

RECEIVED  
APR 27 2005  
CONNECTICUT  
SITING COUNCIL

## MEMORANDUM

TO: MICHAEL PERRONE  
CSC ANALYST


FROM: TOM FLYNN  
ZONING MANAGER NEXTEL COMMUNICATIONS

RE: EM-NEXTEL-007-050422 BECKLEY ROAD, BERLIN

DATE: APRIL 27, 2005

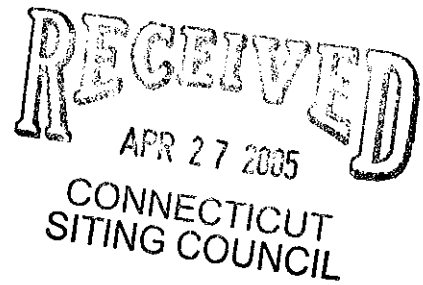
MIKE,

Per your email request of April 25, 2005 enclosed please find a corrected page one of the above referenced EM for the CSC's consideration.



Tom Flynn  
Nextel Zoning Manager  
New England South  
860-513-5458

**EXEMPT MODIFICATION  
260 BECKLEY ROAD  
BERLIN, CONNECTICUT**



Pursuant to Section 16-50i(a)(5) of the Connecticut General Statutes and Section 16-50j-72(b)(2), as amended, of the Regulations of Connecticut State Agencies, Nextel Communications Inc., ("Nextel") hereby notifies the Connecticut Siting Council of its intent to modify an existing telecommunications facility located at 260 Beckley Road, Berlin, Connecticut.

**BACKGROUND**

This existing facility, located at 260 Beckley Road in Berlin, Connecticut consists of a 150-foot tall monopole, with a 20 foot extension that is owned by Spectrasite and is located on property of Elaine and John Matulis. Sprint PCS, T-Mobile, Verizon ,AT&T Wireless and the Town of Berlin are currently using the site. The site will provide wireless service coverage for Nextel to this section of Berlin, Routes 15 and 9.

Nextel desires to share use of this facility and thus avoid the potential need to construct an additional tower in the general area.

**DISCUSSION**

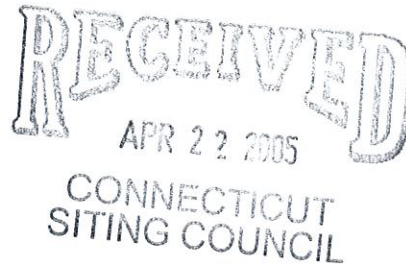
Nextel plans to install twelve (12) panel antennas center-lined at the 96-foot level of the tower (see Attachment A) and place a 12-foot by 20-foot equipment shelter inside the northeastern side of the existing fenced compound (see Attachment A). The tower has been structurally analyzed and found to be fully capable of supporting Nextel's antennas and its tower mounted hardware (Attachment B). The tower is located at latitude 41 63 15.3 and longitude 72 72 9.85.

**POWER DENSITY INFORMATION**

The operation of Nextel's antennas will not increase the total radio frequency electromagnetic power density level to a level at (or even near) existing State and Federal Standards. "Worst case" calculations, measured to a point at the base of the tower, show the power levels for the existing Sprint PCS, T-Mobile, AT&T Wireless, Verizon and the proposed Nextel antennas reach just 32.9050 % of the State/Federal standard in an uncontrolled access environment. (See Attachment C).

April 22, 2005

Ms. Pamela Katz, Chairman  
Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051



Dear Chairman Katz:

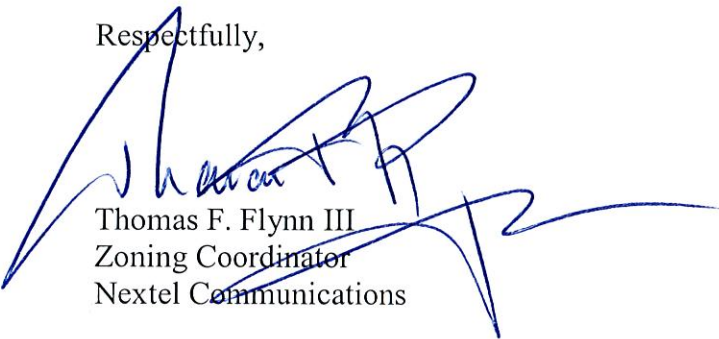
Please find enclosed and respectfully submitted, a request from Nextel Communications Inc. ("Nextel") to Modify an Exempt Tower and Associated Equipment at an existing telecommunications facility located at 260 Beckley Road, Berlin, Connecticut. This facility is located on property owned by Elaine and John Matulis. The tower is owned by Spectrasite..

Nextel wishes to share use of this facility in order to improve/expand wireless its system coverage and to avoid the possibility of constructing another telecommunications tower in the general area.

The attached information details how the addition of the proposed antennas and associated equipment at the tower site meet the criteria set forth in Section 16-50j-72(b)(2) of the Regulations of Connecticut State Agencies and therefore is an Exempt Modification pursuant to Section 16-50j-73 of the Regulation.

Thank you for your consideration in this matter.

Respectfully,



Thomas F. Flynn III  
Zoning Coordinator  
Nextel Communications

Enclosure

Cc: Mayor

**EXEMPT MODIFICATION  
260 BECKLEY ROAD  
BERLIN, CONNECTICUT**

Pursuant to Section 16-50i(a)(5) of the Connecticut General Statutes and Section 16-50j-72(b)(2), as amended, of the Regulations of Connecticut State Agencies, Nextel Communications Inc., ("Nextel") hereby notifies the Connecticut Siting Council of its intent to modify an existing telecommunications facility located at 260 Beckley Road, Berlin, Connecticut.

**BACKGROUND**

This existing facility, located at 260 Beckley Road in Berlin, Connecticut consists of a 150-foot tall monopole, with a 20 foot extension that is owned by Spectrasite and is located on property of Elaine and John Matulis. Sprint PCS, T-Mobile, Verizon ,AT&T Wireless and the Town of Berlin are currently using the site. The site will provide wireless service coverage for Nextel to this section of Berlin, Routes 15 and 9.

Nextel desires to share use of this facility and thus avoid the potential need to construct an additional tower in the general area.

**DISCUSSION**

Nextel plans to install twelve (12) panel antennas center-lined at the 90-foot level of the tower (see Attachment A) and place a 12-foot by 20-foot equipment shelter inside the northeastern side of the existing fenced compound (see Attachment A). The tower has been structurally analyzed and found to be fully capable of supporting Nextel's antennas and its tower mounted hardware (Attachment B). The tower is located at latitude 41 63 15.3 and longitude 72 72 9.85.

**POWER DENSITY INFORMATION**

The operation of Nextel's antennas will not increase the total radio frequency electromagnetic power density level to a level at (or even near) existing State and Federal Standards. "Worst case" calculations, measured to a point at the base of the tower, show the power levels for the existing Sprint PCS, T-Mobile, AT&T Wireless, Verizon and the proposed Nextel antennas reach just 32.9050 % of the State/Federal standard in an uncontrolled access environment. (See Attachment C).

## **CONCLUSION**

The proposed additions do not constitute a “modification” of an existing facility as defined in Connecticut General Statutes Section 16-50i(d) and are consistent with the exception criteria found in Section 16-50j-72(b)(2) of the Regulations of Connecticut State Agencies in that the addition of Nextel’s antennas and equipment will not increase the existing tower height or extend the boundaries of the site; will not increase noise levels by six (6) decibels or more at the site’s boundaries; and will not increase the total radio frequency electromagnetic radiation above the Standard set forth in Section 22(a)–162 of the Connecticut General Statutes. In summary, this proposed addition would not have a substantial adverse environmental effect.

For the reasons discussed above, Nextel respectfully requests that the Council acknowledge that this Notice of Modification meets the Council’s exemption criteria, and permit Nextel to share use of this facility.

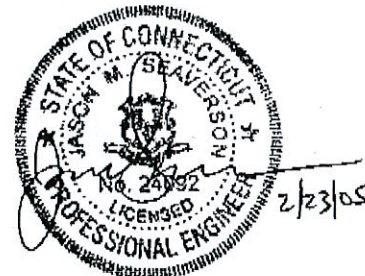


Structural Analysis Summary		
Tower Site	CT-0019 BRLN-Berlin	
Application ID	105607-0	
Address	260 Beckley Road Berlin, CT 06037 Hartford County	
Tower Height & Type	167.5 ft ITT Meyer Monopole	
Building Code	ANSI/TIA/EIA-222-F 80 mph w/ 0" radial ice	1996 BOCA National Building Code 80 mph w/ 0" radial ice 40 mph w/ 1.25" radial ice

Tower Information	
Tower Geometry	Original Tower Design per Paul J. Ford and Company Job No. 31298-027, dated 07/16/98 Modification Design per Scientel Drawings for Spectrasite Berlin, dated 07/30/02
Foundation	Spectrasite Site No. CT-0019, Dwg. No. E4, dated 05/29/03
Geotechnical	Daniel G. Loucks File No. 871, dated 12/21/01

Results Summary*	
Tower Structure	<i>Adequate</i>
Anchor Bolts	<i>Adequate</i>
Base Plate	<i>Adequate</i>
Foundation	<i>Adequate</i>

\* See following pages for detailed analysis results.



Analysis prepared by:  
Bryan Lanier, E.I.  
Project Engineer  
Contact (919) 466-5777  
with any questions.

SpectraSite Structural Analysis

Jason M. Scaverson, P.E.  
Senior Design Engineer

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Connecticut

Page 1 of 3

## 1.0 Introduction

A structural analysis was performed on the above noted tower for the addition of proposed antennas as listed. The analysis consisted of applying the forces caused by the existing and proposed loads, and determining the resulting stresses in the structure and its foundation.

### 1.1 Existing and Proposed Antennas

ELEVATION (ft A.G.L.)	ANTENNA	CARRIER	COAX	I/O*	NOTES
167.5	(3) EMS RR90-17-00DPL2 on Concealment Mount	T-Mobile	(6) 1-5/8"	I	Existing
152	(10) CSS DUO1417-8686 on Platform w/ Handrails	Cingular	(10) 7/8"	I	Existing
130	(2) Allgon 7184.05 (1) 7184.05 on Flush Mounts	Sprint	(3) 1-5/8"	I	Existing Reserved
127	(1) Allgon 7184.05 on Flush Mounts	Sprint	(2) 1-5/8"	I	Existing
125	(1) Allgon 7184.05 (1) Allgon 7184.05 on Flush Mounts	Sprint	(1) 1-5/8"	I	Existing Reserved
121 118 118	(1) GPS Unit (6) Antel RWA-80014 (6) Decibel DB948F85T2E-M on Low Profile Platform	Verizon	(1) 1/2" (12) 1-5/8"	O	Existing
106	(3) Allgon 7250 on Flush Mounts	AT&T	(6) 1-1/4"	I	Existing
106	(3) Allgon 7250 on T-Arm Mounts	AT&T	(6) 1-5/8"	I	Reserved
96	(12) Decibel 844G65VTZASX on T-Arm Mounts	Nextel**	(12) 1-5/8"	O	Proposed

\* I/O denotes coax installed inside or outside of monopole respectively.

\*\*Nextel is reserved a maximum equipment installation of (12) 48" x 12" panels with (15) 1-5/8" coax and (2) GPS units with (2) 1/2" coax.

## 2.0 Detailed Analysis Results

### 2.1 Monopole Member Stress Levels

ELEVATION (ft A.G.L.)	STRESS RATIO*
150 to 167.5	0.20
140 to 150	0.49
120 to 140	0.25
80 to 120	0.62
40 to 80	0.76
0 to 40	0.82

\* Maximum Stress Ratio: 1.00=Full Allowable.

### 2.2 Foundation Reactions

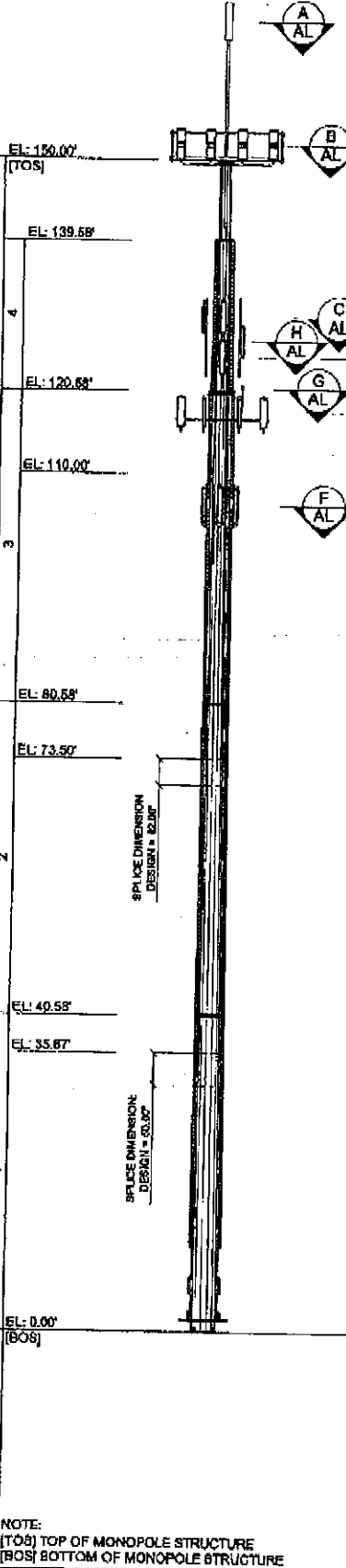
BASE REACTIONS	REACTIONS	RESULTS*
Moment (kip-ft)	3231.4	Adequate
Compression (kips)	45.9	Adequate
Shear (kips)	34.1	Adequate

\* Based on foundation analysis.

## 3.0 Conclusions and Recommendations

1. The monopole, anchor bolts, base plate, and foundation are structurally adequate to accommodate the existing and proposed antenna and transmission line loading used in this analysis.
2. Any future changes in loading must be reviewed by the SpectraSite Engineering Department.

**INTERIOR SECTION**  
DMS REINFORCING SLEEVE



NOTE:  
(TOS) TOP OF MONOPOLE STRUCTURE  
(BOS) BOTTOM OF MONOPOLE STRUCTURE

**INTERNAL SHAFT FLANGE SPECIFICATIONS**

FLY THICKNESS (IN)	DIAMETER (IN)	GRADE	NO.	GRADE
10	1.0	24.5	A325	12
10	1.0	24.5	A325	12

**EXTERNAL SHAFT FLANGE SPECIFICATIONS**

FLY THICKNESS (IN)	DIAMETER (IN)	GRADE	NO.	GRADE
10	1.0	24.5	A325	12
10	1.0	24.5	A325	12

**INTERNAL SHAFT FLANGE SPECIFICATIONS**

FLY THICKNESS (IN)	DIAMETER (IN)	GRADE	NO.	GRADE
10	1.0	24.5	A325	12
10	1.0	24.5	A325	12

**EXTERNAL SHAFT FLANGE SPECIFICATIONS**

FLY THICKNESS (IN)	DIAMETER (IN)	GRADE	NO.	GRADE
10	1.0	24.5	A325	12
10	1.0	24.5	A325	12

**INTERNAL SHAFT FLANGE SPECIFICATIONS**

FLY THICKNESS (IN)	DIAMETER (IN)	GRADE	NO.	GRADE
10	1.0	24.5	A325	12
10	1.0	24.5	A325	12

**EXTERNAL SHAFT FLANGE SPECIFICATIONS**

FLY THICKNESS (IN)	DIAMETER (IN)	GRADE	NO.	GRADE
10	1.0	24.5	A325	12
10	1.0	24.5	A325	12

**INTERNAL SHAFT FLANGE SPECIFICATIONS**

FLY THICKNESS (IN)	DIAMETER (IN)	GRADE	NO.	GRADE
10	1.0	24.5	A325	12
10	1.0	24.5	A325	12

**EXTERNAL SHAFT FLANGE SPECIFICATIONS**

FLY THICKNESS (IN)	DIAMETER (IN)	GRADE	NO.	GRADE
10	1.0	24.5	A325	12
10	1.0	24.5	A325	12

**INTERNAL SHAFT FLANGE SPECIFICATIONS**

FLY THICKNESS (IN)	DIAMETER (IN)	GRADE	NO.	GRADE
10	1.0	24.5	A325	12
10	1.0	24.5	A325	12

**TOWER IDENTIFICATION**

MANUFACTURER	ITT MEYER
IDENTIFICATION NO.	8888 TYPE 8

**DESIGN SPECIFICATIONS**

CODE	ANSI/AIAA-222-F
WIND	100 MPH (HARTFORD COUNTY)
ICE	40 MPH WITH 1-INCH RADIAL (HARTFORD COUNTY)

**EXTERIOR SHAFT SPECIFICATIONS**

SECTION	LENGTH (FT)	SHAF	SECTION	THICKNESS (IN)	GRADE (NSI)	OVERLAP (IN)	DIAMETER ACROSS POINTS (IN)
1	36.87	12	31.08	0.375	65	0	51.3
2	42.00	12	33.10	0.313	65	0	45.2
3	40.00	12	27.61	0.260	65	0	38.7
4	40.00	12	24.25	0.260	65	0	31.5

**INTERIOR SHAFT SPECIFICATIONS**

SECTION	LENGTH (FT)	SHAF	SECTION	THICKNESS (IN)	GRADE (NSI)	OVERLAP (IN)	DIAMETER ACROSS POINTS (IN)
1	36.87	12	31.08	0.375	65	0	51.3
2	42.00	12	33.10	0.313	65	0	45.2
3	40.00	12	27.61	0.260	65	0	38.7
4	40.00	12	24.25	0.260	65	0	31.5

**INTERNAL SHAFT SPECIFICATIONS**

SECTION	LENGTH (FT)	SHAF	SECTION	THICKNESS (IN)	GRADE (NSI)	OVERLAP (IN)	DIAMETER ACROSS POINTS (IN)
1	36.87	12	31.08	0.375	65	0	51.3
2	42.00	12	33.10	0.313	65	0	45.2
3	40.00	12	27.61	0.260	65	0	38.7
4	40.00	12	24.25	0.260	65	0	31.5

**EXTERNAL SHAFT SPECIFICATIONS**

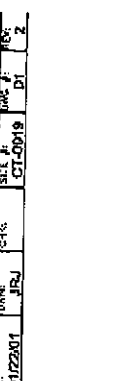
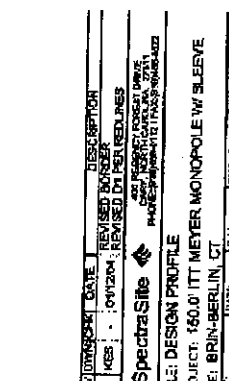
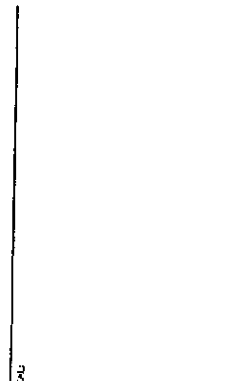
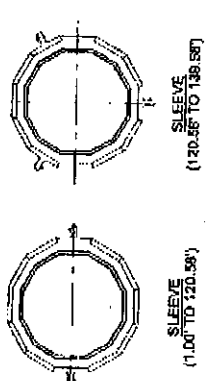
SECTION	LENGTH (FT)	SHAF	SECTION	THICKNESS (IN)	GRADE (NSI)	OVERLAP (IN)	DIAMETER ACROSS POINTS (IN)
1	36.87	12	31.08	0.375	65	0	51.3
2	42.00	12	33.10	0.313	65	0	45.2
3	40.00	12	27.61	0.260	65	0	38.7
4	40.00	12	24.25	0.260	65	0	31.5

**INTERNAL SHAFT SPECIFICATIONS**

SECTION	LENGTH (FT)	SHAF	SECTION	THICKNESS (IN)	GRADE (NSI)	OVERLAP (IN)	DIAMETER ACROSS POINTS (IN)
1	36.87	12	31.08	0.375	65	0	51.3
2	42.00	12	33.10	0.313	65	0	45.2
3	40.00	12	27.61	0.260	65	0	38.7
4	40.00	12	24.25	0.260	65	0	31.5

**EXTERNAL SHAFT SPECIFICATIONS**

SECTION	LENGTH (FT)	SHAF	SECTION	THICKNESS (IN)	GRADE (NSI)	OVERLAP (IN)	DIAMETER ACROSS POINTS (IN)
1	36.87	12	31.08	0.375	65	0	51.3
2	42.00	12	33.10	0.313	65	0	45.2
3	40.00	12	27.61	0.260	65	0	38.7
4	40.00	12	24.25	0.260	65	0	31.5



**REVISIONS**

NO.	DATE	DESCRIPTION
1	01/22/01	DESIGN PROFILE
2	01/22/01	DESIGN PROFILE

**DESIGN PROFILE**

PROJECT	150.0' ITT MEYER MONOPOLE W/ SLEEVE
SITE	BRIN-BERLIN, CT
DATE	01/22/01
BY	CT-0919
CHK	CT-0919
APP	CT-0919

**DESIGN PROFILE**

PROJECT	150.0' ITT MEYER MONOPOLE W/ SLEEVE
SITE	BRIN-BERLIN, CT
DATE	01/22/01
BY	CT-0919
CHK	CT-0919
APP	CT-0919

**DESIGN PROFILE**

PROJECT	150.0' ITT MEYER MONOPOLE W/ SLEEVE
SITE	BRIN-BERLIN, CT
DATE	01/22/01
BY	CT-0919
CHK	CT-0919
APP	CT-0919

**DESIGN PROFILE**

PROJECT	150.0' ITT MEYER MONOPOLE W/ SLEEVE
SITE	BRIN-BERLIN, CT
DATE	01/22/01
BY	CT-0919
CHK	CT-0919
APP	CT-0919

**DESIGN PROFILE**

PROJECT	150.0' ITT MEYER MONOPOLE W/ SLEEVE
SITE	BRIN-BERLIN, CT
DATE	01/22/01
BY	CT-0919
CHK	CT-0919
APP	CT-0919



# Berlin Fairgrounds(260 Beckley Rd., Berlin, CT 06037) CT4173 CT Siting Council Power Density Calculations

Nextel Directional Antennas ESMR - 851 MHz at centerline 96' AGL

Note: Power densities are in mW/ cm²						
Transmitters:	Frequency in MHz	CT Standard mW/ cm²	Number of Channels	ERP (W) per channel	Centerline of Tx antennas AGL (ft.)	Power density calculated at base of tower
Sprint (from prior file)	1950	1.0000	11	122	130	0.0353
Cingular (from prior file)	1930	1.0000	2	427	152	0.0133
	880	0.5867	2	296	152	0.0082
	880	0.5867	16	100	152	0.0246
Verizon (from prior file)	869	0.5793	9	200	116	0.481
T-Mobile (from prior file)	1935	1.0000	8		165	
AT&T (from prior file)	1945	1.0000	4	250	106	0.032
Berlin Fire Department	953.55	0.6357	1	25.12	94.5	0.001
Nextel Digital ESMR**	851	0.5673	12	100	90	0.053244444
** lowest Nextel antenna centerline is 96' adjusted to 90' per OET 65 Bulletin for 6' average head height.						
Total % of CT Standard						32.9050%