



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

Internet: ct.gov/csc

Daniel F. Caruso
Chairman

December 16, 2008

Steven L. Levine
New Cingular Wireless PCS, LLC
500 Enterprise Drive
Rocky Hill, CT 06067-3900

RE: **EM-CING-079-081124-** New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at North Main Street, Marlborough, Connecticut.

Dear Mr. Levine:

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:

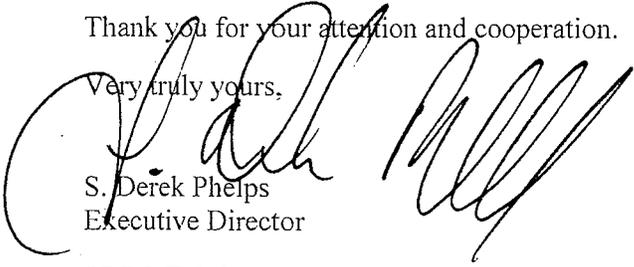
- The proposed coax shall be installed per Appendix B of the structural analysis report dated November 3, 2008 and sealed by Christopher M. Murphy, P.E.; and
- The Council shall be notified in writing that the coax has been installed as specified.

The proposed modifications are to be implemented as specified here and in your notice dated November 24, 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,

A large, stylized handwritten signature in black ink, appearing to read 'S. Derek Phelps', is written over the typed name and extends to the right.

S. Derek Phelps
Executive Director

SDP/MP/laf

c: The Honorable Bill Black, First Selectman, Town of Marlborough
Peter F. Hughes, Zoning Enforcement Officer, Town of Marlborough
Crown Castle



EM-CING-079-081124



New Cingular Wireless PCS, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 513-7636
Fax: (860) 513-7190

Steven L. Levine
Real Estate Consultant

ORIGINAL

RECEIVED
NOV 24 2008

CONNECTICUT
SITING COUNCIL

HAND DELIVERED

November 24, 2008

Honorable Daniel F. Caruso, Chairman,
and Members of the Connecticut Siting Council
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: New Cingular Wireless PCS, LLC notice of intent to modify an existing tele-communications facility located at North Main Street, Marlborough (owner, Crown Castle).

Dear Chairman Caruso and Members of the Council:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System ("UMTS") capability, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC ("AT&T") plans to modify the equipment configurations at many of its existing cell sites. 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 chief elected official of the municipality in which the affected cell site is located.

UMTS technology offers services to mobile computer and phone users anywhere in the world. Based on the Global System for Mobile (GSM) communication standard, UMTS is the planned worldwide standard for mobile users. UMTS, fully implemented, gives computer and phone users high-speed access to the Internet as they travel. They have the same capabilities even when they roam, through both terrestrial wireless and satellite transmissions.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

The changes to the facility do not constitute modifications 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 or altered. 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).

1. The height of the overall structure will be unaffected. Modifications to the existing site include all or some of the following as necessary to bring the site into conformance with the plan:

- Replacement of existing panel antennas with new antennas or, installation of additional antennas of a size required to accommodate UMTS.
- Installation of small tower mount amplifiers ("TMA's") and/or diplexers to the platform on which the panel antennas are mounted to enhance signal reception.
- Installation of additional or larger coaxial cables as required.
- Installation of an additional equipment cabinet in existing shelters, or on existing or enlarged concrete pads.
- Radome enlargement for flagpole and "stick" structures to accommodate larger antennas and additional associated equipment.

None of these modifications will extend the height of the tower.

2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound other than some enlarged equipment pads as may be noted in the attachments.

3. The proposed changes will not increase the noise level at the existing facility by six decibels or more.

4. Radio frequency power density may increase due to use of one or more GSM channel for UMTS transmissions. However, the changes 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.

For the foregoing reasons, New Cingular Wireless respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (860) 513-7636 with questions concerning this matter. Thank you for your consideration.

Sincerely,



Steven L. Levine
Real Estate Consultant

Attachments

**NEW CINGULAR WIRELESS
Equipment Modification**

North Main Street, Marlborough
Site Number 1073
Docket 169 & Exempt Modification approved 8/02

Tower Owner/Manager: Crown Castle

Equipment Configuration: Monopole

Current and/or Approved: Nine CSS DUO-1417-8686 panel antennas @ 146 ft AGL
Nine TMA's @ 146 ft
Nine runs 7/8 inch coax cable
Equipment Shelter

Planned Modifications: Remove all existing equipment and coax
Install six Powerwave 7770 antennas (or equivalent) @ 146 ft
Install six TMA's and six diplexers @ 146 ft
Install twelve lines 1 5/8 inch coax

Power Density:

Worst-case calculations for existing wireless operations at the site indicate a radio frequency electromagnetic radiation power density, measured at ground level beside the tower, of approximately 40 % of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density following proposed modifications would be approximately 38.6 % of the standard.

Existing

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm ²)	Standard Limits (mW/cm ²)	Percent of Limit
Other Users *							32.34
AT&T TDMA *	147	880 - 894	16	100	0.0266	0.5867	4.54
AT&T GSM *	147	1900 Band	2	427	0.0142	1.0000	1.42
AT&T GSM *	147	880 - 894	2	296	0.0099	0.5867	1.68
Total							40.0%

* Per CSC records

Proposed

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm ²)	Standard Limits (mW/cm ²)	Percent of Limit
Other Users *							32.34
AT&T UMTS	146	880 - 894	1	500	0.0084	0.5867	1.44
AT&T GSM	146	1900 Band	2	427	0.0144	1.0000	1.44
AT&T GSM	146	880 - 894	4	296	0.0200	0.5867	3.40
Total							38.6%

* Per CSC records

Structural information:

The attached structural analysis demonstrates that the tower and foundation have adequate structural capacity to accommodate the proposed equipment modifications. (FDH Engineering, 11/3/08)



New Cingular Wireless PCS, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 513-7636
Fax: (860) 513-7190

Steven L. Levine
Real Estate Consultant

November 24, 2008

Bill Black, 1st Selectman
Town of Marlborough
26 North Main Street
Marlborough, CT 06447

Re: Telecommunications Facility – North Main Street

Dear Mr. Black:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System (“UMTS”) capability, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC (“AT&T”) will be changing its equipment configuration at certain cell sites.

As required by Regulations of Connecticut State Agencies (“R.C.S.A.”) Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review AT&T’s proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter to the Siting Council fully describes AT&T’s proposal for the referenced cell site. However, if you have any questions or require any further information on our plans or the Siting Council’s procedures, please call me at (860) 513-7636 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Steven L. Levine
Real Estate Consultant

Enclosure



Date: **November 3, 2008**

Veronica Harris
Crown Castle International
1200 McArthur Blvd
Mahwah, NJ 07430

FDH Engineering, Inc.
2730 Rowland Rd., Suite 100
Raleigh, NC 27615
(919) 755-1012
info@FDH-Inc.com

Subject: Structural Analysis Report

Carrier Designation: AT&T Mobility Co-Locate
Carrier Site Number: 1073
Carrier Site Name: Marlborough-North Main St

Crown Castle Designation: **Crown Castle BU Number:** 806366
Crown Castle Site Name: HRT 107 (C) 943204
Crown Castle JDE Job Number: 111649

Engineering Firm Designation: FDH Engineering, Inc. Project Number: **08-02029E S3**

Site Data: **North Main Street, Marlborough, CT, Hartford Co.**
Latitude 41°-37'-47.3", Longitude -72°-27'-59.4"
155.5 Foot – Monopole with 10' Extension

Dear Ms. Harris,

FDH Engineering, Inc. is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the aforementioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 309252, in accordance with application 70307, revision 1.

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

LC1: Existing + Reserved + Proposed Equipment Sufficient Capacity
Note: See Table I and Table II for the proposed and existing/reserved loading.

The analysis has been performed in accordance with the EIA/TIA-222-F standard based upon a wind speed of 80 mph without ice and 69 mph with 1/2" ice (fastest mile). This is equivalent to a wind speed of 100 mph without ice, per the 2003 IBC.

All equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

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

Respectfully submitted,

Krystyn Wagner, EI
Project Engineer

Christopher M. Murphy, PE
Vice President
CT PE License No. 25842



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1) INTRODUCTION

The subject tower is a 155.5 foot monopole with a 10 ft extension. The original tower was manufactured by FWT in 1997.

2) ANALYSIS CRITERIA

- TIA-222-F – Structural Standard for Antenna Supporting Structures and Antennas
- TIA-222-F – Wind speed without ice: 80 mph (fastest mile)
- TIA-222-F – Wind speed with 1/2" ice: 69 mph (fastest mile)

Table 1 – Proposed Antenna and Cable Information

Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount Information	Number of Feed Lines	Feed Line Size (in)
144	6 6 6	Powerwave Powerwave Powerwave	7770.00 LGP21903 duplexers LGP17201 TMAs	Platform w/ handrails	12	1-5/8"

1. This represents the final configuration at 144'. According to information provided by Crown Castle, the carrier will replace (9) CSS DUO4-8670 antennas, (6) TMAs, and (9) 1-1/4" coax with (6) Powerwave 7770.00 antennas, (6) Powerwave LGP21903 duplexers, (6) Powerwave LGP17201 TMAs, and (12) 1-5/8" coax.

Table 2 – Existing and Reserved Antenna and Cable Information

Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
168	12	Decibel	DB846G90A-XY	12	1-5/8"
160 ¹	6 6 1 12	Antel Decibel Decibel MLA	LPA-80080/6CF DB948F85T2E-M DB809K-Y BAM MLA	13	1-5/8"
144 ²	9 6	CSS TMA	DU04-8670 TMA	9	1-1/4"
135	3	Kathrein	742-213	6	1-5/8"
128 ^{3,4}	9 ---	Decibel SLA	DB980H90E-M ---	6 9	1-1/4" 1-5/8"
120 ⁵	3	Decibel	DB809K-Y	5	1/2"
100 ⁶	6 6	EMS SLA	RR90-17-02DP RFS APN199015	6 6	1-1/4" 7/8"
50	1	GPS	GPS	1	1/2"

1 The (12) BAM MLA do not control this analysis.

2 The loading at 144' will be altered. See the proposed loading above.

3 The (9) SLA coax control this analysis.

4 There are currently (6) Decibel DB980H90E-M antennas installed at 126 ft. According to information provided by Crown Castle, the carrier may install up to (9) antennas. Analysis performed with total leased loading in place.

5 The loading at 120 ft has been abandoned and should be removed prior to the installation of the proposed loading.

6 The (6) SLA antennas and coax at 100' do not control this analysis.

Table 3 – Design Antenna and Cable Information

Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
157.75	12	Swedcom	ALP-9212-N	---	---
144.25	9	Swedcom	ALP-9212-N	---	---
132	9 2 1 2	Decibel Celwave Celwave Celwave	DB980 PD1142 PD201 PD220	---	---

3) ANALYSIS PROCEDURE

Table 4 – Documents Provided

Document	Remarks	Reference	Source
Tower Manufacturer Drawings	FWT Job No. 15829	Doc # 823126	Crown Castle
Tower Foundation Drawing	FWT Job No. 15829	Doc # 823125	Crown Castle
Geotechnical Report	FDH Engineering, Inc. Job No. 08-02029G	Doc # 2208816	Crown Castle
Structural Analysis Report	FDH Engineering Project No. 08-02029E S2	Doc # 2258974	Crown Castle
CCC & CAD loading tables	BU806366	---	Crown Castle

3.1) Analysis Method

RISA Tower (version 5.3.0.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various dead, live, wind, and ice load cases. All loads were computed in accordance with the ANSI/TIA-222-F and the local building code requirements. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1. Tower and structures were built in accordance with the manufacturer's specifications.
2. The tower and structures have been maintained in accordance with the manufacturer's specifications.
3. The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the reference drawings.
4. The flange plate and bolts for the extension were designed to support the extension at capacity.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and FDH Engineering, Inc. should be allowed to review any new information to determine its effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 – Tower Component Stresses vs. Capacity – LC1

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P _{allow} K	% Capacity	Pass Fail
L1	165.5 - 155.5	Pole	TP58.6x58.6x0.375	1	-6.72	1470.01	2.8	Pass
L2	155.5 - 110	Pole	TP64.606x58.6x0.375	2	-21.16	1940.34	18.8	Pass
L3	110 - 72.5	Pole	TP68.805x62.8x0.4375	3	-37.23	2635.03	32.8	Pass
L4	72.5 - 36	Pole	TP72.748x66.8082x0.5	4	-55.79	3400.07	42.5	Pass
L5	36 - 0	Pole	TP76.5x70.56x0.5	5	-80.41	3893.00	63.2	Pass
							Summary	
						Pole (L5)	63.2	Pass
						RATING =	63.2	Pass

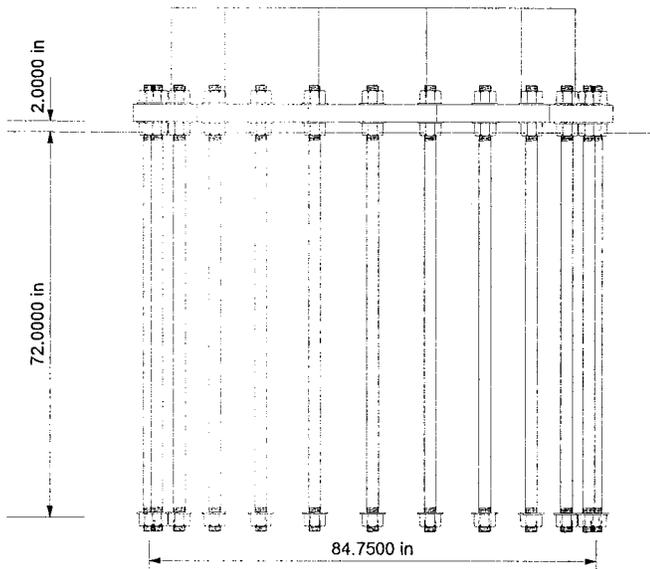
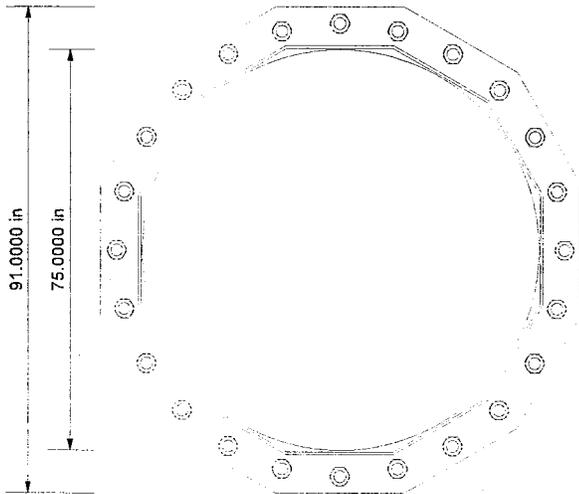
Notes	Component	Elevation (ft)	% Capacity	Pass/Fail
2	Anchor Rods	---	69.0%	Pass
2	Base Plate	---	32.6%	Pass
3	Base Foundation (Compared w/ Design Loads)	---	80.6%	Pass
Structure Rating (max from all components) =				80.6%

*Notes:

- 1) A capacity rating of 105% or less is considered acceptable by engineering standards.
- 2) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity listed.
- 3) Base Foundation capacity calculated by a moment comparison: $M_{ANALYSIS}/M_{DESIGN}$.

4.1) Recommendations

1. The proposed coax should be installed per the Base Level Drawing. See Appendix B.



FOUNDATION NOTES

1. Plate thickness is 3.2500 in.
2. Plate grade is A633-60.
3. Anchor bolt grade is A615-75.
4. fc is 4 ksi.

Tower Analysis	FDH Engineering		Job: 806366 (HRT 107 (c) 943204)		
	2730 Rowland Road, Suite 100		Project: 08-02029E S3		
	Raleigh, NC 27615		Client: Crown Castle International	Drawn by: Krystyn Wagner	App'd:
	Phone: (919) 755-1012		Code: TIA/EIA-222-F	Date: 11/04/08	Scale: NTS
	FAX: (919) 755-1031		Path: <small>V:\gh-server\project\2008 Projects\08-02029E S3\Analysis\806366.dwg</small>	Dwg No. F-1	

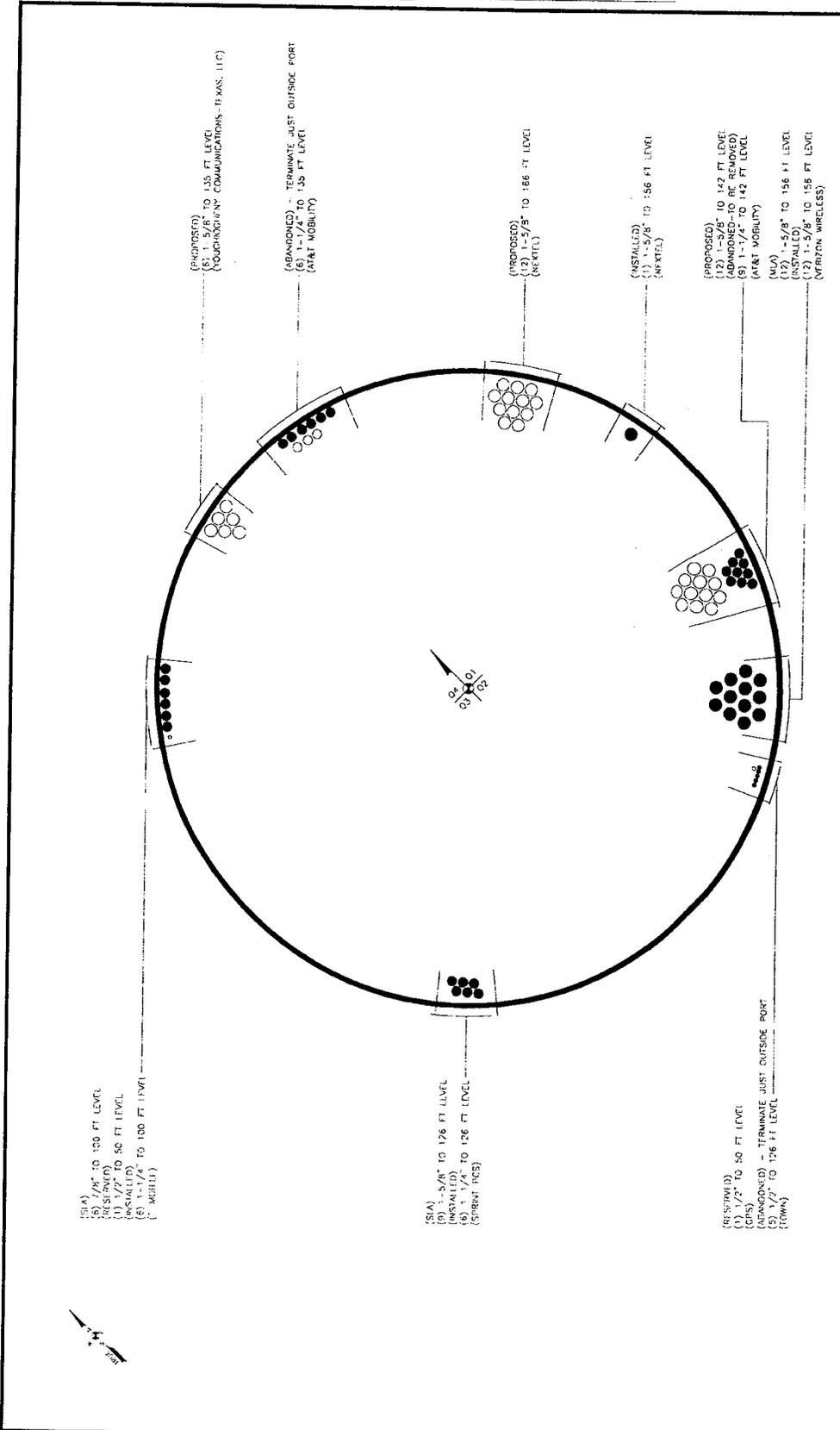
**APENDIX B
BASE LEVEL DRAWING**

COMMONS LOGO



SPACE RESERVED FOR PROFESSIONAL STAMP

NO.	DATE	DESCRIPTION	BY
1	10/15/10	ISSUED FOR PERMITTING	WJL
2	10/15/10	ISSUED FOR PERMITTING	WJL
3	10/15/10	ISSUED FOR PERMITTING	WJL
4	10/15/10	ISSUED FOR PERMITTING	WJL
5	10/15/10	ISSUED FOR PERMITTING	WJL
6	10/15/10	ISSUED FOR PERMITTING	WJL
7	10/15/10	ISSUED FOR PERMITTING	WJL
8	10/15/10	ISSUED FOR PERMITTING	WJL
9	10/15/10	ISSUED FOR PERMITTING	WJL
10	10/15/10	ISSUED FOR PERMITTING	WJL



(SMA)
 (8) 1/8" TO 100 FT LEVEL
 (RESERVED)
 (1) 1/2" TO 50 FT LEVEL
 (RESERVED)
 (8) 1/2" TO 100 FT LEVEL
 (MOBILITY)

(SMA)
 (1) 1-5/8" TO 126 FT LEVEL
 (INSTALLED)
 (6) 1-1/4" TO 126 FT LEVEL
 (SPRINT PCS)

(RESERVED)
 (1) 1/2" TO 50 FT LEVEL
 (GPS)
 (ABANDONED) - TERMINATE JUST OUTSIDE PORT
 (1) 1-5/8" TO 126 FT LEVEL
 (TOWER)

(PROPOSED)
 (6) 1-5/8" TO 135 FT LEVEL
 (MOBILITY NY COMMUNICATIONS - TRANS. LLC)

(ABANDONED) - TERMINATE JUST OUTSIDE PORT
 (6) 1-1/4" TO 135 FT LEVEL
 (AT&T MOBILITY)

(PROPOSED)
 (12) 1-5/8" TO 166 FT LEVEL
 (NEARTEL)

(INSTALLED)
 (1) 1-5/8" TO 156 FT LEVEL
 (NEARTEL)

(PROPOSED)
 (12) 1-5/8" TO 142 FT LEVEL
 (AT&T MOBILITY)
 (9) 1-1/4" TO 142 FT LEVEL
 (AT&T MOBILITY)

(SMA)
 (12) 1-5/8" TO 156 FT LEVEL
 (INSTALLED)
 (12) 1-5/8" TO 156 FT LEVEL
 (VERION WIRELESS)

LEGEND: FEEDLINES

- SOLID BLUE CIRCLE DENOTES EXISTING FEEDLINE
- OPEN RED CIRCLE DENOTES PROPOSED FEEDLINE
- OPEN BLUE CIRCLE DENOTES RESERVED FEEDLINE
- BLUE "X" DENOTES LOCATION NOT GIVEN

NOTE: ASSUME FEEDLINE ATTACHMENT HEIGHT TO TOWER STEEL AT 8'-0" FEET ABOVE FINISHED GRADE UNLESS OTHERWISE SPECIFIED

BUSINESS UNIT 000006 TOWER # 1: BASELINE

