

# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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

E-Mail: [siting.council@ct.gov](mailto:siting.council@ct.gov)

Internet: [ct.gov/csc](http://ct.gov/csc)

Daniel F. Caruso  
Chairman

May 7, 2008

Jennifer Young Gaudet  
Transcend Wireless  
479 Route 17 North  
2<sup>nd</sup> Floor  
Mahwah, NJ 07430

RE: **EM-SPRINT-NEXTEL-051-080331** – Sprint Nextel Corporation notice of intent to modify an existing telecommunications facility located at 3965 Congress Street, Fairfield, Connecticut.

Dear Ms. Gaudet:

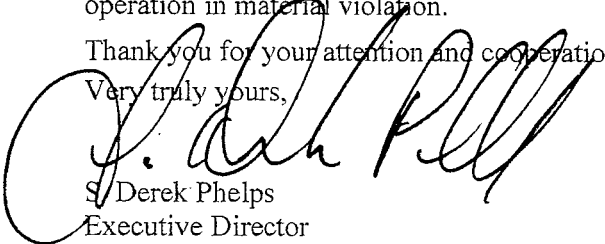
The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated March 28, 2008, including the placement of all necessary equipment and shelters within the tower compound. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

  
S. Derek Phelps  
Executive Director

SDP/MP

c: Honorable Kenneth A. Flatto, First Selectman, Town of Fairfield  
Joseph E. Devonshuk, Town Planner, Town of Fairfield



CONNECTICUT SITING COUNCIL  
Affirmative Action / Equal Opportunity Employer

**Transcend Wireless**

479 ROUTE 17 NORTH  
2<sup>ND</sup> FLOOR  
MAHWAH, NJ 07430

PHONE: 201.684.0055  
FAX: 201.684.0066

EM-SPRINT-NEXTEL051-080331

VIA OVERNIGHT DELIVERY

March 28, 2008

RECEIVED  
MAR 31 2008

CONNECTICUT  
SITING COUNCIL

Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051  
Attn: Mr. S. Derek Phelps, Executive Director

Re: Sprint Nextel Corporation – exempt modification  
3965 Congress Street, Fairfield, Connecticut

Dear Mr. Phelps:

On or about November 19, 2007, Sprint Nextel Corporation (“Sprint”) submitted an exempt modification for proposed changes to the existing facility at 3965 Congress Street in Fairfield (coordinates 41°11’14.999” N, -73°17’56.979” W). This letter and attachments, submitted on behalf of Sprint, address a further modification to be undertaken in connection with Sprint’s implementation of WiMAX technology, and constitute notification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the First Selectman of Fairfield.

The changes described in the November 19, 2007 filing will be implemented as described previously. In addition, two microwave dishes will be installed on the tower. One dish, approximately 2.5’ in diameter, will be installed at the same height as the existing Sprint antennas, with a centerline of approximately 138’. The second dish, approximately 2’ in diameter, will be installed at the top of the tower, with a centerline of approximately 150’. Attached is an elevation drawing depicting the additional microwave dish, documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration including the second dish, and a power density calculation reflecting the further modification to Sprint’s operations at the site.

The changes to the facility do not constitute a modification as defined in Connecticut General Statutes (“C.G.S.”) Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed. Rather, the planned changes to the

Mr. S. Derek Phelps

March 28, 2008

Page 2

facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

1. The height of the overall structure will be unaffected. All Sprint's antennas and dishes will be located at or below the top of the tower; none will exceed the height of existing installations on the tower.
2. The proposed additional dishes will not have any effect on the site boundaries. No additional cabinet is required for the microwave dishes.
3. The proposed changes will not increase the noise level at the existing facility by six decibels or more. The incremental effect of the additional dishes will be negligible.
4. The changes to the facility will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site. As indicated on the attached power density calculation, Sprint's operations at the site will result in a power density of 11.5140%; the combined site operations will result in a total power density of 27.5640%.

Please feel free to call me at (860) 798-7454 with questions concerning this matter. Thank you for your consideration.

Respectfully yours,



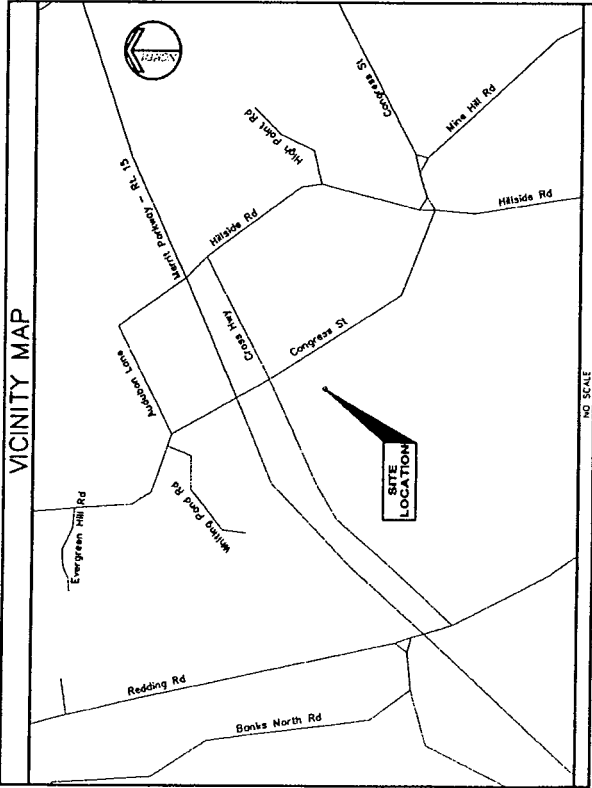
Jennifer Young Gaudet

cc: Honorable Kenneth Flatto, First Selectman, Town of Fairfield  
Attachments



**FAIRFIELD FIRE DEPARTMENT  
CT01YC351 / CT03XC385  
3965 CONGRESS STREET  
FAIRFIELD, CT 06824**

**NOT FOR CONSTRUCTION**



**DRIVING DIRECTIONS**

FROM 100 CORPORATE PLACE, ROCKY HILL, CT:  
GO SOUTH ON CORPORATE PLACE AND TURN LEFT ON WEST ST. MERGE RIGHT ON I-91(S) TOWARD NEW HAVEN. TAKE EXIT 17(W. CROSS PARKWAY)/CT-15(S). GO SOUTH ON CT-15 TO EXIT 44 TOWARD CT-58/FAIRFIELD/REDDING. TURN LEFT ON CONGRESS ST. TURN LEFT ON BLACK ROCK PKE/CT-58. TURN RIGHT ON CONGRESS ST. THE SITE IS ON YOUR LEFT JUST BEFORE CROSS HWY.

**PROJECT INDEX**

SITE NUMBER:	CT01YC351 / CT03XC385
SITE NAME:	FAIRFIELD FIRE DEPARTMENT
SITE ADDRESS:	3965 CONGRESS STREET FAIRFIELD, CT 06824
APPLICANT:	SPRINT NEXTEL CORP. 1 INTERNATIONAL BLVD., SUITE 800 MAHWAH, NJ 07495
APPLICANT REPRESENTATIVE:	TRANSCEND WIRELESS, LLC 479 ROUTE 17 NORTH, 2ND FLOOR MAHWAH, NJ 07430
CONTACT:	JASON DEBERT (347) 284-8617
PROPERTY OWNER:	TOWN OF FAIRFIELD OFFICE OF FIRST SELECTMAN 725 OLD POST ROAD FAIRFIELD, CT 06430
JURISDICTION:	CONNECTICUT SITING COUNCIL
TAX MAP/LOT:	170/41
ZONING DISTRICT:	AAA 2 ACRE RESIDENTIAL
CORDINATES:	41° 11' 14.999"N (41.18749967 N) 73° 17' 56.979"W (73.29916078 W)

**SHEET INDEX**

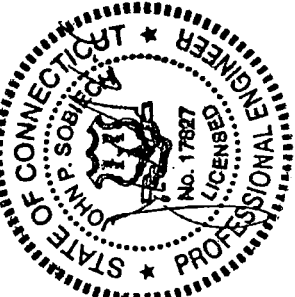
SHEET NO:	SHEET TITLE	REVISION HISTORY	
		NO:	DATE
T01	TITLE SHEET	3	03 / 27 / 08
SC01	COMPOUND PLAN	3	03 / 27 / 08
SC02	TOWER ELEVATION	3	03 / 27 / 08

APPLICANT:  
**SPRINT NEXTEL CORP.**  
1 INTERNATIONAL BLVD, SUITE 800  
MAHWAH, NJ 07495

**TRANSCEND WIRELESS, LLC**  
479 ROUTE 17 NORTH,  
2ND FLOOR  
MAHWAH, NJ 07430

Driving Copyright © 2007 Coughlin/Horner & Associates LLP  
**CHA**  
CLOUGH HARBOUR & ASSOCIATES LLP  
11 Wynton Circle, PO Box 578 • Albany, NY 12205-0058  
Phone: (518) 433-4308 • www.chaengineers.com  
CHA PROJECT NO:  
**17181 - 3009 - 1801**

SUBMITTAL	
NO.	DATE
1	02/11/08
BY:	EKC
RE-ISSUED FOR SITING COUNCIL	CHK: RJT APP'D: JPS
2	03/05/08
BY:	EKC
RE-ISSUED FOR SITING COUNCIL	CHK: RJT APP'D: JPS
3	03/27/08
BY:	KRR
RE-ISSUED FOR SITING COUNCIL	CHK: RJT APP'D: JPS



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT

SITE ID:  
**CT01YC351-CT03XC385**  
SITE NAME:  
**FAIRFIELD FIRE DEPARTMENT**  
SITE ADDRESS:  
**3965 CONGRESS ST.  
FAIRFIELD, CT  
06824**  
**FAIRFIELD COUNTY**

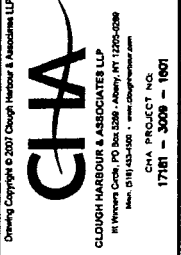
SHEET TITLE  
**TITLE SHEET**

SHEET NUMBER  
**T01**



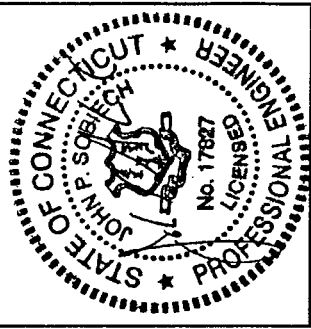
1 INTERNATIONAL BLVD, SUITE 800  
MAHWAH, NJ 07435

TRANSCEND WIRELESS, LLC  
479 ROUTE 17 NORTH,  
2ND FLOOR  
MAHWAH, NJ 07430



CLOUGH HARBOUR & ASSOCIATES LLP  
11 West Gate PO Box 288 - Jersey, NJ 07059-0288  
Phone: 973-328-2200 - Fax: 973-328-2201  
CIA PROJECT NO.  
17181 - 3008 - 1601

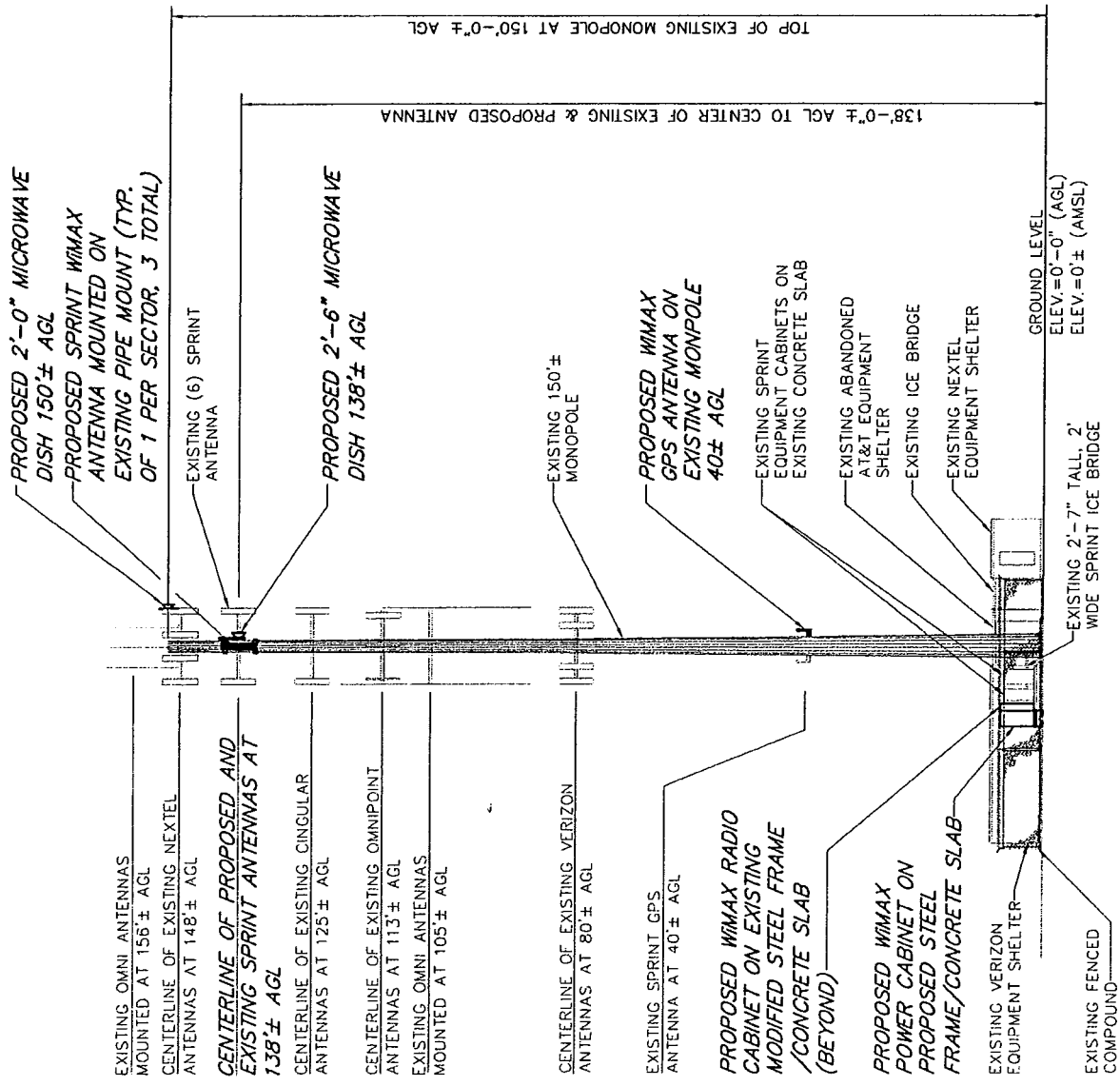
NO	DATE	BY	CHK	RE-ISSUED FOR STING COUNCIL	APP'D.
1	02/17/08	EKC	RJT	RE-ISSUED FOR STING COUNCIL	JPS
2	03/05/08	EKC	RJT	RE-ISSUED FOR STING COUNCIL	JPS
3	03/27/08	EKC	RJT	RE-ISSUED FOR STING COUNCIL	JPS



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT

SITE ID: CT01YC351-CT03XC385  
SITE NAME: FAIRFIELD FIRE DEPARTMENT  
SITE ADDRESS: 3965 CONGRESS ST., FAIRFIELD, CT 06824  
FAIRFIELD COUNTY

SHEET TITLE: TOWER ELEVATION  
SHEET NUMBER: SC02



1 SITE ELEVATION  
NO SCALE

NOT FOR CONSTRUCTION



CLOUGH HARBOUR & ASSOCIATES LLP

March 27, 2008

Mr. Jason Deibert  
Transcend Wireless, LLC  
479 Route 17 North, 2nd Floor  
Mahwah, NJ 07430

**RE: *Structural Analysis of the Fairfield Fire Department Tower  
Sprint Nextel Corp.- CT01YC351-CT03XC385  
Located in Fairfield, CT  
CHA Project No.17181.3009.1203.Rev 2***

Dear Mr. Deibert:

Clough Harbour & Associates LLP (CHA) has performed an analysis of the referenced tower superstructure for the purpose of evaluating its ability to support the existing equipment loads in addition to the new equipment proposed by Sprint Nextel. In summary, our analysis indicates that the tower is structurally capable of supporting the existing and proposed loads.

Our analysis is based on the following information:

- Proposed equipment information provided by Transcend.
- Site visit by CHA on July 19, 2007.
- A previous structural analysis by AFL Telecommunications dated January 17, 2003, project # 1356.052.
- Previous CHA structural analysis dated March 5, 2008.

Our analysis includes data for the following proposed antennas and cables:

Sprint / Nextel:

- One (1) Andrew VHLP2 Microwave Dish at an antenna centerline elevation of 150' with one (1) 3/8" coaxial cable.
- One (1) Andrew VHLP2.5 Microwave Dish at a centerline elevation of 138' with one (1) 3/8" coaxial cable.

The existing and proposed antenna elevations and coaxial cable sizes have been listed in the attached Executive Summary.

With this information, ANSITIA/EIA-222-F, *Structural Standards for Steel Antenna Towers and Antenna Supporting Structures*, the analysis was performed to determine the structural integrity of the tower. Based on the data provided, section properties, member

strengths, and projected areas, applicable loads were calculated. Knowing the projected area of the tower and all of its appurtenances, wind loads were calculated with and without the code defined ice load. These wind and ice loads were then reduced to member forces in the tower components through RISA Tower structural analysis software. The member forces were then compared to the maximum allowable stress for each member type.

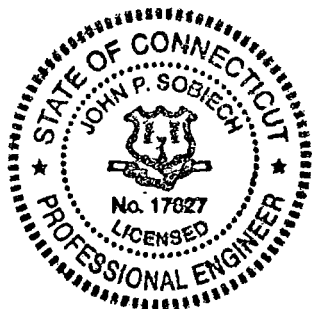
The analysis indicates that the existing tower superstructure is capable of supporting the existing and proposed loads.

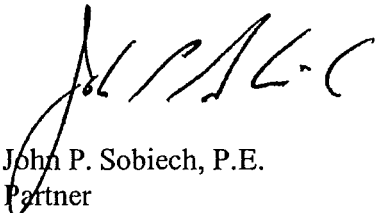
The reactions at the base of the tower due to the existing and proposed equipment are below allowable values determined from the original design drawings. Based on this information, it can be concluded that the tower foundation is adequate for supporting the existing and proposed loads provided that the foundation was built per the design documents.

As requested, we have included a copy of the governing structural analysis calculations referenced above for your review and use. If you have any questions, or if we can be of further assistance, please do not hesitate to call.

Very truly yours,

CLOUGH HARBOUR & ASSOCIATES LLP



  
John P. Sobiech, P.E.  
Partner

# EXECUTIVE SUMMARY

## Fairfield Fire Department Tower

March 27, 2008

### Tower Information:

Tower Owner:	Unknown
Tower Manufacturer:	Valmont
Tower Height:	150' feet
Tower Type:	Monopole

### Proposed Antenna Data:

#### Sprint / Nextel

- One (1) Andrew VHLP2 Microwave Dish at an antenna centerline elevation of 150' with one (1) 3/8" coaxial cable.
- One (1) Andrew VHLP2.5 Microwave Dish at a centerline elevation of 138' with one (1) 3/8" coaxial cable.

### Existing Antenna and Appurtenance Data:

- (3) Decibel DB 810K panel antennas mounted at a centerline elevation of 149' AGL with (3) 7/8" coaxial cables.
- (12) Swedcom ALP E-9011 panel antennas mounted on three T-Frame sector mounts at a centerline elevation of 148' AGL with (12) 1/58" coaxial cables.
- (6) Decibel DB980H90 panel antennas mounted on a platform at a centerline elevation of 138' AGL with (6) 1-5/8" coaxial cables.
- (3) KMW AM-X-WM-17-65-00T panel antennas on pipe mounts at a centerline elevation of 138' AGL with (6) 1-5/8" coaxial cables.
- (6) Swedcom ALP 11011-N panel antennas mounted on a platform at a centerline elevation of 125' AGL with (6) 1-5/8" coaxial cables.
- (6) Unknown Quadpole panel antennas mounted on a platform at a centerline elevation of 113' AGL with (24) 1-5/8" coaxial cables.
- (3) Decibel ASP-685 panel antennas mounted on 2' Standoffs at a centerline elevation of 105' AGL with (3) 7/8" coaxial cables.
- (1) Unknown PD 1142-30 antenna mounted on a 2' Standoff at a centerline elevation of 105' AGL with (1) 7/8" coaxial cable,
- (9) Allgon 7184.14 panel antennas mounted on three T-Frame sector mounts at a centerline elevation of 90' AGL with (9) 1-1/4" coaxial cables.
- (1) Unknown GPS antenna mounted to the tower at a centerline elevation of 40' AGL with (1) 1/2" coaxial cable.
- (1) Micro Pulse 58532A L1 WiMAX GPS antenna pipe mounted at a centerline elevation of 40' AGL with (1) 1/2" coaxial cable.



**Code Data:**

Applicable Code: ANSI/EIA/TIA-222-F, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures

Wind Velocity: 85 mph for Fairfield County, Connecticut

- Load Cases: (1) Weight of Tower, Antennas, and Appurtenances plus Wind Load without radial ice.  
(2) Weight of Tower, Antennas, and Appurtenances plus Wind Load on iced tower plus weight of 1/2" radial ice.

**Tower Shaft Members: (65ksi)**

0' – 52'-11": TP 49.6 x 39.9535 x 0.4375"  
52'-11" – 100'-11 7/8": TP 41.644 x 31.96 6x 0.3750"  
100'-11 7/8" – 150'-0": TP 33.469 x 23.61 x 0.2813"

**Tower Superstructure:**

Proposed and Existing Equipment

The governing tower section (section from 0'-52'-11" AGL) is stressed at 86.9% of its allowable capacity.

Proposed and Existing Equipment (with proposed coax run up outside of pole)

The governing tower section (section from 0'-52'-11" AGL) is stressed at 89.8% of its allowable capacity.

Existing Equipment

The governing tower section (section from 0'-52'-11" AGL) is stressed at 85.9% of its allowable capacity.

**Foundation Reactions:**

Proposed and Existing Equipment

	Design Reactions	Proposed Reactions	Result
Moment Load	3556 kip-ft	3030.4 kip-ft	Pass
Shear Load	29.8 kips	31.04 kips	Pass*

\* Reaction is less than 5% above original design reaction

Existing Equipment

	Design Reactions	Existing Reactions	Result
Moment Load	3556 kip-ft	2994.8 kip-ft	Pass
Shear Load	29.8 kips	30.7 kips	Pass*

\* Reaction is less than 5% above original design reaction

**Conclusion:**

The analysis indicates that the existing tower and foundation are structurally capable of supporting the existing and proposed loads.

**Fairfield Fire Department, CT01YC351 (3965 Congress St, Fairfield, CT) - Siting Council Power Density Calculations**

Sprint Nextel Directional Antennas ESMR - 2657 MHz 138'									
Transmitters:	Frequency in MHz	CT Standard mW/ cm <sup>2</sup>	Number of Channels	ERP (W) per channel	Centerline of Tx antennas AGL (ft.)**	Power density calculated at base of tower	Note: Power densities are in mW/ cm <sup>2</sup>		
WIMAX	2657	1.0000	3	130	138	0.0073601	0.7360%		
CDMA	1962.5	1.0000	11	286	138	0.0593716	5.9372%		
Microwave	11500	1.0000	2	795	138	0.0300066	3.0007%		
Microwave	19500	1.0000	2	576	150	0.0184013	1.8401%		
From previous filings: per CSC power density data base									
Cingular							2.1100%		
Cingular GSM							3.3200%		
Cingular GSM							0.9400%		
Nextel							4.6900%		
T-Mobile							1.2700%		
Town							0.3900%		
Town							0.3900%		
Town							0.3900%		
Verizon							2.5500%		
<b>Total % of CT Standard</b>							<b>27.5640%</b>		