STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square
New Britain, Connecticut 06051
Phone: (860) 827-2935
Fax: (860) 827-2950

August 8, 2002

Peter W. van Wilgen
SNET Mobility, LLC
500 Enterprise Drive
Rocky Hill, CT 06067-3900

RE: **EM-CING-054-077-020718** - SNET Mobility, LLC notice of intent to modify existing telecommunications facilities located in Manchester and Glastonbury, Connecticut.

Dear Mr. van Wilgen:

At a public meeting held on August 1, 2002, the Connecticut Siting Council (Council) acknowledged your notice to modify these existing telecommunications facilities, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated July 18, 2002. 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 sites that would not increase tower heights, extend the boundaries of the tower site, increase noise levels at the tower site boundaries by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundaries to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. These facilities have also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on these towers.

This decision is under the exclusive jurisdiction of the Council. Any additional change to these facilities 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,

Mortimer A. Gelston
Chairman

MAG/laf

c: Honorable Walter Cussan, Chairman Town Council, Town of Glastonbury
Kenith Leslie, Town Planner, Town of Glastonbury
Richard J. Johnson, Town Manager, Town of Glastonbury
Honorable Stephen T. Cassano, Mayor, Town of Manchester
Thomas R. O'Marra, Zoning Enforcement Officer, Town of Manchester
Richard J. Sartor, General Manager, Town of Manchester

SNET Mobility, LLC
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 513-7730
Fax: (860) 513-7190

Peter W. van Wilgen
Senior Manager – Construction

HAND DELIVERED

July 18, 2002

Mr. Mortimer A. Gelston, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: SNET Mobility, LLC notice of intent to modify existing telecommunications facilities located in Manchester and Glastonbury

Dear Mr. Gelston:

In order to accommodate technological changes, implement E-911 capability and enhance system performance, SNET Mobility, LLC ("SNET" or "Cingular Wireless") plans to modify the antenna configurations at 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 each of the municipalities in which an affected cell site is located.

Attached are summary sheets detailing the planned changes, including power density calculations reflecting the change in the effect of Cingular's operations at each site. Also included is documentation of the structural sufficiency of each tower to accommodate the revised antenna configuration.

The changes to the facilities do not constitute modifications as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facilities will not be significantly changed or altered. Rather, the planned changes to the facilities 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. At almost all sites, new panel antennas approximately the same size will replace those previously installed. Tower mount amplifiers, approximately 5" x 9" x 13", will be added to the platform on which the panel antennas are mounted to enhance signal reception at the cell site. In addition, the mandated provision of E-911 capability will require installation of one LMU ("location measurement unit"), approximately 5 inches high, on either the tower, the equipment shelter or the ice bridge. One GPS receive-only antenna will be attached to the equipment shelter at each site. None of the 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.

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

4. Radio frequency power density will increase due to use of additional channels broadcasting at higher power. 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, Cingular Wireless respectfully submits that the proposed changes at the referenced sites constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (860) 513-7730 with questions concerning this matter. Thank you for your consideration.

Sincerely,

Peter W. van Wilgen
Senior Manager - Construction

Enclosures

CINGULAR WIRELESS
Antenna Modification

Site Address: 52 East Center Street, Manchester
Petition 2/11/93

Tower Owner/Manager: Southern New England Telephone Co.;
managed by RCC

Antenna configuration Antenna center line – 65'

Current and/or approved: 12 ALP 110 11 or comparable

Planned: 9 CSS DU04-8670 or comparable
6 tower mount amplifiers
3 diplexers

Power Density:

Calculations for Cingular's current operations at the site indicate a radio frequency electromagnetic radiation power density, measured at the tower base, of approximately 27.6% of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density for Cingular's planned operations would be approximately 39.1%, or an additional 11.5% of the standard.

Cingular Current

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
SNET	65	880 - 894	19	100	0.1617	0.5867	27.6

Cingular Planned

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
SNET TDMA	65	880 - 894	16	100	0.1362	0.5867	23.2
SNET GSM	65	880 - 894	2	296	0.0504	0.5867	8.6
SNET GSM	65	1930 - 1935	2	427	0.0727	1.0000	7.3
Total							39.1%

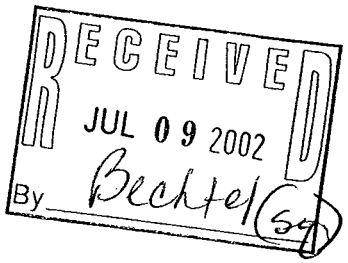
Structural information: Please see attached.

BAYAR ENGINEERING, P.C.
Structural Engineers
P.O. Box 1287, Port Chester, N.Y. 10573-8287
TEL: (914) 681-8749 FAX: (914) 421-0416

Demirtas C. Bayar, P.E.

July 5, 2002

Mr. Irsan Tisnabudi
Project Coordinator
GEM Engineering Company
2500 Wilcrest, Suite 100
Houston, TX 77042



Re: Manchester, CT tower
Bechtel Site No. 1070
BE Job No. 0215-A

Dear Irsan,

We analyzed the existing 27'-6" tower on the roof of the SNET building in Manchester, CT. Our analysis was based on replacing all nine (9) existing ALP1101 cellular antennas with a cellular antenna that has maximum dimensions of 48" x 14" x 9". The two outside antennas in each sector will receive a TMA on the back of the antenna and the middle antenna will receive a diplexer behind the antenna. On this tower the TMA and the diplexer are shielded and do not add wind area to one face of the tower.

The original tower was designed for four (4) ALP1101 antennas in each sector. Our calculations show that the solid area of the mounting platform with the antennas in the original calculation is larger than the proposed new antenna configuration. Enclosed are two sheets of calculations.

The existing structure with the proposed new antenna configuration will be adequate to support the new loading condition.

Yours truly,

Demirtas C. Bayar, P.E.
PE No. CT 12725
President

CINGULAR WIRELESS
Antenna Modification

Site Address: Birch Mountain Road, Glastonbury
exempt modification 7/15/92

Tower Owner/Manager: Southern New England Telephone Co.;
managed by RCC

Antenna configuration Antenna center line – 128.5'

Current and/or approved: 9 ALP 8013 or comparable

Planned: 9 CSS DU04-8670 or comparable OR
6 CSS DU04-8670 and 3 ALP 8013
6 tower mount amplifiers
3 diplexers

Power Density:

Calculations for Cingular's current operations at the site indicate a radio frequency electromagnetic radiation power density, measured at the tower base, of approximately 7.1% of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density for Cingular's planned operations would be approximately 10.0%, or an additional 2.9% of the standard.

Cingular Current

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
SNET	128.5	880 - 894	19	100	0.0414	0.5867	7.1

Cingular Planned

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
SNET TDMA	128.5	880 - 894	16	100	0.0348	0.5867	5.9
SNET GSM	128.5	880 - 894	2	296	0.0129	0.5867	2.2
SNET GSM	128.5	1930 - 1935	2	427	0.0186	1.0000	1.9
Total							10.0%

Structural information: Please see attached.

BAYAR ENGINEERING, P.C.
Structural Engineers
P.O. Box 1287, Port Chester, N.Y. 10573-8287
TEL: (914) 681-8749 FAX: (914) 421-0416

Demirtas C. Bayar, P.E.

July 5, 2002

Mr. Irsan Tisnabudi
Project Coordinator
GEM Engineering Company
2500 Wilcrest, Suite 100
Houston, TX 77042

Re: Glastonbury, CT tower
Bechtel Site No. 1038
BE Job No. 0215-B

Dear Irsan,

We visited the site and based on our observations analyzed the existing 125'-0" tower at Glastonbury, CT. Our analysis was based on replacing six (6) existing ALP8013 cellular antennas on two sectors with a cellular antenna that has maximum dimensions of 48" x 14" x 9". The two outside antennas in each of the two sectors will receive a TMA on the back of the antenna and the middle antenna will receive a diplexer behind the antenna.

On sheet 3 of our calculations we indicate the original antenna configuration for which the tower was designed. In our sketch No. 0215-B we indicate the present antennas and the proposed new alterations. The total existing loads with the proposed alteration are less than the original tower design loads.

The existing structure with the proposed new antenna configuration will be adequate to support the new loading condition.

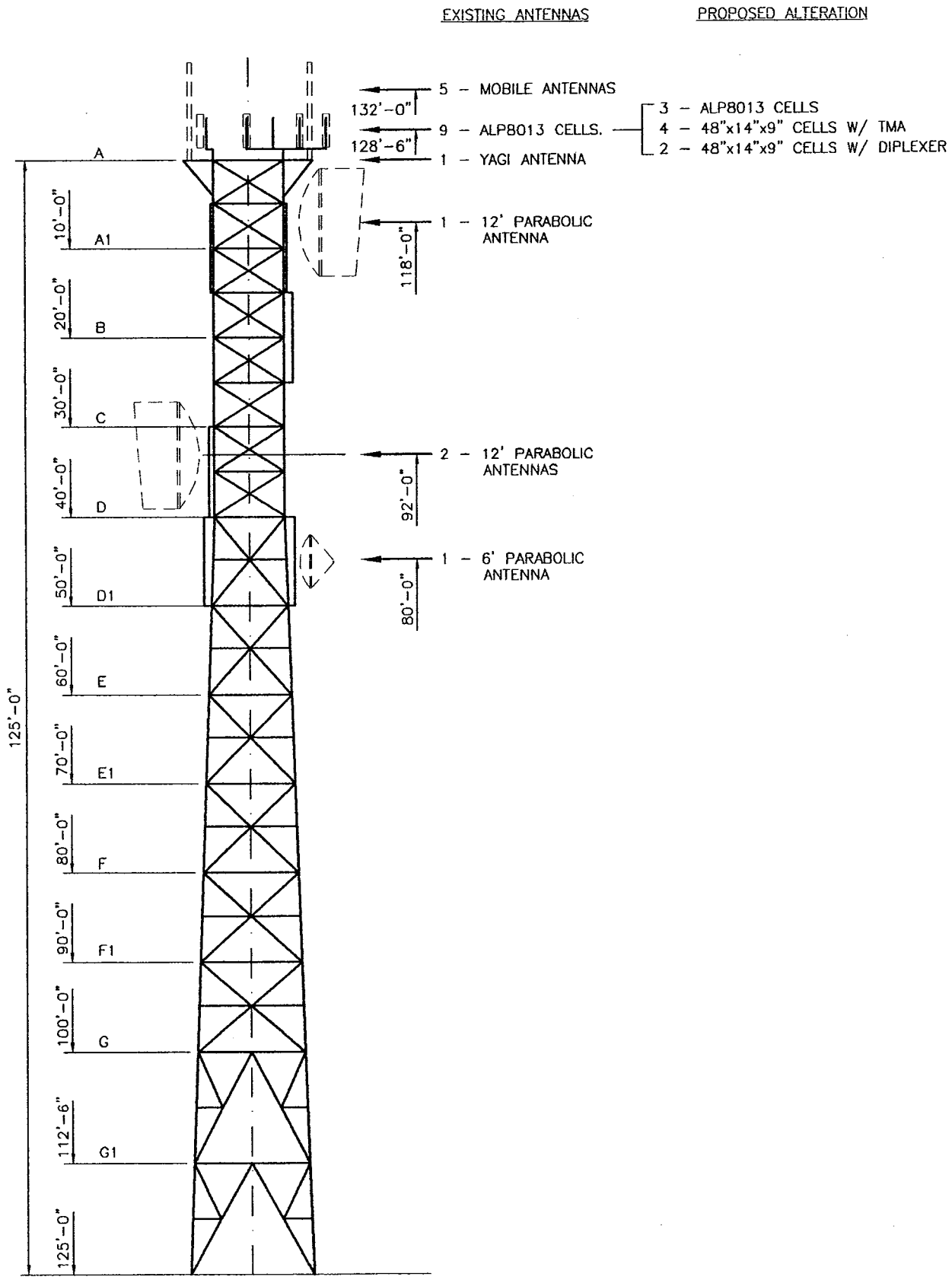
Yours truly,

Demirtas C. Bayar, P.E.
PE No. CT 12725
President

BAYAR ENGINEERING, P.C.

SH. NO. SK 0215-B
DATE: 7/3/2002
BY:

PROJECT: GLASTONBURY, CT. EXIST. 125'-0" TYPE K2

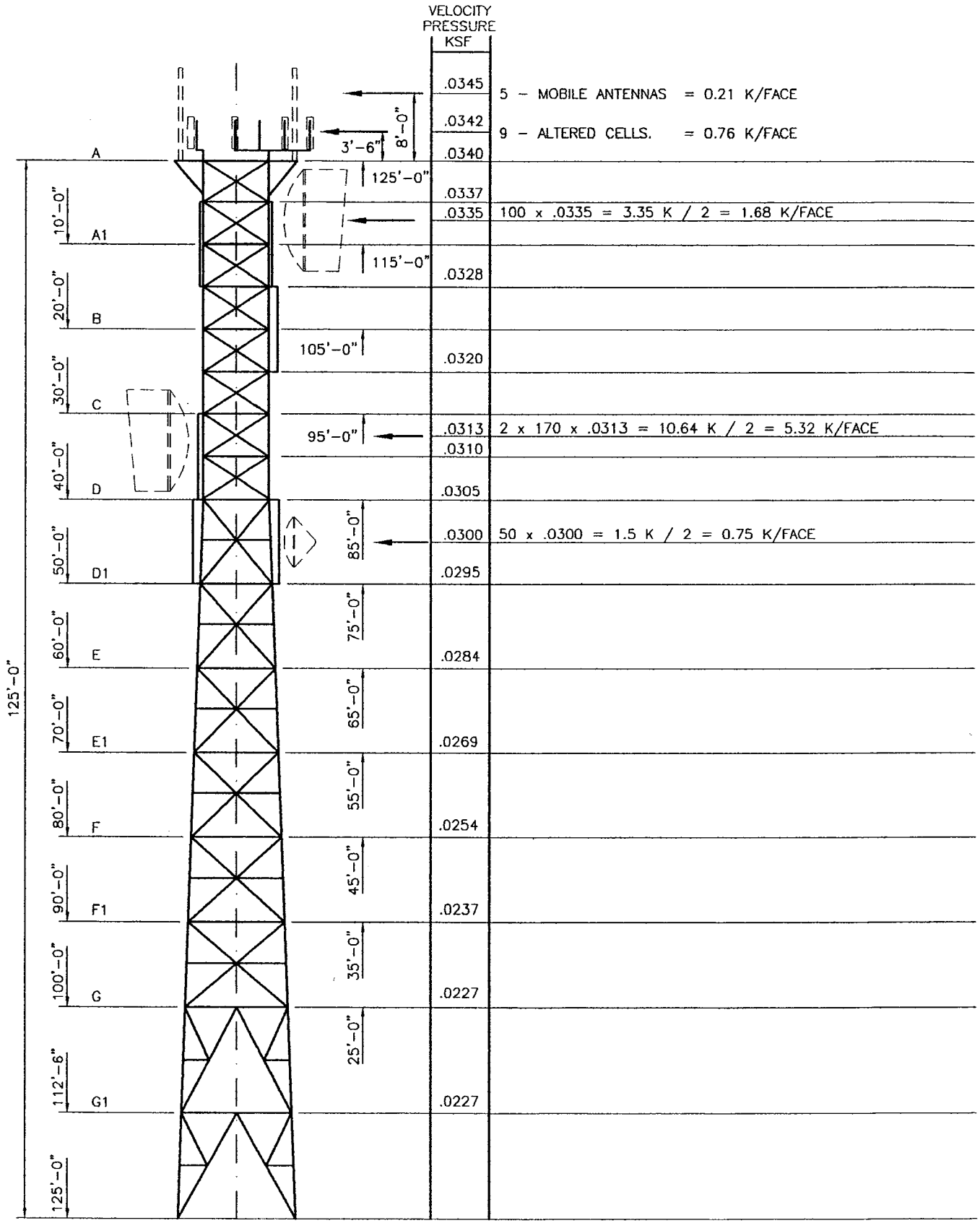


BAYAR ENGINEERING, P.C.

SH. NO. 1

DATE:

PROJECT: GLASTONBURY, CT. EXIST. 125'-0" TYPE K2 (85C) BY:



ALP8013 ANTENNA

CDA = 52 x 13 x 1.0 /144 = 4.69 sq.ft. each

NEW CELL ANTENNA

CDA = 48 x 14 x 0.9 / 144 = 4.20
TMA CDA = 13 x 11 x 1.9 / 144 = 1.89

TOTAL CDA = 6.09 sq.ft. each

ALP8013 ANTENNA W/DIPLEXER

CDA = 52 x 13 x 1.0 /144 = 4.68
DIPLEXER CDA = 11.7 x 5.4 x 1.9 / 144 = 0.83

TOTAL CDA = 5.51 sq.ft. each

MOBILE ANTENNAS

CDA = 14' x 0.25' x 0.7 = 2.45 sq.ft each

ANTENNA LOADS AT LEVEL A

NEW CELL ANTENNAS W/TMA = 2 x 6.09 x .0342 = 0.42
ALP ANTENNA W/DIPLEXER = 1 x 5.51 x .0342 = 0.19

TOTAL PER SECTOR = 0.61 K x 2.5 /2 = 0.76 K/FACE
MOBILE ANTENNAS = 5 x 2.45 x 0.0345 / 2 = 0.21 K/FACE

TOTAL = 0.97 K/FACE

MOMENTS:

CELLS = 0.76 x 3.5' = 2.66 K-FT./FACE
MOBILES = 0.21 x 8' = 1.68 K-FT/FACE

TOTAL = 4.34 K-FT/FACE

LEG LOAD = 4.34 x 2 / (8 x 1.414) = 0.77 K/LEG

ANTENNA LOADS AT LEVEL C1-D

ANTENNA LOADS:
WEB = (0.97 + 1.68 + 5.32) x 9.4 / (8 x 2) = 4.68 K (TENSION-COMPRESSION SYSTEM)
LEG = [(0.97 x 40') + (1.68 x 33') + (5.32 x 7')] x 2 / (8 x 1.414) = 23.4 K/LEG

TOWER LOADS:
WEB = 3.67 K (TENSION-COMPRESSION SYSTEM)
LEG = 50.5 K

TOTAL LOADS:
WEB = 3.67 + 4.68 = 8.35 K (TENSION-COMPRESSION SYSTEM)
LEG = 50.5 + 23.4 = 73.9 K

THIS TOWER WAS ORIGINALLY DESIGNED FOR:

5 - MOBILE ANTENNAS ON TOP OF THE TOWER
12 - ALP8013 ANTENNAS AT TOP OF TOWER
1 - 12' PARABOLIC ANTENNA AT 118' ABOVE BASE
1 - 12' PARABOLIC ANTENNA AT 106' ABOVE BASE
1 - 8' PARABOLIC ANTENNA AT 116' ABOVE BASE
2 - 12' PARABOLIC ANTENNAS AT 92' ABOVE BASE
1 - 12' PARABOLIC ANTENNA AT 80' ABOVE BASE
1 - 6' PARABOLIC ANTENNA AT 80' ABOVE BASE

PRESENT ANTENNA CONFIGURATION IS:

5 - MOBILE ANTENNAS ON TOP OF THE TOWER
12 - ALP8013 ANTENNAS AT TOP OF TOWER
1 - 12' PARABOLIC ANTENNA AT 118' ABOVE BASE
2 - 12' PARABOLIC ANTENNAS AT 92' ABOVE BASE
1 - 6' PARABOLIC ANTENNA AT 80' ABOVE BASE

PROPOSED NEW ALTERATION CALCULATIONS:

EXISTING WEB MEMBER C1-D

L-2 1/2 x 2 x 5/16 P = 8.35 K Lx = 6.75 ft. Lz = 4.5 ft.

A = 1.31 in.^{2}
Rx = 0.584 in.
Rz = 0.422 in.

KLx/Rx = 138.7 KLz/Rz = 128.0

ALLOW. C = 1.31 x 7.76 = 10.2 K > 8.35 K OK

2 BOLTS = 8.8 K

EXISTING LEG MEMBER C1-D

L-5 x 5 x 3/8 P = 73.9 K Lz = 5.0 ft.

A = 3.61 in.^{2}
Rz = 0.99 in.

KLz/Rz = 60.6

ALOW. C = 3.61 x 17.37 x 1.33 = 83.1 K > 73.9 K OK

6-3/4"ø RB = 106.2 K

ALL OTHER MEMBERS ARE STRESSED LESS THAN THE ORIGINAL STRESSES.