod Circle =	62	in
Rod Diameter =	2.25	in
Est. Dist. b/w ea. Rod =	6	in
Plate Type =	Round	
Plate Diameter =	68	in

Pole		
Pole Diameter =	53	in
Number of Sides =	18	
Thickness =	0.5	in

First Added Anchor Rods		
Number of Rods =	4	
Rod Circle =	71.00	in
Rod Diameter =	1.75	in
Anchor Rod Grade =	F1554 GR 105	

Rod Number	Initial Angle
1	9
2	99
3	189
4	279



Second Added Anchor Rods		
Number of Rods =		
Rod Circle =		in
Rod Diameter =		in
Anchor Rod Grade =		

First Added Anchor Rods		
Max Rod Compression =	116.30	k
ϕRnt =	190.00	k
Anchor Rod Capacity =	61.21%	**OK**

Reactions in Existing Rods		
Overturning Moment=	4339.91	k*ft
Axial Force =	56.86	k
Shear Force =	36.83	k
Centroid Offset =	0.00	in

Stiffened or Unstiffened, Ungrouted, Circular Base Plate - Any Rod Material

TIA Rev G Assumption: Clear space between bottom of leveling nut and top of concrete **not** exceeding (1)*(Rod Diameter)

Site Data	
BU#:	*841293*
Site Name:	*KENT-BULLS BRIDGE ROAD*
App #:	*395022 Rev. 0*
Pole Manufacturer:	*Other*

Reactions		
Mu:	4339.91	ft-kips
Axial, Pu:	56.86	kips
Shear, Vu:	36.83	kips
Eta Factor, η	0.5	TIA G (Fig. 4-4)

If No stiffeners, Criteria:	AISC LRFD	<-Only Applcable to Unstiffened Cases

Anchor Rod Data		
Qty:	20	
Diam:	2.25	in
Rod Material:	A615-J	
Strength (Fu):	100	ksi
Yield (Fy):	75	ksi
Bolt Circle:	62	in

Anchor Rod Results

Max Rod (Cu+ Vu/ή):	174.5 Kips	Rigid
Allowable Axial, Φ*Fu*Anet:	260.0 Kips	AISC LRFD
Anchor Rod Stress Ratio:	67.1% **Pass**	φ*Tn

Plate Data		
Diam:	68	in
Thick:	2.25	in
Grade:	60	ksi
Single-Rod B-eff:	8.41	in

Base Plate Results Flexural Check

Base Plate Stress:	42.7 ksi	Rigid
Allowable Plate Stress:	54.0 ksi	AISC LRFD
Base Plate Stress Ratio:	79.1% **Pass**	φ*Fy
		Y.L. Length: 32.17

Stiffener Data (Welding at both sides)		
Config:	0	*
Weld Type:		
Groove Depth:		in **
Groove Angle:		degrees
Fillet H. Weld:		<-- Disregard
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

n/a

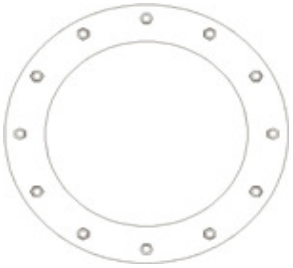
Stiffener Results

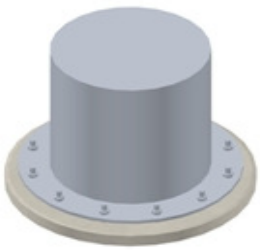
Horizontal Weld :	n/a
Vertical Weld:	n/a
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	n/a
Plate Tension+Shear, ft/Ft+(fv/Fv)^2	n/a
Plate Comp. (AISC Bracket):	n/a

Pole Results

Pole Punching Shear Check:	n/a

Pole Data		
Diam:	53	in
Thick:	0.5	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None





* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Site Number	841293
Site Name	KENT-BULLS BRIDGE ROAD

Caisson Analysis

Pier Properties		
Moment	5028.25	kip-ft
Shear	36.83	kip
Pier Diameter	7.5	ft
Height Above Grade	1.00	ft
Depth Below Grade	19.00	ft
Donut Diameter		ft
Donut Depth		ft

Analysis Properties		
TIA Code	G	
Soil Safety Factor	1.33	
Water Table Depth	10.0	ft
Ignored Soil Depth	3.0	ft
Cohesion Based on	PLS Caisson	
Max Soil Capacity	100%	

Soil Properties

Layer	Top of Soil Layer (ft)	Layer Thickness (ft)	Bottom of Soil Layer (ft)	Soil Unit Weight (pcf)	Cohesion (psf)	Friction Angle (degrees)
Soil.Layer	*Soil.Top*	*Soil.Thick*	*Soil.Bottom*	*Soil.Weight*	*Soil.Cohesion*	*Soil.Phi*
1	0.00	3	3.00	130		
2	3.00	7	10.00	135		40
3	10.00	4	14.00	135		40
4	14.00	4	18.00	145		42
5	18.00	5	23.00	160		44
6						
7						
8						
9						
10						

Critical Depths Below Grade		
Rotation Axis	13.64	ft
Zero Shear	4.13	ft

Results		
Soil Capacity	90.1%	**OK**
Max Pier Moment	5197.49	kip-ft

Moment At User Defined Depths Below Grade			
	kip-ft		kip-ft
	kip-ft		kip-ft

V1.0

Moment Capacity of Drilled Concrete Shaft (Caisson) for TIA Rev F or G

Note: Shaft assumed to have ties, not spiral, transverse reinforcing

Site Data

BU#: *841293*
Site Name: *KENT-BULLS BRIDGE ROAD*
App #: *395022 Rev. 0*

Loads Already Factored		
For M (WL)		<----Disregard
For P (DL)		<----Disregard

Pier Properties			
Concrete:			
Pier Diameter =	7.5	ft	
Concrete Area =	6361.7	in^2	
Reinforcement:			
Clear Cover to **Tie**=	5.75	in	
Horiz. **Tie** Bar Size=	5		
Vert. Cage Diameter =	6.32	ft	
Vert. Cage Diameter =	75.84	in	
Vertical Bar Size =	11		
Bar Diameter =	1.41	in	
Bar Area =	1.56	in^2	
Number of Bars =	42		
As Total=	65.52	in^2	
A s/ Aconc, Rho:	0.0103	1.03%	

ACI 10.5 , ACI 21.10.4, and IBC 1810.
Min As for Flexural, Tension Controlled, Shafts:
(3)*(Sqrt(f'c)/Fy: 0.0027
200 / Fy: 0.0033

Minimum Rho Check:
Actual Req'd Min. Rho: 0.33% Flexural
Provided Rho: 1.03% OK

Ref. Shaft Max Axial Capacities, ϕ Max(Pn or Tn):		
Max Pu = (φ=0.65) Pn.		
Pn per ACI 318 (10-2)	10392.99	kips
at Mu=(ϕ=0.65)Mn=	6579.49	ft-kips
Max Tu, (φ=0.9) Tn =	3538.08	kips
at Mu=ϕ=(0.90)Mn=	0.00	ft-kips

Maximum Shaft Superimposed Forces		
TIA Revision:	G	
Max. Factored Shaft Mu:	5197.49	ft-kips **(* Note)**
Max. Factored Shaft Pu:	56.86	kips
Max Axial Force Type:	Comp.	

(*) Note: Max Shaft Superimposed Moment does not necessarily equal to the shaft top reaction moment

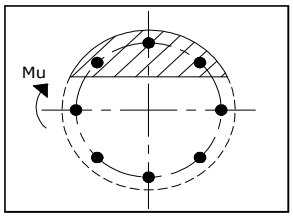
Load Factor	Shaft Factored Loads		
1.00	Mu:	5197.495	ft-kips
1.00	Pu:	56.86	kips

Material Properties		
Concrete Comp. strength, f'c =	3000	psi
Reinforcement yield strength, Fy =	60	ksi
Reinforcing Modulus of Elasticity, E =	29000	ksi
Reinforcement yield strain =	0.00207	
Limiting compressive strain =	0.003	
ACI 318 Code		
Select Analysis ACI Code=	2008	
Seismic Properties		
Seismic Design Category =	B	
Seismic Risk =	**Low**	

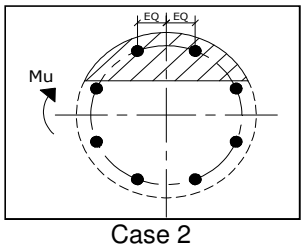
Solve (Run) <-- Press Upon Completing All Input

Results:

Governing Orientation Case: **1**



Case 1



Case 2

Dist. From Edge to Neutral Axis: **19.62** in
Extreme Steel Strain, εt: **0.0097**
εt > 0.0050, Tension Controlled
Reduction Factor,φ: **0.900**

Output Note: Negative Pu=Tension

For Axial Compression, φ Pn = Pu:	56.86	kips
Drilled Shaft Moment Capacity, φMn:	**10125.98**	ft-kips
Drilled Shaft Superimposed Mu:	**5197.49**	ft-kips

(Mu/φMn, Drilled Shaft Flexure CSR:	**51.3%**

EBI Consulting
environmental | engineering | due diligence

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

SPRINT Existing Facility

Site ID: CT33XC101

Forest City 2/Snet @ Kent School
136 Bulls Bridge Road
Kent, CT 06785

August 22, 2017

EBI Project Number: 6217003718

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	11.63 %

EBI Consulting
environmental | engineering | due diligence

August 22, 2017

SPRINT
Attn: RF Engineering Manager
1 International Boulevard, Suite 800
Mahwah, NJ 07495

Emissions Analysis for Site: **CT33XC101 – Forest City 2/Snet @ Kent School**

EBI Consulting was directed to analyze the proposed SPRINT facility located at **136 Bulls Bridge Road, Kent, CT**, for the purpose of determining whether the emissions from the Proposed SPRINT 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 850 MHz Band is approximately 567 $\mu W/cm^2$. The general population exposure limit for the 1900 MHz (PCS) and 2500 MHz (BRS) 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 done for the proposed SPRINT Wireless antenna facility located at **136 Bulls Bridge Road, Kent, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since SPRINT 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.

For all calculations, all equipment was calculated using the following assumptions:

1) 1 CDMA channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

2) 2 LTE channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

3) 5 CDMA channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 16 Watts per Channel.

4) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

5) 8 LTE channels (2500 MHz (BRS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

6) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. 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. This is rarely the case, and if so, is never continuous.

7) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

8) The antennas used in this modeling are the **RFS APXVSPP18-C-A20, RFS APXVTM14-C-I20 and the RFS APXV9TM14-ALU-I20** for transmission in the 850 MHz, 1900 MHz (PCS) and 2500 MHz (BRS) 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.

9) The antenna mounting height centerlines of the proposed antennas are **124 feet** above ground level (AGL) for **Sector A**, **124 feet** above ground level (AGL) for **Sector B** and **124 feet** above ground level (AGL) for Sector C.

10) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

SPRINT Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	RFS APXVSPP18-C-A20	Make / Model:	RFS APXVSPP18-C-A20	Make / Model:	RFS APXVSPP18-C-A20
Gain:	13.4 / 15.9 dBd	Gain:	13.4 / 15.9 dBd	Gain:	13.4 / 15.9 dBd
Height (AGL):	**124 feet**	Height (AGL):	**124 feet**	Height (AGL):	**124 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	10	Channel Count	10	Channel Count	10
Total TX Power(W):	220 Watts	Total TX Power(W):	220 Watts	Total TX Power(W):	220 Watts
ERP (W):	7,537.38	ERP (W):	7,537.38	ERP (W):	7,537.38
Antenna A1 MPE%	**2.20 %**	Antenna B1 MPE%	**2.20 %**	Antenna C1 MPE%	**2.20 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXVTM14-C-I20	Make / Model:	RFS APXVTM14-C-I20	Make / Model:	RFS APXV9TM14-ALU-I20
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	**124 feet**	Height (AGL):	**124 feet**	Height (AGL):	**124 feet**
Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)
Channel Count	8	Channel Count	8	Channel Count	8
Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts
ERP (W):	6,224.72	ERP (W):	6,224.72	ERP (W):	6,224.72
Antenna A2 MPE%	**1.61 %**	Antenna B2 MPE%	**1.61 %**	Antenna C2 MPE%	**1.61 %**

Site Composite MPE%	
Carrier	**MPE%**
SPRINT – Max per sector	**3.81 %**
T-Mobile	1.27 %
AT&T	1.06 %
Nextel	1.41 %
CT State Police	4.03 %
WMNR	0.05 %
Site Total MPE %:	**11.63 %**

SPRINT Sector A Total:	3.81 %
SPRINT Sector B Total:	3.81 %
SPRINT Sector C Total:	3.81 %
Site Total:	11.63 %

SPRINT _ Max Values per Frequency Band / Technology 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
Sprint 850 MHz CDMA	1	437.55	124	1.13	850 MHz	567	0.20%
Sprint 850 MHz LTE	2	437.55	124	2.26	850 MHz	567	0.40%
Sprint 1900 MHz (PCS) CDMA	5	622.47	124	8.04	1900 MHz (PCS)	1000	0.80%
Sprint 1900 MHz (PCS) LTE	2	1,556.18	124	8.04	1900 MHz (PCS)	1000	0.80%
Sprint 2500 MHz (BRS) LTE	8	778.09	124	16.07	2500 MHz (BRS)	1000	1.61%
						Total:	**3.81%**

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 SPRINT 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:

SPRINT Sector	Power Density Value (%)
Sector A:	3.81 %
Sector B:	3.81 %
Sector C:	3.81 %
SPRINT Maximum Total (per sector):	3.81 %
Site Total:	11.63 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **11.63 %** 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.