HOMELAND TOWERS

Homeland Towers, LLC

22 Shelter Rock Lane
Danbury CT 06810
Phone 203-297-6345
Fax 203-797-1137

Sent via FedEx

December 17, 2015

Honorable Robert Stein, Chairman
And Members of the Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Docket No. 452 – Homeland Towers LLC (HT) and New Cingular Wireless PCS, LLC (AT&T) Application for Certificate of Environmental Compatibility and Public Need For A Tower Facility at intersection of 250 Canaan Road, Salisbury CT

Dear Chairman Stein and Members of the Siting Council,

As co-applicant, Homeland Towers ("HT") requests that you please accept for review and Council approval this Development & Management Plan ("D&M Plan") filing for the Facility as approved in Docket No. 452.

Tower, Compound & Other Equipment

Enclosed are fifteen (15) sets of 11"x17" Development & Management Plans being filed in accordance with the Council's Decision and Order dated March 5, 2015 ("Decision and Order"). Two full-sized sets of the Development & Management Plans are also enclosed. The D&M Plan incorporates a 150' stealth tree monopole with faux tree branch material not extending above 157' agl as provided for in the Siting Council's Decision and Order in this Docket. AT&T will mount twelve (12) panel antennas at a centerline of 146'as depicted on the drawings prepared by All Points Technology Corporation. Attached please also find a geotechnical study as well as a structural design report for the tower and foundation. Specifications for the antennas and generator are also provided.

The proposed D&M Plan also includes construction plans for the site clearing, drainage, and erosion and sedimentation control measures consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control as amended.

Required Notifications

In accordance with the provisions of RCSA Section 16-50j-77, Homeland Towers hereby notifies the Council of its intention to begin site work immediately after Council approval of the D&M Plan. Construction of the tower and other site improvements will commence upon issuance of a local building permit. The supervisor for all construction related matters on this project is Christian Carmody, located at InSite Towers, 1199 North Fairfax Street, Suite 700, Alexandria, VA 22314 and can be reached by telephone at 617-595-7254.

We respectfully request that this matter be included on the Council's next available agenda for review and approval. Thank you for your consideration of the enclosed.

Sincerely,
Raymond Vergati
rv@homelandtowers.us

Enclosures

cc: Honorable Curtis Rand, First Selectman, Town of Salisbury
Manny Vicente, Homeland Towers LLC
Michele Briggs, AT&T
Scott Chasse, P.E., APT
Lucia Chiocchio, Esq., Cuddy & Feder LLP

Certificate of Service

I hereby certify that on this day, an original and fifteen copies of the foregoing was sent electronically and by overnight delivery to the Connecticut Siting Council with a copy to:

Town of Salisbury
The Honorable Curtis Rand
First Selectman
Town Hall
PO Box 548
27 Main Street
Salisbury, CT 06068

InSite Towers LLC
1199 North Fairfax Street
Suite 700
Alexandria, VA 22314

Dated: December 17, 2015

Raymond M. Vergati
Site Development Manager
Homeland Towers, LLC

ATTACHMENT 1

Geotechnical Engineering Report

Geotechnical Engineering Report

Proposed Homeland Towers: Salisbury CT-114
Salisbury, Connecticut
June 4, 2015
Terracon Project No. J2155143

Prepared for:
Homeland Towers
Danbury, Connecticut

Prepared by:
Terracon Consultants, Inc.
Rocky Hill, Connecticut

June 4, 2015

Homeland Towers
22 Shelter Rock Lane, Building C
Danbury, CT 06810

Attn: Mr. Raymond Vergati, Site Development Manager
P: (203) 297 6345
F: (860) 797 1137
E: rv@homelandttowers.us

Re: Geotechnical Engineering Report
Proposed Homeland Towers: Salisbury CT-114
Salisbury, Connecticut
Terracon Project No. J2155143

Dear Mr. Vergati:

Terracon Consultants, Inc. (Terracon) has completed the geotechnical engineering services for the above referenced project. This study was performed in general accordance with the Authorization to Proceed, dated May 12, 2015. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design of foundations for the proposed telecommunications tower and accompanying equipment cabinets.

We appreciate the opportunity to be of service to you on this project. If you have questions concerning this report, or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants, Inc.

Brian D. Opp, P.E.
Project Engineer I

Richard W.M. McLaren, P.E.
Senior Associate
Geotechnical Department Manager

/rwm/J2155143
Attachment

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GEOTECHNICAL ENGINEERING REPORT
PROPOSED HOMELAND TOWERS: SALISBURY CT-114
SALISBURY, CONNECTICUT

Terracon Project No. J2155143
June 4, 2015

1.0 INTRODUCTION

A geotechnical engineering report has been completed for the proposed 150-foot high steel "Monopine" telecommunications tower to be located at 250 Canaan Road in Salisbury, Connecticut. A single test boring was advanced to a depth of about 15 feet below existing ground surface close to the proposed tower location. Four test probes were advanced within the proposed 60-foot by 70-foot compound area to a depth of about 10 feet. Logs of the test boring and probes, along with a Site Location Map (Exhibit A-1) and an Exploration Location Diagram (Exhibit A-2), are included in Appendix A of this report.

The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- subsurface soil conditions
- groundwater conditions
- earthwork
- foundation design and construction
- seismic considerations
- slab design and construction

2.0 PROJECT INFORMATION

The project consists of the construction of a 150-foot high steel "Monopine" telecommunications tower with associated equipment cabinets within a 60-foot by 70-foot fenced compound inside a 70-foot by 80-foot area. Access to the site will be by a 25-foot wide access and utility easement from Canaan Road to the south of the site.

2.1 Project Description

Our knowledge of the project is based on review of the Drawing Set: *Salisbury, 250 Canaan Road, Salisbury, CT 06068*, revised November 14, 2014, by All-Points Technology Corporation of Killingworth, Connecticut. A summary description of the project is presented below:

Item	Description
Site layout	Exploration Location Diagram on Exhibit A-2, Appendix A
Tower	A 150-foot high steel "Monopine" telecommunications tower.
Estimated maximum loads	Tower dead load - 60 kips Equipment pad - 150 pounds per square foot (psf)
Grading	Cuts and fills up to a foot are anticipated to develop the site
Permanent Slopes	No significant slopes.

2.2 Site Location and Description

Item	Description
Location	Latitude 42.006223N / Longitude 73.391449W. Approximately 1,850 feet north of Canaan Road (Route 44) in the town of Salisbury, Connecticut.
Existing improvements	None
Current ground cover	Trees/vegetation
Existing topography	Slopes downward to the southwest from approximately Elevations (El) 895 to 891 feet within the proposed compound.

3.0 SUBSURFACE EXPLORATIONS AND CONDITIONS

3.1 Typical Profile

Based on the results of the exploration and observations at the time of drilling, subsurface conditions on the project site can be generalized as follows:

Description	Approximate Depth to Bottom of Stratum (feet)	Material Encountered [1]	Consistency / Relative Density
Glacial Till	15	Silty sand (SM), brown	Medium dense to dense (surficially loose)
Bedrock	> 15	Implied by power auger refusal at a similar depth on three attempts.	N/A

1. Forest mat (about 6 to 8 inches thick) was encountered at the ground surface of the explorations.

The *Surficial Materials Map of Connecticut, 1992*, identifies native soils in the vicinity of the site as glacial till. B-1 terminated upon auger refusal on probable bedrock at a depth of approximately 15 feet. The probes terminated at a depth of 10 feet in the glacial till. The *Bedrock Geologic Map of Connecticut, 1985*, indicates that bedrock in the vicinity of the site consists of dark- to light-colored schistose marble, the basal marble member of Walloomsac Schist.

Conditions encountered at the exploration locations are indicated on the exploration logs in Appendix A of this report. Stratification boundaries on the exploration logs represent the approximate location of changes in soil types; *in situ*, the transition between materials may be gradual. Further details of the exploration can be found on the exploration logs.

3.2 Karst Geology

The site is located over marble bedrock in which solution features, including caves and sinkholes, can occur. Predicting future sinkhole activity is difficult. Sinkholes and caves in this area may be at various stages of development and may manifest at any time. Any construction in karst topography is accompanied by some degree of risk for future internal soil erosion and ground subsidence.

For a project of this size, investigating or designing to minimize the risk of damage due to sinkhole-related subsidence is not typically economical. Additional borings into bedrock could increase confidence in the site, if they do not encounter indications of solution features. However, the additional borings offer no assurance, as they may simply miss the solution features present at the site. Alternative foundation or site development systems to help address the risk subsidence, such as deep foundations, stone columns, grouting, etc. do not appear to be warranted for this project. We are available to further discuss this matter, if the owner is concerned about the challenges posed by karst geology.

3.3 In-situ Resistivity

On May 27, 2015, *in-situ* soil resistivity testing was completed by a Terracon field engineer. Resistivity testing was performed in general accordance with ASTM G57 by the Wenner Four Probe Method using a Megger DET5/4R Digital Earth Tester. Two resistivity lines were completed with electrodes spaced at 5, 10, 20, 30, and 40 feet. The location and orientation of the resistivity lines are shown on Exhibit A-2. The resistivity test results are tabulated below:

	Resistivity (ohm-cm)	
Electrode Spacing (ft)	**Line 1**	**Line 2**
5	19,630	29,685
10	19,535	30,255
20	24,395	32,940
30	32,170	26,425
40	30,640	21,450

3.4 Groundwater

Groundwater was not encountered at the time of the explorations. However, fluctuations in groundwater level may occur because of seasonal variations in the amount of rainfall, runoff and other factors. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

4.0 RECOMMENDATIONS FOR DESIGN AND CONSTRUCTION

4.1 Geotechnical Considerations

The proposed "Monopine" steel telecommunications tower may be supported on a monolithic mat or a pier-and-pad foundation bearing on the glacial till or on compacted structural fill placed over the glacial till. Minus ¾-inch crushed stone may be used in place of structural fill. Alternatively, the proposed telecommunications tower may be supported on a drilled shaft foundation. The proposed equipment platform and other ancillary structures may derive support from the glacial till. Design recommendations are presented in the following sections.

We recommend that the exposed subgrades be thoroughly evaluated after excavation to proposed grade. We further recommend that the geotechnical engineer be retained to evaluate the bearing material for the foundation subgrade. We also recommend that the geotechnical engineer review the construction of the drilled shaft, if selected as the foundation system.

4.2 Earthwork

Preparation of the site should include removal of topsoil, organic subsoil (subsoil with visible roots), or otherwise unsuitable materials. The soil subgrade should be proofrolled with a walk-behind vibratory roller or heavy plate compactor. Unstable subgrades should be removed and replaced with compacted structural fill. Minus ¾-inch crushed stone may be used in place of structural fill. If required, structural fill may then be placed within the compound area to attain the required grade.

Fill and backfill materials should meet the following material requirements:

Fill Type [1]	USCS Classification	Acceptable Location for Placement
Structural Fill [2,3]	GW	All locations and elevations. Based on observations, the glacial till may be selectively re-used as structural fill, provided it is free of organic and closely meets the gradation requirements in Note 2, below.

Fill Type [1]	USCS Classification	Acceptable Location for Placement
Common Fill [4]	Varies	Common fill may be used for general site grading to within 12 inches of finished grade. Common fill should not be used below sensitive structures. The glacial till may be re-used as common fill, provided it is free of organics and can be adequately compacted.

1. Compacted fill should consist of approved materials that are free of organic matter and debris. Frozen material should not be used. Fill should not be placed on a frozen subgrade.
2. Imported structural fill should meet the following gradation:

Percent Passing by Weight

Sieve Size	Structural Fill
6"	100
3"	70 – 100
2"	(100)*
¾"	45 – 95
No. 4	30 – 90
No. 10	25 – 80
No. 40	10 – 50
No. 200	0 – 12

* Maximum 2-inch particle size within 12 inches of the underside of concrete elements

3. Recommendation for re-use of site soils as Structural Fill applies only to re-use on this site and only if Terracon is monitoring construction.
4. Imported common fill should have a maximum particle size of 6 inches and no more than 25 percent by weight passing the US No. 200 sieve.

4.2.1 Compaction Requirements

Item	Description
Fill Lift Thickness	8 inches or less in loose thickness
Compaction Requirements [1]	95 percent maximum modified Proctor dry density (ASTM D1557, Method C)
Moisture Content – Granular Material	Workable moisture levels

1. We recommend that fill be tested for moisture content and compaction during placement. Should the results of the in-place density tests indicate the specified moisture or compaction limits have not been met, the area represented by the test should be reworked and retested, as required, until the specified moisture and compaction requirements are achieved.

4.2.2 Grading and Drainage

We understand that the compound area will be graded to slope downward to the southwest from about El 894 to 892. There will be no significant slopes.

Adequate drainage should be provided at the site to reduce the likelihood of an increase in moisture content of the foundation soils. Final site grading should be away from the tower to reduce the likelihood of water ponding near the structure.

4.2.3 Earthwork Construction Considerations

Although the exposed subgrade is anticipated to be relatively stable upon initial exposure, unstable subgrade conditions could develop during general construction operations, particularly if the soils are wetted and/or subjected to repetitive construction traffic. Should unstable subgrade conditions develop, stabilization measures will need to be employed.

Construction traffic over the completed soil subgrade should be avoided to the extent practical. The site should also be graded to prevent ponding of surface water on the prepared soil subgrades or in excavations. If the soil subgrade should become frozen, wet, or disturbed, the affected material should be removed or these materials should be scarified, moisture conditioned, and recompacted.

As a minimum, temporary excavations should be sloped or braced as required by Occupational Health and Safety Administration (OSHA) regulations to provide stability and safe working conditions. Temporary excavations may be required during grading operations. The contractor, by his contract, is usually responsible for designing and constructing stable, temporary excavations and should shore, slope or bench the sides of the excavations, as required, to maintain stability of both the excavation sides and bottom. All excavations should comply with applicable local, State, and federal safety regulations, including the current OSHA Excavation and Trench Safety Standards.

The geotechnical engineer should be retained during the construction phase of the project to observe earthwork and to perform necessary tests and observations during subgrade preparation; proofrolling; placement and compaction of controlled compacted fills; backfilling of excavations into the completed subgrade, and just prior to construction of foundations.

4.3 Foundation Recommendations

4.3.1 Tower Foundations

We recommend that the proposed "Monopine" telecommunications tower be supported on either a monolithic mat or a pier-and-pad foundation placed on the glacial till or on compacted structural fill placed over the glacial till. Minus ¾-inch crushed stone may be used in place of structural fill. Alternatively, the proposed telecommunications tower may be supported on a drilled shaft foundation extending into the glacial till. Design recommendations and construction considerations for the recommended foundation systems are presented in the following tables and paragraphs.

4.3.1.1 Mat/Pad Foundation Design Recommendations

Description	Value
Net allowable bearing pressure [1]	6,000 psf
Minimum embedment below finished grade for frost protection	42 inches
Approximate total settlement [2]	1 inch
Estimated differential settlement [2]	½ inch
Total soil unit weight (γ)	125 pcf
Passive pressure coefficient, K_p [3]	3.0 (ultimate)
Coefficient of sliding friction [4]	0.5 (ultimate)

1. The recommended net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the mat/pad base elevation.
2. Foundation settlement will depend upon the variations within the subsurface soil profile, the structural loading conditions, the embedment depth of the mat/pad the thickness of compacted fill, and the quality of the earthwork operations.
3. Passive pressure calculated with this parameter should be reduced by at least a factor of safety of 3, to reflect the amount of movement required to mobilize the passive resistance.
4. A factor of safety of at least 1.5 should be applied to the sliding resistance.

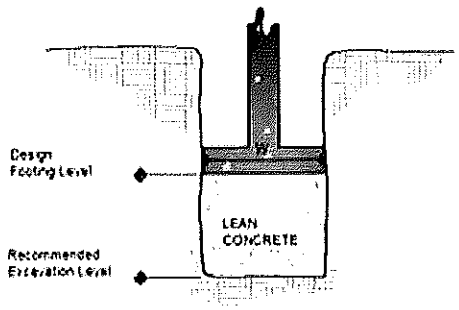
Uplift resistance for the tower foundation may be computed as the sum of the weight of the foundation element and the weight of the soil overlying the foundation. For this computation, we recommend using a soil unit weight of 100 pounds per cubic foot (pcf) for engineered fill overlying the footing placed as described in this section of this report. A unit weight of 150 pcf may be used for reinforced foundation concrete. A factor of safety of 1.0 may be applied to calculations of dead load; a higher factor of safety may be appropriate for loadings resisted by dead load.

4.3.1.2 Mat/Pad Foundation Construction Considerations

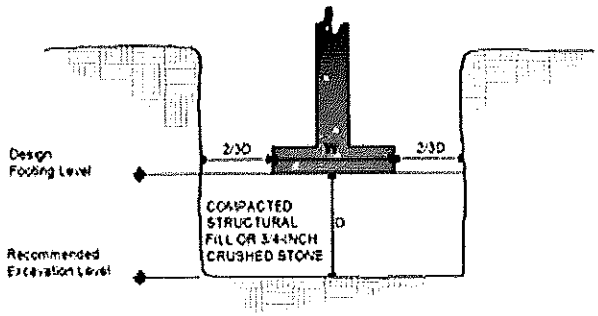
The base of foundation excavations should be free of water and loose soil prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing disturbance. Should the soils at bearing level become wet, disturbed or frozen, the affected soil should be removed prior to placing concrete. The geotechnical engineer should be retained to observe and test the foundation bearing materials.

If unsuitable bearing soils are encountered in footing excavations, the excavation could be extended deeper to suitable soils and the footing could bear directly on these soils at the lower level. As an alternative, the footings could also bear on properly compacted structural fill. Minus ¾-inch crushed stone may be used in place of structural fill extending down to the suitable soils. Overexcavation for compacted structural fill placement below footings should extend laterally beyond all edges of the footings at least 8 inches per foot of overexcavation depth below footing base elevation. The overexcavation should then be backfilled up to the footing base elevation with well graded granular material placed in lifts of 8 inches or less in loose thickness and

compacted to at least 95 percent of the modified Proctor maximum dry density (ASTM D1557, Method C). The overexcavation and backfill procedure is described in the following figure:



Lean Concrete Backfill



Overexcavation / Backfill / Crushed Stone

NOTE: Excavations in sketches shown vertical for convenience. Excavations should be sloped as necessary for safety.

The contractor should prevent groundwater, if encountered, and surface water runoff from collecting in the excavation. Subgrade soils that become unstable because of water and/or reworking by construction activity should be replaced with compacted structural, as necessary.

The predominant soil type at the recommended subgrade level will be the glacial till, portions of which have an elevated silt content. Soils with a higher silt content will be sensitive to excess moisture and lose strength quickly during wet periods. Contractors experienced in earthwork construction in this region should be aware of the silty soil behavior and the effect that moisture and inclement weather can have on its workability. If a contractor bids construction knowing that earthwork must begin during the winter or wet months, the contractor should include a contingency in his bid to use off-site suitable fill, and to remove and dispose of on-site soils that become unsuitable.

4.3.1.3 Drilled Shaft Design Recommendations

Description	Value
Net Allowable Bearing Capacity [1]	
Bedrock (>16 feet)	10 ksf
Ultimate Side Friction [2]	
Glacial Till (3.5 to 15 feet)	2 ksf
Ultimate Bond	
Bedrock (>15 feet)	10 ksf
Coefficient Lateral Subgrade Reaction [3]	
Glacial Till (0 to 5 feet)	30 (z/D) kcf
Glacial Till (5 to 15 feet)	70 (z/D) kcf
Bedrock (>15 feet)	100 (z/D) kcf

Description	Value
Angle of Internal Friction	
Glacial Till (0 to 5 feet)	32 degrees
Glacial Till (5 to 15 feet)	34 degrees
Bedrock (>15 feet)	40 degrees
Estimated In-situ Unit Weight	
Glacial Till	125 pcf
Bedrock	140 pcf
Approximate Groundwater Depth (5/27/2015)	Not Encountered
Concrete minimum 28-day unconfined compressive strength [4]	4,000 psi
Minimum drilled shaft diameter	Diameter of "Monopine" base
Allowable deflection at top of shaft	0.5 inch

1. The allowable end bearing pressure assumes that loose rock and sloughed soil at the base of the shaft has been removed.
2. Contribution to shaft capacity from soil above a depth of 3.5 feet should be ignored. The uplift capacity of the shaft will be based on side friction and the dead weight of the shaft.
3. z is depth below the ground surface and D is diameter of shaft, both in feet.
4. Use air entrained concrete.

We anticipate that the design length of the shaft will be primarily dependent on the embedment/lateral capacity required to resist live loading, such as the combination of wind and ice loads. However, the base of the drilled shaft should be in bedrock at least 16 feet below ground surface. The drilled shaft will be designed to resist tension loads and therefore should have reinforcing steel installed throughout the entire length of the shaft. Technical specifications should be prepared that require material and installation detail submittals, proof of experience in drilled shaft installation, concrete placement methods, and hole stabilization methods.

4.3.1.4 Drilled Shaft Construction Recommendations

The drilled shaft should be aligned vertically. The drilling method or combination of methods selected by the contractor should be submitted for review by the geotechnical engineer, prior to mobilization of drilling equipment.

A section of temporary casing may be required to reduce the likelihood of caving of the side walls of the shaft hole. Concrete should be placed by directing the concrete down the center of the shaft in order to reduce the likelihood of hitting the reinforcing steel and segregating. Groundwater, if encountered in the shaft, should be removed prior to placing concrete. The contractor should take these aspects into account in his proposed drilling method(s).

4.3.2 Equipment Cabinet Foundations

Equipment cabinets and ancillary structures may be supported on slabs underlain by at least a 12-inch thickness of compacted structural fill. Minus ¾-inch crushed stone may be used in place of structural fill. Design recommendations for the proposed structures are presented in the following table:

4.3.2.1 Slab Design Recommendations

Description	Value
Slab support (compacted structural fill or minus ¾-inch crushed stone)	12-inch thick layer
Net allowable bearing pressure	2,000 psf
Modulus of subgrade reaction	200 pounds per square inch per in (psi/in) for point loading
Minimum embedment below finished grade for frost protection [1,2]	42 inches
Approximate total settlement [3]	1 inch
Estimated differential settlement [3]	½ inch
Coefficient of sliding friction [4,5]	0.5 (ultimate)

1. Consideration should be given to using dense insulation boards (Dow Styrofoam Highload, or similar) under and adjacent to lightly loaded slabs-on-grade, to provide the equivalent of 42 inches of earth cover, thus reducing frost penetration.
2. Air entraining admixtures should be used for concrete exposed to freezing.
3. Settlement will depend upon the variations within the subsurface soil profile, the structural loading conditions, the thickness of compacted fill, and the quality of the earthwork operations.
4. A factor of safety of at least 1.5 should be applied to the sliding resistance.
5. If rigid insulation is used beneath the slab for frost protection, the coefficient of sliding friction between the concrete and the insulation should be based on the manufacturer's recommendation.

4.3.2.2 Slab Construction Considerations

On most tower sites, the site grading is generally accomplished early in the construction phase. However, as construction proceeds, the subgrade may be disturbed by foundation excavations, construction traffic, rainfall, etc. As a result, the slab subgrade may not be suitable for placement of structural fill and corrective action will be required.

We recommend the area underlying the slabs be rough graded and then thoroughly compacted with a heavy plate compactor or vibratory roller prior to final grading and placement of structural fill. Minus ¾-inch crushed stone may be used in place of structural fill. Particular attention should be paid to high traffic areas that were rutted and disturbed earlier and to areas previously filled or backfilled. Areas where unsuitable or unstable conditions are located should be repaired by removing and replacing the affected material with properly compacted structural fill or minus ¾-inch crushed stone, as necessary.

4.4 Seismic Considerations

Description	Value
Code Used [1]	Connecticut State Building Code (CBC)
Site Class [2]	C
Maximum considered earthquake ground motions (5 percent damping)	0.065g (1.0 second spectral response acceleration)
	0.231g (0.2 second spectral response acceleration)
Liquefaction potential in event of an earthquake	Not susceptible

1. The CBC incorporates the Seismic Design Category approach of the 2003 International Building Code (IBC).
2. The CBC uses a site soil profile determination extending a depth of 100 feet for seismic site classification. The current scope requested does not include a 100-foot soil profile determination; the boring performed for this report extended to a maximum depth of 15 feet. However, the encountered bedrock will extend to a depth of at least 100 feet.

5.0 GENERAL COMMENTS

Terracon should be retained to review the final design plans and specifications, so comments can be made regarding interpretation and implementation of our geotechnical recommendations in the design and specifications. Terracon also should be retained to provide observation and testing services during grading, excavation, foundation construction, and other earth-related construction phases of the project.

The analysis and recommendations presented in this report are based upon the data obtained from the explorations performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between the explorations, across the site, or due to the modifying effects of weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we should be immediately notified, so that further evaluation and supplemental recommendations can be provided.

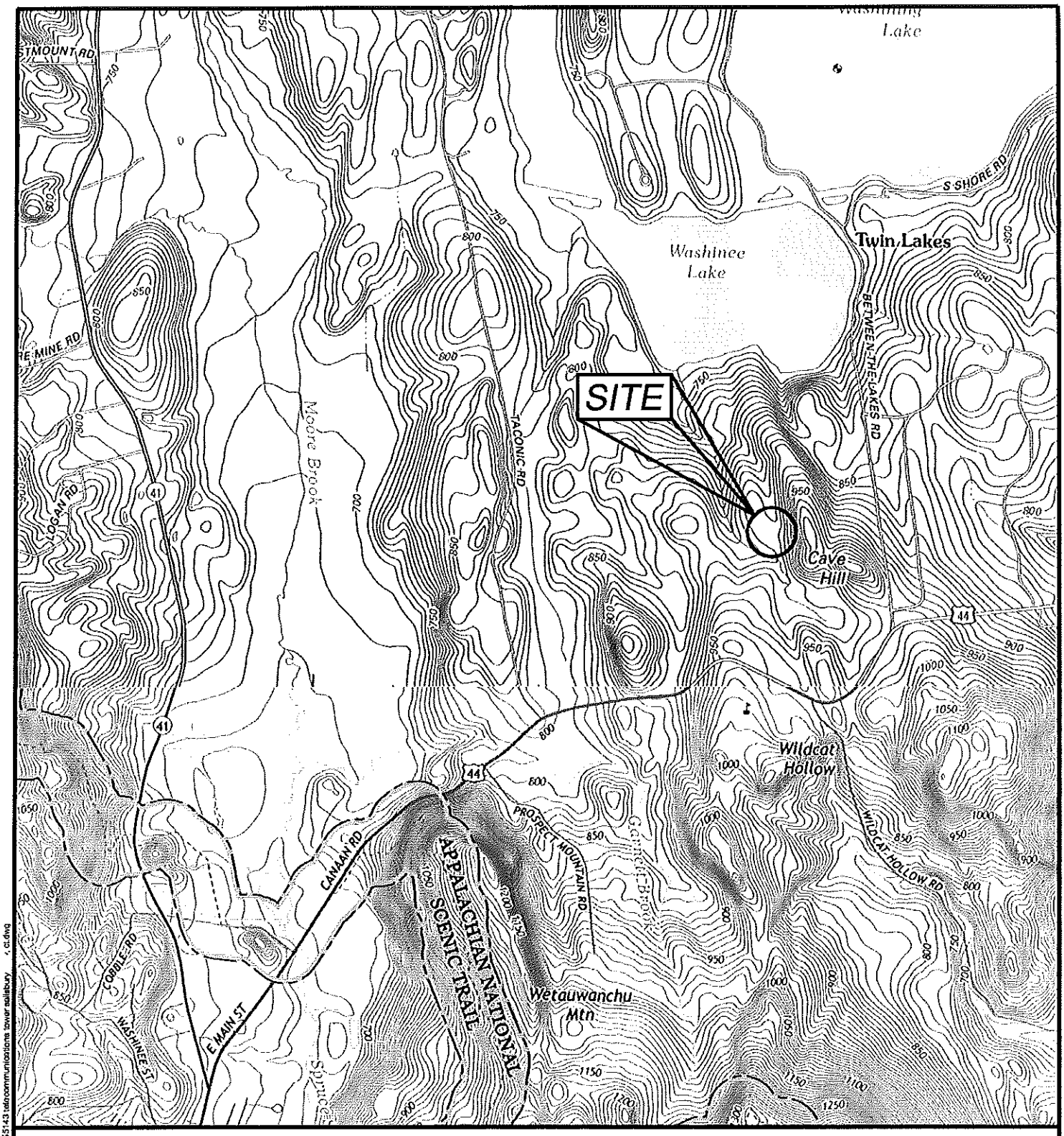
Resistivity testing may be influenced by the presence of boulders or other anomalies within the test area. Resistivity results will also fluctuate depending on the degree of compaction, moisture content, soil constituent solubility, and temperature. Field resistivity values may vary depending upon season, precipitation, and other conditions, which may be different from those at the time of testing.

The scope of services for this project does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or

prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made. Site safety, excavation support, and dewatering requirements are the responsibility of others. In the event that changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless Terracon reviews the changes and either verifies or modifies the conclusions of this report in writing.

APPENDIX A
FIELD EXPLORATION



SCALE: 1:24 000

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

QUADRANGLE LOCATION

Project Mngr:	TKT
Drawn By:	TKT
Checked By:	RWM
Approved By:	RWM

Project No.	J2155143
Quadrangle:	BASH BISH FALLS, MA-CT-NY - 2012 SHARON, CT - NY - 2015
File No.	J2155143
Date:	June 2015

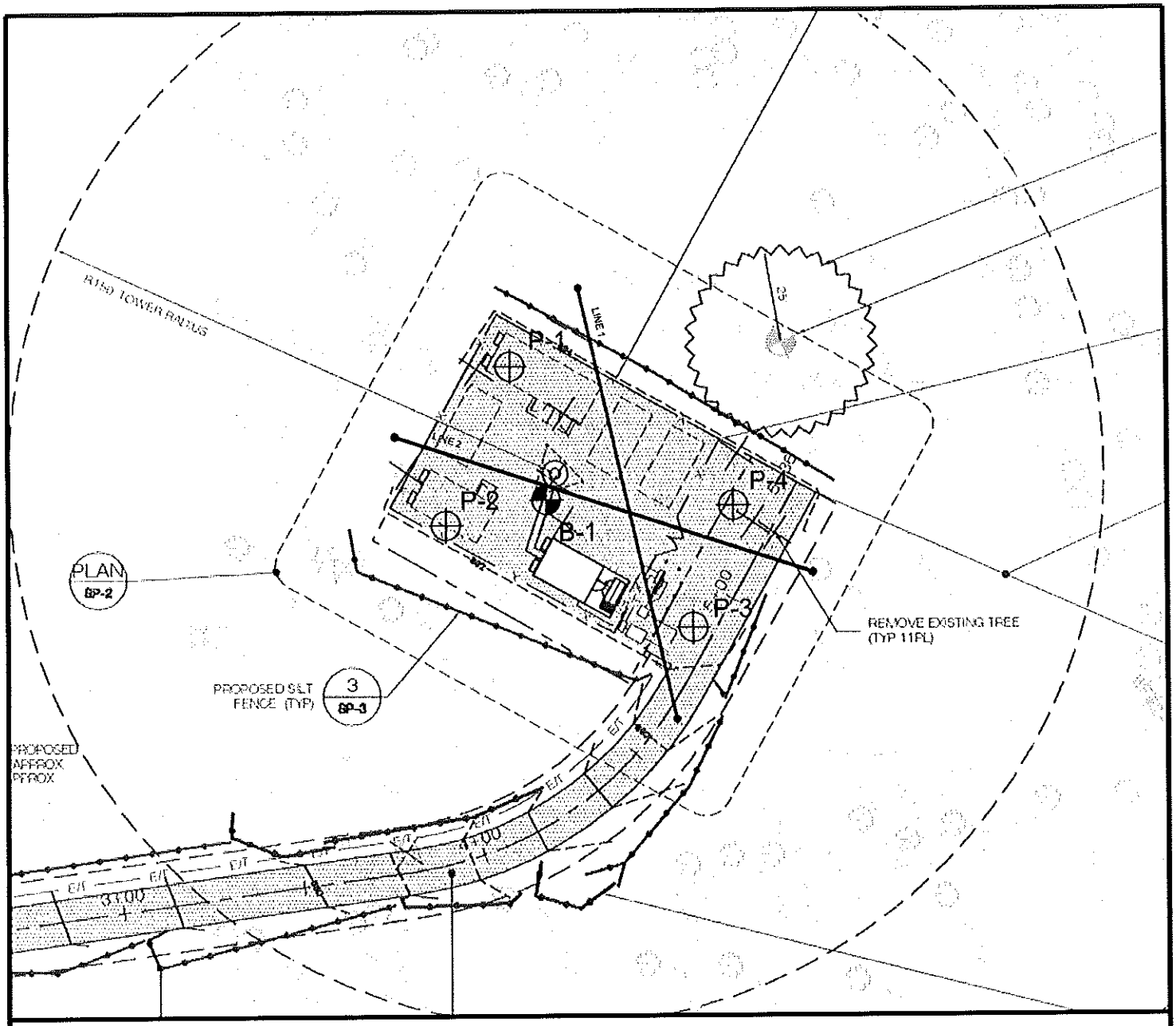
Terracon
Consulting Engineers and Scientists
201 Hammer Mill Road Rocky Hill, CT 06067
PH. (860)721 1900 FAX. (860)721 1939

SITE LOCATION MAP

PROPOSED HOMELAND TOWERS : CT-114
250 CANAAN ROAD
SALISBURY, CONNECTICUT

EXHIBIT
A-1

n:\projects\2015\2155143\working files\diagramm-drawings-figures\[2155143 sitecommunications tower salisbury_ct.dwg



40 0 20 40

APPROXIMATE SCALE IN FEET

LEGEND

- B-1 — TEST BORING LOCATION
- P-1 — TEST PROBE LOCATION (TYP)
- LINE 1 — RESISTIVITY TEST LOCATION (TYP)

NOTES:

1. THIS DIAGRAM WAS PREPARED BASED ON A PLAN BY ALL-POINTS TECHNOLOGY CORPORATION OF KILLINGWORK, CONNECTICUT, SHEET No. SP-1, TITLED "*SITE PLAN*", REVISED: NOVEMBER 14, 2014.
2. THE TEST BORING B-1 AND TEST PROBES P-1 THROUGH P-4 WERE ADVANCED ON MAY 20, 2015 UNDER THE DIRECTION OF TERRACON OWNED AND OPERATED BY NEW ENGLAND BORING CONTRACTORS, INC. OF GLASTONBURY, CONNECTICUT.
3. RESISTIVITY TESTING WAS PERFORMED ON MAY 20, 2015 BY A TERRACON FIELD ENGINEER.
4. THE APPROXIMATE LOCATIONS OF THE TEST BORING, TEST PROBES, AND RESISITIVITY TESTS WERE TAPED FROM SITE FEATURES. THE LOCATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
5. UE OF THIS DIAGRAM IS LIMITED TO THE ILLUSTRATION OF THE APPROXIMATE LOCATIONS OF THE TEST BORING, TEST PROBES, RESISTIVITY TESTS, AND OTHER PERTINENT SITE FEATURES. ANY OTHER USE OF THIS DIAGRAM WITHOUT PERMISSION FROM TERRACON IS PROHIBITED.

Project Mgr:	TKT
Drawn By:	TKT
Checked By:	RWM
Approved By:	RWM
Project No.	J2155143
Scale:	1" = 40'
File No.	J2155143
Date:	June 2015

Terracon
Consulting Engineers and Scientists
201 Hammer Mill Road Rocky Hill, CT 06067
PH. (860)721 1900 FAX (860)721 1939

EXPLORATION LOCATION DIAGRAM

PROPOSED HOMELAND TOWERS : CT-114
250 CANAAN ROAD
SALISBURY, CONNECTICUT

EXHIBIT
A-2

Field Exploration Description

The approximate test boring and probe locations, which are shown on Exhibit A-2, were measured by taping from existing features in the field and by estimating right angles. The locations of the explorations should be considered accurate only to the degree implied by the method used to define them. The ground elevation at the exploration locations were estimated by interpolating between contours of existing grade shown on the provided *"Compound Plan & Tower Elevation"*, Sheet No. SP-2, revised November 14, 2014, which includes contours at 2-foot intervals.

Terracon observed the advancement of one test boring (B-1) and four test probes (P-1 through P-4) within the proposed tower compound on May 27, 2015 using a ATV-mounted Mobile B-53 rotary drill rig, owned and operated by New England Boring Contractors, Inc. of Glastonbury, Connecticut. B-1 was advanced using 3¼-inch inside diameter hollow stem augers to a depth of approximately 15 feet, terminating upon refusal on probable bedrock. The boring was offset twice. The augers encountered refusal at a similar depth at the offset locations.

In the split-barrel sampling procedure utilized in B-1, the number of blows required to advance a standard 2-inch O.D. split-barrel sampler typically the middle 12 inches of the total 24-inch penetration by means of a 140-pound safety hammer with a free fall of 30 inches is the Standard Penetration Test (SPT) resistance value "N". This "N" value is used to estimate the *in-situ* relative density of cohesionless soils and consistency of cohesive soils.

The soil samples were placed in labeled glass jars and transported to our office for further review and classification by a Terracon geotechnical engineer. Information provided on the boring log attached to this report includes soil descriptions, relative density and/or consistency evaluations, boring depths, sampling intervals, and groundwater conditions. The boring was backfilled with auger cuttings prior to the drill crew leaving the site.

P-1 through P-4 were advanced with 4-inch diameter solid stem augers to further evaluate the subsurface conditions within the proposed tower compound and underground electrical and telecommunication conduits areas. The probes terminated in the glacial till at a depth of about 10 feet. The probes were backfilled with auger cuttings prior to the drill crew leaving the site.

Field logs of the explorations were prepared during drilling, including visual classification of the materials encountered as well as interpretation of the subsurface conditions between samples. The final exploration logs included with this report represents further interpretation by the geotechnical engineer of the field logs.

BORING LOG NO. B-1

PROJECT: Proposed Homeland Towers : CT-114

CLIENT: Homeland Towers
Danbury, Connecticut

SITE: 250 Canaan Road
Salisbury, Connecticut

LOCATION See Exhibit A-2

Approximate Surface Elev: 893 (Ft.) +/-

DEPTH	ELEVATION (Ft.)		DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
0.5	892.5+/-	**FOREST MAT**					
		SILTY SAND (SM), brown, medium dense to dense (surficially loose), **(GLACIAL TILL)**				12	1-3-3-6 N=6
						14	4-6-6-7 N=12
			5				
						20	6-10-12-14 N=22
						18	12-14-16-16 N=30
			10				
						26	9-13-19-17 N=32
15.0	878+/-	***Auger Refusal on Probable Bedrock at 15 Feet***	15			0	100/0"

Stratification lines are approximate. In-situ, the transition may be gradual.
Samples taken with a 2" O.D. split spoon sampler driven by a hammer operated by winch and cable.

Advancement Method:
3 1/4-inch inside diameter hollow stem augers

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:
Boring offset 5 feet north with auger refusal at 15 feet. Boring offset 5 south with auger refusal at 14.5 feet.

WATER LEVEL OBSERVATIONS
No Free Water Observed

Terracon
201 Hammer Mill Road
Rocky Hill, Connecticut

Boring Started: 5/27/2015 | Boring Completed: 5/27/2015
Drill Rig: Mobile B-53 | Driller: O. Cone
Project No.: J2155143 | Exhibit: A-4

PROBE LOG NO. P-1

PROJECT: Proposed Homeland Towers : CT-114

CLIENT: Homeland Towers
Danbury, Connecticut

SITE: 250 Canaan Road
Salisbury, Connecticut

LOCATION See Exhibit A-2

Approximate Surface Elev: 894 (Ft.) +/-

DEPTH	ELEVATION (Ft.)	GRAPHIC LOG	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
0.5	893.5+/-	FOREST MAT					
		SILTY SAND (SM), brown, (GLACIAL TILL)	5				
10.0	884+/-	*Probe Terminated at 10 Feet*	10				

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:
4-inch diameter solid stem augers

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

No Free Water Observed

Terracon
201 Hammer Mill Road
Rocky Hill, Connecticut

Probe Started: 5/27/2015 | Probe Completed: 5/27/2015
Drill Rig: Mobile B-53 | Driller: O. Cone
Project No.: J2155143 | Exhibit: A-5

PROBE LOG NO. P-2

PROJECT: Proposed Homeland Towers : CT-114

CLIENT: Homeland Towers
Danbury, Connecticut

SITE: 250 Canaan Road
Salisbury, Connecticut

LOCATION See Exhibit A-2

Approximate Surface Elev: 892 (Ft.) +/-

DEPTH	ELEVATION (Ft.)	GRAPHIC LOG	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
FOREST MAT	891.5+/-						
0.7							
SILTY SAND (SM), brown, **(GLACIAL TILL)**			5				
10.0	882+/-		10				
Probe Terminated at 10 Feet							

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:
4-inch diameter solid stem augers

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS
No Free Water Observed

Terracon
201 Hammer Mill Road
Rocky Hill, Connecticut

Probe Started: 5/27/2015 | Probe Completed: 5/27/2015
Drill Rig: Mobile B-53 | Driller: O. Cone
Project No.: J2155143 | Exhibit: A-6

PROBE LOG NO. B-3

PROJECT: Proposed Homeland Towers : CT-114

CLIENT: Homeland Towers
Danbury, Connecticut

SITE: 250 Canaan Road
Salisbury, Connecticut

LOCATION See Exhibit A-2

Approximate Surface Elev: 892 (Ft.) +/-

DEPTH	ELEVATION (Ft.)	GRAPHIC LOG	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
0.0	891.5+/-	FOREST MAT					
0.5		SILTY SAND (SM), brown, (GLACIAL TILL)	5				
10.0	882+/-	*Probe Terminated at 10 Feet*	10				

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:
4-inch diameter solid stem augers

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS

No Free Water Observed

Terracon
201 Hammer Mill Road
Rocky Hill, Connecticut

Probe Started: 5/27/2015	Probe Completed: 5/27/2015
Drill Rig: Mobile B-53	Driller: O. Cone
Project No.: J2155143	Exhibit: A-7

PROBE LOG NO. P-4

PROJECT: Proposed Homeland Towers : CT-114

CLIENT: Homeland Towers
Danbury, Connecticut

SITE: 250 Canaan Road
Salisbury, Connecticut

LOCATION See Exhibit A-2

Approximate Surface Elev: 894 (Ft.) +/-

GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
	0.5 **FOREST MAT**	893.5+/-					
	SILTY SAND (SM), brown, **(GLACIAL TILL)**		5				
	10.0	884+/-	10				
	Probe Terminated at 10 Feet						

Stratification lines are approximate. In-situ, the transition may be gradual.

Advancement Method:
4-inch diameter solid stem augers

Abandonment Method:
Boring backfilled with soil cuttings upon completion.

See Exhibit A-3 for description of field procedures.
See Appendix B for description of laboratory procedures and additional data (if any).
See Appendix C for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS
No Free Water Observed

Terracon
201 Hammer Mill Road
Rocky Hill, Connecticut

Probe Started: 5/27/2015	Probe Completed: 5/27/2015
Drill Rig: Mobile B-53	Driller: O. Cone
Project No.: J2155143	Exhibit: A-8

APPENDIX B
LABORATORY TESTING

Laboratory Testing

Descriptive classifications of the soils indicated on the Terracon boring and probe logs are in accordance with the enclosed General Notes and the Unified Soil Classification System (USCS). USCS symbols are also shown. A brief description of the USCS is attached to this report. Classification was by visual/manual procedures.

APPENDIX C
SUPPORTING DOCUMENTS

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

SAMPLING


Auger


Split Spoon


Shelby Tube


Macro Core


Ring Sampler


Rock Core


Grab Sample


No Recovery

WATER LEVEL


Water Initially Encountered


Water Level After a Specified Period of Time


Water Level After a Specified Period of Time

Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.

FIELD TESTS

(HP)	Hand Penetrometer
(T)	Torvane
(b/f)	Standard Penetration Test (blows per foot)
(PID)	Photo-Ionization Detector
(OVA)	Organic Vapor Analyzer

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance Includes gravels, sands and silts.			CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance			
Descriptive Term (Density)	Standard Penetration or N-Value Blows/Ft.	Ring Sampler Blows/Ft.	Descriptive Term (Consistency)	Unconfined Compressive Strength, Qu, tsf	Standard Penetration or N-Value Blows/Ft.	Ring Sampler Blows/Ft.
Very Loose	0 - 3	0 - 6	Very Soft	less than 0.25	0 - 1	< 3
Loose	4 - 9	7 - 18	Soft	0.25 to 0.50	2 - 4	3 - 4
Medium Dense	10 - 29	19 - 58	Medium-Stiff	0.50 to 1.00	4 - 8	5 - 9
Dense	30 - 50	59 - 98	Stiff	1.00 to 2.00	8 - 15	10 - 18
Very Dense	> 50	≥ 99	Very Stiff	2.00 to 4.00	15 - 30	19 - 42
			Hard	> 4.00	> 30	> 42

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 15
With	15 - 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

Major Component of Sample	Particle Size
Boulders	Over 12 in. (300 mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm
Silt or Clay	Passing #200 sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 5
With	5 - 12
Modifier	> 12

PLASTICITY DESCRIPTION

Term	Plasticity Index
Non-plastic	0
Low	1 - 10
Medium	11 - 30
High	> 30

Terracon

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]					Soil Classification	
					Group Symbol	Group Name [B]
Coarse Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	$Cu \geq 4$ and $1 \leq Cc \leq 3$ [E]		GW	Well-graded gravel [F]
			$Cu < 4$ and/or $1 > Cc > 3$ [E]		GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH		GM	Silty gravel [F,G,H]
			Fines classify as CL or CH		GC	Clayey gravel [F,G,H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	$Cu \geq 6$ and $1 \leq Cc \leq 3$ [E]		SW	Well-graded sand [I]
			$Cu < 6$ and/or $1 > Cc > 3$ [E]		SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH		SM	Silty sand [G,H,I]
			Fines classify as CL or CH		SC	Clayey sand [G,H,I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots on or above "A" line [J]		CL	Lean clay [K,L,M]
			PI < 4 or plots below "A" line [J]		ML	Silt [K,L,M]
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay [K,L,M,N]
			Liquid limit - not dried			Organic silt [K,L,M,O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line		CH	Fat clay [K,L,M]
			PI plots below "A" line		MH	Elastic Silt [K,L,M]
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay [K,L,M,P]
			Liquid limit - not dried			Organic silt [K,L,M,Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.

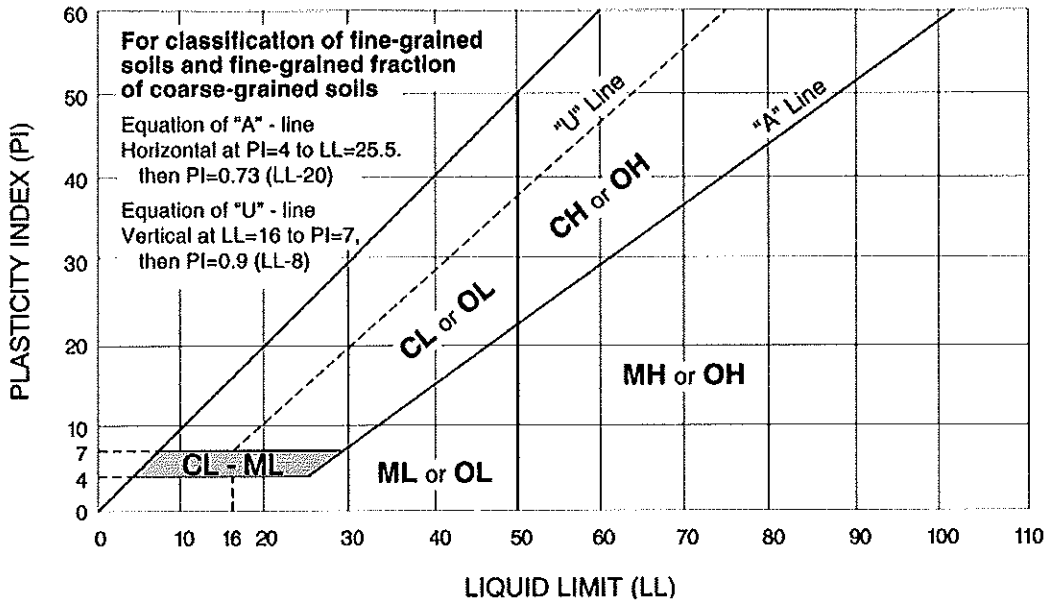
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N] PI ≥ 4 and plots on or above "A" line.

[O] PI < 4 or plots below "A" line.

[P] PI plots on or above "A" line.

[Q] PI plots below "A" line.



Terracon

Exhibit C-2

ATTACHMENT 2

Structural Design Report

Sabre Industries™
Towers and Poles

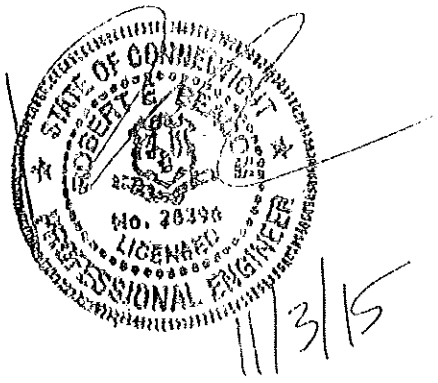
Structural Design Report

150' Extendible to 160' Monopine
Site: Salisbury, CT
Site Number: CT114

Prepared for: INSITE TOWERS LLC
by: Sabre Towers & Poles ™

Job Number: 130280
Revision A

November 3, 2015



11/3/15

Load Case Reactions

Description	Axial (kips)	Shear (kips)	Moment (ft-k)	Deflection (ft)	Sway (deg)
3s Gusted Wind	92.59	87.08	10517.74	12.73	9.06
3s Gusted Wind 0.9 Dead	69.43	87.23	10407.82	12.53	8.9
3s Gusted Wind&Ice	144.3	20.26	2530.75	3.16	2.23
Service Loads	77.21	21.71	2617.21	3.22	2.27

Base Plate Dimensions

Shape	Diameter	Thickness	Bolt Circle	Bolt Qty	Bolt Diameter
Round	83.5"	2.5"	77.75"	28	2.25"

Anchor Bolt Dimensions

Length	Diameter	Hole Diameter	Weight	Type	Finish
84"	2.25"	2.625"	3390.8	A615-75	Galv-18"

Material List

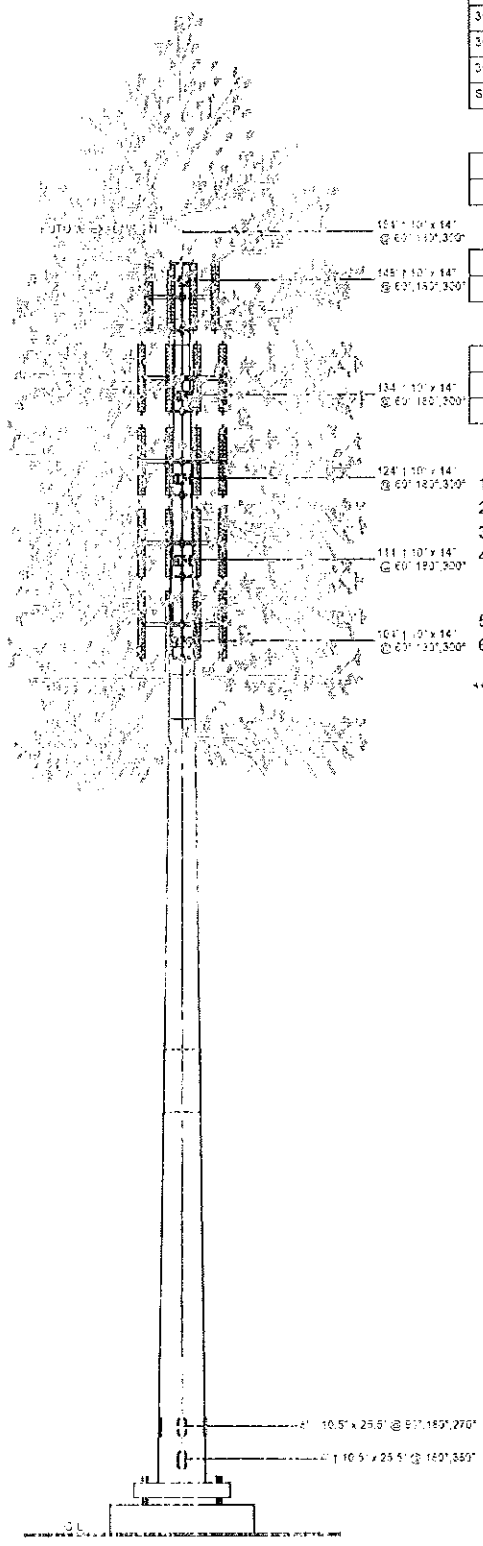
Display	Value
A	3' - 3"
B	10 (Extension)

Notes

1) Antenna Feed Lines Run Inside Pole
2) All dimensions are above ground level, unless otherwise specified.
3) Weights shown are estimates. Final weights may vary.
4) The Monopole was designed for a basic wind speed of 90 mph with 0" of radial ice, and 40 mph with 1" of radial ice, in accordance with ANSI/TIA-222-G, Structure Class II, Exposure Category C, Topographic Category 1.
5) Fall Height Step Bolts
6) This structure has been designed to support pine tree branches starting at the 85' elevation to an overall height of 165'.

*** These Appurtenances cannot be installed until the Monopole has been extended.

Section	1	2	3	4	5
Length (ft)	53' - 3"	53' - 6"	48' - 9"	10' - 0"	10' - 0"
Number Of Sides	18				
Thickness (in)	1/2"		3/8"		1/4"
Lap Splice (ft)	7' - 9"		5' - 8"	A	
Top Diameter (in)	51.46"	36.15"	21.47"	19.57"	16"
Bottom Diameter (in)	70.45"	55.22"	38.60"	23.13"	19.57"
Taper (in/ft)	0.3965				
Grade	A572-65				
Weight (lbs)	20820	13823	6758	891	780
Overall Steel Height (ft)	149				B



Sabre Industries
Towers and Poles

Sabre Communications Corporation
7101 Southbridge Drive
P.O. Box 658
Sioux City, IA 51102-0658
Phone: (712) 258-6693
Fax: (712) 279-6815

Job:	130280A
Customer:	INSITE TOWERS LLC
Site Name:	Salisbury, CT CT114
Description:	150' ext. 160' Monopine
Date:	11/3/2015 By: BD

Designed Appurtenance Loading

Elev	Description	Tx-Line
156***	3T-Arm - 10' Face - 3' Standoff	
156***	(1) DC6-48-60-18-8F	
156***	(4) GPS-TMG-HR-26Ns	(4) 1/2"
156***	(12) 8' x 1' x 7in Panels	(12) 1 5/8"
146	3T-Arm - 6' Face - 3' Standoff	
146	(4) DC6-48-60-18-8Fs	
146	(12) 8' x 1' x 7in Panels	(12) 1 5/8"
142	(3) 2ft Standoff - w/ Dual Antenna	
142	(6) RRUS A2 Modules	
142	(24) RRUS 11s	
136	3T-Arm - 10' Face - 3' Standoff	
136	(3) DC2-48-60-0-8Fs	
136	(4) GPS-TMG-HR-26Ns	(4) 1/2"
136	(12) 8' x 1' x 7in Panels	(18) 1 5/8"
132	(3) 2ft Standoff - w/ Dual Antenna	
132	(6) FD9R6004s	
132	(12) RRUS 11s	
126	3T-Arm - 10' Face - 3' Standoff	

Elev	Description	Tx-Line
126	(1) DC6-48-60-18-8F	
126	(12) 8' x 1' x 7in Panels	(12) 1 5/8"
122	(3) 2ft Standoff - w/ Dual Antenna	
122	(12) E15S09P80s	
122	(12) RRUS 11s	(4) 1/2"
116	3T-Arm - 10' Face - 3' Standoff	
116	(1) DC6-48-60-18-8F	
116	(12) 8' x 1' x 7in Panels	(12) 1 5/8"
112	(3) 2ft Standoff - w/ Dual Antenna	
112	(12) E15S09P80s	
112	(12) RRUS 11s	(4) 1/2"
106	3T-Arm - 10' Face - 3' Standoff	
106	(1) DC6-48-60-18-8F	
106	(12) 8' x 1' x 7in Panels	(12) 1 5/8"
102	(3) 2ft Standoff - w/ Dual Antenna	
102	(12) E15S09P80s	
102	(12) RRUS 11s	(4) 1/2"

Sabre Industries
Towers and Poles

Sabre Communications Corporation
7101 Southbridge Drive
P.O. Box 658
Sioux City, IA 51102-0658
Phone: (712) 258-6855
Fax: (712) 279-0814

Job:	130280A
Customer:	INSITE TOWERS LLC
Site Name:	Salisbury, CT CT114
Description:	150' ext. 160' Monopine
Date:	11/3/2015 By: BD

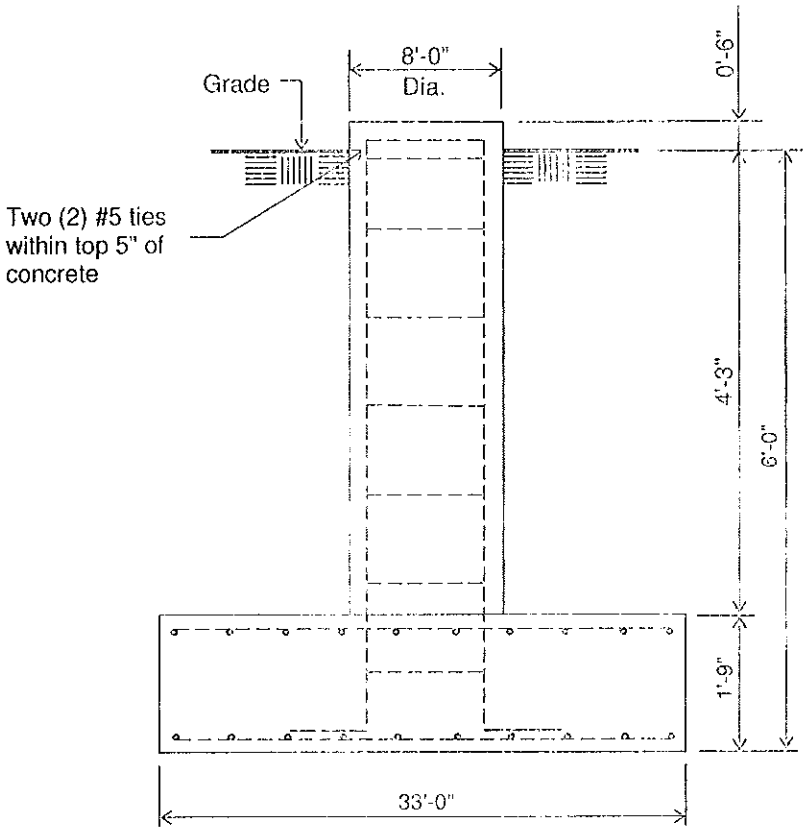
Sabre Industries™
Towers and Poles

No.: 130280

Date: 11/3/15
By: BD
Revision A

Customer: INSITE TOWERS LLC
Site: Salisbury, CT CT114

150' Extendible to 160' Monopole at
90 mph Wind with no ice and 40 mph Wind with 1 in. Ice per ANSI/TIA-222-G.
Antenna Loading per Page 1



ELEVATION VIEW
(79.43 Cu. Yds.)
(1 REQUIRED; NOT TO SCALE)

Notes:

1). Concrete shall have a minimum 28-day compressive strength of 4500 PSI, in accordance with ACI 318-05

2). Rebar to conform to ASTM specification A615 Grade 60.

3). All rebar to have a minimum of 3" concrete cover.

4). All exposed concrete corners to be chamfered 3/4".

5). The foundation design is based on the geotechnical report by Terracon, Project No. J2155143, dated June 4, 2015

6). See the geotechnical report for compaction requirements, if specified.

7). The foundation is based on the following factored loads:
Moment (kip-ft) = 10517.74
Axial (kips) = 92.59
Shear (kips) = 87.08

Rebar Schedule per Pad and Pier	
Pier	(48) #10 vertical rebar w/ hooks at bottom w/ #5 ties, two within top 5" of top of pier then 12" C/C
Pad	(78) #10 horizontal rebar evenly spaced each way top and bottom (312 total)

8). This is a design drawing only. Please see final construction drawings for al installation details.

9). 4.25 ft of soil cover is required over the entire area of the foundation slab.

7101 Southbridge Drive - P.O. Box 658 - Sioux City, IA 51102-0658 - Phone 712.258.6690 - Fax 712.279.0814

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150' ext. 160' Monopine / Salisbury, CT

* All pole diameters shown on the following pages are across corners.
See profile drawing for widths across flats.

POLE GEOMETRY

ELEV ft	SECTION NAME	No.of SIDES	OUTSIDE DIAM in	THICK -NESS in	RESISTANCES φ*Pn kip	φ*Mn ft-kip	SPLICE TYPE	...OVERLAP... LENGTH ft	RATIO
159.0									
	A	18	16.25	0.250	928.5	298.5			
			19.87	0.250	1138.7	450.2			
149.0									
	B	18	19.87	0.250	1138.7	450.2			
			22.30	0.250	1280.2	569.8			
142.2									
	B/C	18	22.30	0.250	1280.2	569.8	SLIP	3.25	1.72
			22.99	0.375	2068.8	893.9			
139.0									
	C	18	22.99	0.375	1903.8	893.9			
			37.45	0.375	3228.5	2418.8			
99.0									
	C/D	18	37.45	0.375	3225.5	2418.8	SLIP	5.50	1.73
			38.71	0.500	4436.5	3414.1			
93.5									
	D	18	38.71	0.500	4436.5	3414.1			
			53.25	0.500	6063.1	6467.1			
53.2									
	D/E	18	53.25	0.500	6063.1	6467.1	SLIP	7.75	1.71
			55.08	0.500	6215.4	6860.6			
45.5									
	E	18	55.08	0.500	6215.4	6860.6			
			71.54	0.500	7713.4	10681.0			
0.0									

POLE ASSEMBLY

SECTION NAME	BASE ELEV ft	BOLTS AT BASE OF SECTION. NUMBER	TYPE	DIAM in	STRENGTH ksi	THREADS IN SHEAR PLANE	CALC BASE ELEV ft
A	149.000	0	A325	0.00	92.0	0	149.000
B	139.000	0	A325	0.00	92.0	0	139.000
C	93.500	0	A325	0.00	92.0	0	93.500
D	45.500	0	A325	0.00	92.0	0	45.500
E	0.000	0	A325	0.00	92.0	0	0.000

POLE SECTIONS

SECTION NAME	No.of SIDES	LENGTH ft	OUTSIDE DIAMETER BOT * in	TOP * in	THICK-NESS in	MAT-ERIAL ID	FLANGE ID BOT	FLANGE ID TOP	FLANGE WELD GROUP ID.. BOT	TOP
A	18	10.00	19.87	16.25	0.250	1	0	0	0	0
B	18	10.00	23.49	19.87	0.250	2	0	0	0	0
C	18	48.75	39.46	21.80	0.375	3	0	0	0	0
D	18	53.50	56.08	36.70	0.500	4	0	0	0	0
E	18	53.25	71.54	52.25	0.500	5	0	0	0	0

* - Diameter of circumscribed circle

MATERIAL TYPES

TYPE OF SHAPE	TYPE NO	NO OF ELEM.	ORIENT	HEIGHT	WIDTH	THICKNESS. WEB	THICKNESS. FLANGE	IRREGULARITY .PROJECTION. % OF AREA	ORIENT

			& deg	in	in	in	in		deg
PL	1	1	0.0	19.87	0.25	0.250	0.250	0.00	0.0
PL	2	1	0.0	23.49	0.25	0.250	0.250	0.00	0.0
PL	3	1	0.0	39.46	0.38	0.375	0.375	0.00	0.0
PL	4	1	0.0	56.08	0.50	0.500	0.500	0.00	0.0
PL	5	1	0.0	71.54	0.50	0.500	0.500	0.00	0.0

& - With respect to vertical

MATERIAL PROPERTIES

MATERIAL TYPE NO.	ELASTIC MODULUS ksi	UNIT WEIGHT pcf	.. STRENGTH .. Fu ksi	Fy ksi	THERMAL COEFFICIENT /deg
1	29000.0	490.0	80.0	65.0	0.00001170
2	29000.0	490.0	80.0	65.0	0.00001170
3	29000.0	490.0	80.0	65.0	0.00001170
4	29000.0	490.0	80.0	65.0	0.00001170
5	29000.0	490.0	80.0	65.0	0.00001170

* Only 3 condition(s) shown in full
* Some concentrated wind loads may have been derived from full-scale wind tunnel testing

LOADING CONDITION A

90 mph wind with no ice. Wind Azimuth: 0°

LOADS ON POLE

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	161.500	0.00	0.0	0.0	1.2151	0.3000	0.0000	0.0000
C	156.500	0.00	0.0	0.0	1.2071	0.3000	0.0000	0.0000
C	155.000	0.00	0.0	0.0	4.3415	2.3662	0.0000	0.0000
C	155.000	0.00	0.0	0.0	0.0000	2.6289	0.0000	0.0000
C	151.500	0.00	0.0	0.0	2.3978	0.6000	0.0000	0.0000
C	146.500	0.00	0.0	0.0	2.3911	0.6000	0.0000	0.0000
C	145.000	0.00	0.0	0.0	5.4361	2.3957	0.0000	0.0000
C	145.000	0.00	0.0	0.0	0.0000	2.1715	0.0000	0.0000
C	141.500	0.00	0.0	0.0	2.3638	0.6000	0.0000	0.0000
C	141.000	0.00	0.0	0.0	3.2238	3.0230	0.0000	0.0000
C	136.500	0.00	0.0	0.0	2.3461	0.6000	0.0000	0.0000
C	135.000	0.00	0.0	0.0	4.2597	2.3722	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0000	3.2918	0.0000	0.0000
C	131.500	0.00	0.0	0.0	2.3279	0.6000	0.0000	0.0000
C	131.000	0.00	0.0	0.0	1.7040	1.8307	0.0000	0.0000
C	126.500	0.00	0.0	0.0	2.3091	0.6000	0.0000	0.0000
C	125.000	0.00	0.0	0.0	4.1187	2.3633	0.0000	0.0000
C	125.000	0.00	0.0	0.0	0.0000	1.8720	0.0000	0.0000
C	121.500	0.00	0.0	0.0	2.2908	0.6000	0.0000	0.0000
C	121.000	0.00	0.0	0.0	1.8018	1.8354	0.0000	0.0000
C	121.000	0.00	0.0	0.0	0.0000	0.2333	0.0000	0.0000
C	116.500	0.00	0.0	0.0	2.2698	0.6000	0.0000	0.0000
C	115.000	0.00	0.0	0.0	4.0927	2.3533	0.0000	0.0000
C	115.000	0.00	0.0	0.0	0.0000	1.7212	0.0000	0.0000
C	111.500	0.00	0.0	0.0	2.2491	0.6000	0.0000	0.0000
C	111.000	0.00	0.0	0.0	1.7897	1.8254	0.0000	0.0000
C	111.000	0.00	0.0	0.0	0.0000	0.2331	0.0000	0.0000
C	106.500	0.00	0.0	0.0	2.2284	0.6000	0.0000	0.0000
C	105.000	0.00	0.0	0.0	3.9567	2.3533	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.0000	1.5725	0.0000	0.0000
C	101.500	0.00	0.0	0.0	2.2097	0.6000	0.0000	0.0000
C	101.000	0.00	0.0	0.0	1.7352	1.8854	0.0000	0.0000
C	101.000	0.00	0.0	0.0	0.0000	0.1939	0.0000	0.0000
C	96.500	0.00	0.0	0.0	2.4250	0.8000	0.0000	0.0000
C	91.500	0.00	0.0	0.0	2.3883	0.6000	0.0000	0.0000
C	86.500	0.00	0.0	0.0	2.3704	0.6000	0.0000	0.0000
C	85.750	0.00	0.0	0.0	0.7098	0.1800	0.0000	0.0000
D	159.000	0.00	180.0	0.0	0.0634	0.0546	0.0000	0.0000
D	142.250	0.00	180.0	0.0	0.0645	0.0508	0.0000	0.0000
D	142.250	0.00	180.0	0.0	0.2236	0.3731	0.0000	0.0000
D	139.000	0.00	180.0	0.0	0.6146	0.3731	0.0000	0.0000
D	139.000	0.00	180.0	0.0	0.7641	0.3701	0.0000	0.0000
D	125.667	0.00	180.0	0.0	0.7241	0.3701	0.0000	0.0000
D	125.667	0.00	180.0	0.0	0.8736	0.3729	0.0000	0.0000
D	112.333	0.00	180.0	0.0	0.8346	0.3729	0.0000	0.0000
D	112.333	0.00	180.0	0.0	0.9841	0.1807	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.9514	0.1807	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.9509	0.4198	0.0000	0.0000
D	93.500	0.00	180.0	0.0	0.9509	0.4193	0.0000	0.0000
D	93.500	0.00	180.0	0.0	0.0951	0.3593	0.0000	0.0000
D	80.083	0.00	180.0	0.0	0.0951	0.2236	0.0000	0.0000
D	80.083	0.00	180.0	0.0	0.1047	0.2903	0.0000	0.0000

D	66.667	0.00	180.0	0.0	0.1027	0.2303	0.0000	0.0000
D	66.667	0.00	180.0	0.0	0.1069	0.3209	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.1089	0.3209	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.1175	0.6848	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.1175	0.6848	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.1224	0.3616	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.1224	0.3616	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.1225	0.3876	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.1225	0.3876	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.1083	0.4337	0.0000	0.0000
D	11.375	0.00	180.0	0.0	0.1083	0.4337	0.0000	0.0000
D	11.375	0.00	180.0	0.0	0.1109	0.4308	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.1109	0.4298	0.0000	0.0000

LOADING CONDITION M

90 mph wind with no ice. Wind Azimuth: 0°

LOADS ON POLE

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.... FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	161.500	0.00	0.0	0.0	1.2761	0.2250	0.0000	0.0000
C	156.500	0.00	0.0	0.0	1.2971	0.2250	0.0000	0.0000
C	155.000	0.00	0.0	0.0	4.3745	1.7246	0.0000	0.0000
C	155.000	0.00	0.0	0.0	0.4000	1.0042	0.0000	0.1030
C	151.500	0.00	0.0	0.0	2.3578	0.4500	0.0000	0.0000
C	146.500	0.00	0.0	0.0	2.3811	0.4500	0.0000	0.0000
C	145.000	0.00	0.0	0.0	5.4381	1.7968	0.0000	0.0000
C	145.000	0.00	0.0	0.0	0.3000	1.6286	0.0000	0.0000
C	141.500	0.00	0.0	0.0	2.3638	0.4500	0.0000	0.0000
C	141.000	0.00	0.0	0.0	3.2238	2.2673	0.0000	0.0000
C	136.500	0.00	0.0	0.0	2.3461	0.4500	0.0000	0.0000
C	135.000	0.00	0.0	0.0	4.2597	1.7791	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0000	2.4089	0.0000	0.0000
C	131.500	0.00	0.0	0.0	2.3479	0.4500	0.0000	0.0000
C	131.000	0.00	0.0	0.0	1.7040	1.3730	0.0000	0.0000
C	126.500	0.00	0.0	0.0	2.3091	0.4500	0.0000	0.0000
C	125.000	0.00	0.0	0.0	4.1757	1.7725	0.0000	0.0000
C	125.000	0.00	0.0	0.0	0.3000	1.4040	0.0000	0.0000
C	121.500	0.00	0.0	0.0	2.2988	0.4500	0.0000	0.0000
C	121.000	0.00	0.0	0.0	1.8943	1.4041	0.0000	0.0000
C	121.000	0.00	0.0	0.0	0.8000	0.3672	0.0000	0.0000
C	116.500	0.00	0.0	0.0	2.1998	0.4500	0.0000	0.0000
C	115.000	0.00	0.0	0.0	4.0827	1.7725	0.0000	0.0000
C	115.000	0.00	0.0	0.0	0.3000	1.3737	0.0000	0.0000
C	111.500	0.00	0.0	0.0	2.2041	0.4500	0.0000	0.0000
C	111.000	0.00	0.0	0.0	1.7047	1.4041	0.0000	0.0000
C	111.000	0.00	0.0	0.0	0.0000	0.1598	0.0000	0.0000
C	106.500	0.00	0.0	0.0	2.1254	0.4500	0.0000	0.0000
C	105.000	0.00	0.0	0.0	3.9367	1.7725	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.6649	1.1794	0.0000	0.0000
C	101.500	0.00	0.0	0.0	2.0907	0.4500	0.0000	0.0000
C	101.000	0.00	0.0	0.0	1.6552	1.4041	0.0000	0.0000
C	101.000	0.00	0.0	0.0	0.8000	0.2544	0.0000	0.0000
C	96.500	0.00	0.0	0.0	2.0560	0.4500	0.0000	0.0000
C	91.500	0.00	0.0	0.0	2.0053	0.4500	0.0000	0.0000
C	86.500	0.00	0.0	0.0	2.0014	0.4500	0.0000	0.0000
C	85.750	0.00	0.0	0.0	0.3008	0.1350	0.0000	0.0000
D	159.000	0.00	180.0	0.0	0.0814	0.0000	0.0000	0.0000
D	142.250	0.00	180.0	0.0	0.1046	0.0000	0.0000	0.0000
D	142.250	0.00	180.0	0.0	0.1056	0.2406	0.0000	0.0000
D	139.000	0.00	180.0	0.0	0.1076	0.2406	0.0000	0.0000
D	139.000	0.00	180.0	0.0	0.1084	0.6000	0.0000	0.0000
D	125.667	0.00	180.0	0.0	0.1084	0.6000	0.0000	0.0000
D	125.667	0.00	180.0	0.0	0.1096	0.3402	0.0000	0.0000
D	112.333	0.00	180.0	0.0	0.1096	0.7002	0.0000	0.0000
D	112.333	0.00	180.0	0.0	0.1084	0.3403	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.1084	0.3403	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.1109	0.8109	0.0000	0.0000
D	93.500	0.00	180.0	0.0	0.1109	0.7189	0.0000	0.0000
D	93.500	0.00	180.0	0.0	0.1083	0.3947	0.0000	0.0000
D	80.083	0.00	180.0	0.0	0.1083	0.3947	0.0000	0.0000
D	80.083	0.00	180.0	0.0	0.1027	0.2347	0.0000	0.0000
D	66.667	0.00	180.0	0.0	0.1027	0.2347	0.0000	0.0000
D	66.667	0.00	180.0	0.0	0.1069	0.3209	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.1089	0.3209	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.1175	0.6848	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.1175	0.6848	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.1224	0.3616	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.1224	0.3616	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.1225	0.3876	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.1225	0.3876	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.1083	0.4337	0.0000	0.0000
D	11.375	0.00	180.0	0.0	0.1083	0.4337	0.0000	0.0000
D	11.375	0.00	180.0	0.0	0.1109	0.4308	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.1109	0.4298	0.0000	0.0000

LOADING CONDITION Y

40 mph wind with 1 ice. Wind Azimuth: 0

LOADS ON POLE

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.... FORCES... .. HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	161.500	0.00	0.0	0.0	0.2983	1.2343	0.0000	0.0000
C	156.500	0.00	0.0	0.0	0.2913	1.2253	0.0000	0.0000
C	155.600	0.00	0.0	0.0	1.5349	3.3259	0.0000	0.0000
C	155.600	0.00	0.0	0.0	0.0000	2.6259	0.0000	0.0000
C	151.500	0.00	0.0	0.0	0.4636	1.5373	0.0000	0.0000
C	146.500	0.00	0.0	0.0	0.4578	1.5292	0.0000	0.0000
C	145.000	0.00	0.0	0.0	1.1705	3.5607	0.0000	0.0000
C	145.000	0.00	0.0	0.0	0.0000	2.1705	0.0000	0.0000
C	141.500	0.00	0.0	0.0	0.4530	1.5260	0.0000	0.0000
C	141.000	0.00	0.0	0.0	0.5335	6.5300	0.0000	0.0000
C	136.500	0.00	0.0	0.0	0.4560	1.5227	0.0000	0.0000
C	135.000	0.00	0.0	0.0	1.0330	3.4836	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0000	3.2408	0.0000	0.0000
C	131.500	0.00	0.0	0.0	0.4439	1.5293	0.0000	0.0000
C	131.000	0.00	0.0	0.0	0.4652	3.6365	0.0000	0.0000
C	126.500	0.00	0.0	0.0	0.4437	1.5258	0.0000	0.0000
C	125.000	0.00	0.0	0.0	1.0015	3.3134	0.0000	0.0000
C	125.000	0.00	0.0	0.0	0.0000	1.8720	0.0000	0.0000
C	121.500	0.00	0.0	0.0	0.4374	1.5127	0.0000	0.0000
C	121.000	0.00	0.0	0.0	0.5890	3.7810	0.0000	0.0000
C	121.000	0.00	0.0	0.0	0.0000	0.2353	0.0000	0.0000
C	116.500	0.00	0.0	0.0	0.4309	1.5063	0.0000	0.0000
C	115.000	0.00	0.0	0.0	1.0017	3.3003	0.0000	0.0000
C	115.000	0.00	0.0	0.0	0.0000	1.7202	0.0000	0.0000
C	111.500	0.00	0.0	0.0	0.4243	1.4974	0.0000	0.0000
C	111.000	0.00	0.0	0.0	0.5690	3.6508	0.0000	0.0000
C	111.000	0.00	0.0	0.0	0.0000	0.2141	0.0000	0.0000
C	106.500	0.00	0.0	0.0	0.4182	1.4883	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.9983	3.2951	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.0000	1.5135	0.0000	0.0000
C	101.500	0.00	0.0	0.0	0.4119	1.4800	0.0000	0.0000
C	101.000	0.00	0.0	0.0	0.5483	3.5203	0.0000	0.0000
C	101.000	0.00	0.0	0.0	0.0000	0.1400	0.0000	0.0000
C	96.500	0.00	0.0	0.0	0.4055	1.4605	0.0000	0.0000
C	91.500	0.00	0.0	0.0	0.3989	1.4509	0.0000	0.0000
C	86.500	0.00	0.0	0.0	0.3920	1.4409	0.0000	0.0000
C	85.750	0.00	0.0	0.0	0.3901	1.4382	0.0000	0.0000
D	159.000	0.00	180.0	0.0	0.4583	0.1135	0.0000	0.0000
D	151.500	0.00	180.0	0.0	0.4583	0.1133	0.0000	0.0000
D	151.500	0.00	180.0	0.0	0.4574	0.1063	0.0000	0.0000
D	142.250	0.00	180.0	0.0	0.4555	0.0932	0.0000	0.0000
D	142.250	0.00	180.0	0.0	0.4555	0.0932	0.0000	0.0000
D	139.000	0.00	180.0	0.0	0.4543	0.0896	0.0000	0.0000
D	139.000	0.00	180.0	0.0	0.4543	0.0896	0.0000	0.0000
D	125.667	0.00	180.0	0.0	0.4513	0.0809	0.0000	0.0000
D	125.667	0.00	180.0	0.0	0.4513	0.0809	0.0000	0.0000
D	112.333	0.00	180.0	0.0	0.4485	0.0722	0.0000	0.0000
D	112.333	0.00	180.0	0.0	0.4485	0.0722	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.4457	0.0635	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.4457	0.0635	0.0000	0.0000
D	93.500	0.00	180.0	0.0	0.4441	0.0588	0.0000	0.0000
D	93.500	0.00	180.0	0.0	0.4441	0.0588	0.0000	0.0000
D	80.083	0.00	180.0	0.0	0.4404	0.0474	0.0000	0.0000
D	80.083	0.00	180.0	0.0	0.4404	0.0474	0.0000	0.0000
D	66.667	0.00	180.0	0.0	0.4365	0.0360	0.0000	0.0000
D	66.667	0.00	180.0	0.0	0.4365	0.0360	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.4328	0.0246	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.4328	0.0246	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.4306	0.0165	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.4306	0.0165	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.4277	0.0067	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.4277	0.0067	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.4248	0.0000	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.4248	0.0000	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.4219	0.0000	0.0000	0.0000

MAXIMUM POLE DEFORMATIONS CALCULATED(w.r.t. wind direction)

MAST ELEV ft	DEFLECTIONS (ft) HORIZONTAL ALONG	HORIZONTAL ACROSS	DOWN	ROTATIONS (deg) TILT ALONG	TILT ACROSS	TWIST
159.0	12.73D	0.04K	1.44L	9.06D	0.03K	0.01K
151.5	11.57D	0.04K	1.26L	9.01D	0.03K	0.01K
146.7	10.85D	0.04K	1.14L	8.89D	0.03K	0.03K
142.2	10.17D	0.03K	1.04L	8.73D	0.03K	0.03K
139.0	9.69D	0.03K	0.97L	8.62D	0.03K	0.01K
125.7	7.80D	0.02K	0.69L	7.91D	0.03K	0.01K
112.3	6.10D	0.02K	0.47L	6.94D	0.02K	0.00K
99.0	4.63D	0.01K	0.31L	5.83D	0.02K	0.00K
93.5	4.09D	0.01K	0.25L	5.47D	0.02K	0.00K
80.1	2.93D	0.01K	0.15L	4.56D	0.01K	0.00K
66.7	1.98D	0.01K	0.08L	3.64L	0.01K	0.00K
53.2	1.23D	0.00K	0.04L	2.80L	0.01K	0.00K
45.5	0.88D	0.00K	0.02L	2.34D	0.01K	0.00K
34.1	0.48A	0.00K	0.01L	1.68D	0.00K	0.00K
22.7	0.21A	0.00K	0.00L	1.08A	0.00K	0.00K
11.4	0.05A	0.00K	0.00L	0.52A	0.00K	0.00K
0.0	0.00A	0.00A	0.00A	0.00A	0.00A	0.00A

MAXIMUM POLE FORCES CALCULATED(w.r.t. to wind direction)

MAST ELEV ft	TOTAL AXIAL kip	SHEAR w.r.t.WIND.DIR. ALONG kip	SHEAR w.r.t.WIND.DIR. ACROSS kip	MOMENT w.r.t.WIND.DIR. ALONG ft-kip	MOMENT w.r.t.WIND.DIR. ACROSS ft-kip	TORSION ft-kip
159.0	1.24 C	1.22 K	0.00 O	3.05 F	-0.01 O	0.00 O
151.5	9.32 C	7.12 K	0.00 O	-37.43 F	0.01 O	0.01 O
146.7	10.86 g	9.54 T	-0.03 Q	-37.46 B	-0.04 Q	0.01 H
142.2	11.47 g	9.78 T	-0.03 Q	-37.02 B	0.09 Q	-0.01 J
	11.47 a	9.83 M	0.04 R	-37.04 B	0.10 Q	-0.01 H
139.0	19.31 a	17.89 M	0.04 R	-162.29 C	0.20 I	-0.02 U
	19.31 a	18.06 U	-0.13 B	-162.24 C	0.25 C	0.12 X
125.7	28.18 a	24.84 D	-0.13 B	-233.47 C	0.46 X	-0.12 U
	28.19 a	23.72 R	-0.25 T	-238.29 F	0.48 C	-0.11 U
112.3	45.77 a	37.51 R	-0.25 T	-363.02 H	-3.22 K	0.78 K
	45.78 a	37.50 R	0.24 F	363.01 H	3.22 T	0.74 U
99.0	66.21 a	55.00 R	0.24 F	-1346.36 H	-6.06 K	1.32 K
	66.21 a	53.02 U	0.26 F	-1346.39 H	-6.03 K	1.32 K
93.5	87.12 a	68.78 U	0.26 F	-2219.74 I	-9.14 K	1.92 K
	87.11 a	68.84 D	0.23 K	-2219.63 H	-9.08 K	1.91 K
80.1	91.52 a	71.75 D	0.23 K	-2461.58 H	-10.25 K	2.71 K
	91.52 a	71.75 D	0.20 K	-2461.67 H	-10.22 K	2.71 K
66.7	101.02 a	78.55 D	0.20 K	-2709.07 H	-12.69 K	2.76 K
	101.02 a	78.48 D	0.19 K	-2709.03 H	-12.73 K	2.76 K
53.2	106.63 a	79.86 D	0.19 K	-2872.79 H	-15.16 K	3.30 K
	106.63 a	79.87 D	0.20 K	-2872.84 H	-15.18 K	3.35 K
	112.78 a	81.33 D	0.20 K	-3037.71 H	-17.76 K	3.43 K
	112.78 a	81.33 D	0.22 K	-3037.80 H	-17.77 K	3.43 K

45.5	119.21 a	82.20 R	0.22 K	-6603.41 D	-19.40 K	3.53 K
	119.21 a	82.18 R	0.22 K	-6603.35 D	-19.41 K	3.53 K
34.1	125.00 a	83.45 R	0.22 K	-7372.47 D	-21.83 K	3.75 K
	125.00 a	83.46 R	0.23 K	-7372.49 D	-21.82 K	3.76 K
22.7	131.15 a	84.74 R	0.23 K	-8047.92 D	-24.36 K	3.80 K
	131.15 a	84.74 R	0.22 K	-8047.92 D	-24.36 K	3.80 K
11.4	137.67 a	85.97 R	0.22 K	-8729.86 A	-26.78 K	3.93 K
	137.67 a	85.97 R	0.22 K	-8729.86 A	-26.78 K	3.93 K
	144.30 a	87.23 R	0.22 K	-10517.74 A	-29.24 K	3.98 K
base reaction	144.30 a	-87.23 R	-0.22 K	10517.74 A	29.24 K	-3.98 K

COMPLIANCE WITH 4.8.2 & 4.5.4

ELEV ft	AXIAL	BENDING	SHEAR + TORSIONAL	Total	SATISFIED	D/t(D/t)	MAX ALLOWED
159.00	0.00c	0.01L	0.00K	0.01L	YES	9.52A	45.2
	0.01c	0.09C	0.01K	0.10H	YES	11.43A	45.2
151.50	0.01g	0.09K	0.02T	0.10K	YES	11.43A	45.2
	0.01g	0.18B	0.02T	0.19B	YES	12.60A	45.2
146.75	0.01a	0.18B	0.02M	0.19B	YES	12.60A	45.2
	0.02a	0.28C	0.03M	0.30C	YES	13.73A	45.2
142.25	0.01a	0.19C	0.02J	0.20C	YES	8.57A	45.2
	0.01a	0.26C	0.02U	0.28C	YES	9.11A	45.2
139.00	0.01a	0.27F	0.02R	0.28F	YES	8.88A	45.2
	0.02a	0.52H	0.03R	0.55H	YES	11.11A	45.2
125.67	0.02a	0.52H	0.03R	0.55H	YES	11.11A	45.2
	0.02a	0.74H	0.04R	0.78H	YES	13.33A	45.2
112.33	0.02a	0.74H	0.04U	0.78H	YES	13.33A	45.2
	0.03a	0.92H	0.04U	0.96H	YES	15.56A	45.2
99.00	0.02a	0.69H	0.03D	0.72H	YES	11.27A	45.2
	0.02a	0.74H	0.03D	0.77H	YES	11.94A	45.2
93.50	0.02a	0.77H	0.03D	0.80H	YES	11.66A	45.2
	0.02a	0.85J	0.03D	0.88J	YES	13.36A	45.2
80.08	0.02a	0.85J	0.03R	0.88J	YES	13.36A	45.2
	0.02a	0.90J	0.03K	0.93J	YES	15.05A	45.2
66.67	0.02a	0.90J	0.03K	0.93J	YES	15.05A	45.2
	0.02a	0.92J	0.03K	0.95J	YES	16.74A	45.2
53.25	0.02a	0.92J	0.03K	0.95J	YES	16.74A	45.2
	0.02a	0.93J	0.03K	0.96J	YES	17.37A	45.2
45.50	0.02a	0.93J	0.03K	0.96J	YES	17.37A	45.2
	0.02a	0.97J	0.03K	1.00J	YES	18.79A	45.2
34.12	0.02a	0.97J	0.03K	1.00J	YES	18.79A	45.2
	0.02a	0.93J	0.02K	0.96J	YES	20.22A	45.2
22.75	0.02a	0.93J	0.02K	0.96J	YES	20.22A	45.2
	0.02a	0.99A	0.02K	1.01A	YES	21.77A	45.2
11.37	0.02a	0.98A	0.02K	1.00A	YES	21.51A	45.2
	0.02a	0.98A	0.02K	1.00A	YES	22.05A	45.2
0.00							

MAXIMUM LOADS ONTO FOUNDATION(w.r.t. wind direction)

DOWN	SHEAR.w.r.t.WIND.DIR ALONG	SHEAR.w.r.t.WIND.DIR ACROSS	MOMENT.w.r.t.WIND.DIR ALONG	MOMENT.w.r.t.WIND.DIR ACROSS	TORSION
kip	kip	kip	ft-kip	ft-kip	ft-kip
144.30	87.23	0.22	-10517.74	-29.24	3.98
a	R	K	A	K	K

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150' ext. 160' Monopine / Salisbury, CT

********** Service Load Condition **********

* only 1 condition(s) shown in full
* Some concentrated wind loads may have been derived from full-scale wind tunnel testing

LOADING CONDITION A

60 mph wind with no ice. Wind Azimuth: 0°

LOADS ON POLE

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.... FORCES..... NORZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	161.500	0.00	0.0	0.0	0.3020	0.2500	0.0000	0.0000
C	156.500	0.00	0.0	0.0	0.3003	0.2500	0.0000	0.0000
C	155.000	0.00	0.0	0.0	1.0796	1.9718	0.0000	0.0000
C	155.000	0.00	0.0	0.0	0.0503	2.1824	0.0000	0.0000
C	151.500	0.00	0.0	0.0	0.5560	0.5000	0.0000	0.0000
C	146.500	0.00	0.0	0.0	0.5018	0.5000	0.0000	0.0000
C	145.000	0.00	0.0	0.0	1.0583	1.9054	0.0000	0.0000
C	145.000	0.00	0.0	0.0	0.0000	1.8096	0.0000	0.0000
C	141.500	0.00	0.0	0.0	0.5025	0.5000	0.0000	0.0000
C	141.000	0.00	0.0	0.0	0.5062	2.5192	0.0000	0.0000
C	136.500	0.00	0.0	0.0	0.5031	0.5000	0.0000	0.0000
C	135.000	0.00	0.0	0.0	1.0557	1.9763	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0000	2.7432	0.0000	0.0000
C	131.500	0.00	0.0	0.0	0.5046	0.5000	0.0000	0.0000
C	131.000	0.00	0.0	0.0	0.4235	1.5256	0.0000	0.0000
C	126.500	0.00	0.0	0.0	0.5739	0.5000	0.0000	0.0000
C	125.000	0.00	0.0	0.0	1.0739	1.9694	0.0000	0.0000
C	125.000	0.00	0.0	0.0	0.0000	1.5500	0.0000	0.0000
C	121.500	0.00	0.0	0.0	0.5041	0.5000	0.0000	0.0000
C	121.000	0.00	0.0	0.0	0.4478	1.5712	0.0000	0.0000
C	121.000	0.00	0.0	0.0	0.0000	0.2926	0.0000	0.0000
C	116.500	0.00	0.0	0.0	0.5031	0.5000	0.0000	0.0000
C	115.000	0.00	0.0	0.0	1.0734	1.9004	0.0000	0.0000
C	115.000	0.00	0.0	0.0	0.0000	1.4352	0.0000	0.0000
C	111.500	0.00	0.0	0.0	0.5049	0.5000	0.0000	0.0000
C	111.000	0.00	0.0	0.0	0.4483	1.5782	0.0000	0.0000
C	111.000	0.00	0.0	0.0	0.0000	0.1776	0.0000	0.0000
C	106.500	0.00	0.0	0.0	0.5052	0.5000	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.9756	1.9654	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.0000	1.3854	0.0000	0.0000
C	101.500	0.00	0.0	0.0	0.5001	0.5000	0.0000	0.0000
C	101.000	0.00	0.0	0.0	0.4473	1.5712	0.0000	0.0000
C	101.000	0.00	0.0	0.0	0.0000	0.2816	0.0000	0.0000
C	96.500	0.00	0.0	0.0	0.4997	0.5000	0.0000	0.0000
C	91.500	0.00	0.0	0.0	0.5001	0.5000	0.0000	0.0000
C	86.500	0.00	0.0	0.0	0.5001	0.5000	0.0000	0.0000
C	85.750	0.00	0.0	0.0	0.1264	0.1250	0.0000	0.0000
D	159.000	0.00	180.0	0.0	0.0053	0.0035	0.0000	0.0000
D	142.250	0.00	180.0	0.0	0.0035	0.0057	0.0000	0.0000
D	142.250	0.00	180.0	0.0	0.0036	0.1784	0.0000	0.0000
D	139.000	0.00	180.0	0.0	0.0035	0.1784	0.0000	0.0000
D	133.000	0.00	180.0	0.0	0.0059	0.0000	0.0000	0.0000
D	125.667	0.00	180.0	0.0	0.0059	0.0000	0.0000	0.0000
D	125.667	0.00	180.0	0.0	0.0036	0.1781	0.0000	0.0000
D	112.333	0.00	180.0	0.0	0.0035	0.1781	0.0000	0.0000
D	112.333	0.00	180.0	0.0	0.0059	0.0000	0.0000	0.0000

D	99.000	0.00	180.0	0.0	0.[illegible]	0.1531	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.0236	0.3493	0.0000	0.0000
D	93.500	0.00	180.0	0.0	0.0236	0.3493	0.0000	0.0000
D	93.500	0.00	180.0	0.0	0.0236	0.2163	0.0000	0.0000
D	80.083	0.00	180.0	0.0	0.0235	0.2163	0.0000	0.0000
D	80.083	0.00	180.0	0.0	0.0235	0.2419	0.0000	0.0000
D	66.667	0.00	180.0	0.0	0.0235	0.2419	0.0000	0.0000
D	66.667	0.00	180.0	0.0	0.0171	0.2675	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0171	0.2675	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0080	0.5707	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.0080	0.5707	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.0079	0.3013	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.0079	0.3013	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.0080	0.3230	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.0080	0.3230	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.0069	0.3448	0.0000	0.0000
D	11.375	0.00	180.0	0.0	0.0069	0.3448	0.0000	0.0000
D	11.375	0.00	180.0	0.0	0.0076	0.3665	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0076	0.3665	0.0000	0.0000

MAXIMUM POLE DEFORMATIONS CALCULATED(w.r.t. [illegible] direction)

MAST ELEV ft	.....DEFLECTIONS (ft)..... HORIZONTAL ALONG	ACROSS	DOWN	.....ROTATIONS (deg)..... TILT ALONG	ACROSS	TWIST
159.0	3.22H	0.01K	0.09K	2.27H	0.01K	0.00F
151.5	2.93H	0.01K	0.08K	2.26H	0.01K	0.00F
146.7	2.74H	0.01K	0.08K	2.23H	0.01K	0.00F
142.2	2.57H	0.01K	0.07K	2.19H	0.01K	0.00F
139.0	2.44H	0.01K	0.06K	2.16H	0.01K	0.00E
125.7	1.96H	0.00K	0.05K	1.98H	0.01K	0.00E
112.3	1.53H	0.00H	0.03K	1.73H	0.01K	0.00E
99.0	1.16H	0.00H	0.02K	1.46H	0.00K	0.00E
93.5	1.02H	0.00H	0.02K	1.37H	0.00K	0.00E
80.1	0.73H	0.00H	0.01K	1.15H	0.00K	0.00E
66.7	0.49H	0.00H	0.01K	0.91H	0.00K	0.00E
53.2	0.31H	0.00H	0.00K	0.70H	0.00H	0.00E
45.5	0.22H	0.00H	0.00K	0.58H	0.00H	0.00E
34.1	0.12H	0.00H	0.00K	0.42H	0.00H	0.00E
22.7	0.05H	0.00H	0.00K	0.27H	0.00H	0.00E
11.4	0.01H	0.00H	0.00K	0.13H	0.00H	0.00E
0.0	0.00A	0.00A	0.00A	0.00A	0.00A	0.00A

MAXIMUM POLE FORCES CALCULATED(w.r.t. to wind direction)

MAST ELEV ft	TOTAL AXIAL kip	SHEAR.W.R.T.WIND.DIR ALONG kip	ACROSS kip	MOMENT.W.R.T.WIND.DIR ALONG ft-kip	ACROSS ft-kip	TORSION ft-kip
159.0	0.25 L	0.30 L	0.00 B	-0.76 A	0.00 L	0.00 F
151.5	5.01 L	1.77 L	0.00 B	-9.36 H	0.00 F	0.00 K
	5.51 L	2.37 D	0.00 H	-9.37 H	-0.00 H	0.00 F
146.7	5.76 L	2.43 D	0.00 H	-21.79 H	-0.01 G	0.00 K
	5.76 D	2.45 L	-0.01 C	-21.79 B	-0.03 G	0.00 K
142.2	10.31 D	4.45 L	-0.01 C	-50.63 I	-0.05 K	-0.00 C
	10.31 L	4.45 C	-0.03 B	-50.63 D	-0.05 B	0.00 F
139.0	13.81 L	5.83 C	-0.03 B	-83.73 I	-0.11 G	0.00 F
	13.82 I	5.93 H	-0.04 L	-159.76 L	-0.13 G	0.00 F
125.7	22.90 I	9.36 H	-0.04 L	-271.31 H	0.62 L	0.00 F
	22.90 E	9.35 H	-0.04 L	-271.31 H	0.62 L	0.00 F
	34.19 E	13.21 H	-0.04 L	-337.22 H	1.16 L	0.00 F

112.3	34.19 E	18.21 H	-0.04 L	-[illegible]7.22 H	1.16 L	0.0[illegible]
	44.29 E	17.13 H	-0.04 L	-554.75 H	1.71 L	-0.07 C
99.0	44.29 E	17.13 H	0.04 B	-554.74 H	1.73 L	-0.07 C
	46.71 E	17.86 H	0.04 B	-657.16 H	1.93 L	-0.08 C
93.5	46.71 E	17.86 H	0.05 H	-657.15 H	1.95 L	-0.08 C
	50.76 E	19.54 H	0.05 H	-924.50 H	-2.51 K	-0.10 C
80.1	50.76 E	19.53 H	0.05 H	-924.50 H	-2.51 K	-0.10 C
	54.01 E	19.88 H	0.05 H	-1201.17 H	-3.10 K	-0.12 C
66.7	54.01 E	19.87 H	0.05 H	-1201.17 H	-3.10 K	-0.12 C
	57.60 E	20.24 H	0.05 H	-1480.57 H	-3.65 K	-0.14 C
53.2	57.60 E	20.23 H	0.05 H	-1480.60 H	-3.64 K	-0.14 C
	62.02 E	20.45 H	0.05 H	-1843.35 H	-3.94 K	-0.16 C
45.5	62.02 E	20.46 B	0.05 H	-1843.36 H	-3.95 K	-0.16 C
	65.45 E	20.77 B	0.05 H	-2084.09 H	-4.41 K	-0.17 C
34.1	65.45 E	20.77 H	0.05 H	-2084.08 H	-4.41 K	-0.17 C
	69.12 E	21.09 H	0.05 H	-2326.71 H	-4.96 K	-0.19 C
22.7	69.12 E	21.09 H	0.05 H	-2326.71 H	-4.96 K	-0.19 C
	73.04 E	21.40 H	0.05 H	-2571.12 H	-5.42 K	-0.20 C
11.4	73.04 E	21.39 H	0.05 H	-2571.12 H	-5.50 K	-0.18 C
	77.21 E	21.71 H	0.05 H	-2617.21 H	-6.01 K	-0.19 C
base reaction	77.21 E	-21.71 H	-0.05 H	2617.21 H	6.01 K	0.16 C

COMPLIANCE WITH 4.8.2 & 4.5.4

ELEV Ft	AXIAL	BENDING	SHEAR + TORSIONAL		TOTAL SATISFIED	D/C(m/t)	MAX ALLOWED
159.00	0.00L	0.00A	0.00L	0.00A	YES	9.52A	45.2
	0.00L	0.02H	0.00L	0.02H	YES	11.43A	45.2
151.50	0.01L	0.02B	0.00D	0.03B	YES	11.41A	45.2
	0.00L	0.04D	0.00D	0.05D	YES	12.60A	45.2
146.75	0.00D	0.04B	0.00L	0.05B	YES	12.60A	45.2
	0.01D	0.07L	0.01L	0.08L	YES	13.73A	45.2
142.25	0.01L	0.05D	0.00C	0.05D	YES	8.57A	45.2
	0.01L	0.06L	0.01C	0.07L	YES	9.13A	45.2
139.00	0.01I	0.07L	0.01H	0.07L	YES	8.88A	45.2
	0.01I	0.13H	0.01H	0.14H	YES	11.11A	45.2
125.67	0.01E	0.12H	0.01H	0.13H	YES	11.11A	45.2
	0.01E	0.16H	0.01H	0.17H	YES	13.05A	45.2
112.33	0.01E	0.18H	0.01H	0.19H	YES	13.05A	45.2
	0.01E	0.23H	0.01H	0.24H	YES	15.79A	45.2
99.00	0.01E	0.17H	0.01H	0.18H	YES	13.23A	45.2
	0.01E	0.19H	0.01H	0.20H	YES	11.94A	45.2
93.50	0.01E	0.19H	0.01H	0.20H	YES	11.68A	45.2
	0.01E	0.21H	0.01H	0.22H	YES	13.36A	45.2
80.08	0.01E	0.21H	0.01H	0.22H	YES	13.36A	45.2
	0.01E	0.22H	0.01H	0.23H	YES	15.05A	45.2
66.67	0.01E	0.22H	0.01H	0.23H	YES	15.05A	45.2
	0.01E	0.23H	0.01H	0.24H	YES	16.74A	45.2

53.25	0.01E	0.23H	0.01H	0.[illegible]H	YES	16.74A	45.2
	0.01E	0.23H	0.01H	0.[illegible]H	YES	17.[illegible]A	45.2
45.50	0.01E	0.24H	0.01H	0.[illegible]H	YES	17.30A	45.2
	0.01E	0.24H	0.01H	0.[illegible]H	YES	18.79A	45.2
34.12	0.01E	0.24H	0.01H	0.25H	YES	18.79A	45.2
	0.01E	0.24H	0.01H	0.[illegible]H	YES	20.22A	45.2
22.75	0.01E	0.24H	0.01H	0.[illegible]H	YES	20.22A	45.2
	0.01E	0.24H	0.01H	0.25H	YES	21.65A	45.2
11.37	0.01E	0.24H	0.01H	0.25H	YES	21.65A	45.2
	0.01E	0.25H	0.01H	0.26H	YES	23.08A	45.2
0.00							

MAXIMUM LOADS ONTO FOUNDATION(w.r.t. wind direction)

DOWN	SHEAR,w.r.t.WIND.DIR		MOMENT,w.r.t.WIND.DIR		TORSION
	ALONG	ACROSS	ALONG	ACROSS	
kip	kip	kip	ft-kip	ft-kip	ft-kip
77.21	21.71	0.05	-2617.21	-6.01	-0.16
E	H	H	H	H	C

Sabre Industries
Towers and Poles

SO#: 130280A
Site Name: Salisbury, CT
Date: 11/3/2015

Round Flange Plate and Bolts per ANSI/TIA 222-G
Elevation = 149 feet

Pole Data

Diameter:	19.57	in
Thickness:	0.25	in
Yield (Fy):	65	ksi
# of Sides:	18	"0" IF Round
Strength (Fu):	80	ksi

Reactions

Moment, Mu:	37.46	ft-kips
Axial, Pu:	6.63	kips
Shear, Vu:	9.53	kips

Bolt Data

Quantity:	4	
Diameter:	0.625	in
Bolt Material:	A325	
Strength (Fu):	120	ksi
Yield (Fy):	92	ksi
BC Diam. (in):	22.25	BC Override:

Flange Bolt Results

Allowable Φ*Rnt:	20.34 kips
Adjusted Φ*Rnt (due to shear):	20.09 kips
Maximum Bolt Tension:	18.55 kips
Bolt Interaction Ratio:	**92.3% Pass**

Plate Data

Diameter (in):	24	Dia. Override:
Thickness:	1.5	in
Center Hole Diam.:	13	in
Yield (Fy):	50	ksi
Single-Rod B-eff:	5.99	in

Flange Plate Results

Compression Side Plate (Mu/Z):	4.9 ksi
Allowable Φ*Fy:	45.0 ksi
Compr. Plate Interaction Ratio:	**10.9% Pass**

Sabre Industries
Towers and Poles

SO#: 130280A
Site Name: Salisbury, CT
Date: 11/3/2015

Round Base Plate and Anchor Rods, per **ANSI/TIA 222-G**

Pole Data

Diameter:	70.450	in (flat to flat)
Thickness:	0.5	in
Yield (Fy):	65	ksi
# of Sides:	18	"0" IF Round
Strength (Fu):	80	ksi

Reactions

Moment, Mu:	10517.74	ft-kips
Axial, Pu:	92.59	kips
Shear, Vu:	87.08	kips

Anchor Rod Data

Quantity:	28		
Diameter:	2.25	in	
Rod Material:	A615		
Strength (Fu):	100	ksi	
Yield (Fy):	75	ksi	
BC Diam. (in):	77.75	BC Override:	

Anchor Rod Results

Maximum Rod (Pu+ Vu/η):	241.4 Kips	
Allowable Φ*Rnt:	260.0 Kips	(per 4.9.9)
Anchor Rod Interaction Ratio:	**92.9% Pass**	

Plate Data

Diameter (in):	83.5	Dia. Override:	
Thickness:	2.5	in	
Yield (Fy):	50	ksi	
Eff Width/Rod:	7.99	in	
Drain Hole:	2.625	in. diameter	
Drain Location:	33	in. center of pole to center of drain hole	
Center Hole:	58	in. diameter	

Base Plate Results

Base Plate (Mu/Z):	43.7 ksi	
Allowable Φ*Fy:	45.0 ksi	(per AISC)
Base Plate Interaction Ratio:	**97.1% Pass**	

MAT FOUNDATION DESIGN BY SABRE TOWERS & POLES
160' Monopole INSITE TOWERS LLC Salisbury, CT (130280) 11-3-15 BD

Overall Loads:			
Factored Moment (ft-kips)	10517.74		
Factored Axial (kips)	92.59		
Factored Shear (kips)	87.08		
Bearing Design Strength (ksf)	9	Max. Net Bearing Press. (ksf)	8.68
Water Table Below Grade (ft)	999		
Width of Mat (ft)	33	Allowable Bearing Pressure (ksf)	6.00
Thickness of Mat (ft)	1.75	Safety Factor	2.00
Depth to Bottom of Slab (ft)	6	Ultimate Bearing Pressure (ksf)	12.00
Quantity of Bolts in Bolt Circle	28	Bearing Φs	0.75
Bolt Circle Diameter (in)	77.75		
Top of Concrete to Top of Bottom Threads (in)	60		
Diameter of Pier (ft)	8	Minimum Pier Diameter (ft)	7.98
Ht. of Pier Above Ground (ft)	0.5	Equivalent Square b (ft)	7.09
Ht. of Pier Below Ground (ft)	4.25		
Quantity of Bars in Mat	78		
Bar Diameter in Mat (in)	1.27		
Area of Bars in Mat (in^2)	98.81		
Spacing of Bars in Mat (in)	5.05	Recommended Spacing (in)	5 to 12
Quantity of Bars Pier	48		
Bar Diameter in Pier (in)	1.27		
Tie Bar Diameter in Pier (in)	0.625		
Spacing of Ties (in)	12		
Area of Bars in Pier (in^2)	60.80	Minimum Pier A_s (in^2)	36.19
Spacing of Bars in Pier (in)	5.73	Recommended Spacing (in)	5 to 12
f'c (ksi)	4.5		
fy (ksi)	60		
Unit Wt. of Soil (kcf)	0.1		
Unit Wt. of Concrete (kcf)	0.15		
Volume of Concrete (yd^3)	79.43		
Two-Way Shear Action:			
Average d (in)	16.73		
ϕV_c (kips)	1314.1	V_u (kips)	166.7
$\phi V_c = \phi(2 + 4/\beta_c)f'_c{}^{1/2}b_o d$	2027.0		
$\phi V_c = \phi(\alpha_s d/b_o + 2)f'_c{}^{1/2}b_o d$	1314.1		
$\phi V_c = \phi 4 f'_c{}^{1/2}b_o d$	1351.4		
Shear perimeter, b_o (in)	354.15		
β_c	1		
One-Way Shear:			
ϕV_c (kips)	755.5	V_u (kips)	596.6
Stability:			
Overturning Design Strength (ft-k)	12478.4	Total Applied M (ft-k)	11083.8

Pier Design:

ϕV_n (kips)	846.2	V_u (kips)	87.1
$\phi V_c=\phi 2(1+N_u/(2000A_g))f'_c{}^{1/2}b_wd$	846.2		
V_s (kips)	0.0	*** V_s max = 4 $f'_c{}^{1/2}b_wd$ (kips)	1978.3
Maximum Spacing (in)	7.62	(Only if Shear Ties are Required)	
Actual Hook Development (in)	15.46	Req'd Hook Development l_{dh} (in)	15.31
		*** Ref. To Spacing Requirements ACI 11.5.4.3	

Flexure in Slab:

ϕM_n (ft-kips)	6668.6	M_u (ft-kips)	6547.4
a (in)	3.91		
Steel Ratio	0.01491		
β_1	0.825		
Maximum Steel Ratio (ρ_t)	0.0197		
Minimum Steel Ratio	0.0018		
Rebar Development in Pad (in)	152.46	Required Development in Pad (in)	42.64

Condition	1 is OK, 0 Fails
Maximum Soil Bearing Pressure	1
Pier Area of Steel	1
Pier Shear	1
Interaction Diagram Visual Check	1
Two-Way Shear Action	1
One-Way Shear Action	1
Overturning	1
Flexure	1
Steel Ratio	1
Length of Development in Pad	1
Hook Development	1

ATTACHMENT 3

AT&T Antenna Specs

HexPort Multi-Band Antenna

Model HPA-65R-BUU-H8

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.

Hexport Multi-Band Antenna Array

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

HexPort Multi-Band Antenna

Model HPA-65R-BUU-H8

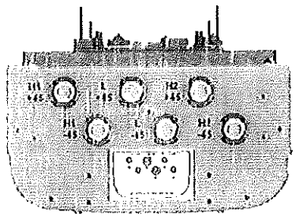
HPA-65R Multi-Band Antenna

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	16.3 dBi	16.2 dBi	17.1 dBi	16.3 dBi	17.4 dBi	17.7 dBi
Azimuth Beamwidth (-3dB)	65°	61°	62°	68°	64°	60°
Elevation Beamwidth (-3dB)	10.1°	8.4°	5.6°	6.2°	5.0°	4.5°
Electrical Downtilt	2° to 10°	2° to 10°	0° to 8°	0° to 8°	0° to 8°	0° to 8°
Elevation Sidelobes (1st Upper)	< -17 dB	< -17 dB	< -19 dB	< -18 dB	< -18 dB	< -17 dB
Front-to-Back Ratio @180°	> 29 dB	> 28 dB	> 35 dB	> 35 dB	> 35 dB	> 35 dB
Front-to-Back Ratio over ± 20°	> 28 dB	> 27 dB	> 28 dB	> 27 dB	> 28 dB	> 28 dB
Cross-Polar Discrimination (at Peak)	> 24 dB	> 20 dB	> 25 dB	> 25 dB	> 25 dB	> 25 dB
Cross-Polar Discrimination (at ± 60°)	> 16 dB	> 14 dB	> 18 dB	> 18 dB	> 18 dB	> 18 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

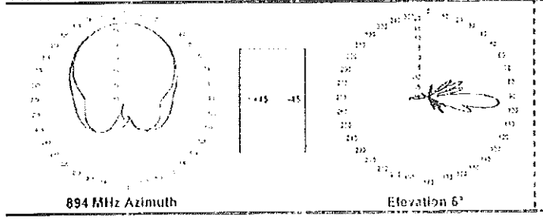
Dimensions (LxWxD)	92.4 x 14.8 x 7.4 inches (2348 x 376 x 189 mm)
Survival Wind Speed	> 150 mph
Front Wind Load	332 lbs (1479 N) @ 100 mph (161 kph)
Side Wind Load	193 lbs (860 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	13.0 ft² (1.2 m²)
Weight (without Mounting)	68 lbs (31 kg)
RET System Weight	5.0 lbs (2.25 kg)
Connector	6; 7-16 DIN female long neck
Mounting Pole	2-5 inches (5-12 cm)



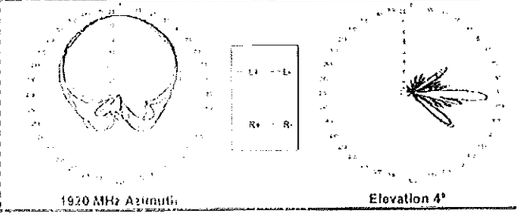
Bottom View

Rear View

Antenna Patterns*



894 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.

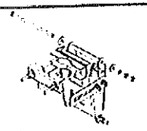
HexPort Multi-Band Antenna

Model HPA-65R-BUU-H8

Ordering Information:

HPA-65R-BUU-H8	8 Foot Hexport Antenna with 65° Azimuth Beamwidth with Factory Installed Actuators (3)
HPA-65R-BUU-H8-K	Complete Kit with Antenna, Factory Installed Actuators (3) and M03 Mounting Bracket
BSA-RET200	RET Actuator
BSA-M03	Mounting Bracket (Top & Bottom) with 0° through 10° Mechanical tilt Adjustment

M03 Top Mounting Bracket



M03 Bottom Mounting Bracket

RET [Remote Electrical Tilt] System

General Specification

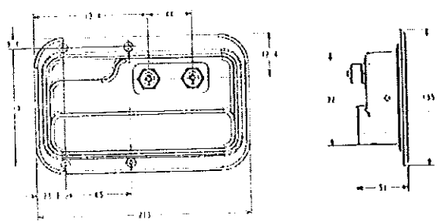
Part Number	BSA-RET200
Protocols	AISG 2.0
Adjustment Cycles	>10,000 cycles
Tilt Accuracy	±0.1°
Temperature Range	-40°C to +70°C

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

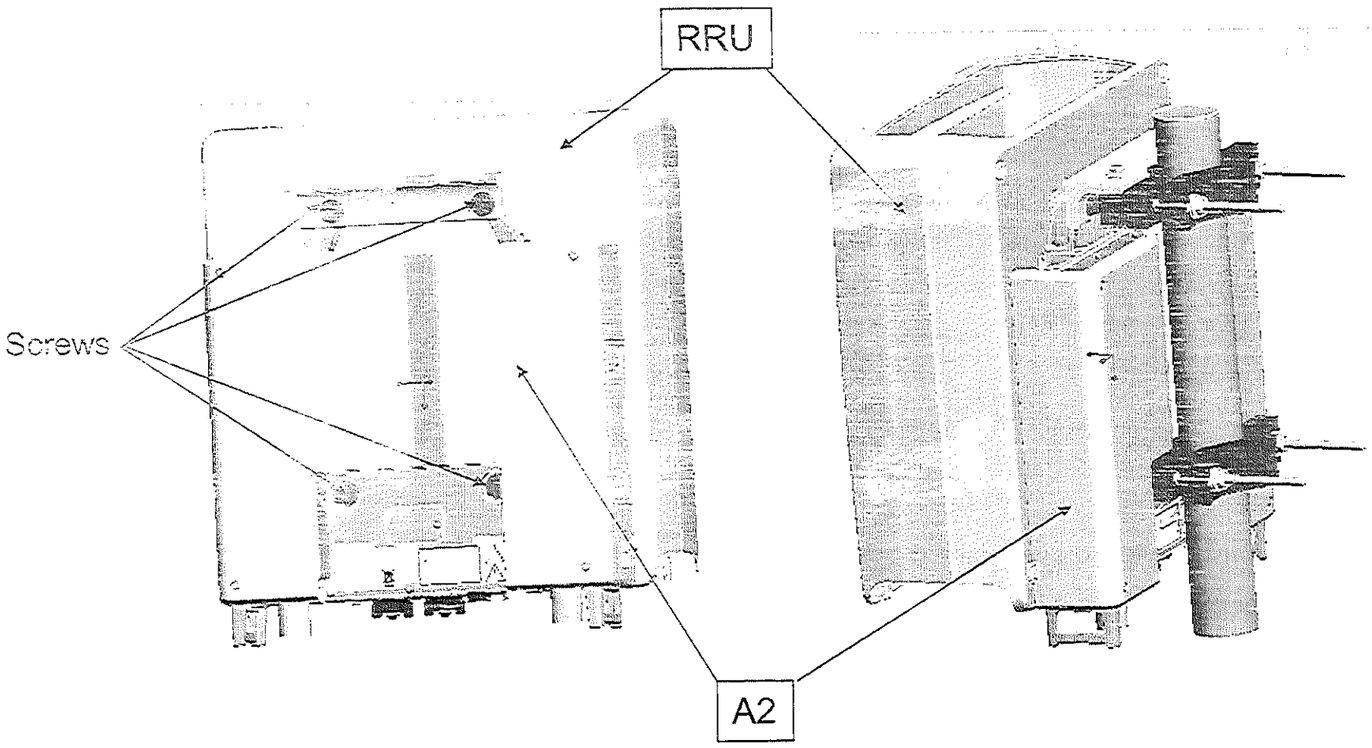
Safety	EN 60950-1, UL 60950-1
Emission	EN 55022
Immunity	EN 55024
Environmental	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-5, IEC 60068-2-6, IEC 60068-2-11, IEC 60068-2-14, IEC 60068-2-18, IEC 60068-2-27, IEC 60068-2-29, IEC 60068-2-30, IEC 60068-2-52, IEC 60068-2-64, GR-63-CORE 4.3.1, EN60529 IP24

Regulatory Certification

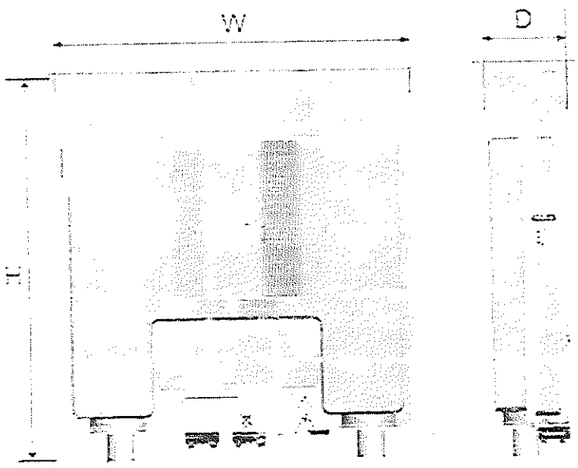
AISG, FCC Part 15 Class B, CE, CSA US

Installation concept

Back to back with RRU

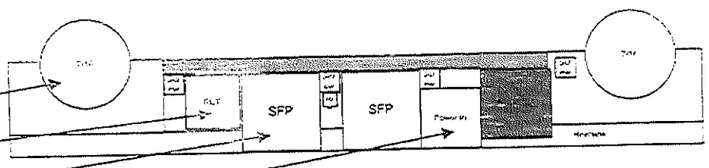


RRUS A2 A2 Building practice



PRELIMINARY DATA

	No solar shield	With solar shield
Height (H)	12.8" (325.5mm)	12.8" (325.5mm)
Width (W)	14.7" (374mm)	15.0" (380mm)
Depth (D)	3.2" (81mm)	3.5" (88mm)
Weight		15 ibs

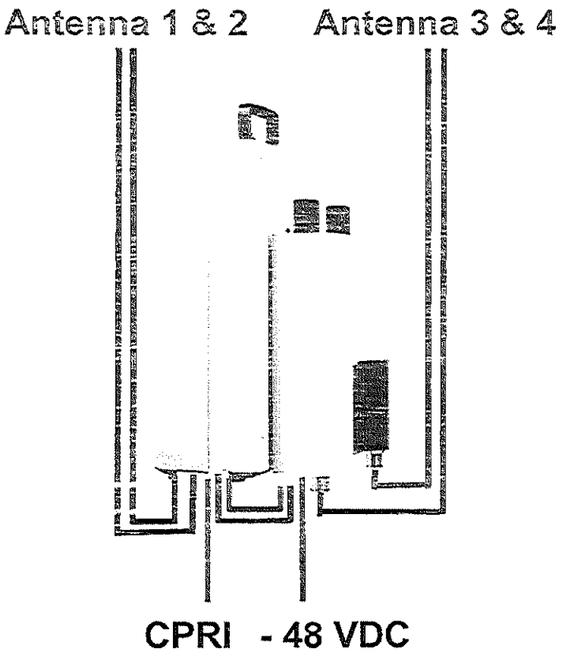


External Connections

- 2 x 7-16 Ant Connections
- RET Interface
- 2 CPRI Interfaces
- Power In / Out, to RRU

RRUS A2 Module

- **RRUS A2 Module**
  - 2 Rx expansion module for RRUS
- Works with RRUS 01, 11 and 12
  - Eases deployment for 4Rx diversity

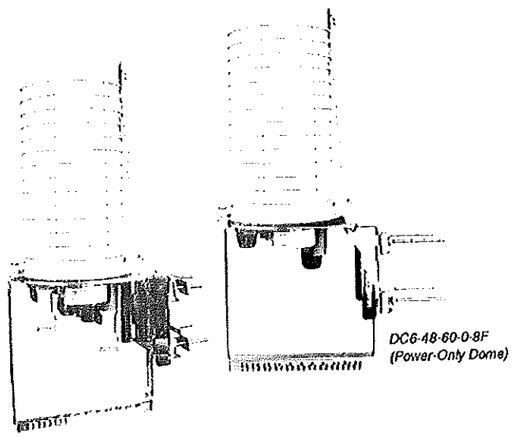


DATA SHEET

Tower Fiber Optic & DC Overvoltage Protection Power Connection Solutions
DC6-48-60-18-8F & DC6-48-60-0-8F

The DC6-48-60-18-8F and DC6-48-60-0-8F are dual chambered, DC surge suppression systems for use in multi-circuit, distributed node B/e-node B applications. The system will protect up to six remote radio heads (RRH) from voltage surges and lightning. The DC6-48-60-18-8F supports up to 18 pair of fiber. The DC6-48-60-0-8F is designed for use when a site is upgrading to more than 6 total RRH's.

powered by Strikesorb®



DC6-48-60-18-8F (Power & Fiber Dome)

DC6-48-60-0-8F (Power-Only Dome)

Features

- Protects up to six remote radio heads, each with its own protection circuit.
- Flexible design allows for installation at the top of a tower for RRH protection.
- Light-emitting diode (LED) indicators on individual circuits provide visual indication of suppressor status.
- Form C relays allow for remote monitoring of the suppressor status.
- Strikesorb® suppression modules are fully recognized to UL 1449-3rd Edition Safety Standard, meeting all intermediate and high-current fault requirements to facilitate use in other equipment manufacturers (OEM) applications.
- Raycap recommends that DC protection system be installed within 5 meters or 15 feet of the radio.
- DC6-48-60-18-8F includes fiber connections for up to eighteen pair of fiber.
- Patent pending

Benefits

- Dome design is lightweight and aerodynamic providing maximum flexibility for installation on top of towers.

G02-00-272 130308

SPECIFICATIONS

Tower Fiber Optic & DC Overvoltage Protection Power Connection Solutions

DC6-48-60-18-8F & DC6-48-60-0-8F

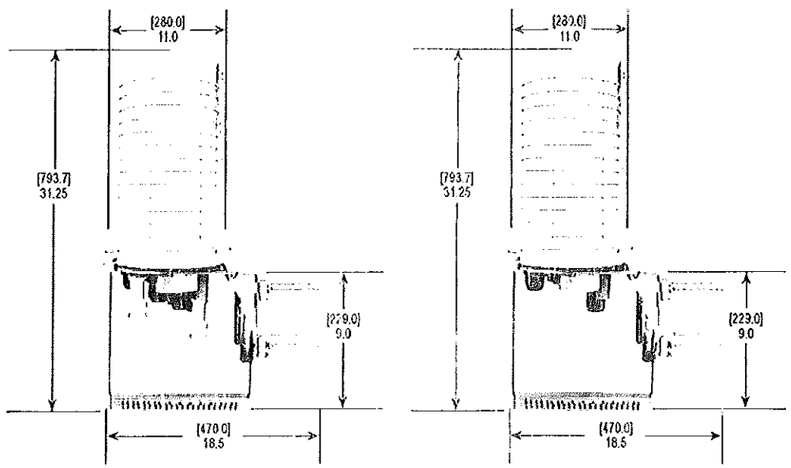
powered by **Strikesorb**

Mechanical

Model Number		DC6-48-60-18-8F	DC6-48-60-0-8F
CEQ / ANT Number		ANT. 13884	ANT. 10529
Suppression Connection Method		Compression Lug	Compression Lug
	Copper	#14 to #2 AWG [2.5 to 35 mm²]	#14 to #2 AWG [2.5 to 35 mm²]
Fiber Connection Method		LC-LC Single Mode	N/A
Environmental Ingress Protection (IP) Rating		IP68	IP68
Operating Temperature		-40° C to +80° C	-40° C to +80° C
Storage Temperature		-70° C to +80° C	-70° C to +80° C
Cold Temperature Cycling IEC 61300-2-22		-30° C to +60° C 200 hrs @ 5 PSI	-30° C to +60° C 200 hrs @ 5 PSI
Resistance to Aggressive Materials CEI IEC 61073-2		Including Acids and Bases	Including Acids and Bases
UV Protection ISO 4892-2 Method A		Xenon-Arc 2160 hrs	Xenon-Arc 2160 hrs
Weight*	System	18.9 lbs [8.57 kg]	18.9 lbs [8.57 kg]
	Mount	13.9 lbs [6.30 kg]	13.9 lbs [6.30 kg]
	Total	32.8 lbs [14.88 kg]	32.8 lbs [14.88 kg]
Combined Wind Loading	Sustained	150 mph Sustained: 105.7 lbs [470 N]	150 mph Sustained: 105.7 lbs [470 N]
	Gust	195 mph Gust: 213.6 lbs [950 N]	195 mph Gust: 213.6 lbs [950 N]
Ordering Information		DC6-48-60-18-8F	DC6-48-60-0-8F
Module Assembly (Field Upgradeable)		DC6-48-60-18-8F-U	ANT.10082
Pre-wired Module Kit for a single remote radios			
*Module Weight: 5.64 oz [160 g] *(Calculated into the above Part Number weights.)*			
Accessory Kit		DC6-8F-ACC-KIT	CEQ.11443
Modification Kit		DC6-8F-MOD-KIT	CEQ.11444
Optional Components			
Power/Fiber connection system		FC18-PC6-8F	CEQ.11167

Product Diagram

[mm]
inches



AWG=American Wire Gauge

Raycap

www.raycapsurgeprotection.com

ATTACHMENT 4

AT&T Generator Spec

GENERAC® | INDUSTRIAL POWER

SD035

3.4L

Industrial Diesel Generator Set

EPA Certified Stationary Emergency

Standby Power Rating
35 kW 44 kVA 60 Hz

Prime Power Rating*
32 kW 39 kVA 60 Hz

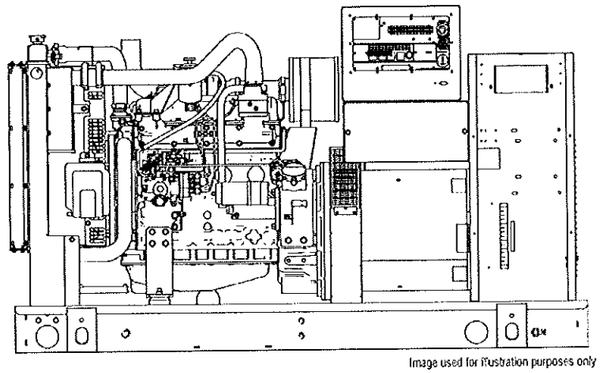


Image used for illustration purposes only

*EPA Certified Prime ratings are not available in the U.S. or its Territories

Codes and Standards

Generac products are designed to the following standards:

UL2200, UL508, UL142, UL498

NFPA70, 99, 110, 37

NEC700, 701, 702, 708

ISO9001, 8528, 3046, 7637, Pluses #2b, 4

NEMA ICS10, MG1, 250, ICS6, AB1

ANSI C62.41
American National Standards Institute

Powering Ahead

For over 50 years, Generac has led the industry with innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac's gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial application under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

GENERAC | INDUSTRIAL POWER

SD035

Standard Features

ENGINE SYSTEM

General
- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel flexible exhaust connection
- Critical Exhaust Silencer (enclosed only)
- Factory Filled Oil
- Radiator Duct Adapter (open set only)

Fuel System
- Fuel lockoff solenoid
- Primary fuel filter

Cooling System
- Closed Coolant Recovery System
- UV/Ozone resistant hoses
- Factory-Installed Radiator
- Radiator Drain Extension
- 50/50 Ethylene glycol antifreeze
- 120 VAC Coolant Heater

Engine Electrical System
- Battery charging alternator
- Battery cables
- Battery tray
- Solenoid activated starter motor
- Rubber-booted engine electrical connections

ALTERNATOR SYSTEM
- UL2200 GENprotect™
- 12 leads (3-phase, non 600 V)
- Class H insulation material
- Vented rotor
- 2/3 pitch
- Skewed stator
- Auxiliary voltage regulator power winding
- Amortisseur winding
- Brushless Excitation
- Sealed Bearings
- Automated manufacturing (winding, insertion, lacing, varnishing)
- Rotor dynamically spin balanced (get tolerance)
- Full load capacity alternator
- Protective thermal switch

GENERATOR SET
- Internal Genset Vibration Isolation
- Separation of circuits - high/low voltage
- Separation of circuits - multiple breakers
- Silencer Heat Shield
- Wrapped Exhaust Piping
- Silencer housed in discharge hood (enclosed only)
- Standard Factory Testing
- 2 Year Limited Warranty (Standby rated Units)
- 1 Year Limited Warranty (Prime rated units)
- Silencer mounted in the discharge hood (enclosed only)

ENCLOSURE (if selected)
- Rust-proof fasteners with nylon washers to protect finish
- High performance sound-absorbing material
- Gasketed doors
- Stamped air-intake louvers
- Air discharge hoods for radiator-upward pointing
- Stainless steel lift off door hinges
- Stainless steel lockable handles
- Rhino Coat™ - Textured polyester powder coat

TANKS (if selected)
- UL 142
- Double wall
- Vents
- Sloped top
- Sloped bottom
- Factory pressure tested (2 psi)
- Rupture basin alarm
- Fuel level
- Check valve in supply and return lines
- Rhino Coat™ - Textured polyester powder coat
- Stainless hardware

CONTROL SYSTEM

Control Panel
- Digital H Control Panel - Dual 4x20 Display
- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable PLC
- RS-232/485
- All-Phase Sensing DVR
- Full System Status
- Utility Monitoring
- Low Fuel Pressure Indication
- 2-Wire Start Compatible
- Power Output (kW)
- Power Factor
- kW Hours, Total & Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events
- Modbus protocol
- Predictive Maintenance algorithm
- Sealed Boards
- Password parameter adjustment protection
- Single point ground
- 15 channel data logging
- 0.2 msec high speed data logging
- Alarm information automatically comes up on the display

Alarms
- Oil Pressure (Pre-programmable Low Pressure Shutdown)
- Coolant Temperature (Pre-programmed High Temp Shutdown)
- Coolant Level (Pre-programmed Low Level Shutdown)
- Low Fuel Pressure Alarm
- Engine Speed (Pre-programmed Over speed Shutdown)
- Battery Voltage Warning
- Alarms & warnings time and date stamped
- Alarms & warnings for transient and steady state conditions
- Snap shots of key operation parameters during alarms & warnings
- Alarms and warnings spelled out (no alarm codes)

SD035

Configurable Options

ENGINE SYSTEM

General
- O Oil Make-Up System
- O Oil Heater
- O Industrial Exhaust Silencer

Fuel System
- O Flexible fuel lines
- O Primary fuel filter

Engine Electrical System
- O 10A UL battery charger
- O 2.5A UL battery charger
- O Battery Warmer

ALTERNATOR SYSTEM

- O Alternator Upsizing
- O Anti-Condensation Heater
- O Tropical coating
- O Permanent Magnet Excitation

CIRCUIT BREAKER OPTIONS

- O Main Line Circuit Breaker
- O 2nd Main Line Circuit Breaker
- O Shunt Trip and Auxiliary Contact
- O Electronic Trip Breakers

GENERATOR SET

- O Gen-Link Communications Software (English Only)
- O 8 Load Position Load Center
- O 2 Year Extended Warranty
- O 5 Year Warranty
- O 5 Year Extended Warranty

ENCLOSURE

- O Weather Protected
- O Level 1 Sound Attenuation
- O Level 2 Sound Attenuation
- O Steel Enclosure
- O Aluminum Enclosure
- O 150 MPH Wind Kit
- O 12 VDC Enclosure Lighting Kit
- O 120 VAC Enclosure Lighting Kit
- O AC/DC Enclosure Lighting Kit
- O Door Alarm Switch

TANKS (Size on last page)

- O Electrical Fuel Level
- O Mechanical Fuel Level
- O 54 Gal (204.4 L) Usable Capacity
- O 132 Gal (499.7 L) Usable Capacity
- O 211 Gal (798.7 L) Usable Capacity
- O 300 Gal (1135.6 L) Usable Capacity
- O 8" Vent Extension
- O 13" Vent Extension
- O 19" Vent Extension

CONTROL SYSTEM

- O 21-Light Remote Annunciator
- O Remote Relay Panel (8 or 16)
- O Oil Temperature Sender with Indication Alarm
- O Remote E-Stop (Break Glass-Type, Surface Mount)
- O Remote E-Stop (Red Mushroom-Type, Surface Mount)
- O Remote E-Stop (Red Mushroom-Type, Flush Mount)
- O Remote Communication - Modem
- O Remote Communication - Ethernet
- O 10A Run Relay
- O Ground fault indication and protection functions

Engineered Options

ENGINE SYSTEM

- O Coolant heater ball valves
- O Block Heaters
- O Fluid containment pans

CONTROL SYSTEM

- O Spare inputs (x4) / outputs (x4) - H Panel Only
- O Battery Disconnect Switch

ALTERNATOR SYSTEM

- O 3rd Breaker System

GENERATOR SET

- O Special Testing
- O IBC Seismic Certification

ENCLOSURE

- O Motorized Dampers
- O Door switched for intrusion alert
- O Enclosure ambient heaters

TANKS

- O Overfill protection valve
- O UL2085 Tank
- O ULC S-601 Tank
- O Stainless Steel Tank
- O Special Fuel Tanks (MIDEO and FL DEP/DERM, etc.)
- O Vent Extensions

Rating Definitions

Standby -- Applicable for a varying emergency load for the duration of a utility power outage with no overload capability.
Prime -- Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. A 10% overload capacity is available for 1 out of every 12 hours. The Prime Power option is only available on International applications.

Power ratings in accordance with ISO 8528-1, Second Edition dated 2005-06-01, definitions for Prime Power (PRP) and Emergency Standby Power (ESP).

GENERAC | INDUSTRIAL POWER

SD035 application and engineering data

ENGINE SPECIFICATIONS

General

Make	Generac
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emissions Data Sheet
Cylinder #	4
Type	In-Line
Displacement - L (cu in)	3.4 (207.48)
Bore - mm (in)	98 (3.86)
Stroke - mm (in)	113 (4.45)
Compression Ratio	18.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head Type	Cast Iron OHV
Piston Type	Aluminum
Crankshaft Type	Forged Steel

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	± 0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full Flow Cartridge
Crankcase Capacity - L (qts)	7 (7.4)

Cooling System

Cooling System Type	Closed Recovery
Water Pump Flow	Pre-Lubed, Self Sealing
Fan Type	Pusher
Fan Speed (rpm)	NA
Fan Diameter mm (in)	560 (22)
Coolant Heater Wattage	1500
Coolant Heater Standard Voltage	120 V /240 V

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Specifications	ASTM
Fuel Filtering (microns)	10
Fuel Inject Pump	Bosch (VE)
Fuel Pump Type	Engine Driven Gear
Injector Type	Pintel - 2100 PSI
Fuel Supply Line - mm (in)	7.92 (0.312)
Fuel Return Line - mm (in)	7.92 (0.312)

Engine Electrical System

System Voltage	12 VDC
Battery Charging Alternator	20 A
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	390
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	< 3%
Telephone Interference Factor (TIF)	< 50
Standard Excitation	Synchronous
Bearings	Single Sealed Cartridge
Coupling	Direct, Flexible Disc
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes

Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	± 0.25%

SD035

operating data

POWER RATINGS

	Standby	
Single-Phase 120/240 VAC @1.0pf	35 kW	Amps: 146
Three-Phase 120/208 VAC @0.8pf	35 kW	Amps: 122
Three-Phase 120/240 VAC @0.8pf	35 kW	Amps: 105
Three-Phase 277/480 VAC @0.8pf	35 kW	Amps: 53
Three-Phase 346/600 VAC @0.8pf	35 kW	Amps: 42

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

		480 VAC						208/240 VAC					
Alternator	kW	10%	15%	20%	25%	30%	35%	10%	15%	20%	25%	30%	35%
Standard	35	24	36	48	60	72	84	18	27	36	45	54	63
Upsize 1	40	27	41	54	68	81	95	20	31	41	51	61	71
Upsize 2	50	34	52	69	86	103	120	26	39	52	65	77	90
Upsize 3	60	42	63	83	104	125	146	32	47	62	78	94	110

FUEL CONSUMPTION RATES*

Fuel Pump Lift - ft (m)
3 (1)

Total Fuel Pump Flow (Combustion + Return)
5.5 gph

Diesel - gph (lph)

Percent Load	gph (lph)
25%	1.03 (3.90)
50%	1.72 (6.52)
75%	2.4 (9.09)
100%	3.1 (11.74)

* Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby
Coolant Flow per Minute	gpm (lpm)	12.2 (46)
Coolant System Capacity	gal (L)	2.5 (9.5)
Heat Rejection to Coolant	BTU/hr	96,000
Inlet Air	cfm (m3/hr)	7500 (212)
Max. Operating Radiator Air Temp	F° (C°)	122 (50)
Max. Ambient Temperature (before derate)	F° (C°)	110 (43.3)
Maximum Radiator Backpressure	in H_2O	0.5

COMBUSTION AIR REQUIREMENTS

		Standby
Flow at Rated Power	cfm (m3/min)	150 (4.2)

ENGINE

		Standby
Rated Engine Speed	rpm	1800
Horsepower at Rated kW**	hp	56
Piston Speed	ft/min (m/min)	1335
BMEP	psi	118

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

EXHAUST

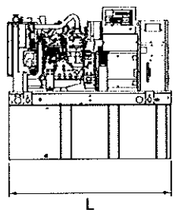
		Standby
Exhaust Flow (Rated Output)	cfm (m^3/min)	342 (9.7)
Max. Backpressure (Post Silencer)	inHg (Kpa)	1.5 (5.1)
Exhaust Temp (Rated Output)	°F (°C)	900 (482)
Exhaust Outlet Size (Open Set)	mm (in)	63.5 (2.5)

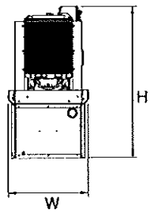
Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards.

GENERAC | INDUSTRIAL POWER

SD035

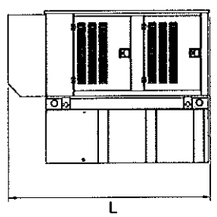
dimensions and weights*

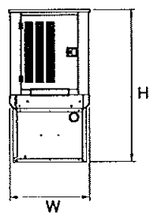




OPEN SET

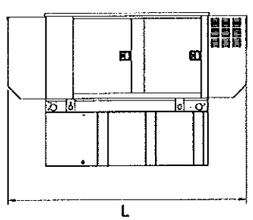
RUN TIME HOURS	USABLE CAPACITY GAL (L)	L x W x H in (mm)	WT lbs (kg) - Tank & Open Set
NO TANK	-	76 (1930.4) x 38 (914.4) x 45 (1143)	1756 (796)
17	54 (204.4)	76 (1930.4) x 38 (914.4) x 58 (1473.2)	2236 (1014)
43	132 (499.7)	76 (1930.4) x 38 (914.4) x 70 (1778)	2466 (1119)
68	211 (798.7)	76 (1930.4) x 38 (914.4) x 82 (2082.8)	2675 (1213)
97	300 (1135.6)	93 (2362.2) x 38 (914.4) x 86 (2184.4)	2738 (1242)

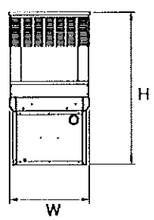




STANDARD ENCLOSURE

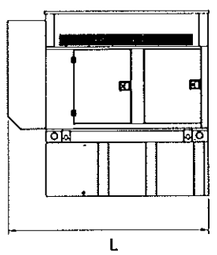
RUN TIME HOURS	USABLE CAPACITY GAL (L)	L x W x H in (mm)	WT lbs (kg) - Enclosure Only	
			Steel	Aluminum
NO TANK	-	95 (2413) x 38 (965.2) x 50 (1270)	334 (152)	115 (52)
17	54 (204.4)	95 (2413) x 38 (965.2) x 63 (1600.2)		
43	132 (499.7)	95 (2413) x 38 (965.2) x 75 (1905)		
68	211 (798.7)	95 (2413) x 38 (965.2) x 87 (2209.8)		
97	300 (1135.6)	95 (2413) x 38 (965.2) x 91 (2311.4)		

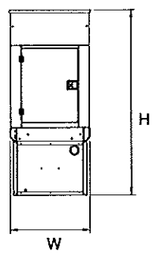




LEVEL 1 ACOUSTIC ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY GAL (L)	L x W x H in (mm)	WT lbs (kg) - Enclosure Only	
			Steel	Aluminum
NO TANK	-	113 (2870.2) x 38 (965.2) x 50 (1270)	435 (198)	150 (68)
17	54 (204.4)	113 (2870.2) x 38 (965.2) x 63 (1600.2)		
43	132 (499.7)	113 (2870.2) x 38 (965.2) x 75 (1905)		
68	211 (798.7)	113 (2870.2) x 38 (965.2) x 87 (2209.8)		
97	300 (1135.6)	113 (2870.2) x 38 (965.2) x 91 (2311.4)		





LEVEL 2 ACOUSTIC ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY GAL (L)	L x W x H in (mm)	WT lbs (kg) - Enclosure Only	
			Steel	Aluminum
NO TANK	-	95 (2413) x 38 (965.2) x 62 (1574.8)	520 (236)	179 (81)
17	54 (204.4)	95 (2413) x 38 (965.2) x 75 (1905)		
43	132 (499.7)	95 (2413) x 38 (965.2) x 87 (2209.8)		
68	211 (798.7)	95 (2413) x 38 (965.2) x 99 (2514.6)		
97	300 (1135.6)	95 (2413) x 38 (965.2) x 103 (2616.2)		

*All measurements are approximate and for estimation purposes only. Sound dBA can be found on the sound data sheet. Enclosure Only weight is added to Tank & Open Set weight to determine total weight.

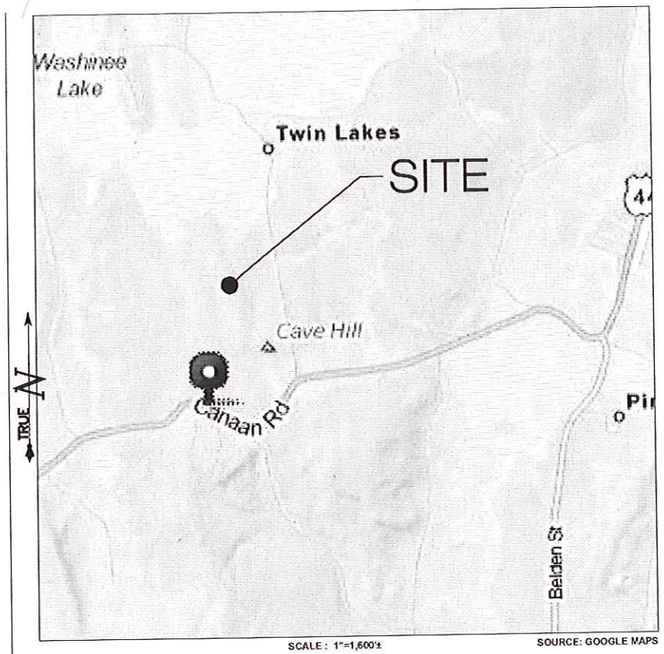
YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.

ATTACHMENT 5

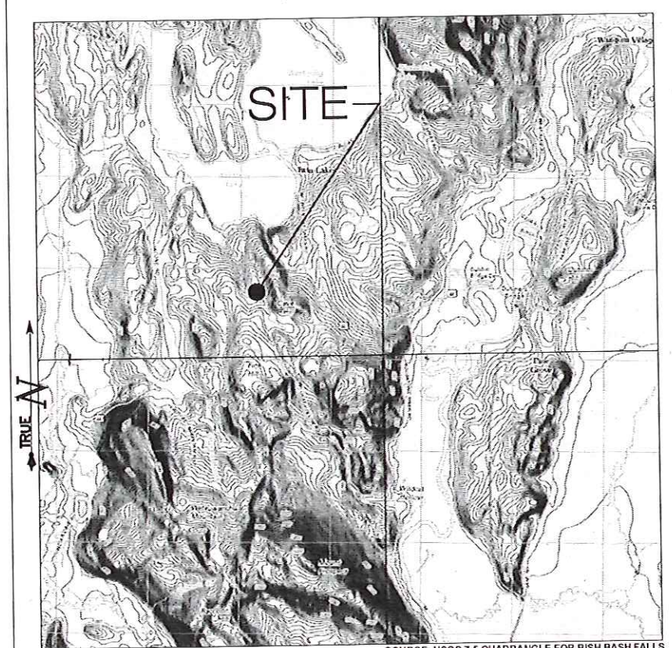
D&M Plans

LOCATION MAP



SCALE : 1"=1,600'± SOURCE: GOOGLE MAPS

USGS TOPOGRAPHIC MAP



SCALE : 1" = 2000'± SOURCE: USGS 7.5 QUADRANGLE FOR BISH BASH FALLS, SHARON, ASHLEY FALLS AND SOUTH CANAAN

NEW CINGULAR WIRELESS PCS, LLC (AT&T)
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE
KILLINGWORTH, CT 06419
WWW.ALLPOINTSTECH.COM
PHONE: (860)-663-1697
FAX: (860)-663-0935

HOMELAND TOWERS

22 SHELTER ROCK LANE
BUILDING C
DANBURY, CT 06810
(203) 297-6345

DEVELOPMENT & MANAGEMENT PLAN DRAWING INDEX

*SITE INFORMATION:

-SITE NAME:	SALISBURY	-ZONE:	RR-1
-SITE ID NUMBER:	CT-114	-LATITUDE -	42° 00' 22.403" N
-SITE ADDRESS:	250 CANAAN ROAD SALISBURY, CT 06068	-LONGITUDE -	73° 23' 29.217" W
		-ELEVATION -	893.1'± AMSL
-MAP:	16	-FEMA FIRM DESIGNATION:	PANEL#09005200088 - ZONE X
-LOTS:	5	-ACREAGE:	169.3± Ac (VOL. 52, PAGE 197)

CONTACT PERSONNEL

APPLICANTS:
HOMELAND TOWERS
22 SHELTER ROCK LANE
BUILDING C
DANBURY, CONNECTICUT 06810

CO-APPLICANTS
AT&T MOBILITY
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

LANDLORD
SALISBURY SCHOOL INC.
ROUTE 44 EAST
SALISBURY, CT 06068

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(203) 297-6345

HOMELAND PROJECT ATTORNEY:
CUDDY & FEDER, LLP
445 HAMILTON AVENUE
14TH FLOOR
WHITE PLAINS, NY 10601

POWER PROVIDER:
EVERSOURCE (860) 496-5267
RICHARD REYNOLDS - CASE #2286103

TELCO PROVIDER:
FRONTIER: (800) 921-8102

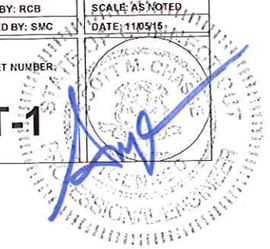
CALL BEFORE YOU DIG:
(800) 922-4455

GOVERNING CODES:
2009 CONNECTICUT BUILDING CODE (2003 IBC BASIS)
2011 NATIONAL ELECTRIC CODE
EIA/TIA 222F

SITE INFORMATION

SALISBURY
250 CANAAN ROAD
SALISBURY, CT 06068

DEVELOPMENT & MANAGEMENT DOCUMENTS	TITLE SHEET & INDEX
SALISBURY 250 CANAAN ROAD SALISBURY, CT 06068	
DESIGN TYPE: RAW LAND DEVELOPMENT SITE	APT FILING NUMBER: CT-283-170
	APT DRAWING NUMBER: CT-114 T-1
	DRAWN BY: RCB / SCALE: AS NOTED
	CHECKED BY: SMC / DATE: 11/05/15
REVISIONS:	SHEET NUMBER:
REV.0: 11/05/15: FOR REVIEW: SMC	T-1
REV.1: 11/09/15: CLIENT COMMENTS: RCB	
REV.2:	
REV.3:	
REV.4:	
REV.5:	



SURVEY NOTES

THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300B-1 THRU 20-300B-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES - "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPT. 26, 1996. IT IS A IMPROVEMENT LOCATION SURVEY AND IS BASED UPON A DEPENDENT RESURVEY CONFORMING TO HORIZONTAL ACCURACY CLASS A-2 AND A VERTICAL ACCURACY OF CLASS T-2 AND IS INTENDED TO BE USED FOR THE PURPOSE OF SHOWING EXISTING CONDITIONS AND PROPERTY LINE INFORMATION

MAP REFERENCES

1) MAP PREPARE FOR SALISBURY SCHOOL, INCORPORATED, CANAAN ROAD-ROUTE 44 SALISBURY, CONNECTICUT, SCALE 1"=100', DATED JUNE 25, 2008, PREPARED BY LAMB KEEFER LAND SURVEYORS LLC.

NORTH ORIENTATION AND COORDINATES REFER TO CONNECTICUT GRID SYSTEM NAD 83.

ELEVATIONS BASED ON NAVD 1988 DATUM.

PARCEL ADDRESS: 250 CANAAN ROAD, SALISBURY, CT 06068.

PARCEL OWNER OF RECORD: SALISBURY SCHOOL, MAP 16 LOT 5 SALISBURY ASSESSORS MAP.

PARCEL AREA = 169.3± ACRES.

AREA OF SURVEY IS NOT IN A FLOOD HAZARD ZONE ON THE FLOOD INSURANCE RATE MAP, TOWN OF SALISBURY, LITCHFIELD COUNTY, CONNECTICUT, PANEL 8 OF 30, MAP NUMBER 09005C0008B, EFFECTIVE DATE JANUARY 5, 1989, BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

THE POSITION OF THE WETLANDS DEPICTED HEREON WERE PROVIDED BY ALL-POINTS TECHNOLOGY CORPORATION AND HAVE NOT BEEN FIELD LOCATED BY MARTINEZ COUCH & ASSOCIATES.

SYMBOLS LEGEND

- MONUMENT
- IRON PIPE
- "C" CATCH BASIN
- "CL" CATCH BASIN
- ROUND CATCH BASIN
- DOUBLE SIGN
- MANHOLE
- POST
- DECIDUOUS TREE
- EVERGREEN TREE
- 446.41 SPOT GRADE
- FENCE LINE
- PROPERTY LINE
- TREE LINE

CANNAN ROAD ROUTE 44

BITUMINOUS DRIVE

MATCH LINE 1

MATCH LINE 2

GRAVEL DRIVE

BUILDING

TRANSFORMERS ON CONC PAD

METAL FENCE

STREAM

GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.

TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON

THIS MAP IS INVALID WITHOUT A LIVE SIGNATURE AND SEAL

A. RAFAEL MARTINEZ LLS #18833 — DATE 12/20/14

HOMELAND TOWERS SITE NUMBER: CT-114

APT FILING NUMBER: CT-283-170

PERMITTING DOCUMENTS

CT114-SALISBURY
250 CANAAN ROAD
SALISBURY, CT 06068

DESIGN TYPE:

RAW LAND

REVISIONS:

REV.0: 04/23/14: FOR REVIEW: SMC
REV.1: 12/20/14: ADDITIONAL TREES
REV.2:
REV.3:
REV.4:
REV.5:

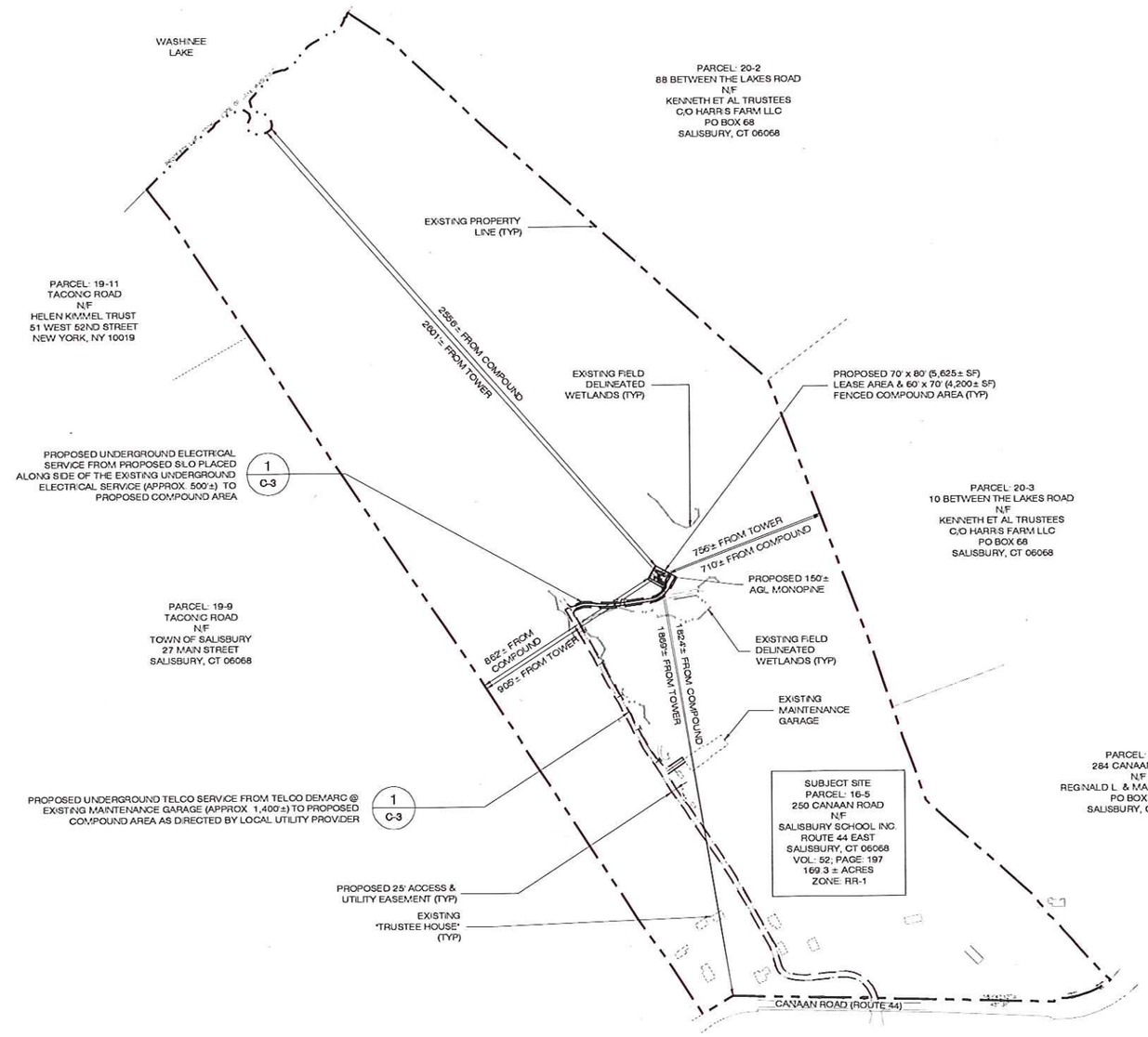
ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE, KILLINGWORTH, CT 06419
PHONE: (860)-663-1697 FAX: (860)-663-0935
WWW.ALLPOINTSTECH.COM

EXISTING CONDITIONS SURVEY

APT FILING NUMBER: CT-283-170
APT DRAWING NUMBER: CT-114
DRAWN BY: JBR | SCALE: 1"=40'
CHECKED BY: ARM | DATE: 02/27/14

SHEET NUMBER:

EX-1



ABUTTERS MAP

SCALE : 1" = 300'-0"

BASE MAPPING FOR SHEETS A-1, SP-1 AND SP-2 FROM:

1. PLAN ENTITLED "EXISTING CONDITIONS SURVEY - 250 CANAAN ROAD SALISBURY, CONNECTICUT "PREPARED BY MARTINEZ COUCH & ASSOCIATES, LLC 1084 CROMWELL AVENUE ROCKY HILL, CT DATED FEBRUARY 27, 2014 WITH LATEST REVISION DATE OF DECEMBER 20, 2014.
2. TOWN OF SALISBURY ASSESSORS MAPS 15, 16, 19, & 20.
3. TOWN OF SALISBURY "ZONING MAP"
4. DIGITAL GLOBAL 2012 DIGITAL ORTHOPHOGRAPHS.

SURVEY NOTES

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NOTE: DUE TO THE EXCESSIVE SNOW COVER AND ICE, THERE MAY SOME FEATURES SUCH AS ELECTRIC MANHOLES, CULVERTS AND INVERTS, ETC. THAT WERE NOT ACCESSIBLE IN ORDER TO FIELD LOCATE.

THE POSITION OF THE WETLANDS DEPICTED HEREON WERE PROVIDED BY ALL-POINTS TECHNOLOGY CORPORATION AND HAVE NOT BEEN FIELD LOCATED BY MARTINEZ COUCH & ASSOCIATES.

CONSTRUCTION SEQUENCING

CONTRACTOR TO FOLLOW THE FOLLOWING CONSTRUCTION PHASING AS CLOSELY AS POSSIBLE:

1. MOBILIZATION. BRING MATERIAL AND EQUIPMENT TO SITE. ALL CONSTRUCTION TRAFFIC AND ACTIVITIES MUST RESIDE INSIDE ACCESS PATH DELINEATED, WITHIN STAGING AND STOCKPILE AREA, OR WITHIN AREA WHERE PROPOSED WORK IS BEING COMPLETED. THE CONTRACTOR IS TO PROTECT WETLANDS FROM DISTURBANCE AT ALL TIMES AND NO CONSTRUCTION ACTIVITIES OR DUMPING SHALL OCCUR IN THE WETLANDS.
2. INSTALL TEMPORARY EROSION AND SEDIMENTATION CONTROL BARRIERS.
3. INSTALL FRENCH MATRESS & CONSTRUCTION ENTRANCE.
4. INSTALL TEMPORARY SNOW FENCE SURROUNDING EXISTING ARCHEOLOGICAL TEST PIT (25' RADIUS).
5. REMOVE TREES AND STUMPS IN ACCORDANCE WITH ENVIRONMENTAL NOTES ON DRAWING SP-2.
6. CLEAR AND ROUGH GRADE ACCESS ROAD TO THE NEW EQUIPMENT COMPOUND.
7. CONSTRUCT NEW UTILITY TRENCH & SET CONDUITS & BACKFILL.
8. ROUGH GRADE COMPOUND AREA.
9. EXCAVATE FOR TOWER FOUNDATION AND EQUIPMENT SHELTER FOUNDATION.
10. FINALIZE ACCESS ROAD GRADES AND INSTALL WEARING COURSE.
11. PREPARE SUBGRADE AND INSTALL FORMS, STEEL REINFORCING, AND CONCRETE FOR TOWER FOUNDATION & EQUIPMENT SHELTER FOUNDATION.
12. INSTALL BURIED GROUND RINGS, GROUND RODS, GROUND LEADS, UTILITY CONDUITS, AND UTILITY EQUIPMENT.
13. BACKFILL FOUNDATION & EQUIPMENT SHELTER FOUNDATION.
14. ERECT MONOPINE.
15. INSTALL TELECOMMUNICATIONS EQUIPMENT ON TOWER AND IN COMPOUND.
16. INSTALL COMPOUND GRAVEL SURFACES.
17. INSTALL FENCING.
18. CONNECT GROUNDING LEADS AND LIGHTENING PROTECTION.
19. FINAL GRADE AROUND COMPOUND.
20. LOAM AND SEED DISTURBED AREAS OUTSIDE COMPOUND, AS REQUIRED.
21. REMOVE TEMPORARY EROSION & SEDIMENTATION CONTROL BARRIER AND TEMPORARY SNOW FENCE AFTER SEEDED AREAS HAVE ESTABLISHED VEGETATION.
22. FINAL CLEANUP AND EQUIPMENT TESTING.

THE ESTIMATED TIME FOR COMPLETION OF THE WORK IS APPROXIMATELY SEVEN (7) WEEKS. THE EXACT PROCESS MAY VARY DEPENDING ON THE CONTRACTORS AND SUBCONTRACTORS AVAILABILITY TO COMPLETE WORK AND WEATHER DELAYS.

HOMELAND TOWERS SITE NUMBER:
CT-114

APT FILING NUMBER:
CT-283-170

HOMELAND TOWERS
22 SHELTER ROCK LANE
BUILDING C
DANBURY, CT 06810

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE
KILLINGWORTH, CT 06419
WWW.ALLPOINTSTECH.COM
PHONE: (860)-663-1697
FAX: (860)-663-0935

DEVELOPMENT & MANAGEMENT DOCUMENTS

SALISBURY
250 CANAAN ROAD
SALISBURY, CT 06068

DESIGN TYPE:
RAW LAND DEVELOPMENT SITE

REVISIONS:

REV.0:	11/05/15: FOR REVIEW: SMC
REV.1:	11/09/15: CLIENT COMMENTS: RCB
REV.2:	
REV.3:	
REV.4:	
REV.5:	

ABUTTERS MAP & CONST. SEQUENCE

APT FILING NUMBER: CT-283-170
APT DRAWING NUMBER: CT-114_R-1
DRAWN BY: RCB
CHECKED BY: SMC
SCALE: AS NOTED
DATE: 11/05/15

SHEET NUMBER:
R-1

LEGEND

CURB	DRAINAGE INLET / STRUCTURE
DROP CURB	CATCH BASIN
WALL	SIGN
STONE WALL	LIGHT POLE
EDGE OF PAVEMENT	UTILITY POLE
OVERHEAD WIRES	STOCKADE FENCE
STRUCTURE - MANHOLE	CONTOURS
GAS VALVE	TOP/BOTTOM OF CURB
WATER VALVE	SPOT ELEVATION
HANDICAP PARKING	CONCRETE
PARKING STALL COUNT	GUY WIRE
UNDERGROUND ELECTRICAL AND TELCO UTILITIES	NEW FENCE

SITE AREAS & VOLUMES OF EARTHWORK

SITEWORK ENTAILS APPROXIMATELY 550 CUBIC YARDS OF TRENCH EXCAVATION AND 30 CUBIC YARDS FILL. APPROXIMATELY 215 CUBIC YARDS OF CRUSHED STONE SHALL BE IMPORTED TO CONSTRUCT THE COMPOUND AND ACCESS ROAD.

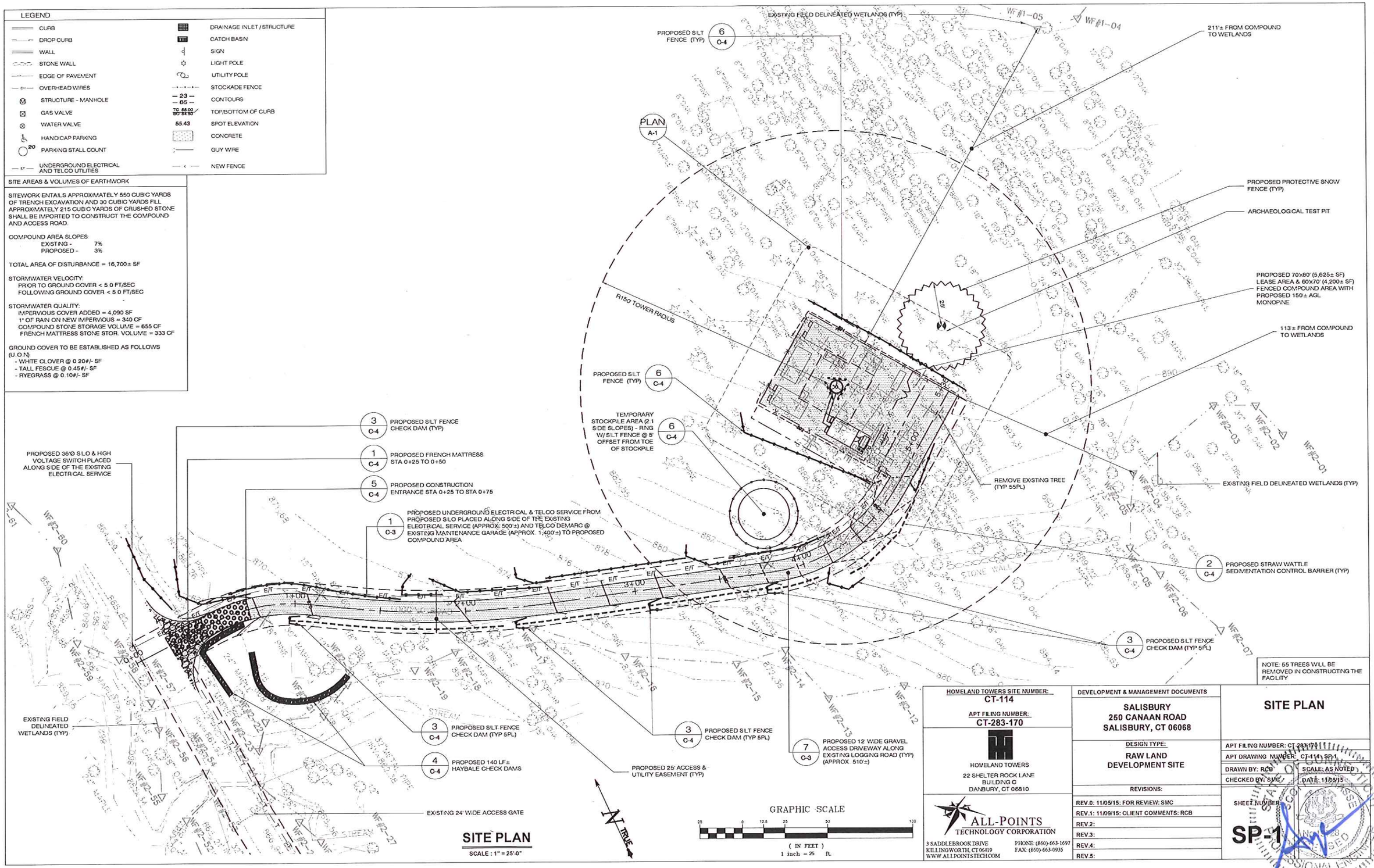
COMPOUND AREA SLOPES:
EXISTING - 7%
PROPOSED - 3%

TOTAL AREA OF DISTURBANCE = 16,700± SF

STORMWATER VELOCITY:
PRIOR TO GROUND COVER < 5.0 FT/SEC
FOLLOWING GROUND COVER < 5.0 FT/SEC

STORMWATER QUALITY:
IMPERVIOUS COVER ADDED = 4,090 SF
1" OF RAIN ON NEW IMPERVIOUS = 340 CF
COMPOUND STONE STORAGE VOLUME = 655 CF
FRENCH MATTRESS STONE STOR. VOLUME = 333 CF

GROUND COVER TO BE ESTABLISHED AS FOLLOWS (U.O.N.)
- WHITE CLOVER @ 0.20#/- SF
- TALL FESCUE @ 0.45#/- SF
- RYEGRASS @ 0.10#/- SF



HOMELAND TOWERS SITE NUMBER:
CT-114

APT FILING NUMBER:
CT-283-170

HOMELAND TOWERS
22 SHELTER ROCK LANE
BUILDING C
DANBURY, CT 06810

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE
KILLINGWORTH, CT 06419
WWW.ALLPOINTSTECH.COM
PHONE: (860)-663-1697
FAX: (860)-663-0935

DEVELOPMENT & MANAGEMENT DOCUMENTS

SALISBURY
250 CANAAN ROAD
SALISBURY, CT 06068

DESIGN TYPE:
RAW LAND DEVELOPMENT SITE

REVISIONS:
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REV.2:
REV.3:
REV.4:
REV.5:

SITE PLAN

APT FILING NUMBER: CT-283-170
APT DRAWING NUMBER: CT-114-SP-1
DRAWN BY: RCB | SCALE: AS NOTED
CHECKED BY: SMC | DATE: 11/05/15

SHEET NUMBER:
SP-1

STATE OF CONNECTICUT — SCOTT M. CHOATE — LICENSED PROFESSIONAL ENGINEER

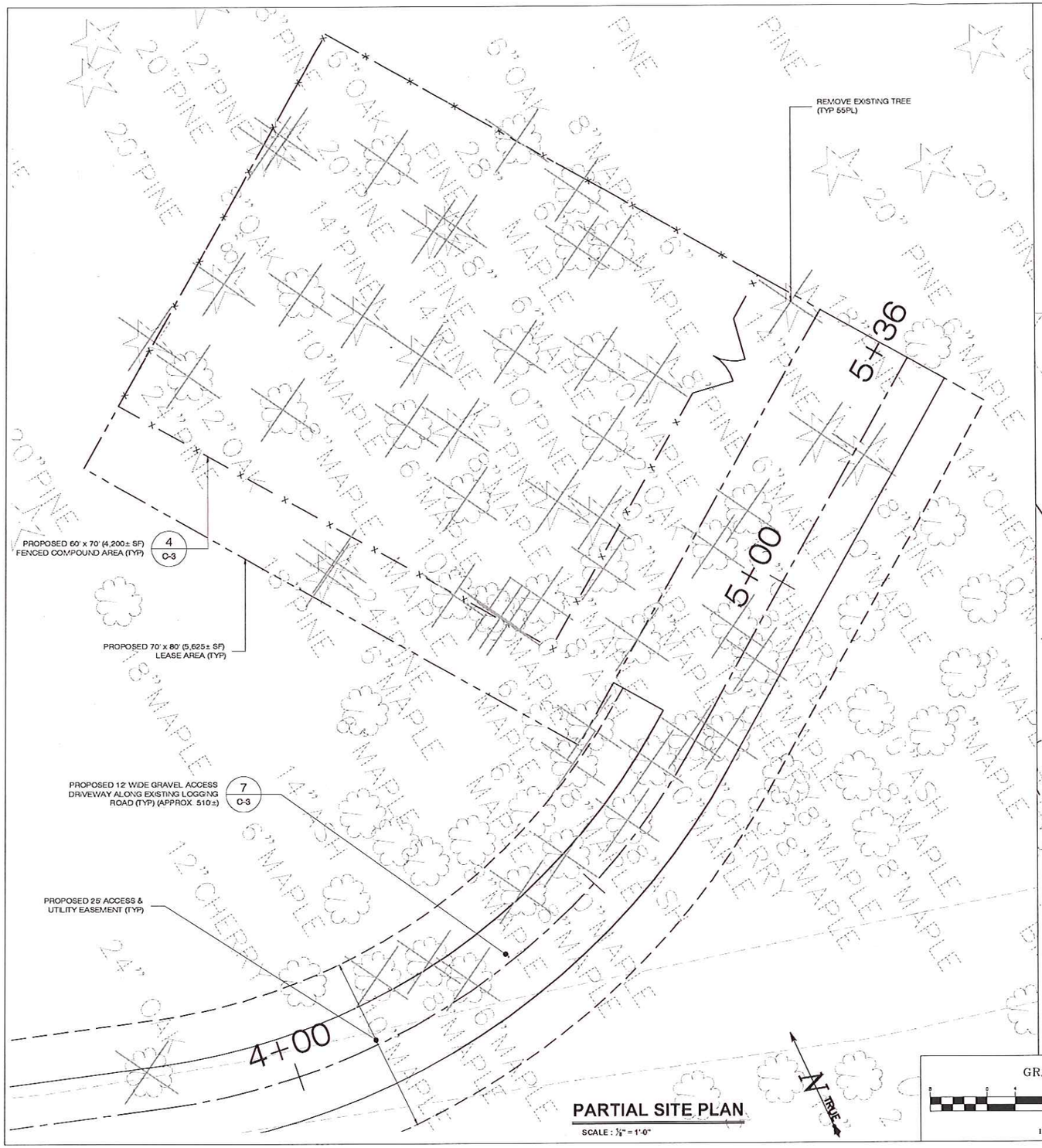
ENVIRONMENTAL NOTES

NORTHERN LONG-EARED BAT PROTECTION PROGRAM

THE PROPOSED CONSTRUCTION ACTIVITIES WILL RESULT IN THE CLEARING OF TREES THAT HAS THE POTENTIAL TO SUPPORT ROOSTING AND FORAGING HABITAT FOR NORTHERN LONG-EARED BAT AND OTHER BAT SPECIES. NORTHERN LONG-EARED BAT IS A FEDERALLY-LISTED THREATENED SPECIES AND A STATE-LISTED ENDANGERED SPECIES.

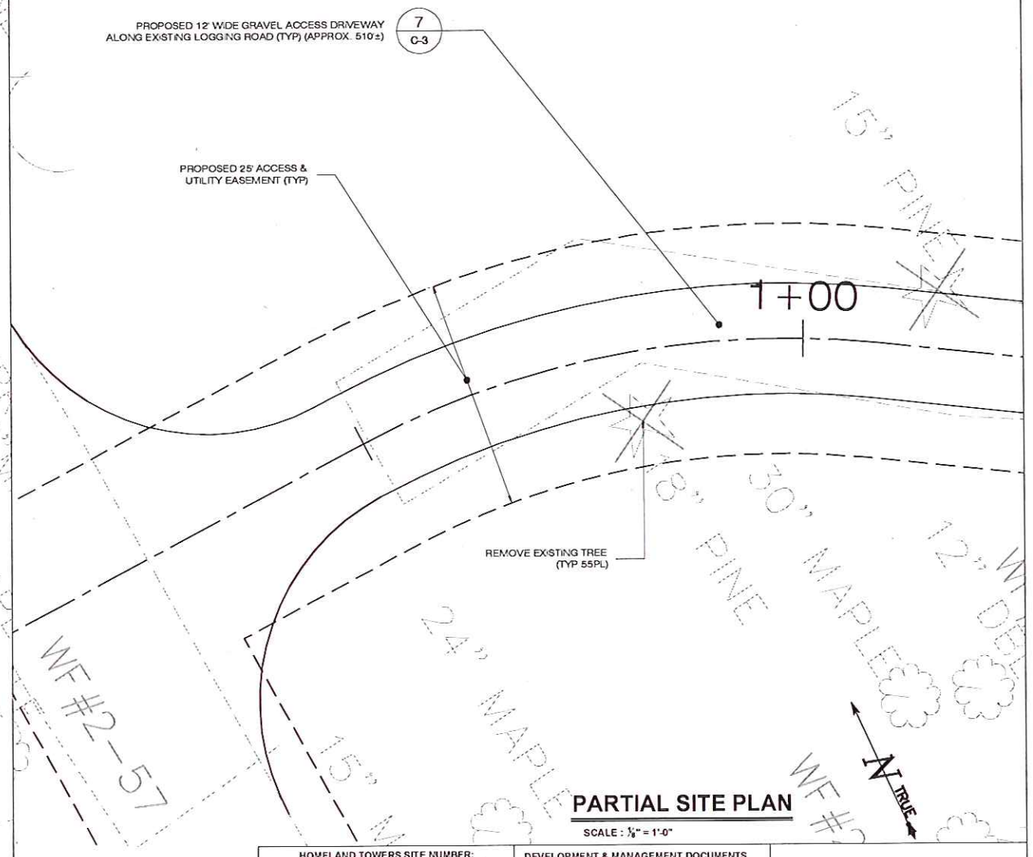
IN ORDER TO LIMIT DISTURBANCE TO TREE ROOSTING AND BREEDING HABITAT UTILIZED BY NORTHERN LONG-EARED BAT AND OTHER BAT SPECIES, THE CONTRACTOR SHALL NOT PERFORM TREE CLEARING ACTIVITIES BETWEEN APRIL 1 AND OCTOBER 31.

RETAINING LARGER DIAMETER TREES (12-INCH DBH AND LARGER) WHEREVER POSSIBLE ON-SITE, MAY ADDITIONALLY MINIMIZE THE POTENTIAL FOR NEGATIVE IMPACTS TO BATS. TREES WITH LOOSE, ROUGH BARK SUCH AS MAPLES, HICKORIES, AND OAKS ARE MORE DESIRABLE THAN OTHER TREE SPECIES DUE TO THE INCREASED COVER THAT THE LOOSE BARK PROVIDES. LARGE TREES WITH CAVITIES ALSO PROVIDE IMPORTANT BAT ROOSTING HABITAT.



PARTIAL SITE PLAN

SCALE : 1/8" = 1'-0"



PARTIAL SITE PLAN

SCALE : 1/8" = 1'-0"

NOTE: 55 TREES WILL BE REMOVED IN CONSTRUCTING THE FACILITY

GRAPHIC SCALE

(IN FEET)
1 inch = 8 ft.

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE
KILLINGWORTH, CT 06419
WWW.ALLPOINTSTECH.COM
PHONE: (860)-663-1697
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HOMELAND TOWERS SITE NUMBER: CT-114

APT FILING NUMBER: CT-283-170

HOMELAND TOWERS
22 SHELTER ROCK LANE
BUILDING C
DANBURY, CT 06810

DEVELOPMENT & MANAGEMENT DOCUMENTS

SALISBURY
250 CANAAN ROAD
SALISBURY, CT 06068

DESIGN TYPE:
RAW LAND DEVELOPMENT SITE

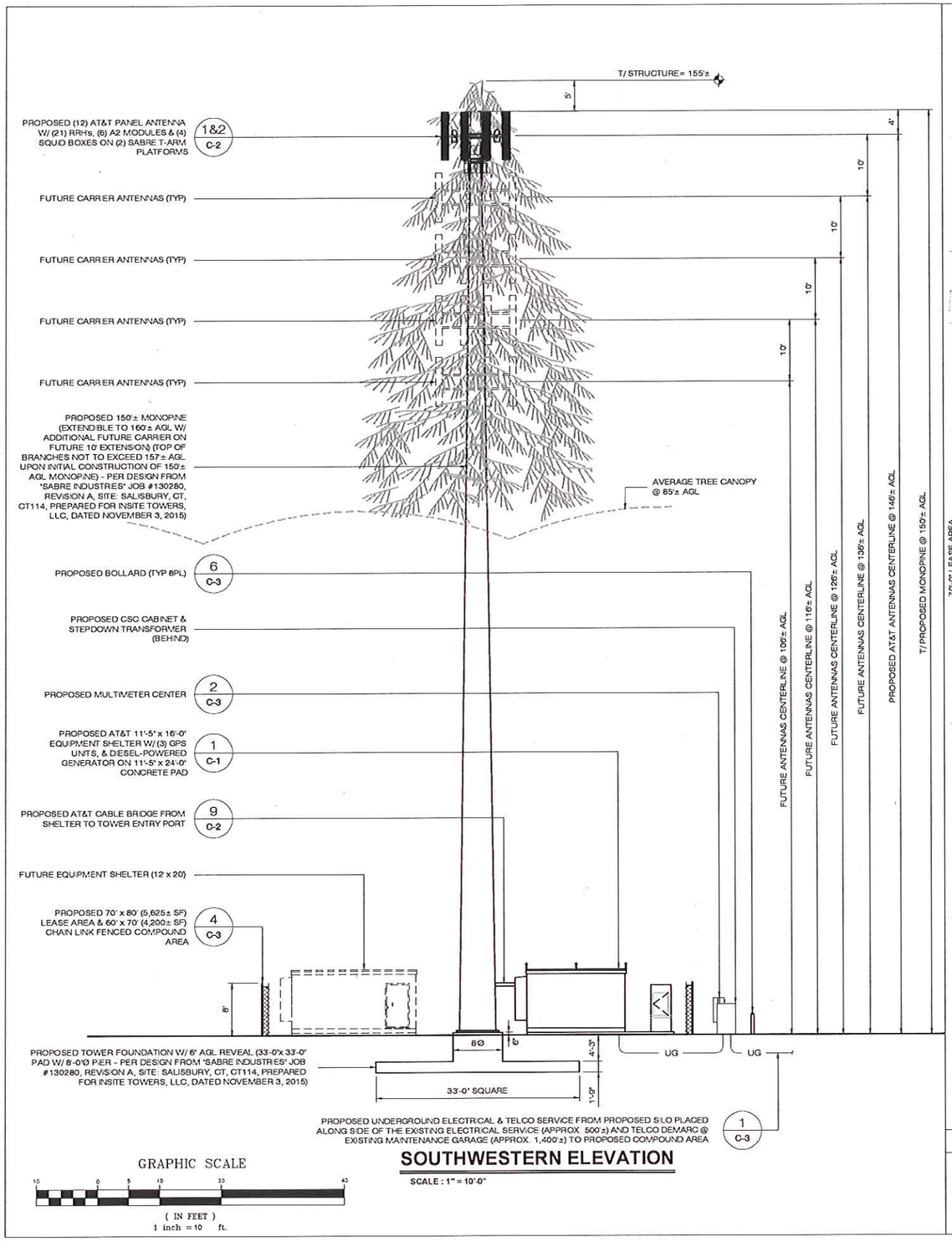
REVISIONS:

REV.0: 11/05/15: FOR REVIEW: SMC
REV.1: 11/09/15: CLIENT COMMENTS: RCB
REV.2:
REV.3:
REV.4:
REV.5:

TREE REMOVAL PLAN

APT FILING NUMBER: CT-283-170
APT DRAWING NUMBER: CT-114 SP-2
DRAWN BY: RCB
CHECKED BY: SMC
SCALE: AS NOTED
DATE: 11/05/15

SHEET NUMBER
SP-2



SOUTHWESTERN ELEVATION

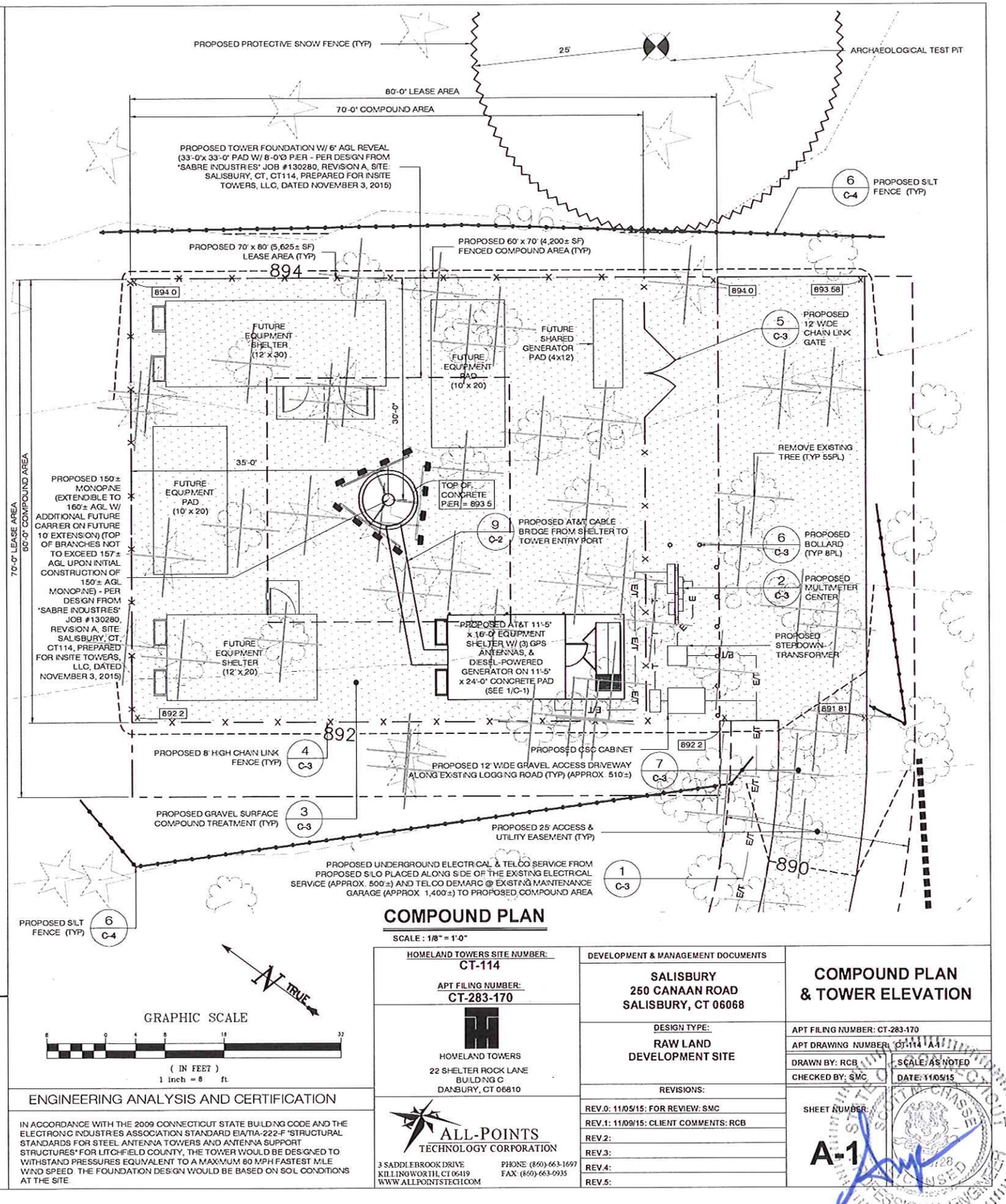
SCALE : 1" = 10'-0"

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)

1 inch = 10 ft.



COMPOUND PLAN

SCALE : 1/8" = 1'-0"

GRAPHIC SCALE

8 0 4 8 16 32

(IN FEET)

1 inch = 8 ft.

TRUE NORTH

ENGINEERING ANALYSIS AND CERTIFICATION

IN ACCORDANCE WITH THE 2009 CONNECTICUT STATE BUILDING CODE AND THE ELECTRONIC INDUSTRIES ASSOCIATION STANDARD EIA/TIA-222-F "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORT STRUCTURES" FOR LITCHFIELD COUNTY, THE TOWER WOULD BE DESIGNED TO WITHSTAND PRESSURES EQUIVALENT TO A MAXIMUM 80 MPH FASTEST MILE WIND SPEED. THE FOUNDATION DESIGN WOULD BE BASED ON SOIL CONDITIONS AT THE SITE.

HOMELAND TOWERS SITE NUMBER:
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HOMELAND TOWERS
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250 CANAAN ROAD
SALISBURY, CT 06068

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REV.2:	
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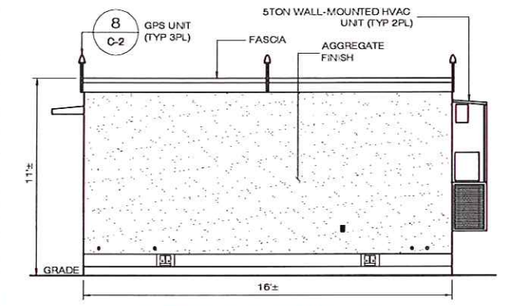
REV.5:	

COMPOUND PLAN & TOWER ELEVATION

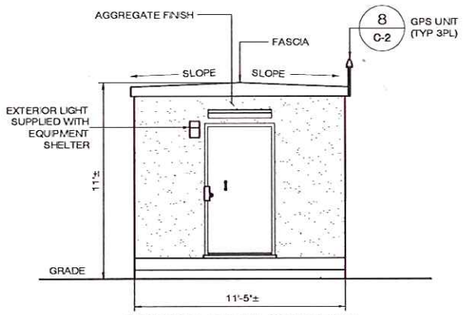
APT FILING NUMBER: CT-283-170	
APT DRAWING NUMBER: CT114_A1	
DRAWN BY: RCB	SCALE: AS NOTED
CHECKED BY: SMC	DATE: 11/05/15

SHEET NUMBER:

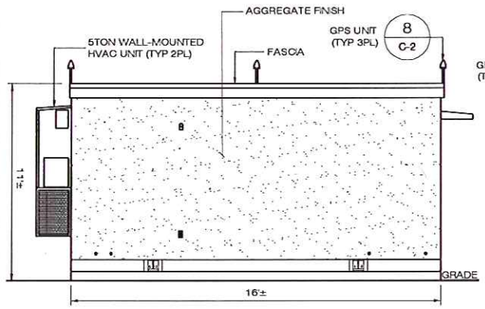
A-1



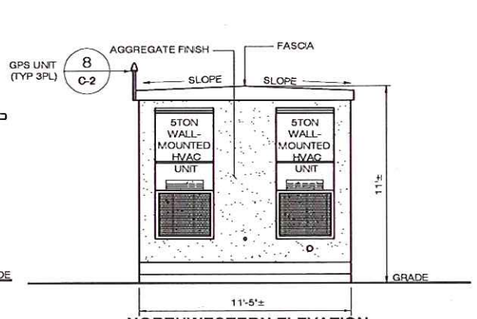
NORTHEASTERN ELEVATION



SOUTHEASTERN ELEVATION

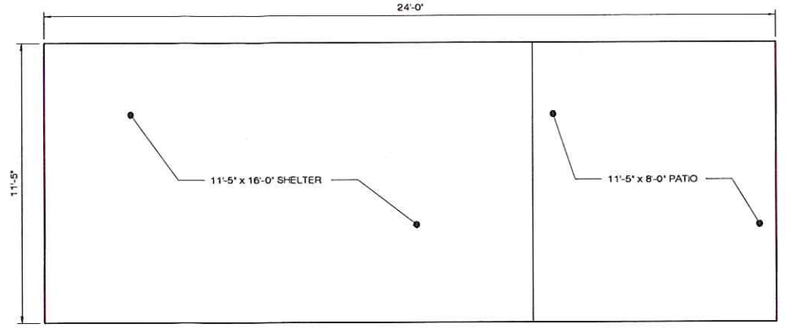


SOUTHWESTERN ELEVATION

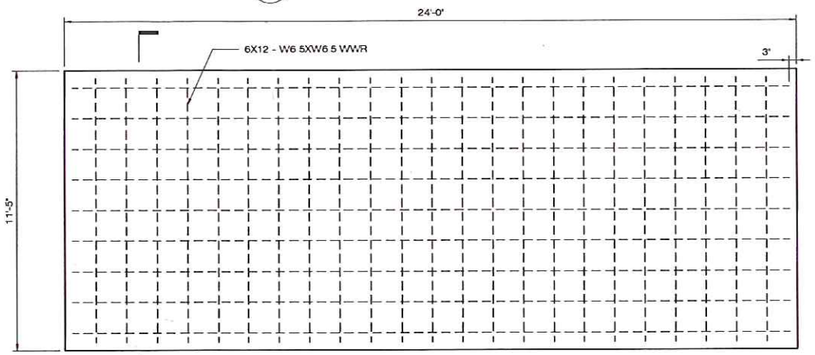


NORTHWESTERN ELEVATION

1 C-1 11'-5" X 16' EQUIPMENT SHELTER
SCALE : NTS



2 C-1 CONCRETE PAD PLAN
SCALE : NTS



3 C-1 FOUNDATION PLAN
SCALE : NTS

4 C-1

CONCRETE PAD NOTES

1. FOUNDATION AREA SHALL BE EXCAVATED TO THE DEPTH AND DIMENSIONS SHOWN ON THE PLANS. EXISTING LEDGE AND ALL OTHER EXISTING UNSUITABLE MATERIAL SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE. THE SUBGRADE SHALL BE ROLLED WITH A 1-TON, VIBRATORY, WALK-BEHIND ROLLER AT A SPEED OF LESS THAN 2 FPS, 6 PASSES MINIMUM, TO PROVIDE UNYIELDING SURFACE.

2. UNDERCUT SOFT OR "WEAVING" AREAS A MINIMUM OF 12 INCHES DEEP. BACKFILL UNDERCUT AREA WITH FILL MEETING THE SPECIFICATIONS OF STRUCTURAL FILL.

3. CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c)=3000 psi. CONCRETE TO BE AIR ENTRAINED, DESIRED AIR CONTENT TO BE 6% (PLUS OR MINUS 2%)

4. BAR REINFORCING TO BE ASTM A615 GRADE 60.

5. WELDED WIRE FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A185. WIRES FOR FABRIC TO CONFORM TO THE REQUIREMENTS A82.

6. COORDINATE WITH MANUFACTURER OF PREFABRICATED SHELTER FOR LOCATION OF ATTACHMENTS TO BASE SLAB.

7. ALL REINFORCING TO HAVE 2" MINIMUM CONCRETE COVER.

8. ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL CONFORM TO LATEST EDITION OF ACI 318 BUILDING CODE, AND IBC 2009.

9. SLAB TO BE LEVEL ¼"±.

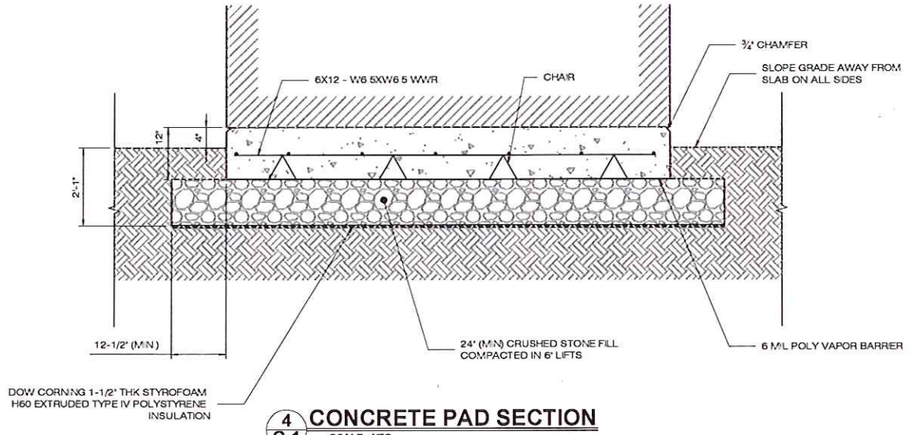
10. SLAB FOUNDATION DESIGNED ASSUMING ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF.

11. SLAB FOUNDATION DESIGN ASSUMING MAXIMUM SOIL PLASTICITY OF 27.

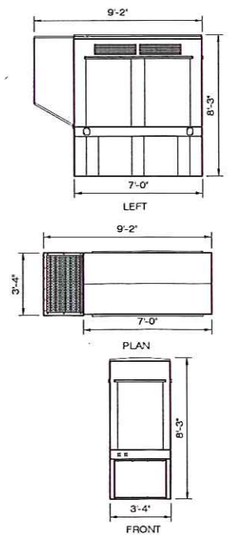
12. CONTRACTOR TO VERIFY FINAL SHELTER DIMENSIONS PRIOR TO CONSTRUCTION OF FOUNDATION.

13. GRADE SHALL SLOPE AWAY FROM THE CONCRETE PAD TO ALLOW FOR PROPER WATER RUN OFF.

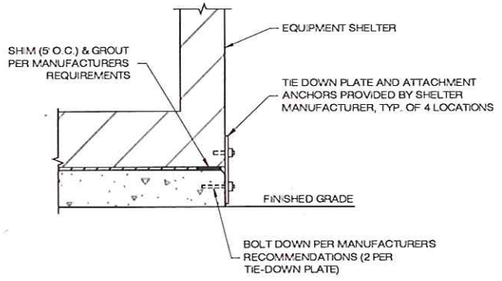
14. ANCHOR SHELTER TO FOUNDATION PER SHELTER MANUFACTURERS RECOMMENDATIONS.



4 C-1 CONCRETE PAD SECTION
SCALE : NTS



GENERAC 35kW DIESEL GENERATOR
5 C-1 SCALE : 1/4" = 1'-0"



6 C-1 TIE - DOWN DETAIL
SCALE : NTS

DESIGN LOAD CRITERIA

EQUIPMENT SHELTER SHALL BE DESIGNED AND MANUFACTURED TO MEET ALL STATE AND LOCAL CODES. ITS LAYOUT SHALL BE COORDINATED WITH CARRIERS.

DESIGN BASIS	CONNECTICUT STATE
GOVERNING CODE	BUILDING CODE
DESIGN LIVE LOADS	40 PSF (ASCE 7-05)
IMPORTANCE CATEGORY	II
SNOW LOAD	
GROUND SNOW LOAD (Pg)	40 PSF
IMPORTANCE FACTOR	1.0
EXPOSURE FACTOR (Ce)	0.9
THERMAL FACTOR (Ct)	1.0
WIND LOAD	
BASIC WIND LOAD	90 MPH (3 SEC. GUST)
EXPOSURE GROUP	B
IMPORTANCE FACTOR	1.00
SHELTER LOAD	
FLOOR LIVE LOAD INCLUDING EQUIPMENT	250 PSF
EQUIPMENT SHELTER DL	20,000 LBS
SEISMIC DESIGN PARAMETERS	
SEISMIC USE GROUP	I
MCE SPECTRAL ACCELERATION SHORT (Ss)	0.231
MCE SPECTRAL ACCELERATION SHORT (S1)	0.065
SITE CLASS	D FOR UNKNOWN SOIL PROPERTIES
IMPORTANCE FACTOR	1.0

HOMELAND TOWERS SITE NUMBER:
CT-114

APT FILING NUMBER:
CT-283-170

HOMELAND TOWERS
22 SHELTER ROCK LANE
BUILDING C
DANBURY, CT 06810

ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE
KILLINGWORTH, CT 06419
WWW.ALLPOINTSTECH.COM
PHONE: (860)-663-1697
FAX: (860)-663-0935

DEVELOPMENT & MANAGEMENT DOCUMENTS

SALISBURY
250 CANAAN ROAD
SALISBURY, CT 06068

DESIGN TYPE:
RAW LAND
DEVELOPMENT SITE

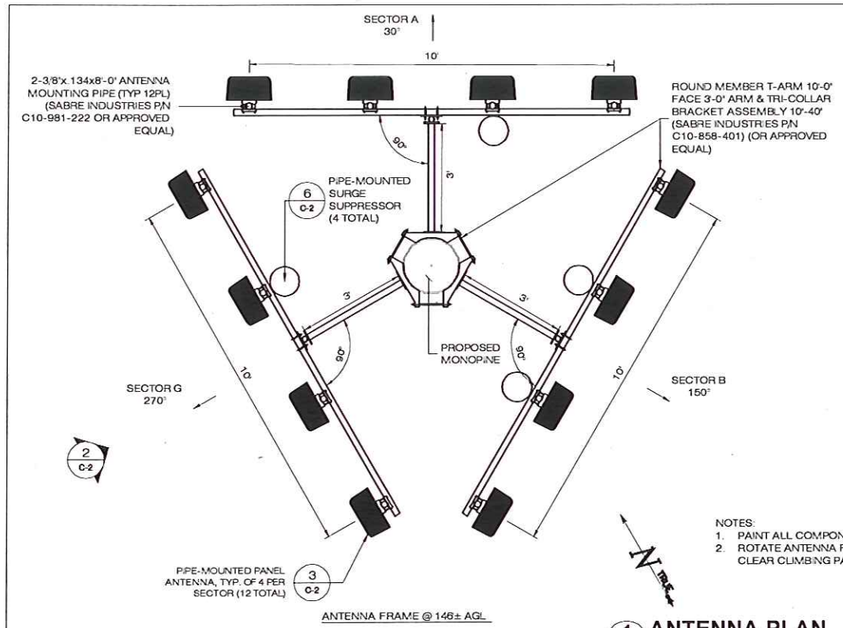
REVISIONS:

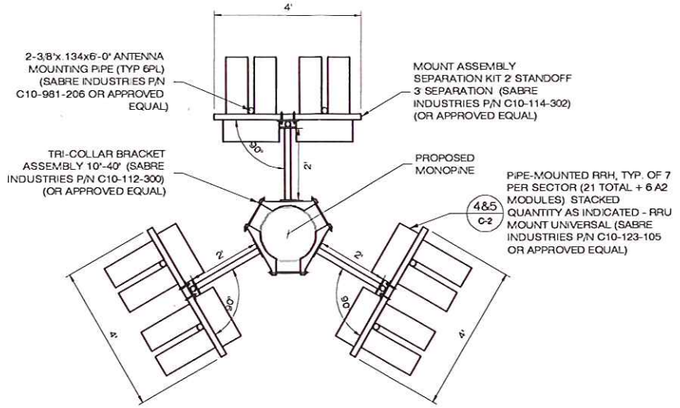
REV.0: 11/05/15: FOR REVIEW: SMC	
REV.1: 11/09/15: CLIENT COMMENTS: RCB	
REV.2:	
REV.3:	
REV.4:	
REV.5:	

AT&T EQUIP SHELTER PLAN & DETAILS

APT FILING NUMBER: CT-283-170	
APT DRAWING NUMBER: CT-114 C-1	
DRAWN BY: RCB	SCALE: AS NOTED
CHECKED BY: SMC	DATE: 11/05/15

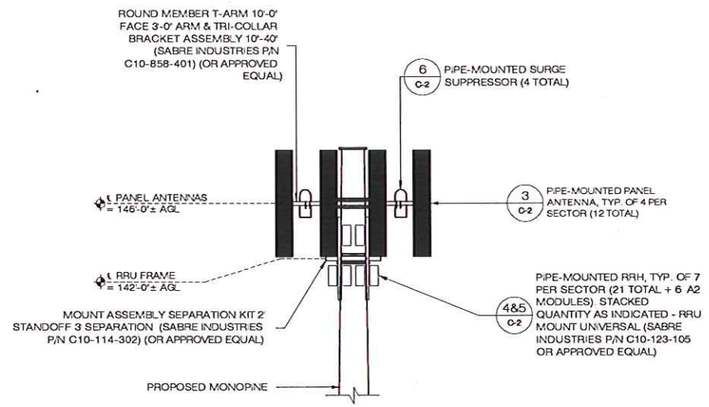
SHEET NUMBER:
C-1





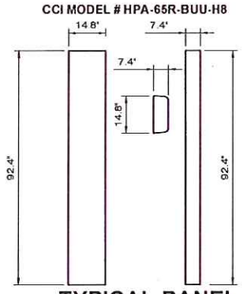
NOTES:
1. PAINT ALL COMPONENTS AND MOUNTS TO MATCH PROPOSED MONOPINE
2. ROTATE ANTENNA FRAME, RRU FRAME, AND SURGE SUPPRESSORS TO MAINTAIN CLEAR CLIMBING PATH

1 C-2 ANTENNA PLAN
SCALE : NTS

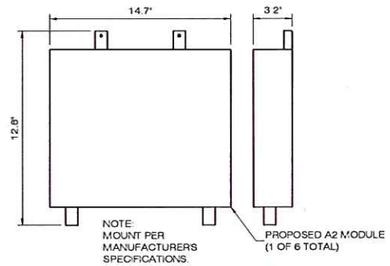


2 C-2 ANTENNA ELEVATION
SCALE : NTS

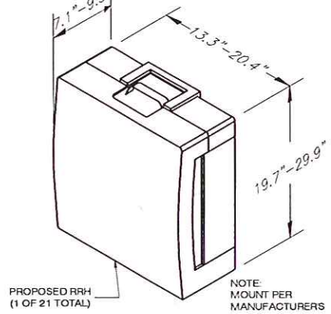
CCI MODEL # HPA-65R-BUU-H8



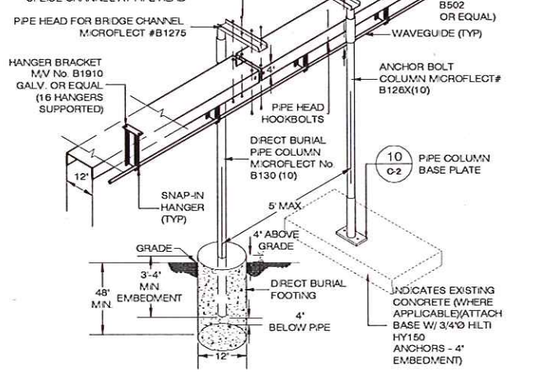
3 C-2 TYPICAL PANEL ANTENNA
SCALE : NTS



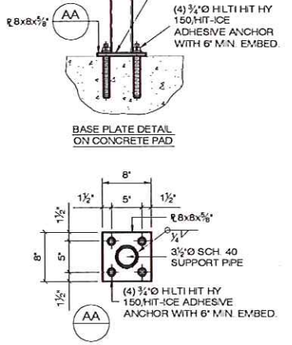
4 C-2 TYPICAL A2 MODULE
SCALE : NTS



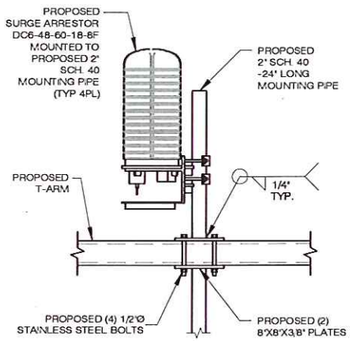
5 C-2 TYPICAL RRU
SCALE : NTS

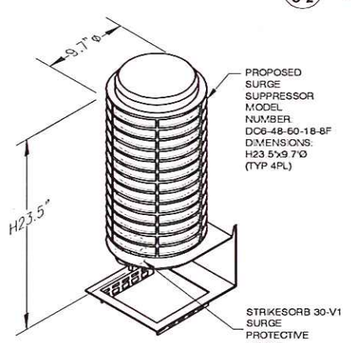


9 C-2 CABLE BRIDGE & COAX HANGER DETAIL
SCALE : NTS

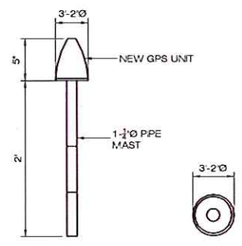


10 C-2 PIPE BASE PLATE
SCALE : N.T.S.



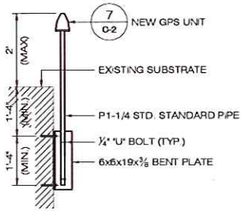


6 C-2 TYPICAL SURGE SUPPRESSOR
SCALE : NTS



FOR MOUNT - SEE 8/C-2

7 C-2 TYPICAL GPS DETAILS
SCALE : NTS



8 C-2 TYPICAL GPS MOUNTING DETAIL
SCALE : NTS

HOMELAND TOWERS SITE NUMBER: CT-114
APT FILING NUMBER: CT-283-170

HOMELAND TOWERS
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DEVELOPMENT & MANAGEMENT DOCUMENTS

SALISBURY
250 CANAAN ROAD
SALISBURY, CT 06068

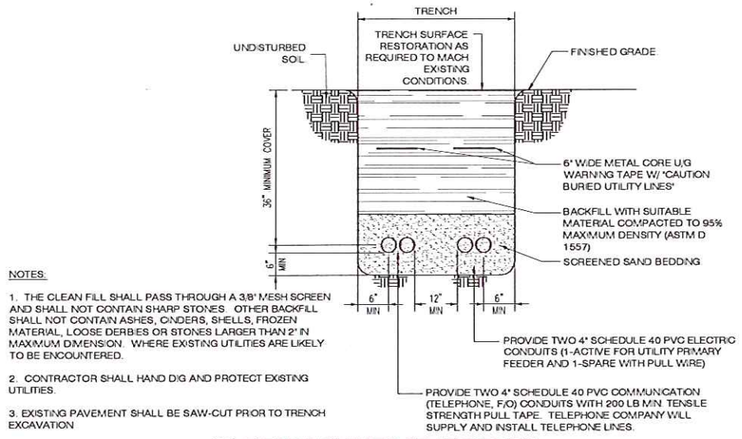
DESIGN TYPE:
RAW LAND DEVELOPMENT SITE

REVISIONS:
REV.0: 11/05/15: FOR REVIEW: SMC
REV.1: 11/09/15: CLIENT COMMENTS: RCB
REV.2:
REV.3:
REV.4:
REV.5:

AT&T ANTENNA PLAN & DETAILS

APT FILING NUMBER: CT-283-170
APT DRAWING NUMBER: CT-114_C-2
DRAWN BY: RCB | SCALE: AS NOTED
CHECKED BY: SMC | DATE: 11/05/15

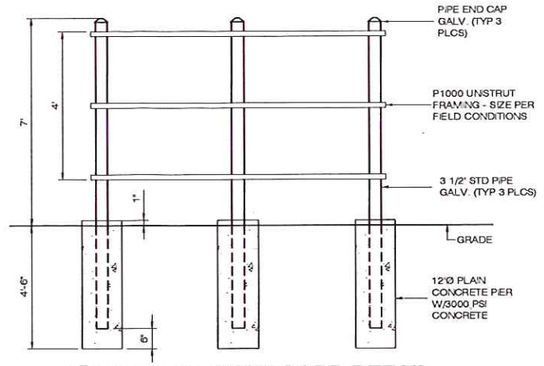
SHEET NUMBER:
C-2



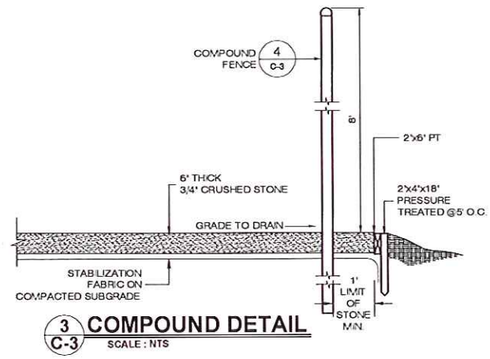
NOTES:

1. THE CLEAN FILL SHALL PASS THROUGH A 3/8" MESH SCREEN AND SHALL NOT CONTAIN SHARP STONES. OTHER BACKFILL SHALL NOT CONTAIN ASHES, CINDERS, SHELLS, FROZEN MATERIAL, LOOSE DEBBIES OR STONES LARGER THAN 2" IN MAXIMUM DIMENSION. WHERE EXISTING UTILITIES ARE LIKELY TO BE ENCOUNTERED.
2. CONTRACTOR SHALL HAND DIG AND PROTECT EXISTING UTILITIES.
3. EXISTING PAVEMENT SHALL BE SAW-CUT PRIOR TO TRENCH EXCAVATION

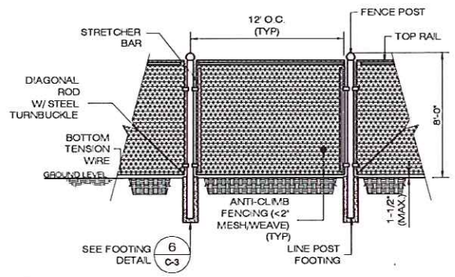
1 C-3 PRIMARY UTILITY TRENCH
SCALE : NTS



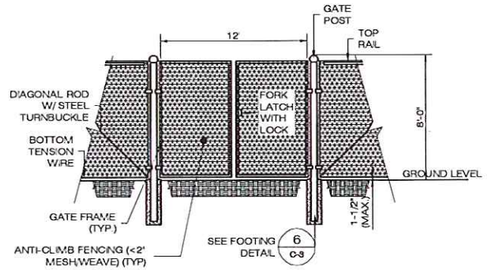
2 C-3 UTILITY BACKBOARD DETAIL
SCALE : NTS



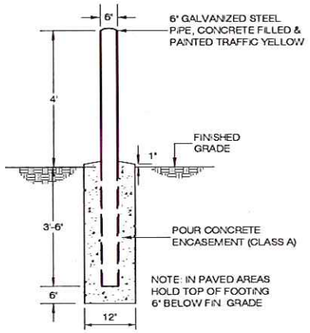
3 C-3 COMPOUND DETAIL
SCALE : NTS



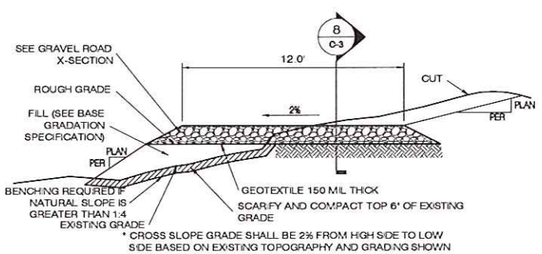
4 C-3 CHAIN-LINK FENCING DETAIL
SCALE : NTS



5 C-3 FENCE & GATE DETAIL
SCALE : N.T.S.

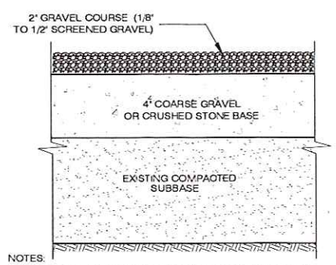


6 C-3 BOLLARD DETAIL
SCALE : NTS



* CROSS SLOPE GRADE SHALL BE 2% FROM HIGH SIDE TO LOW SIDE BASED ON EXISTING TOPOGRAPHY AND GRADING SHOWN

7 C-3 TYPICAL GRAVEL ROAD SECTION
SCALE : NTS



NOTES:

1. SUBBASE MAY CONSIST OF NATIVE MATERIALS IF FOUND ACCEPTABLE BY THE ENGINEER. SUBBASE TO BE COMPACTED TO 95% MAX DRY DENSITY.
2. SUBBASE IS TO CLEAN GRANULAR MATERIAL (SEE NOTES, SHEET N-1), FREE FROM DEBRIS AND UNSUITABLE MATERIALS.
3. RECYCLED CONCRETE MAY BE SUBSTITUTED FOR GRAVEL OR CRUSHED STONE BASE IN NON-WETLANDS AREAS.

8 C-3 GRAVEL ROAD X-SECTION
SCALE : NTS

HOMELAND TOWERS SITE NUMBER: **CT-114**

APT FILING NUMBER: **CT-283-170**

HOMELAND TOWERS
22 SHELTER ROCK LANE
BUILDING C
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ALL-POINTS TECHNOLOGY CORPORATION
3 SADDLEBROOK DRIVE
KILLINGWORTH, CT 06419
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DEVELOPMENT & MANAGEMENT DOCUMENTS

SALISBURY
250 CANAAN ROAD
SALISBURY, CT 06068

DESIGN TYPE:
RAW LAND DEVELOPMENT SITE

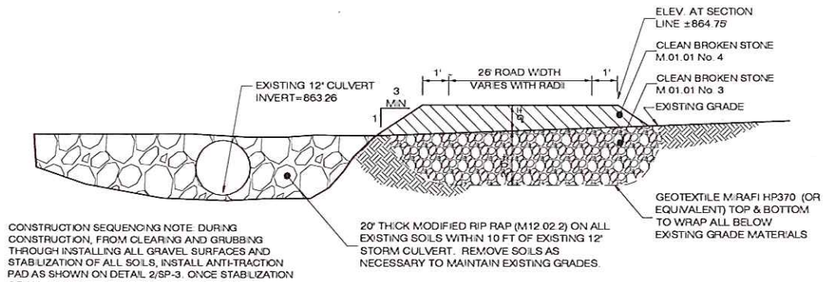
REVISIONS:

REV.0:	11/05/15: FOR REVIEW: SMC
REV.1:	11/09/15: CLIENT COMMENTS: RCB
REV.2:	
REV.3:	
REV.4:	
REV.5:	

SITE DETAILS

APT FILING NUMBER: CT-283-170	
APT DRAWING NUMBER: CT-114 C-3	
DRAWN BY: RCB	SCALE: AS NOTED
CHECKED BY: SMC	DATE: 11/05/15

SHEET NUMBER:
C-3

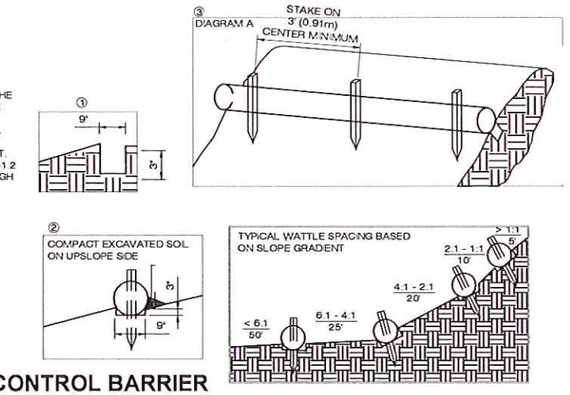


CONSTRUCTION SEQUENCING NOTE: DURING CONSTRUCTION, FROM CLEARING AND GRUBBING THROUGH INSTALLING ALL GRAVEL SURFACES AND STABILIZATION OF ALL SOILS, INSTALL ANTI-TRACTION PAD AS SHOWN ON DETAIL 2/SP-3. ONCE STABILIZATION OF ALL UP GRADIENT WORK IS APPROVED BY THE ENGINEER INSTALL THE FRENCH MATTRESS AND REMOVE ALL EROSION AND SEDIMENTATION CONTROL DEVICES.

DETAIL AND CROSS SECTION AT FRENCH MATTRESS

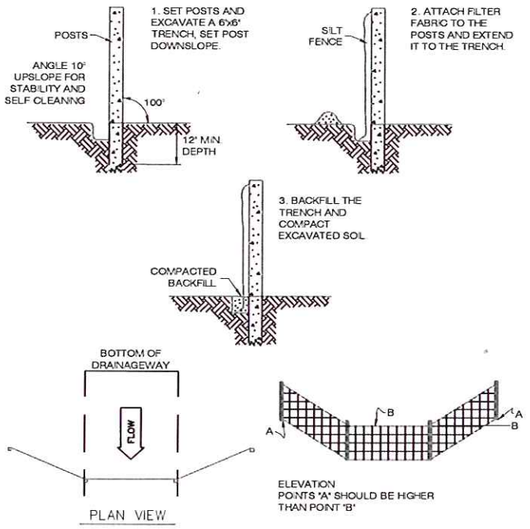
1 C-4 SCALE : NTS

1. BEGIN AT THE LOCATION WHERE THE WATTLE IS TO BE INSTALLED BY EXCAVATING A 2-3" (5-7.5 CM) DEEP X 9" (22.9 CM) WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UPSLOPE FROM THE ANCHOR TRENCH.
2. PLACE THE WATTLE IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE WATTLE ON THE UPHILL SIDE. ADJACENT WATTLES SHOULD TIGHTLY ABUT.
3. SECURE THE WATTLE WITH 18-24" (45.7-61 CM) STAKES EVERY 3-4' (0.9 -1.2 M) AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING AT LEAST 2-3" (5-7.5 CM) OF STAKE EXTENDING ABOVE THE WATTLE. STAKES SHOULD BE DRIVEN PERPENDICULAR TO THE SLOPE FACE.



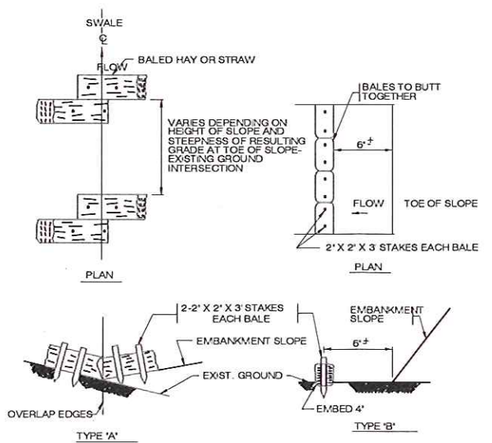
STRAW WATTLE SEDIMENTATION CONTROL BARRIER

2 C-4 SCALE :



SILT FENCE CHECK DAM SEDIMENTATION CONTROL BARRIER

3 C-4 SCALE : NTS

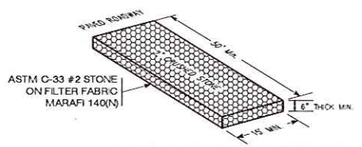


NOTE:
TO BE USED IN LOCATIONS WHERE THE EXISTING GROUND SLOPES IN TOWARD THE TOE OF THE EMBANKMENT.

NOTE:
TO BE USED WHERE THE EXISTING GROUND SLOPES AWAY FROM THE TOE OF THE EMBANKMENT

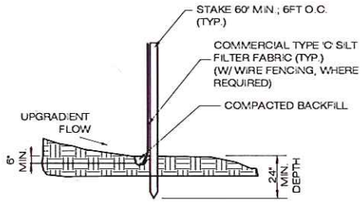
HAYBALE CHECK DAM SEDIMENTATION CONTROL BARRIER

4 C-4 SCALE : NTS



(CE) CONSTRUCTION ENTRANCE DETAIL

5 C-4 SCALE : NTS



GEOTEXTILE SILT FENCE DETAIL

6 C-4 SCALE : NTS

HOMELAND TOWERS SITE NUMBER: CT-114 APT FILING NUMBER: CT-283-170 HOVELAND TOWERS 22 SHELTER ROCK LANE BUILDING C DANBURY, CT 06810	DEVELOPMENT & MANAGEMENT DOCUMENTS SALISBURY 250 CANAAN ROAD SALISBURY, CT 06068 DESIGN TYPE: RAW LAND DEVELOPMENT SITE	SEDIMENTATION & EROSION CONTROL DETAILS APT FILING NUMBER: CT-283-170 APT DRAWING NUMBER: CT-114 C-4 DRAWN BY: RCB / SCALE: AS NOTED CHECKED BY: SMC / DATE: 11/05/15
ALL-POINTS TECHNOLOGY CORPORATION 3 SADDLEBROOK DRIVE, KILLINGWORTH, CT 06419 PHONE: (860)-663-1697 FAX (860)-663-0935 WWW.ALLPOINTSTECH.COM	REVISIONS: REV.0: 11/05/15: FOR REVIEW: SMC REV.1: 11/09/15: CLIENT COMMENTS: RCB REV.2: REV.3: REV.4: REV.5:	SHEET NUMBER: C-4

STATE OF CONNECTICUT — SCOTT M. BOEHM — LICENSED PROFESSIONAL ENGINEER

GENERAL NOTES:

1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL COMPLY WITH THE STANDARDS AND SPECIFICATIONS OF THE TOWN OF SALISBURY, AND OTHER GOVERNMENTAL AGENCIES, AS APPLICABLE.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS BEFORE COMMENCING WORK. THE CONTRACTOR SHALL FOLLOW CONDITIONS OF ALL APPLICABLE PERMITS AND WORK IN ACCORD WITH OSHA REGULATIONS.

3. UTILITY INFORMATION SHOWN ON THE PLAN IS BASED ON VISIBLE FIELD EVIDENCE AND AVAILABLE RECORDS. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO COMMENCING WORK. THE CONTRACTOR IS ADVISED THAT THESE DRAWINGS MAY NOT ACCURATELY DEPICT AS-BUILT LOCATIONS AND OTHER UNKNOWN STRUCTURES. THE CONTRACTOR SHALL THEREFORE DETERMINE THE EXACT LOCATION OF EXISTING UNDERGROUND ELEMENTS AND EXCAVATE WITH CARE AFTER CALLING MARKOUT SERVICE AT 1-800-922-4455 (72) HOURS BEFORE DIGGING, DRILLING OR BLASTING. CARE SHALL BE TAKEN NOT TO DISTURB EXISTING UTILITIES AND SERVICE CONNECTIONS (OR PORTIONS THERE OF) TO REMAIN. CONTRACTOR IS RESPONSIBLE FOR REPAIRING OR REPLACING STRUCTURES OR UTILITIES DAMAGED BY HIS OPERATIONS.

4. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF NEW SERVICE CONNECTIONS AND SHALL COORDINATE WORK WITH THE APPROPRIATE UTILITY COMPANY.

5. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, FIBER OPTIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER.

6. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE, BUT NOT BE LIMITED TO:
   A) FALL PROTECTION,
   B) CONFINED SPACE ENTRY,
   C) ELECTRICAL SAFETY, AND
   D) TRENCHING & EXCAVATION

7. ELECTRIC SERVICE SHALL BE COORDINATED WITH CONNECTICUT LIGHT & POWER (CL & P).

8. ALL ELEVATIONS SHOWN ARE IN N.G.V. DATUM 1929.

9. ALL RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

10. CONTRACTOR SHALL PROTECT EXISTING PAVED AND GRAVEL SURFACES, CURBS, LANDSCAPE AND STRUCTURES AND RESTORE SITE TO PRECONSTRUCTION CONDITION WITH AS GOOD, OR BETTER, MATERIALS. NEW MATERIALS SHALL MATCH EXISTING THICKNESS AND TYPE.

11. THE CONTRACTOR SHALL SHORE ALL TRENCH EXCAVATION GREATER THAN 5 FEET IN DEPTH OR LESS WHERE SOIL CONDITIONS ARE DEEMED UNSTABLE. ALL SHEETING AND/OR SHORING METHODS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER.

12. THE CONTRACTOR IS RESPONSIBLE FOR MANAGING GROUNDWATER LEVELS IN THE VICINITY OF EXCAVATIONS TO PROTECT ADJACENT PROPERTIES AND NEW WORK. GROUNDWATER SHALL BE DRAINED IN ACCORDANCE WITH LOCAL SEDIMENTATION & EROSION CONTROL GUIDELINES.

13. THE CONTRACTOR IS REQUIRED TO REVIEW THE STATEMENT OF SPECIAL INSPECTION PRIOR TO THE START OF WORK. THE CONTRACTOR TO PROVIDE E-MAIL REQUEST TO THE PROJECT ENGINEER FOR INSPECTION 72 HOURS IN ADVANCE OF INSPECTION.

14. EXCAVATION
CONTRACTOR SHALL GRADE ONLY AREAS SHOWN TO BE MODIFIED HEREIN AND ONLY TO THE EXTENT REQUIRED TO SHED OVERLAND WATER FLOW AWAY FROM SITE. ALL SLOPES SHALL NOT BE STEEPER THAN 3:1 (HORIZ:VERT).

BEDROCK SUBGRADE SHOULD NOT BE STEEPER THAN 4H:1V. HIGH SPOTS IN BEDROCK SUBGRADES MAY NEED TO BE REMOVED AND LOW SPOTS MAY BE FILLED WITH LEAN CONCRETE OR MINUS ¾" CRUSHED STONE TO PROVIDE A LEVEL SURFACE. BEDROCK SUBGRADES DO NOT REQUIRE PROOFROLLING.

SEDIMENTATION AND EROSION CONTROLS SHOWN AND SPECIFIED SHALL BE ESTABLISHED BEFORE STRIPPING EXISTING VEGETATION.

ORGANIC MATERIAL AND DEBRIS SHALL BE STRIPPED AND STOCKPILED BEFORE ADDING FILL MATERIAL.

NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

ALL FILL SHALL BE PLACED IN EIGHT INCH LIFTS AND COMPACTED IN PLACE. STRUCTURAL FILL SHALL BE COMPACTED TO 95% MAXIMUM MODIFIED PROCTOR DRY DENSITY TESTED IN ACCORDANCE WITH ASTM D1557, METHOD C.

EXCAVATIONS FOR FOOTINGS SHALL BE CUT LEVEL TO THE REQUIRED DEPTH AND TO UNDISTURBED SOIL. REPORT UNSUITABLE SOIL CONDITIONS TO THE ENGINEER.

STRUCTURAL FILL SHALL BE TESTED FOR MOISTURE CONTENT AND COMPACTION DURING PLACEMENT. SHOULD THE RESULTS OF THE IN-PLACE DENSITY TESTS INDICATE THE SPECIFIED MOISTURE OR COMPACTION LIMITS HAVE NOT BEEN MET, THE AREA REPRESENTED BY THE TEST SHOULD BE REWORKED AND RETESTED, AS REQUIRED, UNTIL THE SPECIFIED MOISTURE AND COMPACTION REQUIREMENTS ARE ACHIEVED.

EQUIPMENT CABINETS MAY BE SUPPORTED ON SLABS-ON-GRADE UNDERLAIN BY AT LEAST A 12-INCH THICKNESS OF COMPACTED STRUCTURAL FILL OR MINUS ¾-INCH CRUSHED STONE PLACED ON THE EXISTING FILL, THE SURFACE OF WHICH SHOULD BE THOROUGHLY COMPACTED AND CLEAR OF ORGANIC MATTER.

THE AREA UNDERLYING THE SLABS SHOULD BE ROUGH GRADED AND THEN THOROUGHLY PROOFROLLED WITH A VIBRATORY ROLLER OR HEAVY PLATE COMPACTOR PRIOR TO FINAL GRADING AND PLACEMENT OF STRUCTURAL FILL OR MINUS ¾-INCH CRUSHED STONE.

A SOIL UNIT WEIGHT OF 100 LBS PER CUBIC FOOT (PCF) SHOULD BE USED FOR ENGINEERED FILL OVERLYING THE FOOTINGS.

TRENCH EXCAVATIONS SHALL BE BACKFILLED AT THE END OF EACH DAY.

SURPLUS MATERIAL SHALL BE REMOVED FROM THE SITE.

TOWER FOUNDATION EXCAVATION, BACKFILL AND COMPACTION SHALL BE IN ACCORD WITH TOWER MANUFACTURERS DESIGNS AND SPECIFICATIONS.

CONTRACTOR TO VERIFY THAT FOOTING ELEVATIONS AND PIER ELEVATION PROVIDED HEREIN ARE CONSISTENT WITH THE TOWER DESIGN REQUIREMENTS.

14. MATERIALS
NATIVE GRAVEL MATERIAL MAY BE USED FOR TRENCH BACKFILL WHERE SELECT MATERIAL IS NOT SPECIFIED. GRAVEL MATERIAL FOR CONDUIT TRENCH BACKFILL SHALL NOT CONTAIN ROCK GREATER THAN 2 INCHES IN DIAMETER.

BANK OR CRUSHED GRAVEL SHALL CONSIST OF TOUGH, DURABLE PARTICLES OF CRUSHED OR UNCRUSHED GRAVEL FREE OF SOFT, THIN, ELONGATED OR LAMINATED PIECES AND MEET THE GRADATION.

FILL SHOULD MEET THE FOLLOWING MATERIAL PROPERTY REQUIREMENTS:

FILL TYPE (1)	USCS CLASSIFICATION	ACCEPTABLE LOCATION FOR PLACEMENT
STRUCTURAL FILL	GW (2)	ALL LOCATIONS AND ELEVATIONS. THE EXISTING FILL MAY BE SELECTIVELY RE-USED AS STRUCTURAL FILL PROVIDED IT IS FREE OF ORGANIC AND CLOSELY MEETS THE GRADATION REQUIREMENTS IN NOTE 2, BELOW.
COMMON FILL	VARIES (3)	COMMON FILL MAY BE USED FOR GENERAL SITE GRADING TO WITHIN 12 INCHES OF FINISHED GRADE. COMMON FILL SHOULD NOT BE USED UNDER SETTLEMENT SENSITIVE STRUCTURES. THE EXISTING FILL MAY BE RE-USED AS COMMON FILL, PROVIDED IT IS FREE OF ORGANICS AND CAN BE ADEQUATELY COMPACTED.

1. COMPACTED FILL SHOULD CONSIST OF APPROVED MATERIALS THAT ARE FREE OF ORGANIC MATTER AND DEBRIS. FROZEN MATERIAL SHOULD NOT BE USED. FILL SHOULD NOT BE PLACED ON A FROZEN SUBGRADE.

2. IMPORTED STRUCTURAL FILL SHOULD MEET THE FOLLOWING GRADATION:
PERCENT PASSING BY WEIGHT

SIEVE SIZE	STRUCTURAL FILL
6"	100
3"	70-100
2"	(100)*
¾"	45-95
NO. 4	30-90
NO. 10	25-80
NO. 40	10-50
NO. 200	0-12

* MAXIMUM 2-INCH PARTICLE SIZE WITHIN 12 INCHES OF THE UNDERSIDE OF CONCRETE ELEMENTS.

3. COMMON FILL SHOULD HAVE A MAXIMUM PARTICLE SIZE OF 6 INCHES AND NO MORE THAN 25 PERCENT BY WEIGHT PASSING THE US NO. 200 SIEVE.

SEDIMENTATION/EROSION

1. THE CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES SHALL BE IN CONFORMANCE WITH THE 2002 CONNECTICUT GUIDLINES FOR SOIL EROSION AND SEDIMENT CONTROL.

2. CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION. THE FOLLOWING GENERAL CONDITIONS SHALL BE OBSERVED:

A. LIMITS OF CLEARING AND GRUBBING SHALL BE CLEARLY MARKED BEFORE COMMENCING WITH SUCH WORK.

B. EXISTING VEGETATION TO REMAIN SHALL BE PROTECTED AND REMAIN UNDISTURBED.

C. CLEARING AND GRADING SHALL BE SCHEDULED SO AS TO MINIMIZE THE SIZE OF EXPOSED AREAS AND THE LENGTH OF TIME THAT AREAS ARE EXPOSED.

D. TOPSOIL SHALL BE SPREAD TO FINISH GRADES AND SEEDED AS SOON AS FINISHED GRADES ARE ESTABLISHED. STRAW MULCH, JUTE NETTING OR MATS SHALL BE USED WHERE THE NEW SEED IS PLACED.

E. THE LENGTH AND STEEPNESS OF CLEARED SLOPES SHALL BE MINIMIZED TO REDUCE RUNOFF VELOCITIES.

F. RUNOFF SHALL BE DIVERTED AWAY FROM CLEARED SLOPES.

G. ALL SEDIMENT SHALL BE TRAPPED ON THE SITE.

3. SEDIMENTATION AND EROSION CONTROL (SEC) MEASURES SHOWN SHALL BE INSTALLED PRIOR TO LAND CLEARING, EXCAVATION OR GRADING OPERATIONS. REQUIREMENTS SPECIFIED SHALL BE MET PRIOR TO COMMENCING EARTHWORK OPERATIONS.

4. IT IS THE CONTRACTORS RESPONSIBILITY TO MAINTAIN SEC MEASURES THROUGHOUT DURATION OF PROJECT UNTIL DISTURBED LAND IS THOROUGHLY VEGETATED.

5. FAILURE OF THE SEC SYSTEMS SHALL BE CORRECTED IMMEDIATELY AND SUPPLEMENTED WITH ADDITIONAL MEASURES AS NEEDED.

6. VEGETATIVE SEEDING UON, AREA TO BE SEEDED SHALL BE LOOSE AND FRIABLE TO A DEPTH OF 3". TOPSOIL SHALL BE LOOSENED BY RAKING OR DISKING BEFORE SEEDING. APPLY 50 Lbs. OF DOLOMITIC LIMESTONE AND 25 Lbs. OF 10-10-10 FERTILIZER PER 1000 SF. HARROW LIME AND FERTILIZER INTO LOOSE SOIL. APPLY COMMON BERMUDA AND RYE GRASS AT 50 Lbs/ACRE. USE CYCLONE SEED DRILL, CULTIPACKER SEEDER OR HYDROSEEDER (SEED & FERTILIZER SLURRY) FOR STEEP SLOPES. IRRIGATE UNTIL VEGETATION IS COMPLETELY ESTABLISHED.

7. PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.

8. INSPECT AND MAINTAIN EROSION CONTROL MEASURES, AND REMOVE SEDIMENT THEREFROM ON A WEEKLY BASIS AND WITHIN TWELVE HOURS AFTER EACH STORM EVENT AND DISPOSE OF SEDIMENTS IN AN UPLAND AREA SUCH THAT THEY DO NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.

9. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.

10. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE SYSTEMS LOCATED ON SITE.

11. APPROPRIATE MEANS SHALL BE USED TO CONTROL DUST DURING CONSTRUCTION.

12. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE MAINTAINED TO PREVENT SOIL AND LOOSE DEBRIS FORM BEING TRACKED ONTO LOCAL ROADS. THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED UNTIL THE SITE IS PERMANENTLY STABILIZED.

13. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES SHALL BE IN CONFORMACE WITH THE STATE OF CONNECTICUT GUIDELINES FOR EROSION AND SEDIMENT CONTROL , AS AMENDED.

14. TEMPORARY SILT FENCE EROSION CONTROL BARRIER SHALL BE MAINTAINED THROUGHOUT SITE CONSTRUCTION. STOCKPILE ON SITE 100 FT. OF SILT FENCE FOR EMERGENCY USE. TEMPORARY EROSION BARRIERS SHALL REMAIN IN PLACE UNTIL PERMANENT VEGETATIVE GROUND COVER IS ESTABLISHED.

15. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF THE EQUIPMENT LEASE AREA SHALL BE PERMANENTLY ESTABLISHED WITH A VEGETATIVE GROUND COVER.

16. STILLING BASIN SHALL BE UTILIZED FOR ANY DE-WATERING DISCHARGE WHICH MAY OCCUR DURING CONSTRUCTION OPERATIONS.

17. PROPOSED CONSTRUCTION IMPACTS AND PERMANENT IMPROVEMENTS SHALL NOT SIGNIFICANTLY IMPACT STORM WATER RUNOFF PATTERNS, VOLUME OR PEAK FLOW RATES. THE FLAT GRADE OF THE EQUIPMENT COMPOUND AND STONE SURFACE WILL PROMOTE STORM WATER INFILTRATION.

18. CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENTATION CONTROL MEASURES PRIOR TO ANY GRADING ACTIVITIES IN LOCATIONS SHOWN ON THESE DRAWINGS.

19. 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.

20. 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.

21. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

22. 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 VEGETATION.

23. NO GREATER THAN 80,000 SQUARE FEET OF LAND SHALL BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS EXPOSED DURING DEVELOPMENT, THE EXPOSURE SHOULD BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME AND SHALL NOT EXCEED 10 DAYS. LAND SHOULD NOT BE LEFT EXPOSED DURING THE WINTER MONTHS.

24. ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY, AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE MACHINE HAY MULCHED AND SEEDED WITH RYE GRASS TO PREVENT EROSION. HAY OR STRAW MULCH SHALL BE APPLIED TO ALL FRESHLY SEEDED AREAS AT A RATE OF 2 TONS PER ACRES. BALES SHALL BE UNSPOILED, AIR-DRIED, AND FREE FROM WEED, SEEDS, AND ANY COARSE MATERIAL.

STRUCTURAL NOTES & SPECS

STEEL

1. CONTRACTORS SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. THE ENGINEER SHALL BE NOTIFIED OF ANY CONDITIONS WHICH PRECLUDE COMPLETION OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

2. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".

3. STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A992 (FY-50 KSI), UNLESS OTHERWISE NOTED.

4. STEEL PIPE SHALL CONFORM TO ASTM A500, GRADE B, STEEL PIPE DIAMETERS NOTED ON THE DRAWINGS ARE NOMINAL.

5. STRUCTURAL CONNECTION BOLTS SHALL CONFORM TO ASTM A325. ALL BOLTS SHALL BE 3/4" DIAMETER MINIMUM AND SHALL HAVE MINIMUM OF TWO BOLTS, UNLESS NOTED OTHERWISE ON THE DRAWINGS. LOCK WASHER ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES.

6. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIAMETER GALVANIZED ASTM A 307 BOLTS UNLESS OTHERWISE NOTED.

7. ALL STEEL MATERIAL EXPOSED TO WEATHER SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIPPED GALVANIZED) COATINGS" ON IRON AND STEEL PRODUCTS.

8. ALL BOLTS ANCHORS AND MISCELLANEOUS HARDWARE EXPOSED TO WEATHER SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE."

9. DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY UP ALL DAMAGED GALVANIZED STEEL WITH COLD ZINC, "GALVANOX", "DRY GALV", "ZINC IT", OR APPROVED EQUIVALENT, IN ACCORDANCE WITH MANUFACTURERS GUIDELINES. TOUCH UP DAMAGED NON GALVANIZED STEEL WITH SAME PAINT APPLIED IN SHOP OR FIELD.

10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES." ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC MANUAL OF STEEL CONSTRUCTION 9TH EDITION. AT THE COMPLETION OF WELDING, ALL DAMAGE TO GALVANIZED COATING SHALL BE REPAIRED. SEE NOTE 9.

11. THE ENGINEER SHALL BE NOTIFIED OF ANY INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON CONFORMING MATERIALS OR CONDITIONS TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER REVIEW.

SITE NOTES

1. ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR AND THE TESTING AGENCY PRIOR TO BEGINNING ANY MATERIAL ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNERS ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES.

2. DAMAGE BY THE CONTRACTOR TO UTILITIES OR PROPERTY OF OTHERS, INCLUDING EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CLIENT. FOR GRASSED AREAS, SEED AND MULCH SHALL BE ACCEPTABLE.

3. THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN ITS PRESENT STATE. IF THE MATERIAL, AFTER REWORKING, REMAINS UNSUITABLE THEN THE CONTRACTOR SHALL UNDEROUT THIS MATERIAL AND REPLACED WITH APPROVED MATERIAL AT HIS EXPENSE. ALL SUBGRADES SHALL BE PROOF ROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFT MATERIAL SHALL BE REWORKED AND REPLACED.

4. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL DITCHES, PIPES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTABLE BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURES IN OPERABLE CONDITION.

5. ALL DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE OWNER IMMEDIATELY IF DISCREPANCIES ARE DISCOVERED. THE CONTRACTOR SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.

6. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNMENTAL AGENCIES (NOT SUPPLIED BY OWNER).

7. ANY PERMITS WHICH MUST BE OBTAINED SHALL BE THE CONTRACTORS RESPONSIBILTY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS (NOT SUPPLIED BY OWNER).

8. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND THE LATEST APPLICABLE CODES AND STANDARDS.

9. THE CONTRACTOR SHALL NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY, OR CITY) ENGINEER 24 HOURS PRIOR TO BEGINNING OF CONSTRUCTION.

10. CONTRACTOR RESPONSIBLE FOR CLOSING AND FILING ALL PERMITS ASSOCIATED WITH THE SITE.

11. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE EQUIPMENT AND TOWER AREAS.

12. ALL EXISTING AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO MATCH PRECONSTRUCTION CONDITIONS.

13. THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO CONSTRUCTION ACTIVITIES COMMENCING.

CONCRETE NOTES

1. ALL CONCRETE CONSTRUCTION SHALL BE DONE IN ACCORD WITH AMERICAN CONCRETE INSTITUTE (ACI) CODES 301 & 318, LATEST REVISION.

2. TOWER FOUNDATION WORK SHALL BE IN ACCORDANCE WITH TOWER MANUFACTURERS DESIGNS AND SPECIFICATIONS.

3. ALL CONCRETE USED SHALL BE 4000 PSI (28 DAY COMP STRENGTH). THE CONCRETE MIX SHALL BE BASED ON USING THE FOLLOWING MATERIALS AND PARAMETERS:

PORTLAND CEMENT:	ASTM C150, T1
AGGREGATE:	ASTM C33, 1 INCH MAX
WATER	POTABLE
ADMIXTURE:	NON-CHLORIDE
AIR	6%*
SLUMP	4 INCH

UNLESS NOTED OTHERWISE
*ALL CONCRETE EXPOSED TO FREEZING WEATHER SHALL CONTAIN ENTRAINED AIR PER ACI 211 TABLE 4.2.1 OF ACI 318-95.

4. ALL REINFORCING STEEL SHALL BE ASTM A615, GR 60 (DEFORMED) UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS 'B' AND ALL HOOKS SHALL BE ACI STANDARD UNO. REINFORCING BARS SHALL BE COLD BENT WHERE REQUIRED AND TIED (NOT WELDED).

5. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS.
   CONCRETE CAST AGAINST EARTH = 3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER.
   #6 AND LARGER = 2 IN.
   #5 AND SMALLER = 1 1/2 IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND.
   SLAB AND WALL = 3/4 IN.
   BEAMS AND COLUMNS = 1 1/2 IN.

6. A 3/4 IN. CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OR CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

7. CONCRETE SHALL BE PLACED IN A UNIFORM MANNER AND CONSOLIDATED IN PLACE.

8. CONCRETE FOOTINGS SHALL BE CAST AGAINST LEVEL, COMPACTED, NON-FROZEN BASE SOIL FREE OF STANDING WATER.

9. APPLY A QUALITY CONCRETE SEALER SUCH AS THEROSEAL TO EXPOSED CONCRETE IN ACCORDANCE WITH MANUFACTURERS APPLICATIONS DIRECTIONS.

HOMELAND TOWERS SITE NUMBER:
CT-114

APT FILING NUMBER:
CT-283-170

HOMELAND TOWERS
22 SHELTER ROCK LANE
BUILDING C
DANBURY, CT 06810

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DEVELOPMENT & MANAGEMENT DOCUMENTS

SALISBURY
250 CANAAN ROAD
SALISBURY, CT 06068

DESIGN TYPE:
RAW LAND DEVELOPMENT SITE

REVISIONS:

REV.0:	11/05/15: FOR REVIEW: SMC
REV.1:	11/09/15: CLIENT COMMENTS: RCB
REV.2:	
REV.3:	
REV.4:	
REV.5:	

NOTES & SPECIFICATIONS

APT FILING NUMBER: CT-283-170	
APT DRAWING NUMBER: CT-114_N-1	
DRAWN BY: RCB	SCALE: AS NOTED
CHECKED BY: SMC	DATE: 11/05/15

SHEET NUMBER
N-1

STATE OF CONNECTICUT — JOHN F. MORRIS — LICENSED PROFESSIONAL ENGINEER