ATC SITE NUMBER :	282301
ATC SITE NAME:	BENNETT NC
PROJECT DESCRIPTION:	PROPOSED WIRELESS TELECOMMUNICATIONS FACILITY
TOWER TYPE:	300' SELF SUPPORT (315' OVERALL HEIGHT)
SITE ADDRESS:	24477 NC HWY 902 BENNETT, NC 27208 (CHATHAM COUNTY)
JURISDICTION:	CHATHAM COUNTY
DISTURBED AREA:	9,703 ± SQ. FT. (CLEARING & GRADING LIMITS)
PRESENT OCCUPANCY TYPE:	VACANT
CURRENT ZONING:	UNZONED
PIN #:	8645-13-1971

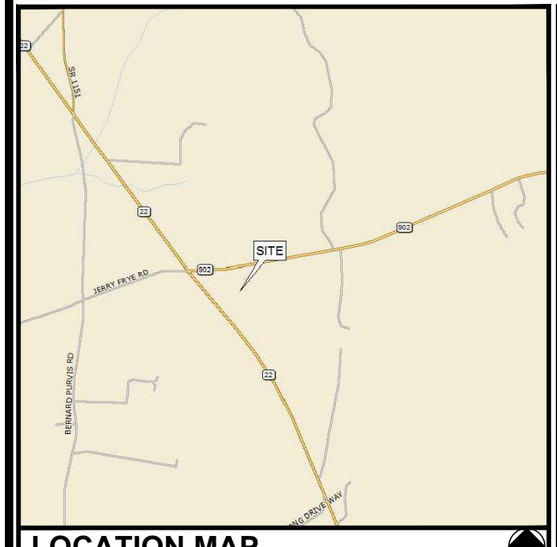
PROJECT INFORMATION

LATITUDE N 35° 32' 45.136" (NAD '27)
LONGITUDE W 79° 32' 04.692" (NAD '27)

LATITUDE N 35° 32' 45.653" (NAD '83)
LONGITUDE W 79° 32' 03.782" (NAD '83)

GROUND ELEV. (AMSL) = 464.9' (NAVD '88)

1-A CERTIFICATION



LOCATION MAP

FROM GREENSBORO, NC: TRAVEL ALONG I-85 TO EXIT 126 IN GREENSBORO, NC. EXIT ONTO US-421 SOUTH. TRAVEL SOUTH ON US-421 FOR 34 MILES TO US-902. TURN RIGHT (WEST) ONTO ROUTE 902 AND TRAVEL ~11.6 MILES TO OPEN PARKING AREA ON LEFT. THERE IS A DIRT PATH ON LEFT WITH A PORT AND A CHAIN ACROSS THE PATH. SITE IS LOCATED APPROXIMATELY 300' SE ALONG THAT PATH AT A CLEARING.

DRIVING DIRECTIONS

AMERICAN TOWER CORPORATION

SITE PLAN
AT&T SITE #: 368-979
ATC SITE #: 282301
ATC SITE NAME: BENNETT NC
24477 NC HWY 902
BENNETT, NC 27208

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: HIGH FALLS OIL COMPANY
ADDRESS: 24477 NC HWY 902
CITY, STATE, ZIP: BENNETT, NC 27208
CONTACT: UNKNOWN
PHONE: UNKNOWN

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)
2. NORTH CAROLINA CODE COUNCIL
3. ANSI/TIA-222-G-2-2009
4. 2012 NCEC (NEC 2011 & ADDENDUM)
5. LOCAL BUILDING CODE
6. CITY/COUNTY ORDINANCES

CODE COMPLIANCE

UTILITIES:
POWER COMPANY: DUKE ENERGY
CONTACT: CUSTOMER SERVICE
PHONE: 1-800-777-9898
METER # NEAR SITE: UNKNOWN

TELEPHONE COMPANY: RANDOLPH TELEPHONE
CONTACT: CUSTOMER SERVICE
PHONE: (336) 879-5684
PHONE # NEAR SITE: UNKNOWN
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
C10A	ACCESS GATE DETAILS	2
C11	SIGNAGE DETAILS	2
C12	DRIVEWAY DETAILS	2
C13	SOIL & EROSION CONTROL PLAN AND DETAILS	2
L1	LANDSCAPING PLAN	2
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E1	ELECTRICAL NOTES	2
E2	SERVICE ROUTING PLAN & ONE LINE DIAGRAM	2
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	APPENDIX: GENERAC 80 KW GENERAL 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	05-22-14	CONSTRUCTION
2	04-30-14	CONSTRUCTION
1	03-06-14	PRELIMINARY
0	02-25-14	PRELIMINARY

DRAWN BY: MAW CHECKED BY: JAS

SEAL:

May 22, 2014

SEAL:

May 22, 2014

SHEET NUMBER: T-1

REVISION: 3

TEP #: 52031

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:

AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

AT&T SITE #: 368-979
ATC SITE #: 282301
BENNETT NC
24477 NC HWY 902
BENNETT, NC 27208
(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:

NORTH CAROLINA PROFESSIONAL SEAL 037920 ENGINEER KIMBERLY S. MARTIN

April 30, 2014

REV	DATE	ISSUED FOR:
2	04-30-14	CONSTRUCTION
1	03-06-14	PRELIMINARY
0	02-25-14	PRELIMINARY

DRAWN BY: SCB | CHECKED BY: GMA

SHEET TITLE:

GENERAL NOTES

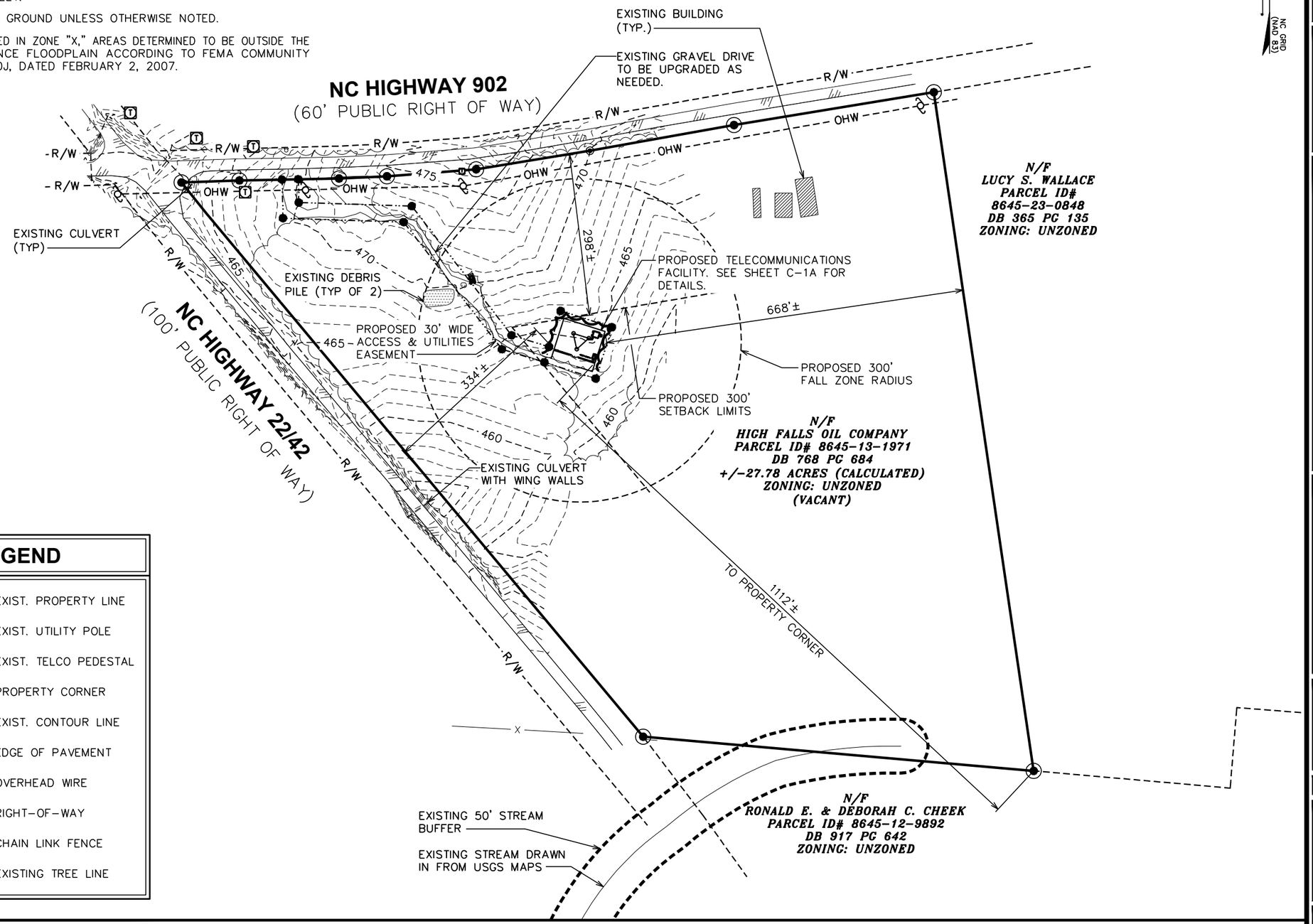
SHEET NUMBER: **N-1**

REVISION: **2**

TEP #: 52031

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 29, 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 #3710864400J, DATED FEBRUARY 2, 2007.



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 PLAN

SCALE: 1" = 200'

0 200 400

SCALE IN FEET

PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

AT&T SITE #: 368-979
ATC SITE #: 282301
BENNETT NC
24477 NC HWY 902
BENNETT, NC 27208
(CHATHAM COUNTY)

PLANS PREPARED BY:

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N.C. LICENSE # C-1794

SEAL:

NORTH CAROLINA PROFESSIONAL SEAL 037920 ENGINEER KIMBERLY S. MARTIN

May 22, 2014

REV	DATE	ISSUED FOR:
3	05-22-14	CONSTRUCTION
2	04-30-14	CONSTRUCTION
1	03-06-14	PRELIMINARY
0	02-25-14	PRELIMINARY

DRAWN BY: MAW CHECKED BY: SCB

SHEET TITLE:

SITE PLAN

SHEET NUMBER: **C-1**

REVISION: 3

TEP #: 52031

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 29, 2014.
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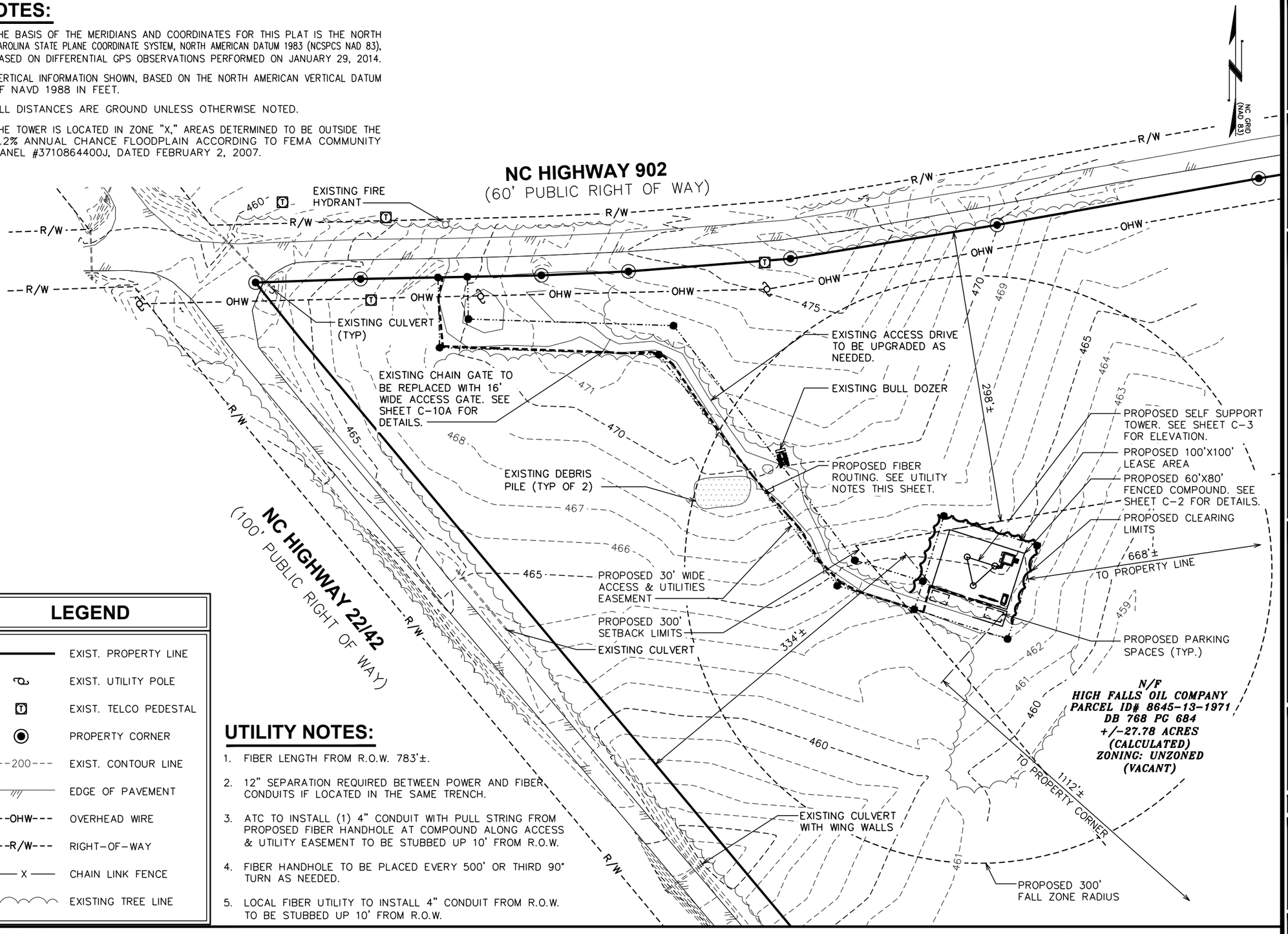

LEGEND

- 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

UTILITY NOTES:

1. FIBER LENGTH FROM R.O.W. 783'±.
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.

SITE LAYOUT

SCALE: 1" = 100'

0 100 200

SCALE IN FEET

PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

AT&T SITE #: 368-979
ATC SITE #: 282301
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24477 NC HWY 902
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(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:

NORTH CAROLINA PROFESSIONAL SEAL 037920 ENGINEER KIMBERLY S. MARTIN

May 22, 2014

REV	DATE	ISSUED FOR:
3	05-22-14	CONSTRUCTION
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0	02-25-14	PRELIMINARY

DRAWN BY: MAW CHECKED BY: SCB

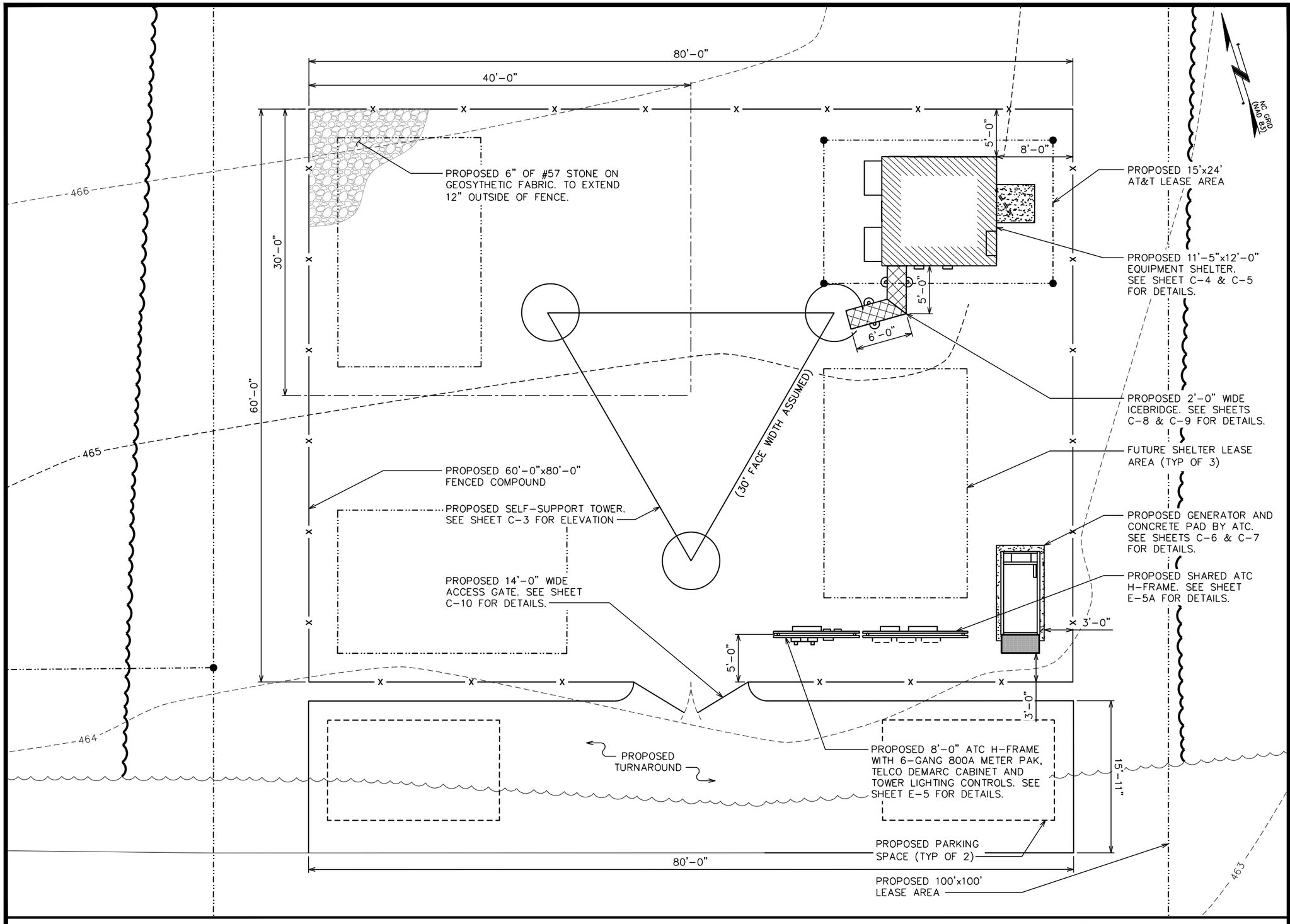
SHEET TITLE:

SITE LAYOUT

SHEET NUMBER: **C-1A**

REVISION: 3

TEP #: 52031



COMPOUND DETAIL

SCALE: 1" = 10'

0 10 20

SCALE IN FEET

PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

AT&T SITE #: 368-979
ATC SITE #: 282301
BENNETT NC
24477 NC HWY 902
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PLANS PREPARED BY:

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SEAL:

NORTH CAROLINA PROFESSIONAL SEAL 037920 ENGINEER KIMBERLY S. MARTIN

May 22, 2014

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0	02-25-14	PRELIMINARY

DRAWN BY: MAW CHECKED BY: SCB

SHEET TITLE:

COMPOUND DETAIL

SHEET NUMBER: **C-2**

REVISION: 3

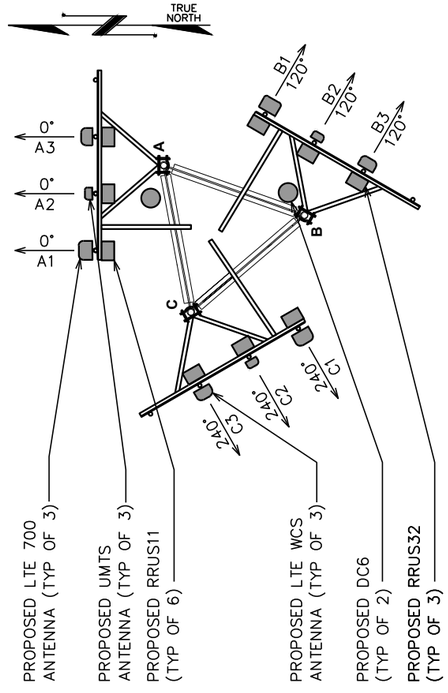
TEP #: 52031

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 700	ERICSSON KRC118048-1	0°	℄ @ 295'-0"	3°	0°	RRUS11 (TOP)	5mm JUMPER	5'±	(2) DC6-48-60-18-8F	(2) FIBER (3) DC POWER	335'±
B1	BETA		ERICSSON KRC118048-1	120°	℄ @ 295'-0"	3°	0°	RRUS11 (TOP)	5mm JUMPER	5'±			
C1	GAMMA		ERICSSON KRC118048-1	240°	℄ @ 295'-0"	3°	0°	RRUS11 (TOP)	5mm JUMPER	5'±			
A2	ALPHA	UMTS	CELLMAX CMA_B_6521_E06_A3	0°	℄ @ 295'-0"	2°	0°	RRUS11 (TOP)	5mm JUMPER	5'±			
B2	BETA		CELLMAX CMA_B_6521_E06_A3	120°	℄ @ 295'-0"	2°	0°	RRUS11 (TOP)	5mm JUMPER	5'±			
C2	GAMMA		CELLMAX CMA_B_6521_E06_A3	240°	℄ @ 295'-0"	2°	0°	RRUS11 (TOP)	5mm JUMPER	5'±			
A3	ALPHA	LTE WCS	ANDREW SBNHH-1D65C	0°	℄ @ 295'-0"	1°	0°	RRUS32 B30 (TOP)	5mm JUMPER	5'±			
B3	BETA		ANDREW SBNHH-1D65C	120°	℄ @ 295'-0"	1°	0°	RRUS32 B30 (TOP)	5mm JUMPER	5'±			
C3	GAMMA		ANDREW SBNHH-1D65C	240°	℄ @ 295'-0"	1°	0°	RRUS32 B30 (TOP)	5mm JUMPER	5'±			

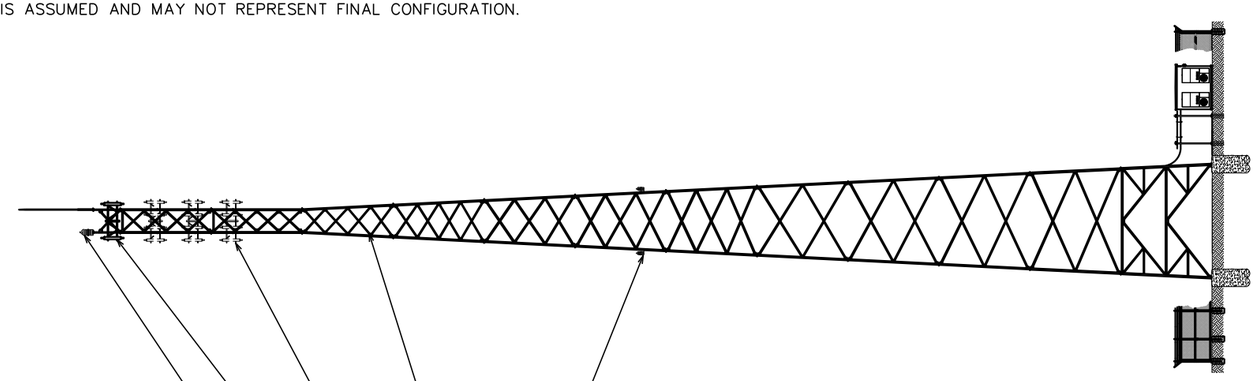
* – AZIMUTHS BASED ON TRUE NORTH

* – ANTENNA MDOEL AND AZIMUTH INFORMATION IS ASSUMED AND MAY NOT REPRESENT FINAL CONFIGURATION.



ANTENNA PLAN

SCALE: N.T.S



NOTES:

1. PROPOSED FIBER TO BE MOUNTED TO WAVEGUIDE LADDER (PROVIDED BY TOWER MANUFACTURER) USING SNAP STAK HANGERS.
2. LIGHTNING ROD, TOWER LIGHTS, AND CLIMBLING LADDER TO BE PROVIDED BY TOWER MANUFACTURER.
3. 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.
4. TOWER SHALL BE CONSTRUCTED OF GALVANIZED STEEL OR PAINTED PER APPLICABLE STANDARDS OF THE FAA OR OTHER APPLICABLE FEDERAL OR STATE AGENCY.
5. 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 ELEVATION

SCALE: 1" = 40'

80
40
0
SCALE IN FEET

PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

AT&T SITE #: 368-979
ATC SITE #: 282301
BENNETT NC
24477 NC HWY 902
BENNETT, NC 27208
(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:

NORTH CAROLINA PROFESSIONAL SEAL 032920 ENGINEER KIMBERLY S. MARTIN

April 30, 2014

REV	DATE	ISSUED FOR:
2	04-30-14	CONSTRUCTION
1	03-06-14	PRELIMINARY
0	02-25-14	PRELIMINARY

DRAWN BY: TLL | CHECKED BY: GMA

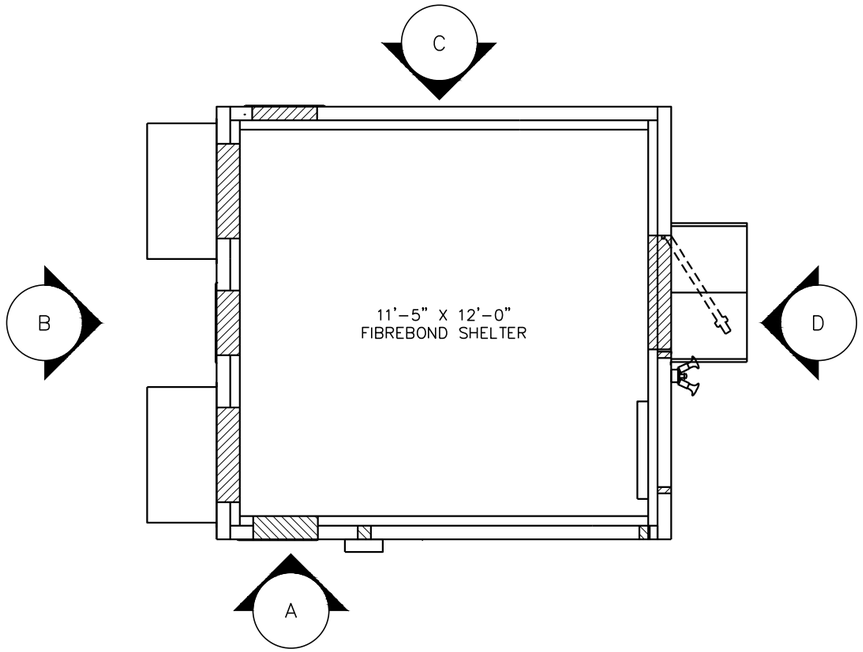
SHEET TITLE:

TOWER ELEVATION

SHEET NUMBER: **C-3**

REVISION: 2

TEP #: 52031

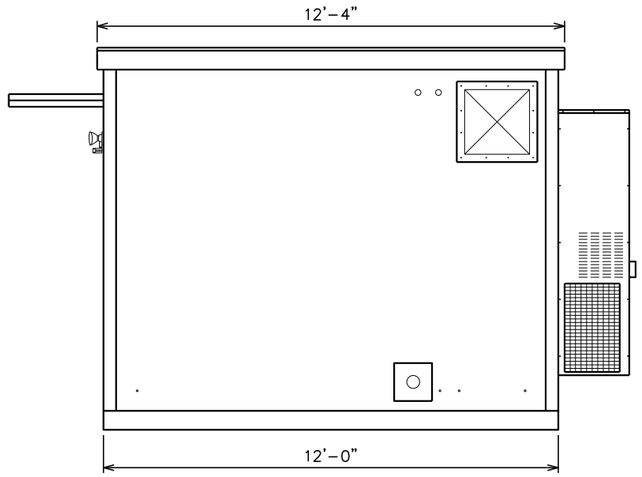


EQUIPMENT LAYOUT

SCALE: ¼" = 1'-0"

0 4 8

SCALE IN FEET

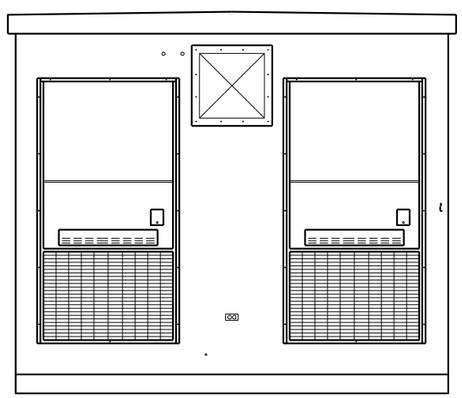


ELEVATION A

SCALE: ¼" = 1'-0"

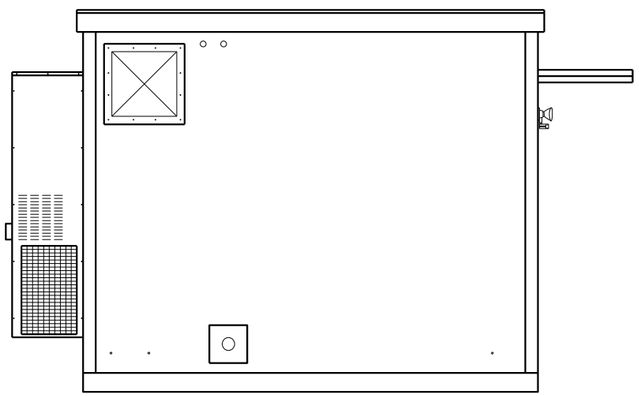
0 4 8

SCALE IN FEET



ELEVATION B

SCALE: ¼" = 1'-0"

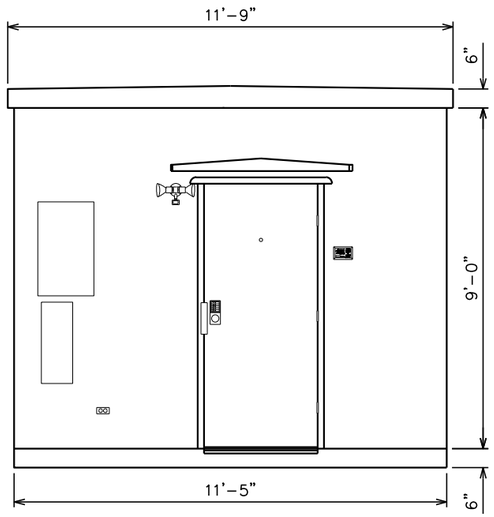


ELEVATION C

SCALE: ¼" = 1'-0"

0 4 8

SCALE IN FEET



ELEVATION D

SCALE: ¼" = 1'-0"

PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

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ATC SITE #: 282301
BENNETT NC
24477 NC HWY 902
BENNETT, NC 27208
(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:

NORTH CAROLINA PROFESSIONAL SEAL 037920 ENGINEER KIMBERLY S. MARTIN

April 30, 2014

REV	DATE	ISSUED FOR:
2	04-30-14	CONSTRUCTION
1	03-06-14	PRELIMINARY
0	02-25-14	PRELIMINARY

DRAWN BY: MAW CHECKED BY: SCB

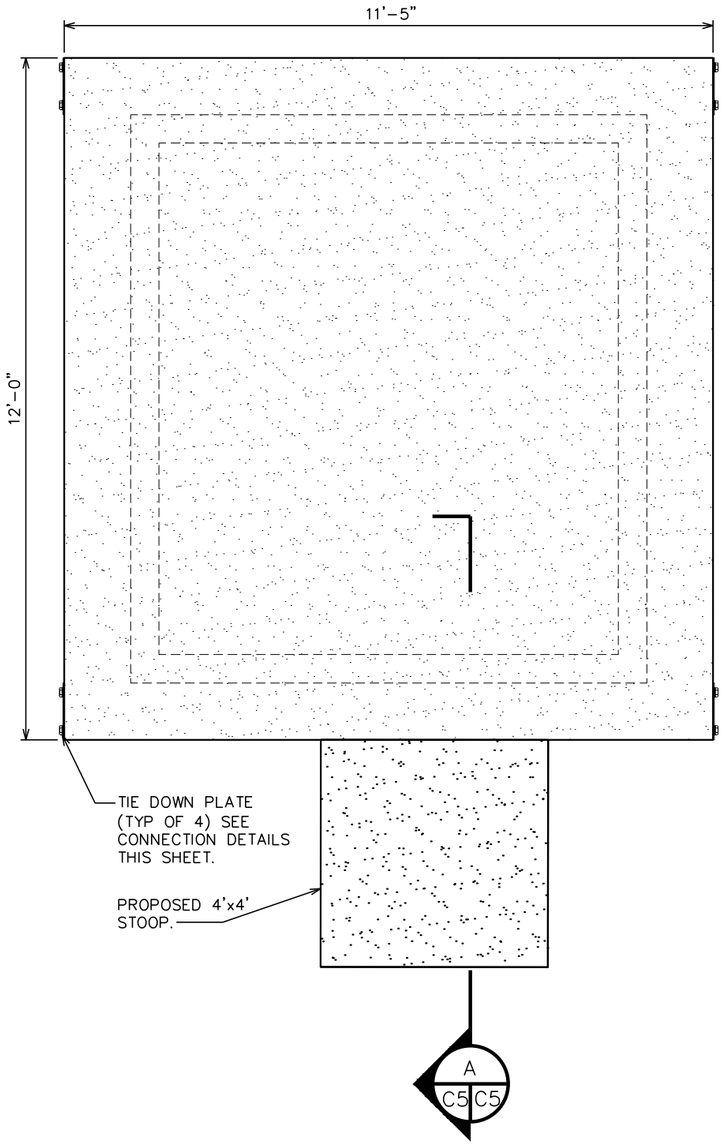
SHEET TITLE:

SHELTER ELEVATIONS

SHEET NUMBER: **C-4**

REVISION: **2**

TEP #: 52031



SHELTER FOUNDATION PLAN

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

0 2 4

SCALE IN FEET

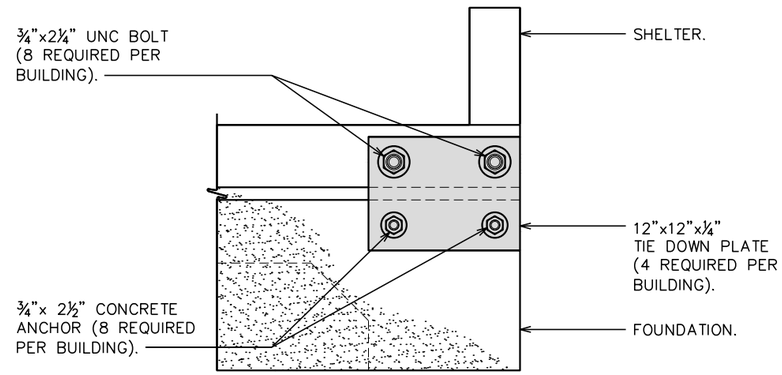
GENERAL STRUCTURAL NOTES:

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. ONCRETE SHALL BE 3,000 PSI.
3. REBAR Fy = 60,000 PSI.
4. ALL BACKFILL SHALL BE THOROUGHLY COMPACTED TO A MINIMUM OF 95% DENSITY USING THE MODIFIED PROCTOR METHOD.

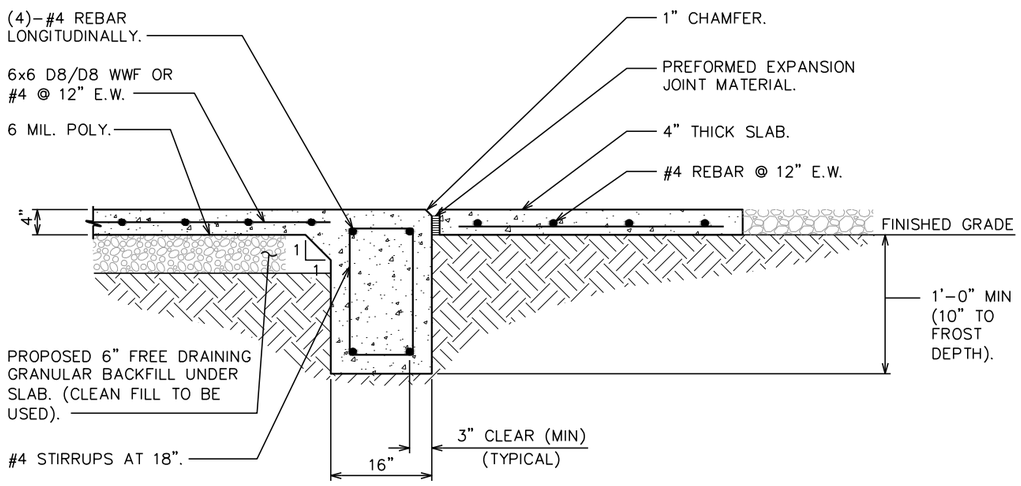


CONNECTION DETAIL

SCALE: 1" = 1'-0"

0 1 2

SCALE IN FEET



PAD SECTION

SCALE: ½" = 1'-0"

A
C5 C5

0 2 4

SCALE IN FEET

PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

AT&T SITE #: 368-979
ATC SITE #: 282301
BENNETT NC
24477 NC HWY 902
BENNETT, NC 27208
(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:

NORTH CAROLINA PROFESSIONAL SEAL 027920 ENGINEER KIMBERLY S. MARTIN

April 30, 2014

REV	DATE	ISSUED FOR:
2	04-30-14	CONSTRUCTION
1	03-06-14	PRELIMINARY
0	02-25-14	PRELIMINARY

DRAWN BY: SCB | CHECKED BY: GMA

SHEET TITLE:

SHELTER FOUNDATION DETAILS

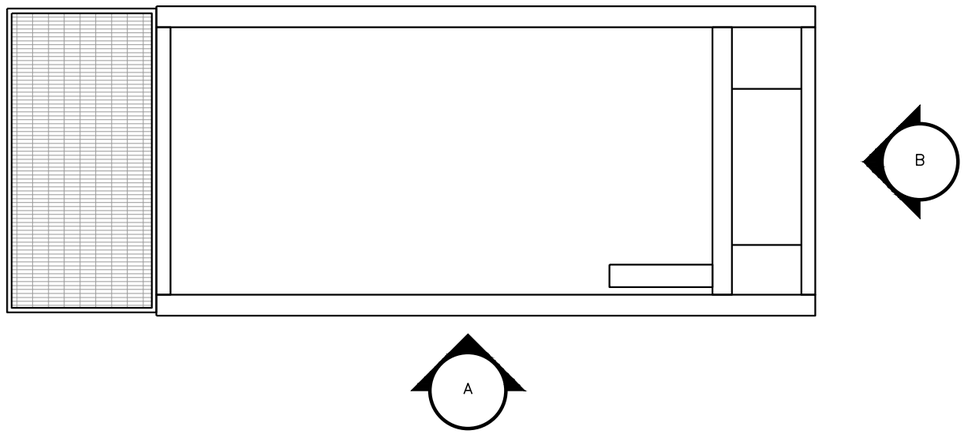
SHEET NUMBER: **C-5**

REVISION: **2**

TEP #: 52031

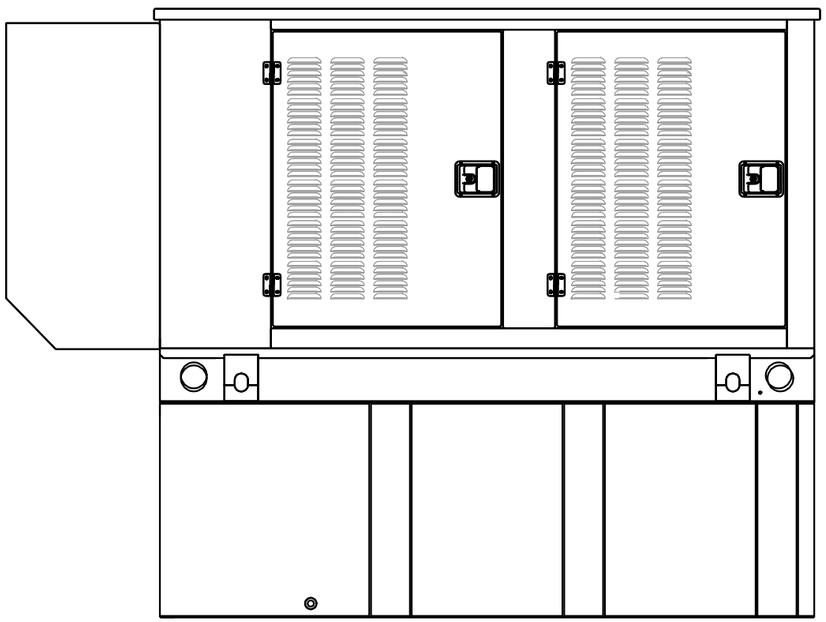
GENERATOR NOTES:

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



GENERATOR LAYOUT

SCALE: N.T.S.

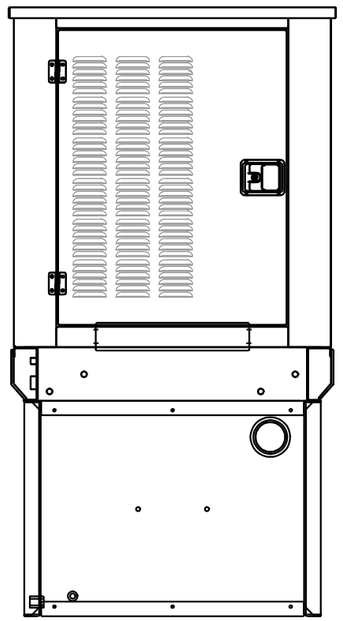


NOTE:

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

ELEVATION A

SCALE: N.T.S.



ELEVATION B

SCALE: N.T.S.

PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

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BENNETT NC
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BENNETT, NC 27208
(CHATHAM COUNTY)

PLANS PREPARED BY:

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3703 JUNCTION BOULEVARD
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N.C. LICENSE # C-1794

SEAL:

NORTH CAROLINA PROFESSIONAL SEAL 037920 ENGINEER KIMBERLY S. MARTIN

April 30, 2014

REV	DATE	ISSUED FOR:
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DRAWN BY: SCB | CHECKED BY: GMA

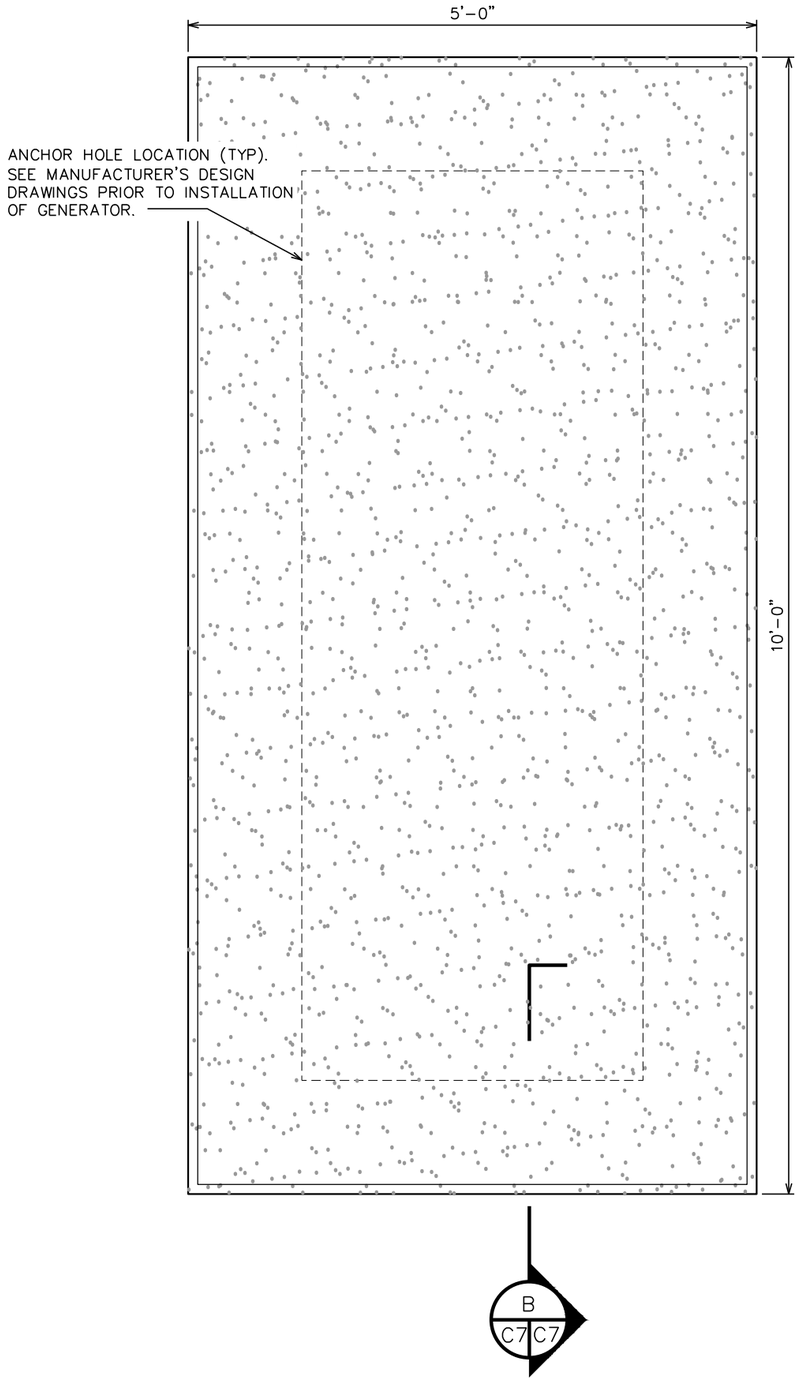
SHEET TITLE:

GENERATOR & FUEL TANK ELEVATIONS

SHEET NUMBER: **C-6**

REVISION: **2**

TEP #: 52031

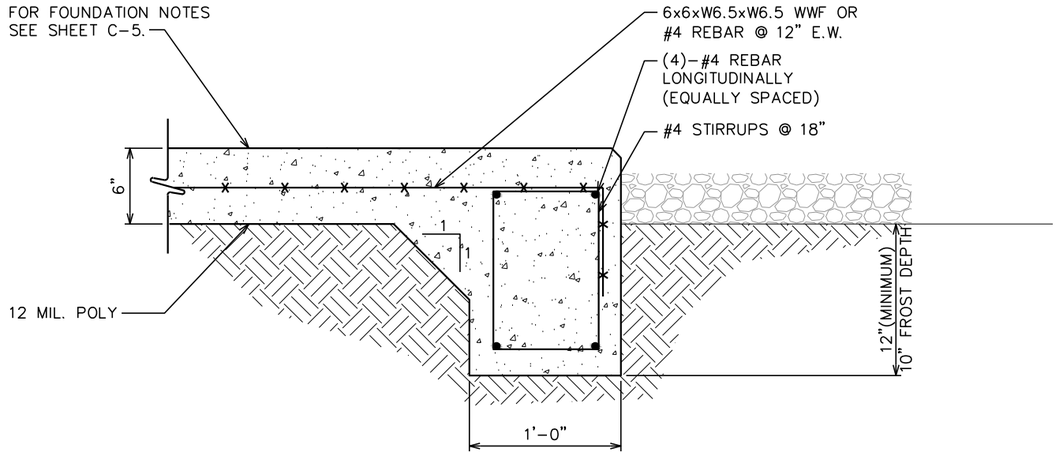


GENERATOR FOUNDATION

SCALE: ¾" = 1'-0"

0 1 2

SCALE IN FEET



SECTION

SCALE: 1" = 1'-0"

B
C7
C7

0 1 2

SCALE IN FEET

PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION

3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

AT&T SITE #: 368-979
ATC SITE #: 282301
BENNETT NC

24477 NC HWY 902
BENNETT, NC 27208
(CHATHAM COUNTY)

PLANS PREPARED BY:

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

N.C. LICENSE # C-1794

SEAL:

NORTH CAROLINA
PROFESSIONAL
SEAL
037920
ENGINEER
KIMBERLY S. MARTIN

April 30, 2014

REV	DATE	ISSUED FOR:
2	04-30-14	CONSTRUCTION
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0	02-25-14	PRELIMINARY

DRAWN BY: SCB | CHECKED BY: GMA

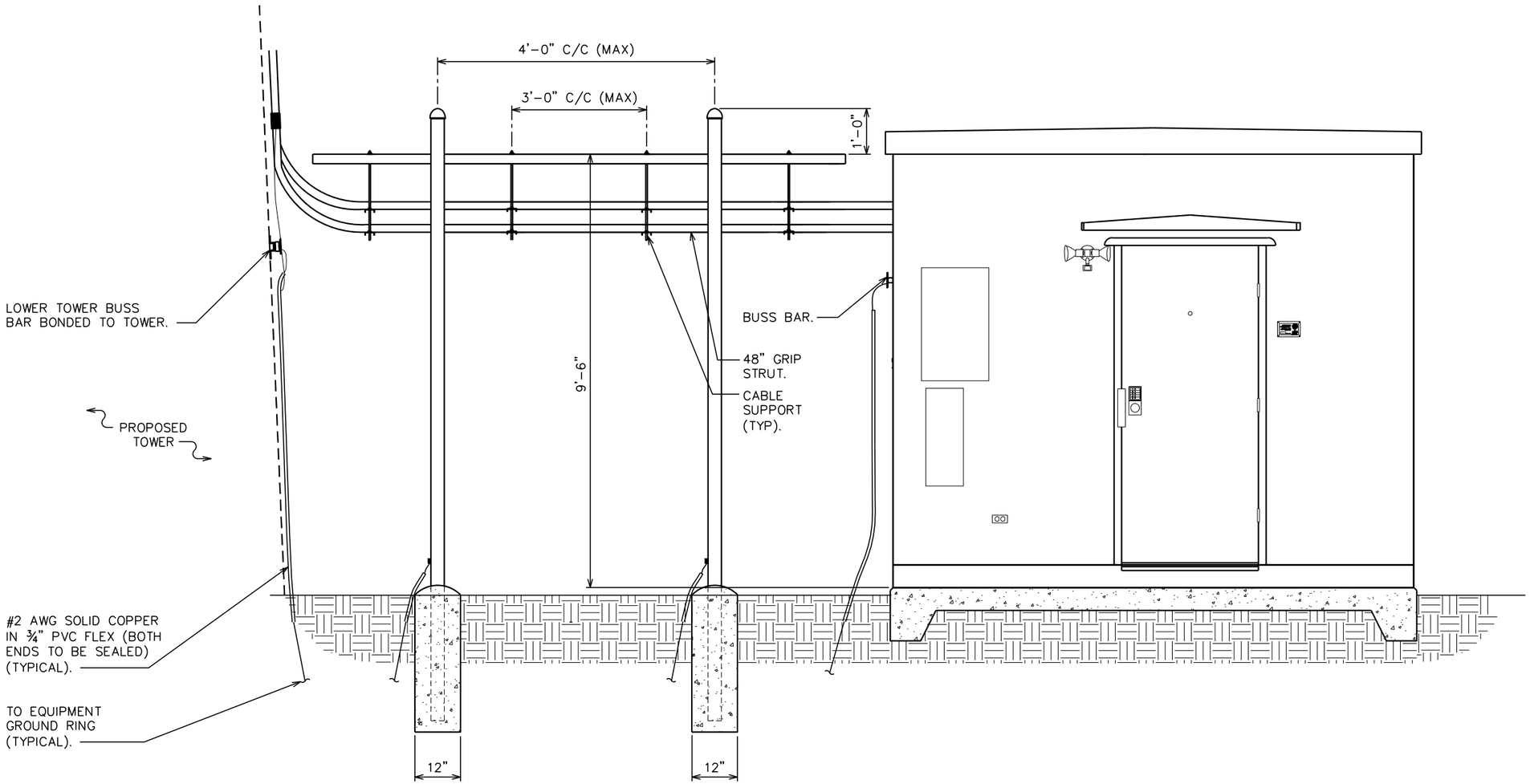
SHEET TITLE:

GENERATOR FOUNDATION DETAILS

SHEET NUMBER: **C-7**

REVISION: **2**

TEP #: 52031



ICE BRIDGE DETAILS

SCALE: N.T.S

PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

AT&T SITE #: 368-979
ATC SITE #: 282301
BENNETT NC
24477 NC HWY 902
BENNETT, NC 27208
(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:

NORTH CAROLINA PROFESSIONAL SEAL 037920 ENGINEER KIMBERLY S. MARTIN

April 30, 2014

REV	DATE	ISSUED FOR:
2	04-30-14	CONSTRUCTION
1	03-06-14	PRELIMINARY
0	02-25-14	PRELIMINARY

DRAWN BY: SCB | CHECKED BY: GMA

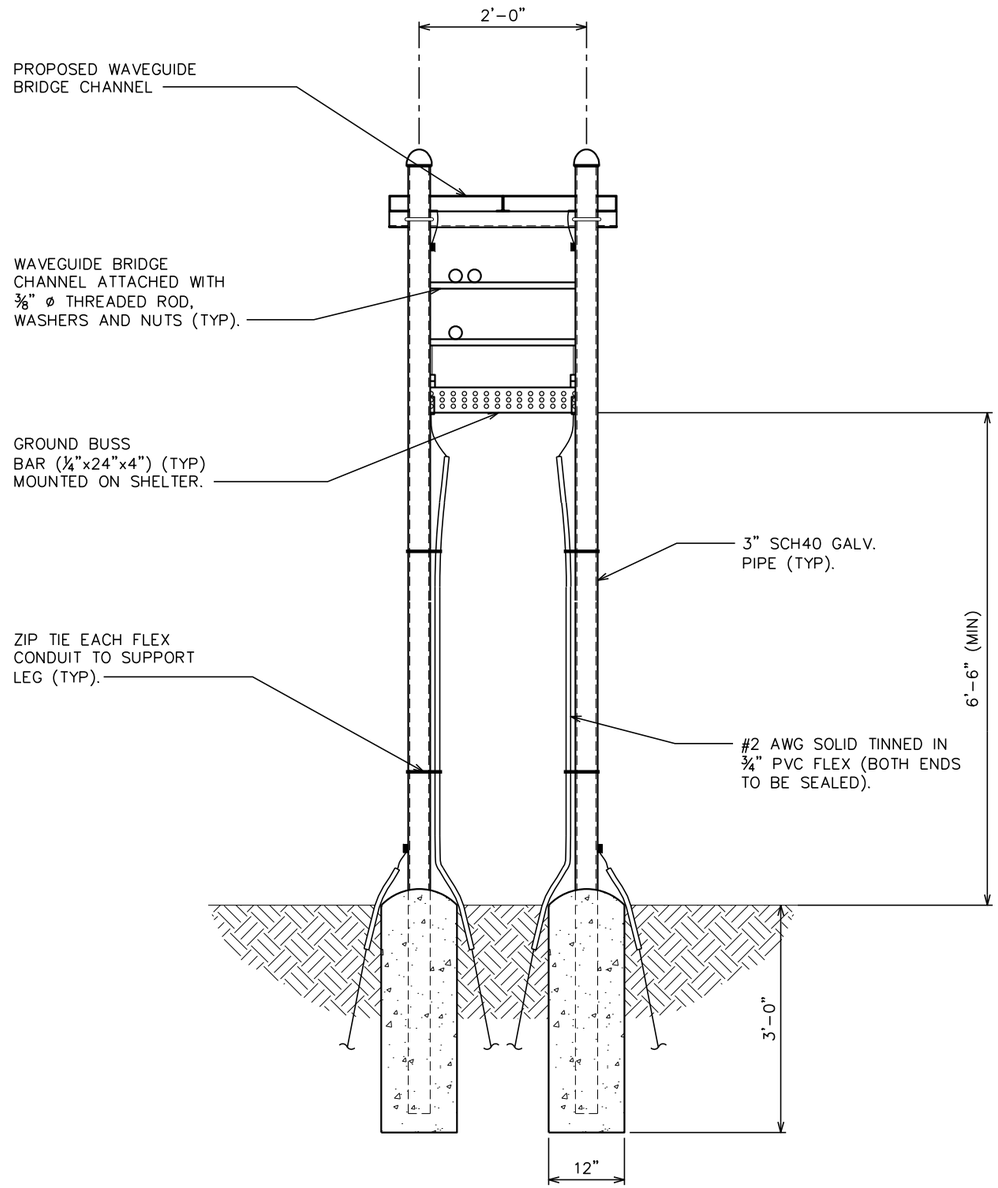
SHEET TITLE:

ICE BRIDGE DETAILS I

SHEET NUMBER: **C-8**

REVISION: **2**

TEP #: 52031



ICE BRIDGE DETAILS

SCALE: ½" = 1'-0"

0 2 4

SCALE IN FEET

PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

AT&T SITE #: 368-979
ATC SITE #: 282301
BENNETT NC
24477 NC HWY 902
BENNETT, NC 27208
(CHATHAM COUNTY)

PLANS PREPARED BY:

TOWER ENGINEERING PROFESSIONALS
3703 JUNCTION BOULEVARD
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OFFICE: (919) 661-6351
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N.C. LICENSE # C-1794

SEAL:

NORTH CAROLINA PROFESSIONAL SEAL 037920 ENGINEER KIMBERLY S. MARTIN

April 30, 2014

REV	DATE	ISSUED FOR:
2	04-30-14	CONSTRUCTION
1	03-06-14	PRELIMINARY
0	02-25-14	PRELIMINARY

DRAWN BY: JJM | CHECKED BY: JAS

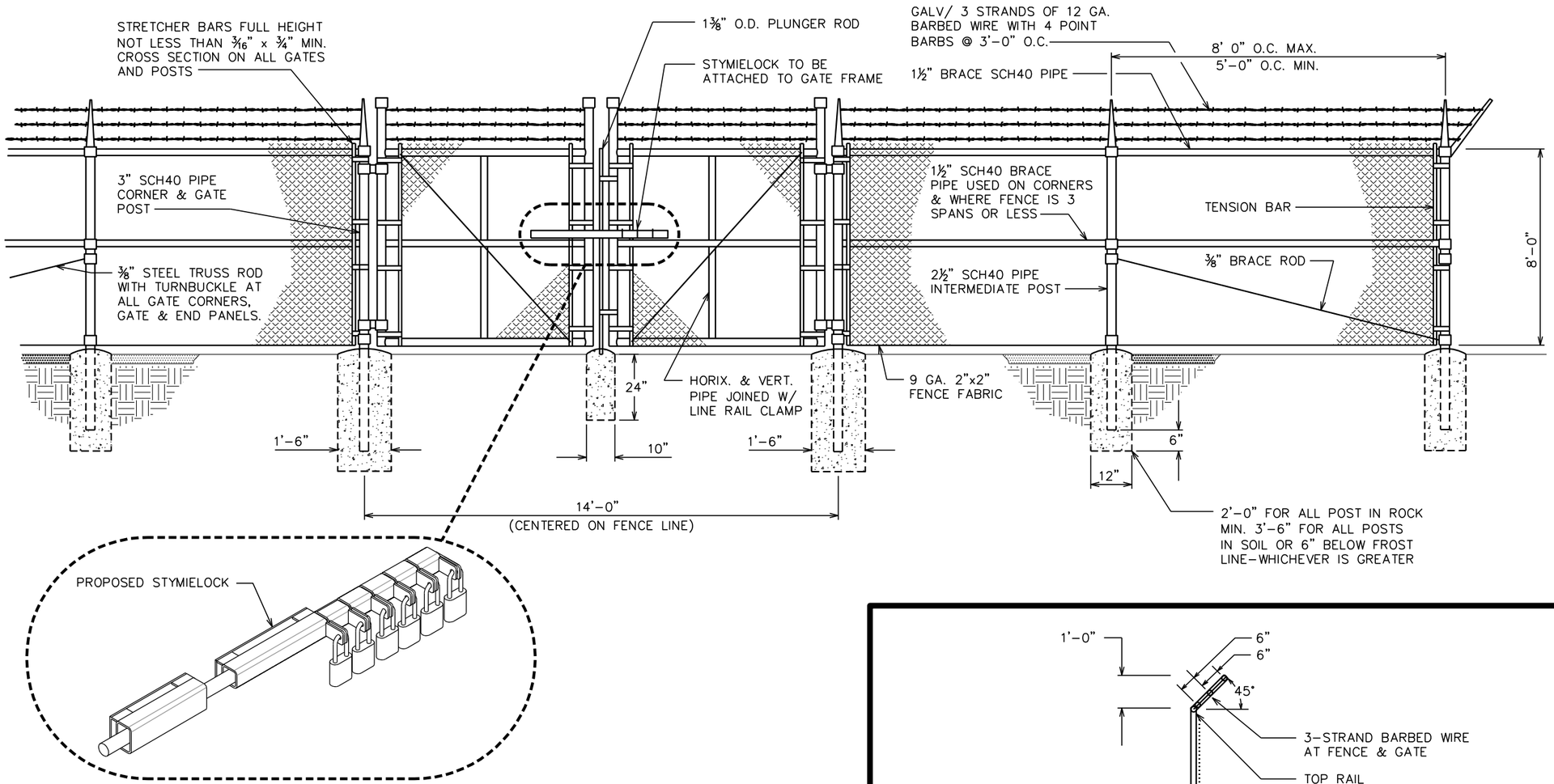
SHEET TITLE:

ICE BRIDGE DETAILS II

SHEET NUMBER: **C-9**

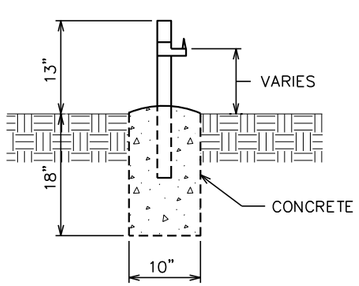
REVISION: **2**

TEP #: 52031



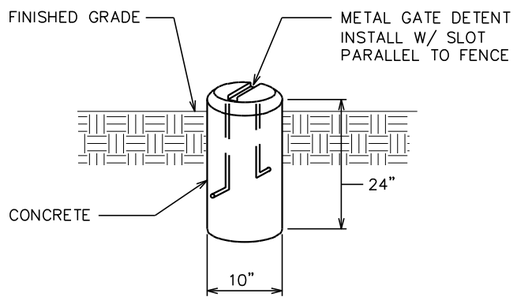
TYPICAL FENCE ELEVATION

SCALE: N.T.S.



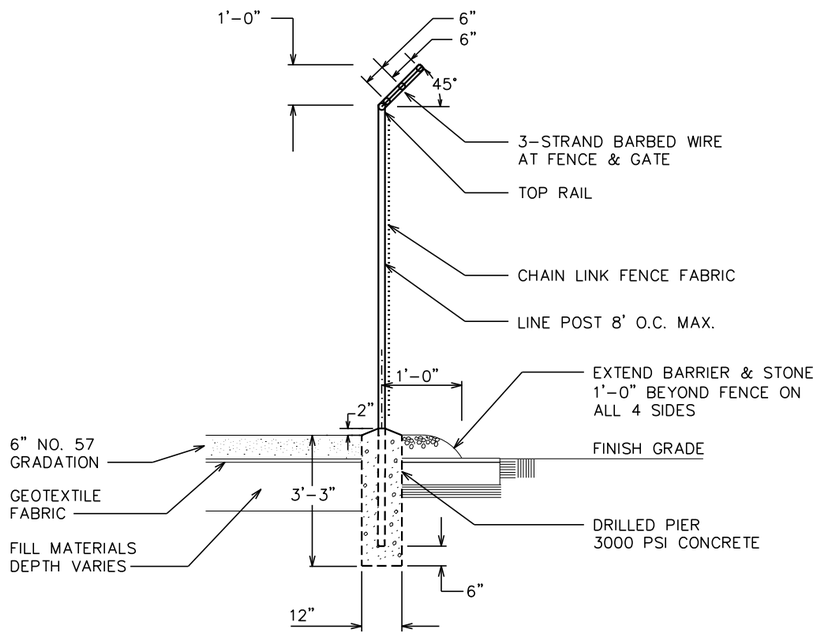
GATE STOP / KEEPER DETAIL

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, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

AT&T SITE #: 368-979
ATC SITE #: 282301
BENNETT NC
24477 NC HWY 902
BENNETT, NC 27208
(CHATHAM COUNTY)

PLANS PREPARED BY:

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

SEAL:

NORTH CAROLINA PROFESSIONAL SEAL 037920 ENGINEER KIMBERLY S. MARTIN

April 30, 2014

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0	02-25-14	PRELIMINARY

DRAWN BY: SCB | CHECKED BY: GMA

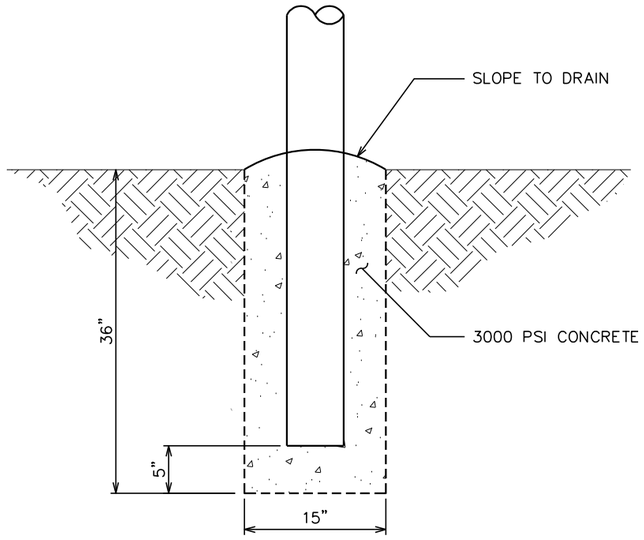
SHEET TITLE:

FENCE DETAILS

SHEET NUMBER: **C-10**

REVISION: 2

TEP #: 52031



CONCRETE FOOTER DETAIL

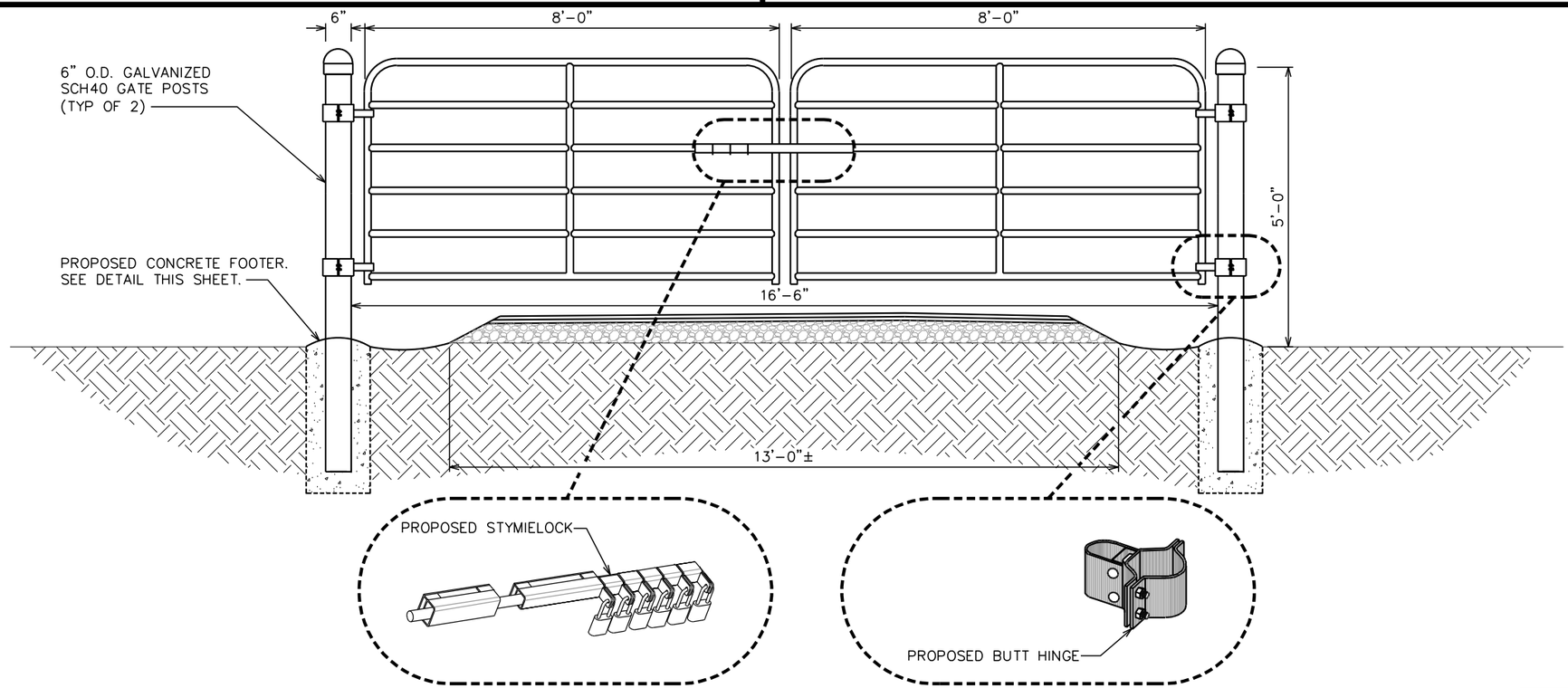
SCALE: NTS

NOTES:

1. PANELS TO BE 4'x8' GALVANIZED TUBULAR STEEL 2" ODx16 GAUGE HIGH TENSILE WELDED STEEL. HEAVY DUTY MOUNT HARDWARE TO BE WELDED TO THE SUPPORT POSTS.
2. 6"ODx8' SCHEDULE 40 STEEL INSTALLED 36" BELOW EXISTING GRADE CONCRETE TO 1" ABOVE EXISTING GRADE AT THE POST BASE AND TAPER. FILL POST COMPLETELY WITH CONCRETE CAP.
3. CONTRACTOR TO INSTALL ATC SIGNAGE TO THE NEWLY INSTALLED ACCESS GATE. SIGNAGE TO BE INSTALLED USING GALVANIZED METAL SCREWS IN 4 PLACES. NO PLASTIC WIRE TIES WILL BE USED.
4. STYMIE SECURITY LOCK: STANDARD GALVANIZED 2" LOCK SYSTEM WELDED TO GATE CROSS SUPPORTS 4–2" SLEEVES WITH SLOTTED HASPS.

ACCESS GATE NOTES

SCALE: NTS



CATTLE GATE DETAIL

SCALE: NTS

PLANS PREPARED FOR:
AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

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BENNETT NC
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BENNETT, NC 27208
(CHATHAM COUNTY)

PLANS PREPARED BY:
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3703 JUNCTION BOULEVARD
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SEAL:

NORTH CAROLINA PROFESSIONAL SEAL 037920 ENGINEER KIMBERLY S. MARTIN

April 30, 2014

REV	DATE	ISSUED FOR:
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0	02-25-14	PRELIMINARY

DRAWN BY: MAW | CHECKED BY: SCB

SHEET TITLE:

ACCESS GATE DETAILS

SHEET NUMBER: **C-10A**

REVISION: **2**

TEP #: 52031

property of

at&t

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

AMERICAN TOWER CORPORATION
400 REGENCY FOREST DR.
CARY, NC 27511

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:

1. SIGNS SHALL MEASURE 8"x12", BE FABRICATED FROM CORROSION RESISTANT PRESSED METAL, AND PAINTED WITH LONG LASTING UV RESISTANT COATINGS.
2. 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.
3. 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.
4. 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.
5. ADDITIONAL FCC REGISTRATION # SIGNS ARE REQUIRED AT EACH ACCESS ROAD GATE LEADING TO THE COMPOUND AS WELL AS ON THE COMPOUND GATE ITSELF.
6. 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

TYPICAL SIGNS AND SPECIFICATIONS

SCALE: N.T.S.

PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

AT&T SITE #: 368-979
ATC SITE #: 282301
BENNETT NC
24477 NC HWY 902
BENNETT, NC 27208
(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:

NORTH CAROLINA PROFESSIONAL SEAL 037920 ENGINEER KIMBERLY S. MARTIN

April 30, 2014

REV	DATE	ISSUED FOR:
2	04-30-14	CONSTRUCTION
1	03-06-14	PRELIMINARY
0	02-25-14	PRELIMINARY

DRAWN BY: JHJ | CHECKED BY: GMA

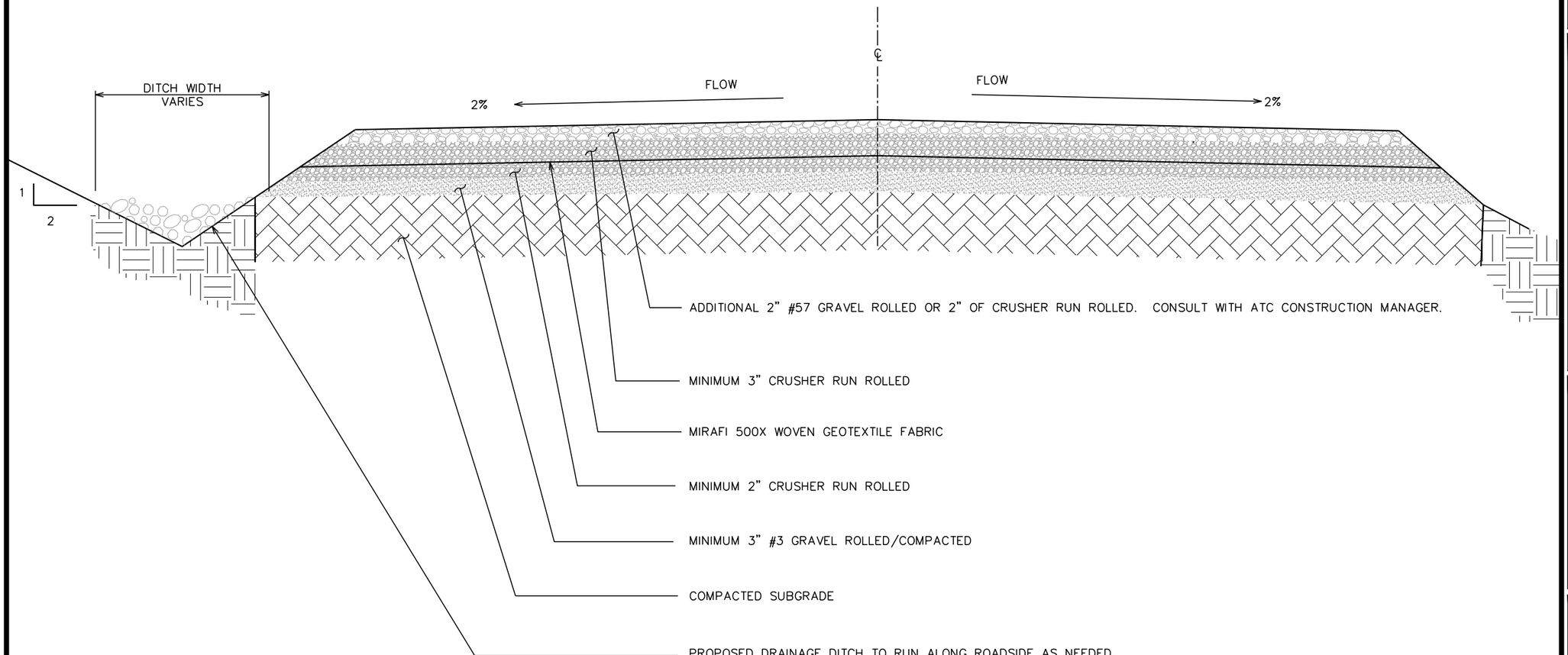
SHEET TITLE:

SIGNAGE DETAILS

SHEET NUMBER: **C-11**

REVISION: **2**

TEP #: 52031



STANDARD ROAD SECTION (GOOD SUBGRADE)

SCALE: ¾"= 1'-0"

0 1 2

SCALE IN FEET

PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

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DRAWN BY: MAW CHECKED BY: JAS

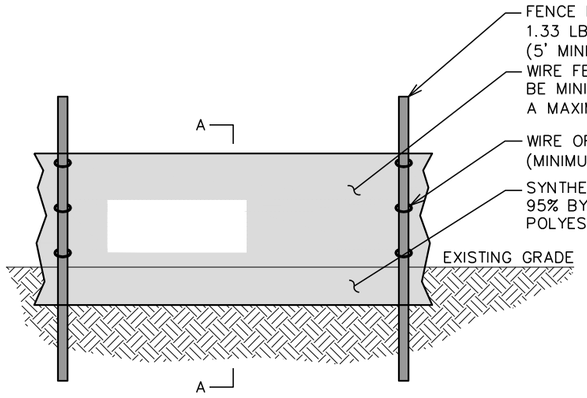
SHEET TITLE:

DRIVEWAY DETAILS

SHEET NUMBER: **C-12**

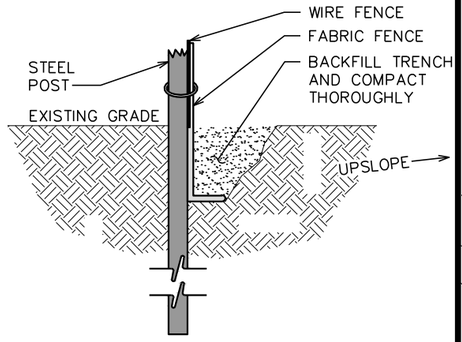
REVISION: **2**

TEP #: 52031



NOTES:

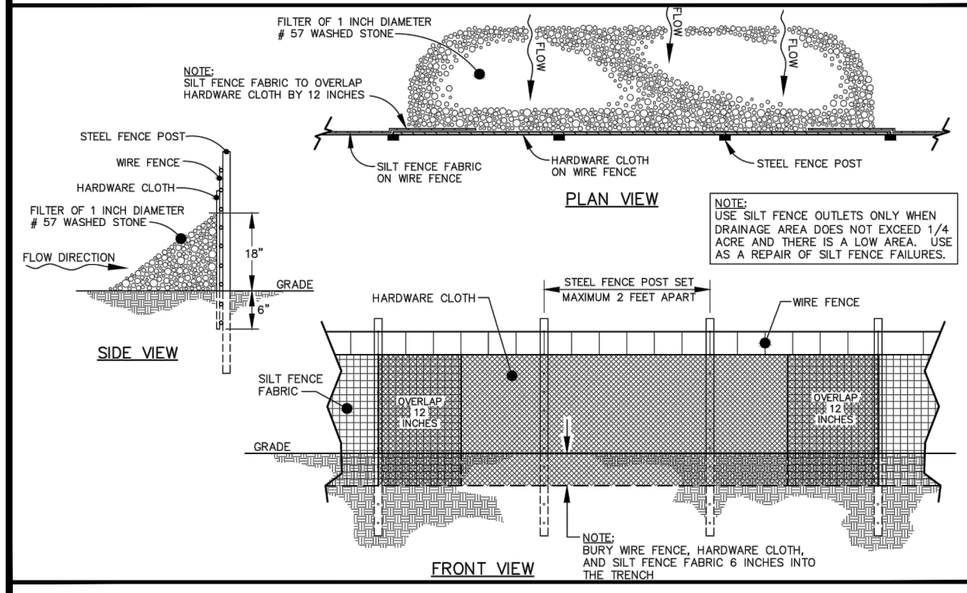
1. FILTER FABRIC SHALL CONFORM TO THE REQUIREMENTS LISTED IN ASTM D 6461.
2. ENDS OF INDIVIDUAL FILTER FABRIC SHALL BE SECURELY FASTENED AT A SUPPORT POST WITH 4 FEET MINIMUM OVERLAP TO THE NEXT POST
3. PLACE 12 INCHES OF FABRIC ALONG THE BOTTOM AND SIDE OF THE TRENCH.
4. INSPECT SEDIMENT FENCE(S) AT 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.



SECTION A-A

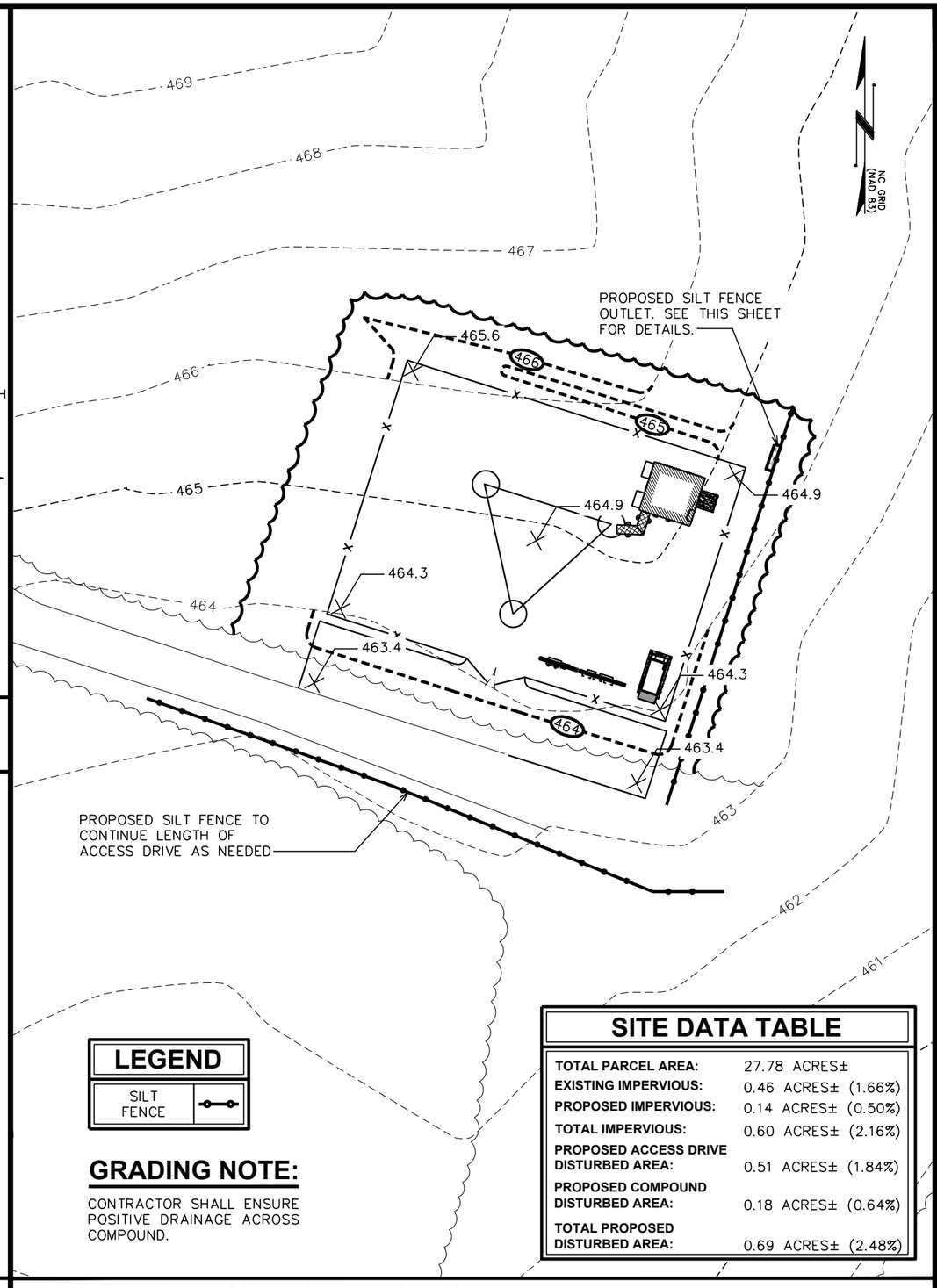
STANDARD SILT FENCE DETAIL

SCALE: N.T.S.



STANDARD SILT FENCE OUTLET DETAIL

SCALE: N.T.S.



LEGEND

SILT FENCE	

GRADING NOTE:

CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ACROSS COMPOUND.

SITE DATA TABLE

TOTAL PARCEL AREA:	27.78 ACRES±
EXISTING IMPERVIOUS:	0.46 ACRES± (1.66%)
PROPOSED IMPERVIOUS:	0.14 ACRES± (0.50%)
TOTAL IMPERVIOUS:	0.60 ACRES± (2.16%)
PROPOSED ACCESS DRIVE DISTURBED AREA:	0.51 ACRES± (1.84%)
PROPOSED COMPOUND DISTURBED AREA:	0.18 ACRES± (0.64%)
TOTAL PROPOSED DISTURBED AREA:	0.69 ACRES± (2.48%)

SOIL & EROSION CONTROL PLAN

SCALE: 1" = 30'

0 30 60

SCALE IN FEET

PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
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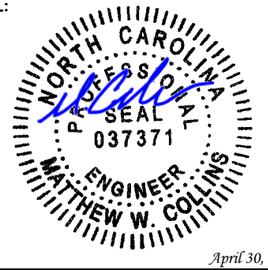
SEAL:



April 30, 2014

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DRAWN BY: MAW CHECKED BY: SCB

SHEET TITLE:

SOIL & EROSION CONTROL PLAN

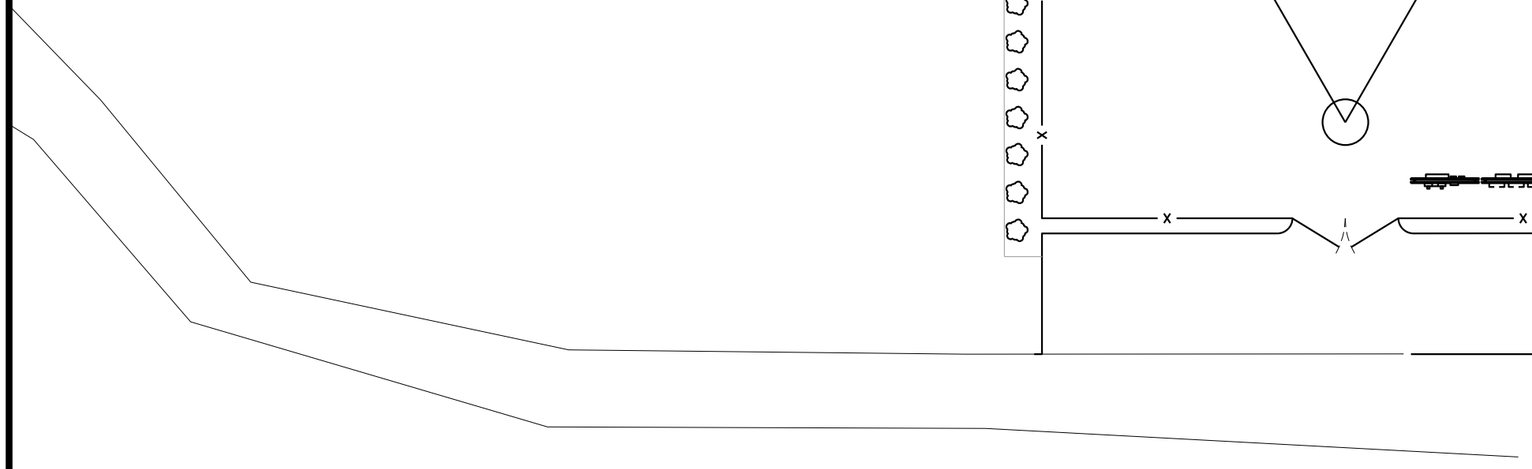
SHEET NUMBER: **C-13**

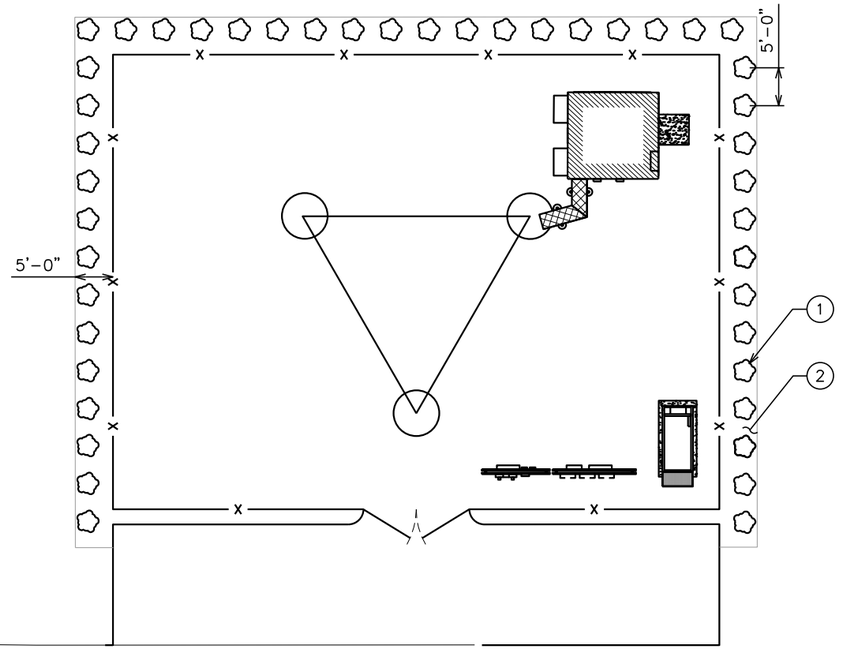
REVISION: **2**

TEP #: 52031

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.I–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.





LANDSCAPING PLAN

SCALE: 1" = 20'

0 20 40

SCALE IN FEET

PLANTING SCHEDULE

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

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DRAWN BY: MAW CHECKED BY: SCB

SHEET TITLE:

LANDSCAPING PLAN

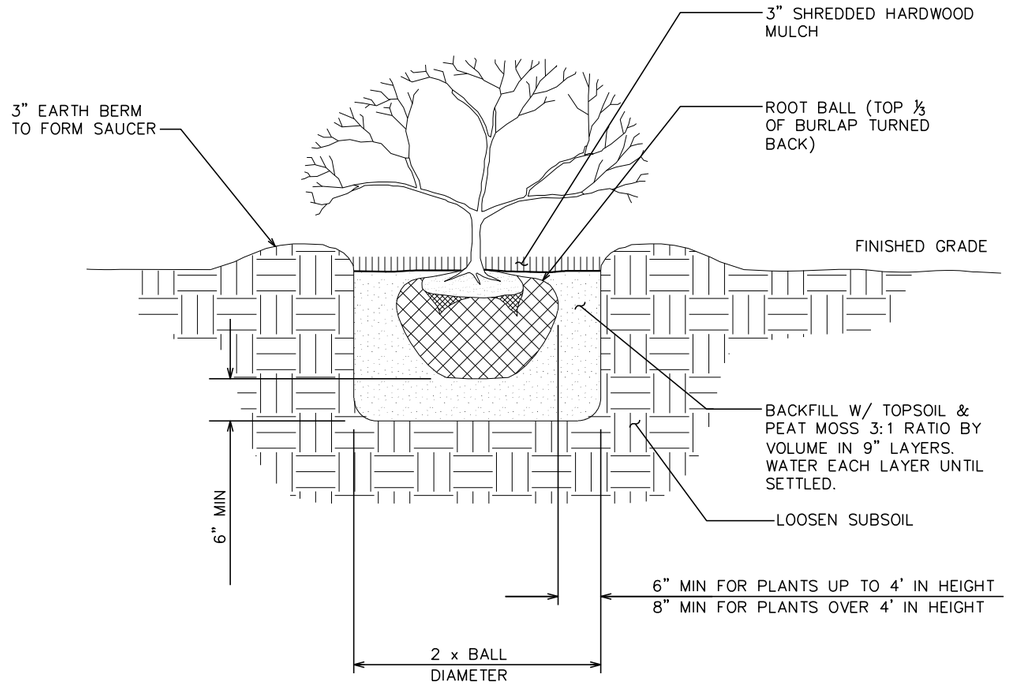
SHEET NUMBER: **L-1**

REVISION: **2**

TEP #: 52031

NOTE:

SEE LANDSCAPING NOTES ON L-1



LANDSCAPING DETAILS

SCALE: N.T.S.

PLANS PREPARED FOR:

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3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

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DRAWN BY: JHJ | CHECKED BY: GMA

SHEET TITLE:

LANDSCAPING DETAILS

SHEET NUMBER: **L-2**

REVISION: 2

TEP #: 52031

ELECTRICAL NOTES:

SCOPE:

1. 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:
   1. ELECTRIC SERVICE
   2. CONDUIT AND RACEWAY
   3. CONDUCTORS
   4. MISCELLANEOUS MATERIALS
   5. TELEPHONE CONDUITS
   6. LIGHTNING ARRESTING SYSTEM

CODES

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

TESTING

1. 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

1. 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 WARRANTEE CERTIFICATES & GUARANTEES FURNISHED BY THE MANUFACTURERS SHALL BE TURNED OVER TO THE OWNER.

CO-ORDINATION:

1. 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

1. 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:

1. 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.
2. ALL NECESSARY EXCAVATIONS AND BACKFILLING INCIDENTAL TO THE WORK UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWING SHALL BE PROVIDED BY THIS CONTRACTOR.
3. SEAL ALL PENETRATION THROUGH WALL AND FLOORS WITH APPROVED GROUT.

EXTERIOR CONDUIT:

1. 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

1. ALL CONDUCTORS SHALL BE INSTALLED IN CONDUIT. ALL CONDUIT SHALL BE RIGID STEEL, EMT OR SCH40 PVC AS INDICATED ON THE DRAWINGS.
2. WHERE INSTALLED ON EXTERIORS AND EXPOSED TO DAMAGE, ALL CONDUIT SHALL BE RIGID STEEL. ALUMINUM CONDUIT SHALL NOT BE ALLOWED.
3. CONCEALED CONDUIT IN WALLS OR INTERIOR SPACES ABOVE GRADE MAY BE EMT.
4. UNDERGROUND CONDUITS SHALL BE RIGID STEEL OR SCHEDULE 40 PVC AS INDICATED ON THE DRAWINGS.
5. 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.
6. PROVIDE SUPPORTS FOR ALL CONDUITS IN ACCORDANCE WITH NEC REQUIREMENTS. ALL CONDUITS SHALL BE SIZED AS REQUIRED BY NEC.
7. BURIAL DEPTH OF ALL CONDUITS SHALL BE AS REQUIRED BY CODE FOR EACH SPECIFIC CONDUIT TYPE AND APPLICATION.
8. CONDUIT ROUTES ARE SCHEMATIC. CONTRACTOR SHALL FIELD VERIFY BEFORE BID. COORDINATE ROUTE WITH WIRELESS CARRIER AND BUILDING OWNER.

EQUIPMENT:

1. ALL DISCONNECT SWITCHES SHALL BE SERVICE ENTRANCE RATED, HEAVY DUTY TYPE.
2. 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.
3. ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES AND EQUIPMENT SHALL BE LABEL/LISTED BY UL OR A NORTH CAROLINA APPROVED THIRD PARTY TESTING AGENCY.

CONDUCTORS

1. FURNISH AND INSTALL CONDUCTORS CALLED FOR IN THE DRAWINGS. ALL CONDUCTORS SHALL HAVE TYPE THWN (MIN) (75° C) INSULATION, RATED FOR 600 VOLTS.
2. 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:
   A. MINIMUM WIRE SIZE SHALL BE #12 AWG.
   B. ALL CONDUCTORS SIZE #8 AND LARGER SHALL BE STRANDED. CONDUCTORS SIZED #10 AND SMALLER MAY BE SOLID OR STRANDED.
   C. CONNECTION FOR #10 AWG AND SMALLER SHALL BE BY TWISTING TIGHT AND INSTALLING INSULATED PRESSURE OR WIRE NUT CONNECTIONS.
   D. CONNECTION FOR #8 AWG AND LARGER SHALL BE BY USE OF STEEL CRIMP–ON SLEEVES WITH NYLON INSULATOR.
3. ALL CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH NEC STANDARDS.
4. THE RACEWAY SYSTEM SHALL BE COMPLETE BEFORE INSTALLING CONDUCTORS

PENETRATIONS:

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

GROUNDING

1. 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.
2. PROVIDE GROUND CONDUCTOR IN ALL RACEWAYS.
3. PROVIDE BONDING AND GROUND TO MEET NFPA 780 – LIGHTNING PROTECTION AS A MINIMUM.
4. PROVIDE GROUNDING SYSTEM AS INDICATED ON THE DRAWINGS, AS REQUIRED BY THE NATIONAL ELECTRIC CODE AND RADIO EQUIPMENT MANUFACTURER.

ABBREVIATIONS AND LEGEND

A	–	AMPERE
AFG	–	ABOVE FINISHED GRADE
ATS	–	AUTOMATIC TRANSFER SWITCH
AWG	–	AMERICAN WIRE GAUGE
BCW	–	BARE COPPER WIRE
BFG	–	BELOW FINISHED GRADE
BKR	–	BREAKER
C	–	CONDUIT
CKT	–	CIRCUIT
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
PVC	–	SCH40 RIGID NON–METALLIC CONDUIT
RGS	–	RIGID GALVANIZED STEEL CONDUIT
SW	–	SWITCH
TGB	–	TOWER GROUND BAR
UL	–	UNDERWRITERS LABORATORIES
V	–	VOLTAGE
W	–	WATTS
XFMR	–	TRANSFORMER
XMTR	–	TRANSMITTER

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

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DRAWN BY: SCB | CHECKED BY: FTH

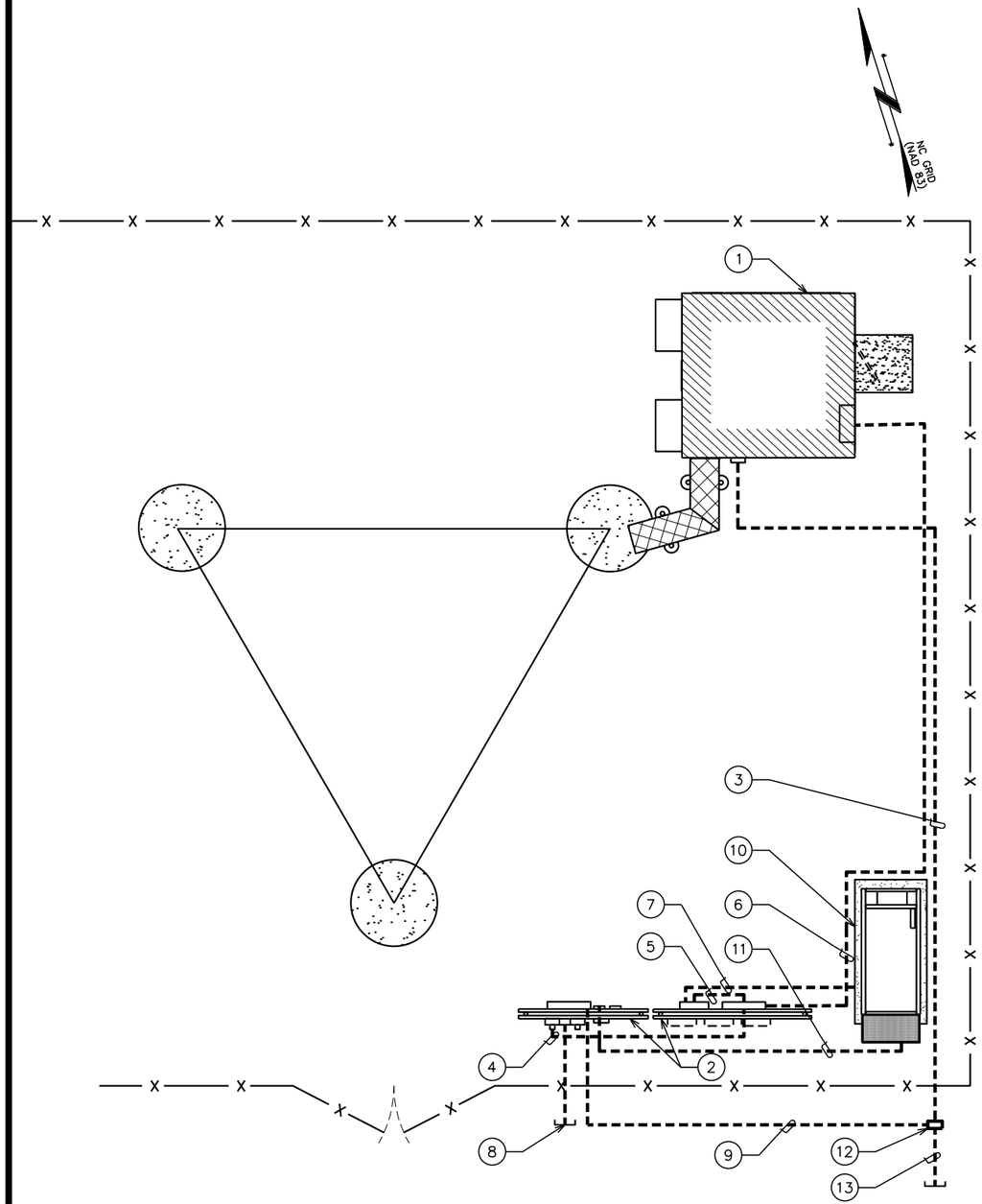
SHEET TITLE:

ELECTRICAL NOTES

SHEET NUMBER: **E-1**

REVISION: **2**

TEP #: 52031



SERVICE ROUTING PLAN

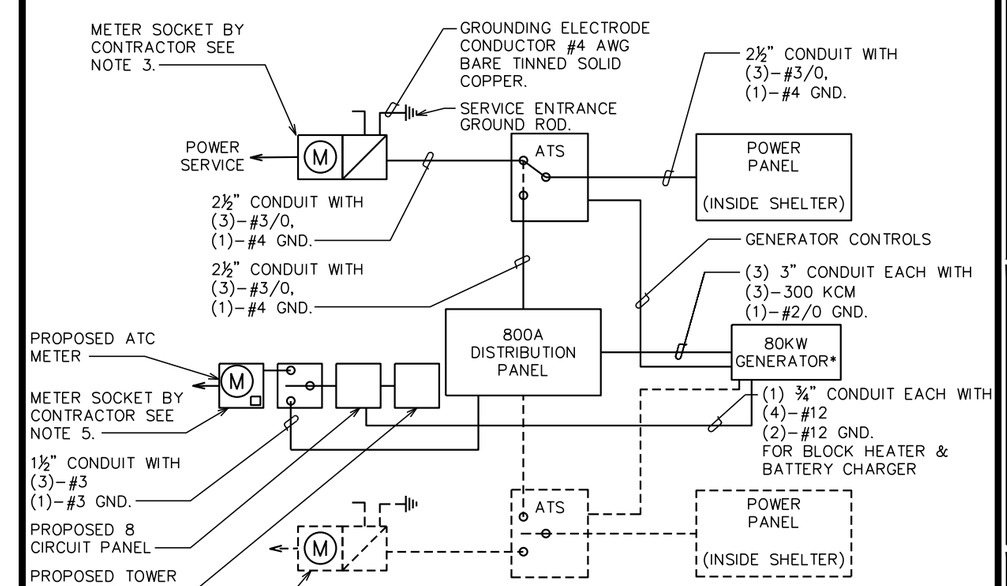
SCALE: N.T.S.

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) 1¼" FLEX INTERDUCT & PULL STRING FOR FIBER POWER LEADS.
4. (1) 2½" POWER CONDUIT FROM PROPOSED METER TO 200A AUTOMATIC TRANSFER SWITCH.
5. (1) 2½" POWER CONDUIT FROM 800A DISTRIBUTION PANEL TO 200A AUTOMATIC TRANSFER SWITCH.
6. (1) 2½" 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.



ONE LINE DIAGRAM NOTES:

1. ELECTRICAL SERVICE SHALL BE 120/240V, 1ø, 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.

*80KW GENERATOR TO BE SUPPLIED WITH MAIN LINE CIRCUIT BREAKER NOT TO EXCEED THE MAXIMUM STANDBY OUTPUT OR 400A.

ONE LINE DIAGRAM

SCALE: N.T.S.

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

N.C. LICENSE # C-1794

SEAL:

NORTH CAROLINA PROFESSIONAL SEAL 036250 ENGINEER FREDERICK T. HERR

April 30, 2014

REV	DATE	ISSUED FOR:
2	04-30-14	CONSTRUCTION
1	03-06-14	PRELIMINARY
0	02-25-14	PRELIMINARY

DRAWN BY: SCB | CHECKED BY: FTH

SHEET TITLE:

SERVICE ROUTING PLAN & ONE-LINE DIAGRAM

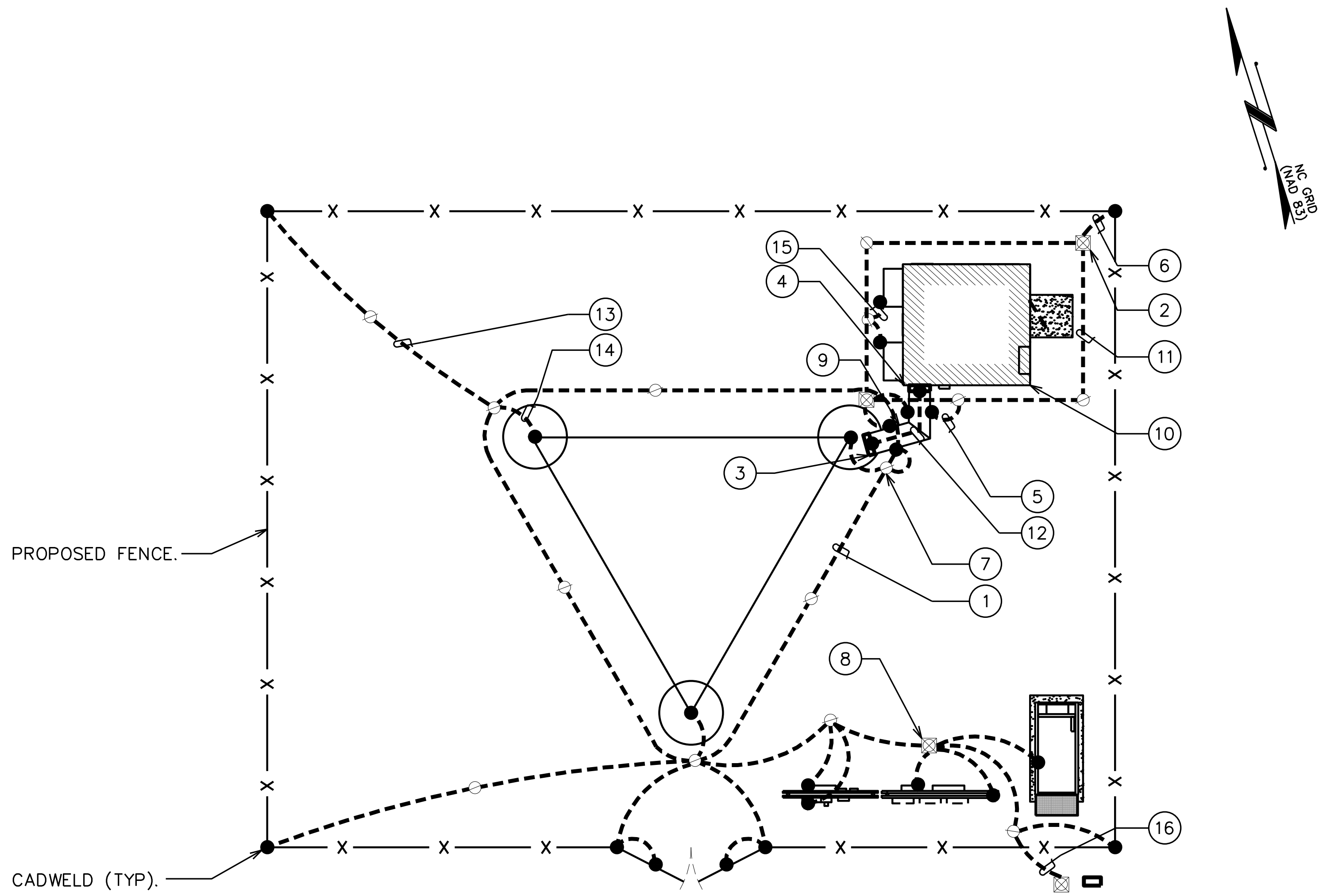
SHEET NUMBER: **E-2**

REVISION: 2

TEP #: 52031

DRAWING NOTES:

1. PROPOSED TOWER GROUND RING
2. INSPECTION WELL AT CONNECTION TO PROPOSED GROUND RING (TYP OF 2)
3. TOWER BUS BAR
4. ICE BRIDGE BUS BAR
5. #2 AWG ICE BRIDGE BOND BURIED 30" BFG (TYP)
6. #2 AWG BOND TO PROPOSED GROUND RING
7. ⅝" x 10' COPPER GROUND ROD (TYP)
8. SERVICE ENTRANCE GROUND ROD W/ INSPECTION WELL. SEE E-6 FOR DETAIL.
9. ICE BRIDGE
10. EQUIPMENT SHELTER
11. #2 AWG GROUND RING BURIED 30" BFG
12. #2 AWG BARE SOLID TINNED COPPER WIRE BETWEEN BUS BARS
13. TOWER BONDING TO FENCE POST (TYP OF 4)
14. TOWER BONDING TO TOWER GROUND RING (TYP OF 3)
15. HVAC GROUNDING (TYP OF 2) (MECHANICAL FASTENERS AT ABOVE GROUND CONNECTIONS AS ALLOWED BY CODE.)
16. PROPOSED #2 GROUND TO BE STUBBED UP WITH FIBER CONDUIT.



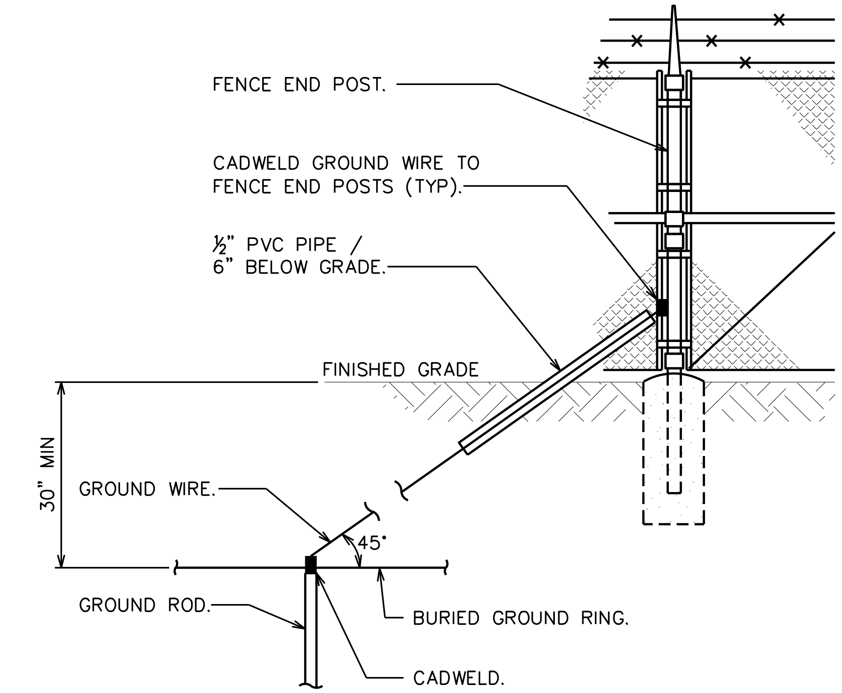
GROUNDING NOTES

1. 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)
2. 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.
3. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHEN THE GROUNDING SYSTEM IS COMPLETE. THE CONSTRUCTION MANAGER SHALL INSPECT THE GROUNDING SYSTEM PRIOR TO BACKFILLING.

TOWER GROUNDING PLAN

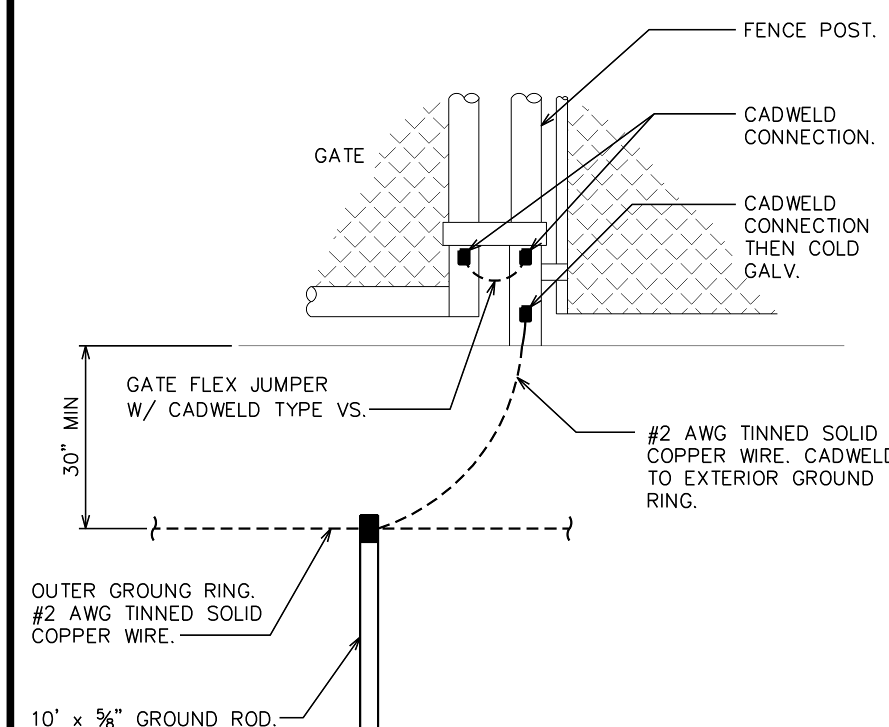
SCALE: 1/16" = 1'-0"

0 16 32
SCALE IN FEET



FENCE GROUNDING

SCALE: N.T.S.



TYPICAL GATE POST GROUNDING DETAIL

SCALE: N.T.S.

PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

AT&T SITE #: 368-979
ATC SITE #: 282301
BENNETT NC
24477 NC HWY 902
BENNETT, NC 27208
(CHATHAM COUNTY)

PLANS PREPARED BY:

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NORTH CAROLINA PROFESSIONAL ENGINEER FREDERICK T. HEIS
April 30, 2014

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DRAWN BY: SCB CHECKED BY: FTH

SHEET TITLE:

TOWER & SHELTER GROUNDING PLAN

SHEET NUMBER: **E-3**
REVISION: 2
TEP #: 52031

PANELBOARD SCHEDULE

SCALE: N.T.S.

800A ATC DISTRIBUTION PANEL SCHEDULE

LOAD SERVED	VOLT AMPERES (WATTS) L1	VOLT AMPERES (WATTS) L2	WIRE	BREAKER P	BREAKER TRIP	CKT #	PHASE	CKT #	BREAKER TRIP	BREAKER P	WIRE	VOLT AMPERES (WATTS) L1	VOLT AMPERES (WATTS) L2	LOAD SERVED
AT&T ATS	10695		3/0	2	200	1	A	2	–	–	–	–		FUTURE CARRIER SERVICE T.B.D.
		11230				3	B	4					–	
FUTURE CARRIER SERVICE T.B.D.	–		–	–	–	5	A	6	–	–	–	–		FUTURE CARRIER SERVICE T.B.D.
		–				7	B	8					–	
FUTURE CARRIER SERVICE T.B.D.	–		–	–	–	9	A	10	–	–	–	–		SPARE
		–				11	B	12	–	–	–		–	SPARE
SPARE	–		–	–	–	13	A	14	–	–	–	–		SPARE
SPARE		–	–	–	–	15	B	16	–	–	–		–	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) L1	VOLT AMPERES (WATTS) L2	WIRE	BREAKER P	BREAKER TRIP	CKT #	PHASE	CKT #	BREAKER TRIP	BREAKER P	WIRE	VOLT AMPERES (WATTS) L1	VOLT AMPERES (WATTS) L2	LOAD SERVED
3 TON HVAC #1	3400		8	2	50	1	A	2	50	2	8	3400		3 TON HVAC #2
		3400				3	B	4					3400	
INTERIOR LIGHTS	335		12	1	15	5	A	6	30	2	10	800		RECTIFIER #2
INTERIOR RECEPTACLES		1080	12	1	20	7	B	8					800	
EXTERIOR RECEPTACLES	360		12	1	20	9	A	10	30	2	10	800		RECTIFIER #3
EXTERIOR LIGHTS		150	12	1	15	11	B	12					800	
RECTIFIER #1	800		10	2	30	13	A	14	30	2	10	800		RECTIFIER #4
		800				15	B	16					800	
						17	A	18						
						19	B	20						
						21	A	22						
						23	B	24						
						25	A	26						
						27	B	28						
						29	A	30						
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) L1	VOLT AMPERES (WATTS) L2	WIRE	BREAKER P	BREAKER TRIP	CKT #	PHASE	CKT #	BREAKER TRIP	BREAKER P	WIRE	VOLT AMPERES (WATTS) L1	VOLT AMPERES (WATTS) L2	LOAD SERVED
TOWER LIGHTS	2880		10	1	30	1	A	2	–	–	–	–		SPARE
SPARE		–	–	–	–	3	B	4	20	1	12		1440	BLOCK HEATER
SPARE	–		–	–	–	5	A	6	–	–	–	–		SPARE
SPARE		–	–	–	–	7	B	8	20	1	12		1440	BATTERY CHARGER
VOLT AMPS	2880	–										–	2880	VOLT AMPS

L1 VOLT AMPERES	2880	2880	L2 VOLT AMPERES
	5760		TOTAL VOLT AMPERES
	24		TOTAL AMPS
	30		AMPS X 125%
	33		X 110% FOR MAIN

PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

AT&T SITE #: 368-979
ATC SITE #: 282301
BENNETT NC
24477 NC HWY 902
BENNETT, NC 27208
(CHATHAM COUNTY)

PLANS PREPARED BY:

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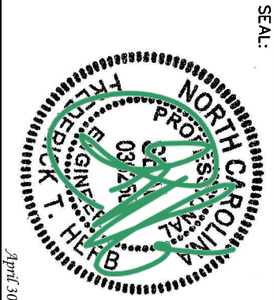
N.C. LICENSE # C-1794

SEAL:



REV	DATE	ISSUED FOR:
0	02-25-14	PRELIMINARY
1	03-06-14	PRELIMINARY
2	04-30-14	CONSTRUCTION

DRAWN BY: SCB
CHECKED BY: FTH

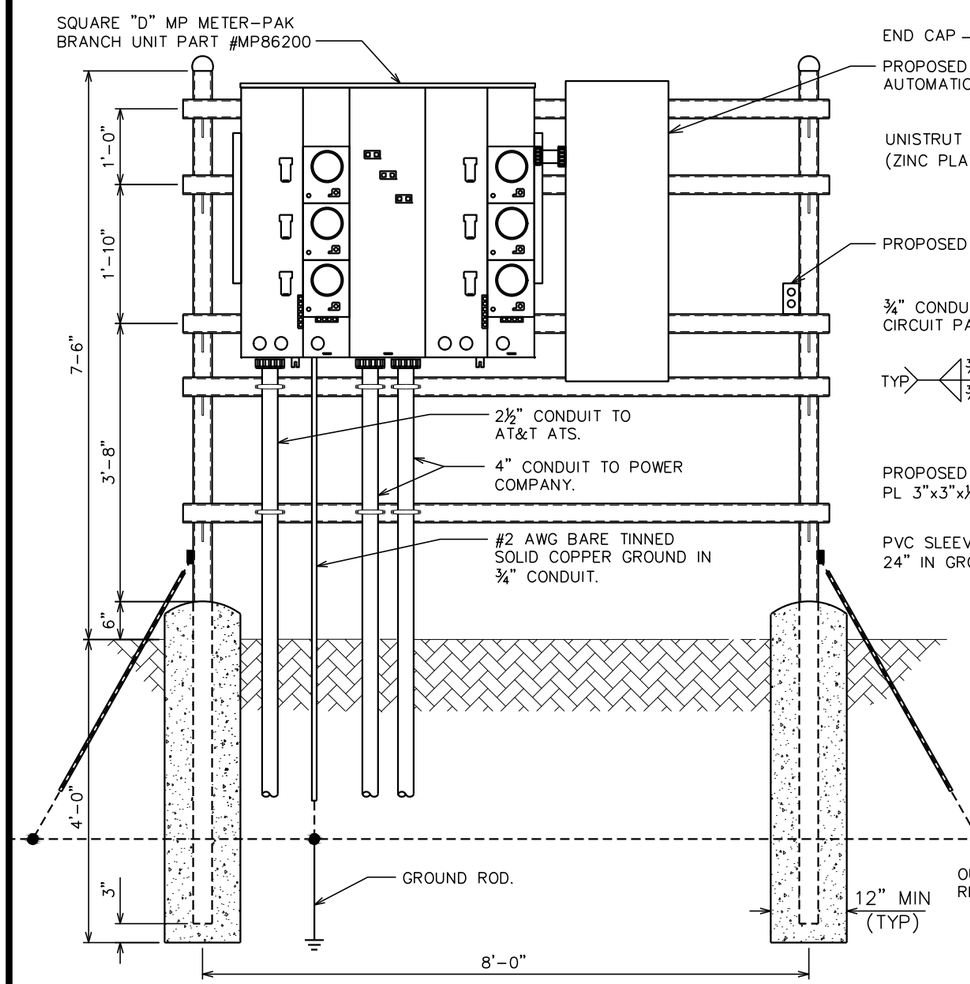
SHEET TITLE:
PANELBOARD SCHEDULE

SHEET NUMBER: **E-4**
REVISION: **2**
TEP #: 52031

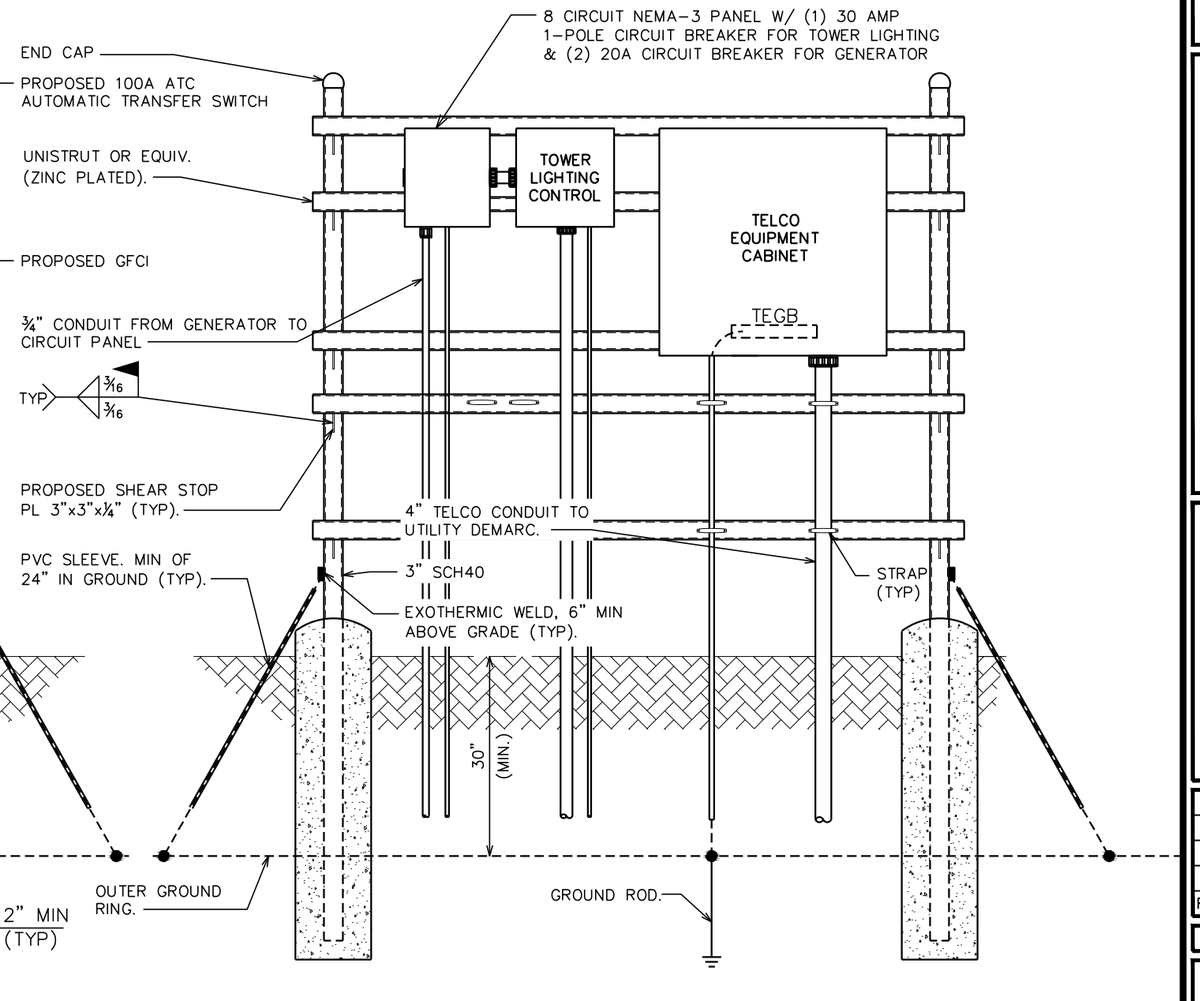
NOTES:

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.

FRONT VIEW



REAR VIEW



SERVICE RACK DETAILS

SCALE: N.T.S.

PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

AT&T SITE #: 368-979
ATC SITE #: 282301
BENNETT NC
24477 NC HWY 902
BENNETT, NC 27208
(CHATHAM COUNTY)

PLANS PREPARED BY:

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OFFICE: (919) 661-6351
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N.C. LICENSE # C-1794

SEAL:

NORTH CAROLINA PROFESSIONAL SEAL 036234 ENGINEER FREDERICK T. HERB

April 30, 2014

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DRAWN BY: SCB | CHECKED BY: FTH

SHEET TITLE:

SERVICE RACK DETAILS I

SHEET NUMBER: **E-5**

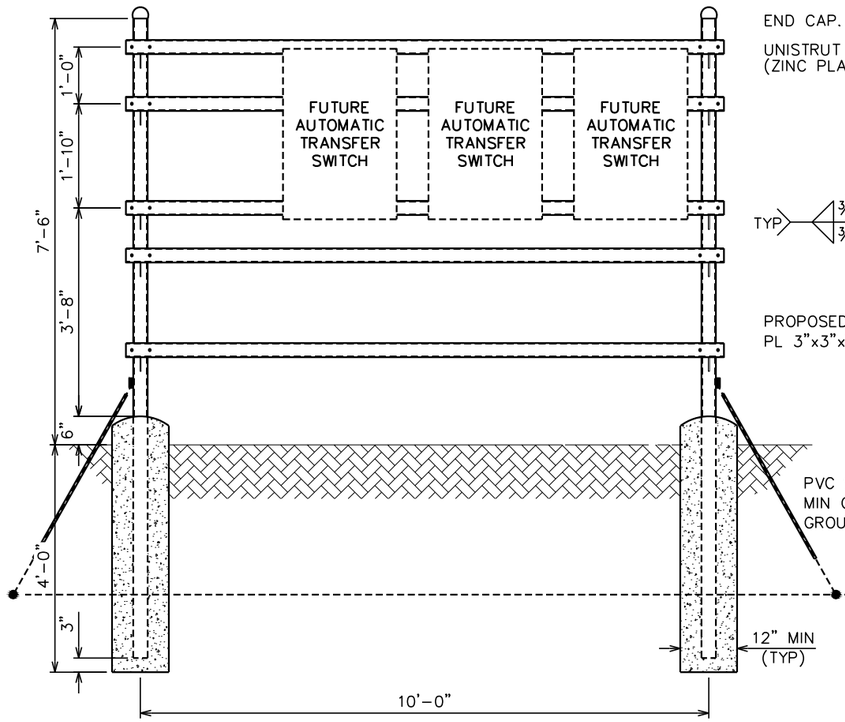
REVISION: 2

TEP #: 52031

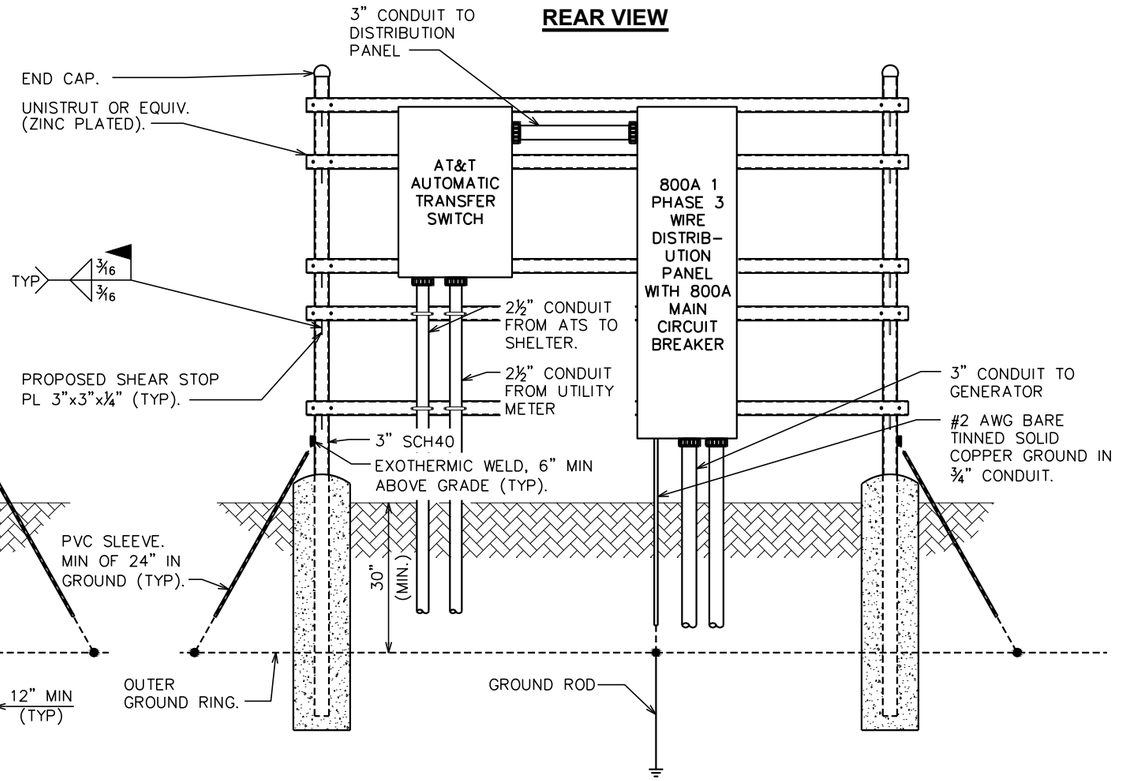
NOTE:

SEE SHEET E-5 FOR SERVICE RACK NOTES.

FRONT VIEW



REAR VIEW



SERVICE RACK DETAILS

SCALE: N.T.S.

PLANS PREPARED FOR:

AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:

AT&T SITE #: 368-979
ATC SITE #: 282301
BENNETT NC
24477 NC HWY 902
BENNETT, NC 27208
(CHATHAM COUNTY)

PLANS PREPARED BY:

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0	02-25-14	PRELIMINARY

DRAWN BY: CSN | CHECKED BY: FTH

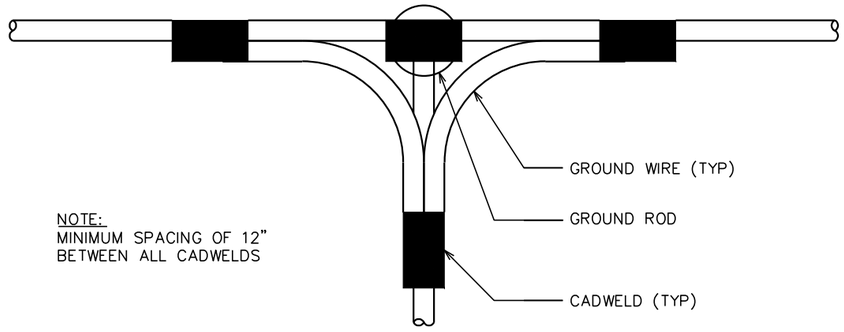
SHEET TITLE:

SERVICE RACK DETAILS II

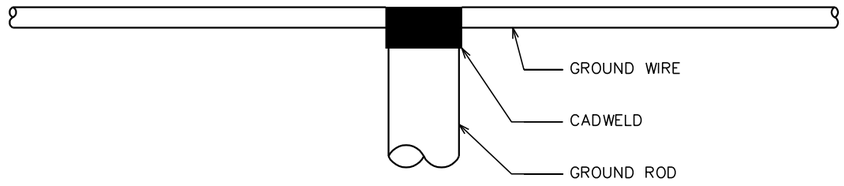
SHEET NUMBER: **E-5A**

REVISION: 2

TEP #: 52031



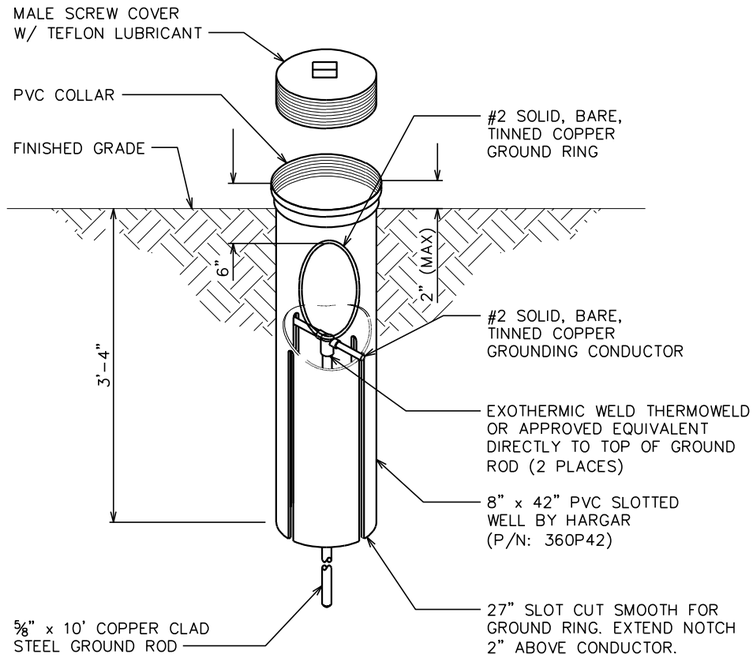
TOP VIEW



SIDE VIEW

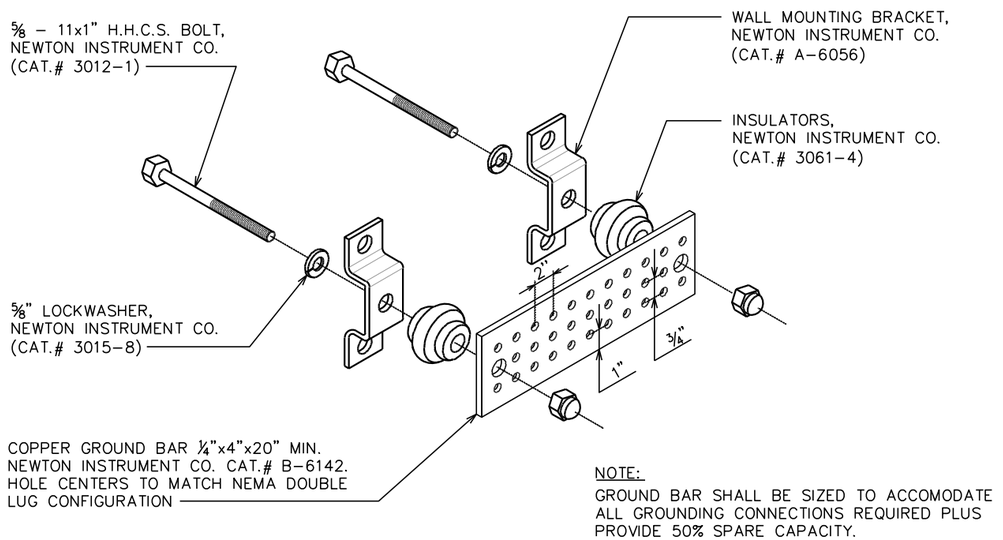
CADWELD GROUNDING DETAIL

SCALE: N.T.S.



GROUND ROD WITH INSPECTION WELL

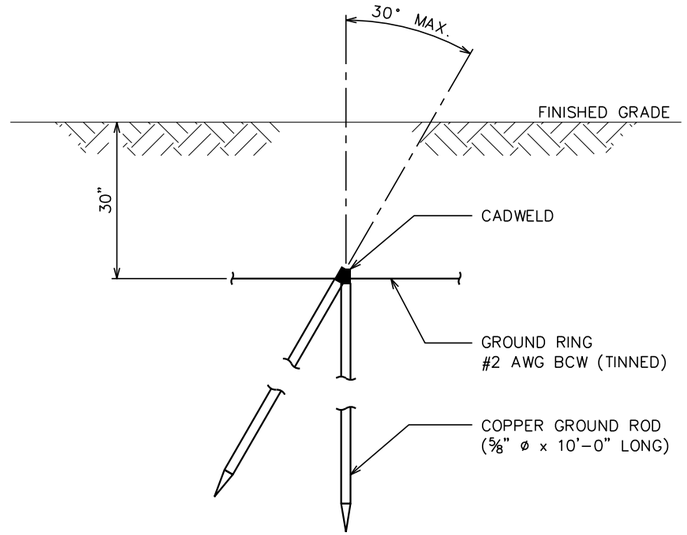
SCALE: N.T.S.



NOTE:
GROUND BAR SHALL BE SIZED TO ACCOMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE 50% SPARE CAPACITY.

STANDARD GROUND BAR DETAIL

SCALE: N.T.S.



COPPER-CLAD STEEL GROUND ROD

SCALE: N.T.S.

PLANS PREPARED FOR:
AMERICAN TOWER CORPORATION
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27511

PROJECT INFORMATION:
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BENNETT NC
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SEAL:
NORTH CAROLINA PROFESSIONAL SEAL 036251 ENGINEER FREDERICK T. HERR
April 30, 2014

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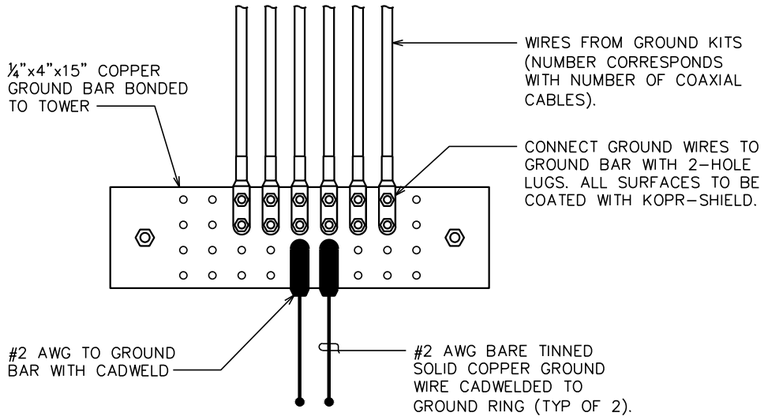
DRAWN BY: SCB | CHECKED BY: FTH

SHEET TITLE:
GROUNDING DETAILS I

SHEET NUMBER: **E-6**
REVISION: 2
TEP #: 52031



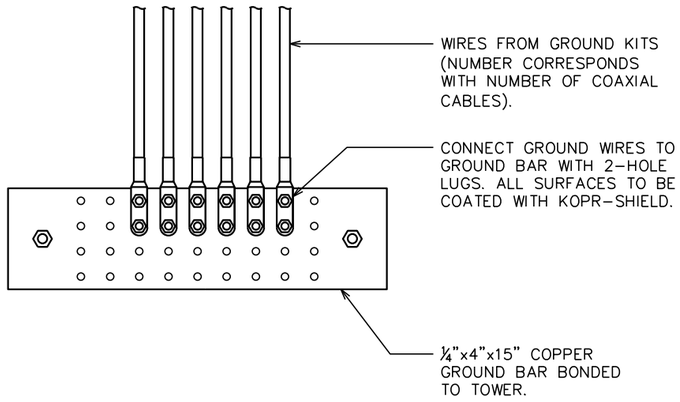
END VIEW

LOWER GROUND BAR

SCALE: N.T.S.

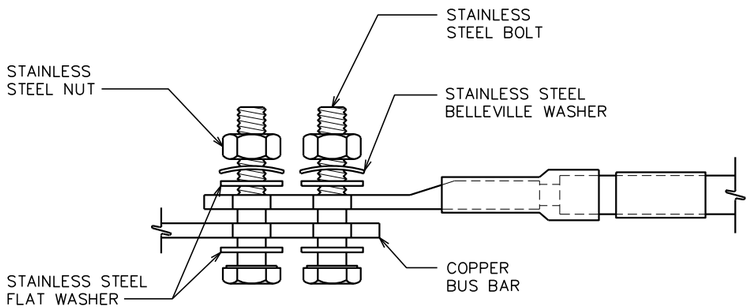
NOTE:

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



UPPER / INTERMEDIATE GROUND BAR

SCALE: N.T.S.

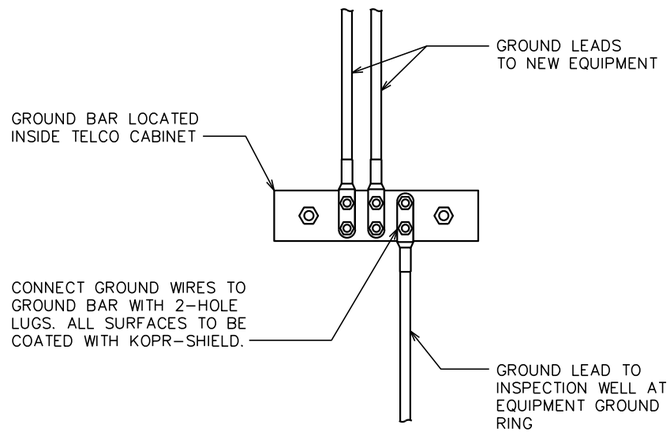


NOTES:

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
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CARY, NC 27511

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SHEET TITLE:

GROUNDING DETAILS II

SHEET NUMBER: **E-7**

REVISION: 2

TEP #: 52031

GENERAC 80KW

GENERAL ASSEMBLY AND INSTALLATION SUPPLEMENT

100 - 400 Amps, 600 VAC HTS

GENERAC® | INDUSTRIAL POWER

Automatic Transfer Switches

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

GENERAC® | INDUSTRIAL POWER

Interconnections

HTS 100-400 Amp

Switches and Indicators:

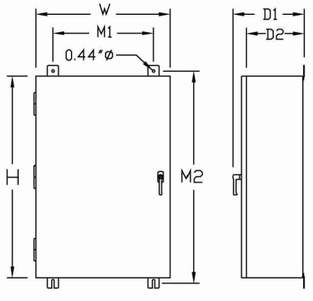
- System Ready LED
- Switch Position LED's
- Test Switch
- Return to Normal Switch
- Standby Operating LED
- Utility Available LED
- Fast Test Switch
- Safety Disconnect Switch

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 Faul 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.



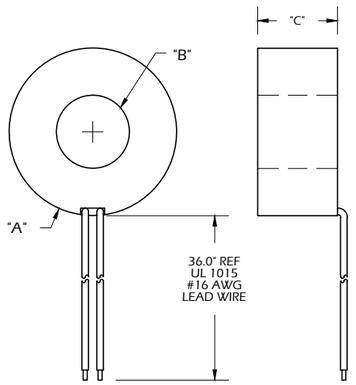
Unit Dimensions

HTS RATED AMPS	VOLTAGE	ENCLOSURE HEIGHT H	ENCLOSURE WIDTH W	WALL MOUNT BOLT PATTERN M1	WALL MOUNT BOLT PATTERN M2	ENCLOSURE DEPTH D1	ENCLOSURE DEPTH D2	WEIGHT (lbs.)
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* # LUGS	NEUTRAL BAR* LUG WIRE RANGE	GROUND LUG (1 PROVIDED) 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 or 2 – [250MCM – 1/0 AWG]	4	600MCM – 4 AWG [250MCM – 1/0 AWG]**	350MCM – 6 AWG 350MCM – 6 AWG
400	600MCM – 4 AWG or 2 – [250MCM – 1/0 AWG]	4	600MCM – 4 AWG [250MCM – 1/0 AWG]**	350MCM – 6 AWG

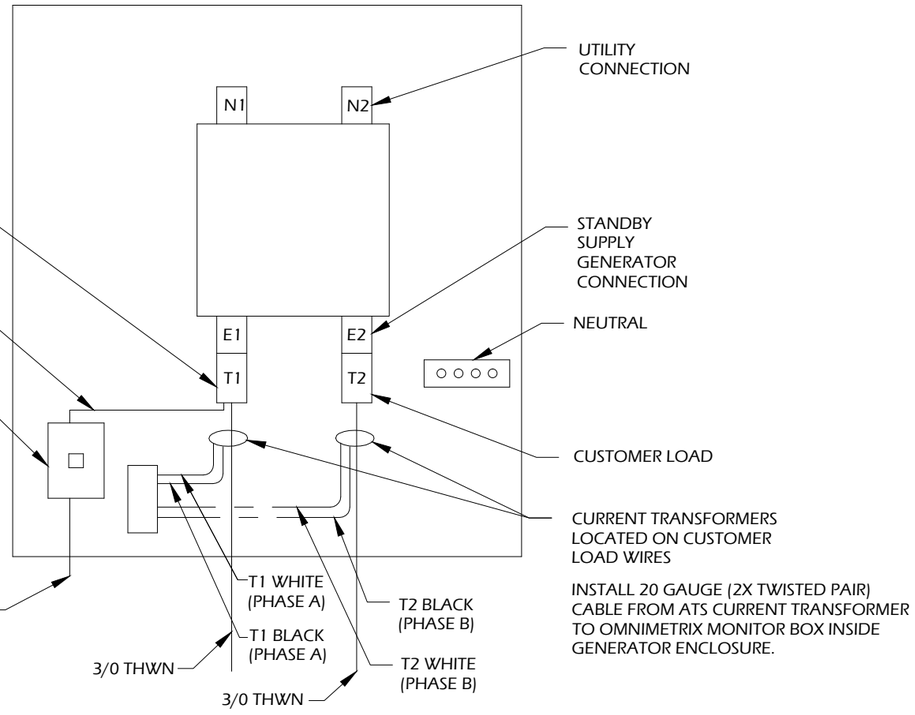
* Not included in HTS with switched neutral. ** Allowable wire range in brackets is for 2 wires per lug.



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

GENERAC POWER SYSTEMS, INC.
Highway 59 & Hillside Rd.
Waukesha ,WI. 53188
Phone#262-544-4811

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

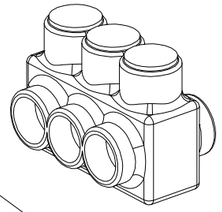
Fuel Containment Basin

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:

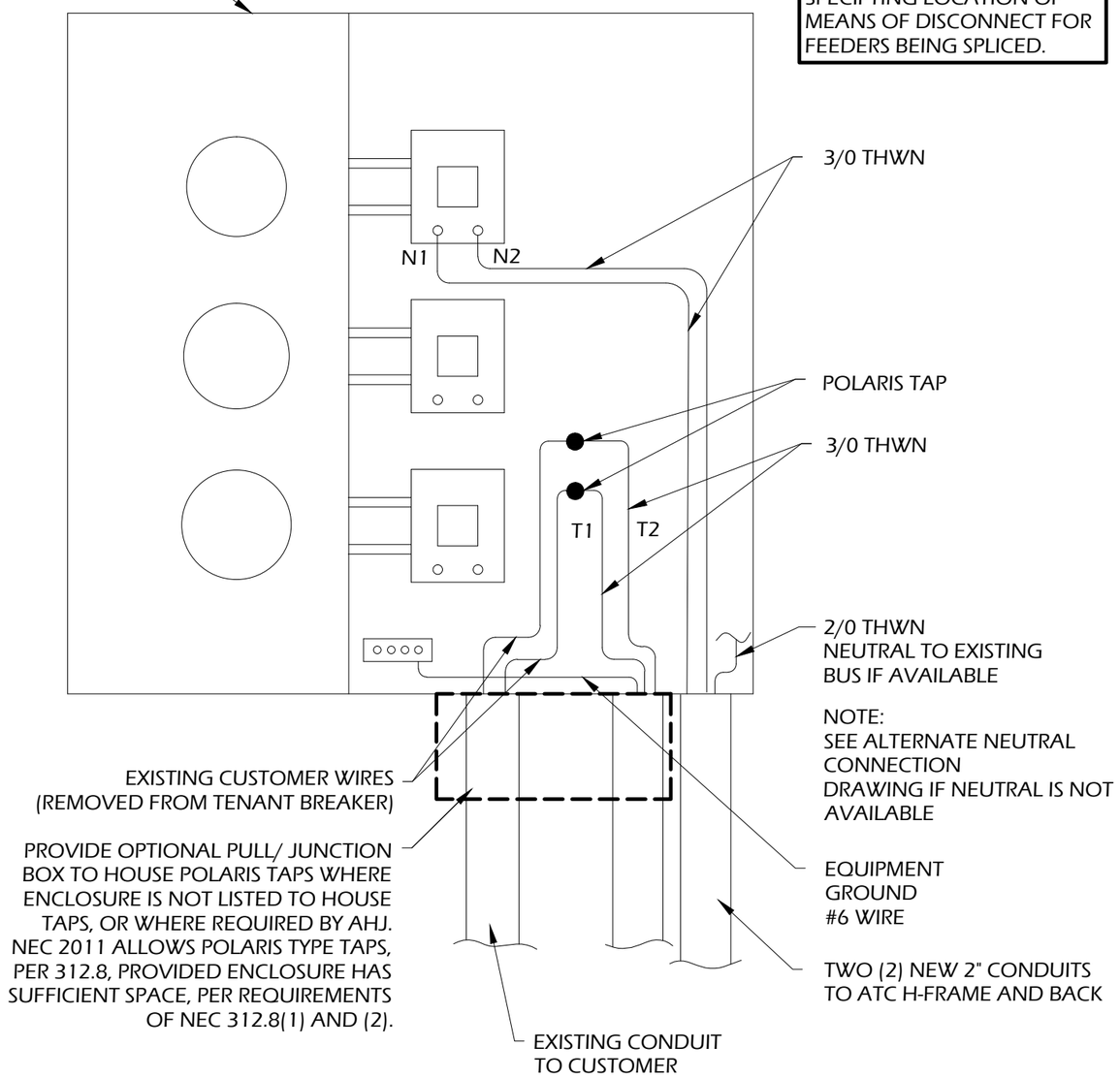
Normal and Emergency venting shall be sized per U.L. 142 specifications for wetted surface area of tank.



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

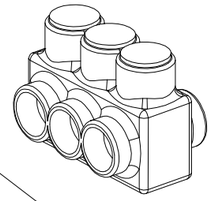
NOTE: BONDING JUMPER/ GROUNDING ELECTRODE CONDUCTOR SHALL BE #4 CU FOR 200A, PER NEC TABLE 250.66.

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.



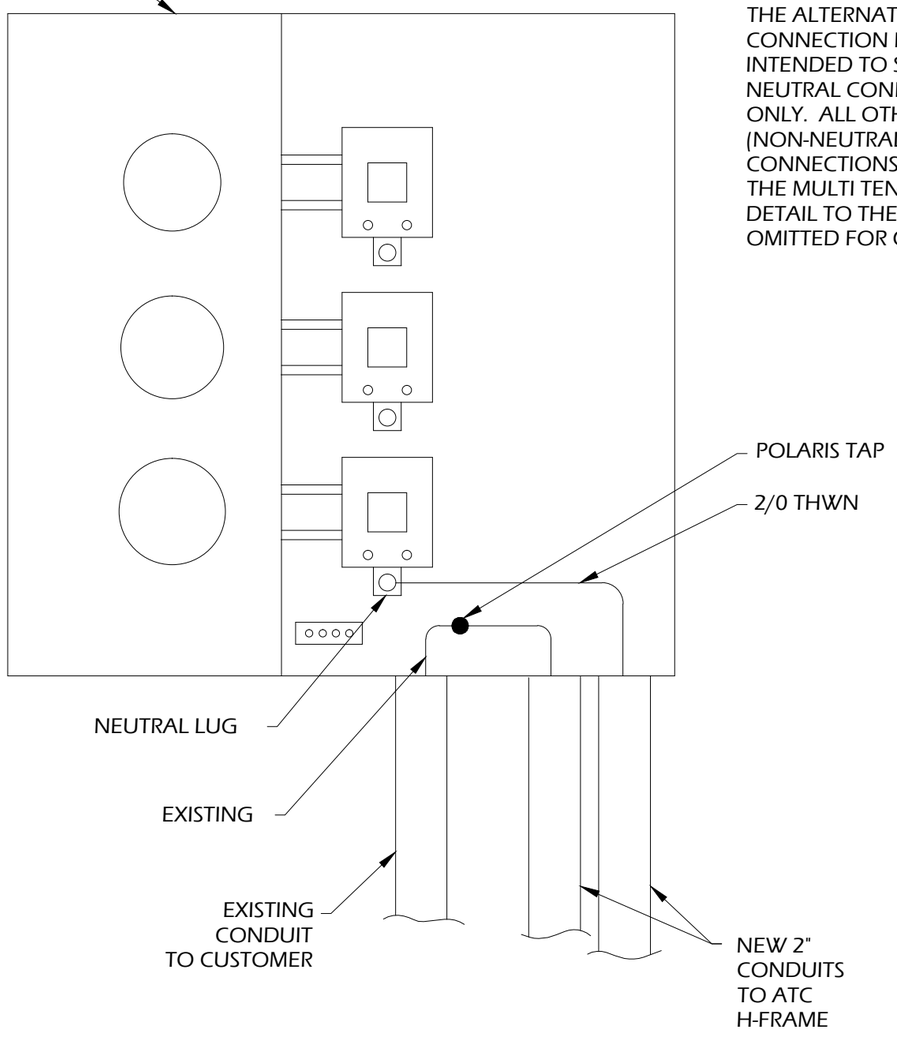
1 MULTI TENANT METER OPTION
SCALE: NOT TO SCALE

*SINGLE PHASE, 200A

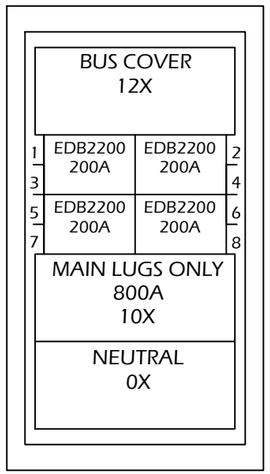


NOTE: POLARIS TAP MUST BE SECURELY WRAPPED WITH COMMERCIAL GRADE NYLON ELECTRICAL TAPE AFTER INSTALLATION IS COMPLETE

THE ALTERNATE NEUTRAL CONNECTION DETAIL IS INTENDED TO SHOW NEUTRAL CONNECTIONS ONLY. ALL OTHER (NON-NEUTRAL) CONNECTIONS SHOWN ON THE MULTI TENANT METER DETAIL TO THE LEFT ARE OMITTED FOR CLARITY.



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



DEVICE MODIFICATIONS:
REF # DESCRIPTION:

BELL TEST _____

HI-POT _____

S/T _____

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

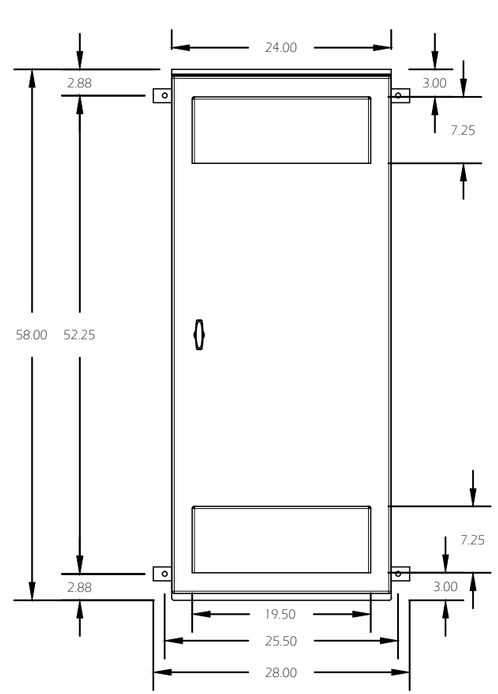
	PART NUMBER	QTY	PART NUMBER	QTY
UL LABEL:	7494A06H01	1	EOB2200	4
BUS CUTTING:	6563C06H01	2		
NEUTRAL:	6672C66G03	1		
GROUND BAR, AL/CU:	6572C78G03	1		
CHASSIS ASSEMBLY:	6572C25G06	1		
LUG ASSEMBLY:	6572C52G06	1		
BREAKER ASSY:	6572C87G04	2		
DEAD FRONT COVER:	5554C11801	2		
COVER PACKAGING:	4177B06G02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

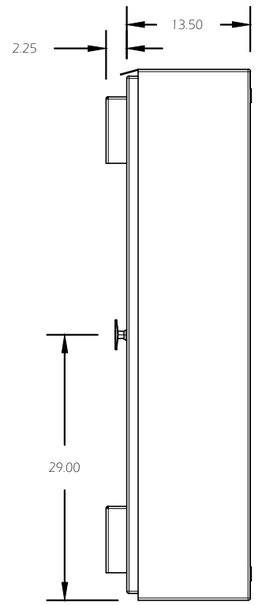
Spot _____ Final Inspection _____

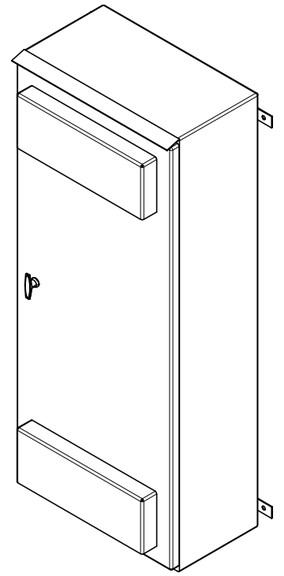
Notes:

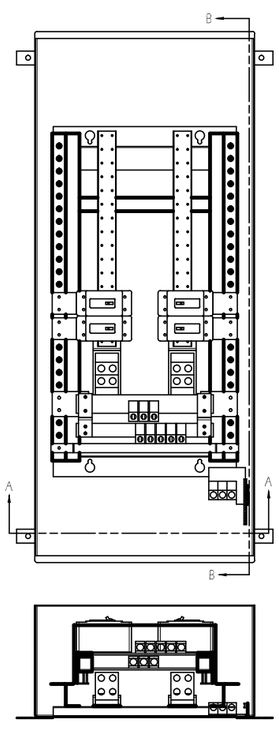
NOTE:
PANEL SHOWN IS FOR SINGLE PHASE. FOR 3-PHASE SITES, USE CORRESPONDING 3-POLE VERSION OF THIS PANEL.

1 DISTRIBUTION PANEL
SCALE: NOT TO SCALE

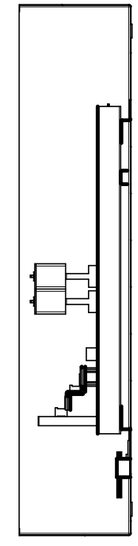




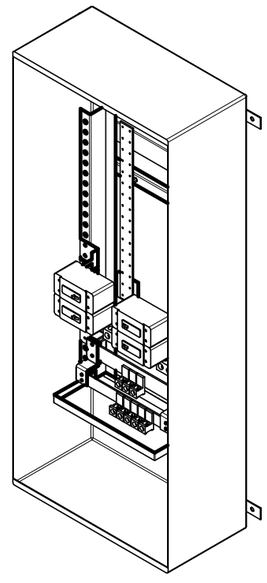




SECTION A-A



SECTION B-B



2 DISTRIBUTION PANEL DETAILS
SCALE: NOT TO SCALE

SD080

GENERAC® | INDUSTRIAL POWER

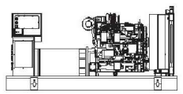
Industrial Diesel Generator Set

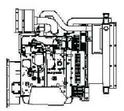
EPA Emissions Certification: Tier III

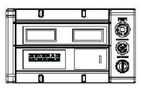
80 kW Diesel

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

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
SAEJ1349
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)

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)

sKVA v. Voltage Dip

		480VAC						208/240VAC					
Alternator	kW	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 Pump Lift - in (m): 36(.9)

Total Fuel Pump Flow (Combustion + Return): 13.6 gph

Fuel Consumption Rates**

	STANDBY			PRIME		
Percent Load	gph		lph	Percent Load	gph	lph
25%	2.1		7.9	25%	1.9	7.2
50%	3.7		14.0	50%	3.4	12.9
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 permiting purposes.

COOLING

Coolant System Capacity - Gal (L): 4.5 (17.44)

Maximum Radiator Backpressure: 1.5" H_2O Column

		STANDBY	PRIME
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)
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

Exhaust Outlet Size (Open Set): 3.0"

Maximum Backpressure (Post-Silencer): 1.5"

		STANDBY	PRIME
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.

80 kW Diesel

SD080 standard features and options

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 solecnoid	Std
● Secondary fuel filter	Std
● Stainless steel fexible 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	Opt
○ 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
○ Digitial 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 Probrammable 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	-

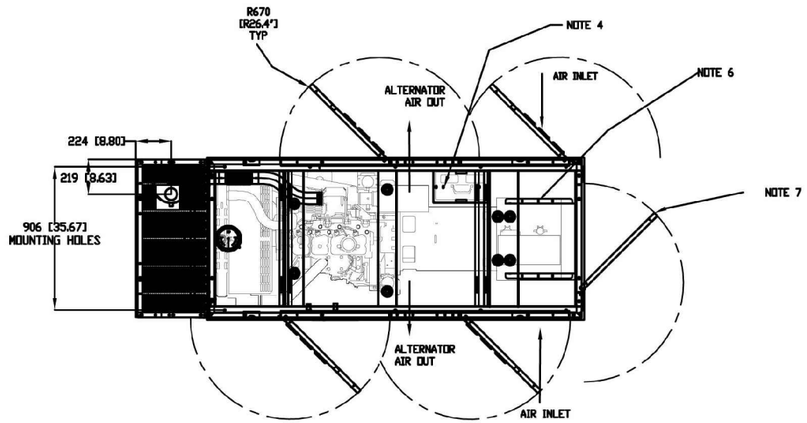
Other Options

○ _____

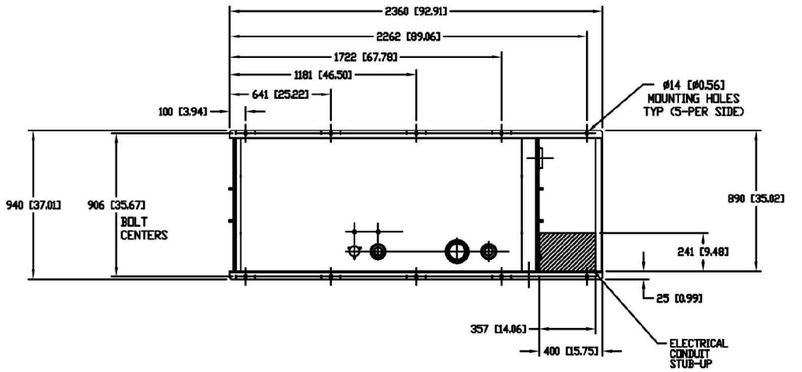
○ _____

○ _____

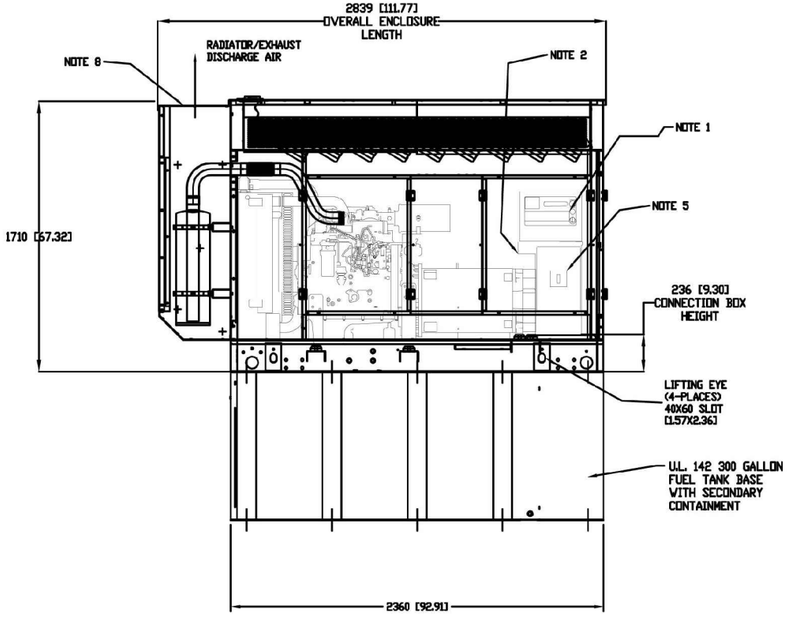
0H5302C-ATC



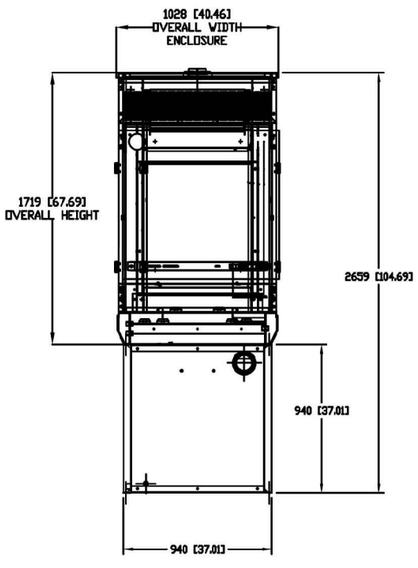
TOP OR PLAIN VIEW



SIDE LAYOUT



FRONT SIDE VIEW



REAR VIEW

NOTE:

1. CONTROL PANEL (MAY BE ROTATED 180DEG IN EITHER DIRECTION)
2. 1- 20A GFCI DUPLEX OUTLET (120V BY CUSTOMER)
3. CONNECTION POINTS FOR CONTROL WIRES PROVIDED IN AC CONNECTION PANEL
4. BATTERY (12 VOLT NEGATIVE GROUND SYSTEM)
5. MAIN LINE CIRCUIT BREAKER (MLCB), (AC LOAD LEADS CONNECT DIRECTLY TO MLCB)
6. REMOVABLE BLANK PANEL FOR OPTIONAL 2nd MAIN LINE CIRCUIT BREAKER.
7. DOORS MUST BE ABLE TO OPEN TO AT LEAST 90DEG. TO BE REMOVED
8. SEE DRAWING 0C3850 FOR DUCT REMOVAL. REMOVAL OF FRONT DUCT WILL PROVIDE ACCESS TO MUFFLER FOR SERVICING.
9. STANDARD BLOCK HEATER
10. FUEL LINES ARE PLUMBED TO FRAME FOR UNITS WITH NO BASE TANK. FUEL LINES ARE PLUMBED DIRECTLY TO BASE TANK WHEN SO EQUIPPED
11. CENTER OF GRAVITY & WEIGHT MAY SHIFT SLIGHTLY DUE TO UNIT OPTIONS
12. 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

RECOMMENDED ELECTRICAL STUB-UPS (SEE DETAILED VIEW & TOP VIEW)	
AC LOAD LEAD CONDUIT SEE NOTES 5 & 6 FOR CB LOCATION NOTE-A: (SEE STUB UP AREA I & II)	A
(STUB-UP I) GLAND PLATE AC LOAD LEAD CONDUIT FOR PERMANENT MAGNET EXCITATION CONNECTION BOX	
(STUB-UP II) 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	

WEIGHT DATA
APPROX. DRY WEIGHT WITHOUT FUEL (GENESET PACKAGE) 4032 lbs.

REFERNCE DRAWING 0H5302C FOR INSTALLATION
FUEL TANK DRAWING 0H4610A

INSTALLATION DRAWING

SD80

DIESEL 4.5L IVECO

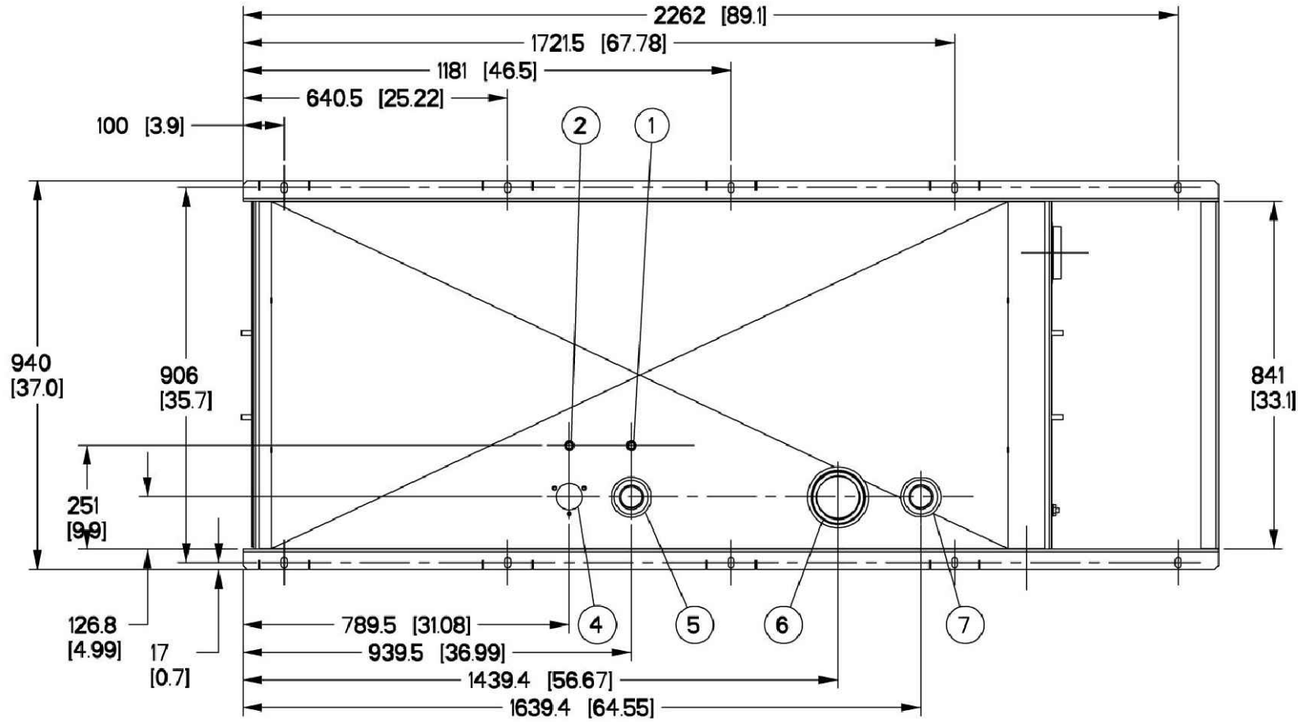
TURBOCHARGED & AFTERCOOLED

SOUND ATTENUATED ENSL., LVL 2

W/ 300 GALLON FTB

GENERAC POWER SYSTEMS
Waukesha
P.O. BOX 8
WAUKESHA, WIS. 53187

FILE NAME	0H5302C-B ATC.DWG	SIZE	B
SCALE	N/A	FIRST USE	D4.5L IVECO
DWG NO.	0H5302C-ATC	REV	B

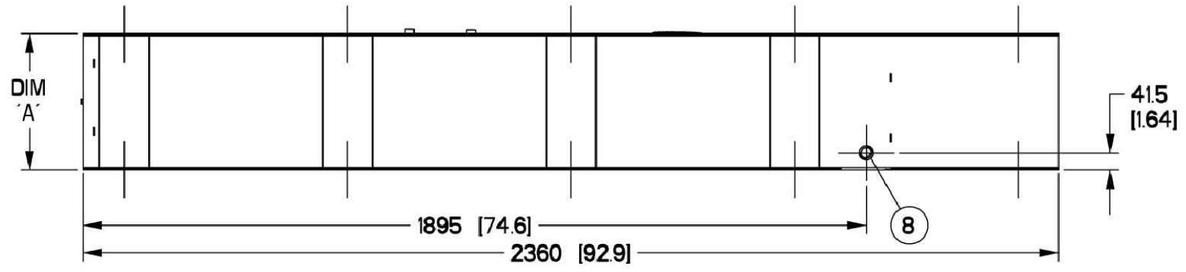


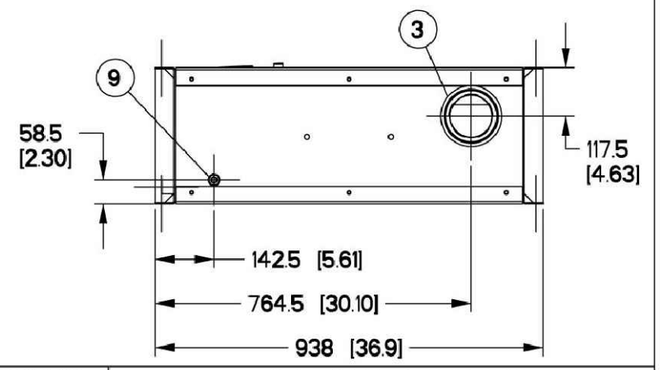
ITEM #	TANK FITTING	FUNCTION
1	3/8" NPT COUPLING	FUEL SUPPLY
2	3/8" NPT COUPLING	FUEL RETURN
3	4" NPT WELD FLANGE	EMERGENCY VENT (OUTER)
4		FUEL LEVEL
5	2" NPT WELD FLANGE	FUEL FILL
6	4" NPT WELD FLANGE	EMERGENCY VENT (INNER)
7	2" NPT WELD FLANGE	VENT
8	3/4" NPT COUPLING	DRAIN
9	∅22 HOLE	LEAK DETECTOR

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.

INSTALLATION DRAWING

GENERAC

TITLE
B-GROUP, DW TYPE 2 TANKS

ISSUE DATE: 10/02/09			
SIZE B	CAGE NO	DWG NO 0H4610A	REV D
SCALE 0.075	WT-KG --	SHEET 1 of 1	