

ATC SITE NUMBER : 280422
 ATC SITE NAME: FARRINGTON NC
 PROJECT DESCRIPTION: PROPOSED WIRELESS TELECOMMUNICATIONS FACILITY
 TOWER TYPE: 195' MONOPOLE (199' OVERALL)
 SITE ADDRESS: 464 OLD FARRINGTON RD CHAPEL HILL, NC 27514
 JURISDICTION: CHATHAM COUNTY
 DISTURBED AREA: 0.73 ± ACRES (COMPOUND & ACCESS DRIVE)
 CURRENT USE TYPE: RESIDENTIAL
 CURRENT ZONING: R-1
 PIN #: 9796-33-9976.000

PROJECT INFORMATION

LATITUDE N 35° 50' 54.728" (NAD '27)
 LONGITUDE W 79° 01' 14.563" (NAD '27)
 LATITUDE N 35° 50' 55.255" (NAD '83)
 LONGITUDE W 79° 01' 13.600" (NAD '83)
 GROUND ELEV. (AMSL) ≈ 282.1' (NAVD '88)

1-A CERTIFICATION



LOCATION MAP

FROM RALEIGH, NC: HEAD NORTH ON S WILMINGTON ST TOWARD E SOUTH ST. TAKE THE 1ST RIGHT ONTO E SOUTH ST. TAKE THE 1ST RIGHT ONTO S BLOUNT ST. CONTINUE ONTO HAMMOND RD. TAKE THE I-40W/US-64W RAMP. MERGE ONTO I-40W/US-64W. CONTINUE TO FOLLOW I-40W (≈25.9 MI). TAKE EXIT 273A FOR NC 54 W TOWARD CHAPEL HILL. MERGE ONTO NC 54 W. TURN LEFT ONTO FARRINGTON RD. TURN LEFT ONTO FARRINGTON MILL RD. CONTINUE ONTO OLD FARRINGTON RD. SITE WILL BE ON THE LEFT.

DRIVING DIRECTIONS



AMERICAN TOWER CORPORATION

SITE PLAN
 AT&T SITE #: 368-317
 ATC SITE #: 280422
 ATC SITE NAME: FARRINGTON NC
 464 OLD FARRINGTON RD
 CHAPEL HILL, NC 27514

SITE PROJECT MANAGER:
 NAME: AMERICAN TOWERS, LLC
 ADDRESS: 3500 REGENCY PARKWAY, STE 100
 CITY, STATE, ZIP: CARY, NC 27518
 CONTACT: JILL HOUSE
 PHONE: (919) 466-5163

SITE APPLICANT:
 NAME: AMERICAN TOWERS, LLC
 ADDRESS: 3500 REGENCY PARKWAY, STE 100
 CITY, STATE, ZIP: CARY, NC 27518
 CONTACT: JILL HOUSE
 PHONE: (919) 466-5163

SURVEYOR:
 NAME: TOWER ENGINEERING PROFESSIONALS
 ADDRESS: 3703 JUNCTION BOULEVARD
 CITY, STATE, ZIP: RALEIGH, NC 27603
 CONTACT: CLIFFORD C. BYRD, P.L.S.
 PHONE: (919) 661-6351

CIVIL ENGINEER:
 NAME: TOWER ENGINEERING PROFESSIONALS
 ADDRESS: 3703 JUNCTION BOULEVARD
 CITY, STATE, ZIP: RALEIGH, NC 27603
 CONTACT: KIMBERLY S. MARTIN, P.E.
 PHONE: (919) 661-6351

ELECTRICAL ENGINEER:
 NAME: TOWER ENGINEERING PROFESSIONALS
 ADDRESS: 3703 JUNCTION BOULEVARD
 CITY, STATE, ZIP: RALEIGH, NC 27603
 CONTACT: FREDERICK T. HERB, P.E.
 PHONE: (919) 661-6351

PROPERTY OWNER:
 NAME: RAY LESTER PORTER JR.
 ADDRESS: 998 WHIPPOORWILL LANE
 CITY, STATE, ZIP: CHAPEL HILL, NC 27514-7542
 CONTACT: RAY LESTER PORTER JR.
 PHONE: (919) 933-3668

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING:

1. NORTH CAROLINA BUILDING CODE (2012 EDITION)	4. 2012 NCEC (NEC 2011 + ADDENDA)
2. NORTH CAROLINA CODE COUNCIL	5. LOCAL BUILDING CODE
3. ANSII/A-222-G-2-2009	6. CITY/COUNTY ORDINANCES

CODE COMPLIANCE

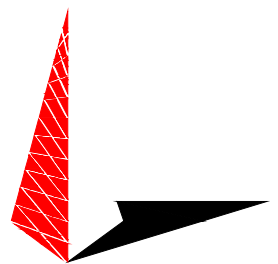
UTILITIES:
 POWER COMPANY: PROGRESS ENERGY
 CONTACT: CUSTOMER SERVICE
 PHONE: (800) 452-2777
 METER # NEAR SITE: UNKNOWN

TELEPHONE COMPANY: AT&T
 CONTACT: CUSTOMER SERVICE
 PHONE: (800) 225-5288
 PHONE # NEAR SITE: (919) 933-3668
 PEDESTAL # NEAR SITE: UNKNOWN

CONTACT INFORMATION

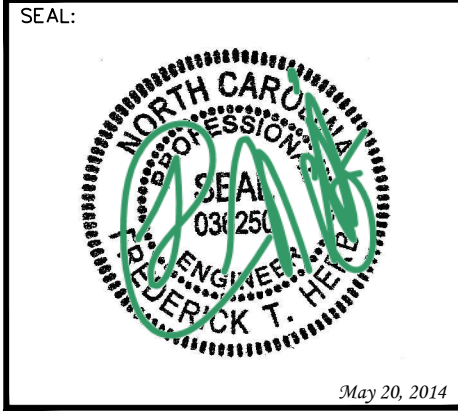
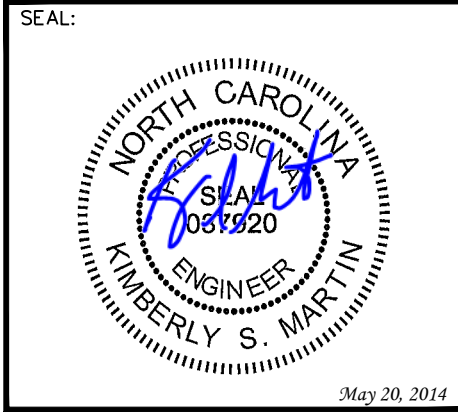
SHEET	DESCRIPTION	REV
T1	TITLE SHEET	3
N1	GENERAL NOTES	2
C1	SITE PLAN	3
C1A	SITE LAYOUT	3
C2	COMPOUND DETAIL	3
C3	TOWER ELEVATION	2
C4	SHELTER ELEVATIONS	2
C5	SHELTER FOUNDATION DETAILS	2
C6	GENERATOR & FUEL TANK ELEVATIONS	2
C7	GENERATOR FOUNDATION DETAILS	2
C8	ICE BRIDGE DETAILS I	2
C9	ICE BRIDGE DETAILS II	2
C10	FENCE DETAILS	2
C11	SIGNAGE DETAILS	2
C12	CULVERT & DRIVEWAY DETAILS	2
C13	SOIL & EROSION CONTROL PLAN AND DETAILS	3
C14	SOIL & EROSION CONTROL DETAILS	2
L1	LANDSCAPING PLAN	2
L2	LANDSCAPING DETAILS	2
E1	ELECTRICAL NOTES	2
E2	SERVICE ROUTING PLAN & ONE LINE DIAGRAM	2
E3	TOWER & SHELTER GROUNDING PLAN	2
E4	PANELBOARD SCHEDULE	2
E5	SERVICE RACK DETAILS I	2
E5A	SERVICE RACK DETAILS II	2
E6	GROUNDING DETAILS I	2
E7	GROUNDING DETAILS II	2
APPENDIX: GENERAC 80 KW GENERALY ASSEMBLY AND INSTALLATION SUPPLEMENT		

INDEX OF SHEETS

PLANS PREPARED BY:

TOWER ENGINEERING PROFESSIONALS
 3703 JUNCTION BOULEVARD
 RALEIGH, NC 27603-5263
 OFFICE: (919) 661-6351
 www.tepgroup.net
 N.C. LICENSE # C-1794

REV	DATE	ISSUED FOR:
3	05-20-14	CONSTRUCTION
2	04-30-14	CONSTRUCTION
1	01-22-14	PRELIMINARY
0	01-13-14	PRELIMINARY

DRAWN BY: MAW CHECKED BY: JAS



SHEET NUMBER: **T-1**
 REVISION: **3**
 TEP #: 131147

1. ALL REFERENCES MADE TO OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED ATC OR IT'S DESIGNATED REPRESENTATIVE.
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF NORTH CAROLINA.
3. THE STRUCTURE SHALL BE DESIGNED IN ACCORDANCE WITH ANSI/TIA-222-G-2-2009. THIS CONFORMS TO THE REQUIREMENTS OF THE NORTH CAROLINA BUILDING CODE, 2012 EDITION.
4. WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE NORTH CAROLINA BUILDING CODE, 2012 EDITION.
5. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
6. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERSEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
7. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND IT'S COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
8. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATION. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES.
9. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK. RENTAL CHARGES, SAFETY, PROTECTION AND MAINTENANCE OF RENTED EQUIPMENT SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
11. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE AT&T PROJECT MANAGER.
12. BILL OF MATERIALS AND PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID CONTRACTOR/OWNER. CONTRACTOR/OWNER SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
13. ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
14. 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER.
15. THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN ITS PRESENT STATE. AFTER REWORKING, IF THE MATERIAL REMAINS UNSUITABLE, THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL. ALL SUBGRADES SHALL BE PROOFROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFT MATERIAL SHALL BE REWORKED OR REPLACED.
16. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PIPES, DITCHES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.
17. THE OWNER SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.

18. ANY BUILDINGS ON THIS SITE ARE INTENDED TO SHELTER EQUIPMENT WHICH WILL ONLY BE PERIODICALLY MAINTAINED AND ARE NOT INTENDED FOR HUMAN OCCUPANCY.
19. TEMPORARY FACILITIES FOR PROTECTION OF TOOLS AND EQUIPMENT SHALL CONFORM TO LOCAL REGULATIONS AND SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
20. THE CONTRACTOR AND ITS SUBCONTRACTORS SHALL CARRY LIABILITY INSURANCE IN THE AMOUNTS AND FORM IN ACCORDANCE WITH AT&T SPECIFICATIONS. CERTIFICATES DEMONSTRATING PROOF OF COVERAGE SHALL BE PROVIDED TO AT&T PRIOR TO THE START OF THE WORK ON THE PROJECT.
21. THE CONTRACTOR SHALL CONTACT ALL APPLICABLE UTILITY SERVICES TO VERIFY LOCATIONS OF EXISTING UTILITIES AND REQUIREMENTS FOR NEW UTILITY CONNECTIONS PRIOR TO EXCAVATING.
22. THE CONTRACTOR SHALL MAINTAIN THE JOB CLEAR OF TRASH AND DEBRIS. ALL WASTE MATERIALS SHALL BE REMOVED FROM THE SITE PRIOR TO SUBSTANTIAL COMPLETION AND PRIOR TO FINAL ACCEPTANCE. THE CONTRACTOR SHALL FURNISH ONE 55 GALLON BARREL, AND TRASH BAGS, AND SHALL REMOVE TRASH, DEBRIS, ETC., ON A DAILY BASIS.
23. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL CONDITIONS PRIOR TO SUBMITTING HIS PROPOSAL. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN ON THESE DRAWINGS WITH THOSE AT THE SITE. ANY VARIATION WHICH REQUIRES PHYSICAL CHANGE SHALL BE BROUGHT TO THE ATTENTION OF THE ATC PROJECT ENGINEER FOR FACILITIES/CONSTRUCTION.
24. THE CONTRACTOR SHALL GUARANTEE THE WORK PERFORMED ON THE PROJECT BY THE CONTRACTOR AND ANY OR ALL OF THE SUBCONTRACTORS WHO PERFORMED WORK FOR THE CONTRACTOR ON THIS PROJECT. THE GUARANTEE SHALL BE FOR A FULL YEAR FOLLOWING ISSUANCE OF THE FINAL PAYMENT OF RETAINAGE. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.

GENERAL NOTES

PLANS PREPARED FOR:

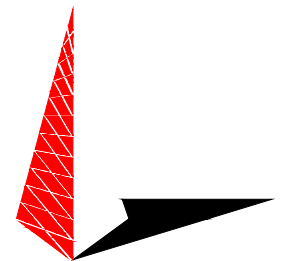


3500 REGENCY PARKWAY, STE. 100
CARY, NC 27518

PROJECT INFORMATION:

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ATC SITE #: 280422
FARRINGTON NC
464 OLD FARRINGTON RD.
CHAPEL HILL, NC 27514
(CHATHAM COUNTY)

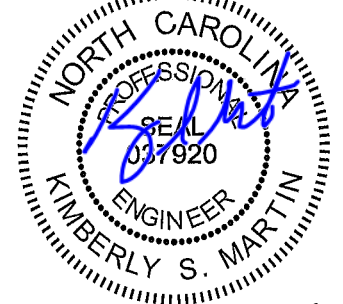
PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
3703 JUNCTION BOULEVARD
RALEIGH, NC 27603-5263
OFFICE: (919) 661-6351
www.tepgroup.net

N.C. LICENSE # C-1794

SEAL:



April 30, 2014

REV	DATE	ISSUED FOR:
2	04-30-14	CONSTRUCTION
1	01-22-14	PRELIMINARY
0	01-13-14	PRELIMINARY

DRAWN BY: SCB CHECKED BY: GMA

SHEET TITLE:

**GENERAL
NOTES**

SHEET NUMBER:

N-1

REVISION:

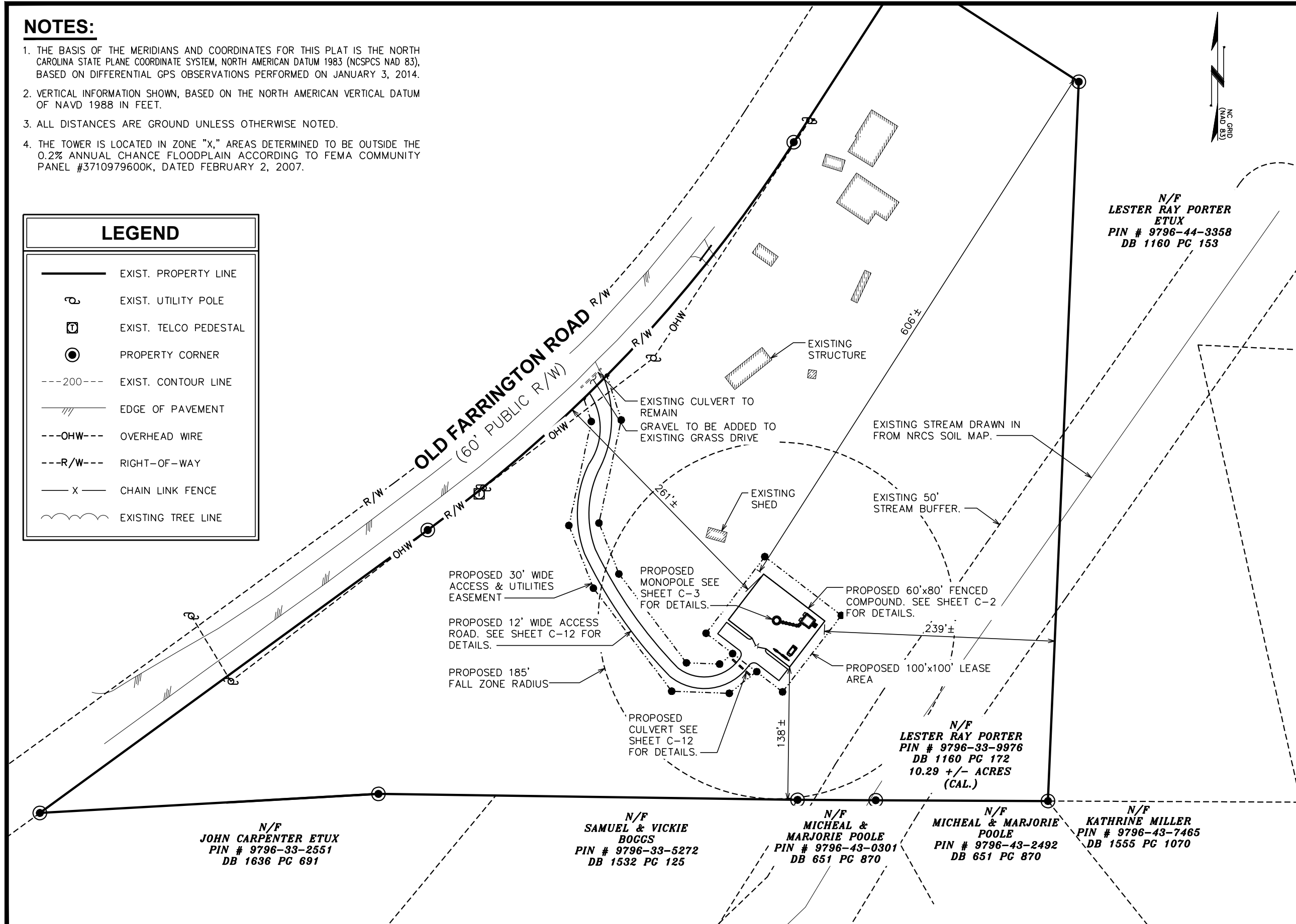
2

TEP #: 131147

NOTES:

1. THE BASIS OF THE MERIDIANS AND COORDINATES FOR THIS PLAT IS THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983 (NCSPCS NAD 83), BASED ON DIFFERENTIAL GPS OBSERVATIONS PERFORMED ON JANUARY 3, 2014.
2. VERTICAL INFORMATION SHOWN, BASED ON THE NORTH AMERICAN VERTICAL DATUM OF NAVD 1988 IN FEET.
3. ALL DISTANCES ARE GROUND UNLESS OTHERWISE NOTED.
4. THE TOWER IS LOCATED IN ZONE "X," AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN ACCORDING TO FEMA COMMUNITY PANEL #3710979600K, DATED FEBRUARY 2, 2007.

LEGEND	
	EXIST. PROPERTY LINE
	EXIST. UTILITY POLE
	EXIST. TELCO PEDESTAL
	PROPERTY CORNER
	EXIST. CONTOUR LINE
	EDGE OF PAVEMENT
	OVERHEAD WIRE
	RIGHT-OF-WAY
	CHAIN LINK FENCE
	EXISTING TREE LINE



PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION
 3500 REGENCY PARKWAY, STE. 100
 CARY, NC 27518

PROJECT INFORMATION:

AT&T SITE #: 368-317
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FARRINGTON NC
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 3703 JUNCTION BOULEVARD
 RALEIGH, NC 27603-5263
 OFFICE: (919) 661-6351
 www.tepgroup.net
 N.C. LICENSE # C-1794

SEAL:

KIMBERLY S. MARTIN
 ENGINEER
 May 20, 2014

REV	DATE	ISSUED FOR:
3	05-20-14	CONSTRUCTION
2	04-30-14	CONSTRUCTION
1	01-22-14	PRELIMINARY
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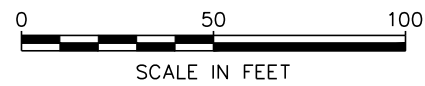
DRAWN BY: KWJ CHECKED BY: JAS

SHEET TITLE:

SITE PLAN

SHEET NUMBER: **C-1** REVISION: **3**
 TEP #: 131147

SITE PLAN
 SCALE: 1" = 100'

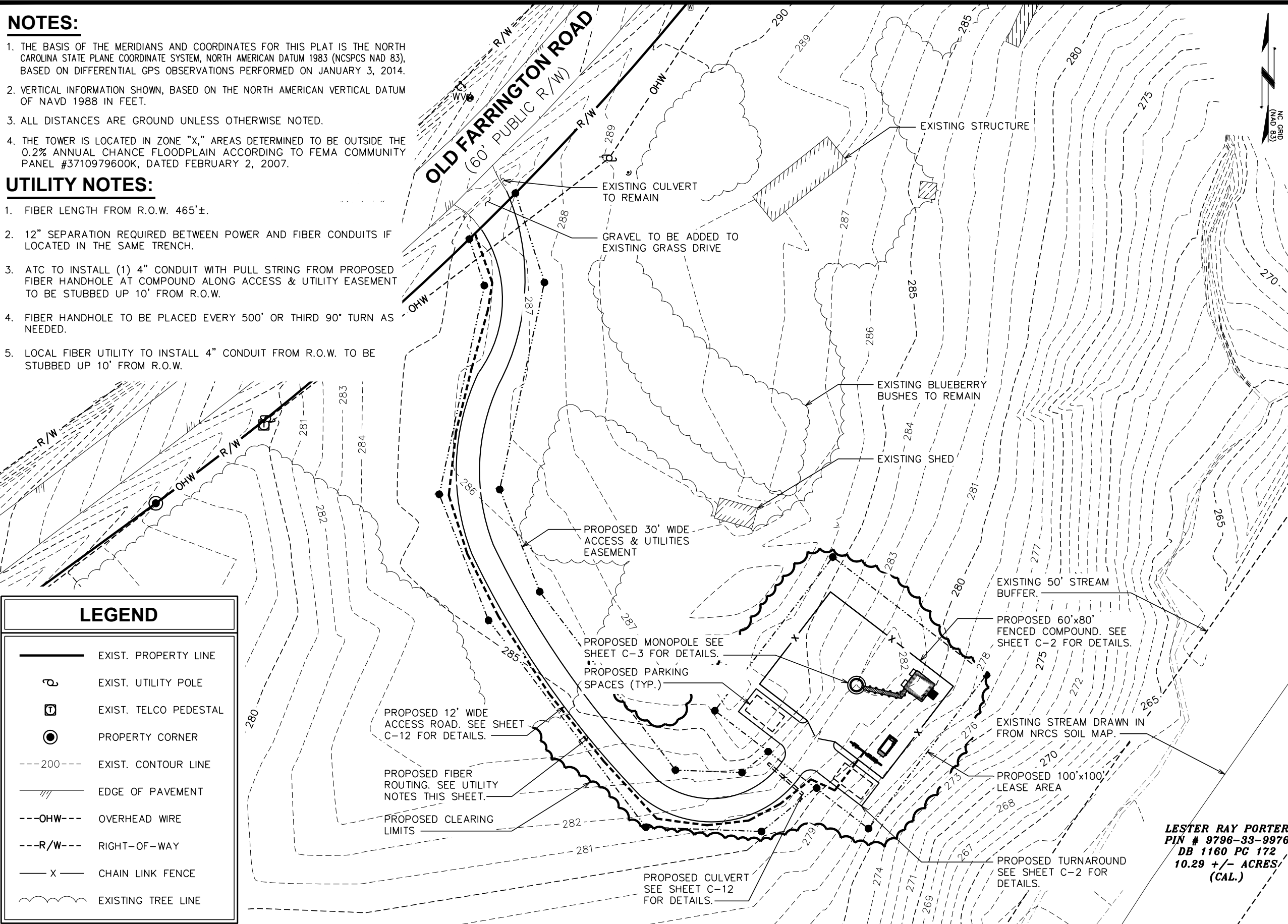


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UTILITY NOTES:

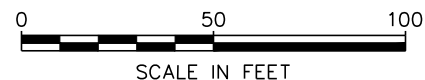
1. FIBER LENGTH FROM R.O.W. 465'±.
2. 12" SEPARATION REQUIRED BETWEEN POWER AND FIBER CONDUITS IF LOCATED IN THE SAME TRENCH.
3. ATC TO INSTALL (1) 4" CONDUIT WITH PULL STRING FROM PROPOSED FIBER HANDHOLE AT COMPOUND ALONG ACCESS & UTILITY EASEMENT TO BE STUBBED UP 10' FROM R.O.W.
4. FIBER HANDHOLE TO BE PLACED EVERY 500' OR THIRD 90° TURN AS NEEDED.
5. LOCAL FIBER UTILITY TO INSTALL 4" CONDUIT FROM R.O.W. TO BE STUBBED UP 10' FROM R.O.W.



LEGEND	
—	EXIST. PROPERTY LINE
⊕	EXIST. UTILITY POLE
⊞	EXIST. TELCO PEDESTAL
●	PROPERTY CORNER
---200---	EXIST. CONTOUR LINE
///	EDGE OF PAVEMENT
---OHW---	OVERHEAD WIRE
---R/W---	RIGHT-OF-WAY
— X —	CHAIN LINK FENCE
~~~~~	EXISTING TREE LINE

**SITE LAYOUT**

SCALE: 1" = 50'



PLANS PREPARED FOR:

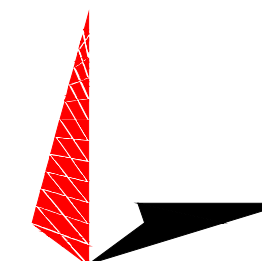


3500 REGENCY PARKWAY, STE. 100  
CARY, NC 27518

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**AT&T SITE #: 368-317**  
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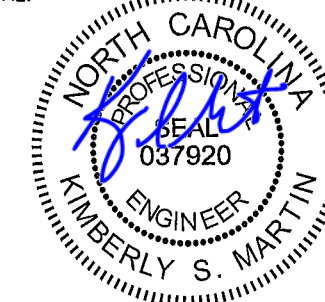
PLANS PREPARED BY:



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3703 JUNCTION BOULEVARD  
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OFFICE: (919) 661-6351  
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SEAL:



May 20, 2014

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0	01-13-14	PRELIMINARY

DRAWN BY: KWJ CHECKED BY: JAS

SHEET TITLE:

**SITE LAYOUT**

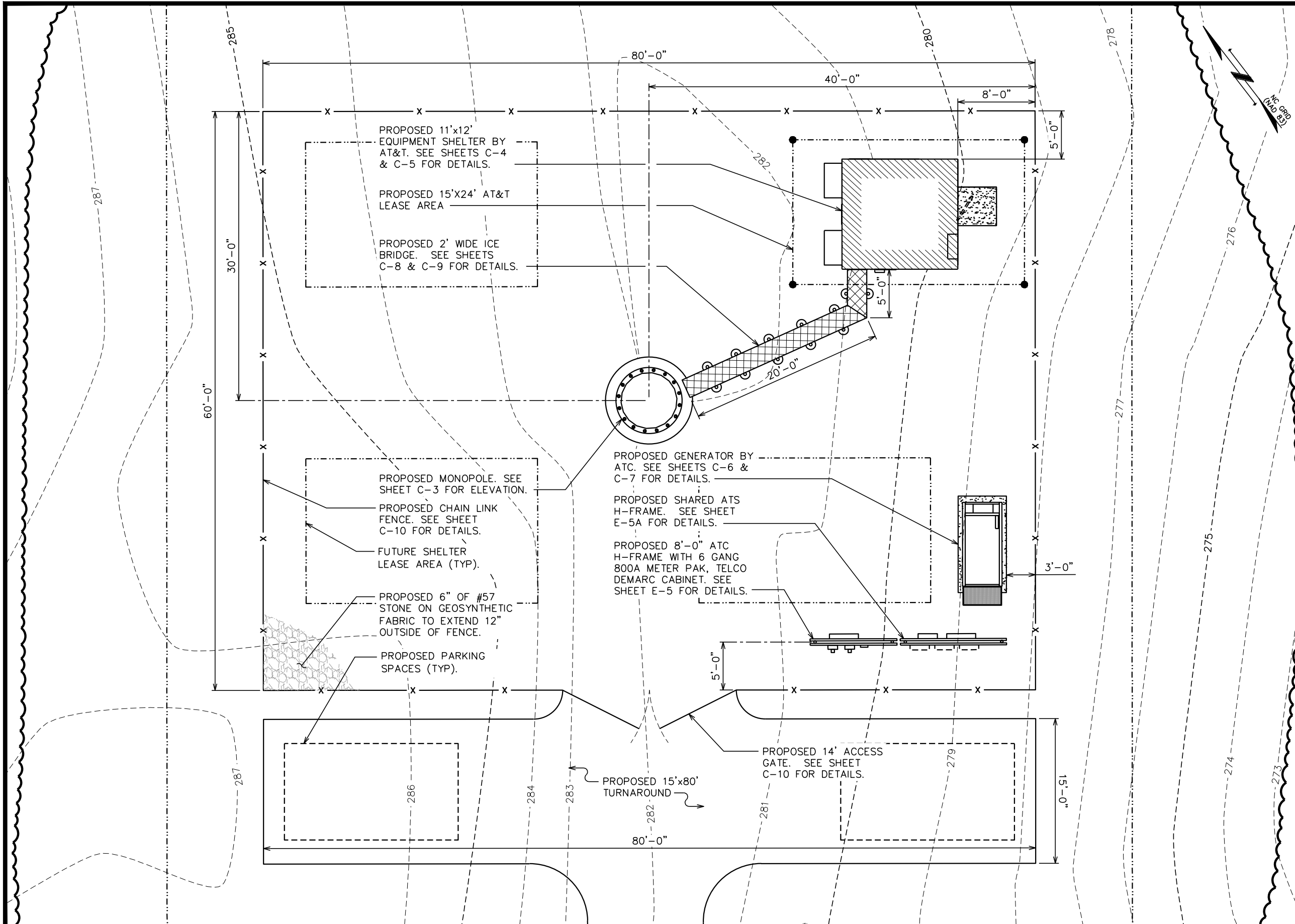
SHEET NUMBER: REVISION:

**C-1A**

**3**

TEP #: 131147

**LESTER RAY PORTER**  
PIN # 9796-33-9976  
DB 1160 PG 172  
10.29 +/- ACRES  
(CAL.)



PLANS PREPARED FOR:



**AMERICAN TOWER CORPORATION**  
 3500 REGENCY PARKWAY, STE. 100  
 CARY, NC 27518

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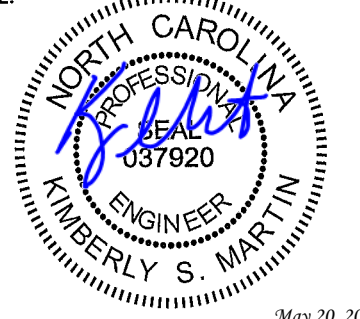
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REV	DATE	ISSUED FOR:

DRAWN BY: MAW CHECKED BY: SCB

SHEET TITLE:

**COMPOUND  
 DETAIL**

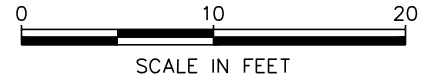
SHEET NUMBER: **C-2**

REVISION: **3**

TEP #: 131147

**COMPOUND DETAIL**

SCALE: 1" = 10'

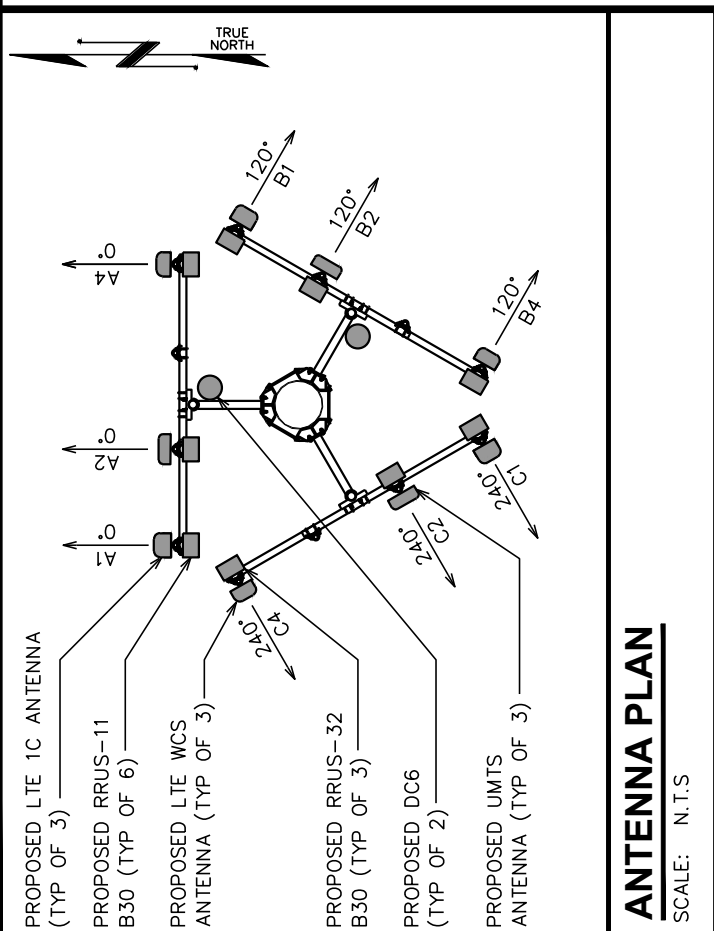


## PROPOSED ANTENNA/CABLE SCHEDULE

ANT.	SECTOR	TECH.	MANUFACTURER (MODEL #)	AZIMUTH*	MOUNTING HEIGHT	ELEC. D-TILT	MECH. D-TILT	RRU MODEL	JUMPER SIZE	JUMPER LENGTH (FROM RRU)	DC6 MODEL	CABLE RUN	CABLE LENGTH
A1	ALPHA	LTE	ANDREW SBNHH-1D65C	0°	℄ @ 195'-0"	4°	0°	RRUS-11 (TOP)	5mm JUMPER	5'±	(2) DC6-48-60-18-8F	(2) FIBER (3) DC POWER	243'±
B1	BETA		ANDREW SBNHH-1D65C	120°	℄ @ 195'-0"	4°	0°	RRUS-11 (TOP)	5mm JUMPER	5'±			
C1	GAMMA		ANDREW SBNHH-1D65C	240°	℄ @ 195'-0"	4°	0°	RRUS-11 (TOP)	5mm JUMPER	5'±			
A2	ALPHA	UMTS	ANDREW HBX-6516DS-A1M	0°	℄ @ 195'-0"	2°	0°	RRUS-11 (TOP)	5mm JUMPER	5'±			
B2	BETA		ANDREW HBX-6516DS-A1M	120°	℄ @ 195'-0"	2°	0°	RRUS-11 (TOP)	5mm JUMPER	5'±			
C2	GAMMA		ANDREW HBX-6516DS-A1M	240°	℄ @ 195'-0"	2°	0°	RRUS-11 (TOP)	5mm JUMPER	5'±			
A4	ALPHA	WCS	ANDREW SBNHH-1D65C	0°	℄ @ 195'-0"	1°	0°	RRUS-32 B30 (TOP)	5mm JUMPER	5'±			
B4	BETA		ANDREW SBNHH-1D65C	120°	℄ @ 195'-0"	1°	0°	RRUS-32 B30 (TOP)	5mm JUMPER	5'±			
C4	GAMMA		ANDREW SBNHH-1D65C	240°	℄ @ 195'-0"	1°	0°	RRUS-32 B30 (TOP)	5mm JUMPER	5'±			

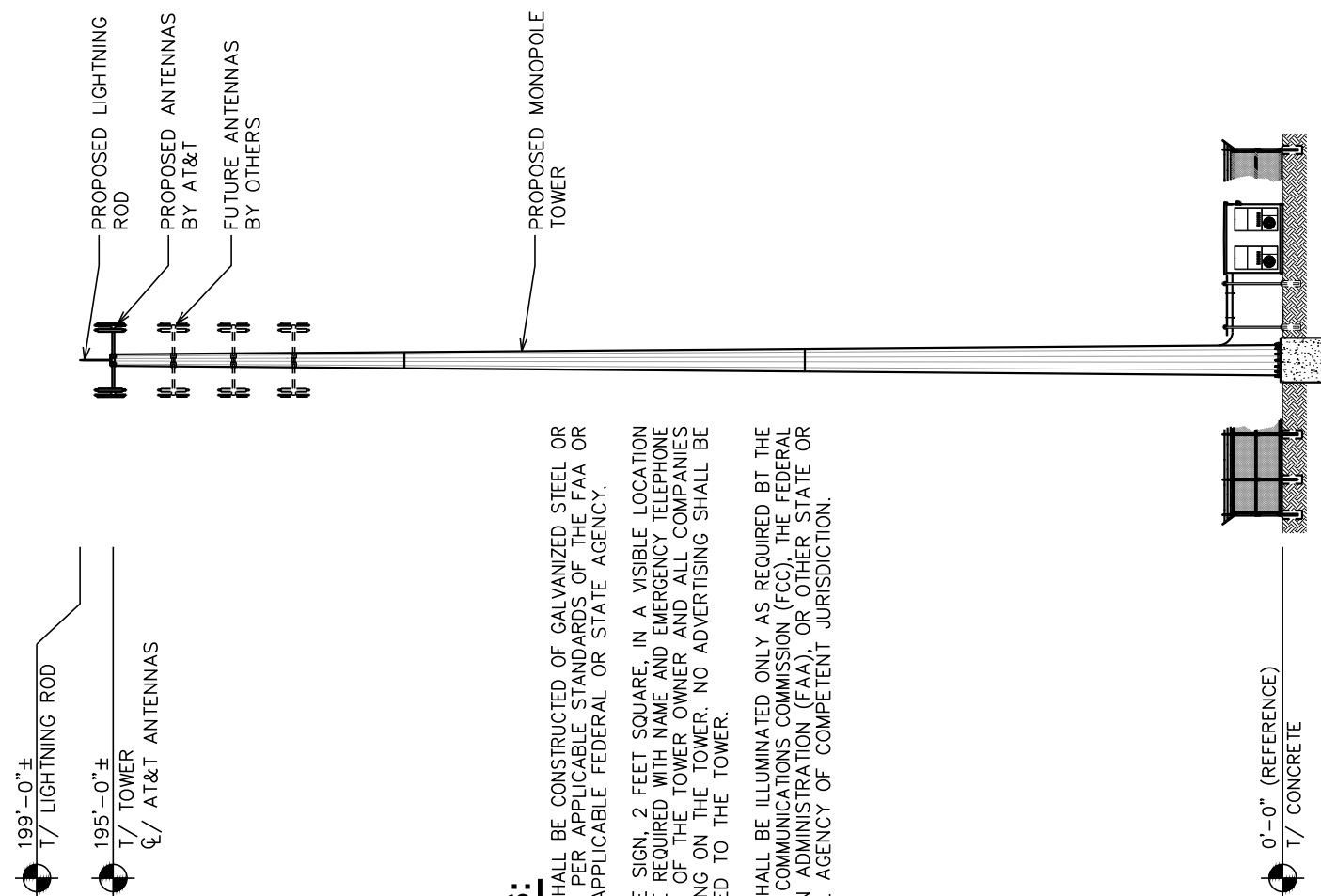
* - AZIMUTHS BASED ON TRUE NORTH

* - ANTENNA MODEL AND AZIMUTH INFORMATION IS TAKEN FROM INFORMATION PROVIDED BY AT&T ON 01-16-2014



### ANTENNA PLAN

SCALE: N.T.S



### NOTES:

- TOWER SHALL BE CONSTRUCTED OF GALVANIZED STEEL OR PAINTED PER APPLICABLE STANDARDS OF THE FAA OR OTHER APPLICABLE FEDERAL OR STATE AGENCY.
- A SINGLE SIGN, 2 FEET SQUARE, IN A VISIBLE LOCATION SHALL BE REQUIRED WITH NAME AND EMERGENCY TELEPHONE NUMBER OF THE TOWER OWNER AND ALL COMPANIES OPERATING ON THE TOWER. NO ADVERTISING SHALL BE ATTACHED TO THE TOWER.
- TOWER SHALL BE ILLUMINATED ONLY AS REQUIRED BY THE FEDERAL COMMUNICATIONS COMMISSION (FCC), THE FEDERAL AVIATION ADMINISTRATION (FAA), OR OTHER STATE OR FEDERAL AGENCY OF COMPETENT JURISDICTION.

PLANS PREPARED FOR:

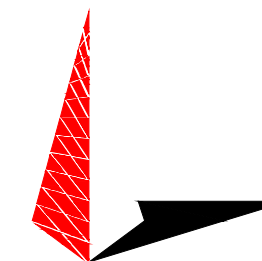


3500 REGENCY PARKWAY, STE. 100  
CARY, NC 27518

PROJECT INFORMATION:

**AT&T SITE #: 368-317**  
**ATC SITE #: 280422**  
**FARRINGTON NC**  
464 OLD FARRINGTON RD.  
CHAPEL HILL, NC 27514  
(CHATHAM COUNTY)

PLANS PREPARED BY:



**TOWER ENGINEERING PROFESSIONALS**  
3703 JUNCTION BOULEVARD  
RALEIGH, NC 27603-5263  
OFFICE: (919) 661-6351  
www.tepgroup.net

N.C. LICENSE # C-1794

SEAL:



April 30, 2014

REV	DATE	ISSUED FOR:
2	04-30-14	CONSTRUCTION
1	01-22-14	PRELIMINARY
0	01-13-14	PRELIMINARY

DRAWN BY: C5N CHECKED BY: GMA

SHEET TITLE:

**TOWER ELEVATION**

SHEET NUMBER:

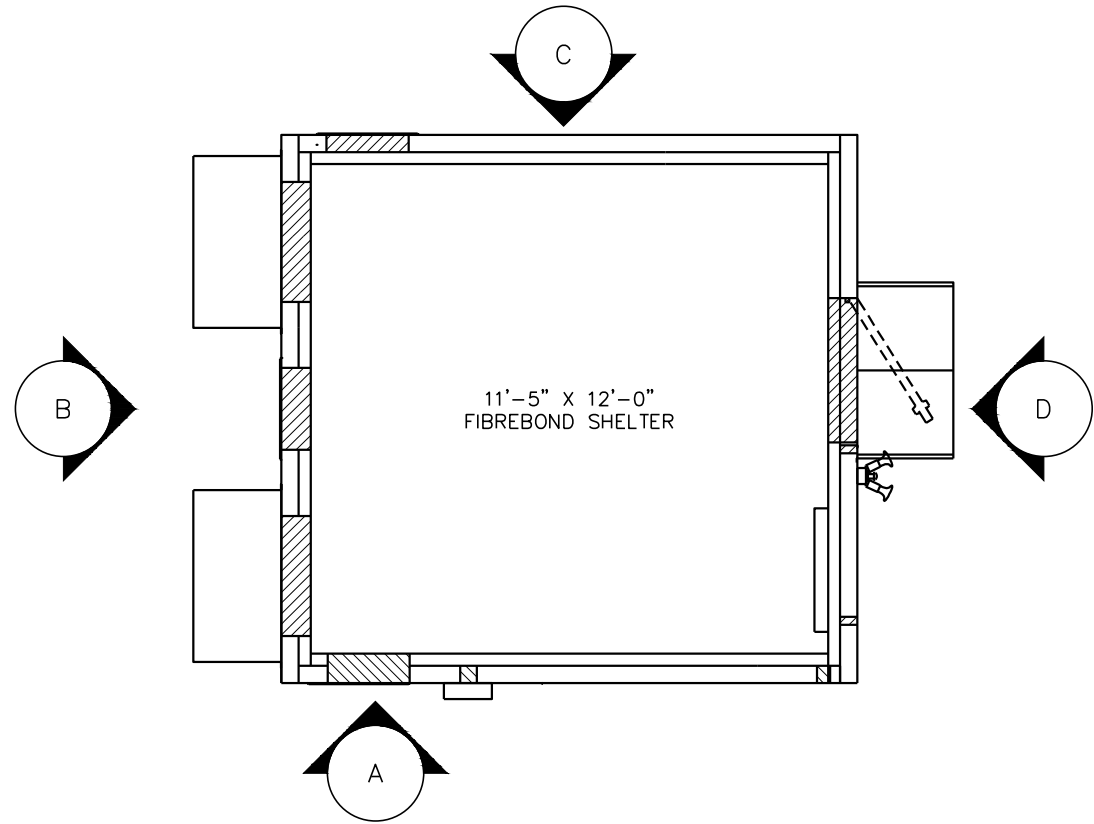
**C-3**

REVISION:

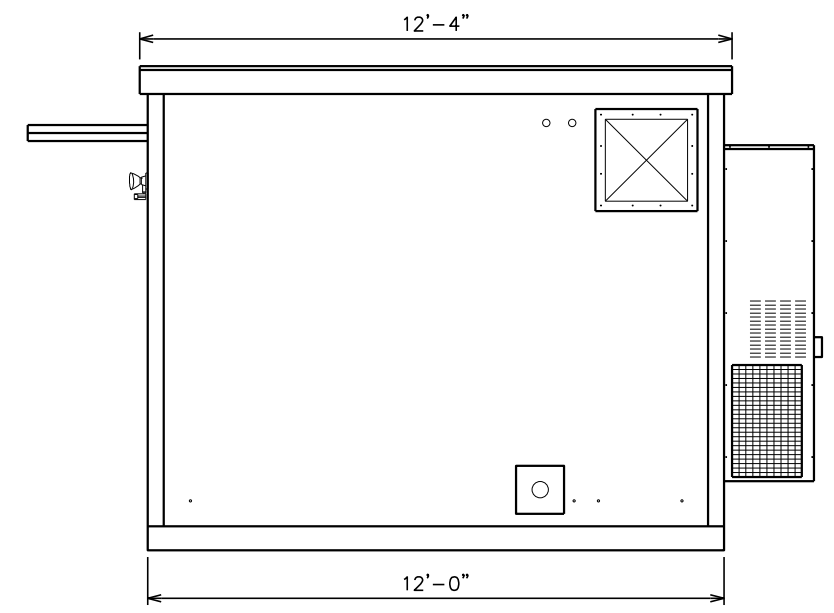
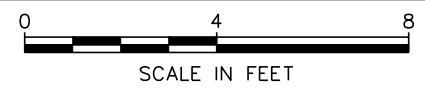
**2**

TEP #: 131147

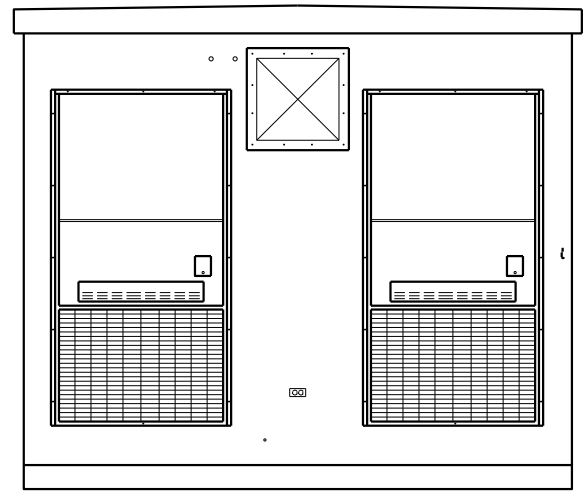
**TOWER ELEVATION**  
SCALE: 1" = 30'



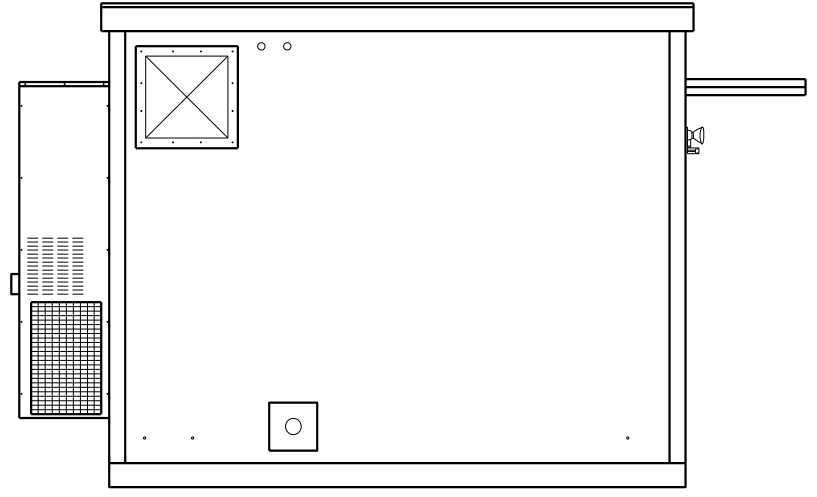
**EQUIPMENT LAYOUT**  
SCALE: 1/4" = 1'-0"



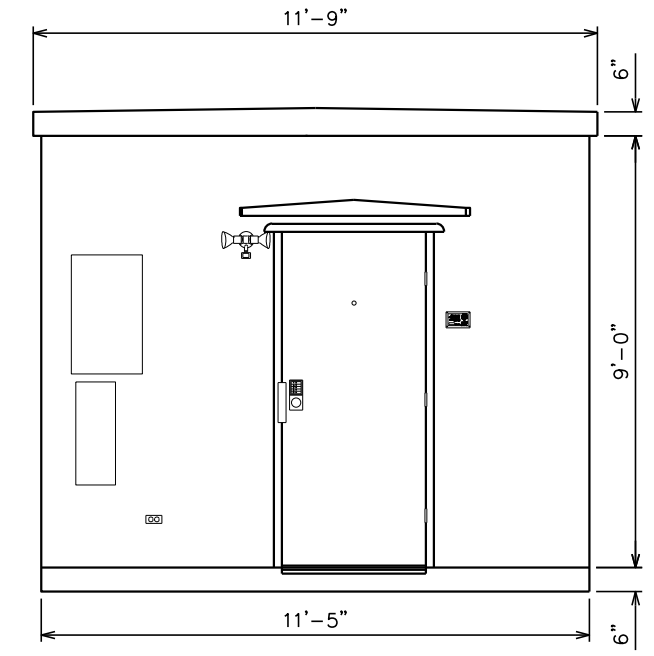
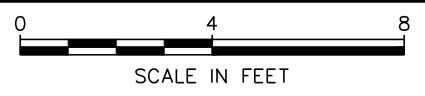
**ELEVATION A**  
SCALE: 1/4" = 1'-0"



**ELEVATION B**  
SCALE: 1/4" = 1'-0"



**ELEVATION C**  
SCALE: 1/4" = 1'-0"



**ELEVATION D**  
SCALE: 1/4" = 1'-0"

PLANS PREPARED FOR:  
**AMERICAN TOWER CORPORATION**  
3500 REGENCY PARKWAY, STE. 100  
CARY, NC 27518

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**FARRINGTON NC**  
464 OLD FARRINGTON RD.  
CHAPEL HILL, NC 27514  
(CHATHAM COUNTY)

PLANS PREPARED BY:  
**TOWER ENGINEERING PROFESSIONALS**  
3703 JUNCTION BOULEVARD  
RALEIGH, NC 27603-5263  
OFFICE: (919) 661-6351  
www.tepgroup.net  
N.C. LICENSE # C-1794

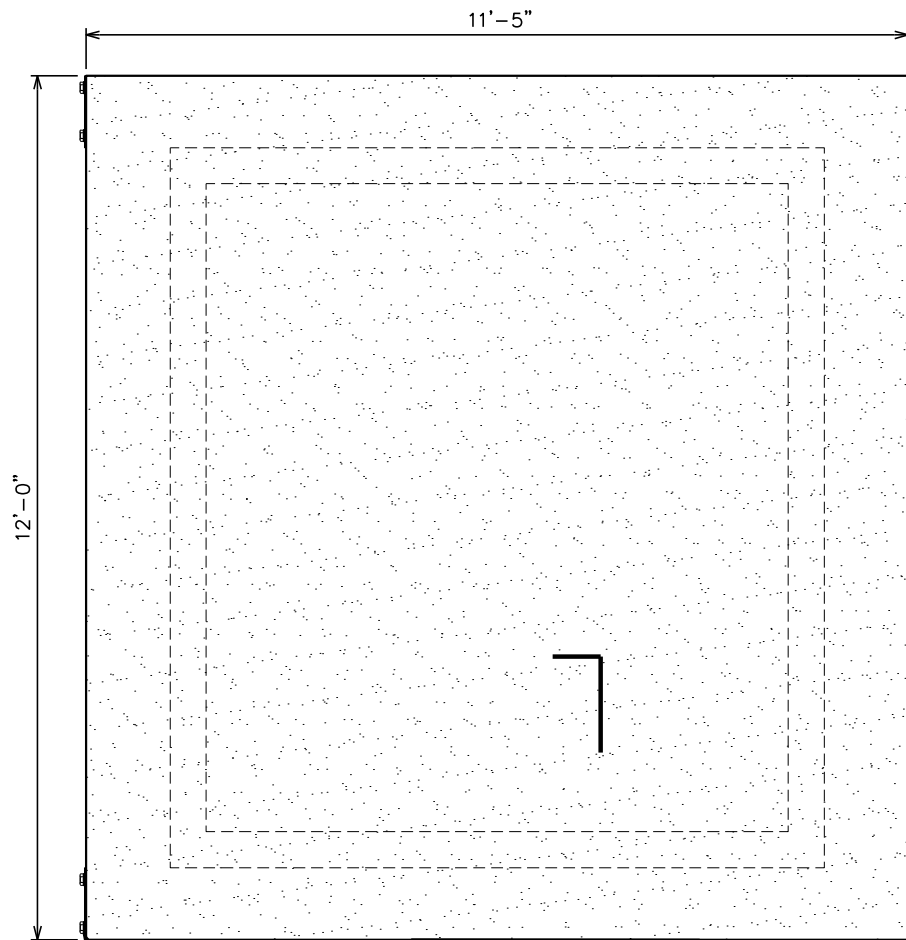
SEAL:  
  
April 30, 2014

REV	DATE	ISSUED FOR:
2	04-30-14	CONSTRUCTION
1	01-22-14	PRELIMINARY
0	01-13-14	PRELIMINARY

DRAWN BY: MAW CHECKED BY: SCB

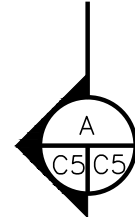
SHEET TITLE:  
**SHELTER ELEVATIONS**

SHEET NUMBER: **C-4** REVISION: **2**  
TEP #: 131147



TIE DOWN PLATE  
(TYP OF 4) SEE  
CONNECTION DETAILS  
THIS SHEET.

PROPOSED 4'x4'  
STOOP.



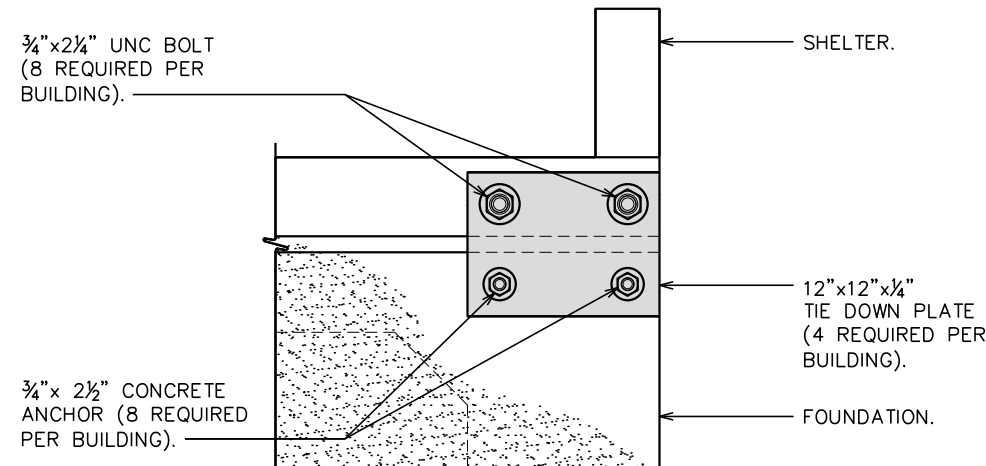
### GENERAL STRUCTURAL NOTES:

SPECIFICATION/CODES:

1. CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE ACI CODE.
2. REINFORCING STEEL SHALL BE PLACED IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI) "MANUAL OF STANDARD PRACTICE".
3. DESIGN SHALL BE PER NORTH CAROLINA STATE BUILDING CODE, 2012 EDITION.

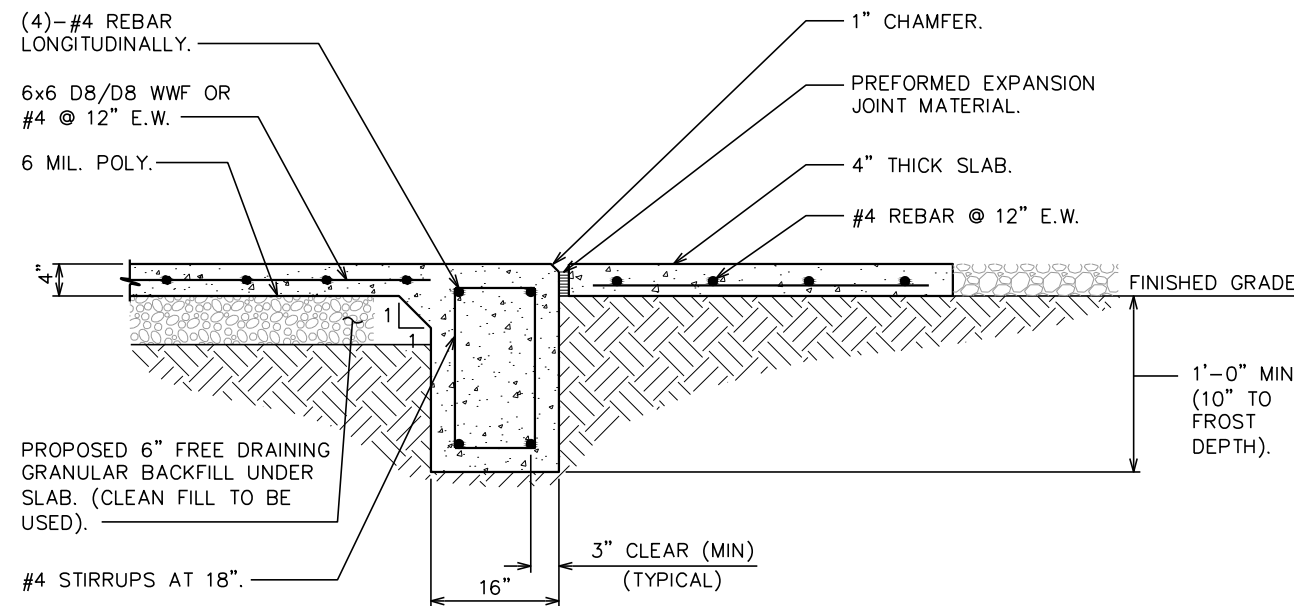
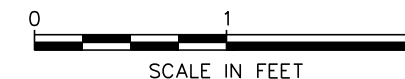
### FOUNDATION NOTES:

1. FOUNDATION DESIGN BASED ON 2000 PSF SOIL BEARING CAPACITY. IF OTHER CONDITIONS EXIST, FOUNDATION SHALL BE REDESIGNED. CONTRACTOR SHALL HAVE SOIL BEARING CAPACITY VERIFIED BY A LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER PRIOR TO INITIATION OF CONSTRUCTION ACTIVITIES.
2. CONCRETE SHALL BE 3,000 PSI.
3. REBAR  $F_y = 60,000$  PSI.
4. ALL BACKFILL SHALL BE THOROUGHLY COMPACTED TO A MINIMUM OF 95% DENSITY USING THE MODIFIED PROCTOR METHOD.



### CONNECTION DETAIL

SCALE: 1" = 1'-0"

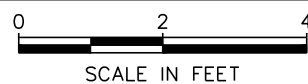


### PAD SECTION

SCALE: 1/2" = 1'-0"

### SHELTER FOUNDATION PLAN

SCALE: 3/8" = 1'-0"



PLANS PREPARED FOR:



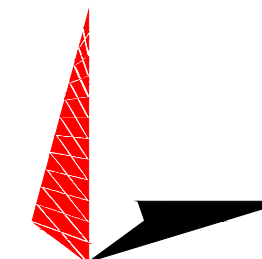
3500 REGENCY PARKWAY, STE. 100  
CARY, NC 27518

PROJECT INFORMATION:

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**ATC SITE #: 280422**  
**FARRINGTON NC**

464 OLD FARRINGTON RD.  
CHAPEL HILL, NC 27514  
(CHATHAM COUNTY)

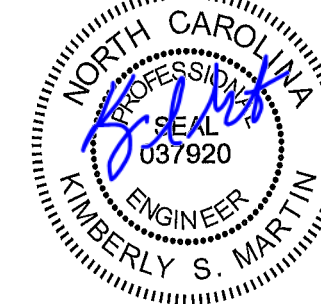
PLANS PREPARED BY:



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RALEIGH, NC 27603-5263  
OFFICE: (919) 661-6351  
www.tepgroup.net

N.C. LICENSE # C-1794

SEAL:



REV	DATE	ISSUED FOR:
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1	01-22-14	PRELIMINARY
0	01-13-14	PRELIMINARY

DRAWN BY: SCB CHECKED BY: GMA

SHEET TITLE:

**SHELTER  
FOUNDATION  
DETAILS**

SHEET NUMBER:

**C-5**

REVISION:

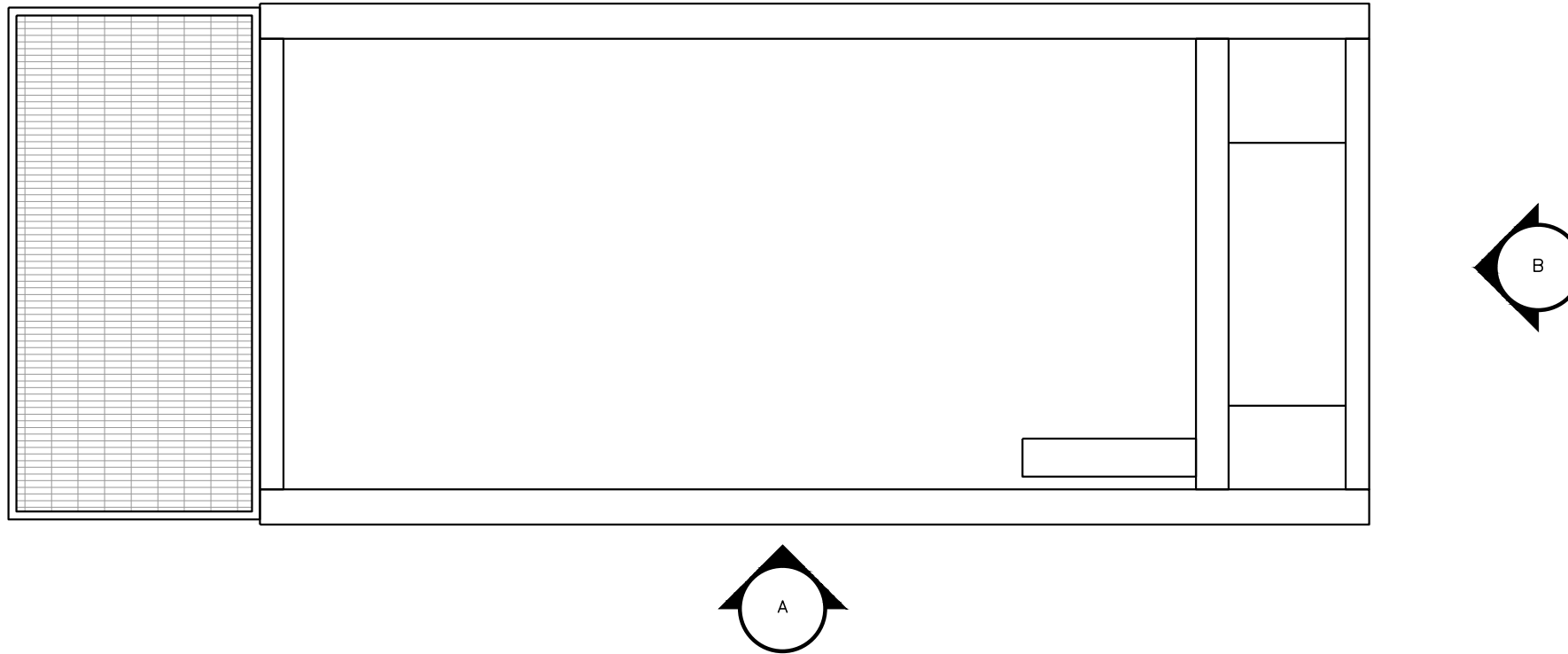
**2**

TEP #: 131147



**GENERATOR NOTE:**

80KW INDUSTRIAL DIESEL GENERATOR  
BY GENERAC. CONTRACTOR TO VERIFY  
DIMENSIONS WITH MANUFACTURER.



PLANS PREPARED FOR:

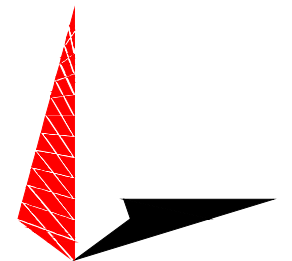


AMERICAN TOWER CORPORATION  
3500 REGENCY PARKWAY, STE. 100  
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**FARRINGTON NC**  
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PLANS PREPARED BY:

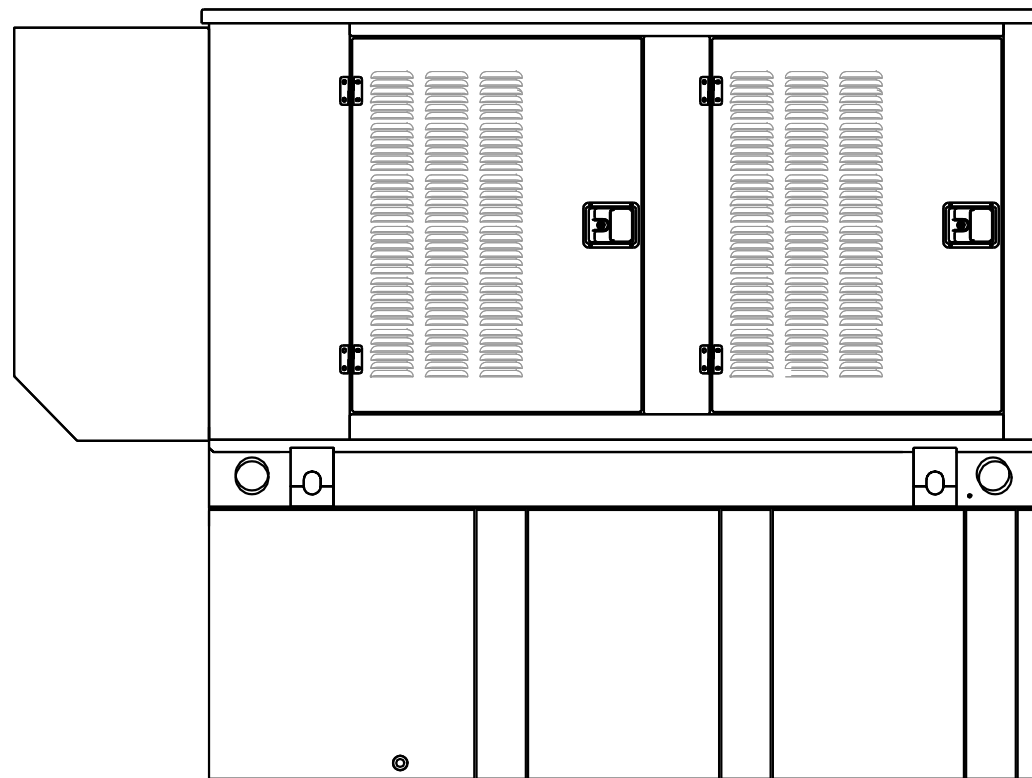


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**GENERATOR LAYOUT**

SCALE: N.T.S.

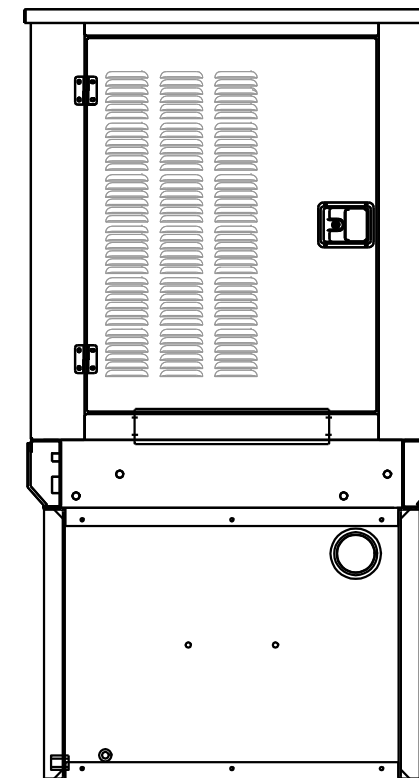


**NOTE:**

ANCHOR GENERATOR FUEL TANK TO  
CONCRETE PAD PER GENERAC  
DESIGN DRAWINGS.

**ELEVATION A**

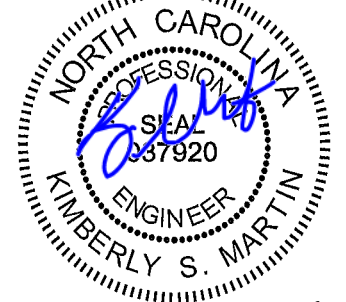
SCALE: N.T.S.



**ELEVATION B**

SCALE: N.T.S.

SEAL:



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2	04-30-14	CONSTRUCTION
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0	01-13-14	PRELIMINARY

DRAWN BY: SCB CHECKED BY: GMA

SHEET TITLE:

**GENERATOR & FUEL  
TANK ELEVATIONS**

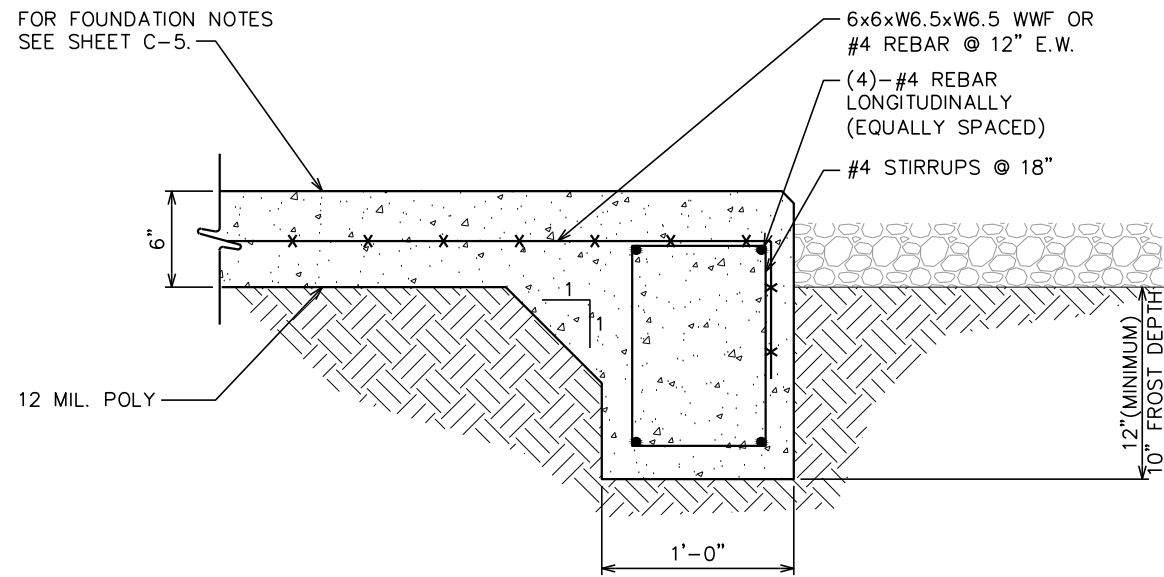
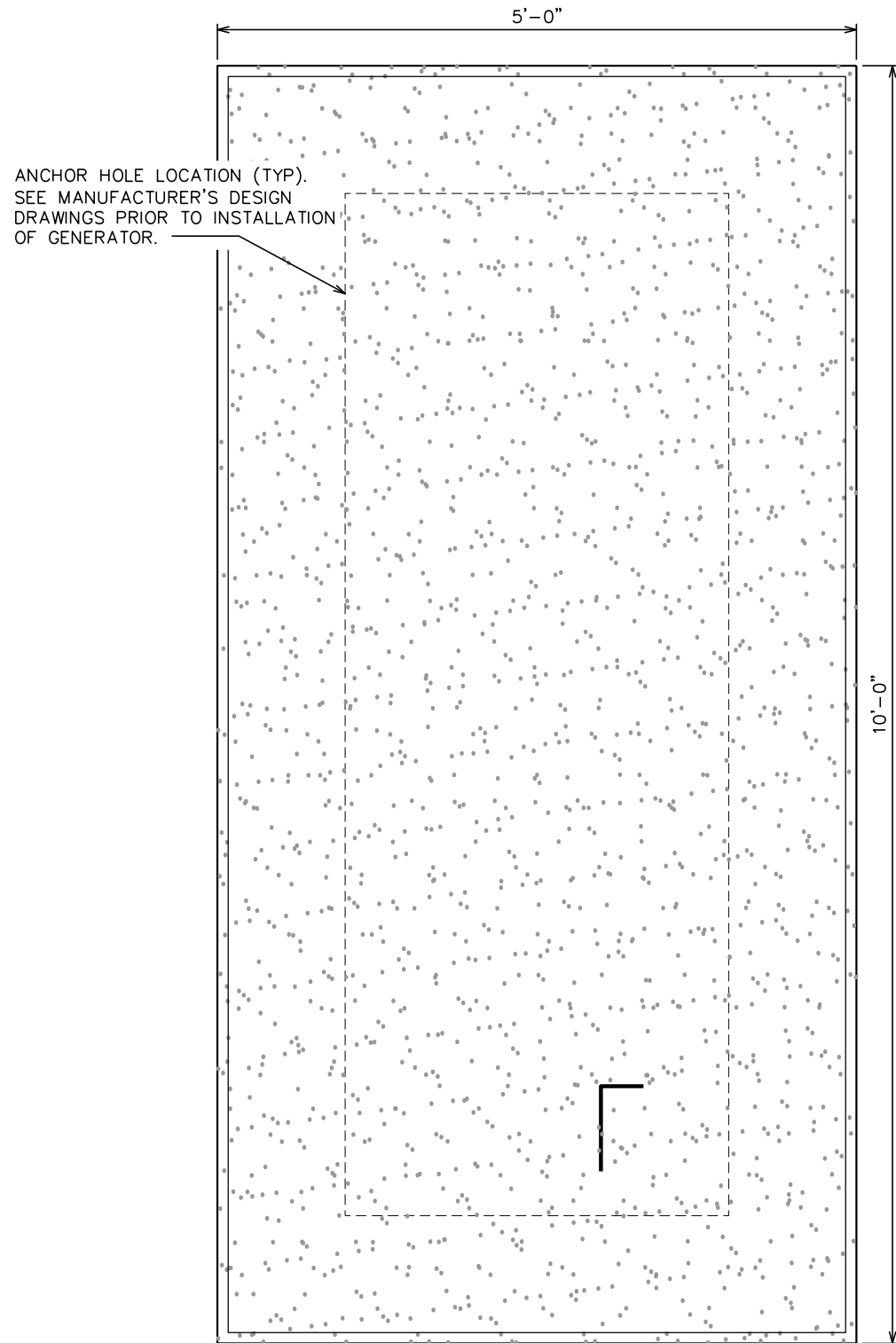
SHEET NUMBER:

**C-6**

REVISION:

**2**

TEP #: 131147



PLANS PREPARED FOR:

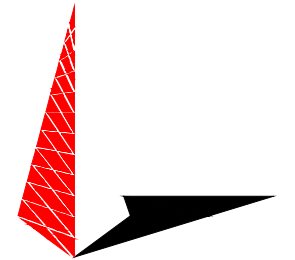


AMERICAN TOWER  
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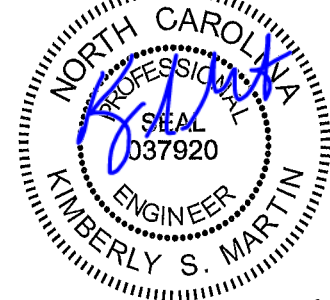
PLANS PREPARED BY:



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RALEIGH, NC 27603-5263  
OFFICE: (919) 661-6351  
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N.C. LICENSE # C-1794

SEAL:



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0	01-13-14	PRELIMINARY

DRAWN BY: SCB CHECKED BY: GMA

SHEET TITLE:

**GENERATOR  
FOUNDATION  
DETAILS**

SHEET NUMBER:

**C-7**

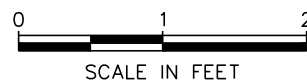
REVISION:

**2**

TEP #: 131147

**GENERATOR FOUNDATION**

SCALE: 3/4" = 1'-0"



**SECTION**

SCALE: 1" = 1'-0"



PLANS PREPARED FOR:



**AMERICAN TOWER CORPORATION**  
 3500 REGENCY PARKWAY, STE. 100  
 CARY, NC 27518

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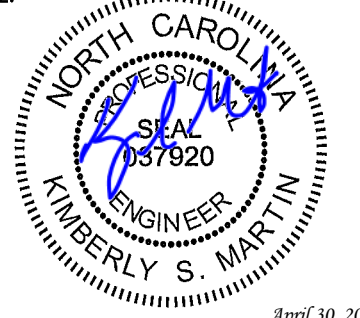
PLANS PREPARED BY:



**TOWER ENGINEERING PROFESSIONALS**  
 3703 JUNCTION BOULEVARD  
 RALEIGH, NC 27603-5263  
 OFFICE: (919) 661-6351  
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N.C. LICENSE # C-1794

SEAL:



*April 30, 2014*

2	04-30-14	CONSTRUCTION
1	01-22-14	PRELIMINARY
0	01-13-14	PRELIMINARY
REV	DATE	ISSUED FOR:

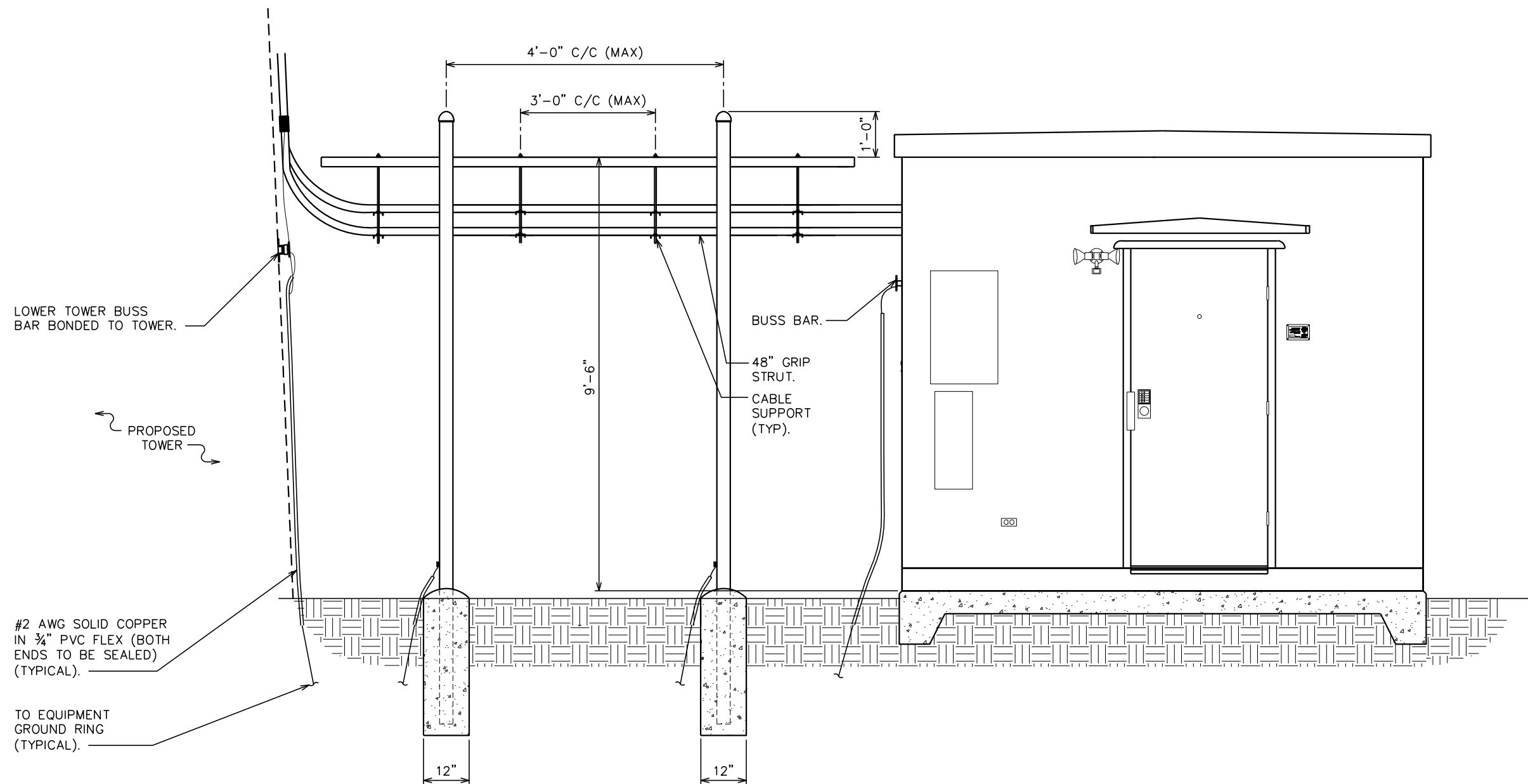
DRAWN BY: SCB CHECKED BY: GMA

SHEET TITLE:

**ICE BRIDGE DETAILS I**

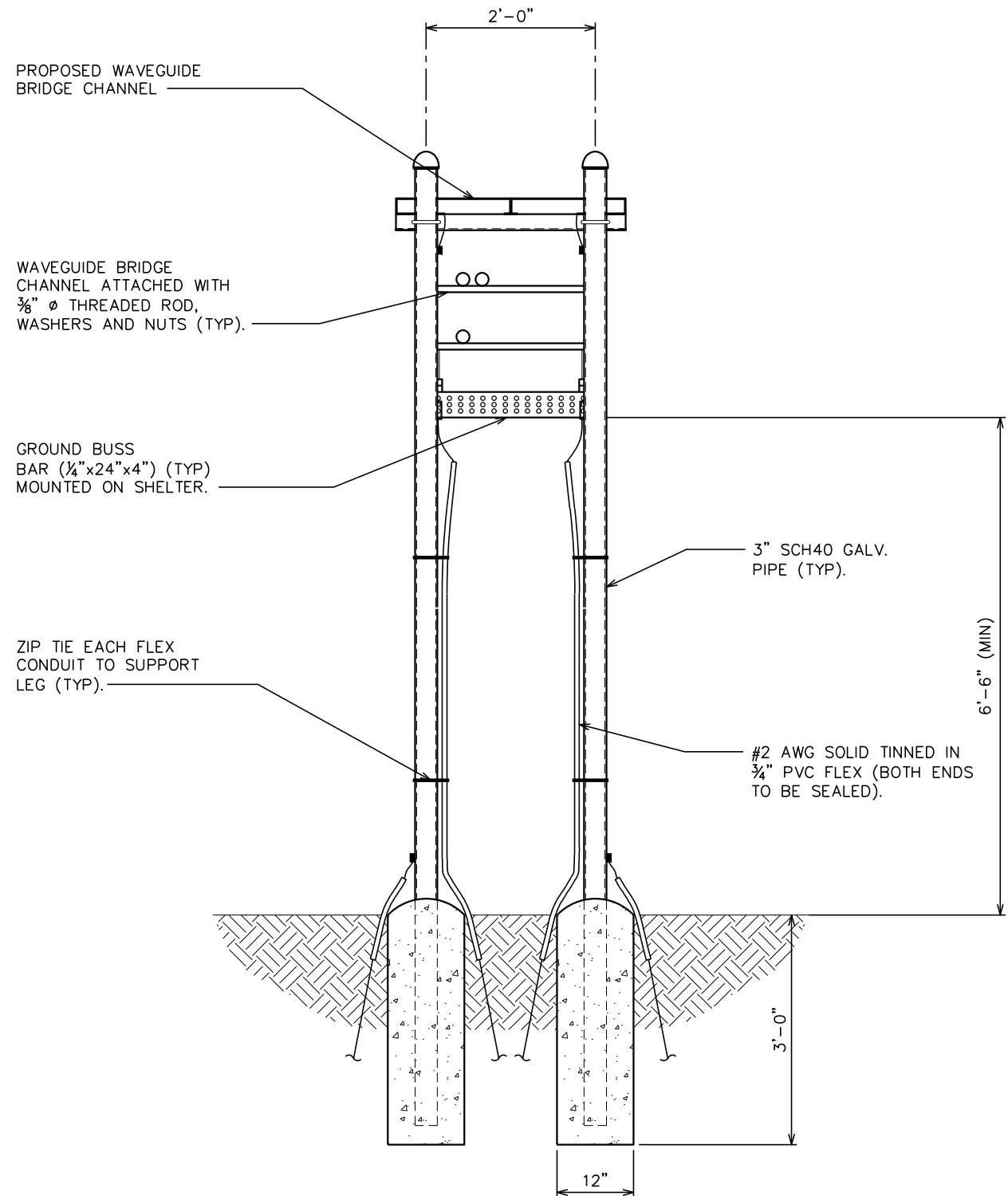
SHEET NUMBER: **C-8** REVISION: **2**

TEP #: 131147



**ICE BRIDGE DETAILS**

SCALE: N.T.S



PLANS PREPARED FOR:



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PROJECT INFORMATION:

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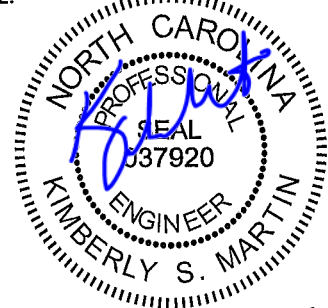
PLANS PREPARED BY:



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 OFFICE: (919) 661-6351  
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0	01-13-14	PRELIMINARY

DRAWN BY: JJM CHECKED BY: JAS

SHEET TITLE:

**ICE BRIDGE DETAILS II**

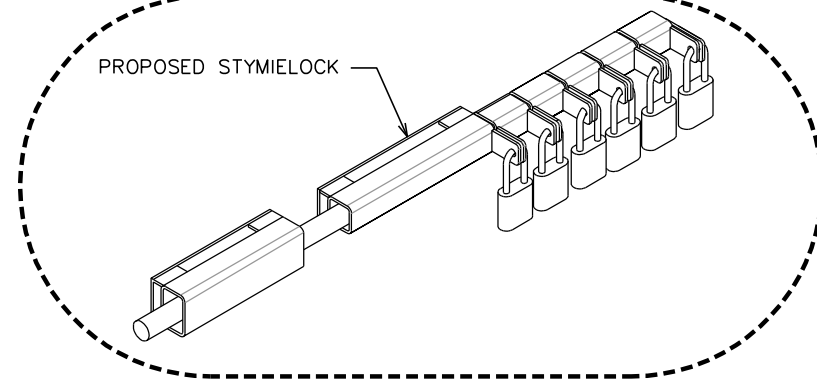
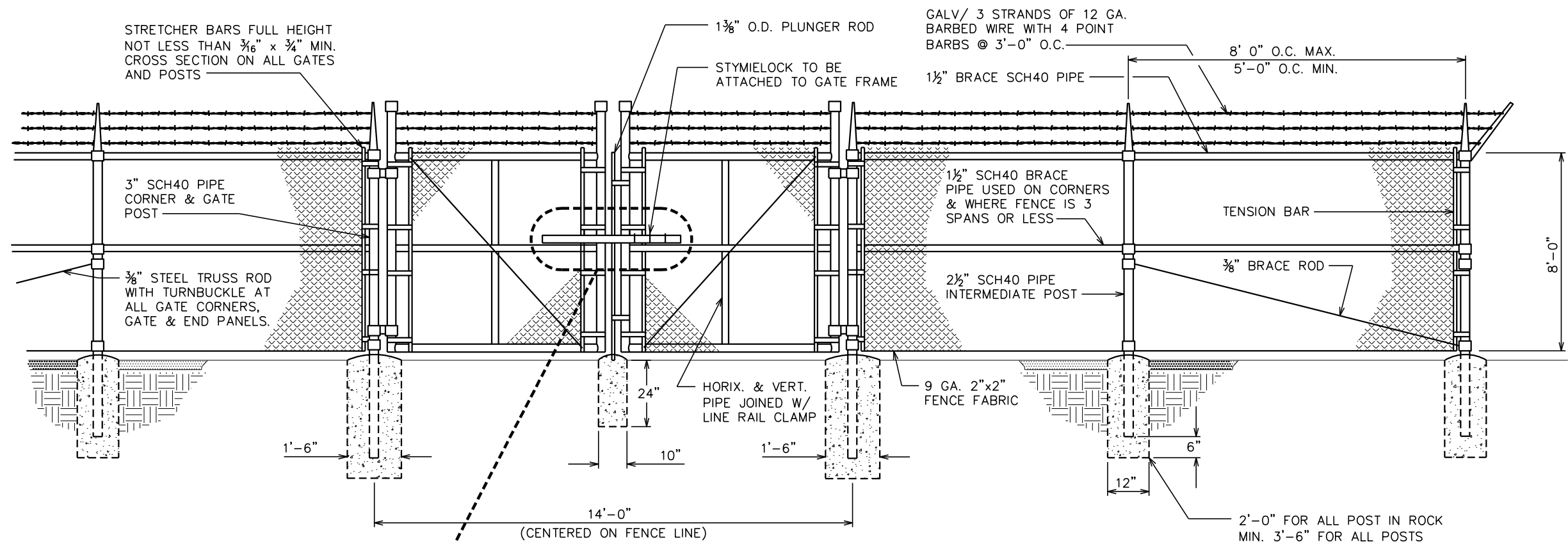
SHEET NUMBER: **C-9** REVISION: **2**

TEP #: 131147

**ICE BRIDGE DETAILS**

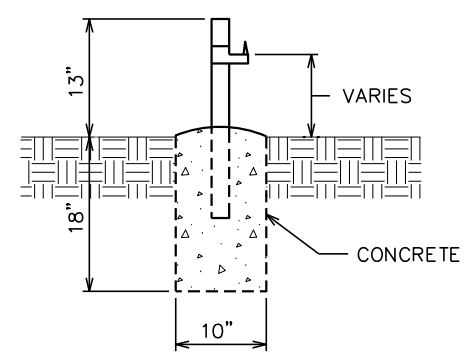
SCALE: 1/2" = 1'-0"





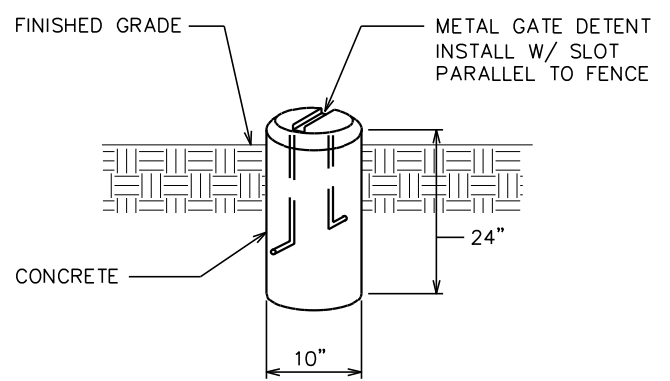
**TYPICAL FENCE ELEVATION**

SCALE: N.T.S.



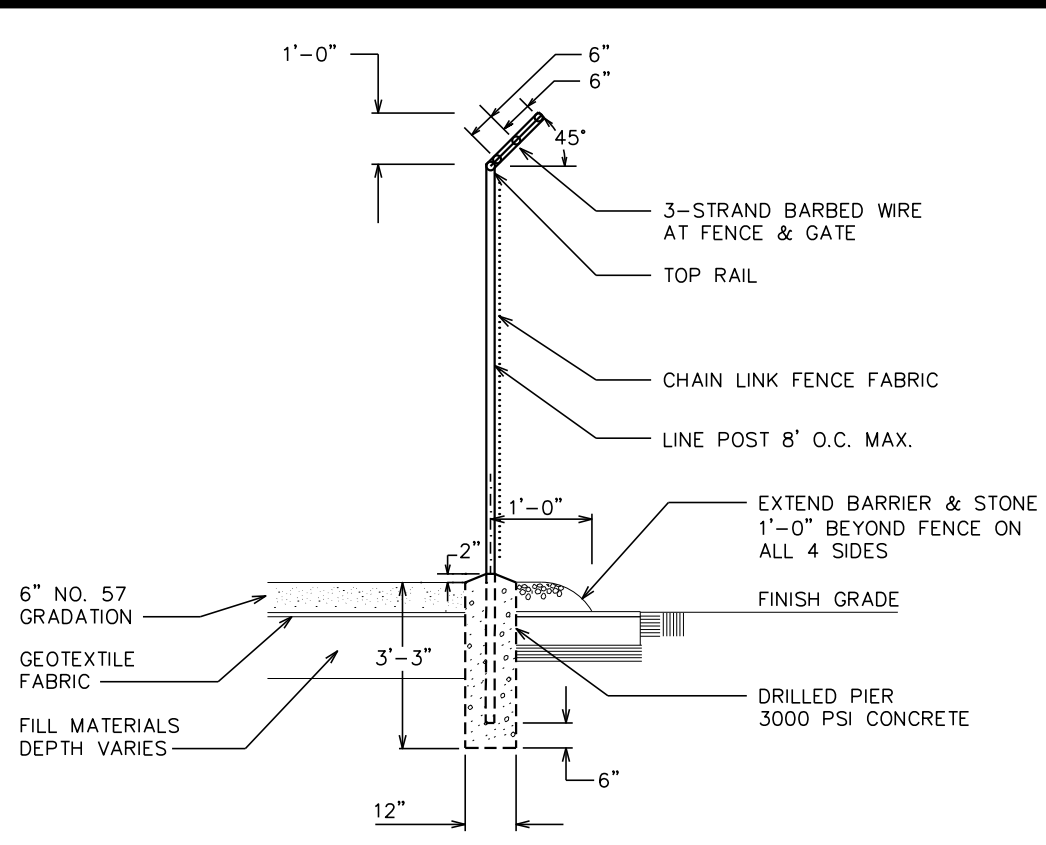
**GATE STOP / KEEPER DETAIL**

SCALE: N.T.S.



**GATE DETENT DETAIL**

SCALE: N.T.S.



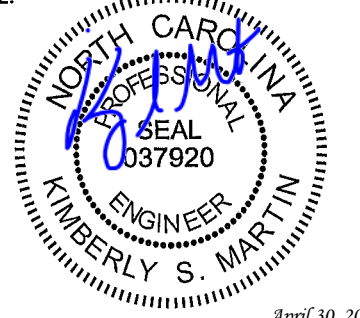
**FENCE / BARBED WIRE ARM DETAIL**

SCALE: N.T.S.

PLANS PREPARED FOR:  
  
**AMERICAN TOWER CORPORATION**  
 3500 REGENCY PARKWAY, STE. 100  
 CARY, NC 27518

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REV	DATE	ISSUED FOR:
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0	01-13-14	PRELIMINARY


DRAWN BY: SCB CHECKED BY: GMA

SHEET TITLE:  
**FENCE DETAILS**

SHEET NUMBER:  
**C-10**

REVISION:  
**2**  
 TEP #: 131147

property of




**AUTHORIZED PERSONNEL ONLY!**

In case of emergency or prior to performing maintenance on this site, call 1-800-638-2822 and reference cell site number: _____

- ① WHITE/BLUE BACKGROUND W/ BLACK LETTERING  
 QUANTITY: (1)  
 SIZE: 9"x12"  
 (TO BE MOUNTED ON UNIVERSAL POWER CABINET DOOR ADJACENT TO COMPOUND ENTRY - SEE NOTE 3)

**NO TRESPASSING**  
 VIOLATORS WILL BE PROSECUTED

property of




In case of emergency or prior to performing maintenance on this site, call 1-800-830-3365 and reference cell site number: _____

- ③ WHITE/RED BACKGROUND W/ BLACK LETTERING  
 QUANTITY: (4)  
 SIZE: 12"x12"  
 (ONE TO BE MOUNTED ON EACH SIDE OF COMPOUND FENCE)

**DO NOT CLIMB TOWER WITHOUT OWNER'S WRITTEN PERMISSION**

- ④ WHITE BACKGROUND W/ RED LETTERING  
 QUANTITY: (1)  
 (TO BE MOUNTED AT EYE LEVEL ON TOWER NEAR SAFETY CLIMB)

**NOTICE**



Radio Frequency fields beyond this point may exceed the FCC general public exposure limit.

OBEY ALL POSTED SIGNS AND SITE GUIDELINES FOR WORKING IN RADIO FREQUENCY ENVIRONMENTS.  
 In accordance with Federal Communications Commission rules on radio frequency exposure 47 CFR 1.1307(b)

- ② WHITE/BLUE BACKGROUND W/ BLACK LETTERING  
 QUANTITY: (1)  
 (TO BE MOUNTED AT EYE LEVEL ON TOWER NEAR SAFETY CLIMB)

**000**

- ⑤ WHITE BACKGROUND W/ BLACK LETTERING  
 E911 STREET #  
 QUANTITY: (1 TYP)  
 LETTERS MUST BE A MINIMUM 6" TALL  
 (TO BE MOUNTED ON THE GATE OF COMPOUND)

- ① SITE IDENTIFICATION SIGN  
 ② FCC/RF EXPOSURE SIGN  
 ③ AUTHORIZED ENTRY SIGN  
 ④ TOWER CLIMBING SIGN  
 ⑤ STREET ADDRESS SIGN  
 ⑥ INFORMATION RF EXPOSURE SIGN  
 ⑦ TOWER REGISTRATION SIGN

**INFORMATION**

AMERICAN TOWER operates telecommunications equipment at this location.

Stay back a minimum of 3 feet from any antenna.

ObeY all posted signs and guidelines.

Do not cross into areas restricted by striping and/or barriers.

Contact the owner(s) of the antenna(s) and follow their instructions prior to performing any repairs or maintenance within a restricted area of closer than 3 feet from the antenna.

Contact AMERICAN TOWER at 1-800-830-3365 prior to doing any work near AMERICAN TOWER structures. This is site #-----.

Contact the management office if this door/hatch/gate is found unlocked.

- ⑥ WHITE BACKGROUND W/ BLACK LETTERING  
 QUANTITY: (1) PER ACCESS GATE  
 (TO BE MOUNTED ON COMPOUND ACCESS GATE)

**FCC TOWER REGISTRATION NO.:**  
**0123456789**

- ⑦ WHITE BACKGROUND W/ BLACK LETTERING  
 QUANTITY: (1)  
 (TO BE MOUNTED ON COMPOUND ACCESS GATE - SEE NOTE 5)  
 NOTE: NUMBER SHOWN IS GENERIC, CONTACT CONSTRUCTION MANAGER FOR ACTUAL FCC TOWER REG. #.

**NOTES:**

- SIGNS SHALL MEASURE 8"x12", BE FABRICATED FROM CORROSION RESISTANT PRESSED METAL, AND PAINTED WITH LONG LASTING UV RESISTANT COATINGS.
- SIGNS (EXCEPT WHERE NOTED OTHERWISE) SHALL BE MOUNTED TO THE TOWER, GATE AND FENCE USING A MINIMUM OF 9 GAUGE ALUMINUM WIRE, HOG RINGS (AS UTILIZED IN FENCE INSTALLATIONS) OR BRACKETS WHERE NECESSARY. BRACKETS SHALL BE OF SIMILAR METAL AS THE STRUCTURE TO AVOID GALVANIC CORROSION.
- AMERICAN TOWER SITE # AND EMERGENCY CONTACT # SHALL BE MOUNTED ON THE UNIVERSAL POWER CABINET DOOR ADJACENT TO THE COMPOUND ENTRY WITH PERMANENT SET ADHESIVE. TWO-SIDED TAPE SHALL BE UTILIZED AT EACH CORNER ON THE BACKSIDE TO AID PLACEMENT UNTIL ADHESIVE SETS.
- ADDITIONAL E911 ADDRESS SIGNS ARE REQUIRED AT EACH ACCESS ROAD GATE LEADING TO THE COMPOUND AS WELL AS ON THE COMPOUND GATE ITSELF. LETTERING ON 911 ADDRESS SIGNS MUST BE A MINIMUM OF 6" TALL.
- ADDITIONAL FCC REGISTRATION # SIGNS ARE REQUIRED AT EACH ACCESS ROAD GATE LEADING TO THE COMPOUND AS WELL AS ON THE COMPOUND GATE ITSELF.
- RECOMMENDED SOURCE FOR OBTAINING SIGNAGE:

ST. CLAIR SIGNS  
 3184 WADE HAMPTON BLVD.  
 TAYLORS, SC 29687  
 (864) 244-0040

RF EXPOSURE SIGNS  
 RICHARD TELL ASSOCIATES  
 3433 RINGSTAR ROAD, SUITE 3  
 NORTH LAS VEGAS, NV 89030  
 (702) 645-3338

PLANS PREPARED FOR:



3500 REGENCY PARKWAY, STE. 100  
 CARY, NC 27518

PROJECT INFORMATION:  
**AT&T SITE #: 368-317**  
**ATC SITE #: 280422**  
**FARRINGTON NC**  
 464 OLD FARRINGTON RD.  
 CHAPEL HILL, NC 27514  
 (CHATHAM COUNTY)

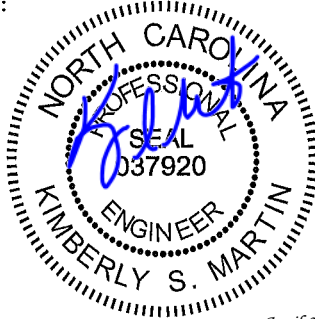
PLANS PREPARED BY:



**TOWER ENGINEERING PROFESSIONALS**  
 3703 JUNCTION BOULEVARD  
 RALEIGH, NC 27603-5263  
 OFFICE: (919) 661-6351  
 www.tepgroup.net

N.C. LICENSE # C-1794

SEAL:



*April 30, 2014*

REV	DATE	ISSUED FOR:
2	04-30-14	CONSTRUCTION
1	01-22-14	PRELIMINARY
0	01-13-14	PRELIMINARY

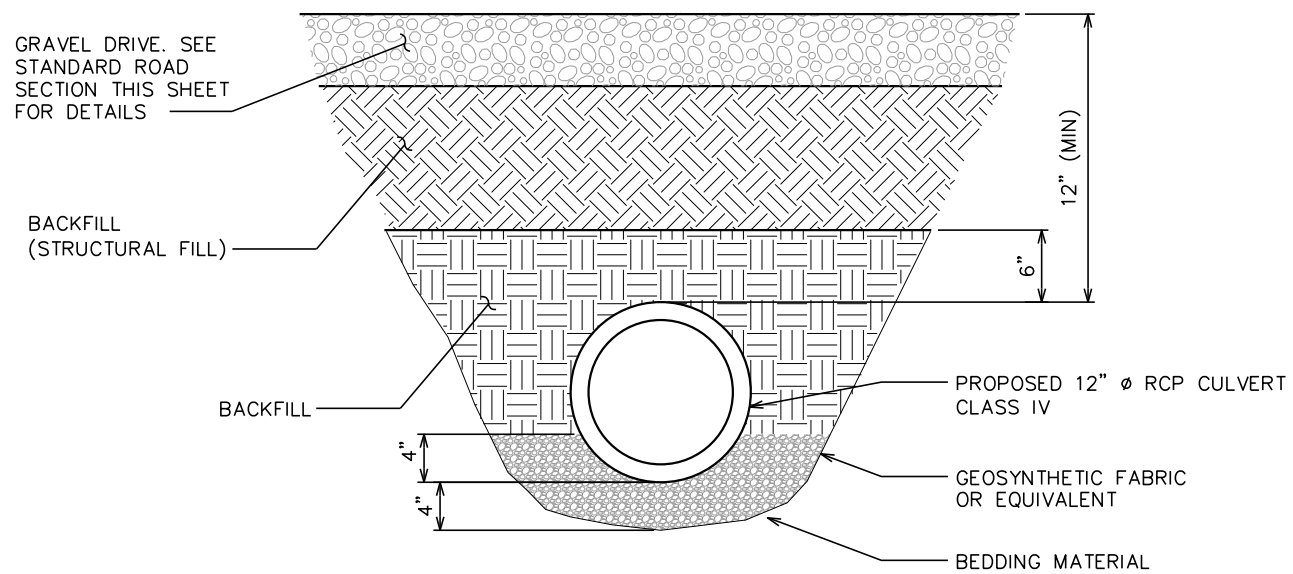
DRAWN BY: JHJ CHECKED BY: GMA

SHEET TITLE:  
**SIGNAGE DETAILS**

SHEET NUMBER: <b>C-11</b>	REVISION: <b>2</b> TEP #: 131147
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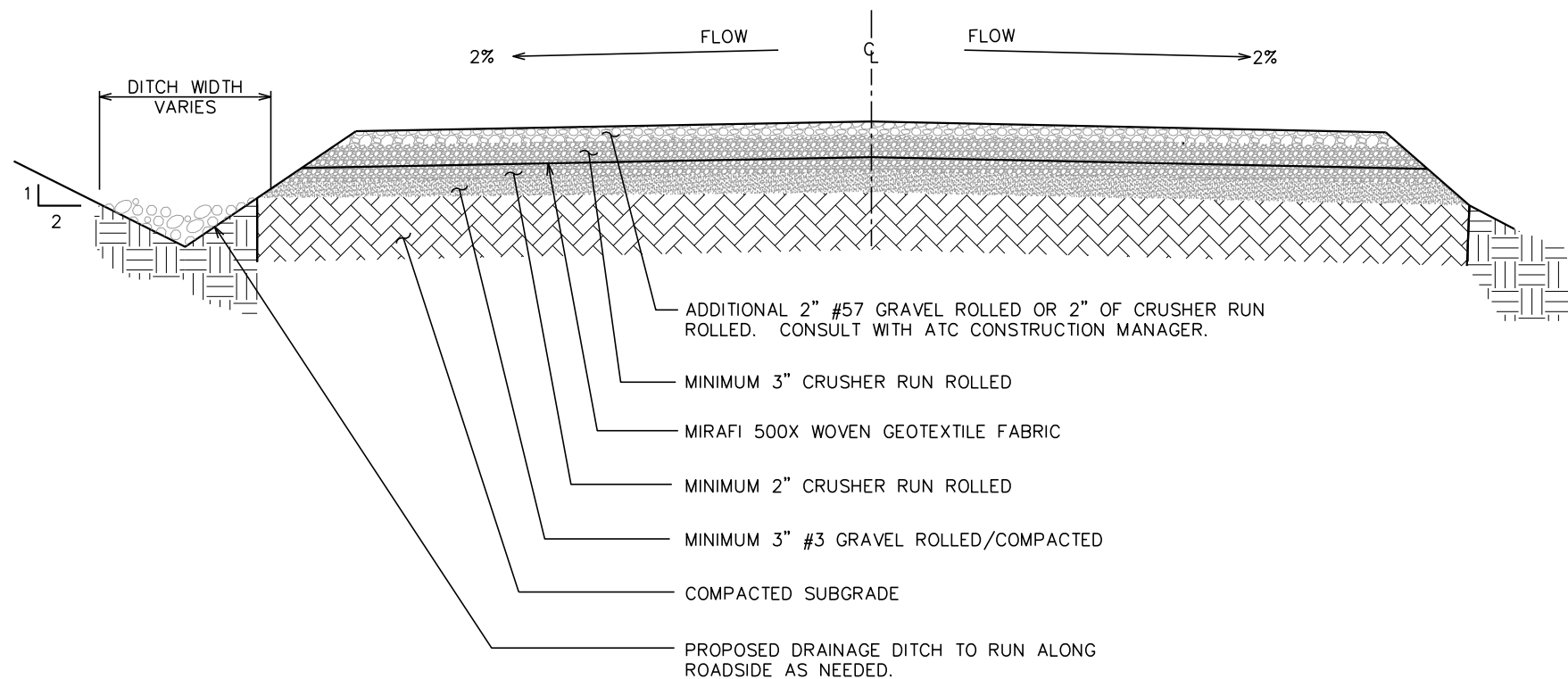
**TYPICAL SIGNS AND SPECIFICATIONS**

SCALE: N.T.S.



**CULVERT DETAIL @ COMPOUND ENTRANCE**

SCALE: 3/4" = 1'-0"



**STANDARD ROAD SECTION (GOOD SUBGRADE)**

SCALE: 1/2" = 1'-0"

PLANS PREPARED FOR:

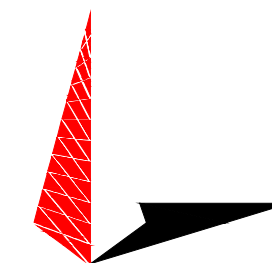


AMERICAN TOWER CORPORATION  
3500 REGENCY PARKWAY, STE. 100  
CARY, NC 27518

PROJECT INFORMATION:

**AT&T SITE #: 368-317**  
**ATC SITE #: 280422**  
**FARRINGTON NC**  
464 OLD FARRINGTON RD.  
CHAPEL HILL, NC 27514  
(CHATHAM COUNTY)

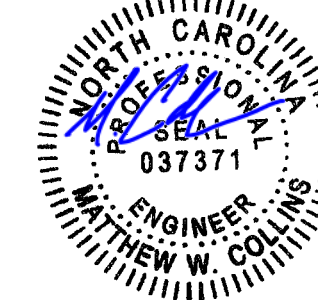
PLANS PREPARED BY:



**TOWER ENGINEERING PROFESSIONALS**  
3703 JUNCTION BOULEVARD  
RALEIGH, NC 27603-5263  
OFFICE: (919) 661-6351  
www.tepgroup.net

N.C. LICENSE # C-1794

SEAL:



April 30, 2014

REV	DATE	ISSUED FOR:
2	04-30-14	CONSTRUCTION
1	01-22-14	PRELIMINARY
0	01-13-14	PRELIMINARY

DRAWN BY: MSQ CHECKED BY: GMA

SHEET TITLE:

**CULVERT & DRIVEWAY DETAILS**

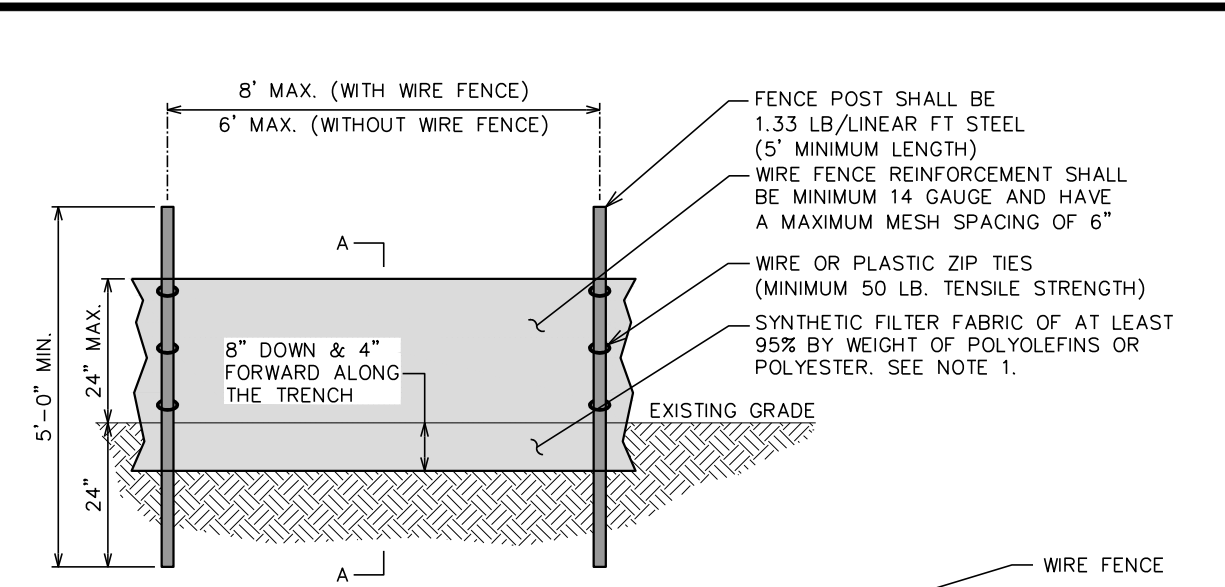
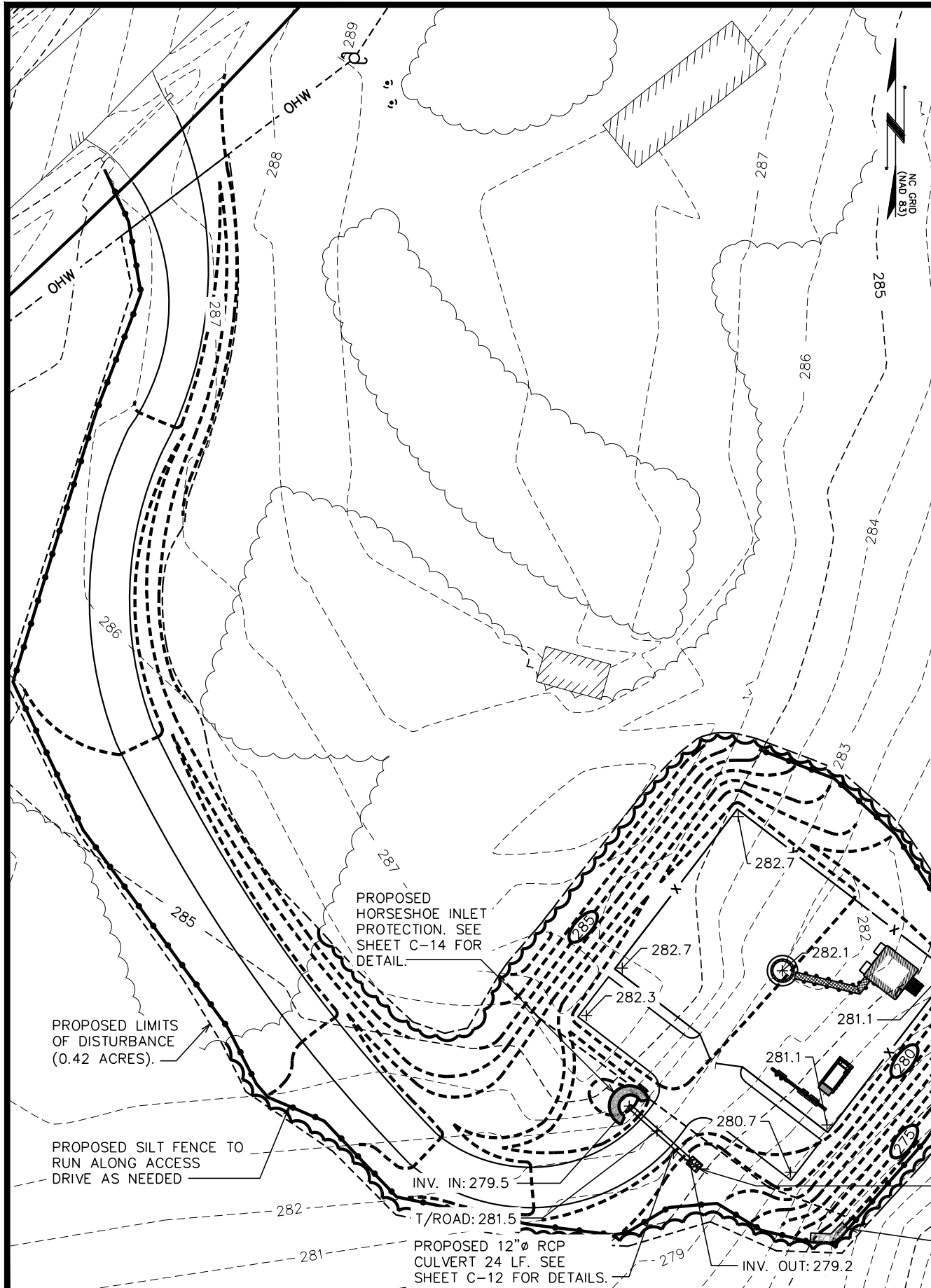
SHEET NUMBER:

**C-12**

REVISION:

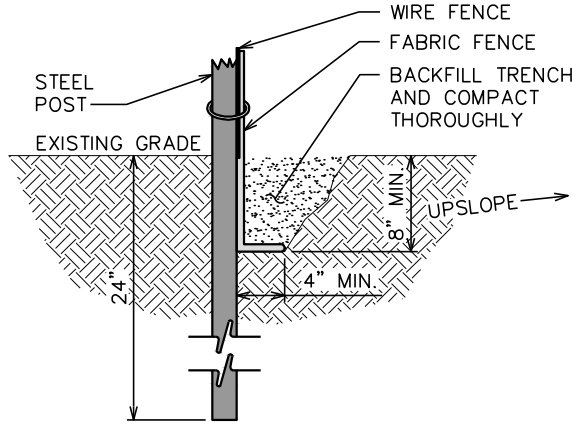
**2**

TEP #: 131147



**NOTES:**

1. FILTER FABRIC SHALL CONFORM TO THE REQUIREMENTS LISTED IN ASTM D 6461.
2. ENDS OF INDIVIDUAL FILTER FABRIC SHALL BE SECURELY FASTENED AT A SUPPORT POST WITH 4 FEET MINIMUM OVERLAP TO THE NEXT POST
3. PLACE 12 INCHES OF FABRIC ALONG THE BOTTOM AND SIDE OF THE TRENCH.
4. INSPECT SEDIMENT FENCE(S) AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL.
5. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE.
6. AFTER CONSTRUCTION IS COMPLETE, THE CONTRACTOR SHALL REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE AND PROPERLY STABILIZE THE SITE.



**STANDARD SILT FENCE DETAIL**

SCALE: N.T.S.

**SITE DATA TABLE**

TOTAL PARCEL AREA:	10.29 ACRES±
EXISTING IMPERVIOUS:	0.12 ACRES± (1.17%)
PROPOSED IMPERVIOUS:	0.26 ACRES± (2.53%)
TOTAL IMPERVIOUS:	0.38 ACRES± (3.69%)
PROPOSED ACCESS DRIVE DISTURBED AREA:	0.42 ACRES± (4.08%)
PROPOSED COMPOUND DISTURBED AREA:	0.31 ACRES± (3.01%)
TOTAL PROPOSED DISTURBED AREA:	0.73 ACRES± (7.09%)

PLANS PREPARED FOR:  
  
**AMERICAN TOWER CORPORATION**  
 3500 REGENCY PARKWAY, STE. 100  
 CARY, NC 27518

PROJECT INFORMATION:  
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**ATC SITE #: 280422**  
**FARRINGTON NC**  
 464 OLD FARRINGTON RD.  
 CHAPEL HILL, NC 27514  
 (CHATHAM COUNTY)

PLANS PREPARED BY:  
  
**TOWER ENGINEERING PROFESSIONALS**  
 3703 JUNCTION BOULEVARD  
 RALEIGH, NC 27603-5263  
 OFFICE: (919) 661-6351  
 www.tepgroup.net  
 N.C. LICENSE # C-1794

SEAL:  
  
 May 20, 2014

3	05-20-14	CONSTRUCTION
2	04-30-14	CONSTRUCTION
1	01-22-14	PRELIMINARY
0	01-13-14	PRELIMINARY
REV	DATE	ISSUED FOR:

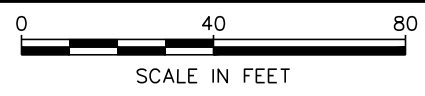
DRAWN BY: KWJ CHECKED BY: GMA

SHEET TITLE:  
**SOIL & EROSION CONTROL PLAN**

SHEET NUMBER: **C-13** REVISION: **3**  
 TEP #: 131147

**SOIL & EROSION CONTROL PLAN**

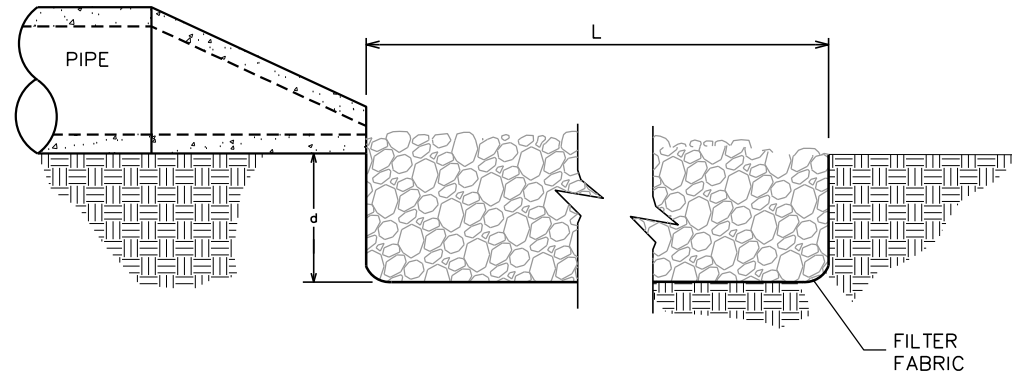
SCALE: 1" = 40'



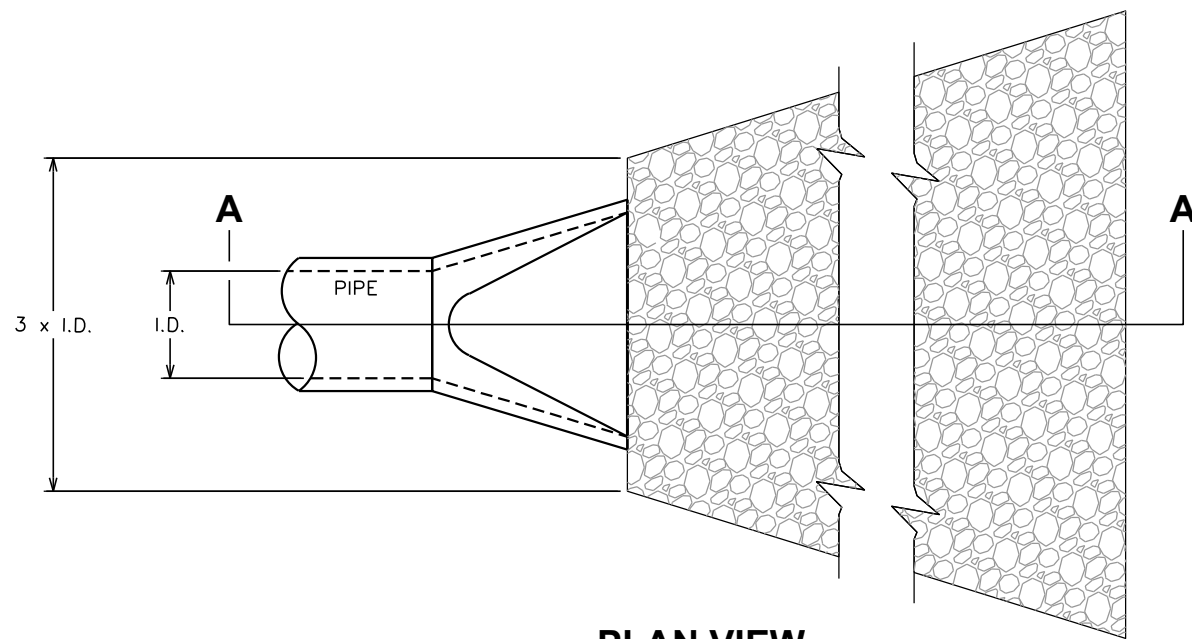


**NOTES:**

1. L = THE LENGTH OF THE RIPRAP APRON.
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6" (INCHES).
3. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.



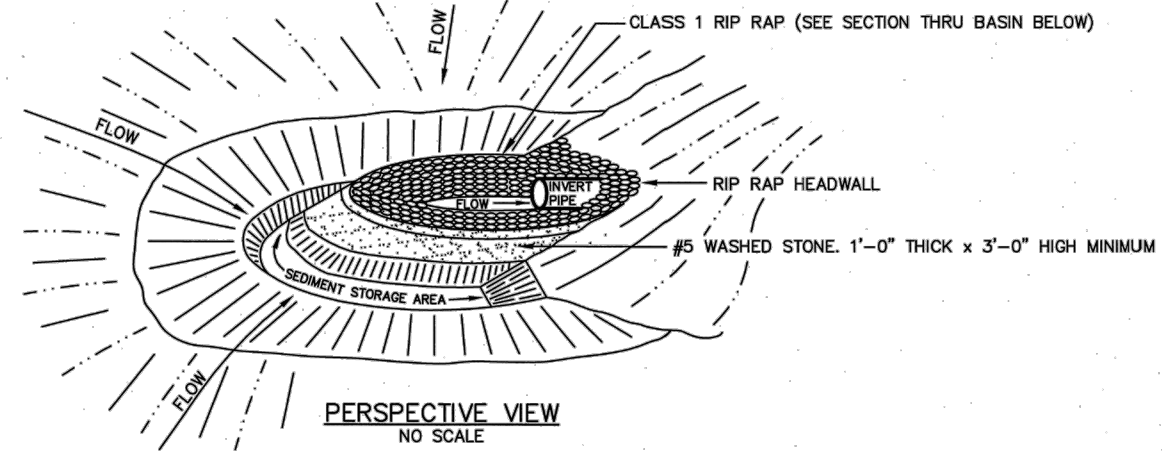
**SECTION 'A-A'**



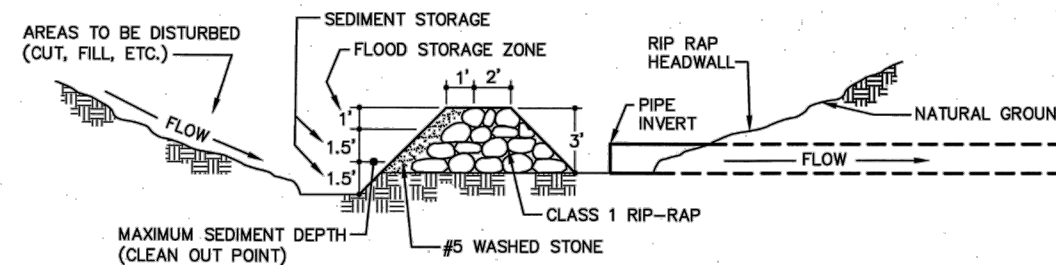
**PLAN VIEW**

**PIPE OUTLET PROTECTION**

SCALE: N.T.S.



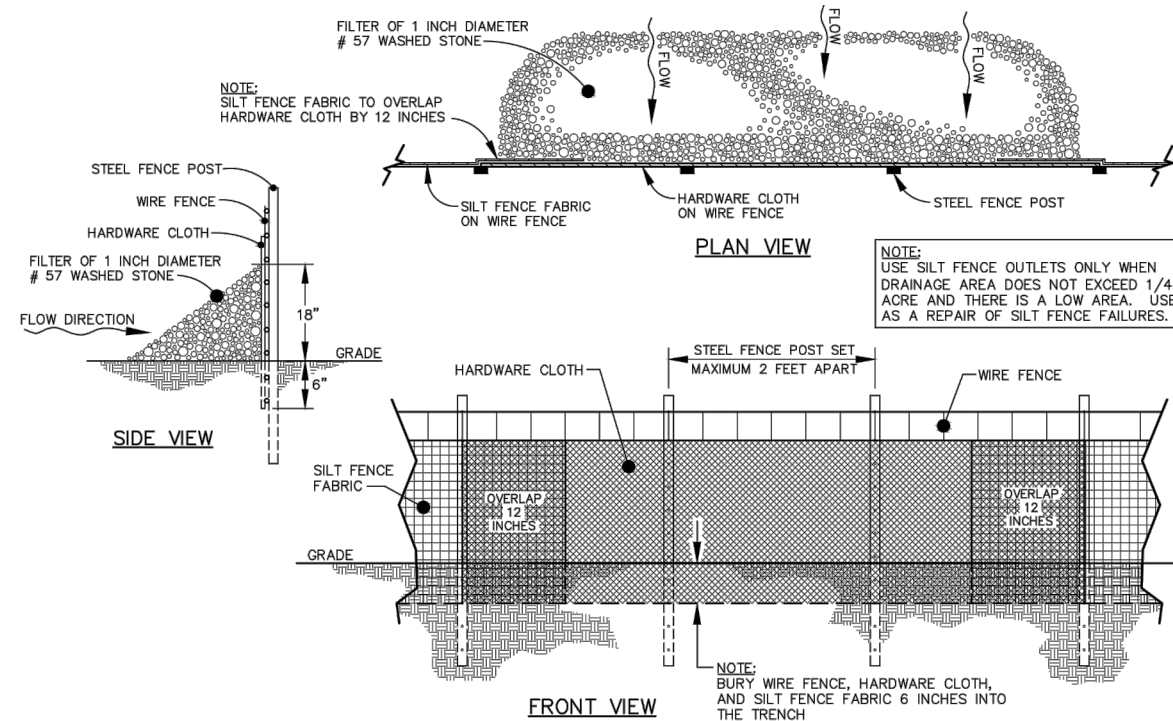
**PERSPECTIVE VIEW**  
NO SCALE



**SECTION THRU CATCH BASIN, FILTER AND CULVERT PIPE**  
NO SCALE

**PIPE INLET PROTECTION DETAIL**

SCALE: N.T.S.



**STANDARD SILT FENCE OUTLET DETAIL**

SCALE: N.T.S.

PLANS PREPARED FOR:

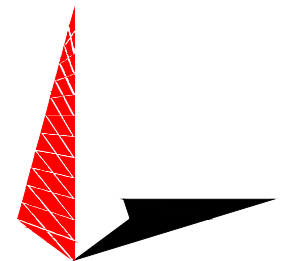


3500 REGENCY PARKWAY, STE. 100  
CARY, NC 27518

PROJECT INFORMATION:

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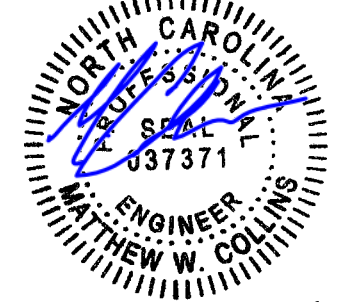
PLANS PREPARED BY:



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OFFICE: (919) 661-6351  
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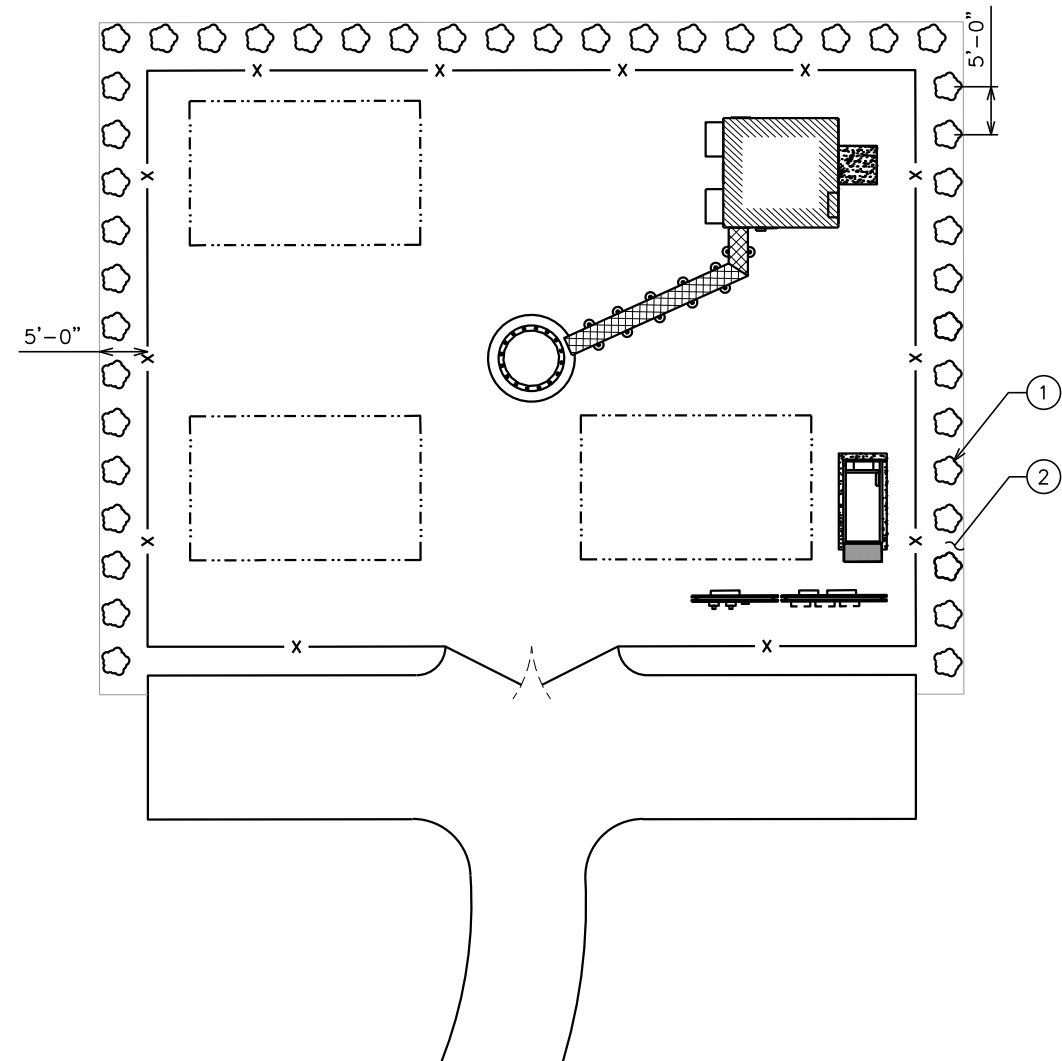
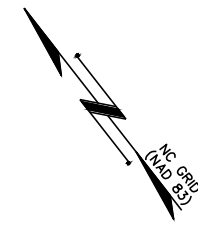
DRAWN BY: JJC CHECKED BY: GMA

SHEET TITLE:  
**SOIL & EROSION CONTROL DETAILS**

SHEET NUMBER:	REVISION:
<b>C-14</b>	<b>2</b>
	TEP #: 131147

**LANDSCAPE NOTES:**


1. TOPSOIL TO BE PROVIDED BY SITE CONTRACTOR IN ROUGH GRADE TO WITHIN 1" OF FINISH GRADE.
2. EACH PLANT TO BE FREE FROM DISEASE, INSECT INFESTATION, AND MECHANICAL INJURIES, AND IN ALL RESPECTS BE SUITABLE FOR FIELD PLANTING.
3. ALL PLANTS TO BE FULLY GUARANTEED (LABOR AND MATERIALS) FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF INSTALLATION.
4. ALL PLANTS SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1-1973 IN REGARD TO SIZING, GROWING, AND B&B SPECIFICATIONS.
5. THE CONTRACTOR SHALL PROTECT ALL EXISTING TREES AND SHRUBS WITHIN THE CONSTRUCTION AREA IDENTIFIED AS "TO REMAIN" FROM DAMAGE BY EQUIPMENT AND CONSTRUCTION ACTIVITIES.



PLANS PREPARED FOR:  
  
 AMERICAN TOWER CORPORATION  
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 N.C. LICENSE # C-1794

SEAL:  
  
 APRIL 30, 2014

**COMPOUND DETAIL**  
 SCALE: 1" = 20'



PLANTING SCHEDULE								
ITEM	QTY.	BOTANICAL NAME	COMMON NAME	HEIGHT @ PLANTING	HEIGHT @ 4 YRS.	SPREAD/CALIPER	SPACING	REMARKS
<b>SHRUBS</b>								
①	44	(MORELLA CERIFERA)	WAX MYRTLE	2'-0" (MIN)	6'-0" (MIN)	N/A	5' (MIN)	SHOWN AS 
<b>MULCH</b>								
②	-	-	MULCH	-	-	-	-	APPLY 3"-4" DEEP WITHIN BUFFERYARD FOR GROUND COVER

2	04-30-14	CONSTRUCTION
1	01-22-14	PRELIMINARY
0	01-13-14	PRELIMINARY
REV	DATE	ISSUED FOR:

DRAWN BY: MAW CHECKED BY: SCB

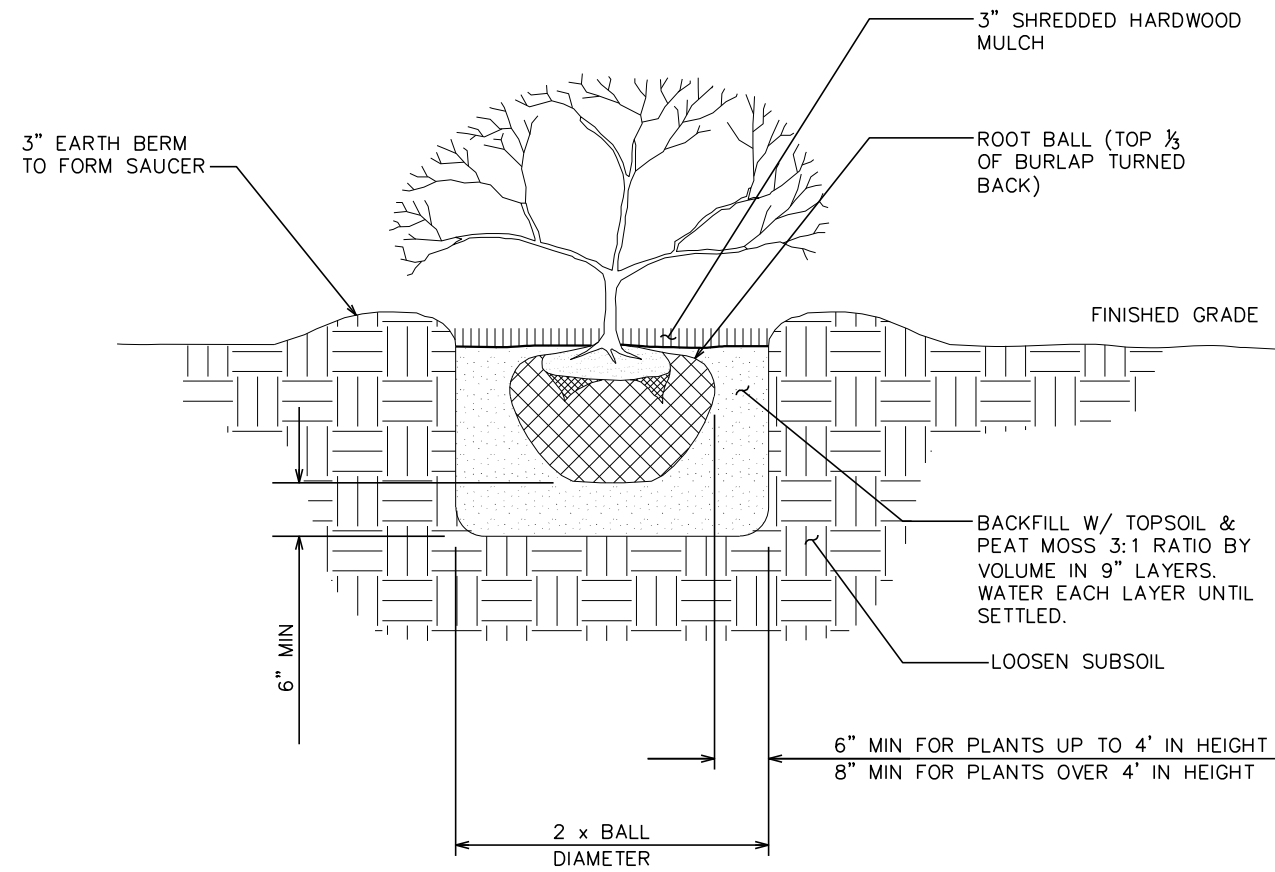
SHEET TITLE:  
**LANDSCAPING PLAN**

SHEET NUMBER:  
**L-1**

REVISION:  
**2**  
 TEP #: 131147

**NOTE:**

SEE LANDSCAPING NOTES ON L-1



PLANS PREPARED FOR:

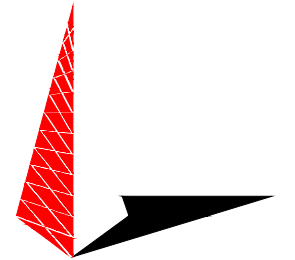


3500 REGENCY PARKWAY, STE. 100  
CARY, NC 27518

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DRAWN BY: JHJ CHECKED BY: GMA

SHEET TITLE:  
**LANDSCAPING  
DETAILS**

SHEET NUMBER: **L-2** REVISION: **2**  
TEP #: 131147

**LANDSCAPING DETAILS**

SCALE: N.T.S.

# ELECTRICAL NOTES:

## SCOPE:

- SHALL INCLUDE ALL LABOR, MATERIALS AND APPLIANCES REQUIRED FOR THE FURNISHING, INSTALLING AND TESTING, COMPLETE AND READY FOR OPERATION OF ALL WORK SHOWN ON THE DRAWING AS SPECIFIED HEREIN:
  - ELECTRIC SERVICE
  - CONDUIT AND RACEWAY
  - CONDUCTORS
  - MISCELLANEOUS MATERIALS
  - TELEPHONE CONDUITS
  - LIGHTNING ARRESTING SYSTEM

## CODES

- THE INSTALLATION SHALL COMPLY WITH ALL APPLICABLE LAWS AND CODES. THESE INCLUDE BUT ARE NOT LIMITED TO THE LATEST EDITIONS OF:
  - THE NATIONAL ELECTRICAL SAFETY CODE
  - THE NATIONAL ELECTRIC CODE – NFPA-70
  - THE INTERNATIONAL ELECTRIC CODE – IEC
  - LOCAL AND STATE AMENDMENTS
  - REGULATIONS OF THE SERVING UTILITY COMPANY
  - NCEC
- ALL PERMITS REQUIRED SHALL BE OBTAINED BY THE CONTRACTOR.
- AFTER COMPLETION AND FINAL INSPECTION OF THE WORK, THE OWNER SHALL BE FURNISHED A CERTIFICATE OF COMPLETION AND APPROVAL.

## TESTING

- UPON COMPLETION OF THE INSTALLATION, OPERATE AND ADJUST ALL EQUIPMENT AND SYSTEMS TO MEET SPECIFIED PERFORMANCE REQUIREMENTS. ALL TESTING SHALL BE DONE BY QUALIFIED PERSONNEL.

## GUARANTEE

- IN ADDITION TO THE GUARANTEE OF THE EQUIPMENT BY THE MANUFACTURER, EACH PIECE OF EQUIPMENT SPECIFIED HEREIN SHALL ALSO BE GUARANTEED FOR DEFECTS OF MATERIAL OR WORKMANSHIP OCCURRING DURING A PERIOD OF ONE (1) YEAR FROM FINAL ACCEPTANCE OF THE WORK BY THE OWNER. WITHOUT EXPENSE TO THE OWNER ALL WARRANTY CERTIFICATES & GUARANTEES FURNISHED BY THE MANUFACTURERS SHALL BE TURNED OVER TO THE OWNER.

## CO-ORDINATION:

- CONTRACTOR SHALL COORDINATE ALL WORK WITH THE POWER AND TELEPHONE COMPANIES AND SHALL COMPLY WITH ALL SERVICE REQUIREMENTS OF EACH UTILITY COMPANY.

## EXAMINATION OF SITE

- PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL VISIT THE SITE OF THE JOB AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED ELECTRICAL INSTALLATION AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. FAILURE TO COMPLY WITH THE INTENT OF THIS PARAGRAPH WILL IN NO WAY RELIEVE THE CONTRACTOR OF PERFORMING ALL WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM OR SYSTEMS.

## CUTTING, PATCHING AND EXCAVATION:

- COORDINATION OF ALL SLEEVES, CHASES, ETC., WILL BE REQUIRED PRIOR TO THE CONSTRUCTION OF ANY PORTION OF THE WORK. ALL CUTTING AND PATCHING OF WALLS, PARTITIONS, FLOORS, AND CHASES IN CONCRETE, WOOD, STEEL OR MASONRY SHALL BE DONE AS PROVIDED ON THE DRAWINGS.
- ALL NECESSARY EXCAVATIONS AND BACKFILLING INCIDENTAL TO THE WORK UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWING SHALL BE PROVIDED BY THIS CONTRACTOR.
- SEAL ALL PENETRATION THROUGH WALL AND FLOORS WITH APPROVED GROUT.

## EXTERIOR CONDUIT:

- ALL EXPOSED CONDUIT SHALL BE NEATLY INSTALLED AND RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS. SUPPORTS AND MOUNTING HARDWARE SHALL BE HOT DIPPED GALVANIZED STEEL.

## RACEWAYS

- ALL CONDUCTORS SHALL BE INSTALLED IN CONDUIT. ALL CONDUIT SHALL BE RIGID STEEL, EMT OR SCH40 PVC AS INDICATED ON THE DRAWINGS.
- WHERE INSTALLED ON EXTERIORS AND EXPOSED TO DAMAGE, ALL CONDUIT SHALL BE RIGID STEEL. ALUMINUM CONDUIT SHALL NOT BE ALLOWED.
- CONCEALED CONDUIT IN WALLS OR INTERIOR SPACES ABOVE GRADE MAY BE EMT.
- UNDERGROUND CONDUITS SHALL BE RIGID STEEL OR SCHEDULE 40 PVC AS INDICATED ON THE DRAWINGS.
- ALL CONDUIT RUNS SHALL USE APPROVED COUPLINGS AND CONNECTORS. PROVIDE INSULATED BUSHING FOR ALL CONDUIT TERMINATIONS. ALL CONDUIT RUNS IN A WET LOCATION SHALL HAVE WATERPROOF FITTINGS.
- PROVIDE SUPPORTS FOR ALL CONDUITS IN ACCORDANCE WITH NEC REQUIREMENTS. ALL CONDUITS SHALL BE SIZED AS REQUIRED BY NEC.
- BURIAL DEPTH OF ALL CONDUITS SHALL BE AS REQUIRED BY CODE FOR EACH SPECIFIC CONDUIT TYPE AND APPLICATION.
- CONDUIT ROUTES ARE SCHEMATIC. CONTRACTOR SHALL FIELD VERIFY BEFORE BID. COORDINATE ROUTE WITH WIRELESS CARRIER AND BUILDING OWNER.

## EQUIPMENT:

- ALL DISCONNECT SWITCHES SHALL BE SERVICE ENTRANCE RATED, HEAVY DUTY TYPE.
- NEW CIRCUIT BREAKERS SHALL BE RATED TO WITHSTAND THE MAXIMUM AVAILABLE FAULT CURRENT AS DETERMINED BY THE LOCAL UTILITY. CONTRACTOR SHALL VERIFY MAXIMUM AVAILABLE FAULT CURRENT, AND COORDINATE INSTALLATION WITH THE LOCAL UTILITY BEFORE STARTING WORK.
- ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES AND EQUIPMENT SHALL BE LABEL/LISTED BY UL OR A NORTH CAROLINA APPROVED THIRD PARTY TESTING AGENCY.

## CONDUCTORS

- FURNISH AND INSTALL CONDUCTORS CALLED FOR IN THE DRAWINGS. ALL CONDUCTORS SHALL HAVE TYPE THWN (MIN) (75° C) INSULATION, RATED FOR 600 VOLTS.
- ALL CONDUCTORS SHALL BE COPPER, THE USE OF ALUMINUM CONDUCTORS SHALL NOT BE ALLOWED. ALL CONDUCTORS SHALL BE UL LISTED AND SHALL BE PROVIDED AND INSTALLED AS FOLLOWS:
  - MINIMUM WIRE SIZE SHALL BE #12 AWG.
  - ALL CONDUCTORS SIZE #8 AND LARGER SHALL BE STRANDED. CONDUCTORS SIZED #10 AND SMALLER MAY BE SOLID OR STRANDED.
  - CONNECTION FOR #10 AWG AND SMALLER SHALL BE BY TWISTING TIGHT AND INSTALLING INSULATED PRESSURE OR WIRE NUT CONNECTIONS.
  - CONNECTION FOR #8 AWG AND LARGER SHALL BE BY USE OF STEEL CRIMP-ON SLEEVES WITH NYLON INSULATOR.
- ALL CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH NEC STANDARDS.
- THE RACEWAY SYSTEM SHALL BE COMPLETE BEFORE INSTALLING CONDUCTORS

## PENETRATIONS:

- CONTRACTOR SHALL COMPLY WITH UL PENETRATION DETAILS FOR PENETRATIONS OF ALL RATED WALLS, ROOF, ETC.


## GROUNDING

- ALL ELECTRICAL NEUTRALS, RACEWAYS AND NON-CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT AND ASSOCIATED ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH NEC ARTICLE 250. THIS SHALL INCLUDE NEUTRAL CONDUCTORS, CONDUITS, SUPPORTS, CABINETS, BOXES, GROUND BUSSES, ETC. THE NEUTRAL CONDUCTOR FOR EACH SYSTEM SHALL BE GROUNDED BY ONE POINT ONLY.
- PROVIDE GROUND CONDUCTOR IN ALL RACEWAYS.
- PROVIDE BONDING AND GROUND TO MEET NFPA 780 – LIGHTNING PROTECTION AS A MINIMUM.
- PROVIDE GROUNDING SYSTEM AS INDICATED ON THE DRAWINGS, AS REQUIRED BY THE NATIONAL ELECTRIC CODE AND RADIO EQUIPMENT MANUFACTURER.

## ABBREVIATIONS AND LEGEND

A	– AMPERE	PVC	– SCH40 RIGID NON-METALLIC CONDUIT
AFG	– ABOVE FINISHED GRADE	RGS	– RIGID GALVANIZED STEEL CONDUIT
ATS	– AUTOMATIC TRANSFER SWITCH	SW	– SWITCH
AWG	– AMERICAN WIRE GAUGE	TGB	– TOWER GROUND BAR
BCW	– BARE COPPER WIRE	UL	– UNDERWRITERS LABORATORIES
BFG	– BELOW FINISHED GRADE	V	– VOLTAGE
BKR	– BREAKER	W	– WATTS
C	– CONDUIT	XFMR	– TRANSFORMER
CKT	– CIRCUIT	XMTR	– TRANSMITTER
DISC	– DISCONNECT		
EGR	– EXTERNAL GROUND RING		
EMT	– ELECTRIC METALLIC TUBING		
FSC	– FLEXIBLE STEEL CONDUIT		
GEN	– GENERATOR		
GPS	– GLOBAL POSITIONING SYSTEM		
GRD	– GROUND		
IGB	– ISOLATED GROUND BAR		
IGR	– INTERIOR GROUND RING (HALO)		
KW	– KILOWATTS		
NEC	– NATIONAL ELECTRIC CODE		
PCS	– PERSONAL COMMUNICATION SYSTEM		
PH	– PHASE		
PNL	– PANEL		
PNLBD	– PANELBOARD		

-----E-----	UNDERGROUND ELECTRICAL CONDUIT
-----T-----	UNDERGROUND TELEPHONE CONDUIT
	KILOWATT-HOUR METER
-----	UNDERGROUND BONDING AND GROUNDING CONDUCTOR.
∅	GROUND ROD
●	CADWELD
⊠	GROUND ROD WITH INSPECTION WELL

PLANS PREPARED FOR:



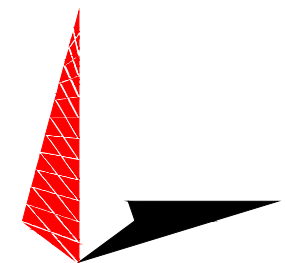
3500 REGENCY PARKWAY, STE. 100  
CARY, NC 27518

PROJECT INFORMATION:

**AT&T SITE #: 368-317**  
**ATC SITE #: 280422**  
**FARRINGTON NC**

464 OLD FARRINGTON RD.  
CHAPEL HILL, NC 27514  
(CHATHAM COUNTY)

PLANS PREPARED BY:



**TOWER ENGINEERING PROFESSIONALS**

3703 JUNCTION BOULEVARD  
RALEIGH, NC 27603-5263  
OFFICE: (919) 661-6351  
www.tepgroup.net

N.C. LICENSE # C-1794

SEAL:



April 30, 2014

REV	DATE	ISSUED FOR:
2	04-30-14	CONSTRUCTION
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0	01-13-14	PRELIMINARY

DRAWN BY: SCB CHECKED BY: FTH

SHEET TITLE:

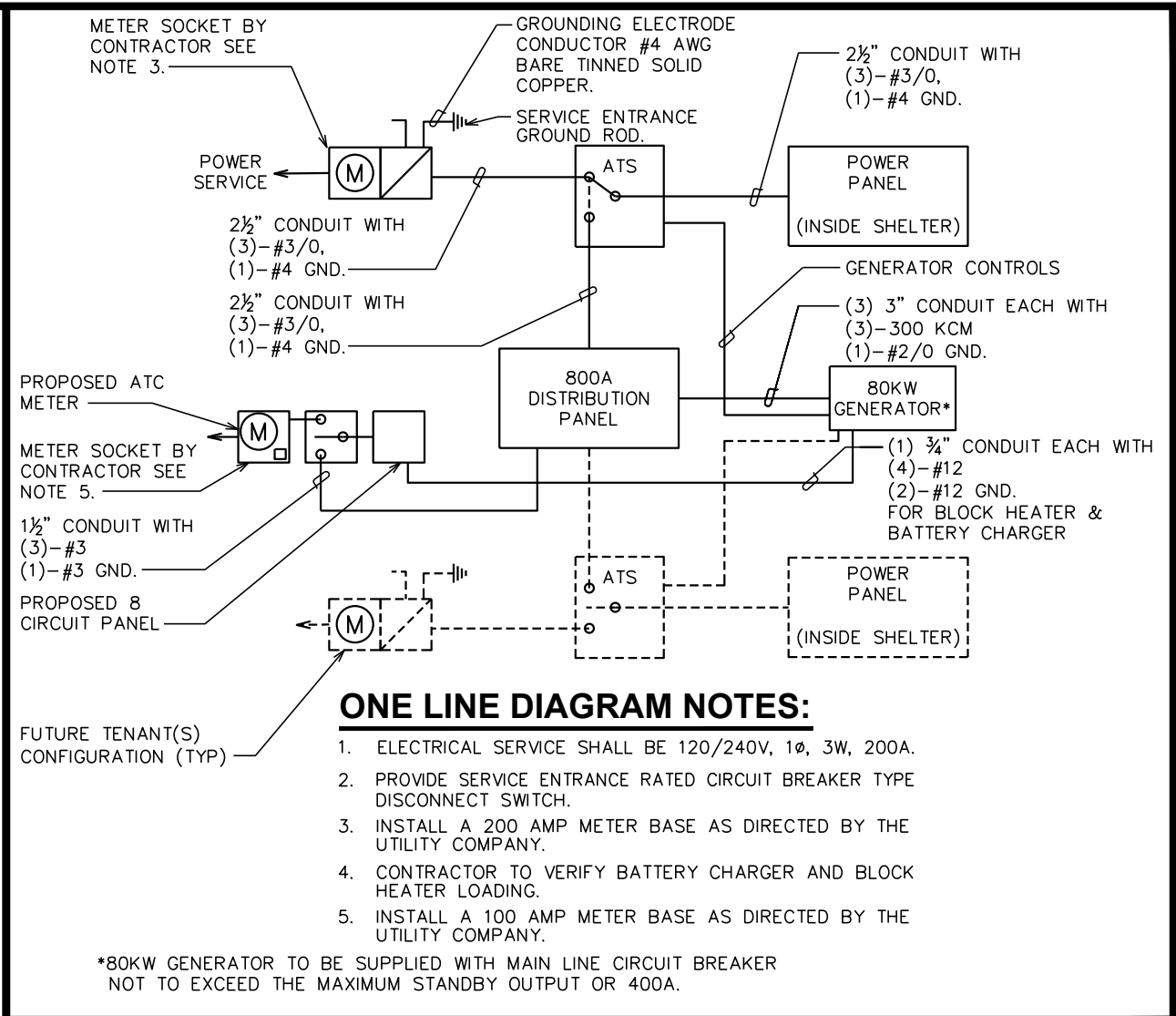
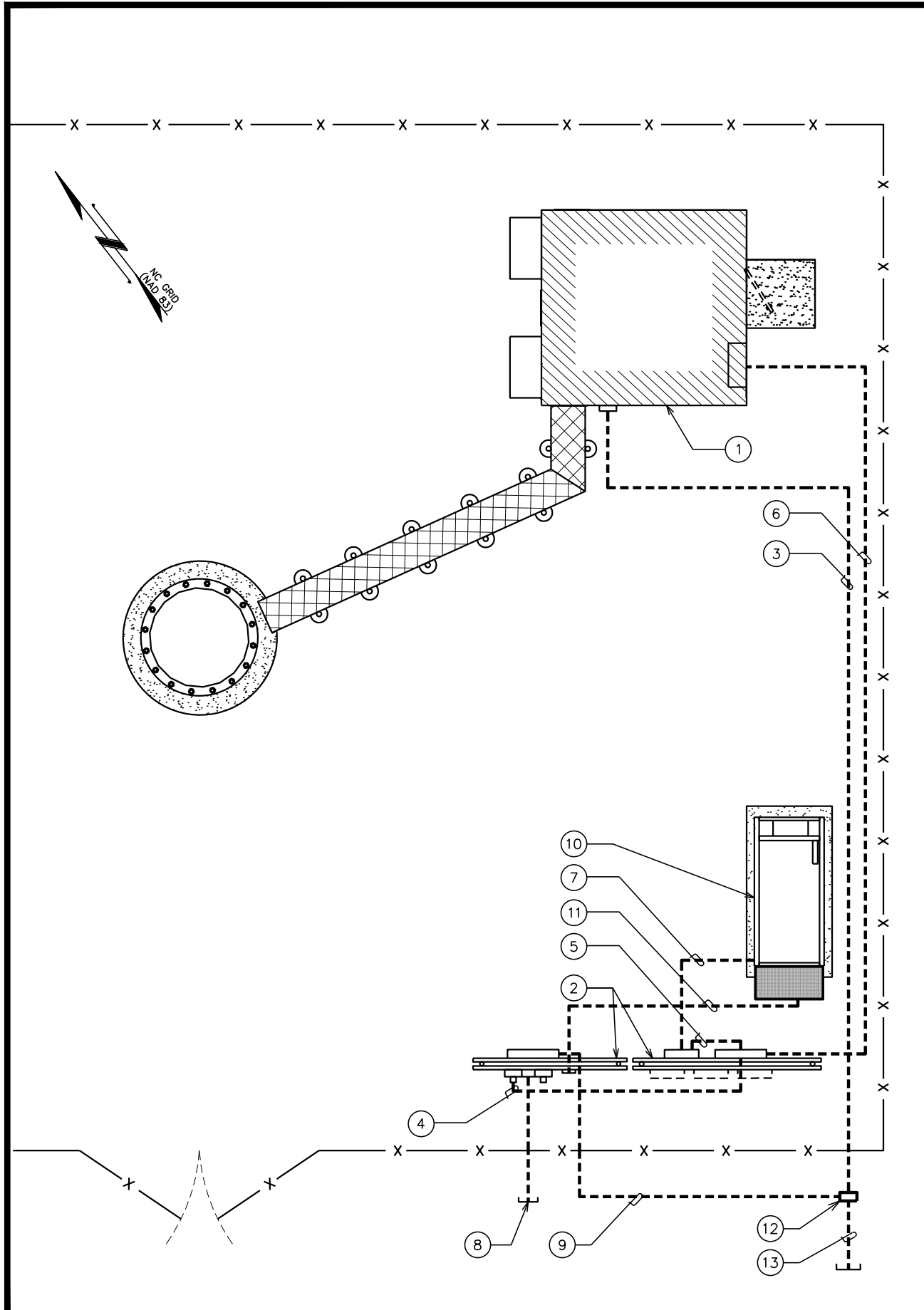
**ELECTRICAL  
NOTES**

SHEET NUMBER: REVISION:

**E-1**

**2**

TEP #: 131147



**ONE LINE DIAGRAM NOTES:**

1. ELECTRICAL SERVICE SHALL BE 120/240V, 1 $\phi$ , 3W, 200A.
2. PROVIDE SERVICE ENTRANCE RATED CIRCUIT BREAKER TYPE DISCONNECT SWITCH.
3. INSTALL A 200 AMP METER BASE AS DIRECTED BY THE UTILITY COMPANY.
4. CONTRACTOR TO VERIFY BATTERY CHARGER AND BLOCK HEATER LOADING.
5. INSTALL A 100 AMP METER BASE AS DIRECTED BY THE UTILITY COMPANY.

**ONE LINE DIAGRAM**

SCALE: N.T.S.

**PLAN NOTES:**

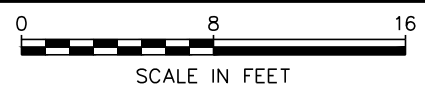
- 1 PROPOSED AT&T EQUIPMENT SHELTER.
- 2 PROPOSED H-FRAMES SEE SHEETS E-5 & E-5A FOR DETAILS
- 3 (1) 4" TELCO CONDUIT W/ (3) 1/4" FLEX INTERDUCT & PULL STRING FOR FIBER POWER LEADS.
- 4 (1) 2 1/2" POWER CONDUIT FROM PROPOSED METER TO 200A AUTOMATIC TRANSFER SWITCH.
- 5 (1) 2 1/2" POWER CONDUIT FROM 800A DISTRIBUTION PANEL TO 200A AUTOMATIC TRANSFER SWITCH.
- 6 (1) 2 1/2" POWER CONDUIT FROM 200A AUTOMATIC TRANSFER SWITCH TO TENANT SHELTER DISTRIBUTION PANEL.
- 7 (3) 3" POWER CONDUIT FROM THE PROPOSED GENERATOR TO THE 800A DISTRIBUTION PANEL
- 8 PROPOSED (2) 4" POWER CONDUIT STUBBED UP 3' OUTSIDE FENCE. CONTRACTOR TO COORDINATE SERVICE WITH LOCAL POWER COMPANY.
- 9 PROPOSED (1) 4" TELCO/FIBER CONDUIT FROM TELCO EQUIPMENT CABINET TO FIBER HANDHOLE.
- 10 PROPOSED GENERATOR. SEE DETAILS SHEETS C-6 AND C-7
- 11 AUTOMATIC START-UP AND INTER CARRIER CONTROL BY GENERATOR COMPANY.
- 12 PROPOSED FIBER HANDHOLE BY AT&T.
- 13 PROPOSED 4" CONDUIT W/ PULL STRING FROM FIBER HANDHOLE TO BE STUBBED UP 10' FROM R.O.W. ROUTE TO FOLLOW ACCESS & UTILITY EASEMENT.

**TRENCHING NOTE:**

PRIOR TO ANY DIGGING, THE CONTRACTOR SHALL IDENTIFY ALL EXISTING UTILITIES ON SITE.

**SERVICE ROUTING PLAN**

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



PLANS PREPARED FOR:

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CARY, NC 27518

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SHEET TITLE:

**SERVICE ROUTING PLAN & ONE-LINE DIAGRAM**

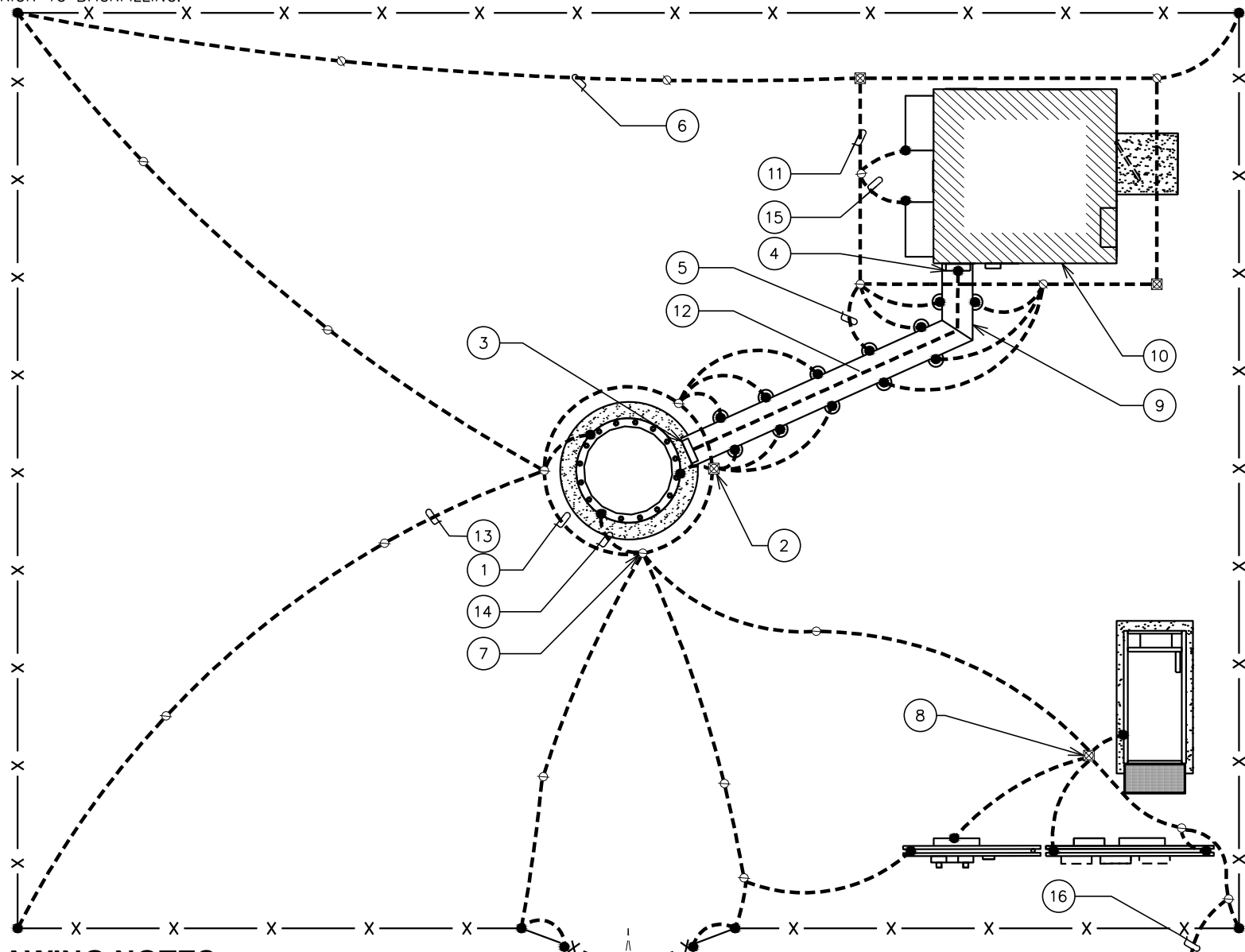
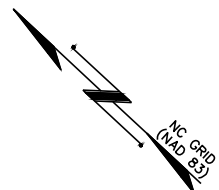
SHEET NUMBER: **E-2**

REVISION: **2**

TEP #: 131147

# GROUNDING NOTES

- GROUNDING ELECTRODES SHALL BE CONNECTED IN A RING USING #2 AWG BARE TINNED COPPER WIRE. THE TOP OF THE GROUND RODS AND THE RING CONDUCTOR SHALL BE 2 FEET BELOW FINISHED GRADE. GROUNDING ELECTRODES SHALL BE DRIVEN ON 10'-0" CENTERS. (MIN. 15'-0" MAX)
- BONDING OF THE GROUNDED CONDUCTOR (NEUTRAL) AND THE GROUNDING CONDUCTOR SHALL BE AT THE SERVICE DISCONNECTING MEANS/ BONDING JUMPER SHALL BE INSTALLED PER N.E.C. ARTICLE 250.30.
- CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHEN THE GROUNDING SYSTEM IS COMPLETE. THE CONSTRUCTION MANAGER SHALL INSPECT THE GROUNDING SYSTEM PRIOR TO BACKFILLING.

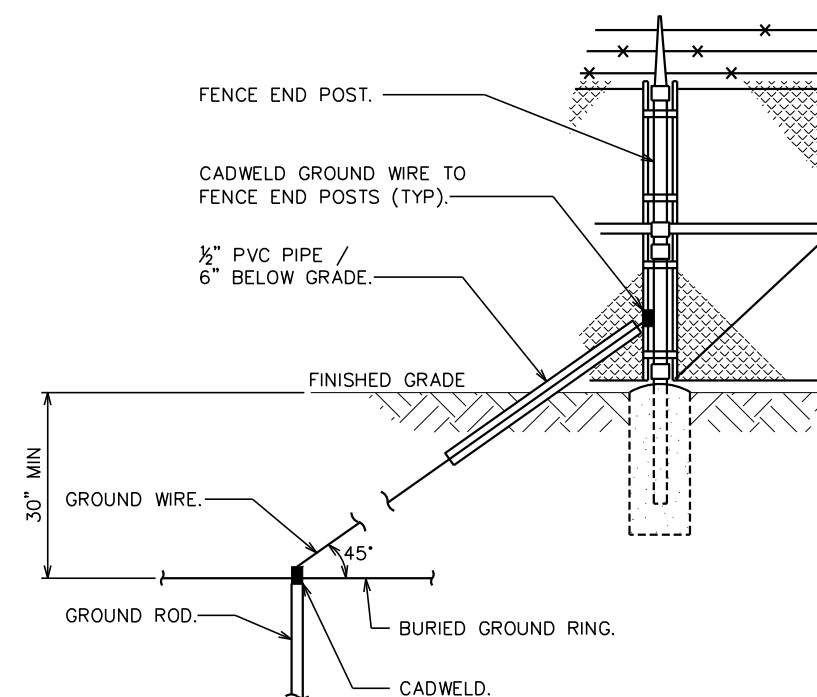


## DRAWING NOTES:

- |                                                         |                                                                         |                                                                                                            |
|---------------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| ① PROPOSED TOWER GROUND RING                            | ⑥ #2 AWG BOND TO PROPOSED GROUND RING (TYP OF 2)                        | ⑫ #2 AWG BARE SOLID TINNED COPPER WIRE BETWEEN BUS BARS                                                    |
| ② INSPECTION WELL AT CONNECTION TO PROPOSED GROUND RING | ⑦ 5/8" x 10' COPPER GROUND ROD (TYP)                                    | ⑬ TOWER BONDING TO FENCE (TYP OF 2)                                                                        |
| ③ TOWER BUS BAR                                         | ⑧ SERVICE ENTRANCE GROUND ROD WITH INSPECTION WELL. SEE E-6 FOR DETAIL. | ⑭ TOWER BONDING TO TOWER GROUND RING (TYP OF 3)                                                            |
| ④ ICE BRIDGE BUS BAR                                    | ⑨ ICE BRIDGE                                                            | ⑮ PROPOSED HVAC GROUNDING (TYP OF 2). MECHANICAL FASTENERS AT ABOVE GROUND CONNECTIONS AS ALLOWED BY CODE. |
| ⑤ #2 AWG ICE BRIDGE BOND BURIED 30" BFG (TYP)           | ⑩ EQUIPMENT SHELTER                                                     | ⑯ PROPOSED #2 GROUND TO BE STUBBED UP NEXT TO PROPOSED FIBER HANDHOLE.                                     |
|                                                         | ⑪ #2 AWG GROUND RING BURIED 30" BFG                                     |                                                                                                            |

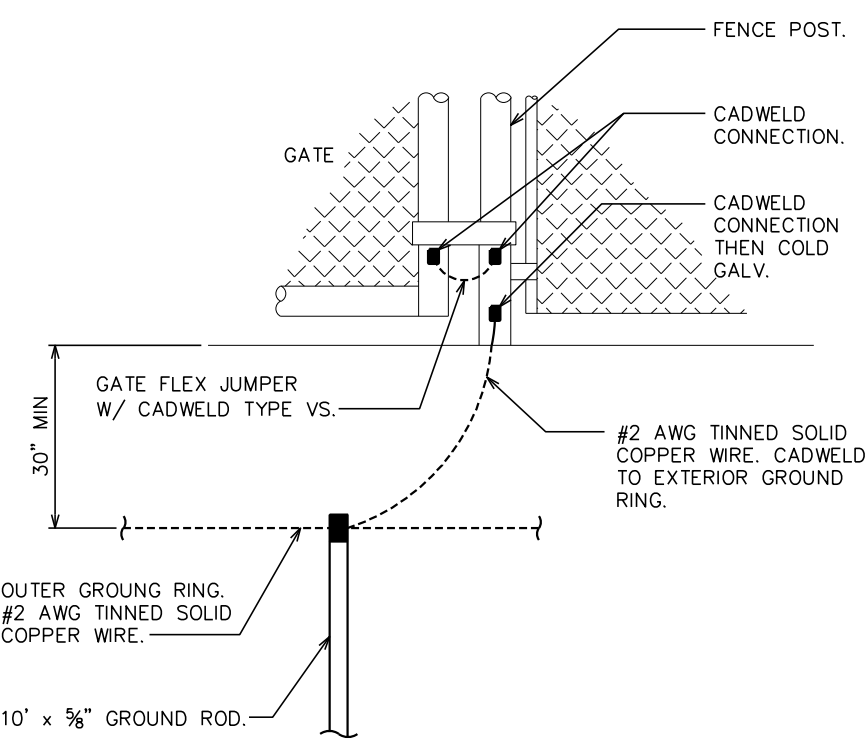
## TOWER GROUNDING PLAN

SCALE: 1" = 10'



## FENCE GROUNDING

SCALE: N.T.S.



## TYPICAL GATE POST GROUNDING DETAIL

SCALE: N.T.S.

PLANS PREPARED FOR:

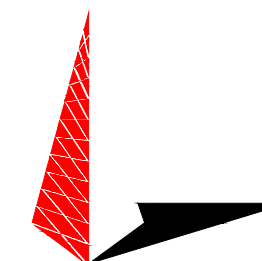


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PLANS PREPARED BY:



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DRAWN BY: SCB CHECKED BY: FTH

SHEET TITLE:

## TOWER & SHELTER GROUNDING PLAN

SHEET NUMBER: REVISION:

**E-3**

**2**

TEP #: 131147

### 800A ATC DISTRIBUTION PANEL SCHEDULE

LOAD SERVED	VOLT AMPERES (WATTS)		WIRE	BREAKER		CKT #	PHASE	CKT #	BREAKER		WIRE	VOLT AMPERES (WATTS)		LOAD SERVED
	L1	L2		P	TRIP				L1	L2				
AT&T ATS	10695		3/0	2	200	1	A	1						FUTURE CARRIER SERVICE T.B.D.
		11230				3	B	3						
FUTURE CARRIER SERVICE T.B.D.						5	A	5						FUTURE CARRIER SERVICE T.B.D.
						7	B	7						
FUTURE CARRIER SERVICE T.B.D.						9	A	9						SPARE
						11	B	11						SPARE
SPARE						13	A	13						SPARE
SPARE						15	B	15						SPARE
VOLT AMPS	10695	11230												VOLT AMPS
L1 VOLT AMPERES								10695	11230		L2 VOLT AMPERES			
								21925	TOTAL VOLT AMPERES					
								91.35	TOTAL AMPS					

### AT&T POWER PANEL SCHEDULE

LOAD SERVED	VOLT AMPERES (WATTS)		WIRE	BREAKER		CKT #	PHASE	CKT #	BREAKER		WIRE	VOLT AMPERES (WATTS)		LOAD SERVED
	L1	L2		P	TRIP				L1	L2				
3 TON HVAC #1	3400		8	2	50	1	A	1				3400		3 TON HVAC #2
		3400				3	B	3					3400	
INTERIOR LIGHTS	335		12	1	15	5	A	5				800		RECTIFIER #2
		1080				7	B	7					800	
EXTERIOR RECEPTACLES	360		12	1	20	9	A	9				800		RECTIFIER #3
		150				11	B	11					800	
EXTERIOR LIGHTS	800		10	2	30	13	A	13				800		RECTIFIER #4
		800				15	B	15					800	
						17	A	17						
						19	B	19						
						21	A	21						
						23	B	23						
						25	A	25						
						27	B	27						
						29	A	29						
VOLT AMPS	4895	5430										5800	5800	VOLT AMPS
L1 VOLT AMPERES								10695	11230		L2 VOLT AMPERES			
								21925	TOTAL VOLT AMPERES					
								91.35	TOTAL AMPS					
								114.19	AMPS X 125%					
								125.61	X 110% FOR MAIN					

### 100A ATC SERVICE PANEL SCHEDULE

LOAD SERVED	VOLT AMPERES (WATTS)		WIRE	BREAKER		CKT #	PHASE	CKT #	BREAKER		WIRE	VOLT AMPERES (WATTS)		LOAD SERVED
	L1	L2		P	TRIP				L1	L2				
BATTERY CHARGER	1440		12	1	20	1	A	1						SPARE
SPARE						3	B	3					1440	BLOCK HEATER
SPARE						5	A	5						SPARE
SPARE						7	B	7						SPARE
VOLT AMPS	1440												1440	VOLT AMPS
L1 VOLT AMPERES								1440	1440		L2 VOLT AMPERES			
								2800	TOTAL VOLT AMPERES					
								11.6667	TOTAL AMPS					
								14.5833	AMPS X 125%					
								16.04	X 110% FOR MAIN					

## PANELBOARD SCHEDULE

SCALE: N.T.S.

PLANS PREPARED FOR:

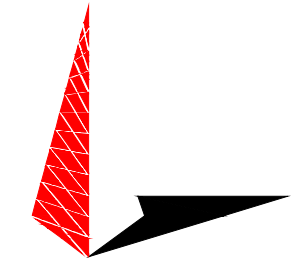


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CHAPEL HILL, NC 27514  
(CHATHAM COUNTY)

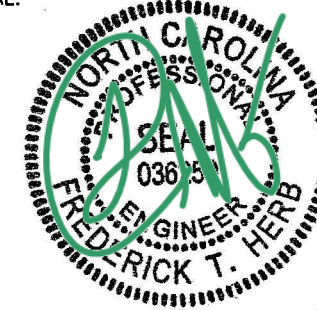
PLANS PREPARED BY:



**TOWER ENGINEERING PROFESSIONALS**  
3703 JUNCTION BOULEVARD  
RALEIGH, NC 27603-5263  
OFFICE: (919) 661-6351  
www.tepgroup.net

N.C. LICENSE # C-1794

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DRAWN BY: CSN CHECKED BY: FTH

SHEET TITLE:

**PANELBOARD SCHEDULE**

SHEET NUMBER:

**E-4**

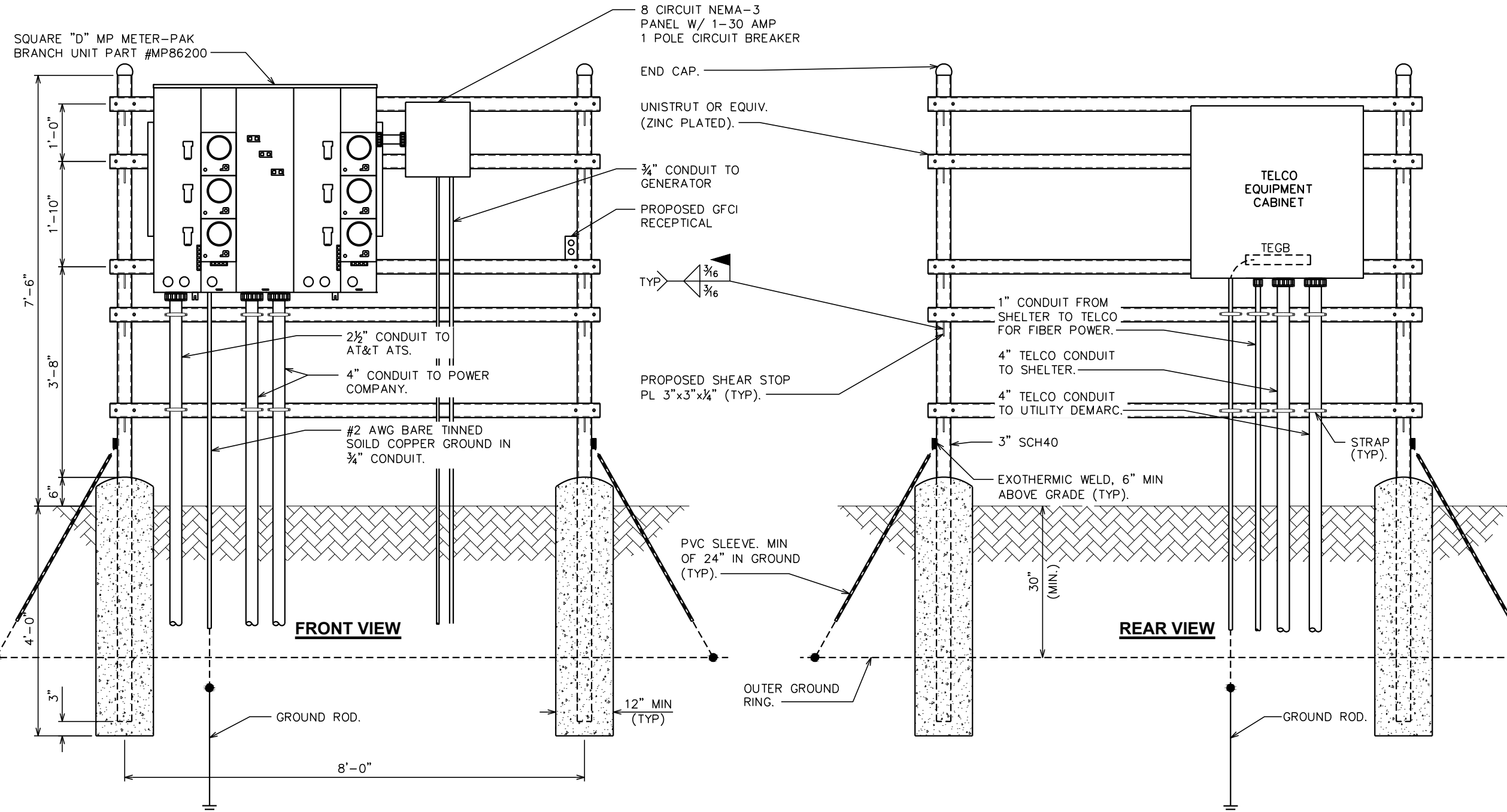
REVISION:

**2**

TEP #: 131147

**NOTES:**

1. ELECTRIC SERVICE: 240/120V, 1ø, 3W, 800A UNDERGROUND SERVICE TO POLE RISER.
2. USE COPPER STRANDED, 600V, TYPE THW/THWN, WITH CROSS-LINKED POLYETHYLENE INSULATION FOR #8 AWG AND LARGER WIRE.
3. UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC (MEET UL STANDARDS G51 AND NEMA TC2-1990). EXPOSED CONDUITS SHALL BE PVC UV RESISTANT OR RIGID GALVANIZED STEEL. ALL CONDUIT BENDS SHALL BE A MINIMUM OF 36" RADIUS.
4. GROUNDING CONDUCTOR SHALL BE 2 AWG SOLID BARE TINNED COPPER UNLESS OTHERWISE NOTED.
5. 4" PVC CONDUIT INSTALLED 30' (MINIMUM) BELOW GRADE FOR INCOMING SERVICE BY TELEPHONE COMPANY. PROVIDE PULL STRING - 200 LB. TEST POLYETHYLENE CORD.
6. METER CENTER PART NUMBER SHOWN INCLUDES 4-JAW RINGED METER SOCKETS. CONTRACTOR TO VERIFY METER CONNECTION SPECIFICATIONS WITH LOCAL UTILITY PRIOR TO ORDERING.



PLANS PREPARED FOR:



**AMERICAN TOWER CORPORATION**  
3500 REGENCY PARKWAY, STE. 100  
CARY, NC 27518

PROJECT INFORMATION:

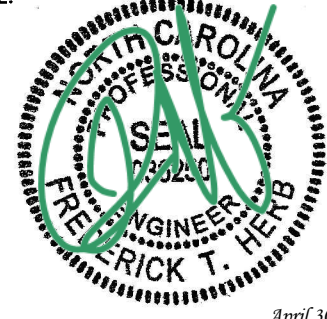
**AT&T SITE #: 368-317**  
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**FARRINGTON NC**  
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(CHATHAM COUNTY)

PLANS PREPARED BY:



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SHEET TITLE:

**SERVICE RACK DETAILS I**

SHEET NUMBER: **E-5** REVISION: **2**

TEP #: 131147



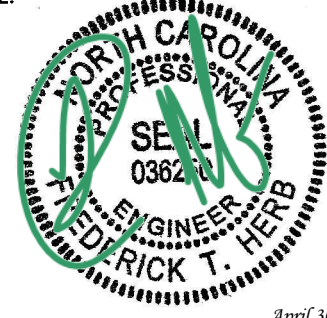
**NOTE:**

SEE SHEET E-5 FOR SERVICE RACK NOTES.

PLANS PREPARED FOR:  
  
**AMERICAN TOWER CORPORATION**  
 3500 REGENCY PARKWAY, STE. 100  
 CARY, NC 27518

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 (CHATHAM COUNTY)

PLANS PREPARED BY:  
  
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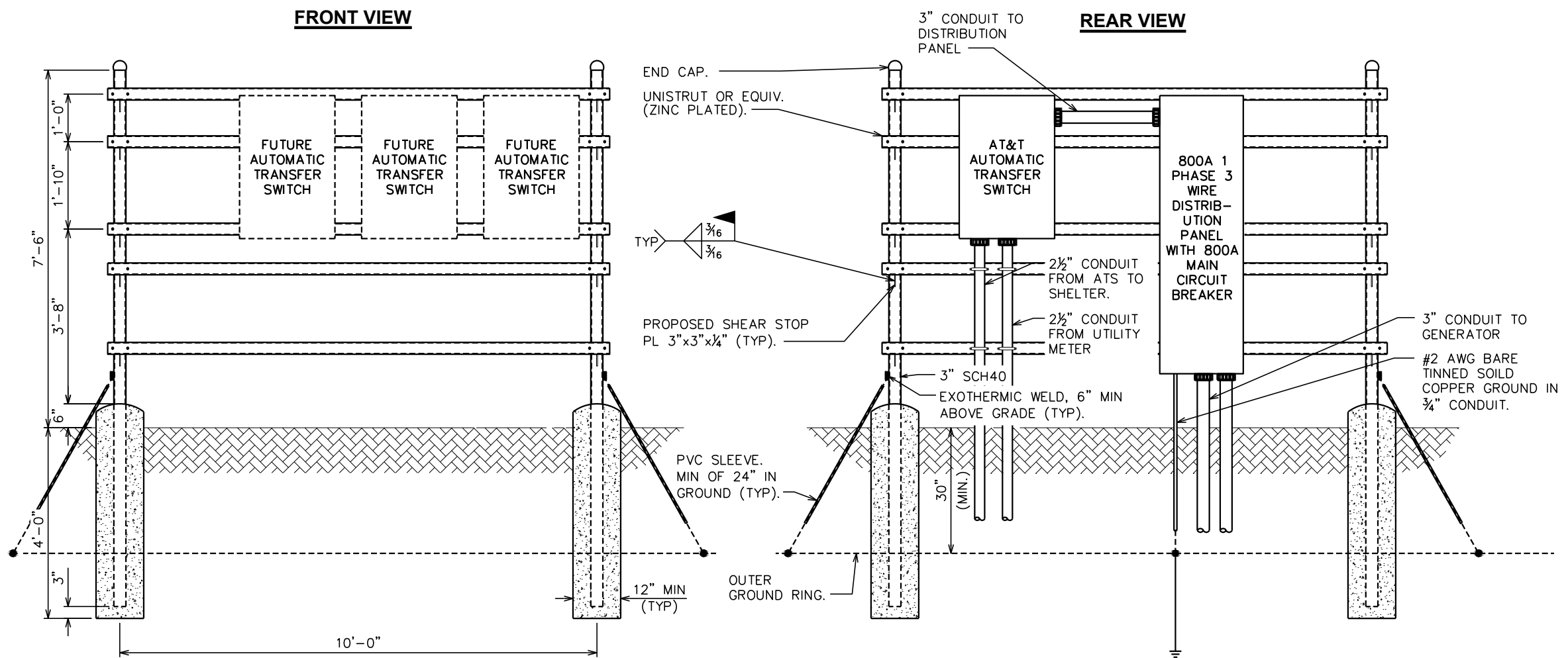
DRAWN BY: CSN CHECKED BY: FTH

SHEET TITLE:  
**SERVICE RACK DETAILS II**

SHEET NUMBER: **E-5A** REVISION: **2**  
 TEP #: 131147

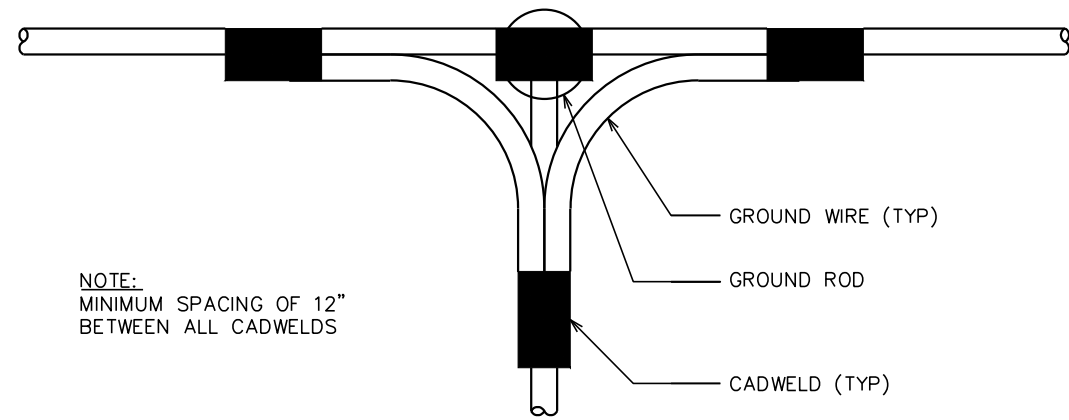
**FRONT VIEW**

**REAR VIEW**



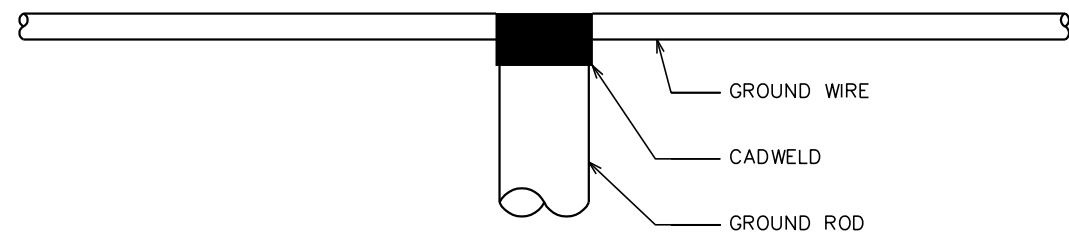
**SERVICE RACK DETAILS**

SCALE: N.T.S.

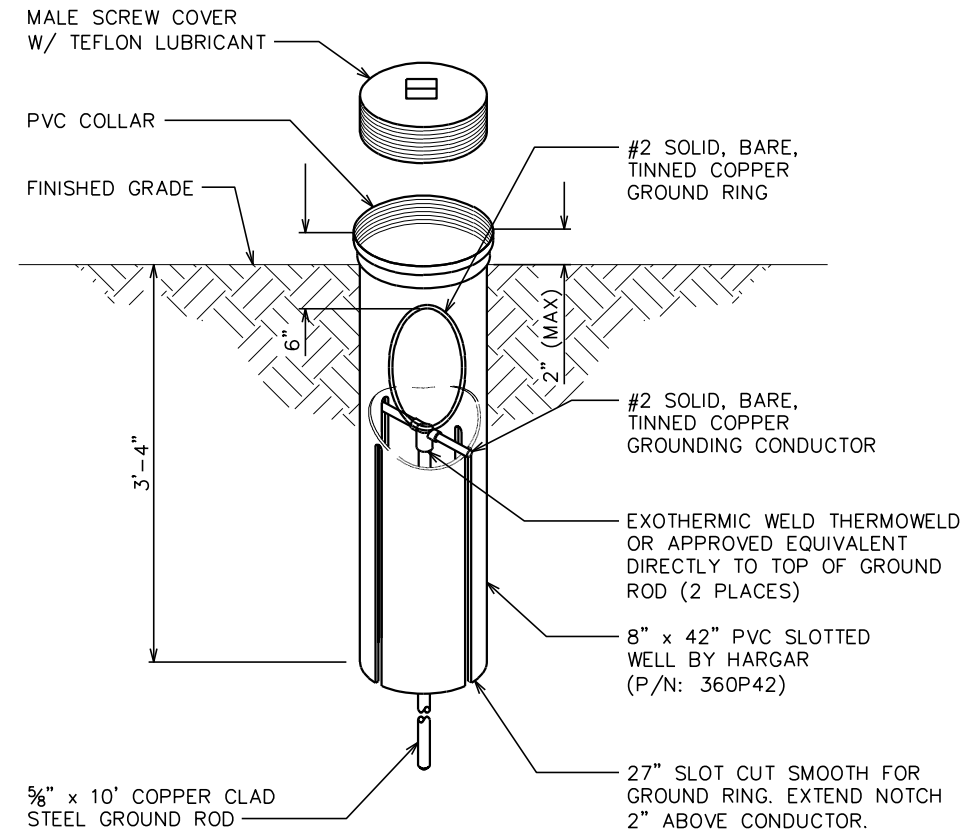


NOTE:  
MINIMUM SPACING OF 12"  
BETWEEN ALL CADWELDS

**TOP VIEW**



**SIDE VIEW**



**GROUND ROD WITH INSPECTION WELL**

SCALE: N.T.S.

PLANS PREPARED FOR:

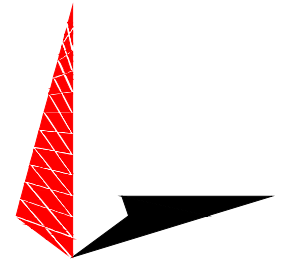


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PLANS PREPARED BY:

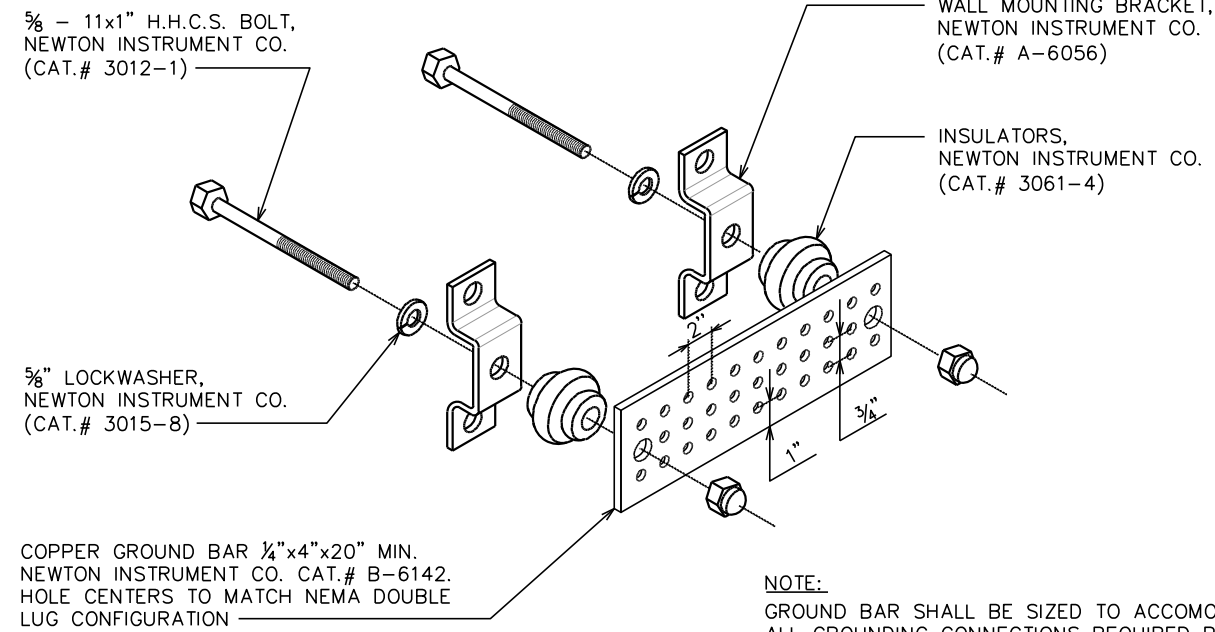


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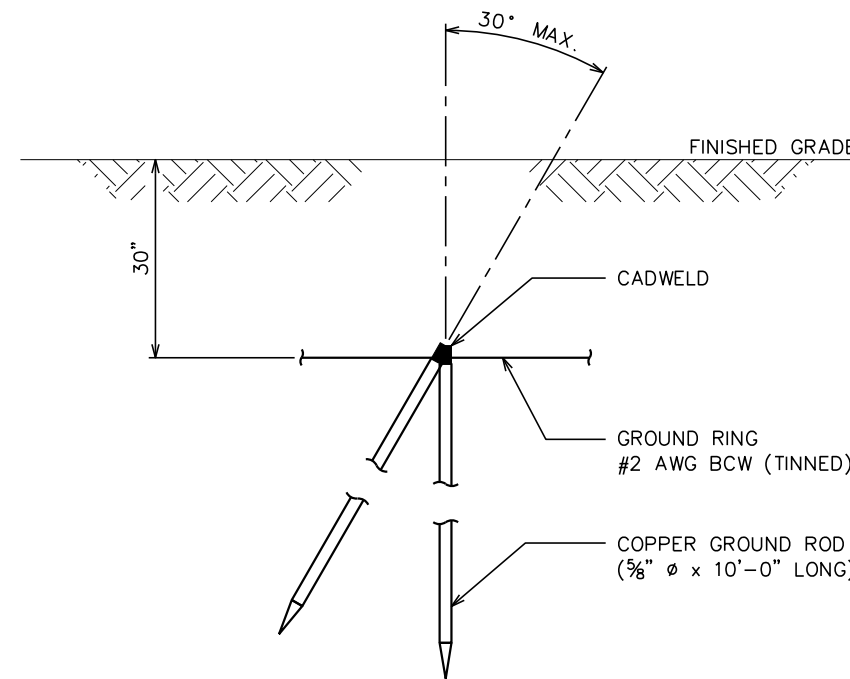
**CADWELD GROUNDING DETAIL**

SCALE: N.T.S.



**STANDARD GROUND BAR DETAIL**

SCALE: N.T.S.



**COPPER-CLAD STEEL GROUND ROD**

SCALE: N.T.S.

SEAL:



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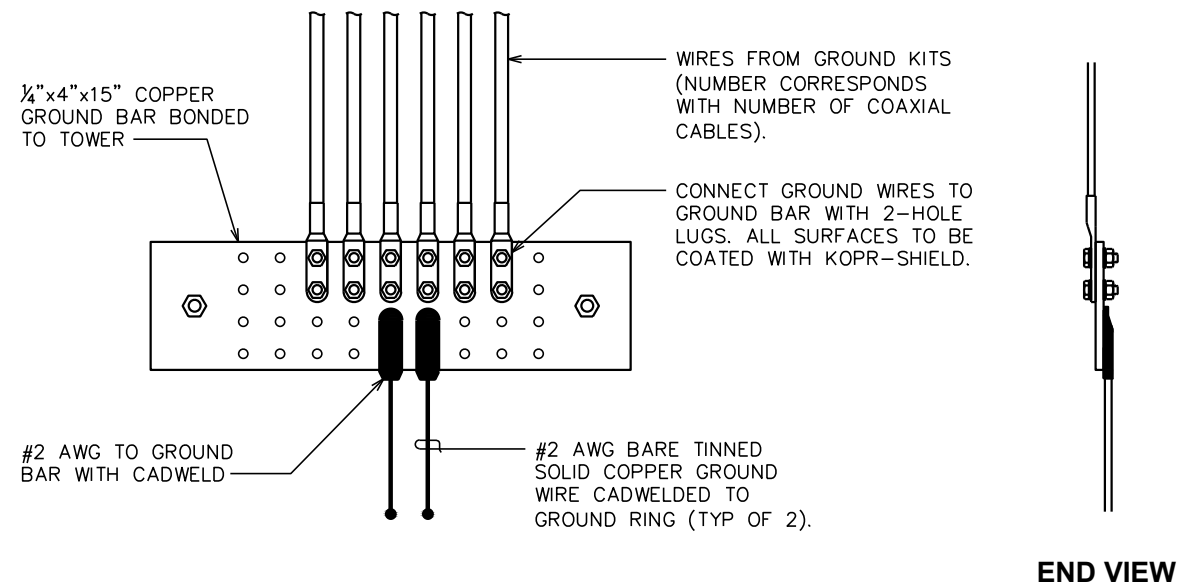
DRAWN BY: SCB CHECKED BY: FTH

SHEET TITLE:  
**GROUNDING  
DETAILS I**

SHEET NUMBER:  
**E-6**

REVISION:  
**2**

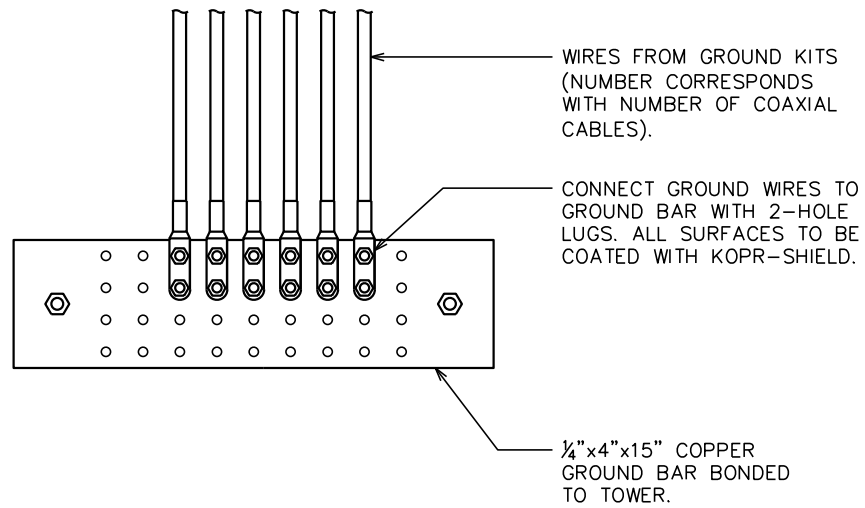
TEP #: 131147



**END VIEW**

**NOTE:**

THE CONTRACTOR SHALL UTILIZE AN INTERMEDIATE GROUND BAR FOR ANTENNA RAD CENTERS OVER 200'.

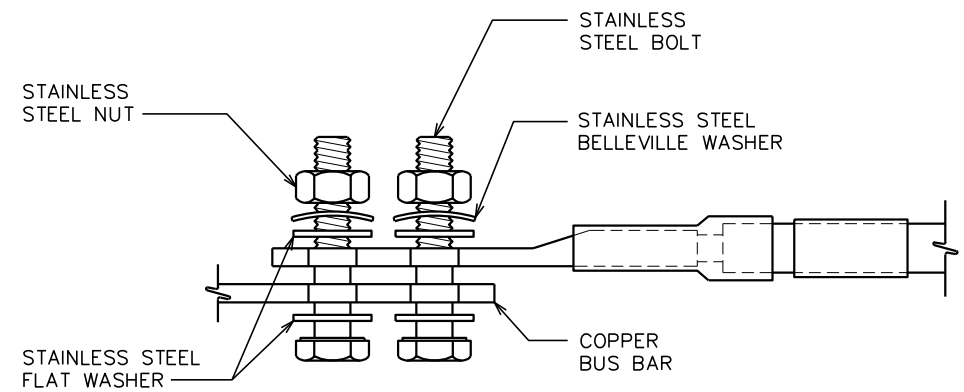


**UPPER / INTERMEDIATE GROUND BAR**

SCALE: N.T.S.

**LOWER GROUND BAR**

SCALE: N.T.S.

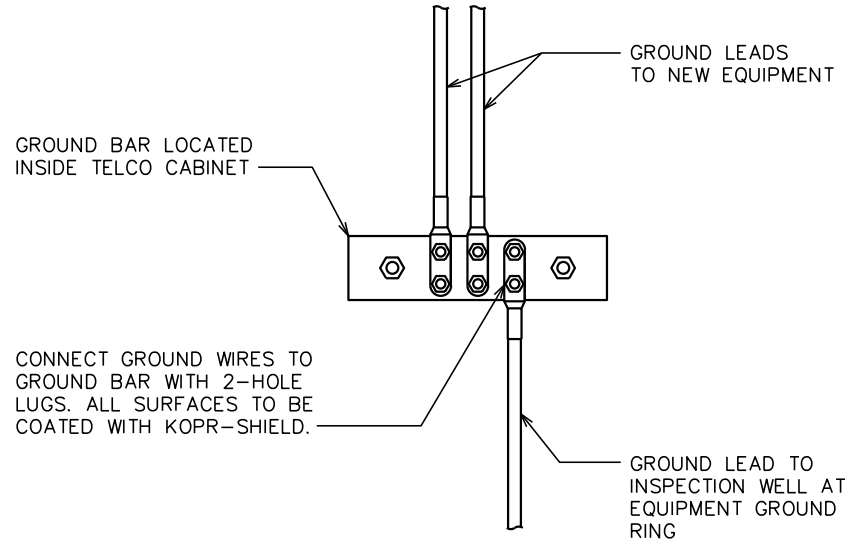


**NOTES:**

1. ALL HARDWARE SHALL BE 18-8 STAINLESS STEEL, INCLUDING THE BELLEVILLE WASHERS. COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY; INSERT A DRAGON TOOTH WASHER BETWEEN THE LUG AND STEEL. COAT ALL SURFACES WITH KOPR-SHIELD.

**LUG DETAIL**

SCALE: N.T.S.



**GROUND BAR IN TELCO CABINET**

SCALE: N.T.S.

PLANS PREPARED FOR:



**AMERICAN TOWER CORPORATION**  
3500 REGENCY PARKWAY, STE. 100  
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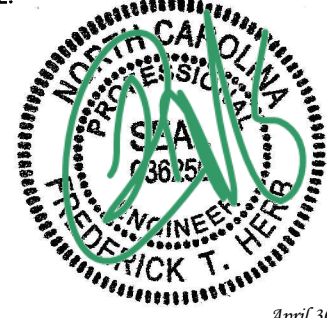
PLANS PREPARED BY:



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DRAWN BY: SCB CHECKED BY: FTH

SHEET TITLE:

**GROUNDING DETAILS II**

SHEET NUMBER: **E-7**

REVISION: **2**

TEP #: 131147

GENERAC 80KW

GENERAL ASSEMBLY AND INSTALLATION SUPPLEMENT

**100 - 400 Amps,  
600 VAC HTS**

**Automatic Transfer Switches**

100 - 400 Amps, 600 VAC  
1 of 2



200 Amp HTS NEMA 1

**Description**

- The Generac HTS Transfer Switch is a “State of the Art” Smart Switch designed to operate in conjunction with the Generac H100 Series generator controller.
- The HTS Transfer Switch has a 2 wire RS485 communication link to the generator controller.
- The utility voltage is monitored by the HTS along with signal before transfer timing, time delay neutral and inphase transfer.
- Switch operation is instigated by the generator controller.
- All timers and voltage setpoints are programmable through GenLink® Communications Software.
- Time delay neutral and inphase monitor are included.

**Standard Features**

- Single coil design, electrically operated and mechanically held
- Programmable exercise time
- SPDT aux contacts
- Main contacts are silver alloy
- Conformal coating protects the printed circuit board
- UL1008 Listed
- Indicating LED's for switch position, standby operating, utility available

- 3 position test switch: Fast Test, Auto, Normal Test
- Arc shutes on main contacts
- Signal before transfer contacts
- Rated to all classes of loads
- Remote start, stop and transfer through GenLink® Communications Software
- Up to four transfer switches per generator
- 50/60 hertz operation

**Optional Accessories**

- NEMA 12 enclosure (100-400 Amps)
- NEMA 3R enclosure (All)

- NEMA 4 and 4x enclosure
- 4 pole for separately derived systems

100 - 400 Amps, 600 VAC  
2 of 2

HTS 100-400 Amp

**Interconnections**

Switches and Indicators:

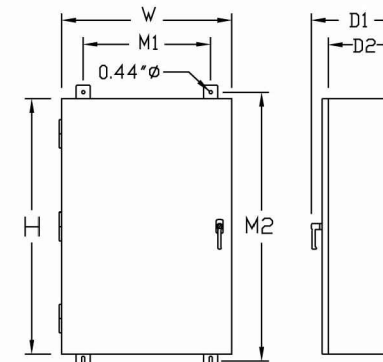
- System Ready LED
- Switch Position LED's
- Test Switch
- Return to Normal Switch
- Standby Operating LED
- Utility Available LED
- Fast Test Switch
- Safety Disconnect Switch

Standby Accept Voltage .....	85-95%
Standby Accept Frequency .....	85-95%
Nominal Voltage .....	1 Volt Increments
Allowable Deviation of Utility .....	1-100%
Line Interruption Delay .....	1-10 Seconds
Engine Warmup Time .....	1-300 Seconds
Minimum Run Time .....	5-60 Minutes
Return to Utility Timer .....	1-30 Minutes
Engine Cooldown Timer .....	1-30 Minutes
Signal Before Transfer Timer .....	1-30 Seconds
Transfer Type .....	Inphase Time Delay Neutral
Phase Difference for Inphase Transfer .....	-7 +0 Degrees

**Withstand Current - 600 Volt HTS Series**

HTS RATED AMPS	100	150	200	300	400
FUSE PROTECTED					
Maximum RMS Symmetrical Fault Current – Amps	200,000	200,000	200,000	200,000	200,000
Maximum Fuse Size – Amps	200	400	400	600	600
Fuse Class	J,T	J,T	J,T	J,T	J,T
CIRCUIT BREAKER PROTECTED					
Maximum RMS Symmetrical Fault Current – Amps	14,000	25,000	25,000	35,000	35,000
Protective Device Continuous Rating (Max.) – Amps	150	300	300	600	600

- Tested in accordance with the withstand and closing requirements of UL 1008 and CSA Standards.
- Current ratings are listed @ 480 VAC.



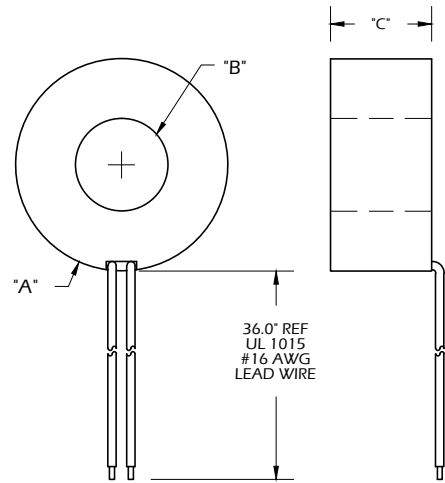
**Unit Dimensions**

HTS RATED AMPS	VOLTAGE	ENCLOSURE HEIGHT H	ENCLOSURE WIDTH W	WALL MOUNT BOLT PATTERN		ENCLOSURE DEPTH		WEIGHT (lbs.)
				M1	M2	D1	D2	
100	ALL	36	24	18	37.5	12.7	10	180
150-200	120/240	36	24	18	37.5	12.7	10	185
150-200	120/208	36	24	18	37.5	12.7	10	185
150-200	277/480	48*	30*	24	49.5	14.8	12	265
300-400	120/240	36	24	18	37.5	12.7	10	245
300-400	120/208	36	24	18	37.5	12.7	10	245
300-400	277/480	48*	30*	24	49.5	14.8	12	325

**Terminal Lug Wire Ranges**

HTS RATED AMPS	CONTACTOR TERMINALS (1 LUG PER POLE) LUG WIRE RANGE	NEUTRAL BAR*		GROUND LUG (1 PROVIDED) LUG WIRE RANGE
		# LUGS	LUG WIRE RANGE	
100	2/0 – 14 AWG	4	2/0 – 14 AWG	2/0 – 14 AWG
150	400MCM – 4 AWG	4	350MCM – 6 AWG	350MCM – 6 AWG
200	400MCM – 4 AWG	4	350MCM – 6 AWG	350MCM – 6 AWG
300	600MCM – 4 AWG	4	600MCM – 4 AWG	350MCM – 6 AWG
	or 2 – [250MCM – 1/0 AWG]		[250MCM – 1/0 AWG]**	350MCM – 6 AWG
400	600MCM – 4 AWG	4	600MCM – 4 AWG	350MCM – 6 AWG
	or 2 – [250MCM – 1/0 AWG]		[250MCM – 1/0 AWG]**	

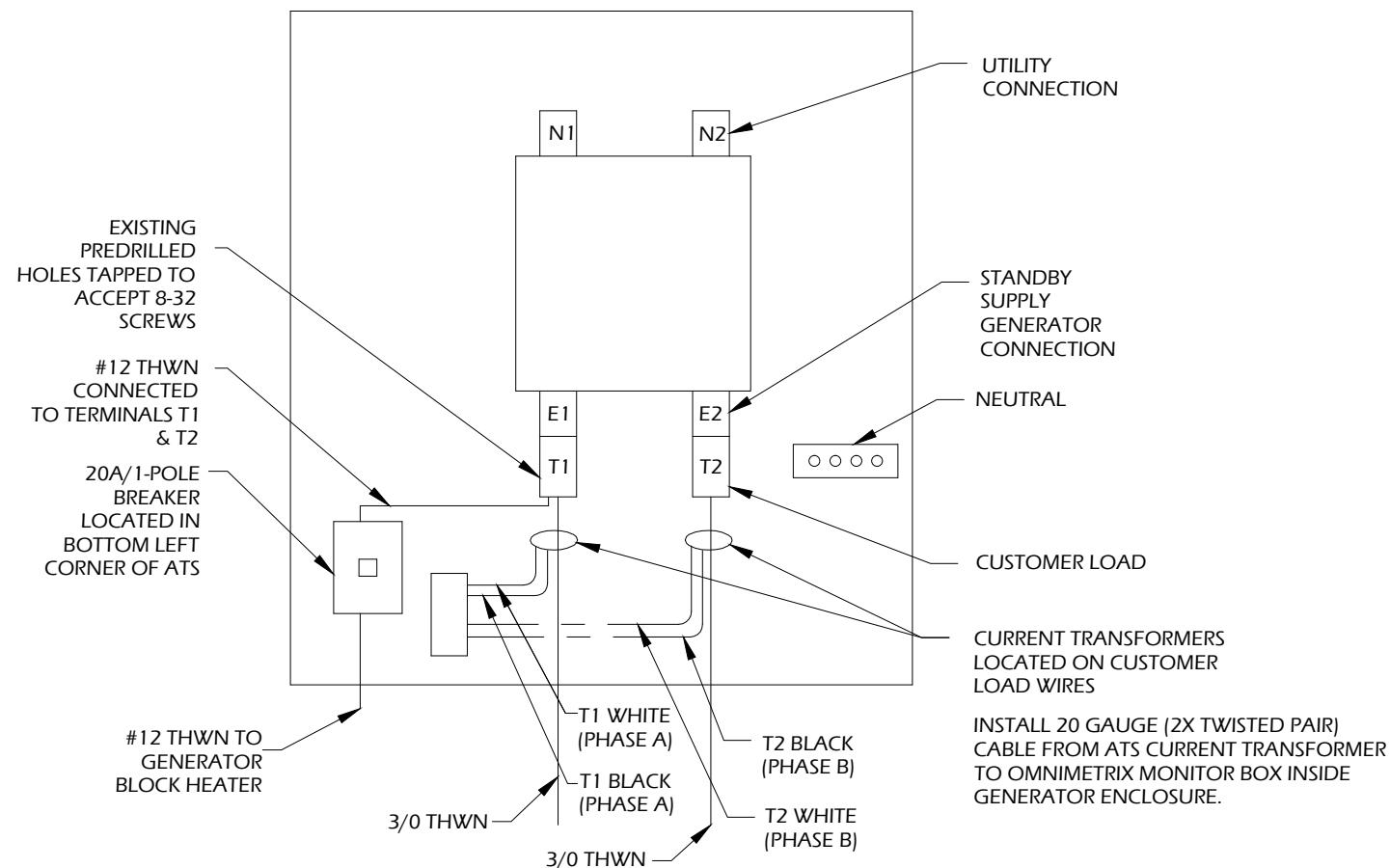
* Not included in HTS with switched neutral. ** Allowable wire range in brackets is for 2 wires per lug.



PART NO.	RATIO	MODEL NO.	±%	VA	OHMS	"A"	"B"	"C"
0F7784A	100:1A	635-100-01-L36	1	1	.31	65	28	30.5
0F7784B	200:1A	635-200-01-L36	1	5	.95	65	28	30.5
0F7784C	300:1A	A-300-01-L36	1	4.5	.06	112	57.1	27.4
0F7784D	400:1A	A-400-01-L36	1	4	.11	112	57.1	27.4
0F7784E	500:1A	A-500-01-L36	1	6.5	.13	112	57.1	27.4
0F7784F	600:1A	A-600-01-L36	1	7.5	.15	112	57.1	27.4
0F7784G	800:1A	MW-800-01-L36	1	10	.20	143.5	89	29.2
0F7784H	1000:1A	MW-1000-01-L36	1	12	.22	143.5	89	29.2
0F7784J	1500:1A	MW-1500-01-L36	1	15	.50	143.5	89	29.2
0F7784K	2000:1A	MW-2000-01-L36	1	12	.67	143.5	89	29.2
0F7784L	3000:1A	MW-3000-01-L36	1	25	1.0	143.5	89	29.2

NOTE:  
1. ORIGINAL CURRENT TRANSducers.

## 2 CURRENT FLOW METER IN ATS



NOTES:  
1. CONNECT TO TENANT BREAKER AT METER.  
2. CONNECT TO DISTRIBUTION CENTER BRANCH BREAKER

1 ATS

*SINGLE PHASE

Ref: All Generac Power Systems fuel tank bases supplied from the factory are manufactured and labeled per U.L. 142 and are warranted through Generac Power Systems.

UL registration number: MH18459

## U.L. 142 DOUBLE WALL FUEL TANK BASE SPECIFICATION

### Fuel tank base construction:

- Be constructed in accordance with Underwriters Laboratories Standard UL-142. Be constructed in accordance with Flammable and Combustible Liquids Code, NFPA 30; The Standard for Installation and use of Stationary Combustible Engine and Gas Turbines, NFPA 37; and The Standard for Emergency and Standby Power Systems, NFPA 110. Include reinforced steel box channel for generator support, with load rating of 5,000 lbs. per gen-set mounting hole location. Full height gussets shall be provided at gen-set mounting holes. Be shipped with a certificate of Structural/Mechanical Integrity, certifying that it has met standards through rigorous testing and has demonstrated specified capabilities.

### Sub Base Tank Testing:

Primary tank and secondary containment basin sections shall be pressurized at 3-5 psi and leak-checked to ensure integrity of sub base weld seams per UL-142 standards

### Sub Base Tank Fittings:

The sub base tank shall include the following fittings:

- Appropriately sized NPT
- Fuel supply Fuel return fitting
- NPT for normal vent, sized as appropriate NPT for emergency vent, sized as appropriate
- 2" NPT for manual fill
- NPT for level gauge, sized as appropriate.
- 2" NPT for electronic fuel level; includes Low fuel alarm. High fuel level alarm
- NPT fitting for leak detection alarm

### Fuel Level Gauge

The sub base tank shall include a direct-reading fuel level gauge.

### Low Fuel Level

Factory Pre-set at 40% remaining for Alarm

Factory Pre-set at 20% remaining for Shut-down

### High Fuel Level

Factory Pre-set at 90% full for Alarm

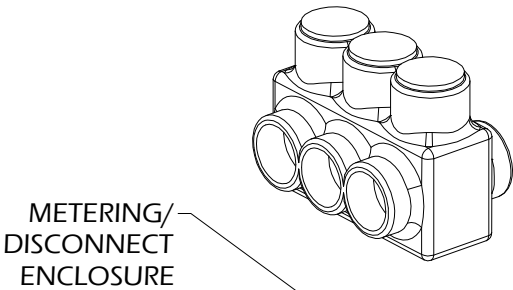
### Fuel Containment Basin

Sub base tank shall include a welded steel containment basin, sized at a minimum of 110% of the tank capacity to prevent escape of fuel into the environment in the event of a tank rupture. A fuel containment basin leak detector switch shall be provided.

### Sub Base Tank Venting

#### Normal and Emergency Venting:

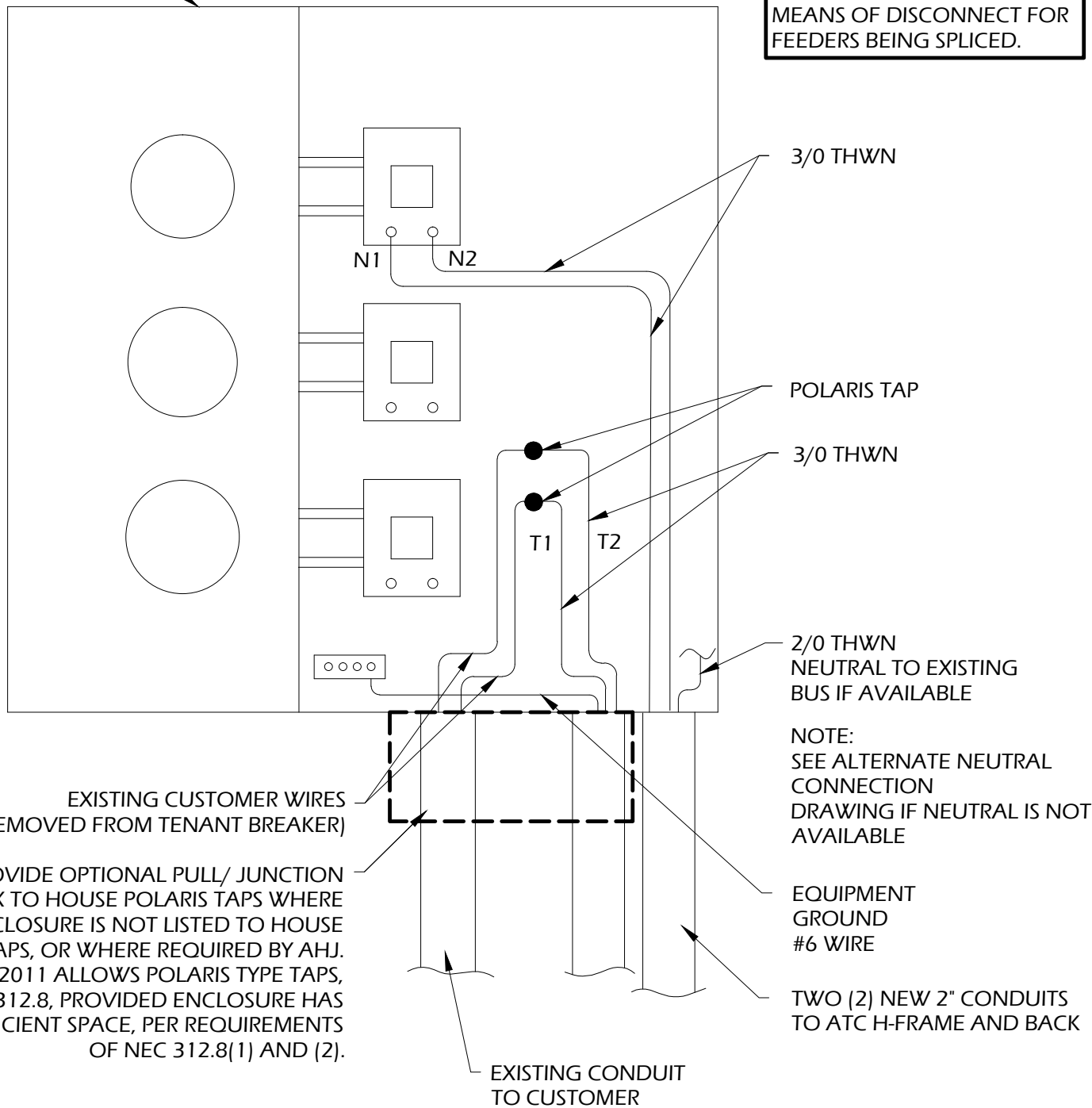
Normal and Emergency venting shall be sized per U.L. 142 specifications for wetted surface area of tank.



NOTE: POLARIS TAP MUST BE SECURELY WRAPPED WITH COMMERCIAL GRADE NYLON ELECTRICAL TAPE AFTER INSTALLATION IS COMPLETE

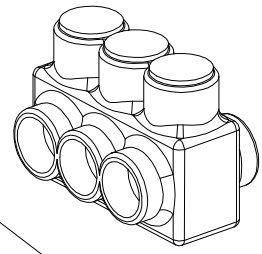
NOTE: BONDING JUMPER/ GROUNDING ELECTRODE CONDUCTOR SHALL BE #4 CU FOR 200A, PER NEC TABLE 250.66.

PER NEC 312.8(3), PROVIDE WARNING LABEL (PHENOLIC PLATE) ON ENCLOSURE CONTAINING POLARIS TAP SPECIFYING LOCATION OF MEANS OF DISCONNECT FOR FEEDERS BEING SPLICED.



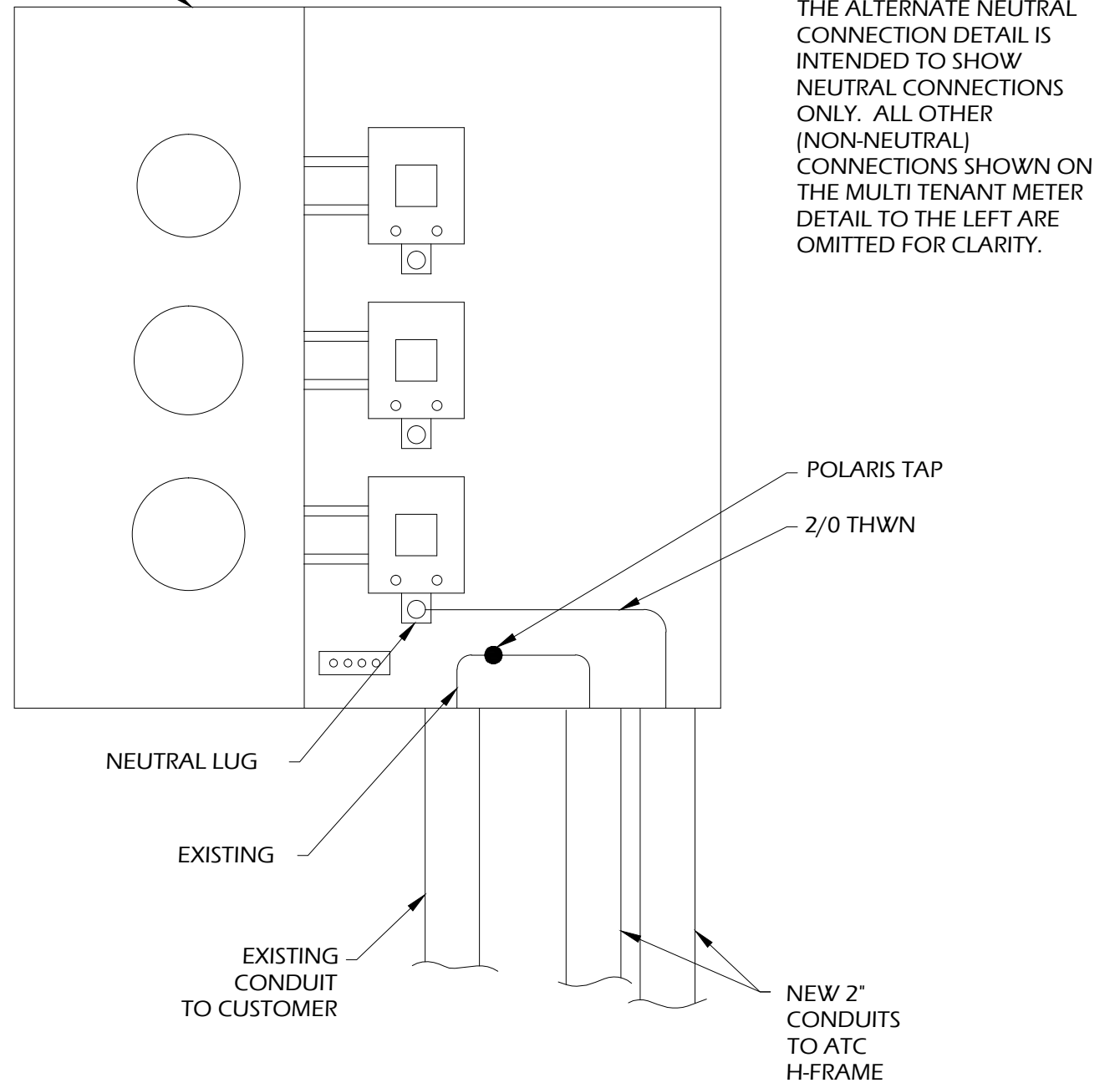
1 MULTI TENANT METER OPTION  
SCALE: NOT TO SCALE

*SINGLE PHASE, 200A

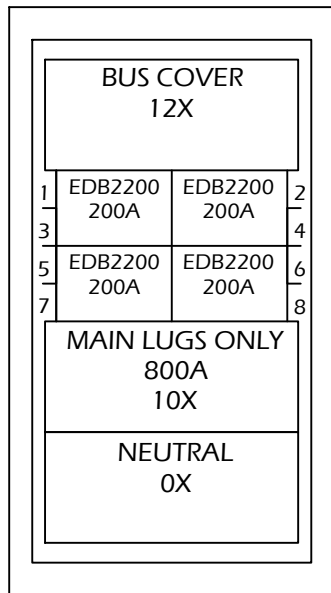


NOTE: POLARIS TAP MUST BE SECURELY WRAPPED WITH COMMERCIAL GRADE NYLON ELECTRICAL TAPE AFTER INSTALLATION IS COMPLETE

METERING/DISCONNECT ENCLOSURE



2 ALTERNATE NEUTRAL CONNECTION FOR MULTI-TENANT METER OPTION  
SCALE: NOT TO SCALE



GENERAL INFORMATION (SECTION 1 OF 1)

SERVICE VOLTAGE: 120/240V 1PH 3W ENCLOSURE: TYPE 3R  
 BUS RATING & TYPE: 800A ALUMINUM NEUTRAL RATING: 800A  
 GROUND BAR: SLD. BOLTED ALUMINUM, AI OR Cu CABLE  
 S.C. RATING: 22K A.I.C. FULLY RATED

MAIN DEVICE TYPE: MAIN LUGS ONLY - BOTTOM CABLE ENTRY  
 MAIN TERMINALS: MECHANICAL - (3) #2-500 kcmil (Cu/Al)  
 NEUTRAL TERMINALS: MECHANICAL - (3) #2-500 kcmil (Cu/Al)  
 BOOK CATALOG NO: RPG2457  
 TRIM: COMPLETE ENCLOSURE (INCLUDES TRIM)

SURFACE MOUNTED

BOX DIMENSIONS: 57" (1447.8mm)H X 24" (609.6mm)W X 12.65" (326.4mm)D  
 MIN. GUTTER SIZE: TOP=10.625" (269.9mm) BOTTOM=10.625" (269.9mm)  
 LEFT=5" (127.0mm) RIGHT=5" (127.0mm)

FINAL ID NAMEPLATE: (1) 800A  
 TYPE: PLASTIC ADHESIVE-BACKED (2) 120/240V 1PH 3W  
 COLOR: WHITE WITH BLACK LETTERS (3)

UL SERVICE ENTRANCE LABEL

TRIM LOOK T-HANDLE LOCK ASSEMBLY  
 CIRCUIT DIRECTORY PLASTIC SLEEVE WITH CARD  
 PAINTED BOX ANSI 61

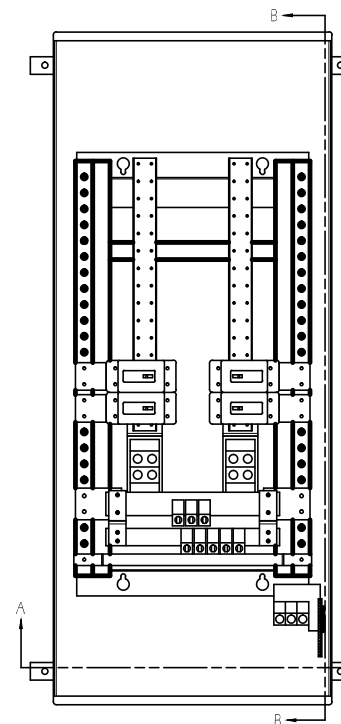
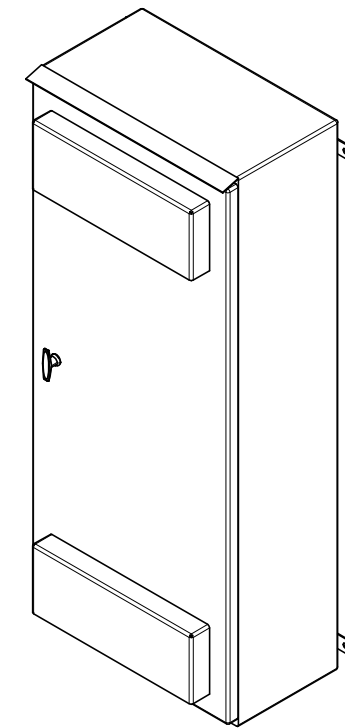
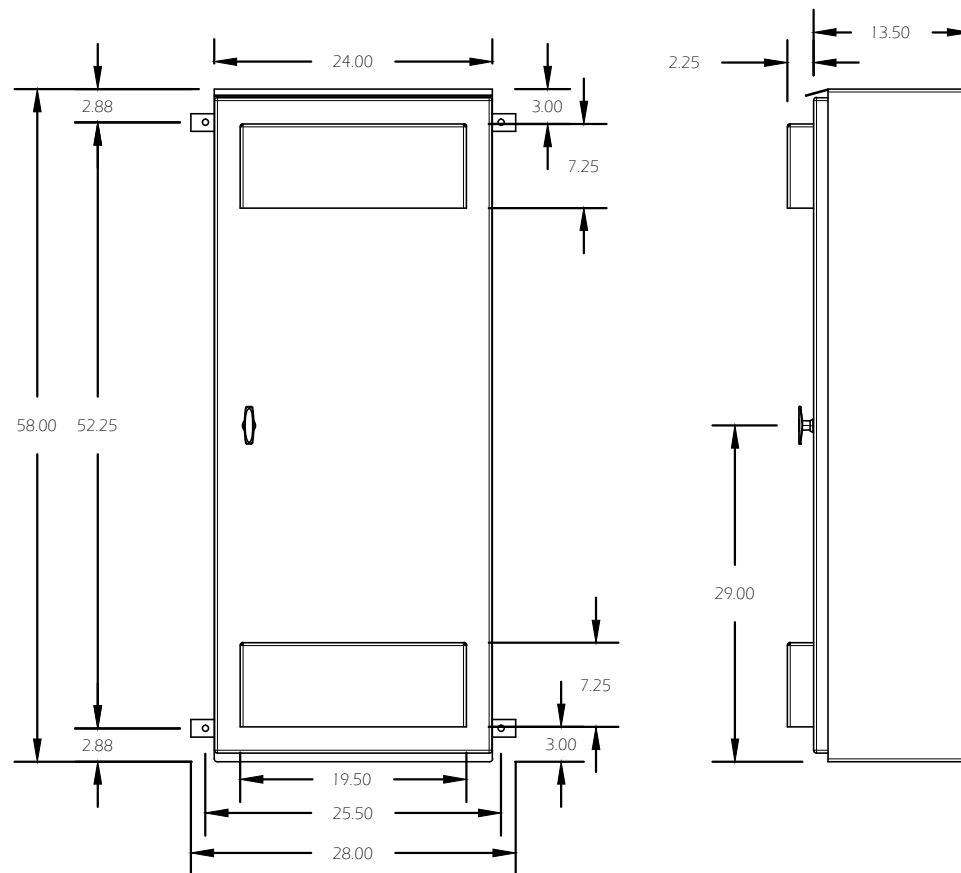
PLANT INFORMATION

	PART NUMBER	QTY	PART NUMBER	QTY
UL LABEL:	7494A06H01	1	EOB2200	4
BUS CUTTING:	6563C06H01	2		
NEUTRAL:	6672C66G03	1		
GROUND BAR, AL/CU:	6572C78G03	1		
CHASSIS ASSEMBLY:	6572C25G06	1		
LUG ASSEMBLY:	6572C52G06	1		
BREAKER ASSY:	6572C87G04	2		
DEAD FRONT COVER:	5554C11801	2		
COVER PACKAGING:	4177B06G02	1		
DEAD FRONT COVER ASSEMBLY:	6574C74G02	1		
PACKAGING:	50C5330G01	1		

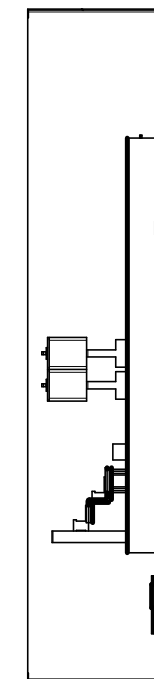
Spot _____ Final Inspection _____

Notes:

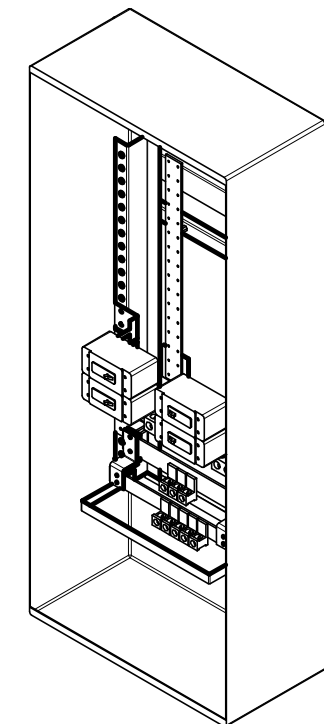
NOTE:  
 PANEL SHOWN IS FOR SINGLE PHASE. FOR 3-PHASE SITES, USE CORRESPONDING 3-POLE VERSION OF THIS PANEL.



SECTION A-A



SECTION B-B



1 DISTRIBUTION PANEL  
 SCALE: NOT TO SCALE

2 DISTRIBUTION PANEL DETAILS  
 SCALE: NOT TO SCALE



# SD080

**GENERAC** | **INDUSTRIAL POWER**

## Industrial Diesel Generator Set

EPA Emissions Certification: Tier III

80 kW Diesel

Standby Power Rating  
100 kVA 80 kW 60 Hz

Prime Power Rating  
90 kVA 72 kW 60 Hz



### features

### benefits

#### Generator Set

- PROTOTYPE & TORSIONALLY TESTED ▶ PROVIDES A PROVEN UNIT
- UL2200 TESTED ▶ ENSURES A QUALITY PRODUCT
- RHINOCOAT PAINT SYSTEM ▶ IMPROVES RESISTANCE TO ELEMENTS
- WIDE RANGE OF ENCLOSURES AND TANKS ▶ PROVIDES A SINGLE SOURCE SOLUTION

#### Engine

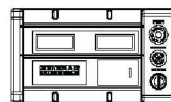
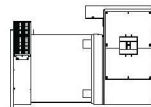
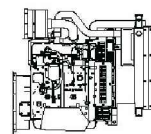
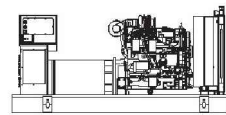
- EPA TIER COMPLIANT ▶ ENVIRONMENTALLY FRIENDLY
- INDUSTRIAL TESTED, GENERAC APPROVED ▶ ENSURES INDUSTRIAL STANDARDS
- POWER-MATCHED OUTPUT ▶ ENGINEERED FOR PERFORMANCE
- INDUSTRIAL GRADE ▶ IMPROVES LONGEVITY AND RELIABILITY

#### Alternator

- TWO-THIRDS PITCH ▶ ELIMINATES HARMFUL 3RD HARMONIC
- LAYER WOUND ROTOR & STATOR ▶ IMPROVES COOLING
- CLASS H MATERIALS ▶ HEAT TOLERANT DESIGN
- DIGITAL 3-PHASE VOLTAGE CONTROL ▶ FAST AND ACCURATE RESPONSE

#### Controls

- ENCAPSULATED BOARD W/ SEALED HARNESS ▶ EASY, AFFORDABLE REPLACEMENT
- 4-20mA VOLTAGE-TO-CURRENT SENSORS ▶ NOISE RESISTANT 24/7 MONITORING
- SURFACE-MOUNT TECHNOLOGY ▶ PROVIDES VIBRATION RESISTANCE
- ADVANCED DIAGNOSTICS & COMMUNICATIONS ▶ HARDENED RELIABILITY



primary codes and standards



## SD080

## application and engineering data

80 kW Diesel

### ENGINE SPECIFICATIONS

General	
Make	Iveco / FPT
EPA Emissions Compliance	Tier III
EPA Emissions Reference	See Emissions Data Sheet
Cylinder #	4
Type	Diesel
Displacement - L (cu. in.)	4.5 (274)
Bore - mm (in.)	105 (4.1)
Stroke - mm (in.)	132 (5.2)
Compression Ratio	17.5:1
Intake Air Method	Turbocharged
Cylinder Head Type	2 Valve
Piston Type	Aluminum
Crankshaft Type	Forged Steel
Engine Block Type	Cast Iron / Wet Sleeve

Engine Governing	
Governor	Electronic
Frequency Regulation (Steady State)	+/-0.25%

Lubrication System	
Oil Pump Type	Gear
Oil Filter Type	Full Flow
Crankcase Capacity - L (gal)(qts)	13.6 (3.6) (14.4)

Cooling System	
Cooling System Type	Closed
Water Pump	Belt Driven Centrifugal
Fan Type	Pusher
Fan Blade Number	2538 (10)
Fan Diameter (in.)	26
Coolant Heater Wattage	1500
Coolant Heater Standard Voltage	120

Fuel System	
Fuel Type*	Ultra Low Sulfur Diesel Fuel
Fuel Specifications	ASTM
Fuel Filtering (microns)	5
Fuel Inject Pump Make	Standyne
Fuel Pump Type	Engine Driven Gear
Injector Type	Mechanical
Engine Type	Direct Injection
Fuel Supply Line - mm (in.)	1/4 inch Npt
Fuel Return Line - mm (in.)	1/4 inch Npt

Engine Electrical System	
System Voltage	12VDC
Battery Charging Alternator	90 Amp
Battery Size (at 0 oC)	995 CCA
Battery Group	31
Battery Voltage	12 Volt DC
Ground Polarity	Negative

### ALTERNATOR SPECIFICATIONS

Model	390 mm Generac
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5%
Telephone Interference Factor (TIF)	<50
Alternator Type	Synchronous Brushless, Opt.PMG
Bearings	One - Pre Lubed & Sealed
Coupling	Direct, Flexible Disc
Load Capacity - Standby	80
Load Capacity - Prime	72
Prototype Short Circuit Test	Y

Voltage Regulator Type	Digital
Number of Sensed Phases	3
Regulation Accuracy (Steady State)	+/-0.25%

### CODES AND STANDARDS COMPLIANCE (WHERE APPLICABLE)

NFPA 99  
NFPA 110  
ISO 8528-5  
ISO 1708A.5  
ISO 3046  
BS5514  
SAE J1349  
DIN6271  
IEEE C62.41 TESTING  
NEMA ICS 1

Rating Definitions:  
Standby - Applicable for a varying emergency load for the duration of a utility power outage with no overload capability. (Max. load factor = 70%)  
Prime - Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. (Max. load factor = 80%) A 10% overload capacity is available for 1 out of every 12 hours

SD080

operating data (60Hz)

80 kW Diesel

POWER RATINGS (kW)

	STANDBY		PRIME	
Single-Phase 120/240VAC @1.0pf	80 Amps:	333	72 Amps:	300
Three-Phase 120/208VAC @0.8pf	80 Amps:	278	72 Amps:	250
Three-Phase 120/240VAC @0.8pf	80 Amps:	241	72 Amps:	217
Three-Phase 277/480VAC @0.8pf	80 Amps:	120	72 Amps:	108
Three-Phase 346/600VAC @0.8pf	80 Amps:	96	72 Amps:	87

STARTING CAPABILITIES (sKVA)

Alternator	kW	480VAC						208/240VAC					
		10%	15%	20%	25%	30%	35%	10%	15%	20%	25%	30%	35%
Standard*	80	59	88	117	147	176	205	44	59	88	110	132	154
Upsize 1	100	79	118	157	197	236	275	59	79	118	148	177	206
Upsize 2	125	116	174	232	290	348	406	87	116	174	218	261	305

*All Generac industrial alternators utilize Class H materials. Standard alternator provides less than or equal to Class F temperature rise. Upsize 1 provides less than or equal to Class A temperature rise.

Fuel

Fuel Consumption Rates**

Fuel Pump Lift - in (m)	STANDBY			PRIME		
	Percent Load	gph	lph	Percent Load	gph	lph
36(.9)	25%	2.1	7.9	25%	1.9	7.2
Total Fuel Pump Flow (Combustion + Return)	50%	3.7	14.0	50%	3.4	12.9
13.6 gph	75%	5.2	19.7	75%	4.7	17.8
	100%	6.3	23.8	100%	5.8	22.0

**Refer to "Emissions Data Sheets" for maximum fuel flow for EPA and SCAQMD permitting purposes.

COOLING

	STANDBY		PRIME	
Coolant System Capacity - Gal (L)	4.5 (17.44)			
Coolant Flow per Minute	gpm (lpm)	32.7(123.8)	32.7(123.8)	
Heat rejection to Coolant	BTU/hr	137,140	137,140	
Inlet Air	cfm (m3/min)	6360(180.0)	6360(180.0)	
Maximum Radiator Backpressure			1.5" H ₂ O Column	
Max. Operating Radiator Air Temp	F° (C°)	122(50)	122(50)	
Max. Operating Ambient Temperature	F° (C°)	122(50)	122(50)	

COMBUSTION AIR REQUIREMENTS

	STANDBY		PRIME	
Intake Flow at Rated Power	cfm (m3/min)	306 (8.67)	275 (7.80)	

EXHAUST

	STANDBY		PRIME	
Exhaust Outlet Size (Open Set)	3.0"			
Maximum Backpressure (Post-Silencer)	1.5"			
Exhaust Flow (Rated Output)	cfm (m3/hr)	790(134.4)	790(134.4)	
Maximum Backpressure	inHg (Kpa)	1.5(5.1)	1.5(5.1)	
Exhaust Temp (Rated Output)	F° (C°)	887(475)	887(475)	

ENGINE

	STANDBY		PRIME	
Rated Engine Speed	rpm	1,800	1800	
Horsepower at Rated kW***	hp	131	127	
Piston Speed	ft/min (m/min)	1559(44.1)	1559(44.1)	
BMEP	psi	210	194	

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

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

SD080

standard features and options

80 kW Diesel

GENERATOR SET

- Genset Vibration Isolation Std
- IBC Seismic Certified/Seismic Rated Vibration Isolators Opt
- Extended warranty Opt
- Export boxing Opt
- Gen-Link Communications Software Opt
- Steel Enclosure Opt
- Aluminum Enclosure Opt

ENGINE SYSTEM

- General**
- Oil Drain Extension Std
- Oil Make-Up System Opt
- Oil Heater Opt
- Fuel System**
- Fuel lockoff solenoid Std
- Secondary fuel filter Std
- Stainless steel flexible exhaust connection Std
- Industrial Exhaust Silencer Std
- Critical Exhaust Silencer Opt
- Flexible fuel lines Opt
- Primary fuel filter Opt
- Single Wall Tank (Export Only) -
- UL 142 Fuel Tank Opt

Cooling System

- 120VAC Coolant Heater Opt
- 208VAC Coolant Heater Opt
- 240VAC Coolant Heater Opt
- Other Coolant Heater -
- Closed Coolant Recovery System Std
- UV/Ozone resistant hoses Std
- Factory-Installed Radiator Std
- Radiator Drain Extension Std

Engine Electrical System

- Battery charging alternator Std
- Battery cables Std
- Battery tray Std
- Battery box Std
- Battery heater Opt
- Solenoid activated starter motor Std
- Air cleaner Std
- Fan guard Std
- Radiator duct adapter Std
- 2A battery charger Opt
- 10A UL float/equalize battery charger Opt
- Rubber-booted engine electrical connections Std

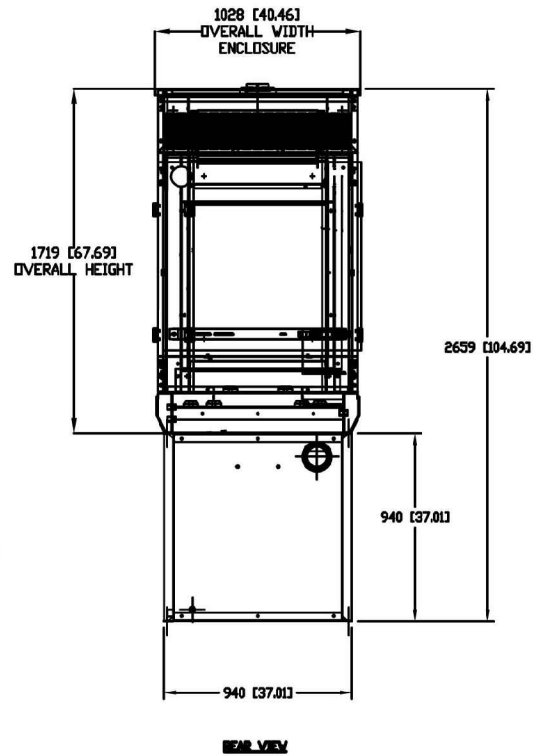
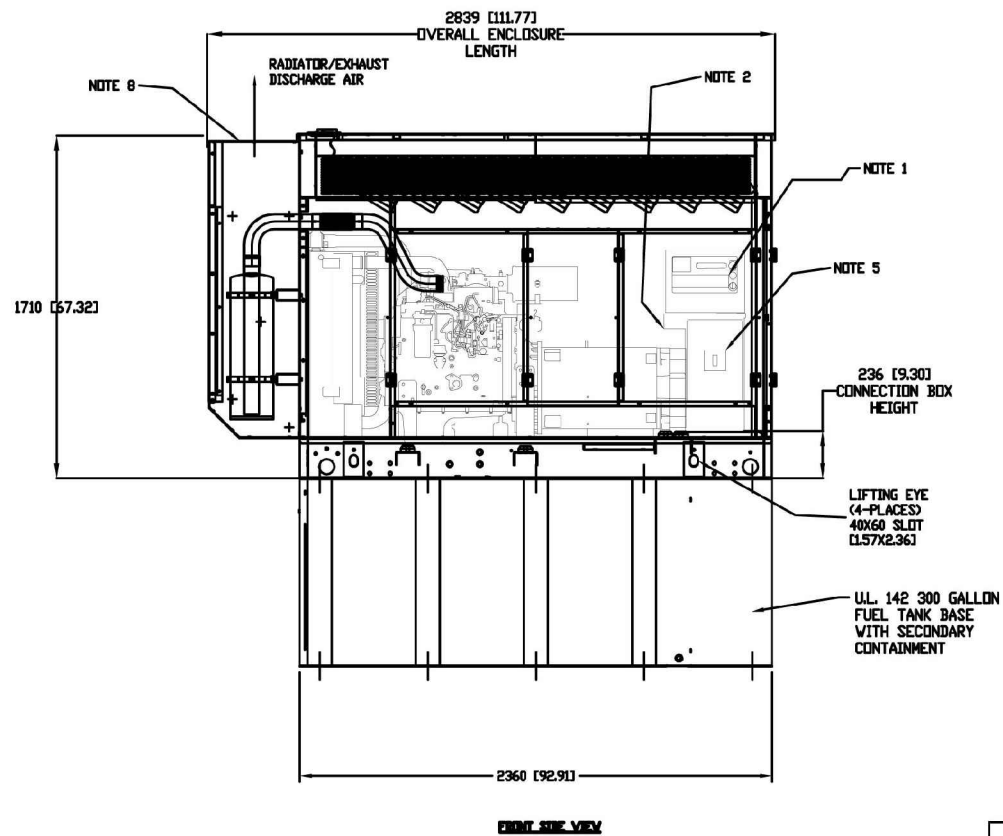
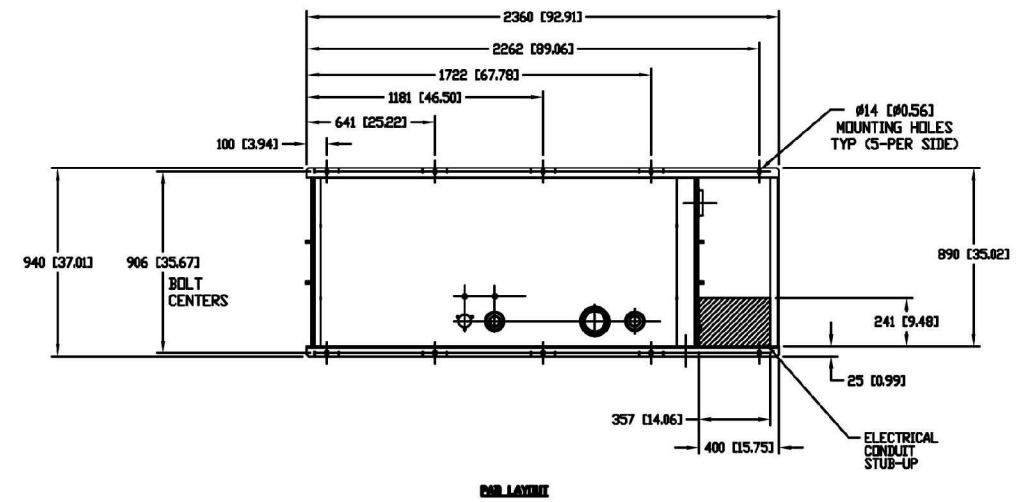
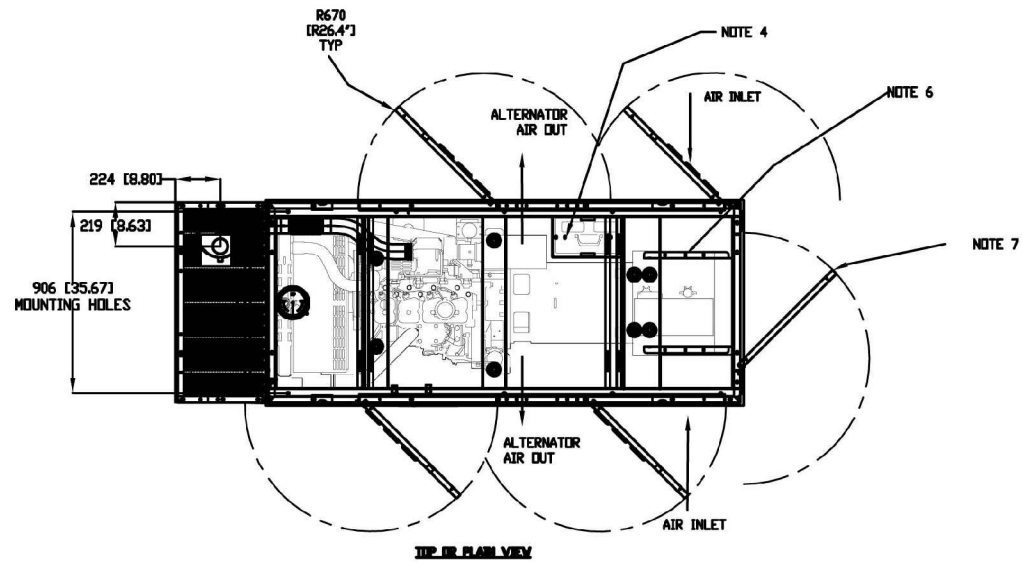
ALTERNATOR SYSTEM

- UL2200 GENprotect Std
- Main Line Circuit Breaker Opt
- 2nd Circuit Breaker Opt
- 3rd Circuit Breaker -
- Alternator Upsizing Opt
- Anti-Condensation Heater Opt
- Tropical coating Opt
- Permanent Magnet Excitation Opt

CONTROL SYSTEM

- General**
- Digital H Control Panel - Dual 4x20 Display Std
- Digital G-100 Control Panel - Touchscreen na
- Digital G-200 Paralleling Control Panel - Touchscreen na
- Programmable Crank Limiter Std
- 21-Light Remote Annunciator Opt
- Remote relay Panel (8 or 16) Opt
- 7-Day Programmable Exerciser -
- Special Applications Programmable PLC -
- RS-232 -
- RS-485 -
- All-Phase Sensing DVR -
- Full System Status -
- Utility Monitoring (Req. H-Transfer Switch) -
- 2-Wire Start Compatible -
- Power Output (kW) -
- Power Factor -
- Reactive Power -
- All phase AC Voltage -
- All phase Currents -
- Oil Pressure -
- Coolant Temperature -
- Coolant Level -
- Oil Temperature -
- Fuel Pressure -
- Engine Speed -
- Battery Voltage -
- Frequency -
- Date/Time Fault History (Event Log) -
- UL2200 GENprotect -
- Low-Speed Exercise -
- Isochronous Governor Control -
- 40deg C - 70deg C Operation -
- Waterproof Plug-In Connectors -
- Audible Alarms and Shutdowns -
- Not in Auto (Flashing Light) -
- On/Off/Manual Switch -
- E-Stop (Red Mushroom-Type) -
- Remote E-Stop (Break Glass-Type, Surface Mount) -
- Remote E-Stop (Red Mushroom-Type, Surface Mount) -
- Remote E-Stop (Red Mushroom-Type, Flush Mount) -
- NFPA 110 Level I and II (Programmable) -
- Remote Communication - RS232 -
- Remote Communication - Modem -
- Remote Communication - Ethernet -
- 10A Run Relay -
- Alarms (Programmable Tolerances, Pre-Alarms and Shutdowns)**
- Low Fuel -
- Oil Pressure (Pre-programmed Low Pressure Shutdown) -
- Coolant Temperature (Pre-programmed High Temp Shutdown) -
- Coolant Level (Pre-programmed Low Level Shutdown) -
- Alternator Overload -
- Fuel Pressure -
- Engine Speed (Pre-programmed Overspeed Shutdown) -
- Voltage (Pre-programmed Overvoltage Shutdown) -
- Battery Voltage -
- Other Options**
- _____
- _____
- _____

0H5302C-ATC



RECOMMENDED ELECTRICAL STUB-UPS (SEE DETAILED VIEW & TOP VIEW)	
AC LOAD LEAD CONDUIT SEE NOTES 5 & 6 FOR CB LOCATION	A
NOTE-A (SEE STUB UP AREA 1 & ID)	
(STUB-UP ID GLAND PLATE AC LOAD LEAD CONDUIT FOR PERMANENT MAGNET EXCITATION CONNECTION BOX)	B
(STUB-UP ID GLAND PLATE AC LOAD LEAD CONDUIT FOR DIRECT AND BRUSHLESS EXCITATION CONNECTION BOX)	
OVERALL STUB-UP AREA 120/240V AC TO OUTLET (SEE NOTE 2) FOR OPTIONS	

- NOTE:**
- CONTROL PANEL MAY BE ROTATED 180DEG IN EITHER DIRECTION
  - 1- 20A GFCI DUPLEX OUTLET (120V BY CUSTOMER)
  - CONNECTION POINTS FOR CONTROL WIRES PROVIDED IN AC CONNECTION PANEL
  - BATTERY (12 VOLT NEGATIVE GROUND SYSTEM)
  - MAIN LINE CIRCUIT BREAKER (MLCB), (AC LOAD LEADS CONNECT DIRECTLY TO MLCB)
  - REMOVABLE BLANK PANEL FOR OPTIONAL 2nd MAIN LINE CIRCUIT BREAKER
  - DOORS MUST BE ABLE TO OPEN TO AT LEAST 90DEG TO BE REMOVED
  - SEE DRAWING 0C3850 FOR DUCT REMOVAL. REMOVAL OF FRONT DUCT WILL PROVIDE ACCESS TO MUFFLER FOR SERVICING.
  - STANDARD BLOCK HEATER
  - FUEL LINES ARE PLUMBED TO FRAME FOR UNITS WITH NO BASE TANK. FUEL LINES ARE PLUMBED DIRECTLY TO BASE TANK WHEN SO EQUIPPED
  - CENTER OF GRAVITY & WEIGHT MAY SHIFT SLIGHTLY DUE TO UNIT OPTIONS
  - IF GENSET IS TO BE INSTALLED ON A BASETANK REFER TO BASETANK INSTALL DRAWING.
- ENGINE SERVICE CONNECTIONS:**
- FUEL INLET = 1/2" NPT COUPLING
  - FUEL RETURN = 1/2" NPT COUPLING
  - OIL DRAIN = 1/2" NPT COUPLING
  - EXHAUST OUTLET - 3.0" O.D. MUFFLER

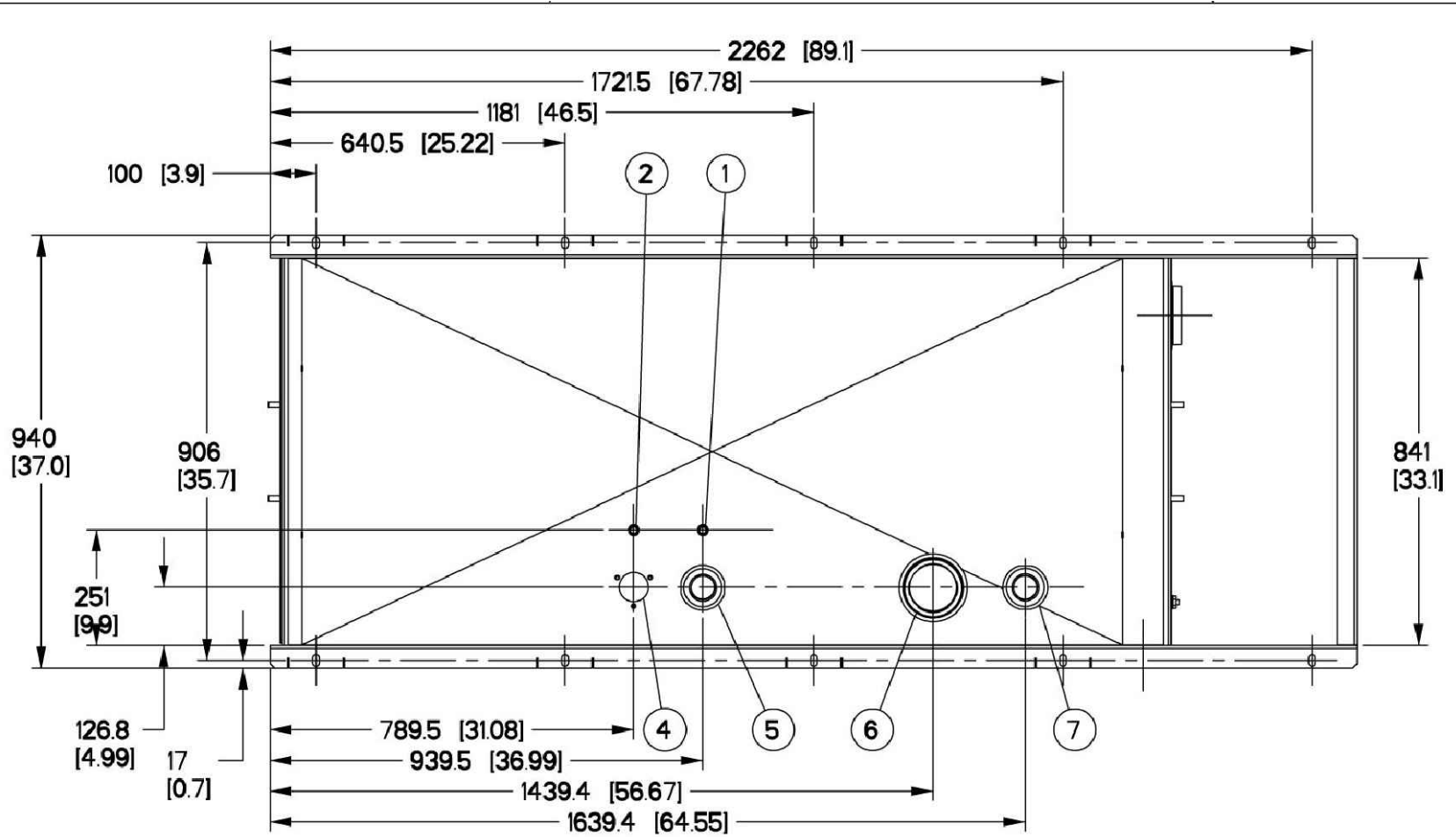
**WEIGHT DATA**  
APPROX. DRY WEIGHT WITHOUT FUEL GENSET PACKAGE 4032 lbs.

REFERENCE DRAWING 0H5302C FOR INSTALLATION  
FUEL TANK DRAWING 0H4610A

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**INSTALLATION DRAWING**

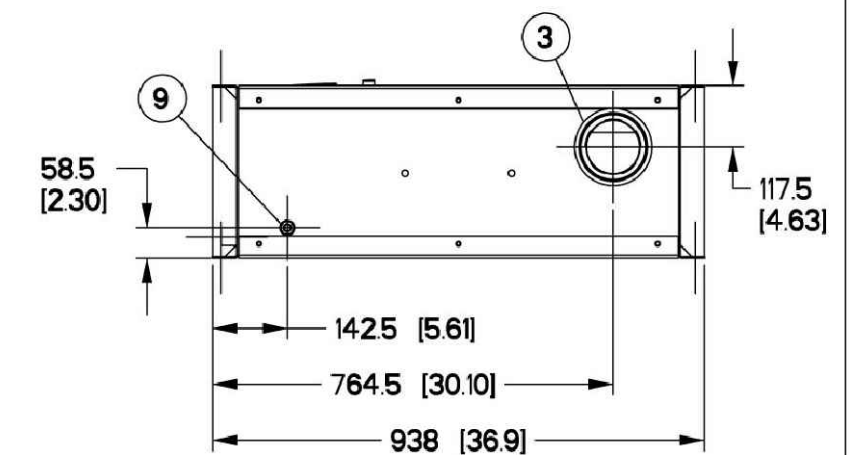
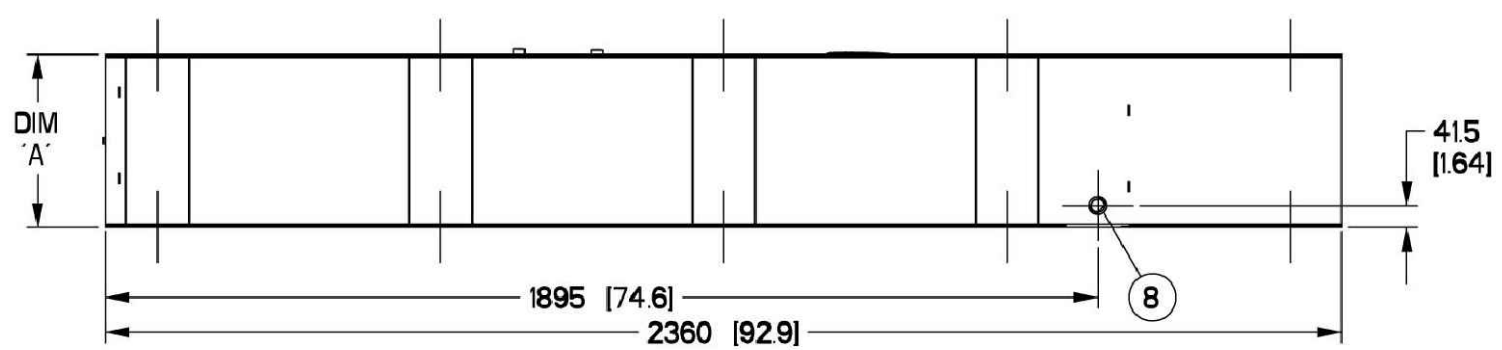
SD80		GENERAC POWER SYSTEMS	
DIESEL 4.5L IVECO		Waukesha	
TURBOCHARGED & AFTERCOOLED		P.O. BOX 8	
SOUND ATTENUATED ENSL., LVL 2		WAUKESHA, WIS. 53187	
W/ 300 GALLON FTB		FILE NAME 0H5302C-B ATC.DWG	SIZE B
		SCALE N/A	FIRST USE D4.5L IVECO
		DWG NO. 0H5302C-ATC	REV B



ITEM #	TANK FITTING	FUNCTION
1	3/8" NPT COUPLING	FUEL SUPPLY
2	3/8" NPT COUPLING	FUEL RETURN
3	4" NPT WELD FLANGE	EMERGENCY VENT (OUTER)
4		FUEL LEVEL
5	2" NPT WELD FLANGE	FUEL FILL
6	4" NPT WELD FLANGE	EMERGENCY VENT (INNER)
7	2" NPT WELD FLANGE	VENT
8	3/4" NPT COUPLING	DRAIN
9	Ø22 HOLE	LEAK DETECTOR

TANK P/N	0H48080ST03	0H48090ST03	0H48100ST03
DIM "A"	330 [13]	635 [25]	940 [37]
TOTAL TANK CAPACITY	318 [84]	734 [194]	1154 [305]
USABLE TANK CAPACITY	299 [79]	716 [189]	1134 [300]
DRY WEIGHT (EST)	237 [522]	344 [758]	445 [982]

NOTES:  
 1) ALL DIMENSIONS ARE:  
 LENGTH: mm [inch]  
 WEIGHT: kg [lbs]  
 CAPACITY: L [gal]  
 2) UL #142 LISTED



DRAWING CREATED FROM PRO/ENGINEER  
 3D FILE. ECO MODIFICATION TO BE  
 APPLIED TO SOLID MODEL ONLY.

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**GENERAC**

TITLE			
B-GROUP, DW TYPE 2 TANKS			
ISSUE DATE:		10/02/09	
SIZE	CAGE NO	DWG NO	REV
B		0H4610A	D
SCALE	WT-KG	SHEET 1 of 1	
0.075	--		

# INSTALLATION DRAWING