



# 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)

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

December 22, 2008

Jennifer Young Gaudet  
T-Mobile USA, Inc.  
35 Griffin Road S  
Bloomfield, CT

RE: **EM-T-MOBILE-023-081023B** – Omnipoint Communications, Inc. a.k.a. T-Mobile notice of intent to modify an existing telecommunication facility located at 4 Hoffman Road, Canton, Connecticut – Relocation of Ground Equipment

Dear Ms. Gaudet:

The Connecticut Siting Council (Council) hereby acknowledges the revisions to your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies. These revisions include the plans submitted on December 11, 2008 to relocate T-Mobile's equipment within the fenced compound. Please be advised that all conditions associated with the Council's November 12, 2008 acknowledgement are still applicable.

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/jb

c: The Honorable Richard J. Barlow, First Selectman, Town of Canton  
Robert H. Skinner, Chief Administrative Officer, Town of Canton  
Neil Pade, Town Planner, Town of Canton  
American Tower

ORIGINAL

December 11, 2008

RECEIVED  
DEC 12 2008

VIA OVERNIGHT DELIVERY

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

CONNECTICUT  
SITING COUNCIL

Re: Omnipoint Communications, Inc. (T-Mobile) – exempt modification (2<sup>nd</sup> revision)  
4 Hoffman Road, Canton, Connecticut

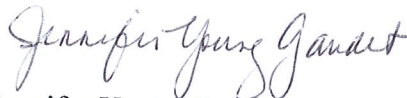
Dear Mr. Phelps:

On October 23 and November 19, 2008, Omnipoint Communications, Inc. ("T-Mobile") made filings for an exempt modification for a planned installation at the American Tower Corp. site at 4 Hoffman Road in Canton. Recently, American Tower informed T-Mobile that the ground space shown on T-Mobile's drawings is not available, having been assigned previously to another carrier.

As a result, T-Mobile will place its equipment in the location shown on the attached revised drawings. There are no other changes to the proposed installation, and the analysis of the proposed installation under R.C.S.A. Section 16-50j-72(b)(2) is unchanged.

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

Respectfully yours,

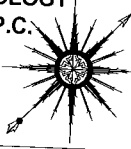


Jennifer Young Gaudet

cc: Richard Barlow, First Selectman, Town of Canton  
James H. and Katherine E. Hart (underlying property owners)  
Attachment

**ALL-POINTS TECHNOLOGY CORPORATION, P.C.**

3 SADDLEBROOK DRIVE  
KILLINGWORTH, CT. 06419  
PHONE: (860)-663-1697  
FAX: (860)-663-0935  
www.allpointstech.com



**APT FILING NUMBER: CT-255T-230**

LE-1

SCALE: AS NOTED

DRAWN BY: AAJ

DATE: 10/08/08

CHECKED BY: SMC



35 GRIFFIN ROAD  
BLOOMFIELD, CT 06002  
OFFICE: (860)-692-7100

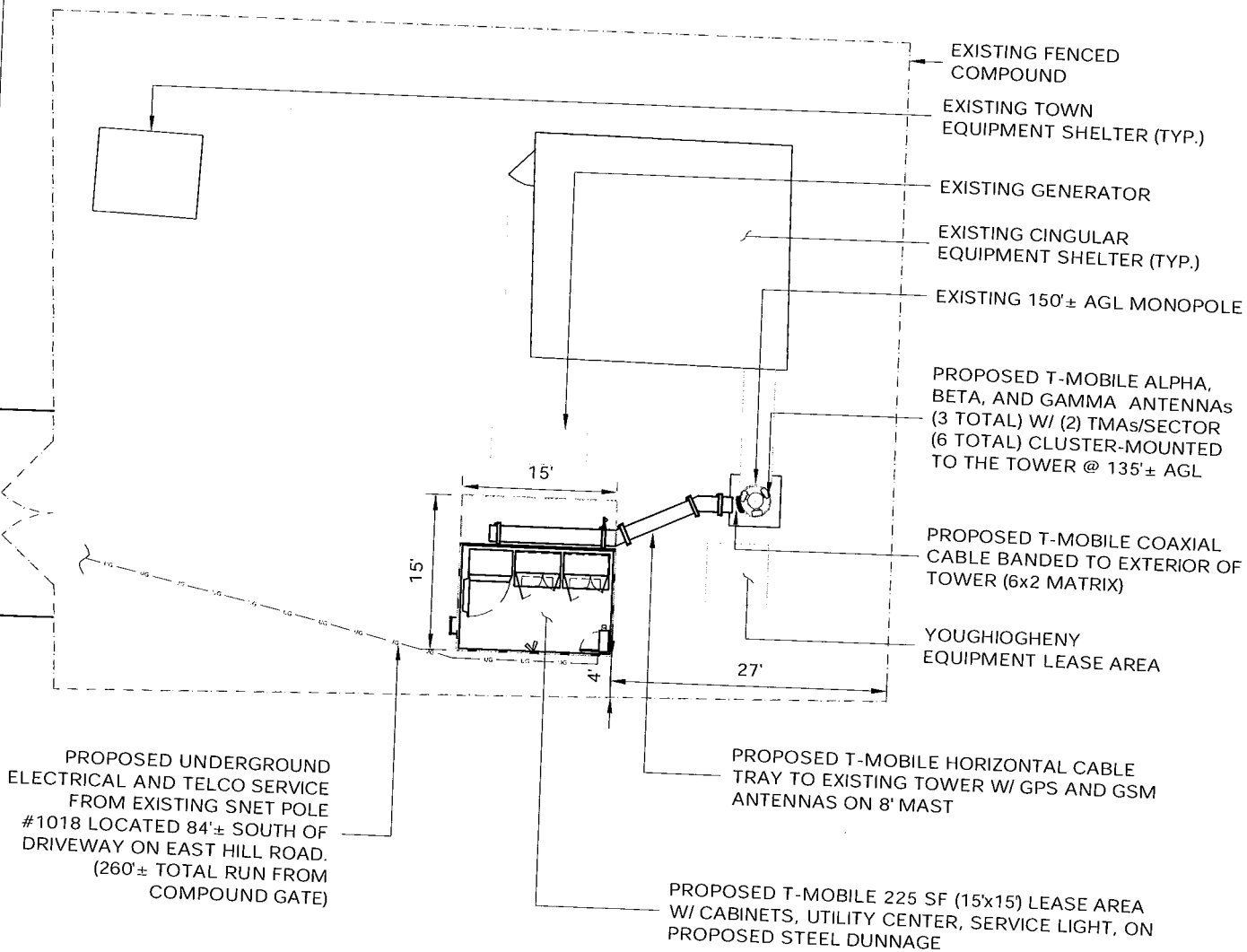
**T-MOBILE SITE NUMBER**  
**CTHA155A**

CANTON ATC  
4 HOFFMAN ROAD  
CANTON, CT 06019-2123

**NOTE:**

PER FCC MANDATE, ENHANCED EMERGENCY (E911) SERVICE IS REQUIRED TO MEET NATIONWIDE STANDARDS FOR WIRELESS COMMUNICATIONS SYSTEMS. OMNIPOINT COMMUNICATIONS INC. IMPLEMENTATION REQUIRES DEPLOYMENT OF EQUIPMENT AND ANTENNAS GENERALLY DEPICTED ON THIS PLAN, ATTACHED TO OR MOUNTED IN CLOSE PROXIMITY TO THE BTS RADIO CABINETS. OMNIPOINT COMMUNICATIONS INC. RESERVES THE RIGHT TO MAKE REASONABLE MODIFICATIONS TO E911 EQUIPMENT AND LOCATION AS TECHNOLOGY EVOLVES TO MEET REQUIRED SPECIFICATIONS. ALL EQUIPMENT LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO APPROVAL BY OMNIPOINT COMMUNICATIONS INC. STRUCTURAL & RF ENGINEERS. LOCATIONS OF POWER & TELEPHONE FACILITIES ARE SUBJECT TO APPROVAL BY UTILITY COMPANIES.

REV1: 10/20/08: LEASE AREA SIZE: SMC  
REV2: 10/21/08: GENERAL COMMENTS: SMC  
REV3: 11/12/08: ANTENNA CONFIG: SMC  
REV4: 11/25/08: LEASE AREA RELOCO: SMC



**COMPOUND PLAN**

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

VIA OVERNIGHT DELIVERY

November 18, 2008

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

RECEIVED  
NOV 19 2008

CONNECTICUT  
SITING COUNCIL

ORIGINAL

Re: Omnipoint Communications, Inc. (T-Mobile) – revised exempt modification  
4 Hoffman Road, Canton, Connecticut

Dear Mr. Phelps:

On October 23, 2008, Omnipoint Communications, Inc. ("T-Mobile) filed an exempt modification for a planned installation at the American Tower Corp. site at 4 Hoffman Road in Canton. At that time, T-Mobile intended to attach nine antennas and six TMAs on T-arms to the tower. The proposed installation resulted in a need for tower modifications, and a modification plan was included in the filing. Since that time, T-Mobile has worked with American Tower on a revised antenna configuration that will not require tower modifications. This letter and attachments revise T-Mobile's filing to reflect the new antenna configuration.

As shown on the attached revised drawings, T-Mobile will install three antennas at the 135' level of the tower. The antennas will be attached to the tower in a cluster mount fashion, with two TMAs mounted each antenna. Also attached is a structural analysis documenting the tower's structural sufficiency for the revised antenna loading.

There are no other changes to the proposed installation, and the analysis of the proposed installation under R.C.S.A. Section 16-50j-72(b)(2) is unchanged.

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

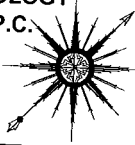
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Jennifer Young Gaudet

cc: Richard Barlow, First Selectman, Town of Canton  
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Attachments

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LE-1

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**T-Mobile**

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BLOOMFIELD, CT 06002  
OFFICE: (860)-692-7100

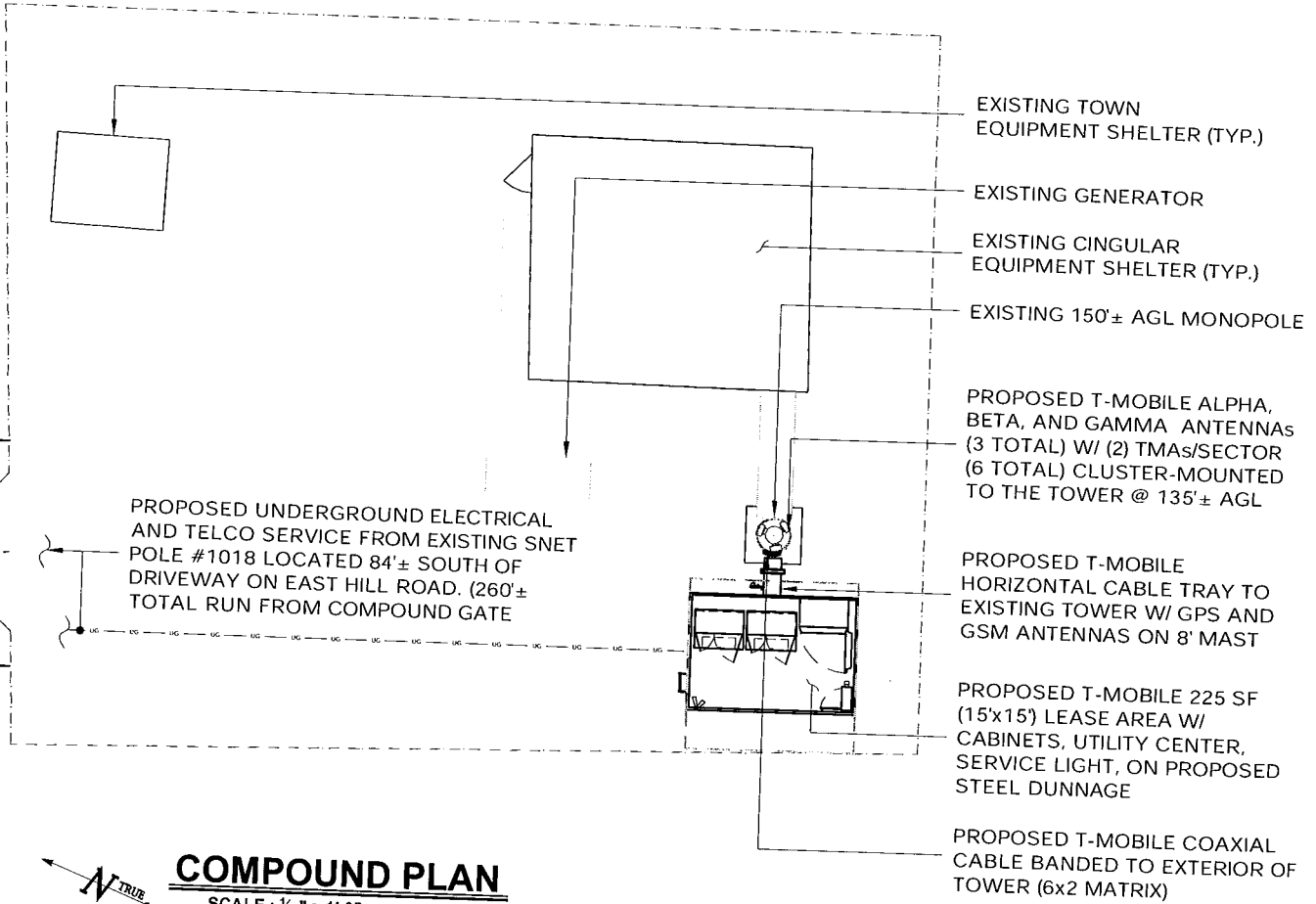
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CANTON ATC  
4 HOFFMAN ROAD  
CANTON, CT 06019-2123

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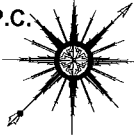
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**COMPOUND PLAN**  
SCALE: 1/16" = 1'-0"

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www.allpointstech.com



**APT FILING NUMBER: CT-255T-230**

LE-2

SCALE: AS NOTED

DRAWN BY: AAJ

DATE: 10/08/08

CHECKED BY: SMC

**T-Mobile**

35 GRIFFIN ROAD  
BLOOMFIELD, CT 06002  
OFFICE: (860)-692-7100

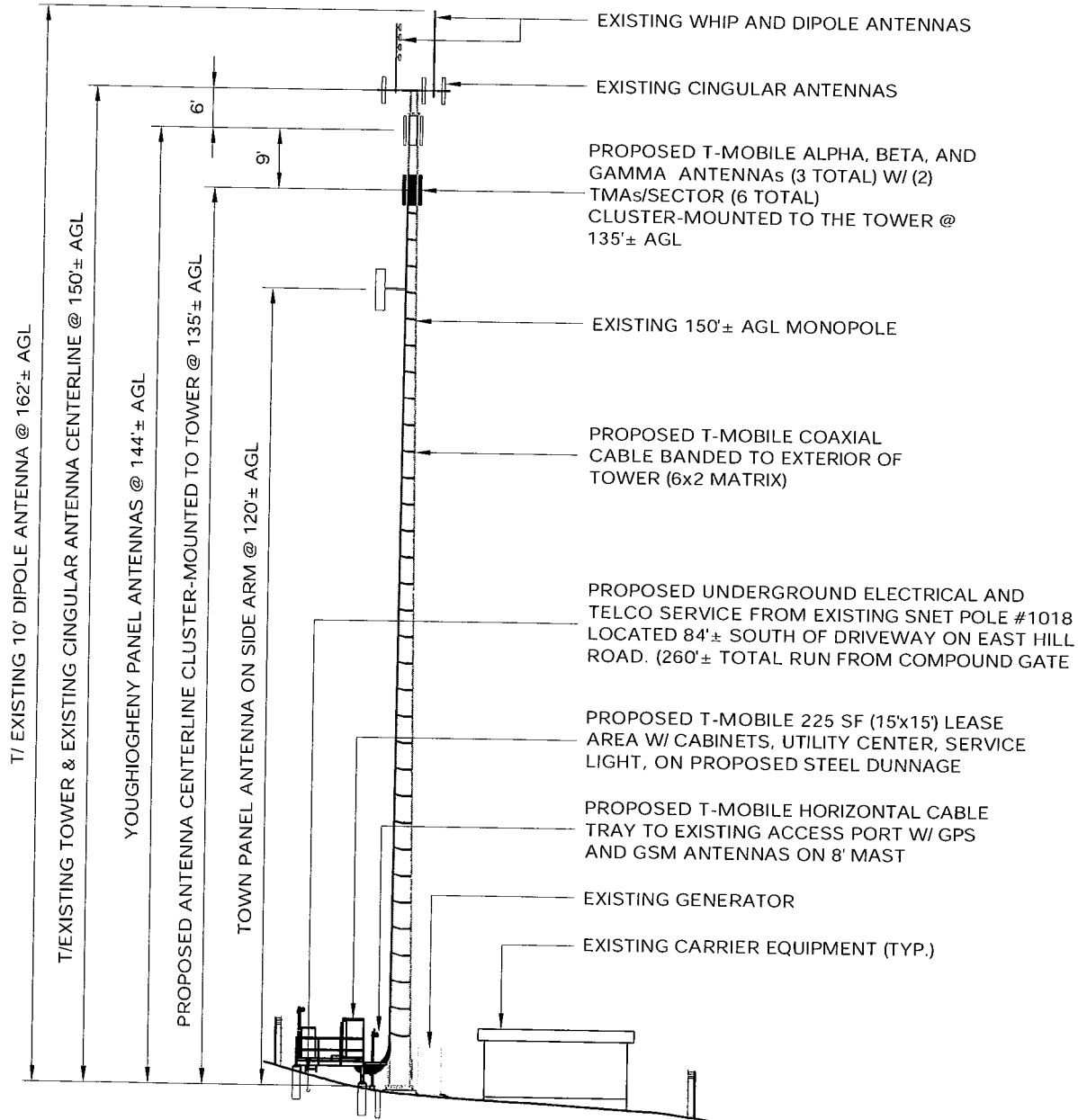
**T-MOBILE SITE NUMBER  
CTHA155A**

CANTON ATC  
4 HOFFMAN ROAD  
CANTON, CT 06019-2123

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REV3: 11/12/08: ANTENNA CONFIG: SMC



**SOUTHERN ELEVATION**

SCALE: 1" = 25'-0"



**AMERICAN TOWER**

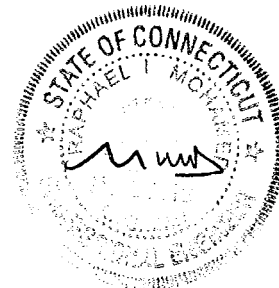
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## Structural Analysis Report

**Structure** : 150 ft ITT Meyer Monopole  
**ATC Site Name** : Cntn - Canton, CT  
**ATC Site Number** : 302488  
**Proposed Carrier** : T-Mobile  
**Carrier Site Name** : Canton CT  
**Carrier Site Number** : CTHA155  
**County** : Hartford  
**Engineering Number** : 42468723  
**Date** : October 28, 2008  
**Usage** : 100%  
**Portholes Required** : No

Submitted by:  
Michael Davenport, E.I.  
Design Engineer

American Tower Engineering Services  
400 Regency Forest Drive  
Cary, NC 27518  
Phone: 919-468-0112



10/30/08

**Introduction**

The purpose of this report is to summarize results of the structural analysis performed on the 150 ft. ITT Meyer Monopole located at 4 Hoffman Rd., Canton, CT 06019, Hartford County (ATC Site No. 302488). The tower was originally designed and manufactured by ITT Meyer per Type "B" specifications (Spect. #AT-8935, dated April 13, 1984). Additional tower information and member geometry was taken from a mapping by HTS (Project No. HTS090608, dated September 4, 2008).

**Analysis**

The tower was analyzed using Semaan Engineering Solutions, Inc., Software. The analysis assumes that the tower is in good, undamaged, and non-corroded condition.

Basic Wind Speed: 95.0 mph (3-second gust)  
 Radial Ice: 50.0 mph (3-second gust) w/ 1 1/4" ice  
 Code: ANSI/TIA/EIA-222-G / 2003 IBC with 2005 CT Supplements & 2008 CT Amendments

**Antenna Loads**

The following antenna loads were used in the tower analysis.

**Existing Antennas**

Elev. (ft)	Qty	Antennas	Mount	Coax	Carrier
150.0	1	10' Dipole	Platform w/ Handrails	(1) 7/8"	Town of Canton
	9	CSS DUO4-8686-00		(9) 7/8"	AT&T Mobility
	1	12' Omni		(1) 1 5/8"	USA Mobility
144.0	3	RFS APXV18-206517S-C	Flush	(6) 1 5/8"	Youghiogheny
120.0	1	75" x 16.8" Panel	Side Arm	(1) 7/8"	Town of Canton

**Proposed Antennas**

Elev. (ft)	Qty	Antennas	Mount	Coax	Carrier
135.0	3	RFS APX16PV-16PVL-E-00	Flush	(12) 1 5/8"	T-Mobile
	6	CCI DTMA-1819-DD-12			

Install proposed coax on outside of monopole.



**Results**

The maximum structure usage is: 100%

Pole Reactions	Original Design Reactions	Original Design Reactions w/1.35 Multiplier	Current Analysis Reactions	% Of Design
Moment (ft-kips)	1,197.0	1,616.0	1,847.9	114
Shear (kips)	13.1	17.7	18.3	103

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

**Conclusion**

Based on the analysis results, the structure meets the requirements per ANSI/TIA-222-G and 2003 IBC with 2005 Connecticut supplements and 2008 Connecticut Amendment standards. The tower and foundation can support the existing and proposed equipment.

If you have any questions or require additional information, please call 919-466-5147.



Daniel F. Caruso  
Chairman

# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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

November 12, 2008

Jennifer Young Gaudet  
T-Mobile USA, Inc.  
35 Griffin Road S  
Bloomfield, CT

RE: **EM-T-MOBILE-023-081023B** – Omnipoint Communications, Inc. a.k.a. T-Mobile notice of intent to modify an existing telecommunication facility located at 4 Hoffman Road, Canton, 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 with the following conditions:

- The tower shall be reinforced per page 2 of the structural analysis report dated September 24, 2008 and sealed by Wm. Garrett, P.E. prior to the antenna installation;
- Post-construction tower and foundation ratings of not more than 100 percent shall be achieved;
- A signed letter from a Professional Engineer duly licensed in the State of Connecticut shall be submitted to the Council to certify that the modifications have been properly completed and post-construction tower and foundation ratings of not more than 100 percent have been achieved.

The proposed modifications are to be implemented as specified here and in your notice dated October 22, 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

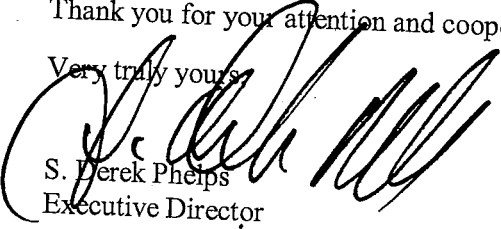


CONNECTICUT SITING COUNCIL  
Affirmative Action / Equal Opportunity Employer

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/jb

- c: The Honorable Richard J. Barlow, First Selectman, Town of Canton
- Robert H. Skinner, Chief Administrative Officer, Town of Canton
- Neil Pade, Town Planner, Town of Canton
- American Tower



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Daniel F. Caruso  
Chairman

October 24, 2008

The Honorable Richard J. Barlow  
First Selectman  
Town of Canton  
4 Market Street  
P. O. Box 168  
Collinsville, CT 06022-0168

RE: **EM-T-MOBILE-023-081023B** – Omnipoint Communications, Inc. a.k.a. T-Mobile notice of intent to modify an existing telecommunication facility located at 4 Hoffman Road, Canton, Connecticut.

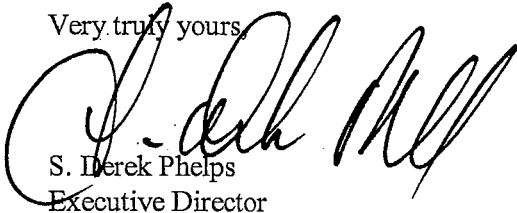
Dear Mr. Barlow:

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.

If you have any questions or comments regarding this proposal, please call me or inform the Council by November 7, 2008.

Thank you for your cooperation and consideration.

Very truly yours,



S. Derek Phelps  
Executive Director

SDP/jb

Enclosure: Notice of Intent

c: Neil Pade, Town Planner, Town of Canton  
Paul J. Fetherston, Chief Administrative Officer, Town of Canton



EM-T-MOBILE-023-081023B

ORIGINAL

VIA OVERNIGHT DELIVERY

October 22, 2008

RECEIVED  
OCT 23 2008

CONNECTICUT  
SITING COUNCIL

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

Re: Omnipoint Communications, Inc. (T-Mobile) – exempt modification  
4 Hoffman Road, Canton, Connecticut

Dear Mr. Phelps:

This letter and attachments are submitted on behalf of Omnipoint Communications, Inc. (also referred to herein as “T-Mobile”). T-Mobile plans to install antennas and related equipment at the American Tower Corp. site at 4 Hoffman Road in Canton (coordinates 41°51’18” N, -72°53’34” W). Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification 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 Canton.

T-Mobile will install nine antennas at the 135’ level of the tower. The antennas will be installed, three per sector, on T-arms; one TMA will be mounted behind two of the antennas in each sector. T-Mobile’s equipment cabinets will be placed on a steel platform adjacent to the base of the tower. Attached are a compound plan and elevation depicting the planned changes. Also attached are a structural analysis and associated reinforcement modification plan, which will be implemented at the time of construction to achieve structural sufficiency for T-Mobile’s installation.

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

Mr. S. Derek Phelps  
October 22, 2008  
Page 2

1. The height of the overall structure will be unaffected. The top of the tower extends to 150'; T-Mobile's proposed antennas will be located with a center line of 135' AGL.
2. The addition of T-Mobile's equipment will not require any extension of the site boundaries. All equipment will be located within the existing fenced compound.
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 cabinets 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, T-Mobile's operations at the site will result in a power density of 2.689%. AT&T's current operations result in a power density 6.96%. Thus, the combined site operations will result in a total power density of 9.649%.

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: Richard Barlow, First Selectman, Town of Canton  
James H. and Katherine E. Hart (underlying property owners)  
Attachments

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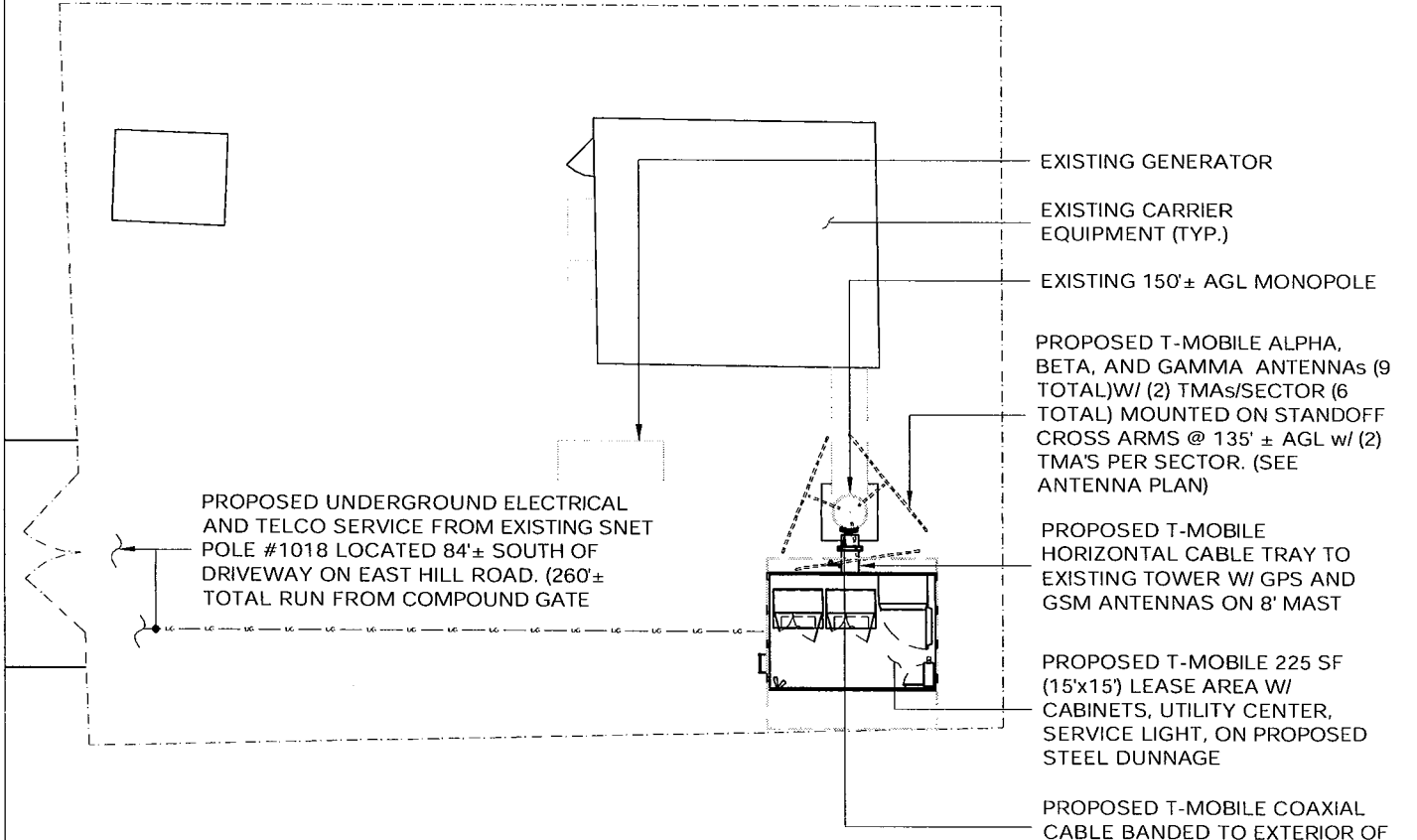
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**T-Mobile**  
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 OFFICE: (860)-692-7100

<b>T-MOBILE SITE NUMBER</b> CTHA155A
CANTON ATC 4 HOFFMAN ROAD CANTON, CT 06019-2123

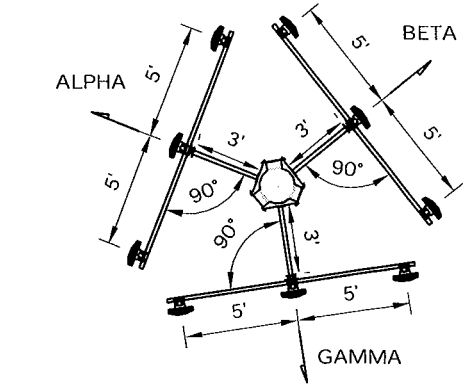
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REV1: 10/20/08: LEASE AREA SIZE: SMC  
 REV2: 10/21/08: GENERAL COMMENTS: SMC



- EXISTING GENERATOR
- EXISTING CARRIER EQUIPMENT (TYP.)
- EXISTING 150'± AGL MONOPOLE
- PROPOSED T-MOBILE ALPHA, BETA, AND GAMMA ANTENNAS (9 TOTAL) W/ (2) TMAs/SECTOR (6 TOTAL) MOUNTED ON STANDOFF CROSS ARMS @ 135' ± AGL w/ (2) TMA'S PER SECTOR. (SEE ANTENNA PLAN)
- PROPOSED T-MOBILE HORIZONTAL CABLE TRAY TO EXISTING TOWER W/ GPS AND GSM ANTENNAS ON 8' MAST
- PROPOSED T-MOBILE 225 SF (15'x15') LEASE AREA W/ CABINETS, UTILITY CENTER, SERVICE LIGHT, ON PROPOSED STEEL DUNNAGE
- PROPOSED T-MOBILE COAXIAL CABLE BANDED TO EXTERIOR OF TOWER (9x2 MATRIX)

**COMPOUND PLAN**  
 SCALE: 1/16" = 1'-0"



**ANTENNA PLAN**  
 SCALE: 1/16" = 1'-0"

**ALL-POINTS TECHNOLOGY CORPORATION, P.C.**  
 3 SADDLEBROOK DRIVE  
 KILLINGWORTH, CT. 06419  
 PHONE: (860)-663-1697  
 FAX: (860)-663-0935  
 www.allpointstech.com



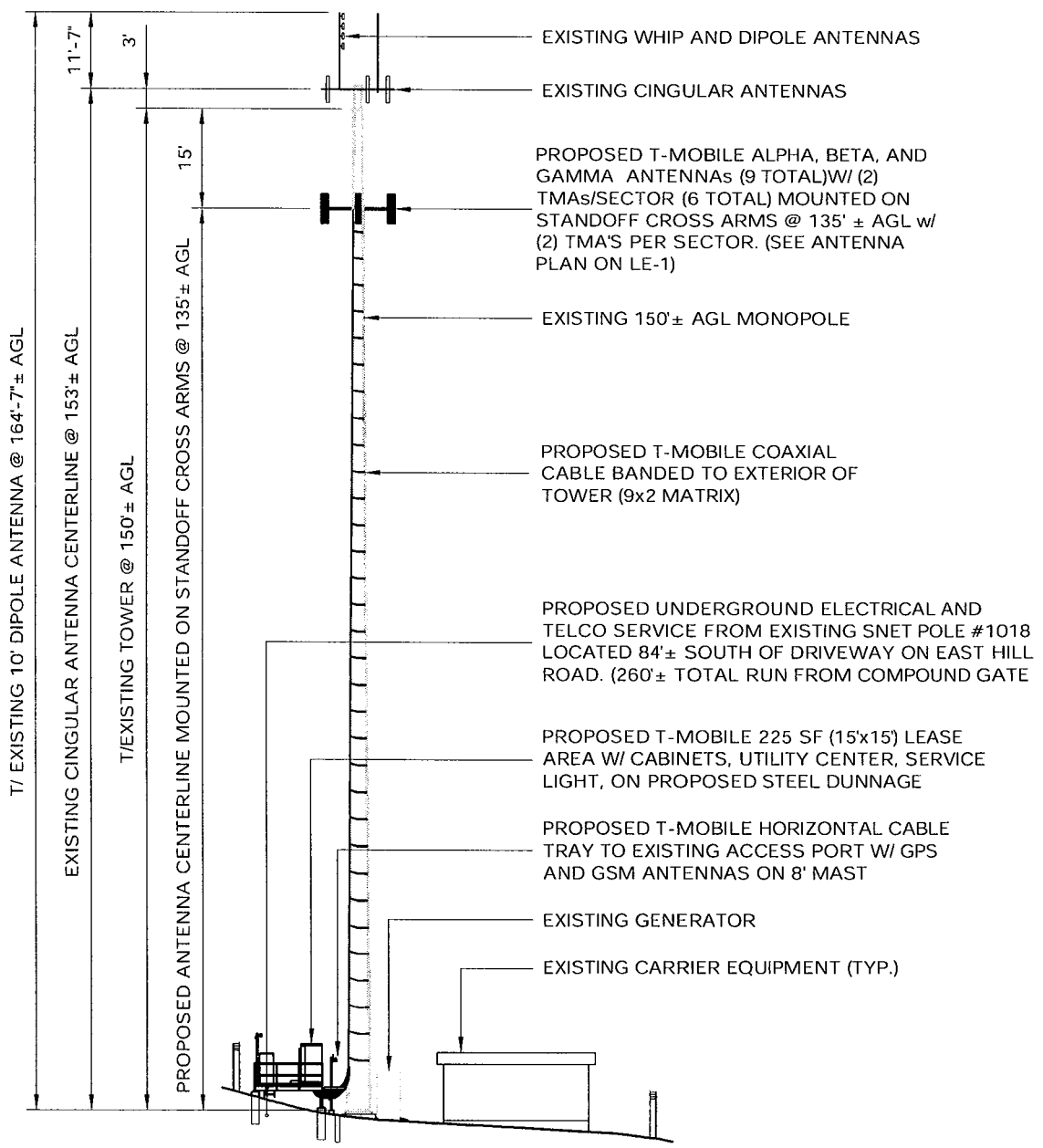
**APT FILING NUMBER: CT-255T-230**  
 LE-2  
**SCALE: AS NOTED**      **DRAWN BY: AAJ**  
**DATE: 10/08/08**      **CHECKED BY: SMC**

**T-Mobile**  
 35 GRIFFIN ROAD  
 BLOOMFIELD, CT 06002  
 OFFICE: (860)-692-7100

**T-MOBILE SITE NUMBER**  
**CTHA155A**  
**CANTON ATC**  
**4 HOFFMAN ROAD**  
**CANTON, CT 06019-2123**

**NOTE:**  
 PER FCC MANDATE, ENHANCED EMERGENCY (E911) SERVICE IS REQUIRED TO MEET NATIONWIDE STANDARDS FOR WIRELESS COMMUNICATIONS SYSTEMS. OMNIPOINT COMMUNICATIONS INC. IMPLEMENTATION REQUIRES DEPLOYMENT OF EQUIPMENT AND ANTENNAS GENERALLY DEPICTED ON THIS PLAN, ATTACHED TO OR MOUNTED IN CLOSE PROXIMITY TO THE BTS RADIO CABINETS. OMNIPOINT COMMUNICATIONS INC. RESERVES THE RIGHT TO MAKE REASONABLE MODIFICATIONS TO E911 EQUIPMENT AND LOCATION AS TECHNOLOGY EVOLVES TO MEET REQUIRED SPECIFICATIONS. ALL EQUIPMENT LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO APPROVAL BY OMNIPOINT COMMUNICATIONS INC. STRUCTURAL & RF ENGINEERS. LOCATIONS OF POWER & TELEPHONE FACILITIES ARE SUBJECT TO APPROVAL BY UTILITY COMPANIES.

REV1: 10/20/08: LEASE AREA SIZE: SMC  
 REV2: 10/21/08: GENERAL COMMENTS: SMC



**SOUTHERN ELEVATION**  
 SCALE: 1" = 25'-0"





**AMERICAN TOWER**

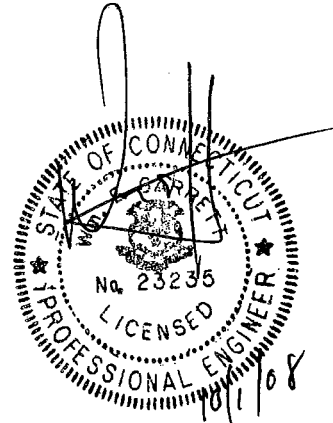
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## Structural Analysis Report

**Structure** : 150 ft ITT Meyer Monopole  
**ATC Site Name** : Cntn - Canton, CT  
**ATC Site Number** : 302488  
**Proposed Carrier** : T-Mobile  
**Carrier Site Name** : Canton CT  
**Carrier Site Number** : CTHA155  
**County** : Hartford  
**Eng. Number** : 42468721  
**Date** : September 24, 2008  
**Usage** : 117%  
**Portholes Required** : No

Submitted by:  
Worth L. Godwin III, PE  
Project Engineer

**American Tower Engineering Services**  
400 Regency Forest Drive  
Cary, NC 27518  
Phone: 919-468-0112



**Introduction**

The purpose of this report is to summarize results of the structural analysis performed on the 150 ft ITT Meyer Monopole located at 4 Hoffman Rd., Canton, CT 06019, Hartford County (ATC site #302488). The tower was originally designed and manufactured by ITT Meyer per Type "B" specifications (Spec. #AT-8935, dated April 13, 1984). Additional tower information and member geometry was taken from a mapping done by HTS (Proj. #HTS090608, dated September 4, 2008).

**Analysis**

The tower was analyzed using Semaan Engineering Solutions, Inc., Software. The analysis assumes that the tower is in good, undamaged, and non-corroded condition.

Basic Wind Speed: 95.0 mph (3-Second Gust)  
 Radial Ice: 50.0 mph (3-Second Gust) w/ 1 1/4" ice  
 Code: ANSI/TIA-222-G / 2003 IBC with 2005 & 2008 Conn. Supplements

**Antenna Loads**

The following antenna loads were used in the tower analysis.

**Existing Antennas**

Elev. (ft)	Qty	Antennas	Mount	Coax (in)	Carrier
150.0	1	10' Dipole	Platform w/ Handrails	(1) 7/8	Town of Canton
	9	CSS DUO4-8686-00		(9) 7/8	AT&T Mobility
	1	12' Omni		(1) 1 5/8	USA Mobility
144.0	3	RFS APXV18-206517S-C	Flush	(6) 1 5/8	Youghiogheny
120.0	1	75" x 16.8" Panel	Side Arm	(1) 7/8	Town of Canton

**Proposed Antennas**

Elev. (ft)	Qty	Antennas	Mount	Coax (in)	Carrier
135.0	9	RFS APX16PV-16PVL-E-00	T-Arms	(18) 1 5/8	T-Mobile
	6	CCI DTMA-1819-DD-12			

Double stack proposed coax, 9 on 9, on outside of monopole.

**Results**

The maximum structure usage is: 117%

Pole Reactions	Original Design Reactions	Original Design Reactions x 1.35	Current Analysis Reactions	% Of Design
Moment (ft-kips)	1,197.0	1,616.0	2,030.3	126
Shear (kips)	13.1	17.7	19.0	107

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

**Conclusion**

Based on the analysis results, the structure does not meet the requirements per ANSI/TIA-222-G and 2003 IBC with 2005 & 2008 Connecticut Supplements. The tower and foundation can support the existing and proposed equipment after the modifications listed below are completed.

- Reinforce tower shaft from 0' to 90'

If you have any questions or require additional information, please call 919-466-5527.

### **Standard Conditions**

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

- Information supplied by the client regarding the structure itself, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to ATC Engineering Services and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated; and we, therefore, assume that their capacity has not significantly changed from the "as new" condition.

All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/EIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Engineering Services is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

# AMERICAN TOWER CORPORATION

400 REGENCY FOREST DRIVE  
 CARY, NORTH CAROLINA 27518  
 PHONE: (919) 468-0112 / FAX: (919) 466-5040

## 302488 - CNTN - CANTON, CONNECTICUT

150 FT ITT MEYER MONOPOLE REINFORCEMENT

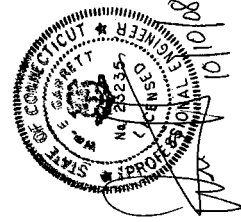
**PROJECT DESCRIPTION:**

"THE MODIFICATIONS PRESENTED ON THESE DRAWINGS ARE BASED ON THE RECOMMENDATIONS OBTAINED IN THE STRUCTURAL ANALYSIS COMPLETED UNDER ENGINEERING PROJECT NUMBER 42468731 DATED 09/24/08. SATISFACTORY COMPLETION OF THE WORK INDICATED ON THESE DRAWINGS WILL RESULT IN THE STRUCTURE MEETING THE REQUIREMENTS OF THE SPECIFICATIONS UNDER WHICH THE STRUCTURAL WAS COMPLETED."

DESCRIPTION	SIGNATURE	DATE
CONTRACTOR NAME		
CONTRACTOR REPRESENTATIVE (PRINT NAME)		
CONTRACTOR REPRESENTATIVE SIGNATURE		
REDEVELOPMENT P.M. (PRINT NAME)		
REDEVELOPMENT P.M. SIGNATURE		

**PROJECT SUMMARY**

ATC PROJECT NUMBER: 42468732  
 CUSTOMER: T-MOBILE  
 CUSTOMER SITE NUMBER: CTHA155  
 CUSTOMER SITE NAME: CANTON CT  
 SITE ADDRESS: 4 HOFFMAN ROAD  
 CANTON, CT 06019  
 DATE: 10/02/08  
 REVISION: 0



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.

**DRAWING INDEX**

DRAWING NUMBER	DRAWING TITLE	REVISION
BOM	BILL OF MATERIALS (1 PAGE)	0
CTGN	CT GENERAL NOTES	0
A-1	MODIFICATION PROFILE	0
A-2	FOUNDATION DETAILS	0
A-3	REINFORCEMENT INSTALLATION DETAILS	0
F-1	SPLICE PLATE & SPACER FABRICATION DETAILS	0
F-2	PLATE REINFORCEMENT WELDMENT FABRICATION DETAILS	0
F-3	PLATE REINFORCEMENT FABRICATION DETAILS	0



490 AGENCY FOREST DRIVE  
CANTON, CT 06019  
PHONE: (815) 488-3112 / FAX: (815) 488-5040

## 302488 - CNTN - CANTON, CONNECTICUT

### PROJECT SUMMARY

ATC PROJECT NUMBER 42488732	CUSTOMER T-MOBILE	CUSTOMER SITE NUMBER CTHA155	CUSTOMER SITE NAME CANTON CT	SITE ADDRESS 4 HOFFMAN ROAD CANTON, CT 06019	DATE 10/02/08	REV 0
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### BILL OF MATERIALS

QUANTITY REQUIRED	QUANTITY SHIPPED	PART NUMBER	DESCRIPTION	LENGTH	DRAWING NUMBER	WEIGHT (lbs)	COMMENTS
<b>ANCHOR ROD MATERIAL &amp; HARDWARE</b>							
8	8	—	ALL THREADED ROD, 1/4"Ø ASTM A687	8'-0"	—	—	GALVANIZED
16	17	—	HEAVY HEX NUT, 1/4"Ø ASTM A563 DH	—	—	—	GALVANIZED
16	17	—	FLAT WASHER, 1/4"Ø ASTM F436	—	—	—	GALVANIZED
<b>PLATE REINFORCEMENT MATERIAL &amp; HARDWARE</b>							
12	12	302488-1	PL 1" X 5"	5'-9"	A-3, F-1	1232	
4	4	302488-1A	SPLICE PLATE W/ STEP TABS	5'-9"	A-3, F-1	418	
8	8	302488-1B	PL 1/4" X 5"	2'-6"	A-3, F-1	90	
4	4	302488-2	PLATE REINFORCEMENT WELDMENT	11'-2"	A-2, A-3, F-2	964	
9	9	302488-3	PL 1" X 5"	18'-7 1/2"	A-3, F-3	2984	
3	3	302488-3A	REINFORCEMENT PLATE W/ STEP TABS	18'-7 1/2"	A-3, F-3	1010	
3	3	302488-4	PL 1" X 4"	19'-7 1/2"	A-3, F-3	842	
ONE	ONE	302488-4A	REINFORCEMENT PLATE W/ STEP TABS	19'-7 1/2"	A-3, F-3	286	
164	172	—	HOLLO-BOLT, 5/8"Ø (LINDAPTER LHBM16 #2)	—	—	—	GALVANIZED
320	336	—	HOLLO-BOLT, 5/8"Ø (LINDAPTER LHBM16 #3)	—	—	—	GALVANIZED
42	44	—	STEP BOLT, 5/8"Ø A325 ASSEMBLY (GALVD)	8"	—	—	(2) HHN - LKW

TOTAL WEIGHT =	7836 lbs
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**AMERICAN TOWER**  
**STRUCTURAL ENGINEERING**  
 400 REGENCY FOREST DRIVE  
 CHICAGO, ILLINOIS 60611-2918  
 PHONE: (312) 465-5000  
 FAX: (312) 465-5040  
 WWW.ATOWER.COM

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REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	DMB	05/20/08

SITE NUMBER:  
**VARIOUS**

SITE NAME:  
**VARIOUS**

SITE ADDRESS:  
**VARIOUS**

DRAWN BY:	DMB
CHECKED BY:	BKL
DATE DRAWN:	06/03/08
A/C JOB NO.:	VARIOUS

SHEET NUMBER:  
**CTGN**

REV. #  
**0**

**SPECIAL INSPECTION**

1. A QUALIFIED INDEPENDENT TESTING LABORATORY, EMPLOYED BY THE OWNER, SHALL PERFORM INSPECTION AND TESTING IN ACCORDANCE WITH IBC 2003, SECTION 1704 AS REQUIRED BY PROJECT SPECIFICATIONS FOR THE FOLLOWING CONSTRUCTION WORK:
  - a) STRUCTURAL WELDING
  - b) HIGH STRENGTH BOLTS
2. THE INSPECTION AGENCY SHALL SUBMIT INSPECTION AND TEST REPORTS TO THE BUILDING DEPARTMENT, THE ENGINEER OF RECORD, AND THE OWNER IN ACCORDANCE WITH SECTION 1704. UNLESS THE FABRICATOR IS APPROVED BY THE BUILDING OFFICIAL TO PERFORM SUCH WORK WITHOUT THE SPECIAL INSPECTIONS.

**WELDING**

1. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
2. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL PER AWS D1.1, U.N.O.
3. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
4. PRIOR TO FIELD WELDING GALVANIZED MATERIAL CONTRACTORS SHALL GRIND OFF GALVANIZING 1/2" BEYOND ALL WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZINC GALVANITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS REQUIREMENTS.

**PAINT**

1. AS REQUIRED, CLEAN AND PAINT PROPOSED STEEL ACCORDING TO PAA ADVISORY CIRCULAR AC 707469-K.

**BOLT TIGHTENING PROCEDURE**

1. TIGHTEN FLANGE BOLTS BY AISC - "TURN OF THE NUT" METHOD, USING THE CHART BELOW:
 

BOLT LENGTHS UP TO AND INCLUDING FOUR DIA.	TURN BEYOND SNUG TIGHT
1/2" BOLTS UP TO AND INCLUDING 3.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
3/4" BOLTS UP TO AND INCLUDING 4.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
7/8" BOLTS UP TO AND INCLUDING 4.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1" BOLTS UP TO AND INCLUDING 5.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/8" BOLTS UP TO AND INCLUDING 5.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/4" BOLTS UP TO AND INCLUDING 6.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/2" BOLTS UP TO AND INCLUDING 6.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-3/4" BOLTS UP TO AND INCLUDING 7.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
2" BOLTS UP TO AND INCLUDING 7.5 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
2-1/4" BOLTS UP TO AND INCLUDING 8.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
2-1/2" BOLTS UP TO AND INCLUDING 8.5 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
2-3/4" BOLTS UP TO AND INCLUDING 9.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
3" BOLTS UP TO AND INCLUDING 9.5 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
3-1/4" BOLTS UP TO AND INCLUDING 10.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
3-1/2" BOLTS UP TO AND INCLUDING 10.5 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
3-3/4" BOLTS UP TO AND INCLUDING 11.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
4" BOLTS UP TO AND INCLUDING 11.5 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
4-1/4" BOLTS UP TO AND INCLUDING 12.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
2. SPLICE BOLTS SUBJECT TO DIRECT TENSION SHALL BE INSTALLED AND TIGHTENED AS PER SECTION 8(9)(1) OF THE AISC SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS, LOCATED IN THE AISC MANUAL OF STEEL CONSTRUCTION. THE INSTALLATION PROCEDURE IS PARAPHRASED AS FOLLOWS:
 

\*FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES AND TIGHTENED BY ONE OF THE METHODS DESCRIBED IN SUBSECTION 8(9)(1) THROUGH 8(9)(4).

8(9)(1) TURN-OF-THE-NUT TIGHTENING.

BOLTS SHALL BE INSTALLED IN ALL HOLES OF THE CONNECTION AND BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8 (c), UNTIL ALL THE BOLTS ARE SIMULTANEOUSLY SNUG TIGHT AND THE CONNECTION IS FULLY COMPACTED. FOLLOWING THIS INITIAL OPERATION ALL BOLTS IN THE CONNECTION SHALL BE TIGHTENED FURTHER BY THE APPLICABLE AMOUNT OF ROTATION SPECIFIED ABOVE. DURING THE TIGHTENING OPERATION THERE SHALL BE NO SYSTEMATICALLY.
3. ALL OTHER BOLTED CONNECTIONS SHALL BE BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8 (c) OF THE SPECIFICATION.

**GENERAL**

1. ALL METHODS, MATERIALS AND WORKMANSHIP SHALL FOLLOW THE DICTATES OF GOOD CONSTRUCTION PRACTICE.
2. ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TOWER AND FOUNDATION CONSTRUCTION.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY OF ANY INSTALLATION INTERFERENCES. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS. DETAILS NOT SPECIFICALLY SHOWN ON THE DRAWINGS SHALL FOLLOW SIMILAR DETAILS FOR THIS JOB.
4. ANY SUBSTITUTIONS MUST CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
5. ANY MANUFACTURED DESIGN ELEMENTS MUST CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS AND SHOULD BE SIMILAR TO THOSE SHOWN. THESE DESIGN ELEMENTS MUST BE STAMPED BY AN ENGINEER PROFESSIONALLY REGISTERED IN THE STATE OF THE PROJECT, AND SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION.
6. ALL WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL CODES AND OSHA SAFETY REGULATIONS.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY TO PROVIDE A COMPLETE AND STABLE STRUCTURE AS SHOWN ON THESE DRAWINGS.
8. CONTRACTOR'S PROPOSED INSTALLATION SHALL NOT INTERFERE, NOR DENY ACCESS TO, ANY EXISTING OPERATIONAL AND SAFETY EQUIPMENT.
9. FIELD CUT EDGES, EXCEPT DRILLED HOLES, SHALL BE GROUND SMOOTH.
10. ALL FIELD CUT SURFACES SHALL BE REPAIRED WITH ZINC GALVANITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS REQUIREMENTS.

**APPLICABLE CODES AND STANDARDS**

1. AISC/AIA/EIA - STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND TOWERS, 222-G EDITION.
2. 2003 INTERNATIONAL BUILDING CODE WITH 2006 CONNECTICUT SUPPLEMENTS & 2008 CONNECTICUT AMENDMENTS.
3. ACI 318: AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 318-98.
4. CRSI: CONCRETE REINFORCING STEEL INSTITUTE, MANUAL OF STANDARD PRACTICE, LATEST EDITION.
5. AISC: AMERICAN INSTITUTE OF STEEL CONSTRUCTION, MANUAL OF STEEL CONSTRUCTION, LATEST EDITION.
6. AWS: AMERICAN WELDING SOCIETY D1.1, STRUCTURAL WELDING CODE, LATEST EDITION.

**STRUCTURAL STEEL**

1. ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS, LATEST EDITION.
2. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A193 OR B95.
3. ALL BOLTS SHALL BE ASTM A307 OR EQUIVALENT, WITH LOCKING DEVICE, UNLESS NOTED OTHERWISE.



**AMERICAN TOWER**  
**STRUCTURAL ENGINEERING**  
 100 WEST CANTON ROAD, 21518  
 CANTON, MASSACHUSETTS 01921  
 PHONE: (508) 485-5044  
 FAX: (508) 485-5044  
 E-MAIL: ATSE@ATSE.COM

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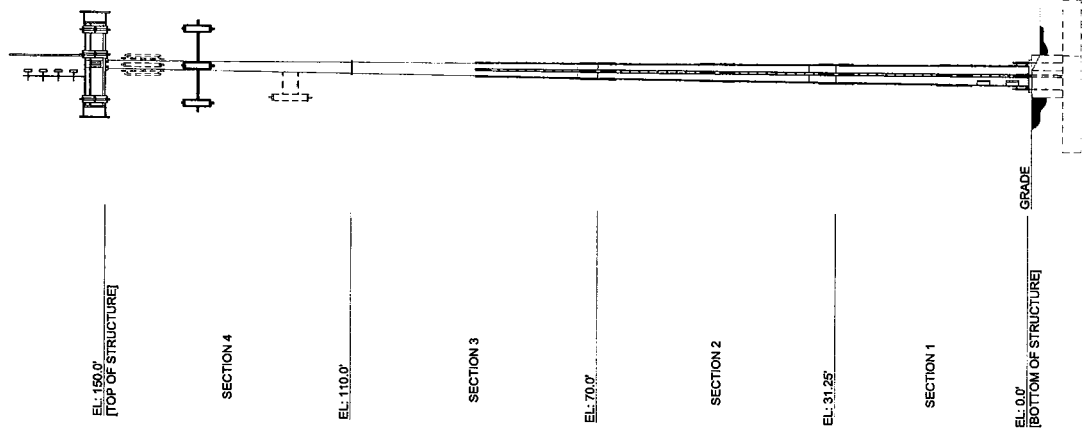
REV. DESCRIPTION BY DATE  
 1. FIRST ISSUE DAL 10/02/08

SITE NUMBER:  
**302488**  
 SITE NAME:  
**CNTN - CANTON**  
**CONNECTICUT**  
 SITE ADDRESS:  
**4 HOFFMAN ROAD**  
**CANTON, CT 06019**

DRAWN BY: PAT  
 CHECKED BY: **BKL**  
 DATE DRAWN: 10/02/08  
 ATC JOB NO: 42460732  
 SHEET TITLE:

MODIFICATION PROFILE

SHEET NUMBER: **A-1** REV. # **0**



EL. 150.0'  
 [TOP OF STRUCTURE]

SECTION 4

EL. 110.0'

SECTION 3

EL. 70.0'

SECTION 2

EL. 31.25'

SECTION 1

EL. 0.0'  
 [BOTTOM OF STRUCTURE]

GRADE

TOWER ELEVATION VIEW

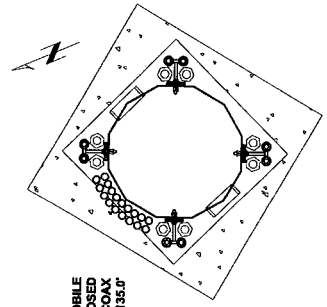
TOWN OF CANTON /  
 USA MOBILITY / AT&T MOBILITY  
 EL. 150.0' [EXISTING]  
 YOUGHIOGHENY  
 EL. 144.0' [LEASED]

T-MOBILE  
 EL. 135.0' [PROPOSED]

TOWN OF CANTON  
 EL. 120.0' [LEASED]

T-MOBILE  
 PROPOSED  
 (18) 1 5/8" COAX  
 EL. 135.0'

COAX DISTRIBUTION







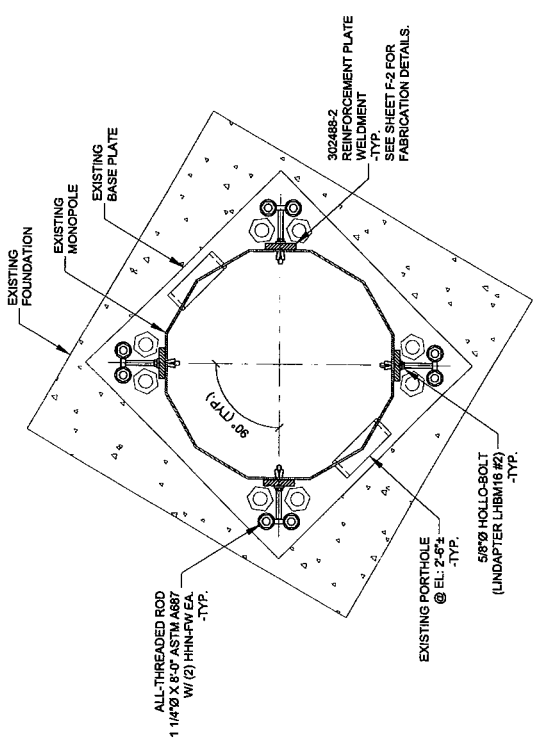
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REV. \_\_\_\_\_ DESCRIPTION BY DATE  
 △ FIRST ISSUE PAT. 10/02/08  
 △  
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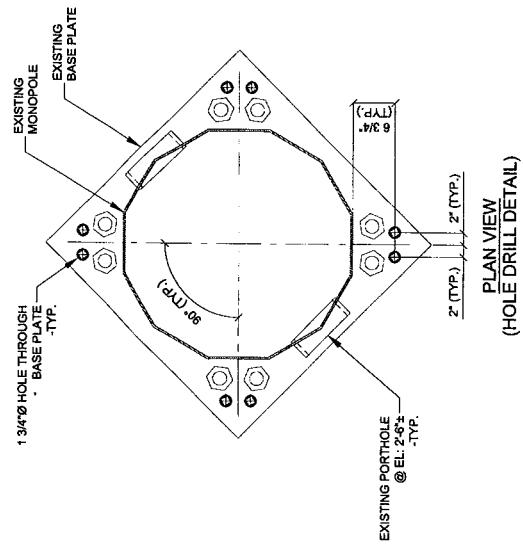
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**302488**  
 SITE NAME:  
**CNTN - CANTON**  
**CONNECTICUT**  
 SITE ADDRESS:  
**4 HOFFMAN ROAD**  
**CANTON, CT 06019**

DRAWN BY: PAT  
 CHECKED BY: BKL  
 DATE DRAWN: 10/02/08  
 ATC JOB NO.: 42488732  
 SHEET TITLE:

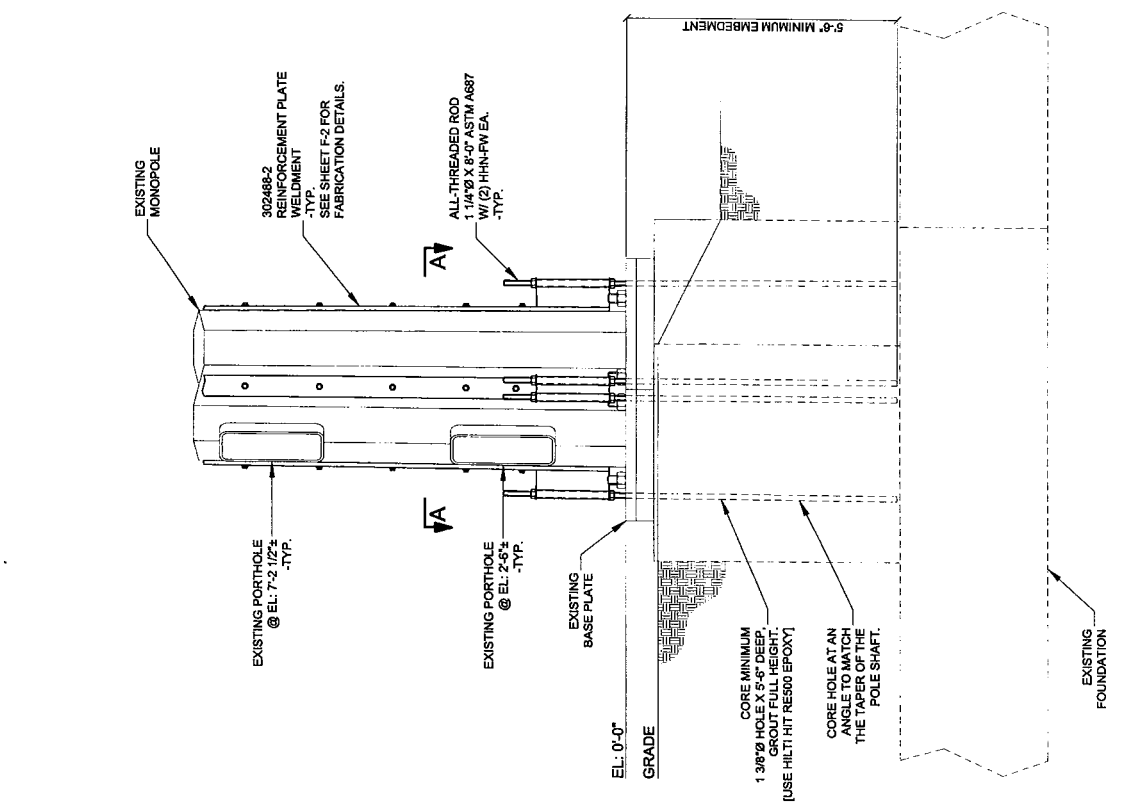
FOUNDATION DETAILS  
 SHEET NUMBER: A-2  
 REV. # 0



PLAN VIEW  
 (SECTION "A-A")



PLAN VIEW  
 (HOLE DRILL DETAIL)



ELEVATION VIEW  
 (FOUNDATION DETAIL)

NOTE:  
 DO NOT CUT ANY EXISTING REBAR TIES IN THE CAISSON.



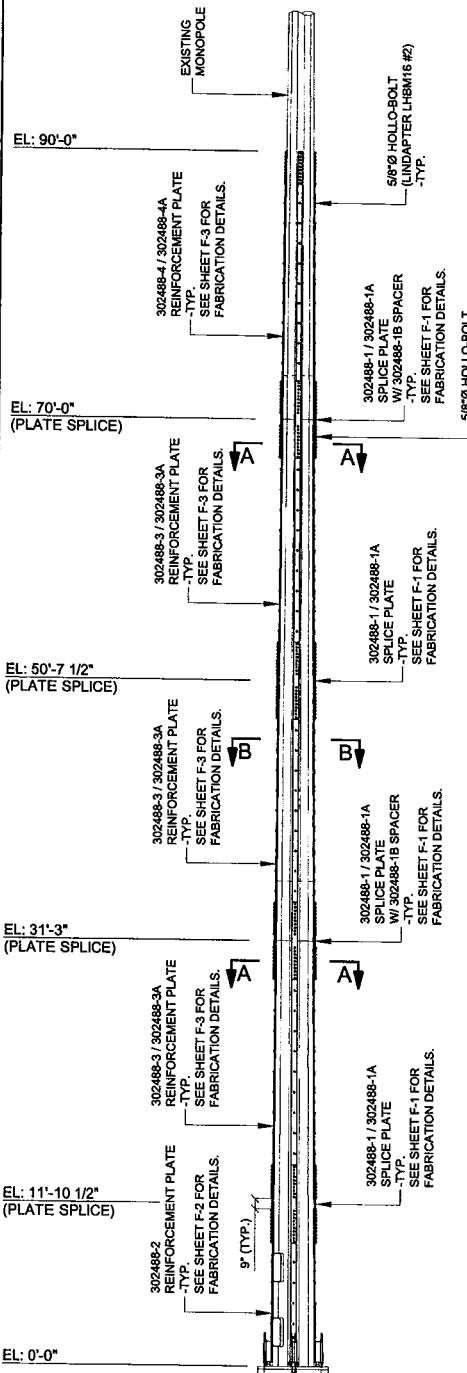
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REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	PAL	10/02/08

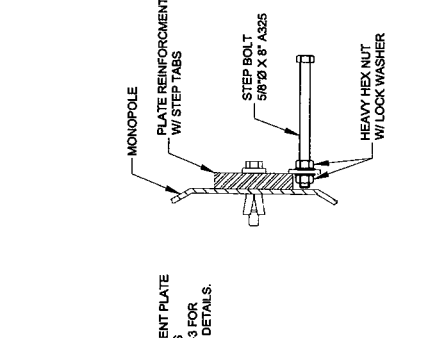
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 SITE NAME: CNTN - CANTON CONNECTICUT  
 SITE ADDRESS: 4 HOFFMAN ROAD CANTON, CT 06019

DRAWN BY:	PAT
CHECKED BY:	BKL
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AFC JOB NO.:	42488732

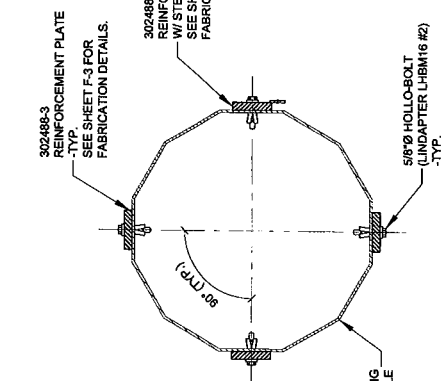
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SHEET NUMBER: A-3	REV. # 0



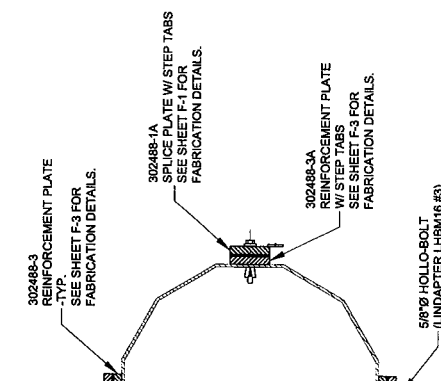
ELEVATION VIEW (PLATE REINFORCEMENT DETAIL)



STEP BOLT INSTALLATION (TYPICAL DETAIL)



SECTION "B-B" (TYPICAL DETAIL)



SECTION "A-A" (TYPICAL DETAIL)

NOTE:

- EXISTING STEP BOLTS TO BE REMOVED AS NECESSARY TO INSTALL PLATE REINFORCEMENT. INSTALL PLATE REINFORCEMENT W/ STEP TABS ON MONOPOLE FACE WITH REMOVED STEP BOLTS. (FIELD TO VERIFY LOCATION OF MONOPOLE FACE W/ EXISTING STEP BOLTS.)
- INSTALL STEP BOLTS EVERY OTHER STEP TAB.



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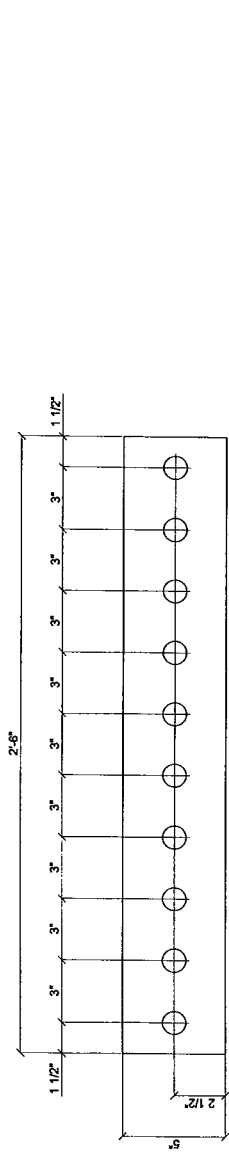
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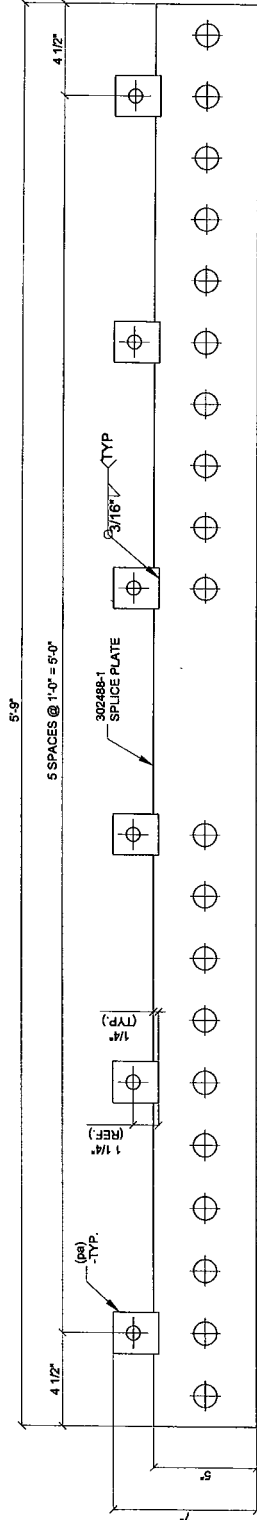
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SPLICE PLATE & SPACER  
 FABRICATION DETAILS

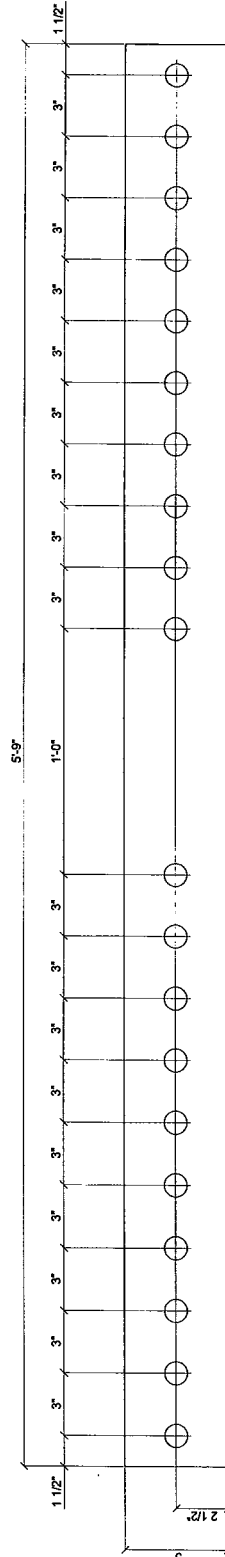
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**F-1**  
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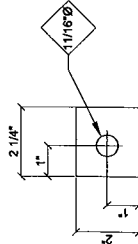
**302488-1B**  
**(SPACER)**



**302488-1A**  
**(SPLICE PLATE W/ STEP TABS)**



**302488-1**  
**(SPLICE PLATE)**



(pa)  
**(STEP BOLT TAB)**

302488-1B	ONE	PL 1/4" X 5"	2'-5"	11.2#	TOTAL WEIGHT: AS NOTED
(pa)	6	PL 1/4" X 2"	0'-2 1/4"	1.6#	
302488-1	ONE	PL 1" X 5"	5'-9"	97.8#	HOLES: 1 1/8" Ø U.N.O.
302488-1A	ONE	SPLICE PLATE W/ STEP TABS	5'-9"	104.6#	MATERIAL: A572 GR. 60 U.N.O.
302488-1	ONE	PL 1" X 5"	5'-9"	102.7#	FINISH: GALVANIZE
REV	WT	REMARKS	LENGTH	QTY	DESCRIPTION



**AMERICAN TOWER**  
**STRUCTURAL ENGINEERING**  
 AND REGENCY FOREST DRIVE  
 CANTON, CONNECTICUT 06034  
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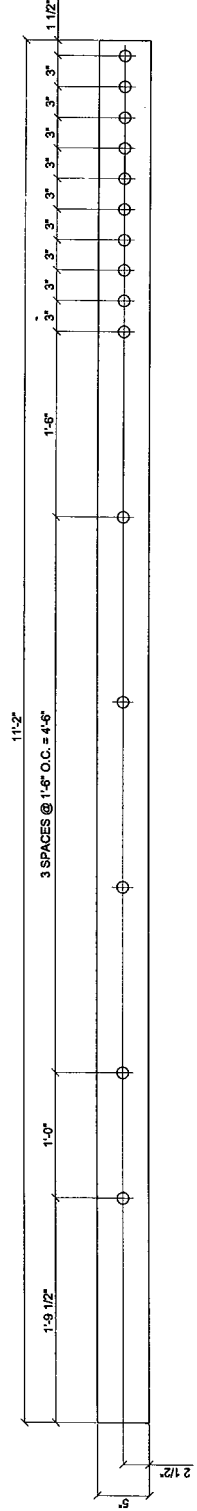
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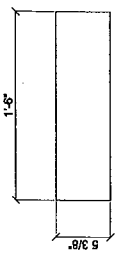
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 DATE DRAWN: 10/02/08  
 ATC JOB NO.: 42488732  
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PLATE REINFORCEMENT WELDMENT  
 FABRICATION DETAILS

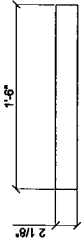
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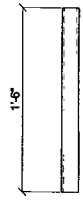
(pa)



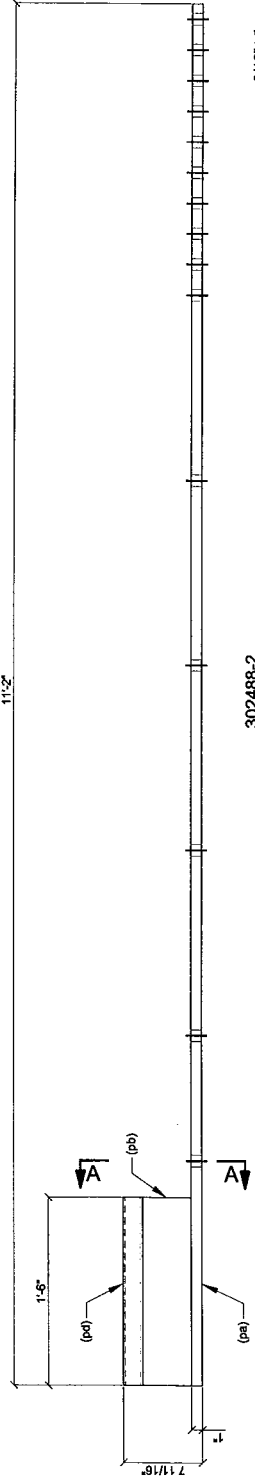
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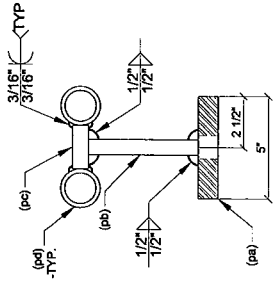
(pc)



(pd)



302488-2  
 (PLATE REINFORCEMENT WELDMENT)



SECTION "A-A"  
 (PLATE REINFORCEMENT WELDMENT)

QTY	DESCRIPTION	LENGTH	REMARKS	REV	WT	TOTAL WEIGHT
2	1.900" OD X 0.200" PIPE	1'-5"	A53 GR. B		10.8#	TOTAL WEIGHT: 241 lbs
ONE	PL 3/4" X 2 1/8"	1'-5"			8.1#	
ONE	PL 3/4" X 5 3/8"	1'-5"			20.6#	
ONE	PL 1" X 5"	11'-2"			190.0#	
ONE	PLATE REINFORCEMENT WELDMENT	11'-2"			229.6#	
						HOLES: 1 1/8" Ø
						MATERIAL: A572 GR. 60 U.N.O.
						FINISH: GALVANIZE



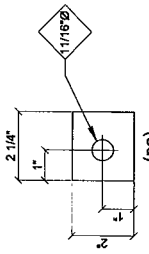
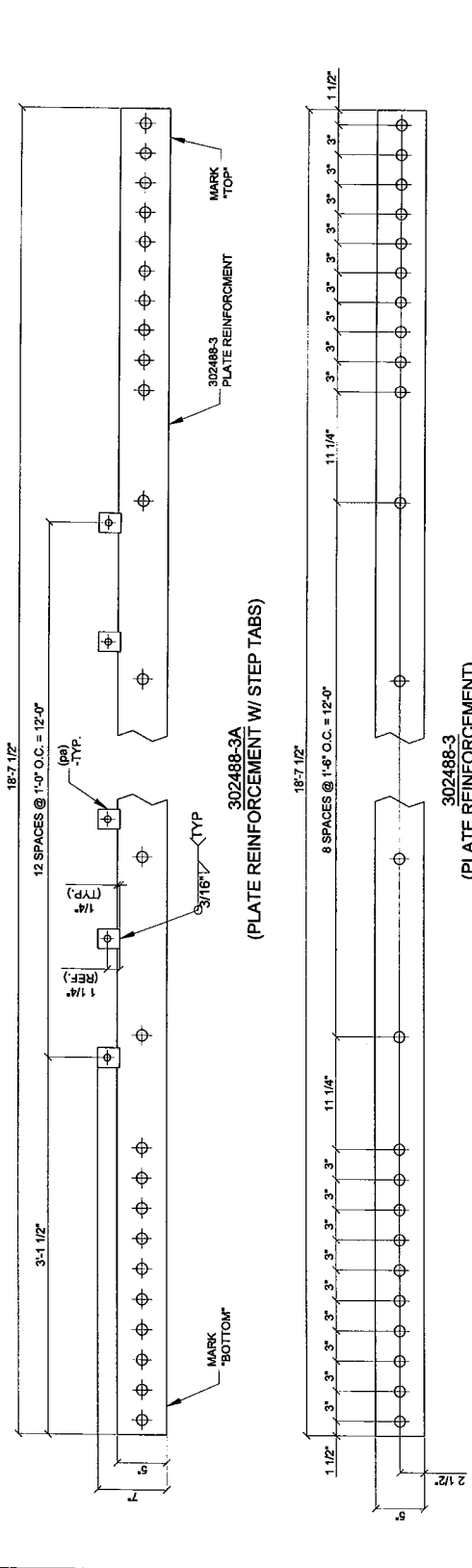
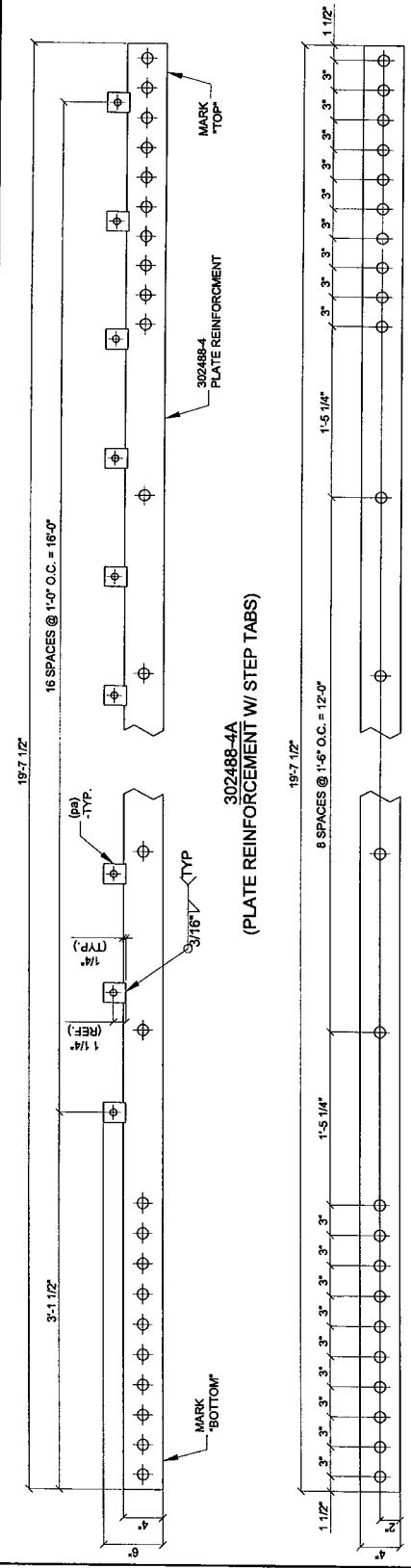
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**CANTON, CT 06019**

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 A/E JOB NO: 42466732  
 SHEET TITLE:  
**PLATE REINFORCEMENT FABRICATION DETAILS**

SHEET NUMBER:  
**F-3**  
 REV. #  
**0**



PK	QTY	DESCRIPTION	LENGTH	REMARKS	REV	WT
(pa)	17	PL 1/4" X 2"	0'-2 1/4"	A36		5.1#
302488-4	ONE	PL 1" X 4"	19'-7 1/2"			267.1#
302488-4A	ONE	PLATE REINFORCEMENT W/ STEP TABS	19'-7 1/2"			285.8#
302488-4	ONE	PL 1" X 4"	19'-7 1/2"			280.5#
(pa)	13	PL 1/4" X 2"	0'-2 1/4"	A36		3.9#
302488-3	ONE	PL 1" X 5"	18'-7 1/2"			316.9#
302488-3A	ONE	PLATE REINFORCEMENT W/ STEP TABS	18'-7 1/2"			336.8#
302488-3	ONE	PL 1" X 5"	18'-7 1/2"			332.7#
		TOTAL WEIGHT: AS NOTED				
		HOLES: 1 1/8" Ø UNO.				
		MATERIAL: A572 GR. 60 UNO.				
		FINISH: GALVANIZE				

## Technical Memo

To: Jennifer Gaudet  
From: Scott Heffernan - Radio Frequency Engineer  
cc: Jason Overbey  
Subject: Power Density Report for CTHA155A  
Date: October 10, 2008

---

### 1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the T-Mobile PCS antenna installation on a Monopole at 4 Hoffman Road, Canton, CT. This study incorporates the most conservative consideration for determining the practical combined worst case power density levels that would be theoretically encountered from locations surrounding the transmitting location.

### 2. Discussion:

The following assumptions were used in the calculations:

- 1) The emissions from T-Mobile transmitters are in the 1935-1945 MHz frequency band.
- 2) The antenna array consists of three sectors, with 3 antennas per sector.
- 3) The model number for each antenna is APXV18-209014-C.
- 4) The antenna center line height is 135 ft.
- 5) The maximum transmit power from any sector is 2040 Watts Effective Radiated Power (EiRP) assuming 8 channels per sector.
- 6) All the antennas are simultaneously transmitting and receiving, 24 hours a day.
- 7) Power levels emitting from the antennas 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.
- 8) The average ground level of the studied area does not change significantly with respect to the transmitting location

Equations given in "FCC OET Bulletin 65, Edition 97-01" were then used with the above information to perform the calculations.

### 3. Conclusion:

Based on the above worst case assumptions, the power density calculation from the T-Mobile PCS antenna installation on a Monopole at 4 Hoffman Road, Canton, CT, is 0.02689 mW/cm<sup>2</sup>. This value represents 2.689% of the Maximum Permissible Exposure (MPE) standard of 1 milliwatt per square centimeter (mW/cm<sup>2</sup>) set forth in the FCC/ANSI/IEEE C95.1-1991. Furthermore, the proposed antenna location for T-Mobile will not interfere with existing public safety communications, AM or FM radio broadcasts, TV, Police Communications, HAM Radio communications or any other signals in the area.

# New England Market



## Worst Case Power Density

Site:	CTHA155A
Site Address:	4 Hoffman Road
Town:	Canton
Tower Height:	150 ft.
Tower Style:	Monopole

Base Station TX output	25 W
Number of channels	8
Antenna Model	APXV18-209014-C
Cable Size	1 5/8
Cable Length	165 ft.
Antenna Height	135.0 ft.
Ground Reflection	1.6
Frequency	1945.0 MHz
Jumper & Connector loss	4.50 dB

Antenna Gain	16.5 dBi
Cable Loss per foot	0.0116 dB
Total Cable Loss	1.9140 dB
Total Attenuation	6.4140 dB
Total EIRP per Channel (In Watts)	54.07 dBm 255.00 W
Total EIRP per Sector (In Watts)	63.10 dBm 2040.00 W
nsg	10.0860

**Power Density (S) = 0.026895 mW/cm<sup>2</sup>**

**T-Mobile Worst Case % MPE = 2.6895%**

Equation Used :

$$S = \frac{(1000)(grf)^2 (Power) \cdot 10^{(nsg/10)}}{4 \pi (R)^2}$$

Office of Engineering and Technology (OET) Bulletin 65, Edition 97-01, August 1997