CONNECTICUT SITING COUNCIL

| | | |
|---|---|---|
| PETITION OF BLUE SKY TOWERS, LLC ("BLUE SKY") AND NEW CINGULAR WIRELESS PCS, LLC ("AT&T") TO THE CONNECTICUT SITING COUNCIL FOR A DECLARATORY RULING THAT NO CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED IS REQUIRED FOR A PROPOSED TEMPORARY TOWER TO BE LOCATED AT 220 EVERGREEN STREET IN THE CITY OF BRIDGEPORT, CONNECTICUT | ) | PETITION NO. ____<br>JULY 2, 2015 |

# PETITION FOR DECLARATORY RULING
# PROPOSED TEMPORARY TOWER
# 220 EVERGREEN STREET, BRIDGEPORT

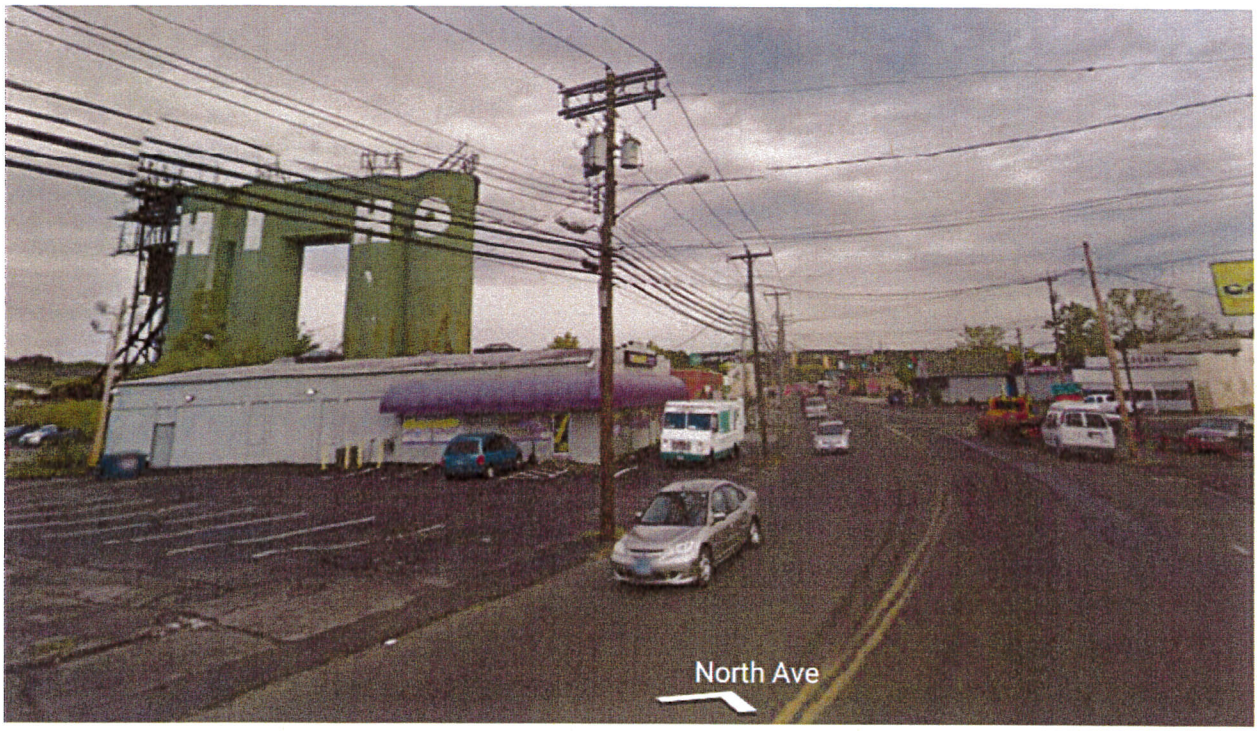
## I. Introduction

Blue Sky Towers, LLC ("Blue Sky") and New Cingular Wireless PCS, LLC ("AT&T") (the "Petitioners") hereby petition the Connecticut Siting Council ("Council") pursuant to Sections 16-50j-38 and 16-50j-39 of the Regulations of Connecticut State Agencies ("R.C.S.A.") for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need ("Certificate") is required to install a temporary tower facility at 220 Evergreen Street in the City of Bridgeport, Connecticut (the "Site"). Blue Sky is a tower infrastructure company and AT&T is licensed by the Federal Communications Commission ("FCC") to provide wireless services in this area of the State of Connecticut. The companies are coordinating on this temporary tower which is proposed to

replace wireless service from a nearby existing wireless facility located at 370 North Avenue ("HI HO Facility").

## II. Existing HI HO Facility

There are four (4) silos, a bridge and a steel structure (collectively the "support structure") that make up the HI HO Facility located at 370 North Avenue in the City of Bridgeport. During the 1930'-1950's coal was stored inside the silos. AT&T, and its affiliates, have operated a wireless facility at the HI HO Facility for approximately 10 years. AT&T's Facility at this location was originally approved by the City of Bridgeport. Sprint and Verizon also operate wireless facilities at the HI HO Facility pictured below.




## III. HI HO Facility Issues

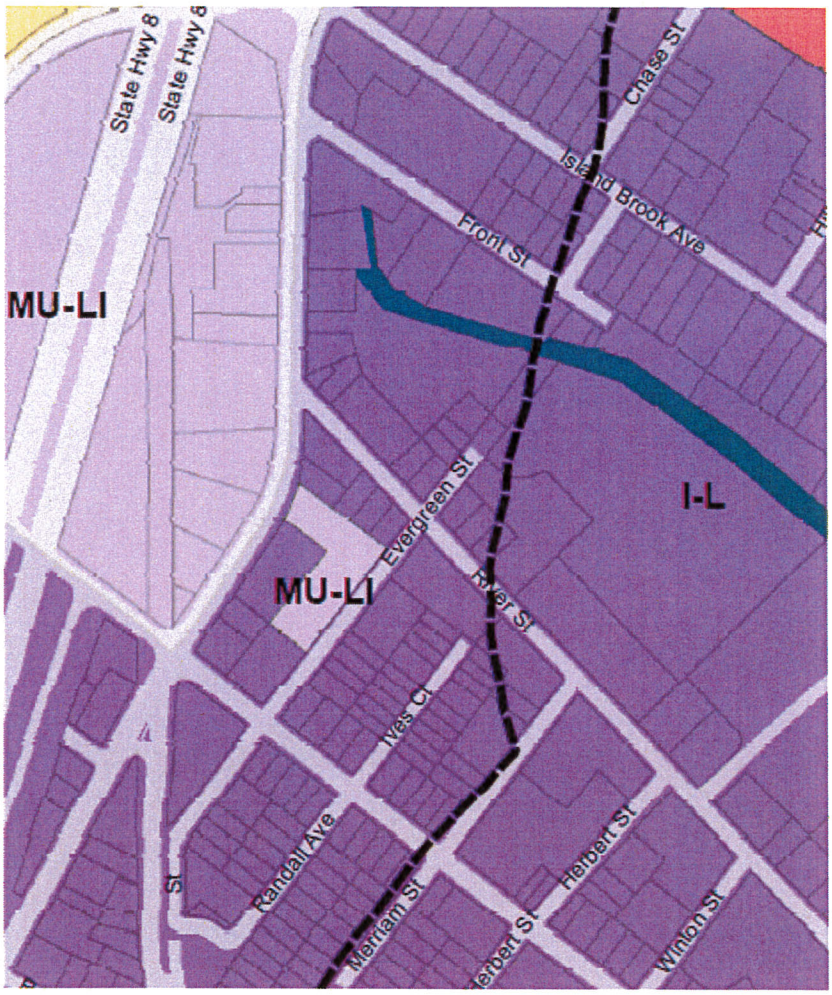
A Structural Condition Assessment Report, prepared by Hudson Design Group and ProVertic, dated November 12, 2014 was procured by AT&T and notes the

structural condition of the HI HO Facility. Due to structural deterioration of the existing support structure on which AT&T's antennas are located, the entire structure has been deemed by AT&T a serious hazard to any technicians, tower hands, or anyone else working on or around this structure. As such, AT&T radiofrequency engineering is unable to add proposed LTE capacity to its existing facility at the HI HO Facility and AT&T network operations will not restore service from the site in the event of an outage due to the existing site conditions. Accordingly, it has been recommended that AT&T relocate its antennas from the HI HO Facility.

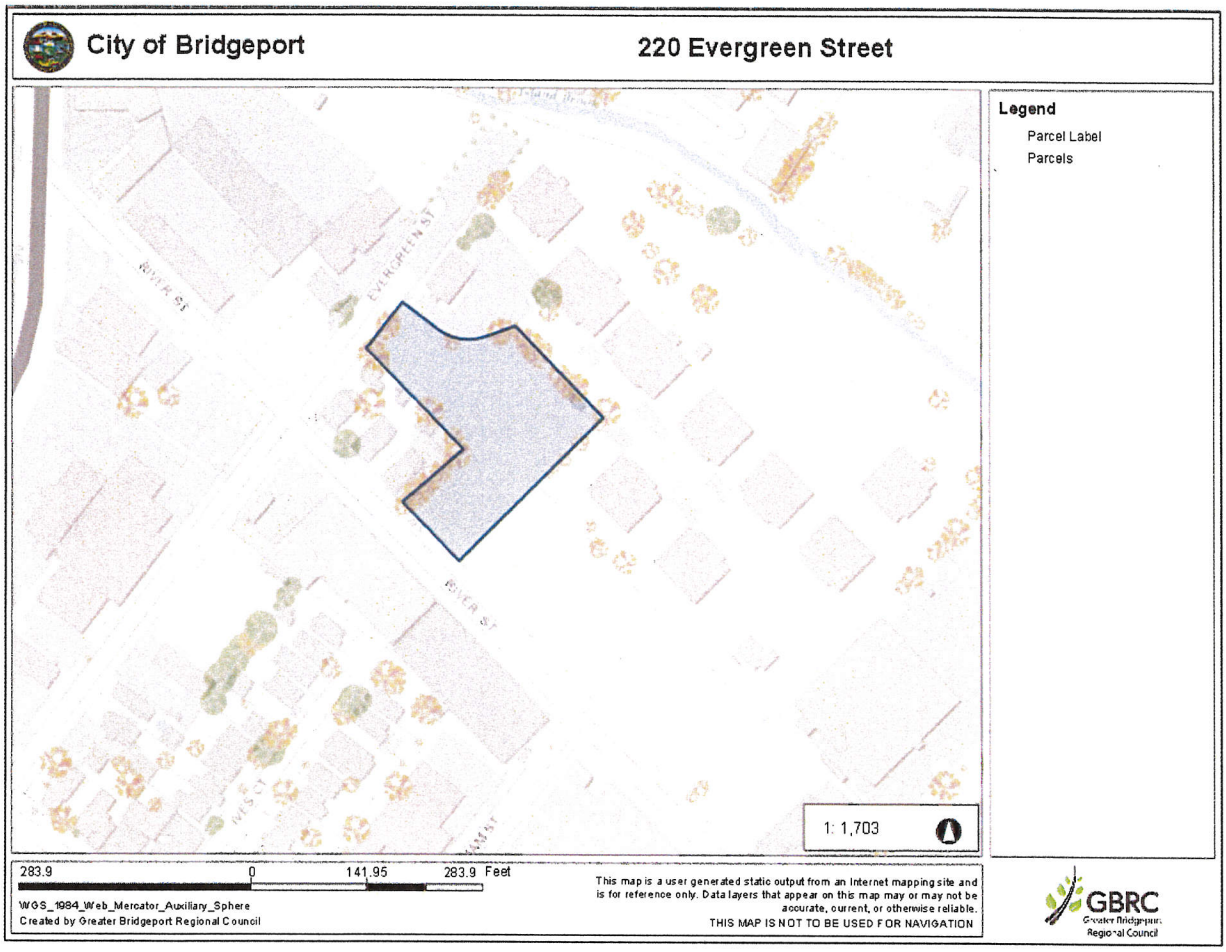
AT&T has coordinated with Blue Sky for development of a temporary tower in this area of Bridgeport in order for it, and potentially other wireless carriers, to relocate their facilities from the existing HI HO Facility. The proposed temporary tower is an interim measure intended to address the existing HI HO Facility safety and wireless network issues AT&T is experiencing and while a permanent site relocation can be approved, constructed and integrated into AT&T's wireless network. Blue Sky and AT&T anticipate filing a technical report with the City of Bridgeport for a permanent tower site by the end of July and commencing a Section 16-50l consultation. Nevertheless, due to the time required for permitting, construction and operation of a permanent replacement site for the HI HO Facility, a temporary tower is being proposed to allow for an immediate relocation from the existing HI HO Facility.

## IV. Proposed Temporary Tower

The proposed temporary tower site consists of a parcel of land with an address of 220 Evergreen Street and is identified on the City of Bridgeport's Tax Map 53 as Block 1527, Lot 2. The lot is a (1) acre vacant parcel of land owned by Chapin & Bangs Company, which owns an adjoining parcel and is used as part of its steel fabrication services. The lot is in an area of the City zoned I-L (Industrial) as shown in the below portion of the Bridgeport Zoning Map.




Adjacent lots are developed commercial uses, three family/multifamily residences and the City's Animal Control facility that includes kennels for dogs and cats. A map of the area and surrounding parcels is included below.




The proposed temporary tower facility would be located along the parcel's frontage on Evergreen Street. A 3,617.5 s.f. fenced compound would be installed with access from Evergreen Street. Utility connections would be run overhead from an existing utility pole at Evergreen Street (collectively the "Temporary Tower Site").

The temporary tower itself would be a 120' tall ballast monopole tower mounted on an 8' tall Ambor Structure Base, for an overall height of 128'. Six (6) AT&T antennas would be located at a centerline height of 124' AGL. The temporary tower could also accommodate up to (2) additional carriers. An AT&T unmanned 12' by 20' equipment shelter will be installed at grade on timbers (collectively the "Temporary Tower Facility").

Detailed drawings prepared by Hudson Design Group, last revised June 18, 2015, which include an abutters map, site development plan, elevations, site details, site utility plans and other aspects of proposed Temporary Tower Facility are included in Exhibit B. A Structural Analysis, dated June 19, 2015, prepared by Bennett & Pless, Inc. is included in Exhibit C.

## V. The Temporary Tower Facility Will Not Have a Substantial Adverse Environmental Effect

The proposed Temporary Tower Facility will not create substantial adverse environmental effects as more fully set forth herein.

### A. Visibility

A visibility assessment prepared by Saratoga Associates and dated July 1, 2015 is included in Exhibit D and identifies the as a dense industrial, commercial area of Bridgeport with some non-conforming residential buildings. The report concludes that when visible, the proposed tower will be seen within the context of existing manufacturing, warehousing and commercial buildings which dominate this section of the City. The Petitioners submit that the temporary tower, which by its very nature is limited in duration and readily removable, does not represent permanent adverse visual effects for purposes of the Council's regulatory considerations in ruling on this Petition.

### B. Physical Impacts

One Ash tree is proposed for removal and the overall area of disturbance is less than 10% of the one acre lot. The lot has been used as part of Chapin & Bangs' materials storage. The location of the Temporary Tower Site is outside of the 100 year flood zone located on the lot. Construction of the

Temporary Tower Facility and related improvements on the lot do not involve substantial physical impacts to the environment.

### C. Compliance with MPE Limits

The operation of AT&T antennas on the temporary tower will be well within standards adopted by the Connecticut Department of Environmental Protection as set forth in Section 22a-162 of the Connecticut General Statutes and the MPE limits established by the FCC. A power density report is included in Exhibit E.

## VI. Notice

Pursuant to Section 16-50j-40(a) of the Council's regulations, notice of AT&T's intent to file this petition was sent to each person appearing of record as an owner of property that abuts the Temporary Tower Site, as well as the appropriate municipal officials and government agencies as listed in Section 16-50e of the General Statutes. Certification of such notice, a copy of the notice and the list of property owners and municipal officials and government agencies to whom the notice was sent are included in Exhibit F.

## VII. Council Regulation of Temporary Towers and Declaratory Ruling Sought by AT&T

The Public Utility Environmental Standards Act ("PUESA") provides the Siting Council with jurisdiction over telecommunications towers and several other types of utility infrastructure which are defined as "facilities". See C.G.S. § 16-50i(a). However, not every "facility" requires a Certificate of Environmental Compatibility and Public Need. Indeed, state law specifically provides that only a facility which "may have a substantial adverse environmental effect" requires a Certificate. C.G.S. § 16-50k.

The Siting Council's regulations contain several exemptions for certain types of tower facilities including temporary towers. For example, Section 16-50j-72(a)(2) of the Council's regulations includes an exemption for installation of a tower next to an existing tower that is damaged or inoperable and required in order to maintain continuity of services. Section 16-50j-72(d) of the Council's regulations also incorporate an exemption for temporary towers provided that the temporary use is "necessary to provide emergency or essential telecommunications services to ....events of statewide significance". Historically, wireless carriers have filed and received acknowledgment of notices for cell on wheels, temporary distribution pole sets and other types of temporary facilities needed during construction of new wireless facilities or for special events. See e.g. EM-CING-052-131023, EM-CING-038-120816.

In cases where a tower facility is not otherwise exempt under Council regulations, the Council has discretion to determine that a proposed facility will not have a substantial adverse environmental effect and that no Certificate is required. See Section 4-176 of the Uniform Administrative Procedure Act and Sections 16-50j-38 and 39 of the Council's own regulations specifically provide the Siting Council with the regulatory authority to render case-by-case declaratory rulings in a petition process. As relevant to this Petition, the Council has previously issued declaratory rulings that no Certificate was required for: an 85' temporary tower needed to avoid service disruption during maintenance of a water tank site (Petition 1062); and a 55' permanent tower site with minimal environmental impacts (Petition 626T). Blue Sky and AT&T have filed this Petition with the Council to address the need for a temporary tower to be deployed in a new site location to address safety and service issues with the existing HI HO Facility. Petitioners specifically seek a ruling that the environmental effects associated with the construction of the Temporary Tower Site are not substantial, the installation reversible and temporary and to allow the Temporary Tower Facility as proposed to operate until a permanent replacement site is permitted, constructed and operational.

## VIII. Conclusion

The proposed Temporary Tower Facility does not present substantial adverse environmental effects for purposes of Section 16-50p of the General Statutes. Petitioners respectfully petition the Connecticut Siting Council for a determination that development of the Temporary Tower Site and operation of the Temporary Tower Facility do not require a Certificate of Environmental Compatibility and Public Need and that the Council issue an order approving same. Blue Sky and AT&T seek such a ruling and that it be effective until a permanent replacement site for the HI HO Facility is constructed and operational.

Respectfully Submitted,

Christopher B. Fisher
On behalf of the Petitioners
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, NY 10601
cfisher@cuddyfeder.com
(914) 761-1300

cc: Mayor Bill Finch, City of Bridgeport
Sean Gormley, Blue Sky
Keith Coppins, Phoenix
Michelle Briggs, AT&T
Kelly Wade Bettuchi, AT&T
David Vivian, SAI

## CERTIFICATE OF SERVICE

I hereby certify that on this day, fifteen copies of the foregoing were sent by first class mail to the Connecticut Siting Council:

Dated: July 2, 2015

Christopher B. Fisher

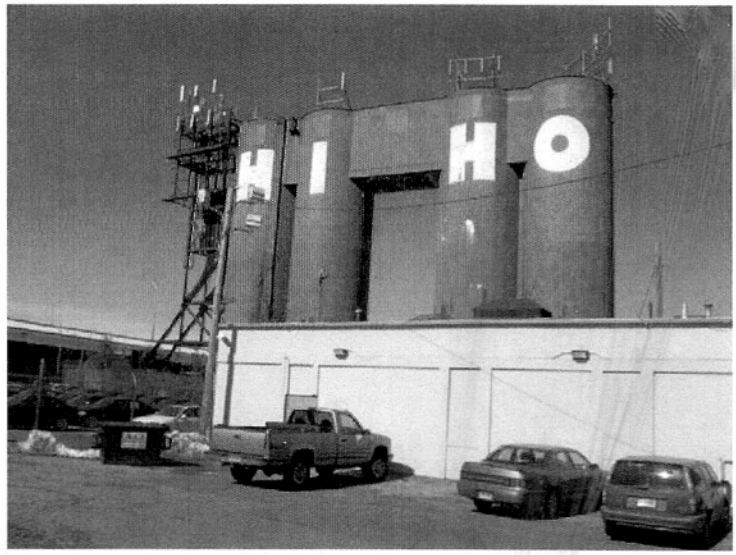
# ATTACHMENT A

# STRUCTURAL CONDITION ASSESSMENT REPORT

For

## CT5092

HI HO Facility
370 North Avenue
Bridgeport, Connecticut 06606




Prepared for:

smartlink at&t

Dated:

November 12, 2014

Prepared by:

Hudson Design Group LLC

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Building 20 North, Suite 3090
North Andover, MA 01845
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Hudson Design Group LLC

## Table of Contents

## EXECUTIVE SUMMARY

The purpose of this structural condition assessment report is to determine whether the existing structure, in its current condition, has the capabilities of supporting the existing antenna loading as well as future applicable loading in its current state based on the data shown within this report. The existing structure under assessment occupies a total footprint of 126'-0' x 21'-0" and is made up of four cylindrical reinforced concrete silos with a connector bridge between and a steel support frame adjacent to the silo structures.

The structures history dates back to 1930's thru 1950's being mainly utilized for coal storage. In fact to this day there is still coal stored inside three out of the four silo structures. The variety of chemicals in coal (mainly metals) can be the cause of deterioration of concrete as shown within this report.

The structure's exterior was inspected and mapped in its entirety by ProVertic LLC with the exception of gaining access to the interior of the structure due to safety concerns around the structure. The supporting foundation is also unknown and no reference information was available for our use.

The data retrieved from the field is attached within this report and has been used to develop a rating system during the structural review do determine the level of deterioration and corrosion throughout the entire exterior of the structure.

The structure is broken up into six components that make up the entire structure: Silo 1, Silo 2, Silo 3, Silo 4, the bridge, and steel structure. (See Figure 1-1 below).

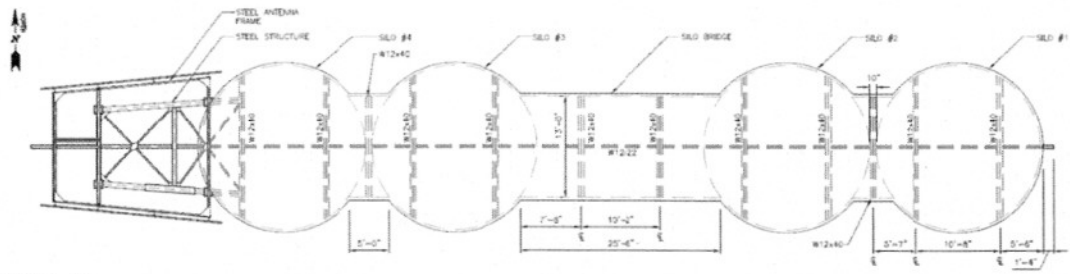



**FIG. 1-1**

Hudson Design Group LLC

## METHODOLOGY

In order to capture all surfaces of each component ProVertic divided each silo into twelve equal segments (upper and lower), and inspected each individual segment as its own area of inspection. The objective was to compile the data from all inspected segments and generate a complete inspection/mapping of the each structure component (Silo 1, Silo 2, Silo 3...etc.). This will provide a more accurate assessment of the entire structure based on the compiled data at the end.

In addition HDG acquired APPLUS RTD to perform a Geophysical Investigation on the structure using Ground Penetrating Radar (GPR) to confirm evidence of reinforcement within the concrete walls as well as size and spacing of the rebar. APPLUS conducted (60) GPR survey readings sporadically throughout the (4) silo structures compiling data for each survey into a summary of results for each silo structure. Evidence from the report clearly notes multiple areas of reinforcement unable to be determined based on the data that was taken (see appendix section of this report).

## CONCLUSION SUMMARY:

Based on the compiled data shown below, nearly 40% of this entire structure is in "poor" condition with excessive deterioration of each components structural make up. The bridge component of the structure poses extreme danger of falling concrete debris including the concrete that makes up the bridge floor. The entire concrete structures showed evidence throughout of severe "split cracking" at all the openings at the base of the structures traveling up through the perimeter walls. As moisture builds up within the cracks and openings the cold weather will cause the moisture to freeze, expanding the concrete causing the continuation of splitting within perimeter walls, the primary supporting elements of the concrete silos. The supporting foundations for the existing silo structures were unable to be determined and no existing information was available for reference. The steel structure supporting the existing appurtenances is nearly 30% deteriorated with its connections to the silo structure and at the base in very poor condition. The deteriorated steel structure leaves it nearly impossible to attach supplemental framing to due to the fact that by drilling into the steel will cause more damage to the steel in its current brittle state.

Not knowing the condition of the interior portions of the concrete silo structures, the structural reinforcement geometry layout within the concrete walls, and the supporting foundations for the silo structures forces a more conservative assessment of the overall structure.

Based on the knowledge HDG has obtained through this investigation we feel that this structure poses a serious hazard to any technicians, tower hands or anyone else working on or around this structure. The structure has been neglected for many years with little to no maintenance. The coal that was stored in the existing silos was never removed and will lead to more deterioration.

We recommend that the entire structure be demolished and all antennas be removed from the structure.

Hudson Design Group LLC

## RESULTS SUMMARY

### SILO No.1:

| Segmented Quadrants | % of Component in "GOOD" | % of Component in "POOR" | Comments |
|---|---|---|---|
| **Q1-1** | 88.21 | 11.79 | |
| **Q1-2** | 83.5 | 16.49 | |
| **Q1-3** | 86.72 | 13.28 | |
| **Q2-1** | 92.67 | 7.33 | |
| **Q2-2** | 85.62 | 14.38 | |
| **Q2-3** | 91.55 | 8.46 | |
| **Q3-1** | 92.29 | 7.71 | |
| **Q3-2** | 72.5 | 27.49 | |
| **Q3-3** | 90.2 | 10.98 | |
| **Q4-1** | 83.97 | 16.03 | |
| **Q4-2** | 83.29 | 16.72 | |
| **Q4-3** | 81.59 | 18.41 | |

**"Good"- designates areas of concrete not showing any evidence of deterioration in the concrete and no exposed reinforcement steel.*

***"Poor" – designates areas of spalled concrete and exposed deteriorated reinforcing steel.*

### SILO No.2:

| Segmented Quadrants | % of Component in "GOOD" | % of Component in "POOR" | Comments |
|---|---|---|---|
| **Q1-1** | 70.9 | 29.1 | |
| **Q1-2** | 65.6 | 34.33 | |
| **Q1-3** | 96.58 | 3.42 | |
| **Q2-1** | 99.76 | .24 | |
| **Q2-2** | 84.54 | 15.4 | |
| **Q2-3** | 95.39 | 4.62 | |
| **Q3-1** | 88.46 | 11.53 | |
| **Q3-2** | 92.1 | 7.91 | |
| **Q3-3** | 67.75 | 32.25 | |
| **Q4-1** | 73.64 | 26.36 | |
| **Q4-2** | 71.81 | 28.19 | |
| **Q4-3** | 65.06 | 34.93 | |

**"Good"- designates areas of concrete not showing any evidence of deterioration in the concrete and no exposed reinforcement steel.*

***"Poor" – designates areas of spalled concrete and exposed deteriorated reinforcing steel.*

**SILO No.3:**

| Segmented Quadrants | % of Component in "GOOD" | % of Component in "POOR" | Comments |
|---|---|---|---|
| **Q1-1** | 91.39 | 8.61 | |
| **Q1-2** | 63.72 | 36.29 | |
| **Q1-3** | 69.88 | 30.12 | |
| **Q2-1** | 86.02 | 13.97 | |
| **Q2-2** | 81.79 | 18.2 | |
| **Q2-3** | 82.9 | 17.1 | |
| **Q3-1** | 91.04 | 8.97 | |
| **Q3-2** | 98.35 | 1.64 | |
| **Q3-3** | 86.04 | 13.96 | |
| **Q4-1** | 69.1 | 30.9 | |
| **Q4-2** | 85.66 | 14.35 | |
| **Q4-3** | 92.89 | 7.11 | |

**"Good"-* *designates areas of concrete not showing any evidence of deterioration in the concrete and no exposed reinforcement steel.*
***"Poor" –* *designates areas of spalled concrete and exposed deteriorated reinforcing steel.*

**SILO No.4:**

| Segmented Quadrants | % of Component in "GOOD" | % of Component in "POOR" | Comments |
|---|---|---|---|
| **Q1-1** | 87.74 | 12.26 | |
| **Q1-2** | 63.87 | 36.13 | |
| **Q1-3** | 94.42 | 5.58 | |
| **Q2-1** | 89.33 | 10.67 | |
| **Q2-2** | 30.01 | 69.99 | |
| **Q2-3** | 72.44 | 27.56 | |
| **Q3-1** | 89.83 | 10.17 | |
| **Q3-2** | 98.37 | 1.64 | |
| **Q3-3** | 100 | 0 | |
| **Q4-1** | 98.9 | 1.1 | |
| **Q4-2** | 96.96 | 3.04 | |
| **Q4-3** | 92.11 | 7.9 | |

**"Good"-* *designates areas of concrete not showing any evidence of deterioration in the concrete and no exposed reinforcement steel.*
***"Poor" –* *designates areas of spalled concrete and exposed deteriorated reinforcing steel.*

**BRIDGE:**

| Sections | % of Component in "GOOD" | % of Component in "POOR" | Comments |
|---|---|---|---|
| **NORTH** | 56.93 | 43.07 | |
| **SOUTH** | 91.3 | 8.7 | |
| **UNDER** | 55.53 | 44.46 | **Safety hazard potential falling concrete debris** |

**"Good"-** *designates areas of concrete not showing any evidence of deterioration in the concrete and no exposed reinforcement steel.*
***"Poor" –** designates areas of spalled concrete and exposed deteriorated reinforcing steel.*

**STEEL FRAME:**

| Sections – Plan Elevation x'-x" | % of Component in "GOOD" | % of Component in "POOR" | Comments |
|---|---|---|---|
| **PLAN 20'-3"** | 85.95 | 14.05 | |
| **PLAN 31'-2"** | 86.79 | 13.21 | |
| **PLAN 46'-6"** | 68.27 | 31.73 | |
| **PLAN 59'-0"** | 60.57 | 43.37 | |
| **PLAN 63'-0"** | 81.82 | 18.18 | |
| **PLAN 74'-0"** | 92.43 | 7.57 | |
| **PLAN 81'-1"** | 93.8 | 6.2 | |
| **Antenna Frame** | 100 | 0 | |
| **Elevation B-B** | 93.8 | 6.2 | |
| **Elevation C-C** | 88.21 | 11.79 | |
| **Elevation D-D** | 100 | 0 | |

**"Good"-** *designates light to heavy rust throughout steel member is intact*
***"Poor" –** designates complete deterioration in steel and its connections.*

**Summary of Results for Entire Structure (including all Components)**

| Component | % of Component in "GOOD" | % of Component in "POOR" | Adjustment % of Component in "POOR" | Comments |
|---|---|---|---|---|
| **SILO #1** | 86.09 | 14.09 | ***28.18*** | |
| **SILO #2** | 80.96 | 19.02 | ***38.04*** | |
| **SILO #3** | 83.23 | 16.76 | ***33.52*** | |
| **SILO #4** | 84.49 | 15.50 | ***31*** | |
| **BRIDGE** | 67.92 | 32.07 | ***64.14*** | |
| **STEEL FRAME** | 86.51 | 13.8 | ***27.6*** | |

***Adjustment % was used based on the fact that the inside of the silo structures were not inspected and that there is a definite possibility of additional deterioration/corrosion as well as spalling of the concrete. The steel connections within the silo could not be inspected also.***

**Total % Deterioration of Entire Structure**

| % of Component in "GOOD" | % of Component in "POOR" | Comments |
|---|---|---|
| ***62.92*** | ***37.08*** | |

# ATTACHMENT B

# CT-5020
# EVERGREEN STREET

220 EVERGREEN STREET
BRIDGEPORT, CT 06606

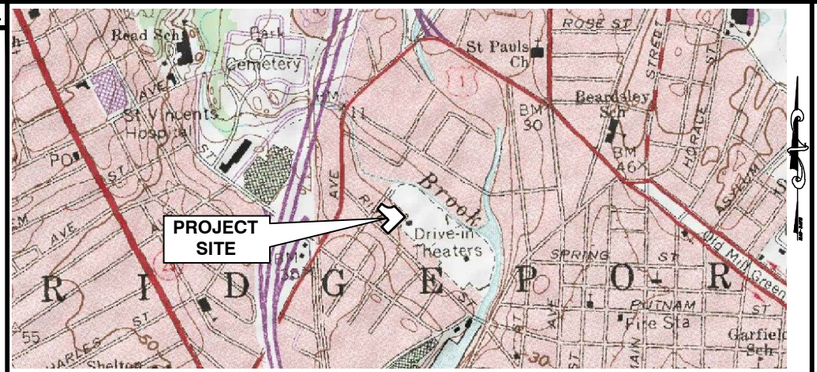
**SITE TYPE: TEMPORARY TOWER INSTALLATION**

## SHEET INDEX

| SHEET | DESCRIPTION | REV. |
|---|---|---|
| T-1 | TITLE SHEET | 0 |
| C-1 | ABUTTERS PLAN | 0 |
| C-2 | EXISTING CONDITIONS | 0 |
| C-3 | SITE PLAN | 0 |
| C-4 | SITE DETAILS | 0 |
| C-5 | EROSION CONTROL DETAILS & NOTES | 0 |
| A-1 | ELEVATION AND ANTENNA PLAN | 0 |

## VICINITY MAP

SCALE: 1" =800'




## PROJECT INFORMATION:

| | |
|---|---|
| PROPERTY OWNER: | CHAPIN & BANGS COMPANY<br>P.O. BOX 1117<br>BRIDGEPORT, CT 06601 |
| APPLICANT: | BLUE SKY TOWERS, LLC<br>158 MAIN STREET, SUITE 2,<br>NORFOLK, MA 02056 |
| SITE ADDRESS: | 220 EVERGREEN STREET<br>BRIDGEPORT, CT 06606 |
| COUNTY: | FAIRFIELD |
| LATITUDE: | N 42° 11' 52.07" |
| LONGITUDE: | W 73° 11' 26.99" |
| PARCEL ID: | 53-1527-2 |
| LAND AREA: | 1.0 ± ACRES |
| ARCHITECT / ENGINEER: | HUDSON DESIGN GROUP LLC<br>1600 OSGOOD STREET<br>BUILDING 20 NORTH, SUITE 3090<br>N. ANDOVER, MA 01845 |

## DRIVING DIRECTIONS

DIRECTIONS TO SITE:
FROM 158 MAIN STREET NORFOLK, MA (BLUE SKY TOWERS' OFFICE):

DEPART MAIN ST TOWARD BOARDMAN ST
KEEP RIGHT TO STAY ON PLEASANT ST
BEAR RIGHT ONTO RT-140 / W CENTRAL ST
TAKE RAMP FOR I-495 N
AT EXIT 22, TAKE RAMP RIGHT FOR I-90 WEST TOWARD ALBANY / SPRINGFIELD
AT EXIT 9, TAKE RAMP RIGHT FOR I-84 TOWARD NEW YORK CITY / HARTFORD
AT EXIT 57, TAKE RAMP LEFT FOR CT-15 SOUTH TOWARD N.Y. CITY / CHARTER OAK BR
KEEP STRAIGHT ONTO US-5 S / CT-15 S
AT EXIT 86, TAKE RAMP RIGHT FOR I-91 SOUTH TOWARD N.Y. CITY / NEW HAVEN
AT EXIT 17, TAKE RAMP RIGHT FOR CT-15 SOUTH TOWARD E. MAIN ST / W. CROSS PKWY
AT EXIT 52, TAKE RAMP RIGHT FOR CT-8 SOUTH TOWARD BRIDGEPORT
AT EXIT 5, TAKE RAMP RIGHT TOWARD NORTH AVE / BOSTON AVE
TURN RIGHT ONTO CHOPSEY HILL RD
TURN RIGHT ONTO US-1 / NORTH AVE
BEAR LEFT ONTO RIVER ST
TURN LEFT ONTO EVERGREEN ST
ARRIVE AT 220 EVERGREEN ST, BRIDGEPORT, CT 06606

## SCOPE OF WORK

BLUE SKY TOWERS IS PROPOSING TO INSTALL THE FOLLOWING IMPROVEMENTS TO THE PROPOSED TELECOMMUNICATION SITE:

- NEW (2) AT&T ANTENNAS PER SECTOR, (3) SECTORS, FOR A TOTAL OF (6) ANTENNAS AND ASSOCIATED EQUIPMENT AND CABLES.

ITEMS LISTED ABOVE TO BE MOUNTED ON PROPOSED BLUE SKY TOWER'S TEMPORARY MONOPOLE.

- NEW TEMPORARY AT&T SHELTER WITHIN 12'x20' LEASE AREA
- POWER AND TELCO UTILITIES SHALL BE ROUTED OVERHEAD FROM THEIR RESPECTIVE DEMARKS TO PROPOSED UTILITY BACKBOARD.

  FINAL DEMARK LOCATION AND UTILITY ROUTING TO THE PROPOSED BACKBOARD WILL BE VERIFIED/DERTERMINED BY LOCAL UTILITY COMPANIES. UTILITIES WILL BE ROUTED UNDERGROUND FROM THE UTILITY BACKBOARD TO THE PROPOSED NOMINAL 12'x20' TEMPORARY AT&T EQUIPMENT SHELTER.

ITEMS LISTED ABOVE TO BE INSTALLED WITHIN PROPOSED 3,616 ± SQ.FT. BLUE SKY TOWER'S FENCED LEASE AREA.

## GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

3 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 1-800-922-4455
**UNDERGROUND SERVICE ALERT**


BLUE SKY TOWERS, LLC
158 MAIN STREET, SUITE 2, NORFOLK, MASSACHUSETTS 02056

550 COCHITUATE RD.
FRAMINGHAM, MA, 01701

Hudson Design Group
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586


LICENSED ENGINEER DATE

REVISIONS

| REV. # | DATE | DESCRIPTION |
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| 0 | 06/18/15 | ISSUED FOR REVIEW |

| PROJECT NO. | DESIGNED BY: DJR | SCALE: |
|---|---|---|
| CT-5020 | DRAWN BY: SB | AS SHOWN |
| | CHECKED BY: DPH | |

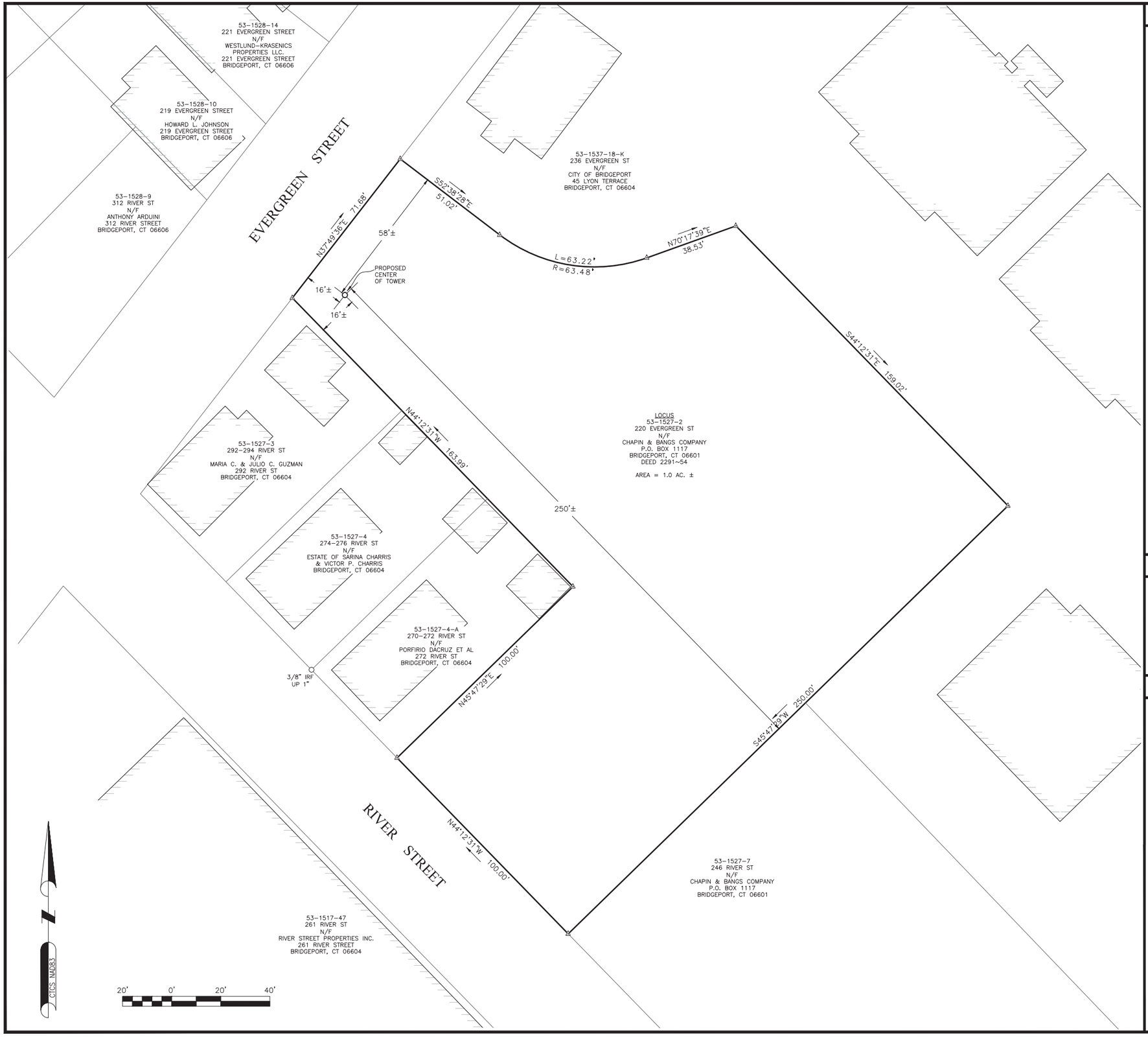
SITE NAME:
EVERGREEN STREET

SITE NUMBER:
CT-5020

SITE ADDRESS:
220 EVERGREEN STREET
BRIDGEPORT, CT 06606

SHEET TITLE:
TITLE SHEET

SHEET NO:
T-1




# SITE NOTES

1. FIELD SURVEY DATE: 06-09-2015
2. HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83 2011)
3. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM (NAVD88)
3. ZONING: IL – INDUSTRIAL LIGHT ZONE
4. OWNER: CHAPIN & BANGS COMPANY P.O. BOX 1117 BRIDGEPORT, CT 06601
5. SITE NAME: HI HO REPLACEMENT COW
6. SITE NUMBER: CT5092
7. SITE ADDRESS: 20 EVERGREEN STREET BRIDGEPORT, CT 06606
8. APPLICANT: AT&T 550 COCHITUATE ROAD FRAMINGHAM, MA 01701
9. AREA: 1.0 ACRES ±
10. TAX ID: 53-1527-2
11. DEED REFERENCES: BOOK 2291 PAGE 54
12. PLAN REFERENCES: BOOK 54 PAGE 25

13. THE HORIZONTAL DATUM AND VERTICAL DATUM WERE DERIVED FROM AN RTK GPS SURVEY.

14. ALL UNDERGROUND UTILITY INFORMATION PRESENTED HEREON WAS DETERMINED FROM SURFACE EVIDENCE AND PLANS OF RECORD. ALL UNDERGROUND UTILITIES SHOULD BE LOCATED IN THE FIELD PRIOR TO COMMENCEMENT OF ALL SITE WORK. CALL DIGSAFE 1-800-322-4844 A MINIMUM OF 72 HOURS PRIOR TO PLANNED ACTIVITY.

15. ACCORDING TO FEDERAL EMERGENCY MANAGEMENT AGENCY MAPS, A PORTION OF THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS ZONE X (SHADED), 0.2% ANNUAL CHANCE FLOOD HAZARD, AND A PORTION OF THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS ZONE AE, 1% ANNUAL CHANCE FLOOD HAZARD.

COMMUNITY PANEL NO. 09001 C0429 G
EFFECTIVE DATE: JULY 8, 2013

16. FIELD SURVEY BY EDM TOTAL STATION AND RTK GPS.

**17. THIS IS NOT A BOUNDARY SURVEY.**

18. LOCUS PROPERTY LINES ARE BASED UPON PLANS OF RECORD AND MONUMENTS FOUND. ABUTTING PROPERTY LINES ARE FROM THE CITY OF BRIDGEPORT'S ASSESSOR'S PARCELS AND ARE APPROXIMATE ONLY.

# LEGEND

- –LOCUS PROPERTY LINE ±
- –ABUTTERS PROPERTY LINE ±
- –ZONING LINE
- ○ –IRON ROD FOUND

# SIGNATURE

THIS SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300B-1 THROUGH 20-300B-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS INC. ON SEPTEMBER 26, 1997.

TYPE OF SURVEY: IMPROVEMENT LOCATION SURVEY

BOUNDARY SURVEY CATEGORY: DEPENDENT RESURVEY

CLASS OF ACCURACY: HORIZONTAL CLASS D
VERTICAL CLASS V-2
PURPOSE OF SURVEY: PROPOSED TEMPORARY CELLULAR TOWER

THIS DOCUMENT AND COPIES THEREOF ARE VALID ONLY IF THEY BEAR THE LIVE SIGNATURE AND EMBOSSED SEAL OF THE DESIGNATED PROFESSIONAL. UNAUTHORIZED ALTERATIONS RENDER ANY DECLARATION NULL AND VOID.

TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

STATE OF CONNECTICUT CHARLES G. GIDMAN 70103 LICENSED LAND SURVEYOR

CHARLES G. GIDMAN, P.L.S. #70103


BlueSky Tower Partners LLC
BLUE SKY TOWERS, LLC
158 MAIN STREET, SUITE 2, NORFOLK, MASSACHUSETTS 02056

at&t
550 COCHITUATE RD.
FRAMINGHAM, MA, 01701

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586


SEE BELOW

LICENSED SURVEYOR DATE

| REVISIONS | | |
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| 0 | 06/10/15 | ISSUED FOR REVIEW |
| REV. # | DATE | DESCRIPTION |

| PROJECT NO. | DESIGNED BY: – | SCALE: |
|---|---|---|
| CT5020 | DRAWN BY: CJH | 1" = 20' |
| | CHECKED BY: BCF | |

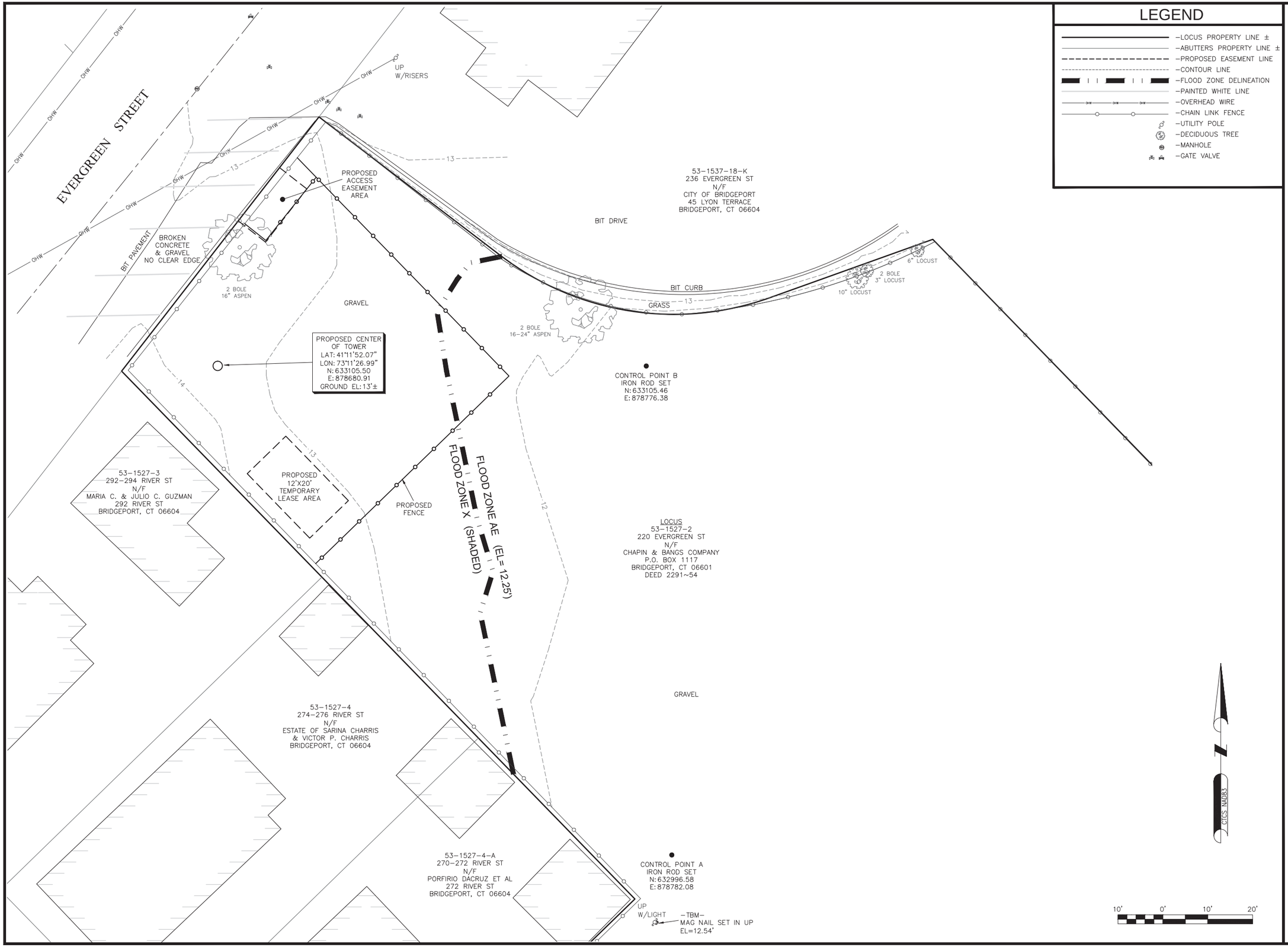
SITE NAME:
EVERGREEN STREET

SITE NUMBER:
CT-5020

SITE ADDRESS:
220 EVERGREEN STREET
BRIDGEPORT, CT 06606

SHEET TITLE:
ABUTTERS PLAN

SHEET NO:
C-1




## LEGEND

- LOCUS PROPERTY LINE ±
- ABUTTERS PROPERTY LINE ±
- PROPOSED EASEMENT LINE
- CONTOUR LINE
- FLOOD ZONE DELINEATION
- PAINTED WHITE LINE
- OVERHEAD WIRE
- CHAIN LINK FENCE
- UTILITY POLE
- DECIDUOUS TREE
- MANHOLE
- GATE VALVE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STATE OF CONNECTICUT
CHARLES B. WOMAN
LICENSED
LAND SURVEYOR

06-10-15
LICENSED SURVEYOR — DATE

| REVISIONS | | |
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| | CHECKED BY: BCF | |

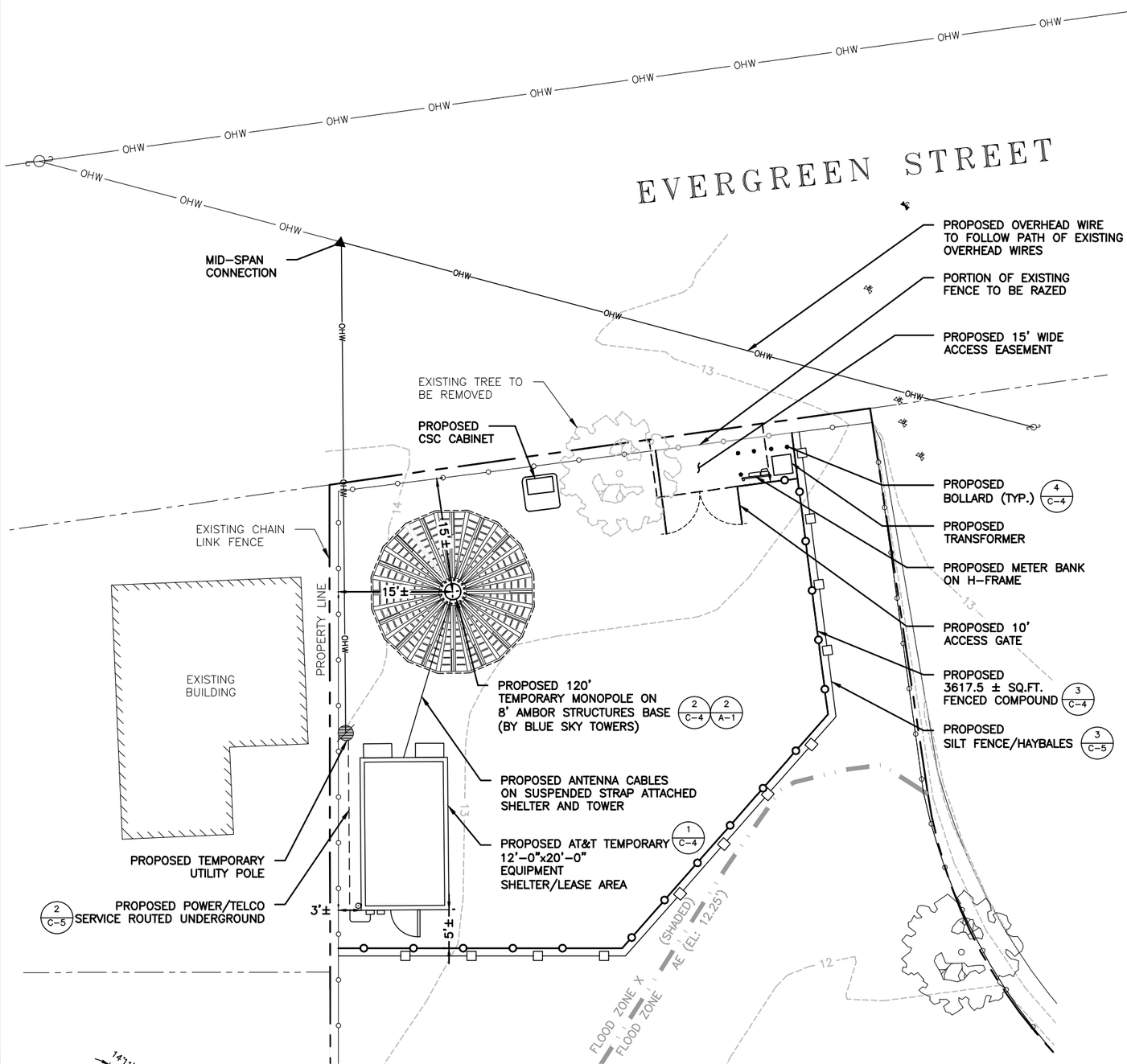
SITE NAME:
EVERGREEN STREET

SITE NUMBER:
CT-5020

SITE ADDRESS:
220 EVERGREEN STREET
BRIDGEPORT, CT 06606

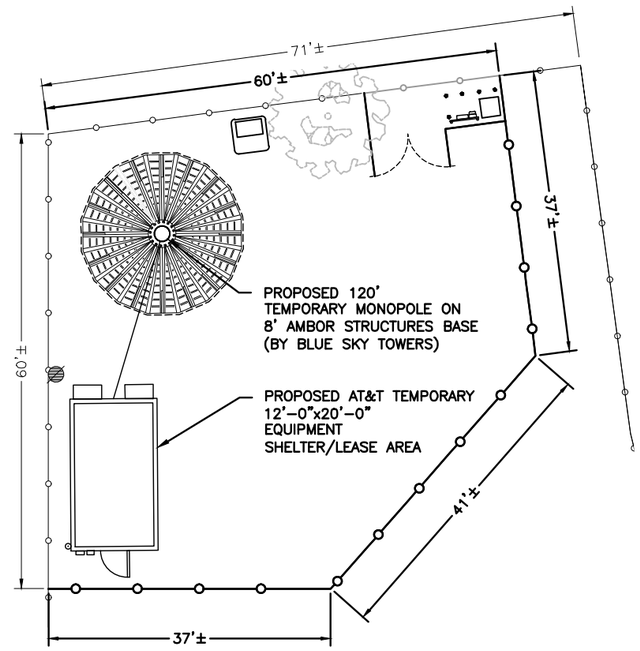
SHEET TITLE:
EXISTING CONDITIONS

SHEET NO:
C-2




**SITE PLAN** 1 C–3
22x34 SCALE: 1/8"=1'–0"
11x17 SCALE: 1/16"=1'–0"

0 4'–0" 8'–0" 16'–0" 24'–0"




**COMPOUND DIMENSION LAYOUT** 2 C–3
22x34 SCALE: 1"=10'–0"
11x17 SCALE: 1"=20'–0"

0 5 10 20 30

## LEGEND

- LOCUS PROPERTY LINE ±
- ABUTTERS PROPERTY LINE ±
- PROPOSED –EASEMENT LINE
- EXISTING –CONTOUR LINE
- EXISTING –FLOOD ZONE DELINEATION
- EXISTING –OVERHEAD WIRE
- EXISTING –CHAIN LINK FENCE
- EXISTING –UTILITY POLE
- EXISTING –DECIDUOUS TREE
- EXISTING –MANHOLE
- EXISTING –GATE VALVE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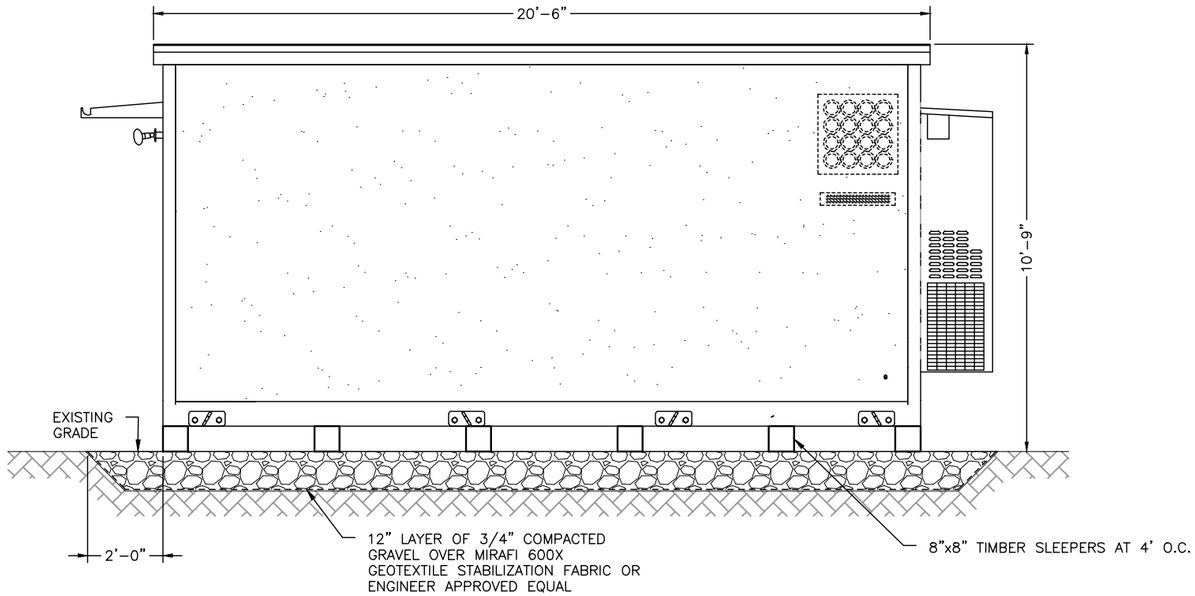
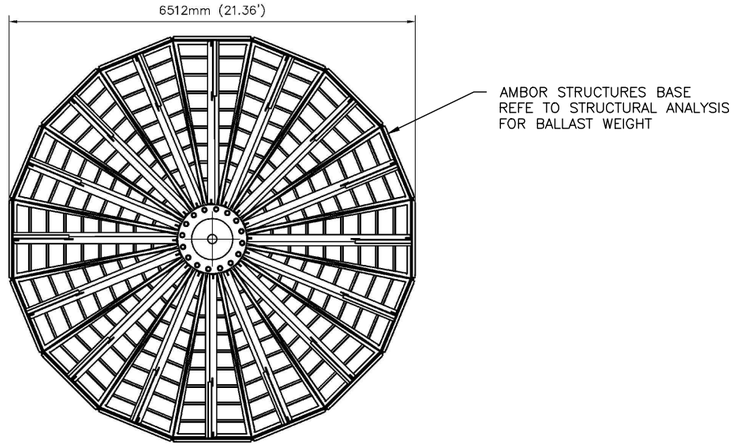
SHEET TITLE:
SITE PLAN

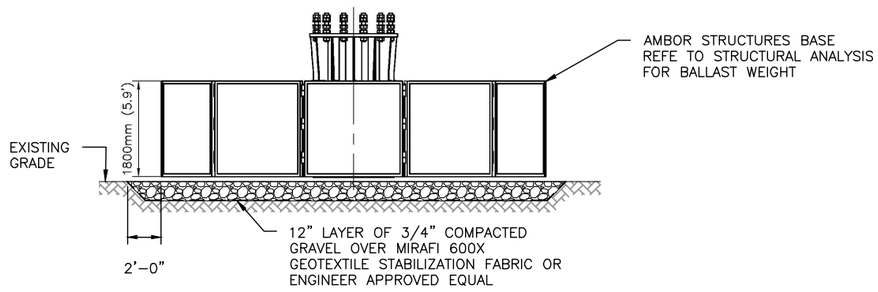
SHEET NO:
C-3




**TYPICAL SHELTER DETAILS** (1 / C-4)
22x34 SCALE: N.T.S




PLAN



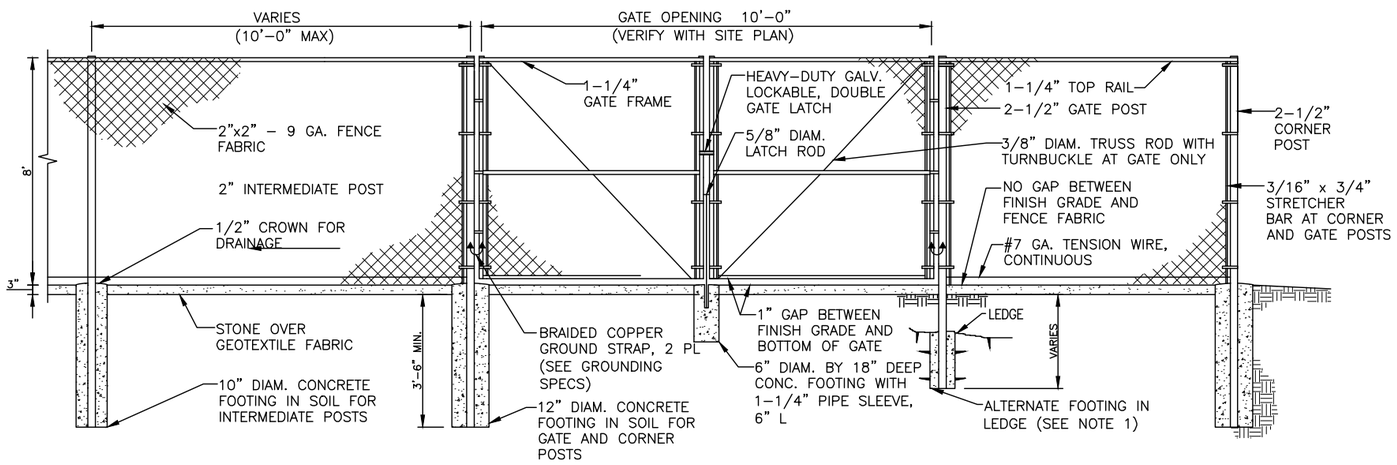

ELEVATION

**TEMPORARY TOWER BASE DETAIL** (2 / C-4)
22x34 SCALE: 1/4"=1'-0"
11x17 SCALE: 1/8"=1'-0"

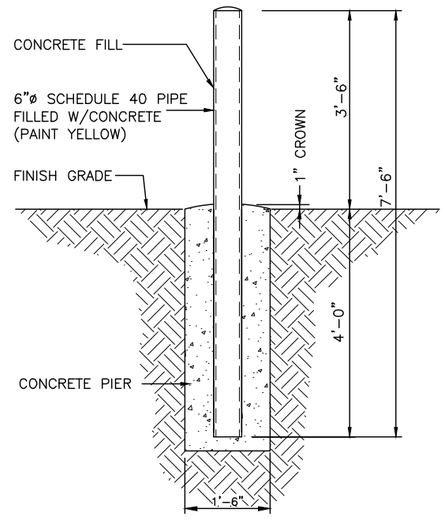
## FENCE NOTES

1. ALTERNATE FOOTINGS FOR ALL FENCE POSTS IN LEDGE: IF LEDGE IS ENCOUNTERED AT GRADE, OR AT A DEPTH SHALLOWER THAN 3'-6", CORE DRILL AN 8" DIA HOLE 18" INTO THE LEDGE. CENTER POST IN THE HOLE AND FILL WITH CONCRETE OR GROUT. IF LEDGE IS BELOW FINISH GRADE, COAT BACKFILLED SECTION OF POST WITH COAL TAR, AND BACKFILL WITH WELL-DRAINING GRAVEL.

2. ATTACH EACH GATE WITH 1-1/2 PAIR OF NON-LIFT-OFF TYPE, MALLEABLE IRON OR FORGING, PIN-TYPE HINGES. ASSEMBLIES SHALL ALLOW FOR 180° OF GATE TRAVEL.




**CHAIN LINK FENCE DETAIL** (3 / C-4)
22x34 SCALE: N.T.S




**BOLLARD DETAIL** (4 / C-4)
22x34 SCALE: N.T.S

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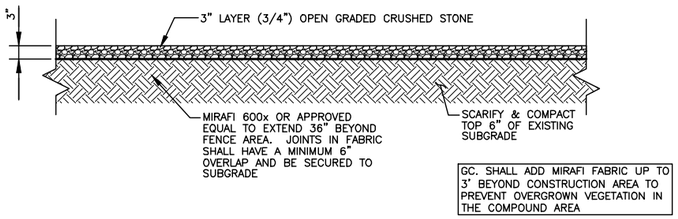
SITE NUMBER:
CT-5020

SITE ADDRESS:
220 EVERGREEN STREET
BRIDGEPORT, CT 06606

SHEET TITLE:
SITE DETAIL

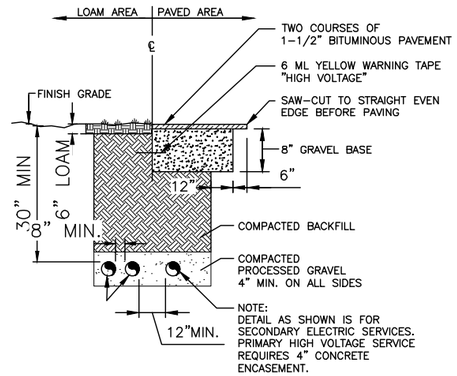
SHEET NO:
C-4




GC. SHALL ADD MIRAFI FABRIC UP TO 3' BEYOND CONSTRUCTION AREA TO PREVENT OVERGROWN VEGETATION IN THE COMPOUND AREA

## 1 / C-5 COMPOUND SURFACE DETAIL

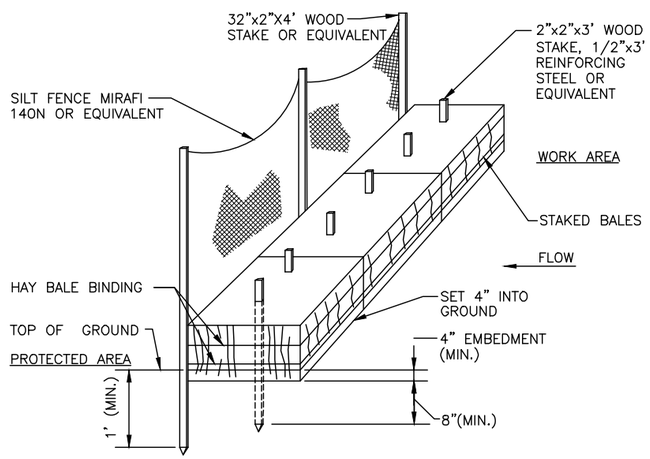
SCALE: N.T.S.




**INSTALL (2) PULL STRINGS AND CAP THE TELCO CONDUITS INSIDE THE VAULT AND MESA CABINET TO AVOID WATER/ICE FILL UP**

## 2 / C-5 TYPICAL DIRECT JOINT SERVICE BURIED CONDUIT DETAIL

SCALE: N.T.S.




## 3 / C-5 HAY BALES/SILT FENCE DETAIL

SCALE: N.T.S.

# EROSION CONTROL

## CONSTRUCTION SEQUENCE

1) NOTIFY THE TOWN INLAND WETLANDS AGENT AT LEAST ONE WEEK PRIOR TO THE PRE-CONSTRUCTION MEETING.
2) COMPLETE A "CALL BEFORE YOU DIG" PRIOR TO ANY ON SITE ACTIVITY. RECALL EVERY 30 DAYS.
3) CUT AND STUMP AREAS OF PROPOSED CONSTRUCTION.
4) INSTALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES AS REQUIRED.
5) WOOD CHIPS GENERATED FROM CLEARING ACTIVITIES MAY BE USED AS A TEMPORARY STABILIZATION MEASURE IN ADDITION TO SILT FENCING & HAY BALES.
6) INSTALL HAY BALES TO "BACK UP" SILTATION FENCE ALONG ALL DOWNGRADIENT WETLANDS BOUNDARIES.
7) ESTABLISH ROADWAY CENTERLINE WITH GRADE STAKES AND OFF SETS.
8) STOCKPILE EXCAVATED SOILS A MINIMUM OF 75 FEET FROM ANY WETLAND AREA.
9) CONSTRUCT CLOSED DRAINAGE SYSTEM. PROTECT CULVERT INLETS WITH SEDIMENTATION BARRIERS.
10) ROUGH GRADE DITCH STARTING FROM THE DOWNGRADIENT LOCATION
11) INSTALL STONE LINING AND LEVEL SPREADERS AT CULVERT OUTLETS
12) STABILIZE GRADED SLOPES.
13) CONSTRUCT ROADWAYS AND PERFORM SITE GRADING, PLACING HAY BALES AND SILTATION FENCES AS REQUIRED TO CONTROL SOIL EROSION.
14) EXCAVATE FOR ANY SUBSURFACE UTILITIES.
15) STOCKPILE EXCAVATED SOILS A MINIMUM OF 75 FEET FROM ANY WETLAND AREA.
16) ESTABLISH SEDIMENT AND EROSION CONTROLS AROUND STOCKPILE SOILS.
17) INSTALL UTILITY SERVICES
18) INSTALL STORM DRAINAGE STARTING AT THE MOST DOWNGRADIENT LOCATION.
19) INSTALL ALL RIP RAP AT OUTLETS FOR STORM DRAINAGE.
20) INSTALL HAY BALE PROTECTION TO STORM DRAINAGE INLETS.
21) INSTALL ROAD
22) BEGIN TEMPORARY AND PERMANENT SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED OR MULCHED IMMEDIATELY AFTER THEIR CONSTRUCTION. NO AREA SHALL BE LEFT UNSTABILIZED FOR A TIME PERIOD OF MORE THAN 30 DAYS.
23) DAILY, OR AS REQUIRED, CONSTRUCT, INSPECT, AND IF NECESSARY, RECONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, SILT FENCES AND SEDIMENT TRAPS INCLUDING MULCHING AND SEEDING.
24) BEGIN EXCAVATION FOR AND CONSTRUCTION OF TOWERS AND PLATFORMS.
25) FINISH PAVING ALL ROADWAYS, DRIVES, AND PARKING AREAS.
26) COMPLETE PERMANENT SEEDING AND LANDSCAPING.
27) NO FLOW SHALL BE DIVERTED TO ANY WETLANDS UNTIL A HEALTHY STAND OF GRASS HAS BEEN ESTABLISHED IN REGRADED AREAS.
28) AFTER GRASS HAS BEEN FULLY GERMINATED IN ALL SEEDED AREAS, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

## IMPACT OF STORMWATER DURING CONSTRUCTION ACTIVITY

ALL SEDIMENT CONTROLS, INCLUDING SILTATION FENCES AND HAY BALES MUST BE INSPECTED WEEKLY OR IMMEDIATELY AFTER A STORMWATER RUNOFF GENERATING EVENT. ALL SEDIMENT CONTROLS MUST BE MAINTAINED IN AN EFFECTIVE CONDITION.

IN THE EVENT THAT STORMWATER IS FLOWING IN THE EXISTING/PROPOSED DRAINAGE SWALE, THE FOLLOWING MUST BE NOTED:

1) BY INSTALLING THE STORM DRAINAGE STARTING AT THE MOST DOWNGRADIENT LOCATION, AND BY CONSTRUCTION THE DITCH STARTING AT THE MOST DOWNGRADIENT LOCATION, STORMWATER FLOW WILL NOT BE IMPOUNDED DURING THE CONSTRUCTION ACTIVITY.
2) ADDITIONAL MEASURES MUST BE TAKEN DURING TIMES OF RAIN OR FLOW. THESE INCLUDE THE CESSATION OF ALL CONSTRUCTION ACTIVITY IN THE DRAINAGE SWALES AT TIMES OF "HEAVY RAIN" OR "SIGNIFICANT FLOW" WHICH HAVE THE POTENTIAL TO CAUSE SOIL SCOURING. IN THE ABSENCE OF AN ON SITE AGREEMENT WITH THE TOWN INLAND WETLANDS AGENT.

## CONSTRUCTION SPECIFICATIONS - SILT FENCE

1) THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.
2) THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
3) WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES OR STAPLES.
4) FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MID-SECTION AND BOTTOM.
5) WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED.
6) FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
7) MAINTENANCE SHALL BE PERFORMED AS NEEDED TO PREVENT BULGES IN THE SILT FENCE DUE TO DEPOSITION OF SEDIMENT.

## MAINTENANCE - SILT FENCE

1) SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2) IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3) SEDIMENT SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACHED APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
4) SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

## EROSION CONTROL MEASURES:

THE CONTRACTOR (TO BE NAMED PRIOR TO ANY WORK BEING PERFORMED) IS ASSIGNED THE RESPONSIBILITY FOR IMPLEMENTING THIS EROSION AND SEDIMENT CONTROL PLAN. THIS RESPONSIBILITY INCLUDES THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, NOTIFYING THE PLANNING AND ZONING OFFICE OF ANY TRANSFER OF THIS RESPONSIBILITY, AND FOR CONVEYING A COPY OF THE EROSION AND SEDIMENT CONTROL PLAN IF THE TITLE TO THE LAND IS TRANSFERRED.

1) DISTURBED AREAS SHALL BE KEPT TO THE MINIMUM AREA NECESSARY TO CONSTRUCT THE ROADWAYS AND ASSOCIATED DRAINAGE FACILITIES.
2) HAY BALE BARRIERS AND SEDIMENT TRAPS SHALL BE INSTALLED AS REQUIRED. BARRIERS AND TRAPS ARE TO BE MAINTAINED AND CLEANED UNTIL ALL SLOPES HAVE A HEALTHY STAND OF GRASS.
3) BALED HAY AND MULCH SHALL BE MOWINGS OF ACCEPTABLE HERBACEOUS GROWTH, FREE FROM NOXIOUS WEEDS OR WOODY STEMS, AND SHALL BE DRY. NO SALT HAY SHALL BE USED.
4) FILL MATERIAL SHALL BE FREE FROM STUMPS, WOOD, ROOTS, ETC.
5) STOCKPILED MATERIALS SHALL BE PLACED ONLY IN NON RESTRICTED WETLAND AREAS ON PLANS. STOCKPILES SHALL BE PROTECTED BY SILTATION FENCE AND SEEDED TO PREVENT EROSION. THESE MEASURES SHALL REMAIN UNTIL ALL MATERIAL HAS BEEN PLACED OR DISPOSED OFF SITE.
6) ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED. A MINIMUM OF 4 INCHES OF LOAM SHALL BE INSTALLED WITH NOT LESS THAN ONE POUND OF SEED PER 50 SQUARE YARDS OF AREA. SLOPES 2:1 OR GRATED TO BE STABILISED WITH TURF REINFORCEMENT MAT TYPE P300P NORTH AMERICAN GREEN (1-800-772-2040), OR ENGINEER APPROVED EQUAL.
7) APPLICATION OF GRASS SEED, FERTILIZERS AND MULCH SHALL BE ACCOMPLISHED BY BROADCAST SEEDING OR HYDROSEEDING AT THE RATES OUTLINED BELOW:

LIMESTONE: 75-100 LBS./1,000 SQUARE FEET.
FERTILIZER: RATE RECOMMENDED BY MANUFACTURER.
MULCH: HAY MULCH APPROXIMATELY 3 TONS/ACRE UNLESS EROSION CONTROL MATTING IS USED.

| SEED MIX (SLOPES LESS THAN 4:1) | LBS./ACRE |
|---|---|
| CREEPING RED FESCUE | 20 |
| TALL FESCUE | 20 |
| RED TOP | 2 |
| | 42 |

| SLOPE MIX (SLOPES GREATER TAN 4:1) | LBS./ACRE |
|---|---|
| CREEPING RED FESCUE | 20 |
| TALL FESCUE | 20 |
| BIRDSFOOT TREEFOIL | 8 |
| | 48 |

8) AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED THE TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED.
9) PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.
10) ALL CATCH BASIN INLETS WILL BE PROTECTED WITH LOW POINT SEDIMENTION BARRIER.
11) ALL STORM DRAINAGE OUTLETS WILL BE STABILIZED AND CLEANED AS REQUIRED, BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
12) ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT FILTER AREA.
13) NO DISCHARGE SHALL BE DIRECTED TOWARDS ANY PROPOSED DITCHES, SWALES, OR PONDS UNTIL THEY HAVE BEEN PROPERLY STABILIZED.

## CONSTRUCTION SPECIFICATIONS - STRAW OR HAY BALES

1) BALES SHALL BE PLACED IN A ROW WITH THE ENDS TIGHTLY ADJOINING.
2) EACH BALE SHALL BE EMBEDDED IN THE GROUND A MINIMUM OF 4 INCHES.
3) BALES SHALL BE ANCHORED IN PLACE BY AT LEAST TWO STAKES DRIVEN THROUGH THE BALE. THE STAKES SHALL BE DRIVEN AT LEAST 18 INCHES INTO THE GROUND.
4) BARRIERS SHALL BE INSPECTED AFTER EVERY RAINFALL AND PROMPTLY REPAIRED FOR REPLACED AS NECESSARY.
5) BALES SHALL BE REMOVED WHEN NO LONGER NEEDED AND THE SEDIMENT COLLECTED SHALL BE DISPOSED OF PROPERLY.

## MAINTENANCE - STRAW OR HAY BALES

1) STRAW OR HAY BALES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL,
2) CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED BALES, UNDERCUTTING BENEATH THE BALES, AND FLOW AROUND THE END OF THE BALES.
3) NECESSARY REPAIRS OR REPLACEMENT OF BALES SHALL BE ACCOMPLISHED PROMPTLY.
4) SEDIMENT DEPOSITS SHOULD BE CHECKED AFTER EACH RAINFALL. THE DEPOSITS SHOULD BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF OF THE HEIGHT OF THE TABLE.
5) SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE BARRIER HAS BEEN DISMANTLED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED USING THE APPROPRIATE VEGETATIVE BMP.

BLUE SKY TOWERS, LLC
158 MAIN STREET, SUITE 2, NORFOLK, MASSACHUSETTS 02056

550 COCHITUATE RD.
FRAMINGHAM, MA, 01701

Hudson Design Group
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

LICENSED ENGINEER DATE

| REVISIONS | | |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 0 | 06/18/15 | ISSUED FOR REVIEW |
| REV. # | DATE | DESCRIPTION |

| PROJECT NO. | DESIGNED BY: DJR | SCALE: |
|---|---|---|
| CT-5020 | DRAWN BY: SB | AS SHOWN |
| | CHECKED BY: DPH | |

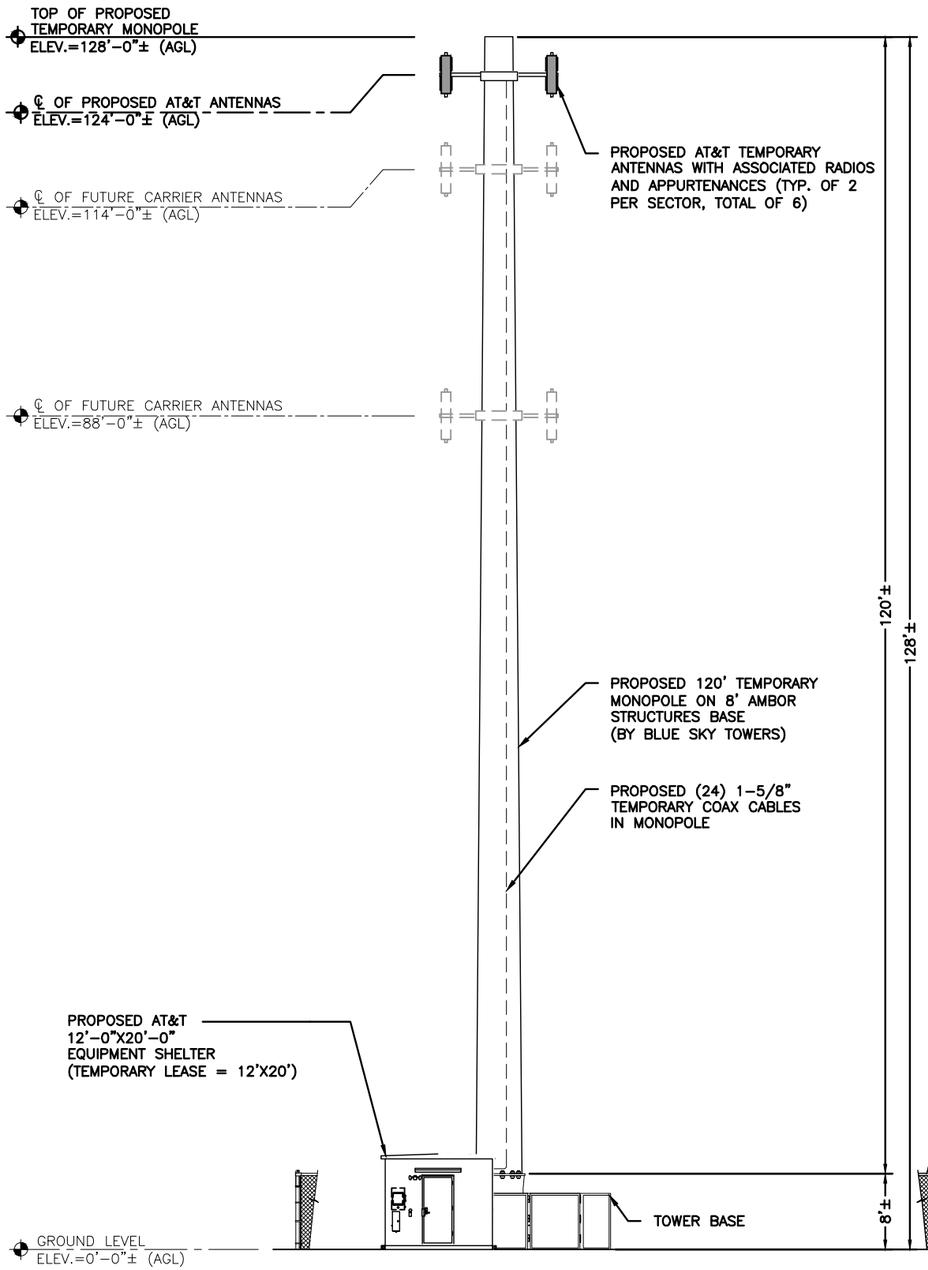
SITE NAME:
EVERGREEN STREET

SITE NUMBER:
CT-5020

SITE ADDRESS:
220 EVERGREEN STREET
BRIDGEPORT, CT 06606

SHEET TITLE:
EROSION CONTROL NOTES AND DETAILS

SHEET NO:
C-5



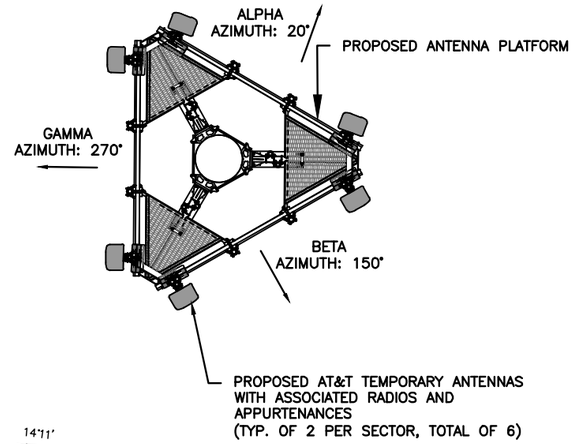

**SOUTHWEST ELEVATION** (1 / A-1)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

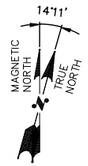
0 4'-0" 8'-0" 16'-0" 24'-0"

NOTE:

REFER TO STRUCTURAL ANALYSIS BY: AMBOR STRUCTURES, INC. DATED APRIL 4, 2015 FOR THE CAPACITY OF THE PROPOSED STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

UTILITIES:
FINAL UTILITY CONNECTIONS SHALL BE COORDINATED WITH THE LOCAL UTILITIES.




**ANTENNA PLAN** (2 / A-1)
22x34 SCALE: N.T.S

BlueSky Tower Partners LLC
BLUE SKY TOWERS, LLC
158 MAIN STREET, SUITE 2, NORFOLK, MASSACHUSETTS 02056

at&t
550 COCHITUATE RD.
FRAMINGHAM, MA, 01701

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1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

LICENSED ENGINEER _____ DATE _____

REVISIONS

| REV. # | DATE | DESCRIPTION |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
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| | | |
| 0 | 06/18/15 | ISSUED FOR REVIEW |

| PROJECT NO. | DESIGNED BY: DJR | SCALE: |
|---|---|---|
| CT-5020 | DRAWN BY: SB | AS SHOWN |
| | CHECKED BY: DPH | |

SITE NAME:
EVERGREEN STREET

SITE NUMBER:
CT-5020

SITE ADDRESS:
220 EVERGREEN STREET
BRIDGEPORT, CT 06606

SHEET TITLE:
ELEVATION AND ANTENNA PLAN

SHEET NO:
A-1

# ATTACHMENT C

# Structural Analysis Report

| | |
|---|---|
| **Structure** | **:** 120 Foot Ballasted Monopole |
| **BlueSky Site Name** | **:** Evergreen Street |
| **BlueSky Site Number** | **:** CT-5020 |
| **Proposed Carrier** | **:** New Cingular Wireless **(**ATT) |
| **Carrier Site Name** | **:** Bridgeport HiHo Replacement |
| **Carrier Site Number** | **:** CT 5991 |
| **Site Location** | **:** 220 Evergreen St<br>Bridgeport, CT 06606 (Fairfield County)<br>41.1978, -73.1908 |
| **Date** | **:** June 19, 2015 |
| **Max Member Stress Level** | **:** 57% |
| **Result** | **: PASS** |


06/19/2015

**Prepared by:**
**Bennett & Pless, Inc.**
**B&P Job No.: 15700. 042**

bennett&pless
Experience Structural Expertise

3395 Northeast Expy, Ste 110 | Atlanta, Georgia 30341 | TEL 678 990 8700 | FAX 678 990 8701
Atlanta | Chattanooga | www.bennett-pless.com

# Table of Contents

## Introduction

We have completed our structural analysis of the proposed 120 foot ballasted monopole with the proposed loading configuration. The objective of the analysis was to determine if the new proposed tower with the proposed loading meets the current structural codes and standards with the proposed equipment installation.

## Existing Structural Information

The following documents for the existing structure were made available for our structural analysis.

| | |
|---|---|
| **Tower Information** | Ambor Tower Drawings dated June 18, 2015 |
| **Foundation Information** | TBD |
| **Geotechnical Information** | Presumptive Soil Conditions |
| **Design Equipment Information** | BlueSky Collocation Application dated June 4, 2015 |
| **Tower Reinforcement Information** | Tower has not been previously reinforced |

## Tower Design Equipment Loading Configuration

The following proposed loading was obtained from the BlueSky Collocation Application:

| Antenna/Equipment | | | | | Coax | |
|---|---|---|---|---|---|---|
| Mount | RAD | Qty. | Antenna | Type | Qty. | Size/Type |
| 116.0 | - | 1 | 12’ Low Profile | Mount | 12 | LDF-50A (1 5/8 FOAM) |
| | 116.0 | 6 | OPA-65R-LCUU-H4 | Panel | | |
| | | 12 | TMABPDB7823 | TMA | | |
| 106.0 | - | 1 | 12' Low Profile | Mount | 24 | LDF-50A (1 5/8 FOAM) |
| | 106.0 | 12 | OPA-65R-LCUU-H4 | Panel | | |
| | | 12 | TMABPDB7823 | TMA | | |
| 76.0 | - | 1 | 12’ Low Profile | Mount | 24 | LDF-50A (1 5/8 FOAM) |
| | 80.0 | 12 | OPA-65R-LCUU-H4 | Panel | | |
| | | 12 | TMABPDB7823 | TMA | | |

**Note: Proposed feed lines to be placed inside the pole.**

## Design Criteria

The tower was analyzed using tnxTower (Version 6.1.4.1) tower analysis software using the following design criteria.

| | |
|---|---|
| **State Building Code** | Connecticut (IBC 2012) |
| **TIA/EIA Standard Code** | Rev G |
| **Basic Wind Speed** | 123 MPH (Ultimate)/95 MPH (3 Second Gust) |
| **Basic Wind Speed w/ Ice** | 50 MPH w/ 0.75" Ice |
| **Steel Grade** | 65 ksi Pole |
| **Exposure Category** | B |
| **Topographic Category (height)** | 1 (0.0 ft) |
| **Structure Class** | II |

## Analysis Results

Based on the foregoing information, our structural analysis determined that **the proposed tower is structurally capable of supporting the proposed equipment loads without modification.**

The proposed foundation will be a ballasted foundation system. The foundation system will be designed to meet or exceed the required moment capacity with appropriate safety factors.

## Assumptions

1. Foundations are considered to have been properly designed for the original design loads.
2. All member connections are considered to have been designed to meet the load carrying capacity of the connected member.
3. Antenna mount loads have been estimated based on generally accepted industry standards.
4. The mounts for the proposed antennas have been analyzed and designed by others.
5. See additional assumptions contained in the report attached.

## Conclusions

The proposed tower described above **has sufficient capacity** to support the proposed loading based on the governing Building Code. The foundation will be addressed at a later date.

We appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance please call us anytime at 605-540-4620.

Yours Very Truly,

Analysis by:

Chunhui Song, EIT
Design Engineer

Reviewed by:

Michael T. De Boer, PE
Senior Technical Director


06/19/2015

## Standard Conditions

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

- Information supplied by the client regarding the structure itself, the antenna and transmission line loading on the structure and it components, or relevant information.

- Information from drawings in possession of Bennett & Pless, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to Bennett & Pless and used in the performance of our engineering services is correct and complete. In the absence of information contrary, we consider that all structures were constructed in accordance with the drawings and specifications and are in a un-corroded condition and have not deteriorated; and we, therefore consider that their capacity has not significantly changed from the original design condition.

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

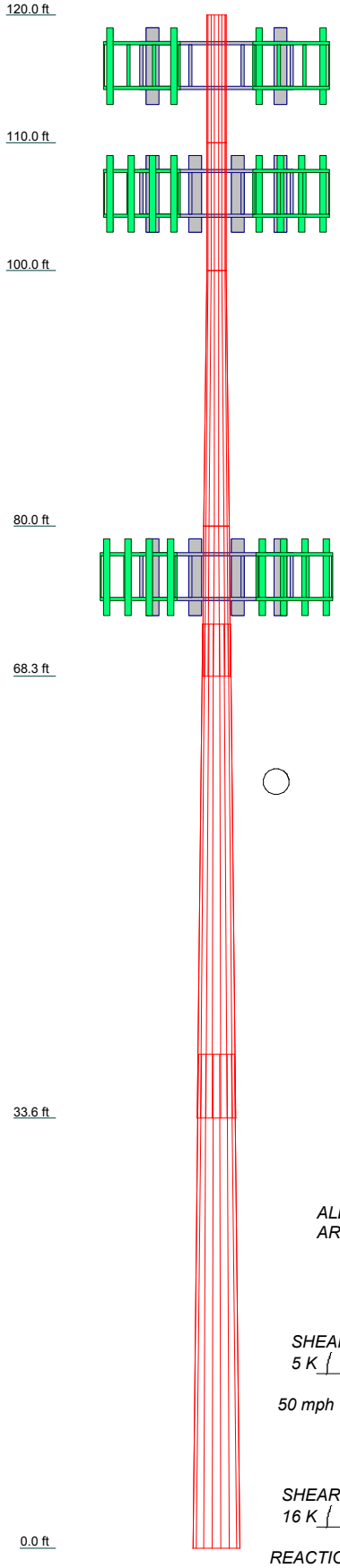
All services are performed, results obtained and recommendations made in accordance with the generally accepted engineering principles and practices. Bennett & Pless is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

## Disclaimer of Warranties

Bennett & Pless Inc. makes no warranties, expressed or implied, in connection with this report, and disclaims any liability arising from the ability of the existing structure to support the design loads for which it was originally designed. Bennett & Pless Inc. will not be responsible whatsoever for or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of Bennett & Pless pursuant to this report will be limited to the total fee received for preparation of this report.

# Attachment 1:
# Calculations

| Section | Length (ft) | Number of Sides | Thickness (in) | Socket Length (ft) | Top Dia (in) | Bot Dia (in) | Grade | Weight (K) |
|---|---|---|---|---|---|---|---|---|
| 1 | 10' | 18 | 0.16 | | 17.72 | 17.72 | | 0.3 |
| 2 | 10' | 18 | 0.16 | | 17.72 | 17.72 | | 0.3 |
| 3 | 20'1/8" | 18 | 0.20 | | 17.72 | 23.62 | | 0.9 |
| 4 | 11'8-5/32" | 18 | 0.24 | 4'27/32" | 23.62 | 26.76 | | 0.7 |
| 5 | 38'8-17/32" | 18 | 0.28 | 5'19/32" | 25.20 | 35.60 | A572-65 | 3.5 |
| 6 | 38'8-9/32" | 18 | 0.31 | | 33.69 | 44.09 | | 5.1 |
| | | | | | | | | 10.8 |




## DESIGNED APPURTENANCE LOADING

| TYPE | ELEVATION | TYPE | ELEVATION |
|---|---|---|---|
| 12' Low Profile | 116 | (4) TMABPDB7823 | 106 |
| (2) OPA-65R-LCUU-H4 | 116 | (4) TMABPDB7823 | 106 |
| (2) OPA-65R-LCUU-H4 | 116 | (4) TMABPDB7823 | 106 |
| (2) OPA-65R-LCUU-H4 | 116 | (4) TMABPDB7823 | 80 |
| (4) TMABPDB7823 | 116 | (4) TMABPDB7823 | 80 |
| (4) TMABPDB7823 | 116 | (4) TMABPDB7823 | 80 |
| (4) TMABPDB7823 | 116 | (4) OPA-65R-LCUU-H4 | 80 |
| 12' Low Profile | 106 | (4) OPA-65R-LCUU-H4 | 80 |
| (4) OPA-65R-LCUU-H4 | 106 | (4) OPA-65R-LCUU-H4 | 80 |
| (4) OPA-65R-LCUU-H4 | 106 | 12' Low Profile | 76 |
| (4) OPA-65R-LCUU-H4 | 106 | | |

## MATERIAL STRENGTH

| GRADE | Fy | Fu | GRADE | Fy | Fu |
|---|---|---|---|---|---|
| A572-65 | 65 ksi | 80 ksi | | | |

## TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 95 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0'
8. Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications.
9. Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
10. Tower will meet 123 mph (Ultimate) wind speed per ASCE7-10
11. TOWER RATING: 57.3%

*ALL REACTIONS ARE FACTORED*

*AXIAL 44 K*

*SHEAR 5 K* *MOMENT 393 kip-ft*

*50 mph WIND - 0.75 in ICE*

*AXIAL 26 K*

*SHEAR 16 K* *MOMENT 1358 kip-ft*

*REACTIONS - 95 mph WIND*


bennett&pless
Experience Structural Expertise

*Bennett & Pless*
550 River Drive
North Sioux City, SD 57049
Phone: 605-540-4621
FAX: 678-990-8701


| | | | |
|---|---|---|---|
| Job: ***120FT CP*** | | | |
| Project: ***Evergreen Street*** | | | |
| Client: BlueSky Tower | Drawn by: Chunhui Song | App'd: | |
| Code: TIA-222-G | Date: 06/26/15 | Scale: NTS | |
| Path: | | Dwg No. E-1 | |

# Tower Input Data

There is a pole section.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in Fairfield County, Connecticut.
Basic wind speed of 95 mph.
Structure Class II.
Exposure Category B.
Topographic Category 1.
Crest Height 0'.
Nominal ice thickness of 0.75 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications..
Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards..
Tower will meet 123 mph (Ultimate) wind speed per ASCE7-10.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

# Options

| | | |
|---|---|---|
| Consider Moments - Legs | Distribute Leg Loads As Uniform | Treat Feedline Bundles As Cylinder |
| Consider Moments - Horizontals | Assume Legs Pinned | Use ASCE 10 X-Brace Ly Rules |
| Consider Moments - Diagonals | √ Assume Rigid Index Plate | Calculate Redundant Bracing Forces |
| Use Moment Magnification | √ Use Clear Spans For Wind Area | Ignore Redundant Members in FEA |
| √ Use Code Stress Ratios | Use Clear Spans For KL/r | SR Leg Bolts Resist Compression |
| √ Use Code Safety Factors - Guys | Retension Guys To Initial Tension | All Leg Panels Have Same Allowable |
| Escalate Ice | Bypass Mast Stability Checks | Offset Girt At Foundation |
| Always Use Max Kz | √ Use Azimuth Dish Coefficients | Consider Feedline Torque |
| Use Special Wind Profile | √ Project Wind Area of Appurt. | Include Angle Block Shear Check |
| Include Bolts In Member Capacity | Autocalc Torque Arm Areas | Poles |
| Leg Bolts Are At Top Of Section | SR Members Have Cut Ends | √ Include Shear-Torsion Interaction |
| Secondary Horizontal Braces Leg | Sort Capacity Reports By Component | Always Use Sub-Critical Flow |
| Use Diamond Inner Bracing (4 Sided) | √ Triangulate Diamond Inner Bracing | Use Top Mounted Sockets |
| Add IBC .6D+W Combination | √ Use TIA-222-G Tension Splice Capacity Exemption | |

# Tapered Pole Section Geometry

| Section | Elevation<br>ft | Section Length<br>ft | Splice Length<br>ft | Number of Sides | Top Diameter<br>in | Bottom Diameter<br>in | Wall Thickness<br>in | Bend Radius<br>in | Pole Grade |
|---|---|---|---|---|---|---|---|---|---|
| L1 | 119'11-3/4"-109' 11-3/4" | 10' | 0' | 18 | 17.72 | 17.72 | 0.16 | 0.63 | A572-65 (65 ksi) |
| L2 | 109'11-3/4"-99'1 1-3/4" | 10' | 0' | 18 | 17.72 | 17.72 | 0.16 | 0.63 | A572-65 (65 ksi) |
| L3 | 99'11-3/4"-79'11 -5/8" | 20'1/8" | 0' | 18 | 17.72 | 23.62 | 0.20 | 0.79 | A572-65 (65 ksi) |
| L4 | 79'11-5/8"-68'3- 15/32" | 11'8-5/32" | 4'27/32" | 18 | 23.62 | 26.76 | 0.24 | 0.94 | A572-65 (65 ksi) |
| L5 | 68'3-15/32"-33'7 -11/16" | 38'8-17/32" | 5'19/32" | 18 | 25.20 | 35.60 | 0.28 | 1.10 | A572-65 (65 ksi) |
| L6 | 33'7-11/16"-0' | 38'8-9/32" | | 18 | 33.69 | 44.09 | 0.31 | 1.26 | A572-65 (65 ksi) |

## Tapered Pole Properties

| Section | Tip Dia.<br>in | Area<br>$in^2$ | I<br>$in^4$ | r<br>in | C<br>in | I/C<br>$in^3$ | J<br>$in^4$ | It/Q<br>$in^2$ | w<br>in | w/t |
|---|---|---|---|---|---|---|---|---|---|---|
| L1 | 17.99 | 8.78 | 341.88 | 6.23 | 9.00 | 37.99 | 684.21 | 4.39 | 2.84 | 18.04 |
| | 17.99 | 8.78 | 341.88 | 6.23 | 9.00 | 37.99 | 684.21 | 4.39 | 2.84 | 18.04 |
| L2 | 17.99 | 8.78 | 341.88 | 6.23 | 9.00 | 37.99 | 684.21 | 4.39 | 2.84 | 18.04 |
| | 17.99 | 8.78 | 341.88 | 6.23 | 9.00 | 37.99 | 684.21 | 4.39 | 2.84 | 18.04 |
| L3 | 17.99 | 10.95 | 424.48 | 6.22 | 9.00 | 47.16 | 849.52 | 5.47 | 2.77 | 14.08 |
| | 23.99 | 14.64 | 1014.68 | 8.32 | 12.00 | 84.56 | 2030.70 | 7.32 | 3.81 | 19.36 |
| L4 | 23.99 | 17.53 | 1211.49 | 8.30 | 12.00 | 100.96 | 2424.57 | 8.77 | 3.74 | 15.84 |
| | 27.18 | 19.89 | 1768.29 | 9.42 | 13.60 | 130.06 | 3538.90 | 9.95 | 4.29 | 18.181 |
| L5 | 26.70 | 21.80 | 1710.52 | 8.85 | 12.80 | 133.63 | 3423.29 | 10.90 | 3.95 | 14.332 |
| | 36.15 | 30.90 | 4872.16 | 12.54 | 18.09 | 269.39 | 9750.72 | 15.45 | 5.78 | 20.977 |
| L6 | 35.59 | 33.37 | 4696.68 | 11.85 | 17.12 | 274.40 | 9399.55 | 16.69 | 5.38 | 17.068 |
| | 44.77 | 43.77 | 10597.77 | 15.54 | 22.40 | 473.11 | 21209.48 | 21.89 | 7.21 | 22.88 |

| Tower Elevation<br>ft | Gusset Area (per face)<br>$ft^2$ | Gusset Thickness<br>in | Gusset Grade | Adjust. Factor $A_f$ | Adjust. Factor $A_r$ | Weight Mult. | Double Angle Stitch Bolt Spacing Diagonals<br>in | Double Angle Stitch Bolt Spacing Horizontals<br>in |
|---|---|---|---|---|---|---|---|---|
| L1 119'11-3/4"-109'11-3/4" | | | | 1 | 1 | 1 | | |
| L2 109'11-3/4"-99'11-3/4" | | | | 1 | 1 | 1 | | |
| L3 99'11-3/4"-79'11-5/8" | | | | 1 | 1 | 1 | | |
| L4 79'11-5/8"-68'3-15/32" | | | | 1 | 1 | 1 | | |
| L5 68'3-15/32"-33'7-11/16" | | | | 1 | 1 | 1 | | |
| L6 33'7-11/16"-0' | | | | 1 | 1 | 1 | | |

# Monopole Base Plate Data

| Base Plate Data | |
|---|---|
| Base plate is square | |
| Base plate is grouted | √ |
| Anchor bolt grade | A615-75 |
| Anchor bolt size | 2.25 in |
| Number of bolts | 8 |
| Embedment length | 86.61 in |
| $f'_c$ | 5.08 ksi |
| Grout space | 2.00 in |
| Base plate grade | A572-50 |
| Base plate thickness | 2.76 in |
| Bolt circle diameter | 51.97 in |
| Outer diameter | 57.87 in |
| Inner diameter | 40.16 in |
| Base plate type | Plain Plate |

# Feed Line/Linear Appurtenances - Entered As Area

| *Description* | *Face or Leg* | *Allow Shield* | *Component Type* | *Placement* *ft* | *Total Number* | | *$C_AA_A$* *$ft^2/ft$* | *Weight* *klf* |
|---|---|---|---|---|---|---|---|---|
| LDF-50A (1 5/8 FOAM) | C | No | Inside Pole | 5' - 116' | 12 | No Ice | 0.00 | 0.00 |
| | | | | | | 1/2" Ice | 0.00 | 0.00 |
| | | | | | | 1" Ice | 0.00 | 0.00 |
| LDF-50A (1 5/8 FOAM) | C | No | Inside Pole | 5' - 106' | 24 | No Ice | 0.00 | 0.00 |
| | | | | | | 1/2" Ice | 0.00 | 0.00 |
| | | | | | | 1" Ice | 0.00 | 0.00 |
| LDF-50A (1 5/8 FOAM) | C | No | Inside Pole | 5' - 80' | 24 | No Ice | 0.00 | 0.00 |
| | | | | | | 1/2" Ice | 0.00 | 0.00 |
| | | | | | | 1" Ice | 0.00 | 0.00 |

# Feed Line/Linear Appurtenances Section Areas

| *Tower Section* | *Tower Elevation* *ft* | *Face* | *$A_R$* *$ft^2$* | *$A_F$* *$ft^2$* | *$C_AA_A$ In Face* *$ft^2$* | *$C_AA_A$ Out Face* *$ft^2$* | *Weight* *K* |
|---|---|---|---|---|---|---|---|
| L1 | 119'11-3/4"-109'1 1-3/4" | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.06 |
| L2 | 109'11-3/4"-99'11-3/4" | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.22 |
| L3 | 99'11-3/4"-79'11-5/8" | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.59 |
| L4 | 79'11-5/8"-68'3-15/32" | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.57 |
| L5 | 68'3-15/32"-33'7-1 1/16" | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 1.70 |
| L6 | 33'7-11/16"-0' | A | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 1.41 |

## Feed Line/Linear Appurtenances Section Areas - With Ice

| Tower Section | Tower Elevation ft | Face or Leg | Ice Thickness in | $A_R$ $ft^2$ | $A_F$ $ft^2$ | $C_AA_A$ In Face $ft^2$ | $C_AA_A$ Out Face $ft^2$ | Weight K |
|---|---|---|---|---|---|---|---|---|
| L1 | 119'11-3/4"-109'1 1-3/4" | A | 1.699 | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.06 |
| L2 | 109'11-3/4"-99'11-3/4" | A | 1.684 | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.22 |
| L3 | 99'11-3/4"-79'11-5/8" | A | 1.657 | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.59 |
| L4 | 79'11-5/8"-68'3-15/32" | A | 1.626 | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.57 |
| L5 | 68'3-15/32"-33'7-1 1/16" | A | 1.565 | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 1.70 |
| L6 | 33'7-11/16"-0' | A | 1.397 | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.000 | 0.00 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 1.41 |

## Shielding Factor Ka

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | $K_a$ No Ice | $K_a$ Ice |
|---|---|---|---|---|---|

## Discrete Tower Loads

| Description | Face or Leg | Offset Type | Offsets: Horz Lateral ft / Vert ft / ft | Azimuth Adjustment ° | Placement ft | | $C_AA_A$ Front $ft^2$ | $C_AA_A$ Side $ft^2$ | Weight K |
|---|---|---|---|---|---|---|---|---|---|
| 12' Low Profile | C | None | | 0.00 | 116' | No Ice | 20.02 | 18.00 | 1.50 |
| | | | | | | 1/2" Ice | 26.54 | 18.20 | 1.73 |
| | | | | | | 1" Ice | 33.06 | 18.40 | 1.96 |
| (2) OPA-65R-LCUU-H4 | A | None | | 0.00 | 116' | No Ice | 6.90 | 4.32 | 0.05 |
| | | | | | | 1/2" Ice | 7.31 | 4.92 | 0.10 |
| | | | | | | 1" Ice | 7.73 | 5.54 | 0.16 |
| (2) OPA-65R-LCUU-H4 | B | None | | 0.00 | 116' | No Ice | 6.90 | 4.32 | 0.05 |
| | | | | | | 1/2" Ice | 7.31 | 4.92 | 0.10 |
| | | | | | | 1" Ice | 7.73 | 5.54 | 0.16 |
| (2) OPA-65R-LCUU-H4 | C | None | | 0.00 | 116' | No Ice | 6.90 | 4.32 | 0.05 |
| | | | | | | 1/2" Ice | 7.31 | 4.92 | 0.10 |
| | | | | | | 1" Ice | 7.73 | 5.54 | 0.16 |
| (4) TMABPDB7823 | A | None | | 0.00 | 116' | No Ice | 1.23 | 0.42 | 0.02 |
| | | | | | | 1/2" Ice | 1.38 | 0.52 | 0.03 |
| | | | | | | 1" Ice | 1.53 | 0.63 | 0.04 |
| (4) TMABPDB7823 | B | None | | 0.00 | 116' | No Ice | 1.23 | 0.42 | 0.02 |
| | | | | | | 1/2" Ice | 1.38 | 0.52 | 0.03 |

| Description | Face or Leg | Offset Type | Offsets: Horz Lateral ft / Vert ft / ft | Azimuth Adjustment ° | Placement ft | | $C_AA_A$ Front $ft^2$ | $C_AA_A$ Side $ft^2$ | Weight K |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1" Ice | 1.53 | 0.63 | 0.04 |
| (4) TMABPDB7823 | C | None | | 0.00 | 116' | No Ice | 1.23 | 0.42 | 0.02 |
| | | | | | | 1/2" Ice | 1.38 | 0.52 | 0.03 |
| | | | | | | 1" Ice | 1.53 | 0.63 | 0.04 |
| *** | | | | | | | | | |
| 12' Low Profile | C | None | | 0.00 | 106' | No Ice | 20.02 | 18.00 | 1.50 |
| | | | | | | 1/2" Ice | 26.54 | 18.20 | 1.73 |
| | | | | | | 1" Ice | 33.06 | 18.40 | 1.96 |
| (4) OPA-65R-LCUU-H4 | A | None | | 0.00 | 106' | No Ice | 6.90 | 4.32 | 0.05 |
| | | | | | | 1/2" Ice | 7.31 | 4.92 | 0.10 |
| | | | | | | 1" Ice | 7.73 | 5.54 | 0.16 |
| (4) OPA-65R-LCUU-H4 | B | None | | 0.00 | 106' | No Ice | 6.90 | 4.32 | 0.05 |
| | | | | | | 1/2" Ice | 7.31 | 4.92 | 0.10 |
| | | | | | | 1" Ice | 7.73 | 5.54 | 0.16 |
| (4) OPA-65R-LCUU-H4 | C | None | | 0.00 | 106' | No Ice | 6.90 | 4.32 | 0.05 |
| | | | | | | 1/2" Ice | 7.31 | 4.92 | 0.10 |
| | | | | | | 1" Ice | 7.73 | 5.54 | 0.16 |
| (4) TMABPDB7823 | A | None | | 0.00 | 106' | No Ice | 1.23 | 0.42 | 0.02 |
| | | | | | | 1/2" Ice | 1.38 | 0.52 | 0.03 |
| | | | | | | 1" Ice | 1.53 | 0.63 | 0.04 |
| (4) TMABPDB7823 | B | None | | 0.00 | 106' | No Ice | 1.23 | 0.42 | 0.02 |
| | | | | | | 1/2" Ice | 1.38 | 0.52 | 0.03 |
| | | | | | | 1" Ice | 1.53 | 0.63 | 0.04 |
| (4) TMABPDB7823 | C | None | | 0.00 | 106' | No Ice | 1.23 | 0.42 | 0.02 |
| | | | | | | 1/2" Ice | 1.38 | 0.52 | 0.03 |
| | | | | | | 1" Ice | 1.53 | 0.63 | 0.04 |
| *** | | | | | | | | | |
| 12' Low Profile | C | None | | 0.00 | 76' | No Ice | 20.02 | 18.00 | 1.50 |
| | | | | | | 1/2" Ice | 26.54 | 18.20 | 1.73 |
| | | | | | | 1" Ice | 33.06 | 18.40 | 1.96 |
| (4) TMABPDB7823 | A | None | | 0.00 | 80' | No Ice | 1.23 | 0.42 | 0.02 |
| | | | | | | 1/2" Ice | 1.38 | 0.52 | 0.03 |
| | | | | | | 1" Ice | 1.53 | 0.63 | 0.04 |
| (4) TMABPDB7823 | B | None | | 0.00 | 80' | No Ice | 1.23 | 0.42 | 0.02 |
| | | | | | | 1/2" Ice | 1.38 | 0.52 | 0.03 |
| | | | | | | 1" Ice | 1.53 | 0.63 | 0.04 |
| (4) TMABPDB7823 | C | None | | 0.00 | 80' | No Ice | 1.23 | 0.42 | 0.02 |
| | | | | | | 1/2" Ice | 1.38 | 0.52 | 0.03 |
| | | | | | | 1" Ice | 1.53 | 0.63 | 0.04 |
| (4) OPA-65R-LCUU-H4 | A | None | | 0.00 | 80' | No Ice | 6.90 | 4.32 | 0.05 |
| | | | | | | 1/2" Ice | 7.31 | 4.92 | 0.10 |
| | | | | | | 1" Ice | 7.73 | 5.54 | 0.16 |
| (4) OPA-65R-LCUU-H4 | B | None | | 0.00 | 80' | No Ice | 6.90 | 4.32 | 0.05 |
| | | | | | | 1/2" Ice | 7.31 | 4.92 | 0.10 |
| | | | | | | 1" Ice | 7.73 | 5.54 | 0.16 |
| (4) OPA-65R-LCUU-H4 | C | None | | 0.00 | 80' | No Ice | 6.90 | 4.32 | 0.05 |
| | | | | | | 1/2" Ice | 7.31 | 4.92 | 0.10 |
| | | | | | | 1" Ice | 7.73 | 5.54 | 0.16 |

## Tower Pressures - No Ice

$G_H$ = 1.100

| Section Elevation ft | z ft | $K_Z$ | $q_z$ ksf | $A_G$ ft² | Face | $A_F$ ft² | $A_R$ ft² | $A_{leg}$ ft² | Leg % | $C_AA_A$ In Face ft² | $C_AA_A$ Out Face ft² |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 | 114'11-3/4' | 1.028 | 0 | 14.992 | A | 0.000 | 14.992 | 14.992 | 100.00 | 0.000 | 0.000 |
| 119'11-3/4"-10 | ' | | | | B | 0.000 | 14.992 | | 100.00 | 0.000 | 0.000 |
| 9'11-3/4" | | | | | C | 0.000 | 14.992 | | 100.00 | 0.000 | 0.000 |
| L2 | 104'11-3/4' | 1.002 | 0 | 14.992 | A | 0.000 | 14.992 | 14.992 | 100.00 | 0.000 | 0.000 |
| 109'11-3/4"-99' | ' | | | | B | 0.000 | 14.992 | | 100.00 | 0.000 | 0.000 |
| 11-3/4" | | | | | C | 0.000 | 14.992 | | 100.00 | 0.000 | 0.000 |
| L3 | 89'6" | 0.957 | 0 | 35.003 | A | 0.000 | 35.003 | 35.003 | 100.00 | 0.000 | 0.000 |
| 99'11-3/4"-79'1 | | | | | B | 0.000 | 35.003 | | 100.00 | 0.000 | 0.000 |
| 1-5/8" | | | | | C | 0.000 | 35.003 | | 100.00 | 0.000 | 0.000 |
| L4 | 74' | 0.907 | 0 | 24.899 | A | 0.000 | 24.899 | 24.899 | 100.00 | 0.000 | 0.000 |
| 79'11-5/8"-68'3 | | | | | B | 0.000 | 24.899 | | 100.00 | 0.000 | 0.000 |
| -15/32" | | | | | C | 0.000 | 24.899 | | 100.00 | 0.000 | 0.000 |
| L5 | 50'6-1/4" | 0.813 | 0 | 90.725 | A | 0.000 | 90.725 | 90.725 | 100.00 | 0.000 | 0.000 |
| 68'3-15/32"-33' | | | | | B | 0.000 | 90.725 | | 100.00 | 0.000 | 0.000 |
| 7-11/16" | | | | | C | 0.000 | 90.725 | | 100.00 | 0.000 | 0.000 |
| L6 | 16'2-5/32" | 0.7 | 0 | 112.649 | A | 0.000 | 112.649 | 112.649 | 100.00 | 0.000 | 0.000 |
| 33'7-11/16"-0' | | | | | B | 0.000 | 112.649 | | 100.00 | 0.000 | 0.000 |
| | | | | | C | 0.000 | 112.649 | | 100.00 | 0.000 | 0.000 |

## Tower Pressure - With Ice

$G_H$ = 1.100

| Section Elevation ft | z ft | $K_Z$ | $q_z$ ksf | $t_Z$ in | $A_G$ ft² | Face | $A_F$ ft² | $A_R$ ft² | $A_{leg}$ ft² | Leg % | $C_AA_A$ In Face ft² | $C_AA_A$ Out Face ft² |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 | 114'11-3/4" | 1.028 | 0 | 1.70 | 17.824 | A | 0.000 | 17.824 | 17.824 | 100.00 | 0.000 | 0.000 |
| 119'11-3/4"-109' | | | | | | B | 0.000 | 17.824 | | 100.00 | 0.000 | 0.000 |
| 11-3/4" | | | | | | C | 0.000 | 17.824 | | 100.00 | 0.000 | 0.000 |
| L2 | 104'11-3/4" | 1.002 | 0 | 1.68 | 17.798 | A | 0.000 | 17.798 | 17.798 | 100.00 | 0.000 | 0.000 |
| 109'11-3/4"-99'1 | | | | | | B | 0.000 | 17.798 | | 100.00 | 0.000 | 0.000 |
| 1-3/4" | | | | | | C | 0.000 | 17.798 | | 100.00 | 0.000 | 0.000 |
| L3 | 89'6" | 0.957 | 0 | 1.66 | 40.531 | A | 0.000 | 40.531 | 40.531 | 100.00 | 0.000 | 0.000 |
| 99'11-3/4"-79'11 | | | | | | B | 0.000 | 40.531 | | 100.00 | 0.000 | 0.000 |
| -5/8" | | | | | | C | 0.000 | 40.531 | | 100.00 | 0.000 | 0.000 |
| L4 | 74' | 0.907 | 0 | 1.63 | 28.064 | A | 0.000 | 28.064 | 28.064 | 100.00 | 0.000 | 0.000 |
| 79'11-5/8"-68'3- | | | | | | B | 0.000 | 28.064 | | 100.00 | 0.000 | 0.000 |
| 15/32" | | | | | | C | 0.000 | 28.064 | | 100.00 | 0.000 | 0.000 |
| L5 | 50'6-1/4" | 0.813 | 0 | 1.57 | 100.115 | A | 0.000 | 100.115 | 100.115 | 100.00 | 0.000 | 0.000 |
| 68'3-15/32"-33'7 | | | | | | B | 0.000 | 100.115 | | 100.00 | 0.000 | 0.000 |
| -11/16" | | | | | | C | 0.000 | 100.115 | | 100.00 | 0.000 | 0.000 |
| L6 | 16'2-5/32" | 0.7 | 0 | 1.40 | 121.425 | A | 0.000 | 121.425 | 121.425 | 100.00 | 0.000 | 0.000 |
| 33'7-11/16"-0' | | | | | | B | 0.000 | 121.425 | | 100.00 | 0.000 | 0.000 |
| | | | | | | C | 0.000 | 121.425 | | 100.00 | 0.000 | 0.000 |

## Tower Pressure - Service

$G_H$ = 1.100

| Section Elevation ft | z ft | $K_Z$ | $q_z$ ksf | $A_G$ ft² | Face | $A_F$ ft² | $A_R$ ft² | $A_{leg}$ ft² | Leg % | $C_AA_A$ In Face ft² | $C_AA_A$ Out Face ft² |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 | 114'11-3/4' | 1.028 | 0 | 14.992 | A | 0.000 | 14.992 | 14.992 | 100.00 | 0.000 | 0.000 |
| 119'11-3/4"-10 | ' | | | | B | 0.000 | 14.992 | | 100.00 | 0.000 | 0.000 |
| 9'11-3/4" | | | | | C | 0.000 | 14.992 | | 100.00 | 0.000 | 0.000 |
| L2 | 104'11-3/4' | 1.002 | 0 | 14.992 | A | 0.000 | 14.992 | 14.992 | 100.00 | 0.000 | 0.000 |
| 109'11-3/4"-99' | ' | | | | B | 0.000 | 14.992 | | 100.00 | 0.000 | 0.000 |
| 11-3/4" | | | | | C | 0.000 | 14.992 | | 100.00 | 0.000 | 0.000 |
| L3 | 89'6" | 0.957 | 0 | 35.003 | A | 0.000 | 35.003 | 35.003 | 100.00 | 0.000 | 0.000 |
| 99'11-3/4"-79'1 | | | | | B | 0.000 | 35.003 | | 100.00 | 0.000 | 0.000 |
| 1-5/8" | | | | | C | 0.000 | 35.003 | | 100.00 | 0.000 | 0.000 |
| L4 | 74' | 0.907 | 0 | 24.899 | A | 0.000 | 24.899 | 24.899 | 100.00 | 0.000 | 0.000 |
| 79'11-5/8"-68'3 | | | | | B | 0.000 | 24.899 | | 100.00 | 0.000 | 0.000 |
| -15/32" | | | | | C | 0.000 | 24.899 | | 100.00 | 0.000 | 0.000 |
| L5 | 50'6-1/4" | 0.813 | 0 | 90.725 | A | 0.000 | 90.725 | 90.725 | 100.00 | 0.000 | 0.000 |
| 68'3-15/32"-33' | | | | | B | 0.000 | 90.725 | | 100.00 | 0.000 | 0.000 |
| 7-11/16" | | | | | C | 0.000 | 90.725 | | 100.00 | 0.000 | 0.000 |
| L6 | 16'2-5/32" | 0.7 | 0 | 112.649 | A | 0.000 | 112.649 | 112.649 | 100.00 | 0.000 | 0.000 |
| 33'7-11/16"-0' | | | | | B | 0.000 | 112.649 | | 100.00 | 0.000 | 0.000 |
| | | | | | C | 0.000 | 112.649 | | 100.00 | 0.000 | 0.000 |

## Tower Forces - No Ice - Wind Normal To Face

| Section Elevation ft | Add Weight K | Self Weight K | Face | e | $C_F$ | $q_z$ ksf | $D_F$ | $D_R$ | $A_E$ ft² | F K | w klf | Ctrl. Face |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 | 0.06 | 0.30 | A | 1 | 0.65 | 0 | 1 | 1 | 14.992 | 0.24 | 0.02 | C |
| 119'11-3/4"-1 | | | B | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| 09'11-3/4" | | | C | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| L2 | 0.22 | 0.30 | A | 1 | 0.65 | 0 | 1 | 1 | 14.992 | 0.24 | 0.02 | C |
| 109'11-3/4"-9 | | | B | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| 9'11-3/4" | | | C | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| L3 | 0.59 | 0.87 | A | 1 | 0.65 | 0 | 1 | 1 | 35.003 | 0.53 | 0.03 | C |
| 99'11-3/4"-79' | | | B | 1 | 0.65 | | 1 | 1 | 35.003 | | | |
| 11-5/8" | | | C | 1 | 0.65 | | 1 | 1 | 35.003 | | | |
| L4 | 0.57 | 0.74 | A | 1 | 0.65 | 0 | 1 | 1 | 24.899 | 0.35 | 0.03 | C |
| 79'11-5/8"-68' | | | B | 1 | 0.65 | | 1 | 1 | 24.899 | | | |
| 3-15/32" | | | C | 1 | 0.65 | | 1 | 1 | 24.899 | | | |
| L5 | 1.70 | 3.47 | A | 1 | 0.65 | 0 | 1 | 1 | 90.725 | 1.15 | 0.03 | C |
| 68'3-15/32"-3 | | | B | 1 | 0.65 | | 1 | 1 | 90.725 | | | |
| 3'7-11/16" | | | C | 1 | 0.65 | | 1 | 1 | 90.725 | | | |
| L6 | 1.41 | 5.08 | A | 1 | 0.65 | 0 | 1 | 1 | 112.649 | 1.24 | 0.04 | C |
| 33'7-11/16"-0' | | | B | 1 | 0.65 | | 1 | 1 | 112.649 | | | |
| | | | C | 1 | 0.65 | | 1 | 1 | 112.649 | | | |
| Sum Weight: | 4.56 | 10.76 | | | | | | OTM | 204.05 kip-ft | 3.75 | | |

## Tower Forces - No Ice - Wind 60 To Face

| Section Elevation ft | Add Weight K | Self Weight K | Face | e | $C_F$ | $q_z$ ksf | $D_F$ | $D_R$ | $A_E$ ft² | F K | w klf | Ctrl. Face |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 | 0.06 | 0.30 | A | 1 | 0.65 | 0 | 1 | 1 | 14.992 | 0.24 | 0.02 | C |
| 119'11-3/4"-1 | | | B | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| 09'11-3/4" | | | C | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| L2 | 0.22 | 0.30 | A | 1 | 0.65 | 0 | 1 | 1 | 14.992 | 0.24 | 0.02 | C |
| 109'11-3/4"-9 | | | B | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| 9'11-3/4" | | | C | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| L3 | 0.59 | 0.87 | A | 1 | 0.65 | 0 | 1 | 1 | 35.003 | 0.53 | 0.03 | C |
| 99'11-3/4"-79' | | | B | 1 | 0.65 | | 1 | 1 | 35.003 | | | |
| 11-5/8" | | | C | 1 | 0.65 | | 1 | 1 | 35.003 | | | |
| L4 | 0.57 | 0.74 | A | 1 | 0.65 | 0 | 1 | 1 | 24.899 | 0.35 | 0.03 | C |
| 79'11-5/8"-68' | | | B | 1 | 0.65 | | 1 | 1 | 24.899 | | | |
| 3-15/32" | | | C | 1 | 0.65 | | 1 | 1 | 24.899 | | | |
| L5 | 1.70 | 3.47 | A | 1 | 0.65 | 0 | 1 | 1 | 90.725 | 1.15 | 0.03 | C |
| 68'3-15/32"-3 | | | B | 1 | 0.65 | | 1 | 1 | 90.725 | | | |
| 3'7-11/16" | | | C | 1 | 0.65 | | 1 | 1 | 90.725 | | | |
| L6 | 1.41 | 5.08 | A | 1 | 0.65 | 0 | 1 | 1 | 112.649 | 1.24 | 0.04 | C |
| 33'7-11/16"-0' | | | B | 1 | 0.65 | | 1 | 1 | 112.649 | | | |
| | | | C | 1 | 0.65 | | 1 | 1 | 112.649 | | | |
| Sum Weight: | 4.56 | 10.76 | | | | | | OTM | 204.05 kip-ft | 3.75 | | |

## Tower Forces - No Ice - Wind 90 To Face

| Section Elevation ft | Add Weight K | Self Weight K | Face | e | $C_F$ | $q_z$ ksf | $D_F$ | $D_R$ | $A_E$ ft² | F K | w klf | Ctrl. Face |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 | 0.06 | 0.30 | A | 1 | 0.65 | 0 | 1 | 1 | 14.992 | 0.24 | 0.02 | C |
| 119'11-3/4"-1 | | | B | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| 09'11-3/4" | | | C | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| L2 | 0.22 | 0.30 | A | 1 | 0.65 | 0 | 1 | 1 | 14.992 | 0.24 | 0.02 | C |
| 109'11-3/4"-9 | | | B | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| 9'11-3/4" | | | C | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| L3 | 0.59 | 0.87 | A | 1 | 0.65 | 0 | 1 | 1 | 35.003 | 0.53 | 0.03 | C |
| 99'11-3/4"-79' | | | B | 1 | 0.65 | | 1 | 1 | 35.003 | | | |
| 11-5/8" | | | C | 1 | 0.65 | | 1 | 1 | 35.003 | | | |
| L4 | 0.57 | 0.74 | A | 1 | 0.65 | 0 | 1 | 1 | 24.899 | 0.35 | 0.03 | C |
| 79'11-5/8"-68' | | | B | 1 | 0.65 | | 1 | 1 | 24.899 | | | |
| 3-15/32" | | | C | 1 | 0.65 | | 1 | 1 | 24.899 | | | |
| L5 | 1.70 | 3.47 | A | 1 | 0.65 | 0 | 1 | 1 | 90.725 | 1.15 | 0.03 | C |
| 68'3-15/32"-3 | | | B | 1 | 0.65 | | 1 | 1 | 90.725 | | | |
| 3'7-11/16" | | | C | 1 | 0.65 | | 1 | 1 | 90.725 | | | |
| L6 | 1.41 | 5.08 | A | 1 | 0.65 | 0 | 1 | 1 | 112.649 | 1.24 | 0.04 | C |
| 33'7-11/16"-0' | | | B | 1 | 0.65 | | 1 | 1 | 112.649 | | | |
| | | | C | 1 | 0.65 | | 1 | 1 | 112.649 | | | |
| Sum Weight: | 4.56 | 10.76 | | | | | | OTM | 204.05 kip-ft | 3.75 | | |

## Tower Forces - With Ice - Wind Normal To Face

| Section Elevation ft | Add Weight K | Self Weight K | Face | e | $C_F$ | $q_z$ ksf | $D_F$ | $D_R$ | $A_E$ ft² | F K | w klf | Ctrl. Face |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 | 0.06 | 0.71 | A | 1 | 1.2 | 0 | 1 | 1 | 17.824 | 0.15 | 0.01 | C |
| 119'11-3/4"-1 | | | B | 1 | 1.2 | | 1 | 1 | 17.824 | | | |
| 09'11-3/4" | | | C | 1 | 1.2 | | 1 | 1 | 17.824 | | | |
| L2 | 0.22 | 0.70 | A | 1 | 1.2 | 0 | 1 | 1 | 17.798 | 0.14 | 0.01 | C |
| 109'11-3/4"-9 | | | B | 1 | 1.2 | | 1 | 1 | 17.798 | | | |
| 9'11-3/4" | | | C | 1 | 1.2 | | 1 | 1 | 17.798 | | | |
| L3 | 0.59 | 1.79 | A | 1 | 1.2 | 0 | 1 | 1 | 40.531 | 0.31 | 0.02 | C |
| 99'11-3/4"-79' | | | B | 1 | 1.2 | | 1 | 1 | 40.531 | | | |
| 11-5/8" | | | C | 1 | 1.2 | | 1 | 1 | 40.531 | | | |
| L4 | 0.57 | 1.37 | A | 1 | 1.2 | 0 | 1 | 1 | 28.064 | 0.20 | 0.02 | C |
| 79'11-5/8"-68' | | | B | 1 | 1.2 | | 1 | 1 | 28.064 | | | |
| 3-15/32" | | | C | 1 | 1.2 | | 1 | 1 | 28.064 | | | |
| L5 | 1.70 | 5.65 | A | 1 | 1.2 | 0 | 1 | 1 | 100.115 | 0.65 | 0.02 | C |
| 68'3-15/32"-3 | | | B | 1 | 1.2 | | 1 | 1 | 100.115 | | | |
| 3'7-11/16" | | | C | 1 | 1.2 | | 1 | 1 | 100.115 | | | |
| L6 | 1.41 | 7.45 | A | 1 | 1.2 | 0 | 1 | 1 | 121.425 | 0.68 | 0.02 | C |
| 33'7-11/16"-0' | | | B | 1 | 1.2 | | 1 | 1 | 121.425 | | | |
| | | | C | 1 | 1.2 | | 1 | 1 | 121.425 | | | |
| Sum Weight: | 4.56 | 17.67 | | | | | | OTM | 118.79 kip-ft | 2.14 | | |

## Tower Forces - With Ice - Wind 60 To Face

| Section Elevation ft | Add Weight K | Self Weight K | Face | e | $C_F$ | $q_z$ ksf | $D_F$ | $D_R$ | $A_E$ ft² | F K | w klf | Ctrl. Face |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 | 0.06 | 0.71 | A | 1 | 1.2 | 0 | 1 | 1 | 17.824 | 0.15 | 0.01 | C |
| 119'11-3/4"-1 | | | B | 1 | 1.2 | | 1 | 1 | 17.824 | | | |
| 09'11-3/4" | | | C | 1 | 1.2 | | 1 | 1 | 17.824 | | | |
| L2 | 0.22 | 0.70 | A | 1 | 1.2 | 0 | 1 | 1 | 17.798 | 0.14 | 0.01 | C |
| 109'11-3/4"-9 | | | B | 1 | 1.2 | | 1 | 1 | 17.798 | | | |
| 9'11-3/4" | | | C | 1 | 1.2 | | 1 | 1 | 17.798 | | | |
| L3 | 0.59 | 1.79 | A | 1 | 1.2 | 0 | 1 | 1 | 40.531 | 0.31 | 0.02 | C |
| 99'11-3/4"-79' | | | B | 1 | 1.2 | | 1 | 1 | 40.531 | | | |
| 11-5/8" | | | C | 1 | 1.2 | | 1 | 1 | 40.531 | | | |
| L4 | 0.57 | 1.37 | A | 1 | 1.2 | 0 | 1 | 1 | 28.064 | 0.20 | 0.02 | C |
| 79'11-5/8"-68' | | | B | 1 | 1.2 | | 1 | 1 | 28.064 | | | |
| 3-15/32" | | | C | 1 | 1.2 | | 1 | 1 | 28.064 | | | |
| L5 | 1.70 | 5.65 | A | 1 | 1.2 | 0 | 1 | 1 | 100.115 | 0.65 | 0.02 | C |
| 68'3-15/32"-3 | | | B | 1 | 1.2 | | 1 | 1 | 100.115 | | | |
| 3'7-11/16" | | | C | 1 | 1.2 | | 1 | 1 | 100.115 | | | |
| L6 | 1.41 | 7.45 | A | 1 | 1.2 | 0 | 1 | 1 | 121.425 | 0.68 | 0.02 | C |
| 33'7-11/16"-0' | | | B | 1 | 1.2 | | 1 | 1 | 121.425 | | | |
| | | | C | 1 | 1.2 | | 1 | 1 | 121.425 | | | |
| Sum Weight: | 4.56 | 17.67 | | | | | | OTM | 118.79 kip-ft | 2.14 | | |

## Tower Forces - With Ice - Wind 90 To Face

| Section Elevation ft | Add Weight K | Self Weight K | Face | e | $C_F$ | $q_z$ ksf | $D_F$ | $D_R$ | $A_E$ $ft^2$ | F K | w klf | Ctrl. Face |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 | 0.06 | 0.71 | A | 1 | 1.2 | 0 | 1 | 1 | 17.824 | 0.15 | 0.01 | C |
| 119'11-3/4"-1 | | | B | 1 | 1.2 | | 1 | 1 | 17.824 | | | |
| 09'11-3/4" | | | C | 1 | 1.2 | | 1 | 1 | 17.824 | | | |
| L2 | 0.22 | 0.70 | A | 1 | 1.2 | 0 | 1 | 1 | 17.798 | 0.14 | 0.01 | C |
| 109'11-3/4"-9 | | | B | 1 | 1.2 | | 1 | 1 | 17.798 | | | |
| 9'11-3/4" | | | C | 1 | 1.2 | | 1 | 1 | 17.798 | | | |
| L3 | 0.59 | 1.79 | A | 1 | 1.2 | 0 | 1 | 1 | 40.531 | 0.31 | 0.02 | C |
| 99'11-3/4"-79' | | | B | 1 | 1.2 | | 1 | 1 | 40.531 | | | |
| 11-5/8" | | | C | 1 | 1.2 | | 1 | 1 | 40.531 | | | |
| L4 | 0.57 | 1.37 | A | 1 | 1.2 | 0 | 1 | 1 | 28.064 | 0.20 | 0.02 | C |
| 79'11-5/8"-68' | | | B | 1 | 1.2 | | 1 | 1 | 28.064 | | | |
| 3-15/32" | | | C | 1 | 1.2 | | 1 | 1 | 28.064 | | | |
| L5 | 1.70 | 5.65 | A | 1 | 1.2 | 0 | 1 | 1 | 100.115 | 0.65 | 0.02 | C |
| 68'3-15/32"-3 | | | B | 1 | 1.2 | | 1 | 1 | 100.115 | | | |
| 3'7-11/16" | | | C | 1 | 1.2 | | 1 | 1 | 100.115 | | | |
| L6 | 1.41 | 7.45 | A | 1 | 1.2 | 0 | 1 | 1 | 121.425 | 0.68 | 0.02 | C |
| 33'7-11/16"-0' | | | B | 1 | 1.2 | | 1 | 1 | 121.425 | | | |
| | | | C | 1 | 1.2 | | 1 | 1 | 121.425 | | | |
| Sum Weight: | 4.56 | 17.67 | | | | | | OTM | 118.79 kip-ft | 2.14 | | |

## Tower Forces - Service - Wind Normal To Face

| Section Elevation ft | Add Weight K | Self Weight K | Face | e | $C_F$ | $q_z$ ksf | $D_F$ | $D_R$ | $A_E$ $ft^2$ | F K | w klf | Ctrl. Face |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 | 0.06 | 0.30 | A | 1 | 0.65 | 0 | 1 | 1 | 14.992 | 0.09 | 0.01 | C |
| 119'11-3/4"-1 | | | B | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| 09'11-3/4" | | | C | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| L2 | 0.22 | 0.30 | A | 1 | 0.65 | 0 | 1 | 1 | 14.992 | 0.08 | 0.01 | C |
| 109'11-3/4"-9 | | | B | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| 9'11-3/4" | | | C | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| L3 | 0.59 | 0.87 | A | 1 | 0.65 | 0 | 1 | 1 | 35.003 | 0.19 | 0.01 | C |
| 99'11-3/4"-79' | | | B | 1 | 0.65 | | 1 | 1 | 35.003 | | | |
| 11-5/8" | | | C | 1 | 0.65 | | 1 | 1 | 35.003 | | | |
| L4 | 0.57 | 0.74 | A | 1 | 0.65 | 0 | 1 | 1 | 24.899 | 0.13 | 0.01 | C |
| 79'11-5/8"-68' | | | B | 1 | 0.65 | | 1 | 1 | 24.899 | | | |
| 3-15/32" | | | C | 1 | 0.65 | | 1 | 1 | 24.899 | | | |
| L5 | 1.70 | 3.47 | A | 1 | 0.65 | 0 | 1 | 1 | 90.725 | 0.41 | 0.01 | C |
| 68'3-15/32"-3 | | | B | 1 | 0.65 | | 1 | 1 | 90.725 | | | |
| 3'7-11/16" | | | C | 1 | 0.65 | | 1 | 1 | 90.725 | | | |
| L6 | 1.41 | 5.08 | A | 1 | 0.65 | 0 | 1 | 1 | 112.649 | 0.44 | 0.01 | C |
| 33'7-11/16"-0' | | | B | 1 | 0.65 | | 1 | 1 | 112.649 | | | |
| | | | C | 1 | 0.65 | | 1 | 1 | 112.649 | | | |
| Sum Weight: | 4.56 | 10.76 | | | | | | OTM | 72.82 kip-ft | 1.34 | | |

## Tower Forces - Service - Wind 60 To Face

| Section Elevation ft | Add Weight K | Self Weight K | Face | e | $C_F$ | $q_z$ ksf | $D_F$ | $D_R$ | $A_E$ $ft^2$ | F K | w klf | Ctrl. Face |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 | 0.06 | 0.30 | A | 1 | 0.65 | 0 | 1 | 1 | 14.992 | 0.09 | 0.01 | C |
| 119'11-3/4"-1 | | | B | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| 09'11-3/4" | | | C | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| L2 | 0.22 | 0.30 | A | 1 | 0.65 | 0 | 1 | 1 | 14.992 | 0.08 | 0.01 | C |
| 109'11-3/4"-9 | | | B | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| 9'11-3/4" | | | C | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| L3 | 0.59 | 0.87 | A | 1 | 0.65 | 0 | 1 | 1 | 35.003 | 0.19 | 0.01 | C |
| 99'11-3/4"-79' | | | B | 1 | 0.65 | | 1 | 1 | 35.003 | | | |
| 11-5/8" | | | C | 1 | 0.65 | | 1 | 1 | 35.003 | | | |
| L4 | 0.57 | 0.74 | A | 1 | 0.65 | 0 | 1 | 1 | 24.899 | 0.13 | 0.01 | C |
| 79'11-5/8"-68' | | | B | 1 | 0.65 | | 1 | 1 | 24.899 | | | |
| 3-15/32" | | | C | 1 | 0.65 | | 1 | 1 | 24.899 | | | |
| L5 | 1.70 | 3.47 | A | 1 | 0.65 | 0 | 1 | 1 | 90.725 | 0.41 | 0.01 | C |
| 68'3-15/32"-3 | | | B | 1 | 0.65 | | 1 | 1 | 90.725 | | | |
| 3'7-11/16" | | | C | 1 | 0.65 | | 1 | 1 | 90.725 | | | |
| L6 | 1.41 | 5.08 | A | 1 | 0.65 | 0 | 1 | 1 | 112.649 | 0.44 | 0.01 | C |
| 33'7-11/16"-0' | | | B | 1 | 0.65 | | 1 | 1 | 112.649 | | | |
| | | | C | 1 | 0.65 | | 1 | 1 | 112.649 | | | |
| Sum Weight: | 4.56 | 10.76 | | | | | | OTM | 72.82 kip-ft | 1.34 | | |

## Tower Forces - Service - Wind 90 To Face

| Section Elevation ft | Add Weight K | Self Weight K | Face | e | $C_F$ | $q_z$ ksf | $D_F$ | $D_R$ | $A_E$ $ft^2$ | F K | w klf | Ctrl. Face |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L1 | 0.06 | 0.30 | A | 1 | 0.65 | 0 | 1 | 1 | 14.992 | 0.09 | 0.01 | C |
| 119'11-3/4"-1 | | | B | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| 09'11-3/4" | | | C | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| L2 | 0.22 | 0.30 | A | 1 | 0.65 | 0 | 1 | 1 | 14.992 | 0.08 | 0.01 | C |
| 109'11-3/4"-9 | | | B | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| 9'11-3/4" | | | C | 1 | 0.65 | | 1 | 1 | 14.992 | | | |
| L3 | 0.59 | 0.87 | A | 1 | 0.65 | 0 | 1 | 1 | 35.003 | 0.19 | 0.01 | C |
| 99'11-3/4"-79' | | | B | 1 | 0.65 | | 1 | 1 | 35.003 | | | |
| 11-5/8" | | | C | 1 | 0.65 | | 1 | 1 | 35.003 | | | |
| L4 | 0.57 | 0.74 | A | 1 | 0.65 | 0 | 1 | 1 | 24.899 | 0.13 | 0.01 | C |
| 79'11-5/8"-68' | | | B | 1 | 0.65 | | 1 | 1 | 24.899 | | | |
| 3-15/32" | | | C | 1 | 0.65 | | 1 | 1 | 24.899 | | | |
| L5 | 1.70 | 3.47 | A | 1 | 0.65 | 0 | 1 | 1 | 90.725 | 0.41 | 0.01 | C |
| 68'3-15/32"-3 | | | B | 1 | 0.65 | | 1 | 1 | 90.725 | | | |
| 3'7-11/16" | | | C | 1 | 0.65 | | 1 | 1 | 90.725 | | | |
| L6 | 1.41 | 5.08 | A | 1 | 0.65 | 0 | 1 | 1 | 112.649 | 0.44 | 0.01 | C |
| 33'7-11/16"-0' | | | B | 1 | 0.65 | | 1 | 1 | 112.649 | | | |
| | | | C | 1 | 0.65 | | 1 | 1 | 112.649 | | | |
| Sum Weight: | 4.56 | 10.76 | | | | | | OTM | 72.82 kip-ft | 1.34 | | |

## Force Totals

| Load Case | Vertical Forces K | Sum of Forces X K | Sum of Forces Z K | Sum of Overturning Moments, $M_x$ kip-ft | Sum of Overturning Moments, $M_z$ kip-ft | Sum of Torques kip-ft |
|---|---|---|---|---|---|---|
| Leg Weight | 10.76 | | | | | |
| Bracing Weight | 0.00 | | | | | |
| Total Member Self-Weight | 10.76 | | | 0.00 | 0.00 | |
| Total Weight | 22.04 | | | 0.00 | 0.00 | |
| Wind 0 deg - No Ice | | 0.00 | -9.93 | -816.92 | 0.00 | 0.00 |
| Wind 90 deg - No Ice | | 9.93 | 0.00 | 0.00 | -816.92 | 0.00 |
| Wind 180 deg - No Ice | | 0.00 | 9.93 | 816.92 | 0.00 | 0.00 |
| Member Ice | 6.91 | | | | | |
| Total Weight Ice | 38.49 | | | 0.00 | 0.00 | |
| Wind 0 deg - Ice | | 0.00 | -4.61 | -364.13 | 0.00 | 0.00 |
| Wind 90 deg - Ice | | 4.61 | 0.00 | 0.00 | -364.13 | 0.00 |
| Wind 180 deg - Ice | | 0.00 | 4.61 | 364.13 | 0.00 | 0.00 |
| Total Weight | 22.04 | | | 0.00 | 0.00 | |
| Wind 0 deg - Service | | 0.00 | -3.54 | -291.56 | 0.00 | 0.00 |
| Wind 90 deg - Service | | 3.54 | 0.00 | 0.00 | -291.56 | 0.00 |
| Wind 180 deg - Service | | 0.00 | 3.54 | 291.56 | 0.00 | 0.00 |

## Load Combinations

| Comb. No. | Description |
|---|---|
| 1 | Dead Only |
| 2 | 1.2 Dead+1.6 Wind 0 deg - No Ice |
| 3 | 0.9 Dead+1.6 Wind 0 deg - No Ice |
| 4 | 1.2 Dead+1.6 Wind 90 deg - No Ice |
| 5 | 0.9 Dead+1.6 Wind 90 deg - No Ice |
| 6 | 1.2 Dead+1.6 Wind 180 deg - No Ice |
| 7 | 0.9 Dead+1.6 Wind 180 deg - No Ice |
| 8 | 1.2 Dead+1.0 Ice+1.0 Temp |
| 9 | 1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp |
| 10 | 1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp |
| 11 | 1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp |
| 12 | Dead+Wind 0 deg - Service |
| 13 | Dead+Wind 90 deg - Service |
| 14 | Dead+Wind 180 deg - Service |

## Maximum Member Forces

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|---|---|---|---|---|---|---|---|
| L1 | 119.979 - 109.979 | Pole | Max Tension | 13 | 0.00 | 0.00 | 0.00 |
| | | | Max. Compression | 8 | -5.73 | 0.00 | 0.00 |
| | | | Max. Mx | 4 | -2.59 | -19.00 | 0.00 |
| | | | Max. My | 2 | -2.59 | 0.00 | 19.00 |
| | | | Max. Vy | 4 | 3.23 | -19.00 | 0.00 |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|---|---|---|---|---|---|---|---|
| | | | Max. Vx | 2 | -3.23 | 0.00 | 19.00 |
| L2 | 109.979 - 99.9792 | Pole | Max Tension | 1 | 0.00 | 0.00 | 0.00 |
| | | | Max. Compression | 8 | -13.17 | 0.00 | 0.00 |
| | | | Max. Mx | 4 | -5.66 | -77.68 | 0.00 |
| | | | Max. My | 2 | -5.66 | 0.00 | 77.68 |
| | | | Max. Vy | 4 | 7.68 | -77.68 | 0.00 |
| | | | Max. Vx | 2 | -7.68 | 0.00 | 77.68 |
| L3 | 99.9792 - 79.966 | Pole | Max Tension | 1 | 0.00 | 0.00 | 0.00 |
| | | | Max. Compression | 8 | -19.59 | 0.00 | 0.00 |
| | | | Max. Mx | 4 | -8.35 | -239.32 | 0.00 |
| | | | Max. My | 2 | -8.35 | 0.00 | 239.32 |
| | | | Max. Vy | 4 | 11.36 | -239.32 | 0.00 |
| | | | Max. Vx | 2 | -11.36 | 0.00 | 239.32 |
| L4 | 79.966 - 68.2863 | Pole | Max Tension | 1 | 0.00 | 0.00 | 0.00 |
| | | | Max. Compression | 8 | -23.57 | 0.00 | 0.00 |
| | | | Max. Mx | 4 | -11.19 | -330.00 | 0.00 |
| | | | Max. My | 2 | -11.19 | 0.00 | 330.00 |
| | | | Max. Vy | 4 | 12.52 | -330.00 | 0.00 |
| | | | Max. Vx | 2 | -12.52 | 0.00 | 330.00 |
| L5 | 68.2863 - 33.6406 | Pole | Max Tension | 1 | 0.00 | 0.00 | 0.00 |
| | | | Max. Compression | 8 | -31.75 | 0.00 | 0.00 |
| | | | Max. Mx | 4 | -17.36 | -778.27 | 0.00 |
| | | | Max. My | 2 | -17.36 | 0.00 | 778.27 |
| | | | Max. Vy | 4 | 14.09 | -778.27 | 0.00 |
| | | | Max. Vx | 2 | -14.09 | 0.00 | 778.27 |
| L6 | 33.6406 - 0 | Pole | Max Tension | 1 | 0.00 | 0.00 | 0.00 |
| | | | Max. Compression | 8 | -43.51 | 0.00 | 0.00 |
| | | | Max. Mx | 4 | -26.44 | -1358.39 | 0.00 |
| | | | Max. My | 2 | -26.44 | 0.00 | 1358.39 |
| | | | Max. Vy | 4 | 15.90 | -1358.39 | 0.00 |
| | | | Max. Vx | 2 | -15.90 | 0.00 | 1358.39 |

## Maximum Reactions

| Location | Condition | Gov. Load Comb. | Vertical K | Horizontal, X K | Horizontal, Z K |
|---|---|---|---|---|---|
| Pole | Max. Vert | 9 | 43.51 | 0.00 | 4.61 |
| | Max. $H_x$ | 14 | 22.04 | 0.00 | -3.54 |
| | Max. $H_z$ | 2 | 26.44 | 0.00 | 15.89 |
| | Max. $M_x$ | 2 | 1358.39 | 0.00 | 15.89 |
| | Max. $M_z$ | 4 | 1358.39 | -15.89 | 0.00 |
| | Max. Torsion | 1 | 0.00 | 0.00 | 0.00 |
| | Min. Vert | 5 | 19.83 | -15.89 | 0.00 |
| | Min. $H_x$ | 4 | 26.44 | -15.89 | 0.00 |
| | Min. $H_z$ | 6 | 26.44 | 0.00 | -15.89 |
| | Min. $M_x$ | 6 | -1358.39 | 0.00 | -15.89 |
| | Min. $M_z$ | 1 | 0.00 | 0.00 | 0.00 |
| | Min. Torsion | 1 | 0.00 | 0.00 | 0.00 |

## Tower Mast Reaction Summary

| *Load Combination* | *Vertical* | *Shear$_x$* | *Shear$_z$* | *Overturning Moment, M$_x$* | *Overturning Moment, M$_z$* | *Torque* |
|---|---|---|---|---|---|---|
| | *K* | *K* | *K* | *kip-ft* | *kip-ft* | *kip-ft* |
| Dead Only | 22.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1.2 Dead+1.6 Wind 0 deg - No Ice | 26.44 | 0.00 | -15.89 | -1358.39 | 0.00 | 0.00 |
| 0.9 Dead+1.6 Wind 0 deg - No Ice | 19.83 | 0.00 | -15.89 | -1344.73 | 0.00 | 0.00 |
| 1.2 Dead+1.6 Wind 90 deg - No Ice | 26.44 | 15.89 | 0.00 | 0.00 | -1358.39 | 0.00 |
| 0.9 Dead+1.6 Wind 90 deg - No Ice | 19.83 | 15.89 | 0.00 | 0.00 | -1344.73 | 0.00 |
| 1.2 Dead+1.6 Wind 180 deg - No Ice | 26.44 | 0.00 | 15.89 | 1358.39 | 0.00 | 0.00 |
| 0.9 Dead+1.6 Wind 180 deg - No Ice | 19.83 | 0.00 | 15.89 | 1344.73 | 0.00 | 0.00 |
| 1.2 Dead+1.0 Ice+1.0 Temp | 43.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp | 43.51 | 0.00 | -4.61 | -393.40 | 0.00 | 0.00 |
| 1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp | 43.51 | 4.61 | 0.00 | 0.00 | -393.40 | 0.00 |
| 1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp | 43.51 | 0.00 | 4.61 | 393.40 | 0.00 | 0.00 |
| Dead+Wind 0 deg - Service | 22.04 | 0.00 | -3.54 | -301.27 | 0.00 | 0.00 |
| Dead+Wind 90 deg - Service | 22.04 | 3.54 | 0.00 | 0.00 | -301.27 | 0.00 |
| Dead+Wind 180 deg - Service | 22.04 | 0.00 | 3.54 | 301.27 | 0.00 | 0.00 |

## Solution Summary

| | *Sum of Applied Forces* | | | *Sum of Reactions* | | | |
|---|---|---|---|---|---|---|---|
| *Load Comb.* | *PX* | *PY* | *PZ* | *PX* | *PY* | *PZ* | *% Error* |
| | *K* | *K* | *K* | *K* | *K* | *K* | |
| 1 | 0.00 | -22.04 | 0.00 | 0.00 | 22.04 | 0.00 | 0.000% |
| 2 | 0.00 | -26.44 | -15.89 | 0.00 | 26.44 | 15.89 | 0.000% |
| 3 | 0.00 | -19.83 | -15.89 | 0.00 | 19.83 | 15.89 | 0.000% |
| 4 | 15.89 | -26.44 | 0.00 | -15.89 | 26.44 | 0.00 | 0.000% |
| 5 | 15.89 | -19.83 | 0.00 | -15.89 | 19.83 | 0.00 | 0.000% |
| 6 | 0.00 | -26.44 | 15.89 | 0.00 | 26.44 | -15.89 | 0.000% |
| 7 | 0.00 | -19.83 | 15.89 | 0.00 | 19.83 | -15.89 | 0.000% |
| 8 | 0.00 | -43.51 | 0.00 | 0.00 | 43.51 | 0.00 | 0.000% |
| 9 | 0.00 | -43.51 | -4.61 | 0.00 | 43.51 | 4.61 | 0.000% |
| 10 | 4.61 | -43.51 | 0.00 | -4.61 | 43.51 | 0.00 | 0.000% |
| 11 | 0.00 | -43.51 | 4.61 | 0.00 | 43.51 | -4.61 | 0.000% |
| 12 | 0.00 | -22.04 | -3.54 | 0.00 | 22.04 | 3.54 | 0.000% |
| 13 | 3.54 | -22.04 | 0.00 | -3.54 | 22.04 | 0.00 | 0.000% |
| 14 | 0.00 | -22.04 | 3.54 | 0.00 | 22.04 | -3.54 | 0.000% |

## Non-Linear Convergence Results

| *Load Combination* | *Converged?* | *Number of Cycles* | *Displacement Tolerance* | *Force Tolerance* |
|---|---|---|---|---|
| 1 | Yes | 4 | 0.00000001 | 0.00000001 |
| 2 | Yes | 5 | 0.00000001 | 0.00001039 |

| | | | | |
|---|---|---|---|---|
| 3 | Yes | 5 | 0.00000001 | 0.00000001 |
| 4 | Yes | 5 | 0.00000001 | 0.00001039 |
| 5 | Yes | 5 | 0.00000001 | 0.00000001 |
| 6 | Yes | 5 | 0.00000001 | 0.00001039 |
| 7 | Yes | 5 | 0.00000001 | 0.00000001 |
| 8 | Yes | 4 | 0.00000001 | 0.00000001 |
| 9 | Yes | 6 | 0.00000001 | 0.00004718 |
| 10 | Yes | 6 | 0.00000001 | 0.00004718 |
| 11 | Yes | 6 | 0.00000001 | 0.00004718 |
| 12 | Yes | 4 | 0.00000001 | 0.00004483 |
| 13 | Yes | 4 | 0.00000001 | 0.00004483 |
| 14 | Yes | 4 | 0.00000001 | 0.00004483 |

## Maximum Tower Deflections - Service Wind

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|---|---|---|---|---|---|
| L1 | 119.979 - 109.979 | 15.22 | 13 | 1.18 | 0.00 |
| L2 | 109.979 - 99.9792 | 12.75 | 13 | 1.17 | 0.00 |
| L3 | 99.9792 - 79.966 | 10.35 | 13 | 1.09 | 0.00 |
| L4 | 79.966 - 68.2863 | 6.33 | 13 | 0.81 | 0.00 |
| L5 | 72.3545 - 33.6406 | 5.12 | 13 | 0.71 | 0.00 |
| L6 | 38.6931 - 0 | 1.37 | 13 | 0.33 | 0.00 |

## Critical Deflections and Radius of Curvature - Service Wind

| Elevation ft | Appurtenance | Gov. Load Comb. | Deflection in | Tilt ° | Twist ° | Radius of Curvature ft |
|---|---|---|---|---|---|---|
| 116' | 12' Low Profile | 13 | 14.23 | 1.19 | 0.00 | 44943 |
| 106' | 12' Low Profile | 13 | 11.77 | 1.15 | 0.00 | 8502 |
| 80' | (4) TMABPDB7823 | 13 | 6.34 | 0.81 | 0.00 | 3987 |
| 76' | 12' Low Profile | 13 | 5.68 | 0.76 | 0.00 | 4549 |

## Maximum Tower Deflections - Design Wind

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|---|---|---|---|---|---|
| L1 | 119.979 - 109.979 | 68.71 | 4 | 5.35 | 0.00 |
| L2 | 109.979 - 99.9792 | 57.54 | 4 | 5.31 | 0.00 |
| L3 | 99.9792 - 79.966 | 46.73 | 4 | 4.95 | 0.00 |
| L4 | 79.966 - 68.2863 | 28.59 | 4 | 3.67 | 0.00 |
| L5 | 72.3545 - 33.6406 | 23.09 | 4 | 3.23 | 0.00 |
| L6 | 38.6931 - 0 | 6.19 | 4 | 1.50 | 0.00 |

## Critical Deflections and Radius of Curvature - Design Wind

| Elevation<br>ft | Appurtenance | Gov. Load Comb. | Deflection<br>in | Tilt<br>° | Twist<br>° | Radius of Curvature<br>ft |
|---|---|---|---|---|---|---|
| 116' | 12' Low Profile | 4 | 64.25 | 5.36 | 0.00 | 10080 |
| 106' | 12' Low Profile | 4 | 53.15 | 5.20 | 0.00 | 1907 |
| 80' | (4) TMABPDB7823 | 4 | 28.62 | 3.67 | 0.00 | 888 |
| 76' | 12' Low Profile | 4 | 25.64 | 3.43 | 0.00 | 1012 |

## Base Plate Design Data

| Plate Thickness<br>in | Number of Anchor Bolts | Anchor Bolt Size<br>in | Actual / Allowable Ratio Bolt Tension<br>K | Actual / Allowable Ratio Concrete Stress<br>ksi | Actual / Allowable Ratio Plate Stress<br>ksi | Actual / Allowable Ratio Stiffener Stress<br>ksi | Controlling Condition | Critical Ratio |
|---|---|---|---|---|---|---|---|---|
| 2.76 | 8 | 2.25 | 114.94<br>223.65<br>0.51 | 1.83<br>5.18<br>0.35 | 22.90<br>45.00<br>0.51 | | Bolt T | 0.51 ✔ |

## Compression Checks

## Pole Design Data

| Section No. | Elevation<br>ft | Size | L<br>ft | $L_u$<br>ft | Kl/r | A<br>$in^2$ | $P_u$<br>K | $\phi P_n$<br>K | Ratio $\frac{P_u}{\phi P_n}$ |
|---|---|---|---|---|---|---|---|---|---|
| L1 | 119.979 - 109.979 (1) | TP17.72x17.72x0.16 | 10' | 119'11-3/4" | 231.0 | 8.78 | -5.70 | 37.17 | 0.153 |
| L2 | 109.979 - 99.9792 (2) | TP17.72x17.72x0.16 | 10' | 119'11-3/4" | 231.0 | 8.78 | -5.66 | 37.17 | 0.152 |
| L3 | 99.9792 - 79.966 (3) | TP23.62x17.72x0.2 | 20'1/8" | 119'11-3/4" | 173.1 | 14.64 | -8.35 | 110.31 | 0.076 |
| L4 | 79.966 - 68.2863 (4) | TP26.76x23.62x0.24 | 11'8-5/32" | 119'11-3/4" | 159.5 | 19.07 | -11.19 | 169.41 | 0.066 |
| L5 | 68.2863 - 33.6406 (5) | TP35.6x25.2x0.28 | 38'8-17/32" | 119'11-3/4" | 119.4 | 29.71 | -17.36 | 470.91 | 0.037 |
| L6 | 33.6406 - 0 (6) | TP44.09x33.69x0.31 | 38'8-9/32" | 119'11-3/4" | 92.6 | 43.77 | -26.44 | 1152.11 | 0.023 |

## Pole Bending Design Data

| Section No. | Elevation<br>ft | Size | $M_{ux}$<br>kip-ft | $\phi M_{nx}$<br>kip-ft | Ratio $\frac{M_{ux}}{\phi M_{nx}}$ | $M_{uy}$<br>kip-ft | $\phi M_{ny}$<br>kip-ft | Ratio $\frac{M_{uy}}{\phi M_{ny}}$ |
|---|---|---|---|---|---|---|---|---|
| L1 | 119.979 - | TP17.72x17.72x0.16 | 5.77 | 228.44 | 0.025 | 0.00 | 228.44 | 0.000 |

| Section No. | Elevation ft | Size | $M_{ux}$ kip-ft | $\phi M_{nx}$ kip-ft | Ratio $\frac{M_{ux}}{\phi M_{nx}}$ | $M_{uy}$ kip-ft | $\phi M_{ny}$ kip-ft | Ratio $\frac{M_{uy}}{\phi M_{ny}}$ |
|---|---|---|---|---|---|---|---|---|
| L2 | 109.979 (1) 109.979 - 99.9792 (2) | TP17.72x17.72x0.16 | 77.68 | 228.44 | 0.340 | 0.00 | 228.44 | 0.000 |
| L3 | 99.9792 - 79.966 (3) | TP23.62x17.72x0.2 | 239.32 | 498.65 | 0.480 | 0.00 | 498.65 | 0.000 |
| L4 | 79.966 - 68.2863 (4) | TP26.76x23.62x0.24 | 330.00 | 725.77 | 0.455 | 0.00 | 725.77 | 0.000 |
| L5 | 68.2863 - 33.6406 (5) | TP35.6x25.2x0.28 | 778.27 | 1451.94 | 0.536 | 0.00 | 1451.94 | 0.000 |
| L6 | 33.6406 - 0 (6) | TP44.09x33.69x0.31 | 1358.39 | 2643.17 | 0.514 | 0.00 | 2643.17 | 0.000 |

## Pole Shear Design Data

| Section No. | Elevation ft | Size | Actual $V_u$ K | $\phi V_n$ K | Ratio $\frac{V_u}{\phi V_n}$ | Actual $T_u$ kip-ft | $\phi T_n$ kip-ft | Ratio $\frac{T_u}{\phi T_n}$ |
|---|---|---|---|---|---|---|---|---|
| L1 | 119.979 - 109.979 (1) | TP17.72x17.72x0.16 | 0.99 | 316.68 | 0.003 | 0.00 | 457.44 | 0.000 |
| L2 | 109.979 - 99.9792 (2) | TP17.72x17.72x0.16 | 7.68 | 316.68 | 0.024 | 0.00 | 457.44 | 0.000 |
| L3 | 99.9792 - 79.966 (3) | TP23.62x17.72x0.2 | 11.36 | 517.88 | 0.022 | 0.00 | 998.52 | 0.000 |
| L4 | 79.966 - 68.2863 (4) | TP26.76x23.62x0.24 | 12.52 | 694.85 | 0.018 | 0.00 | 1453.33 | 0.000 |
| L5 | 68.2863 - 33.6406 (5) | TP35.6x25.2x0.28 | 14.09 | 1039.58 | 0.014 | 0.00 | 2907.43 | 0.000 |
| L6 | 33.6406 - 0 (6) | TP44.09x33.69x0.31 | 15.90 | 1467.05 | 0.011 | 0.00 | 5292.79 | 0.000 |

## Pole Interaction Design Data

| Section No. | Elevation ft | Ratio $\frac{P_u}{\phi P_n}$ | Ratio $\frac{M_{ux}}{\phi M_{nx}}$ | Ratio $\frac{M_{uy}}{\phi M_{ny}}$ | Ratio $\frac{V_u}{\phi V_n}$ | Ratio $\frac{T_u}{\phi T_n}$ | Comb. Stress Ratio | Allow. Stress Ratio | Criteria |
|---|---|---|---|---|---|---|---|---|---|
| L1 | 119.979 - 109.979 (1) | 0.153 | 0.025 | 0.000 | 0.003 | 0.000 | 0.179 ✔ | 1.000 | 4.8.2 ✔ |
| L2 | 109.979 - 99.9792 (2) | 0.152 | 0.340 | 0.000 | 0.024 | 0.000 | 0.493 ✔ | 1.000 | 4.8.2 ✔ |
| L3 | 99.9792 - 79.966 (3) | 0.076 | 0.480 | 0.000 | 0.022 | 0.000 | 0.556 ✔ | 1.000 | 4.8.2 ✔ |
| L4 | 79.966 - 68.2863 (4) | 0.066 | 0.455 | 0.000 | 0.018 | 0.000 | 0.521 ✔ | 1.000 | 4.8.2 ✔ |
| L5 | 68.2863 - 33.6406 (5) | 0.037 | 0.536 | 0.000 | 0.014 | 0.000 | 0.573 ✔ | 1.000 | 4.8.2 ✔ |
| L6 | 33.6406 - 0 (6) | 0.023 | 0.514 | 0.000 | 0.011 | 0.000 | 0.537 ✔ | 1.000 | 4.8.2 ✔ |

# Section Capacity Table

| Section No. | Elevation ft | Component Type | Size | Critical Element | P K | $\phi P_{allow}$ K | % Capacity | Pass Fail |
|---|---|---|---|---|---|---|---|---|
| L1 | 119.979 - 109.979 | Pole | TP17.72x17.72x0.16 | 1 | -5.70 | 37.17 | 17.9 | Pass |
| L2 | 109.979 - 99.9792 | Pole | TP17.72x17.72x0.16 | 2 | -5.66 | 37.17 | 49.3 | Pass |
| L3 | 99.9792 - 79.966 | Pole | TP23.62x17.72x0.2 | 3 | -8.35 | 110.31 | 55.6 | Pass |
| L4 | 79.966 - 68.2863 | Pole | TP26.76x23.62x0.24 | 4 | -11.19 | 169.41 | 52.1 | Pass |
| L5 | 68.2863 - 33.6406 | Pole | TP35.6x25.2x0.28 | 5 | -17.36 | 470.91 | 57.3 | Pass |
| L6 | 33.6406 - 0 | Pole | TP44.09x33.69x0.31 | 6 | -26.44 | 1152.11 | 53.7 | Pass |
| | | | | | | | Summary | |
| | | | | | | Pole (L5) | 57.3 | Pass |
| | | | | | | Base Plate | 51.4 | Pass |
| | | | | | | **RATING =** | **57.3** | **Pass** |



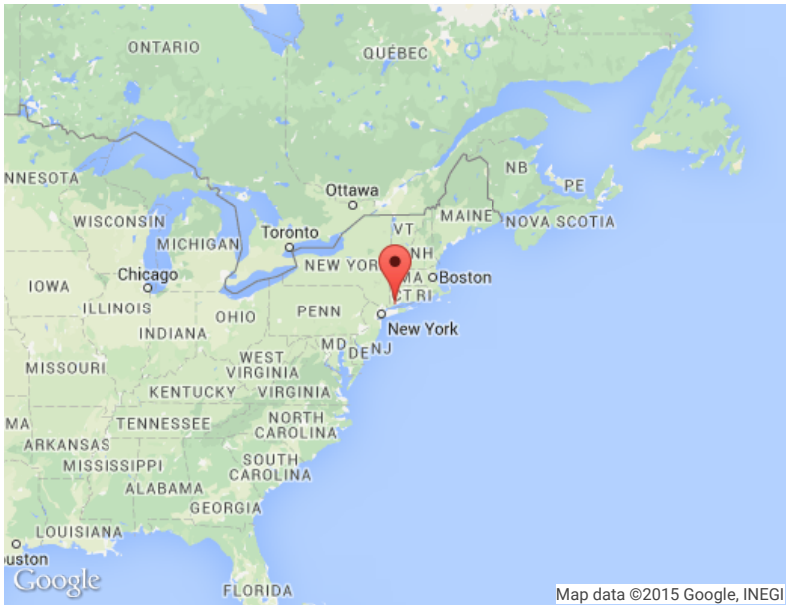

# Search Results

**Latitude:** 41.1978
**Longitude:** -73.1908

**ASCE 7-10 Wind Speeds (3-sec peak gust MPH*):**

**Risk Category I:** 112
**Risk Category II:** 123
**Risk Category III-IV:** 133
**MRI** 10 Year:** 76
**MRI** 25 Year:** 86
**MRI** 50 Year:** 93
**MRI** 100 Year:** 99

**ASCE 7-05:** 111
**ASCE 7-93:** 81




*MPH(Miles per hour)
**MRI Mean Recurrence Interval (years)

Users should consult with local building officials to determine if there are community-specific wind speed requirements that govern.

Download a PDF of your results

Print your results

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# Attachment 2:
# Collocation Application

3395 Northeast Expy, Ste 110 | Atlanta, Georgia 30341 | TEL 678 990 8700 | FAX 678 990 8701
Atlanta | Chattanooga | www.bennett-pless.com

BlueSky Tower Partners LLC

## Collocation Application

Installation Type: Anchor ☑ Collocation ☐ Add to Existing ☐

**BlueSky Towers, LLC Info**

Contact: Kesha DeJesus
Email collos@blueskytower.com
Office: 508-530-3580
Fax: 508-530-3564

APPROVED
By Kesha DeJesus at 3:52 pm, Jun 04, 2015

Site Number: CT-5020
Site Name: Evergree Street
Submittal Date 5/11/2015
Revision Date(s) 6/4/2015

PLEASE SUBMIT THIS APPLICATION VIA E-MAIL

### Applicant Information

Applicant Name: New Cingular Wireless PCS, LLC
Applicant Site Name: Bridgeport HiHo Replacement
Applicant Site Number: CT 5991 / FA#10107972
Proposed ON AIR Date: 9/15/2015
Applicant Legal Entity: New Cingular Wireless PCS, LLC
Notice Address for Site License: Network RE Admin. Re: Cell Site# 5100; Bridgeport-HiHo Relo FA# 10107972 575 Morosgo Dr., Atlanta, GA

Primary Contact/Agent Name: David Vivian
Contact/Agent Company Name: SAI Communications
Contact/Agent Number: 413-218-5042
Contact/Agent Fax: N/A
Contact Email: david.vivian@sai-comm.com

### Applicant Contact Information

| | | Email: | Number: |
|---|---|---|---|
| Leasing Contact Name: | David Vivian | david.vivian@sai-comm.com | 413-218-5042 |
| RF Contact Name: | Radu Alecsandru | ra9161@att.com | 860-258-6395 |
| Construction Contact Name: | Bryon Morawski | bryon.morawski@sai-comm.com | 860-977-3565 |
| Emergency Contact Name: | Network Operations | N/A | 800-638-2822 |
| Account Payable Contact Name: | Dierdre Day | dd3537@att.com | 860-513-7791 |

### Tower Information

Latitude: 41.197838 N
Longitude: 73.190772 W
AMSL: 25 FT
Site Address: 220 Evergreen St., Bridgeport, CT

Structure Type: Ballast foundation with Monopole
Structure Height: 120

### EQUIPMENT SPECIFICATIONS

**Summary of Work to be Completed:** Attach 6 panel antennas & 12 TMA's to proposed temp tower & equip. shelter at base

| Sector | SECTOR 1 | SECTOR 2 | SECTOR 3 | SECTOR 4 |
|---|---|---|---|---|
| Equipment Type | Panel | Panel | Panel | |
| Installation Status | Proposed | Proposed | Proposed | |
| Desired RAD Center (Ft AGL) | 116 | 116 | 116 | |
| Tower Mount Mounting Height | 116 | 116 | 116 | |
| Mount Type(Attach Specs) | Low Profile Platform | Low Profile Platform | Low Profile Platform | |
| Equipment Manufacturer | Communication Components Inc. | Communication Components Inc. | Communication Components Inc. | |
| Equipment Model# (Attached Specs) | OPA-65R-LCUU-H4 | OPA-65R-LCUU-H4 | OPA-65R-LCUU-H4 | |
| Equipment Dimensions (WxHxD)(Feet Or Inches) | 48"x14.4"x7.3" | 48"x14.4"x7.3" | 48"x14.4"x7.3" | |
| Equipment Weight (Per Item, In Lbs.) | 57 | 57 | 57 | |
| Equipment Quantity | 2 | 2 | 2 | |
| Orientation/Azimuth (Degrees) | 20 | 150 | 270 | |
| Transmit Frequency (Mhz) | 716-28, 734-46, 880-93, 1930-40, 1965-75 | same | same | |
| Receive Frequency (Mhz) | 704-716, 835-848, 1850-60, 1885-95 | same | same | |
| Antenna Gain (Db) | TBD | TBD | TBD | |
| Total# Of Lines For Equipment In Column | 8 | 8 | 8 | |
| Line Type | Coax | Coax | Coax | |
| Diameter Of Coax Cables (In) | 1 5/8" | 1 5/8" | 1 5/8" | |
| Removing Equipment (If Applicable) | | | | |
| Transmitter/Receiver Type | Transmitter | Transmitter | | |
| Qty Of Transmitters/Receivers | 4 | 2 | | |
| Manufacturer | Ericsson | Ericsson | | |
| Type & Model | RBS 3106 | RBS 6601 | | |
| Type of Technology | UMTS | LTE | | |
| TX Power Output | | | | |
| ERP (Watts) | 1964 (880) / 2711 (1900) | 1313 (710) | | |
| Electric Service Required (Amps/Volts) | 200 amps | 200 amps | 200 amps | |

**Will RRUs be located behind antennas:** No

### GROUND SPACE REQUIREMENTS

Exisiting Lease Area: DIMS: L(ft) ____ W(ft) ____ OR ____ Square footage
New/Add'l Lease Area being requested: DIMS: L(ft) 20 W(ft) 12 OR ____ Square footage
New/Add'l Rooftop Lease Area being requested (if space is needed on both ground and rooftop): DIMS: L(ft) ____ W(ft) ____ OR ____ Square footage
Shelter: DIMS: L(ft) ____ W(ft) ____ H(ft) ____
Concrete Pad for Shelter: DIMS: L(ft) ____ W(ft) ____
Cabinets: DIMS: L(ft) ____ W(ft) ____ H(ft) ____
Concrete Pad for Cabinets: DIMS: L(ft) ____ W(ft) ____
Cabinet/Shelter Manufacturer/Model: ____

### POWER REQUIREMENTS

Power Provided by: Power Company
Electrical Service Provider: CL&P
Electrical Service Telephone Number: ____
Average Monthly Power Consumption: ____ KWH units
Is a multi-tenant meter rack present: No
How many, if any, empty meter banks are present: ____
Telco/Interconnect Requirements: POTS ☐ T1 ☐ MICROWAVE ☐ FIBER OPTICS ☑
Fiber Provider: Utility company

### BACK-UP POWER INFORMATION

Generator Required: No
Generation Location: ____
Generator Ground Space Requirement: DIMS: L(ft) ____ W(ft) ____ H(ft) ____
Fuel Type: ____
BST Generator: ____
Generator Owner: ____
Shared Generator Peak Usage: ____ KW
Generator Capacity: ____ KW
Generator Make: ____
Generator Model: ____
Fuel Tank Location: ____
Fuel Tank Size: DIMS: L(ft) ____ W(ft) ____
Fuel Tank Size: ____ Gallons
Pad for Fuel Tank (if required) DIMS: L(ft) ____ W(ft) ____
Comments: ____

Attach manufacturer's equipment specifications for antennas, mounts, cabinets, shelters if available

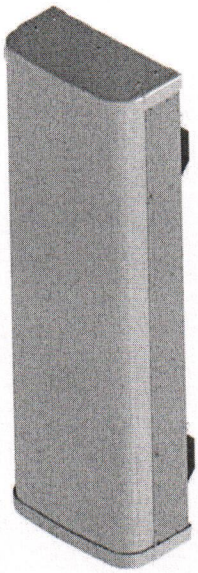
Final Configuration after work is completed: Six (6) CCI panels; 12 Ericsson TMA's with 24 1 5/8" coax. 12' x 20' equip. shelter

# Attachment 3:
# Antenna Model Specifications

3395 Northeast Expy, Ste 110 | Atlanta, Georgia 30341 | TEL 678 990 8700 | FAX 678 990 8701
Atlanta | Chattanooga | www.bennett-pless.com

# HexPort Multi-Band Antenna

## Model HPA-65R-BUU-H4



Hexport Multi-Band Antenna Array

The CCI Hexport Multi-Band Antenna Array is an industry first 6-port antenna with full WCS Band Coverage. With four high band ports and two low band ports, our hexport antenna is ready for 4X4 high band MIMO.

Modern networks demand high performance, consequently CCI has incorporated several new and innovative design techniques to provide an antenna with excellent side-lobe performance, sharp elevation beams, and high front to back ratio.

Multiple networks can now be connected to a single antenna, reducing tower loading and leasing expense, while decreasing deployment time and installation cost.

Full band capability for 700 MHz , Cellular 850 MHz, PCS 1900 MHz, AWS 1710/2170 MHz and WCS 2300 MHz coverage in a single enclosure.

## Benefits

- **Includes WCS Band**
- **Reduces tower loading**
- **Frees up space for tower mounted E-nodes**
- **Single radome with six ports**
- **All Band design simplifies radio assignments**
- **Sharp elevation beam eases network planning**

## Features

- High Band Ports include WCS Band
- Four High Band ports with two Low Band ports in one antenna
- Sharp elevation beam
- Excellent elevation side-lobe performance
- Excellent MIMO performance due to array spacing
- Excellent PIM Performance
- A multi-network solution in one radome

## Applications

- 4x4 MIMO on High Band and 2x2 MIMO on Low Band
- Adding additional capacity without adding additional antennas
- Adding WCS Band without increasing antenna count

ISO 9001:2008
Quality Management Systems
Système de Qualité
www.ca.sgs.com

# HexPort Multi-Band Antenna

## Model HPA-65R-BUU-H4

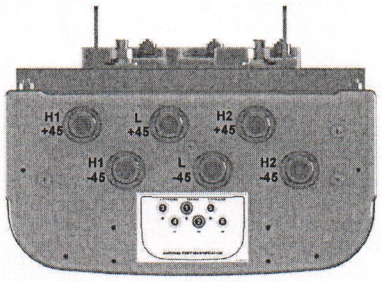
### HPA-65R Multi-Band Antenna

### Electrical Specifications

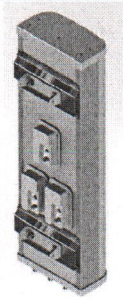
| Frequency Range | 2 X Low Band Ports which cover the full range from 698-894 MHz | | 4 X High Band Ports which cover the full range from 1710-2360 MHz | | | |
|---|---|---|---|---|---|---|
| | 698-806 MHz | 824-894 MHz | 1850-1990 MHz | 1710-1755/2110-2170 MHz | 2305-2360 MHz | |
| Gain | 13.4 dBi | 14.1 dBi | 15.6 dBi | 15.0 dBi | 16.2 dBi | 16.5 dBi |
| Azimuth Beamwidth (-3dB) | 65° | 62° | 62° | 65° | 61° | 58° |
| Elevation Beamwidth (-3dB) | 19.8° | 16.0° | 8.9° | 10.0° | 7.8° | 6.9° |
| Electrical Downtilt | 0° to 10° | 0° to 10° | 0° to 8° | 0° to 8° | 0° to 8° | 0° to 8° |
| Elevation Sidelobes (1st Upper) | < -20 dB | < -20 dB | < -19 dB | < -18 dB | < -18 dB | < -17 dB |
| Front-to-Back Ratio @180° | > 30 dB | > 30 dB | > 30 dB | > 30 dB | > 30 dB | > 30 dB |
| Front-to-Back Ratio over ± 20° | > 30 dB | > 27 dB | > 30 dB | > 30 dB | > 30 dB | > 30 dB |
| Cross-Polar Discrimination (at Peak) | > 23 dB | > 20 dB | > 25 dB | > 25 dB | > 25 dB | > 25 dB |
| Cross-Polar Discrimination (at ± 60°) | > 15 dB | > 13 dB | > 17 dB | > 17 dB | > 17 dB | > 17 dB |
| Cross-Polar Port-to-Port Isolation | > 25 dB | > 25 dB | > 25 dB | > 25 dB | > 25 dB | > 25 dB |
| VSWR | < 1.5:1 | < 1.5:1 | < 1.5:1 | < 1.5:1 | < 1.5:1 | < 1.5:1 |
| Passive Intermodulation (2x20W) | ≤ -150dBc | ≤ -150dBc | ≤ -150dBc | ≤ -150dBc | ≤ -150dBc | ≤ -150dBc |
| Input Power | 500 Watts CW | 500 Watts CW | 300 Watts CW | 300 Watts CW | 300 Watts CW | 300 Watts CW |
| Polarization | Dual Pol 45° | Dual Pol 45° | Dual Pol 45° | Dual Pol 45° | Dual Pol 45° | Dual Pol 45° |
| Input Impedance | 50 Ohms | 50 Ohms | 50 Ohms | 50 Ohms | 50 Ohms | 50 Ohms |
| Lightning Protection | DC Ground | DC Ground | DC Ground | DC Ground | DC Ground | DC Ground |

### Mechanical Specifications

| | |
|---|---|
| Dimensions (LxWxD) | 48.0 x 14.8 x 7.4 inches (1218 x 376 x 189 mm) |
| Survival Wind Speed | > 150 mph |
| Front Wind Load | 156 lbs (692 N) @ 100 mph (161 kph) |
| Side Wind Load | 87 lbs (388 N) @ 100 mph (161 kph) |
| Equivalent Flat Plate Area | 6.1 $ft^2$ (0.60 $m^2$) |
| Weight (without Mounting) | 34 lbs (15.5 kg) |
| RET System Weight | 5.0 lbs (2.3 kg) |
| Connector | 6; 7-16 DIN female long neck |
| Mounting Pole | 2-5 inches (5-12 cm) |

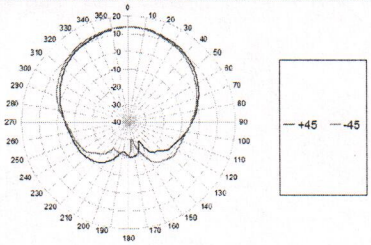



Bottom View

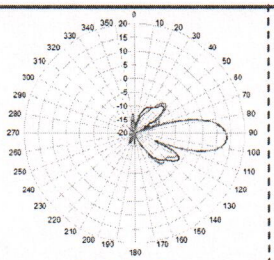


Rear View

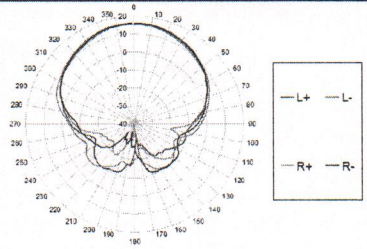
### Antenna Patterns*



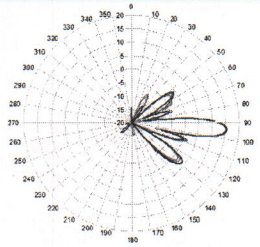

824 MHz Azimuth



Elevation 5°




1920 MHz Azimuth



Elevation 4°

*Typical antenna patterns. For detail information on antenna pattern, please contact us at info@cciproducts.com. All specifications are subject to change without notice.

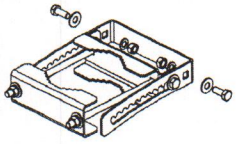
# HexPort Multi-Band Antenna

## Model HPA-65R-BUU-H4

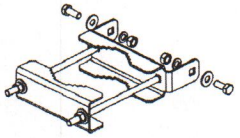
### Ordering Information:

| | |
|---|---|
| HPA-65R-BUU-H4 | 4 Foot Hexport Antenna with 65° Azimuth Beamwidth and factory installed RET Actuators (3) |
| HPA-65R-BUU-H4-K | Complete Kit with Antenna, Factory Installed Actuators (3) and M01 Mounting Bracket |
| BSA-RET200 | RET Actuator |
| BSA-M01 | Mounting Bracket (Top & Bottom) with 0° through 10° Mechanical tilt Adjustment |

M01 Top Mounting Bracket



M01 Bottom Mounting Bracket



### RET [Remote Electrical Tilt] System

#### General Specification

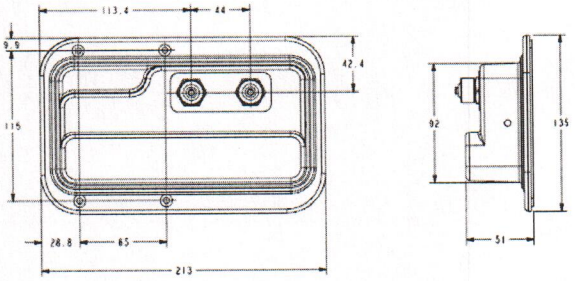
| | |
|---|---|
| Part Number | BSA-RET200 |
| Protocols | AISG 2.0 |
| Adjustment Cycles | >10,000 cycles |
| Tilt Accuracy | ±0.1° |
| Temperature Range | -40°C to +70°C |

#### Electrical Specification

| | |
|---|---|
| Interface Signal | Data \| dc |
| Input Voltage Range | 10-30 Vdc, Specifications at +24 VDC |
| Current consumption during tilting | 120mA at Vin = 24V |
| Current consumption idle | 55mA at Vin=24V |
| Hardware Interface | AISG - RS 485 A/B |
| Input Connector | 1x8-pin Daisy Chain In Male |
| Output Connector | 1x8-pin Daisy Chain Out Female |

### Mechanical Specification and Dimensions

| | |
|---|---|
| Housing Material | ASA / ABS / Aluminum |
| Dimensions (H x W x D) | 8 x 5 x 2 inches (213 x 135 x 51 mm) |
| Weight | 1.5 lbs (0.68 kg) |




### Standards Compliance

| | |
|---|---|
| Safety | EN 60950-1, UL 60950-1 |
| Emission | EN 55022 |
| Immunity | EN 55024 |
| Environmental | IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-5, IEC 60068-2-6, IEC 60068-2-11, IEC 60068-2-14, IEC 60068-2-18, IEC 60068-2-27, IEC 60068-2-29, IEC 60068-2-30, IEC 60068-2-52, IEC 60068-2-64, GR-63-CORE 4.3.1, EN60529 IP24 |

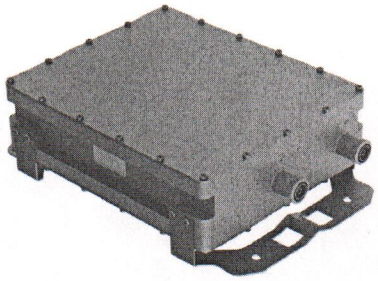
### Regulatory Certification

AISG, FCC Part 15 Class B, CE, CSA US

# Triple Band (AWS/PCS/WCS) Twin TMA with 700/850 Bypass

Tel: 201-342-3338 Fax: 201-342-3339 www.cciproducts.com

## General Information



CCI's Triple Band TMA with 700/850 bypass contains two triple band TMA's in a single housing. The TMA's are fully duplexed and share a single LNA for all three bands. The bypass path provides excellent isolation to the TMA path. Separate antenna ports for the bypass path and TMA path are combined onto a single BTS port. Low noise high linearity amplifiers improve the uplink sensitivity and the receive performance of base stations. The TMA is fully compliant with the latest AISG 2.0 specification. The TMA supports CDMA, EDGE/GSM, UMTS and LTE BTS equipment. The TMA is ideally suited for sites upgraded to quad-band using the existing infrastructure. The TMA allows the sharing of feeder lines for both AWS and PCS bands thus reducing tower loading, leasing, and installation costs. The input and output connectors are located inline for ease of installation in space constrained areas such as uni-pole structures and stealth antennas.

**ModelTMABPDB7823VG12A**

### Contents:



### Features:

- Small lightweight unit
- Triple Band (AWS/PCS/WCS) Twin TMA with 700/850 Bypass
- Independent Gain Control
- High linearity
- Lightning protected
- Fail-safe bypass mode
- High reliability

## Technical Description

The TMA system is an outdoor quad band tower mount unit which provides low noise amplification of PCS, AWS, and WCS uplink signals combined with 700/850 bypassed signals from separate antenna ports to a common BTS port. The tower mount unit consists of 14 band-pass filters, two redundant low noise amplifiers (LNA) with bypass failure circuitry, two bias tees, AISG control circuitry, and lightning protection circuitry all housed in an IP68 enclosure suited to long life masthead mounting. The AWS, PCS and WCS paths are dual duplexed to separate the low power uplink signals from the high power down link signals at the BTS and antenna ports. The AWS, PCS, and WCS uplink signals are amplified with a dedicated ultra-low noise PHEMT LNA with adjustable gain control. The unit provides protection against lightning strikes via a multistage surge protection circuit. DC power and AISG 2.0 control is provided via the BTS feeder cable. The unit operates in current window alarm (CWA) mode until a valid AISG message is detected, at which point it automatically switches to AISG mode. Once in AISG mode, the unit can only switch back to CWA mode with the receipt of an AISG CCI vendor defined command. In CWA mode, the unit requires 12VDC at each BTS port and follows typical current window convention. In AISG mode, the unit will accept 10-30 VDC from either BTS port. In AISG mode, the unit does not require an AISG 2.0 compatible site control unit (SCU) and may also be powered by a standard power distribution unit (PDU).

An optional Site Control Unit (SCU) is available to power up to 32 AISG modules per sector and to provide the monitoring and alarm functions for the system. The SCU is housed in a single (1U) 1.75" x 19" rack and contains dual redundant power supplies capable of being "hot swapped" that provide a regulated DC supply voltage on the RF coax for the tower mount amplifiers.

# CCI Triple Band (AWS/PCS/WCS) Twin TMA with 700/850 Bypass Typical Specifications

| Description | Typical Specifications | | | |
|---|---|---|---|---|
| **Electrical Specifications** | **700/850** | **PCS** | **AWS** | **WCS** |
| Receive Frequency Range | - | 1850 – 1910 MHz | 1710 – 1755 MHz | 2305 – 2320 MHz |
| Transmit Frequency Range | - | 1930 – 1990 MHz | 2110 – 2155 MHz | 2345 – 2360 MHz |
| Bypass Frequency Range | 698 - 894 MHz | - | - | - |
| Amplifier Gain | - | 6 to 12 dB Adjustable in 0.25 dB steps via AISG | 6 to 12 dB Adjustable in 0.25 dB steps via AISG | 6 to 12 dB Adjustable in 0.25 dB steps via AISG |
| Gain Variation | - | ±1.0 dB | ±1.0 dB | ±1.0 dB |
| System Noise Figure | - | 1.4 dB Typ. | 1.3 dB Typ. | 1.3 dB Typ. |
| Input Third Order Intercept Point | - | +12 dBm Min at Max. Gain | | |
| Input / Output Return Loss | 18 dB Min all ports, 12 dB Min. Bypass Mode | | | |
| Insertion Loss | 0.25 dB Typ. | | | |
| Transmit Passband | - | 0.5 dB Typical | 0.4 dB Typical | 0.4 dB Typical |
| Bypass Mode, (PCS/AWS/WCS) Rx Passband | - | 2.5 dB Typ. | 2.5 dB Typ. | 2.5 dB Typ. |
| Filter Characteristics | | | | |
| Continuous Average Power | 200 Watts max | | | |
| Peak Envelope Power | 2 KW max | | | |
| Intermodulation Performance | | | | |
| IMD at ANT port in Rx Band | < -112 dBm (-155 dBc) [2 tones at +43 dBm] | | | |
| Operating Voltage | +10V to +30V DC provided via coax or AISG | | | |
| Power Consumption | <2.0 Watts | | | |
| **Mechanical Specifications** | | | | |
| Connectors | DIN 7-16 female x 2; AISG x 1 | | | |
| Dimensions (Body Only) | 10.63" (H) x 11.024" (W) x 3.72" (D); (290.60 (H) x 280.00 (W) x 95.0 (D) mm) | | | |
| Dimensions (with Conn. & Bracket) | 14.25" (H) x 11.024" (W) x 4.11" (D); (362.00 (H) x 280.00 (W) x 104.40 (D) mm) | | | |
| Weight | 23.1 Lbs. (10.5 Kg) - with Brackets; 22 Lbs. (10 Kg) - without brackets | | | |
| Mounting | Pole/Wall Mounting Bracket | | | |
| **Environmental Specifications** | | | | |
| Operating Temperature | -40° C to +65°C | | | |
| Lightning Protection | 8/20us, ±2KA max, 10 strikes each, IEC61000-4-5 | | | |
| Enclosure | IP68 | | | |
| MTBF | >500,000 hours | | | |

All specifications are subject to change. The latest specifications are available at www.cciproducts.com

EXTENDING WIRELESS PERFORMANCE

89 Leuning Street
South Hackensack, NJ 07606
Tel: 201-342-3338
Fax: 201-342-3339
WWW.CCIPRODUCTS.COM

## Ordering Information:

- **Model TMABPD7823VG12A (Variable Gain AISG 2.0 Compatible Unit)**

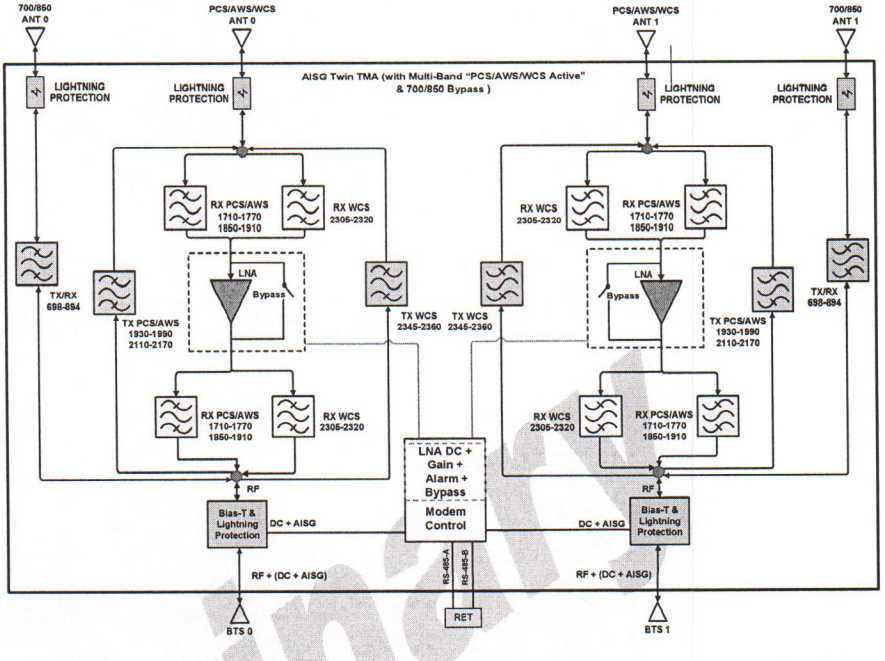
## Options:

- Pole Mount Kit

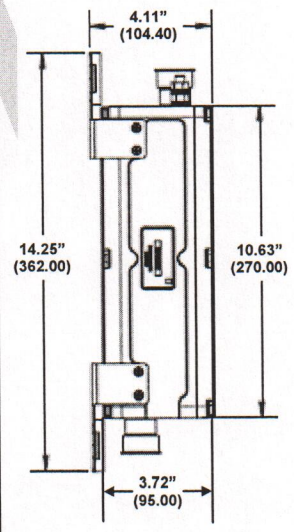
## Accessories:

- AISG 2.0 Site Controller (SCU-AISG2-3)
- AISG Cable Kit (RET-CBK)
- AISG 2.0 Bias-T
  1. Model BT-0821-DMDF-AG (DIN-Male RF Port, DIN-Female RF+DC+AISG Port)
  2. Model BT-0821-DFDM-AG (DIN-Female RF Port, DIN-Male RF+DC+AISG Port)
  3. Model BT-0821-DFDF-AG (DIN-Female RF Port, DIN-Female RF+DC+AISG Port)

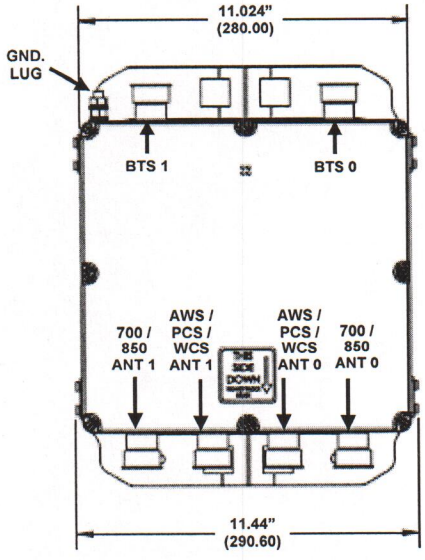
## Triple Band (AWS/PCS/WCS) Twin TMA with 700/850 Bypass Block Diagram

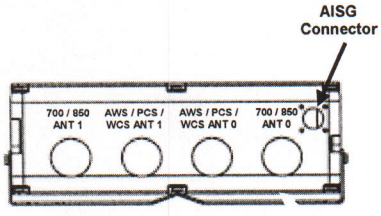



## Triple Band (AWS/PCS/WCS) Twin TMA with 700/850 Bypass Outline Drawing




**Dimensions in Inches (mm)**



# ATTACHMENT D

SARATOGA ASSOCIATES

Landscape Architects, Architects,
Engineers, and Planners, P.C.

July 1, 2015

David Akerblom
Director, Project Development
IVI-Telecom Services, A CBRE Company
55 West Red Oak Lane
White Plains, NY 10604

Re: Visibility Study
CT-5020
Temporary Tower Installation
220 Evergreen Street, Bridgeport CT 06606

Dear Mr. Akerblom:

Blue Sky Towers, LLC is proposing to construct a temporary telecommunications tower at 220 Evergreen Street, Bridgeport CT. To address issues of potential visual impact, Saratoga Associates, Landscape Architects, Architects, Engineers, and Planners, P.C. ("Saratoga") was retained to provide viewshed analysis and photographic simulations to identify and illustrate Project visibility.

The Project involves the construction of a 128 foot tall steel monopole tower with one antenna array at approximately 124 feet above grade. The monopole will be approximately 44" in diameter at the base tapering to approximately 18" in diameter at the top. The triangular antenna array will include two (2) multi-band antennas on each side (6 total) measuring approximately 15" x 8' x 48"each. The proposed tower will be constructed within an approximately 60ft x 60 foot compound located at the northwest side of the property adjacent to Evergreen Street. Ancillary equipment includes one (1) 12' x 20' x 10'-9" temporary equipment shelter. The compound will be enclosed within an eight foot-tall chain link fence. One 14" diameter Ash tree will be removed from the site. The project Site Plan is provided as Attachment A.

Viewshed Analysis - Viewshed mapping was prepared to identify the geographic area within which the proposed tower would be theoretically visible. Viewshed mapping was conducted to a radius of ½ mile from the project site. The ½ mile limit is deemed sufficient for this analysis due to the presence of dense industrial, commercial and residential structures in this urban area which effectively screen Project visibility from more distant locations.

Viewshed mapping includes the potential screening effect of existing topography, as well as existing vegetation and structures. Viewshed Maps included in Appendix A.

Global Mapper 13.0 GIS software was used to generate viewshed areas. Topographic data was derived from the National Elevation Dataset (1/3 arc second)[1]. Using Global Mapper's viewshed analysis tool, the proposed tower location and height were input and a conservative offset of six feet was applied to account for the observer's eye level. The resulting viewshed identifies grid cells with a direct line-of-sight to the tower high point.

Existing forest vegetation and built structures were digitized from 1-meter resolution digital ortho-photographs (2011) acquired from the USGS[2]. The screening effect of vegetation was incorporated by adding 50 feet to digitized areas that are completely forested. Existing built structures were assumed to be 24 feet tall. Select structures that are obviously taller than 24 feet (e.g., Hi-Ho silos) were assessed at an estimated taller height.

Field Photography – Using the viewshed map as a guide, a visual analyst drove public streets and photographed existing views from multiple locations indicated by viewshed analysis to be potentially affected by the proposed project. Photographs were taken using a Nikon D3100 digital single lens reflex ("DSLR") 14.2-mega pixel camera. The precise coordinates of each photo location were recorded in the field using a handheld global positioning system (GPS) unit. A photo log is provided as Attachment B.

Photo Simulations – A photo simulation of the proposed Project was prepared from seven (7) locations to illustrate the visual characteristics of the Project from affected areas.

Photo simulations were developed by superimposing a rendering of a three-dimensional computer model of the Project into the base photograph taken from each simulated location. The three-

[1] http://viewer.nationalmap.gov/viewer/
[2] http://viewer.nationalmap.gov/viewer/

dimensional computer model was developed using *3D Studio Max Design 2015*® software (3D Studio Max).

Simulated perspectives (3D model camera views) were matched to the corresponding base photograph for each simulated view by replicating the precise coordinates of the field camera position (as recorded by GPS) and the focal length of the camera lens used (e.g. 50mm). The camera's elevation (Z) value was derived from Digital Elevation Model (DEM) data plus the camera height above ground level. The camera's target position was set to match the bearing of the corresponding existing condition photograph as recorded in the field. With the existing conditions photograph displayed as a "viewport background," and the viewport properties set to match the photograph pixel dimensions, minor camera adjustments were made (horizontal and vertical positioning, and camera roll) to align the horizon in the background photograph with the corresponding features of the 3D model. To verify the camera alignment, the location and elevation of the study balloon was built into the 3D model and matched to the red balloon visible in the base photograph.

Once the camera alignment was established, the 3D Model of the proposed Project was merged into the model space. The 3D model was constructed in sufficient detail to accurately convey the proposed Project design. A daylight system was created to match the date and time of the photograph. The rendered view was then opened using *Adobe Photoshop CS2* software for post-production editing (i.e., airbrush out portion of Project that fall below foreground vegetation). Photo simulations are provided as Attachment B.

Summary of Project Visibility – The proposed Project will be visible along road axis and in between local buildings and street trees generally within ¼ mile of the project site. Although select areas of visibility will exist beyond this distance visual impact will be limited to brief glimpses between and/or above intervening structures. The proposed Project will also be visible to southbound motorists from a portion of State Route 8/25 between Chopsey Hill Road and Lindley Avenue. Opportunity for views from the northbound lanes is brief due to the direction of travel.

When visible the proposed project will be seen within the context of the existing industrial landscape. Existing manufacturing, warehousing, and commercial buildings dominate all views. Urban conditions including roadways, heavy traffic, overhead utility infrastructure, street lighting, road and commercial signage and other elements of the city landscape are common visual features. Within this setting the proposed telecommunications tower is visually consistent and does not create an adverse visual impact.

SARATOGA ASSOCIATES



Potential Impact on Local Schools – Six (6) schools are located within a one-mile radius of the project site. These include:

- Central High School 1.0 mile
- Read School 0.52 miles
- Madison School 1.0 mile
- Luis Munoz Marin School 0.91 miles
- Maplewood Annex Elementary 0.43miles
- Beardsley School 0.47 miles

All schools were visited during field analysis. No opportunity for a view of the proposed project was identified. The location of schools within ½ mile of the project site is identified on Figure 1 of Attachment B.

If you have any questions concerning this summary report please give me a call.

Very truly yours,
SARATOGA ASSOCIATES
Landscape Architects, Architects, Engineers, and Planners, P.C.

Matthew W. Allen, RLA
Principal

Enclosures: Viewshed analysis, existing condition photographs and photo simulations.

Attachment A

# CT-5020
# EVERGREEN STREET

220 EVERGREEN STREET
BRIDGEPORT, CT 06606

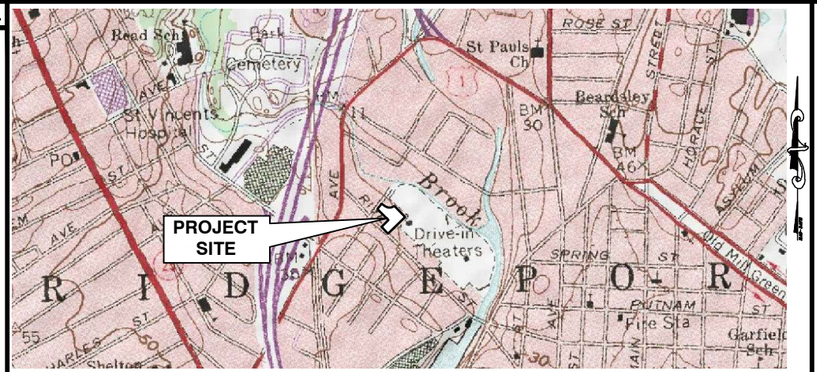
**SITE TYPE: TEMPORARY TOWER INSTALLATION**

## SHEET INDEX

| SHEET | DESCRIPTION | REV. |
|---|---|---|
| T-1 | TITLE SHEET | 0 |
| C-1 | ABUTTERS PLAN | 0 |
| C-2 | EXISTING CONDITIONS | 0 |
| C-3 | SITE PLAN | 0 |
| C-4 | SITE DETAILS | 0 |
| C-5 | EROSION CONTROL DETAILS & NOTES | 0 |
| A-1 | ELEVATION AND ANTENNA PLAN | 0 |

## VICINITY MAP

SCALE: 1" =800'




## PROJECT INFORMATION:

| | |
|---|---|
| PROPERTY OWNER: | CHAPIN & BANGS COMPANY<br>P.O. BOX 1117<br>BRIDGEPORT, CT 06601 |
| APPLICANT: | BLUE SKY TOWERS, LLC<br>158 MAIN STREET, SUITE 2,<br>NORFOLK, MA 02056 |
| SITE ADDRESS: | 220 EVERGREEN STREET<br>BRIDGEPORT, CT 06606 |
| COUNTY: | FAIRFIELD |
| LATITUDE: | N 42° 11' 52.07" |
| LONGITUDE: | W 73° 11' 26.99" |
| PARCEL ID: | 53-1527-2 |
| LAND AREA: | 1.0 ± ACRES |
| ARCHITECT / ENGINEER: | HUDSON DESIGN GROUP LLC<br>1600 OSGOOD STREET<br>BUILDING 20 NORTH, SUITE 3090<br>N. ANDOVER, MA 01845 |

## DRIVING DIRECTIONS

DIRECTIONS TO SITE:
FROM 158 MAIN STREET NORFOLK, MA (BLUE SKY TOWERS' OFFICE):

DEPART MAIN ST TOWARD BOARDMAN ST
KEEP RIGHT TO STAY ON PLEASANT ST
BEAR RIGHT ONTO RT-140 / W CENTRAL ST
TAKE RAMP FOR I-495 N
AT EXIT 22, TAKE RAMP RIGHT FOR I-90 WEST TOWARD ALBANY / SPRINGFIELD
AT EXIT 9, TAKE RAMP RIGHT FOR I-84 TOWARD NEW YORK CITY / HARTFORD
AT EXIT 57, TAKE RAMP LEFT FOR CT-15 SOUTH TOWARD N.Y. CITY / CHARTER OAK BR
KEEP STRAIGHT ONTO US-5 S / CT-15 S
AT EXIT 86, TAKE RAMP RIGHT FOR I-91 SOUTH TOWARD N.Y. CITY / NEW HAVEN
AT EXIT 17, TAKE RAMP RIGHT FOR CT-15 SOUTH TOWARD E. MAIN ST / W. CROSS PKWY
AT EXIT 52, TAKE RAMP RIGHT FOR CT-8 SOUTH TOWARD BRIDGEPORT
AT EXIT 5, TAKE RAMP RIGHT TOWARD NORTH AVE / BOSTON AVE
TURN RIGHT ONTO CHOPSEY HILL RD
TURN RIGHT ONTO US-1 / NORTH AVE
BEAR LEFT ONTO RIVER ST
TURN LEFT ONTO EVERGREEN ST
ARRIVE AT 220 EVERGREEN ST, BRIDGEPORT, CT 06606

## SCOPE OF WORK

BLUE SKY TOWERS IS PROPOSING TO INSTALL THE FOLLOWING IMPROVEMENTS TO THE PROPOSED TELECOMMUNICATION SITE:

- NEW (2) AT&T ANTENNAS PER SECTOR, (3) SECTORS, FOR A TOTAL OF (6) ANTENNAS AND ASSOCIATED EQUIPMENT AND CABLES.

ITEMS LISTED ABOVE TO BE MOUNTED ON PROPOSED BLUE SKY TOWER'S TEMPORARY MONOPOLE.

- NEW TEMPORARY AT&T SHELTER WITHIN 12'x20' LEASE AREA
- POWER AND TELCO UTILITIES SHALL BE ROUTED OVERHEAD FROM THEIR RESPECTIVE DEMARKS TO PROPOSED UTILITY BACKBOARD.

  FINAL DEMARK LOCATION AND UTILITY ROUTING TO THE PROPOSED BACKBOARD WILL BE VERIFIED/DERTERMINED BY LOCAL UTILITY COMPANIES. UTILITIES WILL BE ROUTED UNDERGROUND FROM THE UTILITY BACKBOARD TO THE PROPOSED NOMINAL 12'x20' TEMPORARY AT&T EQUIPMENT SHELTER.

ITEMS LISTED ABOVE TO BE INSTALLED WITHIN PROPOSED 3,616 ± SQ.FT. BLUE SKY TOWER'S FENCED LEASE AREA.

## GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

3 WORKING DAYS
BEFORE YOU DIG
CALL TOLL FREE 1-800-922-4455
**UNDERGROUND SERVICE ALERT**


BLUE SKY TOWERS, LLC
158 MAIN STREET, SUITE 2, NORFOLK, MASSACHUSETTS 02056

550 COCHITUATE RD.
FRAMINGHAM, MA, 01701

Hudson Design Group
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586


LICENSED ENGINEER DATE

REVISIONS

| REV. # | DATE | DESCRIPTION |
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| 0 | 06/18/15 | ISSUED FOR REVIEW |

| PROJECT NO. | DESIGNED BY: DJR | SCALE: |
|---|---|---|
| CT-5020 | DRAWN BY: SB | AS SHOWN |
| | CHECKED BY: DPH | |

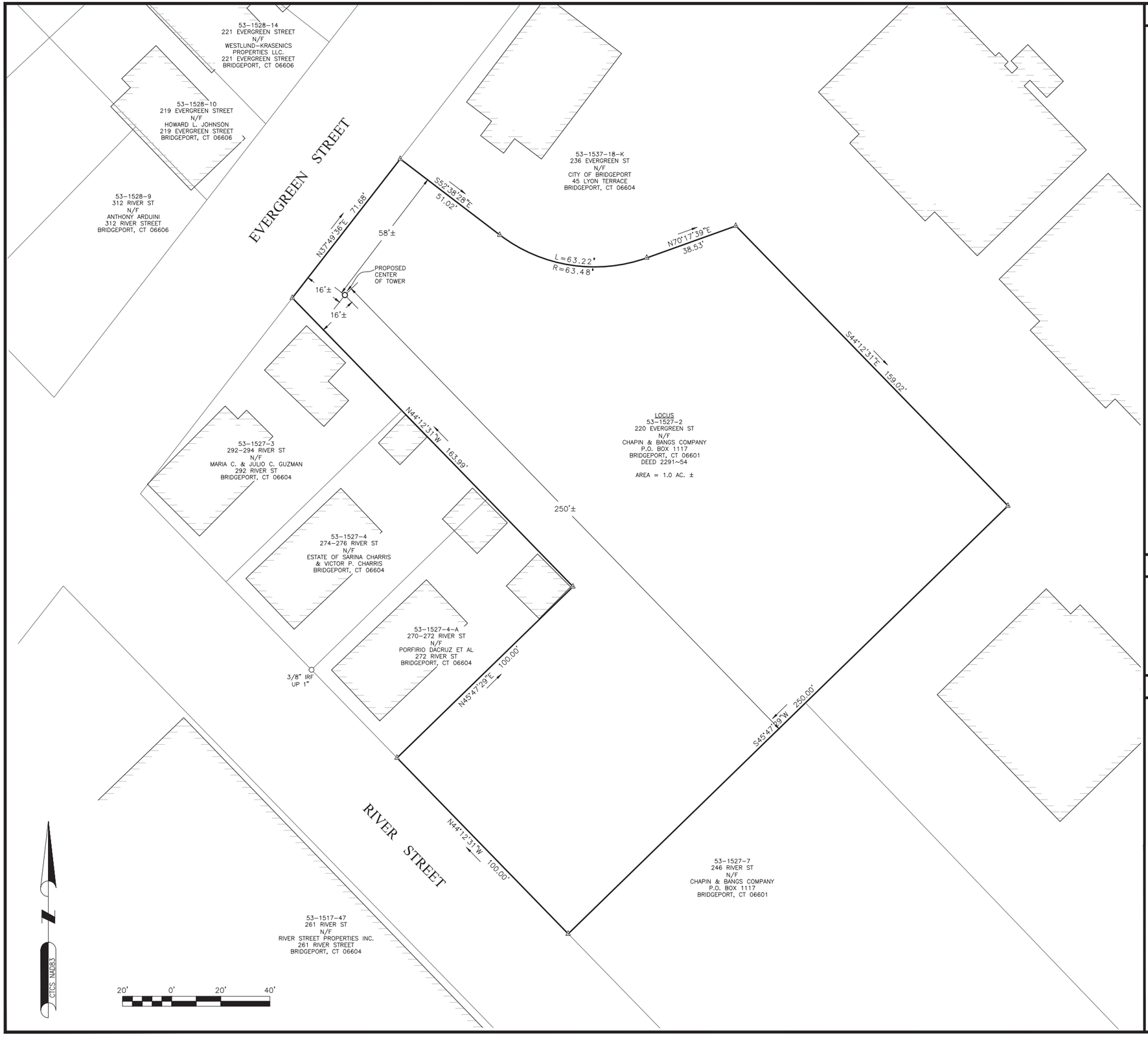
SITE NAME:
EVERGREEN STREET

SITE NUMBER:
CT-5020

SITE ADDRESS:
220 EVERGREEN STREET
BRIDGEPORT, CT 06606

SHEET TITLE:
TITLE SHEET

SHEET NO:
T-1




# SITE NOTES

1. FIELD SURVEY DATE: 06-09-2015
2. HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83 2011)
3. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM (NAVD88)
3. ZONING: IL – INDUSTRIAL LIGHT ZONE
4. OWNER: CHAPIN & BANGS COMPANY P.O. BOX 1117 BRIDGEPORT, CT 06601
5. SITE NAME: HI HO REPLACEMENT COW
6. SITE NUMBER: CT5092
7. SITE ADDRESS: 20 EVERGREEN STREET BRIDGEPORT, CT 06606
8. APPLICANT: AT&T 550 COCHITUATE ROAD FRAMINGHAM, MA 01701
9. AREA: 1.0 ACRES ±
10. TAX ID: 53-1527-2
11. DEED REFERENCES: BOOK 2291 PAGE 54
12. PLAN REFERENCES: BOOK 54 PAGE 25

13. THE HORIZONTAL DATUM AND VERTICAL DATUM WERE DERIVED FROM AN RTK GPS SURVEY.

14. ALL UNDERGROUND UTILITY INFORMATION PRESENTED HEREON WAS DETERMINED FROM SURFACE EVIDENCE AND PLANS OF RECORD. ALL UNDERGROUND UTILITIES SHOULD BE LOCATED IN THE FIELD PRIOR TO COMMENCEMENT OF ALL SITE WORK. CALL DIGSAFE 1-800-322-4844 A MINIMUM OF 72 HOURS PRIOR TO PLANNED ACTIVITY.

15. ACCORDING TO FEDERAL EMERGENCY MANAGEMENT AGENCY MAPS, A PORTION OF THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS ZONE X (SHADED), 0.2% ANNUAL CHANCE FLOOD HAZARD, AND A PORTION OF THIS PROPERTY IS LOCATED IN AN AREA DESIGNATED AS ZONE AE, 1% ANNUAL CHANCE FLOOD HAZARD.

COMMUNITY PANEL NO. 09001 C0429 G
EFFECTIVE DATE: JULY 8, 2013

16. FIELD SURVEY BY EDM TOTAL STATION AND RTK GPS.

**17. THIS IS NOT A BOUNDARY SURVEY.**

18. LOCUS PROPERTY LINES ARE BASED UPON PLANS OF RECORD AND MONUMENTS FOUND. ABUTTING PROPERTY LINES ARE FROM THE CITY OF BRIDGEPORT'S ASSESSOR'S PARCELS AND ARE APPROXIMATE ONLY.

# LEGEND

- –LOCUS PROPERTY LINE ±
- –ABUTTERS PROPERTY LINE ±
- –ZONING LINE
- ○ –IRON ROD FOUND

# SIGNATURE

THIS SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300B-1 THROUGH 20-300B-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS INC. ON SEPTEMBER 26, 1997.

TYPE OF SURVEY: IMPROVEMENT LOCATION SURVEY

BOUNDARY SURVEY CATEGORY: DEPENDENT RESURVEY

CLASS OF ACCURACY: HORIZONTAL CLASS D
VERTICAL CLASS V-2
PURPOSE OF SURVEY: PROPOSED TEMPORARY CELLULAR TOWER

THIS DOCUMENT AND COPIES THEREOF ARE VALID ONLY IF THEY BEAR THE LIVE SIGNATURE AND EMBOSSED SEAL OF THE DESIGNATED PROFESSIONAL. UNAUTHORIZED ALTERATIONS RENDER ANY DECLARATION NULL AND VOID.

TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

STATE OF CONNECTICUT CHARLES G. GIDMAN 70103 LICENSED LAND SURVEYOR

CHARLES G. GIDMAN, P.L.S. #70103


BlueSky Tower Partners LLC
BLUE SKY TOWERS, LLC
158 MAIN STREET, SUITE 2, NORFOLK, MASSACHUSETTS 02056

at&t
550 COCHITUATE RD.
FRAMINGHAM, MA, 01701

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586


SEE BELOW

LICENSED SURVEYOR DATE

| REVISIONS | | |
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| 0 | 06/10/15 | ISSUED FOR REVIEW |
| REV. # | DATE | DESCRIPTION |

| PROJECT NO. | DESIGNED BY: – | SCALE: |
|---|---|---|
| CT5020 | DRAWN BY: CJH | 1" = 20' |
| | CHECKED BY: BCF | |

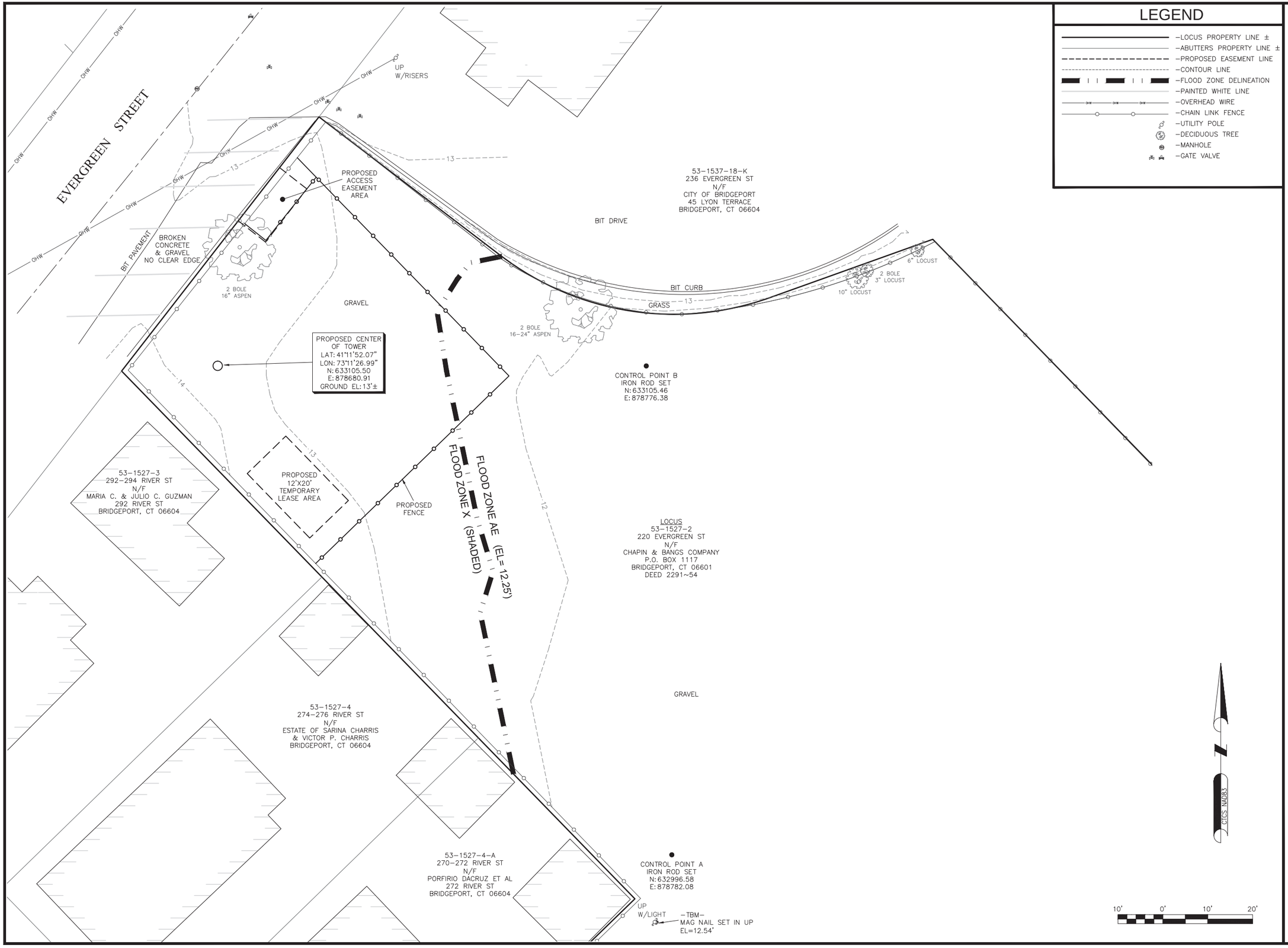
SITE NAME:
EVERGREEN STREET

SITE NUMBER:
CT-5020

SITE ADDRESS:
220 EVERGREEN STREET
BRIDGEPORT, CT 06606

SHEET TITLE:
ABUTTERS PLAN

SHEET NO:
C-1




## LEGEND

- LOCUS PROPERTY LINE ±
- ABUTTERS PROPERTY LINE ±
- PROPOSED EASEMENT LINE
- CONTOUR LINE
- FLOOD ZONE DELINEATION
- PAINTED WHITE LINE
- OVERHEAD WIRE
- CHAIN LINK FENCE
- UTILITY POLE
- DECIDUOUS TREE
- MANHOLE
- GATE VALVE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FAX: (978) 336-5586


STATE OF CONNECTICUT
CHARLES B. WOMAN
18765
LICENSED
LAND SURVEYOR

06-10-15
LICENSED SURVEYOR — DATE

| REVISIONS | | |
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| | CHECKED BY: BCF | |

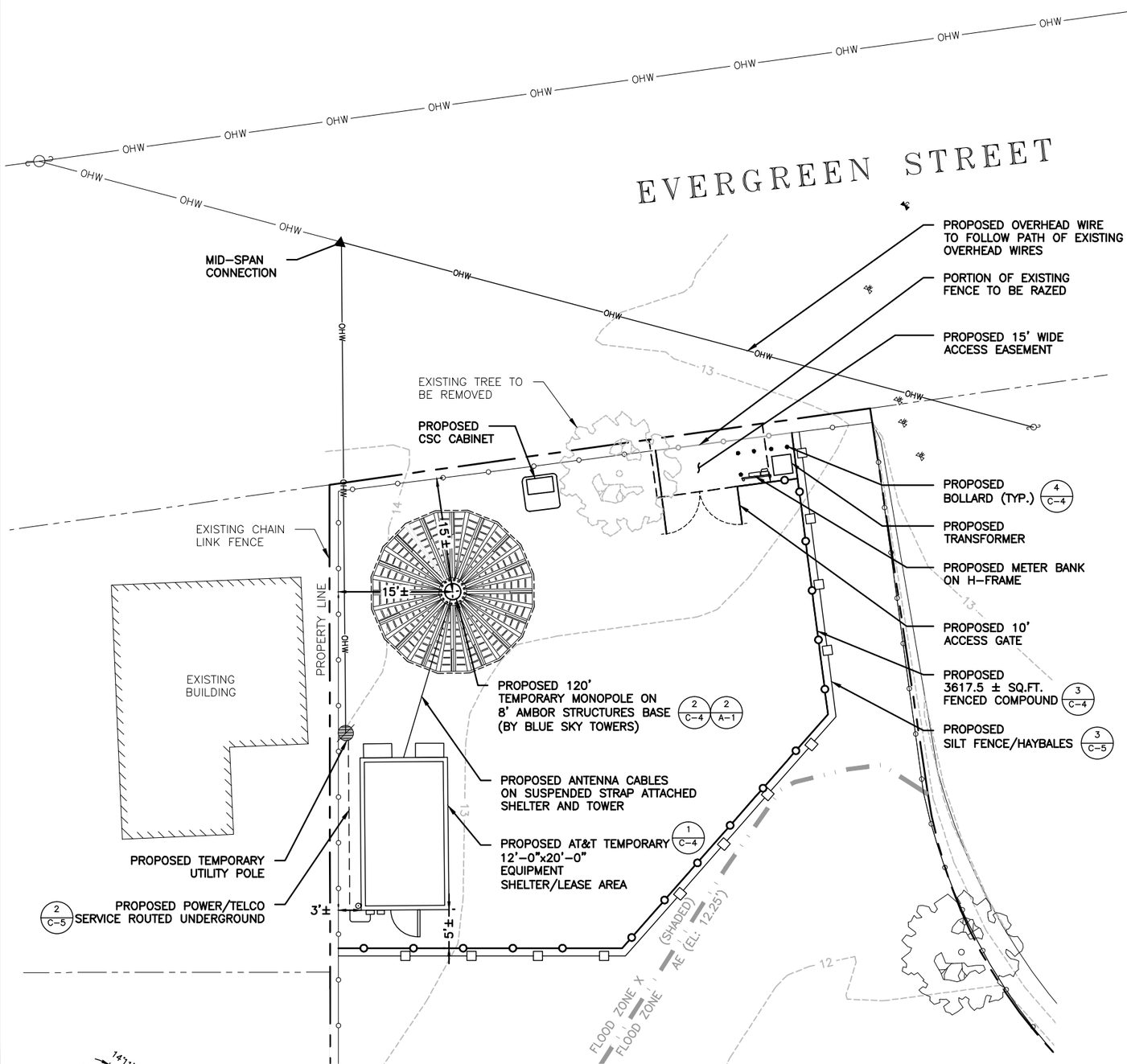
SITE NAME:
EVERGREEN STREET

SITE NUMBER:
CT-5020

SITE ADDRESS:
220 EVERGREEN STREET
BRIDGEPORT, CT 06606

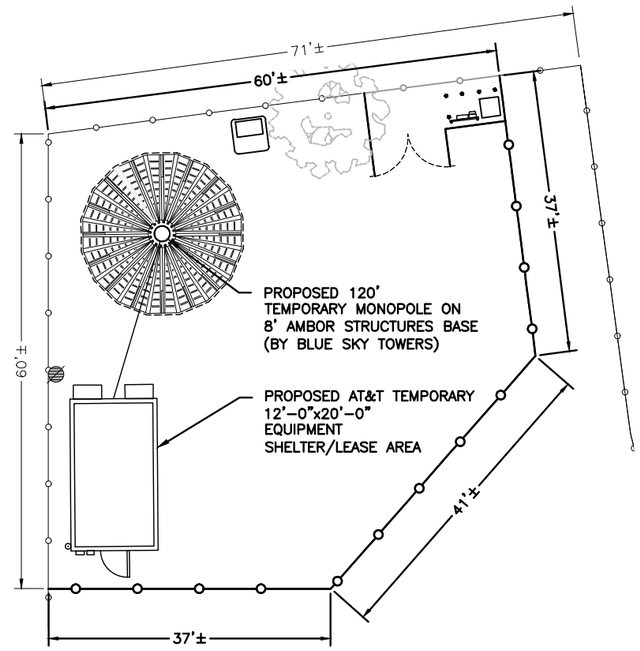
SHEET TITLE:
EXISTING CONDITIONS

SHEET NO:
C-2




**SITE PLAN** 1 C–3
22x34 SCALE: 1/8"=1'–0"
11x17 SCALE: 1/16"=1'–0"

0 4'–0" 8'–0" 16'–0" 24'–0"




**COMPOUND DIMENSION LAYOUT** 2 C–3
22x34 SCALE: 1"=10'–0"
11x17 SCALE: 1"=20'–0"

0 5 10 20 30

## LEGEND

- LOCUS PROPERTY LINE ±
- ABUTTERS PROPERTY LINE ±
- PROPOSED –EASEMENT LINE
- EXISTING –CONTOUR LINE
- EXISTING –FLOOD ZONE DELINEATION
- EXISTING –OVERHEAD WIRE
- EXISTING –CHAIN LINK FENCE
- EXISTING –UTILITY POLE
- EXISTING –DECIDUOUS TREE
- EXISTING –MANHOLE
- EXISTING –GATE VALVE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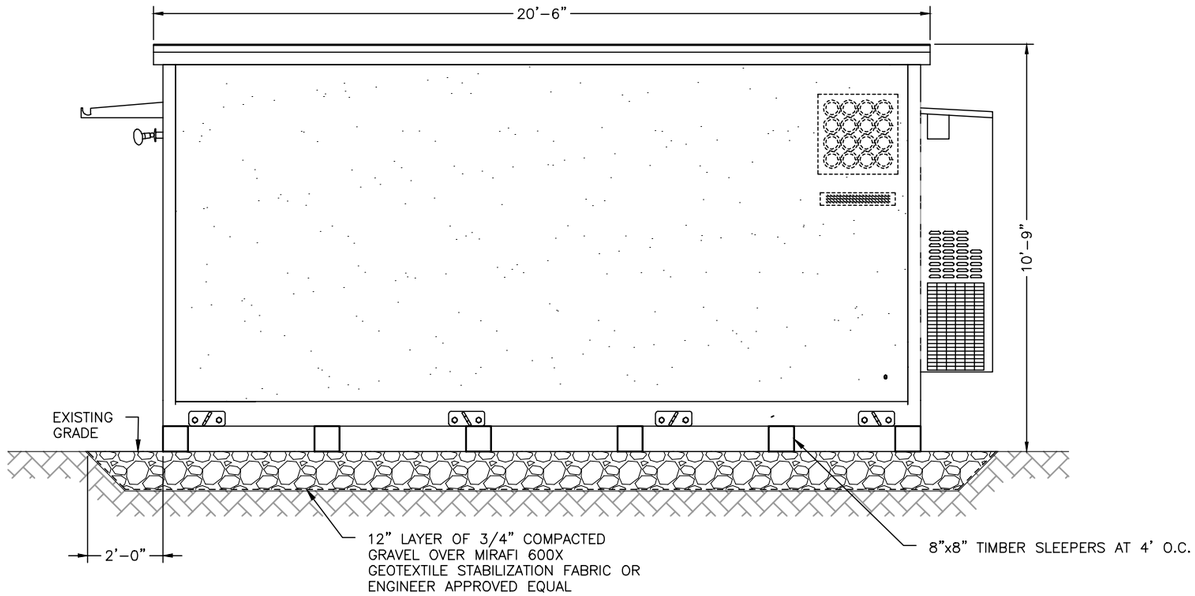
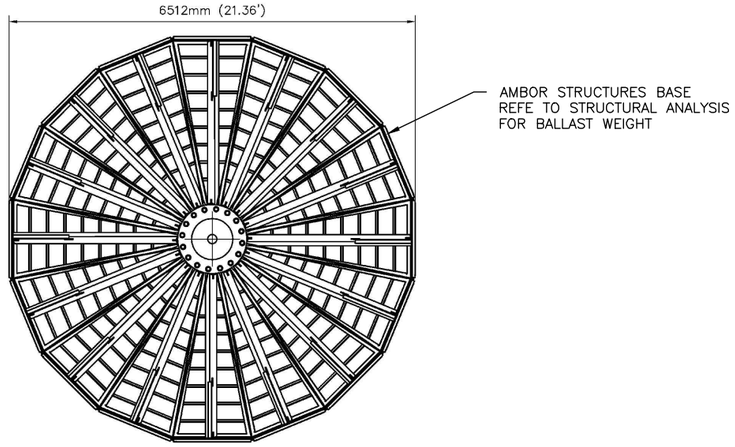
BRIDGEPORT, CT 06606

SHEET TITLE:
SITE PLAN

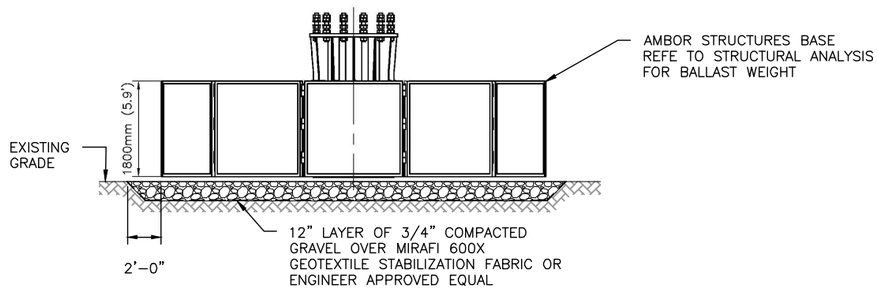
SHEET NO:
C-3




**TYPICAL SHELTER DETAILS** (1 / C-4)
22x34 SCALE: N.T.S




PLAN



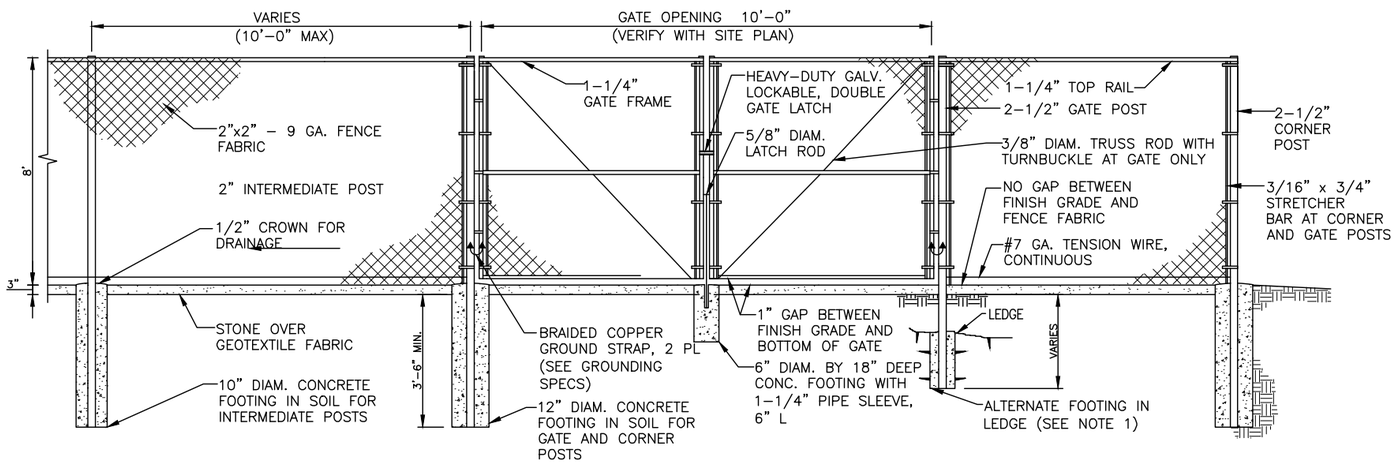

ELEVATION

**TEMPORARY TOWER BASE DETAIL** (2 / C-4)
22x34 SCALE: 1/4"=1'-0"
11x17 SCALE: 1/8"=1'-0"

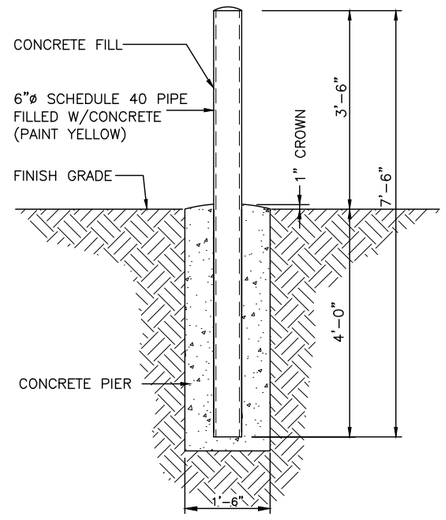
## FENCE NOTES

1. ALTERNATE FOOTINGS FOR ALL FENCE POSTS IN LEDGE: IF LEDGE IS ENCOUNTERED AT GRADE, OR AT A DEPTH SHALLOWER THAN 3'-6", CORE DRILL AN 8" DIA HOLE 18" INTO THE LEDGE. CENTER POST IN THE HOLE AND FILL WITH CONCRETE OR GROUT. IF LEDGE IS BELOW FINISH GRADE, COAT BACKFILLED SECTION OF POST WITH COAL TAR, AND BACKFILL WITH WELL-DRAINING GRAVEL.

2. ATTACH EACH GATE WITH 1-1/2 PAIR OF NON-LIFT-OFF TYPE, MALLEABLE IRON OR FORGING, PIN-TYPE HINGES. ASSEMBLIES SHALL ALLOW FOR 180° OF GATE TRAVEL.




**CHAIN LINK FENCE DETAIL** (3 / C-4)
22x34 SCALE: N.T.S




**BOLLARD DETAIL** (4 / C-4)
22x34 SCALE: N.T.S

BLUE SKY TOWERS, LLC
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SITE NUMBER:
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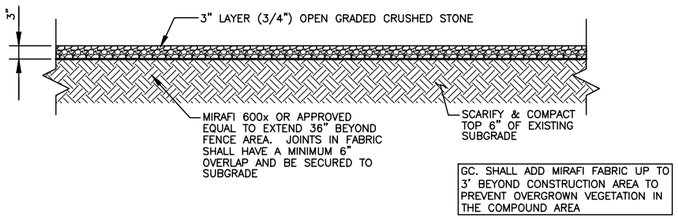
SITE ADDRESS:
220 EVERGREEN STREET
BRIDGEPORT, CT 06606

SHEET TITLE:
SITE DETAIL

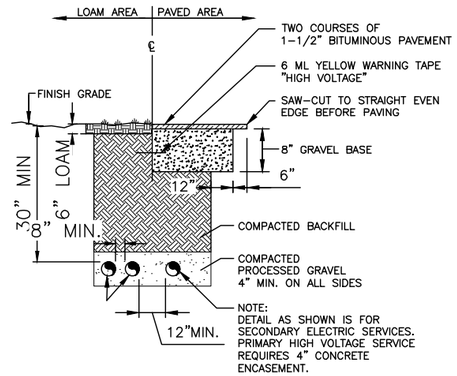
SHEET NO:
C-4




GC. SHALL ADD MIRAFI FABRIC UP TO 3' BEYOND CONSTRUCTION AREA TO PREVENT OVERGROWN VEGETATION IN THE COMPOUND AREA

## 1 / C-5 COMPOUND SURFACE DETAIL

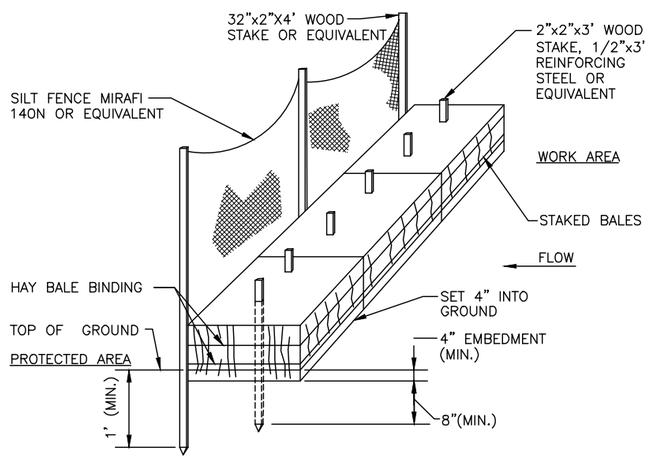
SCALE: N.T.S.




**INSTALL (2) PULL STRINGS AND CAP THE TELCO CONDUITS INSIDE THE VAULT AND MESA CABINET TO AVOID WATER/ICE FILL UP**

## 2 / C-5 TYPICAL DIRECT JOINT SERVICE BURIED CONDUIT DETAIL

SCALE: N.T.S.




## 3 / C-5 HAY BALES/SILT FENCE DETAIL

SCALE: N.T.S.

# EROSION CONTROL

## CONSTRUCTION SEQUENCE

1) NOTIFY THE TOWN INLAND WETLANDS AGENT AT LEAST ONE WEEK PRIOR TO THE PRE-CONSTRUCTION MEETING.
2) COMPLETE A "CALL BEFORE YOU DIG" PRIOR TO ANY ON SITE ACTIVITY. RECALL EVERY 30 DAYS.
3) CUT AND STUMP AREAS OF PROPOSED CONSTRUCTION.
4) INSTALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES AS REQUIRED.
5) WOOD CHIPS GENERATED FROM CLEARING ACTIVITIES MAY BE USED AS A TEMPORARY STABILIZATION MEASURE IN ADDITION TO SILT FENCING & HAY BALES.
6) INSTALL HAY BALES TO "BACK UP" SILTATION FENCE ALONG ALL DOWNGRADIENT WETLANDS BOUNDARIES.
7) ESTABLISH ROADWAY CENTERLINE WITH GRADE STAKES AND OFF SETS.
8) STOCKPILE EXCAVATED SOILS A MINIMUM OF 75 FEET FROM ANY WETLAND AREA.
9) CONSTRUCT CLOSED DRAINAGE SYSTEM. PROTECT CULVERT INLETS WITH SEDIMENTATION BARRIERS.
10) ROUGH GRADE DITCH STARTING FROM THE DOWNGRADIENT LOCATION
11) INSTALL STONE LINING AND LEVEL SPREADERS AT CULVERT OUTLETS
12) STABILIZE GRADED SLOPES.
13) CONSTRUCT ROADWAYS AND PERFORM SITE GRADING, PLACING HAY BALES AND SILTATION FENCES AS REQUIRED TO CONTROL SOIL EROSION.
14) EXCAVATE FOR ANY SUBSURFACE UTILITIES.
15) STOCKPILE EXCAVATED SOILS A MINIMUM OF 75 FEET FROM ANY WETLAND AREA.
16) ESTABLISH SEDIMENT AND EROSION CONTROLS AROUND STOCKPILE SOILS.
17) INSTALL UTILITY SERVICES
18) INSTALL STORM DRAINAGE STARTING AT THE MOST DOWNGRADIENT LOCATION.
19) INSTALL ALL RIP RAP AT OUTLETS FOR STORM DRAINAGE.
20) INSTALL HAY BALE PROTECTION TO STORM DRAINAGE INLETS.
21) INSTALL ROAD
22) BEGIN TEMPORARY AND PERMANENT SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED OR MULCHED IMMEDIATELY AFTER THEIR CONSTRUCTION. NO AREA SHALL BE LEFT UNSTABILIZED FOR A TIME PERIOD OF MORE THAN 30 DAYS.
23) DAILY, OR AS REQUIRED, CONSTRUCT, INSPECT, AND IF NECESSARY, RECONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, SILT FENCES AND SEDIMENT TRAPS INCLUDING MULCHING AND SEEDING.
24) BEGIN EXCAVATION FOR AND CONSTRUCTION OF TOWERS AND PLATFORMS.
25) FINISH PAVING ALL ROADWAYS, DRIVES, AND PARKING AREAS.
26) COMPLETE PERMANENT SEEDING AND LANDSCAPING.
27) NO FLOW SHALL BE DIVERTED TO ANY WETLANDS UNTIL A HEALTHY STAND OF GRASS HAS BEEN ESTABLISHED IN REGRADED AREAS.
28) AFTER GRASS HAS BEEN FULLY GERMINATED IN ALL SEEDED AREAS, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

## IMPACT OF STORMWATER DURING CONSTRUCTION ACTIVITY

ALL SEDIMENT CONTROLS, INCLUDING SILTATION FENCES AND HAY BALES MUST BE INSPECTED WEEKLY OR IMMEDIATELY AFTER A STORMWATER RUNOFF GENERATING EVENT. ALL SEDIMENT CONTROLS MUST BE MAINTAINED IN AN EFFECTIVE CONDITION.

IN THE EVENT THAT STORMWATER IS FLOWING IN THE EXISTING/PROPOSED DRAINAGE SWALE, THE FOLLOWING MUST BE NOTED:

1) BY INSTALLING THE STORM DRAINAGE STARTING AT THE MOST DOWNGRADIENT LOCATION, AND BY CONSTRUCTION THE DITCH STARTING AT THE MOST DOWNGRADIENT LOCATION, STORMWATER FLOW WILL NOT BE IMPOUNDED DURING THE CONSTRUCTION ACTIVITY.
2) ADDITIONAL MEASURES MUST BE TAKEN DURING TIMES OF RAIN OR FLOW. THESE INCLUDE THE CESSATION OF ALL CONSTRUCTION ACTIVITY IN THE DRAINAGE SWALES AT TIMES OF "HEAVY RAIN" OR "SIGNIFICANT FLOW" WHICH HAVE THE POTENTIAL TO CAUSE SOIL SCOURING. IN THE ABSENCE OF AN ON SITE AGREEMENT WITH THE TOWN INLAND WETLANDS AGENT.

## CONSTRUCTION SPECIFICATIONS - SILT FENCE

1) THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.
2) THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
3) WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES OR STAPLES.
4) FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MID-SECTION AND BOTTOM.
5) WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED.
6) FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
7) MAINTENANCE SHALL BE PERFORMED AS NEEDED TO PREVENT BULGES IN THE SILT FENCE DUE TO DEPOSITION OF SEDIMENT.

## MAINTENANCE - SILT FENCE

1) SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2) IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3) SEDIMENT SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACHED APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
4) SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

## EROSION CONTROL MEASURES:

THE CONTRACTOR (TO BE NAMED PRIOR TO ANY WORK BEING PERFORMED) IS ASSIGNED THE RESPONSIBILITY FOR IMPLEMENTING THIS EROSION AND SEDIMENT CONTROL PLAN. THIS RESPONSIBILITY INCLUDES THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, NOTIFYING THE PLANNING AND ZONING OFFICE OF ANY TRANSFER OF THIS RESPONSIBILITY, AND FOR CONVEYING A COPY OF THE EROSION AND SEDIMENT CONTROL PLAN IF THE TITLE TO THE LAND IS TRANSFERRED.

1) DISTURBED AREAS SHALL BE KEPT TO THE MINIMUM AREA NECESSARY TO CONSTRUCT THE ROADWAYS AND ASSOCIATED DRAINAGE FACILITIES.
2) HAY BALE BARRIERS AND SEDIMENT TRAPS SHALL BE INSTALLED AS REQUIRED. BARRIERS AND TRAPS ARE TO BE MAINTAINED AND CLEANED UNTIL ALL SLOPES HAVE A HEALTHY STAND OF GRASS.
3) BALED HAY AND MULCH SHALL BE MOWINGS OF ACCEPTABLE HERBACEOUS GROWTH, FREE FROM NOXIOUS WEEDS OR WOODY STEMS, AND SHALL BE DRY. NO SALT HAY SHALL BE USED.
4) FILL MATERIAL SHALL BE FREE FROM STUMPS, WOOD, ROOTS, ETC.
5) STOCKPILED MATERIALS SHALL BE PLACED ONLY IN NON RESTRICTED WETLAND AREAS ON PLANS. STOCKPILES SHALL BE PROTECTED BY SILTATION FENCE AND SEEDED TO PREVENT EROSION. THESE MEASURES SHALL REMAIN UNTIL ALL MATERIAL HAS BEEN PLACED OR DISPOSED OFF SITE.
6) ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED. A MINIMUM OF 4 INCHES OF LOAM SHALL BE INSTALLED WITH NOT LESS THAN ONE POUND OF SEED PER 50 SQUARE YARDS OF AREA. SLOPES 2:1 OR GRATED TO BE STABILISED WITH TURF REINFORCEMENT MAT TYPE P300P NORTH AMERICAN GREEN (1-800-772-2040), OR ENGINEER APPROVED EQUAL.
7) APPLICATION OF GRASS SEED, FERTILIZERS AND MULCH SHALL BE ACCOMPLISHED BY BROADCAST SEEDING OR HYDROSEEDING AT THE RATES OUTLINED BELOW:

LIMESTONE: 75-100 LBS./1,000 SQUARE FEET.
FERTILIZER: RATE RECOMMENDED BY MANUFACTURER.
MULCH: HAY MULCH APPROXIMATELY 3 TONS/ACRE UNLESS EROSION CONTROL MATTING IS USED.

| SEED MIX (SLOPES LESS THAN 4:1) | LBS./ACRE |
|---|---|
| CREEPING RED FESCUE | 20 |
| TALL FESCUE | 20 |
| RED TOP | 2 |
| | 42 |

| SLOPE MIX (SLOPES GREATER TAN 4:1) | LBS./ACRE |
|---|---|
| CREEPING RED FESCUE | 20 |
| TALL FESCUE | 20 |
| BIRDSFOOT TREEFOIL | 8 |
| | 48 |

8) AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED THE TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED.
9) PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.
10) ALL CATCH BASIN INLETS WILL BE PROTECTED WITH LOW POINT SEDIMENTION BARRIER.
11) ALL STORM DRAINAGE OUTLETS WILL BE STABILIZED AND CLEANED AS REQUIRED, BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
12) ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT FILTER AREA.
13) NO DISCHARGE SHALL BE DIRECTED TOWARDS ANY PROPOSED DITCHES, SWALES, OR PONDS UNTIL THEY HAVE BEEN PROPERLY STABILIZED.

## CONSTRUCTION SPECIFICATIONS - STRAW OR HAY BALES

1) BALES SHALL BE PLACED IN A ROW WITH THE ENDS TIGHTLY ADJOINING.
2) EACH BALE SHALL BE EMBEDDED IN THE GROUND A MINIMUM OF 4 INCHES.
3) BALES SHALL BE ANCHORED IN PLACE BY AT LEAST TWO STAKES DRIVEN THROUGH THE BALE. THE STAKES SHALL BE DRIVEN AT LEAST 18 INCHES INTO THE GROUND.
4) BARRIERS SHALL BE INSPECTED AFTER EVERY RAINFALL AND PROMPTLY REPAIRED FOR REPLACED AS NECESSARY.
5) BALES SHALL BE REMOVED WHEN NO LONGER NEEDED AND THE SEDIMENT COLLECTED SHALL BE DISPOSED OF PROPERLY.

## MAINTENANCE - STRAW OR HAY BALES

1) STRAW OR HAY BALES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL,
2) CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED BALES, UNDERCUTTING BENEATH THE BALES, AND FLOW AROUND THE END OF THE BALES.
3) NECESSARY REPAIRS OR REPLACEMENT OF BALES SHALL BE ACCOMPLISHED PROMPTLY.
4) SEDIMENT DEPOSITS SHOULD BE CHECKED AFTER EACH RAINFALL. THE DEPOSITS SHOULD BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF OF THE HEIGHT OF THE TABLE.
5) SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE BARRIER HAS BEEN DISMANTLED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED USING THE APPROPRIATE VEGETATIVE BMP.

BLUE SKY TOWERS, LLC
158 MAIN STREET, SUITE 2, NORFOLK, MASSACHUSETTS 02056

550 COCHITUATE RD.
FRAMINGHAM, MA, 01701

Hudson Design Group
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

LICENSED ENGINEER DATE

| REVISIONS | | |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 0 | 06/18/15 | ISSUED FOR REVIEW |
| REV. # | DATE | DESCRIPTION |

| PROJECT NO. | DESIGNED BY: DJR | SCALE: |
|---|---|---|
| CT-5020 | DRAWN BY: SB | AS SHOWN |
| | CHECKED BY: DPH | |

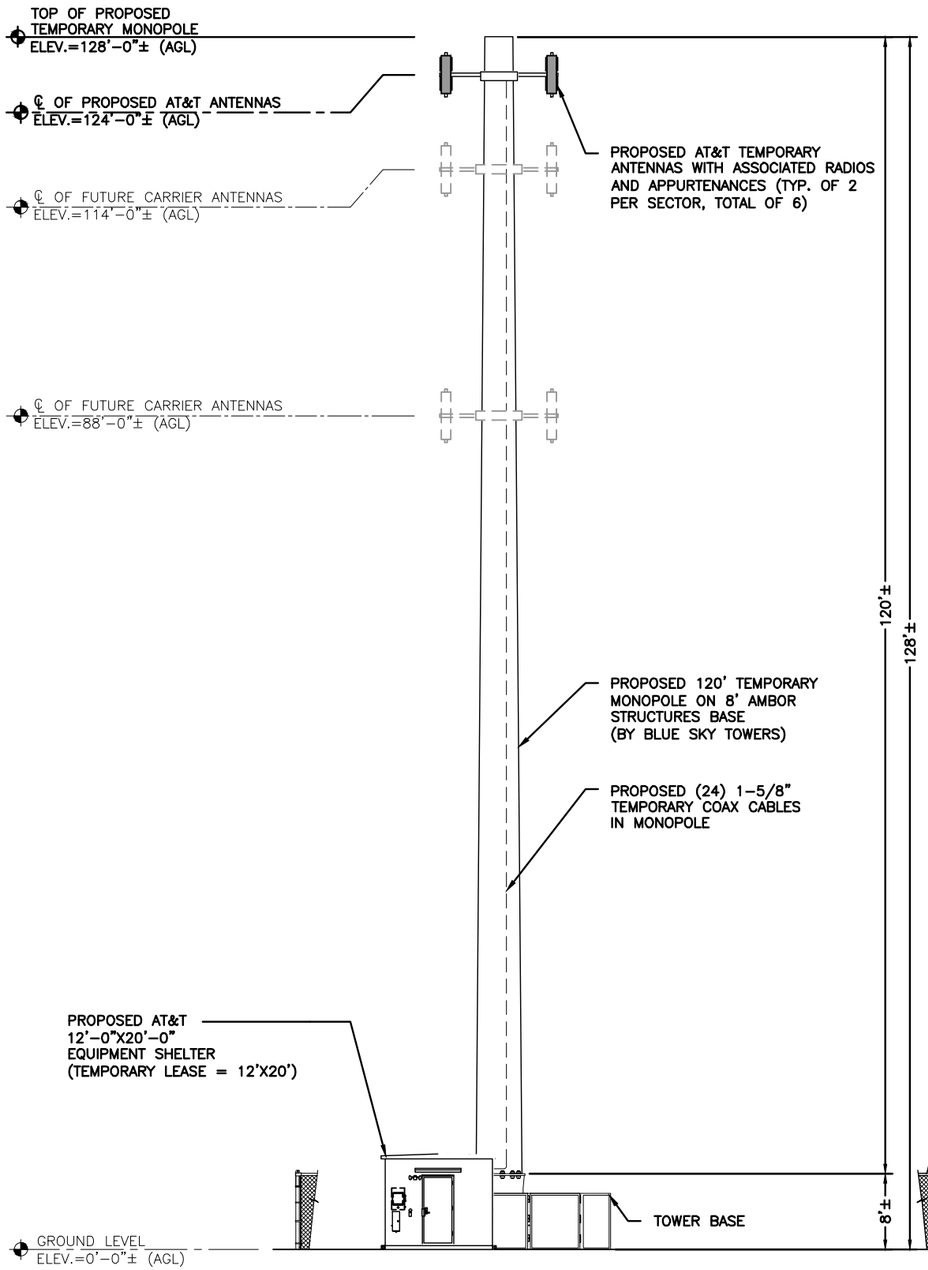
SITE NAME:
EVERGREEN STREET

SITE NUMBER:
CT-5020

SITE ADDRESS:
220 EVERGREEN STREET
BRIDGEPORT, CT 06606

SHEET TITLE:
EROSION CONTROL NOTES AND DETAILS

SHEET NO:
C-5



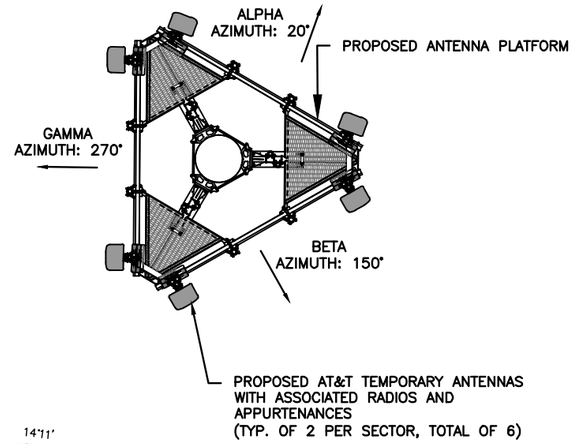

**SOUTHWEST ELEVATION** (1 / A-1)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

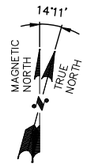
0 4'-0" 8'-0" 16'-0" 24'-0"

NOTE:

REFER TO STRUCTURAL ANALYSIS BY: AMBOR STRUCTURES, INC. DATED APRIL 4, 2015 FOR THE CAPACITY OF THE PROPOSED STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

UTILITIES:
FINAL UTILITY CONNECTIONS SHALL BE COORDINATED WITH THE LOCAL UTILITIES.




**ANTENNA PLAN** (2 / A-1)
22x34 SCALE: N.T.S

BlueSky Tower Partners LLC
BLUE SKY TOWERS, LLC
158 MAIN STREET, SUITE 2, NORFOLK, MASSACHUSETTS 02056

at&t
550 COCHITUATE RD.
FRAMINGHAM, MA, 01701

Hudson Design Group
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

LICENSED ENGINEER _____ DATE _____

REVISIONS

| REV. # | DATE | DESCRIPTION |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 0 | 06/18/15 | ISSUED FOR REVIEW |

| PROJECT NO. | DESIGNED BY: DJR | SCALE: |
|---|---|---|
| CT-5020 | DRAWN BY: SB | AS SHOWN |
| | CHECKED BY: DPH | |

SITE NAME:
EVERGREEN STREET

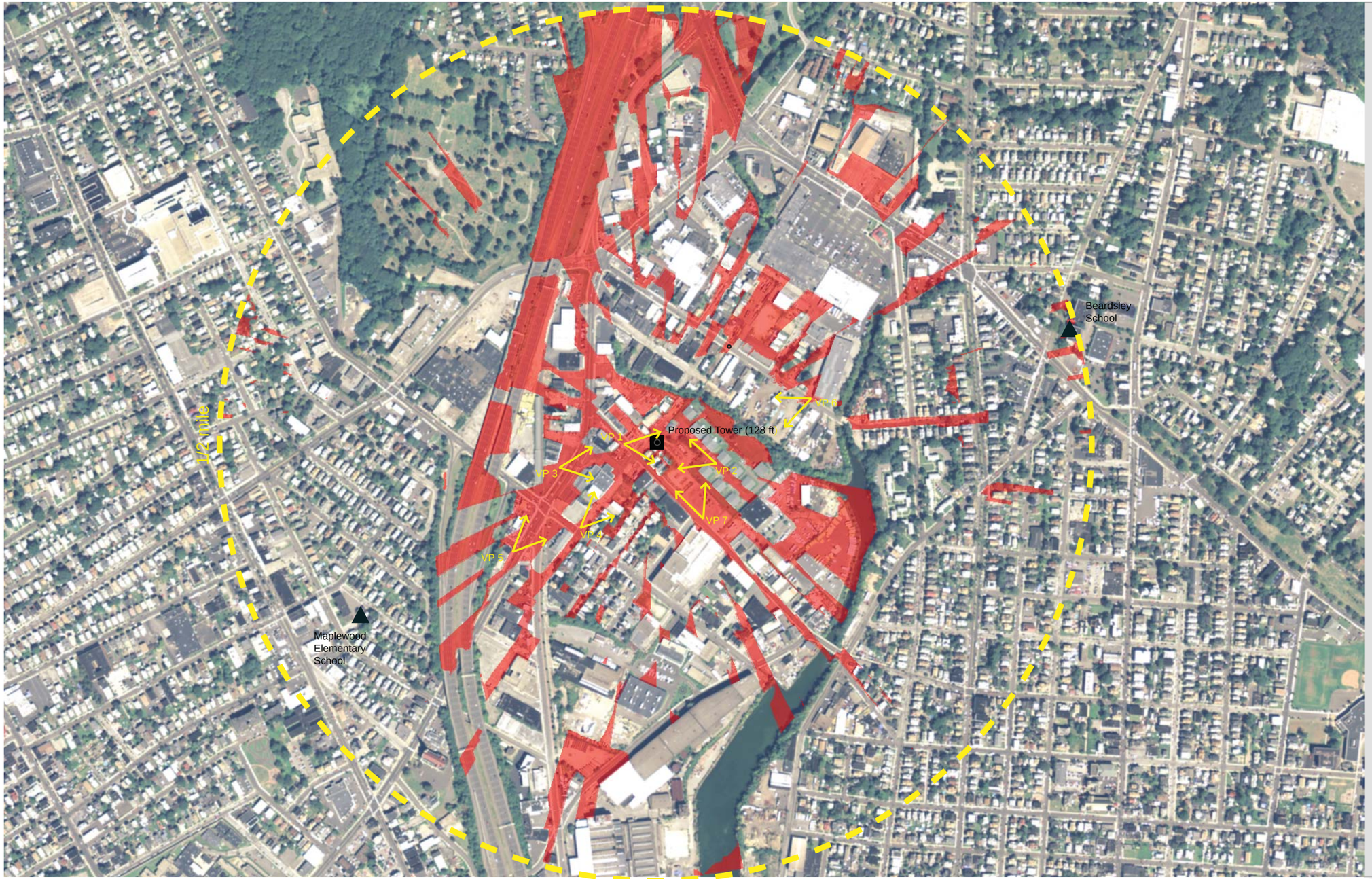
SITE NUMBER:
CT-5020

SITE ADDRESS:
220 EVERGREEN STREET
BRIDGEPORT, CT 06606

SHEET TITLE:
ELEVATION AND ANTENNA PLAN

SHEET NO:
A-1

Attachment B




## Legend

Land Cover Viewshed Area
- Theoretical visibility including screening of existing structures and forest vegetation

Photo Simulation Location

Note: Viewshed areas are not definitive. Viewshed mapping provides a general understanding of where the proposed project is theoretically visible.

128 ft. top of monopole

124 ft. antenna centerline

Temporary Monopole

Figure 1

# Land Cover Viewshed Map - 1/2 Mile Radius

Visibility Study

CT-5020

Temporary Tower Installation

220 Evergfreen Street
Bridgeport, CT 06606

SARATOGA ASSOCIATES


## Photograph Information

| | |
|---|---|
| Date: | June 17, 2015 |
| Time: | 10:28am |
| Focal Length: | 28.8mm |
| Camera: | Nikon D3100 DLSR |
| Photo Location: | 41° 11.85368’ N<br>73° 11.51330’ W |
| Distance: | 175 feet |


Temporary Monopole

The above photograph is intended to be viewed 18 inches from the reader’s eye when printed on 11”x17” paper.

Figure 2a

Existing View
Viewpoint 1 - Evergreen Street at River Street

SARATOGA ASSOCIATES

Visibility Study
CT-5020
Temporary Tower Installation
220 Evergfreen Street
Bridgeport, CT 06606


## Photograph Information

| | |
|---|---|
| Date: | June 17, 2015 |
| Time: | 10:28am |
| Focal Length: | 28.8mm |
| Camera: | Nikon D3100 DLSR |
| Photo Location: | 41° 11.85368' N<br>73° 11.51330' W |
| Distance: | 175 feet |


Temporary Monopole

The above photograph is intended to be viewed 18 inches from the reader's eye when printed on 11"x17" paper.

Figure 2b

## Simulated View
Viewpoint 1 - Evergreen Street at River Street

SARATOGA ASSOCIATES

Visibility Study

CT-5020

Temporary Tower Installation

220 Evergfreen Street
Bridgeport, CT 06606

## Photograph Information

| | |
|---|---|
| Date: | June 17, 2015 |
| Time: | 10:34am |
| Focal Length: | 48mm |
| Camera: | Nikon D3100 DLSR |
| Photo Location: | 41° 11.84084’ N<br>73° 11.39804’ W |
| Distance: | 395 feet |


Temporary Monopole

The above photograph is intended to be viewed 18 inches from the reader’s eye when printed on 11”x17” paper.

Figure 3a

Existing View
Viewpoint 2 - Commercial Area South of Project Property

SARATOGA ASSOCIATES

Visibility Study
CT-5020
Temporary Tower Installation
220 Evergfreen Street
Bridgeport, CT 06606

## Photograph Information

| | |
|---|---|
| Date: | June 17, 2015 |
| Time: | 10:34am |
| Focal Length: | 48mm |
| Camera: | Nikon D3100 DLSR |
| Photo Location: | 41° 11.84084’ N<br>73° 11.39804’ W |
| Distance: | 395 feet |


Temporary Monopole

The above photograph is intended to be viewed 18 inches from the reader’s eye when printed on 11”x17” paper.

Figure 3b

## Simulated View
Viewpoint 2 - Commercial Area South of Project Property

SARATOGA ASSOCIATES

Visibility Study

CT-5020

Temporary Tower Installation

220 Evergfreen Street
Bridgeport, CT 06606


## Photograph Information

| | |
|---|---|
| Date: | June 17, 2015 |
| Time: | 10:52am |
| Focal Length: | 48mm |
| Camera: | Nikon D3100 DLSR |
| Photo Location: | 41° 11.84156’ N<br>73° 11.59309’ W |
| Distance: | 560 feet |


Temporary Monopole

The above photograph is intended to be viewed 18 inches from the reader’s eye when printed on 11”x17” paper.

Figure 4a

Existing View
Viewpoint 3 - North Avenue near NAPA Auto Parts

SARATOGA ASSOCIATES

Visibility Study
CT-5020
Temporary Tower Installation
220 Evergreen Street
Bridgeport, CT 06606


## Photograph Information

| | |
|---|---|
| Date: | June 17, 2015 |
| Time: | 10:52am |
| Focal Length: | 48mm |
| Camera: | Nikon D3100 DLSR |
| Photo Location: | 41° 11.84156' N<br>73° 11.59309' W |
| Distance: | 560 feet |


Temporary Monopole

The above photograph is intended to be viewed 18 inches from the reader's eye when printed on 11"x17" paper.

Figure 4b

Simulated View
Viewpoint 3 - North Avenue near NAPA Auto Parts

SARATOGA ASSOCIATES

Visibility Study
CT-5020
Temporary Tower Installation
220 Evergreen Street
Bridgeport, CT 06606

## Photograph Information

| | |
|---|---|
| Date: | June 17, 2015 |
| Time: | 10:56am |
| Focal Length: | 48mm |
| Camera: | Nikon D3100 DLSR |
| Photo Location: | 41° 11.77940’ N<br>73° 11.57804’ W |
| Distance: | 680 feet |


Temporary Monopole

The above photograph is intended to be viewed 18 inches from the reader’s eye when printed on 11”x17” paper.

Figure 5a

Existing View
Viewpoint 4 - Evergreen Street at Lindley Street

SARATOGA ASSOCIATES

Visibility Study
CT-5020
Temporary Tower Installation
220 Evergfreen Street
Bridgeport, CT 06606

## Photograph Information

| | |
|---|---|
| Date: | June 17, 2015 |
| Time: | 10:56am |
| Focal Length: | 48mm |
| Camera: | Nikon D3100 DLSR |
| Photo Location: | 41° 11.77940’ N<br>73° 11.57804’ W |
| Distance: | 680 feet |


Temporary Monopole

The above photograph is intended to be viewed 18 inches from the reader’s eye when printed on 11”x17” paper.

Figure 5b

Simulated View
Viewpoint 4 - Evergreen Street at Lindley Street

SARATOGA ASSOCIATES

Visibility Study
CT-5020
Temporary Tower Installation
220 Evergfreen Street
Bridgeport, CT 06606


## Photograph Information

| | |
|---|---|
| Date: | June 17, 2015 |
| Time: | 11:12am |
| Focal Length: | 48mm |
| Camera: | Nikon D3100 DLSR |
| Photo Location: | 41° 11.75078' N<br>73° 11.66617' W |
| Distance: | 1,080 feet |


Temporary Monopole

The above photograph is intended to be viewed 18 inches from the reader's eye when printed on 11"x17" paper.

Figure 6a

Existing View
Viewpoint 5 - North Avenue near Housatonic Street

SARATOGA ASSOCIATES

Visibility Study
CT-5020
Temporary Tower Installation
220 Evergreen Street
Bridgeport, CT 06606

## Photograph Information

| | |
|---|---|
| Date: | June 17, 2015 |
| Time: | 11:12am |
| Focal Length: | 48mm |
| Camera: | Nikon D3100 DLSR |
| Photo Location: | 41° 11.75078' N<br>73° 11.66617' W |
| Distance: | 1,080 feet |


Temporary Monopole

The above photograph is intended to be viewed 18 inches from the reader's eye when printed on 11"x17" paper.

Figure 6b

Simulated View
Viewpoint 5 - North Avenue near Housatonic Street

SARATOGA ASSOCIATES

Visibility Study
CT-5020
Temporary Tower Installation
220 Evergreen Street
Bridgeport, CT 06606

## Photograph Information

| | |
|---|---|
| Date: | June 17, 2015 |
| Time: | 12:08am |
| Focal Length: | 48mm |
| Camera: | Nikon D3100 DLSR |
| Photo Location: | 41° 11.90816’ N<br>73° 11.27175’ W |
| Distance: | 980 feet |


Temporary Monopole

The above photograph is intended to be viewed 18 inches from the reader’s eye when printed on 11”x17” paper.

Figure 7a

Existing View
Viewpoint 6 - Roosevelt Street near Hill Street

SARATOGA ASSOCIATES

Visibility Study
CT-5020
Temporary Tower Installation
220 Evergfreen Street
Bridgeport, CT 06606

## Photograph Information

| | |
|---|---|
| Date: | June 17, 2015 |
| Time: | 12:08am |
| Focal Length: | 48mm |
| Camera: | Nikon D3100 DLSR |
| Photo Location: | 41° 11.90816’ N<br>73° 11.27175’ W |
| Distance: | 980 feet |


Temporary Monopole

The above photograph is intended to be viewed 18 inches from the reader’s eye when printed on 11”x17” paper.

Figure 7b

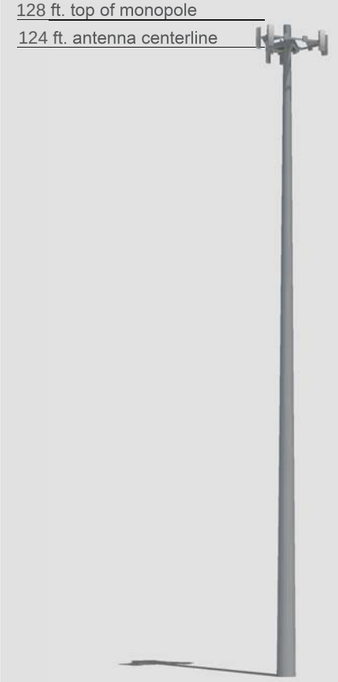
Simulated View
Viewpoint 6 - Roosevelt Street near Hill Street

SARATOGA ASSOCIATES

Visibility Study
CT-5020
Temporary Tower Installation
220 Evergreen Street
Bridgeport, CT 06606

## Photograph Information

| | |
|---|---|
| Date: | June 17, 2015 |
| Time: | 12:08am |
| Focal Length: | 48mm |
| Camera: | Nikon D3100 DLSR |
| Photo Location: | 41° 11.78810’ N<br>73° 11.41658’ W |
| Distance: | 530 feet |




Temporary Monopole

The above photograph is intended to be viewed 18 inches from the reader’s eye when printed on 11”x17” paper.

Figure 8a

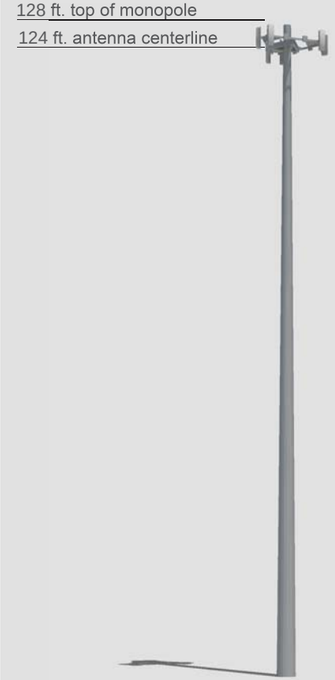
Existing View
Viewpoint 7 - River Street near Meriam Street

SARATOGA ASSOCIATES

Visibility Study
CT-5020
Temporary Tower Installation
220 Evergreen Street
Bridgeport, CT 06606

## Photograph Information

| | |
|---|---|
| Date: | June 17, 2015 |
| Time: | 12:08am |
| Focal Length: | 48mm |
| Camera: | Nikon D3100 DLSR |
| Photo Location: | 41° 11.78810’ N<br>73° 11.41658’ W |
| Distance: | 530 feet |




Temporary Monopole

The above photograph is intended to be viewed 18 inches from the reader’s eye when printed on 11”x17” paper.

Figure 8b

## Simulated View
Viewpoint 7 - River Street near Meriam Street

SARATOGA ASSOCIATES

Visibility Study

CT-5020

Temporary Tower Installation

220 Evergreen Street
Bridgeport, CT 06606

# ATTACHMENT E

Daniel L. Goulet
C Squared Systems, LLC
65 Dartmouth Drive
Auburn, NH 03032
603-644-2800
Dan.Goulet@csquaredsystems.com

C Squared Systems, LLC

July 01, 2015

Connecticut Siting Council

Subject: New Cingular Wireless PCS, LLC ("AT&T") – (CT5991) – 220 Evergreen Street, Bridgeport, CT

Dear Connecticut Siting Council:

C Squared Systems has been retained by New Cingular Wireless PCS, LLC ("AT&T") to investigate RF Power Density levels for the AT&T antenna arrays, to be installed on a temporary tower, to be located at 220 Evergreen Street, Bridgeport, CT

Calculations were done in accordance with FCC OET Bulletin 65. These worst-case calculations assume that all transmitters are simultaneously operating at full power and that there is 0 dB of cable loss. The calculation point is 6 feet above ground level to model the RF power density at the head of a person standing at the base of the tower.

Due to the directional nature of the proposed AT&T antennas, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to the Attachment for the vertical patterns of the proposed AT&T antennas. The calculated results below include a nominal 10 dB off-beam pattern loss to account for the lower relative gain directly below the antennas.

| Location | Carrier | Vertical Distance to Antenna (Ft.) | Operating Frequency (MHz) | Number of Trans. | Effective Radiated Power (ERP) Per Transmitter (Watts) | Power Density ($mw/cm^2$) | Limit | %MPE |
|---|---|---|---|---|---|---|---|---|
| **Ground Level** | AT&T UMTS | 124 | 880 | 2 | 527 | 0.0027 | 0.5867 | 0.46% |
| | AT&T UMTS | 124 | 1900 | 1 | 916 | 0.0024 | 1.0000 | 0.24% |
| | AT&T LTE | 124 | 710 | 1 | 689 | 0.0018 | 0.4733 | 0.38% |
| | AT&T LTE | 124 | 1900 | 1 | 1375 | 0.0036 | 1.0000 | 0.36% |
| | | | | | | | **Total** | **1.43%** |

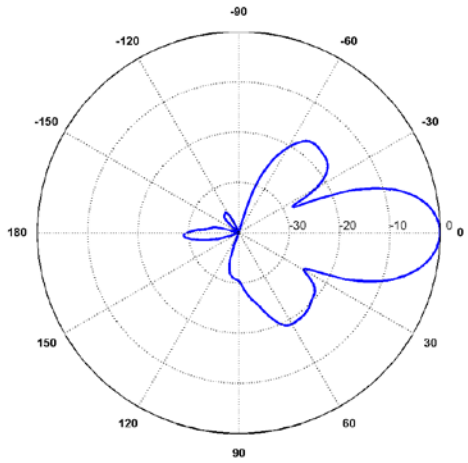
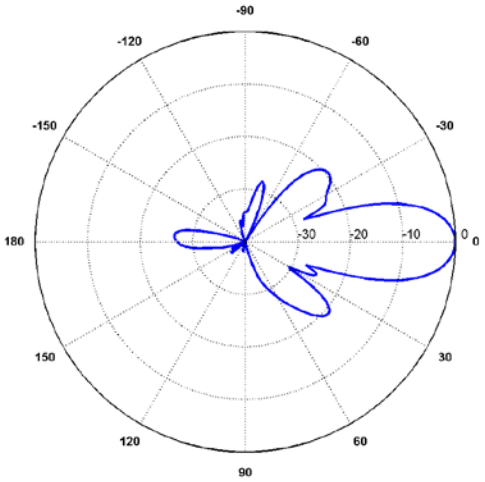
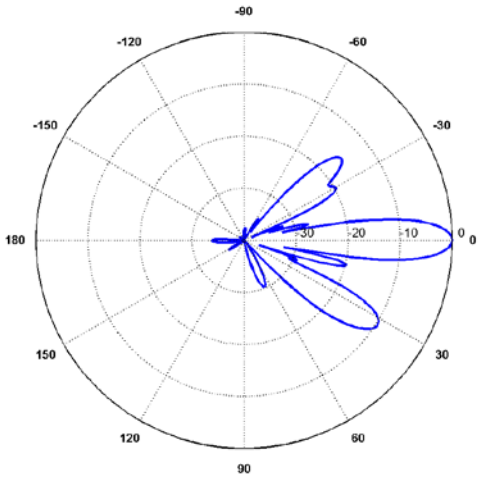
**Summary**: Under worst-case assumptions, RF Power Density levels for the proposed AT&T antenna arrays will not exceed **1.43%**[1] of the FCC MPE limit for General Public/Uncontrolled Environments.

Sincerely,

Daniel L. Goulet
C Squared Systems, LLC

[1] The total %MPE is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

**Attachment: AT&T's Antenna Data Sheets and Electrical Patterns**

| | |
|---|---|
| **750 MHz**<br><br>Manufacturer: CCI Products<br>Model #: OPA-65R-LCUU-H4<br>Frequency Band: 698-787 MHz<br>Gain: 10.6 dBd<br>Vertical Beamwidth: 18.9°<br>Horizontal Beamwidth: 65°<br>Polarization: Dual Pol ± 45°<br>Size L x W x D: 48" x 14.4" x 7.3" |  |
| **850 MHz**<br><br>Manufacturer: CCI Products<br>Model #: OPA-65R-LCUU-H4<br>Frequency Band: 824-894 MHz<br>Gain: 11.2 dBd<br>Vertical Beamwidth: 16.5°<br>Horizontal Beamwidth: 63°<br>Polarization: Dual Pol ± 45°<br>Size L x W x D: 48" x 14.4" x 7.3" |  |
| **1900 MHz**<br><br>Manufacturer: CCI Products<br>Model #: OPA-65R-LCUU-H4<br>Frequency Band: 1850-1990 MHz<br>Gain: 13.6 dBd<br>Vertical Beamwidth: 8.9°<br>Horizontal Beamwidth: 63°<br>Polarization: Dual Pol ± 45°<br>Size L x W x D: 48" x 14.4" x 7.3" |  |

# ATTACHMENT F

**CERTIFICATION OF SERVICE**

I hereby certify that on the 2 of July 2015, a copy of the foregoing letter and notice were mailed by certified mail, return receipt requested to each of the abutting properties owners on the accompanying list.

7/2/15
Date

Christopher B. Fisher
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, New York 10601

Attorneys for:
Blue Sky Towers LLC ("Blue Sky"); And
New Cingular Wireless PCS, LLC (AT&T)

ADJACENT PROPERTY OWNERS
220 Evergreen Street

| | |
|---|---|
| Westlund-Krasenics Properties LLC.<br>221 Evergreen Street<br>Bridgeport, CT 06606 | Howard L. Johnson<br>219 Evergreen Street<br>Bridgeport, CT 06606 |
| Anthony Arduini<br>312 River Street<br>Bridgeport, CT 06606 | City of Bridgeport<br>45 Lyon Terrace<br>Bridgeport, CT 06604 |
| Maria C & Julio C. Guzman<br>292 River St<br>Bridgeport, CT 06604 | Estate of Sarina Charris<br>& Victor P Charris<br>274 River Street<br>Bridgeport, CT 06604 |
| Porfirio Dacruz ET AL<br>272 River Street<br>Bridgeport, CT 06604 | River Street Properties Inc.<br>261 River Street<br>Bridgeport, CT 06604 |
| Chapin & Bangs Company<br>P.O. Box 1117<br>Bridgeport, CT 06601 | |

## CERTIFICATION OF SERVICE

I hereby certify that on the ___day of July 2015, copies of the attached notice of filing of a Petition with the Connecticut Siting Council for a declaratory ruling were sent by certified mail return receipt requested, to the following:

Dated: 7/2/15

Cuddy & Feder LLP
45 Hamilton Avenue, 14th Floor
White Plains, New York 10601
Attorneys for :
Blue Sky Towers LLC ("Blue Sky"); And
New Cingular Wireless PCS, LLC (AT&T)

### State and Regional

| | |
|---|---|
| The Honorable George Jepsen<br>Attorney General<br>Office of the Attorney General<br>55 Elm Street<br>Hartford, CT 06106 | Department of Economic and<br>Community Development<br>Catherine Smith, Commissioner<br>505 Hudson Street<br>Hartford, CT 06106 |
| Department of Public Health<br>Dr. Jewel Mullen, Commissioner<br>410 Capitol Avenue<br>P.O. Box 340308<br>Hartford, CT 06134 | Department of Energy and<br>Environmental Protection<br>Public Utilities Regulatory Authority<br>Chairman Arthur House<br>Ten Franklin Square<br>New Britain, CT 06051 |
| Council on Environmental Quality<br>Susan D. Merrow, Chair<br>79 Elm Street<br>Hartford, CT 06106 | Department of Transportation<br>James P. Redeker, Commissioner<br>2800 Berlin Turnpike<br>Newington, CT 06111 |

| | |
|---|---|
| Department of Energy & Environmental Protection<br>Rob Klee, Commissioner<br>79 Elm Street<br>Hartford, CT 06106 | Department of Agriculture<br>Steven K. Reviczky, Commissioner<br>165 Capitol Avenue<br>Hartford, CT 06106 |
| Office of Policy and Management<br>Benjamin Barnes, Secretary<br>450 Capitol Avenue<br>Hartford, CT 06106 | State House Representative - 128th Assembly District<br>Christopher Rosario<br>Legislative Office Building<br>Room 5006<br>Hartford, CT 06106 |
| Department of Emergency Services & Public Protection<br>Division of Emergency Management and Homeland Security<br>Dora B. Schriro, Commissioner<br>25 Sigourney Street, 6th Floor<br>Hartford, CT 06106-5042 | State Senator - 23rd District<br>Ed Gomes<br>Legislative Office Building<br>Room 3800<br>Hartford, CT 06106 |
| Department of Economic and Community Development-Offices of Culture and Tourism<br>Daniel Forrest, State Historic Preservation Officer<br>One Constitution Plaza, 2nd Floor<br>Hartford, CT 06103 | Greater Bridgeport Regional Council<br>Bridgeport Transportation Center<br>Brian Bidolli - Executive Director<br>525 Water Street<br>Bridgeport, CT 06604 |

## Federal

| | |
|---|---|
| Federal Communications Commission<br>445 12th Street SW<br>Washington, D.C. 20554 | Federal Aviation Administration<br>800 Independence Avenue, SW<br>Washington, DC 20591 |
| U.S. Congressman Jim Himes<br>211 State Street, 2nd Floor<br>Bridgeport, CT 06604 | U.S. Senator Richard Blumenthal<br>90 State House Square, 10th Floor<br>Hartford, CT 06103 |
| U.S. Senator Christopher Murphy<br>One Constitution Plaza, 7th Floor<br>Hartford, CT 06103 | |

## City of Bridgeport

| | |
|---|---|
| Bill Finch, Mayor<br>Office of Mayor<br>City of Bridgeport<br>Margaret E. Morton Government Center<br>999 Broad Street<br>Bridgeport, CT 06604 | Melville Riley, Jr., Chair<br>Planning & Zoning Commission<br>45 Lyon Terrace<br>Bridgeport, CT 06604 |
| Fleeta C. Hudson<br>City Clerk<br>City Hall Room 204<br>45 Lyon Terrace<br>Bridgeport, CT 06604 | Dennis Buckley, Zoning Administrator<br>Zoning Department<br>Room 210<br>City Hall 45 Lyon Terrace<br>Bridgeport, CT 06604 |
| David Kooris, Dir. Of Planning and<br>Economic Development<br>999 Broad Street<br>Bridgeport, CT 06604 | William E. Minor, LUCR Director<br>Land Use Construction Review<br>45 Lyon Terrace, Room 212<br>Bridgeport, CT 06604 |
| Melville T. Riley, Jr., Acting Chair<br>Inland Wetland Commission<br>45 Lyon Terrace<br>Bridgeport, CT 06604 | |

CUDDY& FEDER LLP

445 Hamilton Avenue, 14th Floor
White Plains, New York 10601
Tel 914.761.1300 Fax 914.761.5372
www.cuddyfeder.com

July 2, 2015

**VIA CERTIFIED MAIL**
**RETURN RECEIPT REQUESTED**

Re: Blue Sky Towers LLC ("Blue Sky") and New Cingular Wireless PCS, LLC ("AT&T")
Proposed Temporary Tower Facility
220 Evergreen Street, Bridgeport, Conneticut

Dear Sir/Madam:

We are writing to you on behalf of our clients Blue Sky Tower, LLC ("Blue Sky") and New Cingular Wireless PCS, LLC ("AT&T") with respect to the above referenced matter and our client's intent to file a petition with the State of Connecticut Siting Council for approval of a proposed temporary wireless communications tower facility (the "Facility") within the City of Bridgeport.

State law requires that record owners of property abutting a parcel on which a facility is proposed be sent notice of an applicant's intent to file a petition with the Siting Council.

Included with this letter please find a Notice of this petition with details of the proposed temporary tower Facility. Of note, the location, height and other features of the Facility are subject to review and potential change by the Connecticut Siting Council under the provisions of Connecticut General Statutes §16-50g et seq.

If you have any questions concerning this petition, please contact the Connecticut Siting Council or the undersigned after July 6, 2015, the date which the petition is expected to be on file.

Very truly yours,

Christopher B. Fisher
Enclosure

C&F: 2811562.1

NOTICE

Notice is hereby given, pursuant to Section 16-50j-40(a) of the Regulations of Connecticut State Agencies of a Petition to be filed with the Connecticut Siting Council ("Siting Council") on or after July 2, 2015 by Blue Sky Towers LLC ("Blue Sky") and New Cingular Wireless PCS, LLC ("AT&T") the ("Petitioners"). Blue Sky and AT&T will seek a declaratory ruling that a temporary tower proposed on property located at 220 Evergreen Street in the City of Bridgeport, Connecticut (the "Site") is either an exempt modification pursuant to Siting Council regulations and/or a tower that does not have significant adverse environmental effects which might otherwise require a certificate of environmental compatibility and public need ("Certificate").

A temporary tower is being proposed by Blue Sky and AT&T to replace service that will be disrupted when an existing AT&T wireless facility located at 370 North Avenue is decommissioned due to structural issues with the support structure at that location. AT&T has been unable to add capacity to the wireless facility and otherwise safely visit and maintain its facility. The proposed temporary tower will provide service for AT&T until a permanent tower site can be approved, constructed and made operational. Blue Sky and AT&T anticipate filing a technical report with the City of Bridgeport to consult on a permanent tower site at this same Site later this month.

Blue Sky's proposed temporary tower facility consists of an approximately 120' tall ballast tower at an overall height of 128' AGL, with six (6) AT&T antennas located at a centerline height of 124' AGL. The temporary tower could accommodate up to two additional carriers that may relocate from the structure at 370 North Avenue. A 3,617.5 s.f. gravel equipment compound would be located at the base of the temporary tower, enclosed by a 8' high chain link fence, and include a temporary AT&T unmanned 12' by 20' equipment shelter in a temporary lease area. Access to the facility would be from Evergreen Street and utility connections from an existing utility pole. The temporary tower would be removed upon approval, construction and operation of a permanent tower site relocation.

The Petition will provide details of the facility and explain why the Petitioners submits that the proposed temporary tower presents no significant adverse environmental effects. The location, height and other features of the facility are subject to review and potential change under provisions of the Connecticut General Statutes Sections 16-50g et. seq.

Copies of the Petition will be available for review during normal business hours on or after July 6, 2015 at the Connecticut Siting Council:

Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

City of Bridgeport
Town Clerk
45 Lyon Terrace
Bridgeport, CT 06604

or the offices of the undersigned. All inquiries should be addressed to the Connecticut Siting Council or to the undersigned.

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Attorneys for the Petitioners