



445 Hamilton Avenue, 14th Floor
White Plains, New York 10601
T 914 761 1300
F 914 761 5372
cuddyfeder.com

Daniel M. Laub, Esq.
dlaub@cuddyfeder.com

May 8, 2017

BY EMAIL & OVERNIGHT DELIVERY

Hon. Robert Stein, Chairman
and Members of the Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Development and Management Plan ("D&M Plan")
Connecticut Siting Council Docket No. 463A
Certificate of Environmental Compatibility and Public Need for the
Construction, Maintenance and Operation ("Certificate") of a
Telecommunications Facility at
2 Arbor Crossing, East Lyme, Connecticut

Dear Chairman Stein and Members of the Council:

On behalf of the certificate holder and in furtherance of the captioned Certificate, please accept for review and Council approval this Development Management Plan ("D&M Plan") filing for the captioned Facility as approved in Docket No. 463A.

Tower, Compound & Other Equipment

Enclosed are an original and fifteen (15) sets of 11" x 17" D&M Plan drawings prepared by Centek last revised May 3, 2017 being filed in accordance with the Siting Council's ("Council") Decision and Order dated December 22, 2016 ("Decision and Order"). Two full-sized sets of the D&M Plan drawings are being forwarded to the Council separately.

Please find enclosed a geotechnical report (Attachment 1), development and management plan drawings (Attachment 2), the first two pages of the associated structural analysis (Attachment 3) a cut sheet of the antennas to be installed (Attachment 4) and specifications of the stealth design (Attachment 5).

As per order number 1 of the Council's Decision and Order, the D&M Plan incorporates a 105' concealment silo. As per the Council's Decision and Order number 2 please note that no tree clearing restrictions have been imposed as a result of either state or federal review. Please also note that hours of construction are anticipated to be between 7:00 a.m. and 6:00 p.m. and otherwise in accordance with the Town of East Lyme regulations. Included in the D&M are the final site plans including specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access utilities and emergency backup details of the associated compound and access drive. Of note, the D&M Plan also includes construction sequencing and



May 8, 2017

Page -2-

site preparations, 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 RCSA Section 16-50j-61(d) a copy of this filing is being provided to property owners of record.

In accordance with the provisions of RCSA Section 16-50j-77, the certificate holder hereby notifies the Council of its intention to begin site work after Council approval of the D&M Plan. Construction of the tower and other site improvements will commence after issuance of a local building permit. The supervisor for all construction related matters on this project is Walter Mazzoni and can be reached by telephone at 603-531-9230.

We respectfully request that this matter be included on the Council's earliest available agenda for review and approval.

Thank you for your consideration of the enclosed.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Daniel M. Laub', is written over a horizontal line.

Daniel M. Laub

Attachments & Enclosures

cc: Attached Service List
AT&T
American Tower Corporation
Dan Bilezikian, SAI
Christopher B. Fisher, Esq.



May 8, 2017

Page -3-

CERTIFICATE OF SERVICE

I hereby certify that on this day, an original and 15 copies of the foregoing was sent electronically and by overnight delivery to the Connecticut Siting Council with copy to:

Owner Representatives

Robert Ziegler, Esq.
58 East Main Street
Plainville, Connecticut 06062

Orchards at East Lyme Inc.
P.O. Box 55071
Boston MA 02205-5071

Docket Service List

The Town of East Lyme
First Selectman Mark C. Nickerson
P.O. Box 519
108 Pennsylvania Avenue
Niantic, Connecticut 06357

Tracy M. Collins, Esq.
Waller, Smith & Palmer, P.C.
52 Eugene O'Neill Drive
New London, CT 06320

BHSO Community Conservancy
Craig Tooker
342 Boston Post Road
East Lyme, CT 06333

Dated: May 8, 2017

A handwritten signature in black ink, appearing to read 'D. Laub', is written over a horizontal line. The signature is fluid and cursive.

Daniel M. Laub, Esq.

ATTACHMENT 1

**Geotechnical Engineering Report
For Proposed Construction of:**

**AT&T Silo and Equipment Shelter
The Orchards
2 Arbor Crossing
East Lyme, CT**

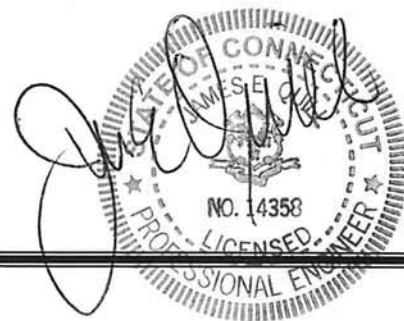
Prepared for:

**Centek Engineering, Inc.
63-2 North Branford Road
Branford, CT 06405**

Prepared by:

**Atlantic Consulting & Engineering, LLC
525 John Street
Bridgeport, CT 06604**

April 17, 2017



ENGINEERING REPORT TABLE OF CONTENTS

1.00	GENERAL SUMMARY
2.00	INTRODUCTION
2.10	OBJECTIVE OF STUDY
2.20	GEOTECHNICAL SCOPE OF SERVICES
2.30	SITE AND PROJECT DESCRIPTION
3.00	SUBSURFACE EXPLORATIONS
4.00	SUBSURFACE CONDITIONS
5.00	IMPLICATIONS OF SUBSURFACE CONDITIONS
5.10	GLACIOFLUVIAL DEPOSITS
5.20	ROCK
5.30	GROUNDWATER
5.40	RESISTIVITY
6.00	DESIGN OBSERVATIONS
6.10	SPREAD FOOTINGS
6.20	SLAB ON GRADE
6.30	PAVED AREAS
6.40	SEISMIC CHARACTERISTICS/ LIQUEFACTION POTENTIAL
6.50	SOIL LATERAL LOADS
7.00	CONSTRUCTION AND EARTHWORK CONSIDERATIONS
7.10	FLOOR SLABS
7.20	PAVEMENTS
7.30	MATERIALS, PLACEMENT AND COMPACTION
7.40	CONSTRUCTION MONITORING SERVICES
8.00	FINAL COMMENTS
TABLE 1	: RESISTIVITY TESTING
FIGURE 2	: SEISMIC SUMMARY
FIGURE 3	: ROCK PINNING DETAIL
FIGURE 4	: BORING LOCATION PLAN
APPENDIX A	: BORING LOGS 1 Through 4

1.00 GENERAL SUMMARY

Based on the studies performed as discussed herein, we have prepared the following conclusions and recommendations.

- 1.) Variable density Glaciofluvial outwash, solid and weathered rock deposits are present in the portions of the proposed construction area that were investigated. Liquefaction potential is negligible based on density and gradation of soils and rock depth.
- 2.) It appears that the existing naturally deposited inorganic silt and clay or rock can be used beneath the bottom of footing, floor slabs and pavements. If required, raises in grade materials beneath the pavement and floor slabs should consist of structural fill, which these materials do not qualify as, and materials specified herein.
- 3.) Replacement fills for slab and footing support as required should consist of "structural fill" as defined in paragraph 7.30 and be placed and compacted to 95 percent of the optimum dry density per ASTM D-1557.
- 4.) Groundwater is not expected to impact the excavation or cut areas of the proposed project.
- 5.) Footings may be excavated to rock as defined herein and the grade can be raised using structural fill. Bearing surfaces within the proposed building area are at least 3.5 feet below the existing grade; bearing surfaces on rock need to be at least 12 inches below finish grade.
- 6.) Provided bearing surfaces are prepared as described herein, an allowable soil bearing capacity of 6,000 pounds per square foot may be used for design purposes in sizing the footings and foundations if in fact the footings are on the glacial till, the borings project the footings being on rock. If structural fill is used to raise the grade, however, 6,000 pounds per square foot can be used in the design.
- 7.) Footing drains are required in the project due to the classification of the soils encountered; however and underslab dewatering system may be necessary to keep potential slabs free from water.
- 8.) Rock encountered during the exaction can be blasted; rock hammered or scraped depending on what field conditions are encountered when the rock is exposed. Bearing capacity of bedrock can be assumed to be 30,000 pounds per square foot and 16,000 pounds per square foot for the weathered rock to be determined by the geotechnical engineer in the field.
- 9.) All work to prepare in-place materials and to construct foundation systems should be performed under the observation of the geotechnical engineer. Specific important details of our geotechnical engineering study and recommendations are enclosed herein.

2.00 INTRODUCTION

This report presents the results of an engineering study performed by Atlantic Consulting & Engineering (ACE), at the site of the proposed Silo in East Lyme, CT. Included in this report are a summary of subsurface conditions observed and the implications of these conditions with respect to the design and construction of the proposed structure. Please note that this report is subject to the limitations contained in Section 8.00.

2.10 OBJECTIVE OF STUDY

The objective of our scope of services was to explore subsurface conditions within the proposed structure and develop geotechnical recommendations for the design of spread footing foundation and floor slab support for the proposed structure. Included are design criteria for proposed pavement sections.

2.20 GEOTECHNICAL SCOPE OF SERVICES

The scope of services performed by ACE to meet the above stated objectives for geotechnical services included the following:

1. Inspection of the test borings conducted by Soiltesting, Inc. on April 3 2017.
2. Evaluation of the overlying glacial deposits and underlying rock formation.
3. Recommendations were prepared for foundation and slab support for the proposed structure.
4. Recommendations for pavement section design have been prepared.
5. Resistivity testing was conducted by Fairfield Testing Laboratories on April 2, 2017.
6. General recommendations have been made as to earthwork and foundation construction procedures to be followed during the construction phase of this project.

2.30 SITE AND PROJECT DESCRIPTION

The site for proposed construction of the silo and equipment shelter is located to the north of Arbor Crossing in East Lyme, CT. The area is accessible via a service road. The grade of the area of construction slopes sharply up from the south. The site is currently wooded. A community center including a pool is south of the proposed project and residential development is primarily within the area.

3.00 SUBSURFACE EXPLORATIONS

Subsurface explorations performed for this project consisted of hollow stem augured borings. Borings were terminated on bedrock.

Test borings were located by this office. Approximate locations and elevations of borings are shown on the Boring Location Plan. Four (4) test borings were advanced throughout the site and three monitoring wells were installed. Copies of the test boring logs are included in Appendix A, along with

a boring location plan. Test boring locations should be considered accurate only to the degree implied by measuring method used to determine them.

The test borings were conducted using a track mounted drill rig. Soil samples from the test borings were classified both on site and in the lab and on site by a geotechnical engineer.

4.00 SUBSURFACE CONDITIONS

All explorations revealed naturally deposited inorganic material beneath the ground surface. Topsoil and brown silt blends were predominant throughout the exploratory effort. This material is NOT well draining and not very stable to work on once it wet. This material may be used for foundation bearing if pockets are found that are deep, however, the rock should be the bearing material for this project. Shallow rock was encountered throughout the site. Water should not affect the excavation.

5.00 IMPLICATIONS OF SUBSURFACE CONDITIONS

5.10 GLACIOFLUVIAL DEPOSITS

Throughout the site beginning immediately beneath the surface a glaciofluvial deposit was encountered. The material is brown silt. This material overlies the rock and ranges in depth from 0.5 to 3 feet deep. The characteristics of this material make it suitable for footing support, and this should be the design bearing material for the project. This material **does not** meet the structural fill requirements outlined in section 7.30 and therefore may not be reused as structural fill for raises in grade beneath footings and slabs; however it appears to be suitable to raise the grade in paved areas provided the final 12 to 16 inches area prepared in accordance with Paragraph 7.30 below.

5.20 ROCK

Rock was encountered in each of the borings. The surface of the rock is between 1 and 3 feet below grade. The upper surface of the rock is weathered and decomposed. The rock becomes more solid with depth. Competent rock appears to be between 3 and 5 feet below grade.

5.30 GROUNDWATER

Groundwater was not encountered in the borings, however based on the shallow depth of the rock, perched water may cause construction related issues.

5.40 RESISTIVITY TESTING

In place soil resistivity testing was conducted by FTL personnel on April 3, 2017 within the vicinity of the proposed tower. Two (2) test sections were established in an "approximate" north-south direction, and "approximate" east-west direction. Approximate test section locations are illustrated in Figure 4. All test sections were tested up to an electrode "A" spacing of 40 feet. Test results yielded resistivity values common for the given soil/rock types and moisture conditions typically found in the New England geology. It should be noted, however, that resistivity measurements are strongly influenced by local variations in surface conductivity caused by soil/rock weathering, soil/rock moisture content, soil temperature, rugged

topography and existing subsurface manmade conductive materials. Attempts were made (where possible) during field operations to minimize some of these effects on the test results. Results of the resistivity tests are summarized in Table 1.

6.00 DESIGN OBSERVATIONS

Spread footings are recommended for this building foundation provided that the site is improved as outlined herein. It is our recommendation that removal of the existing fill and subsequent replacement with suitable compacted structural fill beneath the bottom of slabs and footings or construction of the footings directly on the weathered rock. If in-place material is determined by the Geotechnical Engineer in the field to be acceptable after proofrolling and visual observations then areas beneath the slabs can be prepared as described in Section 7.10. Where bearing surfaces require a raise in grade, structural fill can be placed above the existing alluvial deposits as described in Section 7.30.

6.10 SPREAD FOOTINGS

Excavation to naturally deposited inorganic materials, including rock, is the most cost effective approach for this project due to the relatively shallow depth of the unsuitable materials in the major portion of the building pad. Spread footings can bear directly on alluvial deposits, weathered rock, bedrock or structural fill can be used to raise the grade to a minimum of 42 inches below finish grade. Footings bearing partially on soils and partially on the rock may create a differential settlement most likely would occur cracking the footing and/ or wall at the rock-to- soil transition, therefore a 12 inch cushion is recommended to be placed between top of rock and bottom of footing in areas over rock to create a transition buffer to relieve stress points; an alternative would be to extend additional reinforcing steel 48 inches (8 feet total) either side of the rock-to-soil interface. If the rock is weathered then this would not be necessary, since the weathering gives the rock some natural cushion.

6.20 SLAB ON GRADE

It is recommended that a 4" to 6" thick slab on grade be used to support floor loads. The slab should over-lie free draining sand and gravel. Any additional fill needed to bring the slab to grade should be installed as directly shown in section 7.30.

6.30 PAVED AREAS

The subgrade soil for pavement will generally consist of the existing sandy materials currently in place at the site, which are free draining. Our standard pavement cross section consists of the following:

Roadways and Auto Parking Areas

4 - inch	Two 2" Bituminous Concrete Courses Class 1 and Class 2
4 - inch	Process Aggregate Base
8 - inch	Structural fill placed on compacted subgrade proofrolled prior to lift placement with a 12 ton vibratory roller.

The above cross section is considered acceptable provided the existing materials are proofrolled. All subsequent replacement fills required beneath the subbase should consist of compacted structural fill.

Any areas where weaving is observed should be locally excavated and replaced using structural fill. If rock is shallower than the cross section, then the 8 inch structural lift can be less.

6.40 SEISMIC CHARACTERISTICS & LIQUEFACTION POTENTIAL

For structural design, the IBC Seismic Site Soil Classification is considered to be "B". The mapped spectral response acceleration for 1 second period is $S_1=0.059$ and for short periods $S_s=0.164$. (See Figure 2 for seismic summary). For transfer of ground shear into the silt, clay and weathered rock, a factor of 0.35 can be assumed.

Based on the results of the borings and the SPT sampling, the subsurface conditions at the site should be considered as having a negligible potential for liquefaction due to the shallow depth of the rock.

6.50 SOIL LATERAL LOADS

Foundation walls and retaining walls should be designed to resist lateral loading. At optimum densities and in moist conditions, the design lateral loads in pounds per square foot per foot of depth shall be 40. Submerged or saturated soil pressure used in design shall include the weight of buoyant soil plus hydrostatic loading.

7.00 CONSTRUCTION & EARTHWORK CONSIDERATIONS

SILO

The silo foundation shall be built on competent rock. The height of the silo dictates that uplift needs to be considered in the design. Securing the foundation to rock anchors is the recommended approach. All rock anchors are to be designed in accordance with the publication entitled, *Recommendations for Prestressed Rock and Soil Anchors*, by Post-Tensioning Institute latest edition.

- => The anchor bolt system shall be corrosion protection "Class 1" (double corrosion protection) unless others conduct an environmental study to determine the aggressivity of the host soil/rock system.
- => The load carrying capacity of each anchor is to be verified by load testing after installation and prior to being placed in service.
- => The anchor system is to be designed using permanent anchor design criteria.
- => The working bond stress along the interface between rock and grout to be used for design shall be 75 psi.
- => The rock anchor pull-out cone has an angle of 30° with the center of the anchor and total cone angle of 60° . The resulting rock anchor pull-out cone must be evaluated for global stability when single and/or multiple anchors are used.

=> The point where the cone starts is taken at the midway distance of the bonded length.

Given the empirical nature of the design of these rock anchors, it is advisable that **ACE** be retained to assist in the design of the rock anchor system.

EQUIPMENT SHELTER

The shallow depth of the bedrock dictates that the structural footings should be constructed on it. See Figure 4 for the detail of the construction of the footings on the rock.

It is recommended that placement of the concrete for footings and slabs take place shortly following the preparation of the design bearing surface, since the introduction of water may adversely affect its structural characteristics. Since most of the footing is expected to be placed on rock follow Figure 1 in this report to address the varying rock conditions.

7.10 FLOOR SLABS

Prior to placement of new structural fill, or free-draining sand, gravel base course materials, all deleterious materials, including topsoil and fill should be removed from within the limits of the building to the minimum depth below finish floor as determined by the structural engineer. The exposed subgrade materials should then be proofrolled with a minimum of 4 passes of a 12 ton roller. Any observed soft or weaving areas should be locally excavated and replaced with compacted structural fill. The final 8 inches of free draining sand and gravel shall be placed as defined in section 7.30. A 4 to 6 inch slab on grade is recommended for the use described herein.

7.20 PAVEMENTS

Prior to placement of new pavement section materials, the in-place fill materials should be removed to a minimum depth of below the bottom of finish pavement grades. Existing bearing surfaces should be proofrolled and subgrade should then be prepared as outlined under Section 7.10 and 7.30. Raises in grade below pavement section materials should be performed using structural fill, acceptable on site material and processed base as described in section 6.30

7.30 MATERIALS, PLACEMENT & COMPACTION

Structural fill to be used in backfilling within the building areas below footings and floor slabs, below the recommended 8 inch sand-gravel floor slab base course, and beneath the recommended pavement section, should be free from ice, snow, roots, stumps, and other deleterious materials. Structural fill should consist of a sandy GRAVEL or gravely SAND material having a liquid limit and plasticity limit not exceeding 40 and 15, respectively, and conform to the following gradation requirements:

<u>Sieve Size</u>	<u>Percent Finer by Weight</u>
3.5 inch	100
No. 4	30 - 65
No. 10	20 - 50
No. 40	5 - 30
No. 100	0 - 10

Free draining sand and gravel for the floor slab base course, whether existing or to be placed, should be free of ice, snow, roots, stumps, rubbish, and other deleterious materials and should consist of hard durable sand and gravel conforming to the following gradation requirements:

<u>Sieve Size</u>	<u>Percent Finer by Weight</u>
2 inch	100
1/2 inch	50 - 85
No. 4	40 - 75
No. 50	8 - 28
No. 100	0 - 10

All building areas, structural fill, floor slab base course free draining sand-gravel fill, pavement base course and pavement subbase material, should be placed in lifts not exceeding 8 inches in loose lift thickness and should be compacted to at least 95 percent of maximum dry density per ASTM D-1557. New structural fill required exterior to structural element (footings, foundation or retaining walls, floor slabs, and pavements) zone of bearing should be compacted to at least 93 percent of the maximum dry density per ASTM D-1557.

If it is necessary to re-use existing acceptable on-site materials in areas below the SLAB and in PAVED areas, compaction can be carried out by placing the material in lifts not exceeding 6 inches and should be compacted to a minimum of 95 percent of maximum dry density per ASTM D-1557. This cannot be conducted in wet weather, nor if the moisture content of the material is at a level where the desired compaction cannot be physically achieved. Proctor tests, ASTM D-1557, will have to be conducted on samples of any fill desired to be reused. All reused material shall be free of roots, stumps, ice, snow, organic and any other deleterious materials.

7.40 CONSTRUCTION MONITORING SERVICES

It is recommended that Atlantic Consulting & Engineering and Fairfield Testing Laboratory be retained to provide geotechnical engineering and construction monitoring services during the excavation, foundation, and construction phases of the project. The purpose of these services is to observe compliance with the design concepts, contract documents, and geotechnical recommendations and to allow orderly design changes during construction in the event that subsurface conditions differ from those anticipated prior to the start of construction.

During construction, the Atlantic Consulting & Engineering and Fairfield Testing field representatives would be present to provide controlled inspections including with the following:

1. Observe the general progress of site work.
2. Perform the required field control tests for earthwork, including placement of structural fill as well as testing on rock anchors.
3. Observe earthwork operations to ensure that the minimum compactive effort and maximum lift height restrictions are enforced.
4. Observe, evaluate, and judge the suitability of prepared bearing surfaces including the possibility of using existing fill materials below slabs.

5. Observe and evaluate unanticipated subsurface conditions, when and where encountered and alternate procedures, which are proposed to address those unanticipated subsurface conditions.
6. Conduct inspections of rock anchoring, soils, concrete and masonry, reinforcing steel, and structural steel and framing inspections required by the city and state and directed by The Statement of Special Inspections.
7. Review the proposed design and installation of underslab or dewatering system.

8.00 FINAL COMMENTS

This report has been prepared for specific application to the subject project in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made. In the event that any changes in the nature, design or location of structures are planned, the conclusions and recommendations contained in the report should not be considered valid, unless the changes are reviewed and conclusions of this report modified or verified in writing.

The analyses and recommendations submitted in this report are based in part upon the data obtained from the referenced test borings. The nature and extent of variations between explorations may not become evident until construction. If variations then appear evident, it will be necessary to re-evaluate the recommendation of this report.

Atlantic Consulting & Engineering should perform a general review of final design and specifications in order to determine that earthwork and foundation recommendations have been properly interpreted and implemented in the design specifications.

Respectfully Submitted by

James E. Quill

James E. Quill, PE
CT #14358


TABLE 1
PROPOSED AT&T MOBILITY WIRELESS FACILITY
SITE NAME: EAST LYME RELO. - THE ORCHARDS
2 ARBOR CROSSING
EAST LYME, CT

IN-SITU SOIL RESISTIVITY RESULTS¹

ELECTRODE SPACING (FT)	SECTION NO.	
	1	2
5	421,300	421,300
10	727,700	766,000
15	976,650	804,300
20	919,200	1,072,400

- NOTES: 1. Resistivity values indicated are in OHM-CM
2. Test completed using Wenner Four Probe Method with a 400A Soil Resistivity Meter as manufactured by MC Miller.

**RESISTIVITY
DATA**

SITE:	East Lyme Relo. - The Orchards
DATE:	17-Apr-17
SIGNATURE:	

A (FT)	5	10	15	20
FORMULA (ρ)= (OHM-CM)	957.5*R	1915*R	2872.5*R	3830*R
SECTION 1 MEASURED R (OHM)	440	380	340	240
SECTION 1 CALCULATED ρ (OHM-CM)	421,300	727,700	976,650	919,200
SECTION 2 MEASURED R (OHM)	440	400	280	280
SECTION 2 CALCULATED ρ (OHM-CM)	421,300	766,000	804,300	1,072,400

Wenner Four Probe Method Formula:

$$\rho = 2 * \pi * A * R$$

ρ = Calculated Soild Resistivity (ohm-cm)
 A = Distance Between Probes (cm)
 R = Measured Soil Resistance (ohm)

Figure 2

Seismic Summary

USGS Design Maps Summary Report

User-Specified Input

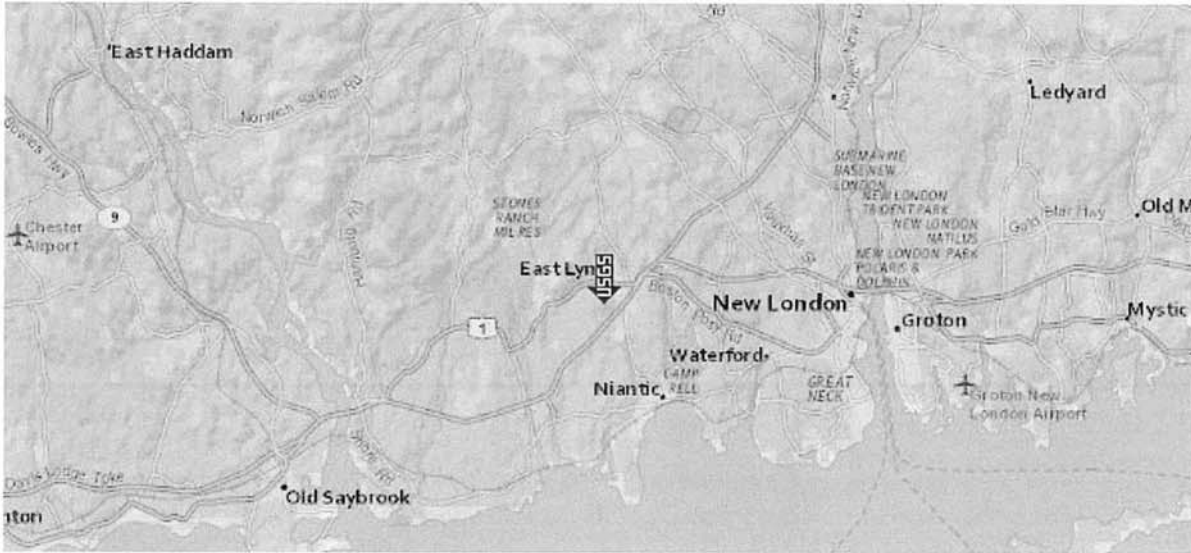
Report Title THE ORCHARDS
 Mon April 17, 2017 15:10:36 UTC

Building Code Reference Document 2012/2015 International Building Code
 (which utilizes USGS hazard data available in 2008)

Site Coordinates 41.36844°N, 72.2219°W

Site Soil Classification Site Class B - "Rock"

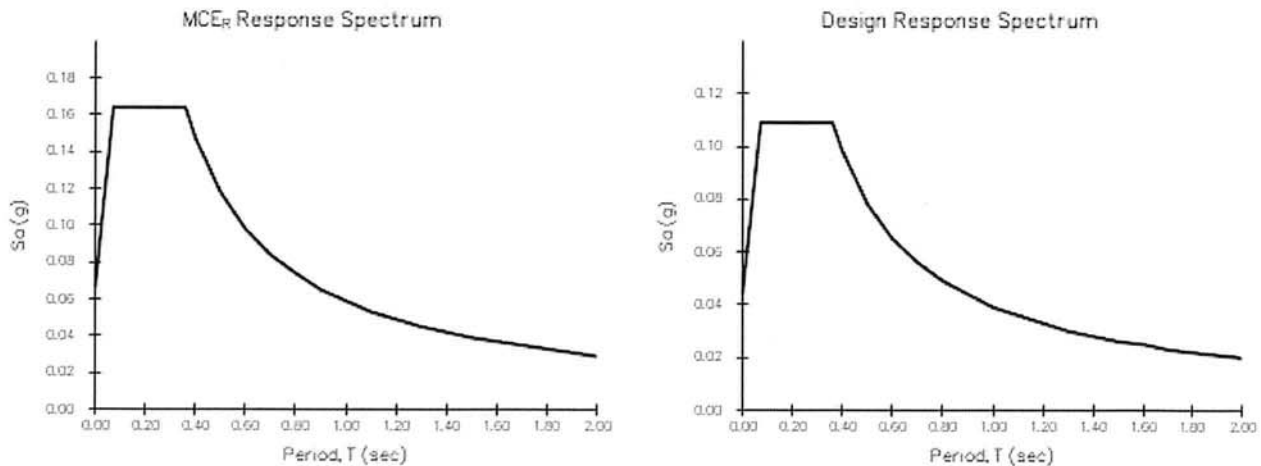
Risk Category I/II/III



USGS-Provided Output

$S_s = 0.164 \text{ g}$	$S_{MS} = 0.164 \text{ g}$	$S_{DS} = 0.109 \text{ g}$
$S_1 = 0.059 \text{ g}$	$S_{M1} = 0.059 \text{ g}$	$S_{D1} = 0.039 \text{ g}$

For information on how the S_s and S_1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the "2009 NEHRP" building code reference document.



Although this information is a product of the U.S. Geological Survey, we provide no warranty, expressed or implied, as to the accuracy of the data contained therein. This tool is not a substitute for technical subject-matter knowledge.

Design Maps Detailed Report

2012/2015 International Building Code (41.36844°N, 72.2219°W)

Site Class B – “Rock”, Risk Category I/II/III

Section 1613.3.1 — Mapped acceleration parameters

Note: Ground motion values provided below are for the direction of maximum horizontal spectral response acceleration. They have been converted from corresponding geometric mean ground motions computed by the USGS by applying factors of 1.1 (to obtain S_S) and 1.3 (to obtain S_1). Maps in the 2012/2015 International Building Code are provided for Site Class B. Adjustments for other Site Classes are made, as needed, in Section 1613.3.3.

From Figure 1613.3.1(1) ^[1]

$S_S = 0.164 \text{ g}$

From Figure 1613.3.1(2) ^[2]

$S_1 = 0.059 \text{ g}$

Section 1613.3.2 — Site class definitions

The authority having jurisdiction (not the USGS), site-specific geotechnical data, and/or the default has classified the site as Site Class B, based on the site soil properties in accordance with Section 1613.

2010 ASCE-7 Standard – Table 20.3-1
SITE CLASS DEFINITIONS

Site Class	\bar{v}_s	\bar{N} or \bar{N}_{ch}	\bar{s}_u
A. Hard Rock	>5,000 ft/s	N/A	N/A
B. Rock	2,500 to 5,000 ft/s	N/A	N/A
C. Very dense soil and soft rock	1,200 to 2,500 ft/s	>50	>2,000 psf
D. Stiff Soil	600 to 1,200 ft/s	15 to 50	1,000 to 2,000 psf
E. Soft clay soil	<600 ft/s	<15	<1,000 psf

Any profile with more than 10 ft of soil having the characteristics:

- Plasticity index $PI > 20$,
- Moisture content $w \geq 40\%$, and
- Undrained shear strength $\bar{s}_u < 500 \text{ psf}$

F. Soils requiring site response analysis in accordance with Section 21.1

See Section 20.3.1

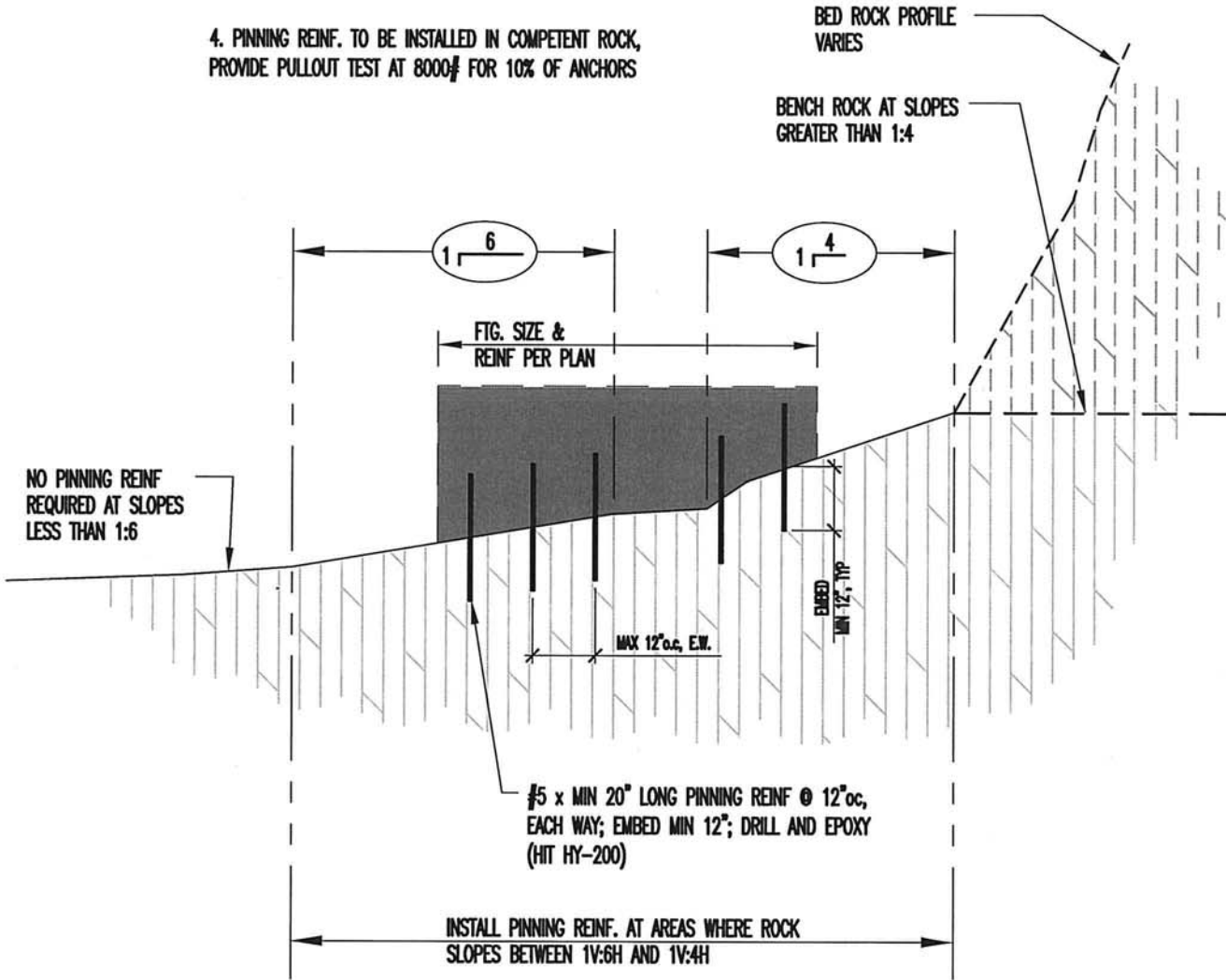
For SI: 1ft/s = 0.3048 m/s 1lb/ft² = 0.0479 kN/m²

Figure 3

Rock Anchor Plan

NOTES:

1. GRADE 60 DEFORMED REINFORCEMENT PER ASTM A615
2. INSTALL PINNING REINF. AT 12" oc E.W.
3. HILTI HY-200 OR EQUAL EPOXY
4. PINNING REINF. TO BE INSTALLED IN COMPETENT ROCK, PROVIDE PULLOUT TEST AT 8000# FOR 10% OF ANCHORS



Atlantic Consulting & Engineering LLC
 525 JOHN STREET
 BRIDGEPORT, CT 06604-3926
 (203) 836-4422
 (203) 836-2769 FAX
 WWW: INFO@ATLANTIC-ENG.COM

FIGURE #3
 ROCK SURFACE DETAIL

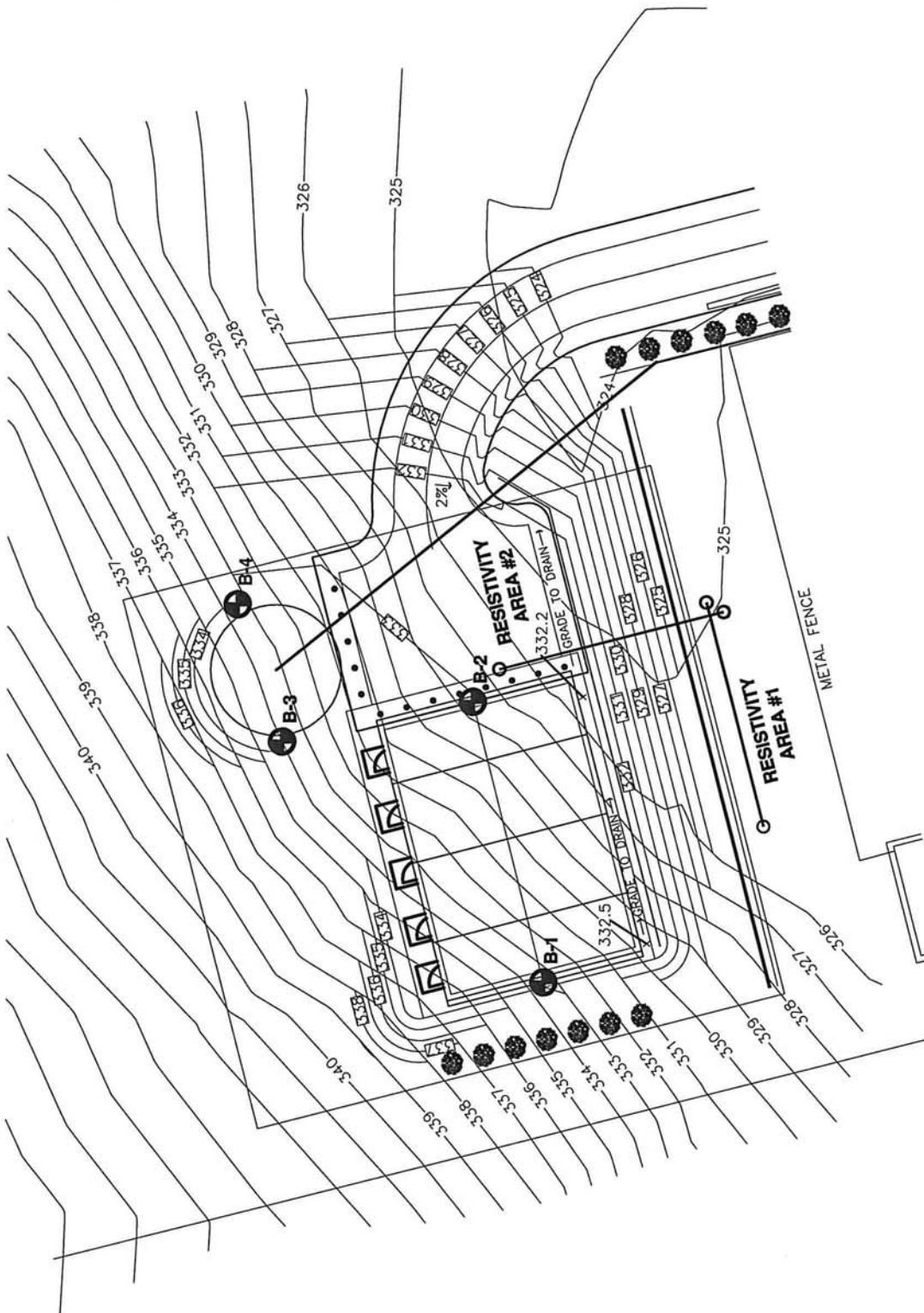
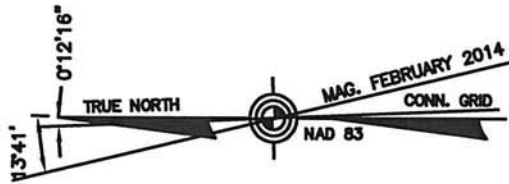
DATE: 04/17/17
 SCALE: AS NOTED
 PREPARED FOR:
 CONST

SEAL:

THIS DRAWING IS THE PROPERTY OF THE ENGINEER. IT HAS BEEN SPECIFICALLY PREPARED FOR THE OWNER FOR THIS PROJECT AT THIS SITE AND IS NOT TO BE USED FOR ANY OTHER PURPOSE, LOCATION OR OWNER WITHOUT WRITTEN CONSENT OF THE ENGINEER.

Figure 4

Boring Location Plan



BORING DESIGNATION

Atlantic Consulting & Engineering Inc.
 525 John Street
 Bridgeport, Connecticut 06804-3926
 (203) 338-4422
 (203) 338-1789 (Fax)
 EMAIL: INFO@ATLANTIC-ENG.COM

AT&T MOBILITY
 2 ARBOR CROSSING
 EAST LYME, CONNECTICUT
BORING LOCATION PLAN

Date: 04/17/17
 Scale: NONE
 Prepared for:

Sheet No. **B-1**

APPENDIX A

Boring Logs 1 through 4

Conducted on April 3, 2017

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: Atlantic Consulting & Engineering	SHEET <u>1</u> OF <u>1</u> HOLE NO. B-1 & B-2
	PROJECT NO. G58-0661-17 PROJECT NAME 2 Arbor Crossing	BORING LOCATIONS per Plan
FOREMAN - DRILLER BD/ms	LOCATION East Lyme, CT	
INSPECTOR	CASING TYPE HSA	SAMPLER SS
GROUND WATER OBSERVATIONS AT <u>none</u> FT AFTER <u>0</u> HOURS AT <u> </u> FT AFTER <u> </u> HOURS	SIZE I.D. 4 1/4"	CORE BAR 1 3/8"
	HAMMER WT. 140#	BIT BIT
	HAMMER FALL 30"	OFFSET 4/3/17
		DATE FINISH 4/3/17
		SURFACE ELEV.
		GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE					BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 6 - 12 12- 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		NO	Type	PEN	REC	DEPTH @ BOT					
5		1	ss	3"	3"	0'3"	50/3"		moist	0'6"	Brn TOPSOIL
									v dense	1'0"	partially weathered BEDROCK AUGER REFUSAL
10											E.O.B. 1'0"
0	B-2										B-2
		1	ss	24"	18"	2'0"	1 2		v moist		Brn SILT, tr roots
5							1 1	v loose			
										3'0"	
10										4'0"	partially weathered BEDROCK AUGER REFUSAL
											E.O.B. 4'0"
15											
20											
25											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

GROUND SURFACE TO FT. USED CASING THEN CASING TO FT. **HOLE NO. B-1 & B-2**

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST
 WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS C = COARSE
 SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER M = MEDIUM
 PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND = 35 - 50% F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: Atlantic Consulting & Engineering	SHEET <u>1</u> OF <u>1</u>
	PROJECT NO. G58-0661-17	HOLE NO. B-3 & B-4
FOREMAN - DRILLER BD/ms	PROJECT NAME 2 Arbor Crossing	BORING LOCATIONS per Plan
INSPECTOR	LOCATION East Lyme, CT	
GROUND WATER OBSERVATIONS AT <u>none</u> FT AFTER <u>0</u> HOURS AT <u> </u> FT AFTER <u> </u> HOURS	TYPE HSA	OFFSET
	SIZE I.D. 4 1/4"	DATE START 4/3/17
	HAMMER WT. 140#	DATE FINISH 4/3/17
	HAMMER FALL 30"	SURFACE ELEV.
		GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE					BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE)		CORE TIME PER FT (MIN)	DENSITY OR CONSIST	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		NO	Type	PEN	REC	DEPTH @ BOT	0 - 6	6 - 12				
5		1	ss	24"	16"	20"	2	2		v moist		Brn SILT, tr roots
							1	1		v loose		
										4'0"		
										5'0"	partially weathered BEDROCK	AUGER REFUSAL
											E.O.B. 5'0"	
0	B-4											B-4
5		1	ss	24"	12"	2'0"	1	1		v moist		Brn SILT, tr roots
							3	2		v loose		
										3'6"		
										4'11"	partially weathered BEDROCK	AUGER REFUSAL
											E.O.B. 4'11"	
10												
15												
20												
25												

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

GROUND SURFACE TO _____ FT. USED _____ CASING THEN _____ CASING TO _____ FT. **HOLE NO. B-3 & B-4**

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST
 WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS C = COARSE
 SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER M = MEDIUM
 PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND = 35 - 50% F = FINE

ATTACHMENT 2



WIRELESS COMMUNICATIONS FACILITY

CT1345 EAST LYME RELO.

THE ORCHARDS

2 ARBOR CROSSING

EAST LYME, CT 06333

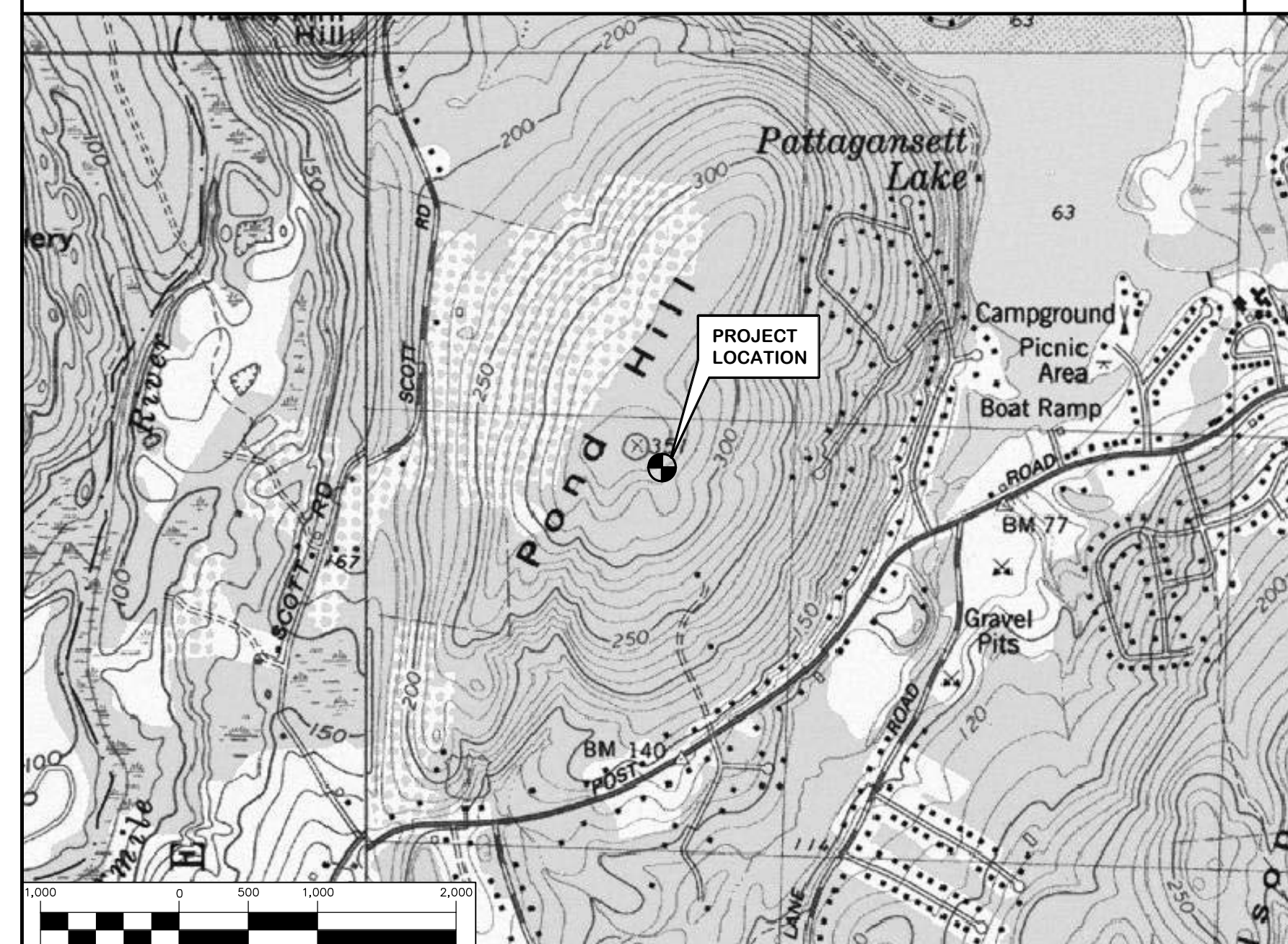
GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2005 CONNECTICUT SUPPLEMENT AND 2009 AMENDMENTS, INCLUDING THE TIA/EIA-222 REVISION "F" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES." 2005 CONNECTICUT FIRE SAFETY CODE AND 2009 AMENDMENTS, NATIONAL ELECTRICAL CODE AND LOCAL CODES.
- THE COMPOUND, TOWER, PRIMARY GROUND RING, ELECTRICAL SERVICE TO THE METER BANK AND TELEPHONE SERVICE TO THE DEMARCATION POINT ARE PROVIDED BY SITE OWNER. AS BUILT FIELD CONDITIONS REGARDING THESE ITEMS SHALL BE CONFIRMED BY THE CONTRACTOR. SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
- CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
- CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
- CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
- CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
- CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN "AS-BUILT" SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
- LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING BUILDING'S/PROPERTY'S OPERATIONS, COORDINATE WORK WITH BUILDING/PROPERTY OWNER.
- DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
- ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
- ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MFR.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
- ANY AND ALL ERRORS, DISCREPANCIES, AND "MISSED" ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE AT&T CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO "EXTRA" WILL BE ALLOWED FOR MISSED ITEMS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
- CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
- THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
- COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUIT AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
- ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED PRIOR TO ANY EXCAVATION WORK. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
- CONTRACTOR SHALL COMPLY WITH OWNERS ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.

SITE DIRECTIONS

FROM:	TO:
500 ENTERPRISE DRIVE ROCKY HILL, CONNECTICUT	2 ARBOR CROSSING EAST LYME, CONNECTICUT
1. HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD	0.3 MI.
2. TURN LEFT ONTO CAPITAL BLVD	0.2 MI.
3. USE THE LEFT 2 LANES TO TURN LEFT ONTO STATE HWY 411	0.3 MI.
4. TURN LEFT TO MERGE ONTO I-91 S	0.3 MI.
5. MERGE ONTO I-91 S	1.2 MI.
6. USE THE LEFT LANE TO TAKE EXIT 22S TO MERGE ONTO CT-9 S TOWARD MIDDLETOWN/OLD SAYBROOK	29.2 MI.
7. USE THE LEFT 2 LANES TO MERGE ONTO I-95 N/US-1 N TOWARD NEW LONDON/PROVIDENCE	5.7 MI.
8. TAKE EXIT 71 FOR 4 MILE RIVER ROAD	0.3 MI.
9. TURN RIGHT ONTO 4 MILE RIVER RD	1.5 MI.
10. TURN RIGHT ONTO US-1 N	1.8 MI.
11. TURN LEFT ONTO PLUM HILL RD	0.4 MI.
12. TURN LEFT ONTO ARBOR CROSSING	0.3 MI.

VICINITY MAP



PROJECT SCOPE

- THE SCOPE OF WORK SHALL INCLUDE:
- THE CONSTRUCTION OF A 35'x50' BARN STYLED EQUIPMENT BUILDING FOR MULTIPLE CARRIERS, A SHARED GENERATOR AND UTILITY EQUIPMENT.
 - A TOTAL OF TWELVE (12) DIRECTIONAL PANEL ANTENNAS ARE PROPOSED TO BE MOUNTED AT A CENTERLINE ELEVATION OF 95'-0"± AGL WITHIN A 105'-0"± PROPOSED FAUX SILO ANTENNA CONCEALMENT ENCLOSURE.
 - POWER AND TELCO UTILITIES SHALL BE ROUTED UNDERGROUND FROM EXISTING RESPECTIVE DEMARCS TO THE PROPOSED UTILITY BACKBOARD LOCATED WITHIN THE PROPOSED FAUX BARN. FINAL DEMARC LOCATION AND UTILITY ROUTING TO PROPOSED BACKBOARD WILL BE VERIFIED/DETERMINED BY LOCAL UTILITY COMPANIES.

PROJECT INFORMATION

SITE NAME:	EAST LYME RELO. THE ORCHARDS
SITE ADDRESS:	2 ARBOR CROSSING EAST LYME, CT 06333
PROPERTY OWNER:	ORCHARDS AT EAST LYME INC. C/O VISION MANAGEMENT LLC PO BOX 55071 #16230 BOSTON, MA 02205
LESSEE/TENANT:	AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067
CONTACT PERSON:	DAN BILEZIKIAN SAJ COMMUNICATIONS (401) 368-0006
ENGINEER:	CENITEK ENGINEERING 63-2 NORTH BRANFORD ROAD, BRANFORD, CT 06405 (203) 488-0580
TOWER COORDINATES:	LATITUDE: 41°-21'-58.60" LONGITUDE: 72°-14'-32.47" GROUND ELEVATION: 333.5± A.M.S.L.
	COORDINATES AND GROUND ELEVATION REFERENCED FROM GOOGLE EARTH PRO.

SHEET INDEX

SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	△
N-1	GENERAL NOTES AND SPECIFICATIONS	0
B-1	BILL OF MATERIALS	△
C-1	ABUTTERS MAP	0
C-2	PARTIAL SITE PLAN	△
C-3	COMPOUND PLAN, ELEVATION & ANTENNA CONFIGURATION	0
C-4	SITE DETAILS	0
C-5	DRAINAGE CONTROL AND SITE DETAILS	0
C-6	EQUIPMENT ROOM PLANS	0
S-1	SHELTER FOUNDATION PLAN AND DETAILS	0
S-2	SHELTER ROOF FRAMING PLAN AND DETAILS	0
E-1	SITE UTILITY PLAN	0
E-2	ELECTRICAL RISER DIAGRAM AND NOTES	0
E-3	SCHEMATIC RISER DIAGRAM AND NOTES	0
E-4	GROUNDING PLAN AND NOTES	0
E-5	ELECTRICAL DETAILS	0
E-6	ELECTRICAL DETAILS	0
E-7	ELECTRICAL DETAILS	0
E-8	ELECTRICAL SPECIFICATIONS	0

REV.	DATE	BY	CHK'D BY	DESCRIPTION
2	05/03/17	KAW		CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS
1	05/01/17	KAW		CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS
0	04/27/17	KAW		CONSTRUCTION DRAWINGS - ISSUED FOR PERMITTING

PROFESSIONAL ENGINEER SEAL



CENITEK engineering
Centered on Solutions™
(203) 488-0580
(203) 488-8387 Fax
63-2 North Branford Road
Branford, CT 06405
www.CenitekEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
CT1345 EAST LYME RELO.
THE ORCHARDS
2 ARBOR CROSSING
EAST LYME, CT 06333

DATE: 03/07/17
SCALE: AS NOTED
JOB NO. 16024.00

TITLE SHEET

T-1

NOTES AND SPECIFICATIONS

DESIGN BASIS:

GOVERNING CODE: 2012 INTERNATIONAL BUILDING (IBC) AS MODIFIED BY THE 2016 CT STATE BUILDING CODE AND AMENDMENTS.

DESIGN CRITERIA:

- WIND LOAD: PER TIA 222 G (ANTENNA MOUNTS): 100-120 MPH (3 SECOND GUST)
RISK CATEGORY: II (BASED ON IBC TABLE 1604.5)
NOMINAL DESIGN SPEED (OTHER STRUCTURE): 105 MPH (Vw0d) (EXPOSURE B/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7-10) PER 2012 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2016 CONNECTICUT STATE BUILDING CODE.
SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

SPECIAL INSPECTIONS

- SPECIAL INSPECTIONS ARE TO BE PROVIDED BY AN APPROVED AGENCY HIRED BY AT&T MOBILITY. REFER TO THE STATEMENT OF SPECIAL INSPECTIONS PREPARED BY CENTEK ENGINEERING, INC. DATED 03.XX.17.

GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE GOVERNING BUILDING CODE.
DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
BEFORE BEGINNING THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUCH INVESTIGATIONS CONCERNING PHYSICAL CONDITIONS (SURFACE AND SUBSURFACE) AT OR CONTIGUOUS TO THE SITE WHICH MAY AFFECT PERFORMANCE AND COST OF THE WORK.
DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST THE PRE MANUFACTURED EQUIPMENT BUILDING SHOP DRAWINGS.
THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.
ALL DIMENSIONS, ELEVATIONS, AND OTHER REFERENCES TO EXISTING STRUCTURES, SURFACE, AND SUBSURFACE CONDITIONS ARE APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS, ANGLES WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL AND SITE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
AS THE WORK PROGRESSES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS WHICH ARE IN CONFLICT OR OTHERWISE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS AND SHALL NOT PROCEED WITH SUCH WORK UNTIL THE CONFLICT IS SATISFACTORILY RESOLVED.
THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING AND MAINTAINING ADEQUATE SHORING, BRACING, AND BARRICADES AS MAY BE REQUIRED FOR THE PROTECTION OF EXISTING PROPERTY, CONSTRUCTION WORKERS, AND FOR PUBLIC SAFETY.
THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING SITE OPERATIONS, COORDINATE WORK WITH NORTHEAST UTILITIES
THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER FOUNDATION REMEDIATION WORK IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, TEMPORARY BRACING, GUYS OR TIEDOWNS, WHICH MIGHT BE NECESSARY.
THE CONTRACTOR SHALL LIMIT THE DURATION OF ANY FOUNDATION MODIFICATION WORK. THE EXISTING FOUNDATION WITHIN THE SHOWN LIMITS IS STABLE FOR WIND SPEEDS LESS THAN 50MPH WITHOUT ICE LOADING. IF HIGHER WIND SPEED OR ICE EVENT IS EXPECTED, THE EXCAVATION AREA SHALL BE FILLED WITH COMPACT FILL MATERIAL.
ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
SHOP DRAWINGS, CONCRETE MIX DESIGNS, TEST REPORTS, AND OTHER SUBMITTALS PERTAINING TO STRUCTURAL WORK SHALL BE FORWARDED TO THE OWNER FOR REVIEW BEFORE FABRICATION AND/OR INSTALLATION IS MADE. SHOP DRAWINGS SHALL INCLUDE ERECTION DRAWINGS AND COMPLETE DETAILS OF CONNECTIONS AS WELL AS MANUFACTURER'S SPECIFICATION DATA WHERE APPROPRIATE. SHOP DRAWINGS SHALL BE CHECKED BY THE CONTRACTOR AND BEAR THE CHECKER'S INITIALS BEFORE BEING SUBMITTED FOR REVIEW.
NO DRILLING WELDING OR TAPING ON EVERSOURCE OWNED EQUIPMENT.
REFER TO DRAWING T1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

SITE NOTES

- THE CONTRACTOR SHALL CALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
ACTIVE EXISTING UTILITIES, WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY, PRIOR TO PROCEEDING, SHOULD ANY UNCOVERED EXISTING UTILITY PRECLUDE COMPLETION OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
ALL RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED OFF SITE AND BE LEGALLY DISPOSED, AT NO ADDITIONAL COST.
THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE EQUIPMENT AND TOWER AREAS.
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.
THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
THE AREAS OF THE COMPOUND DISTURBED BY THE WORK SHALL BE RETURNED TO THEIR ORIGINAL CONDITION.
CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
IF ANY FIELD CONDITIONS EXIST WHICH PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL PROCEED WITH AFFECTED WORK AFTER CONFLICT IS SATISFACTORILY RESOLVED.
DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST THE PRE MANUFACTURED EQUIPMENT BUILDING SHOP DRAWINGS.
THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.

EARTHWORK NOTES

- COMPACTED GRAVEL FILL SHALL BE FURNISHED AND PLACED AS A FOUNDATION FOR STRUCTURES, WHERE SHOWN ON THE CONTRACT DRAWINGS OR DIRECTED BY THE ENGINEER.
CRUSHED STONE FILL SHALL BE PLACED IN 12" MAX. LIFTS AND CONSOLIDATED USING A HAND OPERATED VIBRATORY PLATE COMPACTOR WITH A MINIMUM OF 2 PASSSES OF COMPACTOR PER LIFT.
COMPACTED GRAVEL FILL TO BE WELL GRADED BANK RUN GRAVEL MEETING THE FOLLOWING GRADATION REQUIREMENTS:

Table with 2 columns: SIEVE DESIGNATION, % PASSING. Values include 1 1/2", No. 4, No. 100, No. 200.

- CRUSHED STONE TO BE UNIFORMLY GRADED, CLEAN, HARD PROCESS AGGREGATE MEETING THE FOLLOWING GRADATION REQUIREMENTS:

Table with 2 columns: SIEVE DESIGNATION, % PASSING. Values include 1", 3/4", 1/2", 3/8".

- SELECT BACKFILL FOR FOUNDATION WALLS SHALL BE FREE OF ORGANIC MATERIAL, TOPSOIL, DEBRIS AND BOULDERS LARGER THAN 6".
GRAVEL AND GRANULAR FILL SHALL BE INSTALLED IN 10" MAX. LIFTS. COMPACTED TO 95% MIN. AT MAX. DRY DENSITY.
NON WOVEN GEOTEXTILE FOR SEPARATION PURPOSES SHALL BE MIRAFI 140N, OR ENGINEER APPROVED EQUAL.

FOUNDATION CONSTRUCTION NOTES

- ALL FOOTINGS SHALL BE PLACED ON SUITABLE, COMPACTED SOIL HAVING ADEQUATE BEARING CAPACITY AND FREE OF ORGANIC CONTENT, CLAY, OR OTHER UNSUITABLE MATERIAL. ADDITIONAL EXCAVATION MAY BE REQUIRED BELOW FOOTING ELEVATIONS INDICATED IF UNSUITABLE MATERIAL IS ENCOUNTERED.
SUBGRADE PREPARATION: IF UNSUITABLE SOIL IS ENCOUNTERED, REMOVE ALL UNSUITABLE MATERIALS FROM BELOW PROPOSED STRUCTURE FOUNDATIONS AND COMPACT EXPOSED SOIL SURFACES. PLACE AND COMPACT APPROVED GRAVEL FILL. PLACEMENT OF ALL COMPACTED FILL MUST BE UNDER SUPERVISION OF AN APPROVED TESTING LABORATORY. FILL SHALL BE COMPACTED IN LAYERS NOT TO EXCEED 10" BEFORE COMPACTION. DETERMINE MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D1557-70 AND MAKE ONE (1) FIELD DENSITY TEST IN ACCORDANCE WITH ASTM D2167-66 FOR EACH 50 CUBIC YARDS OF COMPACTED FILL, BUT NOT LESS THAN ONE (1) PER LAYER, TO INSURE COMPACTION TO 95% OF MAX. DRY DENSITY.
ALL SOIL SURROUNDING AND UNDER ALL FOOTINGS SHALL BE KEPT REASONABLY DRY AND PROTECTED FROM FREEZING AND FROST ACTION DURING THE COURSE OF CONSTRUCTION.
WHERE GROUNDWATER IS ENCOUNTERED, DEWATERING SHALL BE ACCOMPLISHED CONTINUOUSLY AND COMPLETELY DURING FOUNDATION CONSTRUCTION. PROVIDE CRUSHED STONE AS REQUIRED TO STABILIZE FOOTING SUBGRADE.
ALL FOOTINGS ARE TO REST ON FIRM SOIL, REGARDLESS OF ELEVATIONS SHOWN ON THE DRAWINGS, BUT IN NO CASE MAY FOOTING ELEVATIONS BE HIGHER THAN INDICATED ON THE FOUNDATION PLAN, UNLESS SPECIFICALLY DIRECTED BY THE ENGINEER.
FOUNDATION WATERPROOFING AND DAMPPROOFING SHALL COMPLY WITH BUILDING CODE REQUIREMENTS UNLESS A MORE SUBSTANTIAL SYSTEM IS INDICATED OR SPECIFIED.

CONCRETE CONSTRUCTION NOTES

- CONCRETE CONSTRUCTION SHALL CONFORM TO THE FOLLOWING STANDARDS:
ACI 211 - STANDARD PRACTICE FOR SELECTING PROPORTIONS FOR NORMAL AND HEAVYWEIGHT CONCRETE.
ACI 301 - SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS.
ACI 302 - GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION
ACI 304 - RECOMMENDED PRACTICE FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE.
ACI 306.1 STANDARD SPECIFICATION FOR COLD WEATHER CONCRETING
ACI 318 - BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
CONCRETE SHALL DEVELOP COMPRESSIVE STRENGTH IN 28 DAYS AS FOLLOWS:
SLABS ON GRADE 4,000 PSI
ALL OTHER CONCRETE 3,000 PSI
- PORTLAND CEMENT: ASTM C150, TYPE II, (540 LBS/CUBIC YARD)
- AGGREGATE: ASTM C33, No. 67, TYPICAL
- WATER: POTABLE WITH MAXIMUM WATER CEMENT RATIO OF .55
- SLUMP: 3" TO 4"
- ADMIXTURES: USE AIR ENTRAINING AGENT CONFORMING TO ASTM C260 WITH 4 TO 6% TOTAL AIR. USE WATER REDUCING AGENT CONFORMING TO ASTM C494, TYPE A, IN ALL CONCRETE. CALCIUM CHLORIDE MAY NOT BE USED TO ACCELERATE THE CONCRETE SETTING TIME.
REINFORCING STEEL SHALL BE 60,000 PSI YIELD STRENGTH.
WELDED WIRE FABRIC SHALL CONFORM TO ASTM- A-185.
ALL DETAILING, FABRICATION, AND ERECTION OF REINFORCING BARS, UNLESS OTHERWISE NOTED, MUST FOLLOW THE LATEST ACI CODE AND LATEST ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
CONCRETE COVER OVER REINFORCING SHALL CONFORM TO THE FOLLOWING, UNLESS OTHERWISE SHOWN:
CONCRETE CAST AGAINST & PERMANENTLY EXPOSED TO EARTH 3 INCHES
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 THROUGH #18 BARS 2 INCHES
#5 BAR, W31 OR D31 WIRE, AND SMALLER 1-1/2 INCHES
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND:
#14 THROUGH #18 BARS 1-1/2 INCHES
#11 BAR AND SMALLER 3/4 INCHES
NO STEEL WIRE, METAL FORM TIES, OR ANY OTHER METAL SHALL REMAIN WITHIN THE REQUIRED COVER OF ANY CONCRETE SURFACE.
ALL REINFORCEMENT SHALL BE CONTINUOUS UNLESS OTHERWISE NOTED. SPLICES SHALL BE WELL STAGGERED. ADDITIONAL BARS AND SPECIAL BENDING DETAILS ARE REQUIRED AT INTERSECTING WALLS AND AT JOINTS. SUCH DETAILS SHALL COMPLY WITH ACI 315 RECOMMENDATIONS UNLESS OTHERWISE SHOWN.
NO TACK WELDING OF REINFORCING WILL BE PERMITTED.
NO CALCIUM CHLORIDE OR ADMIXTURES CONTAINING MORE THAN 1% CHLORIDE BY WEIGHT OF ADMIXTURE SHALL BE USED IN THE CONCRETE.
UNLESS OTHERWISE NOTED, ALL LAP SPLICES SHALL BE 48 BAR DIAMETERS.
SLAB ON GRADE FINISHES:
EXTERIOR SLAB: NON-SLIP BROOM FINISH
INTERIOR SLAB: STEEL TROWEL FINISH
INSPECTION AND TESTING OF CONCRETE WORK SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY, PAID BY THE OWNER, AND APPROVED BY THE ENGINEER. THE INSPECTOR SHALL OBSERVE CONDITION OF SOILS AND FORMWORK BEFORE FOOTINGS ARE PLACED, SIZE, SPACING AND LOCATION OF REINFORCEMENT, AND PLACEMENT OF CONCRETE.
THE TESTING COMPANY SHALL ALSO OBTAIN A MINIMUM OF THREE (3) COMPRESSIVE STRENGTH TEST SPECIMENS FOR EACH CONCRETE MIX DESIGN. ONE SPECIMEN TESTED AT 7 DAYS, ONE AT 28 DAYS, AND ONE HELD IN RESERVE FOR FUTURE TESTING, IF NEEDED.
FOUR COPIES OF ALL INSPECTION TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN TEN (10) WORKING DAYS OF THE DATE OF INSPECTION.

STRUCTURAL STEEL

- ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD)
A. STRUCTURAL STEEL (W SHAPES)---ASTM A992 (FY = 50 KSI)
B. STRUCTURAL STEEL (OTHER SHAPES)---ASTM A36 (FY = 36 KSI)
C. STRUCTURAL HSS (RECTANGULAR SHAPES)---ASTM A500 GRADE B, (FY = 46 KSI)
D. STRUCTURAL HSS (ROUND SHAPES)---ASTM A500 GRADE B, (FY = 42 KSI)
E. PIPE---ASTM A53 (FY = 35 KSI)
F. CONNECTION BOLTS---ASTM A325--N
G. U-BOLTS---ASTM A36
H. ANCHOR RODS---ASTM F 1554
I. WELDING ELECTRODE---ASTM E 70XX
CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING: SECTION PROFILES, SIZES, CONNECTION ATTACHMENTS, REINFORCING, ANCHORAGE, SIZE AND TYPE OF FASTENERS AND ACCESSORIES. INCLUDE ERECTION DRAWINGS, ELEVATIONS AND DETAILS.
STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST PROVISIONS OF AISC MANUAL OF STEEL CONSTRUCTION.
PROVIDE ALL PLATES, CLIP ANGLES, CLOSURE PIECES, STRAP ANCHORS, MISCELLANEOUS PIECES AND HOLES REQUIRED TO COMPLETE THE STRUCTURE.
FIT AND SHOP ASSEMBLE FABRICATIONS IN THE LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE.
INSTALL FABRICATIONS PLUMB AND LEVEL, ACCURATELY FITTED, AND FREE FROM DISTORTIONS OR DEFECTS.
AFTER ERECTION OF STRUCTURES, TOUCHUP ALL WELDS, ABRASIONS AND NON-GALVANIZED SURFACES WITH A 95% ORGANIC ZINC RICH PAINT IN ACCORDANCE WITH ASTM 780.
ALL STEEL MATERIAL (EXPOSED TO WEATHER) SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT DIPPED GALVANIZED) COATINGS" ON IRONS AND STEEL PRODUCTS.
ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE".
CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES APPEARANCE AND QUALITY OF WELDS. ALL WELDING SHALL BE QUALIFIED IN ACCORDANCE WITH "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.
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.
CONNECTION ANGLES SHALL HAVE A MINIMUM THICKNESS OF 1/4 INCHES.
STRUCTURAL CONNECTION BOLTS SHALL CONFORM TO ASTM A325. ALL BOLTS SHALL BE 3/4" DIAMETER MINIMUM AND SHALL HAVE A MINIMUM OF TWO BOLTS, UNLESS OTHERWISE ON THE DRAWINGS.
LOCK WASHER ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES.
SHOP CONNECTIONS SHALL BE WELDED OR HIGH STRENGTH BOLTED.
MILL BEARING ENDS OF COLUMNS, STIFFENERS, AND OTHER BEARING SURFACES TO TRANSFER LOAD OVER ENTIRE CROSS SECTION.
FABRICATE BEAMS WITH MILL CAMBER UP.
LEVEL AND PLUMB INDIVIDUAL MEMBERS OF THE STRUCTURE TO AN ACCURACY OF 1:500, BUT NOT TO EXCEED 1/4" IN THE FULL HEIGHT OF THE COLUMN.
COMMENCEMENT OF STRUCTURAL STEEL WORK WITHOUT NOTIFYING THE ENGINEER OF ANY DISCREPANCIES WILL BE CONSIDERED ACCEPTANCE OF PRECEDING WORK.
INSPECTION AND TESTING OF ALL WELDING AND HIGH STRENGTH BOLTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY.
FOUR COPIES OF ALL INSPECTION TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN TEN (10) WORKING DAYS OF THE DATE OF INSPECTION.

Table with columns: DATE, REV., and DESCRIPTION. Contains drawing date 04/27/17 and revision 0.

PROFESSIONAL ENGINEER SEAL



CENTEK engineering
Centered on Solutions
(203) 488-0980
(203) 488-8387 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

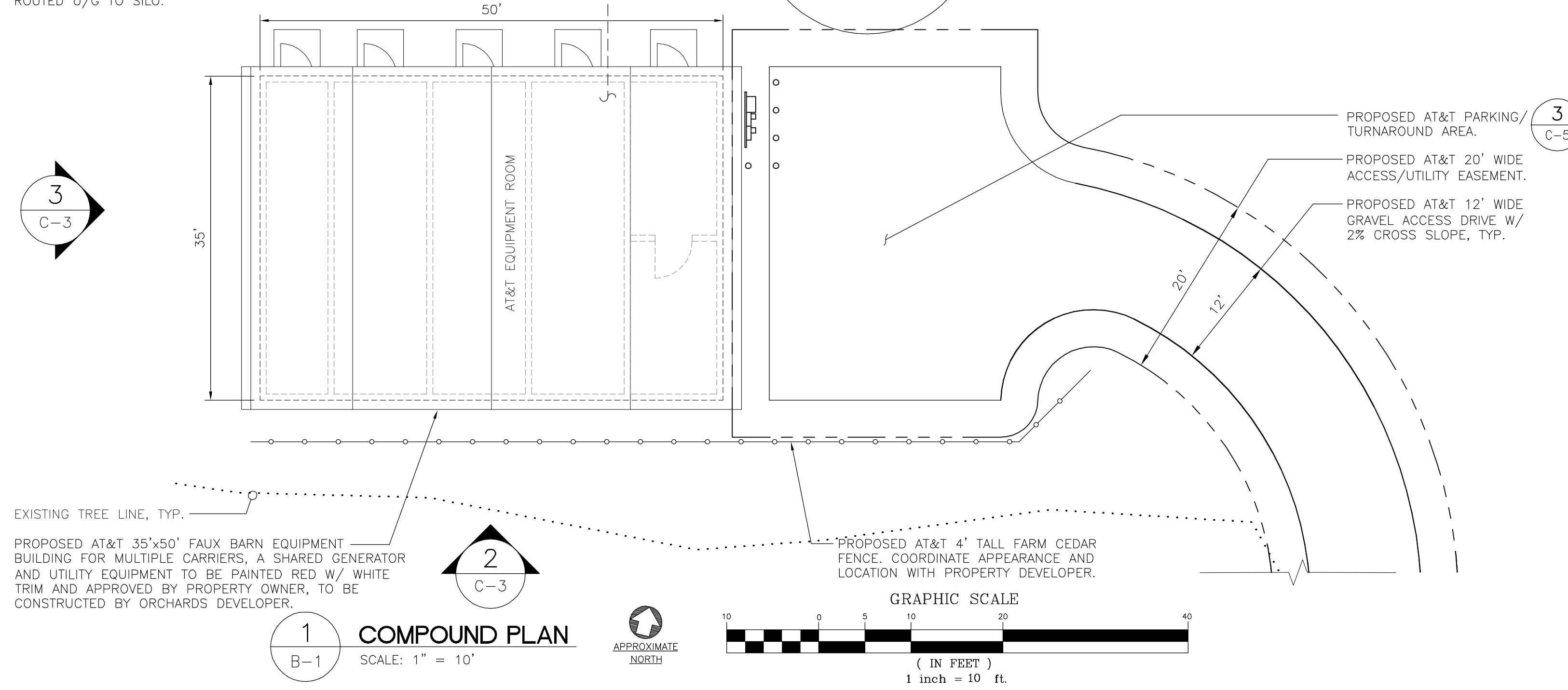
AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
CT1345 EAST LYME RELO.
THE ORCHARDS
2 ARBOR CROSSING
EAST LYME, CT 06333

DATE: 03/07/17
SCALE: AS NOTED
JOB NO. 16024.00

GENERAL NOTES & SPECIFICATIONS

PROPOSED AT&T 105'x25' TALL FAUX SILO ANTENNA CONCEALMENT ENCLOSURE TO BE PAINTED GRAY WITH WHITE TRIM AND APPROVED BY PROPERTY OWNER, BY STEALTH CONCEALMENT SOLUTIONS.

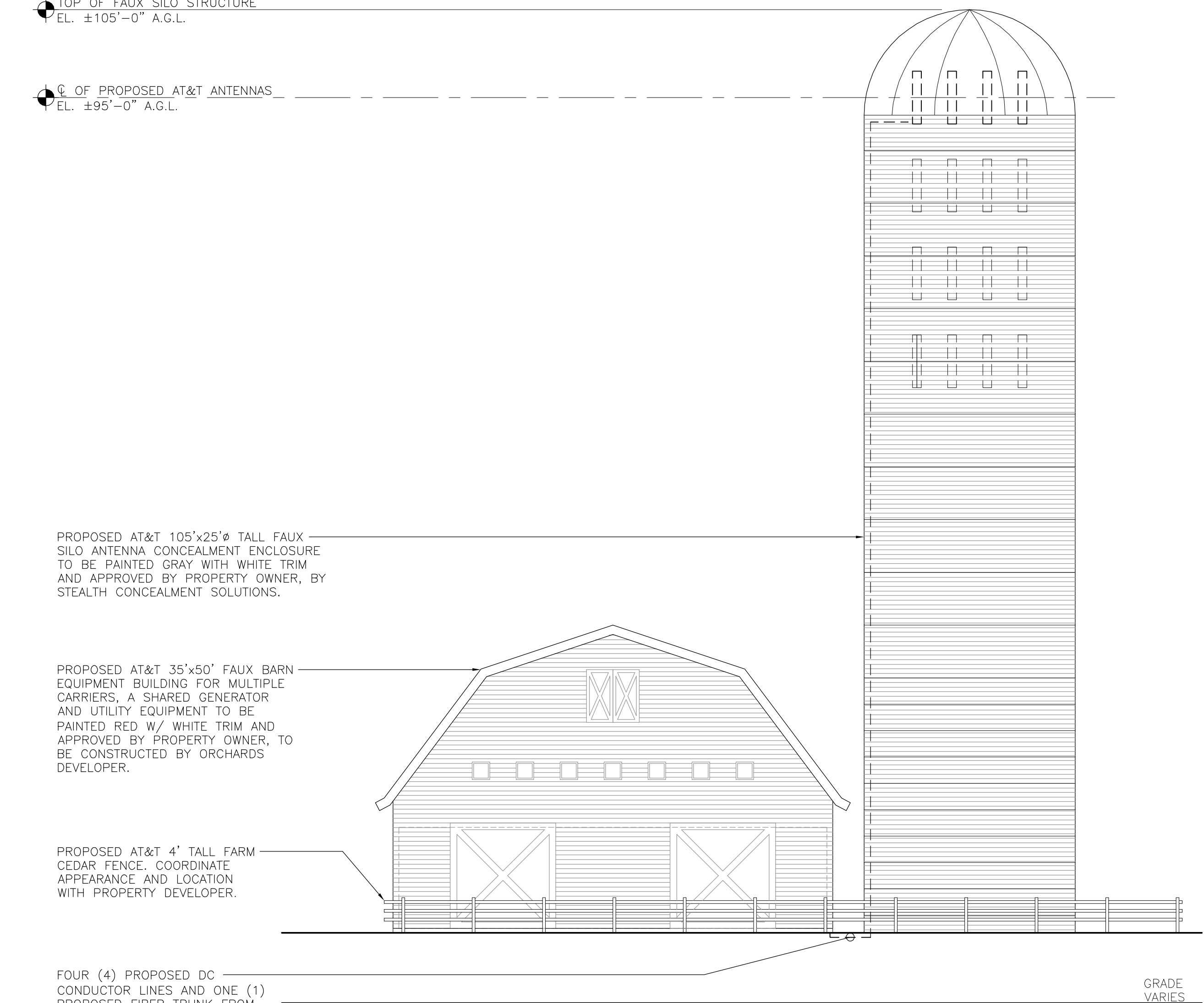
PROPOSED AT&T ANTENNA CABLES ROUTED U/G TO SILO.



1 COMPOUND PLAN
SCALE: 1" = 10'

TOP OF FAUX SILO STRUCTURE
EL. ±105'-0" A.G.L.

Q. OF PROPOSED AT&T ANTENNAS
EL. ±95'-0" A.G.L.

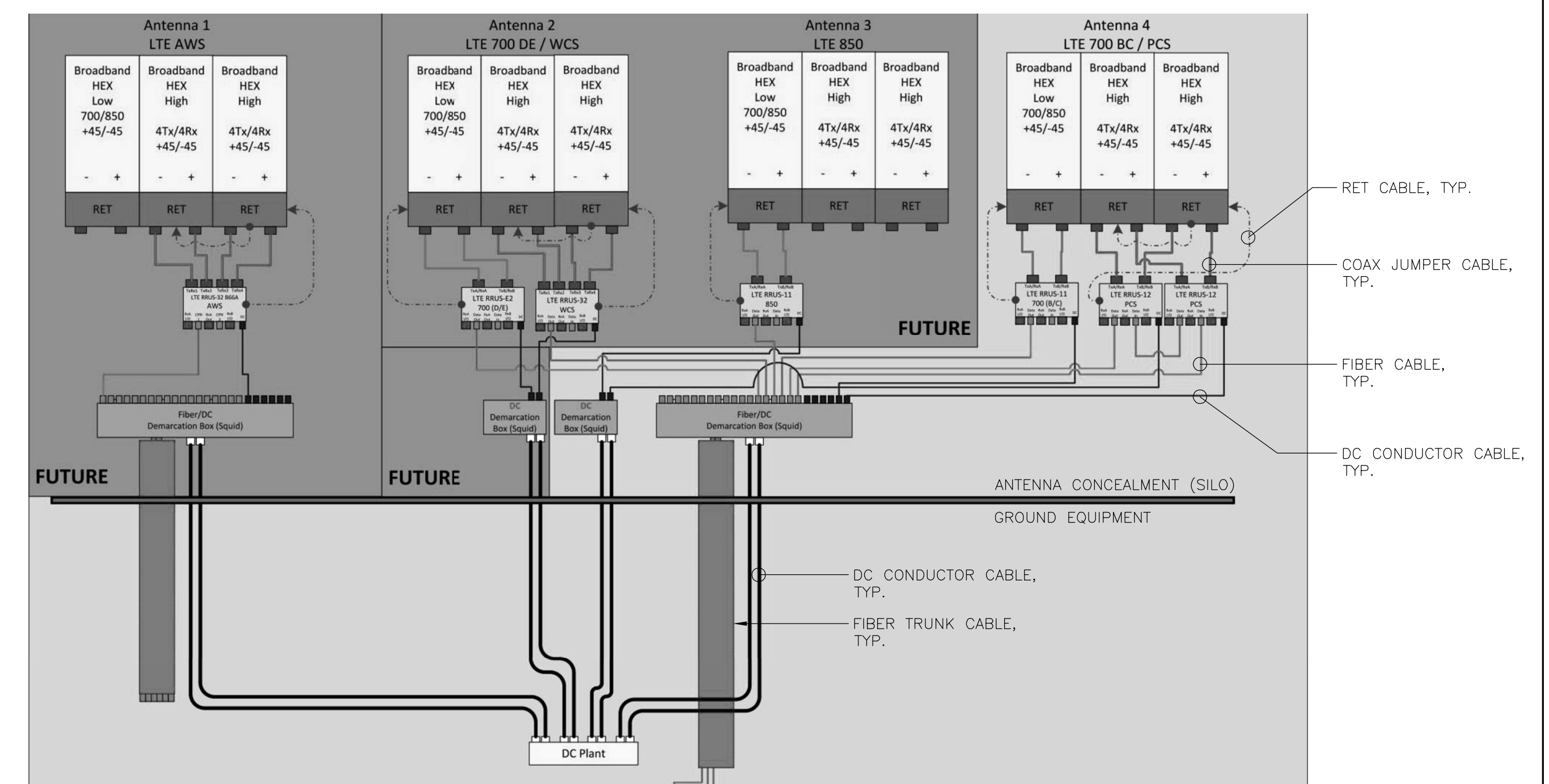


2 SOUTH ELEVATION
SCALE: 1" = 10'

NOTES:

1. INFORMATION SHOWN HEREIN IS FOR USE BY AT&T MOBILITY EQUIPMENT OPERATIONS.
2. THIS B.O.M. DRAWING IS BASED OFF FIELD MEASUREMENTS, CONSTRUCTION DRAWINGS PREPARED BY CENTEK ENGINEERING (REV.0 DATED: 03.13.17), & AT&T RF ANTENNA EQUIPMENT RECOMMENDATION (DATED 12.09.16).

BILL OF MATERIALS - SITE EQUIPMENT			
QTY	LENGTH	COMMENTS	
①	LTE 700 BC/PCS	3	(HPA-65R-BUU-H8) MOUNTED TO PIPE MAST
②	1/2" COAX JUMPERS	18	6 FT ROUTE FROM RRU TO ANTENNA
③	RET CABLE	3	.5 M ROUTE FROM MOTOR TO MOTOR
④	700 B/C RRU	3	RRUS-11
⑤	PCS RRU	6	RRUS-12
⑥	DC6 SQUID	2	DC6-48-60-18-8F
⑦	DC CONDUCTOR CABLE	4	REFER TO MANUFACTURER'S RECOMMENDATIONS
⑧	FIBER TRUNK	1	ROUTE FROM EQUIPMENT ROOM TO ANTENNA
⑨	LTE AWS (FUTURE)	3	(HPA-65R-BUU-H8) MOUNTED TO PIPE MAST
⑩	LTE 700 DE/WCS (FUTURE)	3	(HPA-65R-BUU-H8) MOUNTED TO PIPE MAST
⑪	LTE 850 (FUTURE)	3	(HPA-65R-BUU-H8) MOUNTED TO PIPE MAST
⑫	1/2" COAX JUMPERS (FUTURE)	36	6 FT ROUTE FROM RRU TO ANTENNA
⑬	RET CABLE (FUTURE)	9	3 M ROUTE FROM ANTENNA TO ANTENNA
⑭	RET CABLE (FUTURE)	6	.5 M ROUTE FROM MOTOR TO MOTOR
⑮	AWS RRU (FUTURE)	3	RRUS-32
⑯	700 D/E RRU (FUTURE)	3	RRUS-E2
⑰	WCS RRU (FUTURE)	3	RRUS-32
⑱	850 RRU (FUTURE)	3	RRUS-11
⑲	DC6 SQUID (FUTURE)	2	DC6-48-60-18-8F
⑳	DC CONDUCTOR CABLE (FUTURE)	4	REFER TO MANUFACTURER'S RECOMMENDATIONS
㉑	FIBER TRUNK (FUTURE)	1	ROUTE FROM EQUIPMENT ROOM TO ANTENNA



5216	A	B	C	D	E	F
	700-A	700-B	700-C	XMU-2	XMU-1	XMU-3
XMU 1	16	15	14	13	12	11
	PCS 1-A	PCS 2-A	PCS 1-B	PCS 2-B	PCS 1-C	PCS 2-C

1 PLUMBING DIAGRAM
SCALE: N.T.S.

PROFESSIONAL ENGINEER SEAL

at&t

SAI communications

CEN TEK engineering
Centered on Solutions™
203.489.0360
203.489.8387 Fax
63.2 North Branford Road
Branford, CT 06405
www.CentekEng.com

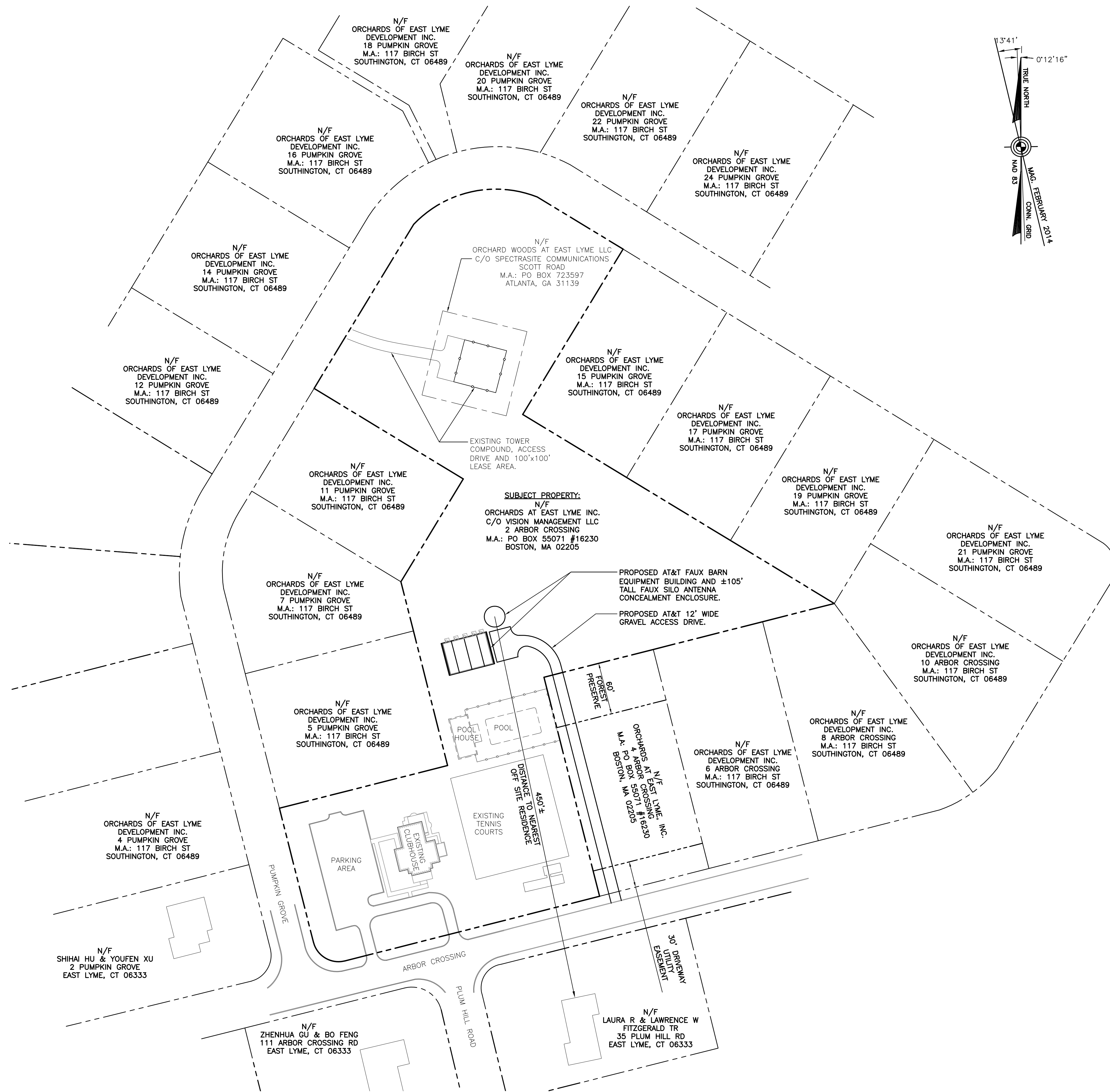
AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
CT1345 EAST LYME RELO.
THE ORCHARDS
2 ARBOR CROSSING
EAST LYME, CT 06333

DATE: 03/07/17
SCALE: AS NOTED
JOB NO. 16024.00

GENERAL NOTES & SPECIFICATIONS

B-1

Sheet No. 3 of 19



1 ABUTTERS MAP
 C-1 SCALE: 1"=60'

NOTES:
 1. PARCEL INFORMATION AND ABUTTER INFORMATION SHOWN HEREIN REFERENCED FROM THE TOWN OF EAST LYME'S ONLINE GIS MAPPING APPLICATION

PROFESSIONAL ENGINEER SEAL	DATE	04/27/17	REV.	0	DESCRIPTION	ISSUED FOR PERMITTING
	DATE	04/27/17	REV.	0	DESCRIPTION	ISSUED FOR PERMITTING
AT&T MOBILITY WIRELESS COMMUNICATIONS FACILITY CT1345 EAST LYME RELO. THE ORCHARDS 2 ARBOR CROSSING EAST LYME, CT 06333						
DATE: 03/07/17 SCALE: AS NOTED JOB NO. 16024.00						
ABUTTERS MAP						
C-1						
Sheet No. 4 of 19						

STORMWATER MANAGEMENT NOTE

1. ALL STORMWATER RUNOFF ROUTED WITHIN PROPOSED DRAINAGE CONTROL SWALE WILL BE CONNECTED/DIRECTED TO FUTURE ARBOR CROSSING ROAD DEVELOPMENT STORMWATER SYSTEM. COORDINATE WITH PROPERTY OWNER AND ENGINEER OF RECORD.

ACCESS DRIVE NOTE

1. BEGINNING PORTION OF PROPOSED AT&T ACCESS DRIVE SHALL BE OF SHARED USE UNTIL ACCESS GATE IS REACHED.

SURVEY NOTES

1. SURVEY INFORMATION SHOWN HEREIN REFERENCED FROM SITE SURVEY PREPARED BY GERWICK-MEREEN, LLC FOR CARRIER ENTERPRISES, INC. FOR USE IN CONSTRUCTING THE ORCHARDS OF EAST LYME DEVELOPMENT.
2. EXISTING TREES NOT INCLUDED IN SURVEY PROVIDED BY GERWICK-MEREEN, LLC. CENTEK ENGINEERING, INC. SHALL LOCATE ALL EXISTING TREES WITHIN THE PROPOSED AREA OF DISTURBANCE WITH A 6" DIAMETER AT BREAST HEIGHT TO DETERMINE THE QUANTITY OF TREES TO BE REMOVED.

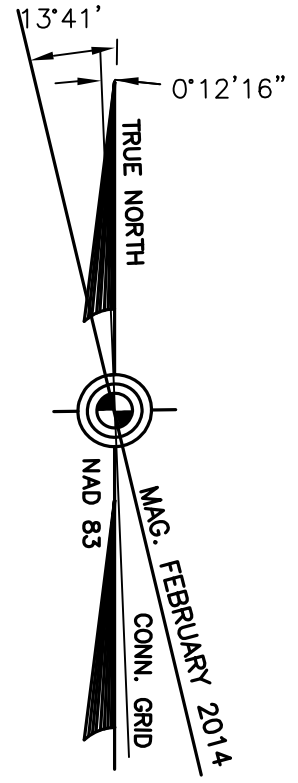
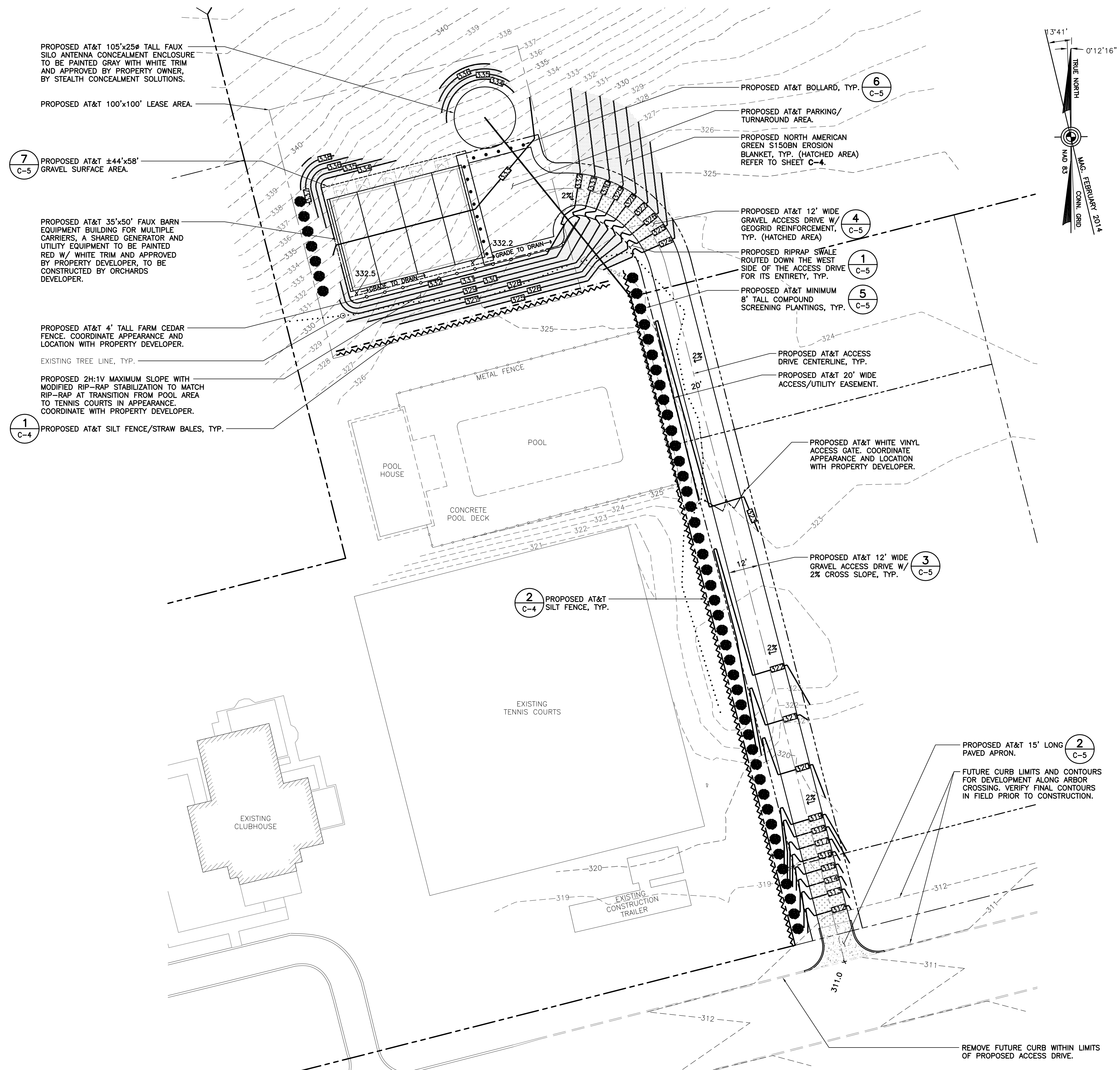
MISCELLANEOUS SITE INFORMATION

DISTANCE TO NEAREST OFF SITE RESIDENCE*	=	450'±
DISTANCE TO NEAREST MUNICIPALITY (OLD LYME, CT)*	=	9,300'±
ACCESS LENGTH OFF ARBOR CROSSING	=	375'±
NUMBER OF EXISTING RESIDENTIAL STRUCTURES WITHIN 1000' OF TOWER	=	28±
TOTAL NUMBER OF TREES TO BE REMOVED**	=	XX±
DISTANCE TO NEAREST PROPERTY LINE*	=	90'±

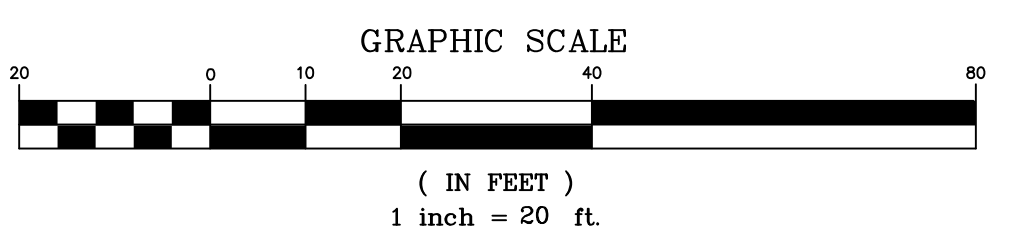
* DISTANCES TAKEN FROM CENTER OF SILO
 ** TREE LOCATIONS HAVE YET TO BE SURVEYED

SYMBOLS LEGEND

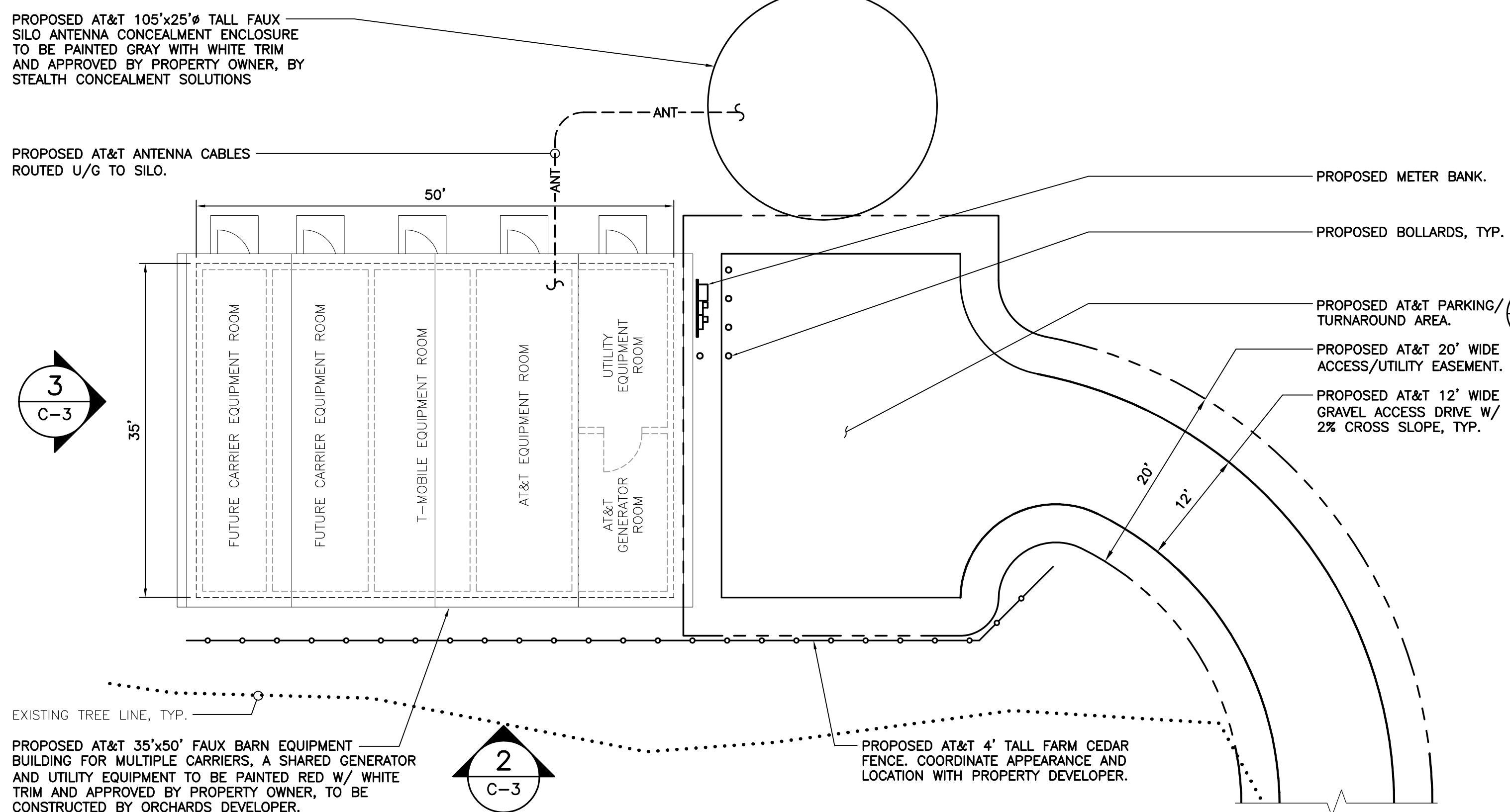
---	PROPERTY LINE
- - - - -	EASEMENT LINE (PROPOSED)
---	EXISTING ROAD
---	ACCESS DRIVE (PROPOSED)
---650---	CONTOUR LINE
---650---	GRADING LINE
○	UTILITY POLE
~ ~ ~ ~ ~	SILTATION FENCE/ STRAWBALES/ SILTATION FENCE "SANDWICH"
—○—	FENCE LINE
x	SPOT ELEVATION (PROPOSED)



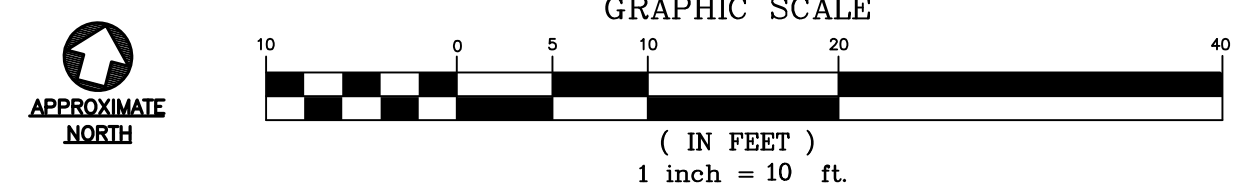
1 PARTIAL SITE/SURVEY PLAN
 SCALE: 1"=20'



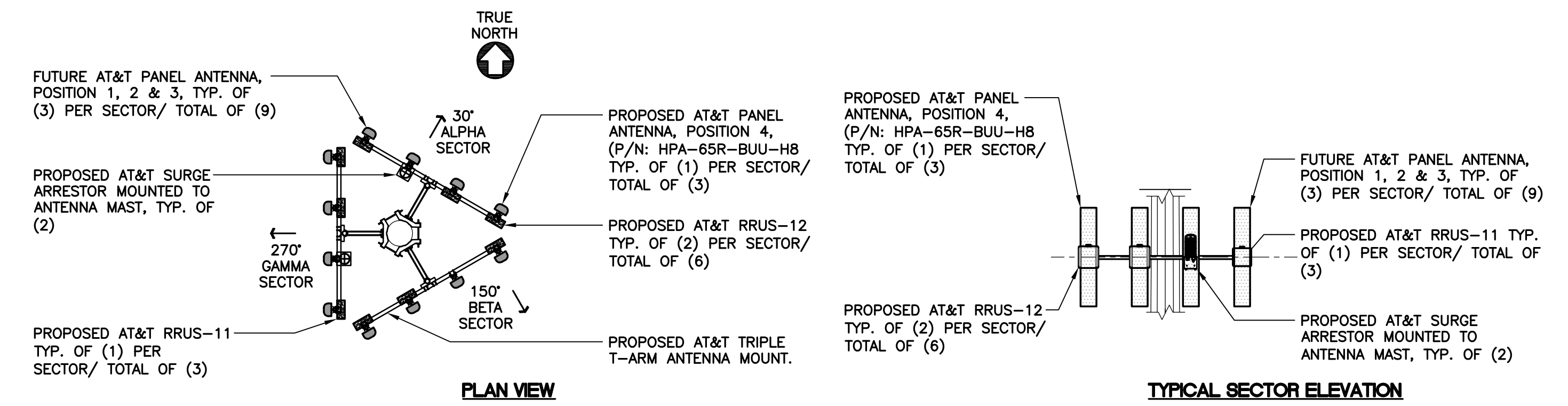
PROFESSIONAL ENGINEER SEAL							
CENTEK engineering Centered on Solutions™							
AT&T MOBILITY WIRELESS COMMUNICATIONS FACILITY							
CT1345 EAST LYME RELO. THE ORCHARDS 2 ARBOR CROSSING EAST LYME, CT 06333							
DATE:	03/07/17						
SCALE:	AS NOTED						
JOB NO.	16024.00						
PARTIAL SITE/ SURVEY PLAN							
C-2							
Sheet No. 5 of 19							



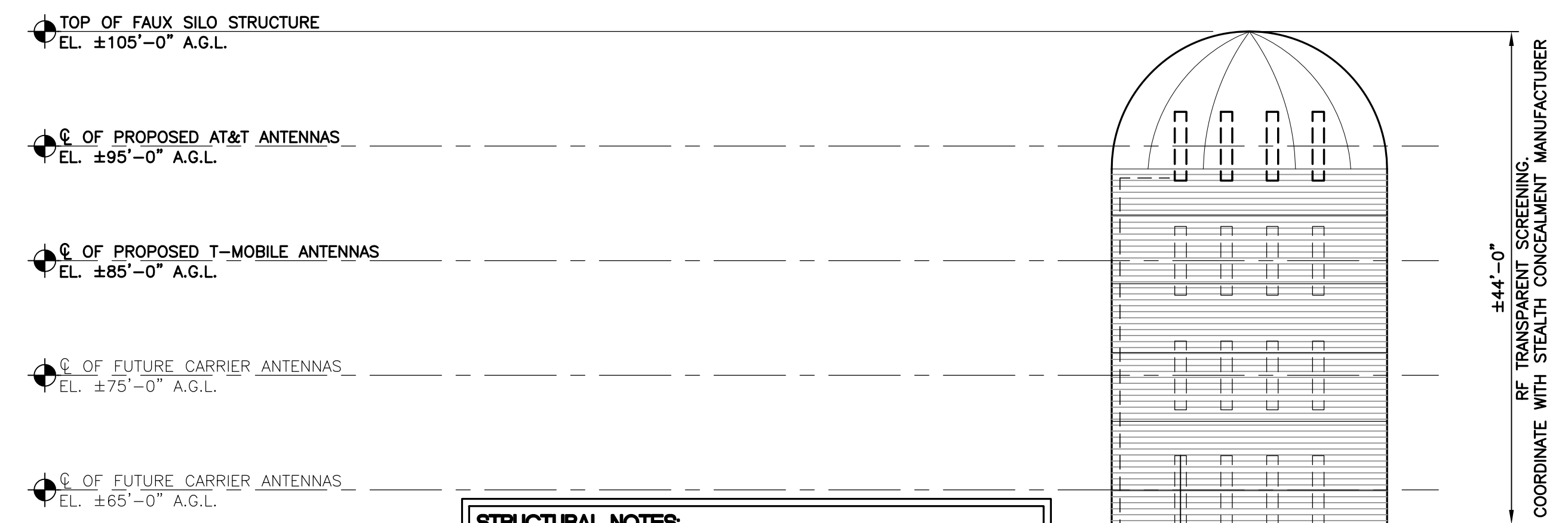
1
C-3
COMPOUND PLAN
SCALE: 1" = 10'



NOTE:
1. MECHANICAL SYSTEMS TO BE PROVIDED BY OTHERS

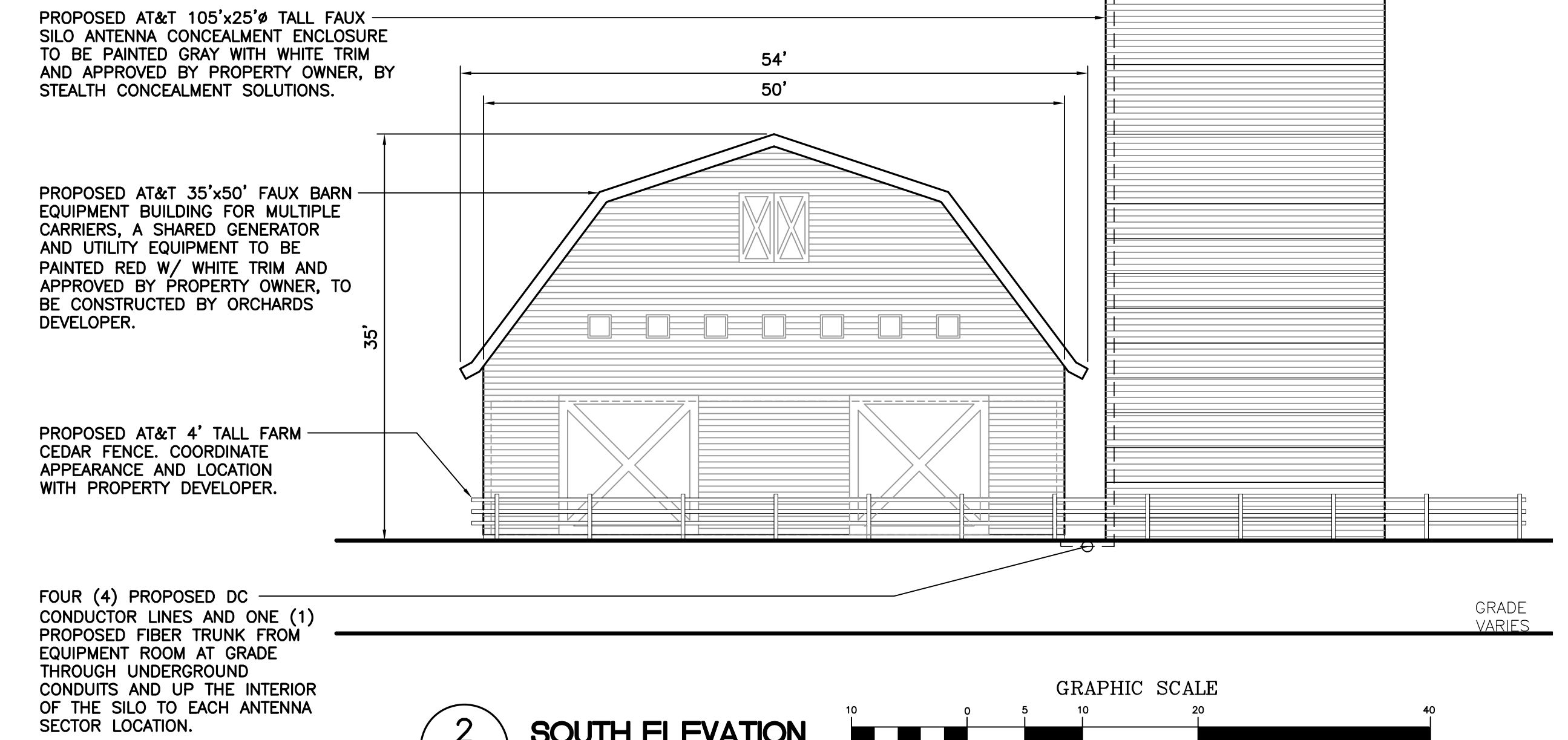


3
C-3
ANTENNA MOUNTING CONFIGURATION
SCALE: 1/8" = 1'

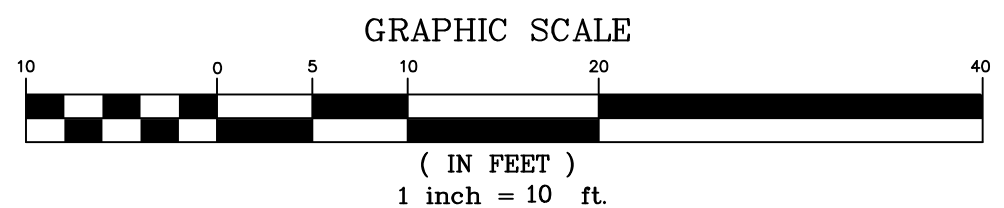


STRUCTURAL NOTES:

- FOR STRUCTURAL ANALYSIS ON SILO STRUCTURE REFER TO REPORT AS PREPARED BY VECTOR ENGINEERS, PROJECT NO. U0142-383-171, DATED APRIL 17, 2017 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- ALL ANTENNAS AND COAX TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL LETTER AND FINAL AT&T RF DATA SHEET.



2
C-3
SOUTH ELEVATION
SCALE: 1" = 10'



REV.	DATE	BY	CHK'D BY	DESCRIPTION
2	05/03/17	KAW		CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS
0	04/27/17	KAW		CONSTRUCTION DRAWINGS - ISSUED FOR PERMITTING

PROFESSIONAL ENGINEER SEAL



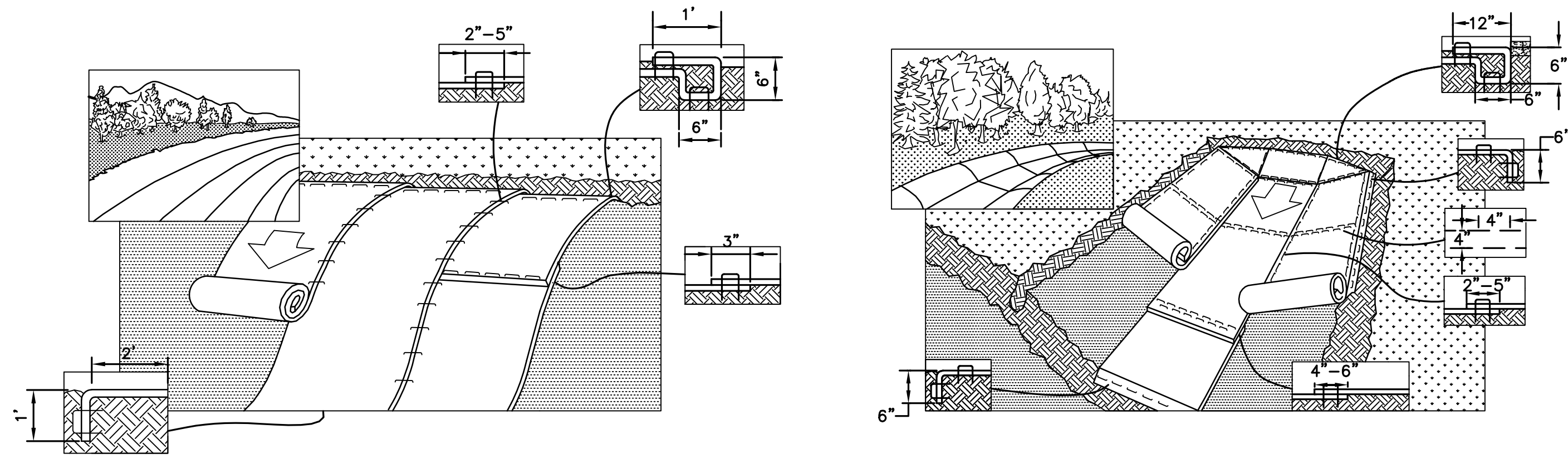
CENTER engineering
Center on Solutions
(203) 489-0360
(203) 488-8387 Fax
63.2 North Branford Road
Branford, CT 06405
www.CenterEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
CT1345 EAST LYME RELO.
THE ORCHARDS
2 ARBOR CROSSING
EAST LYME, CT 06333

DATE: 03/07/17
SCALE: AS NOTED
JOB NO. 16024.00
COMPOUND PLAN,
ELEVATIONS AND
ANTENNA
MOUNTING CONFIG.

C-3
Sheet No. 6 of 19

EROSION CONTROL BLANKET STABILIZATION



4 TYPICAL EROSION MAT INSTALLATION ON SLOPE
C-4 NOT TO SCALE

3 TYPICAL EROSION MAT INSTALLATION IN CHANNEL
C-4 NOT TO SCALE

STABILIZATION CRITERIA

- CONTRACTOR SHALL IMPLEMENT EROSION CONTROL BLANKET SLOPE STABILIZATION & SWALE CONSTRUCTION WHEN STABLE EARTH CUTS ARE PREVALENT (IN LOCATIONS WITHOUT LEDGE OR LARGE AMOUNTS OF SUBGRADE ROCK)

STABILIZATION PRODUCT SPECIFICATION

NORTH AMERICAN GREEN, PRODUCT NUMBER S150BN, 12 MONTH BIODEGRADABLE.

EROSION MAT ON SLOPES

- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLE/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
- ROLL THE BLANKET DOWN OR HORIZONTALLY ACROSS THE SLOPE. BLANKET WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL ROLLED EROSION CONTROL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM[™], STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY A 2"-5" OVERLAP DEPENDING ON BLANKET TYPE.
- CONSECUTIVE ROLLED EROSION CONTROL BLANKET SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.

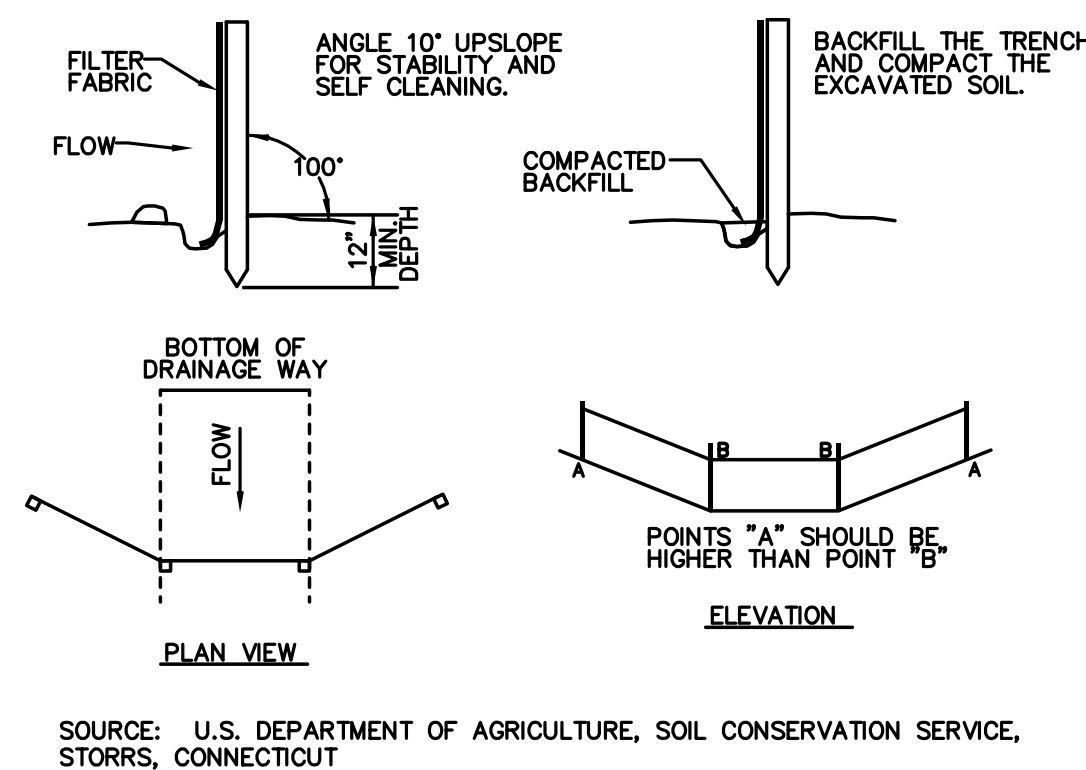
* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKET.
- THE EDGE OF THE BLANKET IS TO EXTEND A MINIMUM 24 INCHES BEYOND THE TOE OF THE SLOPE AND ANCHORED BY PLACING THE STAPLES/STAKES IN A 12 INCH DEEP x 6 INCH WIDE ANCHOR TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12 INCH APART IN THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING (STONE OR SOIL MAY BE USED AS BACKFILL).
- REFER TO MANUFACTURERS STAPLE GUIDE FOR CORRECT STAPLE PATTERN. MINIMUM 4 SPIKES PER ONE SQ. FT.

EROSION MAT IN CHANNEL

- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
- BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLE/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
- ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM[™], STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS.
- FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP BY 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 2"-5" AND STAPLED TO ENSURE PROPER SEAM ALIGNMENT. PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH[™] ON THE BLANKET BEING OVERLAPPED.
- THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP BY 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- REFER TO MANUFACTURERS STAPLE GUIDE FOR CORRECT STAPLE PATTERN. MINIMUM 4 SPIKES PER ONE SQ. FT. THE CONTRACTOR SHALL MAINTAIN THE BLANKET UNTIL ALL WORK ON THE CONTRACT HAS BEEN COMPLETED AND ACCEPTED. MAINTENANCE SHALL CONSIST OF THE REPAIR OF AREAS WHERE DAMAGED BY ANY CAUSE. ALL DAMAGED AREAS SHALL BE REPAIRED TO REESTABLISH THE CONDITIONS AND GRADE OF THE SOIL PRIOR TO APPLICATION OF THE COVERING AND SHALL BE REFERTILIZED, RESEEDED, AND REMULCHED AS DIRECTED.

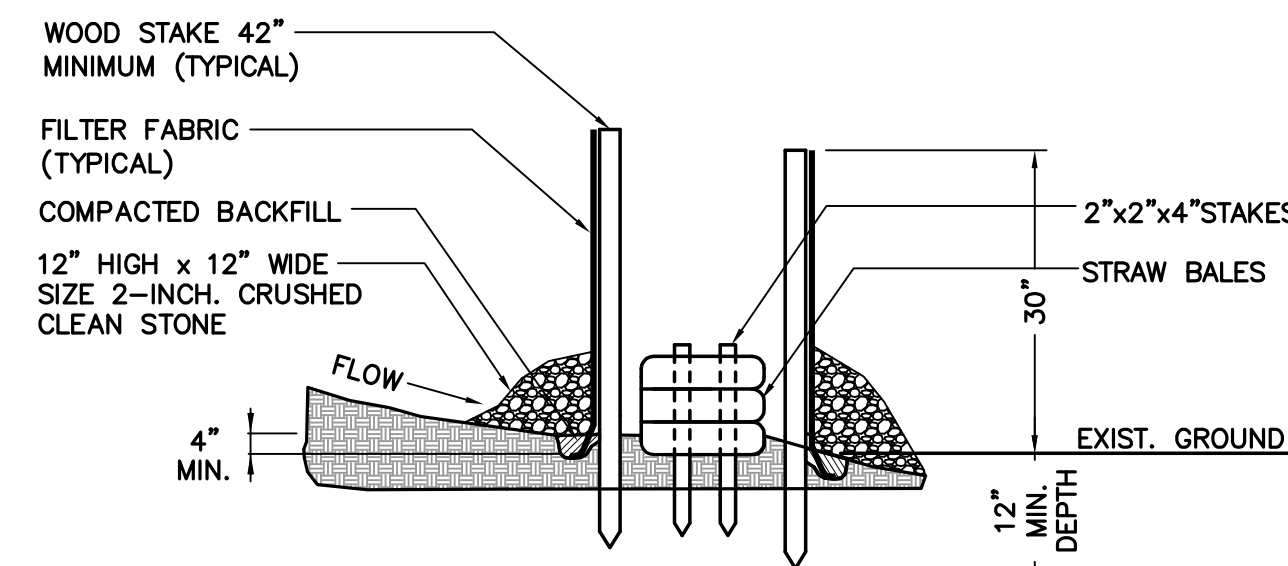
MAINTENANCE

THE CONTRACTOR SHALL MAINTAIN THE BLANKET UNTIL ALL WORK ON THE CONTRACT HAS BEEN COMPLETED AND ACCEPTED. MAINTENANCE SHALL CONSIST OF THE REPAIR OF AREAS WHERE DAMAGED BY ANY CAUSE. ALL DAMAGED AREAS SHALL BE REPAIRED TO RE-ESTABLISH THE CONDITIONS AND GRADE OF THE SOIL PRIOR TO APPLICATION OF THE COVERING AND SHALL BE REFERTILIZED, RESEEDED, AND REMULCHED AS DIRECTED.



SOURCE: U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, STORRS, CONNECTICUT

2 SILTATION FENCE DETAIL
C-4 NOT TO SCALE



1 SILTATION FENCE/STRAW BALE SILTATION FENCE "SANDWICH" EROSION CONTROL
C-4 NOT TO SCALE

GENERAL CONSTRUCTION / PRE-CONSTRUCTION NOTES

- PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES, A MANDATORY ON-SITE PRE-CONSTRUCTION MEETING SHALL BE CONDUCTED WITH THE AT&T CONSTRUCTION MANAGER, CONTRACTOR'S CONSTRUCTION MANAGER, THE PROJECT EROSION AND SEDIMENTATION CONTROL/ENVIRONMENTAL MONITOR AND THE ENGINEER OF RECORD.

GENERAL CONSTRUCTION SEQUENCE

THIS IS A GENERAL CONSTRUCTION SEQUENCE OUTLINE SOME ITEMS OF WHICH MAY NOT APPLY TO PARTICULAR SITES.

- CUT AND STUMP AREAS OF PROPOSED CONSTRUCTION.
- INSTALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES AS REQUIRED.
- REMOVE AND STOCKPILE TOPSOIL. STOCKPILE SHALL BE SEED TO PREVENT EROSION.
- CONSTRUCT CLOSED DRAINAGE SYSTEM. PRECEPT CULVERT INLETS AND CATCH BASINS WITH SEDIMENTATION BARRIERS.
- CONSTRUCT ROADWAYS AND PERFORM SITE GRADING, PLACING HAY BALES AND SILTATION FENCES AS REQUIRED TO CONTROL SOIL EROSION.
- INSTALL UNDERGROUND UTILITIES.
- BEGIN TEMPORARY AND PERMANENT SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEED OR MULCHED IMMEDIATELY AFTER THEIR CONSTRUCTION. NO AREA SHALL BE LEFT UNSTABILIZED FOR A TIME PERIOD OF MORE THAN 30 DAYS.
- DAILY, OR AS REQUIRED, CONSTRUCT, INSPECT, AND IF NECESSARY, RECONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, SILT FENCES AND SEDIMENT TRAPS INCLUDING MULCHING AND SEEDING.
- BEGIN EXCAVATION FOR AND CONSTRUCTION OF TOWERS AND PLATFORMS.
- FINISH PAVING ALL ROADWAYS, DRIVES, AND PARKING AREAS.
- COMPLETE PERMANENT SEEDING AND LANDSCAPING.
- NO FLOW SHALL BE DIVERTED TO ANY WETLANDS UNTIL A HEALTHY STAND OF GRASS HAS BEEN ESTABLISHED IN REGARDED AREAS.
- AFTER GRASS HAS BEEN FULLY GERMINATED IN ALL SEEDING AREAS, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

SOIL EROSION AND SEDIMENT CONTROL SEQUENCE

- ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES, SUCH AS CONSTRUCTION ENTRANCE / ANTI TRACKING PAD, SILTATION FENCE, AND SILTATION FENCE / STRAW BALE SHALL BE IN PLACE PRIOR TO ANY GRADING ACTIVITY, INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. MEASURES SHALL BE LEFT IN PLACE AND MAINTAINED UNTIL CONSTRUCTION IS COMPLETED AND/OR AREA IS STABILIZED.
- THE ENTRANCE TO THE PROJECT SITE IS TO BE PROTECTED BY STONE ANTI TRACKING PAD OF ASTM C-33, SIZE NO. 2 OR 3, OR D.O.T. 2" CRUSHED GRAVEL. THE STONE ANTI TRACKING PAD IS TO BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
- LAND DISTURBANCE WILL BE KEPT TO A MINIMUM AND RESTABILIZATIONS WILL BE SCHEDULED AS SOON AS PRACTICAL.
- ALL SOIL EROSION AND SEDIMENT CONTROL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE CONNECTICUT GUIDELINES FOR EROSION AND SEDIMENT CONTROL INCLUDING THE LATEST DATE FROM THE COUNCIL ON SOIL AND WATER CONSERVATION.
- ANY ADDITIONAL EROSION/SEDIMENTATION CONTROL DEEMED NECESSARY BY TOWN STAFF DURING CONSTRUCTION, SHALL BE INSTALLED BY THE DEVELOPER. IN ADDITION, THE DEVELOPER SHALL BE RESPONSIBLE FOR THE REPAIR/REPLACEMENT/MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL ALL DISTURBED AREAS ARE STABILIZED TO THE SATISFACTION OF THE TOWN STAFF.
- IN ALL AREAS, REMOVAL OF TREES, BUSHES AND OTHER VEGETATION AS WELL AS DISTURBANCE OF THE SOIL IS TO BE KEPT TO AN ABSOLUTE MINIMUM WHILE ALLOWING PROPER DEVELOPMENT OF THE SITE. DURING CONSTRUCTION, EXPOSE AS SMALL AN AREA OF SOIL AS POSSIBLE FOR AS SHORT A TIME AS POSSIBLE.
- SILTATION FENCE SHALL BE PLACED AS INDICATED BEFORE A CUT SLOPE HAS BEEN CREATED. SEDIMENT DEPOSITS SHOULD BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDES OF SILTATION FENCE. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR TO BE USED IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. SILTATION FENCE IS TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE FENCE IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE EROSION CHECKS ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.
- SWALE DISCHARGE AREA WILL BE PROTECTED WITH RIP RAP SPLASH PAD/ ENERGY DISSIPATER.
- ALL FILL AREAS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SLIPPING, EROSION OR EXCESS SATURATION.
- THE SOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION. WHEN THE SUBGRADE IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SODDING OR SEEDING.
- AFTER CONSTRUCTION IS COMPLETE AND GROUND IS STABLE, REMOVE SILTS IN THE RIP RAP ENERGY DISSIPATERS. REMOVE OTHER EROSION AND SEDIMENT DEVICES.

CONSTRUCTION SPECIFICATIONS - SILT FENCE

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

MAINTENANCE - SILT FENCE

- 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.
- 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.
- SEDIMENT SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACHED APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
- SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

PROFESSIONAL ENGINEER SEAL



CENTER engineering
Center on Solutions™

(203) 489-0980
(203) 489-3587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CenterEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY

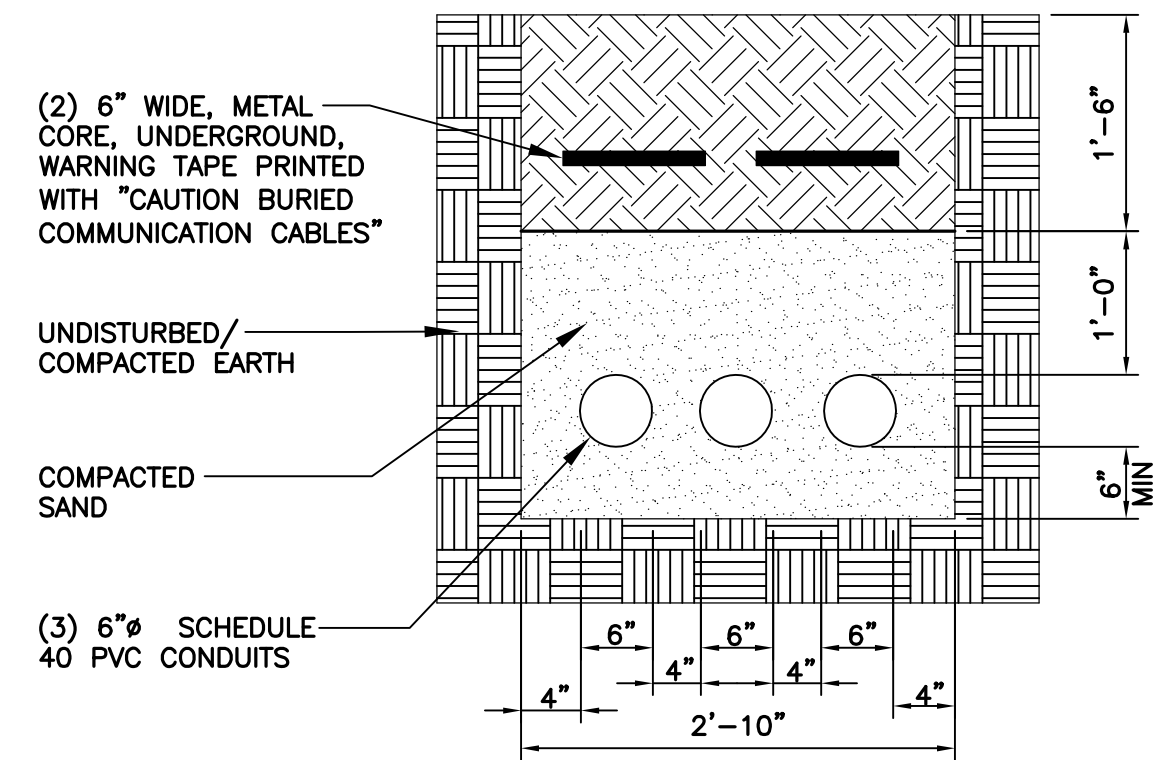
CT1345 EAST LYME RELO.
THE ORCHARDS
2 ARBOR CROSSING
EAST LYME, CT 06333

DATE: 03/07/17
SCALE: AS NOTED
JOB NO. 16024.00

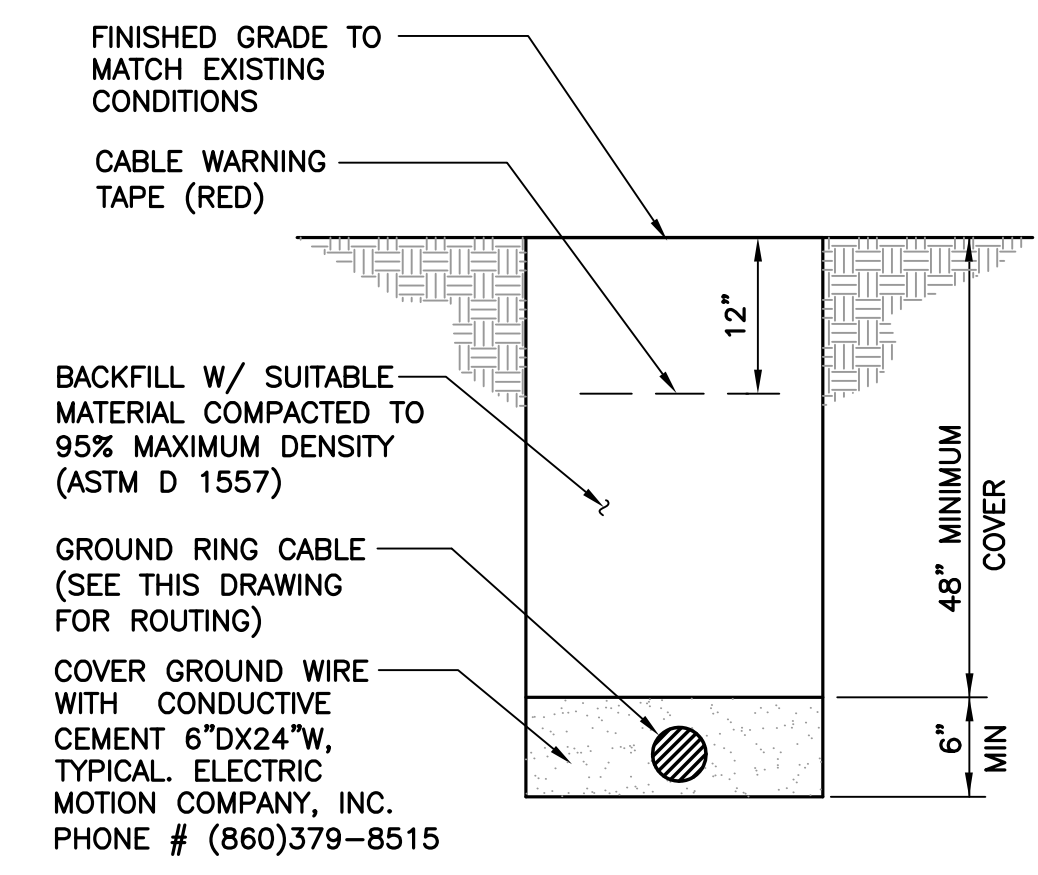
SITE CONSTRUCTION,
S&E CONTROL
NOTES & DETAILS

C-4

Sheet No. 7 of 19

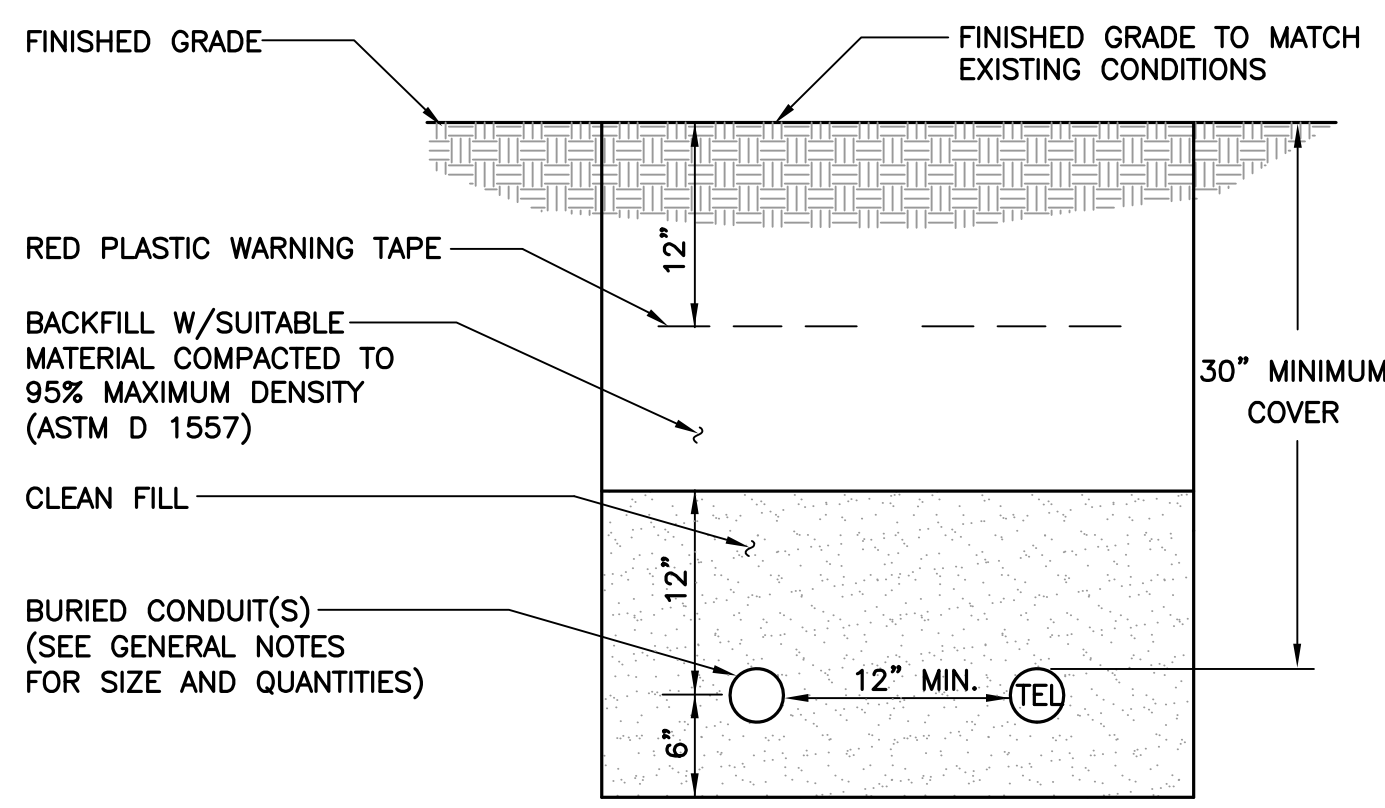


10 COAX DUCT BANK SECTION
C-5 NOT TO SCALE



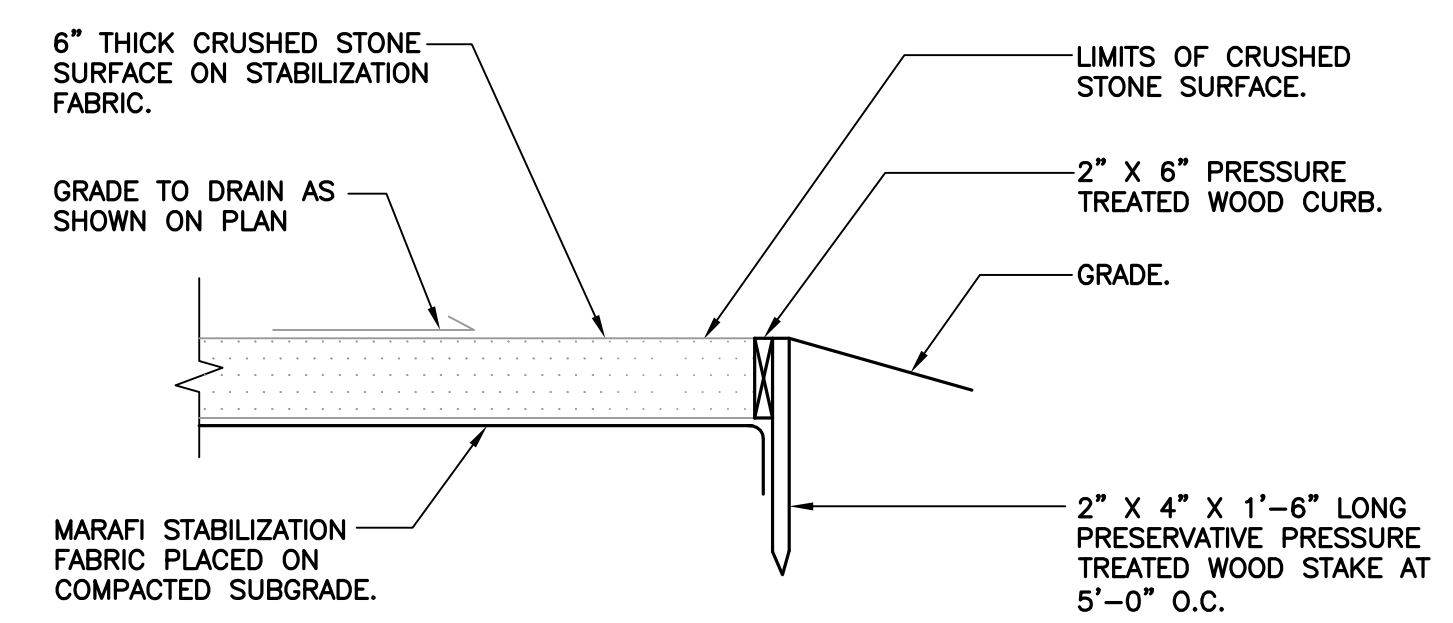
- NOTES:**
- BACK FILL SHALL NOT CONTAIN ASHES, CINDERS, SHELLS, FROZEN MATERIAL, LOOSE DEBRIS OR STONES LARGER THAN 2" IN MAXIMUM DIMENSION.
 - WHERE EXISTING UTILITIES ARE LIKELY TO BE ENCOUNTERED, CONTRACTOR SHALL HAND DIG AND PROTECT EXISTING UTILITIES.

9 TYPICAL BURIAL GROUND CABLE DETAIL
C-5 NOT TO SCALE

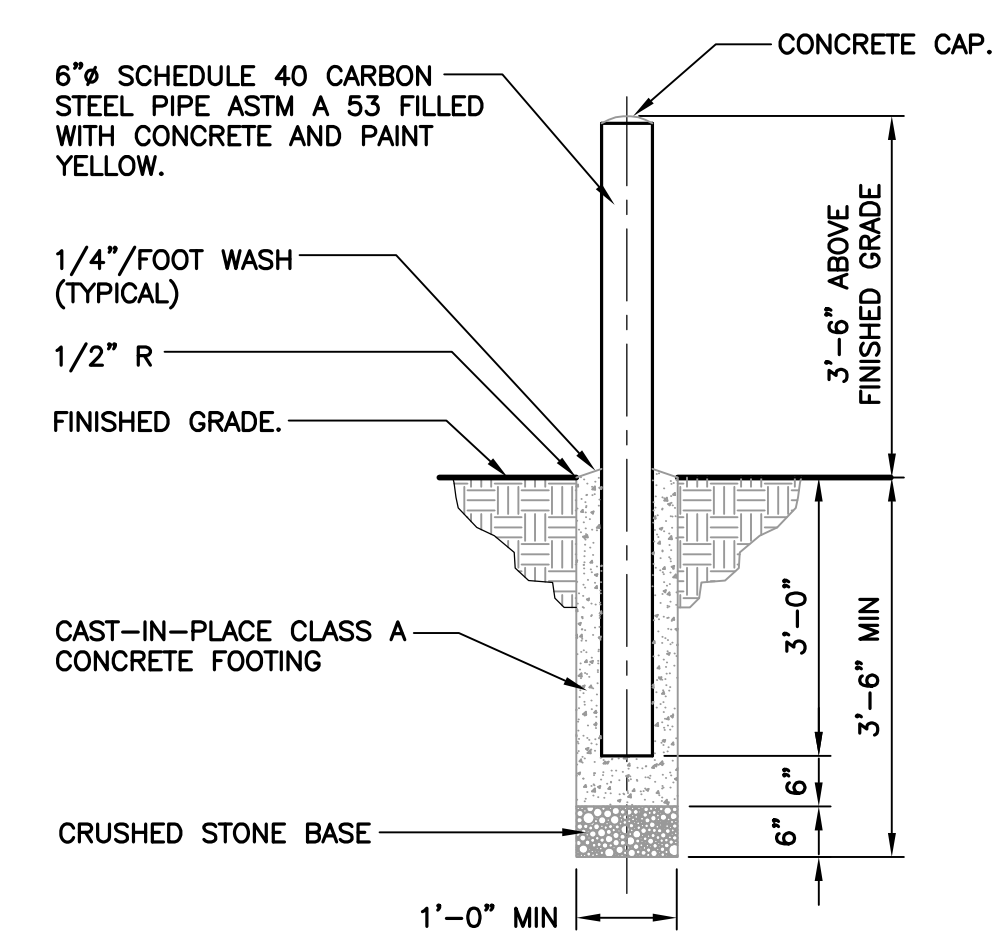


- NOTES:**
- THE CLEAN FILL SHALL PASS THROUGH A 3/8" MESH SCREEN AND SHALL NOT CONTAIN SHARP STONES. OTHER BACKFILL SHALL NOT CONTAIN ASHES, CINDERS, SHELLS, FROZEN MATERIAL, LOOSE DEBRIS OR STONES LARGER THAN 2" IN MAXIMUM DIMENSION.
 - WHERE EXISTING UTILITIES ARE LIKELY TO BE ENCOUNTERED, CONTRACTOR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

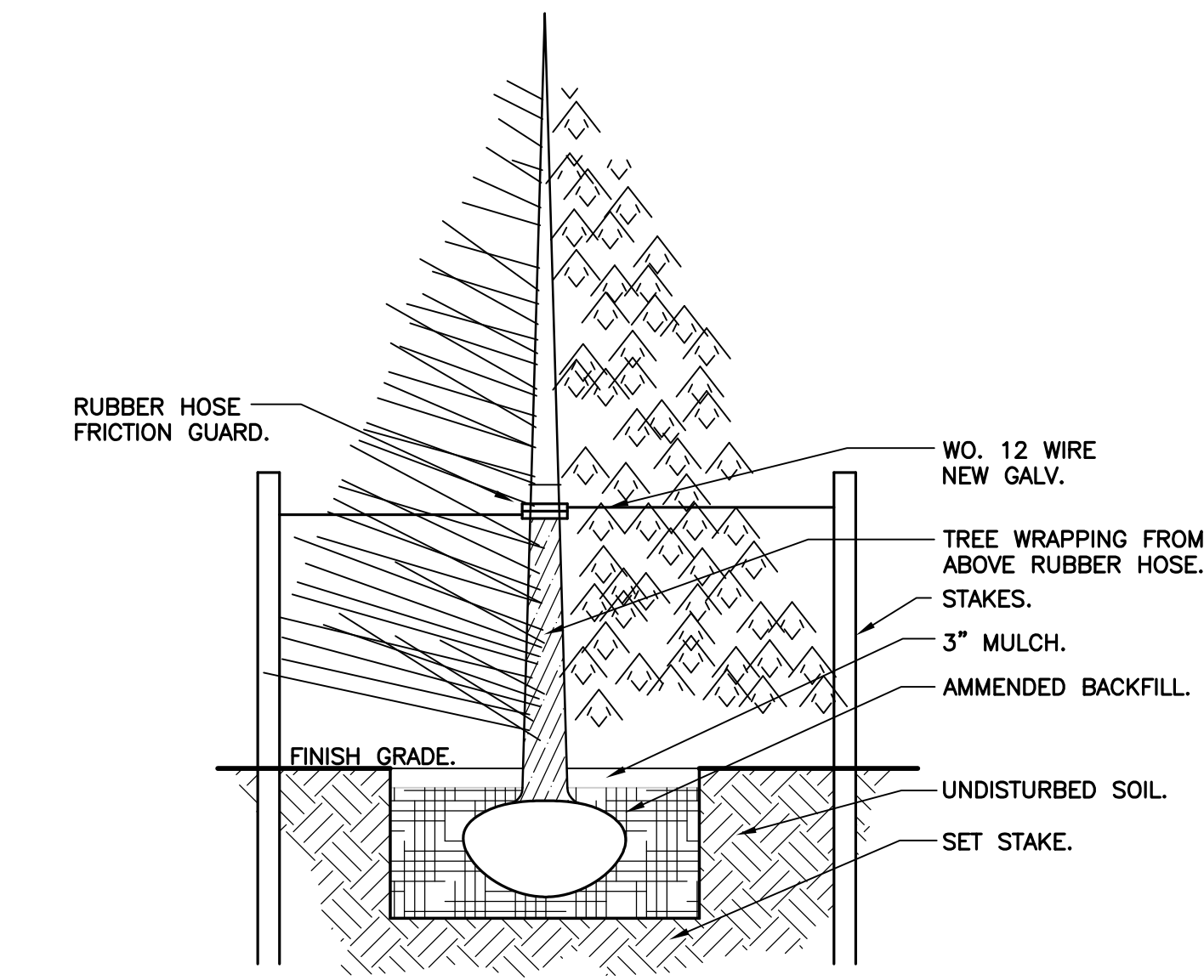
8 TYPICAL ELECTRICAL/TEL TRENCH DETAIL
C-5 NOT TO SCALE



7 COMPOUND SURFACING DETAIL
C-5 NOT TO SCALE



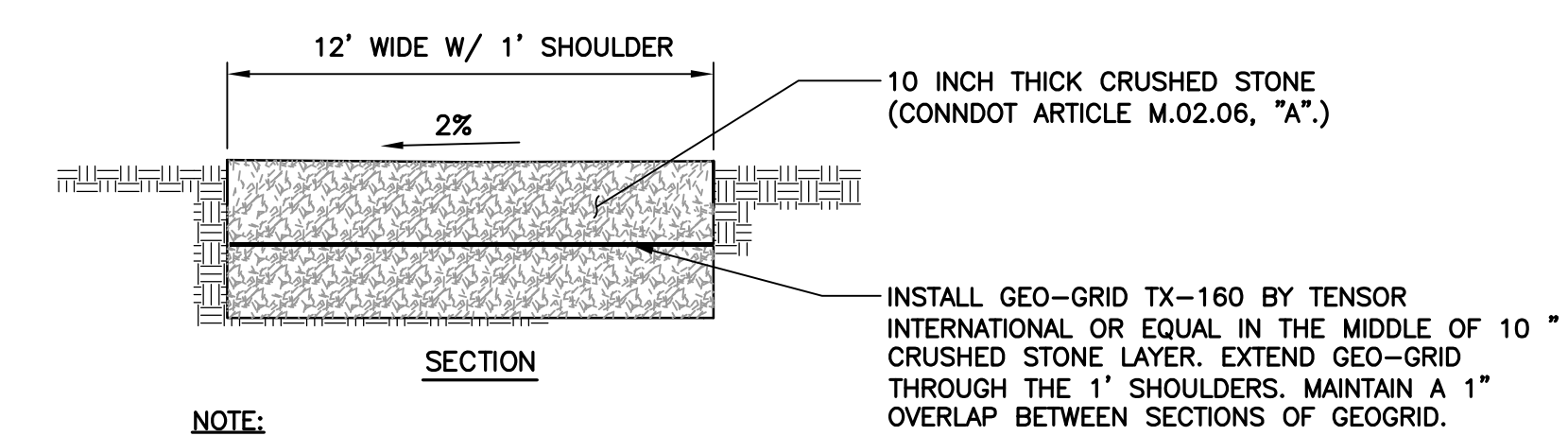
6 BOLLARD DETAIL
C-5 NOT TO SCALE



TREE + SHRUB PLANTING SPECIFICATIONS:

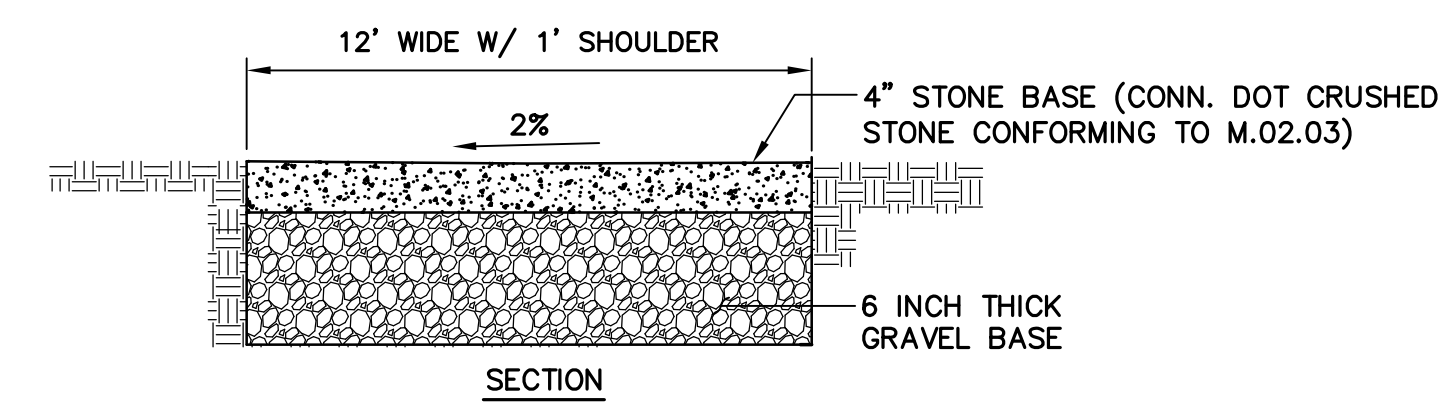
- GUY WIRES (WO.12 NEW GALV.) SHALL BE REQUIRED FOR ALL TREES 3 GAL. AND LARGER.
- SOIL MIX SHALL CONSIST OF: 3 PARTS TOP SOIL, 3 PART PEAT MOSS, 10 ONE PART COMPOSTED COW MANURE, AND 1 OZ. SOIL MOIST PER EVERY 12 IN. OF LINEAR DIM. OF ROOT BALL. COVER WITH LANDSCAPE FABRIC, AND A MINIMUM OF 3" CEDAR MULCH.
- TREES 6' AND OVER SHALL BE STAKED WITH 2 OAK STAKES 2" X 2" X 6' AND GUY WIRE TO STAKES.
- ALL TREES AND SHRUBS MUST MEET OR EXCEED STANDARDS SET BY THE NATIONAL ASSOCIATION OF NURSERYMEN, YEAR OF LATEST REVISION.

5 TYPICAL TREE PLANTING DETAIL
C-5 NOT TO SCALE

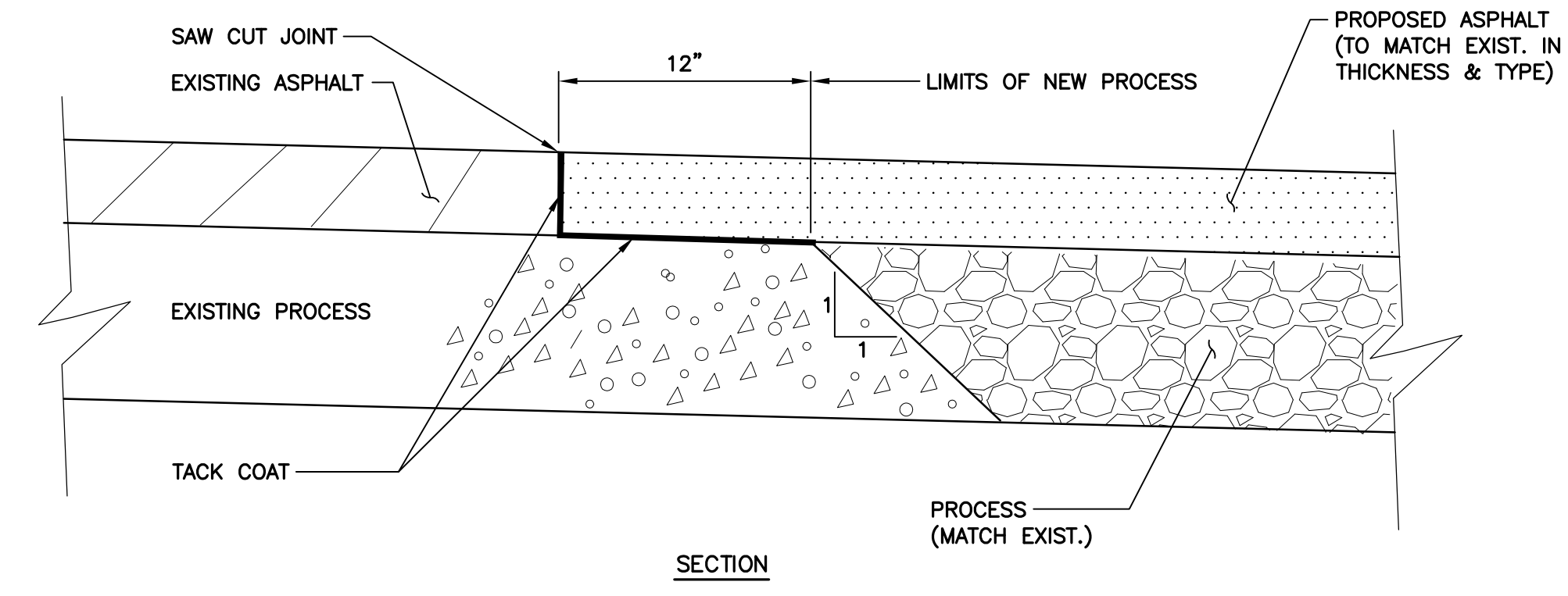


NOTE:
1. SEE SITE PLAN FOR LOCATION

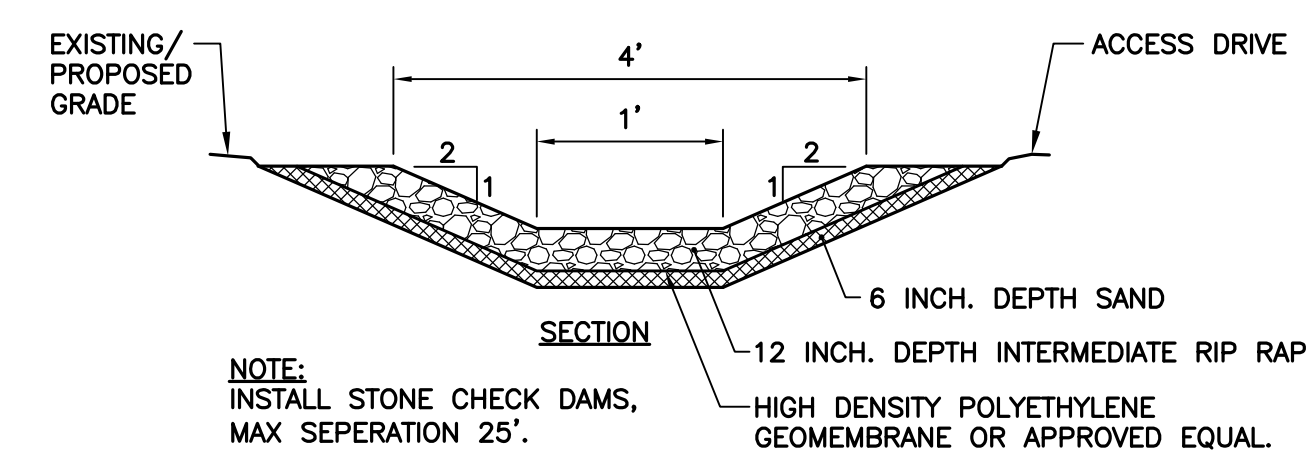
4 GRAVEL ACCESS DRIVE W/ GEOGRID REINFORCEMENT
C-5 NOT TO SCALE



3 GRAVEL SURFACE PARKING AREA AND ACCESS DRIVE
C-5 NOT TO SCALE



2 PAVEMENT REPAIR (SAWCUT) DETAIL
C-5 NOT TO SCALE

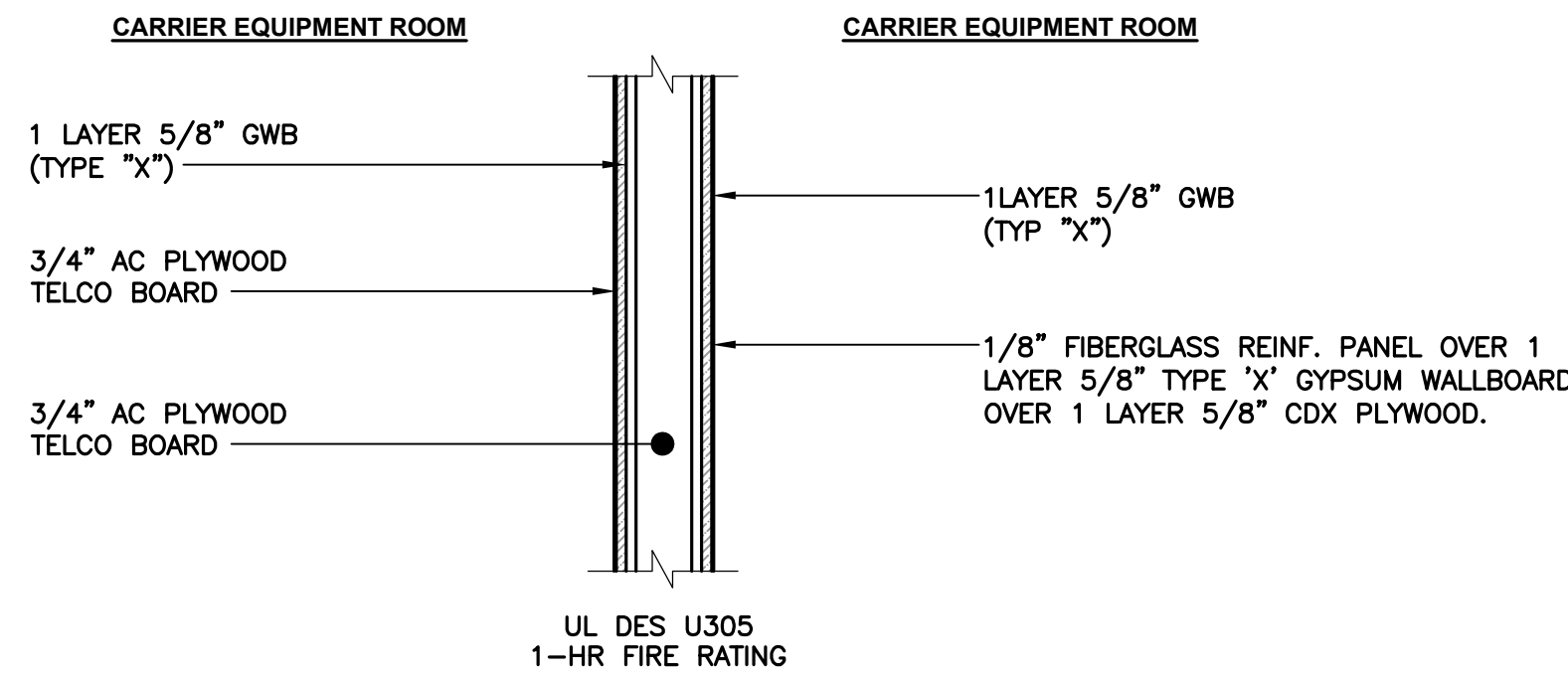


NOTE:
INSTALL STONE CHECK DAMS, MAX SEPERATION 25'.

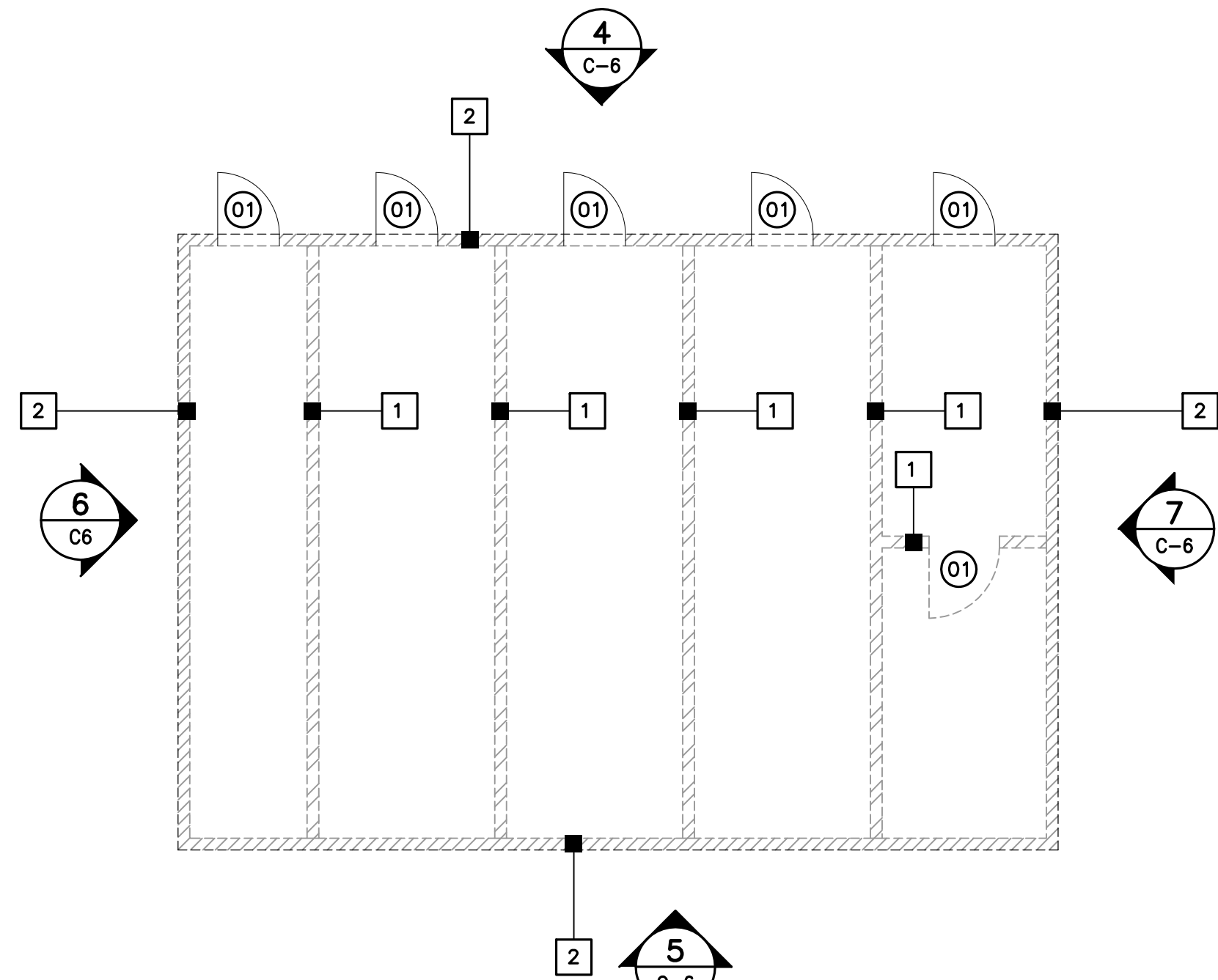
1 RIP RAP SWALE
C-5 NOT TO SCALE

MODIFIED RIP RAP SIZE CHART	
STONE SIZE	% OF MASS
10" AND OVER	0
6" TO 10"	30-50
4" TO 6"	30-50
2" TO 4"	20-30
1" TO 2"	10-20
LEES THAN 1"	0-10

PROFESSIONAL ENGINEER SEAL
 at&t
 SAI communications
 CENTEK engineering
 Wireless Communications Facility
CT1345 EAST LYME RELO. THE ORCHARDS
 2 ARBOR CROSSING
 EAST LYME, CT 06333
 DATE: 03/07/17
 SCALE: AS NOTED
 JOB NO. 16024.00
 DRAINAGE CONTROL AND SITE DETAILS
C-5
 Sheet No. 8 of 19

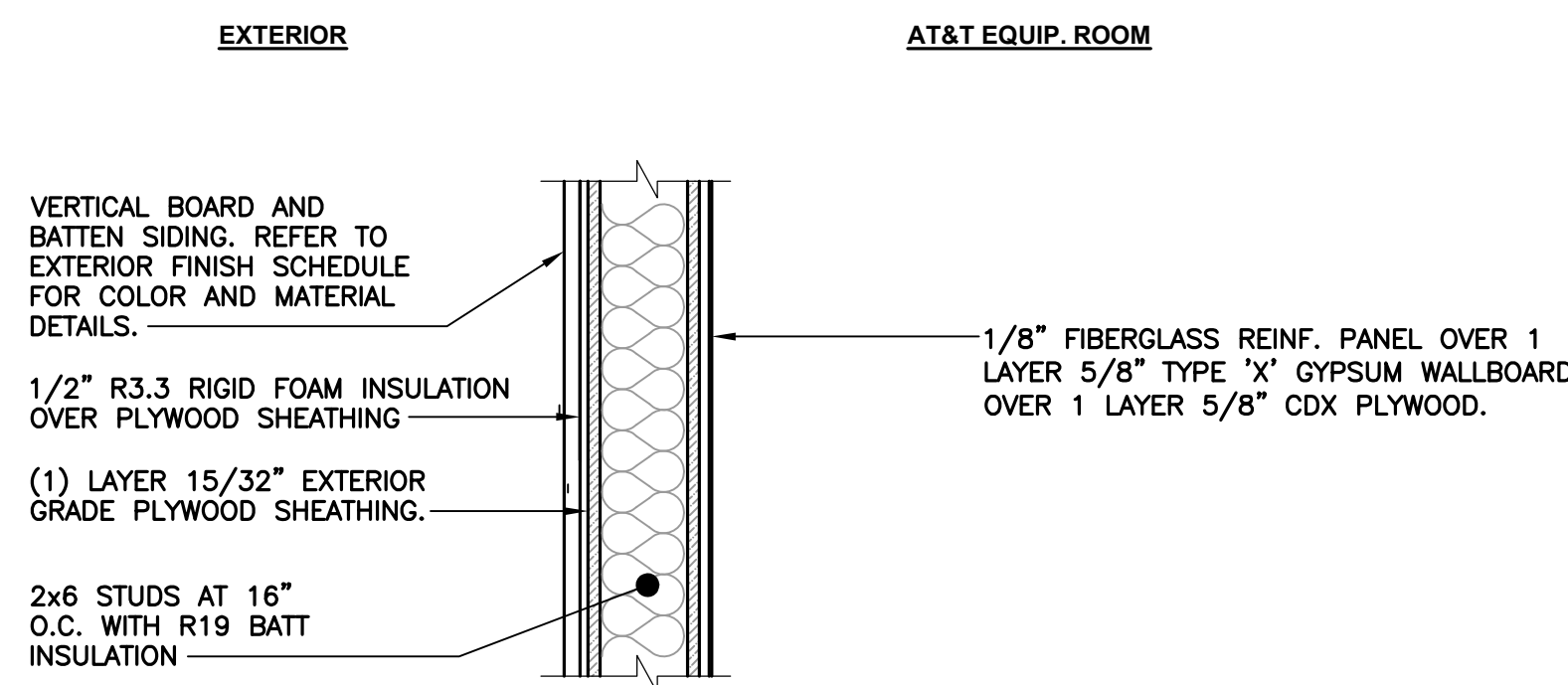


1 PARTITION WALL TYPE
C-6 SCALE: 1" = 1'-0"



3 EQUIPMENT ROOM PLAN
C-6 SCALE: 1/8" = 1'-0"

NOTE:
1. MECHANICAL SYSTEMS TO BE PROVIDED BY OTHERS



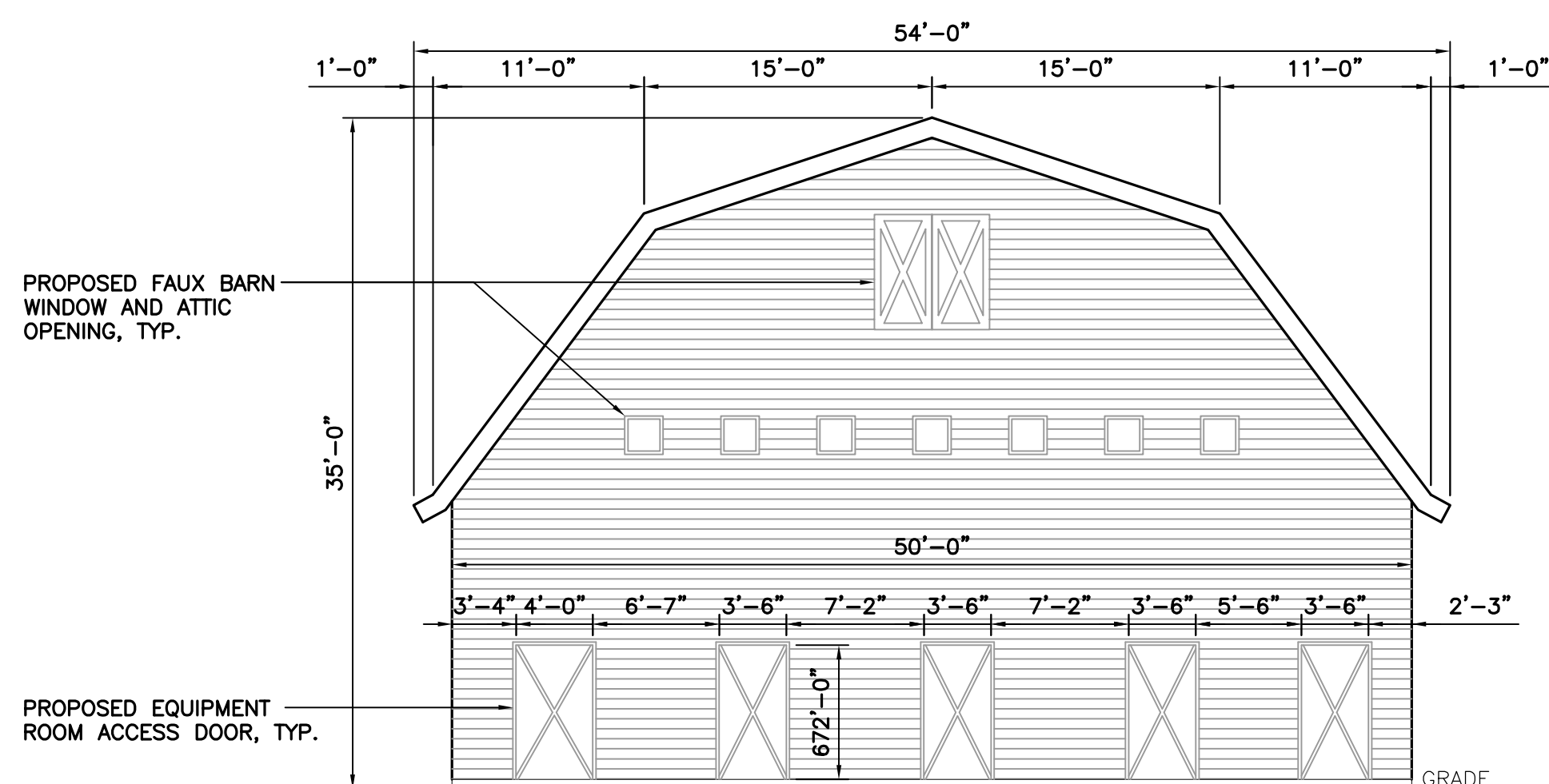
2 EXTERIOR WALL TYPE
C-6 SCALE: 1" = 1'-0"

EXTERIOR FINISH SCHEDULE		
SIDING	TRIM	ROOFING
BOARD AND BATTEN SIDING. COLOR: RED (FINAL COLOR TO BE SELECTED BY ORCHARDS DEVELOPER)	SOFFIT: ROYAL BUILDING PRODUCTS: ROYAL SOFFIT TRADITIONAL SOFFIT, DOUBLE 4, 0.42 GAUGE EXTERIOR MOULDING AND TRIM: APEX ULTRIX SIDING COMPONENTS. COORDINATE WITH SPECIFIED SIDING. COLOR: RED (FINAL COLOR TO BE SELECTED BY ORCHARDS DEVELOPER)	ASPHALT FIBERGLASS ROOFING SHINGLES OVER ICE AND WATER SHIELD. COLOR: TO BE DETERMINED (FINAL COLOR TO BE SELECTED BY ORCHARDS DEVELOPER)

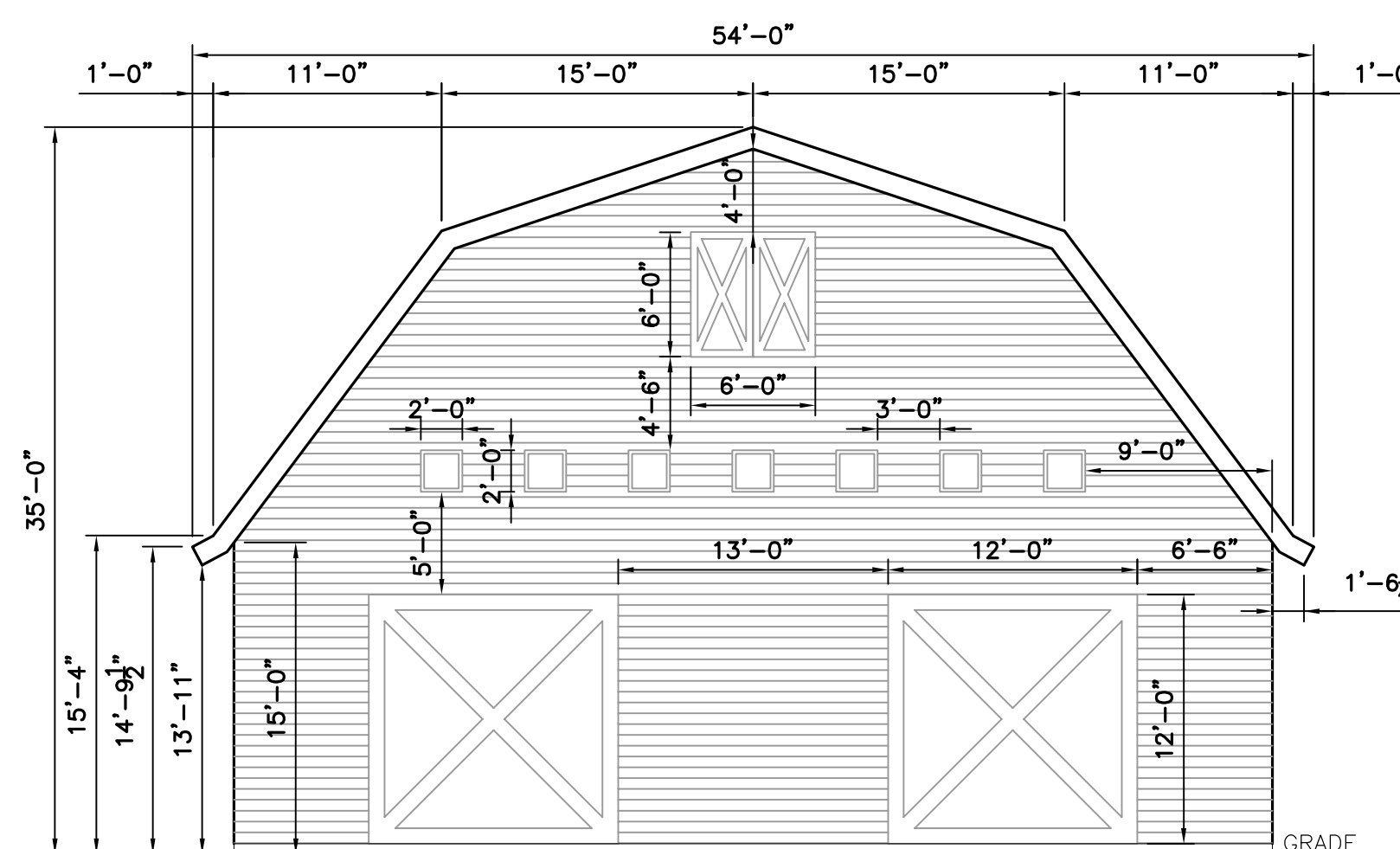
INTERIOR FINISH SCHEDULE				
ROOM NAME	FLOORING	BASEBOARD	WALLS	CEILING
AT&T EQUIPMENT ROOM	VCT OVER CONCRETE FLOOR SLAB SURFACE	4" VINYL BASE	1/8" FIBERGLASS REINF. PANEL OVER 1 LAYER 3/4" PLYWOOD (PLYWOOD TELCO BOARD TO BE PAINTED "GRAY")	1/8" FIBERGLASS REINF. PANEL OVER 1 LAYER 3/4" PLYWOOD

DOOR SCHEDULE							
DOOR NO.	QTY.	DESCRIPTION	MANUF.	MODEL	HEIGHT	WIDTH	FINISH
01	1	FRAME	DE LA FONTAINE	SPLIT FRAME OPTION J7 (90 MIN. RATING)	7'-0"	4'-0"	PRIMED
	1	DOOR	DE LA FONTAINE	SERIES PA	7'-0"	4'-0"	PRIMED
	1.5	PAIR BUTT HINGES	HAGER	BB1199 4.5x4.5 NRP - STAINLESS STEEL	-	-	32D
	1	LOCKSET	PDQ	GT 115 PHL SFIC	-	-	26D
	1	CYLINDER	BEST ACCESS SYSTEMS	2 INTERCHANGEABLE	-	-	-
	1	DOOR CLOSER	HAGER	5200 MLT	-	-	686
	1	THRESHOLD	HAGER	412S	-	4'-0"	MIL
	1	AUTO DOOR BOTTOM	HAGER	747S	-	4'-0"	MIL
	1	WEATHERSTRIP SET	HAGER	870S	-	-	MIL
	1	LATCH PROTECTION	DON-JO	LP 211 SL	-	-	SILVER COATED

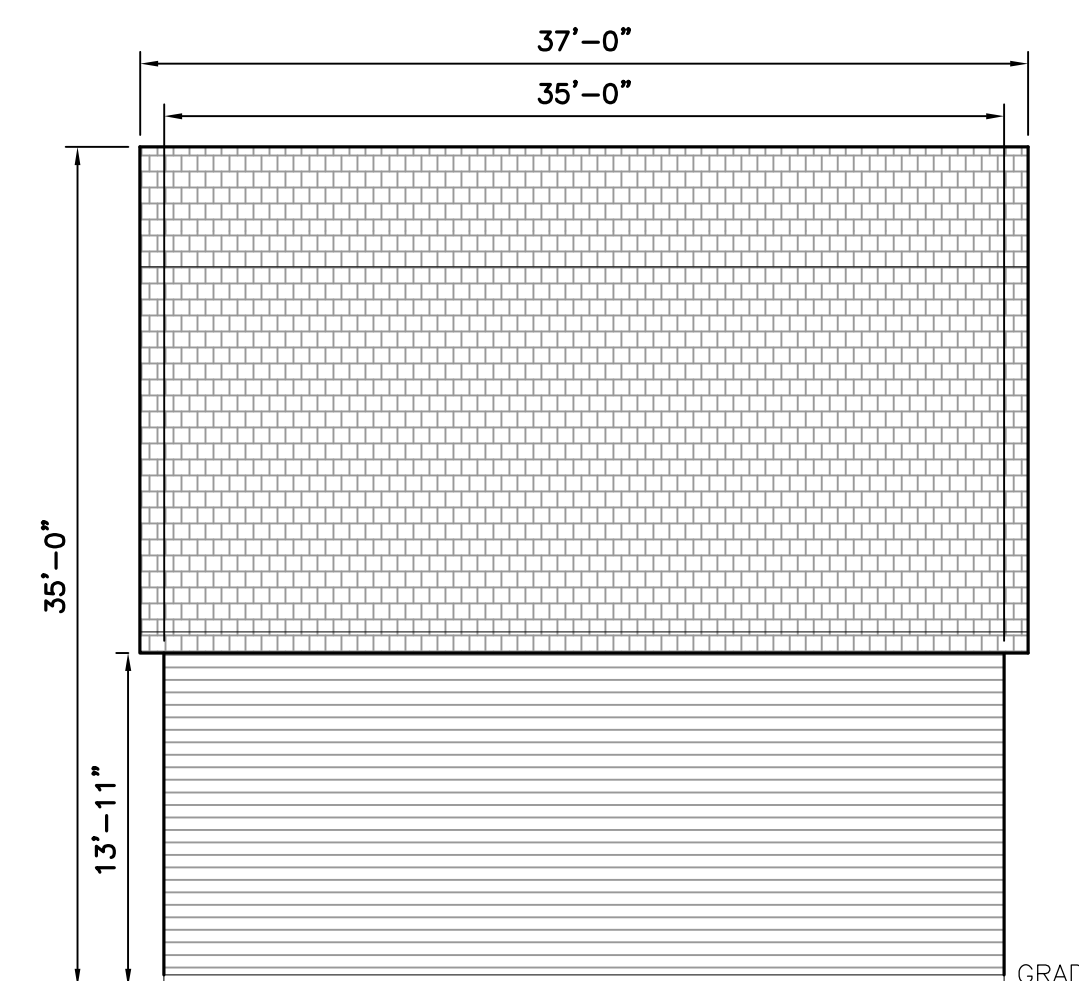
- BUILDING FRAMING MATERIALS**
- SILLS, BUCKS, BLOCKING, CURBING AT ROOF PENETRATIONS AND NAILERS FOR USE IN CONJUNCTION WITH WOOD CONSTRUCTION AND WHERE EXPOSED TO DAMPNESS: ANY SPECIES OF STRUCTURAL LUMBER, CONSTRUCTION GRADE, PRESSURE TREATED, MEETING REQUIREMENTS OF FEDERAL SPECIFICATION TT-W-571.
 - HEADERS, BEAMS, POSTS, AND OTHER STRUCTURAL SUPPORT MEMBERS: DOUGLAS FIR-LARCH, NO. 2 GRADE OR BETTER (REFER TO STRUCTURAL LUMBER CONSTRUCTION NOTES FOR MORE INFORMATION).
 - STUDS, PLATES, AND OTHER LIGHT FRAMING IF USED: HEM-FIR NO. 2 GRADE OR BETTER (MIN. Fb = 1100 PSI).
 - BLOCKING, NAILERS, AND OTHER NON-STRUCTURAL USES: ANY SPECIES OF STRUCTURAL LUMBER, CONSTRUCTION GRADE OR BETTER.
 - SHEATHING PLYWOOD:
ROOF SHEATHING: 5/8" C-C EXT-APA GROUP 1 WITH EXTERIOR GLUE.
WALL SHEATHING: 15/32" C-C EXT-APA GROUP 1
 - BUILDING AIR INFILTRATION WRAP: 15-LB ASPHALT-SATURATED FELT, ASTM D226, OR TYEAK.



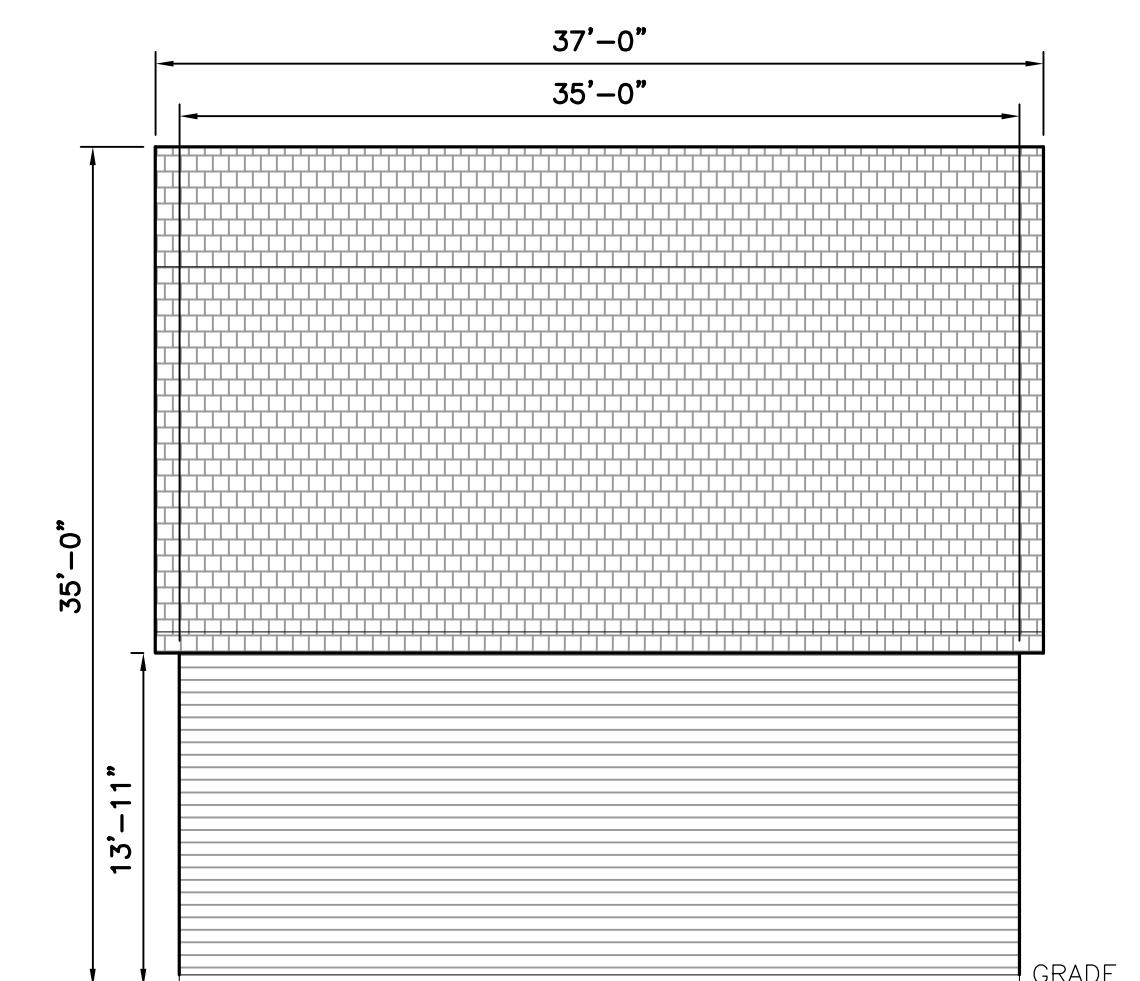
4 NORTHERN SHELTER ELEVATION
C-6 SCALE: 1/8" = 1'-0"



5 SOUTHERN SHELTER ELEVATION
C-6 SCALE: 1/8" = 1'-0"



6 EASTERN SHELTER ELEVATION
C-6 SCALE: 1/8" = 1'-0"



7 WESTERN SHELTER ELEVATION
C-6 SCALE: 1/8" = 1'-0"

REV.	DATE	BY	CHK'D BY	DESCRIPTION
0	04/27/17	KAW		CONSTRUCTION DRAWINGS - ISSUED FOR PERMITTING

PROFESSIONAL ENGINEER SEAL



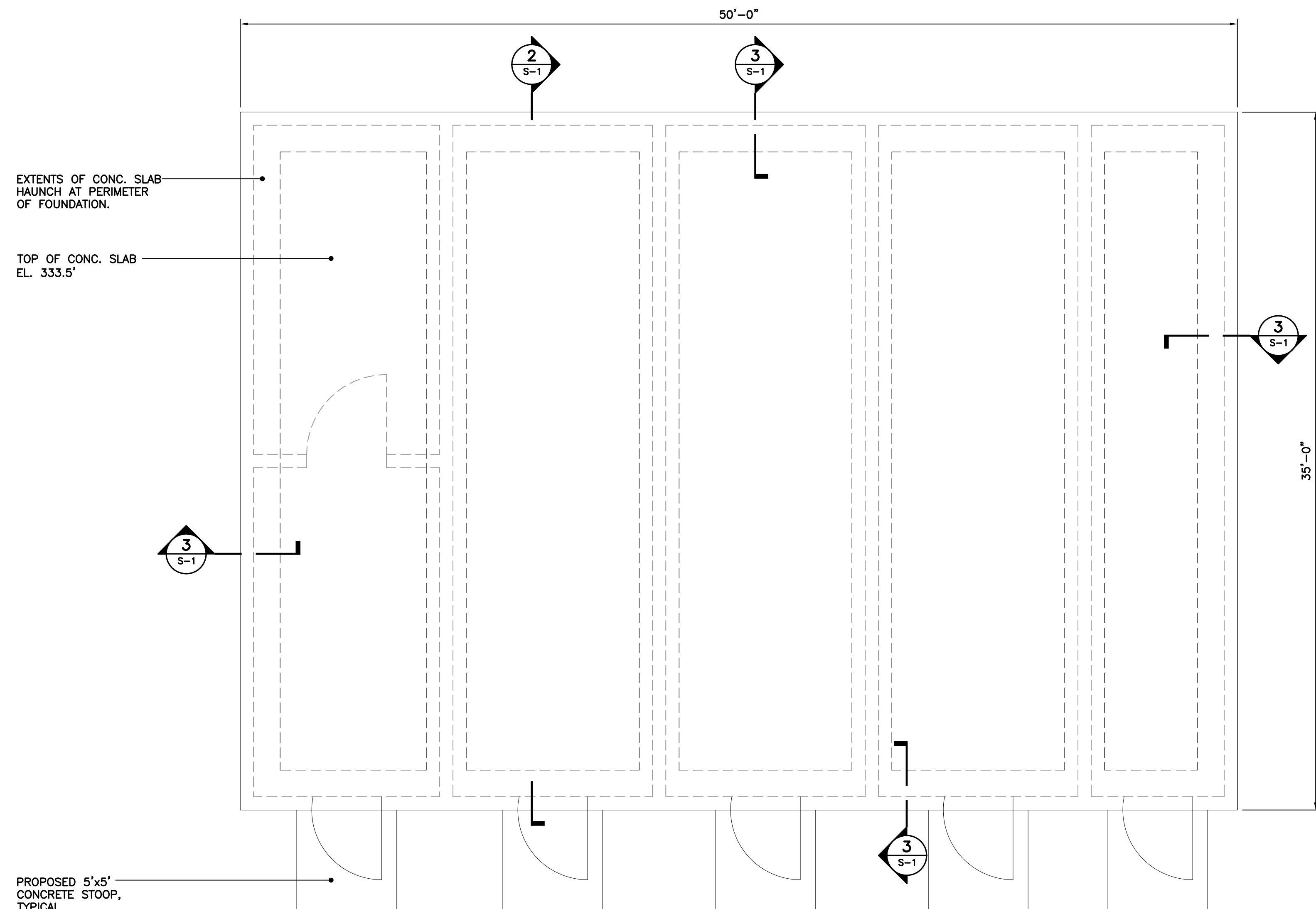
CENTEX engineering
Centered on Solutions™
(203) 489-0360
(203) 489-8387 Fax
63.2 North Branford Road
Branford, CT 06405
www.CentExEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
CT1345 EAST LYME RELO.
THE ORCHARDS
2 ARBOR CROSSING
EAST LYME, CT 06333

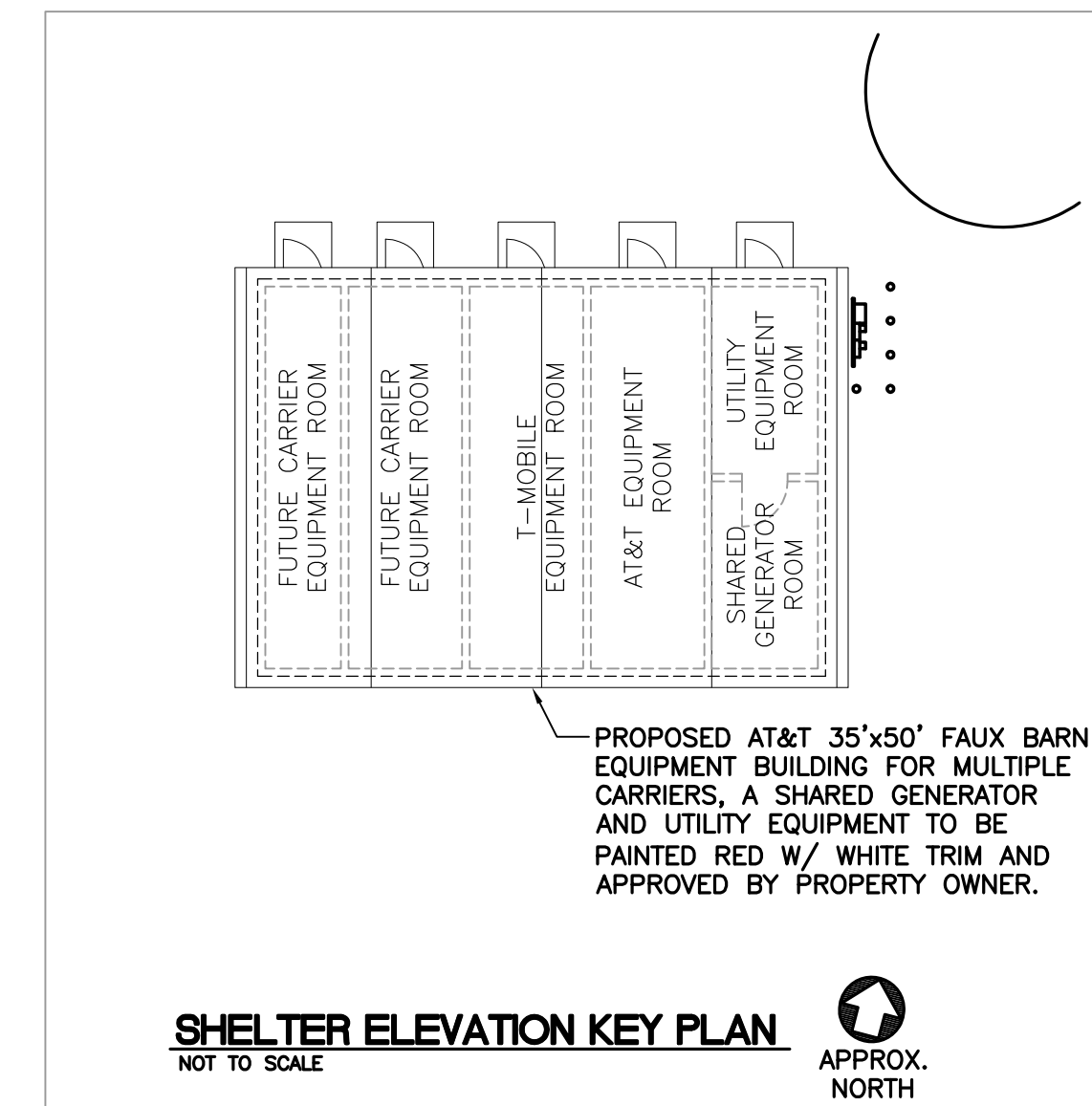
DATE: 03/07/17
SCALE: AS NOTED
JOB NO. 16024.00

DRAINAGE CONTROL AND SITE DETAILS

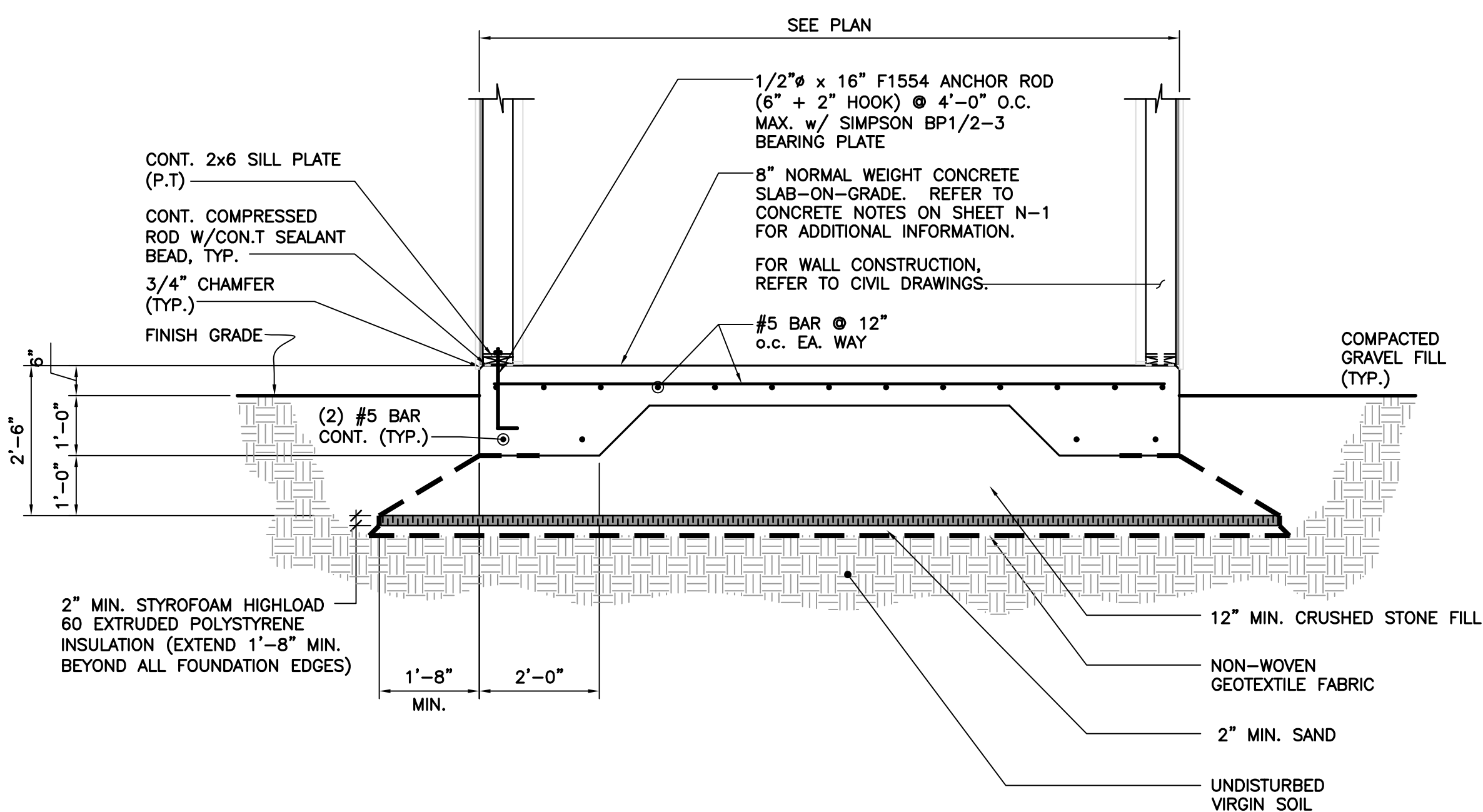
C-6
Sheet No. 9 of 19



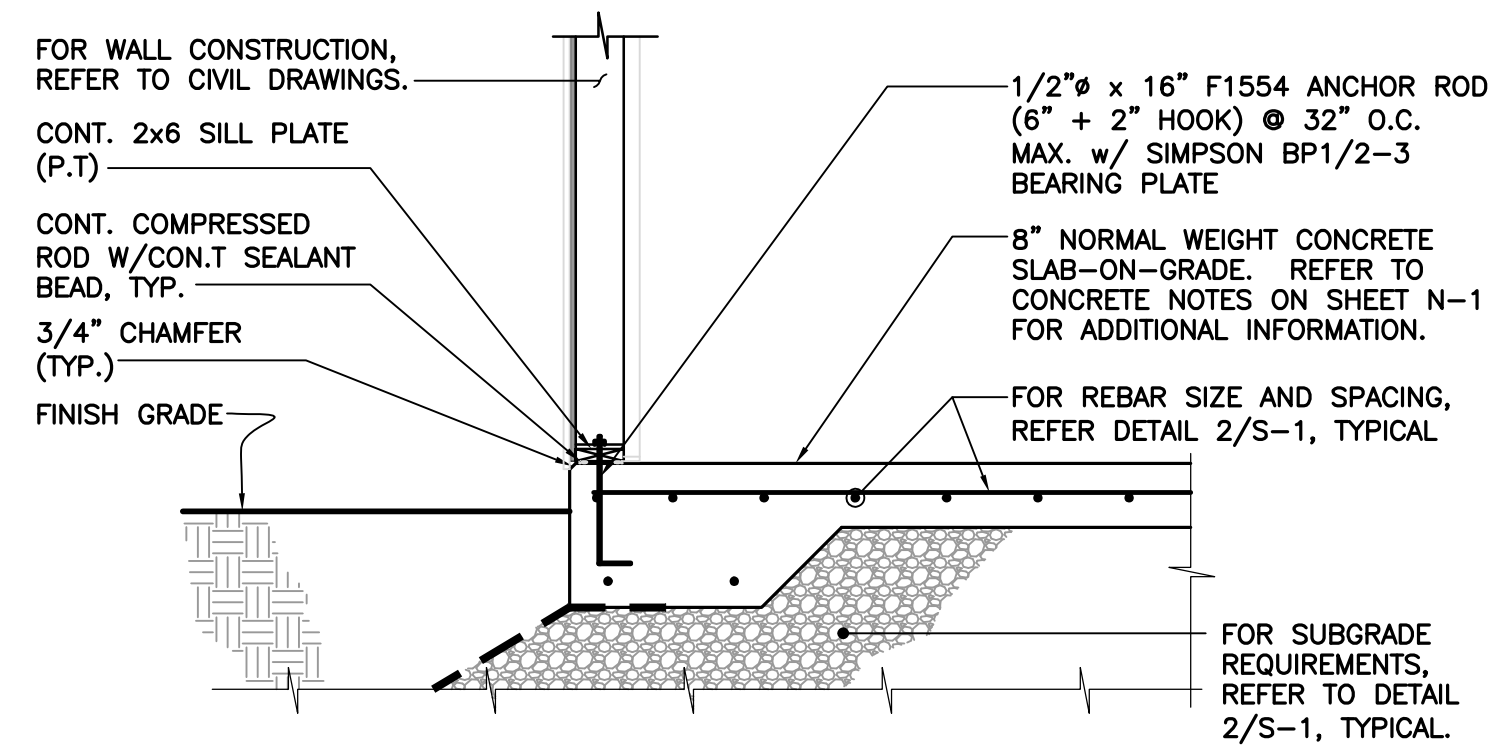
1 FOUNDATION PLAN
 SCALE: 1/4" = 1'-0"
 APPROX. NORTH



SHELTER ELEVATION KEY PLAN
 NOT TO SCALE
 APPROX. NORTH



2 FOUNDATION PLAN SLAB ON GRADE
 SCALE: 1/2" = 1'-0"



3 FOUNDATION SECTION AT EXTERIOR WALL
 SCALE: 1/2" = 1'-0"

REV.	DATE	BY	CHK'D BY	DESCRIPTION
0	04/27/17	KAW		CONSTRUCTION DRAWINGS - ISSUED FOR PERMITTING

PROFESSIONAL ENGINEER SEAL



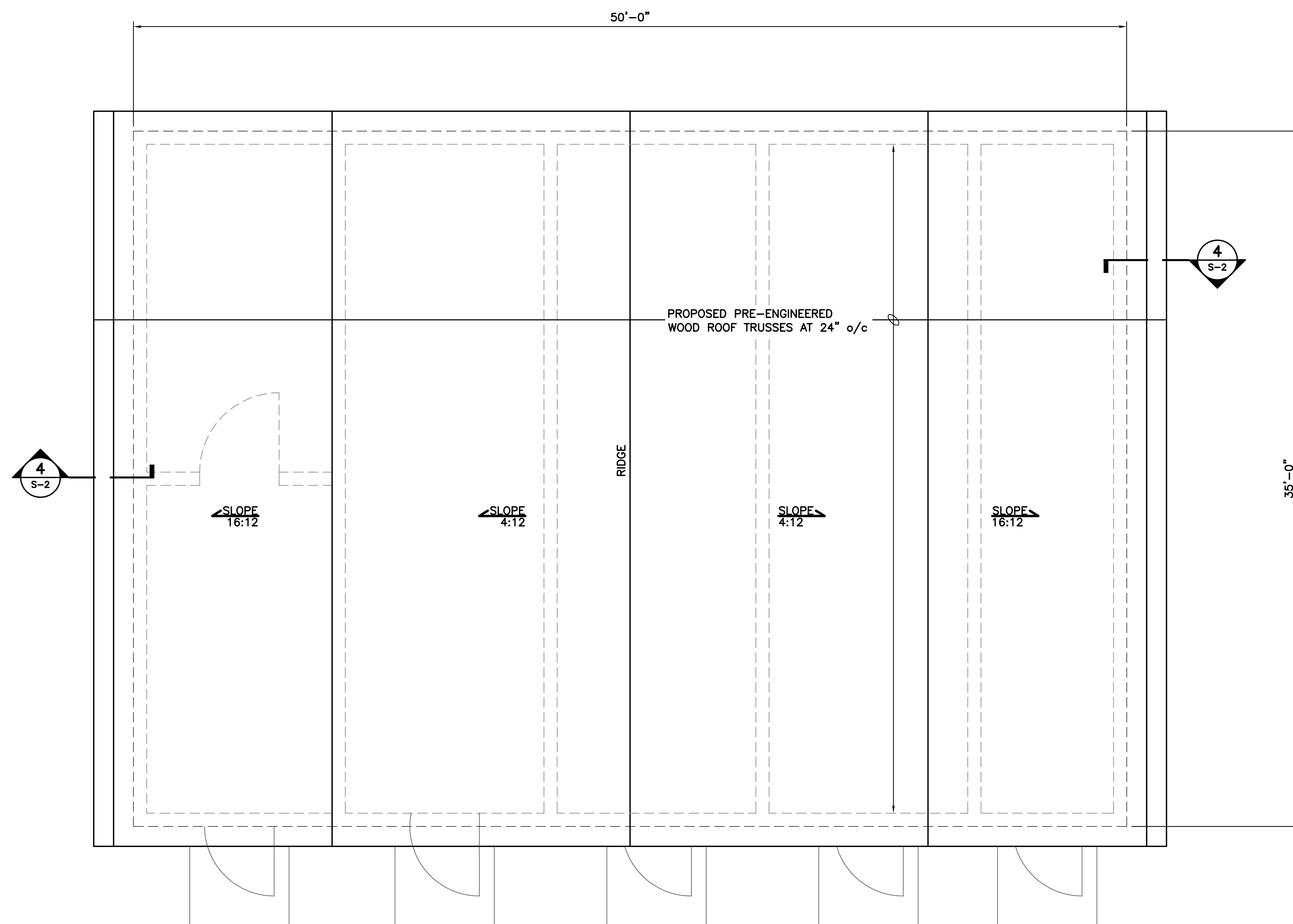
CENITEK engineering
 Centered on Solutions™
 (203) 488-0380
 (203) 488-8387 Fax
 63-2 North Branford Road
 Branford, CT 06405
 www.CenitekEng.com

AT&T MOBILITY
 WIRELESS COMMUNICATIONS FACILITY
CT1345 EAST LYME RELO.
THE ORCHARDS
 2 ARBOR CROSSING
 EAST LYME, CT 06333

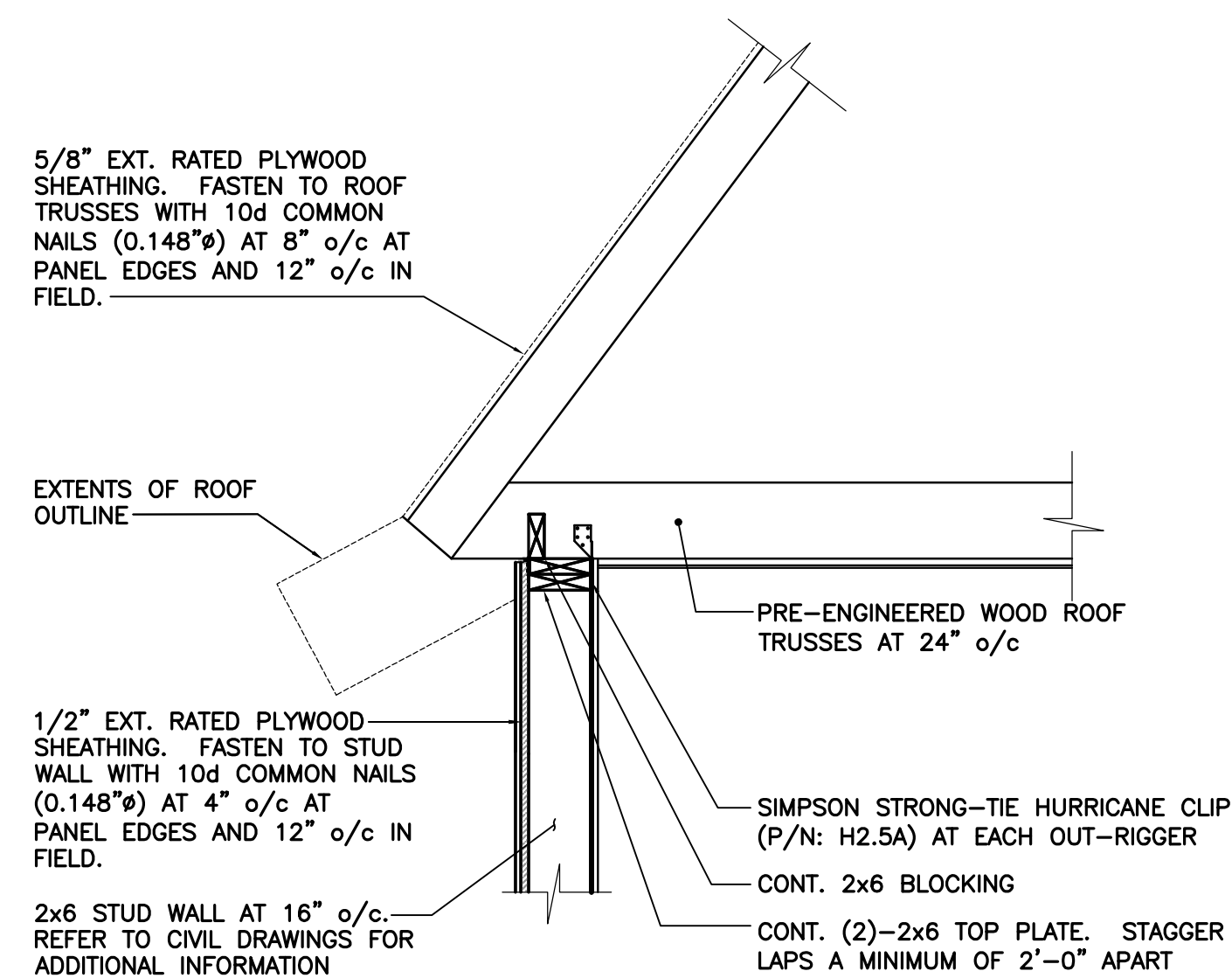
DATE: 03/07/17
 SCALE: AS NOTED
 JOB NO. 16024.00

SHELTER FOUNDATION PLAN AND DETAILS

S-1
 Sheet No. 10 of 19



1 ROOF FRAMING PLAN
 S-2 SCALE: 1/4" = 1'-0"
 APPROX. NORTH



2 DETAIL AT EAVE
 S-2 SCALE: 3/4" = 1'-0"

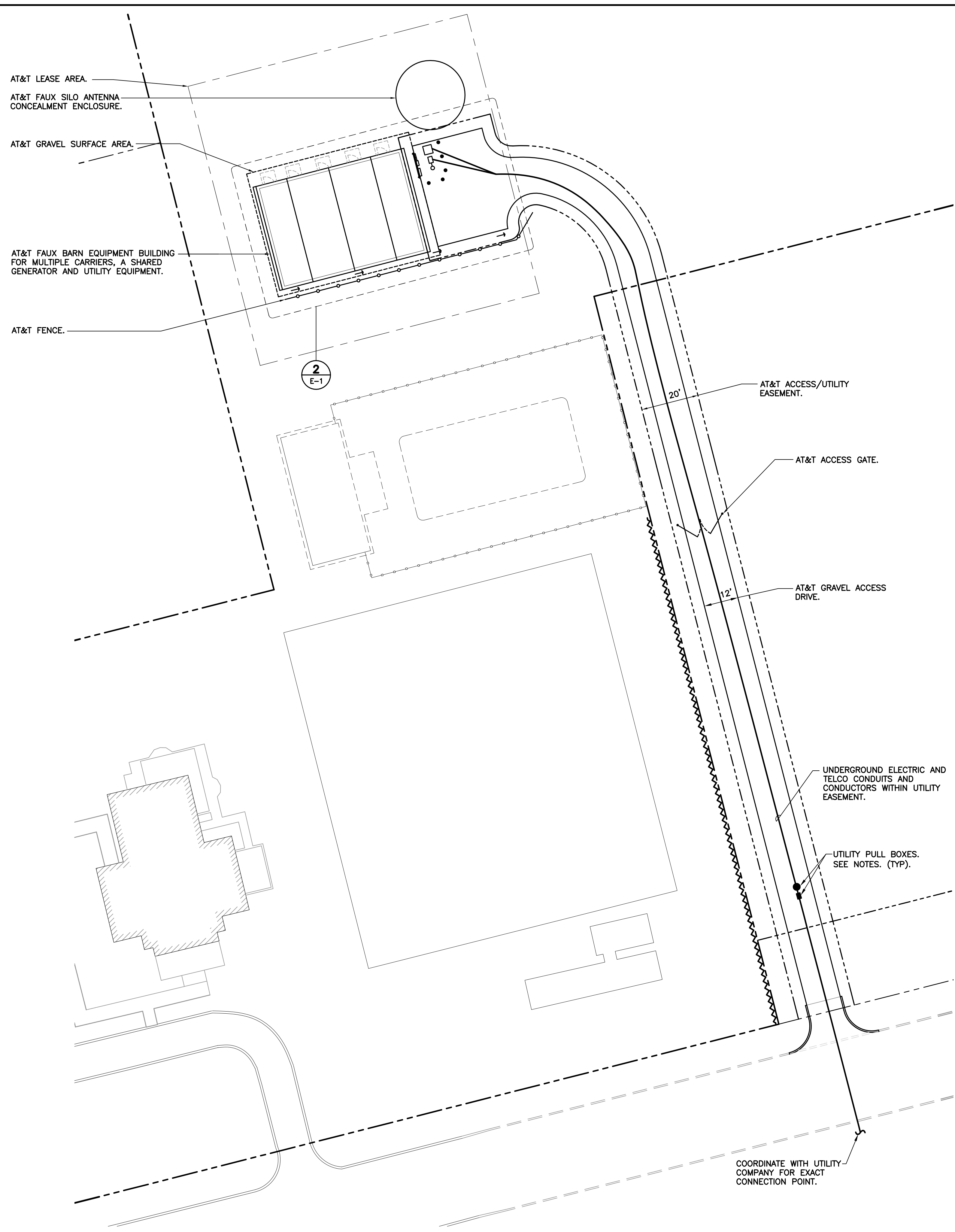
STRUCTURAL LUMBER CONSTRUCTION:

- STRUCTURAL LUMBER USED FOR JOISTS, RAFTERS AND COLUMNS SHALL BE NO. 2 GRADE DOUGLAS FIR LARCH AND SHALL HAVE NOT LESS THAN THE FOLLOWING ALLOWABLE UNIT STRESSES, BEFORE ADJUSTMENT FOR DURATION FACTORS, BASED ON 2012 NDS SPECIFICATION:
 EXTREME FIBER IN BENDING: $F_b = 900$ PSI
 SHEAR PARALLEL TO THE GRAIN: $F_v = 180$ PSI
 TENSION PARALLEL TO GRAIN: $F_t = 570$ PSI
 COMPRESSION PERPENDICULAR TO GRAIN: $F_c = 625$ PSI
 COMPRESSION PARALLEL TO GRAIN: $F_c = 1,350$ PSI
 MODULUS OF ELASTICITY: $E = 1,600,000$ PSI
- LIGHT FRAMING LUMBER USED FOR STUDS, PARTITIONS AND MISCELLANEOUS FRAMING SHALL NOT BE LESS THAN STANDARD GRADE AND SHALL HAVE THE FOLLOWING MINIMUM ALLOWABLE UNIT STRESSES:
 EXTREME FIBER IN BENDING: $F_b = 750$ PSI
 TENSION PARALLEL TO GRAIN: $F_t = 450$ PSI
 COMPRESSION PARALLEL TO GRAIN: $F_c = 625$ PSI
 MODULUS OF ELASTICITY: $E = 2,000,000$ PSI
- MOISTURE CONTENT OF ALL FRAMING LUMBER WHEN DELIVERED TO THE PROJECT SITE SHALL NOT EXCEED 19%.
- THE PROVISIONS OF THE GOVERNING BUILDING CODE SHALL GOVERN ALL WOOD CONSTRUCTION INCLUDING, BUT NOT LIMITED TO MATERIALS, FASTENERS (TYPE, SIZE, SPACING, EMBEDMENT), SHOP AND FIELD FABRICATION, CONNECTIONS, AND INSTALLATION.
- SHEAR WALLS: PROVIDE 15/32" EXTERIOR GRADE PLYWOOD SHEATHING FASTENED TO WALL STUDS AT 4" o/c AT PANEL EDGES AND 12" o/c IN FIELD.
- NAIL PENETRATION INTO WALL STUDS AND CORNER POSTS SHALL BE AT LEAST 1 3/4 INCHES.
- PROVIDE AND INSTALL TIMBER POSTS (6x6 OR BUILT UP 2x6 MEMBERS) AT ALL EXTERIOR CORNERS AND ANCHOR TO FOUNDATION WALLS, AND BETWEEN EACH FRAMING LEVEL TO RESIST UPLIFT FORCES. PROVIDE AND INSTALL SIMPSON HDUD-SDS2.5 (HOLDOWN) ANCHORS WITH SSTB24 ANCHOR RODS OR EQUIVALENT AT FOUNDATION WALLS.
- ROOF CONSTRUCTION: 5/8" EXTERIOR SHEATHING FASTENED WITH 10d COMMON NAILS AT 6" o/c AT PANEL EDGES AND 12" o/c IN FIELD ON PRE-FABRICATED WOOD ROOF TRUSSES.
- TRUSS TO TOP PLATE CONNECTION SHALL HAVE A MINIMUM OF (1) STRAP PER TRUSS. FINAL TRUSS HOLDOWN TO TOP PLATE SHALL BE PROVIDED BY THE PRE-FABRICATED WOOD ROOF TRUSS MANUFACTURER. ALL HARDWARE SHALL BE HOT-DIPPED GALVANIZED.
- SIMPSON STRONG TIE COMPANY, INC. OR EQUAL. SUCH PRODUCTS SHALL BE PROPERLY INSTALLED WITH THE TYPE AND NUMBER OF FASTENERS SPECIFIED BY THE MANUFACTURER FOR THE INTENDED USE. ALL HARDWARE SHALL BE HOT-DIPPED GALVANIZED.
- ALL STRUCTURAL WOOD MEMBERS SHALL BE PROPERLY FIELD FABRICATED TO REQUIRE LENGTHS AND SPACING. PROVIDE SUITABLE CONNECTIONS, BEARING LENGTHS, STIFFENERS, BRIDGING, HEADERS, AND OTHER SPECIAL FRAMING AS INDICATED OR REQUIRED BY BUILDING CODE FOR COMPLETE INSTALLATION. ADDITIONAL JOISTS ARE REQUIRED AT FRAMED OPENINGS, AT CONCENTRATED LOADS, AND DIRECTLY BELOW PARTITIONS THAT ARE PARALLEL WITH JOISTS.
- ALL FRAMING (ROOF, FLOORS, WALLS) SHALL BE PROPERLY ANCHORED TO EACH OTHER AND TO CONCRETE FOUNDATIONS AGAINST UPLIFT BY ADEQUATELY SPLICED AND NAILED ROOF AND WALL SHEATHING, BY METAL STRAPS, HURRICANE ANCHORS, OR SIMILAR CONNECTION HARDWARE.
- PROVIDE HEAVY HEX NUTS AND WASHERS AT ALL ANCHOR BOLTS AND AT WOOD FRAME CONNECTIONS TO AVOID CRUSHING WOOD FIBERS.
- PRESSURE TREATED LUMBER SHALL BE USED FOR FOUNDATION SILLS AND FOR ALL LUMBER EXPOSED TO THE WEATHER AND IN DIRECT CONTACT WITH CONCRETE OR MASONRY FOUNDATIONS.
- PROVIDE BLOCKING AT ROOF TRUSSES AS REQUIRED BY TRUSS MANUFACTURER AND DESIGNER.

PRE-FABRICATED WOOD ROOF TRUSSES:

- REFER TO THE GENERAL NOTES SHEET FOR THE BUILDING CODE OF JURISDICTION AND BUILDING USE.
- ROOF TRUSS SPACING SHALL NOT EXCEED 24" CENTER TO CENTER.
- DESIGN ROOF TRUSSES FOR THE FOLLOWING LOADS:
 LIVE LOAD: 30 PSF + ADDITIONAL 10 PSF BOTTOM CHORD LOAD
 DEAD LOAD: 16 PSF + ADDITIONAL 12 PSF BOTTOM CHORD LOAD
- REFER TO THE DESIGN BASIS WITHIN THE GENERAL NOTES FOR WIND, SNOW AND SEISMIC LOADING REQUIREMENTS.
- ROOF TRUSSES SHALL BE DESIGNED BY THE TRUSS FABRICATOR TO SUPPORT THE LOADS ABOVE WITH THE DEFLECTIONS NOT TO EXCEED L/240 UNDER COMBINED DEAD LOAD + LIVE LOAD NOR L/360 UNDER LIVE LOAD ALONE. PRE-FABRICATED WOOD TRUSS DRAWINGS SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL LICENSED ENGINEER REGISTERED IN THE STATE OF CONNECTICUT.
- TRUSS LUMBER SHALL BE ANY SOFTWOOD SPECIES OF SPECIFIED GRADE, CONFORMING TO STRENGTH AND MODULUS REQUIREMENTS OF PS20 "AMERICAN SOFTWOOD LUMBER STANDARD."
- MOISTURE CONTENT: SEASONED WITH 19% MAXIMUM MOISTURE CONTENT AT THE TIME OF INSTALLATION.
- WOOD GRADING SHALL BE AS FOLLOWS:
 CHORD MEMBERS: NO. 2 MINIMUM
 WEB MEMBERS: NO. 3 MINIMUM
- TRUSS JOIST CONNECTIONS SHALL BE MADE USING LIGHT GAUGE METAL PLATES WITH EXTENDED TEETH PRESSED INTO WOOD OVER BOTH SIDES OF THE JOINT TO TRANSFER LOAD.
- TRUSS BRACING: VERTICAL TRUSS BRACING SHALL CONSIST OF 2x4 MEMBERS SLOPING AT ABOUT 45 DEGREES, EXTENDING FROM THE TOP CHORD TO BOTTOM CHORD ELEVATION AND NAILED TO EACH TRUSS WEB MEMBER IT PASSES. ANCHOR ENDS OF CONTINUOUS 2x4 DIAGONAL BRACE TO FRAMING PERPENDICULAR TO TRUSSES.
- STRUTS SHALL BE INSTALLED BETWEEN BOTTOM CHORDS AT THE SAME TRUSS PANELS AS THE VERTICAL SWAY BRACING, AND SHALL EXTEND CONTINUOUSLY FROM END WALL TO END WALL.
- CUT ALL MEMBERS TO FIT AND BUTT TIGHT.
- FABRICATOR SHALL SUBMIT SHOP DRAWINGS INDICATING ALL CONNECTIONS, SPLICES AND DETAILS, WITH CRITERIA SHOWN FOR CONNECTION DESIGN. FABRICATOR SHALL CERTIFY THAT CONNECTIONS ARE DESIGNED FOR TRUSS FORCES SHOWN ON THE DRAWINGS.

PROFESSIONAL ENGINEER SEAL	CAG	CONSTRUCTION DRAWINGS - ISSUED FOR PERMITTING
0	04/27/17	DATE
0	KAW	DRAWN BY/CHK'D BY
0	REV.	DESCRIPTION
CT1345 EAST LYME RELO. THE ORCHARDS 2 ARBOR CROSSING EAST LYME, CT 06333		
DATE:	03/07/17	
SCALE:	AS NOTED	
JOB NO.	16024.00	
SHELTER ROOF FRAMING PLAN AND DETAILS		
S-2		
Sheet No. 11	of 19	



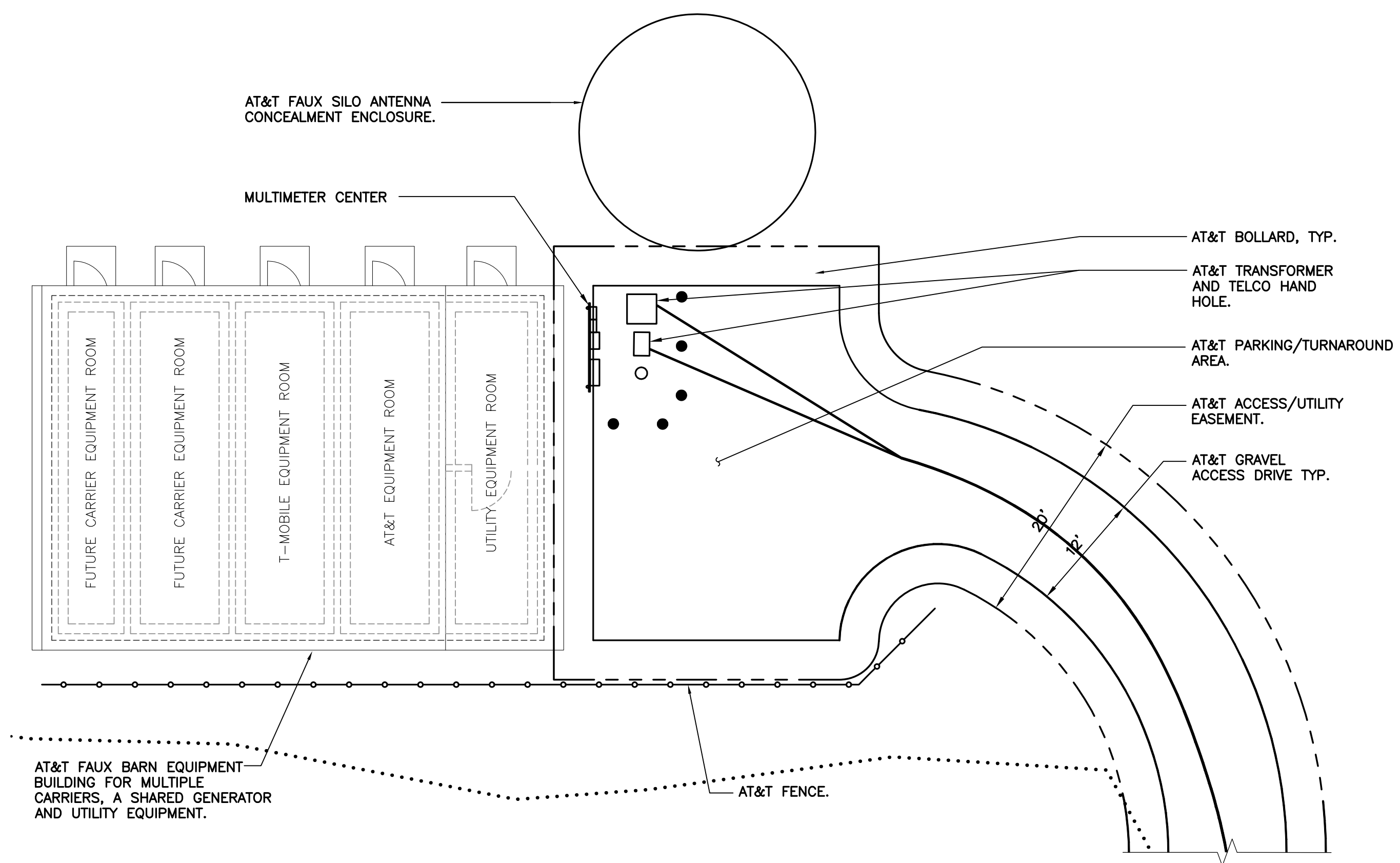
1 PARTIAL SITE/SURVEY PLAN
 SCALE: 1"=20'
 (IN FEET)
 1 inch = 20 ft.

GENERAL NOTES

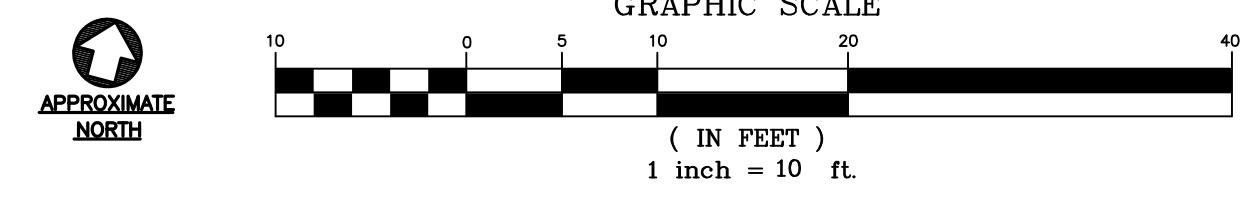
- REFER TO CIVIL DRAWINGS FOR ACTUAL LOCATIONS OF STRUCTURES ON SITE.
- COORDINATION, LAYOUT AND FURNISHING OF CONDUIT, CABLE AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL / TELECOMMUNICATIONS SERVICES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- THE EXACT BUILDING FOUNDATION SIZE AND BUILDING WALL PENETRATIONS FOR UTILITIES SHALL BE CONFIRMED WITH THE BUILDING SPECIFICATIONS AND PLANS PRIOR TO LAYOUT.
- ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
- PROVIDE CADWELD CONNECTION STYLES: THROUGH (CABLE TO CABLE) TYPE "TA"
 (CABLE TO SURFACE) TYPE "LA" OR "VS" (PIPE)
 (CABLE TO ROD) TYPE "GT" OR "NC"
 (CABLE TO CABLE) TYPE "SS"
- EXTEND UTILITY SERVICES TO OWNER'S EQUIPMENT. CONTRACTOR TO COORDINATE ALL UTILITY SERVICES TO NEW EQUIPMENT.
- UTILITY ROUTING, EQUIPMENT LOCATIONS, PULL BOXES, AND EASEMENT ARE SHOWN APPROXIMATE. COORDINATE WITH EACH UTILITY FOR SPECIFIC REQUIREMENTS. PROVIDE ALL ELEMENTS REQUIRED BY EACH UTILITY COMPANY.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
---	GROUND RING
- T - T -	TELEPHONE CONDUIT
- E - E -	ELECTRICAL CONDUIT
⊞	GROUND BAR
○-○	PERIMETER FENCE
⊗	5/8" DIAMETER x 10'-0" COPPER GROUND ROD OR 24"x24" GROUND PLATE ABOVE MATT FOUNDATION.
⊗	5/8" DIAMETER x 10'-0" COPPER GROUND ROD WITH ACCESS.
■	EXOTHERMIC WELD TYPE "TA"
○ ■	UTILITY PULL BOX



2 COMPOUND PLAN
 SCALE: 1" = 10'



PROFESSIONAL ENGINEER SEAL

at&t

SAI communications

CENTEK engineering
 Centered on Solutions™
 (203) 488-0580
 (203) 488-8387 Fax
 63-2 North Branford Road
 Branford, CT 06405
 www.CentekEng.com

AT&T MOBILITY
 WIRELESS COMMUNICATIONS FACILITY
CT1345 EAST LYME RELO.
THE ORCHARDS
 2 ARBOR CROSSING
 EAST LYME, CT 06333

DATE: 03/07/17
 SCALE: AS NOTED
 JOB NO. 16024.00

SITE UTILITY PLAN

E-1

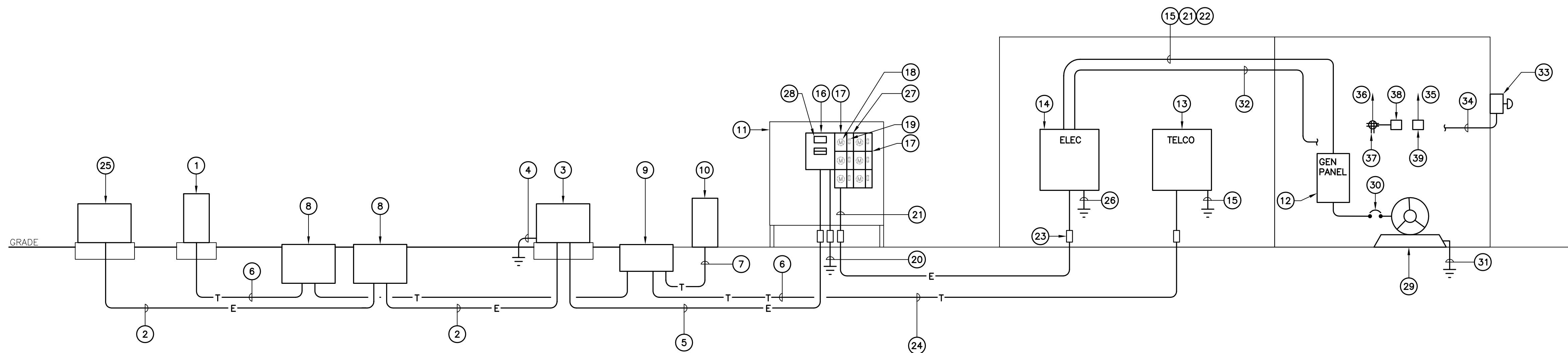
Sheet No. 12 of 19

NOTES

1. CONTRACTOR TO VERIFY ALL CONDUIT ROUTING AND INSTALLATION REQUIREMENTS WITH LOCAL UTILITIES PRIOR TO INSTALLATION.
2. ALL CONDUITS SHALL HAVE EXPANSION COUPLINGS WHERE EXTENDING ABOVE GRADE.
3. ALL UTILITY SUPPLY CONDUITS, CONDUCTORS AND ASSOCIATED EQUIPMENT MUST BE LOCATED WITHIN THE LIMITS OF THE UTILITY EASEMENT. COORDINATE WITH OWNER FOR EASEMENT DOCUMENTATION.
4. REFER TO SITE UTILITY PLAN.
5. TELEPHONE AND ELECTRIC UTILITY EQUIPMENT SHOWN APPROXIMATE. COORDINATE WITH EACH UTILITY COMPANY AND PROVIDE ALL SPECIFIED EQUIPMENT.
6. COORDINATE SERVICE EQUIPMENT INTERRUPTING RATING WITH AVAILABLE FAULT CURRENT FROM UTILITY COMPANY. EQUIPMENT SHALL NOT BE RATED LESS THAN 65 KAIC.
7. ALL TELEPHONE AND ELECTRIC UTILITY WORK MUST BE COORDINATED WITH UTILITY COMPANY, AND ALL EQUIPMENT MUST BE UTILITY COMPANY APPROVED. CONTRACTOR SHALL PROVIDE ALL ELEMENTS NOT PROVIDED BY UTILITY COMPANIES.
8. CONDUCTOR SIZES SHALL NOT BE REDUCED OR SUBSTITUTED WITHOUT ENGINEERS APPROVAL.
9. INSTALL PULL ROPES IN ALL EMPTY CONDUITS.
10. ALL CONDUCTORS AND CONDUCTOR TERMINATIONS SHALL BE RATED FOR 75°C OPERATION.

POWER RISER NOTES

1. EXISTING TELCO UTILITY DEMARC TO BE USED. VERIFY WITH TELEPHONE UTILITY COMPANY.
2. (1) 4" CONDUIT FOR PRIMARY ELECTRIC CONDUCTORS. CONDUCTORS PROVIDED BY UTILITY COMPANY FROM EXISTING TRANSFORMER TO NEW TRANSFORMER. PROVIDE ALL COUPLINGS, ADAPTERS, SWEEPS, AND ASSOCIATED HARDWARE. MATERIAL SHALL BE PER UTILITY COMPANY SPECIFICATIONS.
3. TRANSFORMER PROVIDED BY UTILITY COMPANY. TRANSFORMER VAULT, HOUSING, AND GROUND GRID BY ELECTRICAL CONTRACTOR, PER UTILITY COMPANY SPECIFICATIONS.
4. PROVIDE TRANSFORMER GROUNDING PER NEC AND UTILITY COMPANY SPECIFICATIONS.
5. TWO SETS OF: (3) 600 KCML, 4"¢.
6. TWO 4" CONDUITS WITH PULL ROPES FOR TELEPHONE COMPANY CONDUCTORS. CONDUCTORS PROVIDED BY TELEPHONE COMPANY FROM UTILITY POLE TO UTILITY BOARD. PROVIDE ALL COUPLINGS, ADAPTERS, SWEEPS, AND ASSOCIATED HARDWARE. MATERIAL SHALL BE PER TELEPHONE COMPANY SPECIFICATIONS.
7. PROVIDE CONDUIT WITH PULL ROPE BETWEEN HANDHOLE AND PEDESTAL. EXPECT TWO 4" CONDUITS, BUT FINAL SIZE AND QUANTITY PER TELEPHONE COMPANY.
8. TELEPHONE AND ELECTRIC JUNCTION/SPLICE BOX. MUST BE TRAFFIC RATED. QUANTITY AND LOCATION PER UTILITY COMPANY SPECIFICATIONS.
9. TELEPHONE COMPANY HANDHOLE. INSTALL PER TELEPHONE COMPANY SPECIFICATIONS.
10. TELEPHONE COMPANY PEDESTAL. INSTALL PER TELEPHONE COMPANY SPECIFICATIONS.
11. UTILITY BACKBOARD. REFER TO CIVIL DRAWINGS.
12. 200A, 240V, 24 POSITION GENERATOR OUTPUT PANEL.
13. 3'x3'x1' NEMA-3R, HOFFMAN BOX FOR TELCO SERVICE CONDUCTORS.
14. INTERSECT NEMA-3R, 2 SOURCE INTEGRATED LOAD CENTER WITH DOUBLE TVSS. ALL SPECIFICATIONS PER AT&T STANDARDS.
15. EXTEND CONDUCTORS TO EMERGENCY LUGS IN TRANSFER SWITCH.
16. 800A, 240/120V, 1P, 65 KAIC RATED, NEMA-3R, MAIN CIRCUIT BREAKER MODULE WITH 800A/2P MAIN CIRCUIT BREAKER. (SQUARE-D: EZM1800CBU OR APPROVED EQUIVALENT.) MUST BE UTILITY COMPANY APPROVED.
17. 3-GANG MULTI-METER BRANCH DEVICES WITH 240V, 1P, 3W, 225A RATED METER SOCKETS. (SQUARE-D: EZML113225 OR APPROVED EQUIVALENT.) MUST BE UTILITY COMPANY APPROVED.
18. UTILITY COMPANY APPROVED METER FOR AT&T IN AVAILABLE SOCKET. PROVIDE LABEL STATING "AT&T MOBILITY".
19. 200A/2P MAIN CIRCUIT BREAKER IN AVAILABLE POSITION CORRESPONDING TO METER FOR OWNER.
20. 3/0 AWG GROUNDING ELECTRODE CONDUCTOR IN 3/4" PVC CONDUIT BONDED TO GROUNDING TRIAD LOCATED AT UTILITY BACKBOARD. GROUNDING TRIAD SHALL BE BONDED TO COMPOUND GROUND RING WITH #2 AWG SOLID TINNED BARE COPPER WIRE. PROVIDE FULL SIZE BONDING JUMPER.
21. (3) #3/0 AWG, (1) #6 AWG GROUND, 2-1/2"¢.
22. CONNECT TO 200A, 2P CIRCUIT BREAKER.
23. EXPANSION COUPLING, TYPICAL.
24. 4" PVC CONDUIT FOR TELEPHONE SERVICE. PROVIDE TELEPHONE CABLES AS REQUIRED BY TELEPHONE COMPANY AND OWNER. EXTEND TO OWNERS TELCO BOX.
25. EXISTING UTILITY TRANSFORMER TO BE USED. VERIFY WITH UTILITY COMPANY.
26. INTEGRATED LOAD CENTER GROUNDING PER NEC.
27. PROVIDE LABEL AT METER LISTING TYPE AND LOCATION OF ON SITE STANDBY GENERATOR.
28. PROVIDE FAULT CURRENT STUDY AND INSTALL LABEL INDICATING DATE OF STUDY AND AVAILABLE FAULT CURRENT. VERIFY SERVICE EQUIPMENT IS RATED FOR AVAILABLE FAULT CURRENT.
29. 30KW DIESEL FUELED GENERATOR.
30. 200A, 240V, MAIN CIRCUIT BREAKER AT GENERATOR OUTPUT.
31. GROUND GENERATOR PER NEC AND MANUFACTURER'S SPECIFICATIONS.
32. 1" CONDUIT WITH CONTROL AND ALARM CONDUCTORS FROM GENERATOR TO TRANSFER SWITCH. INSTALL CONDUCTORS AS REQUIRED BY MANUFACTURER.
33. REMOTE GENERATOR SHUT OFF SWITCH IN BREAK GLASS ENCLOSURE MOUNTED IN LOCATION APPROVED BY LOCAL FIRE MARSHAL. INSTALL ALL REQUIRED SIGNAGE.
34. 3/4" CONDUIT AND CONDUCTORS REQUIRED FOR PROPER OPERATION OF EMERGENCY GENERATOR SHUT OFF SWITCH.
35. DEDICATED 20A, 120V, CIRCUIT IN 3/4" CONDUIT FROM AT&T ELECTRIC PANEL TO GENERATOR BLOCK HEATER.
36. DEDICATED 20A, 120V, CIRCUIT IN 3/4" CONDUIT FROM AT&T ELECTRIC PANEL TO GENERATOR BATTERY CHARGER AND DUPLEX RECEPTACLE.
37. DUPLEX RECEPTACLE. MOUNT IN CONVENIENT LOCATION AT GENERATOR.
38. GENERATOR BATTERY CHARGER.
39. GENERATOR BLOCK HEATER.



1 RISER DIAGRAM
E-2 SCALE: N.T.S.

REV.	DATE	TUB	TOK	CONSTRUCTION DRAWINGS - ISSUED FOR PERMITTING
0	04/27/17			

PROFESSIONAL ENGINEER SEAL



CENTEK
engineering
Centered on Solutions™
(203) 489-0580
(203) 489-8387 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
CT1345 EAST LYME RELO.
THE ORCHARDS
2 ARBOR CROSSING
EAST LYME, CT 06333

DATE: 03/07/17
SCALE: AS NOTED
JOB NO. 16024.00

ELECTRICAL RISER
DIAGRAM AND
NOTES

GROUNDING SCHEMATIC NOTES

- ① GROUND RING, #2 AWG BCW
 - ② #2/0 GREEN INSULATED
 - ③ #6 AWG
 - ④ REFER TO RISER DIAGRAM FOR SPECIFICATIONS
 - ⑤ BOND ALL HALO GROUND RING TAILS TO GROUND RING. COORDINATE LOCATION AND QUANTITY WITH EQUIPMENT ROOM/SHELTER DRAWINGS
 - ⑥ FOUR #2/0 GREEN INSULATED
 - ⑦ BOND WITH LISTED MECHANICAL CONNECTION
- 6. REFER TO GROUNDING PLAN FOR LOCATION OF GROUNDING DEVICES.
 - 7. REFER TO ALL ELECTRICAL AND GROUNDING DETAILS.
 - 8. COORDINATE ALL TOWER MOUNTED EQUIPMENT WITH OWNER.
 - 9. ALL TOWER MOUNTED AMPLIFIERS AND ASSOCIATED EQUIPMENT SHALL BE BONDED TO THE SECTOR GROUND BAR PER MANUFACTURER'S SPECIFICATIONS.
 - 10. ALL FENCE POSTS WITHIN 6' OF EQUIPMENT SHELTER SHALL BE BONDED TO GROUND RING.
 - 11. ALL GROUNDING SHALL BE IN ACCORDANCE WITH NEC AND OWNER'S REQUIREMENTS.
 - 12. ALL EXPOSED METAL OBJECTS IN SHELTER SHALL BE BONDED TO THE HALO GROUND WITHIN THAT ROOM.
 - 13. BOND GENERATOR TO GROUND PER NEC AND MANUFACTURERS SPECIFICATIONS
 - 14. REFER TO RISER DIAGRAM FOR SPECIFICATIONS OF SERVICE GROUND AND TRANSFORMER GROUND.

GENERAL NOTES:

- 1. ALL SURGE SUPPRESSION EQUIPMENT SHALL BE BONDED TO GROUND PER MANUFACTURER'S SPECIFICATIONS
- 2. UNLESS OTHERWISE NOTED OR REQUIRED BY CODE, GROUND CONDUCTORS SHOWN SHALL BE #2 AWG (SOLID TINNED BCW - EXTERIOR; STRANDED GREEN INSULATED - INTERIOR).
- 3. ALL SECTOR GROUND BARS SHALL BE BONDED TOGETHER WITH #2 AWG SOLID TINNED BCW.
- 4. BOND ALL EQUIPMENT CABINETS AND BATTERY CABINETS TO GROUND PER MANUFACTURER'S SPECIFICATIONS.
- 5. ALL BONDS TO TOWER SHALL BE MADE IN STRICT ACCORDANCE WITH SPECIFICATIONS OF TOWER MANUFACTURER OR STRUCTURAL ENGINEER.

CELLULAR GROUNDING NOTES

OBJECTIVE

PROVIDE A CELLULAR GROUNDING SYSTEM WITH MAXIMUM ALTERNATING CURRENT RESISTANCE OF 5 OHMS BETWEEN ANY POINT ON THE GROUNDING SYSTEM AND REFERENCE GROUND. PROVIDE EXTERIOR GROUNDING SCHEME WITH OWNER'S ENGINEER APPROVAL AS REQUIRED TO ACHIEVE DESIRED MAXIMUM AC RESISTANCE TO GROUND.

TESTING

CONTRACTOR TO PROVIDE AN INDEPENDENT TESTING CONTRACTOR TO DETERMINE THE GROUNDING SYSTEM RESISTANCE BY USE OF THE THREE POINT TEST AND AN AEMC MODEL 4500, OR APPROVED EQUAL. TEST TO BE PERFORMED PRIOR TO CONNECTION OF POWER SUPPLY TO THE CELL SITE AND CONNECTION OF THE GROUNDING SYSTEM TO THE WATER MAIN OR AC SUPPLY AS APPLICABLE. IF 5 OHM LIMIT IS EXCEEDED, CONTACT ENGINEER FOR ADDITIONAL INSTRUCTIONS TO ACHIEVE 5 OHMS OR LESS.

CONDUCTOR USED FOR CELLULAR GROUNDING SYSTEM

EGR - #2 AWG ANNEALED SOLID TINNED BARE COPPER
 IGR - #2 AWG ANNEALED STRANDED (7 STRAND) 'THW' GREEN COLORED INSULATION
 INTER-BUS EXTENSION (FROM IGR TO EGR) - SEE DETAILS
 EXTERNAL BOND CONNECTIONS TO EGR - #2 ANNEALED SOLID TINNED BARE COPPER
 INTERIOR BOND CONNECTIONS TO IGR - #6 ANNEALED STRANDED (7 STRAND) 'THW' GREEN COLORED INSULATION

MINIMUM BENDING RADIUS

IGR #2 : 1'-0" NOMINAL AND 8" MINIMUM
 EGR #2 : 2'-0" NOMINAL AND 8" MINIMUM
 CELLULAR GROUNDING CONDUCTOR SHALL BE AS STRAIGHT AS POSSIBLE WITH MINIMUM 6" BENDING RADIUS.

FASTENER FOR CELLULAR GROUNDING CONDUCTOR

USE NON-METALLIC FASTENER AND STANDOFF 'CLIC' (AVAIL. FROM NEFCO 800-969-0285) TO SURFACE SUPPORT CONDUCTOR 3" AWAY FROM SURFACES.

SPACING OF FASTENERS: 2'-0" O.C. OUTSIDE BUILDING
 3'-0" O.C. INSIDE BUILDING

GROUNDING ELECTRODE

GROUNDING ELECTRODE SHALL BE 5/8" DIA. x 10'-0" L. COPPER CLAD STEEL ROD. ADJUST LOCATION OF GROUNDING ELECTRODE IF SOIL CONDITION IS NOT CONDUCTIVE (GRAVEL, SANDY SOIL, ROCKS). SPACE GROUNDING ELECTRODES 20'-0" APART (SPACING MAY BE REDUCED WHERE REQUIRED TO ACCOMMODATE FIELD CONDITIONS BUT SHALL NOT BE LESS THAN 10'-0"). ELECTRODES SHALL BE DRIVEN ONLY WITH PROPER DRIVER SLEEVE TO PREVENT MUSHROOMING TOP OF ROD. WHEN ROCK BOTTOM IS ENCOUNTERED, THE ELECTRODE SHALL BE DRIVEN AT AN OBLIQUE ANGLE NOT TO EXCEED 45° FROM THE VERTICAL AWAY FROM STRUCTURES. TOP OF GROUNDING ELECTRODE SHALL BE MIN. 3'-6" BELOW FINISH GRADE.

CONNECTIONS ABOVE GRADE (MECHANICAL)

COMPRESSION LUG CONNECTOR - 15 TON COMPRESSION, 2 HOLE, LONG BARREL, ELECTRO TINNED PLATED, HIGH CONDUCTIVITY, COPPER 600V RATED. USE 1/4" Ø BOLT, 3/4" SPACING LUGS TO BOND OBJECTS FROM THE IGR. (CONNECTOR SHALL BE BURNDY HYLUG SERIES OR EQUAL.)

EXOTHERMIC WELD LUG CONNECTOR - 2 HOLE, OFFSET, ELECTRO TINNED PLATED, HIGH CONDUCTIVITY, COPPER 600V. USE 1/2" Ø BOLT, 1-3/4" SPACING LUGS. CONNECTOR SHALL BE CADWELD CONNECTION STYLE (CABLE TO SURFACE) TYPE LA, LUG SIZE 1/8 x 1. EXOTHERMIC WELD TO LUG AS REQUIRED.

C-TAP COMPRESSION CONNECTOR - HIGH CONDUCTIVITY COPPER FOR MAIN TO BRANCH LINE TAPPING. (CONNECTOR SHALL BE BURNDY HYTAP SERIES OR EQUAL.)

MECHANICAL CONNECTIONS

USE MATCHING MANUFACTURER TOOL AND DIE FOR COMPRESSION CONNECTION.
 APPLY ANTI-OXIDANT CONDUCTIVITY ENHANCER COMPOUND ON SURFACES THAT ARE COMPRESSED.
 SURFACES INTENDED TO BE CONNECTED WITH MECHANICAL CONNECTORS SHALL BE BARE METAL TO BARE METAL. PRIME AND PAINT OVER BONDED AREA TO PREVENT CORROSION.

WHEN BONDING #2 TO #2

EXTERIOR OF BUILDING - USE EXOTHERMIC WELD CONNECTION
 INTERIOR OF BUILDING - USE COMPRESSION CONNECTION ON STRANDED CONDUCTORS ONLY.
 - USE EXOTHERMIC WELD CONNECTION ON SOLID CONDUCTOR.

WHEN BONDING #2 TO FENCE POST

USE EXOTHERMIC WELD (CADWELD TYPE 'VS') CONNECTION TO FENCE POST STEEL SURFACE. TEST WELD FOR POSSIBLE BURN THRU. PATCH WELDED AREA WITH GALVANIZED COATING AS REQUIRED FOR PROPER WELDED PERMANENT BOND. REFER TO MANUFACTURER'S REQUIREMENTS FOR DETAILS

GROUNDING SYSTEM INTERCONNECTION

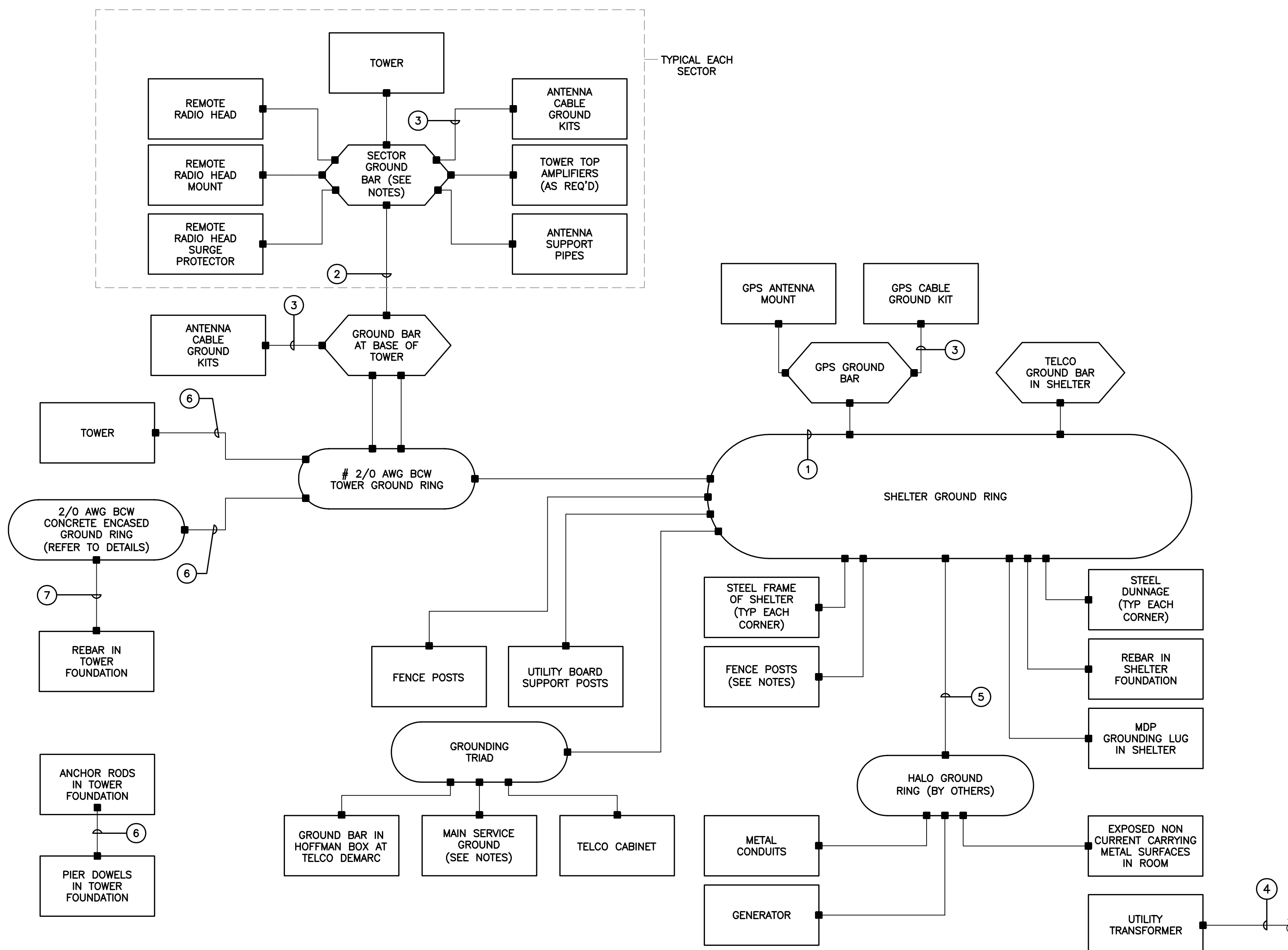
BOND THE EGR DOWN CONDUCTORS, AND/OR BURIED GROUND RING TO ANY METALLIC OBJECT OR EXISTING GROUNDING SYSTEM WITHIN 6'.

WHEN BONDING #2 TO TOWER GROUND PLATE

TOWER GROUND PLATE SHALL BE 6" x 8" x 1/4" COPPER AND BE MADE AVAILABLE TO TOWER CONTRACTOR TO BE INSTALLED DURING TOWER CONSTRUCTION. USE EXOTHERMIC WELD (CADWELD TYPE 'HS') TO TOWER GROUND PLATE TEST WELD FOR POSSIBLE BURN THRU. COORDINATE THE SIZE OF THE MOUNTING HOLE WITH TOWER CONTRACTOR.

METALLIC CONDUITS

BOND ALL STEEL CONDUITS TO PANELS AT POINT OF CONTACT WITH APPROVED GROUNDING BUSHING.



REV.	DATE	TICKET	DESCRIPTION
0	04/27/17	TJK	CONSTRUCTION DRAWINGS - ISSUED FOR PERMITTING
		TUB	DRAWN BY CHK'D BY

PROFESSIONAL ENGINEER SEAL

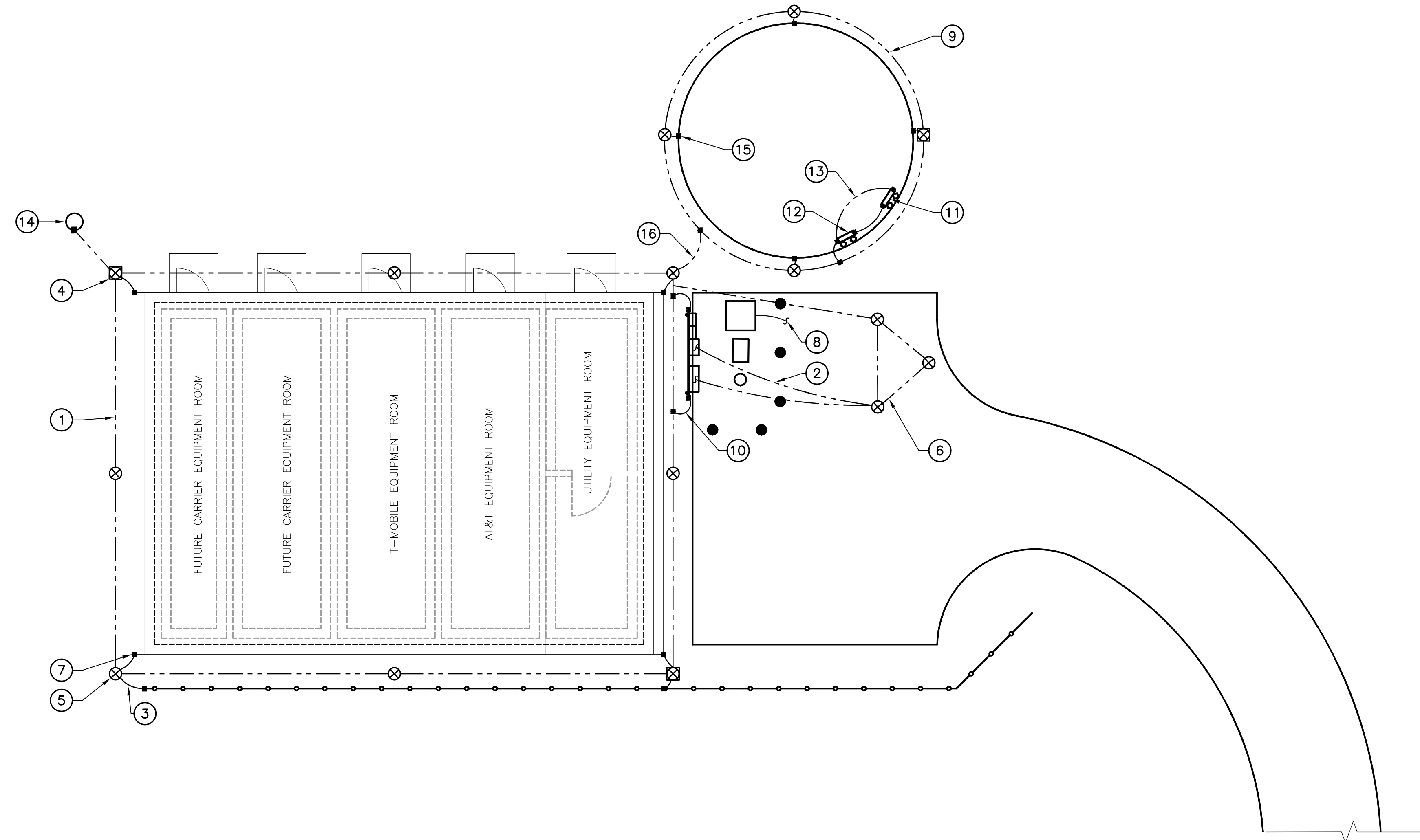


CENTEX engineering
 Centered on Solutions™
 (203) 489-0360
 (203) 489-8387 Fax
 63.2 North Branford Road
 Branford, CT 06405
 www.CentexEng.com

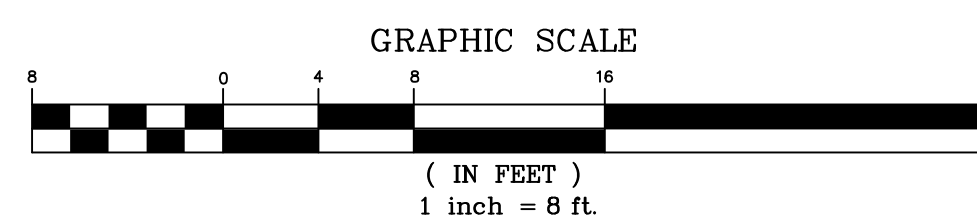
AT&T MOBILITY
 WIRELESS COMMUNICATIONS FACILITY
CT1345 EAST LYME RELO.
THE ORCHARDS
 2 ARBOR CROSSING
 EAST LYME, CT 06333

DATE: 03/07/17
 SCALE: AS NOTED
 JOB NO. 16024.00

SCHEMATIC RISER DIAGRAM AND NOTES



1
E-4
GROUNDING PLAN
SCALE: 1/8" = 1'-0"



GROUNDING PLAN NOTES

- ① #2 SOLID TINNED BCW GROUND RING (2'-0" FROM OUTSIDE EDGE OF EQUIPMENT SHELTER FOUNDATION WHEN ROUTED ALONG SHELTER PERIMETER.) (TYP.).
- ② 4/0 AWG. MAIN SERVICE GROUNDING ELECTRODE CONDUCTOR.
- ③ CONNECT FENCE TO COMPOUND GROUNDING RING PER FENCE DETAILS (TYP.).
- ④ GROUNDING ROD WITH ACCESS (TYP.) PER DETAIL.
- ⑤ GROUNDING ROD (TYP.) PER DETAIL.
- ⑥ GROUNDING TRIAD. BOND TO GROUND RING.
- ⑦ CADWELD EQUIPMENT SHELTER TO GROUND RING (TYP. EACH CORNER).
- ⑧ TRANSFORMER GROUNDING PER UTILITY COMPANY SPECIFICATIONS.
- ⑨ TOWER GROUND RING. (COORDINATE WITH TOWER FOUNDATION).
- ⑩ BOND UTILITY FRAME SUPPORT POSTS TO GROUND RING TYP.
- ⑪ UPPER TOWER MOUNTED GROUND BAR PER DETAIL.
- ⑫ LOWER TOWER MOUNTED GROUND BAR PER DETAIL.
- ⑬ BOND UPPER TOWER MOUNTED GROUND BAR TO LOWER TOWER MOUNTED GROUND BAR (2 GROUND LEADS) PER DETAIL.
- ⑭ 6"ø x 200' GROUND WELL REFER DETAIL.
- ⑮ CONNECT SILO STRUCTURE TO GROUND ROD IN TOWER GROUND RING WITH #2/0 BCW. TYPICAL FOUR PLACES.
- ⑯ BOND COMPOUND GROUND RING TO TOWER GROUND RING WITH #2 AWG BCW.
- ⑰ TRANSFORMER GROUNDING PER UTILITY COMPANY SPECIFICATIONS.

NOTES

- 1. COORDINATE WITH RISER DIAGRAM, GROUNDING SYSTEM SCHEMATIC DIAGRAM, AND ALL GROUNDING DETAILS.
- 2. REFER TO ALL ELECTRICAL AND GROUNDING DETAILS.
- 3. ALL GROUNDING WORK MUST BE COORDINATED WITH, AND APPROVED BY TOWER OWNER PRIOR TO INSTALLATION.
- 4. PROVIDE ANY ADDITIONAL GROUNDING ELEMENTS REQUIRED BY TOWER OWNER.

PROFESSIONAL ENGINEER SEAL



CENTEK
 engineering
 Centered on Solutions™
 (203) 488-0880
 (203) 488-8387 Fax
 63-2 North Branford Road
 Branford, CT 06405
 www.CentekEng.com

AT&T MOBILITY
 WIRELESS COMMUNICATIONS FACILITY

CT1345 EAST LYME RELO.
THE ORCHARDS
 2 ARBOR CROSSING
 EAST LYME, CT 06333

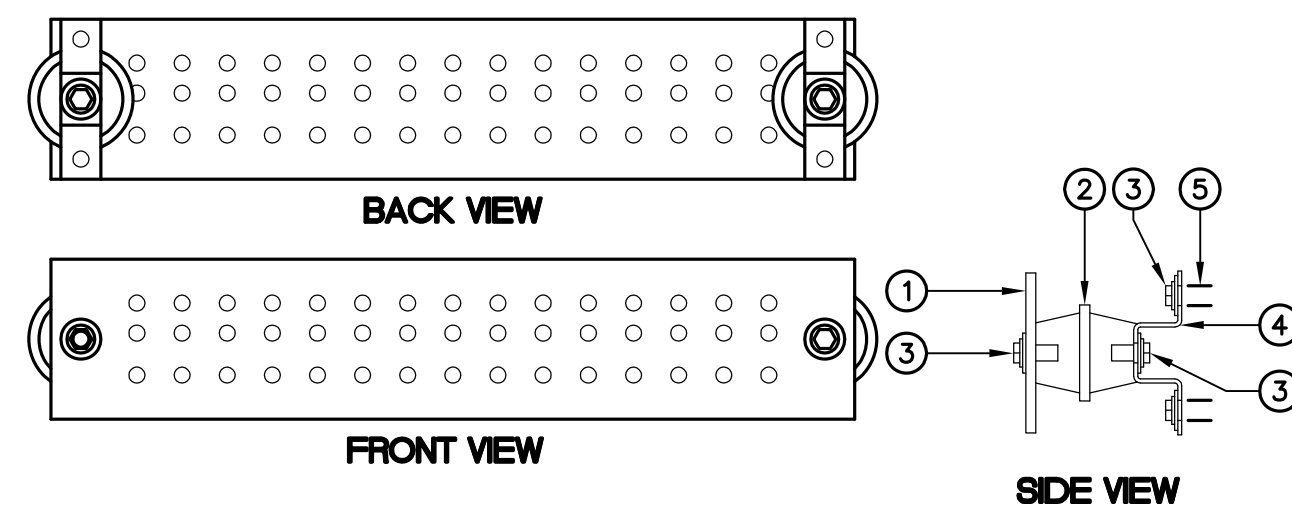
DATE: 03/07/17
 SCALE: AS NOTED
 JOB NO. 16024.00

GROUNDING PLAN
 AND NOTES

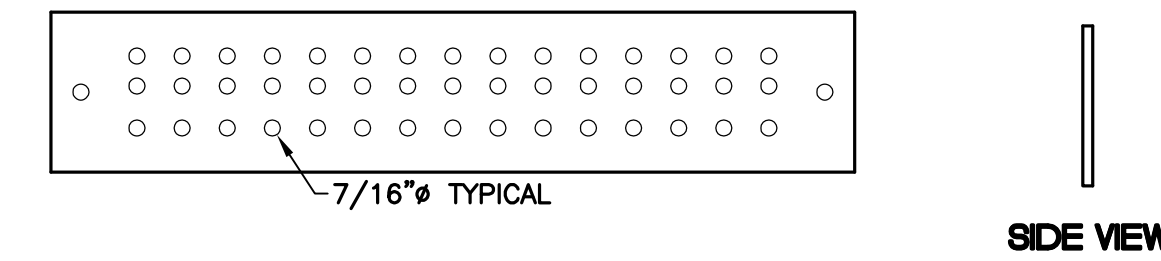
E-4

Sheet No. 15 of 19

0 04/27/17 TUB TDK CONSTRUCTION DRAWINGS - ISSUED FOR PERMITTING
 REV. DATE DRAWN BY CHK'D BY DESCRIPTION

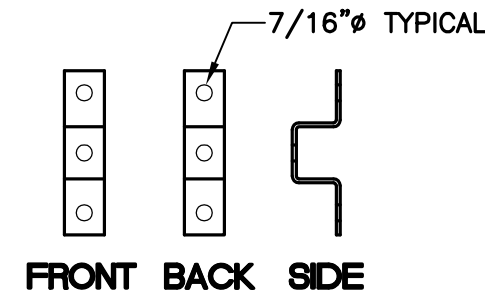


TYPICAL GROUND BAR ASSEMBLY
N.T.S.



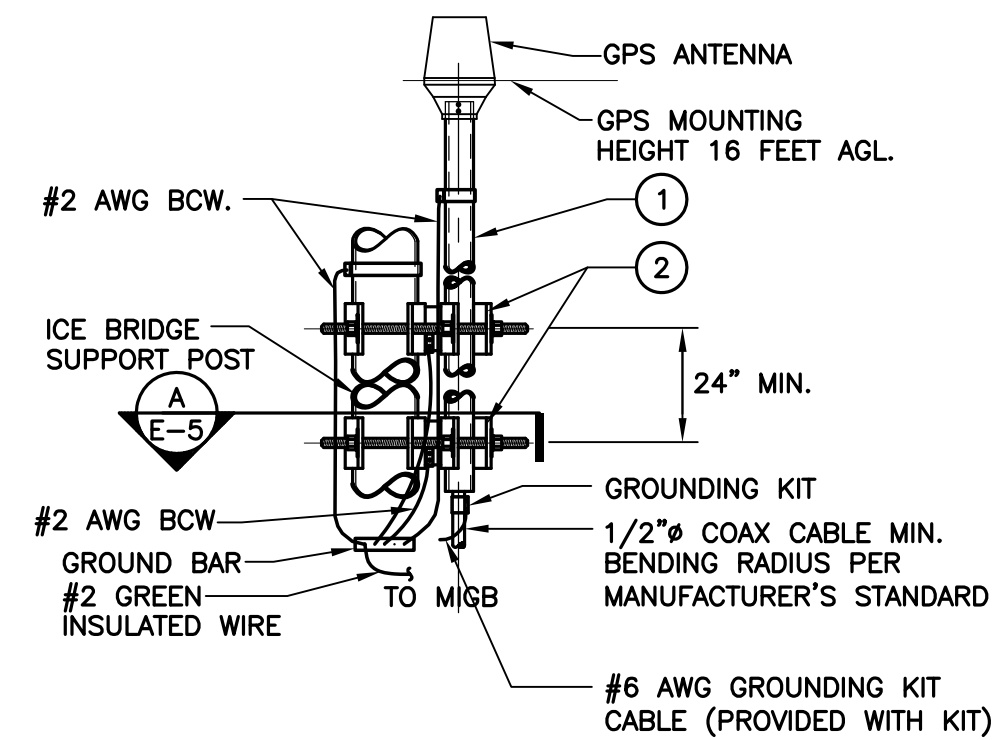
TYPICAL GROUND BAR - DIMENSIONS
N.T.S.

- NOTES**
- HIGH CONDUCTIVITY TINNED COPPER BAR 1"-8"x4"x1/4"D.
 - RED COLORED STANDOFF INSULATOR PLASTIC #1872-1A.
 - STAINLESS STEEL TRUSS SPANNER MACHINE SCREWS, SPLIT LOCKWASHER AND FLAT WASHER.
 - 1"x1/8" T STAINLESS STEEL TYPE 304 BRACKET.
 - STAINLESS STEEL TYPE 304 HARDWARE - 3/8" EXPANSION BOLT FOR CONCRETE.



BRACKET FOR GROUND BAR - DIMENSIONS
N.T.S.

1 MASTER/EQUIPMENT GROUND BAR DETAILS
E-5 N.T.S.



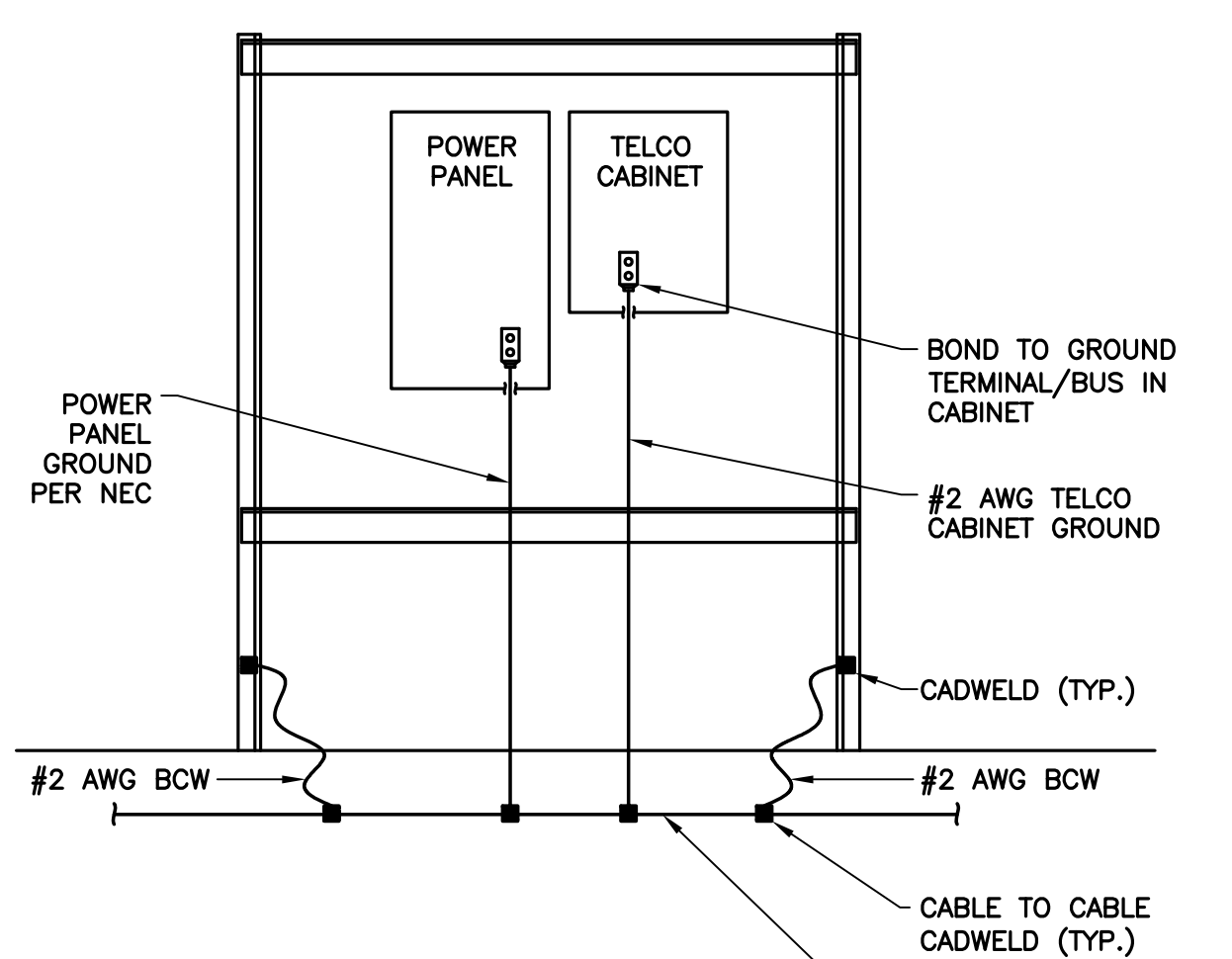
GPS ANTENNA MOUNTING BRACKET

BILL OF MATERIALS

ITEM	DESCRIPTION	QUANTITY
1	2-1/2" SCH. 40 x 8'-0" LG. MAX SS OR GALV. PIPE	1
2	UNIVERSAL CLAMP SET.	2

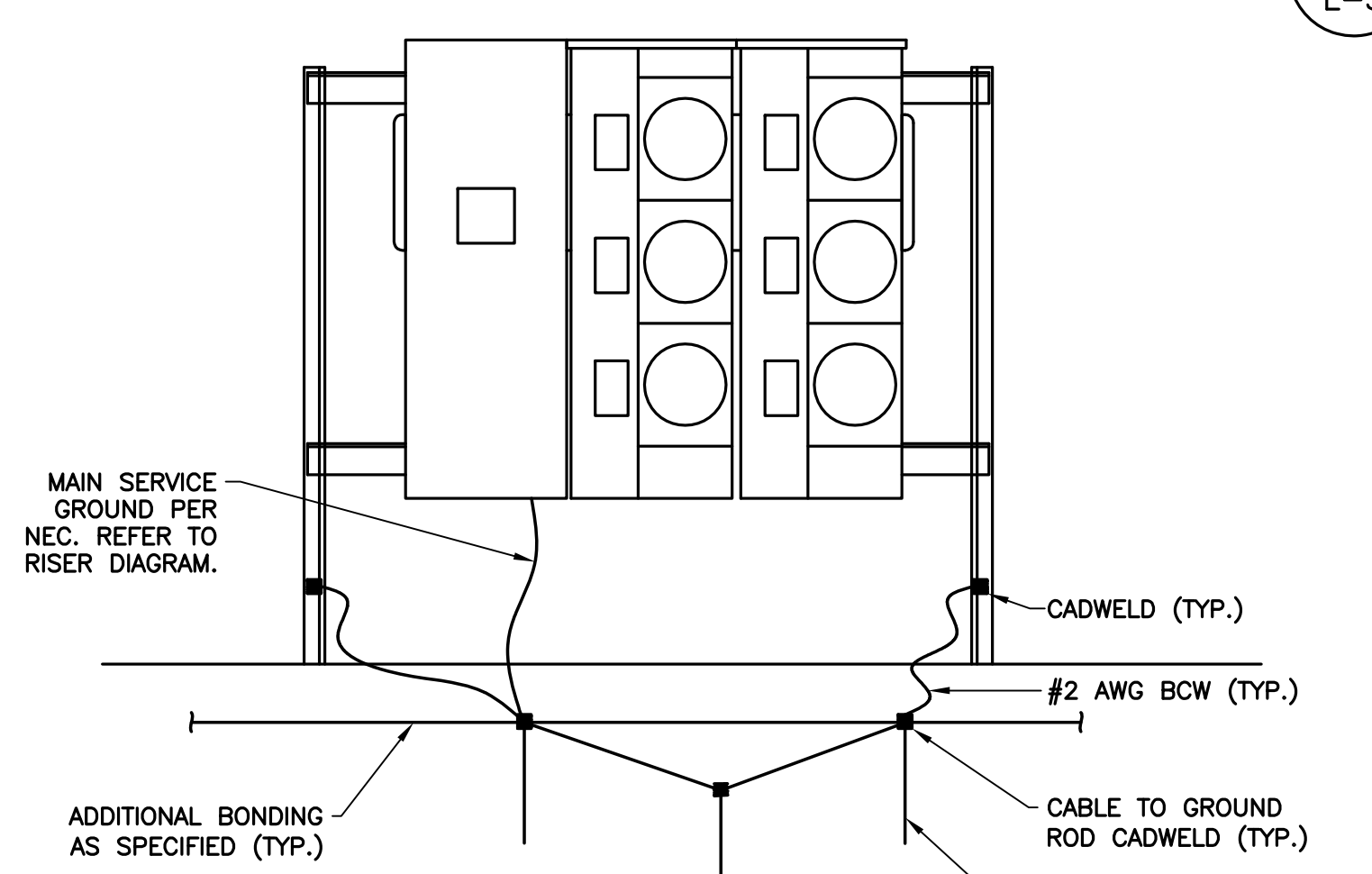
- NOTES**
- THE ELEVATION AND LOCATION OF THE GPS ANTENNA SHALL BE IN ACCORDANCE WITH THE FINAL RF REPORT.
 - THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 2-1/2" DIAMETER, SCHEDULE 40, GALVANIZED STEEL OR STAINLESS STEEL PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH (MINIMUM OF 24 INCHES) USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. A HACK SAW SHALL NOT BE USED. THE CUT PIPE END SHALL BE DEBURRED AND SMOOTH IN ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNA MOUNT.

4 GPS GROUNDING/MOUNTING BRACKET DETAIL
E-5 NOT TO SCALE



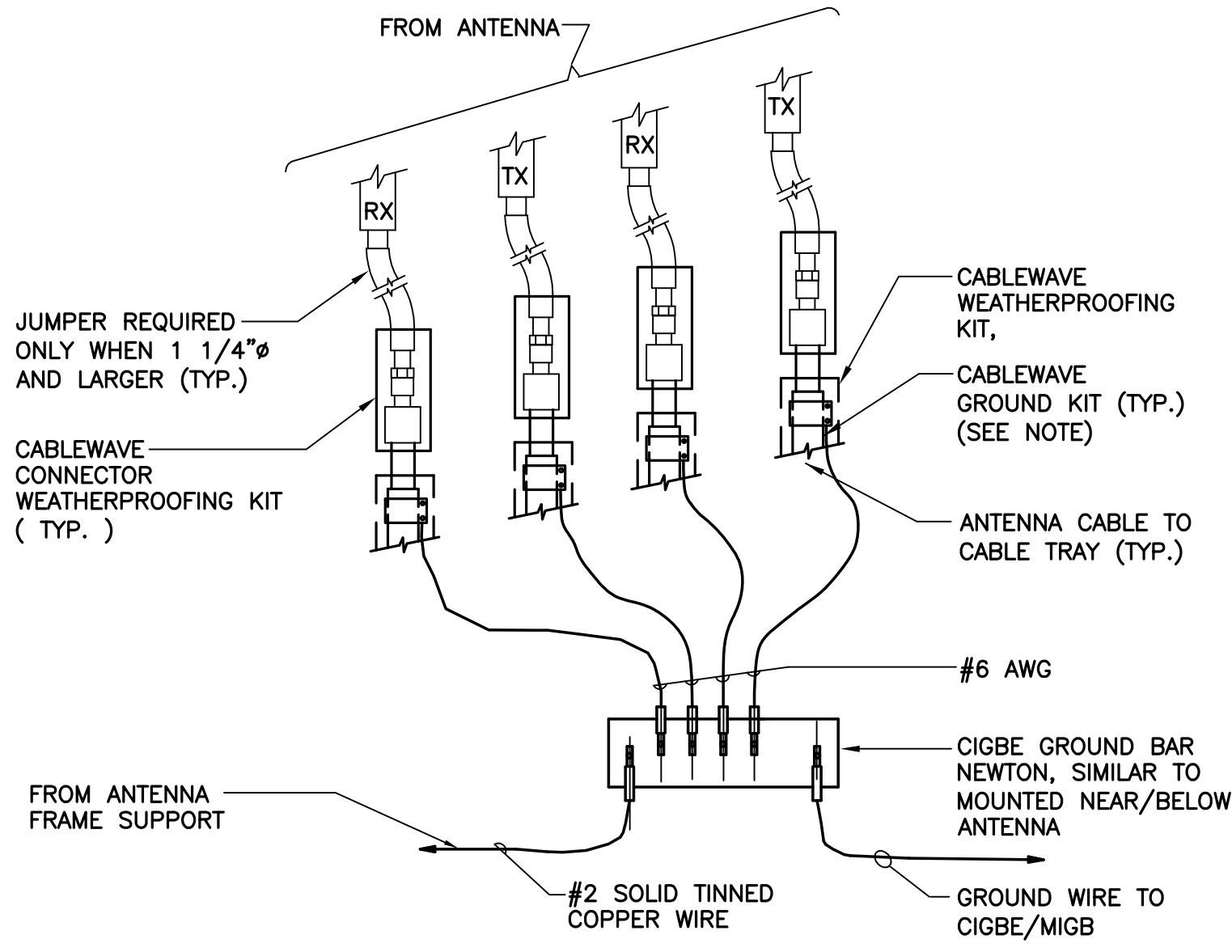
- NOTES**
- THE #2 AWG, BCW, FROM THE GROUND RING SHALL BE CADWELDED TO EACH POST, ABOVE GRADE.

7 UTILITY FRAME GROUNDING DETAIL
E-5 NOT TO SCALE



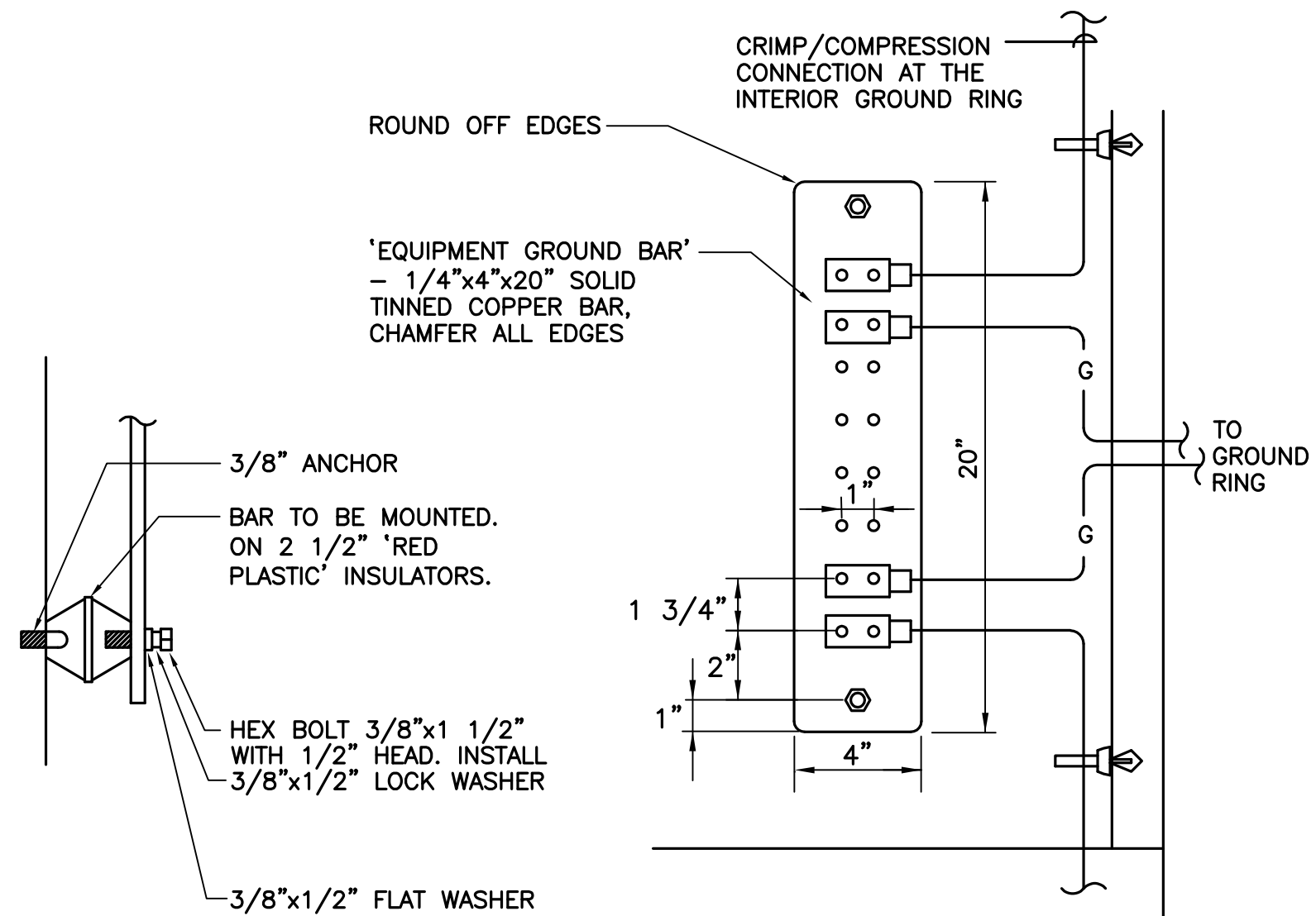
- NOTES**
- THE #2 AWG, BCW, FROM THE GROUND RING SHALL BE CADWELDED TO EACH POST, ABOVE GRADE.

8 UTILITY FRAME GROUNDING DETAIL
E-5 NOT TO SCALE



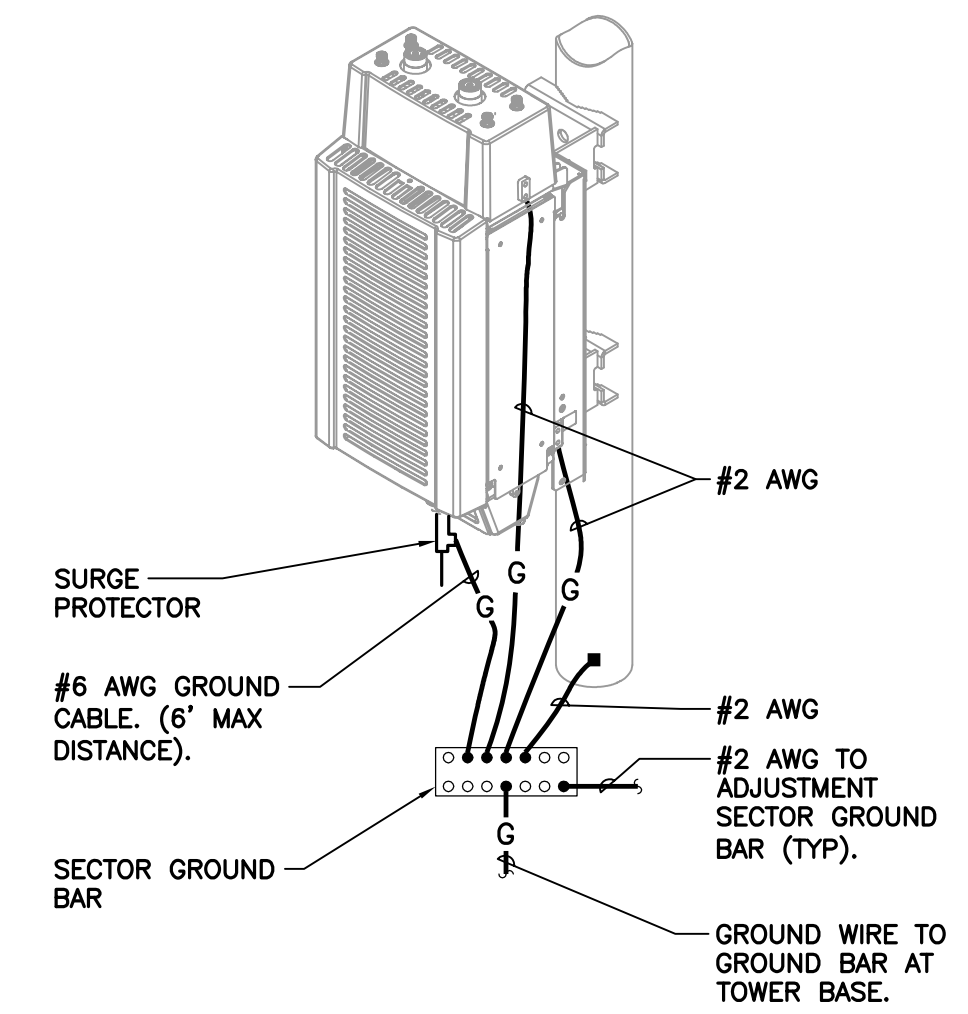
- NOTES**
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

2 CONNECTION OF GROUND WIRES TO GROUND BAR
E-5 NOT TO SCALE

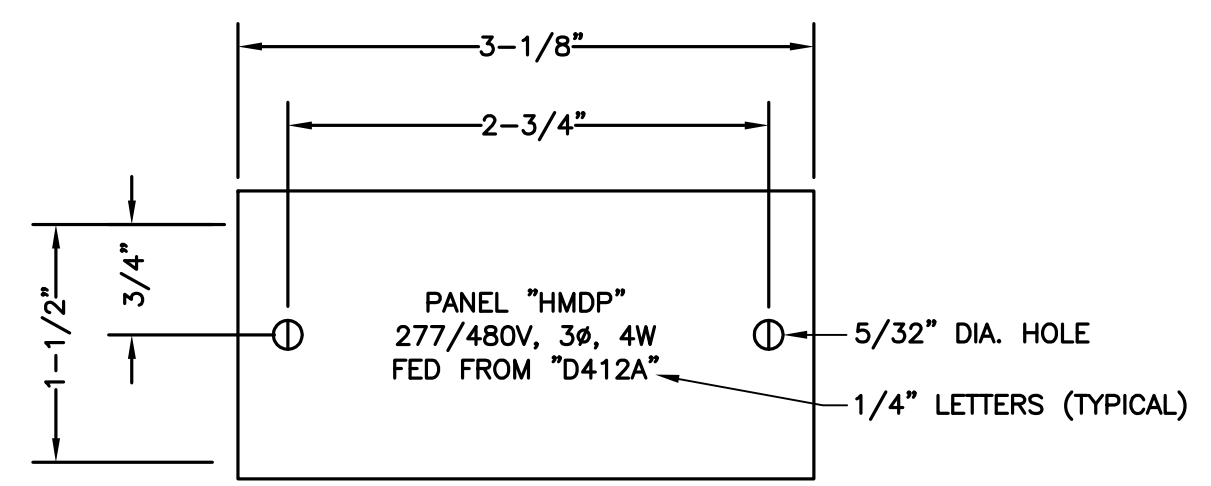


5 EQUIPMENT GROUND BAR DETAIL
E-5 NOT TO SCALE

- EACH RRH CABINET SHALL BE GROUNDED IN THE FOLLOWING MANNER:
- AT TOP OF THE CABINET
 - AT RIGHT SIDE OF THE CABINET.

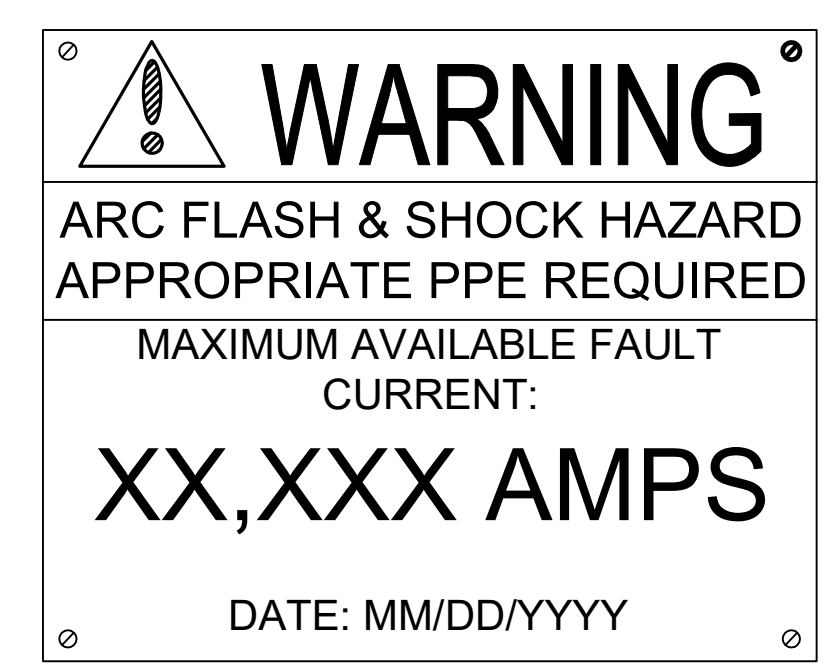


3 RRH POLE MOUNT GROUNING
E-5 NOT TO SCALE



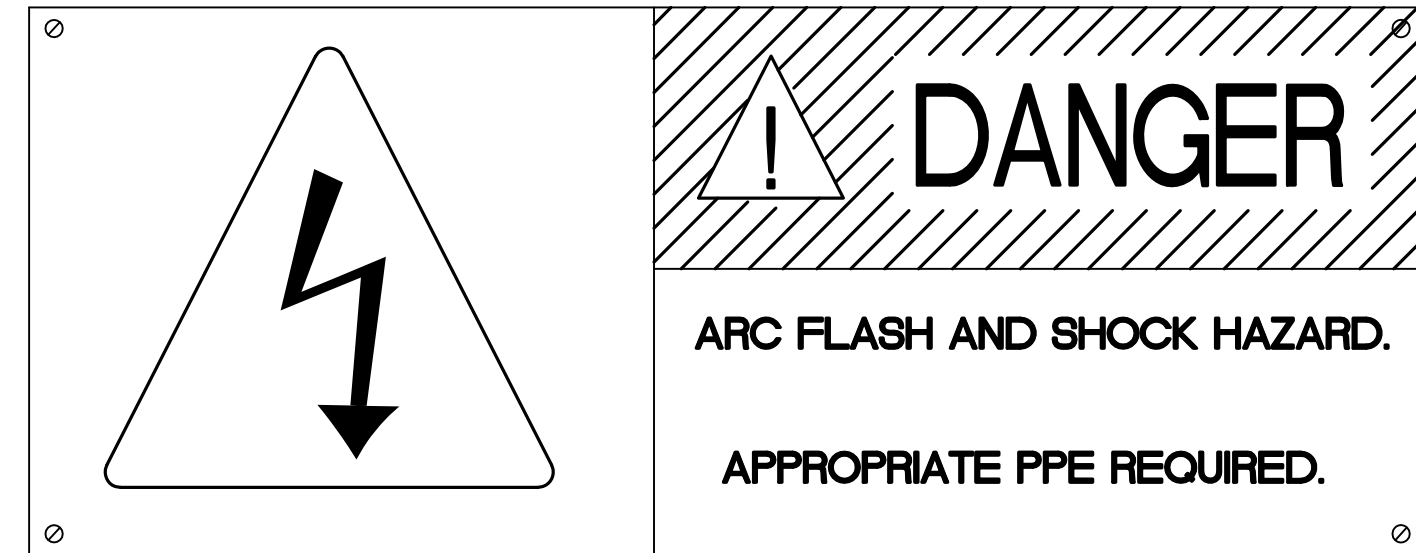
- NOTES**
- REFER TO SPECIFICATIONS FOR ADDITIONAL NAMEPLATE REQUIREMENTS.
 - NAMEPLATE TO BE 1/16" WHITE PLASTIC WITH BLACK CENTER LAMINATION. FACE TO BE WHITE, ENGRAVED LETTERS TO BE BLACK.
 - SECURE NAMEPLATE TO SURFACES WITH (2) FLAT HEAD BRASS SCREWS.

6 DETAIL OF TYPICAL NAMEPLATE
E-5 NOT TO SCALE



- NOTES**
- REFER TO SPECIFICATIONS FOR FOR ADDITIONAL NAMEPLATE REQUIREMENTS.
 - PROVIDE WARNING LABEL ON ALL SERVICE EQUIPMENT IN ACCORDANCE WITH CURRENT NEC REQUIREMENTS.
 - PROVIDE FAULT SHORT CIRCUIT AND COORDINATION STUDY TO ENSURE COMPLIANCE WITH NEC REQUIREMENTS.

9 DETAIL OF TYPICAL FAULT CURRENT SIGN
E-5 NOT TO SCALE



- NOTES**
- REFER TO SPECIFICATIONS FOR FOR ADDITIONAL NAMEPLATE REQUIREMENTS.
 - PROVIDE WARNING LABEL ON ALL SWITCHBOARDS, DISTRIBUTION PANELS, PANELBOARDS IN ACCORDANCE WITH NEC REQUIREMENTS.

10 DETAIL OF TYPICAL FLASH PROTECTION WARNING SIGN
E-5 NOT TO SCALE

CONSTRUCTION DRAWINGS - ISSUED FOR PERMITTING

DATE: 04/27/17 TUB TDK DRAWN BY: CHK'D BY: REV. 0

PROFESSIONAL ENGINEER SEAL

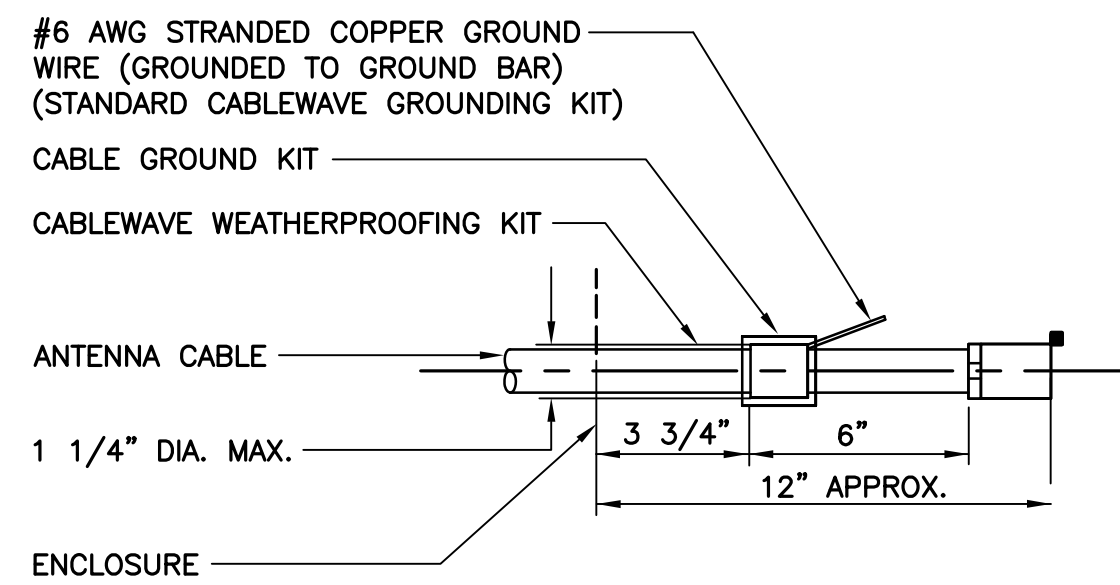
CENTEX engineering
Centered on Solutions™
(203) 489-0580
(203) 489-8387 Fax
65-2 North Branford Road
Branford, CT 06405
www.CentexEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
CT1345 EAST LYME RELO.
THE ORCHARDS
2 ARBOR CROSSING
EAST LYME, CT 06333

DATE: 03/07/17
SCALE: AS NOTED
JOB NO. 16024.00

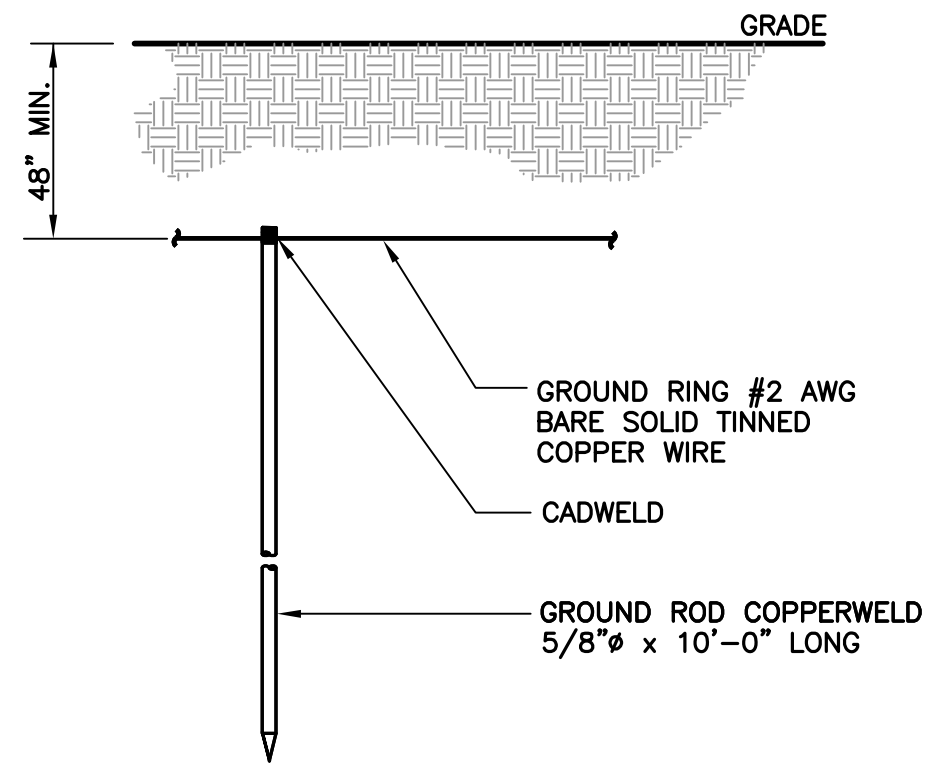
ELECTRICAL DETAILS

E-5
Sheet No. 16 of 19



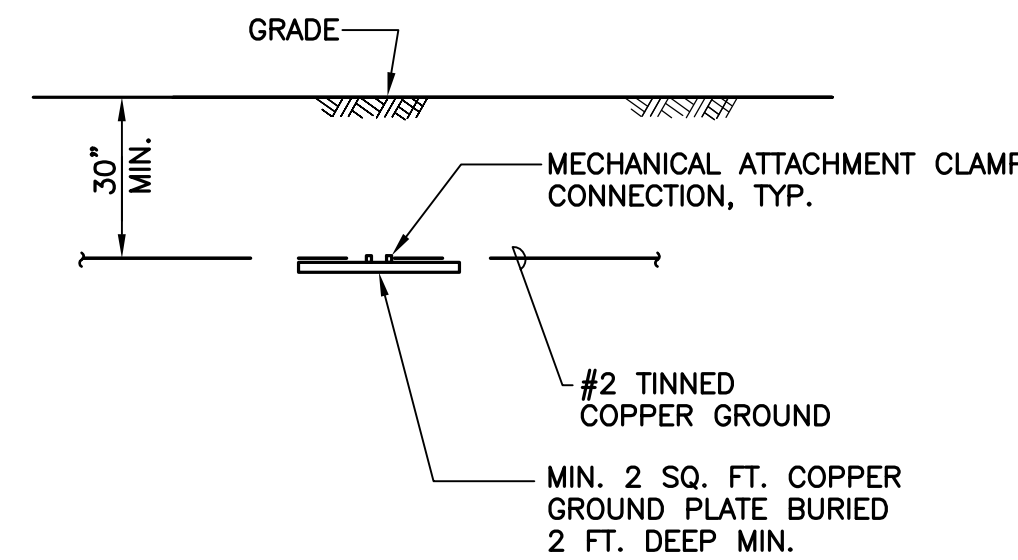
- NOTES:**
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

1 ANTENNA CABLE GROUNDING DETAIL
E-6 NOT TO SCALE



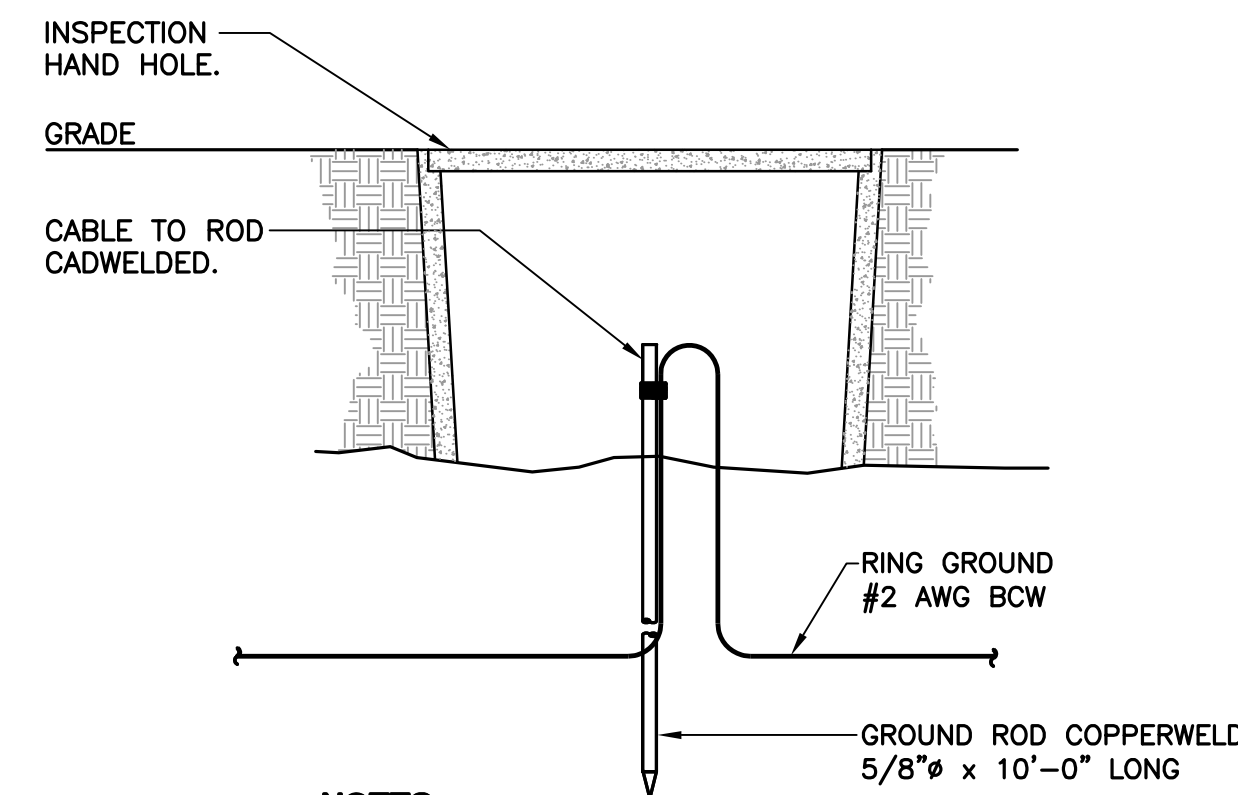
- NOTES:**
- USE GROUND PLATE DETAIL IF 10 FT. GROUND ROD DEPTH CANNOT BE ACHIEVED DUE TO LEDGE CONDITION OR IF EXISTING TOWER FOUNDATION IS ENCOUNTERED.

2 GROUND ROD DETAIL
E-6 NOT TO SCALE



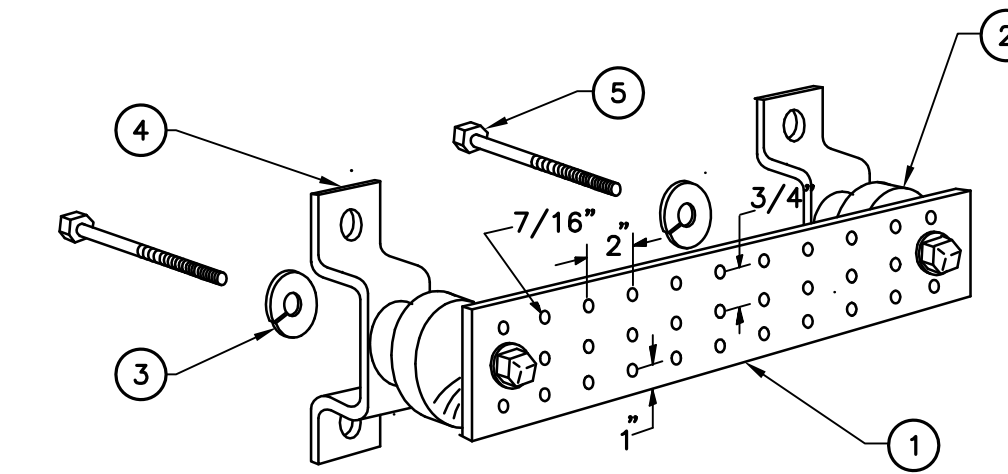
- NOTES:**
- GROUND PLATE DETAIL TO BE USED ONLY IF 10 FT. GROUND ROD DEPTH CANNOT BE ACHIEVED DUE TO LEDGE CONDITION OR IF EXISTING TOWER FOUNDATION IS ENCOUNTERED.

2A GROUND PLATE DETAIL
E-6 NOT TO SCALE



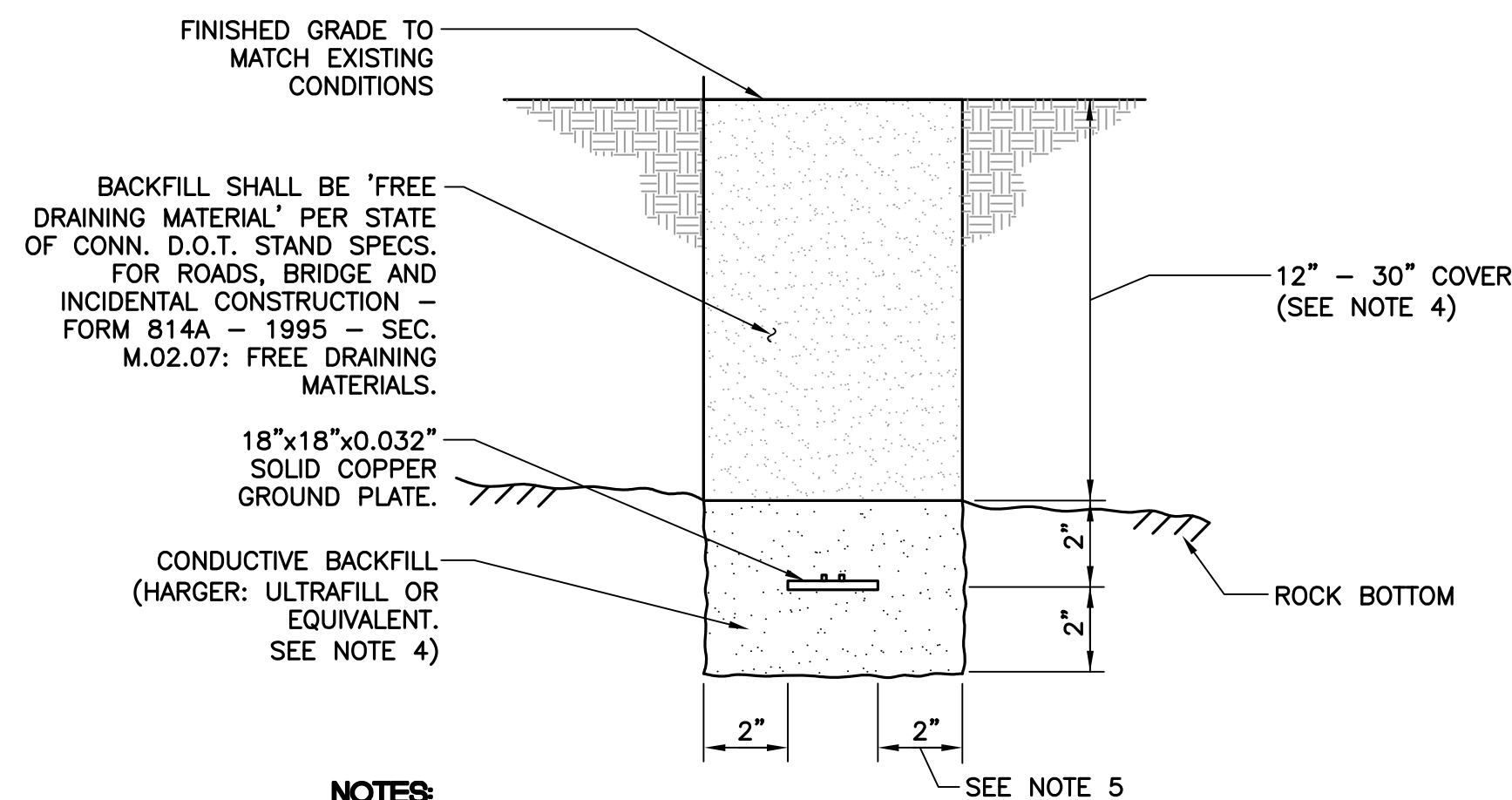
- NOTES:**
- INSPECTION HAND HOLE MAY BE CONCRETE OR PVC AND SHALL BE A MINIMUM OF 12\"/>

3 GROUND ROD WITH ACCESS DETAIL
E-6 NOT TO SCALE



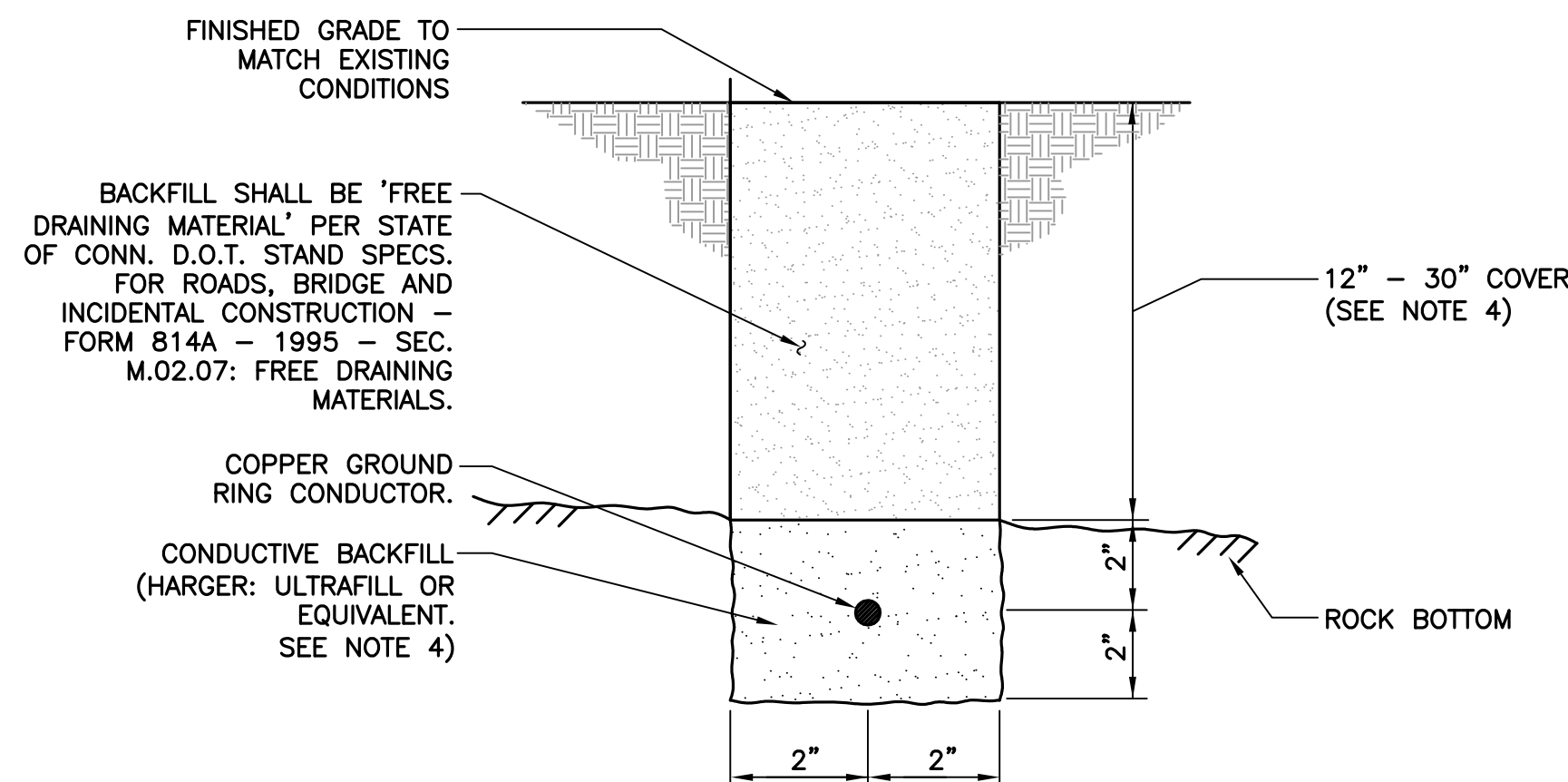
- NOTES**
- TINNED COPPER GROUND BAR, 1/4\"/>

4 GROUND BAR DETAIL
E-6 NOT TO SCALE



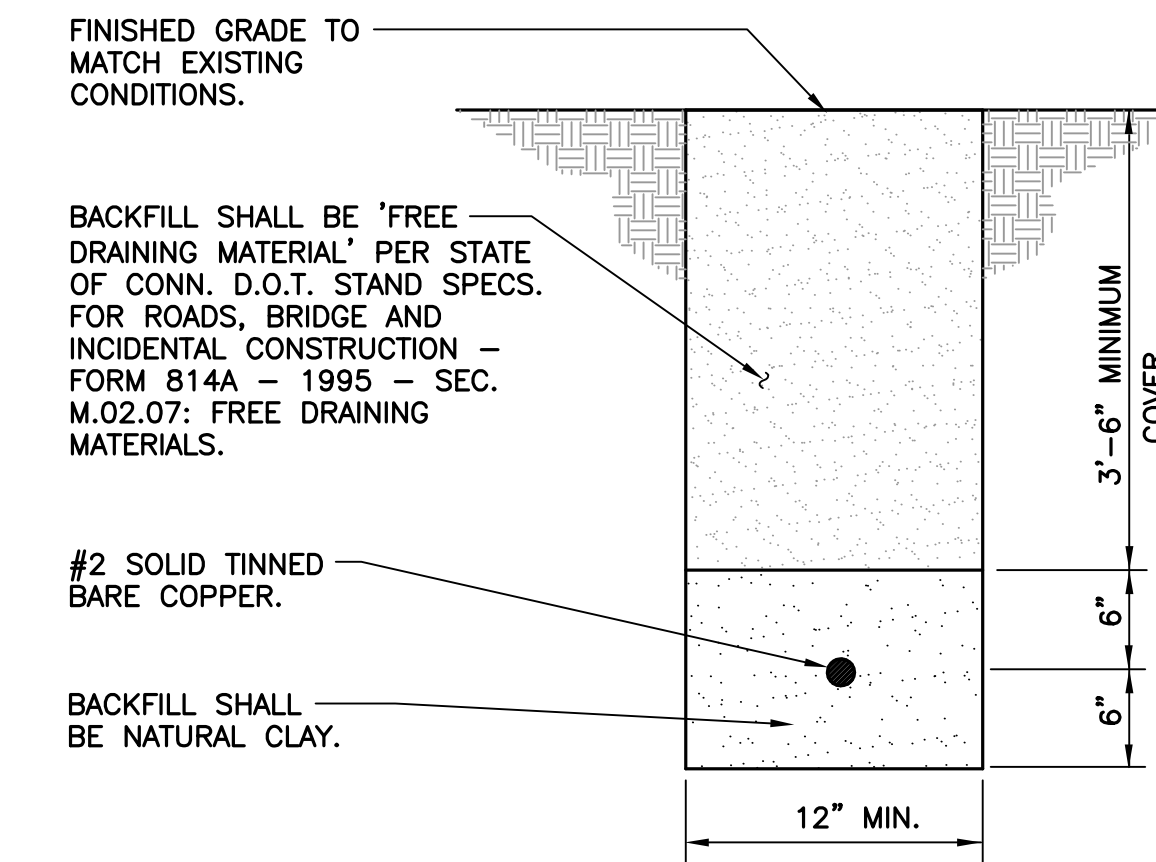
- NOTES:**
- ENGINEER SHALL INSPECT PLACEMENT OF EGR CONDUCTOR PRIOR TO BACKFILLING.
 - MAINTAIN MIN. 2\"/>

5 GROUND PLATE TRENCH/BACKFILL DETAIL (SHALLOW TOPSOIL)
E-6 NOT TO SCALE



- NOTES:**
- ENGINEER SHALL INSPECT PLACEMENT OF EGR CONDUCTOR PRIOR TO BACKFILLING.
 - MAINTAIN MIN. 2\"/>

6 EGR TRENCH/BACKFILL DETAIL (SHALLOW TOPSOIL)
E-6 NOT TO SCALE



- NOTES:**
- ENGINEER SHALL INSPECT PLACEMENT OF EGR CONDUCTOR PRIOR TO BACKFILLING.
 - MAINTAIN MIN. 2\"/>

7 EGR TRENCH/BACKFILL DETAIL
E-6 NOT TO SCALE

REV.	DATE	TUB	TGK	CONSTRUCTION DRAWINGS - ISSUED FOR PERMITTING
0	04/27/17			

PROFESSIONAL ENGINEER SEAL

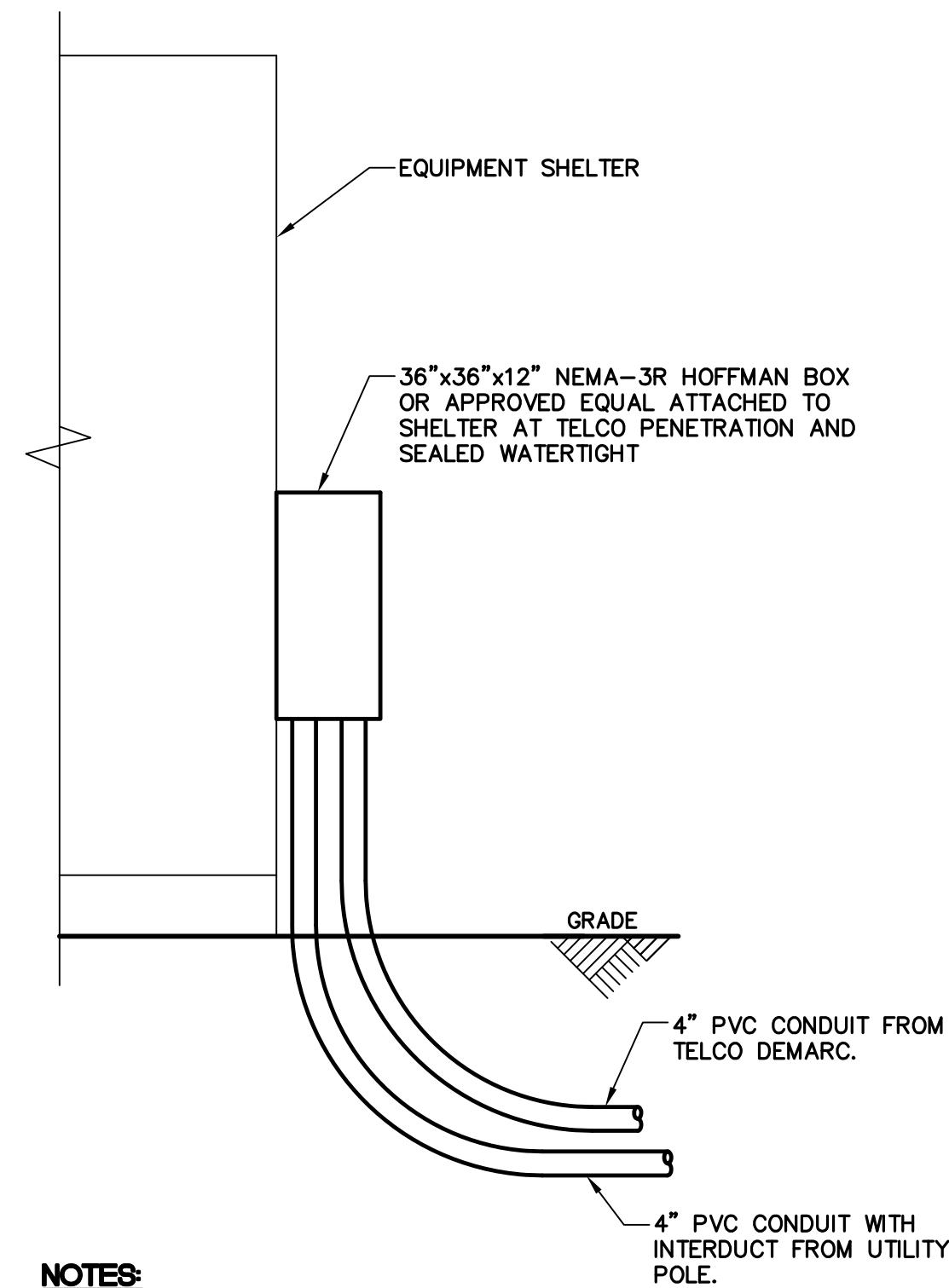


CENTEX engineering
Centered on Solutions™
203 488-0880
203 488-8887 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentexEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
CT1345 EAST LYME RELO.
THE ORCHARDS
2 ARBOR CROSSING
EAST LYME, CT 06333

DATE: 03/07/17
SCALE: AS NOTED
JOB NO. 16024.00

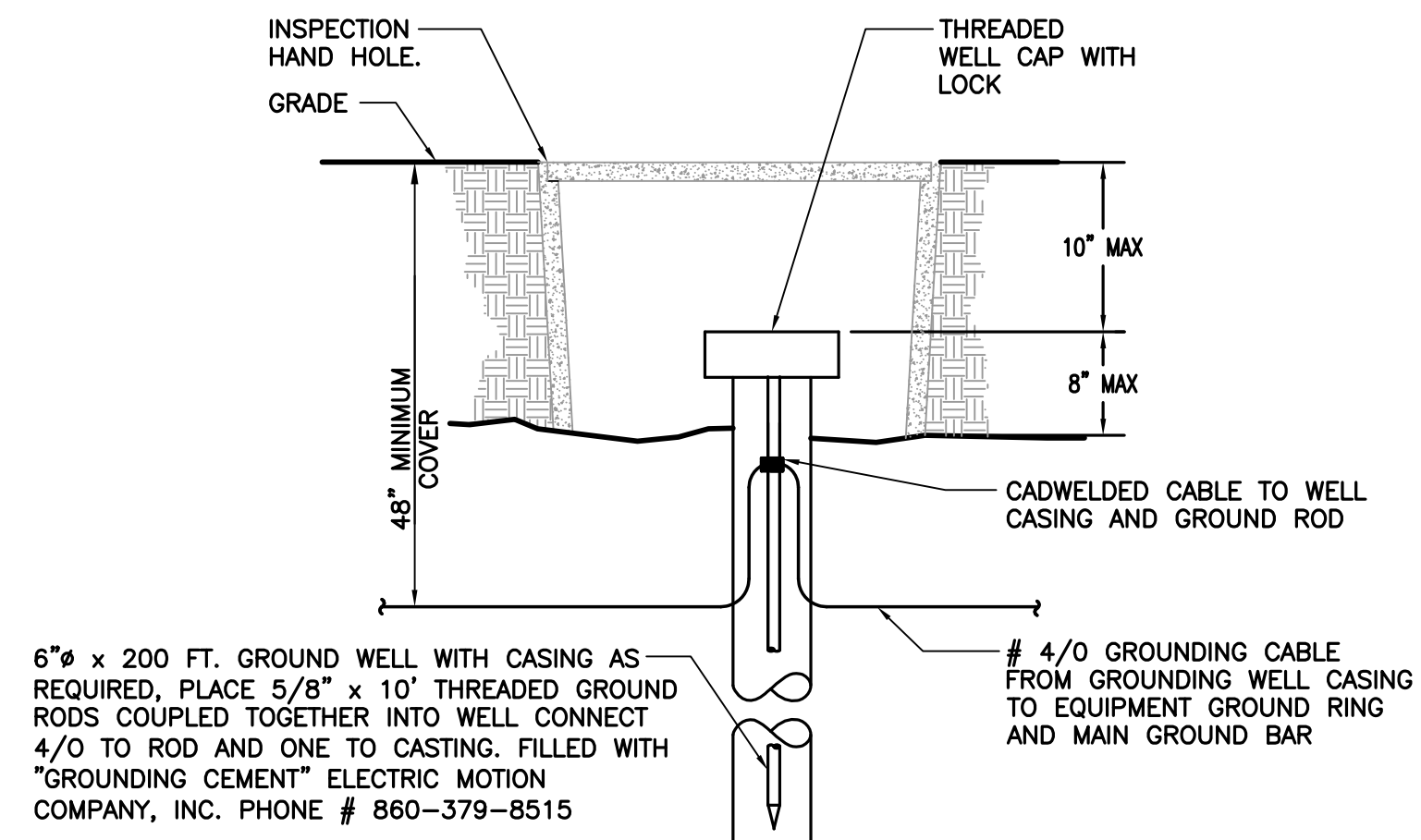
ELECTRICAL
DETAILS



NOTES:

1. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF CONDUITS, PULL ROPES, AND SUPPORT ASSEMBLY.
2. COORDINATE EXACT LOCATION AND CONDUIT SIZE WITH TELEPHONE COMPANY.

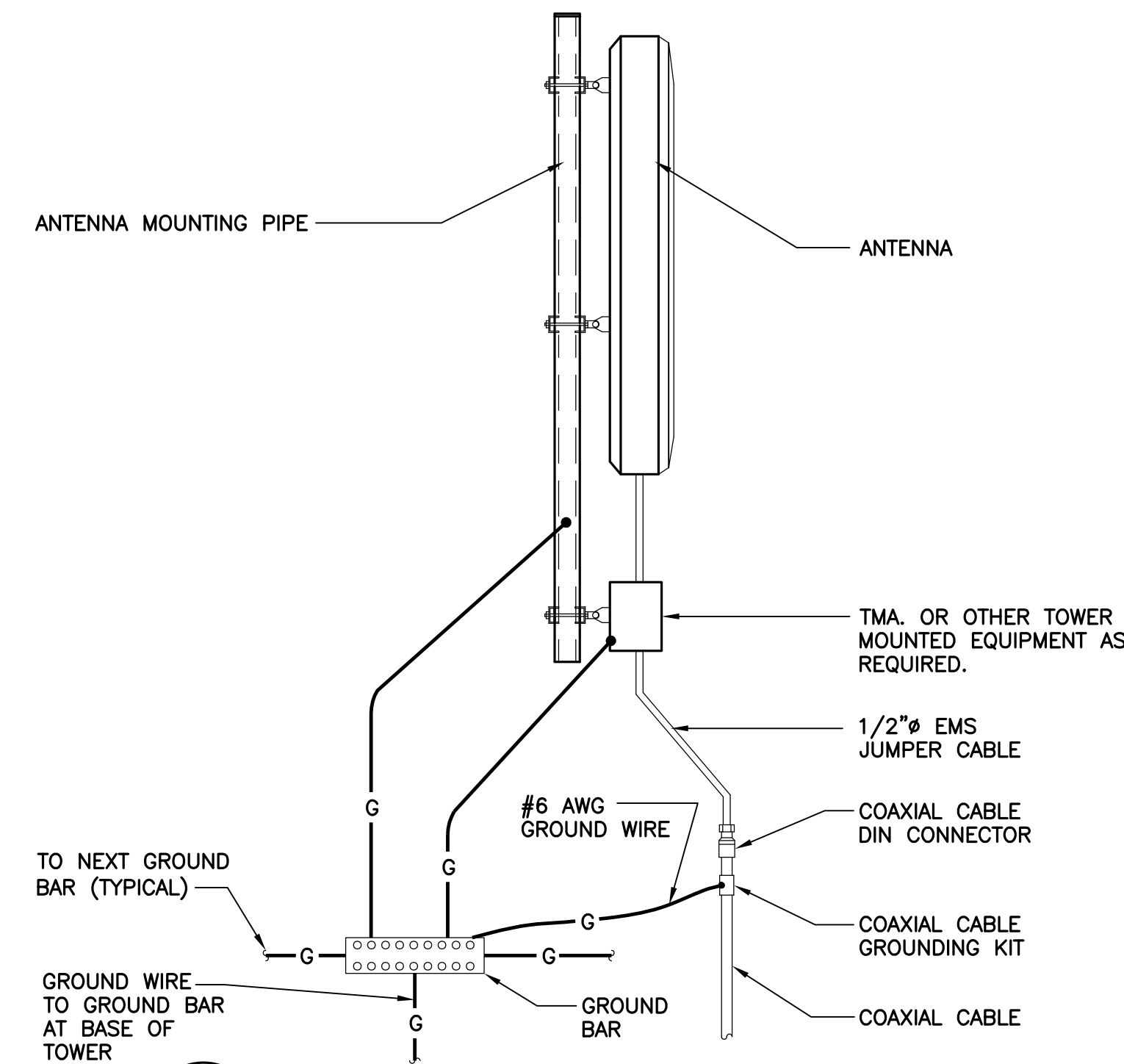
1 HOFFMAN BOX DETAIL
E-7 NOT TO SCALE



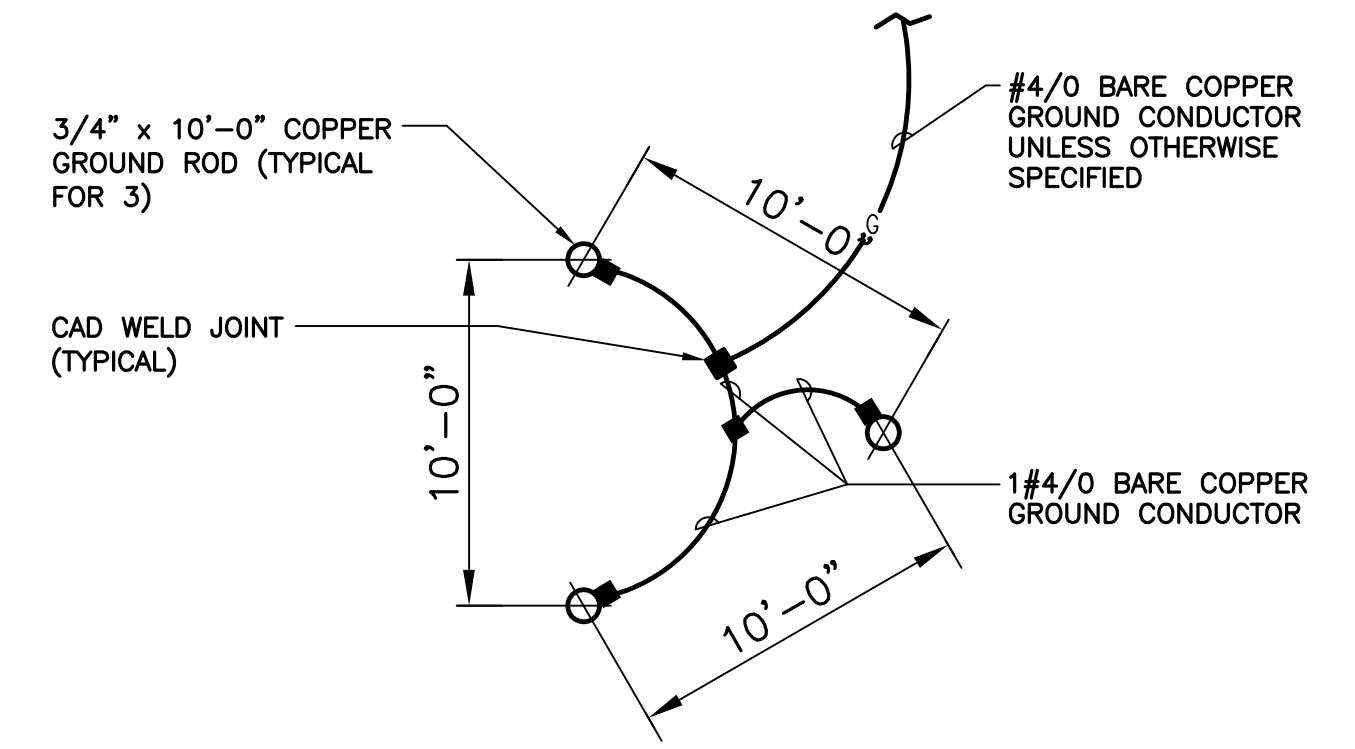
NOTES:

1. INSPECTION HAND HOLE MAY BE CONCRETE OR PVC AND SHALL BE A MINIMUM OF 12" DIA X 18" DEEP.
2. TO BE INCORPORATED INTO PROJECT IF 5 OHMS CAN NOT BE ACHIEVED AT THE PROJECT SITE

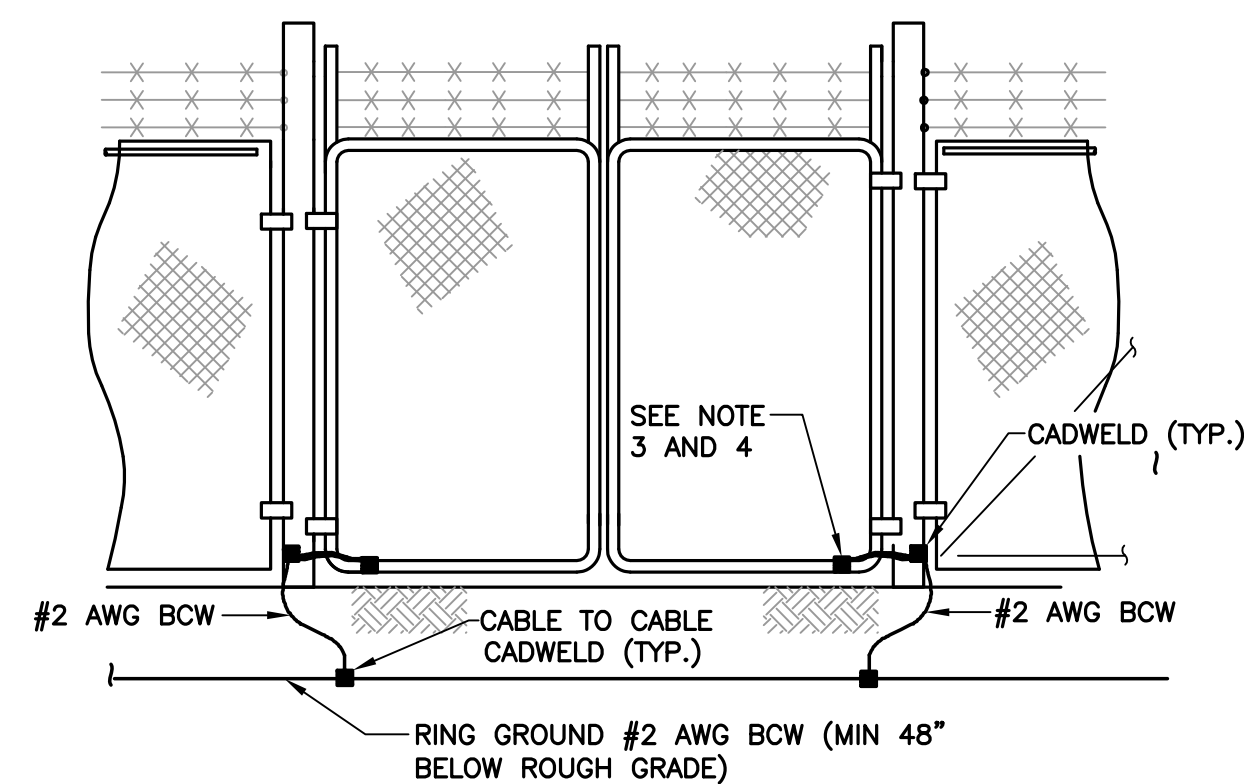
2 GROUNDING WELL DETAIL
E-7 NOT TO SCALE



3 TYPICAL ANTENNA GROUNDING DETAIL
E-7 NOT TO SCALE



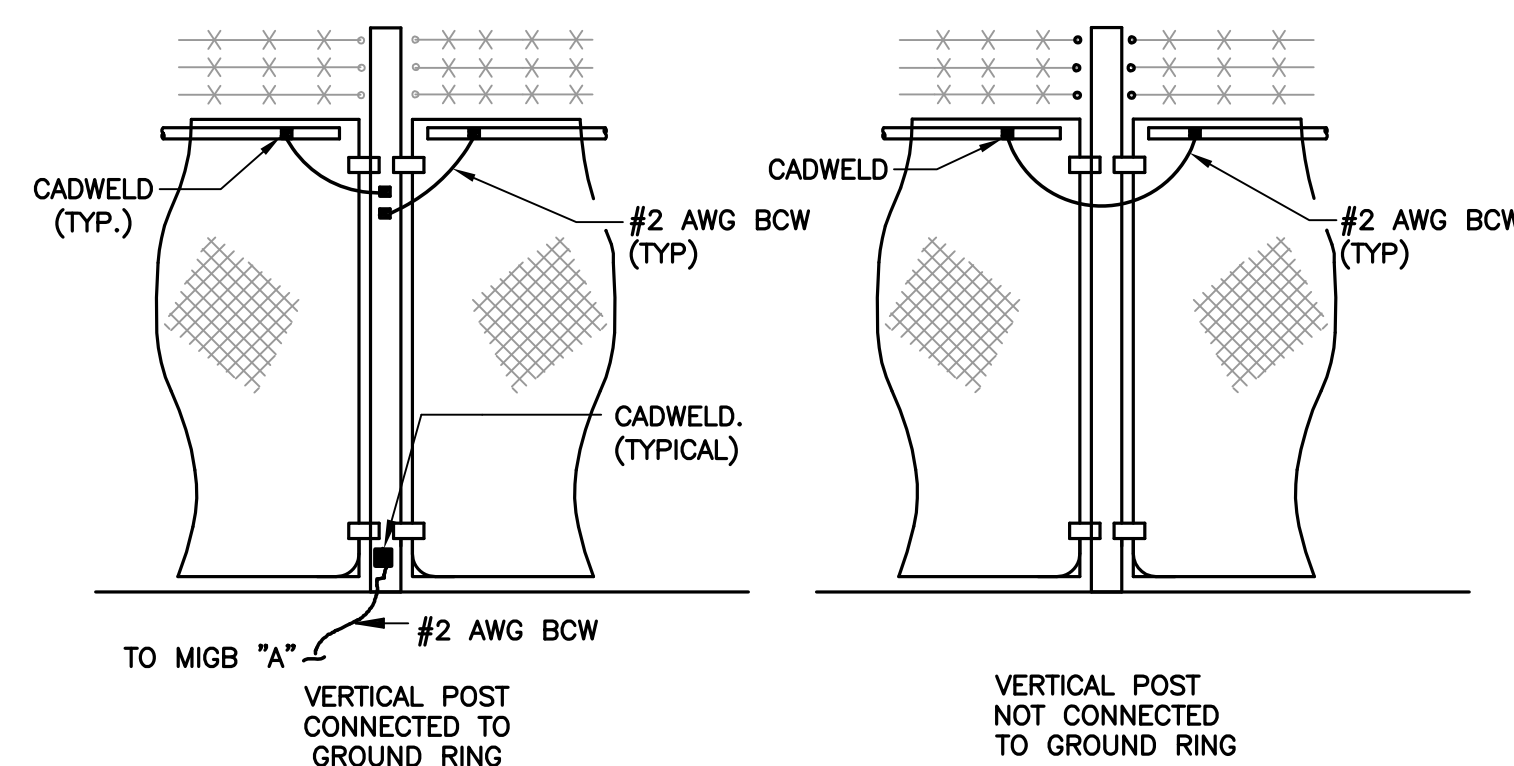
4 GROUND TRIAD DETAIL
E-7 NOT TO SCALE



NOTES:

1. THE #2 AWG, BCW, FROM THE RING GROUND SHALL BE CADWELDED TO THE POST, ABOVE GRADE.
2. BOND EACH HORIZONTAL POLE/BRACE TO EACH OTHER AND TO EACH VERTICAL POLE BONDED TO THE EXTERIOR GROUND RING.
3. GATE JUMPER SHALL BE #4/0 AWG WELDING CABLE OR FLEXIBLE COPPER BRAID BURNDY TYPE B WITH SLEEVES ON EACH END DESIGNED FOR EXOTHERMIC WELDING.
4. GATE JUMPER SHALL BE INSTALLED SO THAT IT WILL NOT BE SUBJECTED TO DAMAGING STRAIN WHEN GATE IS FULLY OPEN IN EITHER DIRECTION.

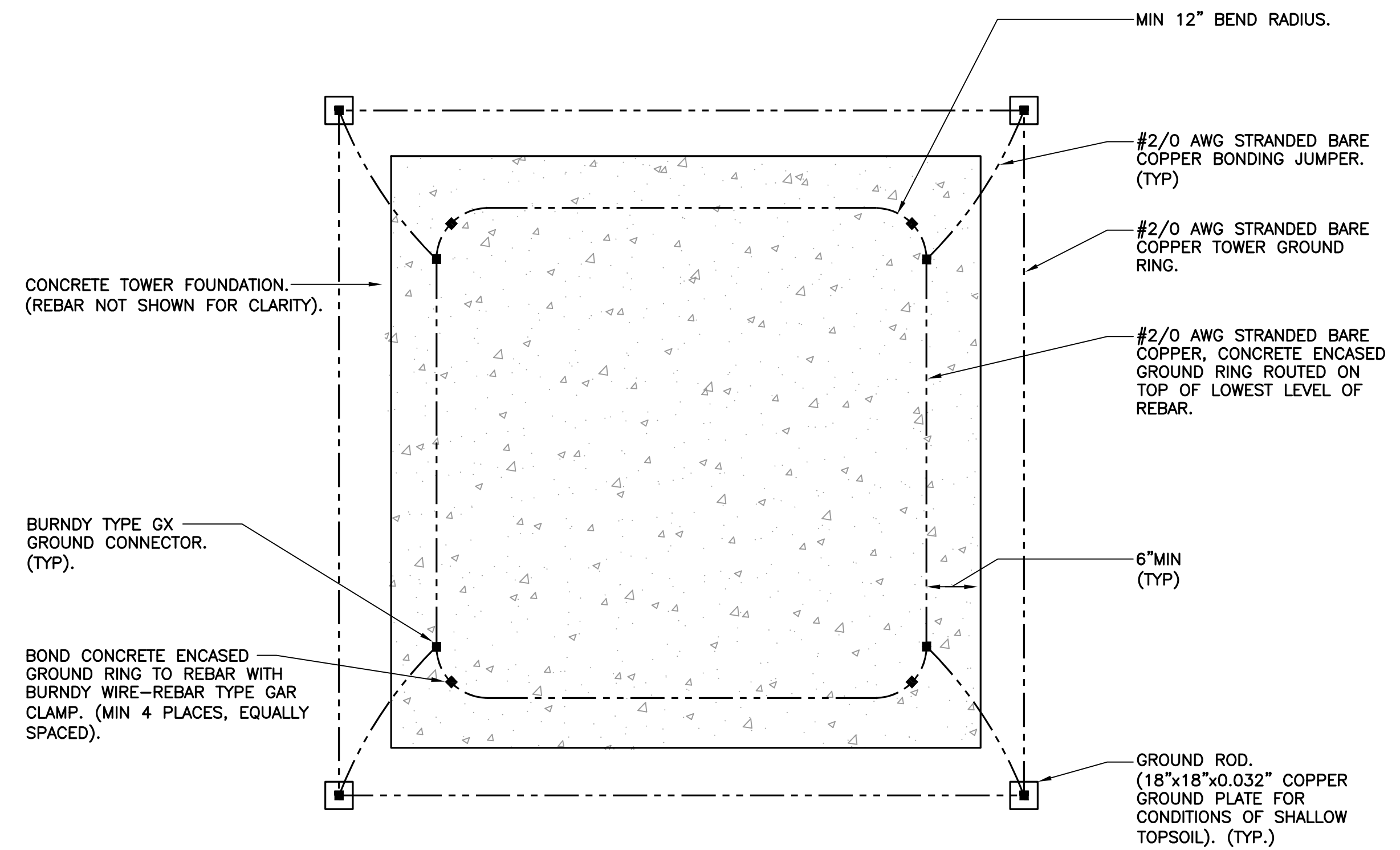
5 FENCE GATE GROUNDING
E-7 NOT TO SCALE



NOTES:

1. VERTICAL POSTS SHALL BE BONDED TO THE RING AT EACH CORNER AND AT EACH GATE POST. AS A MINIMUM ONE VERTICAL POST SHALL BE BONDED TO THE GROUND RING IN EVERY 100 FOOT STRAIGHT RUN OF FENCE.
2. HORIZONTAL POLES SHALL BE BONDED TO EACH OTHER.
3. BOND EACH HORIZONTAL POLE / BRACE TO EACH OTHER AND TO EACH VERTICAL POST THAT IS BONDED TO THE EXTERIOR GROUND RING.

6 GROUND-STD. DETAIL FENCE GROUNDING
E-7 NOT TO SCALE



7 CONCRETE ENCASED GROUND RING PLAN VIEW
E-7 NOT TO SCALE

REV.	DATE	BY	CHK'D BY	TICKET NO.	DESCRIPTION
0	04/27/17	TUB	TGK		CONSTRUCTION DRAWINGS - ISSUED FOR PERMITTING

PROFESSIONAL ENGINEER SEAL



CENTER engineering
Centered on Solutions™
(203) 488-0880
(203) 488-8887 Fax
63-2 North Branford Road
Branford, CT 06405
www.CenterEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
CT1345 EAST LYME RELO.
THE ORCHARDS
2 ARBOR CROSSING
EAST LYME, CT 06333

DATE: 03/07/17
SCALE: AS NOTED
JOB NO. 16024.00

ELECTRICAL
DETAILS

ELECTRICAL SPECIFICATIONS

SECTION 16010

1.01. SCOPE OF WORK

- A. WORK SHALL INCLUDE ALL LABOR, EQUIPMENT AND SERVICES REQUIRED TO COMPLETE (MAKE READY FOR OPERATION) ALL THE ELECTRICAL WORK INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:
 - 1. INSTALL NEW 6-GANG MULTI METER CENTER, 800A, 240/120V, 1P, 3 WIRE ELECTRIC SERVICE WITH REVENUE METER AND 200A MAIN CIRCUIT BREAKER FOR OWNER AND ASSOCIATED DISTRIBUTION EQUIPMENT. (AS REQUIRED BY UTILITY CO.)
 - 2. NEW SITE TELEPHONE SERVICE AS SPECIFIED BY TELEPHONE COMPANY.
 - 3. GENERATOR/TRANSFER SWITCH.
 - 4. FEEDERS AND BRANCH CIRCUIT WIRING TO PANELS, RECEPTACLES, EQUIPMENT, LIGHTING FIXTURES, ETC. AS INDICATED OR NOTED ON PLANS.
 - 6. CELLULAR SITE ALARMS, ASSOCIATED WIRING AND DEVICES.
 - 7. CELLULAR GROUNDING SYSTEMS, CONSISTING OF ANTENNA GROUNDING, GROUND BARS, ETC.
 - 8. FURNISH AND INSTALL 3/4" PLYWOOD BACKBOARD OF SIZE INDICATED ON DRAWINGS FOR MOUNTING OF POWER/SERVICE EQUIPMENT AND TELEPHONE/ALARM EQUIPMENT. BACKBOARDS SHALL BE PAINTED WITH TWO (2) COATS OF SEMI-GLOSS GRAY FIRE RETARDANT PAINT.
 - 9. FIELD MEASURE EXISTING ELECTRICAL SERVICES TO CONFIRM AVAILABLE EXISTING POWER.
 - 10. COORDINATE ALL WORK SHOWN, ON THESE PLANS WITH LOCAL UTILITY COMPANIES.
- B. LOCAL UTILITY COMPANIES SHALL PROVIDE THE FOLLOWING:
 - 1. TELEPHONE CABLES.
 - 2. SHUTDOWN OF SERVICE (COORDINATE WITH OWNER).
- C. CONTRACTOR SHALL CONFER WITH LOCAL UTILITY COMPANIES TO ASCERTAIN THE LIMITS OF THEIR WORK AND SHALL INCLUDE IN BID ANY CHARGES OR FEES MADE BY THE UTILITY COMPANIES FOR THEIR PORTION OF THE WORK AND SHALL PROVIDE AND INSTALL ALL ITEMS REQUIRED, BUT NOT PROVIDED BY UTILITY COMPANY.
- D. ELECTRICAL CONTRACTOR SHALL COORDINATE ELECTRICAL INSTALLATION WITH ELECTRIC UTILITY CO. PRIOR TO INSTALLATION.
- E. CONTRACTOR SHALL COORDINATE WITH TELEPHONE UTILITY COMPANY FOR LOCATION OF TELEPHONE SERVICE AND TO DETERMINE ANY REQUIRED EQUIPMENT TO BE INSTALLED BY CONTRACTOR.

1.02. GENERAL REQUIREMENTS

- A. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE INTERPRETED AS AN INFRINGEMENT OF SUCH CODES OR REGULATIONS.
- B. THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COORDINATION OF THE ENTIRE ELECTRICAL SERVICE. ALL ACTIVITIES TO BE COORDINATED THROUGH OWNERS REPRESENTATIVE, DESIGN ENGINEER AND OTHER AUTHORITIES HAVING JURISDICTION OF TRADES.
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES THAT MAY BE REQUIRED FOR THE ELECTRICAL WORK AND FOR SCHEDULING OF ALL INSPECTIONS THAT MAY BE REQUIRED BY THE LOCAL AUTHORITY.
- D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE BUILDING OWNER FOR NEW AND/OR DEMOLITION WORK INVOLVED.
- E. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH LOCAL TELEPHONE COMPANY THAT MAY BE REQUIRED FOR THE INSTALLATION OF TELEPHONE SERVICE TO THE PROPOSED CELLULAR SITE.
- F. NO MATERIAL OTHER THAN THAT CONTAINED IN THE "LATEST LIST OF ELECTRICAL FITTINGS" APPROVED BY THE UNDERWRITERS' LABORATORIES, SHALL BE USED IN ANY PART OF THE WORK. ALL MATERIAL FOR WHICH LABEL SERVICE HAS BEEN ESTABLISHED SHALL BEAR THE U.L. LABEL.
- G. THE CONTRACTOR SHALL GUARANTEE ALL NEW WORK FOR A PERIOD OF ONE YEAR FROM THE ACCEPTANCE DATE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WARRANTIES FROM ALL EQUIPMENT MANUFACTURERS FOR SUBMISSION TO THE OWNER.
- H. DRAWINGS INDICATE GENERAL ARRANGEMENT OF WORK INCLUDED IN CONTRACT. CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE MODIFICATIONS TO THE LAYOUT OF THE WORK TO PREVENT CONFLICT WITH WORK OF OTHER TRADES AND FOR THE PROPER INSTALLATION OF WORK. CHECK ALL DRAWINGS AND VISIT JOB SITE TO VERIFY SPACE AND TYPE OF EXISTING CONDITIONS IN WHICH WORK WILL BE DONE, PRIOR TO SUBMITTAL OF BID.
- I. THE ELECTRICAL CONTRACTOR SHALL SUPPLY THREE (3) COMPLETE SETS OF APPROVED DRAWINGS, ENGINEERING DATA SHEETS, MAINTENANCE AND OPERATING INSTRUCTION MANUALS FOR ALL SYSTEMS AND THEIR RESPECTIVE EQUIPMENT. THESE MANUALS SHALL BE INSERTED IN VINYL COVERED 3-RING BINDERS AND TURNED OVER TO OWNER'S REPRESENTATIVE ONE (1) WEEK PRIOR TO FINAL PUNCH LIST.
- J. ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER AND WILL BE SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
- K. ALL EQUIPMENT AND MATERIALS TO BE INSTALLED SHALL BE NEW, UNLESS OTHERWISE NOTED.
- L. BEFORE FINAL PAYMENT, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF PRINTS (AS-BUILTS), LEGIBLY MARKED IN RED PENCIL TO SHOW ALL CHANGES FROM THE ORIGINAL PLANS.
- M. PROVIDE TEMPORARY POWER AND LIGHTING IN WORK AREAS AS REQUIRED.
- N. SHOP DRAWINGS:
 - 1. CONTRACTOR SHALL SUBMIT SIX (6) COPIES OF SHOP DRAWINGS ON ALL EQUIPMENT AND MATERIALS PROPOSED FOR USE ON THIS PROJECT, GIVING ALL DETAILS, WHICH INCLUDE DIMENSIONS, CAPACITIES, ETC.
 - 2. CONTRACTOR SHALL SUBMIT SIX (6) COPIES OF ALL TEST REPORTS CALLED FOR IN THE SPECIFICATIONS AND DRAWINGS.
- O. ENTIRE ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH OWNER'S SPECIFICATIONS, AND REQUIREMENTS OF ALL LOCAL AUTHORITIES HAVING JURISDICTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH APPROPRIATE INDIVIDUALS TO OBTAIN ALL SUCH SPECIFICATIONS AND REQUIREMENTS. NOTHING CONTAINED IN, OR OMITTED FROM, THESE DOCUMENTS SHALL RELIEVE CONTRACTOR FROM THIS OBLIGATION.

SECTION 16111

1.01. CONDUIT

- A. MINIMUM CONDUIT SIZE FOR BRANCH CIRCUITS, LOW VOLTAGE CONTROL AND ALARM CIRCUITS SHALL BE 3/4". ALL CONDUIT RUNS LOCATED WITHIN THE OWNER'S EQUIPMENT ROOM SHALL ORIGINATE FROM THE WIREWAY AND RUN VERTICALLY TO ITS DESTINATION. NO BENDS WILL BE ACCEPTED. CONDUITS SHALL BE PROPERLY FASTENED TO THE WALLS AND CEILINGS AS REQUIRED BY THE N.E.C.

CONDUIT MATERIAL SHALL BE AS FOLLOWS:
 - 1. ELECTRIC METALLIC TUBING (EMT) - BRANCH CIRCUITS INSIDE WIRELESS ROOM
 - 2. GALVANIZED RIGID CONDUIT (GRC) - FEEDERS AND CIRCUITS EXPOSED TO EXTERIOR & UNDERGROUND.
 - 3. LIQUID TIGHT FLEXIBLE METAL CONDUIT - FOR SHORT LENGTHS (MAX. 3'-0") WIRING TO VIBRATING EQUIPMENT (HVAC UNITS, MOTORS, ETC.) IN WET LOCATIONS.
 - 4. FLEXIBLE METAL CONDUIT - FOR SHORT LENGTHS (MAX. 3'-0") WIRING TO VIBRATING EQUIPMENT IN DRY LOCATIONS.
 - 5. PVC CONDUIT - WHERE SHOWN ON GROUNDING DETAILS.

SECTION 16123

1.01. CONDUCTORS

- A. ALL CONDUCTORS SHALL BE TYPE THWN (INT. APPLICATION) AND XHHW (EXT. APPLICATION), 75 DEGREE C, 600 VOLT INSULATION, SOFT ANNEALED STRANDED COPPER. #10 AWG AND SMALLER SHALL BE SPLICED USING ACCEPTABLE SOLDERLESS PRESSURE CONNECTORS. #8 AWG AND LARGER SHALL BE SPLICED USING COMPRESSION SPLIT-BOLT TYPE CONNECTORS. #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR FOR LINE VOLTAGE BRANCH CIRCUITS. REFER TO PANEL SCHEDULE FOR BRANCH CIRCUIT CONDUCTOR SIZE(S). CONDUCTORS SHALL BE COLOR CODED FOR CONSISTENT PHASE IDENTIFICATION:

LINE	120/208/240V	277/480V
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
N	CONTINUOUS WHITE	GREY
G	CONTINUOUS GREEN	GREEN WITH YELLOW STRIPE

- B. MINIMUM BENDING RADIUS FOR CONDUCTORS SHALL BE 12 TIMES THE LARGEST DIAMETER OF BRANCH CIRCUIT CONDUCTOR.

SECTION 16130

1.01. BOXES

- A. FURNISH AND INSTALL OUTLET BOXES FOR ALL DEVICES, SWITCHES, RECEPTACLES, ETC.. BOXES TO BE ZINC COATED STEEL.
- B. FURNISH AND INSTALL PULL BOXES IN MAIN FEEDERS RUNS WHERE REQUIRED. PULL BOXES SHALL BE GALVANIZED STEEL WITH SCREW REMOVABLE COVERS, SIZE AND QUANTITY AS REQUIRED. PROVIDE WEATHERPROOF CONSTRUCTION IN WET LOCATIONS.

SECTION 16140

1.01. WIRING DEVICES

- A. THE FOLLOWING LIST IS PROVIDED TO CONVEY THE QUALITY AND RATING OF WIRING DEVICES WHICH ARE TO BE INSTALLED. A COMPLETE LIST OF ALL DEVICES MUST BE SUBMITTED BEFORE INSTALLATION FOR APPROVAL.
 - 1. 15 MINUTE TIMER SWITCH - INTERMATIC #FF15M (INTERIOR LIGHTS)
 - 2. DUPLEX RECEPTACLE - P&S #2095 (GFCI) SPECIFICATION GRADE
 - 3. SINGLE POLE SWITCH - P&S #CSB20AC2 (20A-120V HARD USE) SPECIFICATION GRADE
 - 4. DUPLEX RECEPTACLE - P&S #5362 (20A-120V HARD USE) SPECIFICATION GRADE
- B. PLATES - ALL PLATES USED SHALL BE CORROSION RESISTANT TYPE 304 STAINLESS STEEL. PLATES SHALL BE FROM SAME MANUFACTURER AS SWITCHES AND RECEPTACLES. PROVIDE WEATHERPROOF HOUSING FOR DEVICES LOCATED IN WET LOCATIONS.
- C. OTHER MANUFACTURERS OF THE SWITCHES, RECEPTACLES AND PLATES MAY BE SUBMITTED FOR APPROVAL BY THE ENGINEER.

SECTION 16170

1.01. DISCONNECT SWITCHES

- A. FUSIBLE AND NON-FUSIBLE, 600V, HEAVY DUTY DISCONNECT SWITCHES SHALL BE AS MANUFACTURED BY SQUARE "D". PROVIDE FUSES AS CALLED FOR ON THE CONTRACT DRAWINGS. AMPERE RATING SHALL BE CONSISTENT WITH LOAD BEING SERVED. DISCONNECT SWITCH COVER SHALL BE MECHANICALLY INTERLOCKED TO PREVENT COVER FROM OPENING WHEN THE SWITCH IS IN THE "ON" POSITION. EXTERIOR APPLICATIONS SHALL BE NEMA 3R CONSTRUCTION WITH PADLOCK FEATURE.

SECTION 16190

1.01. SEISMIC RESTRAINT

- A. ALL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH ZONE 2 SEISMIC REQUIREMENTS.

SECTION 16195

1.01. LABELING AND IDENTIFICATION NOMENCLATURE FOR ELECTRICAL EQUIPMENT

- A. CONTRACTOR SHALL FURNISH AND INSTALL NON-METALLIC ENGRAVED BACK-LIT NAMEPLATES ON ALL PANELS AND MAJOR ITEMS OF ELECTRICAL EQUIPMENT.
- B. LETTERS TO BE WHITE ON BLACK BACKGROUND WITH LETTERS 1-1/2 INCH HIGH WITH 1/4 INCH MARGIN.
- C. IDENTIFICATION NOMENCLATURE SHALL BE IN ACCORDANCE WITH OWNER'S STANDARDS.
- D. PROVIDE NAMEPLATE FOR PORTABLE ENGINE/GENERATOR CONNECTION SHOWING VOLTAGE KVA/KW RATING, # PHASE, AND # OF WIRES. PLATE TO BE PLASTIC ENGRAVED, RED WITH WHITE LETTERS.
- E. ALL RECEPTACLES, SWITCHES, DISCONNECT SWITCHES, ETC. SHALL BE LABELED WITH THE CORRECT BRANCH CIRCUIT NUMBER SERVED BY MEANS OF PERMANENT PRESSED TYPE BLACK 1/4" TRANSFER LETTERING. (FOR EXAMPLE: "MDP-5", ETC.).
- F. PROVIDE A NAMEPLATE AT THE SERVICE EQUIPMENT INDICATING THE TYPE AND LOCATION OF THE ON SITE GENERATOR.

SECTION 16450

1.01. GROUNDING

- A. ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL AND TELEPHONE CONDUIT SYSTEMS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO PROVIDE AN INDEPENDENT RETURN PATH TO THE EQUIPMENT GROUNDING SOURCES.
- B. GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR HAVING JURISDICTION.
- C. GROUNDING OF PANELBOARDS:
 - 1. PANELBOARD SHALL BE GROUNDED BY TERMINATING THE PANELBOARD FEEDER'S EQUIPMENT GROUND CONDUCTOR TO THE EQUIPMENT GROUND BAR KIT(S) LUGGED TO THE CABINET. ENSURE THAT THE SURFACE BETWEEN THE KIT AND CABINET ARE BARE METAL TO BARE METAL. PRIME AND PAINT OVER TO PREVENT CORROSION.
 - 2. CONDUIT(S) TERMINATING INTO THE PANELBOARD SHALL HAVE GROUNDING TYPE BUSHINGS. THE BUSHINGS SHALL BE BONDED TOGETHER WITH BARE #10 AWG COPPER CONDUCTOR WHICH IN TURN IS TERMINATED INTO THE PANELBOARD'S EQUIPMENT GROUND BAR KIT(S).
- D. EQUIPMENT GROUNDING CONDUCTOR:
 - 1. EACH EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C. ARTICLE 250-122.
 - 2. THE MINIMUM SIZE OF EQUIPMENT GROUND CONDUCTOR SHALL BE #12 AWG COPPER.
 - 3. REFER TO PANEL SCHEDULE "BRANCH CIRCUIT" DATA FOR EQUIPMENT GROUND CONDUCTOR SIZE FOR EACH BRANCH CIRCUIT.
 - 4. EACH FEEDER OR BRANCH CIRCUIT SHALL HAVE EQUIPMENT GROUND CONDUCTOR(S) INSTALLED IN THE SAME RACEWAY(S).
- E. CELLULAR GROUNDING SYSTEM:

CONTRACTOR SHALL PROVIDE A CELLULAR GROUNDING SYSTEM WITH THE MAXIMUM AC RESISTANCE TO GROUND OF 5 OHM BETWEEN ANY POINT ON THE GROUNDING SYSTEM AS MEASURED BY 3-POINT GROUNDING TEST. (REFER TO SECTION 16960).

PROVIDE THE CELLULAR GROUNDING SYSTEM AS SPECIFIED ON DRAWINGS, INCLUDING, BUT NOT LIMITED TO:
 - 1. GROUND BARS
 - 2. INTERIOR GROUND RING
 - 3. EXTERIOR GROUNDING (WHERE REQUIRED DUE TO MEASURED AC RESISTANCE GREATER THAN SPECIFIED).
 - 4. ANTENNA GROUND CONNECTIONS AND PLATES.
- F. CONTRACTOR, AFTER COMPLETION OF THE COMPLETE GROUNDING SYSTEM BUT PRIOR TO CONCEALMENT/BURIAL OF SAME, SHALL NOTIFY OWNER'S WIRELESS PROJECT ENGINEER WHO WILL HAVE A DESIGN ENGINEER VISIT SITE AND MAKE A VISUAL INSPECTION OF THE GROUNDING GRID AND CONNECTIONS OF THE SYSTEM.
- G. ALL EQUIPMENT SHALL BE BONDED TO GROUND AS REQUIRED BY N.E.C., MFG. SPECIFICATIONS, AND OWNER'S SPECIFICATIONS.

SECTION 16470

1.01. DISTRIBUTION EQUIPMENT

- A. REFER TO CONTRACT DRAWINGS FOR DETAILS AND SCHEDULES.

SECTION 16477

1.01. FUSES

- A. FUSES SHALL BE NONRENEWABLE TYPE AS MANUFACTURED BY "BUSSMAN" OR APPROVED EQUAL FUSES RATED TO 1/10 AMPERE UP TO 600 AMPERES SHALL BE EQUIVALENT TO BUSSMAN TYPE LPN-RK (250V) UL CLASS RK1, LOW PEAK, DUAL ELEMENT, TIME-DELAY FUSES. FUSES SHALL HAVE SEPARATE SHORT CIRCUIT AND OVERLOAD ELEMENTS AND HAVE AN INTERRUPTING RATING OF 200 KAIC. UPON COMPLETION OF WORK, PROVIDE ONE SPARE SET OF FUSES FOR EACH TYPE INSTALLED.

SECTION 16620

(SUPPLIED BY OWNER, INSTALLED BY CONTRACTOR)

1.01. GENERATOR SET

- A. REFER TO CONTRACT DRAWINGS FOR DETAILS AND SCHEDULES.

SECTION 16960

1.01. TESTS BY INDEPENDENT ELECTRICAL TESTING FIRM

- A. CONTRACTOR SHALL RETAIN THE SERVICES OF A LOCAL INDEPENDENT ELECTRICAL TESTING FIRM (WITH MINIMUM 5 YEARS COMMERCIAL EXPERIENCE IN THE ELECTRICAL TESTING INDUSTRY) AS SPECIFIED BY OWNER TO PERFORM:
 - TEST 1: THERMAL OVERLOAD AND MAGNETIC TRIP TEST, AND CABLE INSULATION TEST FOR ALL CIRCUIT BREAKERS RATED 100 AMPS OR GREATER.
 - TEST 2: RESISTANCE TO GROUND TEST ON THE CELLULAR GROUNDING SYSTEM.
- THE TESTING FIRM SHALL INCLUDE THE FOLLOWING INFORMATION WITH THE REPORT:
 - 1. TESTING PROCEDURE INCLUDING THE MAKE AND MODEL OF TEST EQUIPMENT.
 - 2. CERTIFICATION OF TESTING EQUIPMENT CALIBRATION WITHIN SIX (6) MONTHS OF DATE OF TESTING. INCLUDE CERTIFICATION LAB ADDRESS AND TELEPHONE NUMBER.
 - 3. GRAPHICAL DESCRIPTION OF TESTING METHOD ACTUALLY IMPLEMENTED.
- B. THESE TESTS SHALL BE PERFORMED IN THE PRESENCE AND TO THE SATISFACTION OF OWNER'S CONSTRUCTION REPRESENTATIVE. TESTING DATA SHALL BE INITIALED AND DATED BY THE CONSTRUCTION REPRESENTATIVE AND INCLUDED WITH THE WRITTEN REPORT/ANALYSIS.
- C. THE CONTRACTOR SHALL FORWARD SIX (6) COPIES OF THE INDEPENDENT ELECTRICAL TESTING FIRM'S REPORT/ANALYSIS TO ENGINEER A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO THE JOB TURNOVER.
- D. CONTRACTOR TO PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE TO OWNER AND ENGINEER FOR ALL TESTS REQUIRING WITNESSING.

SECTION 16961

1.01. TESTS BY CONTRACTOR

- A. ALL TESTS AS REQUIRED UPON COMPLETION OF WORK, SHALL BE MADE BY THIS CONTRACTOR. THESE SHALL BE CONTINUITY AND INSULATION TESTS; TEST TO DETERMINE THE QUALITY OF MATERIALS, ETC. AND SHALL BE MADE IN ACCORDANCE WITH N.E.C. RECOMMENDATIONS. ALL FEEDERS AND BRANCH CIRCUIT WIRING (EXCEPT CLASS 2 SIGNAL CIRCUITS) MUST BE TESTED FREE FROM SHORT CIRCUIT AND GROUND FAULT CONDITIONS AT 500V IN A REASONABLY DRY AMBIENT OF APPROXIMATELY 70 DEGREES F.
- B. CONTRACTOR SHALL PERFORM LOAD PHASE BALANCING TESTS. CIRCUITS SHALL BE SO CONNECTED TO THE PANELBOARDS SUCH THAT THE NEW LOAD IS DISTRIBUTED AS EQUALLY AS POSSIBLE BETWEEN EACH LOAD AND NEUTRAL. 10% SHALL BE CONSIDERED AS A REASONABLE AND ACCEPTABLE ALLOWANCE. BRANCH CIRCUITS SHALL BE BALANCED ON THEIR OWN PANELBOARDS; FEEDER LOADS SHALL, IN TURN, BE BALANCED ON THE SERVICE EQUIPMENT. REASONABLE LOAD TEST SHALL BE ARRANGED TO VERIFY LOAD BALANCE IF REQUESTED BY THE ENGINEER.
- C. ALL TESTS, UPON REQUEST, SHALL BE REPEATED IN THE PRESENCE OF OWNER'S REPRESENTATIVE. ALL TESTS SHALL BE DOCUMENTED AND TURNED OVER TO OWNER. OWNER SHALL HAVE THE AUTHORITY TO STOP ANY OF THE WORK NOT BEING PROPERLY INSTALLED. ALL SUCH DETECTED WORK SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL EXPENSE TO THE OWNER AND THE TESTS SHALL BE REPEATED.

NO.	DATE	BY	DESCRIPTION
0	04/27/17	TJK	ISSUED FOR PERMITTING
		BR	CONSTRUCTION DRAWINGS
		DF	DESCRIPTION
		DF	DRAWN BY
		DF	DATE
		DF	REV.

PROFESSIONAL ENGINEER SEAL



CENTEK engineering
Centered on Solutions™
2031 489-0960
2031 489-9397 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
CT1345 EAST LYME RELO.
THE ORCHARDS
2 ARBOR CROSSING
EAST LYME, CT 06333

DATE: 03/07/17
SCALE: AS NOTED
JOB NO. 16024.00

ELECTRICAL SPECIFICATIONS

ATTACHMENT 3



STRUCTURAL CALCULATIONS
for
EAST LYME SILO
105' TALL FAUX SILO
at
2 ARBOR CROSSING
EAST LYME, CT 06333
for
SAI COMMUNICATIONS
&
STEALTH® CONCEALMENT SOLUTIONS (AT16-00207W-33R2)



BY: **TREVOR P. HAWKES, P.E.**
PROJECT ENGINEER

CT Firm License Number: PEC 0001229

PROJECT #: **U0142-383-171**

DATE: **April 17, 2017**

REVISED: **April 25, 2017**

DESIGNED BY TPH; CHECKED BY AJM

NOTE:

The calculations presented in this package are intended for a single use at the location indicated above, for the client listed above. These calculations shall not be reproduced, reused, "card filed", sold to a third party, or altered in any way without the written authorization of Vector Structural Engineering, LLC and STEALTH® Concealment Solutions.



JOB NO.: U0142-383-171

PROJECT: EAST LYME SILO

Design Criteria:

Code: Structural design is based on the Connecticut State Building Code, 2016 Edition (2012 IBC)

Wind: Basic wind speed = 135 mph (3-second gust) per the ASCE 7-10 standard

Risk category: II

Wind exposure: C

General Notes:

- 1 The contractor shall verify dimensions, conditions and elevations before starting work. The engineer shall be notified immediately if any discrepancies are found.
- 2 The typical notes and details shall apply in all cases unless specifically detailed elsewhere. Where no detail is shown, the construction shall be as shown for other similar work and as required by the building code.
- 3 These calculations are limited to the structural members shown in these calculations only. The connection of the members shown in these calculations to the existing structure shall be by others.
- 4 The contractor shall be responsible for compliance with local construction safety orders. Approval of shop drawings by the architect or structural engineer shall not be construed as accepting this responsibility.
- 5 All structural framing members shall be adequately shored and braced during erection and until full lateral and vertical support is provided by adjoining members.

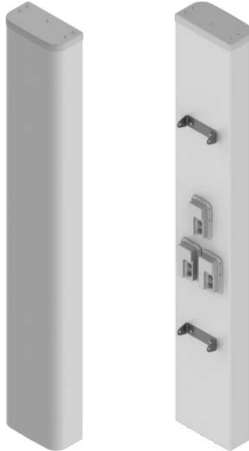
Structural Steel:

- 1 All structural steel code checks based on the AISC, 14th Edition per the ASCE 7 standard
- 2 All steel pipe to be per ASTM A500 GR. B (42 KSI), U.N.O.
- 3 All steel rectangular tubes (HSS) to be per ASTM A500 GR. B (46 KSI), U.N.O.
- 4 All other structural steel shapes & plates shall be per ASTM A36, U.N.O.
- 5 All anchor bolts shall be per ASTM F1554 GR. 55, U.N.O.
- 6 All bolts for steel-to-steel connections shall be per ASTM F3125 GR. A325 U.N.O.
- 7 All bolted connections shall be tightened per the "turn-of-nut" method as defined by AISC.
- 8 All welding shall be performed by certified welders in accordance with the latest edition of the American Welding Society (AWS) D1.1
- 9 All steel surfaces shall be galvanized in accordance with ASTM A123 and ASTM F2329 standards, thoroughly coated with a zinc-rich primer, or otherwise protected as noted on the structural drawings.

Fiberglass Reinforced Plastic (FRP):

- 1 All structural shapes shall be Bedford FRP Series 1525 produced using the pultrusion process.
- 2 All cut edges and holes shall be sealed with a resin compatible with the resin matrix used in the structural shape.
- 3 The fabricator and contractor shall exercise precautions necessary to protect the fiberglass pultruded structural shapes from abuse to prevent breakage, nicks, gouges, etc. during fabrication, handling, and installation.
- 4 Structural shapes shall be fabricated and assembled as indicated on the design drawings.
- 5 Isoplast bolts and nuts shall be tightened to snug tight and turned an additional 1/2 turn and locked with epoxy.

ATTACHMENT 4



- Eight foot (2.4 m), six port antenna with a 65° azimuth beamwidth covering 698-894 MHz and 1710-2360 MHz
- Four high band and two low band ports including the WCS band in a single antenna
- Sharp elevation beamwidth aides in network planning
- Optimal elevation sidelobe performance
- Enhanced array spacing ensures optimal MIMO performance
- Exceeds minimum PIM performance requirements
- Multi-network solution in one radome with six ports
- Reduces tower load and increases space for tower mounted remote radio heads
- Multi-band design improves site radio resource management
- Field replaceable, integrated AISG 2.0 compliant Remote Electrical Tilt (RET) system with independent tilt control for each paired port

Overview

The CCI HexPort multi-band array is a six port antenna with full Wireless Communication Service (WCS) band coverage. With four high band ports covering 1710-2360 MHz and two low band ports covering 698-894 MHz, this eight foot (2.4 m) CCI HexPort provides the capability to deploy 4x4 Multiple-input Multiple-output (MIMO) in the high band. The HexPort allows separate tilt control for each pair of ports enabling maximum flexibility in network deployment.

CCI has engineered its antennas using new and innovative design techniques to provide optimal sidelobe performance, sharp elevation beams, and high front to back ratio.

Multiple technologies can now be connected to a single antenna, reducing tower load, lease expense, deployment time and installation cost.

CCI antennas are designed and produced to ISO 9001:2008 certification standards for reliability and quality in our state-of-the-art manufacturing facilities.

Applications

- 4x4 MIMO for the high band and 2x2 MIMO for the low band
- Increase capacity without adding antennas
- Deploy WCS band without increasing antenna count
- Cosite current, and next-generation basestation technologies on the same antenna



HexPort Multi-Band Antenna

HPA-65R-BUU-H8

SPECIFICATIONS

Electrical

Ports	2 x Low Band Ports for 698-894 MHz		4 x High Band Ports for 1710-2360 MHz			
Frequency Range	698-806 MHz	824-894 MHz	1850-1990 MHz	1710-1780/2110-2180 MHz	2305-2360 MHz	
Gain	15.3 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
Voltage Standing Wave Ratio (VSWR)	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1
Passive Intermodulation (2x20W)	≤ -150 dBc	≤ -150 dBc	≤ -150 dBc	≤ -150 dBc	≤ -150 dBc	≤ -150 dBc
Input Power Continuous Wave (CW)	500 watts	500 watts	300 watts	300 watts	300 watts	300 watts
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

Dimensions (LxWxD)	92.8x14.4x7.3 in (2358x366x185 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load	327 lbs (1455 N) @ 100 mph (161 kph)
Side Wind Load	191 lbs (849 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	12.8 ft ² (1.2 m ²)
Weight *	53.0 lbs (24.1 kg)
RET System Weight	5.0 lbs (2.3 kg)
Connector	6 x 7-16 DIN female long neck
Mounting Pole	2 to 5 in (5 to 12 cm)

* Weight excludes mounting and RET

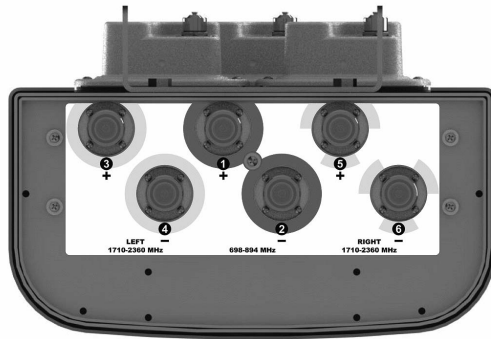


HexPort Multi-Band Antenna

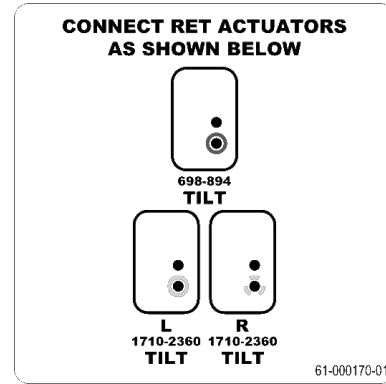
HPA-65R-BUU-H8

SPECIFICATIONS

Bottom View

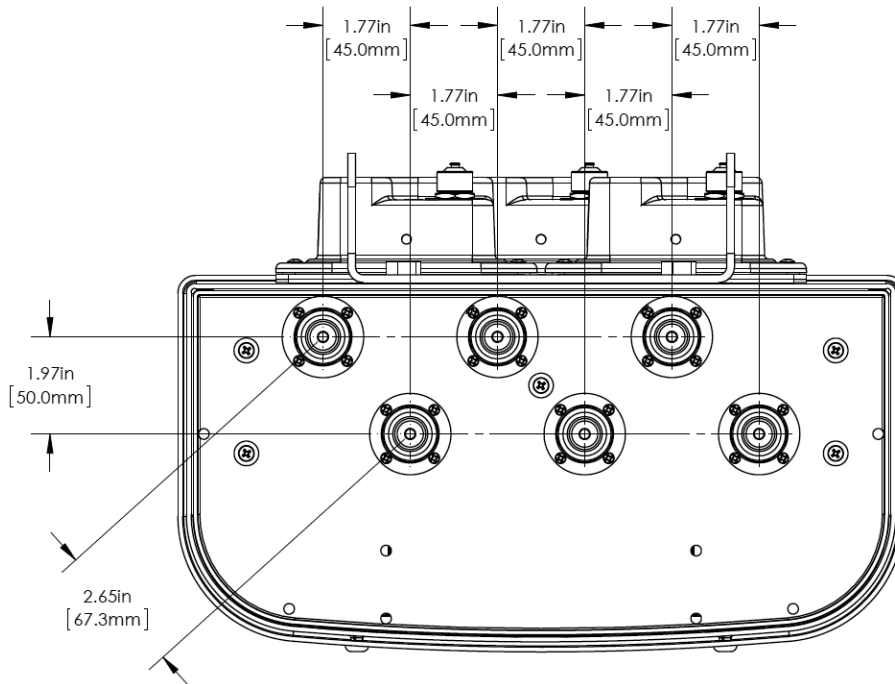


RET Connection Diagram



Mechanical

Connector Spacing





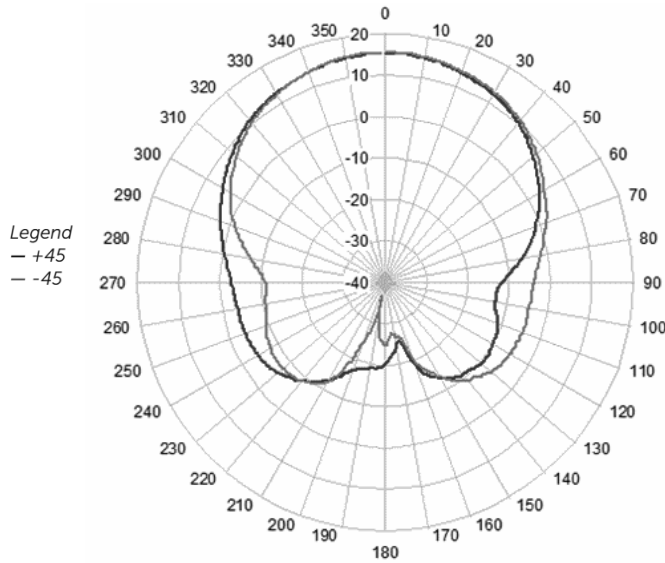
HexPort Multi-Band Antenna

HPA-65R-BUU-H8

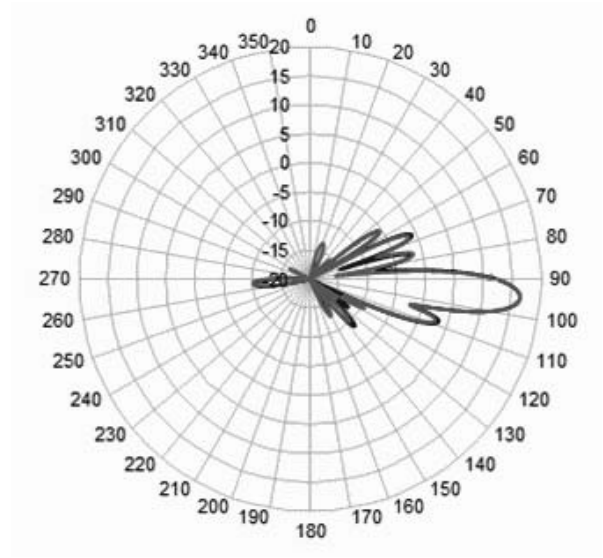
SPECIFICATIONS

Typical Antenna Patterns

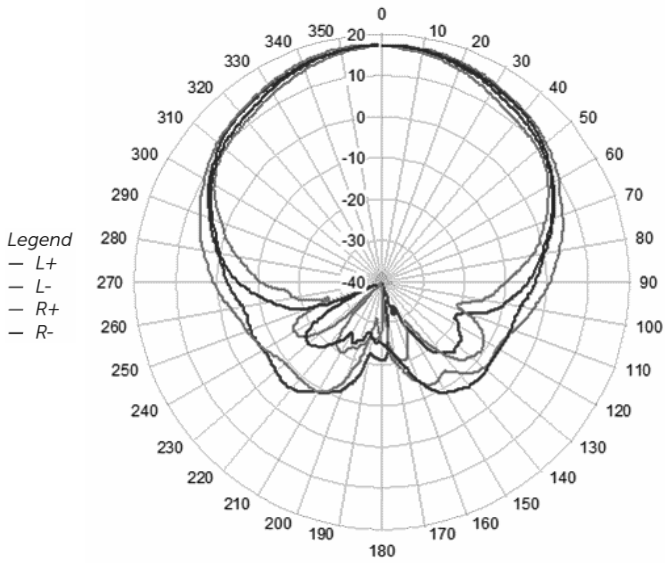
For detailed information on additional antenna patterns, contact customer support at support@cciproducts.com



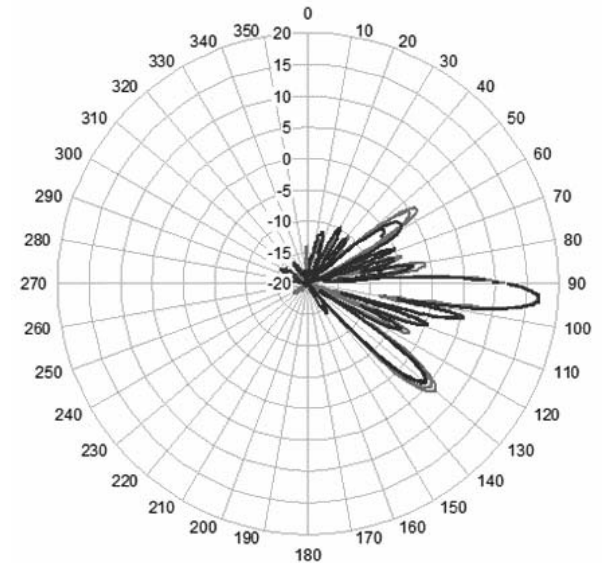
894 MHz Azimuth



894 MHz Elevation 5°



1920 MHz Azimuth



1920 MHz Elevation 4°

Legend
— +45
— -45

Legend
— L+
— L-
— R+
— R-



HexPort Multi-Band Antenna

HPA-65R-BUU-H8

Parts & Accessories

HPA-65R-BUU-H8	Eight foot (2.4 m) HexPort antenna with 65° azimuth beamwidth and 3 factory installed BSA-RET200 RET actuators
HPA-65R-BUU-H8-K	Antenna kit with 3 factory installed RET actuators and MBK-01 mounting bracket
MBK-01	Mounting bracket kit (top and bottom) with 0° to 10° mechanical tilt adjustment
TM-01	Optional triple mount mast bracket for mounting up to three 65° antennas on a pole (or mast).
BSA-RET200	Remote electrical tilt actuator
HPA-CBK-AG-RRU	HexPort antenna to RRU AISG cable kit
HPA-CBK-RA-AG-RRU	HexPort antenna to RRU AISG right angle cable kit

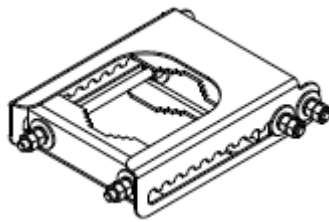


Mounting Bracket Kit

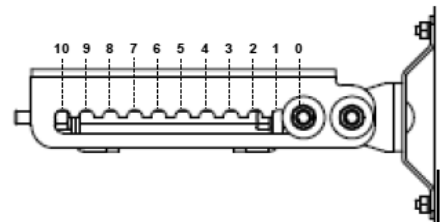
MBK-01

Mechanical

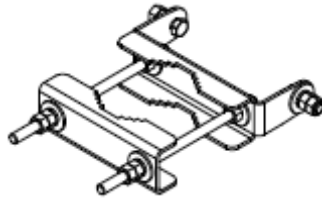
Weight	12.6 lbs (5.7 kg)
Hinge Pitch	47.25 in (1200 mm)
Mounting Pole Dimension	2 to 5 in (5 to 12 cm)
Fastener Size	M12
Installation Torque	40 ft·lb (54 Nm)
Mechanical Tilt Adjustment	0° - 10°



MBK-01 Top Adjustable Bracket



MBK-01 Top Adjustable Bracket Side View



MBK-01 Bottom Fixed Bracket

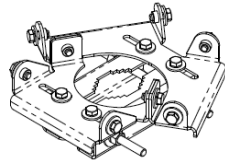


Triple Mount Mast Bracket

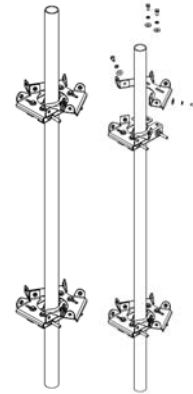
TM-01

Mechanical

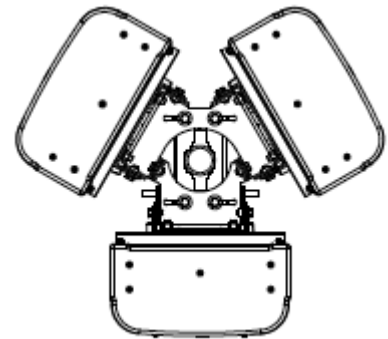
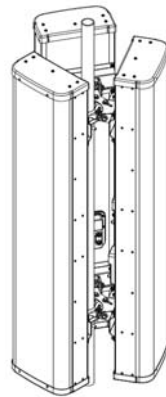
Weight	17.6 lbs (8.0 kg)
Fastener Size	M10
Installation Torque	40 ft·lb (54 Nm)
Mechanical Tilt Adjustment	None



TM-01 Bracket



TM-01 Mounting Brackets (on Pole)



3 - 65° Antennas Mounted on Pole using TM-01 Brackets (Iso and Top Views)



Remote Electrical Tilt Actuator (RET)

BSA-RET200

General Specifications

Part Number	BSA-RET200
Protocols	AISG 2.0
RET Type	Type 1
Adjustment Cycles	>10,000 cycles
Tilt Accuracy	±0.1°
Temperature Range	-40° C to 70° C

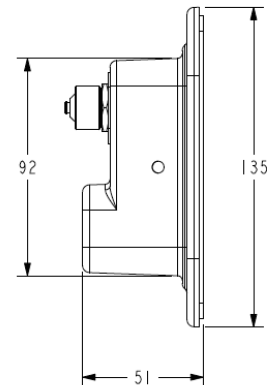
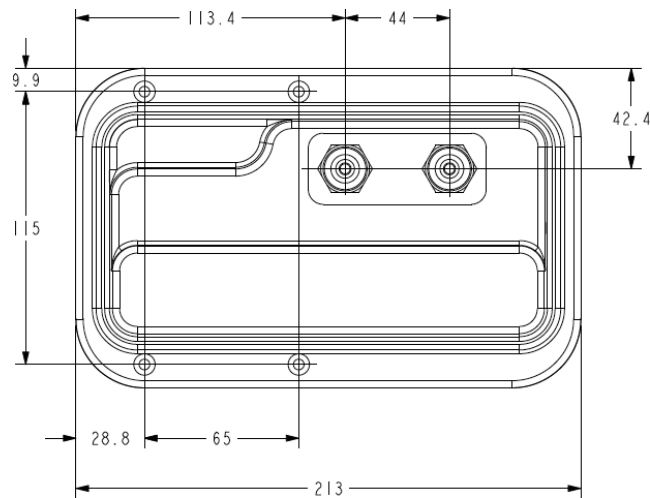
Electrical

Data Interface Signal	DC
Input Voltage	10-30 Vdc
Current Consumption Tilt	120 mA at $V_{in}=24$
Current Consumption Idle	55 mA at $V_{in}=24$
Hardware Interface	AISG-RS 485 A/B
Input Connector	Male 1 × 8 pin Daisy Chain
Output Connector	Female 1 × 8 pin Daisy Chain

Mechanical

Dimensions (LxWxD)	8.0x5.0x2.0 in. (213x135x51 mm)
Housing	ASA/ABS/Aluminum
Weight	1.7 lbs (0.75 kg)

ASA= Acrylic Styrene Acrylonitrile
ABS=Acrylonitrile Butadiene Styrene



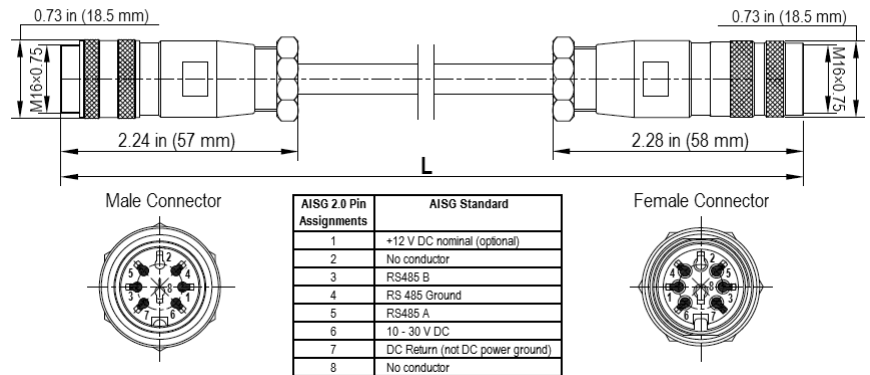


Electrical Specifications

Individual Cable Part Number	AISGC-M-F-18	AISGC-M-F-10FT
Cable style	UL2464	UL2464
Protocol	AISG 1.1 and AISG 2.0	AISG 1.1 and AISG 2.0
Maximum voltage	300 V	300 V
Rated current	5 A at 104° F (40° C)	5 A at 104° F (40° C)

Mechanical Specifications

Individual Cable Part Number	AISGC-M-F-18	AISGC-M-F-10FT
Cables per kit	2	2
Connectors	2 x 8 pin IEC 60130-9 Straight male/straight female	2 x 8 pin IEC 60130-9 Straight male/straight female
Tightening torque	Hand tighten only ≈ 1.84 ft-lbs (2.5 Nm)	Hand tighten only ≈ 1.84 ft-lbs (2.5 Nm)
Construction	Shielded (Tinned Copper Braid)	Shielded (Tinned Copper Braid)
Braid coverage	85%	85%
Jacket Material	Matte Polyurethane (Black)	Matte Polyurethane (Black)
Conductors	1 twisted pair - 24 AWG 3 conductors - 19 AWG AWM style 2464	1 twisted pair - 24 AWG 3 conductors - 19 AWG AWM style 2464
Cable Diameter	0.307 in (7.8 mm)	0.307 in (7.8 mm)
Length	18 - 20 in (457 - 508 mm)	120 in (3048 mm)
Weight	0.27 lbs (0.12 kg)	0.69 lbs (.31 kg)
Minimum bend radius	3.9 in (100 mm)	3.9 in (100 mm)



AISG-Male to AISG-Female Jumper Cable

Environmental Specifications

Individual Cable Part Number	AISGC-M-F-18	AISGC-M-F-10FT
Temperature Range	-40° to 80° C	-40° to 80° C
Flammability	UL 1581 VW-1	UL 1581 VW-1
Ingress Protection	IEC 60529:2001, IP67	IEC 60529:2001, IP67

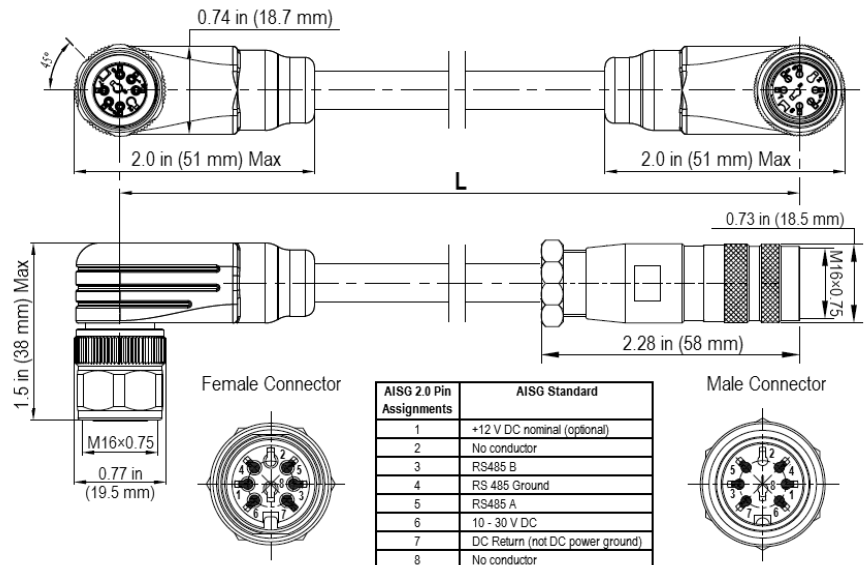


Electrical Specifications

Individual Cable Part Number	AISGC-MRA-FRA-20	AISGC-M-FRA-10FT
Cable style	UL2464	UL2464
Protocol	AISG 1.1 and AISG 2.0	AISG 1.1 and AISG 2.0
Maximum voltage	300 V	300 V
Rated current	5 A at 104° F (40° C)	5 A at 104° F (40° C)

Mechanical Specifications

Individual Cable Part Number	AISGC-MRA-FRA-20	AISGC-M-FRA-10FT
Cables per kit	2	2
Connectors	2 x 8 pin IEC 60130-9 Right angle male/right angle female	2 x 8 pin IEC 60130-9 Straight male/right angle female
Tightening torque	Hand tighten only \approx 1.84 ft-lbs (2.5 Nm)	Hand tighten only \approx 1.84 ft-lbs (2.5 Nm)
Construction	Shielded (Tinned Copper Braid)	Shielded (Tinned Copper Braid)
Braid coverage	85%	85%
Jacket Material	Matte Polyurethane (Black)	Matte Polyurethane (Black)
Conductors	1 twisted pair - 24 AWG 3 conductors - 19 AWG AWM style 2464	1 twisted pair - 24 AWG 3 conductors - 19 AWG AWM style 2464
Cable Diameter	0.307 in (7.8 mm)	0.307 in (7.8 mm)
Length	20 in (508 mm)	120 in (3048 mm)
Weight	0.23 lbs (0.10 kg)	0.77 lbs (0.35 kg)
Minimum bend radius	3.9 in (100 mm)	3.9 in (100 mm)



Right Angle to Right Angle and Right Angle to Straight Jumper Cable



Environmental Specifications

Individual Cable Part Number	AISGC-MRA-FRA-20	AISGC-M-FRA-10FT
Temperature Range	-40° to 80° C	-40° to 80° C
Flammability	UL 1581 VW-1	UL 1581 VW-1
Ingress Protection	IEC 60529:2001, IP67	IEC 60529:2001, IP67



HexPort Multi-Band Antenna

HPA-65R-BUU-H8

STANDARDS & CERTIFICATIONS

Standards & Compliance

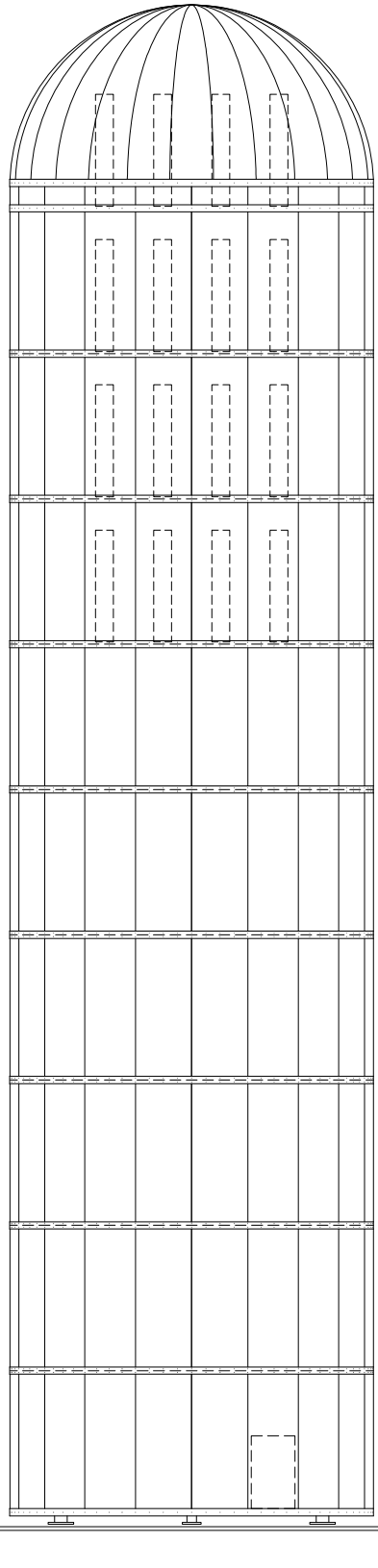
Safety	EN 60950-1, UL 60950-1
Emission	EN 55022
Immunity	EN 55024
Environmental	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-5, IEC 60068-2-6, IEC-60068-2-11, IEC 60068-2-14, IEC 60068-2-18, IEC 60068-2-27, IEC 60068-2-29, IEC 60068-02-30, IEC 60068-2-52, IEC 60068-2-64, GR-63-CORE 4.3.1, EN 60529, IP 24

Certifications

Antenna Interface Standards Group (AISG), Federal Communication Commission (FCC) Part 15 Class B, CE, CSA US, ISO 9001:2008



ATTACHMENT 5



3034-A ASHLEY PHOSPHATE ROAD
 NORTH CHARLESTON, SC 29418
 P: (800)-755-0689 / F: (843)-207-0207
 WWW.STEALTHCONCEALMENT.COM

PROJECT MANAGER: DANIEL ROBERTS; (843)-574-9675

FINAL ENGINEERING

SAI COMMUNICATIONS
 SITE: EAST LYME SILO
 2 ARBOR CROSSING
 EAST LYME, CT 06333

STEALTH JOB #: AT16-00207W-33R2

DRAWING INDEX

T1	TITLE SHEET
N1-N2	NOTES & SPECIFICATIONS
S1	ELEVATIONS
S2-S5	DETAILS
S6	FOUNDATION



04/25/2017

T1

REVISION

4/25/17

1



DESIGN NOTES:

STRUCTURAL DESIGN IS BASED ON THE CONNECTICUT STATE BUILDING CODE, 2016 EDITION (2012 IBC) & THE ASCE 7-10 STANDARD.

DESIGN LOADS:

WIND:
BASIC WIND SPEED: 135 MPH (3-SEC GUST) PER ASCE 7-10 STANDARD
RISK CATEGORY: II
EXPOSURE: C
ICE:
3/4" NOMINAL ICE THICKNESS w/ CONCURRENT 50 mph WIND
SNOW: 30 psf (GROUND)
LIVE: 40 psf APPLIED TO PLATFORMS w/ GRATING
ROOF LIVE: 20 psf APPLIED TO FIBERDOME

ESTIMATED WEIGHT:

107k (1.0 DEAD)

OVERALL ASD REACTIONS:

SHEAR, V = 51 k (0.6 W)
AXIAL, P = 220 k (1.0 D + 1.0 L + 0.7 Ice)
MOMENT, M = 2930 k-ft (1.0 D + 0.6 W)

THE SHEAR & MOMENT REACTIONS LISTED ABOVE SHALL BE CONSIDERED TO ACT IN ANY HORIZONTAL DIRECTION.

DESIGN:

1. ENGINEERING AND DESIGN CALCULATIONS FOR STEALTH ® POLE AND TOWER PRODUCTS ARE PREPARED IN ACCORDANCE WITH THE LATEST VERSION OF THE TIA/EIA-222. OTHER STRUCTURES ARE DESIGNED IN ACCORDANCE WITH APPLICABLE LOCAL OR NATIONAL STANDARDS AND PER CLIENT INPUT.

GENERAL

1. THE TYPICAL NOTES SHALL APPLY FOR ALL CASES UNLESS OTHERWISE SPECIFICALLY DETAILED WITHIN THE DRAWINGS. SOME NOTES MAY NOT BE APPLICABLE IN PART OR IN WHOLE FOR EVERY PROJECT.
2. ANY ITEMS REFERENCED AS BEING ON "HOLD" ARE TO BE INCLUDED IN THE WORK AS SHOWN. HOWEVER, CONSTRUCTION OR FABRICATION IS NOT TO BEGIN UNTIL THE "HOLD" REFERENCE IS REMOVED.
3. DIMENSIONS CONTAINED WITHIN MUST BE FIELD VERIFIED AND CUSTOMER APPROVED PRIOR TO FABRICATION OF MATERIALS.
4. THE MODIFICATIONS DEPICTED IN THESE DRAWINGS ARE INTENDED TO PROVIDE STRUCTURAL SUPPORT FOR THE ADDITION OF THE ANTENNA SCREENING SYSTEMS OUTLINED WITHIN. THE EXISTING STRUCTURE OR BUILDING SHALL BE ANALYZED AND RETROFITTED AS REQUIRED, BY OTHERS, TO WITHSTAND THE LOADS IMPOSED BY THE NEW STEALTH ® ENCLOSURE SHOWN ON THE DRAWINGS.
5. ANTENNA CONCEALMENT PRODUCTS SHALL BE INSTALLED BY A CONTRACTOR EXPERIENCED IN SIMILAR WORK. CARE SHALL BE TAKEN IN THE INSTALLATION OF ANY AND ALL MEMBERS IN ACCORDANCE WITH RECOGNIZED INDUSTRY STANDARDS AND PROCEDURES. ALL APPLICABLE OSHA SAFETY GUIDELINES ARE TO BE FOLLOWED. STEALTH ® IS NOT PROVIDING FIELD INSTALLATION SUPERVISION.
6. THESE DRAWINGS INDICATE THE MAJOR OPERATIONS TO BE PERFORMED, BUT DO NOT SHOW EVERY FIELD CONDITION THAT MAY BE ENCOUNTERED. THEREFORE, PRIOR TO BEGINNING OF WORK THE CONTRACTOR SHOULD SURVEY THE JOB SITE THOROUGHLY TO MINIMIZE FIELD PROBLEMS.
7. PROTECTION OF EXISTING STRUCTURES DURING THE COURSE OF THE CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
8. THE STRUCTURAL INTEGRITY OF THIS STRUCTURE IS DESIGNED TO BE ATTAINED IN ITS COMPLETED STATE. WHILE UNDER CONSTRUCTION ANY TEMPORARY BRACING OR SHORING WHICH MAY BE REQUIRED TO MAINTAIN STABILITY PRIOR TO COMPLETION SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
9. THE PLANS AND DETAILS WITHIN DO NOT INCLUDE DETAILS OR DESIGN FOR DRAINAGE FROM OR WATERPROOFING OF EXTERIOR OR INTERIOR SURFACES OF THE EXISTING BUILDING OR STRUCTURE. THESE DETAILS MUST BE COMPLETED BY OTHERS.

SPECIAL INSPECTIONS & STRUCTURAL OBSERVATION:

1. STEEL FABRICATION SHALL BE DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED AS REQUIRED BY THE BUILDING CODE TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION.
2. NO FIELD WELDING SHALL BE PERMITTED.
3. THE FOLLOWING SPECIAL INSPECTIONS (WHERE APPLICABLE) SHALL BE REQUIRED PER CHAPTER 17 OF THE BUILDING CODE.
 - PERIODIC SPECIAL INSPECTION OF HIGH-STRENGTH BOLTING
 - PERIODIC SPECIAL INSPECTION OF FORMWORK PRIOR TO CONCRETE PLACEMENT
 - PERIODIC SPECIAL INSPECTION OF PLACEMENT OF REINFORCING STEEL
 - CONTINUOUS SPECIAL INSPECTION OF ANCHOR BOLTS PRIOR TO AND DURING CONCRETE PLACEMENT
 - CONTINUOUS SPECIAL INSPECTION OF CONCRETE PLACEMENT
 - PERIODIC SPECIAL INSPECTION TO VERIFY ADEQUATE SOIL BELOW GRADE
4. SPECIAL INSPECTION IS NOT REQUIRED FOR WORK OF A MINOR NATURE OR AS WARRANTED BY CONDITIONS IN THE JURISDICTION AS APPROVED BY THE BUILDING OFFICIAL. THUS, SPECIAL INSPECTION ITEMS ABOVE MAY BE WAIVED AS DEEMED APPROPRIATE BY THE BUILDING OFFICIAL.
5. NO STRUCTURAL OBSERVATION IS REQUIRED.

MATERIAL NOTES:

1. ALL STEEL TUBES SHALL CONFORM w/ ASTM A500 GR. B (46 KSI MIN. YIELD STRENGTH).
2. ALL OTHER STRUCTURAL STEEL SHAPES & PLATES SHALL CONFORM TO ASTM A36, U.N.O.
3. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS AND PROCEDURES OF THE AMERICAN WELDING SOCIETY (AWS) BY CERTIFIED WELDERS PER AWS D1.1 FOR STEEL AND AWS D1.2 FOR ALUMINUM. ALL WELDING SHALL BE PREFORMED IN A SHOP APPROVED BY THE BUILDING OFFICIAL. STEEL WELDS SHALL BE BY E70XX LOW HYDROGEN ELECTRODES.
4. ALL STEEL SURFACES SHALL BE GALVANIZED PER ASTM A123.
5. ALL BOLTS FOR STEEL-TO-STEEL CONNECTIONS SHALL CONFORM TO ASTM F3125 GRADE A325 SPECIFICATIONS, U.N.O. A325N AND A325X ALLOWED.
6. ALL BOLTS SHALL BE GALVANIZED IN ACCORDANCE w/ ASTM F2329 SPECIFICATIONS.
6. ALL BOLTED CONNECTIONS SHALL BE TIGHTENED PER THE "TURN-OF-NUT" METHOD AS DEFINED BY AISC.

STEALTHSKIN PANELS

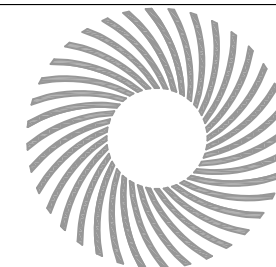
1. FASTENER HOLES IN STEALTHSKIN FOAM COMPOSITE PANELS ARE NOT FACTORY DRILLED AND MUST BE DRILLED IN THE FIELD.
2. PANEL FASTENERS TO BE SPACED 12" O.C. MAX. AND LOCATED 6" MAX. HORIZONTALLY FROM EACH EDGE AT TOP AND BOTTOM OF PANEL. MAINTAIN 1 1/2" MIN. EDGE DISTANCE FROM ALL EDGES. 4' WIDE PANELS REQUIRE (4) FASTENERS TOP AND BOTTOM. 5' WIDE PANELS REQUIRE (5) FASTENERS TOP AND BOTTOM.
3. WHEN FASTENER BOLT HEAD OR NUT BEARS DIRECTLY ON SURFACE OF STEALTHSKIN PANEL, TIGHTEN PANEL BOLTS ONLY 1/2 TURN PAST SNUG. APPLY THREAD LOCK COMPOUND TO THE THREADS OF METAL BOLTS. USE THIN BEAD OF EPOXY TO LOCK THE NUTS OF FRP BOLTS AND STEALTH® STAINLESS STEEL PANEL BOLTS. USE WASHER OR FLANGED HEAD BOLT, OR FASTENER WITH LARGE BEARING SURFACE.
4. PANELS WILL EXPAND AND CONTRACT DUE TO TEMPERATURE. WHEN INSTALLING PANELS IN COLD TEMPERATURES, EVENLY SPACE PANELS ALONG LENGTH OF SCREEN WALL WITH EQUAL GAPS BETWEEN PANELS TO ALLOW FOR EXPANSION DURING WARM TEMPERATURES.
5. ADJACENT FLAT PANELS ARE JOINED BY A VERTICAL FOAM SPLINE THAT IS INSERTED INTO GROOVES CUT INTO THE SIDE OF EACH PANEL. DO NOT LIFT PANELS BY GROOVES. PANELS MUST BE LIFTED WITH FORCE DIRECTED ONTO PANEL SURFACE.
6. ADJACENT RADIUS PANELS ARE JOINED BY A VERTICAL H-CHANNEL. INSERT PANELS INTO EACH SIDE OF H-CHANNEL.
7. RADIUS PANELS MUST BE EVENLY SPACED ALONG RADIUS SUPPORT. CONTRACTOR TO MEASURE LENGTH OF RADIUS SUPPORT AND DIVIDE BY THE NUMBER OF RADIUS PANELS TO DETERMINE PROPER SPACING. H-CHANNEL CONNECTORS ARE USED TO COVER THE GAP BETWEEN PANELS AND TO ALLOW FOR PANEL EXPANSION AND CONTRACTION.
8. SURFACES OF PANELS SHALL BE COATED WITH SUITABLE PAINT FOR UV PROTECTION. TOP EDGE OF PANEL MUST BE COVERED TO PREVENT WATER TRAVEL BETWEEN PANELS. USE SHERWIN WILLIAMS "COROTHANE II" OR PRE APPROVED EQUIVALENT.
9. EXPOSED TOP AND SIDE FOAM EDGES OF PANELS MUST BE COVERED OR COATED FOR UV PROTECTION. STEALTH® WILL PROVIDE PANEL EDGE CAPS TO BE FIELD APPLIED FOR THIS PURPOSE FOR MOST APPLICATIONS. PANEL EDGE CAPS TO BE SECURED WITH TEK SCREW INSTALLED @ 12" MAXIMUM SPACING ON THE INSIDE FACE OF THE PANEL.

COAX NOTE:

ROUTING THE LARGE QUANTITY OF COAX CABLES THROUGH THE CONCEALMENT BULKHEADS IS POSSIBLE (WHEN LAID OUT ON PAPER), BUT WILL BE VERY DIFFICULT IN REAL WORLD FIELD CONDITIONS. WHILE THE CABLES MAY PHYSICALLY FIT THROUGH THE BASE FLANGE ON TOP OF THE MONOPOLE AND THE SUBSEQUENT STEEL BULKHEADS ABOVE, ROUTING THEM PAST THE ANTENNAS IS UNPREDICTABLE, DEPENDING ON THE ANTENNA MOUNTING HARDWARE EMPLOYED, COAX CONNECTOR TYPE(S) USED, COAX ROUTING, AND RELATIVE AZIMUTH DIRECTIONS OF THE ANTENNAS IN THE POLE. STEALTH® CAN NOT GUARANTEE THAT ALL OF THE COAX CAN BE ROUTED WITHOUT INTERFERENCE TO SOME OR ALL ANTENNAS. IT IS HIGHLY RECOMMENDED THAT THE INSTALLER MOCK UP THE COAX RUNS WITHIN THE CONCEALMENT AND DEVELOP A COAX ROUTING PLAN PRIOR TO INSTALLATION.

DISCLAIMERS:

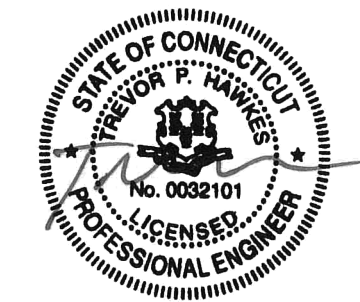
1. ALL STRUCTURAL COMPONENTS TO BE CONNECTED TOGETHER SHALL BE COMPLETELY FIT UP ON THE GROUND OR OTHERWISE VERIFIED FOR COMPATIBILITY PRIOR TO LIFTING ANY COMPONENT INTO PLACE. REPAIRS REQUIRED DUE TO FIT-UP OR CONNECTION COMPATIBILITY PROBLEMS AFTER PARTIAL ERECTION ARE THE FINANCIAL RESPONSIBILITY OF THE CONTRACTOR.
2. ALTHOUGH RARE, EXCESSIVE DEFLECTION SEVERE ENOUGH TO CAUSE DAMAGE CAN OCCASIONALLY OCCUR IN SLIM LINE OR MONOPOLE STRUCTURES AT LOW WIND SPEEDS. BECAUSE THE PHENOMENON IS INFLUENCED BY MANY INTERACTING VARIABLES, MOVEMENT AND OSCILLATIONS ARE GENERALLY UNPREDICTABLE. THE TOWER OWNER MUST PERIODICALLY OBSERVE THE STRUCTURE FOR EXCESSIVE DEFLECTION AND ANY RESULTING STRUCTURAL DAMAGE OR BOLT LOOSENING. IN THE EVENT OF EXCESSIVE MOVEMENT, VECTOR STRUCTURAL ENGINEERS MUST BE NOTIFIED IMMEDIATELY. MODIFICATIONS TO THE STRUCTURE MAY BE REQUIRED AT THE OWNER'S EXPENSE. THE CHANGES MAY ALTER THE AESTHETIC APPEARANCE OF THE STRUCTURE.



STEALTH®
GO UNNOTICED™

3034-A ASHLEY PHOSPHATE RD.
NORTH CHARLESTON, SC 29418
P: (800)-755-0689 F: (843)-207-0207
WWW.STEALTHCONCEALMENT.COM

PROPRIETARY INFORMATION
THE INFORMATION CONTAINED WITHIN THIS DRAWING SET IS PROPRIETARY & CONFIDENTIAL BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO STEALTH® CONCEALMENT SOLUTIONS, INC IS STRICTLY PROHIBITED.



04/25/2017

DRAWING NOT TO SCALE. UNLESS SPECIFIED OTHERWISE DIMENSIONS SHOWN ARE IN INCHES

TOLERANCES	
DECIMALS X ± 1/16"	ANGULAR X ± 0.5°
.XXX ± 0.01"	

NOTES & SPECIFICATIONS

SAI COMMUNICATIONS

SITE: EAST LYME SILO

2 ARBOR CROSSING
EAST LYME, CT 06333

JOB #: AT16-00207W-33R2
DRAWN: DKF-VSE
DESIGNED: TPH-VSE
REVISED: TPH-VSE

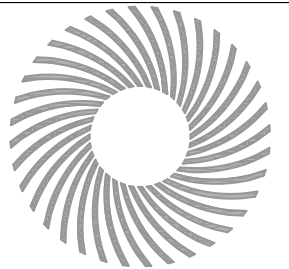
N1

4/25/17

REVISION

1





STEALTH
GO UNNOTICED™

3034-A ASHLEY PHOSPHATE RD.
NORTH CHARLESTON, SC 29418
P: (800)-755-0689 F: (843)-207-0207
WWW.STEALTHCONCEALMENT.COM

PROPRIETARY INFORMATION
THE INFORMATION CONTAINED WITHIN THIS
DRAWING SET IS PROPRIETARY & CONFIDENTIAL
BY NATURE. ANY USE OR DISCLOSURE OTHER
THAN THAT WHICH RELATES TO
STEALTH® CONCEALMENT SOLUTIONS, INC
IS STRICTLY PROHIBITED.



04/25/2017

DRAWING NOT TO SCALE. UNLESS SPECIFIED
OTHERWISE DIMENSIONS SHOWN ARE IN INCHES

TOLERANCES
DECIMALS
X ± 1/16"
.XXX ± 0.01"
ANGULAR
X ± 0.5°

ELEVATIONS
SAI COMMUNICATIONS
SITE: EAST LYME SILO
2 ARBOR CROSSING
EAST LYME, CT 06333

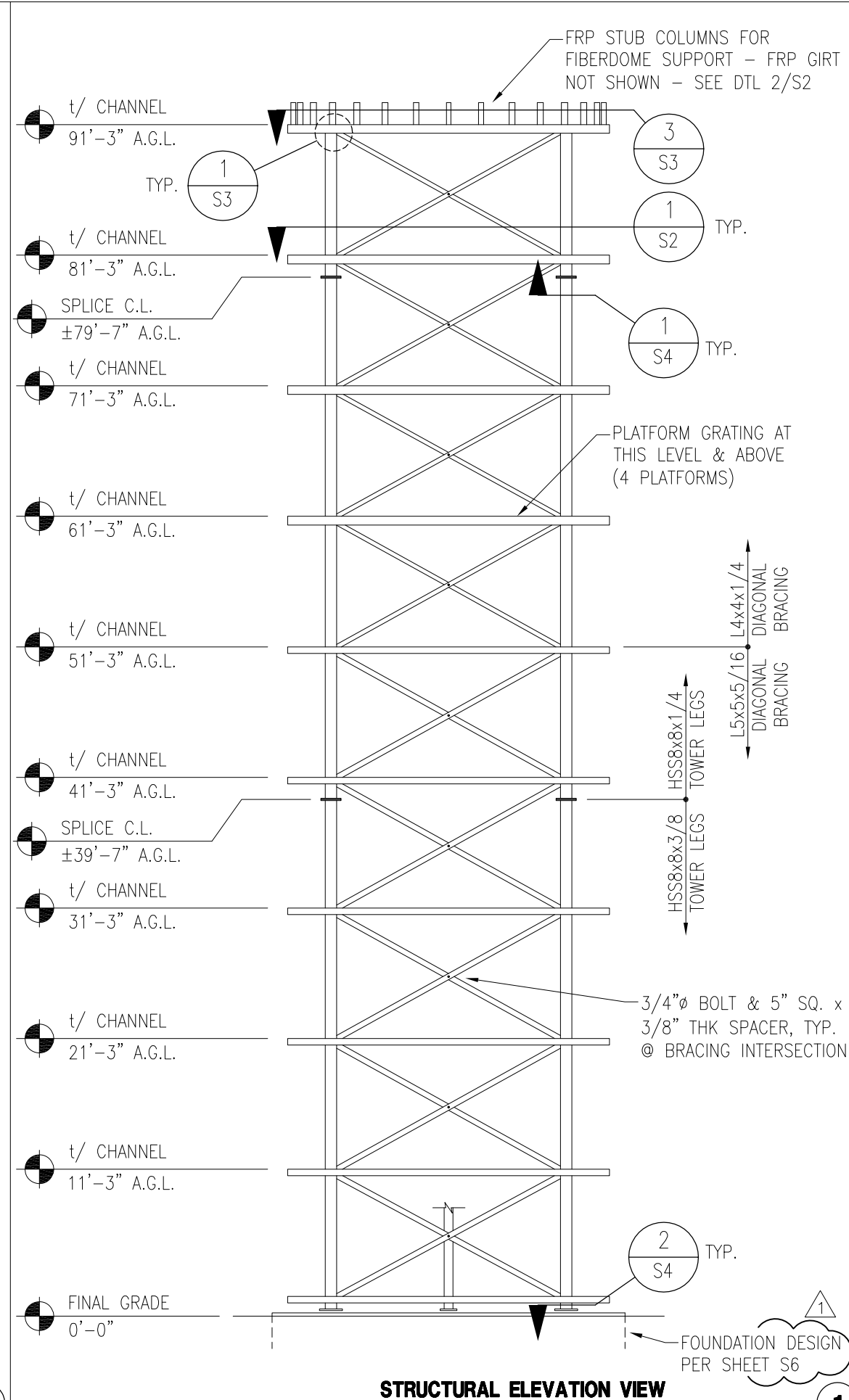
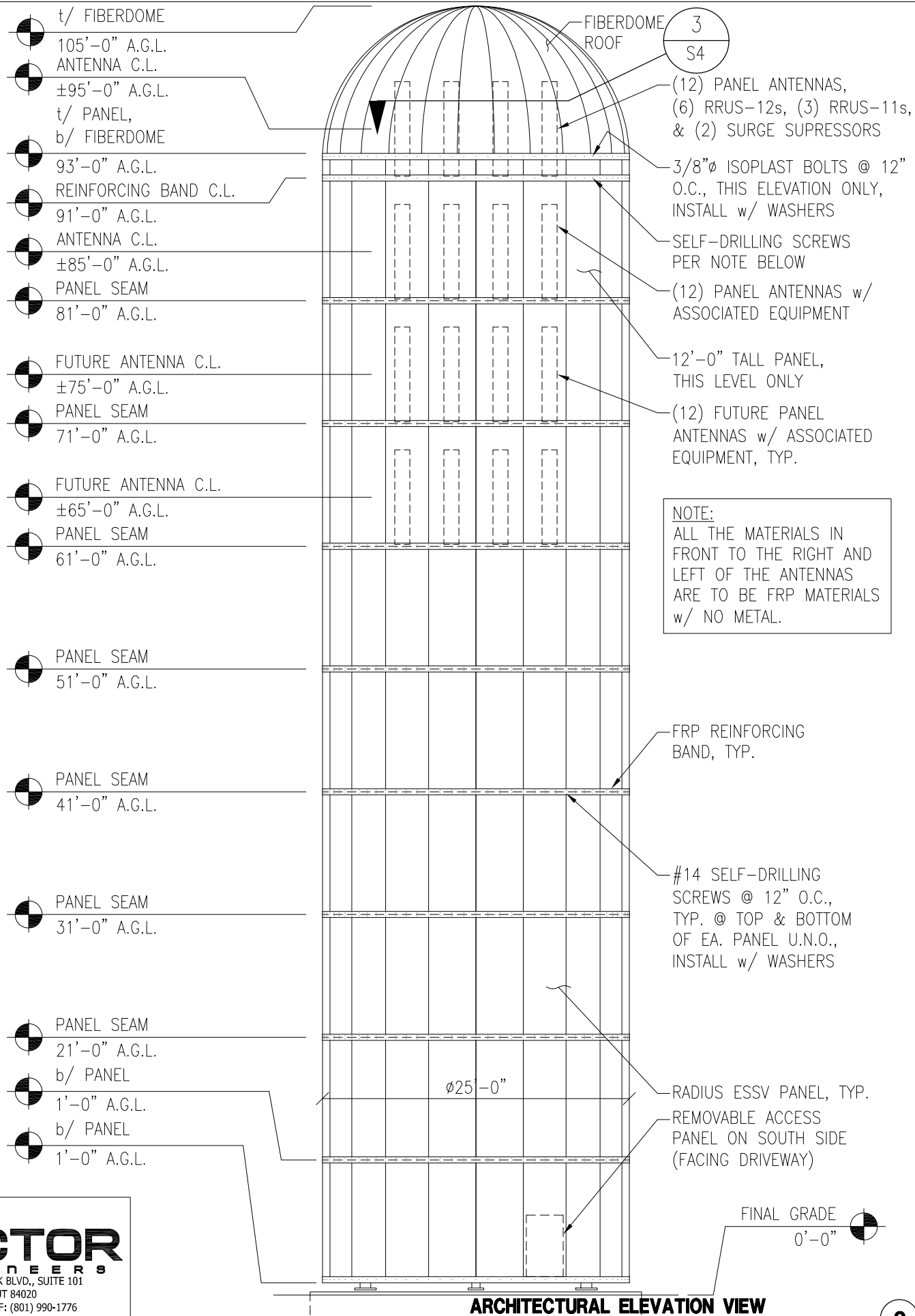
JOB #: AT16-00207W-33R2
DRAWN: DKF-VSE
DESIGNED: TPH-VSE
REVISED: TPH-VSE

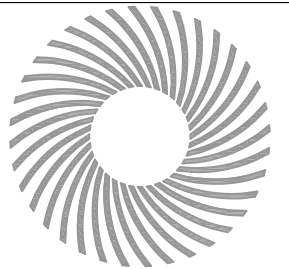
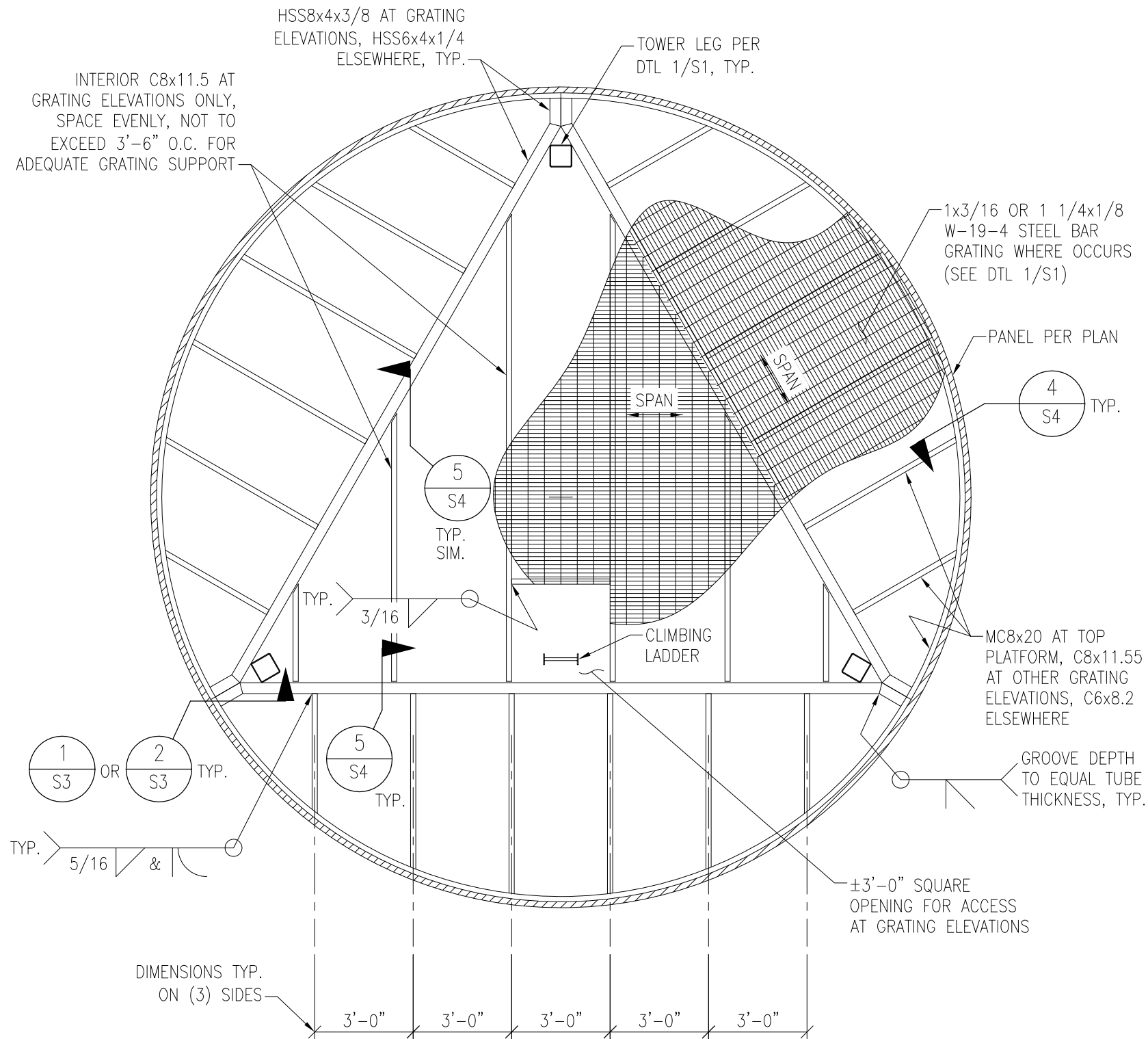
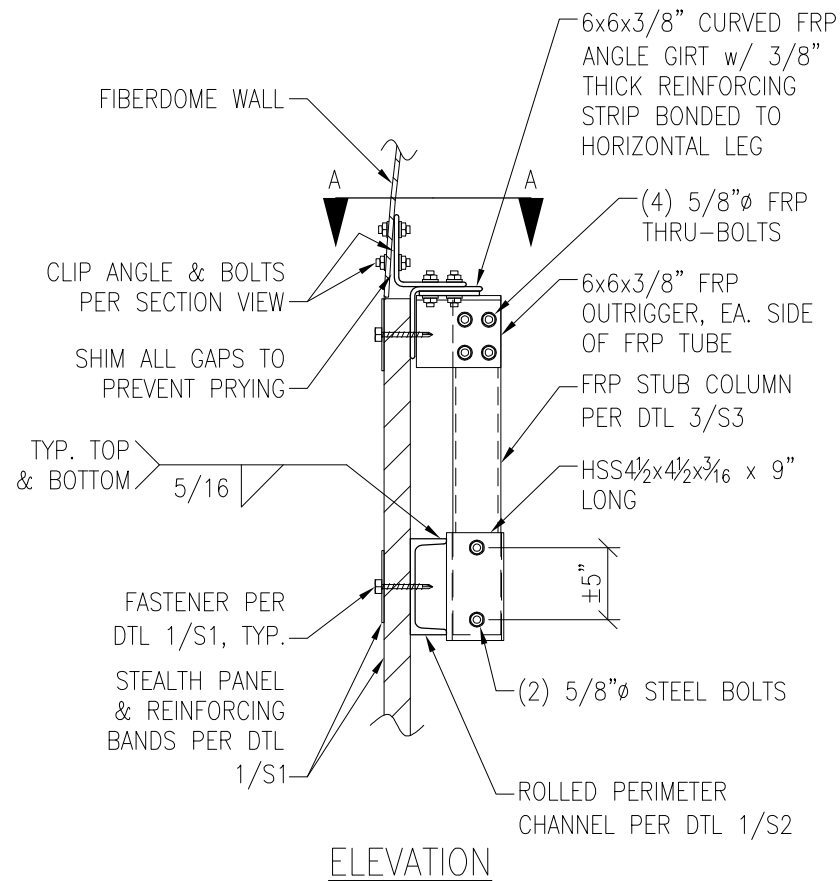
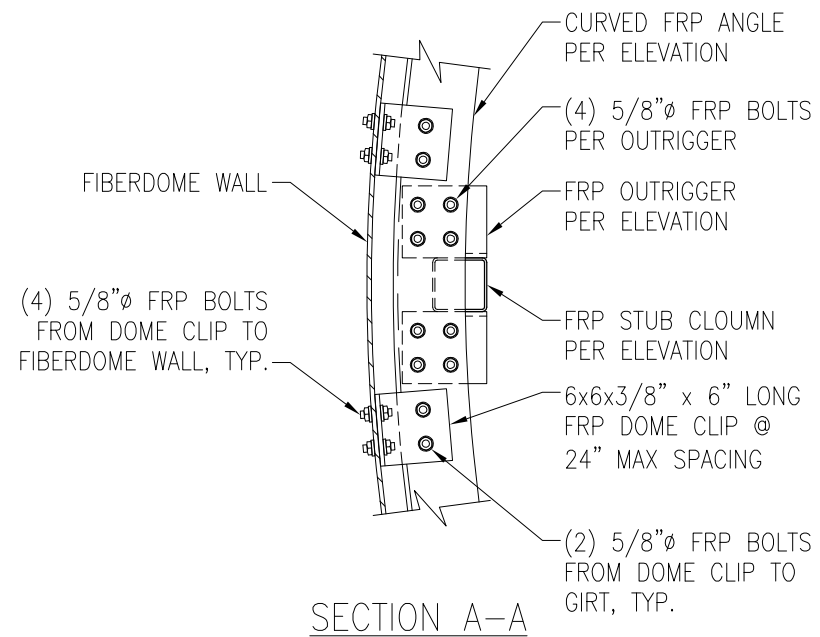
S1

4/25/17

REVISION

1





STEALTH[®]
GO UNNOTICED™

3034-A ASHLEY PHOSPHATE RD.
NORTH CHARLESTON, SC 29418
P: (800)-755-0689 F: (843)-207-0207
WWW.STEALTHCONCEALMENT.COM

PROPRIETARY INFORMATION
THE INFORMATION CONTAINED WITHIN THIS DRAWING SET IS PROPRIETARY & CONFIDENTIAL BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO STEALTH® CONCEALMENT SOLUTIONS, INC IS STRICTLY PROHIBITED.



04/25/2017

DRAWING NOT TO SCALE. UNLESS SPECIFIED OTHERWISE DIMENSIONS SHOWN ARE IN INCHES

TOLERANCES	
DECIMALS	ANGULAR
X ± 1/16"	X ± 0.5°
.XXX ± 0.01"	

DETAILS

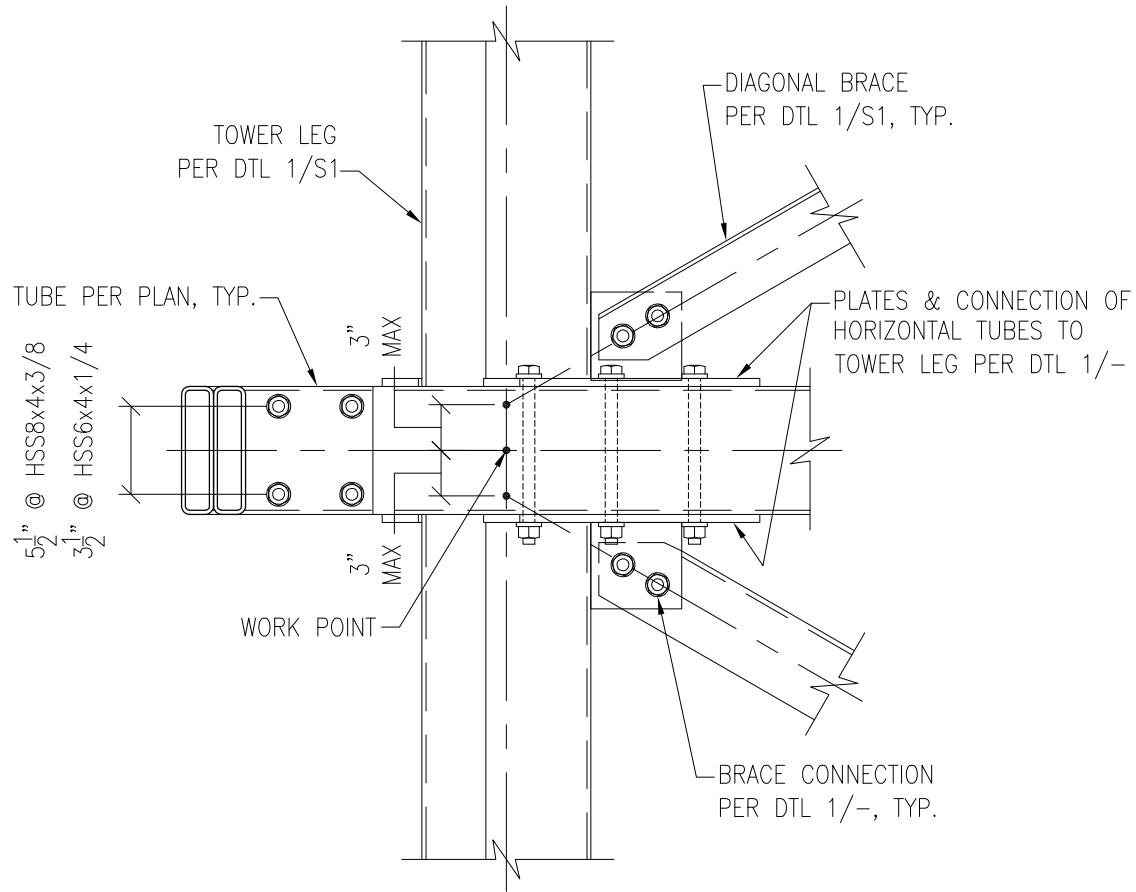
SAI COMMUNICATIONS
SITE: EAST LYME SILO
2 ARBOR CROSSING
EAST LYME, CT 06333

JOB #: AT16-00207W-33R2
DRAWN: DKF-VSE
DESIGNED: TPH-VSE
REVISED: TPH-VSE

S2
4/25/17

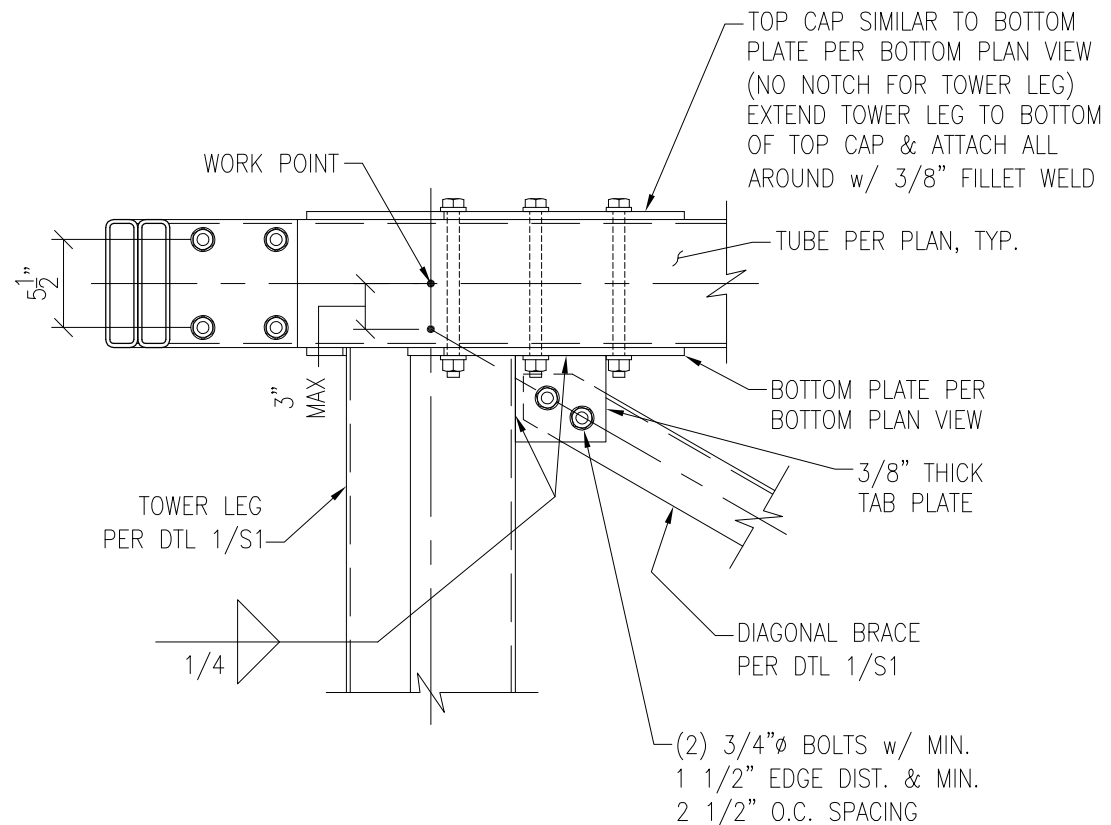
REVISION
1

VECTOR
ENGINEERS
651 W. GALENA PARK BLVD., SUITE 101
DRAPER, UT 84020
P: (801) 990-1775 F: (801) 990-1776
VECTOR PROJECT: U0142-383-171
CT FIRM LICENSE NUMBER: PEC 0001229

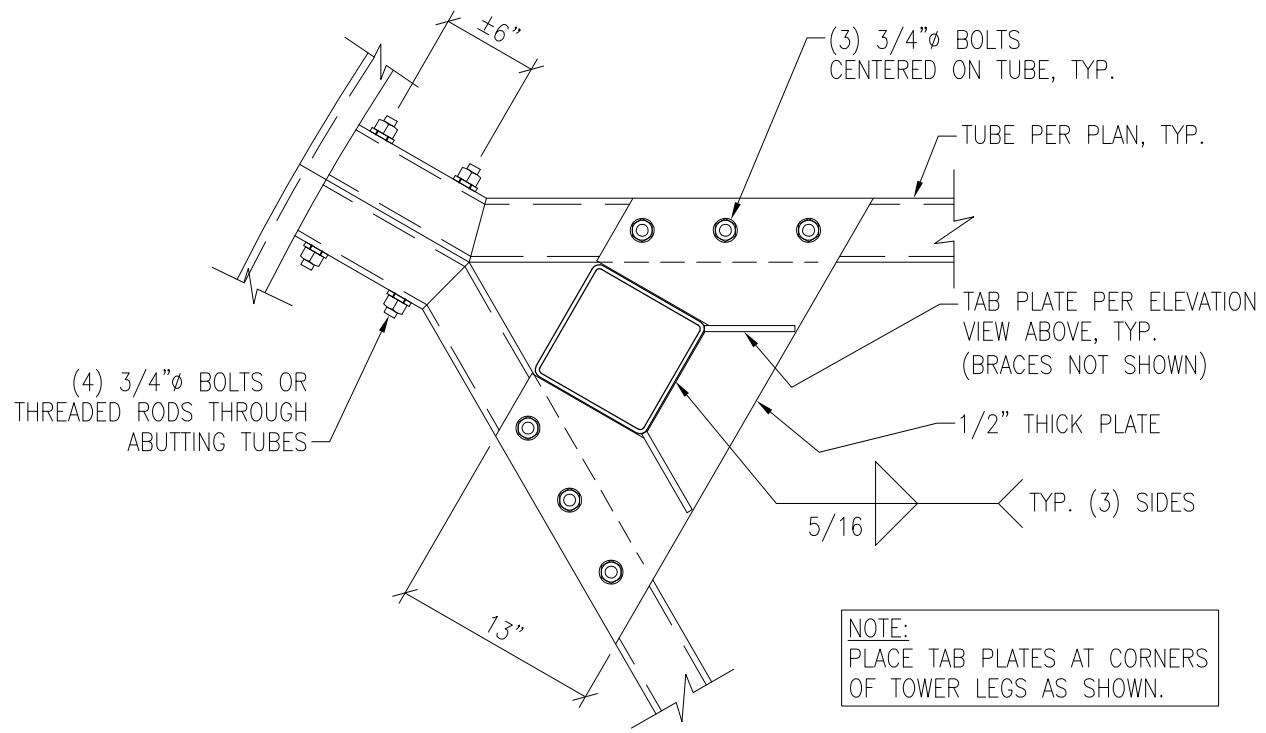


N.T.S.

2



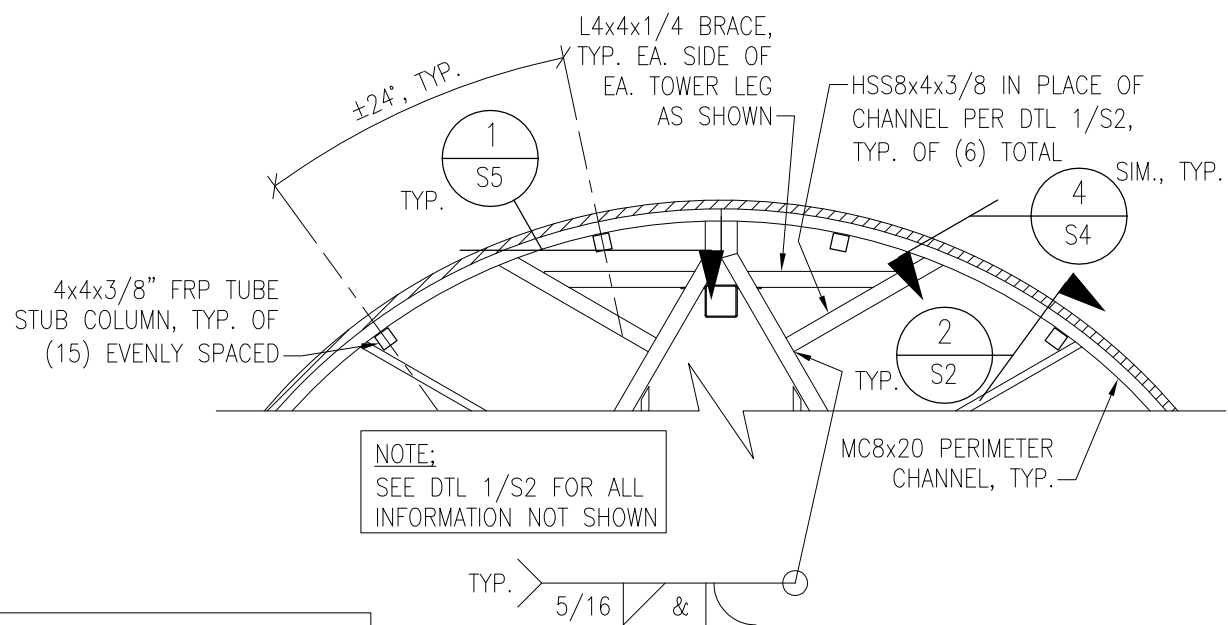
ELEVATION



PLAN (BOTTOM
LOOKING UP)

N.T.S.

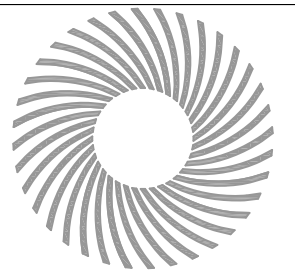
1



NOTE:
SEE DTL 1/S2 FOR ALL
INFORMATION NOT SHOWN

N.T.S.

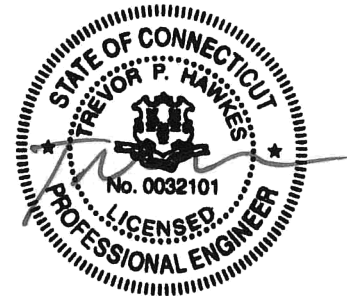
3



STEALTH[®]
GO UNNOTICED™

3034-A ASHLEY PHOSPHATE RD.
NORTH CHARLESTON, SC 29418
P: (800)-755-0689 F: (843)-207-0207
WWW.STEALTHCONCEALMENT.COM

PROPRIETARY INFORMATION
THE INFORMATION CONTAINED WITHIN THIS
DRAWING SET IS PROPRIETARY & CONFIDENTIAL
BY NATURE. ANY USE OR DISCLOSURE OTHER
THAN THAT WHICH RELATES TO
STEALTH® CONCEALMENT SOLUTIONS, INC
IS STRICTLY PROHIBITED.



04/25/2017

DRAWING NOT TO SCALE. UNLESS SPECIFIED
OTHERWISE DIMENSIONS SHOWN ARE IN INCHES

TOLERANCES	
DECIMALS	ANGULAR
X ± 1/16"	X ± 0.5°
.XXX ± 0.01"	

DETAILS

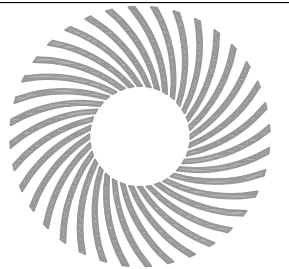
SAI COMMUNICATIONS
SITE: EAST LYME SILO
2 ARBOR CROSSING
EAST LYME, CT 06333

JOB #: AT16-00207W-33R2
DRAWN: DKF-VSE
DESIGNED: TPH-VSE
REVISED: TPH-VSE

S3
4/25/17

REVISION
1

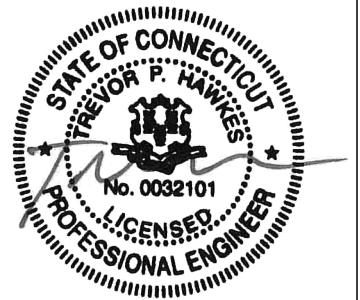




STEALTH[®]
GO UNNOTICED™

3034-A ASHLEY PHOSPHATE RD.
NORTH CHARLESTON, SC 29418
P: (800)-755-0689 F: (843)-207-0207
WWW.STEALTHCONCEALMENT.COM

PROPRIETARY INFORMATION
THE INFORMATION CONTAINED WITHIN THIS
DRAWING SET IS PROPRIETARY & CONFIDENTIAL
BY NATURE. ANY USE OR DISCLOSURE OTHER
THAN THAT WHICH RELATES TO
STEALTH® CONCEALMENT SOLUTIONS, INC
IS STRICTLY PROHIBITED.



04/25/2017

DRAWING NOT TO SCALE. UNLESS SPECIFIED
OTHERWISE DIMENSIONS SHOWN ARE IN INCHES
TOLERANCES
DECIMALS X ± 1/16"
.XXX ± 0.01" ANGULAR X ± 0.5°

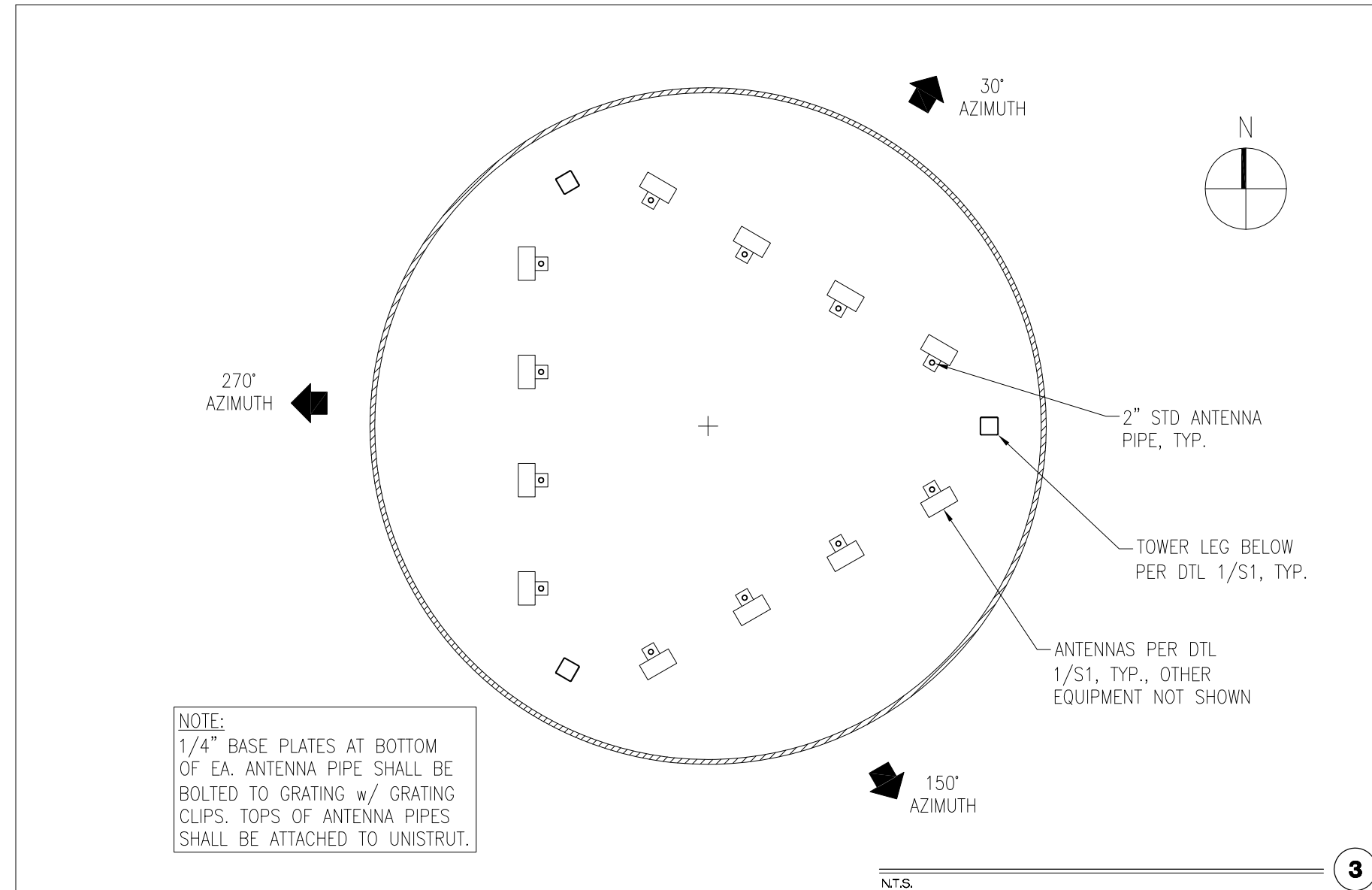
DETAILS

SAI COMMUNICATIONS
SITE: EAST LYME SILO
2 ARBOR CROSSING
EAST LYME, CT 06333

JOB #: AT16-00207W-33R2
DRAWN: DKF-VSE
DESIGNED: TPH-VSE
REVISED: TPH-VSE

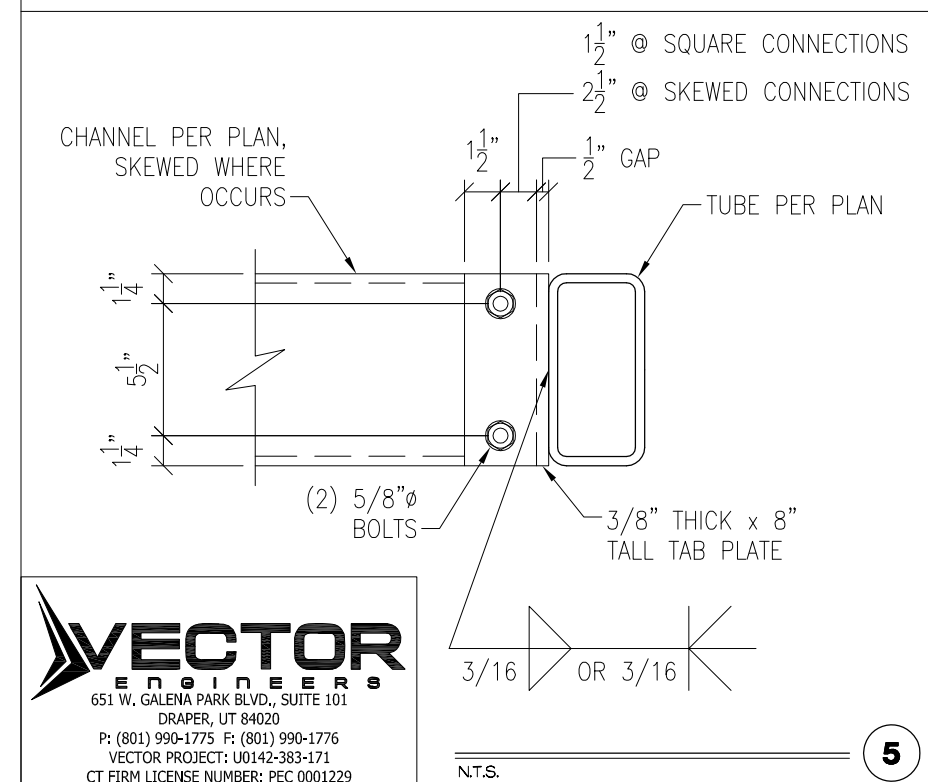
S4
4/25/17

REVISION
1

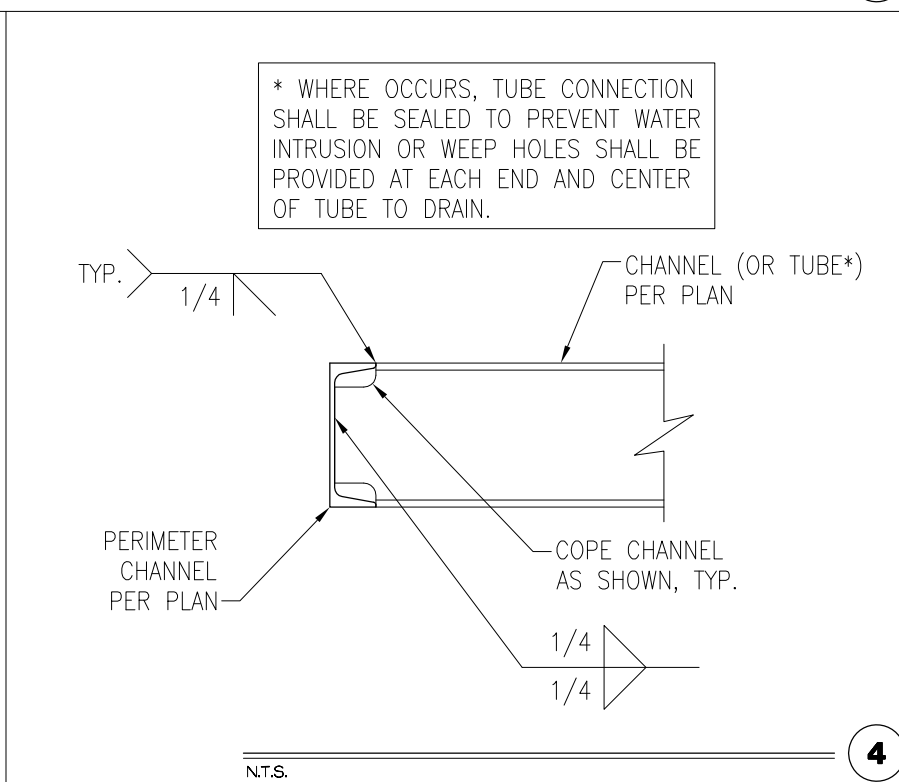


NOTE:
1/4" BASE PLATES AT BOTTOM
OF EA. ANTENNA PIPE SHALL BE
BOLTED TO GRATING w/ GRATING
CLIPS. TOPS OF ANTENNA PIPES
SHALL BE ATTACHED TO UNISTRUT.

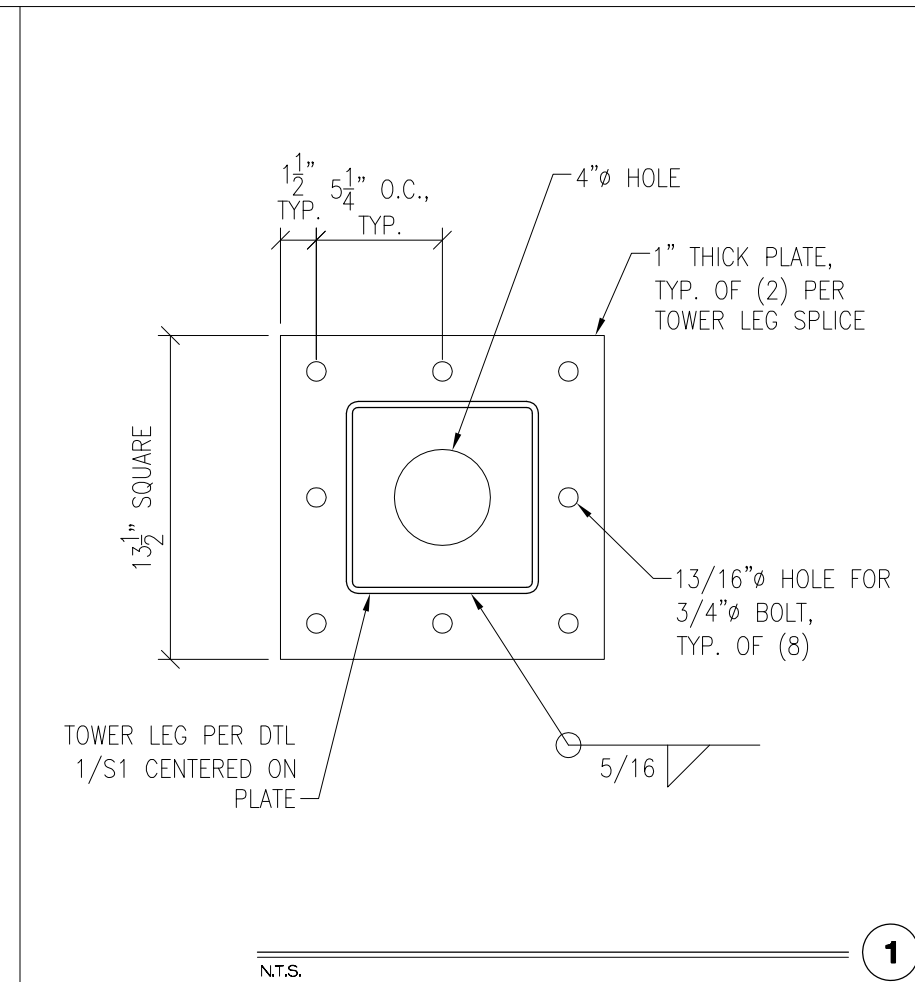
N.T.S. **3**



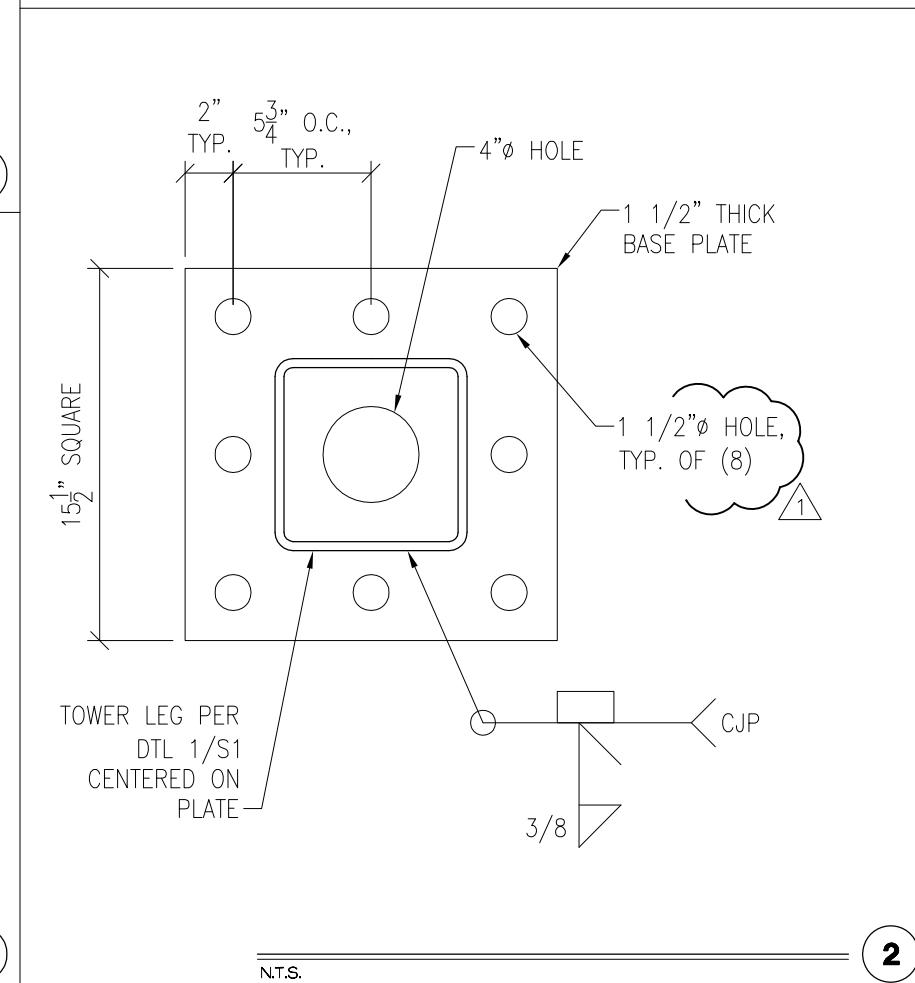
N.T.S. **5**



N.T.S. **4**

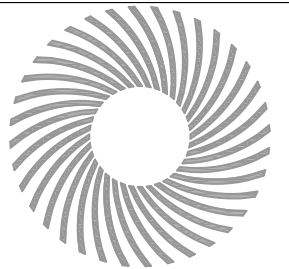


N.T.S. **1**



N.T.S. **2**

VECTOR ENGINEERS
651 W. GALENA PARK BLVD., SUITE 101
DRAPER, UT 84020
P: (801) 990-1775 F: (801) 990-1776
VECTOR PROJECT: U0142-383-171
CT FIRM LICENSE NUMBER: PEC 0001229



STEALTH[®]
GO UNNOTICED™

3034-A ASHLEY PHOSPHATE RD.
NORTH CHARLESTON, SC 29418
P: (800)-755-0689 F: (843)-207-0207
WWW.STEALTHCONCEALMENT.COM

PROPRIETARY INFORMATION
THE INFORMATION CONTAINED WITHIN THIS
DRAWING SET IS PROPRIETARY & CONFIDENTIAL
BY NATURE. ANY USE OR DISCLOSURE OTHER
THAN THAT WHICH RELATES TO
STEALTH® CONCEALMENT SOLUTIONS, INC
IS STRICTLY PROHIBITED.



04/25/2017

DRAWING NOT TO SCALE. UNLESS SPECIFIED
OTHERWISE DIMENSIONS SHOWN ARE IN INCHES

TOLERANCES	
DECIMALS	ANGULAR
X ± 1/16"	X ± 0.5°
.XXX ± 0.01"	

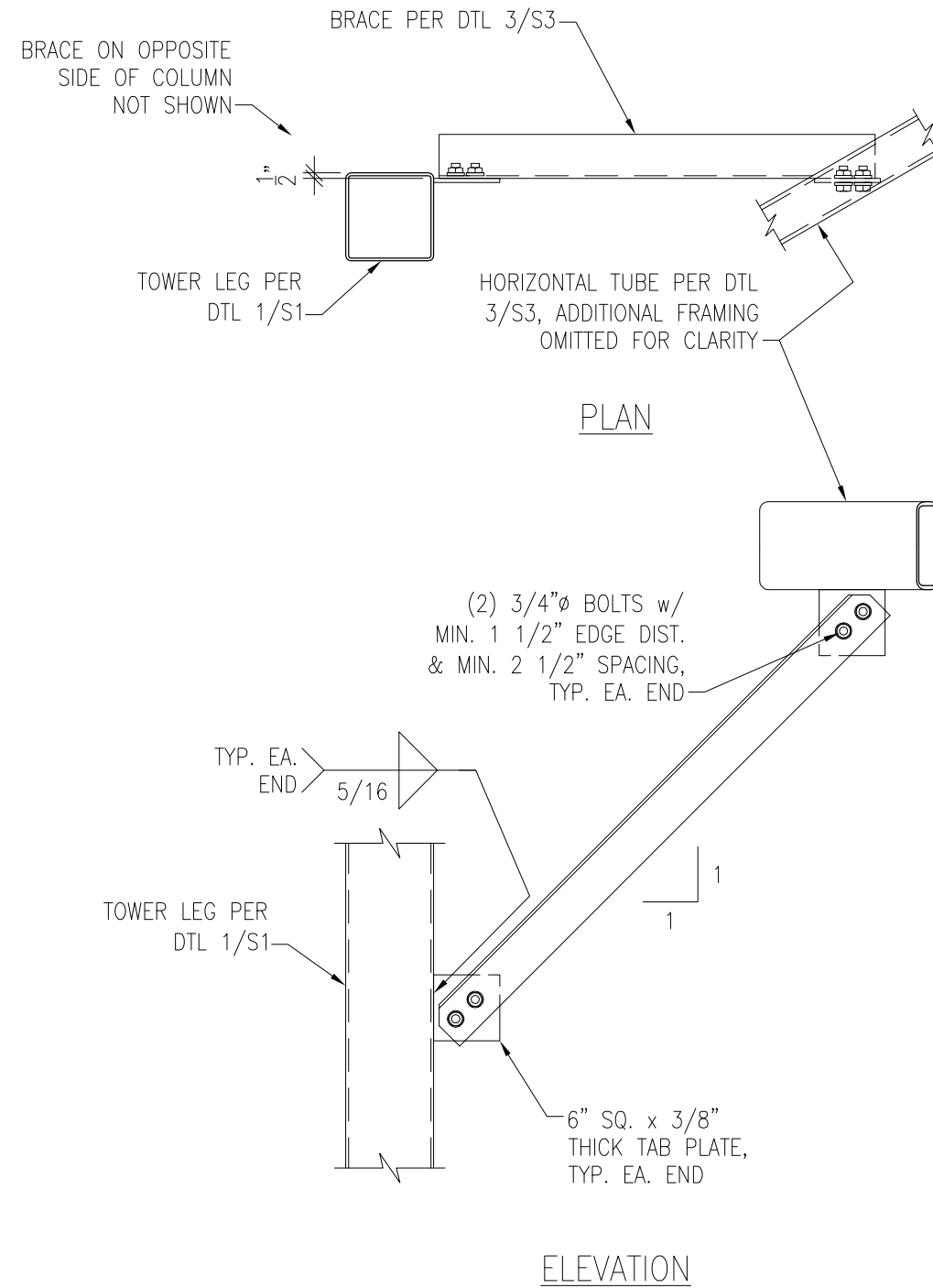
DETAILS

SAI COMMUNICATIONS
SITE: EAST LYME SILO
2 ARBOR CROSSING
EAST LYME, CT 06333

JOB #: AT16-00207W-33R2
DRAWN: DKF-VSE
DESIGNED: TPH-VSE
REVISED: TPH-VSE

S5
4/25/17

REVISION
1



N.T.S.

1

VECTOR
ENGINEERS
651 W. GALENA PARK BLVD., SUITE 101
DRAPER, UT 84020
P: (801) 990-1775 F: (801) 990-1776
VECTOR PROJECT: U0142-383-171
CT FIRM LICENSE NUMBER: PEC 0001229

FOUNDATION NOTES:

1. FOUNDATION DESIGN IS BASED ON THE FOLLOWING GEOTECHNICAL REPORT:

ATLANTIC CONSULTING & ENGINEERING, LLC
 REPORT: G58-0661-17
 DATE: APRIL 17, 2017

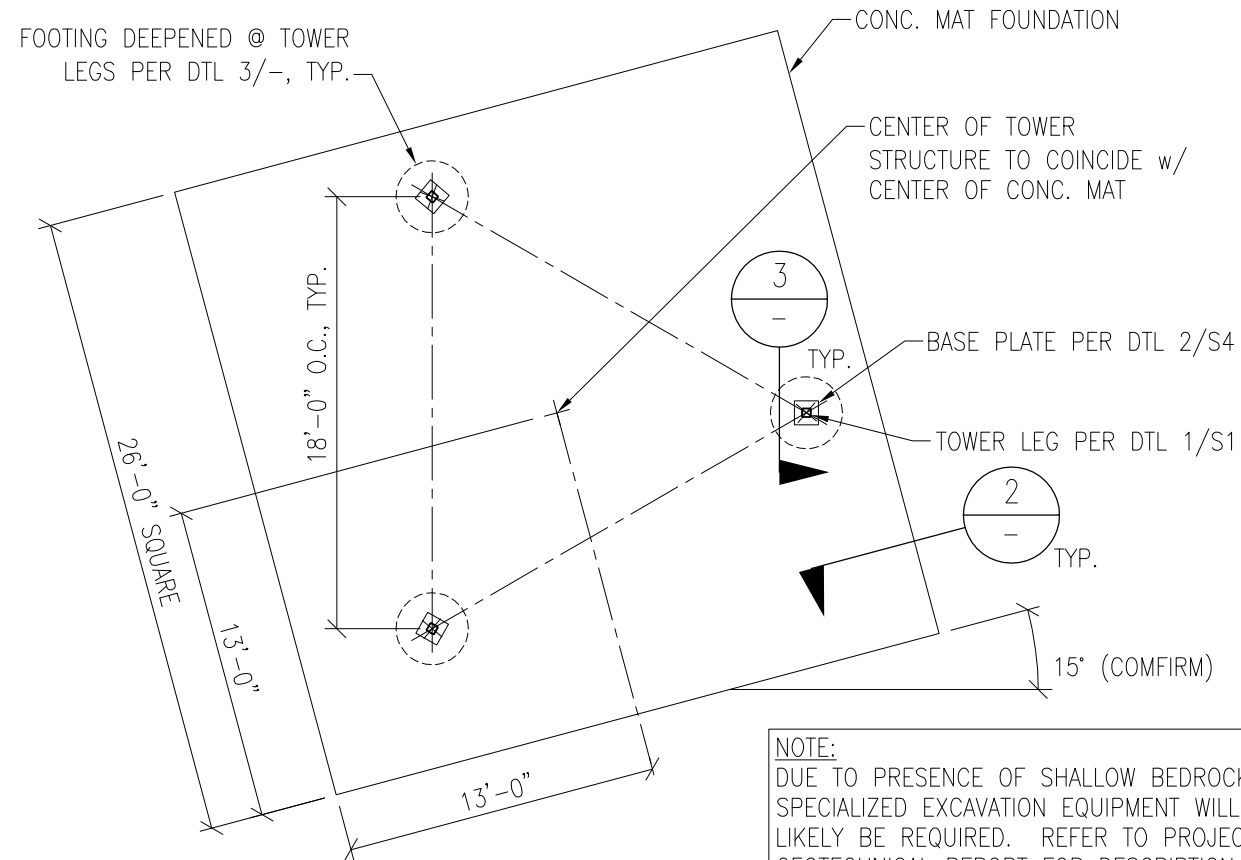
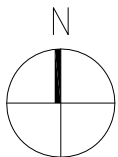
2. ALL CONCRETE SHALL USE TYPE II PORTLAND CEMENT AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS. CONCRETE SHALL HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.50. CONCRETE SHALL HAVE A SLUMP OF 5" (±1") OR AS SPECIFIED BY THE GEOTECHNICAL ENGINEER. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH "THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE," ACI 318-11.

3. REINFORCING STEEL SHALL CONFORM WITH THE REQUIREMENTS OF ASTM A-615, GRADE 60. ALL REINFORCING DETAILS SHALL CONFORM TO "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES," ACI 315, LATEST EDITION, UNLESS DETAILED OTHERWISE ON THIS DRAWING.

4. FOUNDATION DESIGN SHALL BE REVIEWED AND APPROVED BY THE GEOTECHNICAL ENGINEER.

5. INSTALLATION OF FOUNDATION MUST BE OBSERVED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER FIRM. GEOTECHNICAL ENGINEER TO PROVIDE A NOTICE OF INSPECTION FOR THE BUILDING INSPECTOR FOR REVIEW AND RECORD PURPOSES.

6. ALL ANCHOR BOLTS SHALL CONFORM w/ ASTM F1554 GR. 55, GALVANIZED U.N.O.

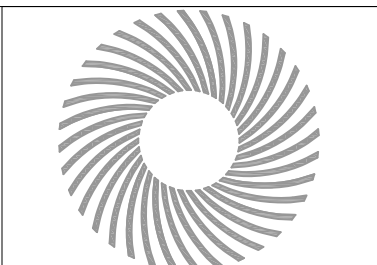


NOTE:
 DUE TO PRESENCE OF SHALLOW BEDROCK, SPECIALIZED EXCAVATION EQUIPMENT WILL LIKELY BE REQUIRED. REFER TO PROJECT GEOTECHNICAL REPORT FOR DESCRIPTION OF SUBGRADE MATERIALS.

FOUNDATION PLAN

N.T.S.

1



STEALTH[®]
 GO UNNOTICED™

3034-A ASHLEY PHOSPHATE RD.
 NORTH CHARLESTON, SC 29418
 P: (800)-755-0689 F: (843)-207-0207
 WWW.STEALTHCONCEALMENT.COM

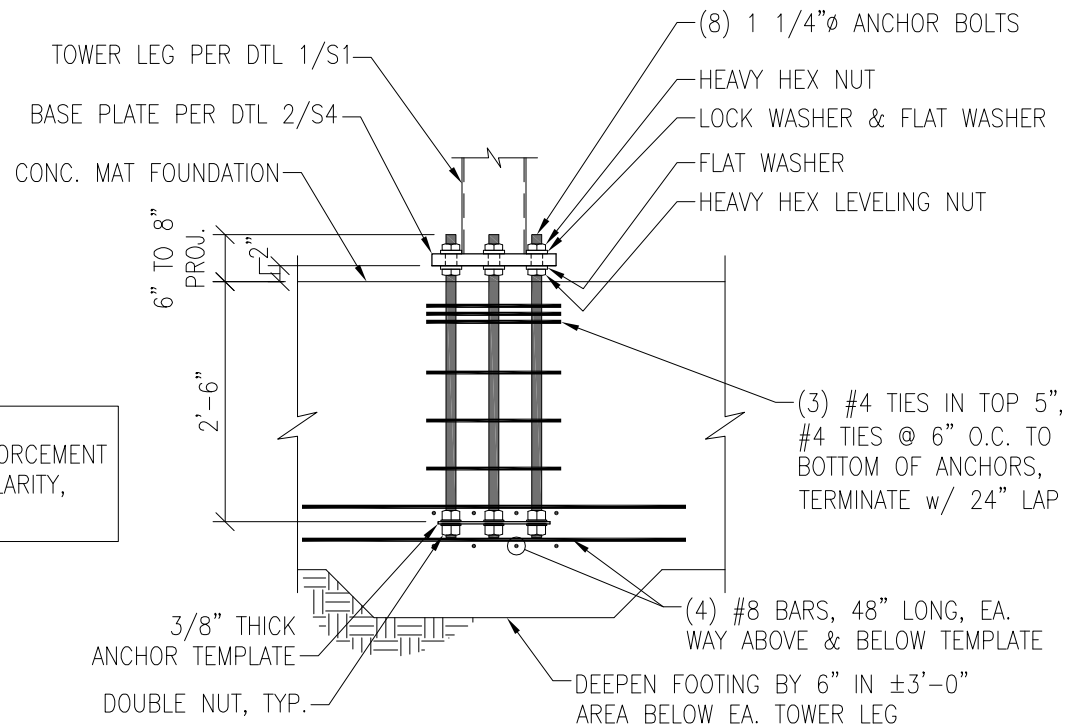
PROPRIETARY INFORMATION
 THE INFORMATION CONTAINED WITHIN THIS DRAWING SET IS PROPRIETARY & CONFIDENTIAL BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO STEALTH® CONCEALMENT SOLUTIONS, INC IS STRICTLY PROHIBITED.



04/25/2017

DRAWING NOT TO SCALE. UNLESS SPECIFIED OTHERWISE DIMENSIONS SHOWN ARE IN INCHES

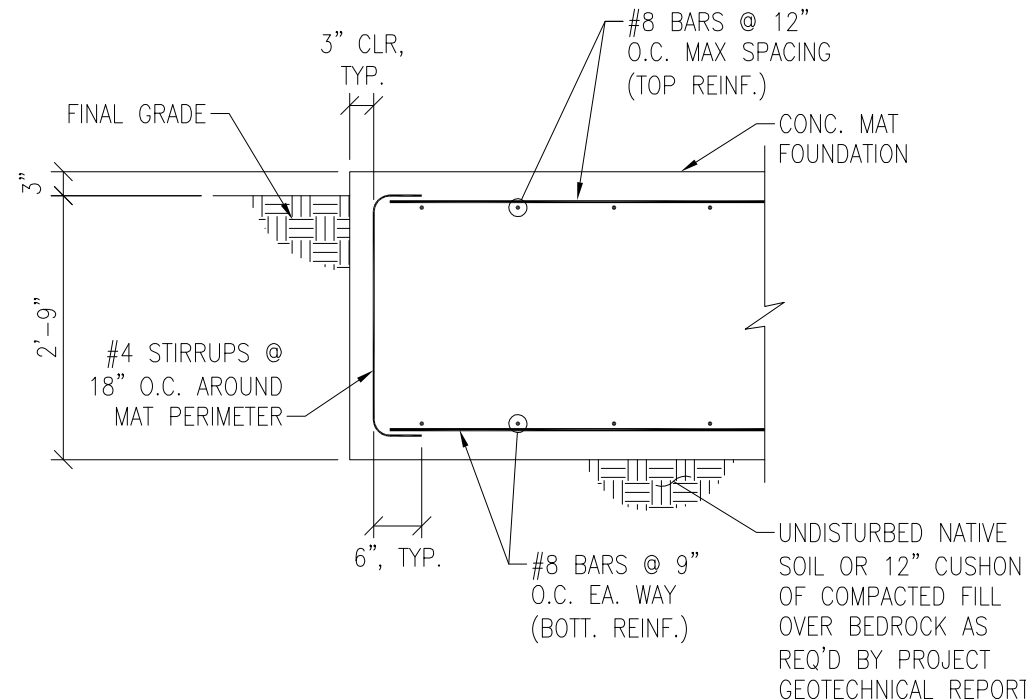
TOLERANCES	
DECIMALS	ANGULAR
X ± 1/16"	X ± 0.5°
.XXX ± 0.01"	



NOTE:
 PRIMARY MAT REINFORCEMENT NOT SHOWN FOR CLARITY, SEE DTL 2/-

N.T.S.

3

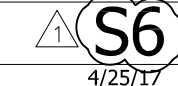


N.T.S.

2



JOB #: AT16-00207W-33R2
 DRAWN: DKF-VSE
 DESIGNED: TPH-VSE
 REVISED: TPH-VSE



REVISION

1