RECEIVED
APR 18 2005
CONNECTICUT
SITING COUNCIL

April 18, 2005

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

Re: EM-Nextel-111-050328
171 Town Hill Road, Plymouth, CT

Dear Chairman Katz,

Please be advised that I am formally withdrawing Nextel Communications exempt modification application referenced above. There has been a late change in the configuration of the compound for this site that will necessitate a Petition rather than an exempt modification process. This will be done in conjunction with another carrier, and will present the Council with an appropriate layout for the site.

Please accept my apologies for any inconvenience this withdrawal has caused for the Council or its staff.

Very truly yours,

Thomas F. Flynn III
Nextel Communications
Zoning Manager
New England South

**Nextel Communications**
100 Corporate Place Rocky Hill, CT 06067
Phone 860.513.5400 Fax 860.513.5444

NEXTEL

# TOWN OF PLYMOUTH
## Office of the Mayor

80 Main Street
Terryville, CT 06786
(860) 585-4001 • Fax (860) 585-4015
www.plymouthct.us

Richard G. Covello, Mayor

RECEIVED
APR 18
CONNECTICUT
SITING COUNCIL

April 15, 2005

Ms. Pamela B. Katz, P.E., Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: EM-NEXTEL-111-050328

Dear Ms. Katz:

Thank you for referring the Nextel application to the Town of Plymouth.

While the proposed placement of Nextel's equipment on the monopole is not a direct concern, the Town needs certain assurances that its public safety requirements will continue to be met.

The fire department currently has a presence at the top of the tower. The Town's police department has recently determined that the 171 Town Hill Road tower represents the best solution in overcoming "dead spots" in the community, areas that perhaps were not as critical five years ago, but due to development pressures and expanded patrolling requirements are seen as public safety deficiencies. To that end, the Police Commission, Police Department and Communications Commission are now in the process of securing estimates to overcome these problems. The expected needs will result in the use of reserved space at the top of the tower plus an undetermined amount of equipment at its base.

Lastly, as we look to the future, our third emergency service, the Plymouth Volunteer Ambulance Corps is investigating its own communications needs. The Town Hill Road site is centrally located and at an ideal elevation for their purposes.

In summary, the Town of Plymouth is experiencing new growth patterns which mandate that we review our public safety capabilities. A critical component is assuring our police, fire and ambulance services have the requisite communications positions atop the tower at 171 Town Hill Road.

In reviewing Nextel's petition, we note that while the applicant correctly identified the tower owner as T-Mobile, the property owner is incorrect. The Town of Plymouth is not the owner. Rather, the property is owned by the Terryville Lions Club.

As Mayor, I respectfully request the Siting Council to take those actions necessary to assure the citizens of Plymouth the protection of our community's interests while you consider new commercial applications for that facility.

Thank you.

Sincerely,

Richard G. Covello
Mayor

cc: A. Orsini, Dir. Emergency Management
T. Pollack, Public Works Director
M. Lausier, Chief of Police
M. Sekorski, Terryville Fire Dept, Chief
A. Tuleja, Police Commission, Chair
L. Johnson, Plymouth Vol. Amb. Corps, Pres.
S. Daigle, Terryville Lions Club, Pres.
R. Wright, Plymouth Police Union, Pres.

# 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@po.state.ct.us
www.ct.gov/csc


March 31, 2005

The Honorable Richard G. Covello
Mayor
Town of Plymouth
80 Main Street
Terryville, CT 06786-1209

RE: **EM-NEXTEL-111-050328** – Nextel Communications Inc. notice of intent to modify an existing telecommunications facility located at 171 Town Hill Road, Plymouth, Connecticut.

Dear Mayor Covello:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for April 19, 2005 at 1:30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

If you have any questions or comments regarding this proposal, please call me or inform the council by April 18, 2005.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/cm

Enclosure: Notice of Intent

c: William Kuehn, Town Planner, Town of Plymouth

EM-NEXTEL-111-050328

March 28, 2005

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

RECEIVED
MAR 2 8 2005
CONNECTICUT
SITING COUNCIL

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 171 Town Hill Road, Plymouth, Connecticut. The tower is owned by T-Mobile.

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 Manager
New England South Region
Nextel Communications

Enclosure

Cc: Mayor Richard Covello

**Nextel Communications, Inc.**
100 Corporate Place Rocky Hill, CT 06067
Phone 860.513.5400 Fax 860.513.5444

NEXTEL

**EXEMPT MODIFICATION**
**171 TOWN HILL ROAD**
**PLYMOUTH, CONNECTICUT 06782**

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 171 Town Hill Road, Plymouth, Connecticut.

## BACKGROUND

This existing facility, located at 171 Town Hill Road, Plymouth, Connecticut consists of a 169-foot tall monopole that is owned by T-Mobile. The property is owned by the Town of Plymouth of the same address. Sprint PCS, Verizon and T-Mobile are currently using the site. The site will provide wireless service coverage for Nextel to this section of Routes 8, 6 and 262 and a large section of Plymouth

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 125-foot level of the tower (see Attachment A) and place its equipment inside the large equipment building on the northern side of the tower inside of the existing fenced compound (see Attachment B). The tower has been structurally analyzed and found to be fully capable of supporting Nextel's antennas and its tower mounted hardware (Attachment C). The tower is located at latitude 41 66 8 and longitude 73 02 11. The ground elevation is 890' AMSL.

## POWER DENSITY INFORMATION

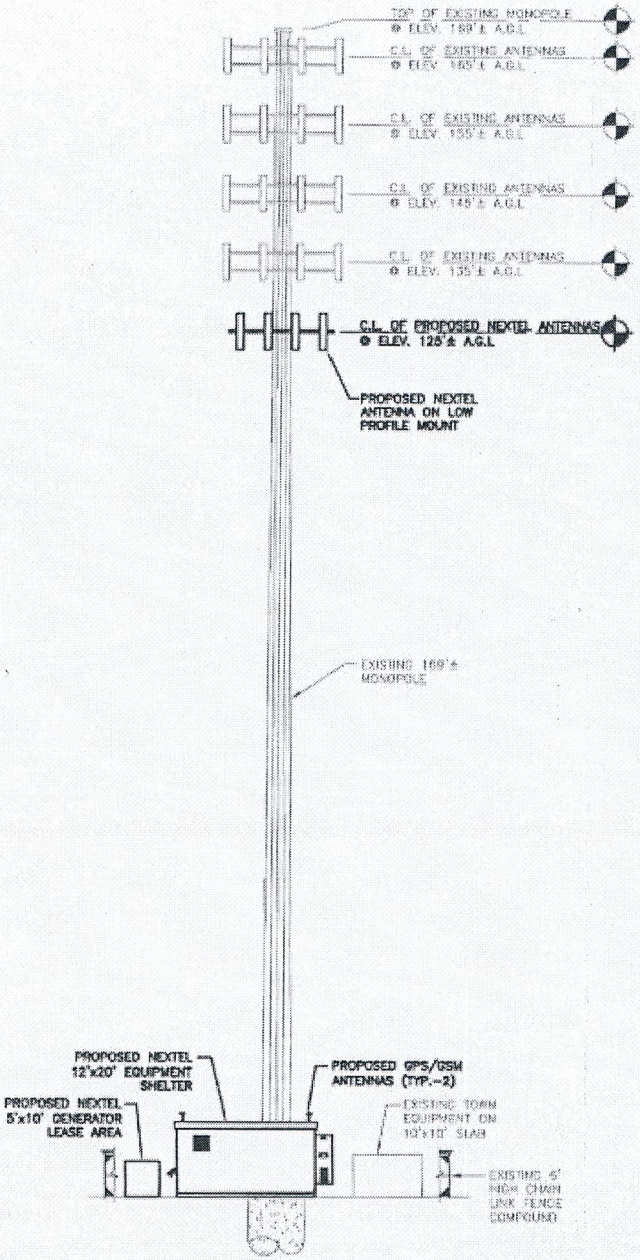
The operation of Nextel's antennas will not increase the total radio frequency electromagnetic power density level to a level at (or even near) existing State and Federal Standards. "Worst case" calculations, measured to a point at the base of the tower, show the power levels for the existing Sprint PCS, Verizon, T-Mobile and the proposed Nextel antennas reach just 17.6482% of the State/Federal standard in an uncontrolled access environment. (See Attachment D).

## 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.

EXHIBIT A




CONCEPTUAL ELEVATION 1

SCALE: N.T.S.

NOTES:

1. E911 ADDRESS NOT SHOWN PENDING APPROVAL.
2. ALL EQUIPMENT AND ANTENNA LOCATIONS AND MOUNTING METHODS PENDING STRUCTURAL ANALYSIS.
3. PROPOSED INSTALLATION INCLUDES 12 ANTENNAS (4 PER SECTOR) AND 15 LINES OF COAX.
4. FINAL POWER DESIGN AND ROUTING TO BE BY LOCAL UTILITY COMPANY. TELCO DESIGN AND ROUTING PENDING SBC DESIGN.
5. PLANS ARE CONCEPTUAL. LOCATION OF EQUIPMENT IS APPROXIMATE.

FINAL


NEXTEL

NEXTEL COMMUNICATIONS, INC.
40 HARTWELL AVENUE
LEXINGTON, MA 02421
PHONE: (617) 539-5000
FAX: (617) 839-5911

GENERAL DYNAMICS
WIRELESS SERVICES
77 "A" STREET
NEEDHAM HEIGHTS,
MA 02494
PHONE: (781) 449-2000
FAX: (781) 455-2865

Dewberry
Dewberry-Goodkind, Inc.


| NO. | DATE | REVISIONS | BY | CHK | APP'D |
|---|---|---|---|---|---|
| A | 12/17/04 | FOR COMMENT | KEW | PPB | CKD |

NOT TO SCALE | DESIGNED BY: CKD | DRAWN BY: KEW

APPROVALS

| | DATE |
|---|---|
| OWNER | 12/30/04 |
| NEXTEL R.F. ENGINEER | 12/30/04 |
| NEXTEL CONSTRUCTION | 1/5/05 |
| NEXTEL SITE ACQUISITION | 12/30/04 |
| NEXTEL FIELD OPERATIONS | 12/29/04 |
| GENERAL DYNAMICS | |
| SITE ACQUISITION AGENT | |
| CONSTRUCTION FIELD SUPERVISOR | |

# TERRYVILLE
# CT-3108-A

LEASE EXHIBIT
NOT FOR CONSTRUCTION

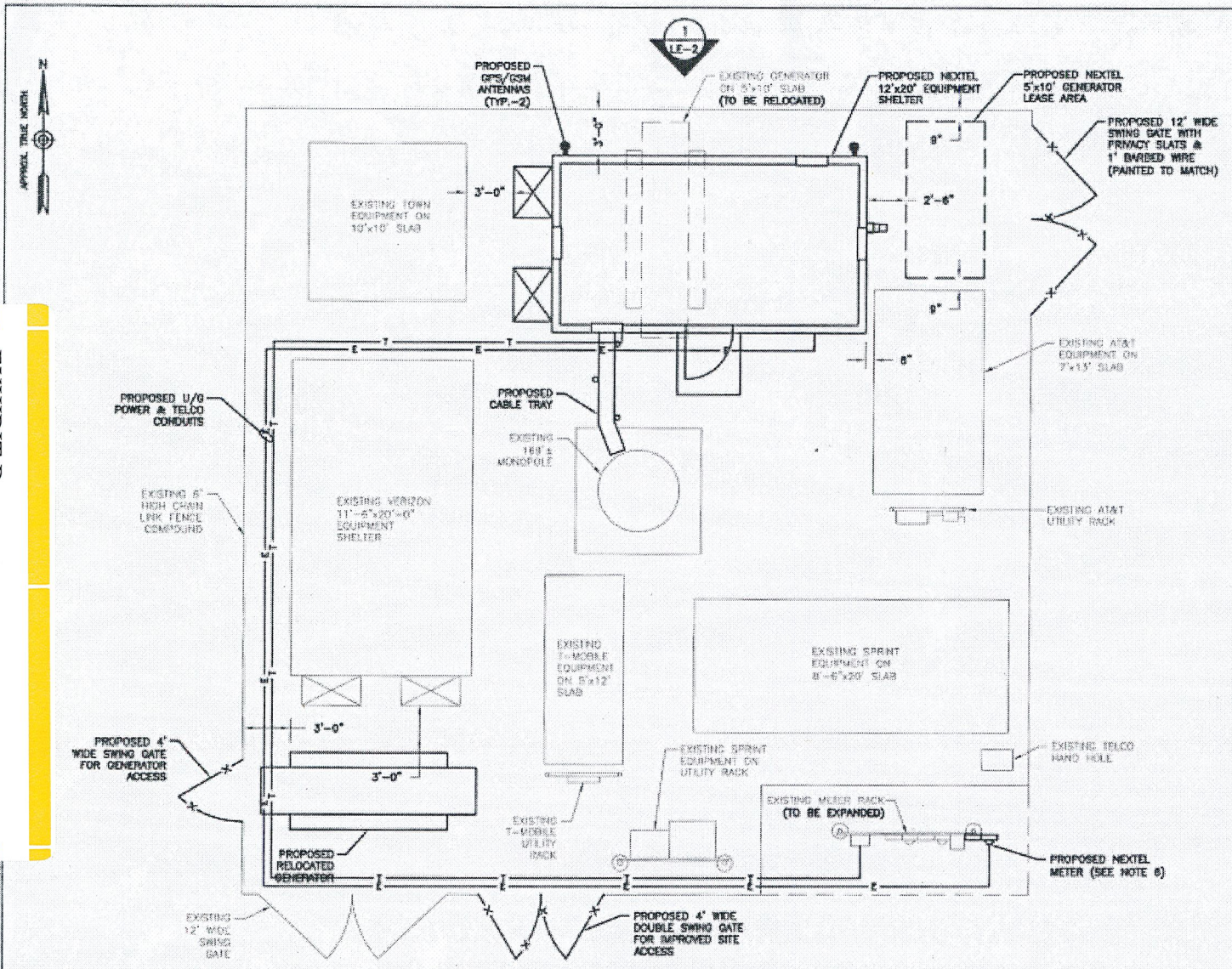
| SITE ADDRESS | E911 ADDRESS |
|---|---|
| 171 TOWN HILL ROAD<br>PLYMOUTH, CT 06782 | PENDING<br>SEE NOTE 1 |

NEXTEL LEASE AREA

| | | |
|---|---|---|
| SHELTER: | 12' x 20' = | 240 S.F. |
| GENERATOR: | 5' x 10' = | 50 S.F. |
| TOTAL: | | 290 S.F. |

| PROJECT NO. | DRAWING NAME | DATE | SHEET NO. | REV |
|---|---|---|---|---|
| 3956-07 | LE-2 | 12/17/04 | 2 OF 2 | A |

EXHIBIT B




## CONCEPTUAL SITE PLAN 1

SCALE: N.T.S.

NOTES:

1. E911 ADDRESS NOT SHOWN PENDING APPROVAL.
2. ALL EQUIPMENT AND ANTENNA LOCATIONS AND MOUNTING METHODS PENDING STRUCTURAL ANALYSIS.
3. PROPOSED INSTALLATION INCLUDES 12 ANTENNAS (4 PER SECTOR) AND 15 LINES OF COAX.
4. FINAL POWER DESIGN AND ROUTING TO BE BY LOCAL UTILITY COMPANY. TELCO DESIGN AND ROUTING PENDING SBC DESIGN.
5. PLANS ARE CONCEPTUAL. LOCATION OF EQUIPMENT IS APPROXIMATE.
6. PROPOSED NEXTEL METER TO BE ADDED TO RACK IS TO BE COORDINATED WITH POWER COMPANY.

FINAL


NEXTEL

NEXTEL COMMUNICATIONS, INC.
40 HARTWELL AVENUE
LEXINGTON, MA 02421
PHONE: (617) 639-6000
FAX: (617) 639-5911

GENERAL DYNAMICS

WIRELESS SERVICES
77 "A" STREET
NEEDHAM HEIGHTS,
MA 02494
PHONE: (781) 449-2000
FAX: (781) 455-2865

Dewberry

Dewberry-Goodkind, Inc.
99 ELM STREET
SUITE 101
NEW HAVEN, CT 06510
PHONE: 203.776.2222
FAX: 203.776.2999


| NO. | DATE | REVISIONS | BY | CHK | APP'D |
|---|---|---|---|---|---|
| A | 12/17/04 | FOR COMMENT | KEW | PPB | CKD |

NOT TO SCALE | DESIGNED BY: CKD | DRAWN BY: KEW

APPROVALS

| | |
|---|---|
| OWNER | DATE 11/30/04 |
| NEXTEL R.F. ENGINEER | DATE 12/30/04 |
| NEXTEL CONSTRUCTION | DATE 1/5/05 |
| NEXTEL SITE ACQUISITION | DATE 12/30/04 |
| NEXTEL FIELD OPERATIONS | DATE 12/29/04 |
| GENERAL DYNAMICS | DATE |
| SITE ACQUISITION AGENT | DATE 12/29/04 |
| CONSTRUCTION FIELD SUPERVISOR | DATE |

# TERRYVILLE
# CT-3108-A

LEASE EXHIBIT
NOT FOR CONSTRUCTION

| SITE ADDRESS | E911 ADDRESS |
|---|---|
| 171 TOWN HILL ROAD<br>PLYMOUTH, CT 06782 | PENDING<br>SEE NOTE 1 |

NEXTEL LEASE AREA

| | |
|---|---|
| SHELTER: | 12' x 20' = 240 S.F. |
| GENERATOR: | 5' x 10' = 50 S.F. |
| TOTAL: | 290 S.F. |

| PROJECT NO. | DRAWING NAME | DATE | SHEET NO. | REV |
|---|---|---|---|---|
| 3956-07 | LE-1 | 12/17/04 | 1 OF 2 | A |

1079 N. 204th Avenue
Elkhorn, NE 68022
Ph: 402-289-1888
Fax: 402-289-1861

**SEMAAN ENGINEERING SOLUTIONS**

# 169 ft PIROD Monopole
# Structural Analysis

Approved - 3/15/05
T-Mobile Site Marketing

**Prepared for:**
**T-Mobile USA**
**12920 SE 38th Street**
**Bellevue, WA 98006**

## Site: CT11417C / Plymouth - Rt. 6 / Nextel
## Plymouth, CT

STATE OF CONNECTICUT
ROBERT I. SEMAAN
No. 23344
LICENSED PROFESSIONAL ENGINEER
3/14/05

**March 14, 2005**

EXHIBIT C

Ms. Jennifer Shearer
T-Mobile USA
12920 SE 38th Street
Bellevue, WA 98006

***Re: Site Number CT11417C – Plymouth - Rt. 6, Plymouth, CT.***

Dear Ms. Shearer:

We have completed the structural analysis for the existing monopole, located at the above referenced site. The purpose of this analysis is to determine that the existing monopole design is in conformance with the EIA/TIA-222-F standard and local building codes for the proposed antennae loads installation. Refer to the Review and Recommendations section at the end of this report for the analysis results.

**Description of Structure:**

The structure is a 169 ft PIROD Monopole.

Refer to PIROD drawing 150737-B dated September 1, 2000 for a detailed description of the structure.

**Method of analysis:**

The tower was analyzed using Semaan Engineering Solutions' software suite for communication structures. The structural analysis is performed using the SAPS finite element engine. The method is 3D, non-linear, which accounts for the second order geometric effects due to the displacements. It also treats guys as exact cable elements and therefore is ideal for guyed towers. The analysis was performed in conformance with **EIA/TIA-222-F and local building codes for a basic wind speed of 80 mph and 1/2" radial ice with reduced wind speed (fastest mile)**. This is in conformance with the IBC 2003: Section 1609.1.1, Exception (5) and Section 3108.4. Wind is applied to the structure, accessories and antennas.

## Structure loading:

Per the loading sheet supplied, the analysis was performed using the following loading: (Proposed loading in bold)

| Elev. (ft) | Qty | Antennas and Mounts | Coax | Owner |
|---|---|---|---|---|
| 169.0 | 1 | ACP-305 On a 4 Omni Mount | (4) 7/8 | Landlord |
| | 1 | PD220 On Same Mount | | |
| | 1 | PD455 On Same Mount | | |
| | 1 | SRL-229 On Same Mount | | |
| 165.0 | 12 | RR65-19-00XP On a Low Profile Platform | (25) 1-5/8 | T-Mobile |
| | 12 | S20045A1 LNA | | |
| | 1 | 4 ft HP Dish | | |
| 155.0 | 9 | DB980H90 On a 13 ft Low Profile Platform | (9) 1-5/8 | Sprint |
| 145.0 | 3 | Allgon 7250.03 On a 13 ft Low Profile Platform | (12) 1-1/4 | AT&T |
| | 3 | 731DG65V1EXM On Same Platform | | |
| 135.0 | 12 | DB950F85T2E-M On a Low Profile Platform | (12) 1-5/8 | Verizon |
| **125.0** | **12** | **DB846G90A-XY On a Low Profile Platform** | **(15) 1 5/8 (Outside)** | **Nextel** |
| 125.0 | 1 | Celwave 201 On Existing Platform | (1) ½ | Terryville FD |
| 80.0 | 1 | PD455 On a 4 FT Standoff | (1) 7/8 | Landlord |

**All transmission lines are assumed running inside of pole shaft with the exception of those for the proposed Nextel loading.**

**Results of Analysis:**

Refer to the attached Computer Summary sheets for detailed analysis results.

**Structure:**

The existing monopole is structurally capable of supporting the existing and proposed antennas. The maximum structure usage is: 85.0%.

**Foundation**:

| Pole Reactions | Original Design Reactions | Current Analysis Reactions | % Of Design |
|---|---|---|---|
| Moment (ft-kips) | 4,181.30 | 3,949.68 | 94.5 |
| Shear (kips) | 34.20 | 32.72 | 95.7 |

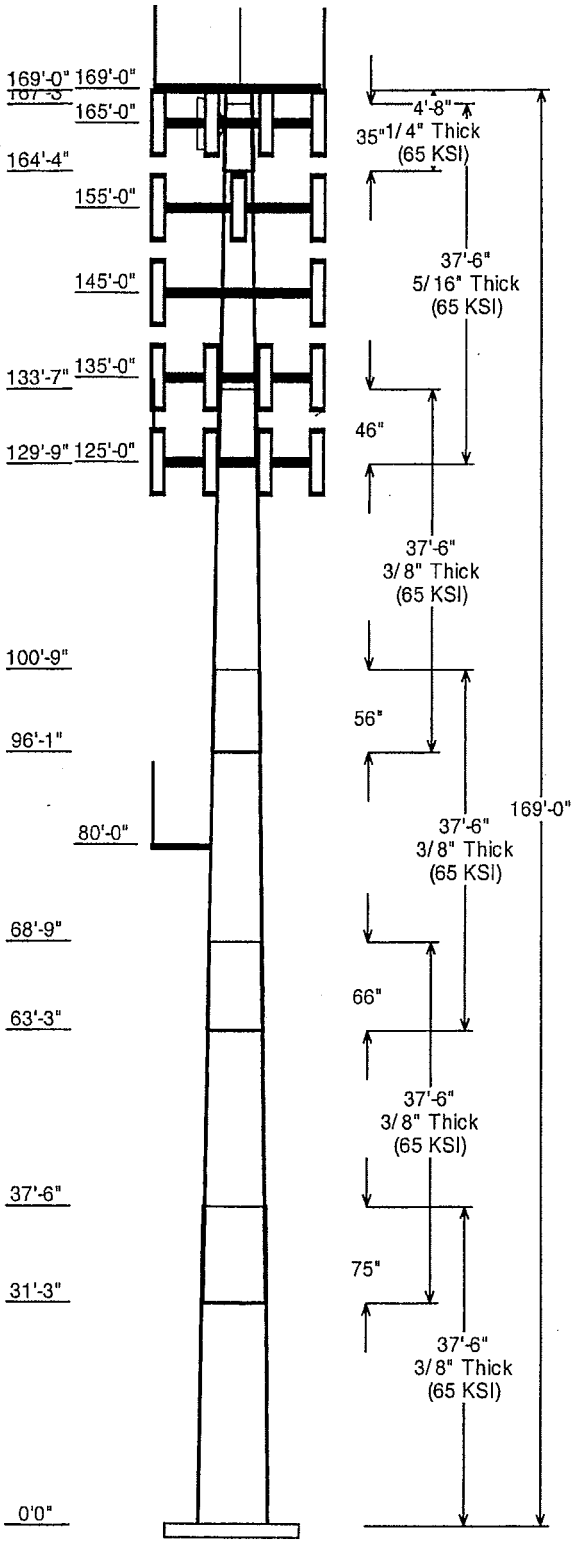
The analysis reactions are less than the design reactions therefore no foundation modifications are required.

**Review and Recommendations:**

Based on the analysis results, the existing structure meets the requirements per the EIA/TIA-222-F standards for a basic wind speed of 80 mph and 1/2" radial ice with reduced wind speed.

**SEMAAN ENGINEERING SOLUTIONS**
1079 N.204th Avenue
Elkhorn, NE 68022
Phone: 402-289-1888
Fax: 402-289-1861

*Copyright Semaan Engineering Solutions, Inc*




## Job Information

| | |
|---|---|
| Pole : | CT11417C |
| Description : | |
| Client : | T-Mobile USA-WA |
| Location : | Plymouth - Rt. 6, Plymouth, CT |
| Type : | 18 Sides Base Elev (ft): 0.00 |
| Height :(ft) | 169.00 Taper: 0.245310 (in/ft) |

## Sections Properties

| Shaft Section | Length (ft) | Diameter (in) Across Flats Top | Bottom | Thick (in) | Joint Type | Overlap Length (in) | Taper (in/ft) | Steel Grade (ksi) |
|---|---|---|---|---|---|---|---|---|
| 1 | 37.500 | 53.73 | 62.93 | 0.375 | | 0.000 | 0.245310 | 65 |
| 2 | 37.500 | 46.82 | 56.02 | 0.375 | Slip Joint | 75.000 | 0.245310 | 65 |
| 3 | 37.500 | 39.72 | 48.92 | 0.375 | Slip Joint | 66.000 | 0.245310 | 65 |
| 4 | 37.500 | 32.41 | 41.61 | 0.375 | Slip Joint | 56.000 | 0.245310 | 65 |
| 5 | 37.500 | 24.78 | 33.98 | 0.313 | Slip Joint | 46.000 | 0.245310 | 65 |
| 6 | 4.667 | 24.85 | 26.00 | 0.250 | Slip Joint | 35.000 | 0.245310 | 65 |

## Discrete Appurtenance

| Attach Elev (ft) | Force Elev (ft) | Qty | Description |
|---|---|---|---|
| 169.000 | 170.000 | 1 | 4 Omni Mount |
| 169.000 | 180.750 | 1 | SRL-229 |
| 169.000 | 181.000 | 1 | PD455 |
| 169.000 | 181.000 | 1 | PD220 |
| 169.000 | 180.750 | 1 | ACP-305 |
| 165.000 | 165.000 | 1 | 4 ft HP Dish |
| 165.000 | 165.000 | 12 | S20045A1 LNA |
| 165.000 | 165.000 | 1 | 13 ft Low Profile Platform |
| 165.000 | 165.000 | 12 | RR65-19-00XP |
| 155.000 | 155.000 | 1 | 13 ft Low Profile Platform |
| 155.000 | 155.000 | 9 | DB980H90 |
| 145.000 | 145.000 | 3 | 731DG65V1EXM |
| 145.000 | 145.000 | 3 | Allgon 7250.03 |
| 145.000 | 145.000 | 1 | 13 ft Low Profile Platform |
| 135.000 | 135.000 | 1 | Low Profile Platform |
| 135.000 | 135.000 | 12 | DB950F85T2E-M |
| 125.000 | 128.875 | 1 | Celwave 201 |
| 125.000 | 125.000 | 1 | Low Profile Platform |
| 125.000 | 125.000 | 12 | DB846G90A-XY |
| 80.000 | 80.000 | 1 | 4 FT Standoff |
| 80.000 | 91.000 | 1 | PD455 |

## Linear Appurtenance

| Elev (ft) From | To | Description | Exposed To Wind |
|---|---|---|---|
| 0.000 | 125.0 | 1 5/8" Coax | Yes |

## Reactions

| Load Case | Moment (Kip-ft) | Shear (Kips) | Axial (Kips) |
|---|---|---|---|
| 80.00 mph Wind w/ No Ice | 3,949.676 | 32.720 | -44.512 |
| 69.28 mph Wind w/ 0.50 in Ice | 3,357.596 | 27.097 | -56.775 |

## Plymouth, CT (Town Hill Rd) CT3108 - CT Siting Council Power Density Calculations

Nextel Directional Antennas ESMR - 851 MHz at centerline 125' 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 | % of CT Standard |
|---|---|---|---|---|---|---|---|
| Nextel Digital ESMR** | 851 | 0.5673 | 12 | 100 | 119 | 0.030455476 | 5.3682% |
| T-Mobile from Sprint filing | 1930 | | | | 165 | 0.013147 | 1.3100% |
| Lyons Club from Sprint filing | | | | | 179 | 0.000637 | 0.0700% |
| | | | | | | 0.000212 | 0.3200% |
| Verizon from prior filing | 1900 | | | | 135 | 0.0292 | 2.9200% |
| Sprint from prior filing | 1962.5 | | | | 155 | 0.076618 | 7.6600% |

** lowest Nextel antenna centerline is 125' adjusted to 119' per OET 65 Bulliten for 6' average head height.

Total % of CT Standard 17.6482%

EXHIBIT D