

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

April 17, 2019

### VIA FEDERAL EXPRESS

Melanie A. Bachman, Esq., Executive Director Connecticut Siting Council Ten Franklin Square New Britain, Connecticut 06051

Re:

New Cingular Wireless PCS, LLC (AT&T)

Docket No. 463A 2 Arbor Crossing

East Lyme, Connecticut

Certificate Transfer, Notice of Intent to Commence Construction &

Request for Extension of Time

Dear Ms. Bachman:

We are writing on behalf of New Cingular Wireless PCS, LLC ("AT&T") with respect to Docket 463A.

The purpose of our letter it to provide the Council with notice in accordance with the Council's Decision & Order ("463A D&O") of an intent to commence construction of the facility, seek an extension of time for completion of construction of the facility currently set to expire July 1, 2019, and authorization to transfer the Certificate issued by the Council in Docket 463A.

1) 463A D&O Condition No. 10 – Notification of Intent to Commence Construction

The Development & Management Plan for the Facility issued a Certificate in Docket 463A was previously approved by the Council in June 2017. A Town of East Lyme building permit was obtained by AT&T in 2018, a copy of which is enclosed.

AT&T has been coordinating with several parties over the course of the past year, including the property owners and utility companies, with respect to construction of the Facility as approved in Docket 463A. Additionally, it is anticipated that the property owner will conduct site preparation work in accordance with its ongoing development of the surrounding residential community.

Enclosed for the Council's files are a full set of the latest construction drawings for the Facility, last revised May 17, 2018. These drawings are compliant with the 463A D&O and D&M Plan approvals and you will note that the equipment barn has had a small architectural cupola added



to it since the set approved by the Council in 2017. Additionally, they incorporate details for a 80kw shared generator.

2) 463A D&O Conditions No. 6 and 7 – Extension of Time to Complete Construction

The current deadline for completion of construction as extended by the Council is July 1, 2019. In order to construct the new Facility and make it operational prior to removal of the existing tower facility, the Certificate holder requests a further one-year extension of time to July 1, 2020. This request is being timely made in furtherance of Conditions 6 and 7 of the Council's 463A D&O.

3) Transfer of the Certificate Request - AT&T to TowerCo

AT&T has agreed to assign its ground lease and transfer the Certificate issued by the Council in Docket 463A to TowerCo 2013 LLC ("TowerCo"). AT&T will be subleasing space back from TowerCo for its specific wireless facility. TowerCo will be the party responsible for ensuring construction, operation and maintenance of the Facility approved and issued a Certificate in Docket 463A. TowerCo is a national tower company and more information can be found about the company on its website <a href="http://www.towerco.com/simplicityfound/">http://www.towerco.com/simplicityfound/</a>. The parties executed the enclosed Certificate Transfer Request on April 10<sup>th</sup> and 11<sup>th</sup> of this year. Neither party contemplated this transaction at the time of the Certificate issuance in Docket 463A.

We would respectfully request confirmation of receipt of AT&T's notice of intent to commence construction and approval of a one year extension of time to complete same along with transfer of the Certificate in Docket 463A from AT&T to TowerCo. Thank you for your assistance and consideration of the foregoing, please do not hesitate to contact me.

Very truly yours.

Christopher B. Fisher

Cc:

Parties and Intervenors

AT&T TowerCo

### STATE OF CONNECTICUT CONNECTICUT SITING COUNCIL

TO TRANSFER THE CERTIFICATE FOR THE TOWER FACILITY APPROVED IN DOCKET 463A TO TOWERCO, LLC  ) APRIL, 2019 )
CERTIFICATE TRANSFER REQUEST
Pursuant to Section 16-50k(b) of the Connecticut General Statutes, New Cingular Wireless PCS, LLC (AT&T) hereby requests that the Connecticut Siting Council approve the transfer of the Certificate of Environmental Compatibility and Public Need in Docket 463A (the "Certificate"), from AT&T to TowerCo 2013 LLC ("TowerCo").
AT&T has agreed to convey the Certificate to TowerCo. The Parties agreed upon a transfer of this certificate on or about, 2019. TowerCo maintains its Corporate Headquarters at 5000 Vallyestone Drive, Suite 200, Cary NC 27519. TowerCo will construct, own, operate and maintain the tower facility with AT&T subleasing space for its equipment.
By countersigning this certificate transfer request and in accordance with Section 16-50k(b) of the Connecticut General Statutes, TowerCo agrees to comply with all terms, limitations, and conditions of the Certificate and all applicable statutes and regulations, and represents that it is technically and financially capable of constructing, owning, operating and maintaining the tower facility as approved in Docket 463A.
In addition, the Parties further certify that the transfer of the Certificate was not contemplated at or prior to the time the Certificate was originally issued to AT&T. TowerCo agrees to the timely payment of any apportioned assessment charges for the noted facilities as provided under Connecticut General Statute Sec. 16-50v(b)(2).
New Cingular Wireless, PCS LLC hereby requests transfer of the Certificate issued in Docket 463A to TowerCo, LLC.
New Cingular Wireless PCS, LLC TowerCo 2013 LLC
Ву:
Name:Name:
Title:
Date: $4/1/19$ Date: $4/10/2019$



# WIRELESS COMMUNICATIONS FACILITY CT1345 EAST LYME RELO. THE ORCHARDS 2 ARBOR CROSSING EAST LYME, CT 06333

### **GENERAL NOTES**

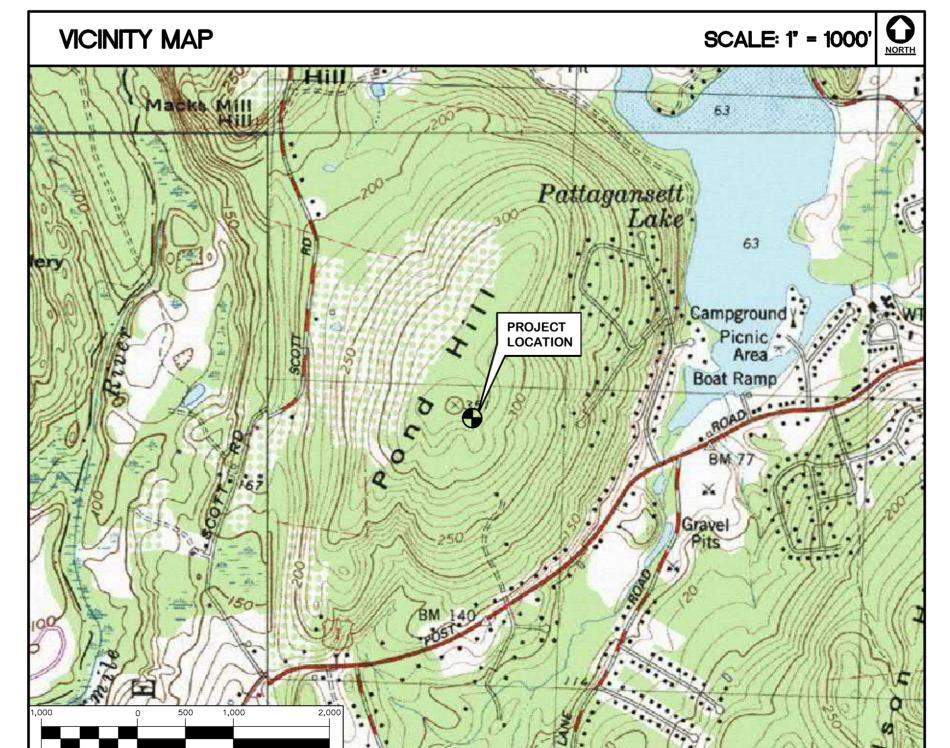
- 1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2012 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2016 CONNECTICUT SUPPLEMENT, INCLUDING THE ANSI/TIA-222 REVISION "G" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES." 2016 CONNECTICUT FIRE SAFETY CODE, AND NATIONAL ELECTRICAL CODE AND LOCAL CODES.
- 2. 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.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. 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.
- 7. 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.
- 8. 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.
- 9. 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.

- 10. 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.
- 11. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
- 12. 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.
- 13. 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.
- 14. 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.
- 15. 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.
- 16. 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.
- 17. 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.
- 18. 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.
- 19. 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.
- 20. 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.
- 21. 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: 500 ENTERPRISE DRIVE ROCKY HILL, CONNECTICUT 1. HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD 2. TURN LEFT ONTO CAPITAL BLVD

12. TURN LEFT ONTO ARBOR CROSSING

2. TURN LEFT ONTO CAPITAL BLVD
3. USE THE LEFT 2 LANES TO TURN LEFT ONTO STATE HWY 411
4. TURN LEFT TO MERGE ONTO I-91 S
5. MERGE ONTO I-91 S
6. USE THE LEFT LANE TO TAKE EXIT 22S TO MERGE ONTO CT-9 S TOWARD MIDDLETOWN/OLD SAYBROOK
7. USE THE LEFT 2 LANES TO MERGE ONTO I-95 N/US-1 N TOWARD NEW LONDON/PROVIDENCE
8. TAKE EXIT 71 FOR 4 MILE RIVER ROAD
9. TURN RIGHT ONTO 4 MILE RIVER RD
10. TURN RIGHT ONTO US-1 N
11. TURN LEFT ONTO PLUM HILL RD



### PROJECT SCOPE

- THE SCOPE OF WORK SHALL INCLUDE:
- 1. THE CONSTRUCTION OF A 35'x50' BARN STYLED EQUIPMENT BUILDING FOR MULTIPLE CARRIERS, A SHARED GENERATOR AND UTILITY EQUIPMENT.
- 2. A TOTAL OF TWELVE (12) DIRECTIONAL PANEL ANTENNAS ARE PROPOSED TO B MOUNTED AT A CENTERLINE ELEVATION OF 95'-0"± AGL WITHIN A 105'-0"± PROPOSED FAUX SILO ANTENNA CONCEALMENT ENCLOSURE.
- 3. 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 SAI COMMUNICATIONS

(401) 368-0006

ENGINEER: CENTEK ENGINEERING
63-2 NORTH BRANFORD ROAD,
BRANFORD, CT 06405

(203) 488-0580

LONGITUDE: 72°-14'-32.47"

GROUND ELEVATION: 333.5'± A.M.S.L

COORDINATES AND GROUND ELEVATION REFERENCED FROM GOOGLE EARTH PRO

### SHEET INDEX

TO: 2 ARBOR CROSSING

EAST LYME, CONNECTICUT

0.2 MI.

0.3 MI.

0.3 MI.

1.2 Ml.

5.7 MI.

0.3 MI.

1.5 MI.

1.8 MI.

0.4 MI.

0.3 MI.

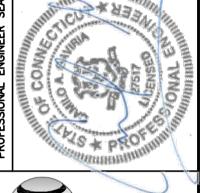
29.2 Ml.

TOWER COORDINATES:

SHT. NO.	DESCRIPTION	RE
T-1	TITLE SHEET	
N-1	GENERAL NOTES AND SPECIFICATIONS	
B-1	BILL OF MATERIALS	
C-1	ABUTTERS MAP	(
C-2	PARTIAL SITE PLAN	
C-3	COMPOUND PLAN, ELEVATION & ANTENNA CONFIGURATION	
C-4	SITE DETAILS	(
C-5	DRAINAGE CONTROL AND SITE DETAILS	•
C-6	EQUIPMENT ROOM PLANS	
C-7	EQUIPMENT ROOM ELEVATIONS	
S-1	SHELTER FOUNDATION PLAN AND DETAILS	
S-2	SHELTER ROOF FRAMING PLAN AND DETAILS	:
M-1	SHELTER FOUNDATION PLAN AND DETAILS	(
M-2	SHELTER ROOF FRAMING PLAN AND DETAILS	(
M-3	SHELTER ROOF FRAMING PLAN AND DETAILS	(
E-1	SITE UTILITY PLAN	
E-2	ELECTRICAL RISER DIAGRAM AND NOTES	
E-3	SCHEMATIC RISER DIAGRAM AND NOTES	
E-4	GROUNDING PLAN AND NOTES	
E-5	ELECTRICAL FLOOR PLAN AND DETAILS	
E-6	CABLE TRAY DETAILS AND NOTES	(
E-7	ELECTRICAL DETAILS	(
E-8	ELECTRICAL DETAILS	
E-9	ELECTRICAL DETAILS	(
E-10	ELECTRICAL SPECIFICATIONS	(

18KAWJRCAGCONSTRUCTION DRAWINGSREVISED118CAGCONSTRUCTION DRAWINGSREVISED117CAGCONSTRUCTION DRAWINGSREVISED117CAGTJLCONSTRUCTION DRAWINGSREVISED117CAGTJLCONSTRUCTION DRAWINGSREVISED117KAWCAGCONSTRUCTION DRAWINGSREVISED117KAWJRCAGCONSTRUCTION DRAWINGSREVISED117KAWJRCAGCONSTRUCTION DRAWINGSREVISED









488-0580 488-8587 Fax North Branford Road ord, CT 06405

UNICATIONS FACILITY

T LYME RELO.

SCHARDS

R CROSSING

WIRELESS COMMUNICATIONS FA

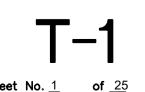
CT1345 EAST LYN
THE ORCHAF
2 ARBOR CROSS

DATE: 03/07/17

SCALE: AS NOTED

JOB NO. 16024.00

TITLE SHEET



### NOTES AND SPECIFICATIONS

### **DESIGN BASIS:**

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

- 1. 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 (Vasd) (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

1. 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:**

- 1. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE GOVERNING BUILDING CODE.
- 2. 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.
- 3. 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.
- 4. DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST THE PRE MANUFACTURED EQUIPMENT BUILDING SHOP DRAWINGS.
- 5. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.
- 6. 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.
- 7. 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.
- 8. 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.
- 9. 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
- 10. 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.
- 11. 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.
- 12. 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.
- 13. 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.
- 14. NO DRILLING WELDING OR TAPING ON EVERSOURCE OWNED EQUIPMENT.
- 15. REFER TO DRAWING T1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

### SITE NOTES

- 1. THE CONTRACTOR SHALL CALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
- 2. 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.
- 3. ALL RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED OFF SITE AND BE LEGALLY DISPOSED. AT NO ADDITIONAL COST.
- 4. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE EQUIPMENT AND TOWER AREAS.
- 5. 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.
- 6. THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- 7. THE AREAS OF THE COMPOUND DISTURBED BY THE WORK SHALL BE RETURNED TO THEIR ORIGINAL CONDITION.
- 8. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, SHALL BE IN CONFORMANCE WITH THE LOCAL
- 9. 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.
- 10. DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST THE PRE MANUFACTURED EQUIPMENT BUILDING SHOP DRAWINGS.

GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

11. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.

### **EARTHWORK NOTES**

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

 SIEVE DESIGNATION
 % PASSING

 1 ½"
 100

 No. 4
 40-70

 No. 100
 5-20

 No. 200
 4-8

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

 SIEVE DESIGNATION
 % PASSING

 1"
 100

 ¾"
 90-100

 ½"
 0-15

 ¾"
 0-5

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

### FOUNDATION CONSTRUCTION NOTES

- 1. 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.
- 2. 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.
- 4. WHERE GROUNDWATER IS ENCOUNTERED, DEWATERING SHALL BE ACCOMPLISHED CONTINUOUSLY AND COMPLETELY DURING FOUNDATION CONSTRUCTION. PROVIDE CRUSHED STONE AS REQUIRED TO STABILIZE FOOTING SUBGRADE.
- 5. 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.
- 6. FOUNDATION WATERPROOFING AND DAMPPROOFING SHALL COMPLY WITH BUILDING CODE REQUIREMENTS UNLESS A MORE SUBSTANTIAL SYSTEM IS INDICATED OR SPECIFIED.

### CONCRETE CONSTRUCTION NOTES

- 1. 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.
- 2. 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
- 3. REINFORCING STEEL SHALL BE 60,000 PSI YIELD STRENGTH.

ACCELERATE THE CONCRETE SETTING TIME.

- 4. WELDED WIRE FABRIC SHALL CONFORM TO ASTM- A-185.
- 5. 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".
- 6. 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
#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

- 7. NO STEEL WIRE, METAL FORM TIES, OR ANY OTHER METAL SHALL REMAIN WITHIN THE REQUIRED COVER OF ANY CONCRETE SURFACE.
- 8. 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.
- 9. NO TACK WELDING OF REINFORCING WILL BE PERMITTED.
- 10. NO CALCIUM CHLORIDE OR ADMIXTURES CONTAINING MORE THAN 1% CHLORIDE BY WEIGHT OF ADMIXTURE SHALL BE USED IN THE CONCRETE.
- 11. UNLESS OTHERWISE NOTED, ALL LAP SPLICES SHALL BE 48 BAR DIAMETERS.
- 12. SLAB ON GRADE FINISHES:

EXTERIOR SLAB: NON-SLIP BROOM FINISH INTERIOR SLAB: STEEL TROWEL FINISH

- 13. 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.
- 14. 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.
- 15. FOUR COPIES OF ALL INSPECTION TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN TEN (10) WORKING DAYS OF THE DATE OF INSPECTION.

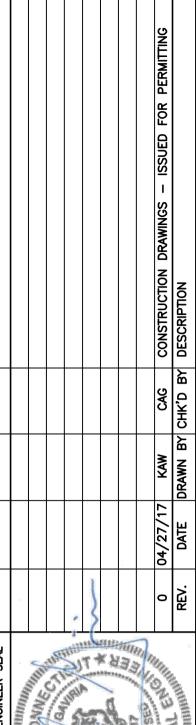
### STRUCTURAL STEEL

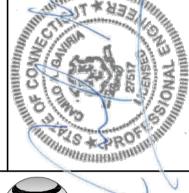
- 1. ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD)
- A. STRUCTURAL STEEL (W SHAPES)---ASTM A992 (FY = 50 KSI)
- B. STRUCTURAL STEEL (OTHER SHAPES) — ASTM A36 (FY = 36 KSI)
   C. STRUCTURAL HSS (RECTANGULAR SHAPES) — ASTM A500 GRADE B,
- (FY = 46 KSI)
- D. STRUCTURAL HSS (ROUND SHAPES)——ASTM A500 GRADE B, (FY = 42 KSI)
- E. PIPE---ASTM A53 (FY = 35 KSI)
- F. CONNECTION BOLTS——ASTM A325—N
- G. U-BOLTS---ASTM A325

ACCORDANCE WITH ASTM 780.

- H. ANCHOR RODS——ASTM F 1554
  I. WELDING ELECTRODE——ASTM E 70XX
- 2. 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.
- 3. 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.
- 5. FIT AND SHOP ASSEMBLE FABRICATIONS IN THE LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE.
- 6. INSTALL FABRICATIONS PLUMB AND LEVEL, ACCURATELY FITTED, AND FREE FROM DISTORTIONS OR DEFECTS.
- 7. AFTER ERECTION OF STRUCTURES, TOUCHUP ALL WELDS, ABRASIONS AND NON-GALVANIZED SURFACES WITH A 95% ORGANIC ZINC RICH PAINT IN
- 8. 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.
- 9. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE".
- 10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES APPEARANCE AND QUALITY OF WELDS, AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D1.1 WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLET J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION" 9TH EDITION. AT THE COMPLETION OF WELDING, ALL DAMAGE TO GALVANIZED COATING SHALL BE REPAIRED.
- 11. THE ENGINEER SHALL BE NOTIFIED OF ANY INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON CONFORMING MATERIALS OR CONDITIONS TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER
- 12. CONNECTION ANGLES SHALL HAVE A MINIMUM THICKNESS OF 1/4 INCHES.
- 13. 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.
- 14. LOCK WASHER ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES.
- 15. SHOP CONNECTIONS SHALL BE WELDED OR HIGH STRENGTH BOLTED.
- 16. MILL BEARING ENDS OF COLUMNS, STIFFENERS, AND OTHER BEARING SURFACES TO TRANSFER LOAD OVER ENTIRE CROSS SECTION.
- 17. FABRICATE BEAMS WITH MILL CAMBER UP.
- 18. 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.
- 19. COMMENCEMENT OF STRUCTURAL STEEL WORK WITHOUT NOTIFYING THE ENGINEER OF ANY DISCREPANCIES WILL BE CONSIDERED ACCEPTANCE OF PRECEDING WORK.
- 20. INSPECTION AND TESTING OF ALL WELDING AND HIGH STRENGTH BOLTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY.
- 21. FOUR COPIES OF ALL INSPECTION TEST REPORTS SHALL BE SUBMITTED TO THE

ENGINEER WITHIN TEN (10) WORKING DAYS OF THE DATE OF INSPECTION.







2 on solutions 8-0580 8-8587 Fax 1h Branford Road 1, CT 06405

Ļ

 $\Box$ 

 $\overline{}$ 

SOMMUNICATIONS FACILITY

VST LYME RELO

SPECHARDS

BOR CROSSING

LYME, CT 06333

DATE: 03/07/17

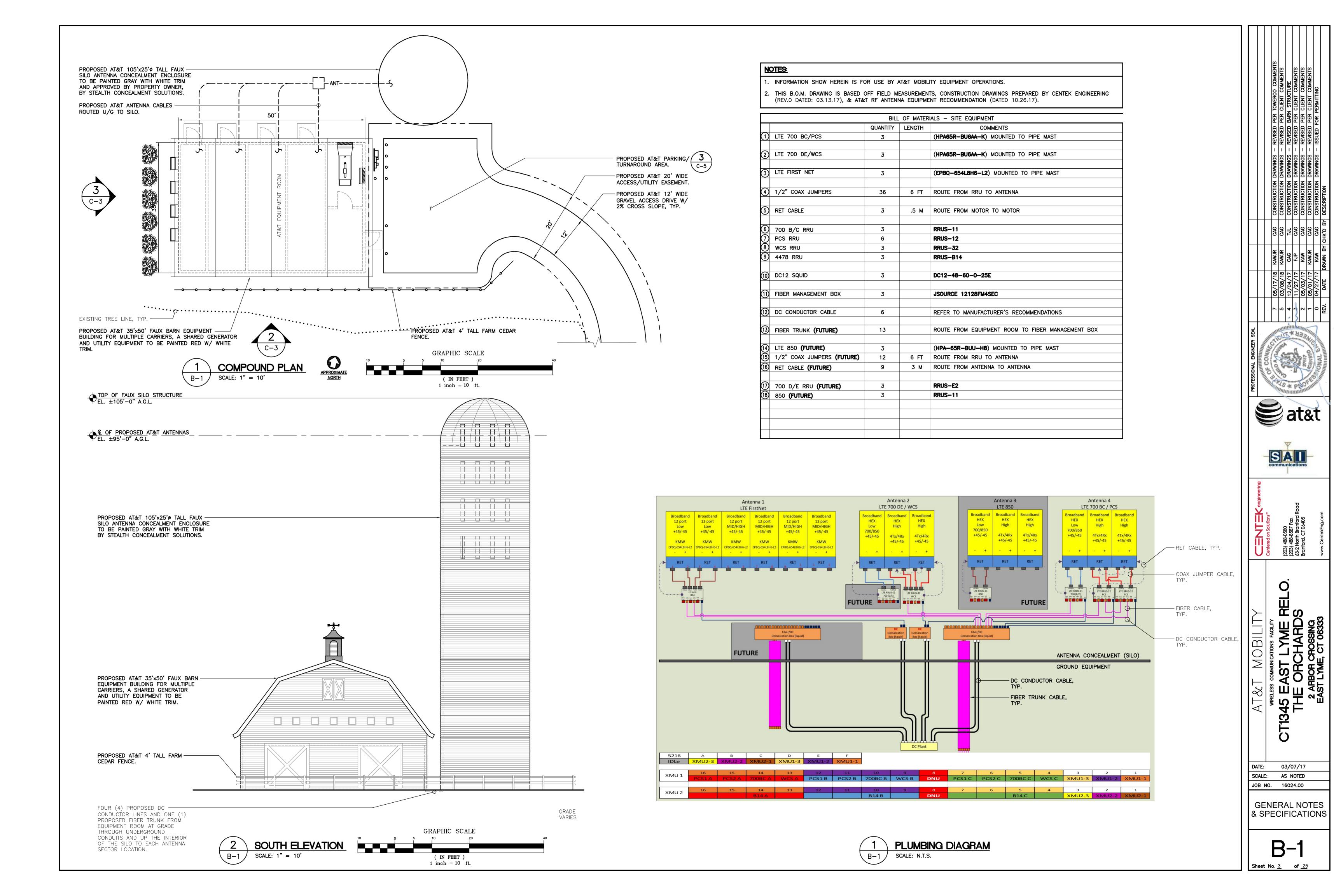
SCALE: AS NOTED

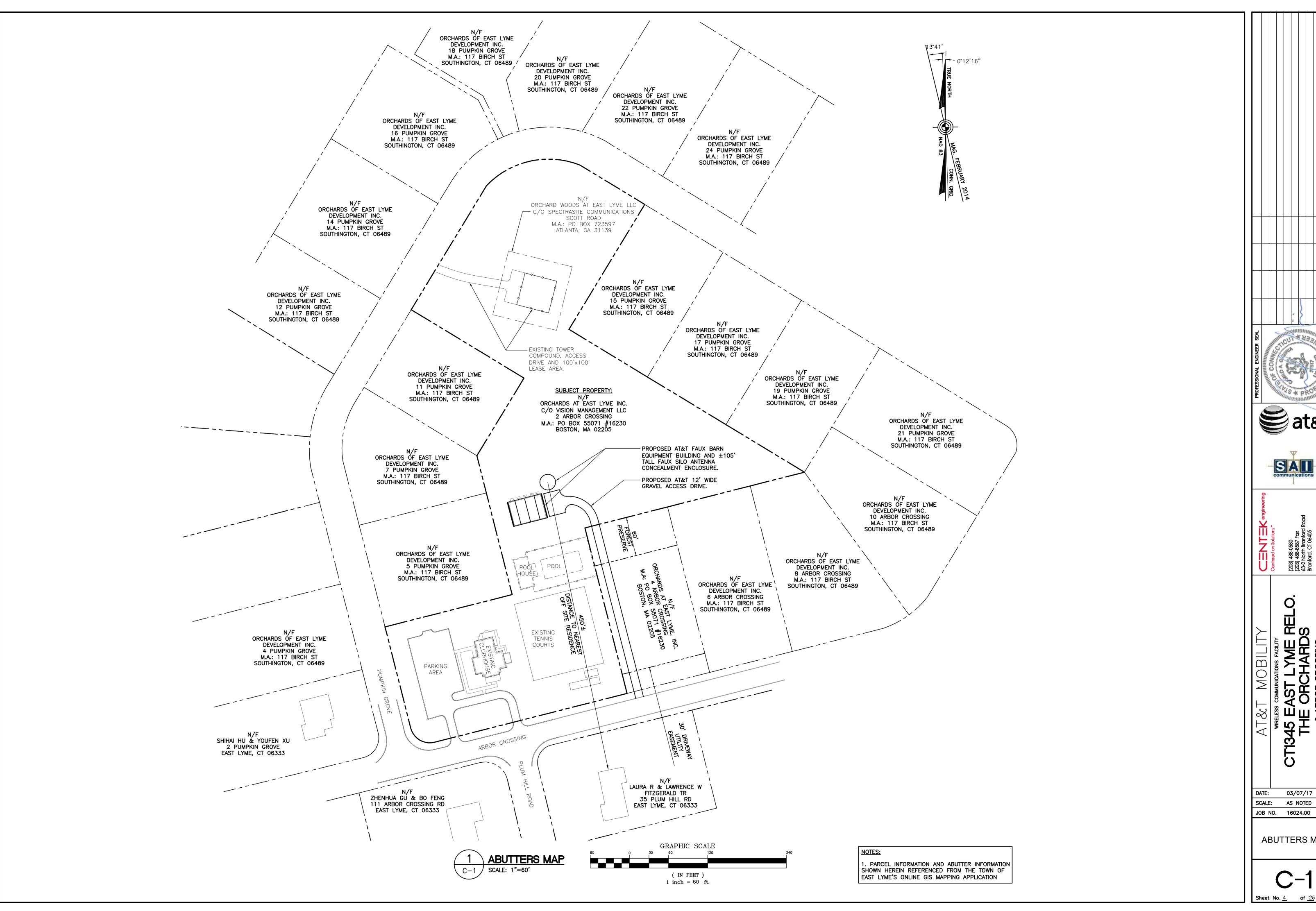
JOB NO. 16024.00

SI

GENERAL NOTES & SPECIFICATIONS

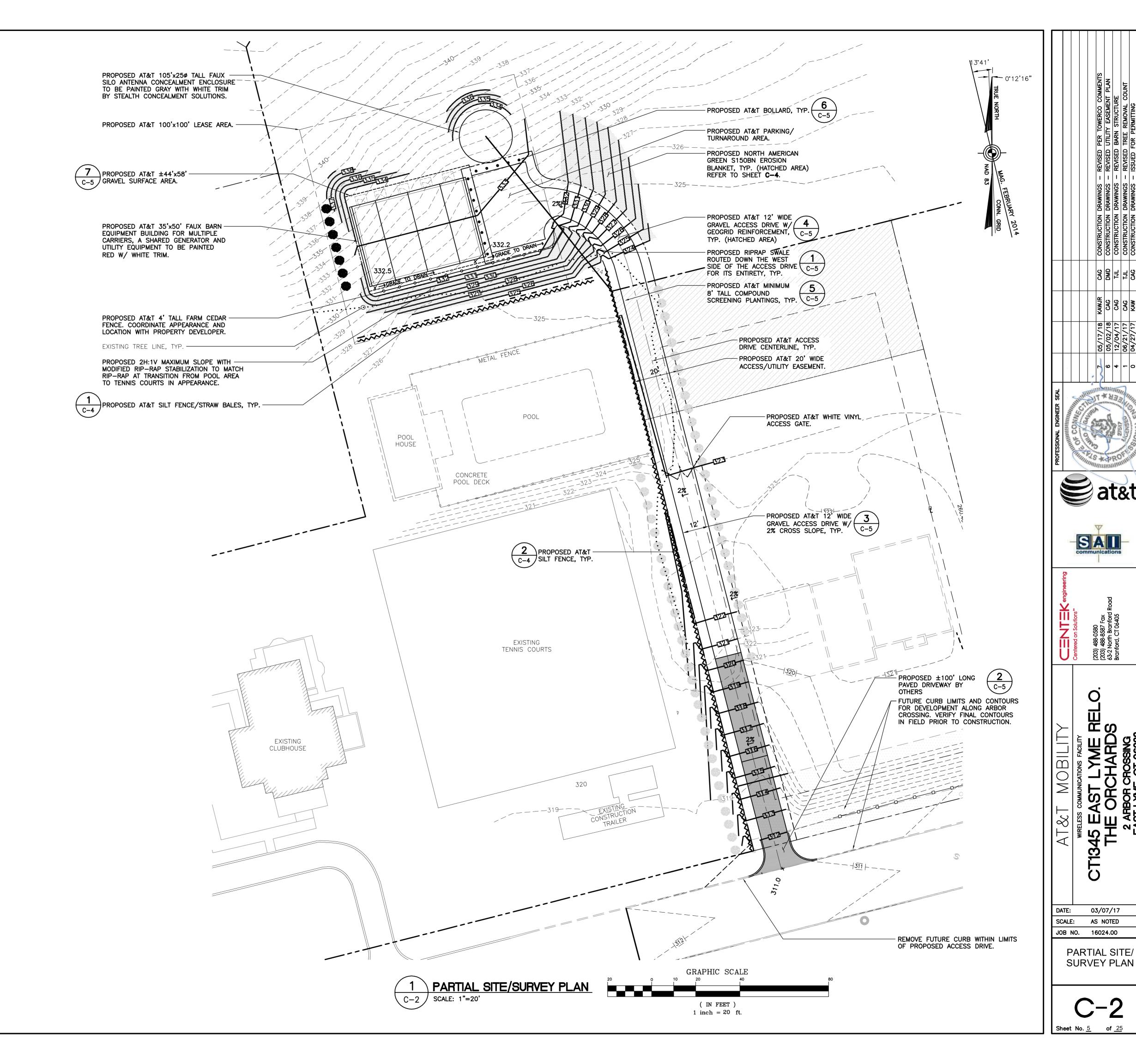






SAII

ABUTTERS MAP



STORMWATER MANAGEMENT NOTE

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 RECOR

ACCESS DRIVE NOTE

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

SURVEY NOTES

SURVEY INFORMATION SHOWN HEREIN REFERENCED FROM

SITE SURVEY PREPARED BY GERWICK-MEREEN, LLC FOR CARRIER ENTERPRISES, INC. FOR USE IN CONSTRUCTING

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

SYMBOLS LEGEND

EASEMENT LINE (PROPOSED)

ACCESS DRIVE (PROPOSED)

SILTATION FENCE/ STRAWBALES/ SILTATION

SPOT ELEVATION (PROPOSED)

PROPERTY LINE

EXISTING ROAD

UTILITY POLE

FENCE LINE

FENCE "SANDWICH"

450'±

28±

73±

90'±

= 9,300'±

= 375'±

THE ORCHARDS OF EAST LYME DEVELOPMENT.

DISTANCE TO NEAREST OFF SITE RESIDENCE\*

NUMBER OF EXISTING RESIDENTIAL STRUCTURES

TOTAL NUMBER OF TREES TO BE REMOVED\*\*

DISTANCE TO NEAREST MUNICIPALITY

ACCESS LENGTH OFF ARBOR CROSSING

DISTANCE TO NEAREST PROPERTY LINE\*

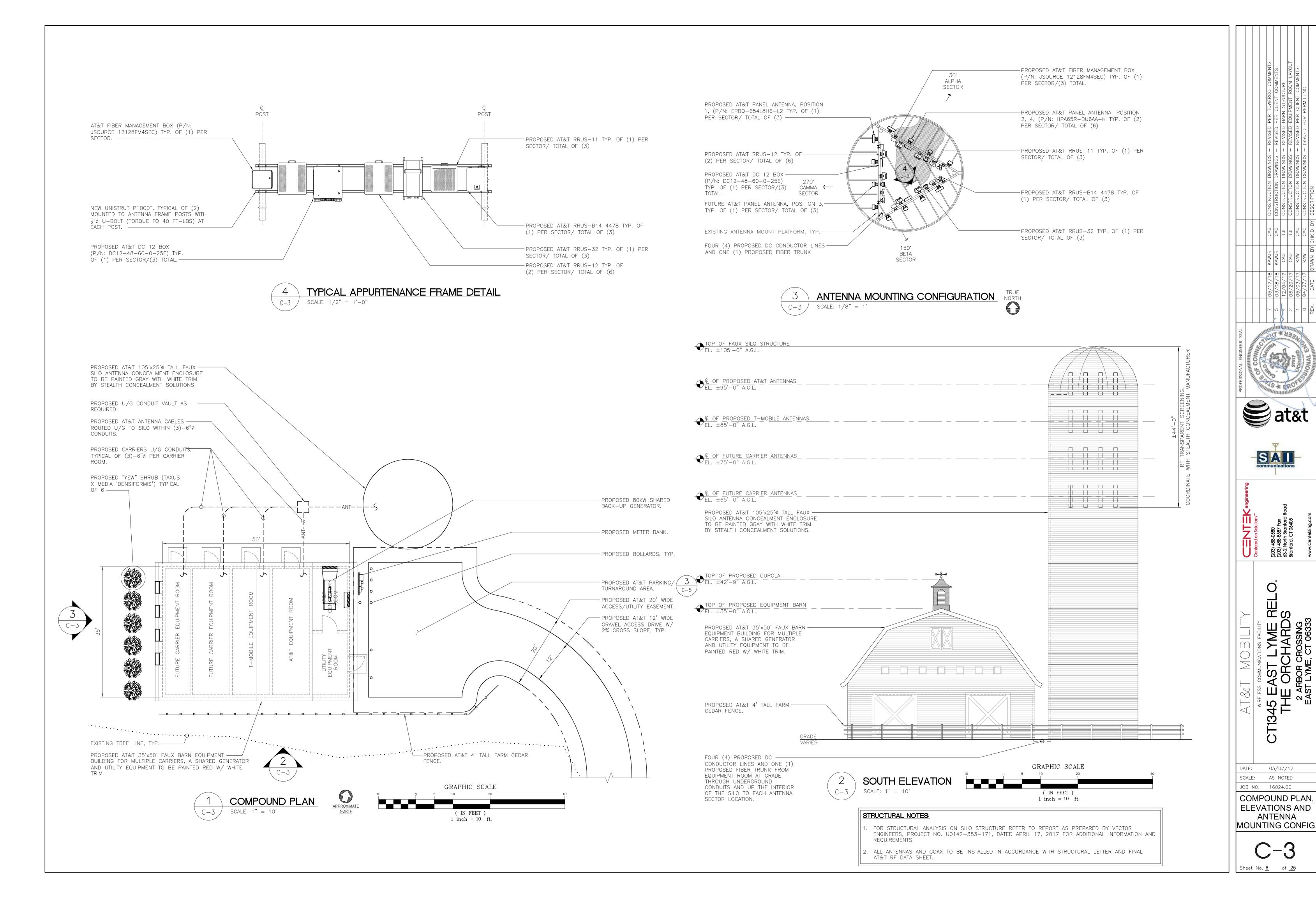
-----650---- CONTOUR LINE

650 GRADING LINE

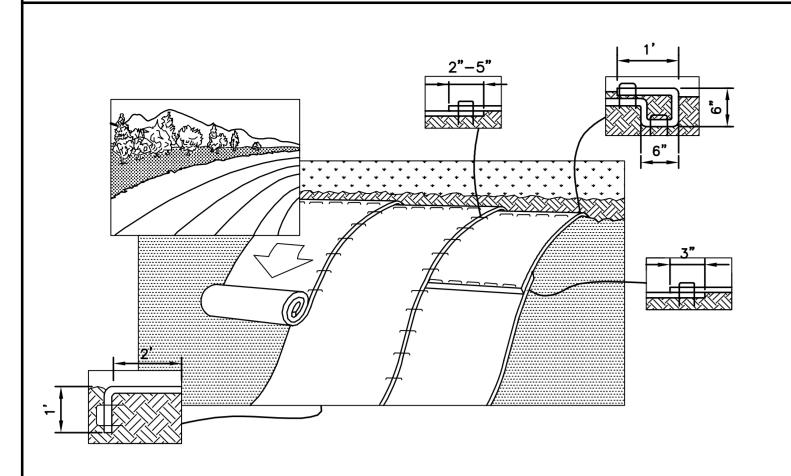
\* DISTANCES TAKEN FROM CENTER OF SILO
\*\* TREE LOCATIONS HAVE YET TO BE SURVEYED

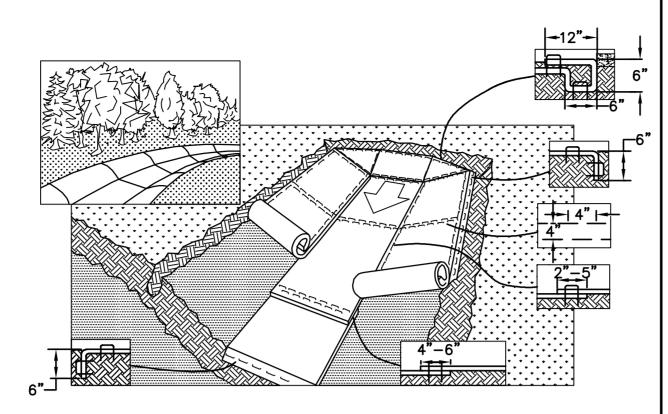
(OLD LYME, CT)\*

WITHIN 1000' OF TOWER



### **EROSION CONTROL BLANKET STABILIZATION**







### TYPICAL EROSION MAT INSTALLATION ON SLOPE NOT TO SCALE



### TYPICAL EROSION MAT INSTALLATION IN CHANNEL NOT TO SCALE

### STABILIZATION CRITERIA

1. 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 BIODEGARDABLE.

### EROSION MAT ON SLOPES

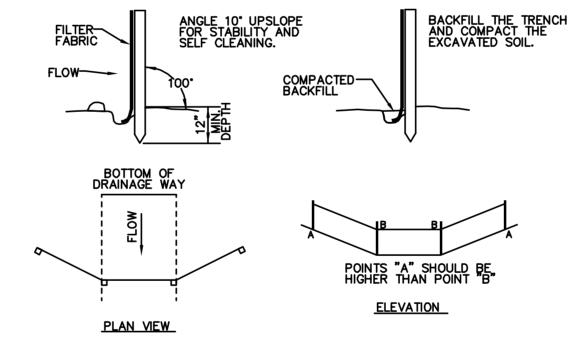
- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
- NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE 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.
- 3. 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[TM], STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN
- 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY A 2"-5" OVERLAP DEPENDING ON BLANKET TYPE.
- 5. 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.
- 6. 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).
- 7. REFER TO MANUFACTURERS STAPLE GUIDE FOR CORRECT STAPLE PATTERN. MINIMUM 4 SPIKES PER ONE SQ. FT.

### EROSION MAT IN CHANNEL

- 1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
- 2. 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.
- 3. 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[TM], STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE
- 4. 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.
- 5. 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.
- 6. 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[TM] ON THE BLANKET BEING OVERLAPPED.
- 7. 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.
- 8. 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.

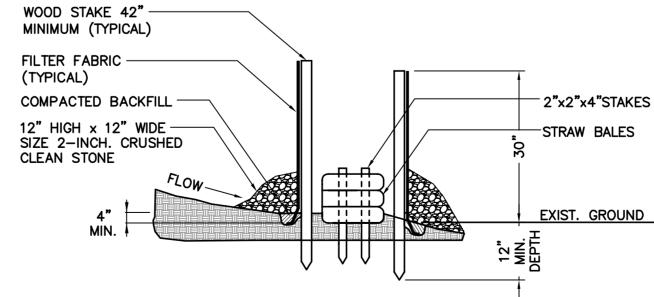
### **MAINTENANCE**

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,





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

### GENERAL CONSTRUCTION / PRE-CONSTRUCTION NOTES

1. PRIOR TO COMMENCEMNENT OF ANY CONSTRUCTION ACTIVITIES, A MANDITORY 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.

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

### SOIL EROSION AND SEDIMENT CONTROL SEQUENCE

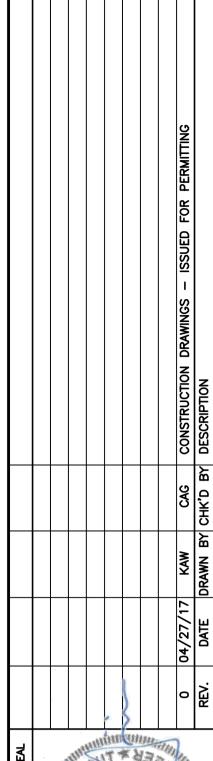
- 1. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES, SUCH AS CONSTRUCTION ENTRANCE / ANTI TRACKING PAD, SILTATION FENCE, AND SILTATION FENCE / STRAW BALE SHALL BE IN PLACE PRIOR TO ANY GRADING ACTIVITY. INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. MEASURES SHALL BE LEFT IN PLACE AND MAINTAINED UNTIL CONSTRUCTION IS COMPLETED AND/OR AREA IS STABILIZED.
- 2. 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.
- 3. LAND DISTURBANCE WILL BE KEPT TO A MINIMUM AND RESTABILIZATIONS WILL BE SCHEDULED AS SOON AS
- 4. 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
- 5. 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.
- 6. 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.
- 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.
- 8. SWALE DISCHARGE AREA WILL BE PROTECTED WITH RIP RAP SPLASH PAD/ ENERGY DISSIPATER.
- 9. ALL FILL AREAS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SLIPPING, EROSION OR EXCESS SATURATION.
- 10. 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
- 11. AFTER CONSTRUCTION IS COMPLETE AND GROUND IS STABLE. REMOVE SILTS IN THE RIP RAP ENERGY DISSIPATERS. REMOVE OTHER EROSION AND SEDIMENT DEVICES.

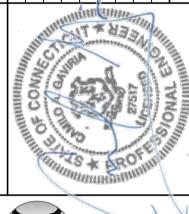
### CONSTRUCTION SPECIFICATIONS - SILT FENCE

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

### MAINTENANCE - SILT FENCE

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







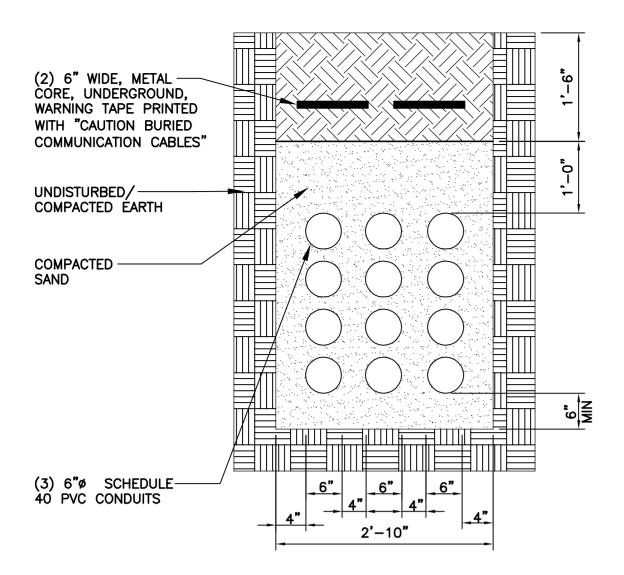


 $\Box$ ШШ で 工

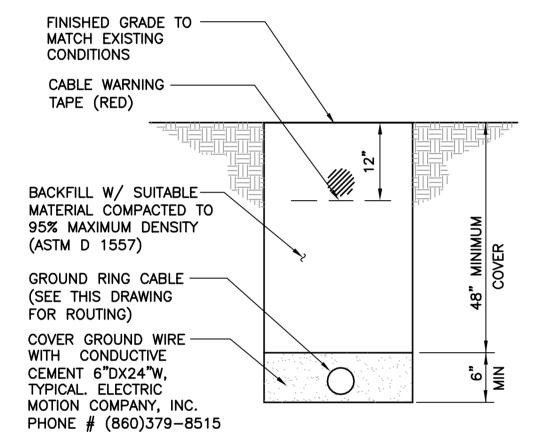
03/07/17 SCALE: AS NOTED JOB NO. 16024.00

SITE CONSTRUCTION S&E CONTROL **NOTES & DETAILS** 





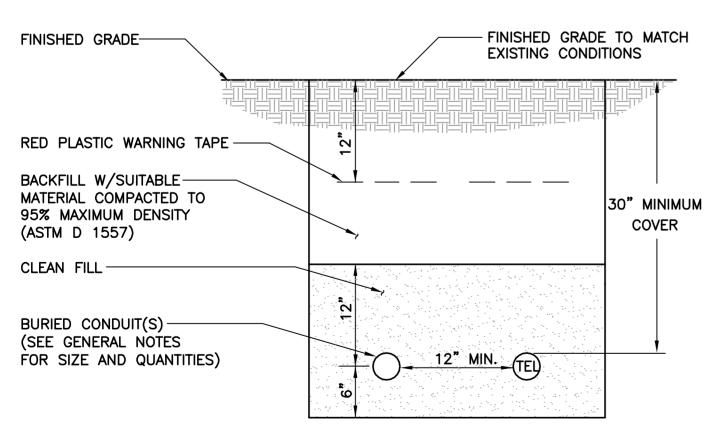
# 10 COAX DUCT BANK SECTION NOT TO SCALE



### NOTES:

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

# 9 TYPICAL BURIAL GROUND CABLE DETAIL NOT TO SCALE

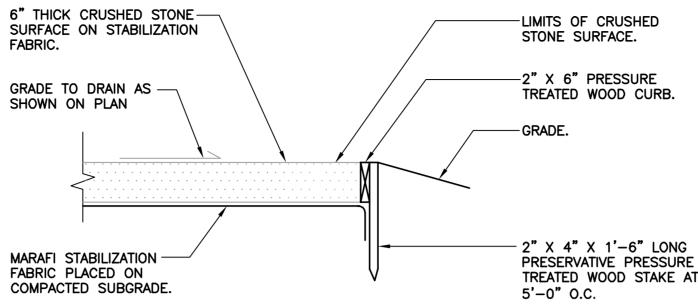


### NOTES:

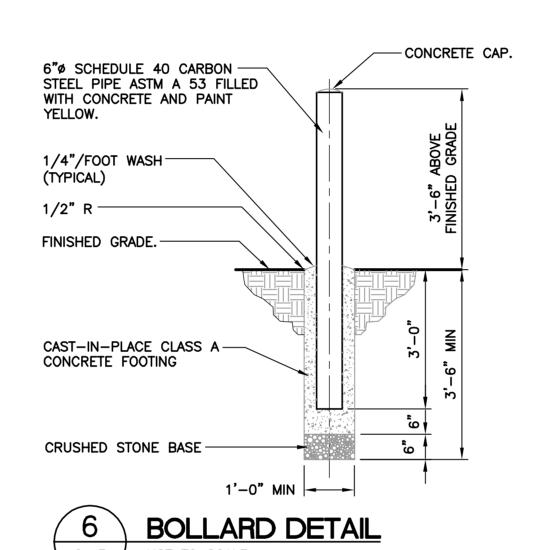
- 1. THE CLEAN FILL SHALL PASS THROUGH A 3/8" MESH SCREEN AND SHALL NOT CONTAIN SHARP STONES. OTHER BACKFILL SHALL NOT CONTAIN ASHES, CINDERS, SHELLS, FROZEN MATERIAL, LOOSE DEBRIS OR STONES LARGER THAN 2" IN MAXIMUM DIMENSION.
- 2. WHERE EXISTING UTILITIES ARE LIKELY TO BE ENCOUNTERED, CONTRACTOR SHALL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

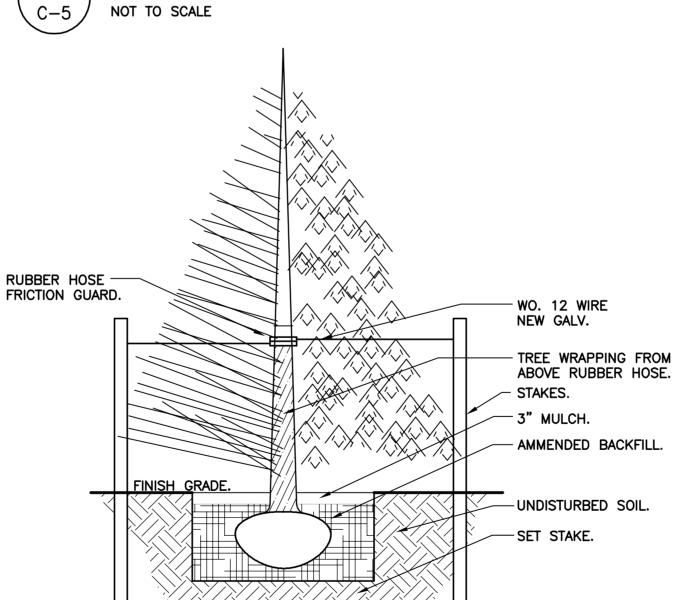
8 TYPICAL ELECTRICAL/TEL TRENCH DETAIL

NOT TO SCALE





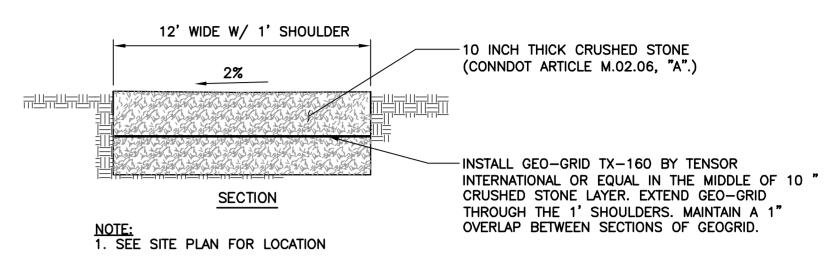




### TREE + SHRUB PLANTING SPECIFICATIONS:

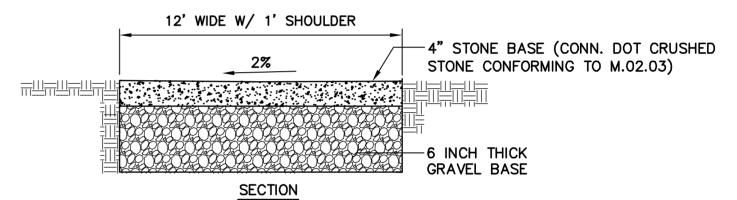
- 1. GUY WIRES (WO.12 NEW GALV.) SHALL BE REQUIRED FOR ALL TREES 3 GAL. AND LARGER.
- SOIL MIX SHALL CONSIST OF: 3 PARTS TOP SOIL, 3 PART PEAT MOSS, 10 ONE PART COMPOSTED COW MANURE, AND 1 OZ. SOIL MOIST PER EVERY 12 IN. OF LINEAR DIM. OF ROOT BALL. COVER WITH LANDSCAPE FABRIC, AND A MINIMUM OF 3" CEDAR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



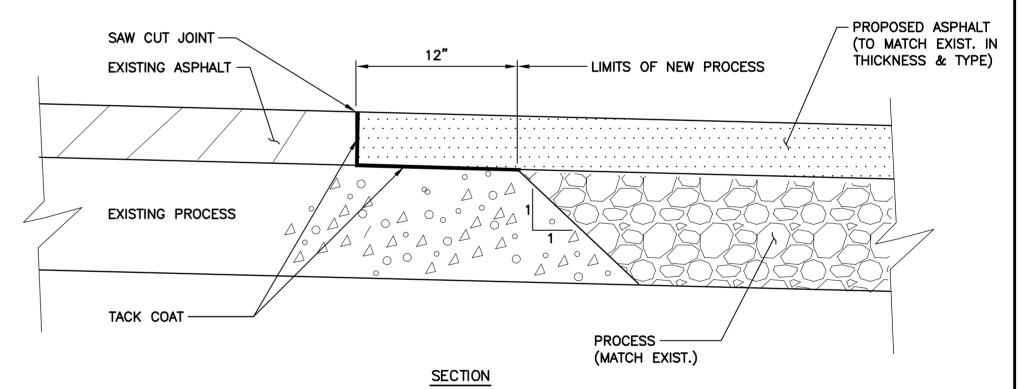


GRAVEL ACCESS DRIVE W/
GEOGRID REINFORCEMENT

NOT TO SCALE

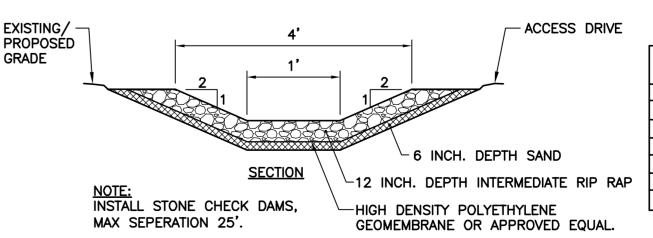


# GRAVEL SURFACE PARKING AREA AND ACCESS DRIVE NOT TO SCALE



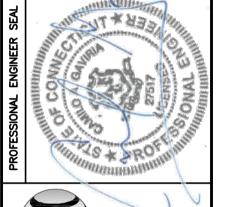
2 PAVEMENT REPAIR (SAWCUT) DETAIL

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						









Thered on Solutions...

3) 488-0580

2) North Branford Road

nford, CT 06405

SS COMMUNICATIONS FACILITY

EAST LYME RELO.

CORCHARDS

ARBOR CROSSING

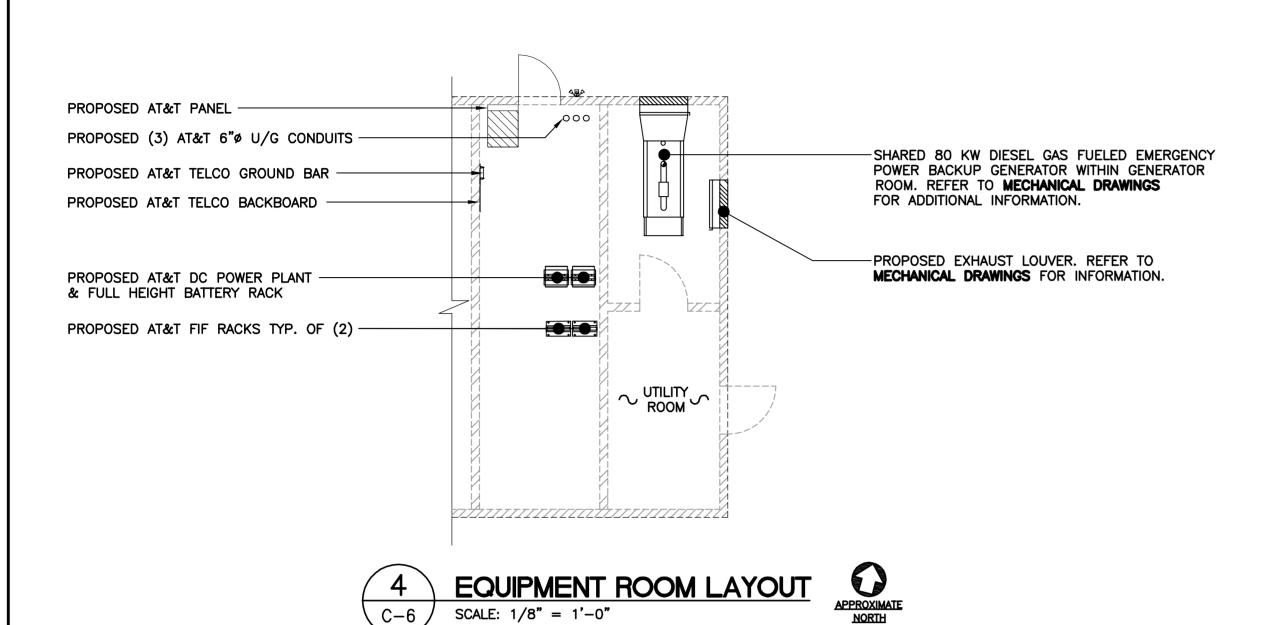
DATE: 03/07/17

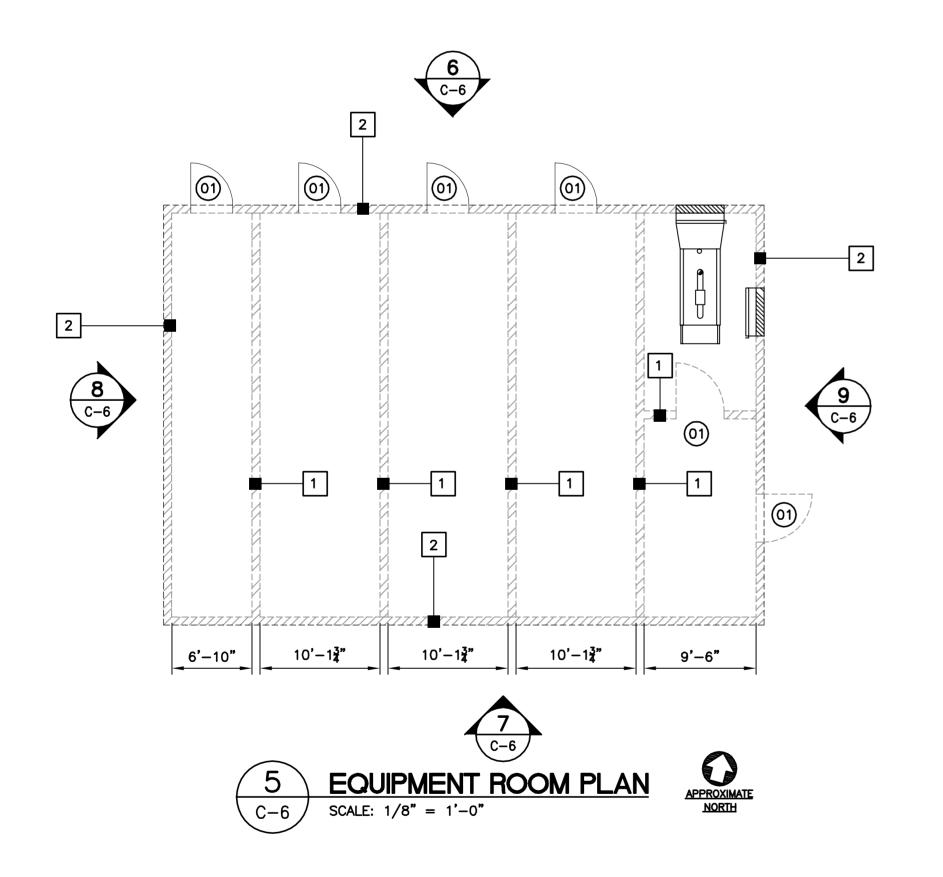
SCALE: AS NOTED

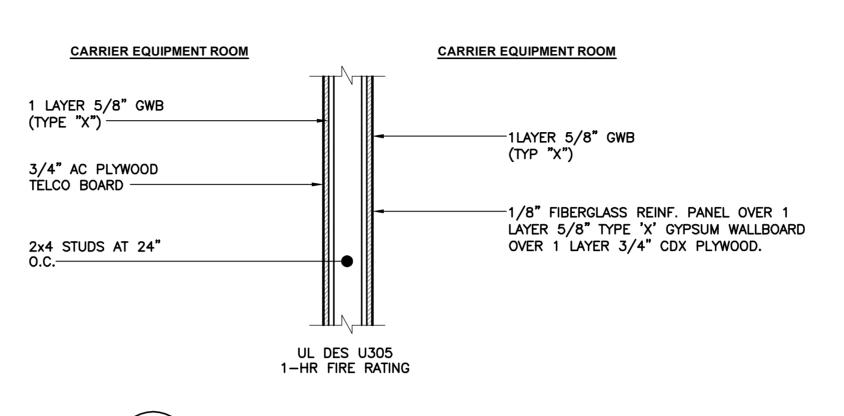
JOB NO. 16024.00

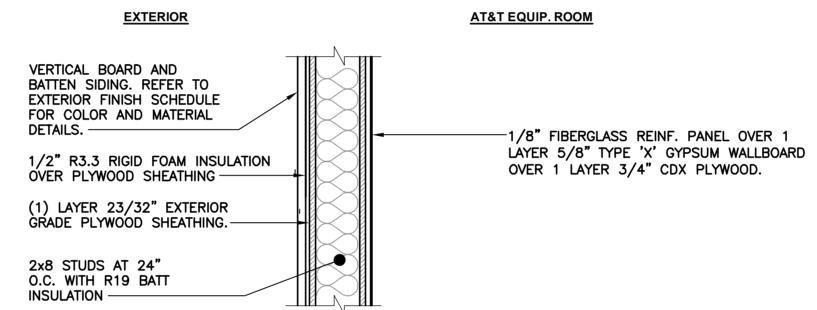
DRAINAGE CONTROL AND SITE DETAILS

C-5
Sheet No. 8 of 25



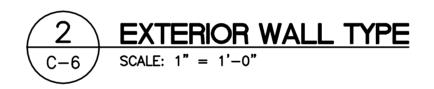


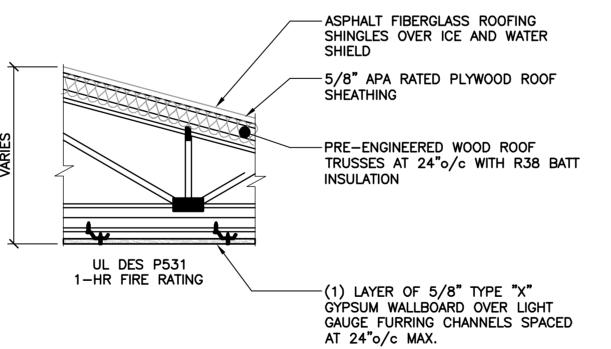




PARTITION WALL TYPE

SCALE: 1" = 1'-0"

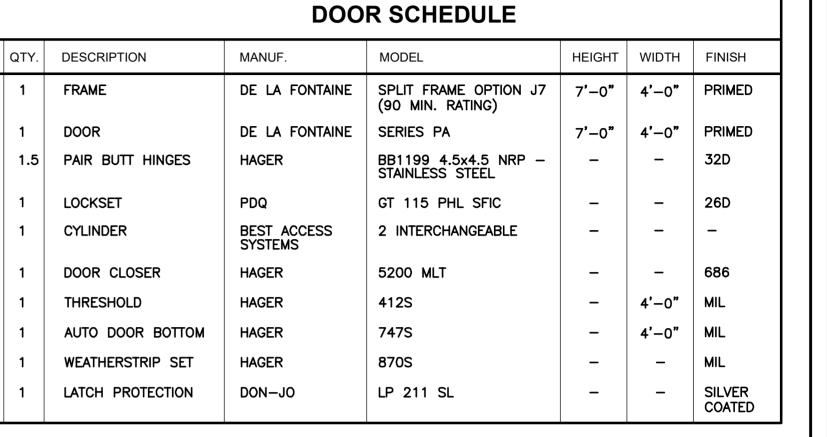


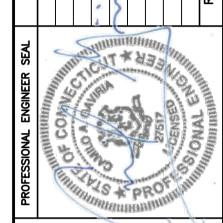


	7.1. 2.1. 3, 3. 1.1. 1.1. 1.1. 1.1. 1.1. 1.1.
(3)	TYPICAL CEILING ASSEMBLY TYPE
C-6	SCALE: 1" = 1'-0"

	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					
	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					
10	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					



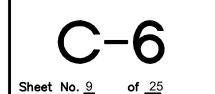


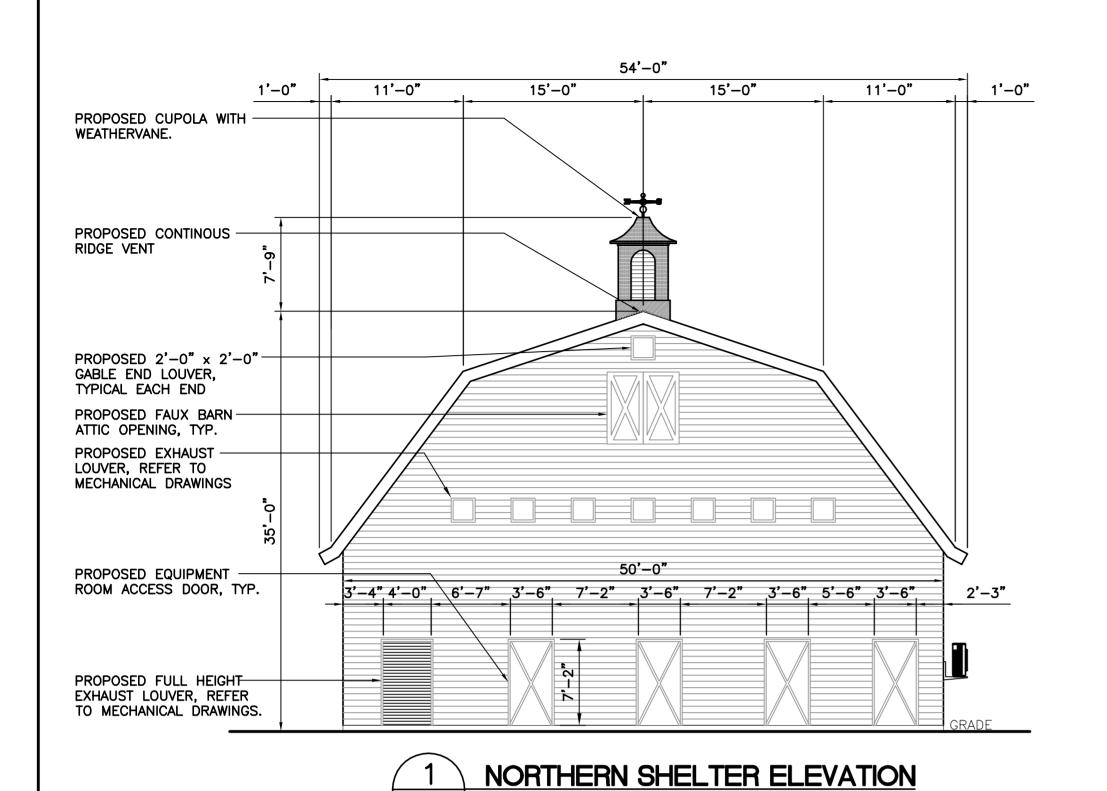




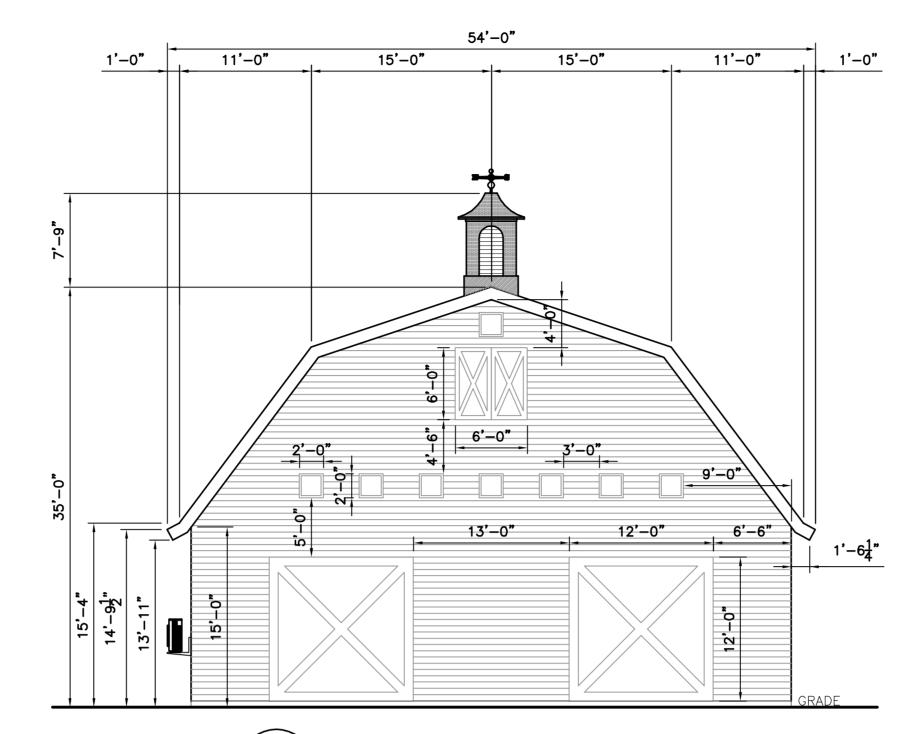
DATE: 03/07/17 SCALE: AS NOTED JOB NO. 16024.00

**EQUIPMENT ROOM PLANS** 

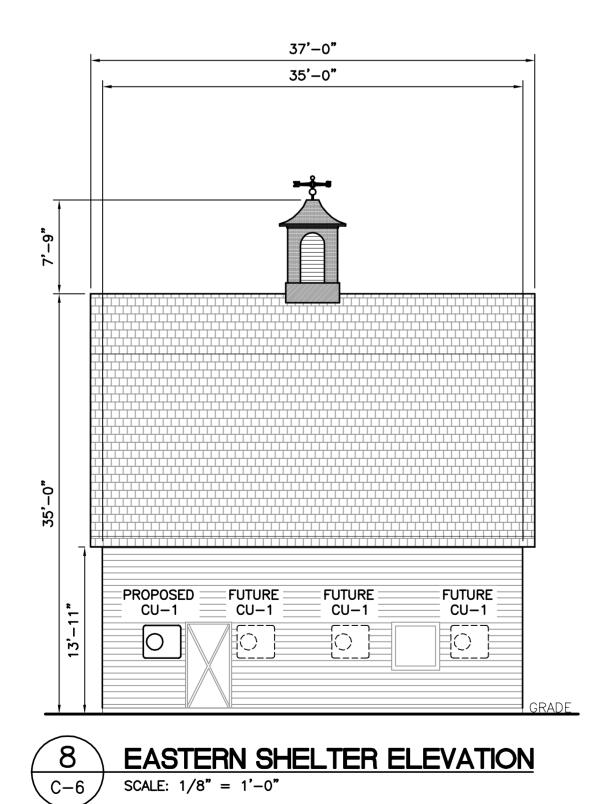


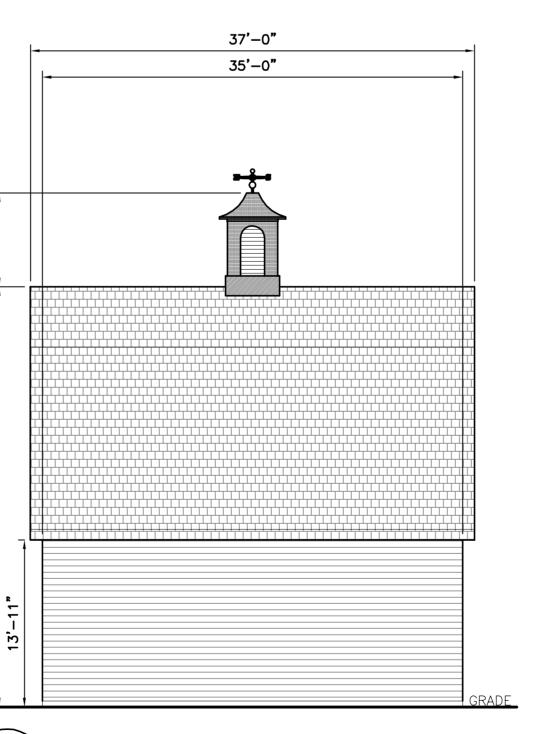


C-7 SCALE: 1/8" = 1'-0"









	WESTERN SHELTER ELEVATION
C-6	SCALE: 1/8" = 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 ULTREX 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)								

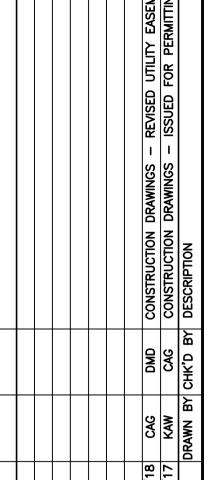
### **BUILDING FRAMING MATERIALS**

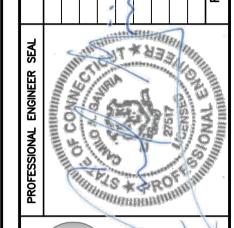
- 1. SILLS, BUCKS, BLOCKING, CURBING AT ROOF PENETRATIONS AND NAILERS FOR USE IN CONJUNCTION WITH WOOD CONSTRUCTION AND WHERE EXPOSED TO DAMPNESS: ANY SPECIES OF STRUCTURAL LUMBER, CONSTRUCTION GRADE, PRESSURE TREATED, MEETING REQUIREMENTS OF FEDERAL SPECIFICATION TT-W-571.
- . HEADERS, BEAMS, POSTS, AND OTHER STRUCTURAL SUPPORT MEMBERS: SPRUCE—FIR, NO. 2 GRADE OR BETTER (REFER TO STRUCTURAL LUMBER CONSTRUCTION NOTES FOR MORE INFORMATION).
- 3. STUDS, PLATES, AND OTHER LIGHT FRAMING IF USED: HEM-FIR NO. 2 GRADE OR BETTER (MIN. Fb = 1100 PSI).
- 4. BLOCKING, NAILERS, AND OTHER NON-STRUCTURAL USES: ANY SPECIES OF STRUCTURAL LUMBER, CONSTRUCTION GRADE OR BETTER.
- 5. 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

6. BUILDING AIR INFILTRATION WRAP: 15-LB ASPHALT-SATURATED FELT, ASTM D226, OR TYVEK.









488-0580 488-8587 Fax North Branford Road ord, CT 06405

(203) 488-05 (203) 488-85 (303) 488-85 63-2 North B

WIRELESS COMMUNICATIONS FACILITY

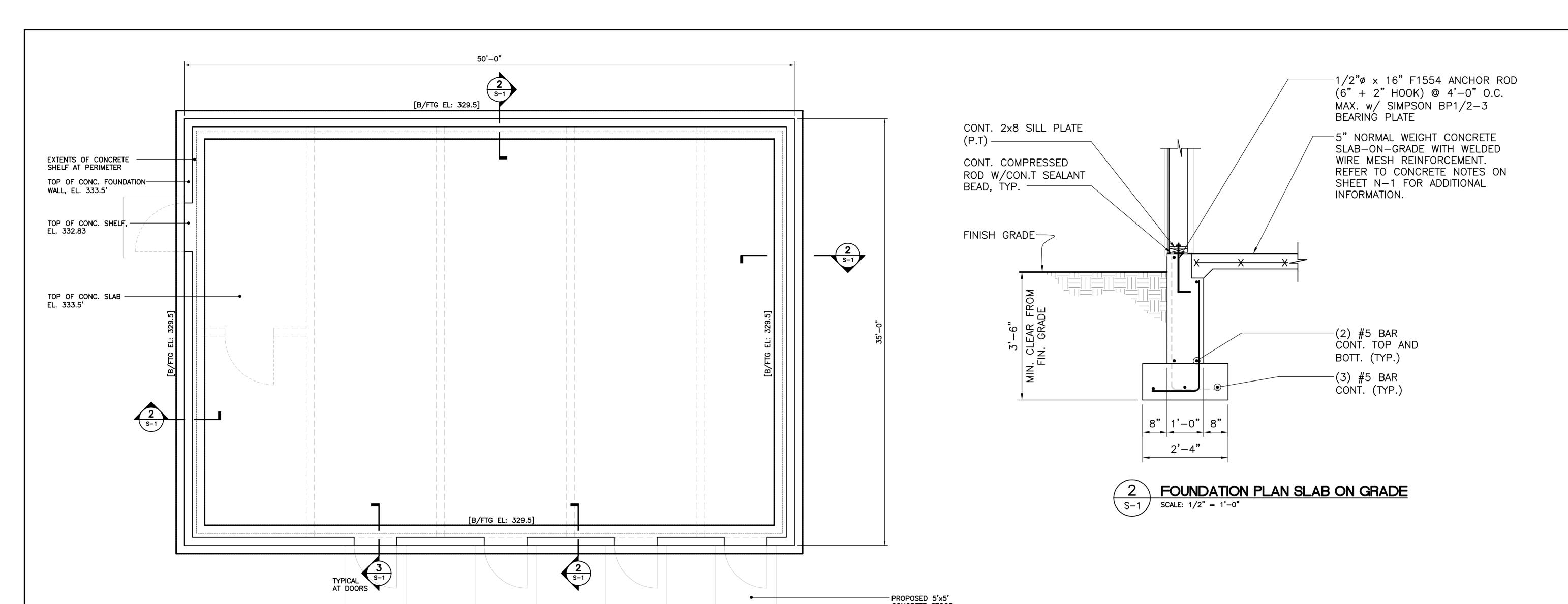
1345 EAST LYME RE
THE ORCHARDS

2 ARBOR CROSSING
EAST LYME, CT 06333

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

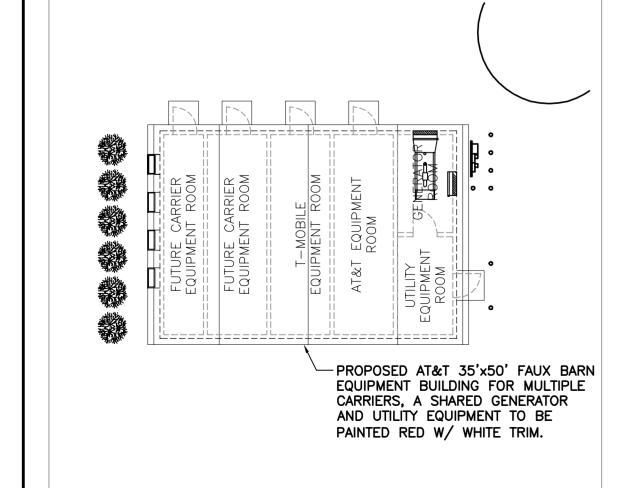
EQUIPMENT ROOM ELEVATIONS

C-7



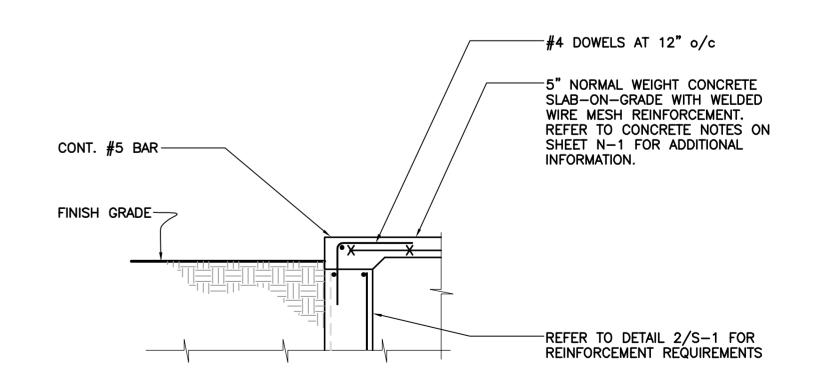
CONCRETE STOOP, TYPICAL

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



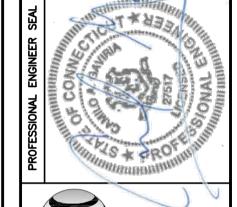
SHELTER ELEVATION KEY PLAN

NOT TO SCALE





| 1 06/20/17 | Kaw CAG | CONSTRUCTION DRAWINGS - REVISED BARN STRI | 1 06/20/17 | Kaw | CAG | CONSTRUCTION DRAWINGS - REVISED BARN STRI | 06/20/17 | CAG | TJL | CONSTRUCTION DRAWINGS - REVISED EQUIPMENT | 06/20/17 | Kaw | CAG | CONSTRUCTION DRAWINGS - ISSUED FOR PERMIT | REV. | DATE | DRAWN BY CHK'D BY | DESCRIPTION





communications

(203) 488-0580 (203) 488-8587 Fax 63-2 North Branford Road Branford, CT 06405

FELESS COMMUNICATIONS FACILITY

FAST LYME RELO.

HE ORCHARDS

2 ARBOR CROSSING

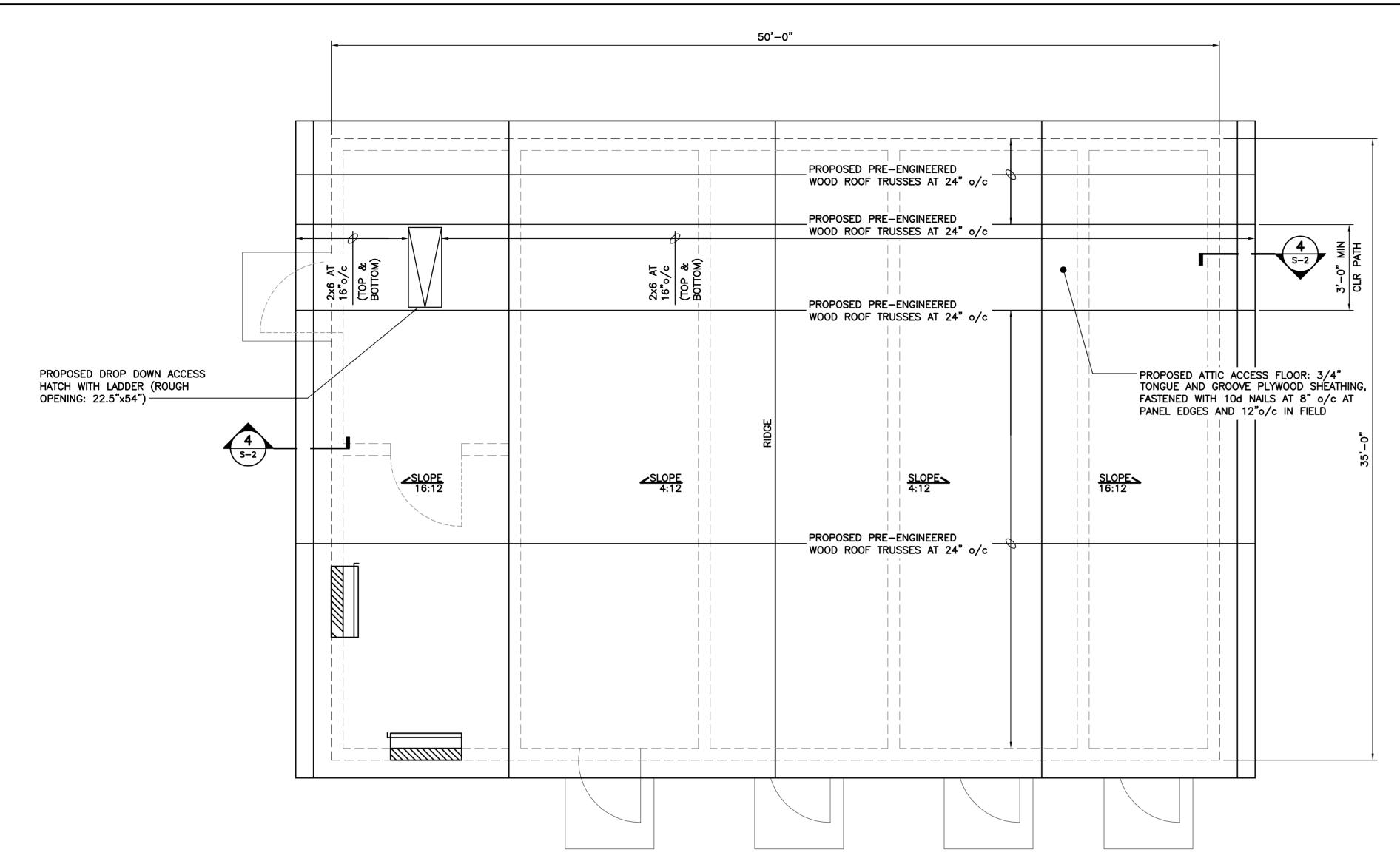
DATE: 03/07/17

SCALE: AS NOTED

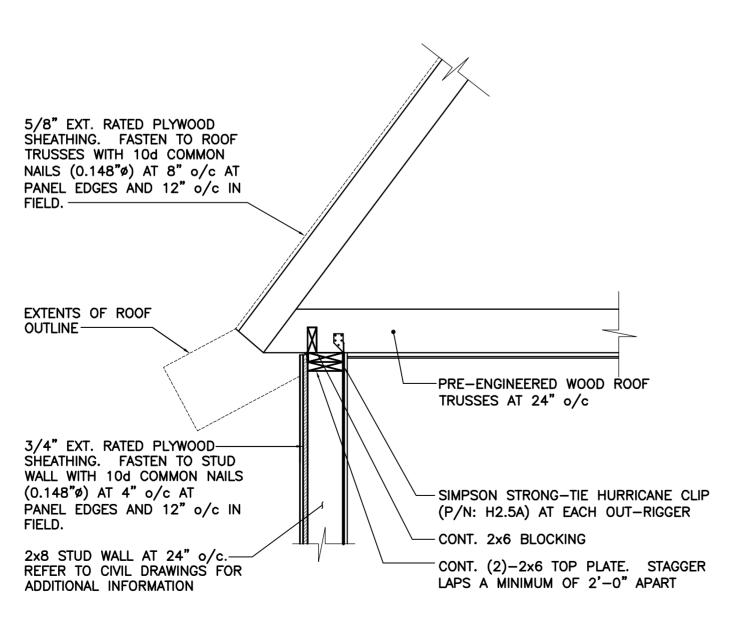
JOB NO. 16024.00

SHELTER FOUNDATION PLAN AND DETAILS

S-1









### STRUCTURAL LUMBER CONSTRUCTION:

 STRUCTURAL LUMBER USED FOR JOISTS, RAFTERS AND COLUMNS HALL BE NO. 2 GRADE SPRUCEPINE FIR 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:

SHEAR PARALLEL TO THE GRAIN:

TENSION PARALLEL TO GRAIN:

COMPRESSION PERPENDICULAR TO GRAIN:

COMPRESSION PARALLEL TO GRAIN:

MODULUS OF ELASTICITY:

Fb = 875 PSI

Fv = 135 PSI

Ft = 450 PSI

Fc = 425 PSI

Fc = 1,150 PSI

E = 1,400,000 PSI

2. 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:

TENSION PARALLEL TO GRAIN:

COMPRESSION PARALLEL TO GRAIN:

MODULUS OF ELASTICITY:

Fb = 750 PSI

Ft = 450 PSI

Fc = 625 PSI

E = 2,000,000 PSI

- 3. MOISTURE CONTENT OF ALL FRAMING LUMBER WHEN DELIVERED TO THE PROJECT SITE SHALL NOT EXCEED 19%.
- 4. 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.
- 5. SHEAR WALLS: PROVIDE 23/32" EXTERIOR GRADE PLYWOOD SHEATING FASTENED TO WALL STUDS AT 4" o/c AT PANEL EDGES AND 12" o/c IN FIELD.
- 6. NAIL PENETRATION INTO WALL STUDS AND CORNER POSTS SHALL BE AT LEAST 1 3/4 INCHES.
- 7. PROVIDE AND INSTALL TIMBER POSTS (6x6 OR BUILT U 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.
- 9. 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.
- 10. SIMPSON STRONG TIME 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.
- 11. 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.
- 12. 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.
- 13. PROVIDE HEAVY HEX NUTS AND WASHERS AT ALL ANCHOR BOLTS AND AT WOOD FRAME CONNECTIONS TO AVOID CRUSHING WOOD FIBERS.
- 14. 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.
- 15. PROVIDE BLOCKING AT ROOF TRUSSES AS REQUIRED BY TRUSS MANUFACTURER AND DESIGNER.

### PRE-FABRICATED WOOD ROOF TRUSSES:

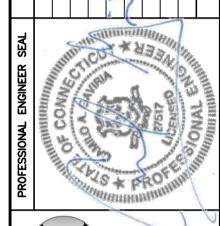
- REFER TO THE GENERAL NOTES SHEET FOR THE BUILDING CODE OF JURISDICTION AND BUILDING USE.
- 2. ROOF TRUSS SPACING SHALL NOT EXCEED 24" CENTER TO CENTER.
- 3. DESIGN ROOF TRUSSES FOR THE FOLLOWING LOADS:
  LIVE LOAD: 30 PSF + ADDITIONAL 10 PSF BOTTOM CHORD LOAD
  DEAD LOAD: 16 PSF + ADDITIONAL 12 PSF BOTTOM CHORD LOAD
- 4. REFER TO THE DESIGN BASIS WITHIN THE GENERAL NOTES FOR WIND, SNOW AND SEISMIC LOADING REQUIREMENTS.
- 5. 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.
- 6. TRUSS LUMBER SHALL BE ANY SOFTWOOD SPECIES OF SPECIFIED GRADE, CONFORMING TO STRENGTH AND MODULUS REQUIREMENTS OF PS20 "AMERICAN SOFTWOD LUMBER STANDARD"
- 7. MOISTURE CONTENT: SEASONED WITH 19% MAXIMUM MOISTURE CONTENT AT THE TIME OF INSTALLATION.
- 8. WOOD GRADING SHALL BE AS FOLLOWS: CHORD MEMBERS: NO. 2 MINIMUM WEB MEMBERS: NO. 3 MINIMUM
- 9. 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.
- 10. 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.
- 11. 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.
- 12. CUT ALL MEMBERS TO FIT AND BUTT TIGHT.
- 13. 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.

KAWJR CAG CONSTRUCTION DRAWINGS – REVISED PER CLIENT COMMENTS

CAG TJL CONSTRUCTION DRAWINGS – REVISED EQUIPMENT ROOM LAYOUT

KAW CAG CONSTRUCTION DRAWINGS – ISSUED FOR PERMITTING

DRAWN RY CHK'D RY DESCRIPTION







(203) 488-0580 (203) 488-8587 Fax 63-2 North Branford Road Branford, CT 06405

WIRELESS COMMUNICATIONS FACILITY

T1345 EAST LYME REL

THE ORCHARDS

2 ARBOR CROSSING

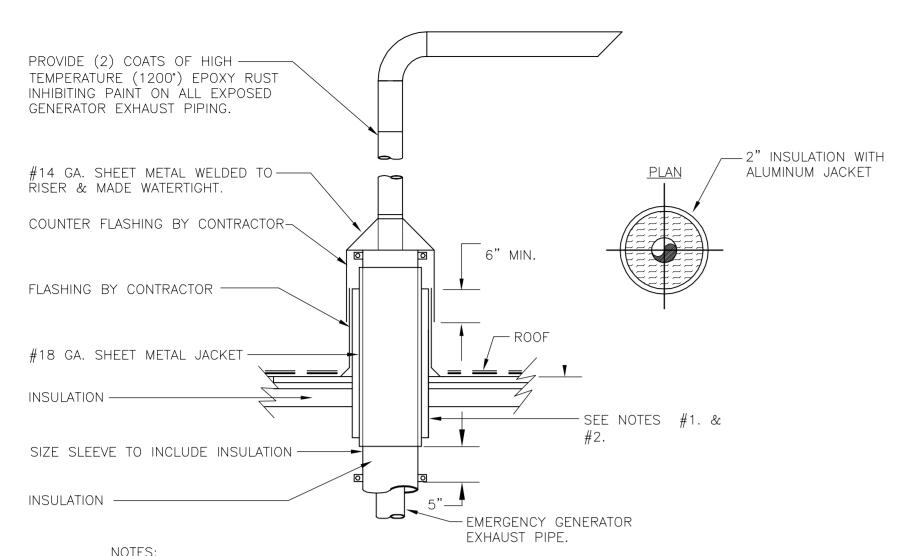
DATE: 03/07/17

SCALE: AS NOTED

JOB NO. 16024.00

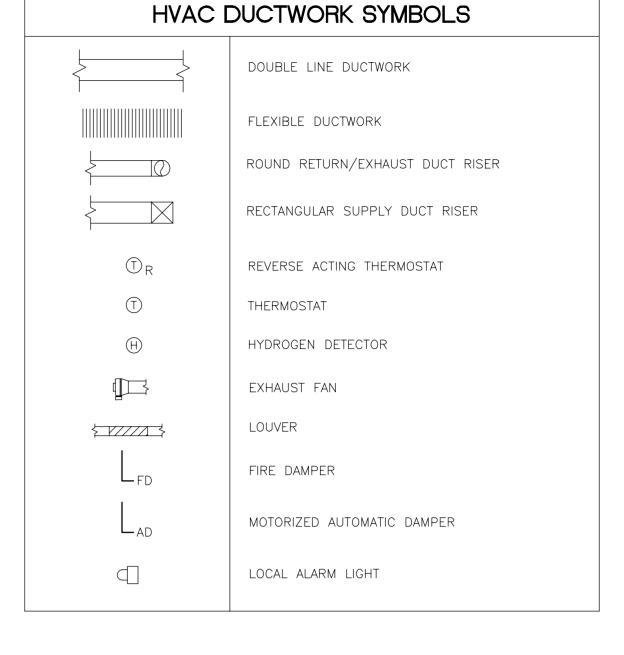
SHELTER ROOF FRAMING PLAN AND DETAILS

S-2



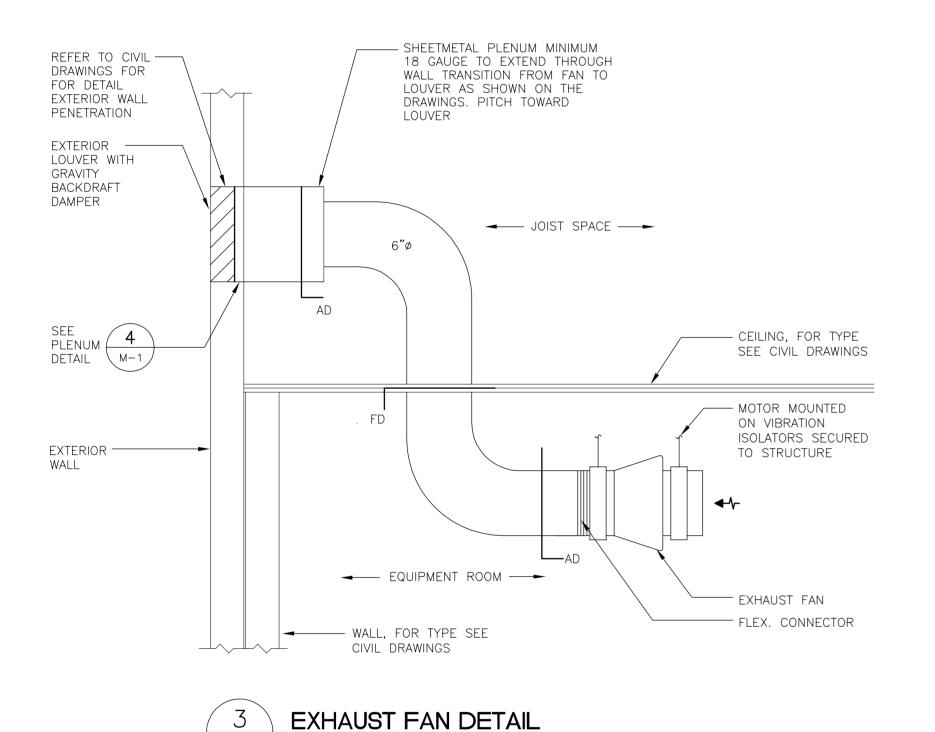
LAT LEAVING AIR TEMPERATURE PROVIDE ANCHORS, GUIDES, & EXPANSION COMPENSATORS IN SUPPORT FROM VERTICAL. OFFSET HORIZONTAL STRUCTURE ABOVE PIPING AS REQUIRED TO ALLOW W/VIBRATION -FOR EXPANSION (TYP) ISOLATORS (TYP) BY CONTRACTOR FLEXIBLE CONNECTION — 1" EXHAUST COND TRAP, 12" LONG W/PET COCK & TRAP REDUCERS (AS REQ'D)-PIPE TO EXTERIOR. FLANGES (AS REQ'D) BY CONTRACTOR TERMINATE TO EXTERIOR MUFFLER W/COMPANION FLANGES BY GENERATOR MANUFACTURER, INSTALLED BY EMERGENCY GENERATOR CONTRACTOR (BY AT&T)

GENERATOR EXHAUST PIPE.

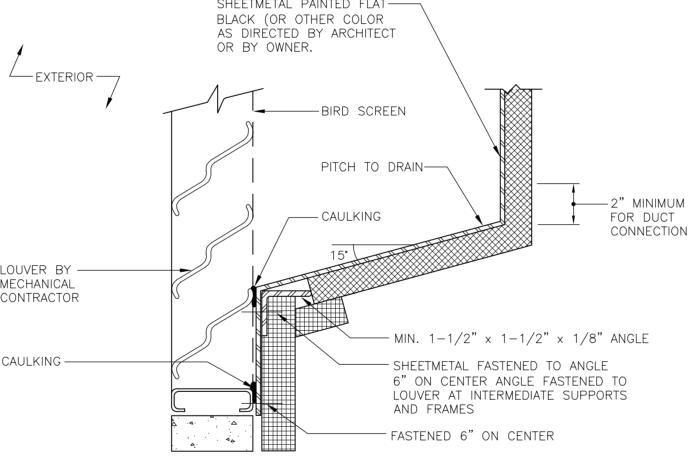


### GENERATOR STACK DETAIL M - 1





M-1



NOTES: SUPPORT PLENUM FROM FLOOR OR STRUCTURE ABOVE W/GALVANIZED STEEL ANGLES AND CHANNELS.



### FAN SCHEDULE ESP | MOTOR DATA | DRIVE MODEL NUMBER | CFM SYMBOL REMARKS MAKE IN/WG WATTS-VOLT-PH TYPE EF-1FANTECH 0.2 FG6 200 70-120-1 DIRECT ALL

### **REMARKS:**

**ABBREVIATIONS** 

AHU AIR HANDLING UNIT

T THERMOSTAT

TYP TYPICAL

VEL VELOCITY

L-# LOUVER

DB DRY BULB

WB WET BULB

CP CONTROL PANEL

FC FLEX CONNECTION

V VOLTS

W WATT

MBH BTU PER HOUR (THOUSAND)

RSL REFRIGERANT SUCTION LINE

RLL REFRIGERANT LIQUID LINE

CFM CUBIC FEET PER MINUTE

EAT ENTERING AIR TEMPERATURE

ESP" EXTERNAL STATIC PRESSURE

AFF ABOVE FINISHED FLOOR

BTU BRITISH THERMAL UNIT

EF-#EXHAUST FAN

HP HORSEPOWER

kW KILOWATTS

FPM FEET PER MINUTE

- 1. PROVIDE SERVICE SWITCH.
- 2.POWER FED FROM INVERTER CONNECTED TO EMERGENCY BATTERIES. COORDINATE WITH ELECTRICAL
- CONTRACTOR. 3.PROVIDE WALL MOUNT HOUSING, FAN GUARD, GRAVITY BACKDRAFT DAMPER.
- 4.COORDINATE SIZE WITH WALL OPENING. 5.COORDINATE LOCATION WITH OTHER TRADES

	LOUVER SCHEDULE										
SYMBOL	MAKE	MODEL NUMBER	CFM	VELOCITY FT/MIN	FREE AREA SF	NOM. WIDTH IN	NOM. HEIGHT IN	PD IN. WG	REMARKS		
L-1	GREENHECK	ESD-603	4500	642	7	42	48	.05	ALL		
L-2	GREENHECK	ESD-603	4500	750	6	42	42	.05	ALL		
L-3	GREENHECK	ESD-603	200	100	2	24	24	.04	ALL		

### REMARKS:

- 1.PROVIDE WITH BIRD SCREEN.
- 2.PROVIDE WITH EXTENDED SILL.
- 3.PROVIDE WITH BAKED ENAMEL FINISH. COLOR TO BE APPROVED BY OWNER. 4.COORDINATE ALL LOUVER SIZES IN FIELD PRIOR TO ORDERING OR INSTALLATION.

			AC	UNIT SC	HEDU	LE			
SYMBOL	MANUFACTURER MODEL NUMBER	TYPE	LOCATION	AIRFLOW CFM LOW/HIGH	COOLING BTUH	HEATING BTUH	(VOLTS/PHASE)	WEIGHT	NOTE
AC-1	MITSUBISHI PKA-A24KA4	WM	SEE PLANS	635/775	24,000	26,000	208-1ø	46 LBS	ALL

### TYPE: WM = WALL MOUNTED

# NOTES: 1. PROVIDE ISOLATION BALL VALVES.

- 2. PROVIDE WITH CONDENSATE PUMP AND 1" COPPER DRAIN PIPE TO EXTERIOR OF BUILDING. COORDINATE LOCATION WITH CONSTRUCTION MANAGER.
- 3. PROVIDE WITH WIRED CONTROLLER.

	AIR COOLED CONDENSING UNIT SCHEDULE									
SYMBOL	MANUFACTURER MODEL NUMBER	TYPE	LOCATION	COOLING CAPACITY MBH	(VOLTS/PHASE)	WEIGHT	NOTES			
CU-1	MITSUBISHI PUZ-A24NHA4	SS	GRADE	24	208-1ø	165 LBS	ALL			

- TYPE: SS= SPLIT SYSTEM
- NOTES:

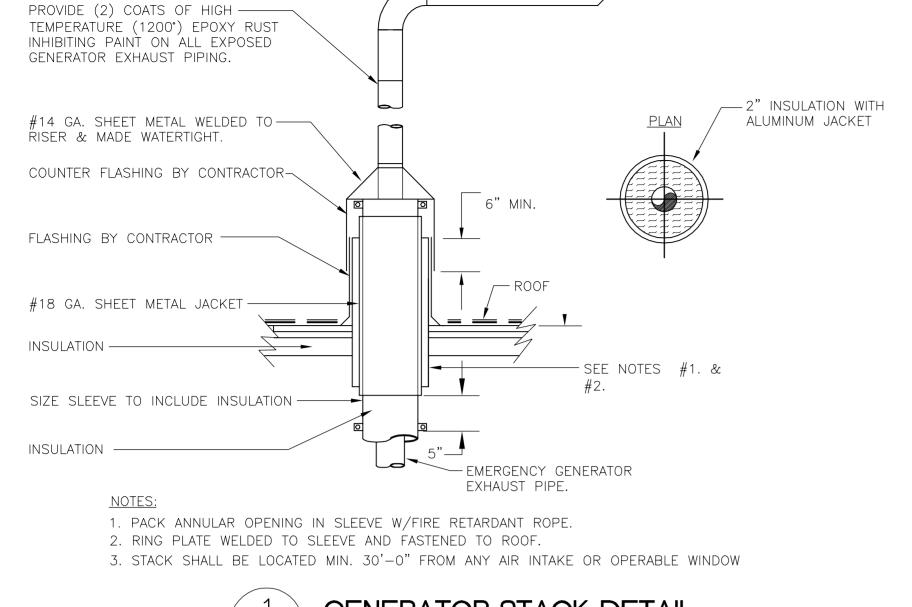
  1. COORDINATE EXACT LOCATION WITH CONSTRUCTION MANAGER.
- 2. PROVIDE WITH WALL MOUNTING BRACKET AND HARDWARE. 3. PROVIDE WITH OUTDOOR WIND BAFFLE.

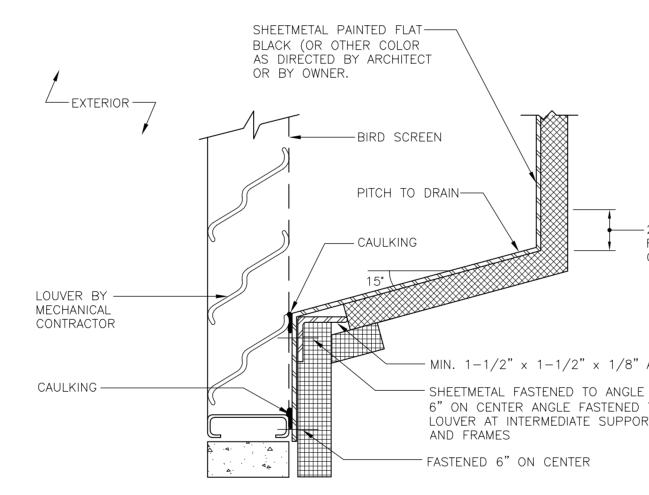
SAI CT1345 EAST LYME RELOTHERES
THE ORCHARDS
2 ARBOR CROSSING
EAST LYME, CT 06333

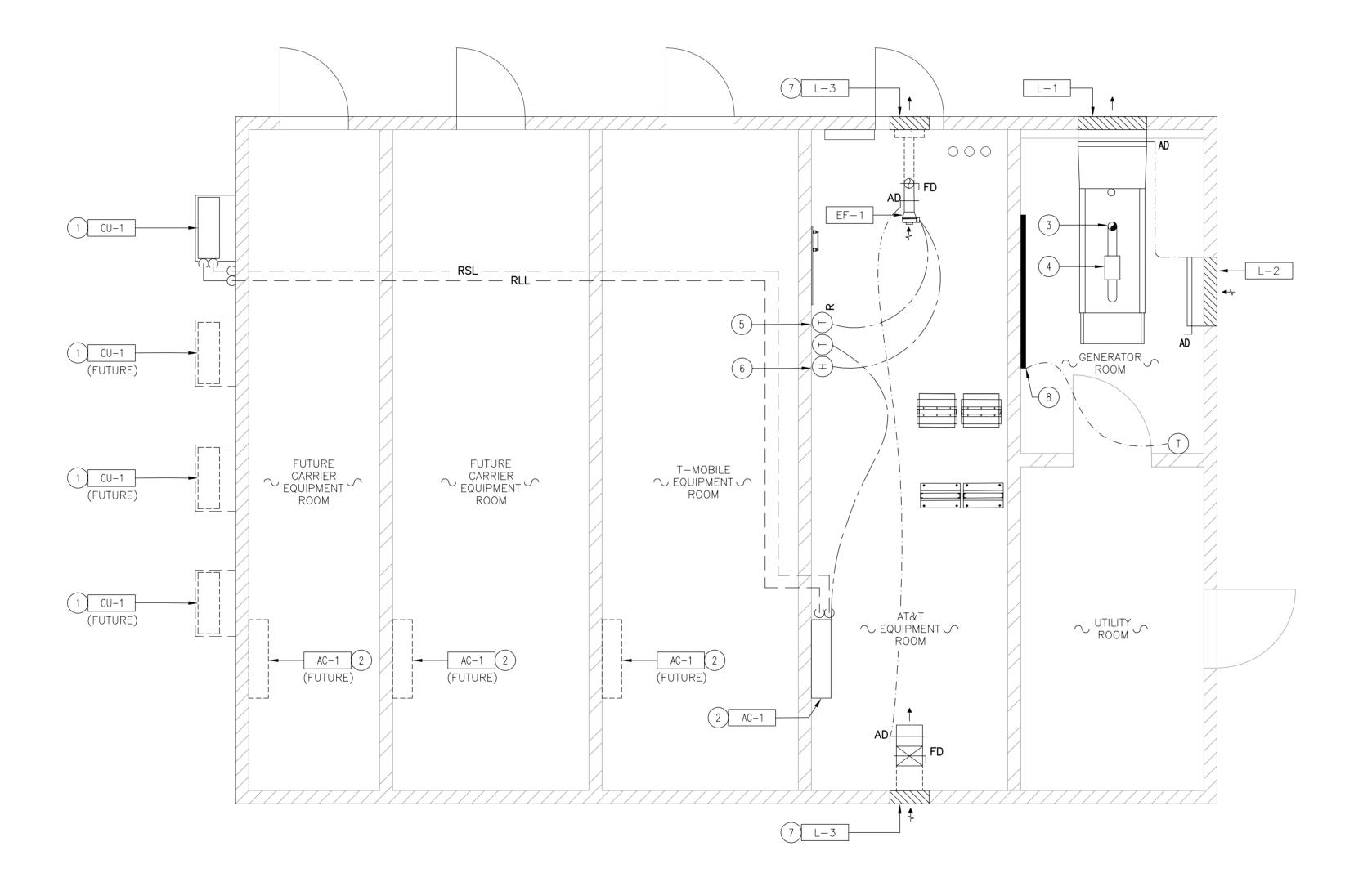
> 03/07/17 DATE: SCALE: AS NOTED JOB NO. 16024.00

MECHANICAL LEGENDS, DETAILS & SCHEDULES

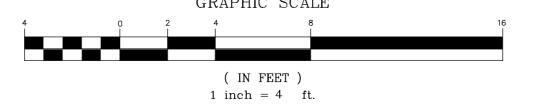








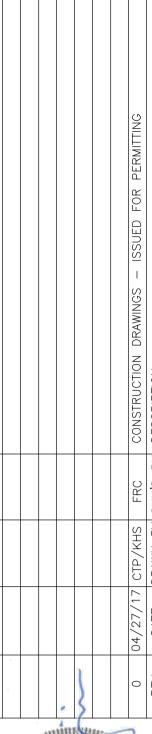


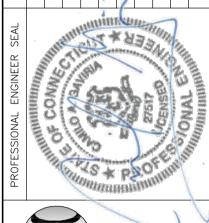




### HVAC WORK NOTES

- 1 CONDENSING UNITS MOUNTED TO EXTERIOR OF FAUX BARN EQUIPMENT BUILDING AND ASSOCIATED REFRIGERANT PIPING (RLL/RSL). COORDINATE ENTRY LOCATION IN FIELD AND PROVIDE ALL BRACKETS AND SUPPORTS REQUIRED FOR A COMPLETE INSTALLATION.
- 2 INDOOR HEAT PUMP UNIT WALL MOUNTED MINIMUM 6'-0" A.F.F. COORDINATE FINAL LOCATION IN FIELD WITH OWNER.
- 3 2.5" SCHEDULE 40 EXHAUST PIPE THROUGH WALL AND UP. EXTEND EXHAUST PIPE 2'-0" VERTICALLY ABOVE STRUCTURE OR FIXED OBJECTS WITHIN 10'-0" HORIZONTAL OF PIPE. VERIFY IN FIELD.
- 4 EMERGENCY GENERATOR MUFFLER FURNISHED BY AT&T AND INSTALLED BY CONTRACTOR. PROVIDE ALL REQUIRED HANGERS, VIBRATION ISOLATORS, RODS, SUPPLEMENTARY STEEL, ETC. TO HOUSE GENERATOR MUFFLER. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. REFER TO DETAILS 1/M-1 AND 2/M-1.
- $\bigcirc$  REVERSE ACTING THERMOSTAT INTERLOCKED WITH EF-1.
- 6 PROVIDE HYDROGEN DETECTOR AND INTERLOCK WITH EF-1. INTERNAL RELAY SHALL ACTIVATE EXHAUST FAN WHEN HYDROGEN LEVEL IN SPACE REACHES 1% BY VOLUME.
- 7) 24"x24" INTAKE/EXHAUST LOUVERS. REFER TO CIVIL DRAWINGS FOR LOCATION.
- 8 ELECTRIC HEATER EQUAL TO DAYTON 3UG29, 5118 BTUH, 240V/1PH, 1500 WATTS, 7.2 AMPS. PROVIDE WITH REMOTE THERMOSTAT.







communications

(203) 488-0580 (203) 488-8587 Fax 63-2 North Branford Road Branford, CT 06405

CT1345 EAST LYME RELO.
THE ORCHARDS

DATE: 03/07/17

SCALE: AS NOTED

JOB NO. 16024.00

MECHANICAL GEN. / EQUIP. ROOM PLAN



### MECHANICAL SPECIFICATIONS

### SCOPE

THE WORK TO BE DONE UNDER THIS DIVISION OF THE SPECIFICATIONS INCLUDE THE FURNISHING OF ALL EQUIPMENT, SUPPLIES, LABOR, SUPERVISION AND ALL MATERIALS NOT SPECIFICALLY MENTIONED, READY FOR USE, PLUMBING, SPRINKLER, HEATING, VENTILATION, AIR CONDITIONING EQUIPMENT AND ASSOCIATED ITEMS AND ALL TEMPERATURE CONTROL OR EMS COMPONENTS. IT IS THE INTENTION OF THE SPECIFICATIONS AND DRAWINGS TO CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION.

IT IS THE INTENT THAT ALL MECHANICAL WORK AND MATERIALS NECESSARY TO COMPLETE THE ENTIRE PROJECT IN ACCORDANCE WITH THE CONTRACT PLANS AND SPECIFICATIONS, WHERE SPECIFICALLY MENTIONED HERE OR NOT, SHALL BE FURNISHED. ALL WORK AND MATERIALS NECESSARY TO FULFILL THIS INTENT SHALL BE SUPPLIED UNDER THE MECHANICAL SPECIFICATIONS WITHOUT ADDITIONAL COST TO THE OWNER.

### CODES, RULES, PERMITS AND FEES

THIS CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS AND PAY ALL STATE AND LOCAL TAXES, FEES AND OTHER COSTS IN CONNECTION WITH HIS WORK; FILE ALL NECESSARY PLANS, PREPARE ALL DOCUMENTS AND OBTAIN ALL NECESSARY APPROVALS OF ALL STATE AND LOCAL DEPARTMENTS HAVING JURISDICTION; OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION FOR HIS WORK AND DELIVERY OF SAME TO THE OWNER BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR THE WORK.

THIS CONTRACTOR SHALL INCLUDE IN THE WORK, WITHOUT EXTRA COST TO THE OWNER, ANY LABOR, MATERIALS, SERVICES, APPARATUS, DRAWINGS (IN ADDITION TO CONTRACT DRAWINGS AND DOCUMENTS), IN ORDER TO COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES AND REGULATIONS WHETHER OR NOT SHOWN ON THE DRAWINGS AND/OR SPECIFIED.

THIS CONTRACTOR SHALL PERFORM AND FILE ALL TESTS IN ACCORDANCE WITH CURRENT REGULATIONS OF THE STATE AND LOCAL AUTHORITIES. HE SHALL FURNISH AND INSTALL SIGNS REQUIRED BY THE STATE AND LOCAL AUTHORITIES.

ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE RULES AND RECOMMENDATIONS OF THE NATIONAL BOARD OF FIRE UNDERWRITERS, WITH ALL REQUIREMENTS OF LOCAL UTILITIES COMPANIES, WITH THE RECOMMENDATIONS OF THE FIRE INSURANCE RATING ORGANIZATION HAVING JURISDICTION.

### REGULATIONS

ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH STATE BUILDING CODE, IBC 2003, STATE FIRE SAFETY CODE, A.D.A., U.L., NEMA, O.S.H.A., NATIONAL PLUMBING CODE AND NFPA, WITH ALL REQUIREMENTS OF ALL GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION. REQUIREMENTS OF THE ABOVE SHALL TAKE PRECEDENCE OVER PLANS AND SPECIFICATIONS.

### GUARANTEE AND SERVICE

THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE OF THE INSTALLATION. IN ADDITION, THE CONTRACTOR SHALL PROVIDE, FREE OF CHARGE, ONE YEAR'S MAINTENANCE GUARANTEE OF MAINTAINED SERVICE AND ADJUSTMENT OF ALL EQUIPMENT IN THIS CONTRACT.

### DRAWINGS AND INTENT

DRAWINGS ARE INTENDED AS WORKING DRAWINGS FOR GENERAL LAYOUT OF THE VARIOUS ITEMS OF EQUIPMENT. HOWEVER, LAYOUT OF EQUIPMENT, ACCESSORIES, SPECIALTIES, AND PIPING SYSTEMS ARE DIAGRAMMATIC UNLESS SPECIFICALLY DIMENSIONED, AND DO NOT NECESSARILY INDICATE EVERY REQUIRED PIPE, VALVE, FITTINGS, TRAP, ELBOW, TRANSITION, OFFSETS, JUNCTION OR PULLBOX, OR SIMILAR ITEMS REQUIRED FOR A COMPLETE INSTALLATION.

### WORK NOT INCLUDED

ALL ELECTRICAL WORK, CUTTING AND PATCHING, PIERS, LINTELS, ALL CONCRETE WORK AND ALL PAINTING.

THIS CONTRACTOR SHALL FURNISH THE GENERAL CONTRACTOR WITH THE SIZES AND LOCATIONS OF CHASES AND OPENINGS WHICH OCCUR IN WALLS, PARTITIONS, FLOORS, ETC., REQUIRED FOR THE INSTALLATION OF THE WORK CALLED FOR UNDER THIS CONTRACT, WILL BE DONE BY THE GENERAL CONTRACTOR, EXCEPT CUTTING REQUIRED FOR THE INSTALLATION OF HANGERS.

### <u>MEASUREMENTS</u>

ALL MEASUREMENTS TAKEN AT THE BUILDING SHALL TAKE PRECEDENCE OVER SCALE DIMENSIONS. EVERY PART OF THE PLANS SHALL BE FITTED TO THE ACTUAL CONDITIONS AT THE BUILDING. IF IN CONFLICT WITH SCALE DIMENSIONS, CONTACT ARCHITECT FOR CLARIFICATION.

### INTERRUPTION OF EXISTING SERVICES

PRIOR TO PERFORMING WORK REQUIRING INTERRUPTION OF EXISTING SERVICES, THE CONTRACTOR SHALL SECURE FROM THE OWNER, APPROVAL OF THE PROPOSED OPERATION. (72 HOURS IN ADVANCE WHENEVER POSSIBLE).

WORK SHALL BE ARRANGED FOR CONTINUOUS PERFORMANCE WHENEVER POSSIBLE. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY LABOR, INCLUDING OVERTIME, IF REQUIRED, TO ASSURE THAT EXISTING OPERATING SERVICES WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE NECESSARY CONNECTIONS.

### PROTECTION OF FIXTURES, MATERIALS AND EQUIPMENT

CLOSE PIPE OPENINGS WITH CAPS OR PLUGS DURING INSTALLATION. TIGHTLY COVER AND PROTECT FIXTURES AND EQUIPMENT AGAINST DIRT, WATER AND CHEMICAL OR MECHANICAL INJURY. AT COMPLETION OF ALL WORK, FIXTURES, EXPOSED MATERIALS AND EQUIPMENT SHALL BE THOROUGHLY CLEANED.

### EXAMINATION OF PREMISES - SPECIAL NOTE

NO CONSIDERATION OR ALLOWANCE WILL BE GRANTED FOR FAILURE TO VISIT SITE, OR FOR ANY ALLEGED MISUNDERSTANDING OF MATERIALS TO BE FURNISHED, OR WORK TO BE DONE; IT BEING THAT TENDER OF PROPOSAL INDICATED WITH IT AGREEMENT TO ITEMS AND CONDITIONS REFERRED TO HEREIN OR INDICATED ON AFOREMENTIONED DRAWINGS.

### SCAFFOLDING, RIGGING AND HOISTING

UNLESS OTHERWISE SPECIFIED, CONTRACTOR SHALL FURNISH ALL SCAFFOLDING, RIGGING, HOISTING AND SERVICES NECESSARY FOR ERECTION AND DELIVERY INTO THE PREMISES OF ANY EQUIPMENT AND APPARATUS FURNISHED. REMOVE SAME FROM THE PREMISES WHEN NO LONGER REQUIRED.

### HOUSEKEEPING

THIS CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING STOCK OF MATERIALS AND EQUIPMENT STORED ON PREMISES IN A NEAT AND ORDERLY MANNER AND, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIAL OR RUBBISH CAUSED BY HIS EMPLOYEES AT WORK. HE SHALL REMOVE HIS RUBBISH AND SURPLUS MATERIALS FROM THE JOB SITE AND SHALL LEAVE THE PREMISES AND HIS WORK IN A CLEAN AND PERFECT CONDITION.

### QUIET OPERATION

ALL WORK SHALL OPERATE UNDER ALL CONDITIONS OF LOAD WITHOUT ANY SOUND OR VIBRATION WHICH IS OBJECTIONABLE IN THE OPINION OF THE CONSTRUCTION MANAGER. IN CASE OF MOVING MACHINERY, SOUND OR VIBRATION NOTICEABLE OUTSIDE OF ROOM IN WHICH IT IS INSTALLED, OR ANNOYING INSIDE ITS OWN ROOM, WILL BE CONSIDERED OBJECTIONABLE BY THE CONSTRUCTION MANAGER AND SHALL BE REMEDIED IN APPROVED MANNER BY CONTRACTOR AT HIS EXPENSE.

### SHOP DRAWINGS

PRIOR TO DELIVERY TO JOB SITE, BUT SUFFICIENTLY IN ADVANCE OF REQUIREMENTS NECESSARY TO ALLOW CONSTRUCTION MANAGER AMPLE TIME FOR REVIEW, CONTRACTOR SHALL SUBMIT FOR APPROVAL, SEVEN (7) COPIES EACH OF SHOP DRAWINGS OF ALL EQUIPMENT. ALSO, SHEET METAL FABRICATION DRAWINGS DRAWN TO A SCALE OF 1/4" TO THE FOOT OR LARGER.

### EQUIPMENT DEVIATION

THE PLANS AND/OR SPECIFICATIONS INDICATE THE NAME, MODEL NUMBER OR TYPE OF EQUIPMENT OR MATERIALS SPECIFIED. SHOULD THE BIDDER DESIRE TO USE EQUIPMENT OR MATERIALS OR A MAKE OTHER THAN THOSE SPECIFIED OR SHOWN, HE SHALL ATTACH A RIDER TO THE BID FORM LISTING THE DEDUCTIONS AND/OR ADDITIONS TO HIS BASE BID, TOGETHER WITH THE MANUFACTURER'S NAME AND MODEL NUMBERS OF THE EQUIPMENT OR MATERIALS HE PROPOSED TO FURNISH AS "SUBSTITUTES". IF NO SUBSTITUTE INFORMATION IS FURNISHED, IT WILL BE EXPRESSLY UNDERSTOOD THAT ALL EQUIPMENT AND MATERIALS NAMED WILL BE FURNISHED IN FULL ACCORDANCE WITH THE PLANS AND/OR SPECIFICATIONS.

### CORE DRILLING/WATERPROOFING

ALL CORE DRILLING REQUIRED SHALL BE DONE BY GENERAL CONTRACTOR. ALL ROOF PENETRATIONS, FLASHING AND WATER PROOFING SHALL BE DONE BY GENERAL CONTRACTOR, WORK SHALL BE PERFORMED BY AN APPLICATOR CERTIFIED BY THE EXISTING ROOF SYSTEM MANUFACTURER.

### RECORD DRAWINGS

CONTRACTOR SHALL KEEP ACCURATE RECORD OF ALL DEVIATIONS IN WORK AS ACTUALLY INSTALLED FROM WORK INDICATED PAYING PARTICULAR ATTENTION TO DIMENSIONING OUTSIDE UNDERGROUND UTILITY LINES, THEIR OFFSETS AND VALUES.

### OWNER'S INSTRUCTIONS AND SYSTEM OPERATION

AT THE TIME OF THE JOB'S ACCEPTANCE BY OWNER, CONTRACTOR SHALL FURNISH ONE COMPLETE SET OF APPROVED CERTIFIED DRAWINGS TO THE OWNER. IN ADDITION, CONTRACTOR SHALL FURNISH MAINTENANCE AND OPERATING INSTRUCTIONS FOR ALL EQUIPMENT. THESE INSTRUCTIONS SHALL BE WRITTEN IN LAYMAN'S LANGUAGE AND SHALL BE INSERTED IN VINYL—COVERED THREE—RING LOOSE LEAF BINDER. THIS INFORMATION IN BINDER SHALL BE FIRST SENT TO AND APPROVED BY THE CONSTRUCTION MANAGER BEFORE TURNING OVER TO OWNER.

### SEISMIC RESTRAINTS

SEISMIC RESTRAINTS DESIGNED AND CONSTRUCTED FOR LATERAL FORCES IN ANY DIRECTION SHALL BE PROVIDED FOR ALL MECHANICAL EQUIPMENT AND PIPING IN ACCORDANCE WITH THE STATE BUILDING CODE. SUBMIT SEISMIC RESTRAINT DESIGN AND CALCULATIONS STAMPED BY A CONNECTICUT LICENSED STRUCTURAL ENGINEER.

### **TESTS**

THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, DURING THE PROGRESS OF THE WORK OR UPON ITS COMPLETION AS ORDERED, MAKE SUCH TESTS OF HIS WORK AS ARE HEREIN SPECIFIED OR AS ARE REQUIRED BY AND IN THE PRESENCE OF THE BUILDING INSPECTOR. IF SO DIRECTED, TESTS SHALL BE MADE OF SECTIONS FOR THE WORK SO AS NOT TO DELAY THE WORK OR OTHER TRADES.

THE CONTRACTOR SHALL PROVIDE ALL APPARATUS, TEMPORARY WORK OR ANY OTHER REQUIREMENTS NECESSARY FOR SUCH TESTS. HE SHALL TAKE ALL DUE PRECAUTIONS TO PREVENT DAMAGE TO THE BUILDING OR ITS CONTENTS THAT MAY BE INCURRED BY SUCH TESTS AS HE WILL BE REQUIRED TO REPAIR AND MAKE GOOD, AT HIS OWN EXPENSE. ANY DAMAGE CAUSED.

ANY DEFECTS OR DEFICIENCIES DISCOVERED AS A RESULT OF TESTS SHALL BE IMMEDIATELY REPAIRED AND TESTS SHALL BE REPEATED UNTIL THE TEST REQUIREMENTS ARE FULLY COMPLIED WITH.

TESTS SHALL BE PERFORMED IN THE PRESENCE OF AND TO THE SATISFACTION OF THE ENGINEER, AND LOCAL DEPARTMENT REPRESENTATIVES.

THE CONTRACTOR SHALL NOTIFY THE ARCHITECT TWO DAYS IN ADVANCE OF RUNNING TESTS TO ALLOW THEIR REPRESENTATIVE TO BE PRESENT TO WITNESS TESTS. NOTIFICATION TO BE IN WRITING.

### HANGER AND SUPPORTING

HANGING AND SUPPORTING — PIPING SHALL NOT BE SUPPORTED BY OTHER PIPING, BUT SHALL BE SUPPORTED WITH COPPER PIPE HANGERS SUITABLE FOR THE SIZE OF PIPE AND PROPER STRENGTH AND QUALITY AT PROPER INTERVALS SO THAT PIPING CANNOT BE MOVED ACCIDENTALLY FROM THE INSTALLED POSITION. REFER TO DETAIL SHEET.

### SEQUENCE OF OPERATION

PROVIDE ALL CONTROLS, LOW VOLTAGE CONTROL WIRING AND ACCESSORIES NECESSARY TO ACCOMPLISH THE SEQUENCE OF OPERATION AS INDICATED BELOW. POWER WIRING SHALL BE PROVIDED IN ACCORDANCE WITH ELECTRICAL SPECIFICATIONS. COORDINATE WITH ELECTRICAL CONTRACTOR.

### EF-1 EXHAUST FAN

EXHAUST FAN SHALL BE ACTIVATED BY HYDROGEN DETECTOR AND REVERSE ACTING T-STAT.

INTERLOCK AUTOMATIC INTAKE AND EXHAUST DAMPERS WITH EXHAUST FAN

REVERSE ACTING THERMOSTAT SHALL ENERGIZE EXHAUST FAN AT A PRESET TEMPERATURE OF 78°F (ADJUSTABLE).

EXHAUST FAN SHALL BE INTERLOCKED WITH HYDROGEN DETECTOR. HYDROGEN DETECTOR RELAY SHALL ACTIVATE EXHAUST FAN WHEN HYDROGEN LEVEL REACHES 1% BY VOLUME.

0 04/27/17 CTP/KHS FRC CONSTRUCTION DRAWINGS — ISSUED FOR PERMITTING





3) 488-0580 3) 488-8587 Fax 2 North Branford Road inford, CT 06405

EAST LYME RELITY

E ORCHARDS

2 ARBOR CROSSING

34

**1**3

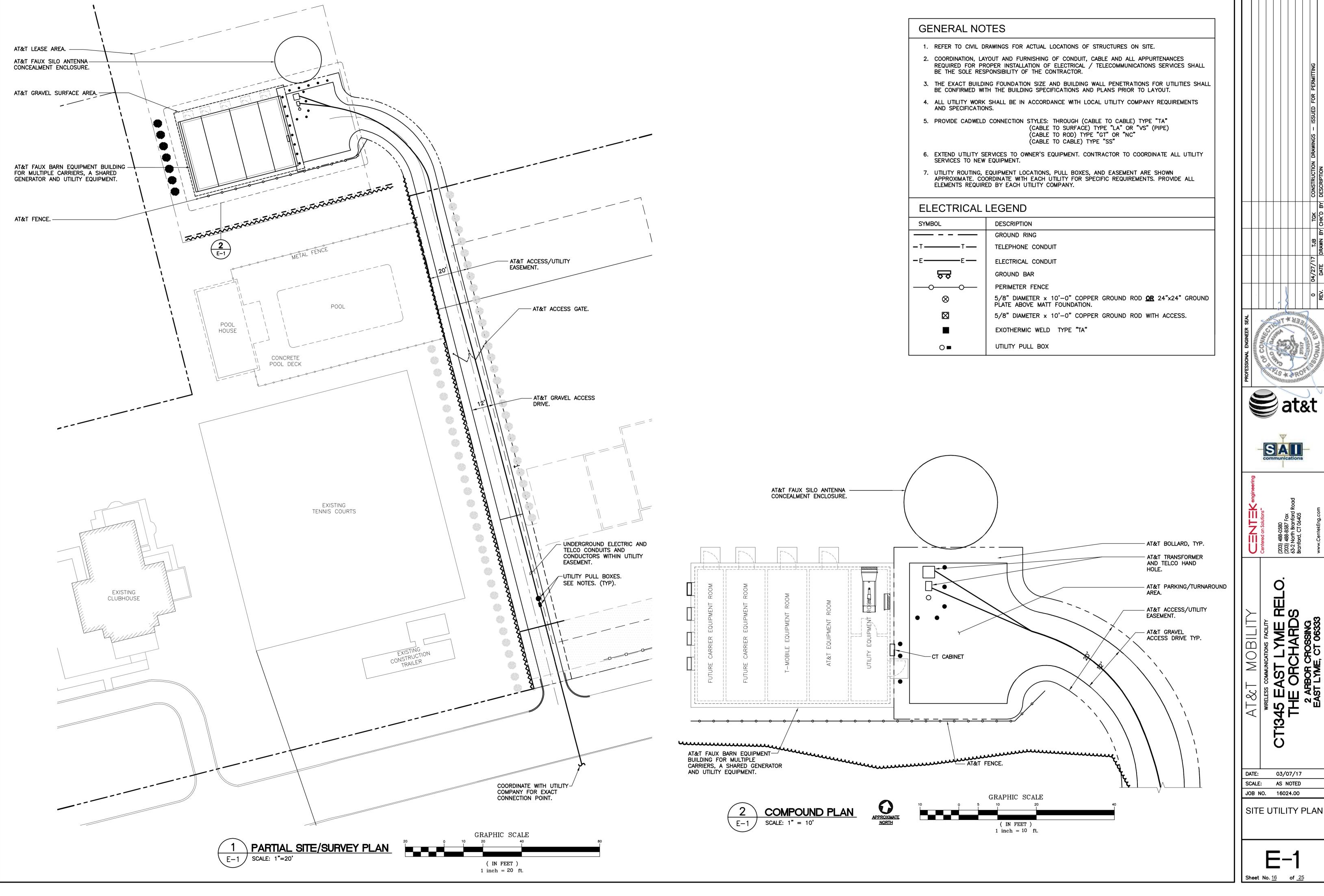
Ö

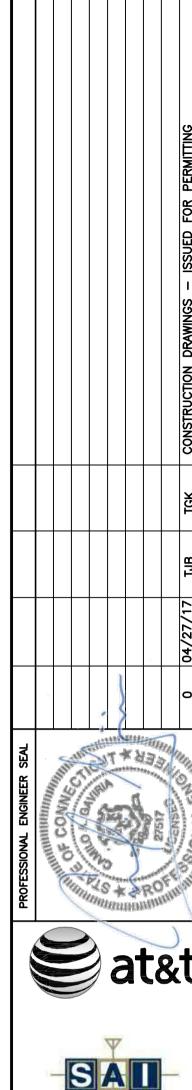
DATE: 03/07/17
SCALE: AS NOTED
JOB NO. 16024.00

MECHANICAL SPECIFICATIONS

M-3

Sheet No. **15** of **25** 





03/07/17

### NOTES

- CONTRACTOR TO VERIFY ALL CONDUIT ROUTING AND INSTALLATION REQUIREMENTS WITH LOCAL UTILITIES PRIOR TO INSTALLATION.
- 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.

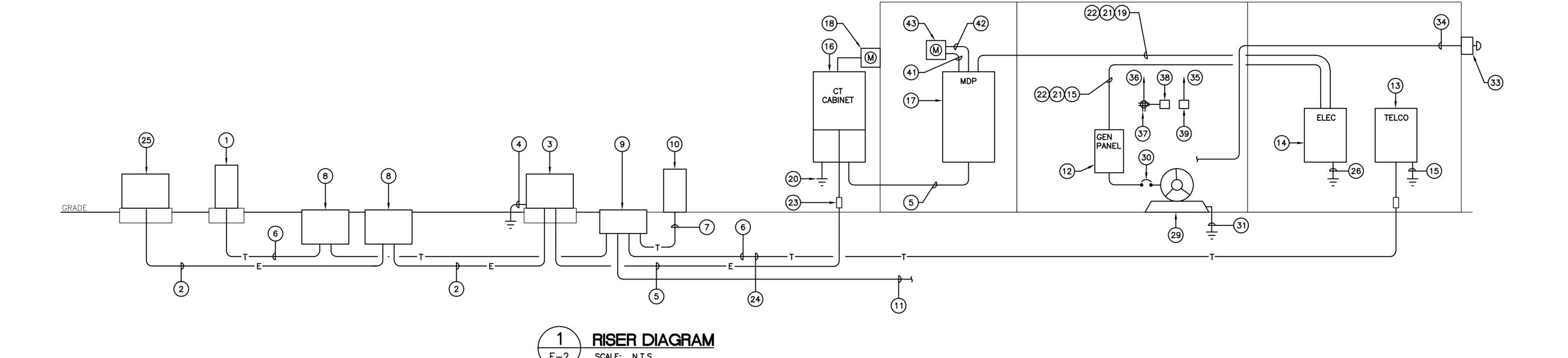
### **POWER RISER NOTES**

- EXISTING TELCO UTILITY DEMARC TO BE USED. VERIFY WITH TELEPHONE UTILITY COMPANY.
- (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.
- TRANSFORMER PROVIDED BY UTILITY COMPANY. TRANSFORMER VAULT, HOUSING, AND GROUND GRID BY ELECTRICAL CONTRACTOR, PER UTILITY COMPANY SPECIFICATIONS.
- PROVIDE TRANSFORMER GROUNDING PER NEC AND UTILITY COMPANY SPECIFICATIONS.
- 5) TWO SETS OF: (3) 600 KCMIL, 4"C.
- 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.

  4" CONDUIT FOR FUTURE CARRIER'S TELCO SERVICE, CONDUIT TO BE STUBB
- 4" CONDUIT FOR FUTURE CARRIER'S TELCO SERVICE, CONDUIT TO BE STUBBED UP INTO EACH FUTURE CARRIER EQUIPMENT ROOM, PROVIDE DRAGLINE IN EACH EMPTY CONDUIT.
- (12) 400A RATED, 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 INTEGRATED LOAD CENTER.
- 16) 800A CT CABINET FOR UTILITY METERING.
- (17) 800A, 240V MAIN DISTRIBUTION PANEL.
- UTILITY METER PER UTILITY COMPANY SPECIFICATIONS MOUNTED IN LOCATION APPROVED BY UTILITY COMPANY.
- (19) EXTEND CONDUCTORS TO NORMAL LUGS IN INTEGRATED LOAD CENTER.
- 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°C.
- (22) CONNECT TO 200A, 2P CIRCUIT BREAKER.
- 23) EXPANSION COUPLING, TYPICAL.

- 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.
- PROVIDE LABEL AT METER LISTING TYPE AND LOCATION OF ON SITE STANDBY GENERATOR.
- 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) 80KW DIESEL FUELED GENERATOR.
- (30) 350A, 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.
- REMOTE GENERATOR SHUT OFF SWITCH IN BREAK GLASS ENCLOSURE MOUNTED IN LOCATION APPROVED BY LOCAL FIRE MARSHAL. INSTALL ALL REQUIRED
- 3/4" CONDUIT AND CONDUCTORS REQUIRED FOR PROPER OPERATION OF EMERGENCY GENERATOR SHUT OFF SWITCH.
- DEDICATED 20A, 120V, CIRCUIT IN 3/4" CONDUIT FROM AT&T ELECTRIC PANEL TO GENERATOR BLOCK HEATER.
- 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.
- 4" CONDUIT FOR FUTURE CARRIER'S TELCO SERVICE. CONDUIT TO BE STUBBED UP INTO EACH FUTURE CARRIER EQUIPMENT ROOM. PROVIDE DRAGLINE IN EACH EMPTY CONDUIT.
- 1) SUBMETER SENSOR WIRES. INSTALL PER MANUFACTURERS SPECIFICATIONS.
- SUBMETER POWER WIRES. INSTALL PER MANUFACTURERS SPECIFICATIONS. PROVIDE INLINE FUSES AS SPECIFIED BY SUBMETER MANUFACTURER.
- 43) 240V, 1P, 200A SUBMETER. (VERIS INDUSTRIES #H8150).



antered on Solutions\*\*

Ost 488-0580

Ost 488-0580

Ost 488-0580

Ost 488-8887 Fox anterior Road ant

EAST LYME RELO.

E ORCHARDS

ARBOR CROSSING

DATE: 03/07/17

SCALE: AS NOTED

JOB NO. 16024.00

ELECTRICAL RISER DIAGRAM AND NOTES

E-2

--- No 17 ---

### **GROUNDING SCHEMATIC NOTES**

- (1) GROUND RING, #2 AWG BCW
- #2/0 GREEN INSULATED
- ) #6 AWG
- REFER TO RISER DIAGRAM FOR SPECIFICATIONS
- BOND ALL HALO GROUND RING TAILS TO GROUND RING. COORDINATE LOCATION AND QUANTITY WITH EQUIPMENT ROOM DRAWINGS
- FOUR #2/0 GREEN INSULATED
- BOND WITH LISTED MECHANICAL CONNECTION

### GENERAL NOTES:

- 1. ALL SURGE SUPPRESSION EQUIPMENT SHALL BE BONDED TO GROUND PER MANUFACTURER'S SPECIFICATIONS
- UNLESS OTHERWISE NOTED OR REQUIRED BY CODE, GROUND CONDUCTORS SHOWN SHALL BE #2 AWG (SOLID TINNED BCW — EXTERIOR; STRANDED GREEN INSULATED — INTERIOR).
- 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.

- 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.
- ALL TOWER MOUNTED AMPLIFIERS AND ASSOCIATED EQUIPMENT SHALL BE BONDED TO THE SECTOR GROUND BAR PER MANUFACTURER'S SPECIFICATIONS.
- 10. ALL GROUNDING SHALL BE IN ACCORDANCE WITH NEC AND OWNER'S REQUIREMENTS.
- 11. ALL EXPOSED METAL OBJECTS IN SHELTER SHALL BE BONDED TO THE HALO GROUND WITHIN THAT ROOM.
- 12. BOND GENERATOR TO GROUND PER NEC AND MANUFACTURERS SPECIFICATIONS

UTILITY

TRANSFORMER

13. REFER TO RISER DIAGRAM FOR SPECIFICATIONS OF SERVICE GROUND AND TRANSFORMER GROUND.

### TYPICAL EACH TOWER SECTOR REMOTE CABLE RADIO HEAD **GROUND** KITS SECTOR TOWER TOP REMOTE GROUND AMPLIFIERS RADIO HEAD BAR (SEE (AS REQ'D) MOUNT NOTES) REMOTE ANTENNA RADIO HEAD SUPPORT SURGE PIPES PROTECTOR GPS ANTENNA GPS CABLE GROUND KIT **ANTENNA** GROUND BAR **CABLE** AT BASE OF GROUND TOWER KITS GPS GROUND GROUND BAR IN SHELTER TOWER # 2/0 AWG BCW TOWER GROUND RING SHELTER GROUND RING 2/0 AWG BCW CONCRETE ENCASED GROUND RING (REFER TO DETAILS) DUNNAGE (TYP EACH CORNER) REBAR IN TOWER STEEL FRAME FOUNDATION OF SHELTER REBAR IN (TYP EACH SHELTER GROUNDING **FOUNDATION** CORNER) TRIAD ANCHOR RODS IN TOWER FOUNDATION HVAC UNIT GROUNDING LUG MAIN SERVICE IN SHELTER GROUND (SEE NOTES) HALO GROUND RING PIER DOWELS IN TOWER EXPOSED NON FOUNDATION METAL CURRENT CARRYING CONDUITS METAL SURFACES IN ROOM

**GENERATOR** 

### **CELLULAR GROUNDING NOTES**

### OBJECTI

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" I. 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" BOLT, 1-3/4" SPACING LUGS. CONNECTOR SHALL BE CADWELD CONNECTION STYLE (CABLE TO SURFACE) TYPE LA, LUG SIZE  $1/8 \times 1$ . 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  $6" \times 8" \times 1/4"$  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.

PROFESSIONAL ENGINEER SEAL

7 05/17/18 TJB TG

0 04/27/17 TJB TG



) 488-0580 ) 488-8587 Fax North Branford Road Iford, CT 06405

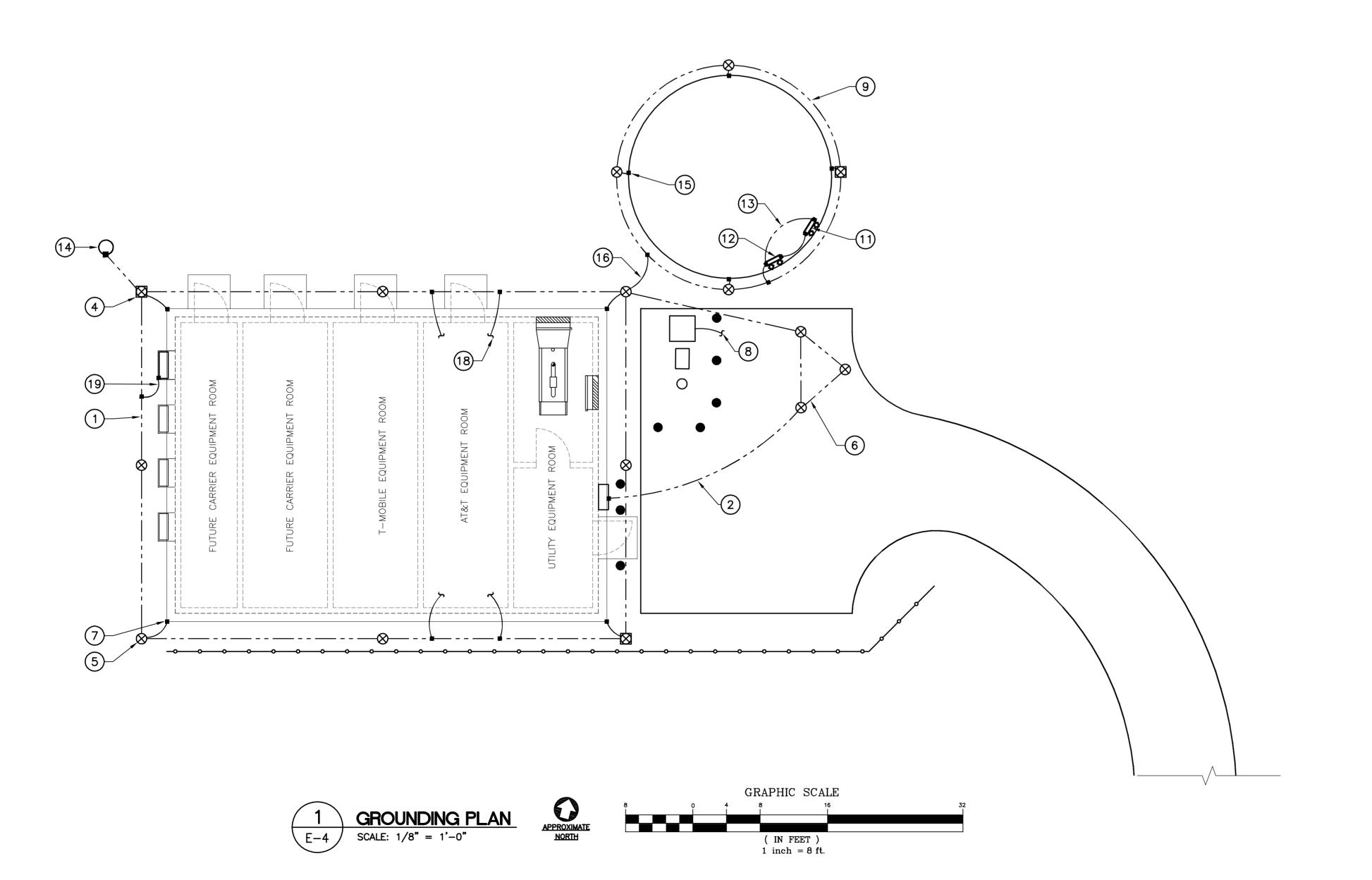
ST LYME RELO
SPECHARDS
SOR CROSSING

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

SCHEMATIC RISER DIAGRAM AND NOTES

E-3

Sheet No 18

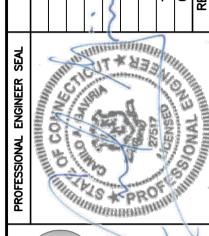


### GROUNDING PLAN NOTES

- #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 NOT USED.
- 4) GROUNDING ROD WITH ACCESS (TYP.) PER DETAIL.
- 5 GROUNDING ROD (TYP.) PER DETAIL.
- (6) GROUNDING TRIAD. BOND TO GROUND RING. 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 NOT USED.
- UPPER TOWER MOUNTED GROUND BAR PER DETAIL.
- (12) LOWER TOWER MOUNTED GROUND BAR PER DETAIL.
- 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.
- CONNECT SILO STRUCTURE TO GROUND ROD IN TOWER GROUND RING WITH #2/0 RCW TYPICAL FOUR PLACES GROUND RING WITH #2/0 BCW. TYPICAL FOUR PLACES.
- BOND COMPOUND GROUND RING TO TOWER GROUND RING WITH #2 AWG BCW.
- 17) TRANSFORMER GROUNDING PER UTILITY COMPANY SPECIFICATIONS. SPECIFICATIONS.
- EXTEND GROUND RING PIGTAIL THROUGH SHELTER AND BOND TO HALO GROUND DOWNLEAD. (TYP. 4 PLACES).
- 19) BOND HVAC UNIT TO GROUND RING. (TYP EACH UNIT)

### 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.

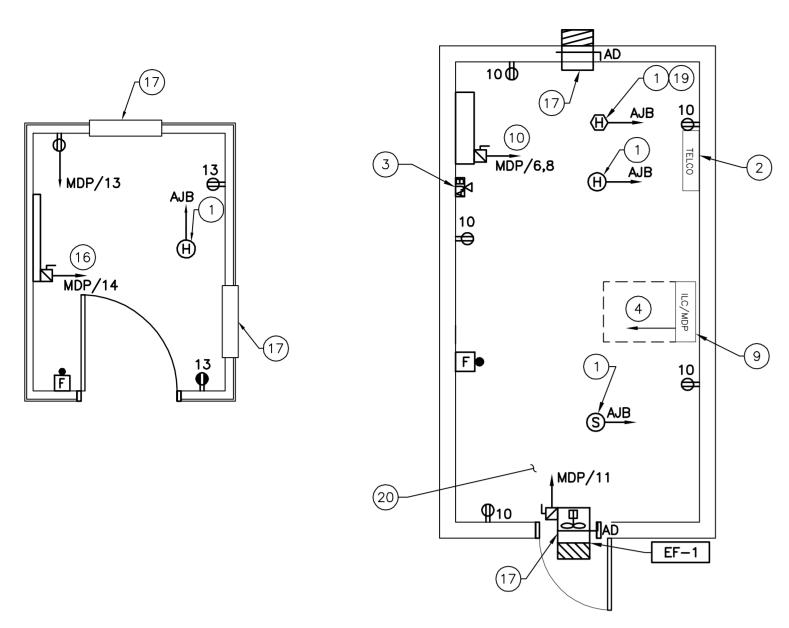




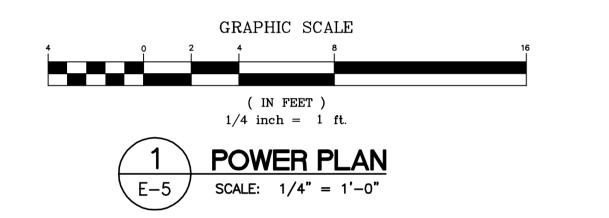


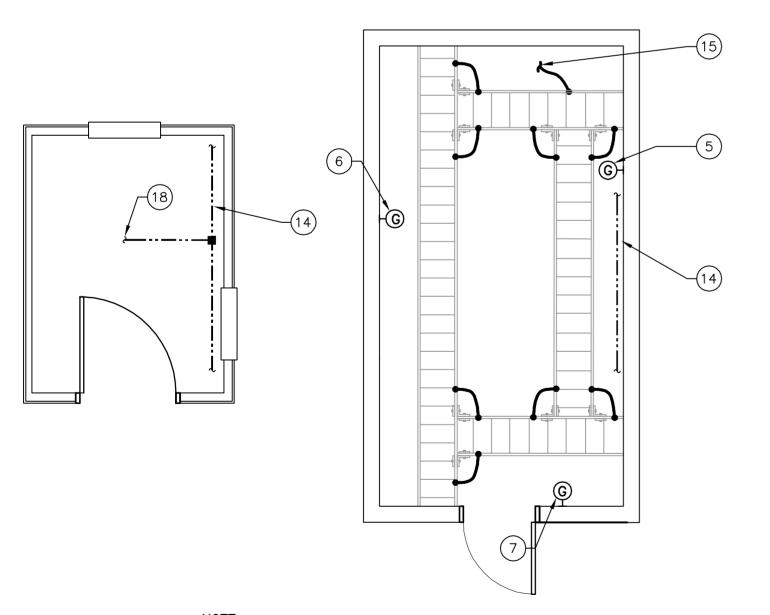
03/07/17 SCALE: AS NOTED JOB NO. 16024.00

GROUNDING PLAN AND NOTES

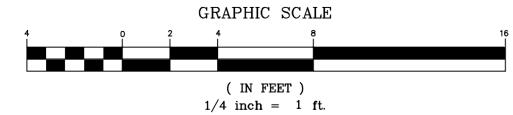


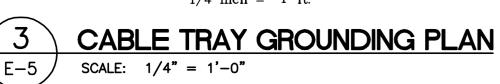
NOTE:
ROOM LAYOUT AND EQUIPMENT ARRANGEMENT ARE SHOWN TYPICAL. REFER TO CIVIL DRAWINGS FOR EXACT ROOM LAYOUT. ADJUST EQUIPMENT LOCATIONS AS REQUIRED FOR BEST FIT, CODE COMPLIANCE, AND TO AVOID OBSTRUCTIONS. FINAL EQUIPMENT LAYOUT MUST BE VERIFIED AND APPROVED BY WIRELESS CARRIER'S CONSTRUCTION MANAGER PRIOR TO INSTALLATION.

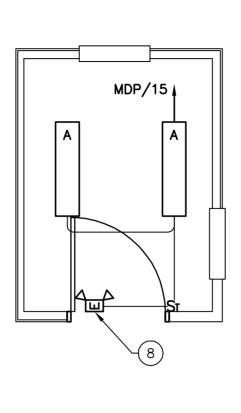


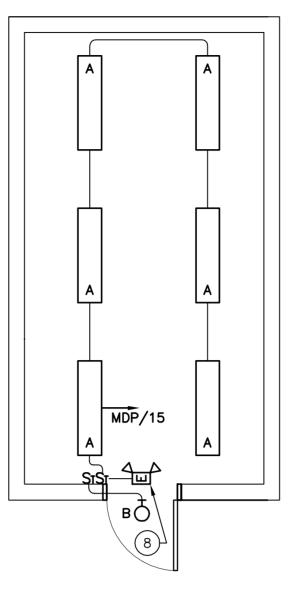


NOTE:
ROOM LAYOUT AND EQUIPMENT ARRANGEMENT ARE SHOWN TYPICAL. REFER TO CIVIL DRAWINGS FOR EXACT ROOM LAYOUT. ADJUST EQUIPMENT LOCATIONS AS REQUIRED FOR BEST FIT, CODE COMPLIANCE, AND TO AVOID OBSTRUCTIONS. FINAL EQUIPMENT LAYOUT MUST BE VERIFIED AND APPROVED BY WIRELESS CARRIER'S CONSTRUCTION MANAGER PRIOR TO INSTALLATION.

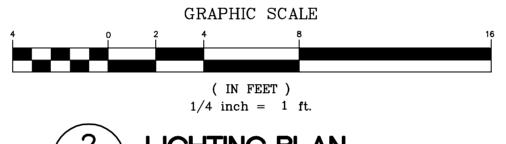




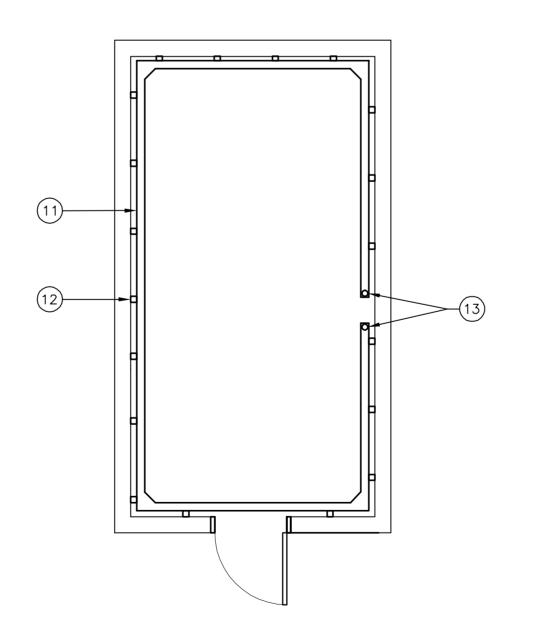




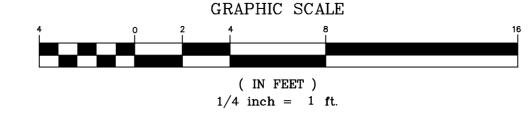
NOTE:
ROOM LAYOUT AND EQUIPMENT ARRANGEMENT ARE SHOWN TYPICAL. REFER TO CIVIL DRAWINGS FOR EXACT ROOM LAYOUT. ADJUST EQUIPMENT LOCATIONS AS REQUIRED FOR BEST FIT, CODE COMPLIANCE, AND TO AVOID OBSTRUCTIONS. FINAL EQUIPMENT LAYOUT MUST BE VERIFIED AND APPROVED BY WIRELESS CARRIER'S CONSTRUCTION MANAGER PRIOR TO INSTALLATION.

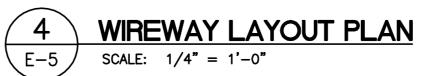






NOTE:
ROOM LAYOUT AND EQUIPMENT ARRANGEMENT ARE SHOWN TYPICAL. REFER TO CIVIL DRAWINGS FOR EXACT ROOM LAYOUT. ADJUST EQUIPMENT LOCATIONS AS REQUIRED FOR BEST FIT, CODE COMPLIANCE, AND TO AVOID OBSTRUCTIONS. FINAL EQUIPMENT LAYOUT MUST BE VERIFIED AND APPROVED BY WIRELESS CARRIER'S CONSTRUCTION MANAGER PRIOR TO INSTALLATION.



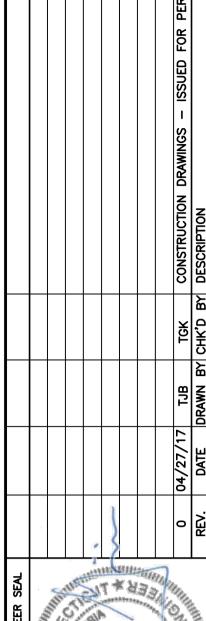


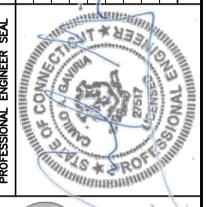
### **ELECTRICAL WORK NOTES**

- ALL SMOKE, HEAT AND HYDROGEN DETECTORS SHALL BE OPERATE AT 48 VDC AND BE POWERED FROM THE 48 VDC POWER PLANT WITHIN THE EQUIPMENT ROOM. DO NOT MOUNT ABOVE CABLE TRAY.
- 2 TELEPHONE BACKBOARD AREA.
- 3 ALARM JUNCTION BOX.
- PROVIDE CONDUCTORS FROM PANELBOARD MDP ROUTED THROUGH THE PERIMETER WIREWAY FOR RECTIFIER BRANCH CIRCUITS. PROVIDE 20' OF ADDITIONAL WIRING IN 1" FLEXIBLE METAL CONDUIT FOR FINAL TERMINATION BY OWNER.
- 5 TELCO GROUND BAR. (COORDINATE LOCATION WITH WIRELESS CARRIER'S CONSTRUCTION MANAGER.)
- 6 MAIN GROUND BAR. (COORDINATE LOCATION WITH WIRELESS CARRIER'S CONSTRUCTION MANAGER.)
- GROUND BAR AT CABLE PORT. (COORDINATE LOCATION WITH WIRELESS CARRIER'S CONSTRUCTION MANAGER.)
- 8 CONNECT EMERGENCY LIGHT BRANCH CIRCUIT WIRING TO LINE SIDE OF LIGHTING CIRCUIT.
- 9 INTEGRATED LOAD CENTER "MDP". REFER TO PANEL SCHEDULE.
- (10) VERIFY ELECTRICAL REQUIREMENTS FOR INDOOR AND OUTDOOR UNITS WITH MANUFACTURER AND MECHANICAL DRAWINGS.
- 4" x 4", TYPE 1 CONTINUOUS SCREW COVER WIREWAY MOUNTED ALONG PERIMETER OF ROOM AGAINST CEILING.
- 12 SUPPORT BRACKET/SPACER (TYPICAL) (INSTALL AS REQUIRED).
- (2) 3" CONDUITS CONNECTED TO PANELBOARD, MDP FROM WIREWAYS.
- (14) INSTALL HALO GROUND NEAR CEILING ALONG PERIMETER OF ROOM.
  INSTALL PER WIRELESS CARRIER'S SPECIFICATIONS AND THE DETAILS
  ON THESE PLANS.
- (15) BOND TO MAIN GROUND BAR.
- PROVIDE CIRCUIT FOR ELECTRIC HEATER IN GENERATOR ROOM AS REQUIRED. COORDINATE WITH MECHANICAL PLANS FOR REQUIREMENTS.
- PROVIDE POWER AND WIRING FOR LOUVER ACTUATORS AS REQUIRED BY MANUFACTURERS SPECIFICATIONS. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL PLANS.
- (18) BOND TO GENERATOR PER NEC AND MANUFACTURER REQUIREMENTS.
- 19 HYDROGEN DETECTOR TO INTERFACE WITH EXHAUST FAN CONTROLS. REFER TO MECHANICAL PLANS.
- PRIOR TO START OF CONSTRUCTION ALL EXISTING ELECTRICAL EQUIPMENT DEVICES, CONDUIT, RACEWAY, LIGHTING CONTROLS, FIRE ALARM, J-BOXES, ETC. SHALL BE REMOVED AND RELOCATED OUTSIDE OF THE EQUIPMENT ROOM AREA. NEW LOCATIONS SHALL BE COORDINATED WITH BUILDING OWNER. ANY DEVICE REMOVED BUT NOT RELOCATED SHALL BE RETURNED TO BUILDING OWNER.

### **GENERAL NOTES:**

- COORDINATE ALL CONDUITS AND CEILING MOUNTED DEVICES WITH STRUCTURAL OBSTRUCTIONS.
- 2. FIXTURE 'A' SHALL BE 9" WIDE, SURFACE MOUNTED LED LIGHT FIXTURE WITH ACRYLIC PRISMATIC DIFFUSER, 4000K COLOR, UNIVERSAL VOLTAGE. DAY-BRITE #OWL-470L-840-UNIV.
- 3. FIXTURE 'B' SHALL BE EXTERIOR CUTOFF LED LUMINAIRE, DIE—CAST ALUMINUM HOUSING, BRONZE FINISH. IMPACT RESISTANT TEMPERED GLASS LENS, BUILT—IN PHOTO CONTROL. LUMARK LDWPFC4A120EDPE.
- 4. FIXTURE 'E' SHALL BE EMERGENCY LIGHT UNIT WITH 90 MINUTE NICKEL CADMIUM BATTERY & SELF-DIAGNOSTIC TESTING FEATURE. SURE-LITES #CC3-NC-WH-SD









88-0580 88-8587 Fax orth Branford Road d, CT 06405

(203) 488-058 (203) 488-858 (3-2 North Br. Branford, CT

EAST LYME RELEASE COMMONICATIONS FACILITY

IE ORCHARDS

2 ARBOR CROSSING

AST LYME, CT 06333

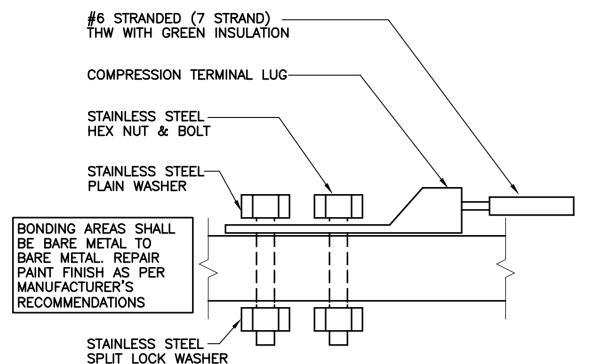
DATE: 03/07/17

SCALE: AS NOTED

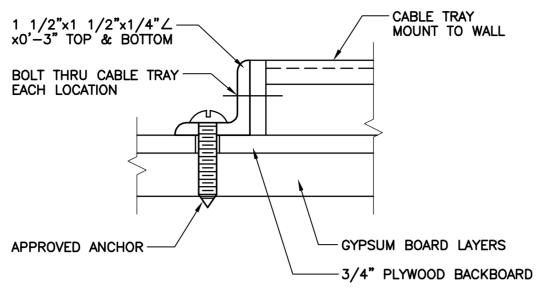
JOB NO. 16024.00

ELECTRICAL FLOOR PLAN AND NOTES

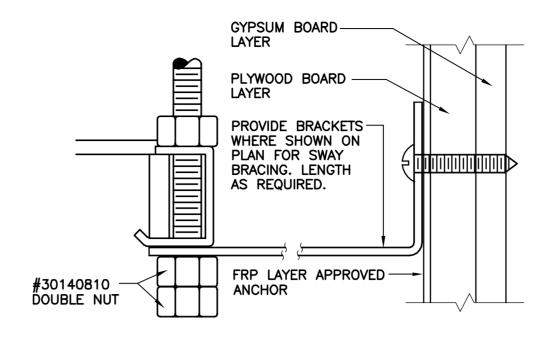
E-5



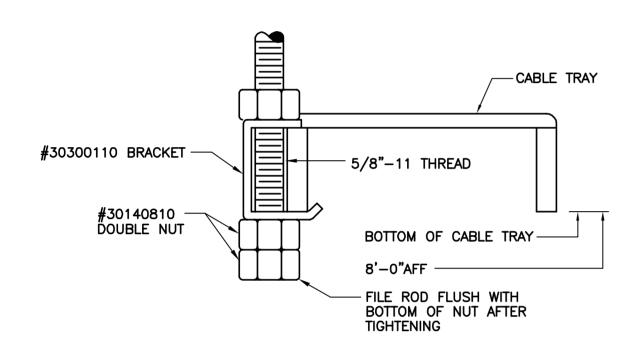




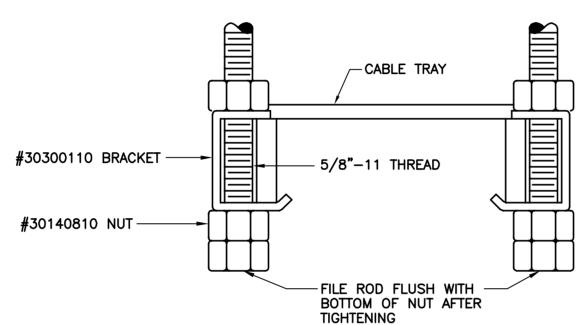
WALL TRAY CONNECTION E-6  $\int$  N.T.S.



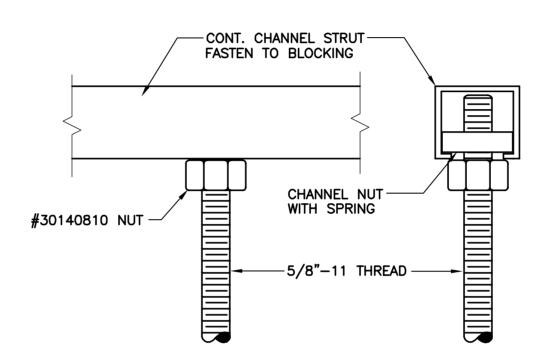
CABLE TRAY TO WALL SWAY BRACE E-6 / N.T.S.



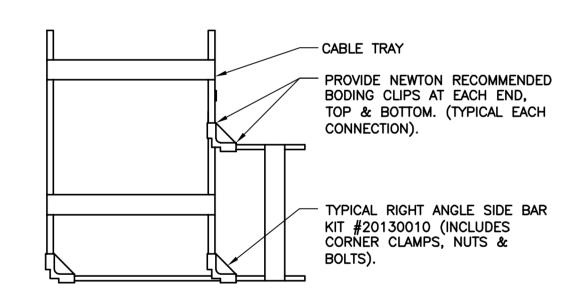
SLOTTED TYPE CABLE TRAY HANGER BRACKET (ONE SIDE) E-6 N.T.S.



SLOTTED TYPE CABLE TRAY HANGER BRACKET (BOTH SIDES)

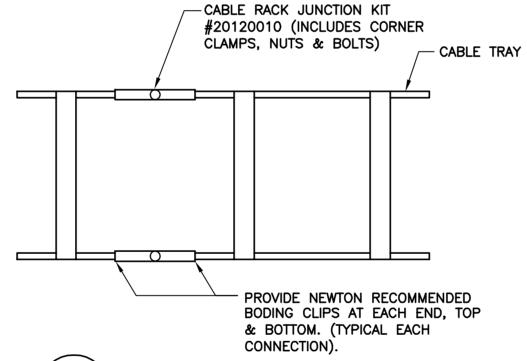




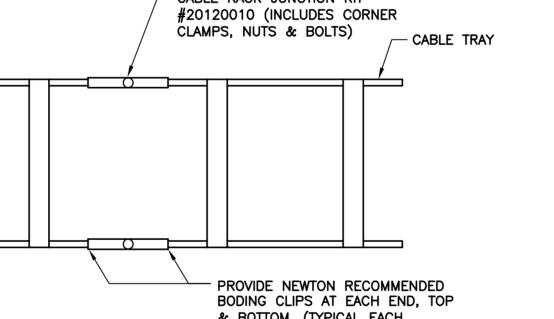


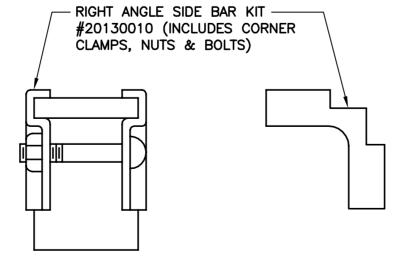
MAKING 90° TURN AND JUNCTIONING CABLE TRAY

NEWTON #20030x — SOLID SIDE BAR "x" INDICATES WIDTH

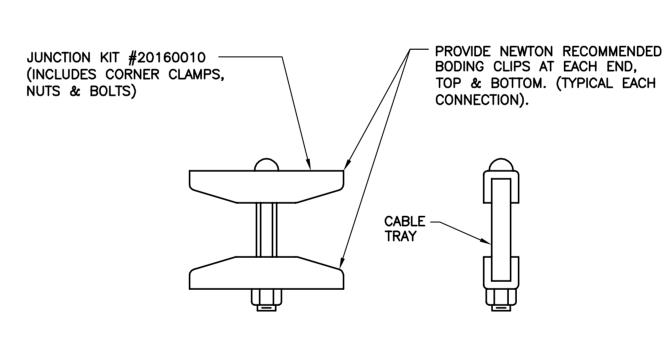


CABLE TRAY JUNCTION

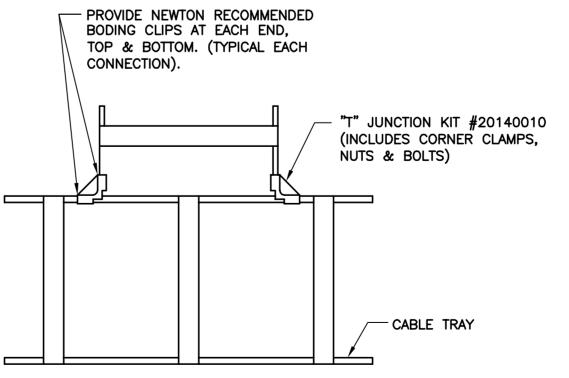




JUNCTIONING OF RIGHT ANGLE SIDE BARS E-6 / N.T.S.



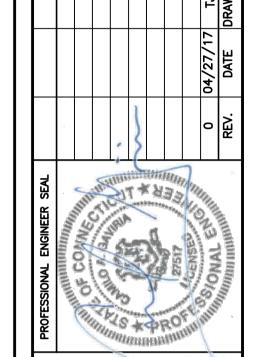




**CONNECTING TWO CABLE** TRAYS BY "T"-JUNCTION E-6 N.T.S.



- 1. CABLE TRAY SHALL BE SOLID SIDE BAR, GOLD ANODIZED FINISH, AS MANUFACTURED BY NEWTON INSTRUMENT COMPANY, INC. (PHONE: 919-575-6426). WIDTH SHALL BE 12" FOR CELL SITES AND 18" FOR HUB SITES UNLESS OTHERWISE NOTED. COORDINATE WITH CONSTRUCTION MANAGER FOR APPROPRIATE WIDTH PRIOR TO ACQUISITION AND INSTALLATION. REFER TO DETAILS.
- 2. REFER TO DETAILS FOR APPLICABLE CABLE TRAY INSTALLATION REQUIREMENTS.
- 3. CABLE TRAY SHALL BE SUPPORTED BY "UNISTRUT," ATTACHED TO SUPPORTING CHANNEL VIA THREADED ROD. PROVIDE ALL SUPPORTS, UNISTRUT, HANGERS, ETC. AS REQUIRED FOR COMPLETE INSTALLATION.
- 4. THREADED ROD SUPPORTS FOR THE CABLE TRAY SHALL BE SPACED NO MORE THAN 48" O.C. ON EACH SIDE. INSTALL BLOCKING BETWEEN JOISTS AS REQUIRED TO SUPPORT STRUT HANGER BRACKETS.
- 5. CABLE TRAY SHALL BE 6" AWAY FROM FINISHED WALLS.
- 6. BOTTOM OF CABLE TRAY SHALL BE 8'-0" A.F.F.
- ADJACENT CABLE TRAYS SHALL BE GROUNDED TOGETHER. REFER TO ELECTRICAL PLAN(S) FOR INTERIOR GROUNDING RING BOND TO CABLE TRAY.
- 8. ALL GROUND CONNECTIONS, CABLE TRAYS SHALL BE COATED WITH AN ANTI-OXIDANT LUBRICANT AFTER BURNISHING AND BEFORE TERMINAL CONNECTIONS ARE MADE.
- 9. CONTRACTOR SHALL FILE SMOOTH EDGES OF CABLE TRAY THAT HAVE BEEN CUT TO LENGTH IN THE FIELD. PAINT MODIFIED CABLE TRAY AS PER MANUFACTURER'S RECOMMENDATIONS.
- 10. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.
- 11. PROVIDE NEWTON RECOMMENDED BONDING CLIPS AT ALL JUNCTIONS.



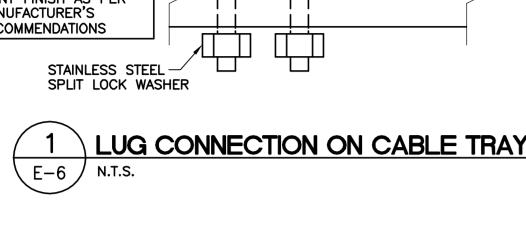


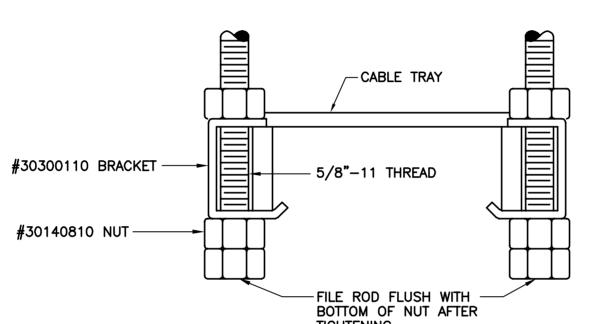


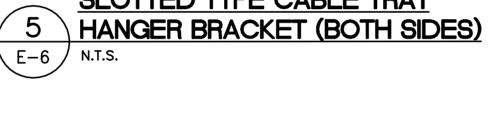
03/07/17 SCALE: AS NOTED JOB NO. 16024.00

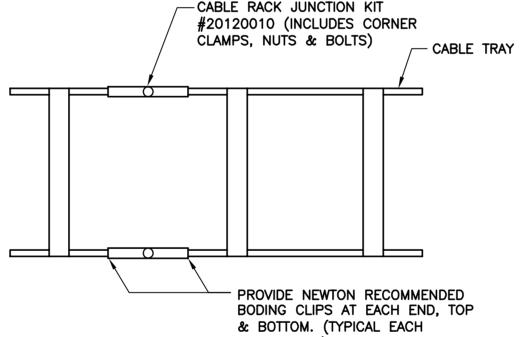
CABLE TRAY **DETAILS** AND NOTES



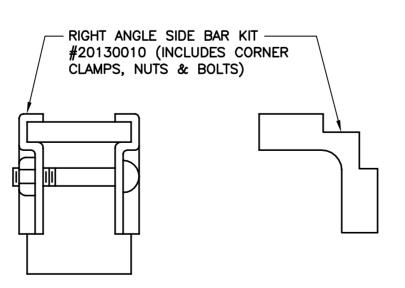




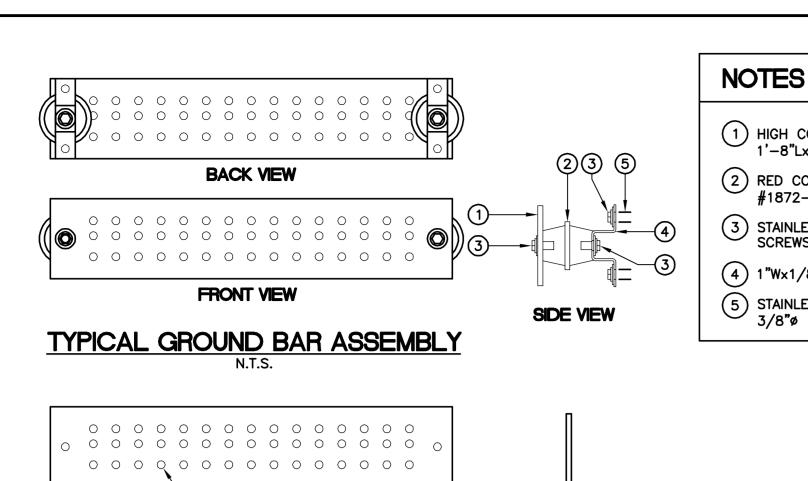






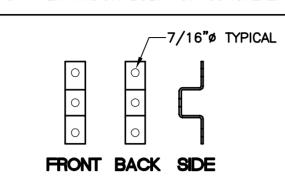






# 1) HIGH CONDUCTIVITY TINNED COPPER BAR 1'-8"Lx4"Wx1/4"D.

- 2 RED COLORED STANDOFF INSULATOR PLASTIC #1872-1A.
- 3 STAINLESS STEEL TRUSS SPANNER MACHINE SCREWS, SPLIT LOCKWASHER AND FLAT WASHER.
- (4) 1"Wx1/8"T STAINLESS STEEL TYPE 304 BRACKET.
- 5 STAINLESS STEEL TYPE 304 HARDWARE -3/8" EXPANSION BOLT FOR CONCRETE.



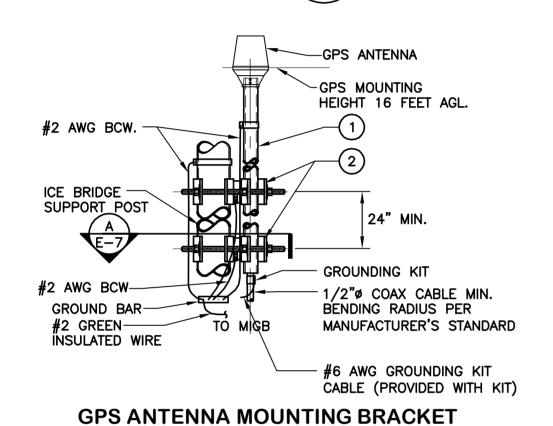
**BRACKET FOR GROUND BAR-DIMENSIONS** 

## TYPICAL GROUND BAR - DIMENSIONS

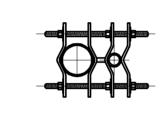
~7/16"ø TYPICAL

### MASTER/EQUIPMENT GROUND BAR DETAILS E-7

SIDE VIEW



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

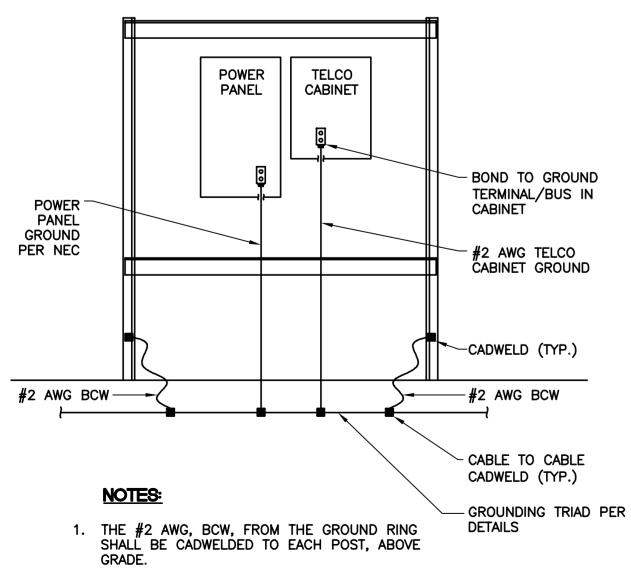


A SECTION NOT TO SCALE

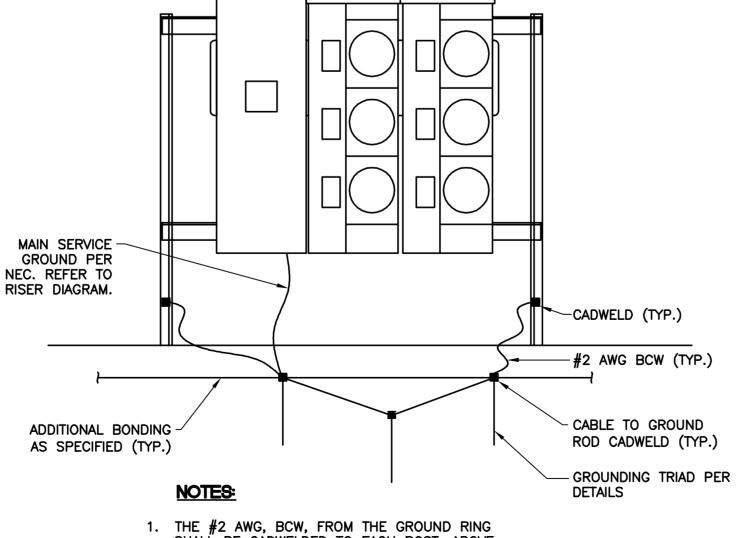
### **NOTES**

- 1) 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.

# GPS GROUNDING/MOUNTING BRACKET DETAIL







SHALL BE CADWELDED TO EACH POST, ABOVE GRADE.





### NOTES:

FROM ANTENNA-

JUMPER REQUIRED -

AND LARGER (TYP.)

CABLEWAVE

CONNECTOR

( TYP. )

ONLY WHEN 1 1/4"ø

WEATHERPROOFING KIT

FROM ANTENNA

FRAME SUPPORT

E-7

NOT TO SCALE

CABLEWAVE

CABLEWAVE

(SEE NOTE)

#6 AWG

ANTENNA

CIGBE/MIGB

CRIMP/COMPRESSION CONNÉCTION AT THE INTERIOR GROUND RING

0 0

4"

#2 SOLID TINNED

CONNECTION OF GROUND WIRES TO GROUND BAR

1 3/4"

EQUIPMENT GROUND BAR DETAIL

COPPER WIRE

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND

ROUND OFF EDGES-

'EQUIPMENT GROUND BAR'

- 1/4"x4"x20" SOLID

TINNED COPPER BAR,

CHAMFER ALL EDGES

3/8" ANCHOR

BAR TO BE MOUNTED. ON 2 1/2" 'RED

PLASTIC' INSULATORS.

HEX BOLT 3/8"x1 1/2"
WITH 1/2" HEAD. INSTALL
3/8"x1/2" LOCK WASHER

-3/8"x1/2" FLAT WASHER

NOT TO SCALE

E-7

ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

WEATHERPROOFING

GROUND KIT (TYP.)

ANTENNA CABLE TO

CABLE TRAY (TYP.)

CIGBE GROUND BAR

NEWTON, SIMILAR TO

GROUND WIRE TO

MOUNTED NEAR/BELOW

GROUND

RING

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

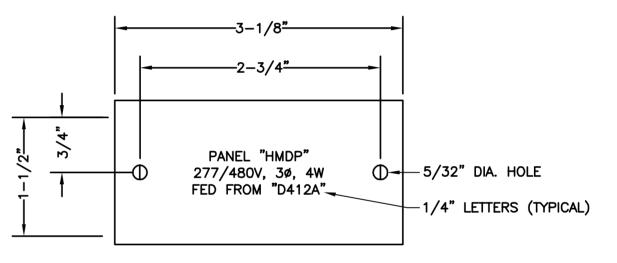
DETAIL OF TYPICAL FAULT CURRENT SIGN E-7 NOT TO SCALE

EACH RRH CABINET SHALL BE GROUNDED IN THE FOLLOWING MANNER: 1. AT TOP OF THE CABINET 2. AT RIGHT SIDE OF THE CABINET. **PROTECTOR** #6 AWG GROUND --#2 AWG CABLE. (6' MAX DISTANCE). -#2 AWG TO ADJUSTMENT SECTOR GROUND BAR (TYP). SECTOR GROUND BAR

RRH POLE MOUNT GROUNDING NOT TO SCALE

-GROUND WIRE TO

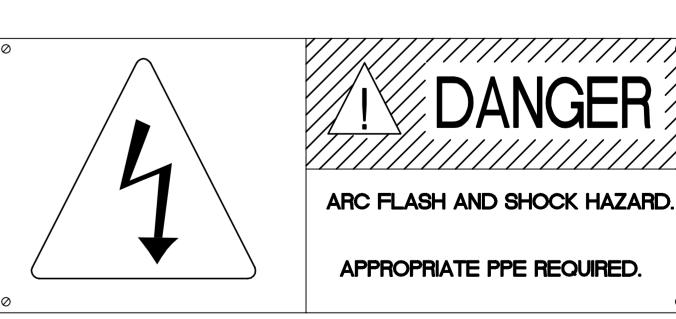
GROUND BAR AT TOWER BASE.



### NOTES:

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

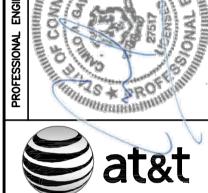
DETAIL OF TYPICAL NAMEPLATE NOT TO SCALE



### NOTES:

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

DETAIL OF TYPICAL FLASH PROTECTION WARNING SIGN NOT TO SCALE E-7



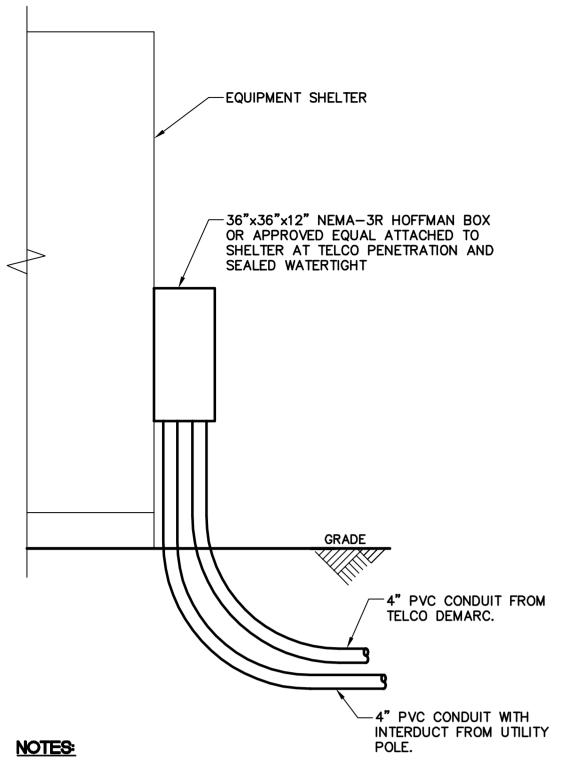




T1345 03/07/17 DATE:

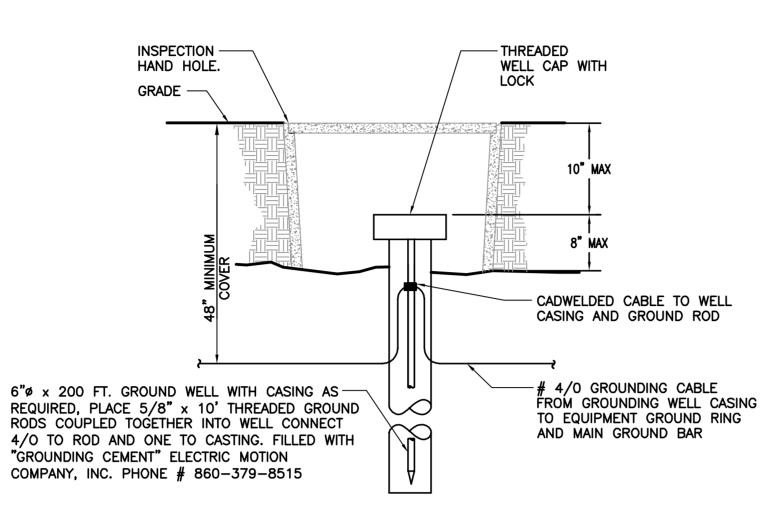
AS NOTED JOB NO. 16024.00

**ELECTRICAL DETAILS** 



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

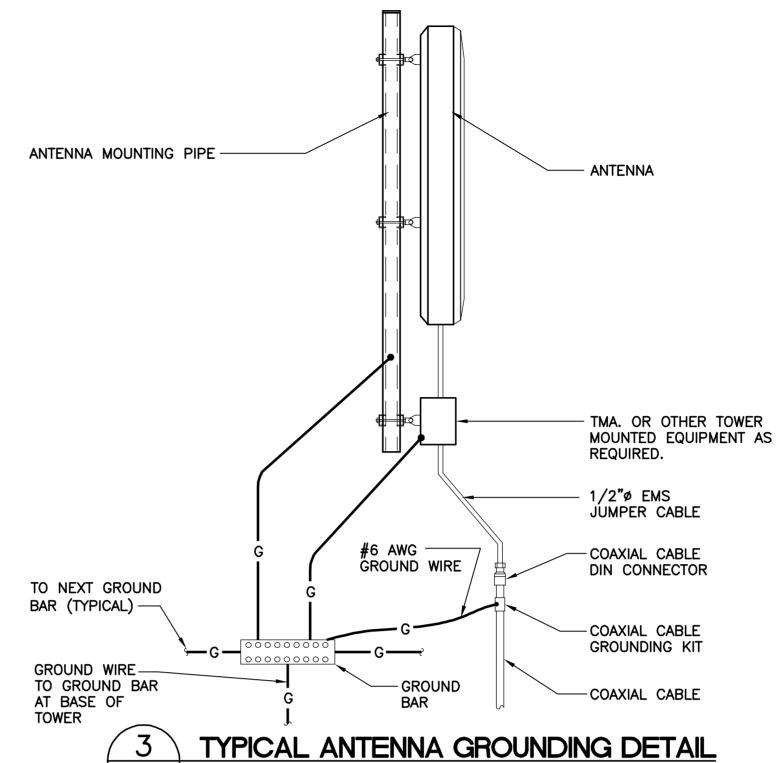




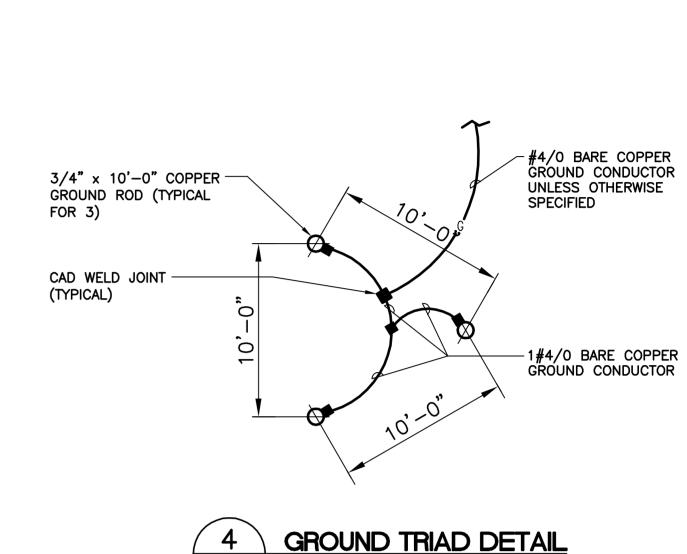
### NOTES:

- 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



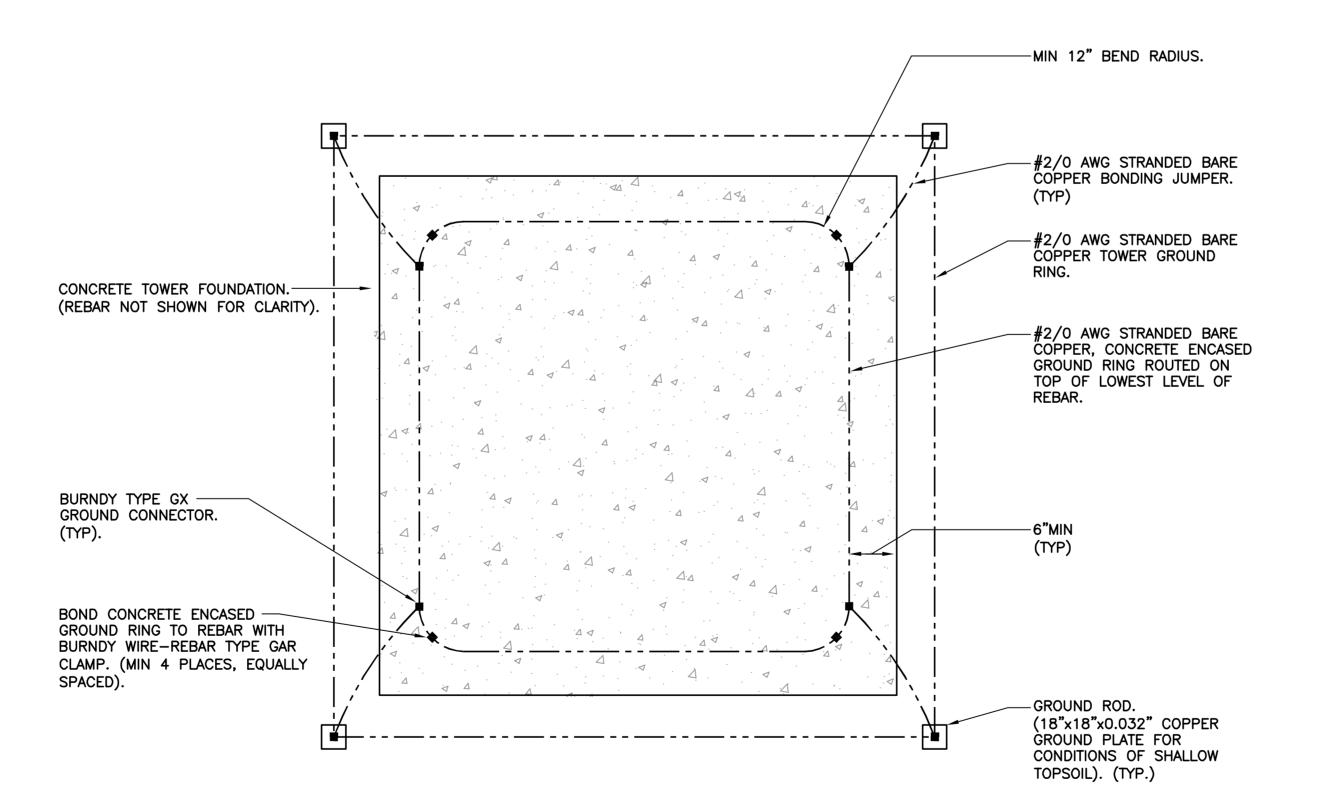


NOT TO SCALE

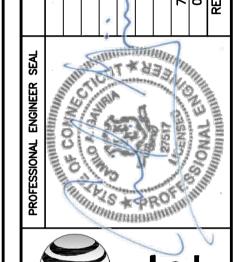


NOT TO SCALE

√E−8









Centered on Solutions\*\*
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405

WIRELESS COMMUNICATIONS FACILITY

345 EAST LYME RELO.

THE ORCHARDS

2 ARBOR CROSSING
EAST LYME, CT 06333

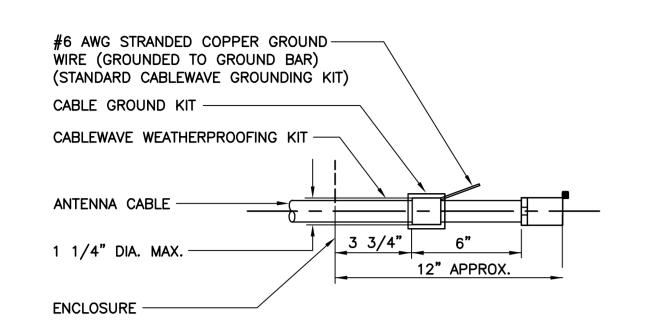
DATE: 03/07/17

SCALE: AS NOTED

JOB NO. 16024.00

ELECTRICAL DETAILS

E-8

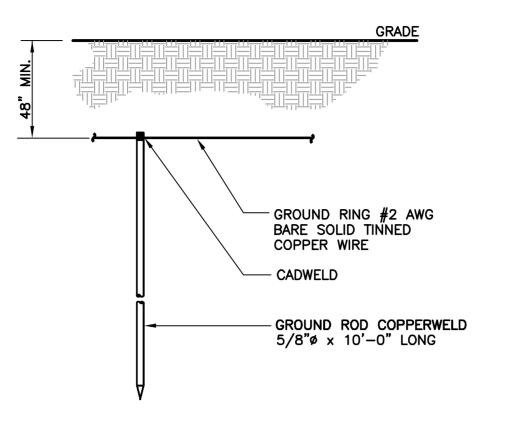


### NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.



# ANTENNA CABLE GROUNDING DETAIL NOT TO SCALE

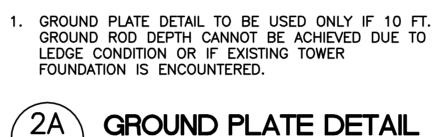


### NOTES:

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



# GROUND ROD DETAIL NOT TO SCALE



NOT TO SCALE

MECHANICAL ATTACHMENT CLAMP

CONNECTION, TYP.

-#2 TINNED

2 FT. DEEP MIN.

COPPER GROUND

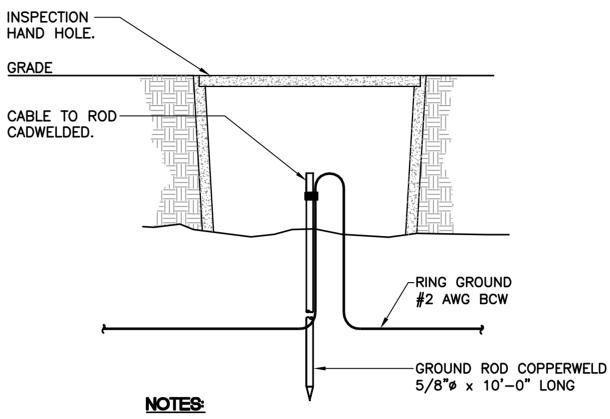
MIN. 2 SQ. FT. COPPER

GROUND PLATE BURIED

GRADE---

NOTES:

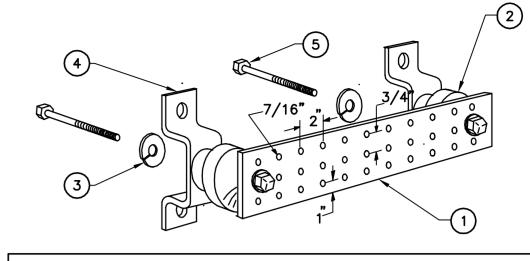
E-9



1. INSPECTION HAND HOLE MAY BE CONCRETE OR PVC AND SHALL BE A MINIMUM OF 12" DIA x 18" DEEP.



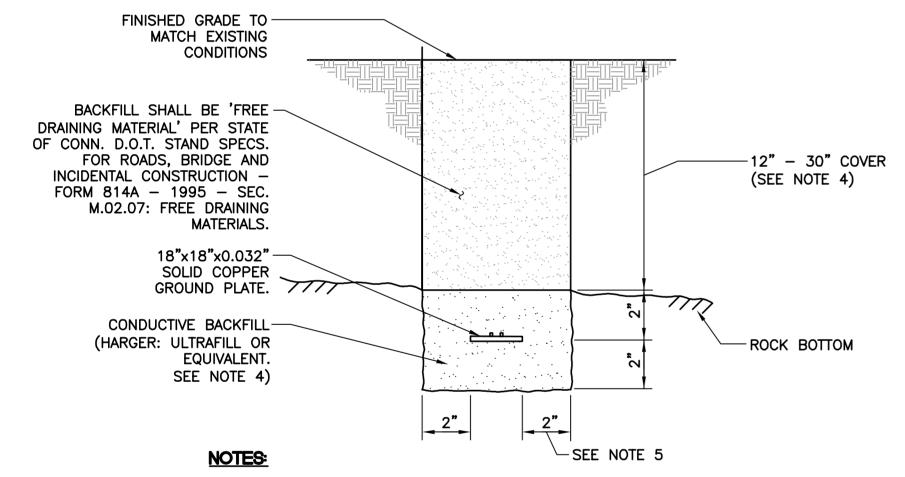
# GROUND ROD WITH ACCESS DETAIL NOT TO SCALE



### **NOTES**

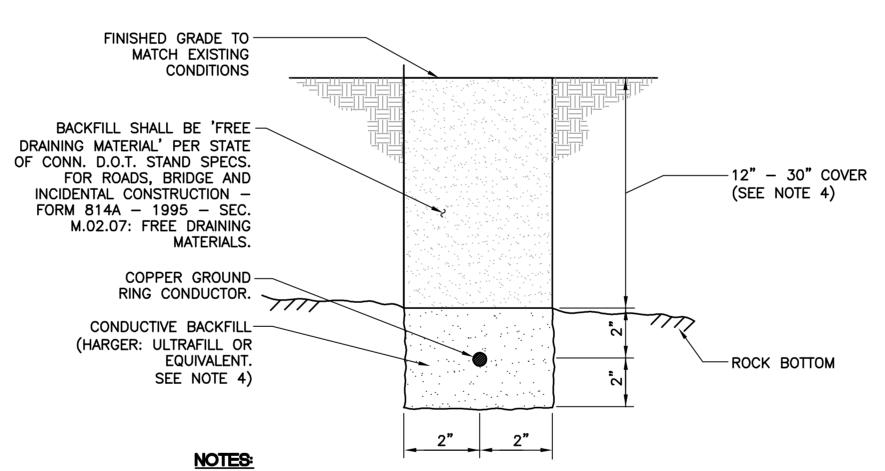
- TINNED COPPER GROUND BAR, 1/4" x 4" x 20", NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
- 2 INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4.
- 3 5/8" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8.
- WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056.
- 5 5/8-11 x 1" STAINLESS STEEL TRUSS SPANNER MACHINE





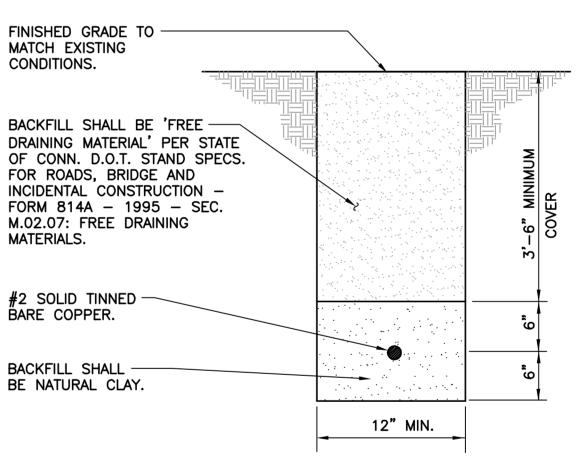
- 1. ENGINEER SHALL INSPECT PLACEMENT OF EGR CONDUCTOR PRIOR TO BACKFILLING.
- 2. MAINTAIN MIN. 2'-0" LINEAR CLEARANCE BETWEEN BACKFILL AND THE FOLLOWING: FOUNDATION, UNDERGROUND PIPING/CONDUIT, UNDERGROUND SERVICES. IN THE CLEARANCE AREAS, USE EARTH BACKFILL INSTEAD.
- EXERCISE HANDLING AND USE PRECAUTION OF BACKFILL MATERIAL PER MFR'S REQUIREMENTS.
- 4. FOR LOCATIONS WHERE ROCK BOTTOM DEPTH IS LESS THAN 12" CONDUCTIVE CONCRETE SHALL BE USED INSTEAD OF CONDUCTIVE BACKFILL.
- 5. PROVIDE MIN 2" CLEARANCE ON ALL SIDES OF GROUND PLATE.
- GROUND PLATE TRENCH/BACKFILL DETAIL (SHALLOW TOPSOIL)

  NOT TO SCALE



- ENGINEER SHALL INSPECT PLACEMENT OF EGR CONDUCTOR PRIOR TO BACKFILLING.
- 2. MAINTAIN MIN. 2'-0" LINEAR CLEARANCE BETWEEN BACKFILL AND THE FOLLOWING: FOUNDATION, UNDERGROUND PIPING/CONDUIT, UNDERGROUND SERVICES. IN THE CLEARANCE AREAS, USE EARTH BACKFILL INSTEAD.
- 3. EXERCISE HANDLING AND USE PRECAUTION OF BACKFILL MATERIAL PER MFR'S REQUIREMENTS.
- 4. FOR LOCATIONS WHERE ROCK BOTTOM DEPTH IS LESS THAN 12" CONDUCTIVE CONCRETE SHALL BE USED INSTEAD OF CONDUCTIVE BACKFILL.



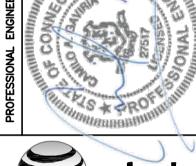


### NOTES:

- 1. ENGINEER SHALL INSPECT PLACEMENT OF EGR CONDUCTOR PRIOR TO BACKFILLING.
- MAINTAIN MIN. 2'-0" LINEAR CLEARANCE BETWEEN NATURAL CLAY BACKFILL AND THE FOLLOWING: FOUNDATION, UNDERGROUND PIPING/CONDUIT, UNDERGROUND SERVICES. IN THE CLEARANCE AREAS, USE EARTH BACKFILL INSTEAD.
- EXERCISE HANDLING AND USE PRECAUTION OF BACKFILL MATERIAL PER MFR'S REQUIREMENTS.



0 04/27/17 TJB TGK CONSTRUCT





communications

33) 488-0580 33) 488-8587 Fax 72 North Branford Road anford, CT 06405

EAST LYME RELO

CT1345

DATE: 03/07/17

SCALE: AS NOTED

JOB NO. 16024.00

ELECTRICAL DETAILS

E-9

Sheet No. 24 of

### **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 800A, 240/120V, 1P, 3 WIRE ELECTRIC SERVICE WITH REVENUE METER. PROVIDE OWNER WITH 200A,3P CIRCUIT BREAKER AND ALL ASSOCIATED SUBMETERING
- 2. NEW SITE TELEPHONE SERVICE AS SPECIFIED BY TELEPHONE COMPANY.
- 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,
- 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
- 9. FIELD MEASURE EXISTING ELECTRICAL SERVICES TO CONFIRM AVAILABLE EXISTING
- 10. COORDINATE ALL WORK SHOWN, ON THESE PLANS WITH LOCAL UTILITY COMPANIES.
- B. LOCAL UTILITY COMPANIES SHALL PROVIDE THE FOLLOWING:
- TELEPHONE CABLES.

RETARDANT PAINT.

- 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
- 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
- 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:
  - 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 &
- 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:** 

	120/208/240V	277/480V
<u>INE</u>	COLOR	COLOR
<b>\</b>	BLACK	BROWN
}	RED	ORANGE
;	BLUE	YELLOW
	CONTINUOUS WHITE	GREY
;	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:
- 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).
- 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:

- GROUND BARS
- INTERIOR GROUND RING
- 3. EXTERIOR GROUNDING (WHERE REQUIRED DUE TO MEASURED AC RESISTANCE GREATER THAN SPECIFIED).
- 4. ANTENNA GROUND CONNECTIONS AND PLATES.
- 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 16113**

1.01. WIREWAYS

A. THE 4" X 4" WIREWAY LOCATED IN THE OWNER'S EQUIPMENT ROOM SHALL BE INSTALLED ALONG THE TOP OF THE INTERIOR WALL AND SHALL HAVE ONE VERTICAL DROP CONNECTED TO PANELBOARD. MANUFACTURER SHALL BE HOFFMAN ENGINEERING COMPANY OR APPROVED EQUAL.

### SECTION 16114

- 1.01. CABLE TRAY
- A. CABLE TRAY SHALL BE SOLID SIDE BAR, 18" WIDE (NEWTON INSTRUMENT COMPANY, INC.). TRAY SHALL BE INSTALLED AS SHOWN ON CONTRACT DOCUMENTS.
- B. CROSSWISE RUNS SHALL BE COORDINATED WITH THE SPECIFIC EQUIPMENT THE TRAY SHALL SERVE.
- ALL PROTRUDING CABLE TRAY SUPPORT RODS SHALL BE FILED SMOOTH WITH NO SHARP EDGES. ALL SUPPORT RODS SHALL BE CAD-PLATED FOR RUST RESISTANCE AND A MINIMUM 1/2" DIAMETER.

### **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: 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.
- 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.







4

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

**ELECTRICAL SPECIFICATIONS** 

# TOWN OF EAST LYME BUILDING PERMIT APPLICATION

Town of East Lyme Building Department 108 Pennsylvania Avenue PO Box 519 Niantic, CT 06357 (860) 691-4114 (860) 691-0351 Fax

Building Permit No:	B180402-2
Date of Application:	4/2/18

Commercial or Residential and/OR HVAC Electrical Plumbing

Job Location: 2 Arbor CEOSSING								
Description of Work to Be Performed: Construction of a faux sile and barn to house								
a multi-corrier telecommunications facility (Modifications/changes to approved plans must be submitted to ALL departments PRIOR TO CONSTRUCTION.)  Property Owner's Name: Orchards At East Lyme, Inc.								
•								
Property Owner's Address/Phone: c/a Carrier Enterprises, Inc., 117 Birch St., Southington, CT 06489								
Contractor's Name: White Mountain Communications (orp.								
Home Improvement Reg. # /New Home Contractor #: MCo.090 2166								
Contractor's Mailing Address: 18 Glenn Rd., Gorham, NH 03581-1209								
Contractor's Phone/Cell/Email: 603-466-5907 / dm tupick@ne.rr.com								
Construction Information:								
Use Group:	Check appropriate box Municipal Water:	IF PROPERTY IS						
Construction Type:		SERVED BY PRIVATE SEPTIC, PLEASE						
Number of Stories:	Well Water:	SUBMIT A COPY OF ALL PLANS TO THE LEDGE						
50-00 (1984-1989-1980 (1984-1985)	Private Septic:	LIGHT HEALTH						
Sq. Ft. of Floor Area per Story:	Municipal Sewer:	DISTRICT, LOCATED WITHIN THE BUILDING						
Flood Plain:	Heating System: Yes or No	OFFICE.						
CERTIFICATION: I hereby certify that: I am the owner of record of the named property or that the proposed work is authorized by the owner of record and/or I have been authorized to make this application as an authorized agent, and we agree to conform to all applicable laws, regulations and ordinances. All information contained within is true and accurate to the best of my knowledge and belief.								
Printed name of Applicant: Dan Bilezikian - SAI Communications, Inc for behalf of ATET								
Applicant Address: PO Box 246 Rehoboth, MA 02769								
Applicant Phone/Cell/Email: 401-368-6006 / dan. bilezikian@ sai-comm.com								
Applicant Signature:	Date:2	28 18						
Commercial or Residential – Check Trade Permits Included:  Estimated Value of Work: \$ 150,000,00								
ELEC PLMB HVAC	SPR	4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						
CRS#	SPR	Permit Fee: \$ 1,500.06						
	1 ' State	e Education Fee: \$ 195.50						
$\cap$		Total: \$ 1,695.00						
Amman		1/-10						