VICINITY MAP

DIRECTIONS

FROM AT&T OFFICE: 2002 PISGAH CHURCH ROAD, SUITE 300, GREENSBORO, NC 27455

START OUT GOING SOUTHWEST ON PISGAH CHURCH RD TOWARD LAWNDALE DR. TURN SLIGHT RIGHT ONTO BATTLEGROUND AVE/US-220 N. MERGE ONTO I-840 W VIA THE RAMP ON THE LEFT TOWARD I-73 N/WINSTON-SALEM. I-840 W BECOMES FUTURE I 840/I-73 S. MERGE ONTO I-40 W/US-421 N VIA EXIT 1 TOWARD WINSTON-SALEM. KEEP LEFT TO TAKE I-40 W TOWARD STATESVILLE/WINSTON-SALEM. TAKE THE US-221 EXIT, EXIT 85 TOWARD RUTHERFORDTON/MARION. KEEP LEFT TO TAKE THE RAMP TOWARD RUTHERFORDTON. TURN LEFT ONTO US 221/US-221 S. TURN RIGHT ONTO COXE RD. COXE RD BECOMES COX RD. COX RD BECOMES COXE RD. SITE ACCESS ROAD WILL BE ON THE LEFT.

LOCAL MAP

NSB - RAWLAND CONSTRUCTION DRAWINGS

at&t

FA #: **10037722**

SITE ID: **074-487**

SITE NAME:

GUFFEY

SITE ADDRESS:

1633 COXE ROAD RUTHERFORDTON, NC 28139 (RUTHERFORD COUNTY)

SHEET INDEX

SHEET	DESCRIPTION	REV.	REV. DATE
T-1	TITLE SHEET	1	06/26/19
AB-1	APPENDIX-B	1	06/26/19
AB-2	APPENDIX-B	1	06/26/19
GN-1	GENERAL NOTES	1	06/26/19
1 OF 3	SITE SURVEY (BY OTHERS)	C	06/06/19
2 OF 3	SITE SURVEY (BY OTHERS)	C	06/06/19
3 OF 3	SITE SURVEY (BY OTHERS)	C	06/06/19
C-1.1	COMPOUND PLAN	1	06/26/19
C-1.2	EQUIPMENT LAYOUT	1	06/26/19
C-2	GRADING PLAN	1	06/26/19
C-3	ANTENNA LAYOUT & TOWER ELEVATION	1	06/26/19
C-4	EQUIPMENT DETAILS	1	06/26/19
C-5	CABINET DETAILS	1	06/26/19
C-6	GENERATOR DETAILS	1	06/26/19
C-7	CIVIL DETAILS	1	06/26/19
C-8	CIVIL DETAILS	1	06/26/19
C-9	CIVIL DETAILS	1	06/26/19
C-10	CIVIL DETAILS	1	06/26/19
C-11	CIVIL DETAILS	1	06/26/19
E-1	SERVICE ROUTING & SINGLE LINE DIAGRAM	1	06/26/19
E-2	ELECTRICAL NOTES	1	06/26/19
E-3	SINGLE LINE DIAGRAM	1	06/26/19
E-4	PANEL SCHEDULE	1	06/26/19
E-5	SINGLE LINE DIAGRAM & TOWER LIGHTING	1	06/26/19
G-1	GROUNDING PLAN DETAILS	1	06/26/19
G-2	GROUNDING DETAILS	1	06/26/19
G-3	GROUNDING DETAILS	1	06/26/19
G-4	GROUNDING DETAILS	1	06/26/19
G-5	GROUNDING NOTES	1	06/26/19

GENERAL NOTES

811 Know what's below. Call before you dig.

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION, THEREFORE HANDICAP ACCESS IS NOT REQUIRED. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED. NO WORK SHALL COMMENCE WITHOUT THE APPROVED TOWER/ANTENNA MOUNT STRUCTURAL ANALYSIS REPORT SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER UNDER SEPARATE COVER.

CODE COMPLIANCE

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:

- 2018 NC BUILDING CODE
- ANSI/TIA/EIA-222-G
- LOCAL BUILDING CODE
- CITY/COUNTY ORDINANCES
- FAA COMPLIANCE
- FCC COMPLIANCE
- 2017 NEC CODE COMPLIANCE
- 2012 INTERNATIONAL RESIDENTIAL CODE
- 2012 INTERNATIONAL FIRE CODE
- 2012 INTERNATIONAL MECHANICAL CODE
- 2015 NC EXISTING BUILDING CODE (BASED ON 2012 IEBC)
- 2012 RESIDENTIAL CODES

SITE SUMMARY

SCOPE TYPE:	NSB - RAWLAND
OCCUPANCY TYPE:	TELECOMMUNICATIONS
STRUCTURE HEIGHT:	300'
STRUCTURE TYPE:	SELF-SUPPORT TOWER
LATITUDE:	35° 18' 09.44" N (35.302622°)
LONGITUDE:	081° 59' 03.02" W (-81.984172°)
JURISDICTION:	RUTHERFORD COUNTY
COUNTY:	RUTHERFORD
PARCEL ID:	1517091094

PROJECT DIRECTORY

APPLICANT:	AT&T MOBILITY CORP. 2002 PISGAH CHURCH ROAD, SUITE 300 GREENSBORO, NC 27455
TOWER OWNER:	AT&T TOWERS 12TH FLOOR, EAST TOWER 575 MOROSGO DRIVE ATLANTA, GA 30324 PHONE: (877) 231-5447
PROJECT MANAGER:	MASTEC NETWORK SOLUTIONS 507 AIRPORT BLVD, SUITE 111 MORRISVILLE, NC 27560 YVETTE RHINEHARDT PHONE: (919) 674-5846
SITE DESIGN:	DEWBERRY ENGINEERS INC. 2610 WYCLIFF ROAD, SUITE 410 RALEIGH, NC 27607 CONTACT: JESSICA ROBBINS PHONE: (919) 636-6303

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSICA M. ROBBINS

06/26/2019

SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
02/15/19	REVIEW	A	XH
03/01/19	REVIEW	B	XH
03/21/19	CONSTRUCTION	0	XH
06/26/19	REVISED SURVEY	1	SF

DRAWN BY:	XH
CHECKED BY:	DSW
APPV'D BY:	JME
DEWBERRY PROJECT NO:	50107723

PREPARED FOR:

at&t

PREPARED BY:

MasTec Network Solutions
507 AIRPORT BLVD, SUITE 111
MORRISVILLE, NC 27560

PREPARED BY:

Dewberry®
DEWBERRY ENGINEERS INC.
2610 WYCLIFF ROAD, SUITE 410
RALEIGH, NC 27607
NCBELS#: F-0929

SITE ID:
074-487

SITE NAME:
GUFFEY

SITE ADDRESS:
1633 COXE ROAD RUTHERFORDTON, NC 28139

FA LOCATION:
10037722

SITE NUMBER:
N/A

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: **074-487**
Address: **1633 COXE ROAD, RUTHERFORDTON, NC** Zip Code **28139**
Owner/Authorized Agent: AT&T Phone # (919) 465 - 3506 E-Mail mwoodle@dewberry.com
Owned By: ☐ City/County ☐ Private ☐ State
Code Enforcement Jurisdiction: ☐ City_____ ☒ County RUTHERFORDTON ☐ State

CONTACT:

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural				(___)___	
Civil	DEWBERRY ENGINEERS INC.	JESSICA M. ROBBINS, PE	029903	(919) 636-6303	JROBBINS@DEWBERRY.COM
Electrical				(___)___	
Fire Alarm				(___)___	
Plumbing				(___)___	
Mechanical				(___)___	
Sprinkler-Standpipe				(___)___	
Structural				(___)___	
Retaining Walls >5' High				(___)___	
Other				(___)___	

("Other" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE: ☒ New Building ☐ Addition ☐ Renovation
☐ 1st Time Interior Completion
☐ Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements
☐ Phased Construction - Shell/Core- Contact the local inspection jurisdiction for possible additional procedures and requirements

2018 NC EXISTING BUILDING CODE: EXISTING: ☐ Prescriptive ☐ Repair ☐ Chapter 14
Alteration: ☐ Level I ☐ Level II ☐ Level III ☐ Historic Property ☐ Change of Use

CONSTRUCTED: (date) _____ **CURRENT OCCUPANCY(S)** (Ch. 3): _____
RENOVATED: (date) _____ **PROPOSED OCCUPANCY(S)** (Ch. 3): _____

OCCUPANCY CATEGORY (Table 1604.5): **Current:** ☐ I ☐ II ☐ III ☐ IV
Proposed: ☐ I ☐ II ☐ III ☐ IV

BASIC BUILDING DATA
Construction Type: ☒ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A
(check all that apply) ☐ I-B ☐ II-B ☐ III-B ☐ V-B
Sprinklers: ☒ No ☐ Partial ☐ Yes ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☒ No ☐ Yes Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Fire District: ☒ No ☐ Yes **Flood Hazard Area:** ☐ No ☐ Yes
Special Inspections Required: ☐ No ☐ Yes (Contact the local inspection jurisdiction for additional procedures and requirements.)

Gross Building Area Table

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor	0	114	114
Basement			
TOTAL	0	114	114

ALLOWABLE AREA

Primary Occupancy Classification(s): Select one Select one Select one Select one Select one Select one
Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business ☐
Educational ☐
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 Condition ☐ 1 ☐ 2
☐ I-2 Condition ☐ 1 ☐ 2
☐ I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ I-4
Mercantile ☐
Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☒ S-2 Low ☐ High-piled
☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Utility and Miscellaneous ☒
Accessory Occupancy Classification(s): _____
Incidental Uses (Table 509): _____
Special Uses (Chapter 4 – List Code Sections): _____
Special Provisions: (Chapter 5 – List Code Sections): _____
Mixed Occupancy: ☐ No ☐ Yes Separation: ____ Hr. Exception: _____

☐ Non-Separated Use (508.3) - The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.

☐ Separated Use (508.4) - See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

_____ + _____ + ... = _____ ≤ 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[4] AREA	(C) AREA FOR FRONTAGE INCREASE[1,5]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED[2,3]

[1] Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____ (F)
b. Total Building Perimeter = _____ (P)
c. Ratio (F/P) = _____ (F/P)
d. W = Minimum width of public way = _____ (W)
e. Percent of frontage increase $I_f = 100[F/P - 0.25] \times W/30 =$ _____ (%)
[2] Unlimited area applicable under conditions of Section 507.
[3] Maximum Building Area = total number of stories in the building x D (maximum3 stories) (506.2).
[4] The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.
[5] Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)			
Building Height in Stories (Table 504.4)			

[1] Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/_____* REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses							
Bearing Walls							
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing Walls and Partitions							
Exterior walls							
North							
East							
West							
South							
Interior walls and partitions							
Floor Construction Including supporting beams and joists							
Floor Ceiling Assembly							
Columns Supporting Floors							
Roof Construction, including supporting beams and joists							
Roof Ceiling Assembly							
Columns Supporting Roof							
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Separation							
Occupancy/Fire Barrier Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Smoke Partition							
Tenant/Dwelling Unit/ Sleeping Unit Separation							
Incidental Use Separation							

* Indicate section number permitting reduction

N/A

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: ☐ No ☐ Yes
Exit Signs: ☐ No ☐ Yes
Fire Alarm: ☐ No ☐ Yes
Smoke Detection Systems: ☐ No ☐ Yes ☐ Partial
Panic Hardware: ☐ No ☐ Yes

N/A

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: _____

☐ Fire and/or smoke rated wall locations (Chapter 7)
☐ Assumed and real property line locations (not on the plan)
☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
☐ Occupancy Use for each area
☐ Occupant loads for each area
☐ Exit access travel distances (10
☐ Common path of travel distances
☐ Dead end lengths (1020.4)
☐ Clear exit widths for each exit door
☐ Maximum calculated occupant load capacity for each door can accommodate based on egress width (1005.3)
☐ Actual occupant load for each exit door
☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
☐ Location of doors with panic hardware (1010.1.10)
☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
☐ Location of doors with electromagnetic egress locks (1010.1.9.9)
☐ Location of doors equipped with hold-open devices
☐ Location of emergency escape windows (1030)
☐ The square footage of each fire area (202)
☐ The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
☐ Note any code exceptions or table notes that may have been utilized regarding the items above

N/A

ACCESSIBLE DWELLING UNITS
(SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED

ACCESSIBLE PARKING
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	TOTAL # ACCESSIBLE PROVIDED
TOTAL						

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATERCLOSETS MALE	WATERCLOSETS FEMALE	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	LAVATORIES UNISEX	SHOWERS /TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
SPACE	EXIST'G									
	NEW									
	REQ'D									

N/A

AL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)

_____

_____

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSICA M. ROBBINS
06/26/2019

SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
02/15/19	REVIEW	A	XH
03/01/19	REVIEW	B	XH
03/21/19	CONSTRUCTION	0	XH
06/26/19	REVISED SURVEY	1	SF

DRAWN BY: XH
CHECKED BY: DSW
APPV'D BY: JME
DEWBERRY PROJECT NO: 50107723

PREPARED FOR:
at&t

PREPARED BY:
MasTec Network Solutions
507 AIRPORT BLVD, SUITE 111
MORRISVILLE, NC 27560

PREPARED BY:
Dewberry®
DEWBERRY ENGINEERS INC.
2610 WYCLIFF ROAD, SUITE 410
RALEIGH, NC 27607
NCBELS#: F-0929

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1633 COXE ROAD
RUTHERFORDTON, NC 28139

FA LOCATION:
10037722

SITE NUMBER:
N/A

SHEET TITLE
APPENDIX-B

SHEET NUMBER
AB-1

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: ☐ No ☐ Yes (The remainder of this section is not applicable)

Exempt Building: ☐ No ☐ Yes (Provide code or statutory reference): _____

Climate Zone: ☐ 3A ☐ 4A ☐ 5A

Method of Compliance: Energy Code ☐ Performance ☐ Prescriptive
ASHRAE 90.1 ☐ Performance ☐ Prescriptive
(If "Other" specify source here)_____

THERMAL ENVELOPE (Prescriptive method only)

N/A

Roof/ceiling Assembly (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Skylights in each assembly: _____
U-Value of skylight: _____
total square footage of skylight: _____ each assembly

Exterior Walls (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Openings (doors and glazing): _____
Solar heat gain coefficient: _____
projection factor: _____
Door R-value: _____

Walls below grade (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors over unconditioned space (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors slab on grade
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Horizontal/vertical requirement: _____
slab heated: _____

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
STRUCTURAL DESIGN
(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

DESIGN LOADS:

Importance Factors: Snow (I_S) 1.0
Seismic (I_E) 1.0

Live Loads: Roof _____ psf
Mezzanine _____ psf
Floor N/A psf

Ground Snow Load: 15 psf

Wind Load: Basic Wind Speed 115 mph (ASCE-7)
Exposure Category C

SEISMIC DESIGN CATEGORY: ☐ A ☐ B ☐ C ☐ D
Provide the following Seismic Design Parameters:
Risk Category (Table 1604.5) ☐ I ☒ II ☐ III ☐ IV
Spectral Response Acceleration S_S_____%g S_1_____%g
Site Classification (ASCE 7) ☐ A ☐ B ☐ C ☒ D ☐ E ☐ F
Data Source: ☐ Field Test ☒ Presumptive ☐ Historical Data
Basic structural system ☐ Bearing Wall ☐ Dual w/Special Moment Frame
☐ Building Frame ☐ Dual w/Intermediate R/C or Special Steel
☐ Moment Frame ☐ Inverted Pendulum
Analysis Procedure: ☐ Simplified ☒ Equivalent Lateral Force ☐ Dynamic
Architectural, Mechanical, Components anchored? ☐ Yes ☐ No

LATERAL DESIGN CONTROL: Earthquake ☐ Wind ☒

SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) _____ psf
Presumptive Bearing capacity _____ psf
Pile size, type, and capacity _____

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

N/A

Thermal Zone
winter dry bulb: _____
summer dry bulb: _____

Interior design conditions
winter dry bulb: _____
summer dry bulb: _____
relative humidity: _____

Building heating load: _____

Building cooling load: _____

Mechanical Spacing Conditioning
Unitary
description of unit: _____
heating efficiency: _____
cooling efficiency: _____
size category of unit: _____
Boiler
Size category. If oversized, state reason.: _____
Chiller
Size category. If oversized, state reason.: _____

List equipment efficiencies: _____

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

N/A

Method of Compliance: Energy Code ☐ Performance ☐ Prescriptive
ASHRAE 90.1 ☐ Performance ☐ Prescriptive

Lighting schedule (each fixture type)
lamp type required for fixture
number of lamps in fixture
ballast type used in this fixture
number of ballasts per fixture
total wattage
total interior wattage allowed (whole building or space by space)
total exterior wattage allowed

Additional Efficiency Packages Options
(When using the 2018 NCECC, these are required for ASHRAE 90.1)
☐ C406.2 More Efficient HVAC Equipment Performance
☐ C406.3 Reduced Lighting Power Density
☐ C406.4 Enhanced Digital Lighting Controls
☐ C406.5 On-Site Renewable Energy
☐ C406.6 Dedicated Outdoor Air System
☐ C406.7 Reduced Energy Use in Service Water Heating

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSICA M. ROBERTS
06/26/2019

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FA LOCATION:
10037722

SITE NUMBER:
N/A

SHEET TITLE
APPENDIX-B

SHEET NUMBER
AB-2

GENERAL NOTES:

1. ALL REFERENCES MADE TO OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED AT&T 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 AT&T 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.

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSICA M. PORST
06/26/2019

SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
02/15/19	REVIEW	A	XH
03/01/19	REVIEW	B	XH
03/21/19	CONSTRUCTION	0	XH
06/26/19	REVISED SURVEY	1	SF

DRAWN BY: XH
CHECKED BY: DSW
APPV'D BY: JME
DEWBERRY PROJECT NO: 50107723

PREPARED FOR:
at&t

PREPARED BY:
MasTec Network Solutions
507 AIRPORT BLVD, SUITE 111
MORRISVILLE, NC 27560

PREPARED BY:
Dewberry®
DEWBERRY ENGINEERS INC.
2610 WYCLIFF ROAD, SUITE 410
RALEIGH, NC 27607
NCBELS#: F-0929

SITE ID:
074-487

SITE NAME:
GUFFEY

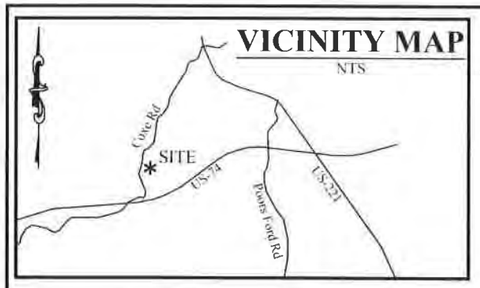
SITE ADDRESS:
1633 COXE ROAD
RUTHERFORDTON, NC 28139

FA LOCATION:
10037722

SITE NUMBER:
N/A

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-1

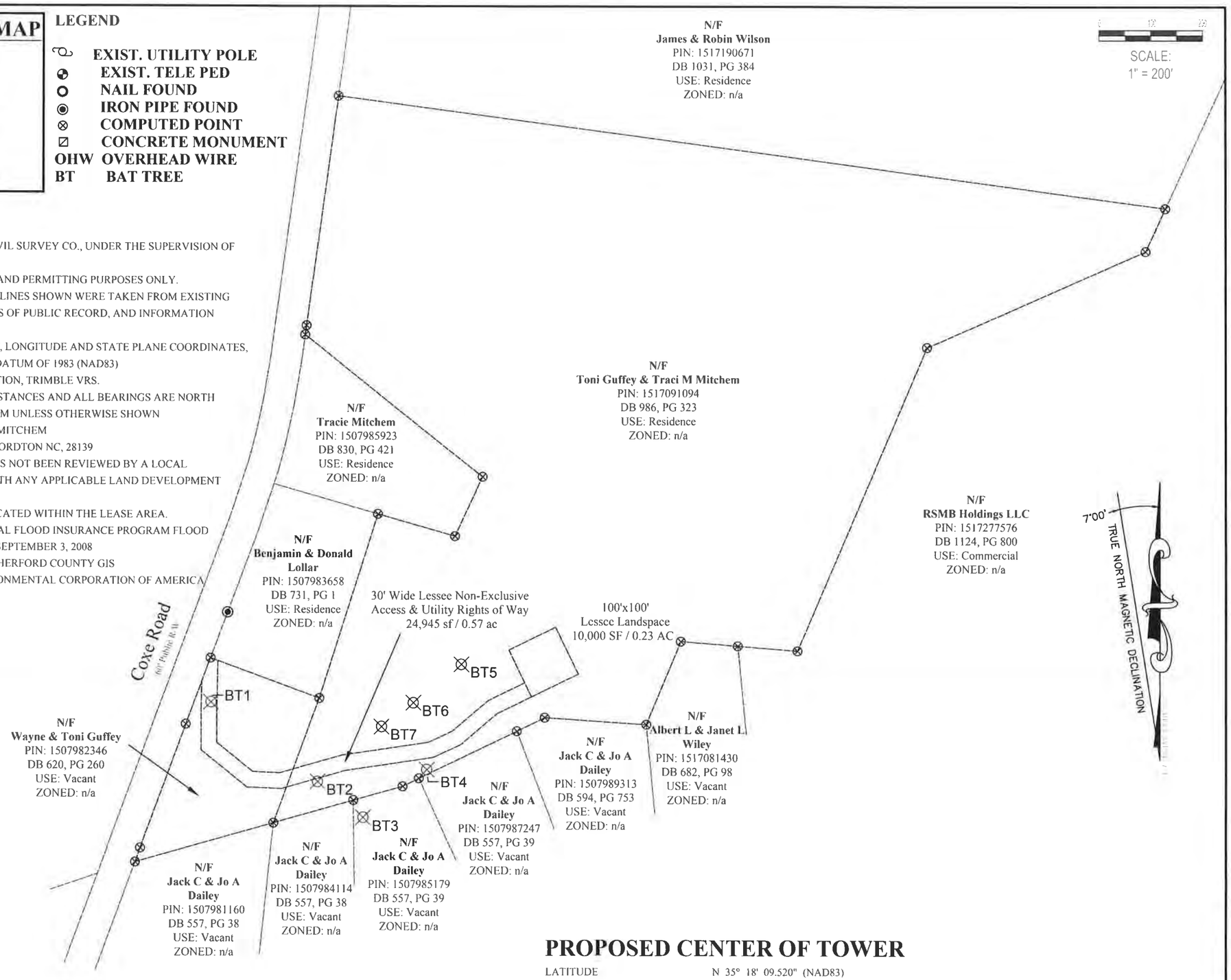


LEGEND

- EXIST. UTILITY POLE
- EXIST. TELE PED
- NAIL FOUND
- IRON PIPE FOUND
- COMPUTED POINT
- CONCRETE MONUMENT
- OHW OVERHEAD WIRE
- BT BAT TREE

GENERAL NOTES

1. THIS SURVEY WAS PREPARED BY BATEMAN CIVIL SURVEY CO., UNDER THE SUPERVISION OF JEFFREY W. BAKER, PLS
2. THIS PLAN HAS BEEN PREPARED FOR LAYOUT AND PERMITTING PURPOSES ONLY.
3. THIS IS NOT A BOUNDARY SURVEY PROPERTY LINES SHOWN WERE TAKEN FROM EXISTING FIELD EVIDENCE, EXISTING DEEDS AND PLATS OF PUBLIC RECORD, AND INFORMATION SUPPLIED TO THE SURVEYOR BY THE CLIENT
4. VERTICAL DATUM IS (NAVD88) , THE LATITUDE, LONGITUDE AND STATE PLANE COORDINATES, IF SHOWN, ARE GIVEN IN NORTH AMERICAN DATUM OF 1983 (NAD83)
5. FIELD EQUIPMENT USED: TRIMBLE TOTAL STATION, TRIMBLE VRS.
6. ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES AND ALL BEARINGS ARE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM UNLESS OTHERWISE SHOWN
7. PROPERTY OWNER: TONI GUFFREY & TRACI M MITCHEM
   131 MARYS LANE, RUTHERFORDTON NC, 28139
8. THIS MAP IS NOT A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS
9. ALL EQUIPMENT AND IMPROVEMENTS ARE LOCATED WITHIN THE LEASE AREA.
10. THE PROPERTY LIES IN ZONE "X" . PER NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP 3710150700K , DATED: SEPTEMBER 3, 2008
11. PROPERTY INFORMATION DERIVED FROM RUTHERFORD COUNTY GIS
12. BAT TREE INFORMATION PROVIDED BY ENVIRONMENTAL CORPORATION OF AMERICA



PROPOSED CENTER OF TOWER

LATITUDE	N 35° 18' 09.520" (NAD83)
LONGITUDE	W -81° 59' 02.657" (NAD83)
GROUND ELEVATION	925.8' (NAVD88)

BCSC
BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Co, PC
2524 Reliance Ave Apex, NC 27539
Phone: 919.577.1080 Fax: 919.577.1081
NCBLS FIRM # C-2378

DRAWN BY: **JCH**
CHECKED BY: **JWB**
DRAWING DATE: **01/16/2019**

REVISIONS		
a.	1/18/2019	show lease area cover sheet
b.	2/11/2019	Issue Final
c.	6/06/2019	Add Bat Trees

074-487 Guffey
1633 Coxe Road
Rutherfordton
NC, 28139
Rutherford County

DATE OF SURVEY: 01/15/2019

BCSC JOB # 180595

SHEET TITLE: SURVEY

SHEET NUMBER 1 OF 3

LEGEND

- EXIST. UTILITY POLE
- EXIST. TELE PED
- NAIL FOUND
- IRON PIPE FOUND
- COMPUTED POINT
- CONCRETE MONUMENT
- OHW OVERHEAD WIRE
- BT BAT TREE

PROPOSED CENTER OF TOWER

LATITUDE	N 35° 18' 09.520" (NAD83)
LONGITUDE	W -81° 59' 02.657" (NAD83)
GROUND ELEVATION	925 8' (NAVD88)

7°00' TRUE NORTH MAGNETIC DECLINATION

SCALE: 1" = 60'

Coxe Road (60' Public R/W)

POB
30' Wide Lessee Non-Exclusive
Access & Utility Rights of Way (A)
10,030 sf / 0.23 ac
Northing = 578462.92
Easting = 1109180.38

N/F
Benjamin & Donald Lollar
PIN: 1507983658
DB 731, PG 1
USE: Residence
ZONED: n/a

N/F
Toni Guffey & Traci M Mitchem
PIN: 1517091094
DB 986, PG 323
USE: Residence
ZONED: n/a

POB
100'x100'
Lessee Landspace
10,000 SF / 0.23 AC
Northing = 578415.66
Easting = 1109783.14

N/F
Wayne & Toni Guffey
PIN: 1507982346
DB 620, PG 260
USE: Vacant
ZONED: n/a

POB
30' Wide Lessee Non-Exclusive
Access & Utility Rights of Way (B)
14,915 sf / 0.34 ac
Northing = 578250.61
Easting = 1109339.26

N/F
Jack C & Jo A Dailey
PIN: 1507989313
DB 594, PG 753
USE: Vacant
ZONED: n/a

N/F
Jack C & Jo A Dailey
PIN: 1507987247
DB 557, PG 39
USE: Vacant
ZONED: n/a

N/F
Jack C & Jo A Dailey
PIN: 1507985179
DB 557, PG 39
USE: Vacant
ZONED: n/a

N/F
Jack C & Jo A Dailey
PIN: 1507984114
DB 557, PG 38
USE: Vacant
ZONED: n/a

Line Table		
Line #	Length	Direction
L1	15.00	S69°45'50"E
L2	87.70	S01°01'32"W
L3	69.33	S00°08'47"W
L4	88.26	S51°14'09"E
L5	51.93	S87°36'49"E
L6	26.87	N74°12'23"E
L7	37.10	S20°14'10"W
L8	9.85	S74°12'23"W
L9	66.59	N87°36'49"W
L10	112.55	N51°14'09"W
L11	83.99	N00°08'47"E
L12	47.69	N01°01'32"E
L13	47.87	N20°20'41"E
L14	97.19	N74°12'23"E

Line Table		
Line #	Length	Direction
L15	167.88	N81°34'02"E
L16	49.86	N65°07'12"E
L17	91.18	N49°33'59"E
L18	77.44	N64°04'04"E
L19	30.00	S25°55'56"E
L20	73.63	S64°04'04"W
L21	91.46	S49°33'59"W
L22	58.30	S65°07'12"W
L23	170.29	S81°34'02"W
L24	117.08	S74°12'23"W
L25	70.00	N25°55'56"W
L26	100.00	N64°04'04"E
L27	100.00	S25°55'56"E
L28	100.00	S64°04'04"W

BCSC
BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Co, PC
2524 Reliance Ave Apex, NC 27539
Phone: 919 577 1080 Fax: 919 577 1081
NCBLS FIRM # C-2378

DRAWN BY: JCH
CHECKED BY: JWB
DRAWING #: 2019

NORTH CAROLINA PROFESSIONAL SEAL L-4412 LAND SURVEYOR JEFFREY W. BAKER
I, JEFFREY W. BAKER, CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (DEED DESCRIPTION RECORDED IN BOOK AND PAGE); THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND IN BOOK AND PAGE ; THAT THE RATIO OF PRECISION AS CALCULATED IS 1:10,000+; THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED. WITNESS MY ORIGINAL SIGNATURE, REGISTRATION NUMBER AND SEAL THIS 6 DAY OF JUNE, A.D. 2019.
JEFFREY W. BAKER, NCLS L-4412

REVISIONS		
a.	1/18/2019	show lease area cover sheet
b.	2/11/2019	Issue Final
c.	6/06/2019	Add Bat Trees

074-487 Guffey
1633 Coxe Road
Rutherfordton
NC, 28139
Rutherford County

DATE OF SURVEY: 01/15/2019

BCSC JOB # 180595

SHEET TITLE: SURVEY

SHEET NUMBER 2 OF 3

30' WIDE LESSEE NON-EXCLUSIVE ACCESS & UTILITY RIGHTS OF WAY (A) DESCRIPTION

All that certain parcel of land, situated in Rutherfordton, Rutherford County, North Carolina, being on the lands of Wayne & Toni Guffey as described in Deed Book 620 at Page 260, Rutherford County Records, and being more particularly described as follows:

Beginning at a point on the Eastern Right of Way of Coxe road being the South Western Property Corner of Benjamin & Donald Lollar (DB 731, Pg 1) and North Western Property Corner of Wayne & Toni Guffey (DB 620, Pg 260), Rutherford County Records, having State Plane Coordinates N:578462.92, E:1109180.38; thence S69°45'50"E, 15.00' to a point; thence S01°01'32"W, 87.70' to a point; thence S00°08'47"W, 69.33' to a point; thence S51°14'09"E, 88.26' to a point; thence S87°36'49"E, 51.93' to a point; thence N74°12'23"E, 26.87' to a point; thence S20°14'10"W, 37.10' to a point; thence S74°12'23"W, 9.85' to a point; thence N87°36'49"W, 66.59' to a point; thence N51°14'09"W, 112.55' to a point; thence N00°08'47"E, 83.99' to a point; thence N01°01'32"E, 47.69' to a point; thence N20°20'41"E, 47.87' to a point; Said Point being the Point of Beginning of the 30' Wide Lessee Non-Exclusive Access & Utility Rights of Way (A). Said 30' Wide Lessee Non-Exclusive Access & Utility Rights of Way (A) contains 10,030 square feet, more or less.

30' WIDE LESSEE NON-EXCLUSIVE ACCESS & UTILITY RIGHTS OF WAY (B) DESCRIPTION

All that certain parcel of land, situated in Rutherfordton, Rutherford County, North Carolina, being on the lands of Toni Guffey & Traci M Mitchem as described in Deed Book 986 at Page 323, Rutherford County Records, and being more particularly described as follows:

Commencing at a point on the Eastern Right of Way of Coxe road being the South Western Property Corner of Benjamin & Donald Lollar (DB 731, Pg 1) and North Western Property Corner of Wayne & Toni Guffey (DB 620, Pg 260), Rutherford County Records, having State Plane Coordinates N:578462.92, E:1109180.38; thence S69°45'50"E, 15.00' to a point; thence S01°01'32"W, 87.70' to a point; thence S00°08'47"W, 69.33' to a point; thence S51°14'09"E, 88.26' to a point; thence S87°36'49"E, 51.93' to a point; thence N74°12'23"E, 26.87' to a point; said point being the Point of Beginning having State Plane Coordinates N:578250.61, E:1109339.26; thence N74°12'23"E, 97.19' to a point; thence N81°34'02"E, 167.88' to a point; thence N65°07'12"E, 49.86' to a point; thence N49°33'59"E, 91.18' to a point; thence N64°04'04"E, 77.44' to a point; thence S25°55'56"E, 30.00' to a point; thence S64°04'04"W, 73.63' to a point; thence S49°33'59"W, 91.46' to a point; thence S65°07'12"W, 58.30' to a point; thence S81°343'02"W, 170.29' to a point; thence S74°12'23"W, 117.08' to a point; thence N20°14'10"W, 37.10' to a point; Said Point being the Point of Beginning of the 30' Wide Lessee Non-Exclusive Access & Utility Rights of Way (B). Said 30' Wide Lessee Non-Exclusive Access & Utility Rights of Way (B) contains 14,915 square feet, more or less.

100'x100' LESSEE LAND SPACE DESCRIPTION

All that certain parcel of land, situated in Rutherfordton, Rutherford County, North Carolina, being on the lands of Toni Guffey & Traci M Mitchem as described in Deed Book 986 at Page 323, Rutherford County Records, and being more particularly described as follows:

Commencing at a point on the Eastern Right of Way of Coxe road being the South Western Property Corner of Benjamin & Donald Lollar (DB 731, Pg 1) and North Western Property Corner of Wayne & Toni Guffey (DB 620, Pg 260), Rutherford County Records, having State Plane Coordinates N:578462.92, E:1109180.38; thence S69°45'50"E, 15.00' to a point; thence S01°01'32"W, 87.70' to a point; thence S00°08'47"W, 69.33' to a point; thence S51°14'09"E, 88.26' to a point; thence S87°36'49"E, 51.93' to a point; thence N74°12'23"E, 26.87' to a point; thence N74°12'23"E, 97.19' to a point; thence N81°34'02"E, 167.88' to a point; thence N65°07'12"E, 49.86' to a point; thence N49°33'59"E, 91.18' to a point; thence N64°04'04"E, 77.44' to a point;said point being the Point of Beginning having State Plane Coordinates N:578415.66, E:1109783.14; thence N25°55'56"W, 70.00' to a point; thence N64°04'04"E, 100.00' to a point; thence S25°55'56"E, 100.00' to a point; thence S64°04'04"W, 100.00' to a point; thence N25°55'56"W, 30.00' to a point; Said Point being the Point of Beginning of the 100'x100' Lessee Land Space. Said 100'x100' Lessee Land Space contains 10,000 square feet, more or less.

BCSC
BATEMAN CIVIL SURVEY COMPANY
Bateman Civil Survey Co, PC
2524 Reliance Ave Apex, NC 27539
Phone: 919 577 1080 Fax: 919 577 1081
NCBLS FIRM # C-2378

DRAWN BY: JCH
CHECKED BY: JWB
DRAWING NUMBER: 074-487

NORTH CAROLINA PROFESSIONAL SEAL L-4412 LAND SURVEYOR JEFFREY W. BAKER
JEFFREY W. BAKER, PLS L-4412

REVISIONS		
a.	1/18/2019	show lease area cover sheet
b.	2/11/2019	Issue Final
c.	6/06/2019	Add Bat Trees

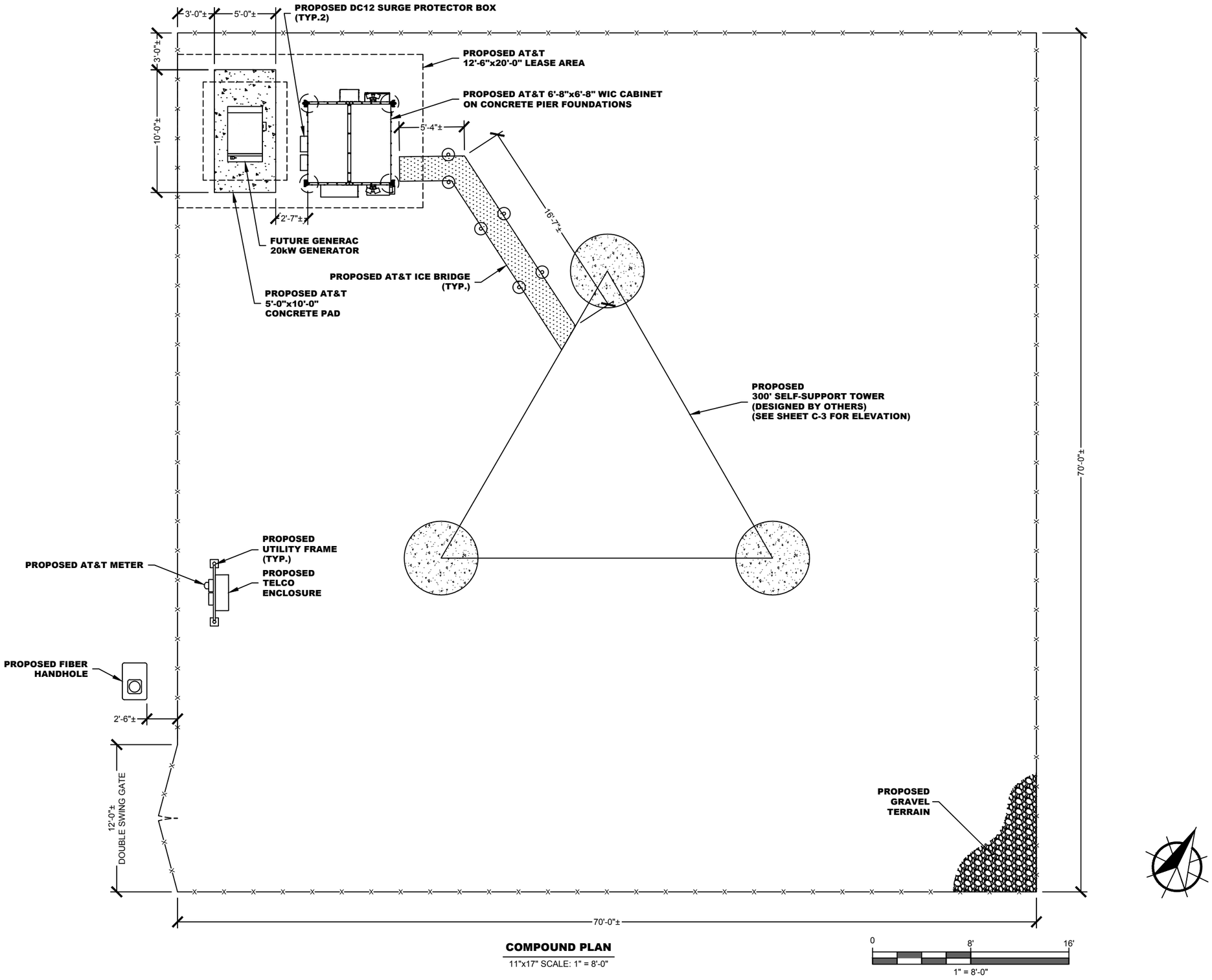
074-487 Guffey
1633 Coxe Road
Rutherfordton
NC, 28139
Rutherford County

DATE OF SURVEY: 01/15/2019

BCSC JOB # 180595

SHEET TITLE: SURVEY

SHEET NUMBER 3 OF 3



COMPOUND PLAN

11"x17" SCALE: 1" = 8'-0"

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSICA M. ROBERTS

06/26/2019

SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
02/15/19	REVIEW	A	XH
03/01/19	REVIEW	B	XH
03/21/19	CONSTRUCTION	0	XH
06/26/19	REVISED SURVEY	1	SF

DRAWN BY:	XH
CHECKED BY:	DSW
APPV'D BY:	JME
DEWBERRY PROJECT NO:	50107723

PREPARED FOR:

at&t

PREPARED BY:

MasTec Network Solutions

507 AIRPORT BLVD, SUITE 111
MORRISVILLE, NC 27560

PREPARED BY:

Dewberry®

DEWBERRY ENGINEERS INC.

2610 WYCLIFF ROAD, SUITE 410
RALEIGH, NC 27607
NCBELS#: F-0929

SITE ID:

074-487

SITE NAME:

GUFFEY

SITE ADDRESS:

1633 COXE ROAD
RUTHERFORDTON, NC 28139

FA LOCATION:

10037722

SITE NUMBER:

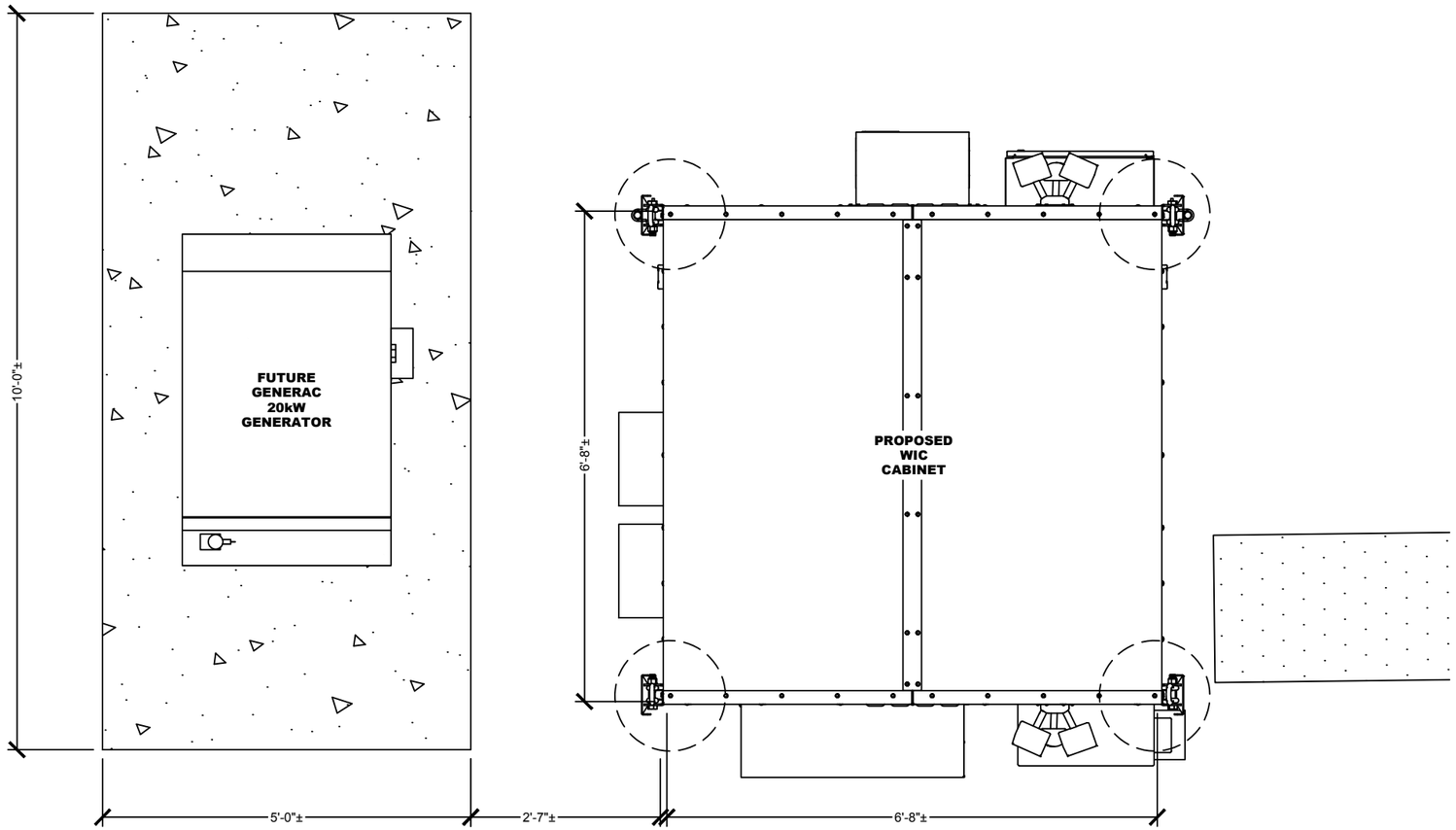
N/A

SHEET TITLE

COMPOUND PLAN

SHEET NUMBER

C-1.1



EQUIPMENT LAYOUT

11"x17" SCALE: 1/2" = 1'-0"

0 2' 4'

1/2" = 1'-0"

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSICA M. ROBERTS

06/26/2019

SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
02/15/19	REVIEW	A	XH
03/01/19	REVIEW	B	XH
03/21/19	CONSTRUCTION	0	XH
06/26/19	REVISED SURVEY	1	SF

DRAWN BY: XH

CHECKED BY: DSW

APPV'D BY: JME

DEWBERRY PROJECT NO: 50107723

PREPARED FOR:

at&t

PREPARED BY:

MasTec Network Solutions

507 AIRPORT BLVD, SUITE 111
MORRISVILLE, NC 27560

PREPARED BY:

Dewberry®

DEWBERRY ENGINEERS INC.

2610 WYCLIFF ROAD, SUITE 410
RALEIGH, NC 27607
NCBELS#: F-0929

SITE ID:

074-487

SITE NAME:

GUFFEY

SITE ADDRESS:

1633 COXE ROAD
RUTHERFORDTON, NC 28139

FA LOCATION:

10037722

SITE NUMBER:

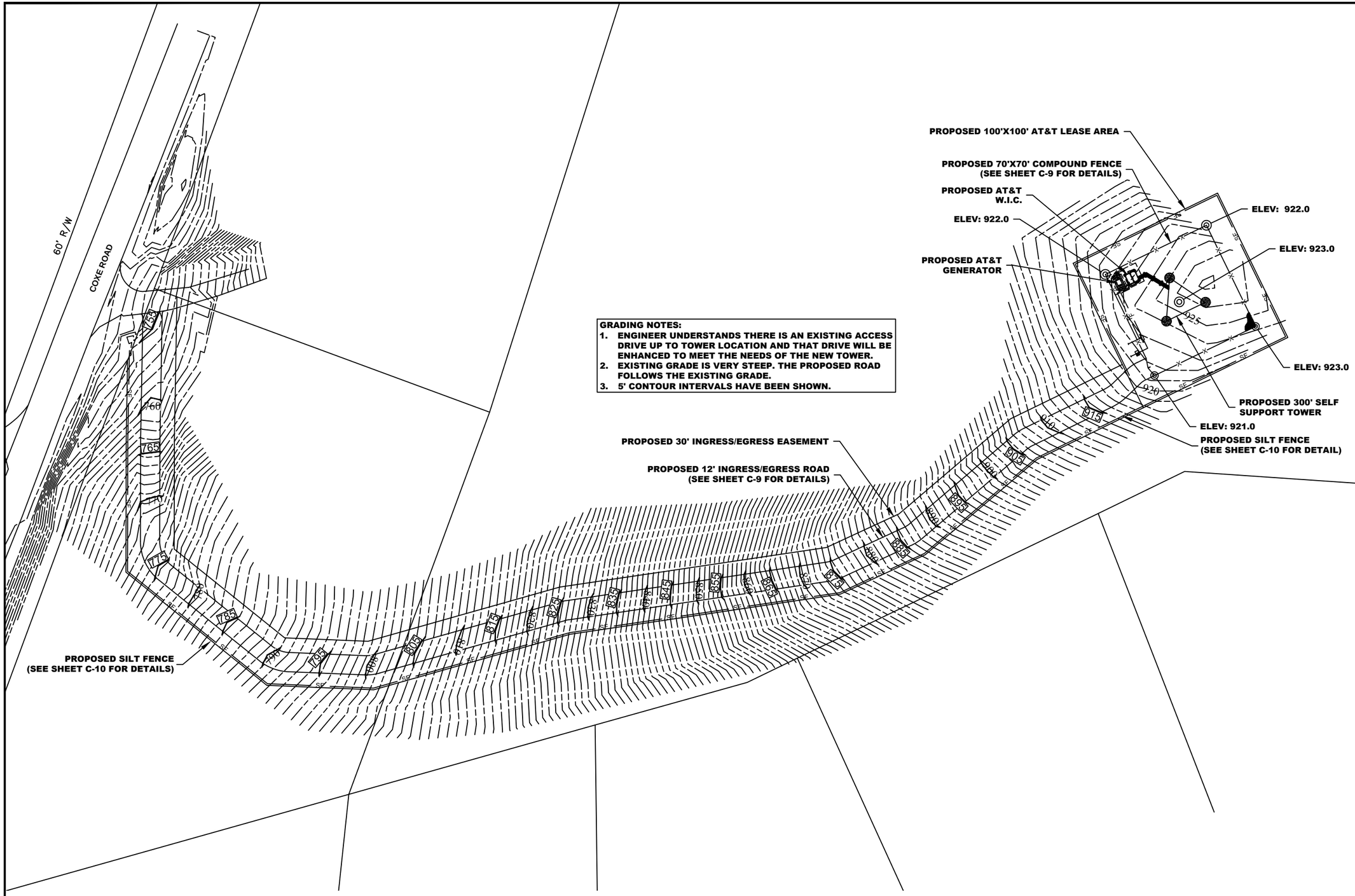
N/A

SHEET TITLE

EQUIPMENT LAYOUT

SHEET NUMBER

C-1.2



GRADING NOTES:

1. ENGINEER UNDERSTANDS THERE IS AN EXISTING ACCESS DRIVE UP TO TOWER LOCATION AND THAT DRIVE WILL BE ENHANCED TO MEET THE NEEDS OF THE NEW TOWER.
2. EXISTING GRADE IS VERY STEEP. THE PROPOSED ROAD FOLLOWS THE EXISTING GRADE.
3. 5' CONTOUR INTERVALS HAVE BEEN SHOWN.

GRADING PLAN

11"x17" SCALE: 1"=60'-0"

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSE M. ROBERTS

06/26/2019

SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
02/15/19	REVIEW	A	XH
03/01/19	REVIEW	B	XH
03/21/19	CONSTRUCTION	0	XH
06/26/19	REVISED SURVEY	1	SF

DRAWN BY:	XH
CHECKED BY:	DSW
APPV'D BY:	JME
DEWBERRY PROJECT NO:	50107723

PREPARED FOR:

at&t

PREPARED BY:

MasTec Network Solutions

507 AIRPORT BLVD, SUITE 111
MORRISVILLE, NC 27560

PREPARED BY:

Dewberry®

DEWBERRY ENGINEERS INC.

2610 WYCLIFF ROAD, SUITE 410
RALEIGH, NC 27607
NCBELS#: F-0929

SITE ID:

074-487

SITE NAME:

GUFFEY

SITE ADDRESS:

1633 COXE ROAD
RUTHERFORDTON, NC 28139

FA LOCATION:

10037722

SITE NUMBER:

N/A

SHEET TITLE

GRADING PLAN

SHEET NUMBER

C-2

FINAL RF EQUIPMENT SCHEDULE

SECTOR - POSITION	FREQUENCY BAND	ANTENNA MAKE/MODEL	RAD CENTER	AZIMUTH	E. TILT	M. TILT	(QTY.) RADIO	(QTY.) TMA	(QTY.) SURGE PROTECTION	(QTY.) CABLES	CABLE LENGTH
A1	LTE 700/WCS	**CCI - TPA-65R-BU8D (P)**	290'-0"	340°	2°/1°	0°	**(1) RRUS 4449 B5/B12 (P) (1) RRUS 4415 B30 (P)**	-	**(1) DC9-48-60-24-8C-EV (P)**	**(1) FIBER TRUNK (P) (2) DC TRUNKS (P)**	315'-0"
A2	-	-	-	-	-	-	-	-	-	-	-
A3	LTE 700 (FN)/AWS/1900	**COMMSCOPE - NNH4-65C-R6 (P)**	290'-0"	340°	2°/2°/2°	0°	**(1) RRUS 4478 B14 (P) (1) RRUS 8843 B2/B66A (P)**	-	-	-	-
A4	-	-	-	-	-	-	-	-	-	-	-
B1	LTE 700/WCS	**CCI - TPA-65R-BU8D (P)**	290'-0"	90°	2°/1°	0°	**(1) RRUS 4449 B5/B12 (P) (1) RRUS 4415 B30 (P)**	-	**(1) DC9-48-60-24-8C-EV (P)**	**(1) FIBER TRUNK (P) (2) DC TRUNKS (P)**	315'-0"
B2	-	-	-	-	-	-	-	-	-	-	-
B3	LTE 700 (FN)/AWS/1900	**COMMSCOPE - NNH4-65C-R6 (P)**	290'-0"	90°	2°/2°/2°	0°	**(1) RRUS 4478 B14 (P) (1) RRUS 8843 B2/B66A (P)**	-	-	-	-
B4	-	-	-	-	-	-	-	-	-	-	-
C1	LTE 700/WCS	**CCI - TPA-65R-BU8D (P)**	290'-0"	240°	2°/1°	0°	**(1) RRUS 4449 B5/B12 (P) (1) RRUS 4415 B30 (P)**	-		-	315'-0"
C2	-	-	-	-	-	-	-	-	-	-	-
C3	LTE 700 (FN)/AWS/1900	**COMMSCOPE - NNH4-65C-R6 (P)**	290'-0"	240°	2°/2°/2°	0°	**(1) RRUS 4478 B14 (P) (1) RRUS 8843 B2/B66A (P)**	-	-	**(2) DC TRUNKS (P)**	-
C4	-	-	-	-	-	-	-	-	-	-	-
TOTALS		**(6) ANTENNAS**	**-**				**(12) RRU'S**	**(0) TMA**	**(2) SPD**	**(8) CABLES**	

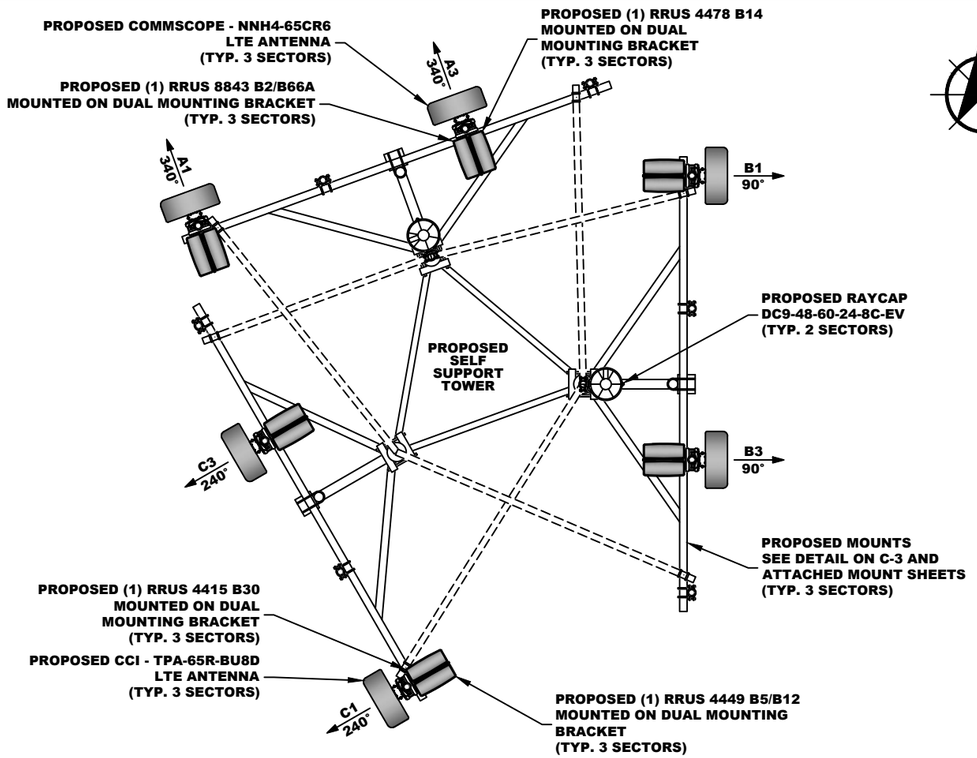
(P) = PROPOSED
(FN) = FIRSTNET

- ALL RRU MOUNTING BRACKETS TO BE SUPPLIED BY AT&T

- MAINTAIN 3'-0" MIN. SEPERATION BETWEEN FIRSTNET AND LTE 700 ANTENNAS

NOTES:

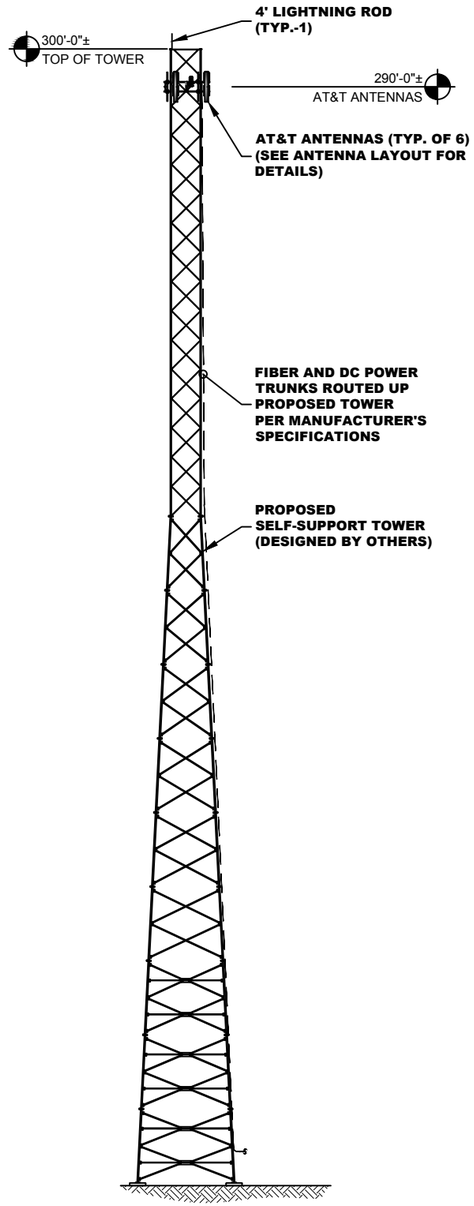
- THE REQUIRED FAA LIGHTING MUST NOT BE BLOCKED IN ANY WAY BY THE ANTENNAS. THE REQUIRED 360° LIGHTING VISIBILITY MUST BE MAINTAINED.
- ALL ANTENNAS, CABLES AND MOUNTS SHALL BE INSTALLED IN ACCORDANCE WITH THE TOWER ENGINEER'S RECOMMENDATIONS IN A MANNER CONSISTENT WITH THE STRUCTURAL ANALYSIS REPORT.
- ALL ANTENNA INFORMATION BASED ON MOST RECENT VERSION OF THIS SITES RFDS.



FINAL ANTENNA LAYOUT
11"x17" SCALE: 1" = 4'

SCOPING NOTES - TOWER

- INSTALL (3) TPA-65R-BU8D ANTENNAS
- INSTALL (3) NNH4-65C-R6 ANTENNAS
- INSTALL (3) NEW RRUS 4449 B5/B12
- INSTALL (3) NEW RRUS 4415 B30
- INSTALL (3) NEW RRUS 4478 B14
- INSTALL (3) NEW RRUS 8843 B2/B66A
- INSTALL (6) NEW B2B DUAL RRU MOUNTING BRACKETS
- INSTALL (2) NEW RAYCAP DC9-48-60-24-8C-EV
- INSTALL (2) NEW FIBER TRUNKS
- INSTALL (6) NEW DC POWER TRUNKS
- INSTALL (3) KENWOOD T1672KT12 SECTOR FRAMES
- INSTALL (12) P1090KT10 ANTENNA MOUNT PIPES



TOWER ELEVATION
11"x17" SCALE: NTS

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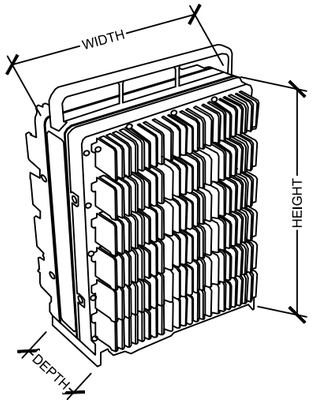
N/A

SHEET TITLE
ANTENNA LAYOUT & TOWER ELEVATION

SHEET NUMBER
C-3

ERICSSON RRUS 8843 B2/B66A

- DIMENSIONS (H x W x D): 14.9" x 13.2" x 10.9" (INCLUDES SUNSHIELD)
- WEIGHT: 72.0 LBS
- B2 TX = 1930-1990 MHZ, B66A TX = 2110-2180 MHZ
  B2 RX = 1850-1910 MHZ, B66A RX = 1710-1780 MHZ
- CPRI 2 PORTS X 2.5/4.9/9.8/10.1 GBPS.



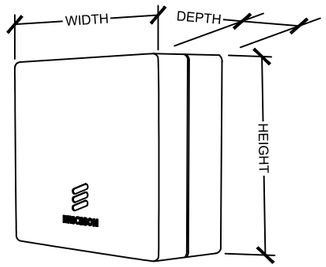
NOTE:
RRUS CAN ONLY BE PAINTED ON SOLAR SHIELD.

ERICSSON RRUS 8843 B2/B66A DETAIL

SCALE: N.T.S.

ERICSSON RRUS 4415 B30

- DIMENSIONS (H x W x D): 16.5" x 13.4" x 5.9" (INCLUDES SUNSHIELD)
- WEIGHT: 46.0 LBS
- TX = 2350-2360 MHZ
  RX = 2305-2315 MHZ
- CPRI 2 PORTS X 2.5/4.9/9.8/10.1 GBPS.



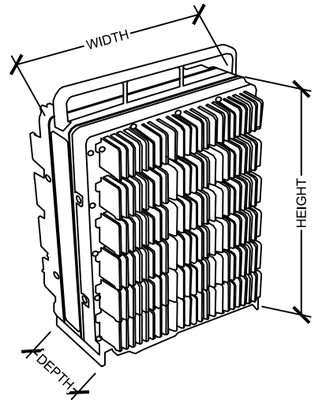
NOTE:
RRUS CAN ONLY BE PAINTED ON SOLAR SHIELD.

ERICSSON RRUS 4415 B30 DETAIL

SCALE: N.T.S.

ERICSSON RRUS 4449 B5/B12

- DIMENSIONS (H x W x D): 17.9" x 13.2" x 9.4" (INCLUDES SUNSHIELD)
- WEIGHT: 71.0 LBS
- B5 TX = 869-894 MHZ, B12 TX = 729-746 MHZ
  B5 RX = 824-849 MHZ, B12 RX = 699-716 MHZ
- CPRI 2 PORTS X 2.5/4.9/9.8/10.1 GBPS.



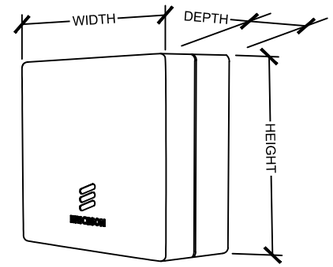
NOTE:
RRUS CAN ONLY BE PAINTED ON SOLAR SHIELD.

ERICSSON RRUS 4449 B5/B12 DETAIL

SCALE: N.T.S.

ERICSSON RRUS 4478 B14

- DIMENSIONS (H x W x D): 15" x 13.2" x 7.3" (INCLUDES SUNSHIELD)
- WEIGHT: 59.4 LBS
- TX = 758-768 MHZ
  RX = 788-798 MHZ
- CPRI 2 PORTS X 2.5/4.9/9.8/10.1 GBPS.



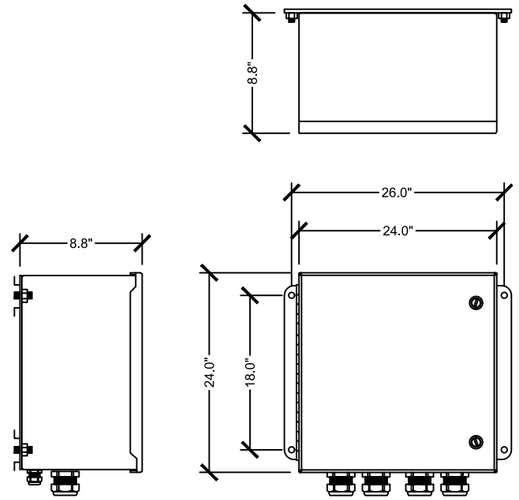
NOTE:
RRUS CAN ONLY BE PAINTED ON SOLAR SHIELD.

ERICSSON RRUS 4478 B14 DETAIL

SCALE: N.T.S.

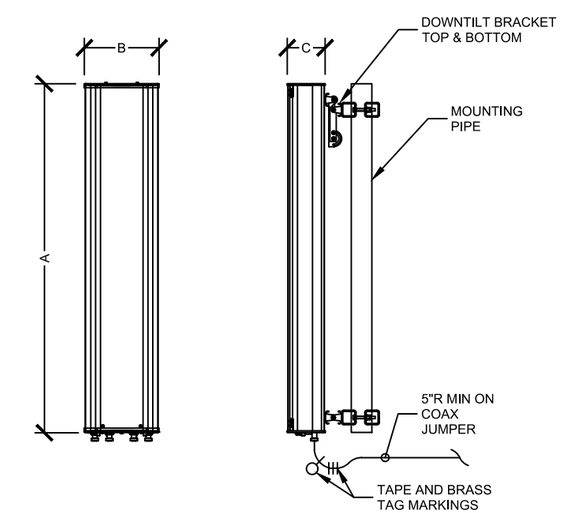
RAYCAP - DC12-48-60-0-25E-SS

- DIMENSIONS (H x W x D): 24.0" x 24.0" x 8.8"
- WEIGHT: 56.3 LBS
- (12) CIRCUITS PROTECTED
- NORMAL MODE: -48V TO RETURN
- COMMON MODE: RETURN TO GROUND



RAYCAP - DC12-48-60-0-25E-SS

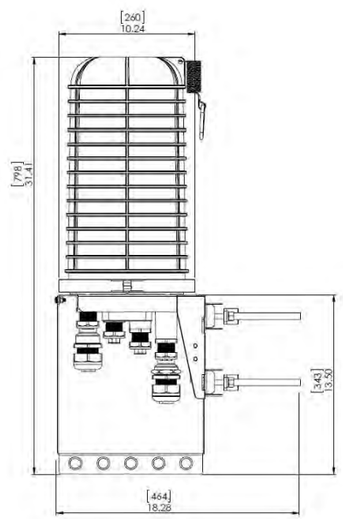
SCALE: N.T.S.



NEW ANTENNA SPECIFICATIONS				
ANTENNA MODEL	**LENGTH (A)**	**WIDTH (B)**	**DEPTH (C)**	**WEIGHT**
CCI TPA-65R-BU8D	96.0"	21.0"	7.8"	87.5 LBS
COMMSCOPE NNH4-65C-R6	96.0"	19.6"	7.8"	102.1 LBS

NEW ANTENNA SPECIFICATIONS

SCALE: N.T.S.

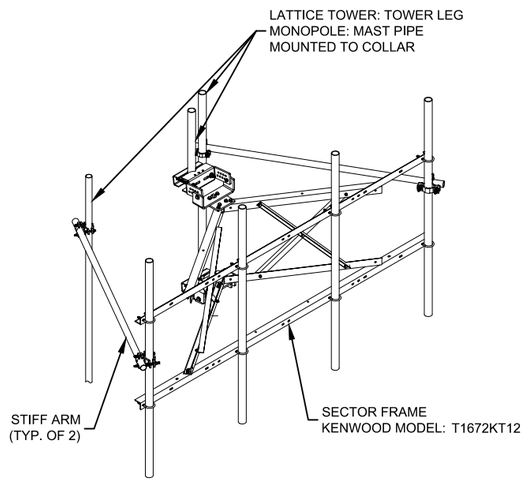


NOTES:

RAYCAP VIA AT&T SUPPLIES THE DC9 OVER VOLTAGE PROTECTOR AND PIPE MOUNTING BRACKETS. SUBCONTRACTOR SHALL SUPPLY THE PIPE.

RAYCAP DC9-48-60-24-8C-EV ASSEMBLY

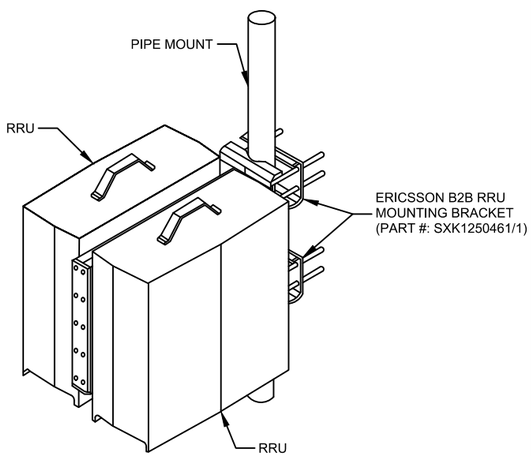
SCALE: N.T.S.



SECTOR FRAME DETAIL

11"x17" SCALE: NTS

AT&T SUPPLIED ERICSSON SXK1250461/1 B2B RRU MOUNTING BRACKET



DUAL B2B RRU MOUNTING BRACKET

SCALE: N.T.S.

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSE M. ROBERTS
06/26/2019

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2610 WYCLIFF ROAD, SUITE 410
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074-487

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1633 COXE ROAD
RUTHERFORDTON, NC 28139

FA LOCATION:
10037722

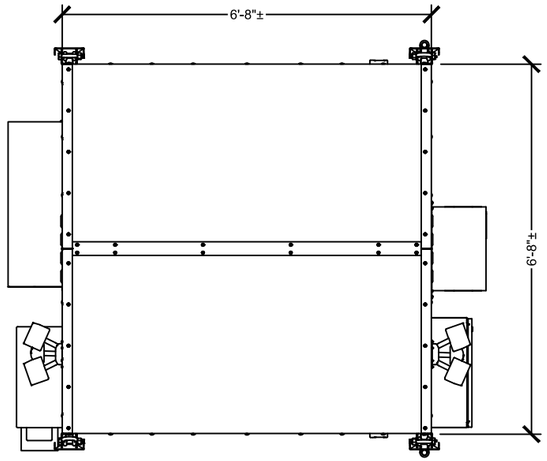
SITE NUMBER:
N/A

SHEET TITLE
EQUIPMENT DETAILS

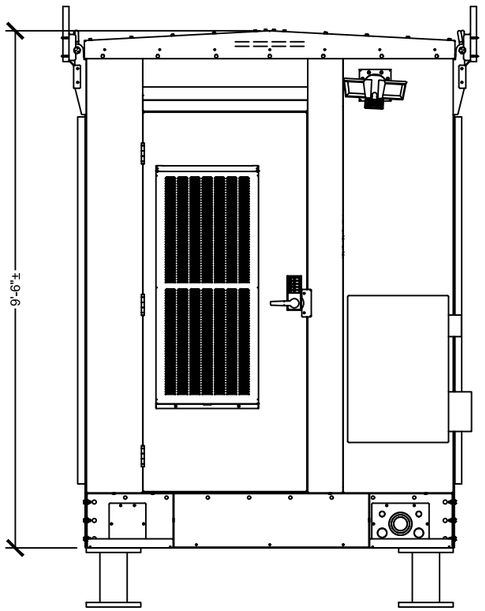
SHEET NUMBER
C-4

EQUIPMENT SPECIFICATIONS

- DIMENSIONS (H x W x D): 9'-6" x 6'-8" x 6'-8"
- WEIGHT: 5500 LBS (EMPTY)
  7500 LBS (FULLY INTEGRATED)



PLAN VIEW

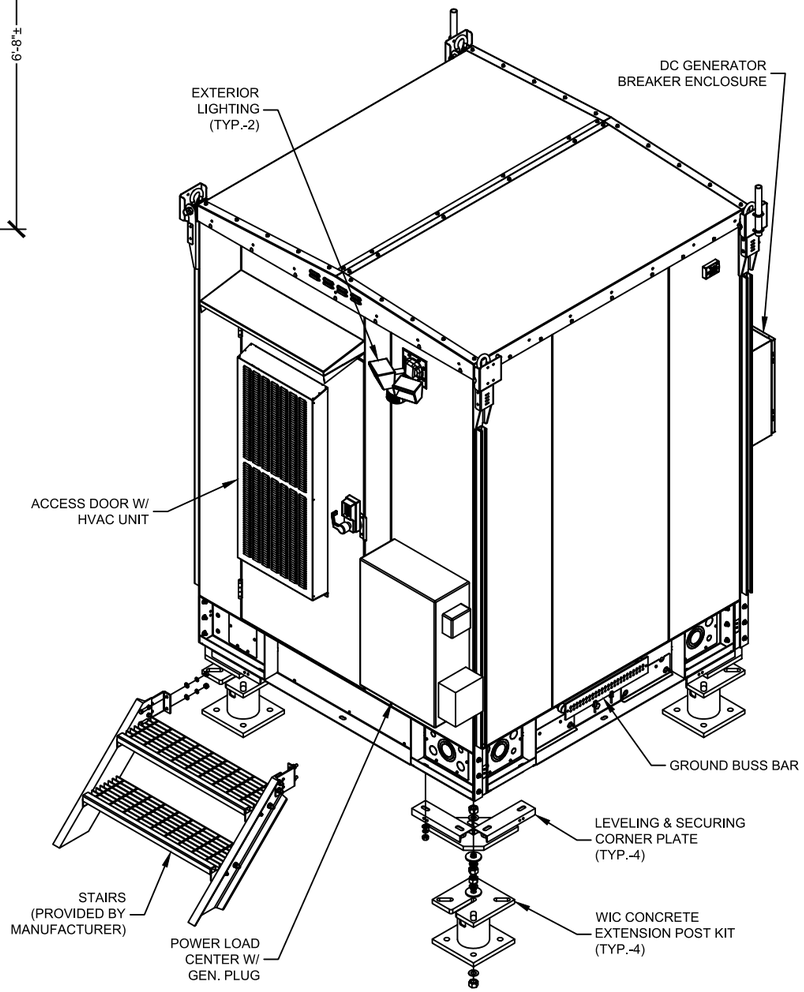


FRONT VIEW

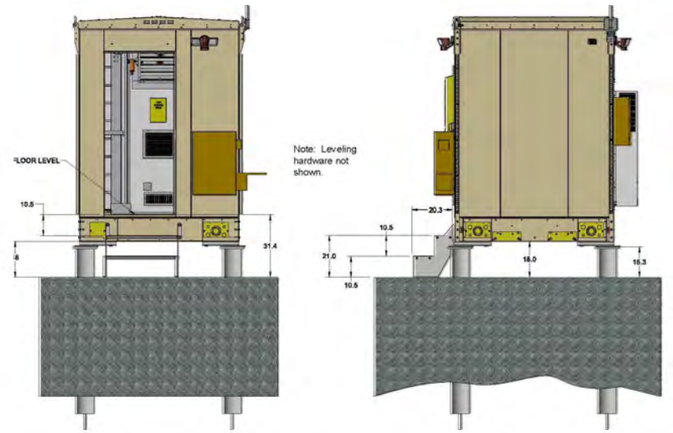
NOTES:

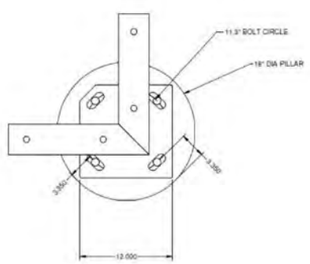
1. WALK-IN CABINET (WIC) TO BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS & SPECIFICATIONS.
2. WIC COMES FULLY ASSEMBLED. CONTRACTOR TO CONFIRM PARTS & HARDWARE AND COORDINATE W/ AT&T CM PRIOR TO CONSTRUCTION.
3. CONCRETE PIERS MUST BE CONSTRUCTED TO ALLOW WIC TO SIT ABOVE GRADE 18". WIC PLATE ASSEMBLY IS 2.75" TALL AND PLATE IS 1" THICK. LEAVE ENOUGH ROOM FOR LEVELING AND ENOUGH HEIGHT ON LEVELING HARDWARE FOR NUT ABOVE PLATE. IF GRADE IS LEVEL CONCRETE PIER SHOULD BE 11" ABOVE GRADE, NO MORE THAN 12".
4. DEPTH OF PIER MUST BE DETERMINED BY REGION AND TAKE INTO CONSIDER SUCH ITEMS BUT NOT LIMITED TO DEPTH OF FROST LINE, SOIL TYPE, GENERAL CLIMATE CONDITIONS AND SITE DRAINAGE.
5. 4000 PSI CONCRETE STRENGTH SHOULD BE CONSIDERED AS A MINIMUM TYPE FOR PIER CONSTRUCTION, BUT CAN VARY BASED ON THE LOCAL ARCHITECTURAL STANDARDS AND APPROVALS.
6. MAXIMUM PIER SIZE: 30 INCHES.
7. MINIMUM PIER SIZE: 18 INCHES.

* RECOMMENDED PIER SIZE IS 18" TO MAXIMIZE BOTTOM CABLE ACCESS AND ABILITY TO MOUNT WIC (2) STAIR SYSTEM. LARGER SIZE WILL INHIBIT ABILITY OF BOTTOM CABLE ACCESS.



ISOMETRIC VIEW

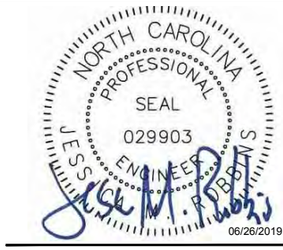




CONCRETE PIER FOUNDATION

VERTIV SMARTMOD WALK-IN-CABINET

SCALE: N.T.S.



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DEWBERRY PROJECT NO: 50107723

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at&t

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RUTHERFORDTON, NC 28139

FA LOCATION:
10037722

SITE NUMBER:
N/A

SHEET TITLE
CABINET DETAILS

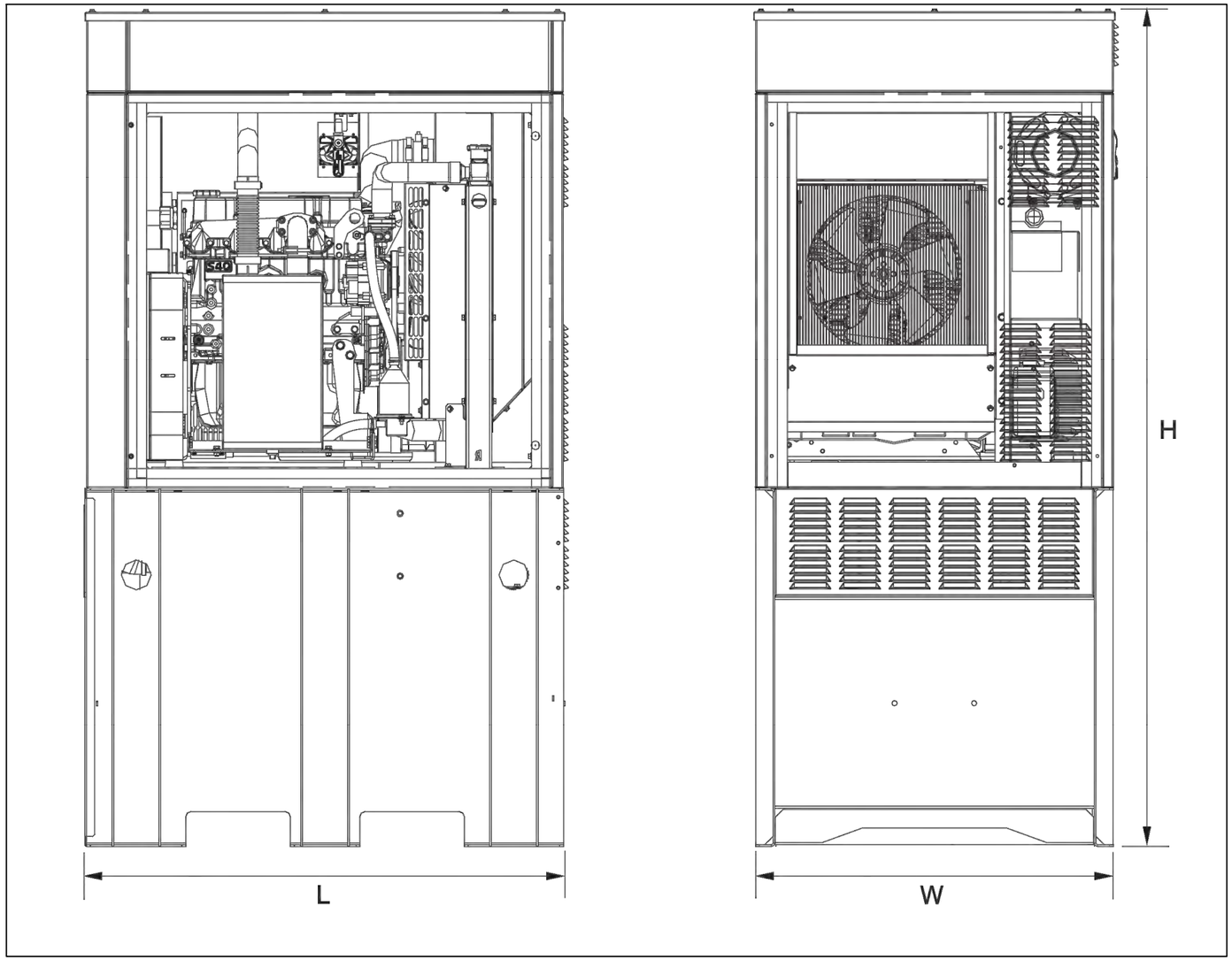
SHEET NUMBER
C-5

GENERATOR NOTES:

- 20 kW INDUSTRIAL DIESEL GENERATOR BY GENERAC
- MODEL: G007098-0 (STEEL)
- POWER RATING: 120/240V AC @ 1.0 PF - 20kW - 83A
- DIMENSIONS (L x W x H): 48" x 36" x 90"

TANK NOTES:

- FUEL TYPE: ULTRA LOW SULFUR DIESEL #2
- FUEL CONSUMPTION: 1.90 GAL/HR
- DRY WEIGHT: 2400 LBS



DIESEL GENERATOR DETAIL

SCALE: N.T.S.

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSICA M. ROBERTS

06/26/2019

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GENERATOR DETAILS

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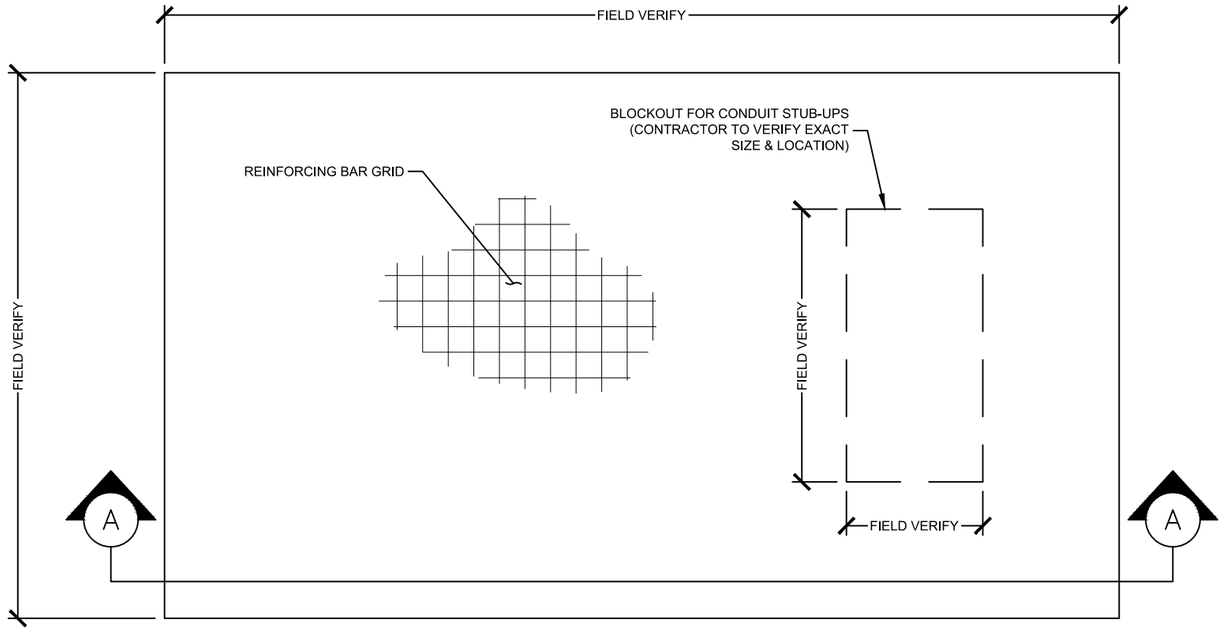
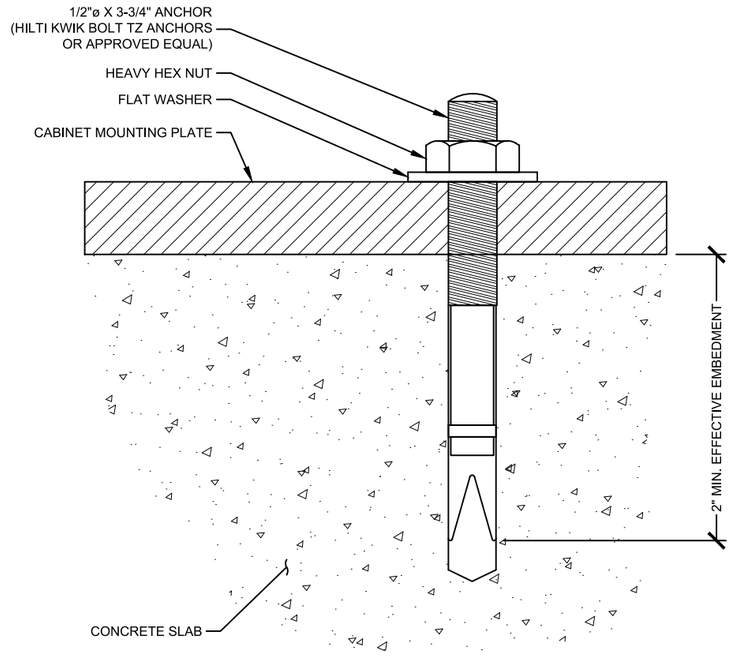
C-6



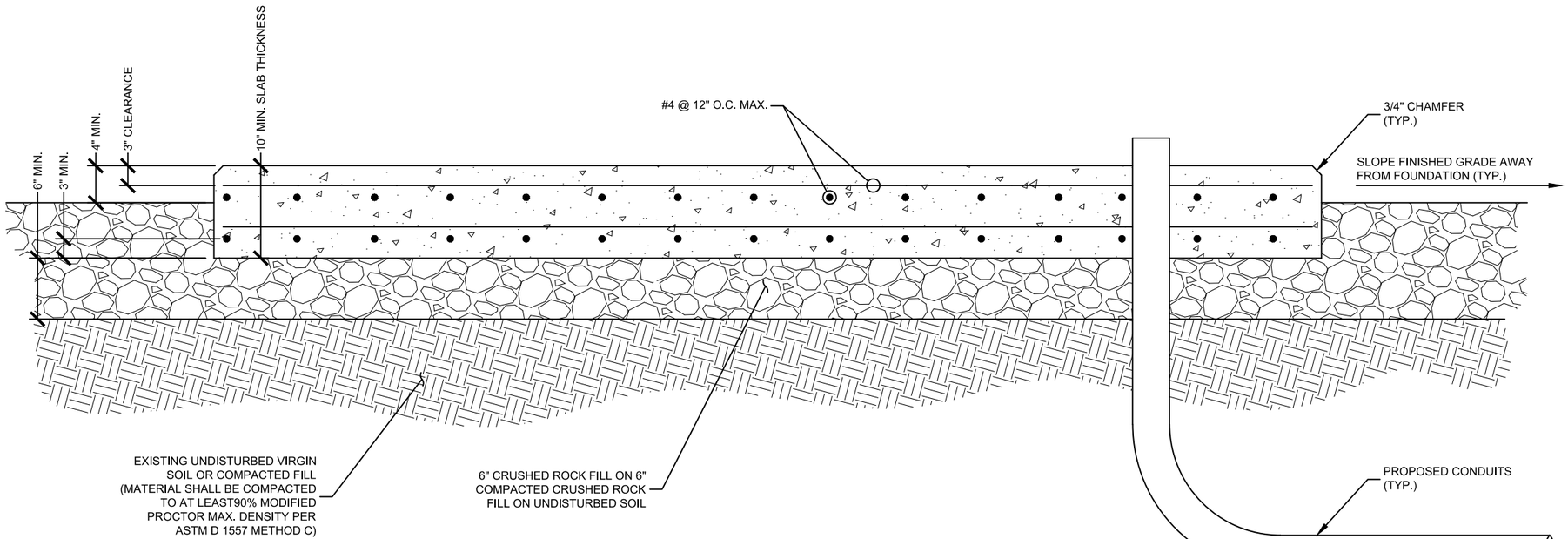
EQUIPMENT PAD PLAN

SCALE: N.T.S.



ANCHORAGE DETAIL

SCALE: N.T.S.



SECTION A-A

SCALE: N.T.S.

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSICA M. ROBERTS

06/26/2019

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SITE NUMBER:

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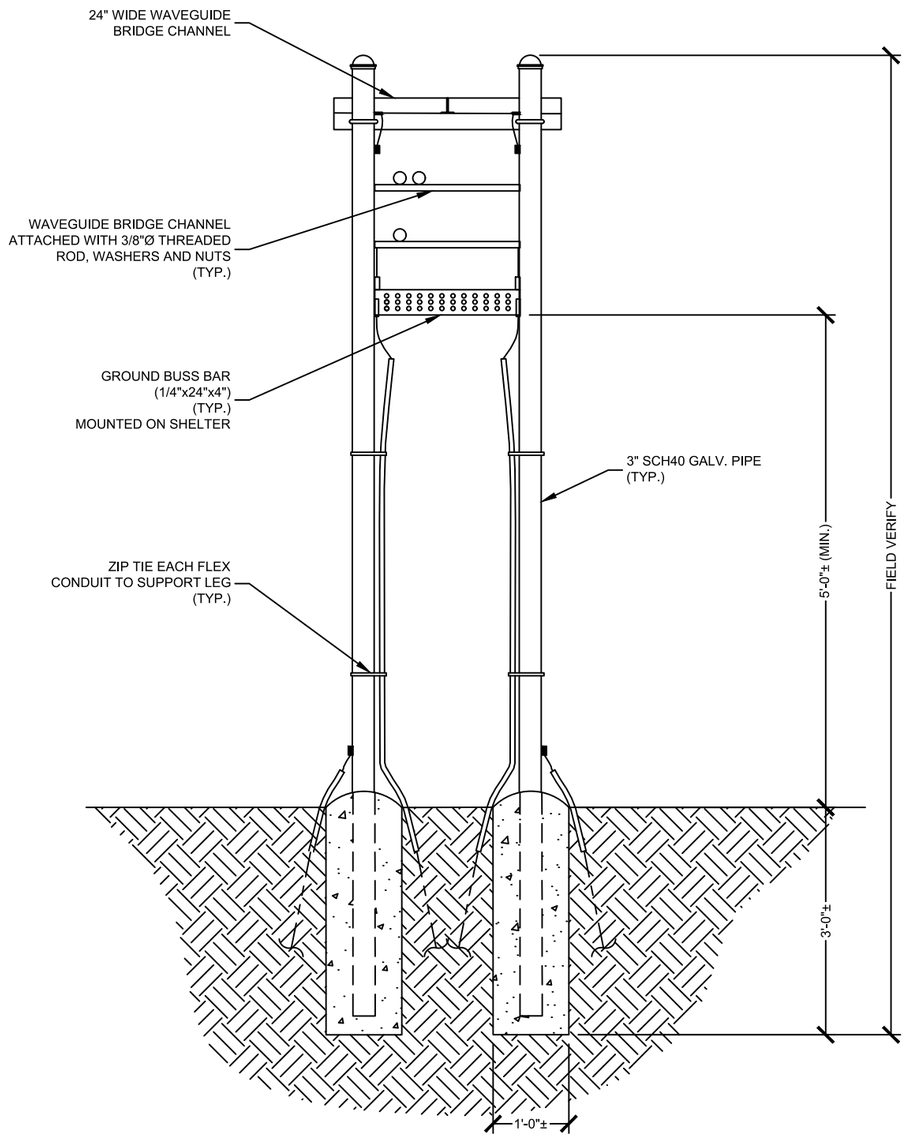
SHEET TITLE

CIVIL DETAILS

SHEET NUMBER

C-7



ICE BRIDGE DETAIL

SCALE: N.T.S.

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSICA M. ROBERTS

06/26/2019

SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
02/15/19	REVIEW	A	XH
03/01/19	REVIEW	B	XH
03/21/19	CONSTRUCTION	0	XH
06/26/19	REVISED SURVEY	1	SF

DRAWN BY: XH
CHECKED BY: DSW
APPV'D BY: JME
DEWBERRY PROJECT NO: 50107723

PREPARED FOR:

at&t

PREPARED BY:

MasTec Network Solutions
507 AIRPORT BLVD, SUITE 111
MORRISVILLE, NC 27560

PREPARED BY:

Dewberry®
DEWBERRY ENGINEERS INC.
2610 WYCLIFF ROAD, SUITE 410
RALEIGH, NC 27607
NCBELS#: F-0929

SITE ID:
074-487

SITE NAME:
GUFFEY

SITE ADDRESS:
1633 COXE ROAD
RUTHERFORDTON, NC 28139

FA LOCATION:
10037722

SITE NUMBER:
N/A

SHEET TITLE
CIVIL DETAILS

SHEET NUMBER
C-8

NOTES:

REMOVE ALL TOPSOIL, ORGANIC MATERIAL, AND WET OR POOR SOILS ALONG ACCESS DRIVE.

CONTRACTOR TO REVIEW SITE CONDITIONS AND CONSULT GEOTECHNICAL REPORT FOR ANTICIPATED DEPTH OF SOILS THAT WILL REQUIRE REMOVAL IF POOR SOILS ARE ENCOUNTERED AT A DEPTH OF MORE THAN 12", CONTACT CONSTRUCTION MANAGER FOR GUIDANCE.

SUBGRADE TO BE COMPACTED TO 95% MODIFIED PROCTOR AND VERIFIED BY PROOF-ROLL OR GEOTECHNICAL RECOMMENDATIONS.

CONSULT GRADING PLAN OR SITE PLAN FOR FINAL SITE GRADES.

RESTORATION:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR GRAVEL ACCESS DRIVE REPAIR AND RESTORATION FOLLOWING CONSTRUCTION COMPLETION. ANY DISTRIBUTED OR DAMAGED AREAS SHALL BE RESTORED TO THEIR ORIGINAL OR BETTER CONDITION UPON COMPLETION OF WORK.

GRAVEL DRIVE REQUIREMENTS:

THICKNESS OF GRAVEL DRIVE BASE COURSE TO BE DETERMINED BASED ON THE PROPOSED SOIL BEARING CAPACITY (PER UFC DESIGN RECOMMENDATIONS):

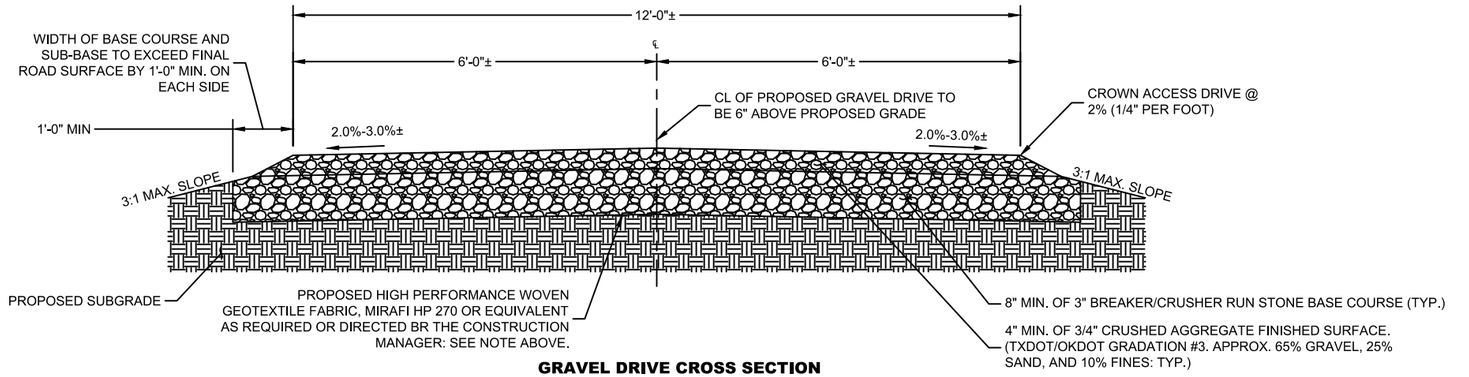
BEARING CAPACITY	REQ'D AGGREGATE THICKNESS
1000 PSF	*16" MIN.
1500 PSF	12" MIN.
2000 PSF	8" MIN. (SEE DETAIL)

*A HIGH PERFORMANCE, WOVEN GEOTEXTILE FABRIC MAY BE USED TO REPLACE 6" OF AGGREGATE (MIRAFI HP 270 OR EQUIVALENT)

IF POOR OR WET SOILS ARE PRESENT BELOW BASE COURSE, CONTRACTOR TO INSTALL 6" MIN. WELL-GRADED GRAVEL/SAND SUB-BASE TO FACILITATE ADEQUATE DRAINAGE AND STABILITY.

FOR ACCES DRIVE SLOPES GREATER THAN 10%, CONTRACTOR TO USE MIRAFI HP 270 OR EQUIVALENT GEOTEXTILE FABRIC.

CONSULT GEOTECHNICAL REPORT FOR ANTICIPATED SOIL CONDITIONS.



GRAVEL DRIVE CROSS SECTION

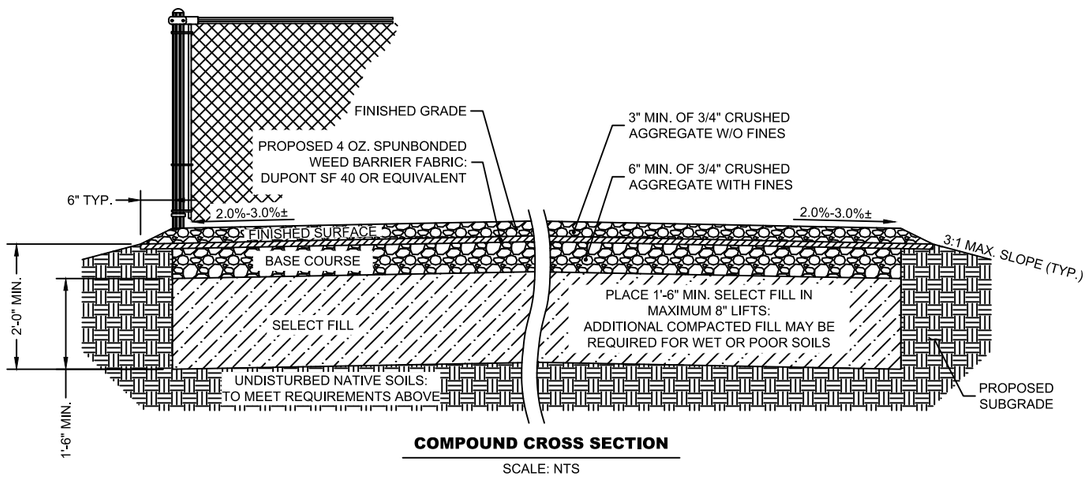
SCALE: NTS

NOTES:

REMOVE ALL TOPSOIL, ORGANIC MATERIAL, AND WET OR POOR SOILS ALONG ACCESS DRIVE. CONTRACTOR TO REVIEW SITE CONDITIONS AND CONSULT GEOTECHNICAL REPORT FOR ANTICIPATED DEPTH OF SOILS THAT WILL REQUIRE REMOVAL IF POOR SOILS ARE ENCOUNTERED AT A DEPTH OF MORE THAN 2'-0", CONTACT CONSTRUCTION MANAGER FOR GUIDANCE.

FINAL TOWER FOUNDATION DESIGN RECOMMENDATIONS TO SUPERCEDE GRADING PLAN OR SITE PLAN ELEVATIONS.

IF THE GOETECHNICAL REPORT PERMITS, USE ONSITE SOILS FOR SELECT FILL PROVIDED IT IS AVAILABLE AND FREE OF DELETERIOUS MATERIALS AND ORGANICS.



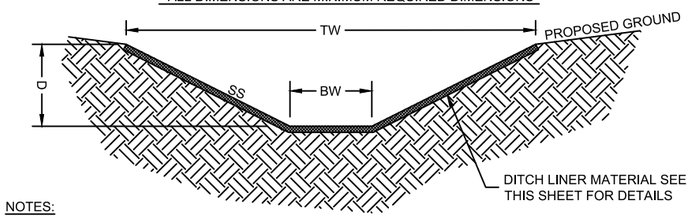
COMPOUND CROSS SECTION

SCALE: NTS

ID	TW	BW	MIN. D	SS	DITCH LINER MATERIAL
1	6'	2.0'	1.0'	3:1	NORTH AMERICAN GREEN C125, OR EQUIVALENT

*** CONTRACTOR TO REESTABLISH PROPOSED DITCH SHAPE BY CLEANING AND REMOVING DEBRIS

* ALL DIMENSIONS ARE MINIMUM REQUIRED DIMENSIONS*



NOTES:

1. REMOVE ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA AND DISPOSE OF PROPERLY (THE CHANNEL SECTION SHOULD BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH PREVENT NORMAL FLOW).
2. EXCAVATE AND SHAPE CHANNEL TO DIMENSIONS SHOWN ON PLANS. OVERCUT ENTIRE CHANNEL 0.2 FT TO ALLOW FOR BULKING DURING SEED BED PREPARATION AND GROWTH OF VEGETATION.
3. REMOVE AND PROPERLY DISPOSE OF EXCESS SOIL SO THAT SURFACE WATER MAY ENTER THE CHANNEL FREELY. AVOID WINDROWING SOIL ALONG CHANNEL BANKS
4. FILLS PLACED IN WATERWAYS SHOULD BE THOROUGHLY COMPACTED IN ORDER TO PREVENT UNEQUAL SETTLEMENT THAT COULD CAUSE DAMAGE IN THE COMPLETED WATERWAY.
5. PROTECT ALL CONCENTRATED INFLOW POINTS ALONG CHANNEL BY INSTALLING A TEMPORARY LINER, RIPRAP, SOD, OR OTHER APPROPRIATE MEASURES.
6. STABILIZE OUTLETS AND INSTALL SEDIMENT TRAPS AS NEEDED DURING CHANNEL INSTALLATION.
7. VEGETATE THE CHANNEL PER PERMANENT SEEDING SPECIFICATION (THIS SHEET) IMMEDIATELY AFTER GRADING. SMOOTH SLOPES FACILITATE MAINTENANCE.
8. CONTRACTOR TO MAXIMIZE "BW" AS SPACE ALLOWS.

STANDARD DITCH SECTION

SCALE: NTS

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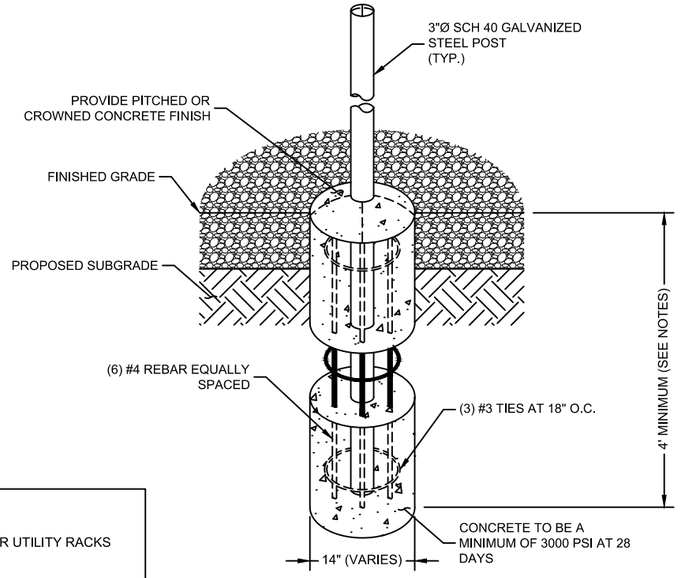


NOTES:

1. PIER REINFORCING USED FOR UTILITY RACKS AND ICE BRIDGE POSTS.
2. MAINTAIN 3" MINIMUM REBAR COVER IN ALL DIRECTIONS.
3. PIER FOUNDATION DEPTH TO BE A MINIMUM OF 48"; DEPTH TO EXCEED LOCAL FROST DEPTH.

PIER FOUNDATION DETAIL

SCALE: NTS

SPECIES	% OF MIXTURE	RATE
BAHIAGRASS	25%	25 LBS/ACRE (FLAT AREAS) 35-40 LBS/ACRE (DITCHES & SLOPES)
COMMON BERMUDAGRASS	25%	
ANNUAL RYEGRASS	20%	
WHITE PROSO MILLET	15%	
CRIMSON CLOVER	15%	
-	-	

SEEDBED PREPARATION:

1. REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM. FILL ANY EXISTING RILLS AND GULLIES.
2. IMMEDIATELY PRIOR TO SPREADING TOPSOIL, CORRECT PH OF THE SUBSOIL WITH LIME PER RECOMMENDATION OF SOILS TEST OR AT A RATE OF 2 TONS/ACRE OF GROUND AGRICULTURAL LIME. LOOSEN THE SUBGRADE OF THE SITE TO RECEIVE THE TOPSOIL BY DISKING OR SCARIFYING TO A DEPTH OF AT LEAST 2" TO ENSURE BONDING OF THE TOPSOIL AND SUBSOIL.
3. UNIFORMLY SPREAD TOPSOIL TO A DEPTH OF 6" MIN. MAINTAIN GRADES SHOWN ON CONSTRUCTION PLANS.
4. APPLY AGRICULTURAL LIME (IF NECESSARY) AND FERTILIZER (8-24-24 OR EQUIVALENT AT A RATE OF 750 LBS/ACRE) TO TOPSOIL UNIFORMLY AND MIX WITH SOIL.
5. CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM REASONABLY UNIFORM SEEDBED IS PREPARED 6 TO 8 INCHES DEEP AND LEAVE SMOOTH SEEDBED.
6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
8. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RE-SEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES. COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING AND MULCH.

SOIL AMENDMENTS

FOLLOW RECOMMENDATIONS OF SOIL TEST OR APPLY 2,000 LB/AC GROUND AGRICULTURAL LIMESTONE AND 750 LB/AC 8-24-24 FERTILIZER.

MULCH

APPLY 5,000 LB/AC STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NESTING, OR A MULCH ANCHORING TOOL. A DISC WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCHING ANCHORING TOOL.

MAINTENANCE

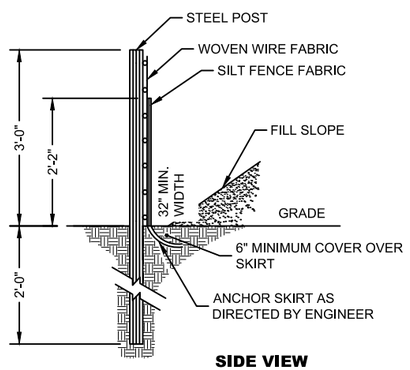
RE-FERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, RE-FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

PERMANENT SEEDING SPECIFICATION

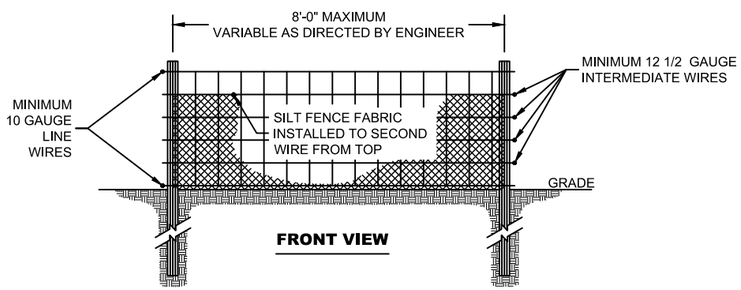
SCALE: NTS

NOTES:

1. USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW.



SIDE VIEW



FRONT VIEW

TEMPORARY SILT FENCE DETAIL

SCALE: NTS

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSICA M. ROBERTS

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RUTHERFORDTON, NC 28139

FA LOCATION:

10037722

SITE NUMBER:

N/A

SHEET TITLE

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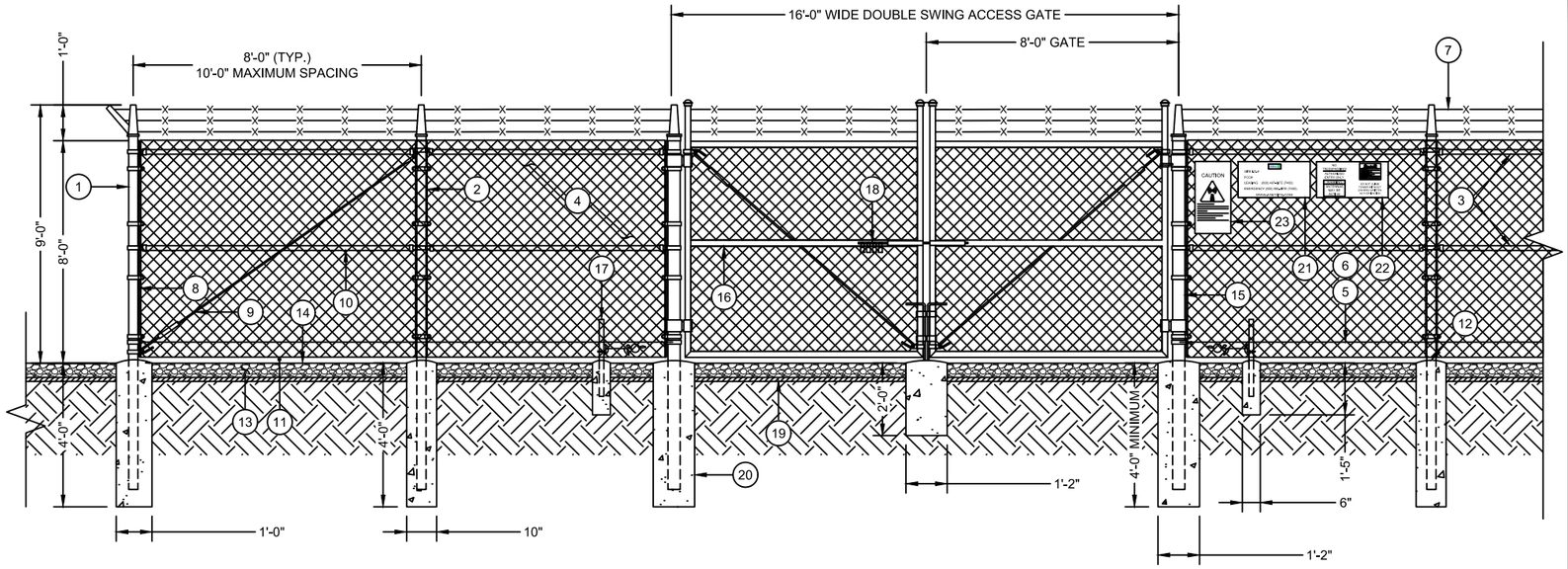
C-10

CALLOUTS:

1. 3" O.D. GALVANIZED STEEL SCHEDULE 40 CORNER POSTS (PER ASTM-F1083).
2. 2-1/2" NOMINAL GALVANIZED STEEL, SCHEDULE 40 INTERMEDIARY LINE POSTS (PER ASTM-F1083). LINE POSTS SHALL BE EQUALLY SPACED AT MAXIMUM 10' O.C.
3. 1-5/8" O.D. ROUND TOP RAIL & BRACE PIPE RAIL (PER ASTM-F1083).
4. 9 GAUGE FABRIC CORE WIRE WITH 2" MESH (TO CONFORM TO ASTM-A392).
5. 9 GAUGE ALUMINUM TIE WIRE. PROVIDE HOG RING FABRIC TIES SPACED 12" O.C. FOR POSTS AND GATES AND 24" O.C. FOR RAILS AND WIRE.
6. 9 GAUGE ALUMINUM TENSION WIRE.
7. 3 STRANDS 14 GAUGE BARBED WIRE WITH 4 POINT BARBS. SPACE BARBS APPROXIMATELY 5" O.C.
8. 3/16"x3/4" STRETCHER BAR; TO EXTEND FULL HEIGHT OF FENCE.
9. 3/8" DIAGONAL ROD WITH GALVANIZED STEEL TURNBUCKLE OR DIAGONAL THREADED ROD.
10. 1-5/8" DIAMETER CORNER POST BRACE.
11. MAINTAIN A 1" MAXIMUM CLEARANCE FROM FINISHED GRADE.
12. PROVIDE CROWNED/PITCHED FINISH FOR FENCE POST PIER FOUNDATIONS; TO EXTEND 1" ABOVE GRADE.
13. 6" CRUSHED STONE (TYP.).
14. FINISHED GRADE SHALL BE UNIFORM AND LEVEL.
15. 4" O.D. GALVANIZED STEEL SCHEDULE 40 GATE POSTS (PER ASTM-F1083).
16. 1-1/2" NOMINAL PIPE FOR GATE FRAME BRACE RAIL (PER ASTM F-1083).
17. DUCK BILL OPEN GATE HOLDER. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO INSTALLATION.
18. MULTI-TENTANT LOCKING DEVICE.
19. PROPOSED GEOTEXTILE FABRIC.
20. CONCRETE PIER FOUNDATION; TO ACHIEVE A MINIMUM STRENGTH OF 3000 PSI AT 28 DAYS. CONCRETE DEPTH TO BE A MINIMUM OF 6" BELOW FROST LINE (48" MINIMUM, TYP.).
21. 12"x24" SITE INFORMATION SIGN.
22. 12"x24" NO TRESPASSING SIGN.
23. 12"x24" RF CAUTION SIGN.

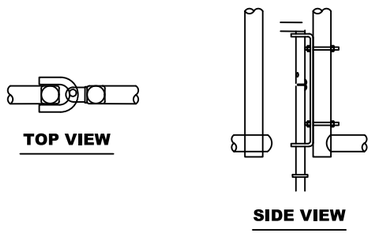


FENCING DETAIL

SCALE: NTS

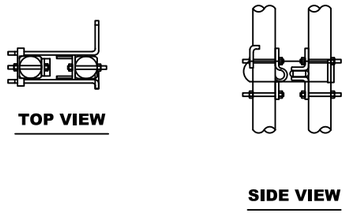
NOTES:

1. ALL FENCING TO BE INSTALLED PER ASTM F-567. ALL SWING GATES TO BE INSTALLED PER ASTM F-900.
2. BARBED WIRE PERMIT REQUIRED SHALL BE COMPLETED IF LOCAL ORDINANCE REQUIRES.
3. POST & GATE PIPE SIZES ARE INDUSTRY STANDARDS. ALL PIPE TO BE GALVANIZED (HOT DIP, ASTM A120 GRADE "A" STEEL). ALL GATE FRAMES SHALL BE WELDED. ALL WELDINGS SHALL BE COATED WITH (3) COATS OF GOLD GALV. (OR EQUAL). ALL OPEN POSTS SHALL HAVE END-CAPS.
4. ALL SIGNS MUST BE MOUNTED ON INSIDE OF FENCE FABRIC USING GALVANIZED HOG-RING WIRE.
5. MUSHROOM ANCHOR AND PLUNGER REQUIRED FOR GATE. GENERAL CONTRACTOR RESPONSIBLE FOR GATE LOCK.



DROP ROD ASSEMBLY DETAIL

SCALE: NTS



LATCH ASSEMBLY DETAIL

SCALE: NTS

MULTILOCK INSTALLATION:

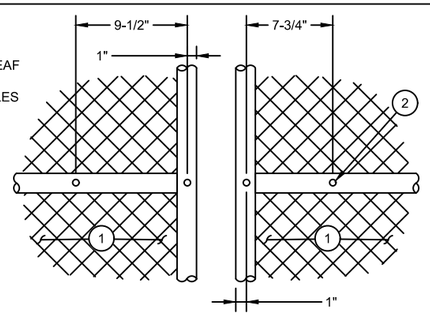
1. DRILL 3/8" HOLES IN THE GATE LEAF USING THE GATE DIMENSIONS PROVIDED.
2. SLIDE THE CARRIAGE BOLTS IN THE SLOTS ON THE BACK OF PART "B" AND PUSH THE BOLTS THROUGH THE HOLES DRILLED IN THE GATE FIGURE. PUT THE NUT AND THE LOCKNUT ON AND TIGHTEN AND CUT THE EXCESS BOLT OFF. DO THE SAME WITH PART "A".
3. ADD THE NUMBER OF SLEEVES NEEDED FOR THE NUMBER OF LOCKS AND SLIDE THE LOCKING BAR INTO PLACE THROUGH BOTH PART "A" AND PART "B". NOW INSTALL THE LOCKS.
4. IF THE GATE HAS NO CENTER BAR IN THE GATE LEAF YOU MAY NEED TO MOUNT THE STYMIELOCK VERTICALLY USING THE SAME DIMENSIONS GIVEN ON THE GATE FACE.
5. VERTICAL APPLICATION MAY ALSO BE USED ON SLIDING GATES WITH MULTIPLE LOCKS.

GATE LOCK ASSEMBLY:

1. "STYMIELOCK" MULTILOCKING DEVICE OR APPROVED EQUAL.

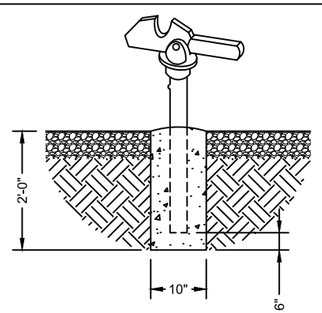
CALLOUTS:

1. GATE LEAF
2. 3/8" HOLES (TYP.)



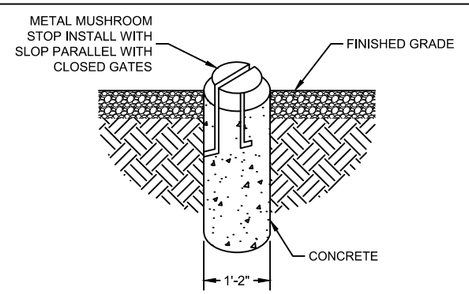
GATE FACE - ACCOMODATING MULTI-TENTANT LOCK

SCALE: NTS



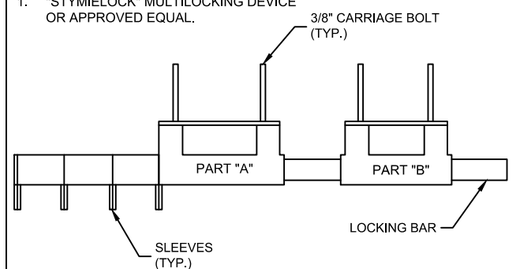
GATE KEEPER DETAIL

SCALE: NTS



MUSHROOM STOP DETAIL

SCALE: NTS



GATE LOCK ASSEMBLY DETAIL

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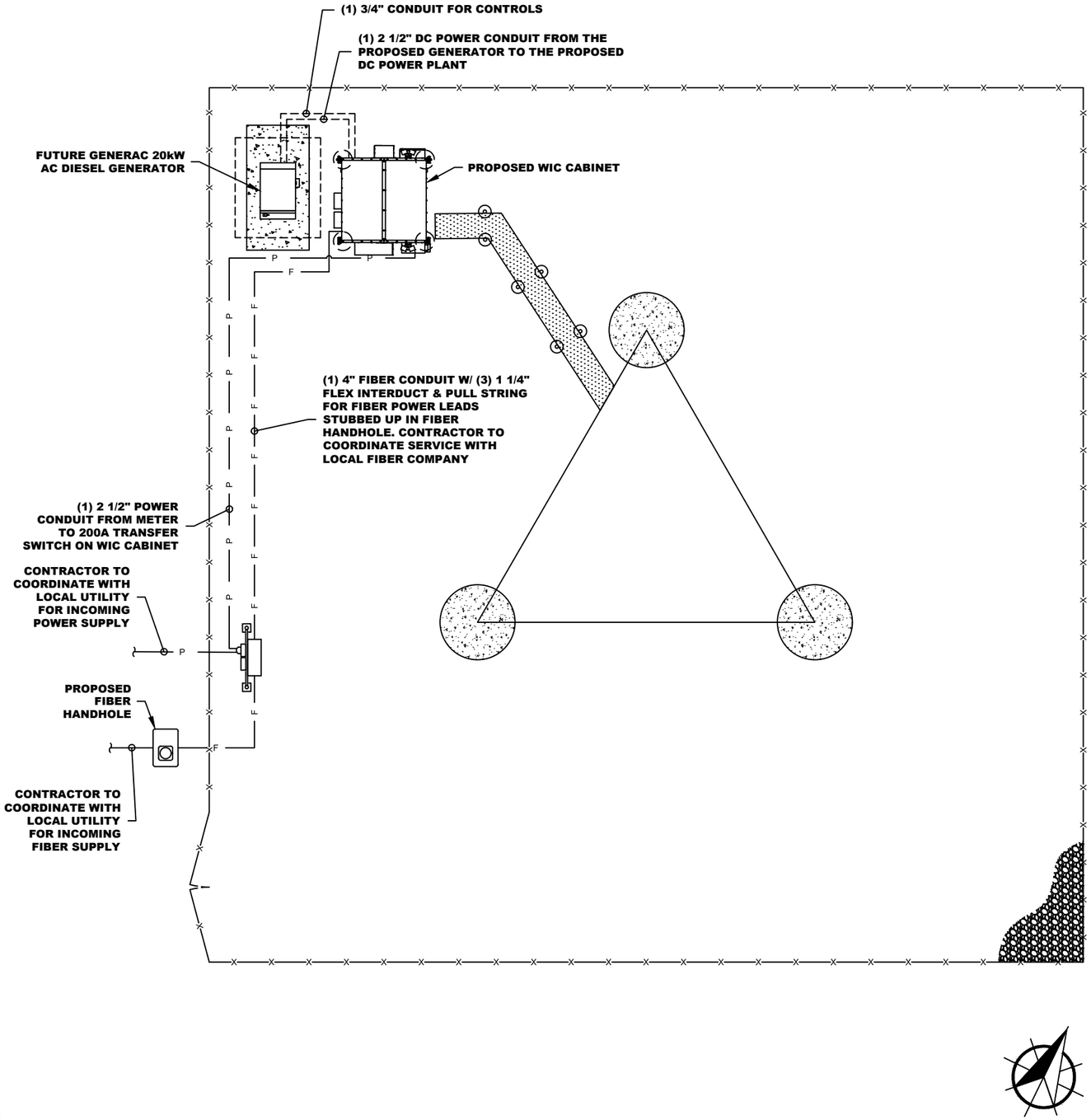
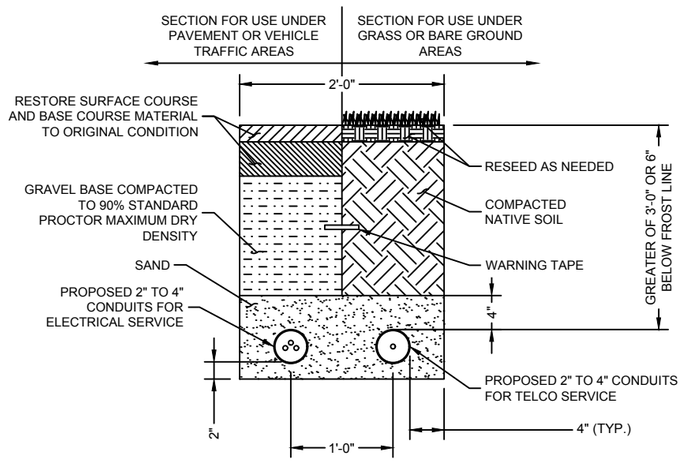


0 10' 20'

1" = 10'-0"

SERVICE ROUTING PLAN

11"x17" SCALE: 1" = 10'-0"

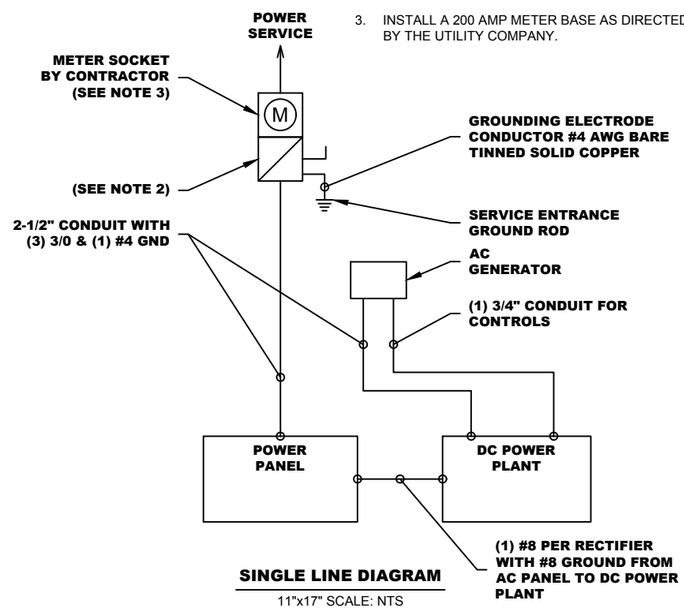


JOINT UTILITY TRENCH DETAIL

SCALE: NTS

SINGLE LINE DIAGRAM NOTES:

1. ELECTRICAL SERVICE SHALL BE 120/240V, 1Ø, 3W, 200A.
2. PROVIDE SRVICE ENTRNCE RATED CIRCUIT BREAKER TYPE DISCONNECT SWITCH.
3. INSTALL A 200 AMP METER BASE AS DIRECTED BY THE UTILITY COMPANY.



SINGLE LINE DIAGRAM

11"x17" SCALE: NTS
24"x36" SCALE: NTS

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SHEET TITLE
SERVICE ROUTING & SINGLE LINE DIAGRAM

SHEET NUMBER
E-1

ELECTRICAL NOTES:

SCOPE:

1. PROVIDE LABOR, MATERIALS, INSPECTION, AND TESTING TO PROVIDE CODE COMPLIANCE FOR ELECTRIC, TELEPHONE, AND GROUNDING/LIGHTNING SYSTEMS.

CODES:

1. THE INSTALLATION SHALL COMPLY WITH APPLICABLE LAWS AND CODES. THESE INCLUDE BUT ARE NOT LIMITED TO THE LATEST ADOPTED EDITIONS OF:
   A. THE NATIONAL ELECTRICAL SAFETY CODE
   B. THE NATIONAL ELECTRIC CODE - NFPA-70
   C. REGULATIONS OF THE SERVING UTILITY COMPANY
   D. LOCAL AND STATE AMENDMENTS
   E. THE INTERNATIONAL ELECTRIC CODE - IEC (WHERE APPLICABLE)
2. 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 THE EQUIPMENT AND SYSTEMS TO MEET SPECIFIED PERFORMANCE REQUIREMENTS. THE 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 AND WITHOUT EXPENSE TO THE OWNER.
2. THE WARRANTEE CERTIFICATES & GUARANTEES FURNISHED BY THE MANUFACTURERS SHALL BE TURNED OVER TO THE OWNER.

UTILITY CO-ORDINATION:

1. CONTRACTOR SHALL COORDINATE WORK WITH THE POWER AND TELEPHONE COMPANIES AND SHALL COMPLY WITH THE 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 THE CONDITIONS AFFECTING THE PROPOSED ELECTRICAL INSTALLATION AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. FAILURE TO COMPLY WITH THE INTENT OF THIS SECTION WILL IN NO WAY RELIEVE THE CONTRACTOR OF PERFORMING THE WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM OR SYSTEMS.

CUTTING, PATCHING AND EXCAVATION:

1. COORDINATION OF SLEEVES, CHASES, ETC., BETWEEN SUBCONTRACTORS WILL BE REQUIRED PRIOR TO THE CONSTRUCTION OF ANY PORTION OF THE WORK. CUTTING AND PATCHING OF WALLS, PARTITIONS, FLOORS, AND CHASES IN CONCRETE, WOOD, STEEL OR MASONRY SHALL BE DONE AS PROVIDED ON THE DRAWINGS.
2. NECESSARY EXCAVATIONS AND BACKFILLING INCIDENTAL TO THE ELECTRICAL WORK SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWING.
3. SEAL PENETRATIONS THROUGH RATED WALLS, FLOORS, ETC., WITH APPROVED METHOD AS LISTED BY UL.

RACEWAYS / CONDUITS GENERAL:

1. CONDUCTORS SHALL BE INSTALLED IN LISTED RACEWAYS. CONDUIT SHALL BE RIGID STEEL, EMT, SCH40 PVC, OR SCH80PVC AS INDICATED ON THE DRAWINGS. THE RACEWAY SYSTEM SHALL BE COMPLETE COMPLETE BEFORE INSTALLING CONDUCTORS.
2. EXTERIOR RACEWAYS AND GROUNDING SLEEVES SHALL BE SEALED AT POINTS OF ENTRANCE AND EXIT. THE RACEWAY SYSTEM SHALL BE BONDED PER NEC.

EXTERIOR CONDUIT:

1. EXPOSED CONDUIT SHALL BE NEATLY INSTALLED AND RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS. SUPPORTS AND MOUNTING HARDWARE SHALL BE HOT DIPPED GALVANIZED STEEL.
2. WHERE INSTALLED ON EXTERIOR STRUCTURES OR EXPOSED TO DAMAGE, THE CONDUIT SHALL BE RIGID STEEL.
3. UNDERGROUND CONDUITS SHALL BE RIGID STEEL, SCH40 PVC, OR SCH80 PVC AS INDICATED ON THE DRAWINGS.
4. BURIAL DEPTH OF CONDUITS SHALL BE AS REQUIRED BY CODE FOR EACH SPECIFIC CONDUIT TYPE AND APPLICATION, BUT SHALL NOT BE LESS THAN THE FROST DEPTH AT THE SITE.
5. CONDUIT ROUTES ARE SCHEMATIC. CONTRACTOR SHALL FIELD VERIFY ROUTES BEFORE BID. COORDINATE ROUTE WITH WIRELESS CARRIER AND/OR BUILDING OWNER.

INTERIOR CONDUIT:

1. CONCEALED CONDUIT IN WALLS OR INTERIOR SPACES ABOVE GRADE MAY BE EMT.
2. CONDUIT RUNS SHALL USE APPROVED COUPLINGS AND CONNECTORS. PROVIDE INSULATED BUSHING FOR ALL CONDUIT TERMINATIONS. CONDUIT RUNS IN A WET LOCATION SHALL HAVE WATERPROOF FITTINGS.
3. PROVIDE SUPPORTS FOR CONDUITS IN ACCORDANCE WITH NEC REQUIREMENTS. CONDUITS SHALL BE SIZED AS REQUIRED BY NEC.

EQUIPMENT:

1. DISCONNECT SWITCHES SHALL BE SERVICE ENTRANCE RATED, HEAVY DUTY TYPE.
2. CONTRACTOR SHALL VERIFY MAXIMUM AVAILABLE FAULT CURRENT AND COORDINATE INSTALLATION WITH THE LOCAL UTILITY BEFORE STARTING WORK. CONTRACTOR WILL VERIFY THAT EXISTING CIRCUIT BREAKERS ARE RATED FOR MORE THAN AVAILABLE FAULT CURRENT AND REPLACE AS NECESSARY.
3. NEW CIRCUIT BREAKERS SHALL BE RATED TO WITHSTAND THE MAXIMUM AVAILABLE FAULT CURRENT AS DETERMINED BY THE LOCAL UTILITY.

CONDUCTORS:

1. FURNISH AND INSTALL CONDUCTORS SPECIFIED IN THE DRAWINGS. CONDUCTORS SHALL BE COPPER AND SHALL HAVE TYPE THWN (MIN) (75° C) INSULATION, RATED FOR 600 VOLTS.
2. THE USE OF ALUMINUM CONDUCTORS SHALL BE LIMITED TO THE SERVICE FEEDERS INSTALLED BY THE UTILITY.
3. CONDUCTORS SHALL BE PROVIDED AND INSTALLED AS FOLLOWS:
   A. MINIMUM WIRE SIZE SHALL BE #12 AWG.
   B. CONDUCTORS SIZE #8 AND LARGER SHALL BE STRANDED. CONDUCTORS SIZED #10 AND #12 MAY BE SOLID OR STRANDED.
   C. CONNECTION FOR #10 AWG #12 AWG 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. CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH NEC STANDARDS.

UL COMPLIANCE:

1. ELECTRICAL MATERIALS, DEVICES, CONDUCTORS, APPLIANCES, AND EQUIPMENT SHALL BE LABELED/LISTED BY UL OR ACCEPTED BY JURISDICTION (I.E., LOCAL COUNTY OR STATE) APPROVED THIRD PARTY TESTING AGENCY.

GROUNDING:

1. 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 AT A SINGLE POINT.
2. PROVIDE GROUND CONDUCTOR IN RACEWAYS PER NEC.
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, RADIO EQUIPMENT MANUFACTURERS, AND MOTOROLA R56 (AS APPLICABLE).

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 (HAL0)
KW	-	KILOWATTS
NEC	-	NATIONAL ELECTRIC CODE
PCS	-	PERSONAL COMMUNICATION SYSTEM
PH	-	PHASE
PNL	-	PANEL
PNLBD	-	PANELBOARD
PVC	-	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

P	UNDERGROUND ELECTRICAL CONDUIT
F	UNDERGROUND FIBER CONDUIT
	KILOWATT-HOUR METER
	UNDERGROUND BONDING AND GROUNDING CONDUCTOR.
	GROUND ROD
	COMPRESSION TYPE CONNECTIONS
	EXOTHERMIC TYPE CONNECTIONS
	GROUND ROD WITH INSPECTION WELL

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSICA M. FORSTER
06/26/2019

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CHECKED BY:	DSW
APPV'D BY:	JME
DEWBERRY PROJECT NO:	50107723

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at&t

PREPARED BY:
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FA LOCATION:
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SITE NUMBER:
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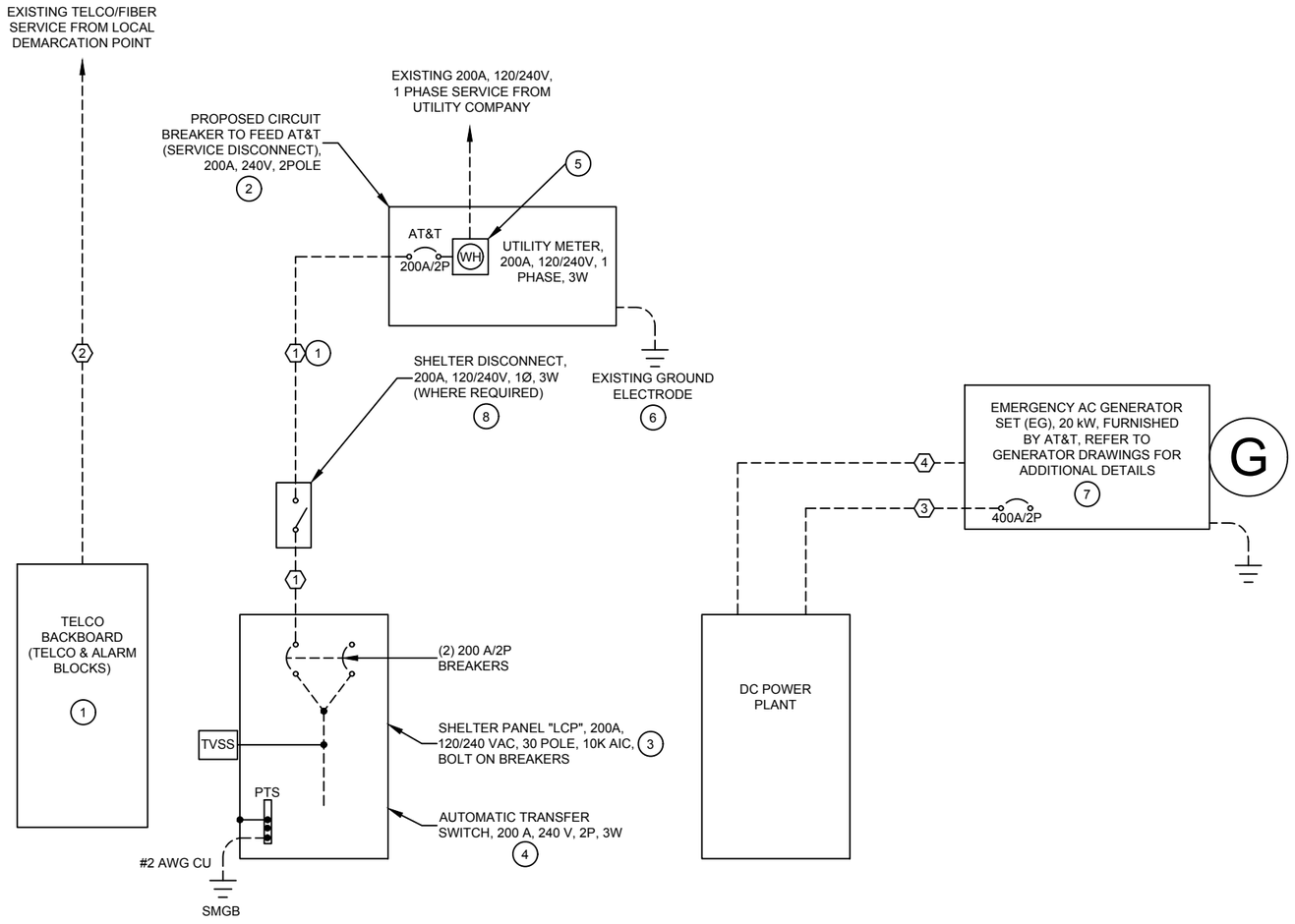
SHEET TITLE
ELECTRICAL NOTES

SHEET NUMBER
E-2



CABLE AND CONDUIT SCHEDULE

MARK	CONDUIT			WIRES EACH CONDUIT			EQUIPMENT			FROM	TO	RESPONSIBILITY	REMARKS
	QTY.	SIZE	TYPE	QTY.	SIZE	GROUND SIZE	VOLTS	AMPS	SUB. CAT.				
1	1	0'-2 1/2"	PVC	3	#3/0	#4	240	200	AC POWER	SVC DISC	PNL	MASTEC	POWER TO SHELTER, SEE NOTE 8
2	1	0'-4"	PVC	WITH (3) 1" INNERDUCTS - (1) 25 PR CAT 5e SHIELDED - 3#12 FOR DC POWER FOR FIBER					TELCO	HAND HOLE	FLX12	MASTEC	25 PAIR AND 24 VDC POWER FOR FIBER
3	1	2-1/2"	PVC	3	#3/0	#4	-48	400	DC POWER	GEN DISC	DC POWER PLANT	MASTEC	GENERATOR POWER TO SHELTER, NOTE 8
4	1	1"	PVC	(7) #14 AND BELDEN						CNTL PNL	ATS	MASTEC	GENERATOR ALARM/CONTROL

FAULT CURRENT SUMMARY TABLE

FAULT LOCATION	AVAILABLE FAULT CURRENT (AMPS RMS SYMMETRICAL)		
	SCA L-L	SCA L-N	REMARKS
TRANSFORMER SECONDARY (*)	13,021	19,533	ASSUMING INFINITE AVAILABLE ON PRIMARY
METER CENTER	10,935	12,420	IMPEDANCE - 40' INCOMING SERVICE CONDUCTORS
SHELTER MAIN CIRCUIT BREAKER	8,021	6,805	IMPEDANCE - 50' FEEDER CONDUCTORS, MC TO SHELTER

PANEL SCHEDULE

11"x17" SCALE: NTS

GENERAL NOTES:

1. CONTRACTOR SHALL COORDINATE INCOMING SERVICES WITH LOCAL UTILITIES PRIOR TO TRENCHING.
2. ALL CONDUCTORS SHALL BE COPPER, 75° C RATED (MIN.), AND CONDUCTOR INSULATION SHALL BE THWN OR THHN.
3. ALL TERMINATIONS SHALL BE LISTED AND IDENTIFIED FOR USE WITH 75° C RATED CONDUCTORS OPERATING AT 75°C.
4. GROUND FAULT PROTECTION REQUIRED FOR UTILITY RECEPTACLES.
5. SERVICE NEUTRAL SHALL BE GROUNDED AT ONE LOCATION ONLY.
6. WHITE/NEUTRAL, GREEN/GROUND SHALL BE MAINTAINED THROUGHOUT THE SITE ELECTRICAL SYSTEM (TAPE WILL NOT BE ACCEPTABLE).
7. EQUIPMENT LOCATED OUTSIDE OR EXPOSED TO MOISTURE SHALL BE NEMA 3R RATED.
8. CONTRACTOR SHALL USE RIGID METAL CONDUIT (RMC) OR INTERMEDIATE METAL CONDUIT (IMC) WHERE POWER CONDUITS ARE EXPOSED, OTHERWISE ALL CONDUITS SHALL BE SCHEDULE 80 PVC, UNLESS OTHERWISE NOTED.
9. ALL NEWLY INSTALLED EQUIPMENT SHALL BE RATED AT 10K AIC MINIMUM. HIGHER RATINGS SHALL BE REQUIRED WHERE AVAILABLE FAULT CURRENT EXCEEDS THIS VALUE. EXACT FAULT CURRENT AVAILABLE SHALL BE COORDINATED WITH LOCAL UTILITY BASED ON EXACT CONDITIONS (TRANSFORMER SIZE, PERCENT IMPEDANCE, LENGTH OF CONDUCTORS, ETC.).

NOTES BY SYMBOL:

(1) CONTRACTOR SHALL FURNISH AND INSTALL POWER CONDUCTORS FROM METER CENTER TO SHELTER. METER WILL BE FURNISHED AND INSTALLED BY LOCAL UTILITY COMPANY.

(2) CONTRACTOR SHALL PROVIDE AND INSTALL CIRCUIT BREAKER IN METER CENTER TO FEED AT&T SHELTER. CIRCUIT BREAKER SHALL BE 200A, 240V, 2 POLE, TYP AND AIC RATING SHALL MATCH EXISTING.

(3) CONTRACTOR SHALL PROVIDE ALL CIRCUIT BREAKERS REQUIRED TO FEED AT&T EQUIPMENT. CONTRACTOR SHALL LABEL ALL CIRCUIT BREAKERS WITH RESPECT TO WHAT THEY FEED.

(4) LOAD CENTER IS EQUIPPED WITH TRANSFER SWITCH FOR GENERATOR CONNECTIONS. BREAKERS ARE INTERLOCKED TO ALLOW ONLY 1 BREAKER CLOSED AT ANY GIVEN TIME.

(5) CONTRACTOR SHALL PROVIDE AND INSTALL NAMEPLATE ON METER TO INDICATE "AT&T". NAMEPLATES SHALL BE PHENOLIC, WHITE LETTERS ON BLACK BACKGROUND.

(6) CONTRACTOR SHALL BOND NEUTRAL TO GROUND AT ONE LOCATION ONLY PER NEC 250 AND LOCAL CODE REQUIREMENTS.

(7) DO NOT BOND GENERATOR NEUTRAL TO GROUND OR GENERATOR FRAME. GENERATOR NEUTRAL IS BONDED TO SERVICE ENTRANCE NEUTRAL BOND VIA SOLIDLY GROUNDED ATS (OPEN TRANSITION, FLOATING NEUTRAL AT GENERATOR)

(8) DISCONNECT IS FURNISHED WITH SHELTER. ON SITES WHERE SERVICE IS OBTAINED FROM AN EXISTING SOURCE (METER CENTER), OR SERVICE DISCONNECT IS LOCATED ON EQUIPMENT RACK, SHELTER DISCONNECT MAY BE OMITTED.

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSICA M. ROBERTS
06/26/2019

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NCBELS#: F-0929

SITE ID:
074-487

SITE NAME:
GUFFEY

SITE ADDRESS:
1633 COXE ROAD
RUTHERFORDTON, NC 28139

FA LOCATION:
10037722

SITE NUMBER:
N/A

SHEET TITLE
SINGLE LINE DIAGRAM

SHEET NUMBER
E-3

NOTES:

1. SERVICE BOND IS TO BE MADE BY DEVICES (STRAPS, SCREWS, ETC.) SUPPLIED BY EQUIPMENT MANUFACTURER. IF NO SUCH DEVICE IS SUPPLIED, BOND IS TO BE MADE IN ACCORDANCE WITH NEC ARTICLE 250.
2. CONDUCTOR OVERCURRENT PROTECTION DEVICES ARE SELECTED IN ACCORDANCE WITH NEC ARTICLE 240-3.
3. CONDUCTOR SIZING IS SELECTED FROM NEC ARTICLE 310-16.
4. ALL LUGS THAT HOLD MORE THAN ONE WIRE SHALL BE LISTED FOR MULTI-BARRELL CONNECTIONS.
5. ALL CONDUCTORS SHALL BE INSULATED THHN WIRE.

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
RECTIFIER #1	2000		10	2	30	1	A	2	20	1	12	180		EXT. GFCI OUTLETS
		2000				3	B	4	30	2	10		2000	RECTIFIER #2
RECTIFIER #3	2000		10	2	30	5	A	6				2000		
		2000				7	B	8	30	2	10		2000	RECTIFIER #4
RECTIFIER #5	2000		10	2	30	9	A	10				2000		
		2000				11	B	12						FUTURE RECTIFIERS
FUTURE RECTIFIERS						13	A	14						
						15	B	16						
						17	A	18						
						19	B	20						
						21	A	22						
						23	B	24						
1 TON AC UNIT	3504		12	2	20	25	A	26						
		3504				27	B	28	20	1	12		70	EXT. FLOOD LIGHTS
APPLIANCE OUTLETS	480		12	1	20	29		30						
VOLT AMPS	**9984**	**9504**										**6180**	**6070**	**VOLT AMPS**

L1 VOLT AMPERES	**16644 13574**	**L2 VOLT AMPERES**
	31738	**TOTAL VOLT AMPERES**
	132.20	**TOTAL AMPS**
	165.3	**AMPS x +25%**
	181.8	**x +10% FOR MAIN**

WIC PANEL SCHEDULE

11"x17" SCALE: NTS

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSICA M. ROBERTS

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CHECKED BY: DSW
APPV'D BY: JME
DEWBERRY PROJECT NO: 50107723

PREPARED FOR:
at&t

PREPARED BY:
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FA LOCATION:
10037722

SITE NUMBER:
N/A

SHEET TITLE
PANEL SCHEDULE

SHEET NUMBER
E-4

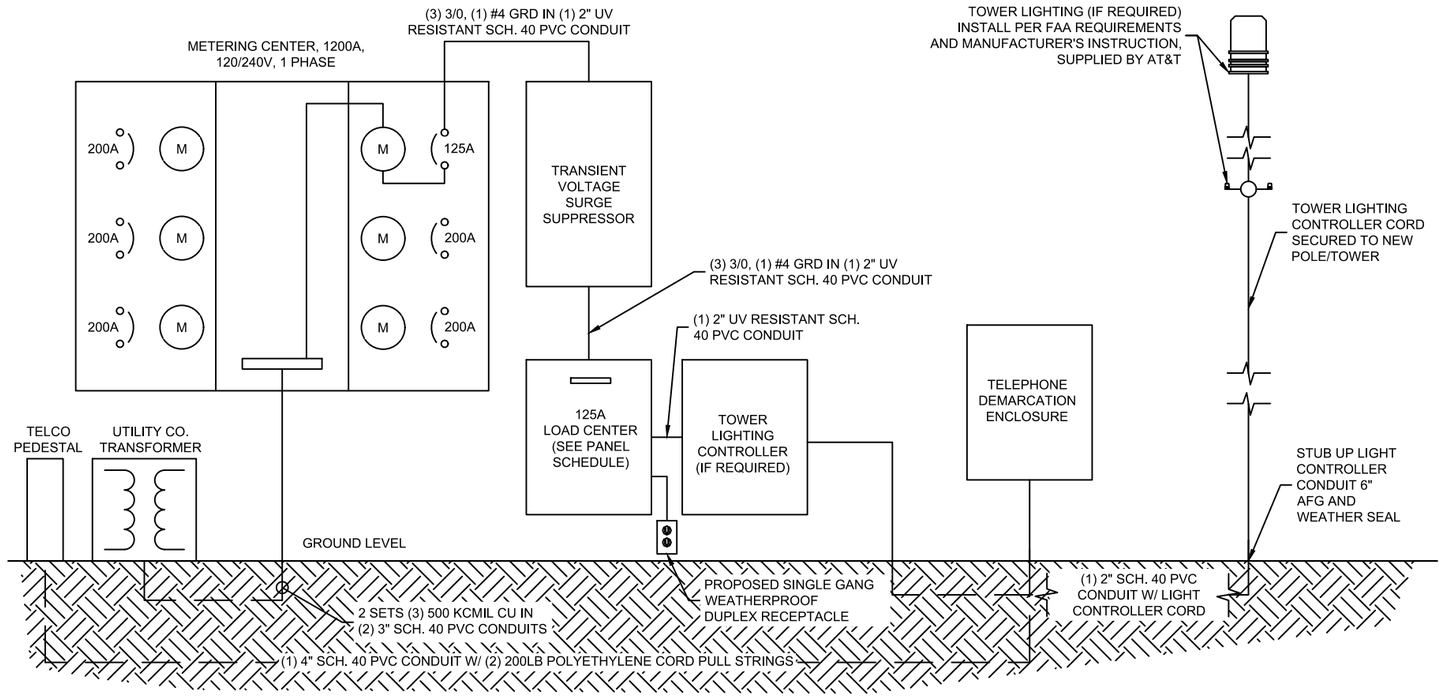
LOAD PER PHASE (VA)		AT&T PANEL SCHEDULE							LOAD PER PHASE (VA)	
PHASE		MAIN: 125A MAIN LUGS FEEDER:			VOLTAGE: 120/240V PHASE: 1 WIRE: 3 INTERRUPT RATING: 10 KAIC ENCLOSURE: NEMA 3R				PHASE	
A	B	CIRCUIT DESCRIPTION	BREAKER	WIRE	NO.	NO.	WIRE	CIRCUIT DESCRIPTION	A	B
-	-	TOWER LIGHTING CONTROLLER	20A	#12	1	2	-	SPARE	-	-
-	-	DUPLEX RECEPTACLE	20A	#10	3	4	-	SPARE	-	-
-	-	SPARE	-	-	5	6	-	SPARE	-	-
-	-	SPARE	-	-	7	8	-	SPARE	-	-
-	-	SPARE	-	-	9	10	-	SPARE	-	-
-	-	SPARE	-	-	11	12	-	SPARE	-	-

TOWER LIGHTING PANEL SCHEDULE

SCALE: N.T.S.

NOTES:

1. SERVICE BOND IS TO BE MADE BY DEVICES (STRAPS, SCREWS, ETC.) SUPPLIED BY EQUIPMENT MANUFACTURER. IF NO SUCH DEVICE IS SUPPLIED, BOND IS TO BE MADE IN ACCORDANCE WITH NEC ARTICLE 250.
2. CONDUCTOR OVERCURRENT PROTECTION DEVICES ARE SELECTED IN ACCORDANCE WITH NEC ARTICLE 240-3.
3. CONDUCTOR SIZING IS SELECTED FROM NEC ARTICLE 310-16.
4. ALL LUGS THAT HOLD MORE THAN ONE WIRE SHALL BE LISTED FOR MULTI-BARRELL CONNECTIONS.
5. ALL CONDUCTORS SHALL BE INSULATED THHN WIRE.



ELECTRICAL SINGLE-LINE DIAGRAM

SCALE: N.T.S.

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSICA M. ROBERTS
06/26/2019

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NCBELS#: F-0929

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074-487

SITE NAME:
GUFFEY

SITE ADDRESS:
1633 COXE ROAD
RUTHERFORDTON, NC 28139

FA LOCATION:
10037722

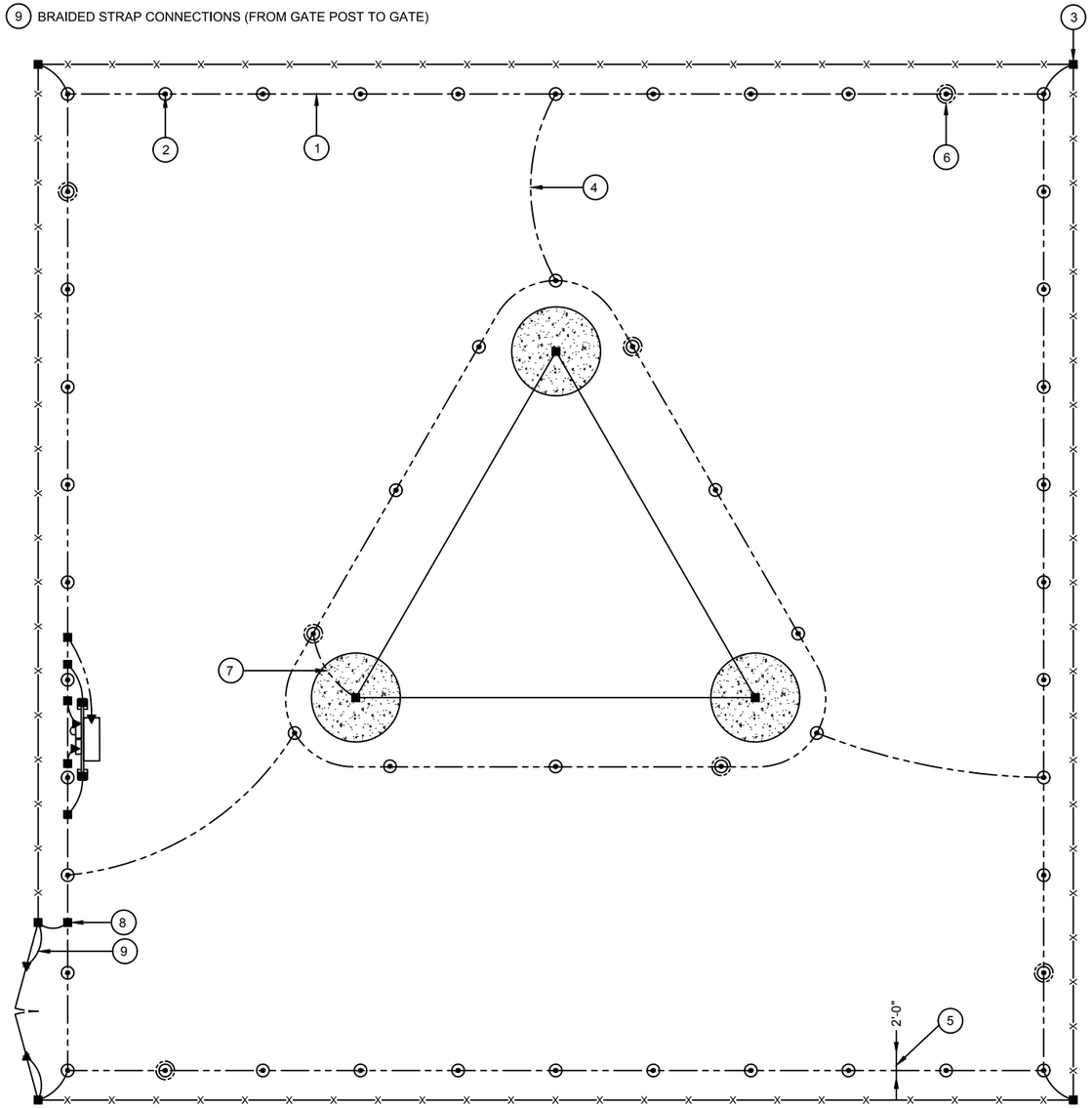
SITE NUMBER:
N/A

SHEET TITLE
SINGLE LINE DIAGRAM & TOWER LIGHTING

SHEET NUMBER
E-5

CALLOUTS:

1. #2 SOLID BARE TINNED COPPER CONDUCTOR 42" BELOW GRADE OR 6" BELOW FROST LINE, WHICH EVER IS GREATER (TYP.) MINIMUM 24" BENDING RADIUS
2. 5/8"x10' COPPER CLAD GROUND ROD (MAX. 8' APART)
3. GROUND ALL CORNER POSTS
4. BOND PROPOSED TOWER GROUND RING TO PROPOSED COMPOUND GROUND RING WITH #2 SOLID BARE TINNED COPPER CONDUCTOR IN (3) LOCATIONS
5. PERIPHERAL GROUND RING SHOULD BE INSTALLED 1'-2' INSIDE FENCE LINE, THE TOWER GROUND RING SHOULD BE INSTALLED A MINIMUM OF 2' OFF ANY STRUCTURE
6. 5/8"Ø 10' LONG COPPER CLAD GROUND ROD WITH INSPECTION WELL, TOP OF GROUND ROD MAX 24" BURY (MIN. (4) PER COMPOUND)
7. BOND TOWER TO TOWER GROUND RING WITH #2 SOLID BARE TINNED COPPER CONDUCTOR IN (1) LOCATION
8. #2 SOLID BARE TINNED COPPER LEADS (FROM GATE POST TO COMPOUND GROUND RING)
9. BRAIDED STRAP CONNECTIONS (FROM GATE POST TO GATE)

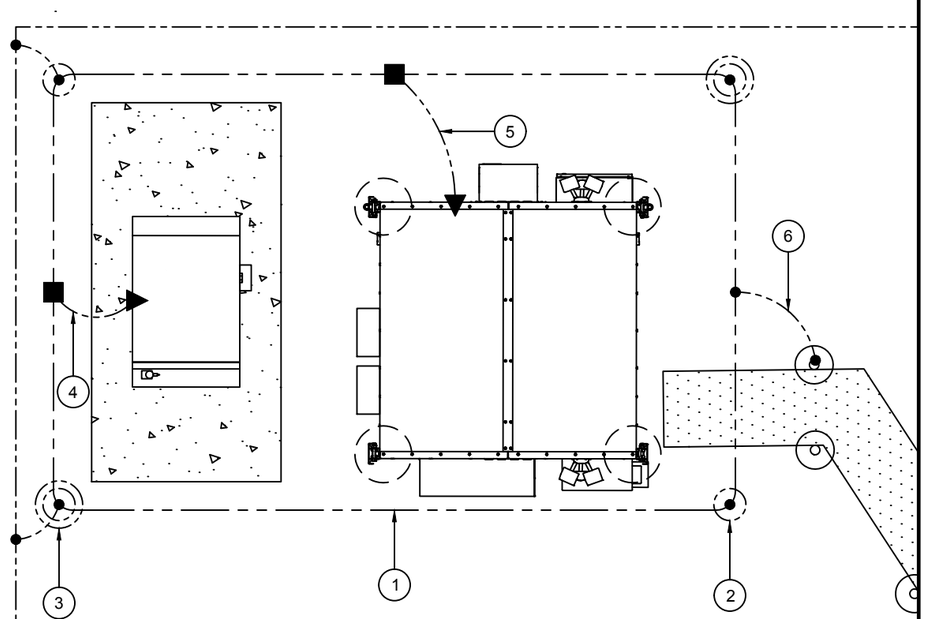


COMPOUND GROUNDING DETAIL

SCALE: NTS

CALLOUTS:

1. #2 SOLID BARE TINNED COPPER CONDUCTOR 30" BELOW GRADE OR 6" BELOW FROST LINE, WHICH EVER IS GREATER (TYP.) MINIMUM 24" BENDING RADIUS
2. 5/8"x10' COPPER CLAD GROUND ROD (MAX. 8' APART)
3. 5/8"Ø 10' LONG COPPER CLAD GROUND ROD WITH INSPECTION WELL, TOP OF GROUND ROD MAX 24" BURY (MIN. (4) PER COMPOUND)
4. #2 AWG GENERATOR BOND BURIED 30" BELOW GRADE OR 6" BELOW FROST LINE, WHICHEVER IS GREATER (TYP.) MINIMUM 24" BENDING RADIUS
5. #2 AWG CABINET BOND BURIED 30" BELOW GRADE OR 6" BELOW FROST LINE, WHICHEVER IS GREATER (TYP.) MINIMUM 24" BENDING RADIUS
6. #2 AWG ICE BRIDGE BOND BURIED 30" BELOW GRADE OR 6" BELOW FROST LINE, WHICHEVER IS GREATER (TYP.) MINIMUM 24" BENDING RADIUS



EQUIPMENT GROUNDING DETAIL

SCALE: NTS

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSICA M. ROBERTS

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SHEET TITLE

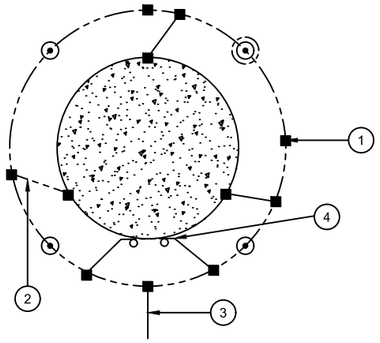
GROUNDING PLAN DETAILS

SHEET NUMBER

G-1

CALLOUTS:

1. #2 SOLID BARE TINNED COPPER CONDUCTOR 42" BELOW GRADE OR 6" BELOW FROST LINE, WHICH EVER IS GREATER (TYP.) MINIMUM 24" BENDING RADIUS
2. BOND TOWER TO TOWER GROUND RING WITH #2 SOLID BARE TINNED COPPER CONDUCTOR IN (3) LOCATIONS
3. BOND PROPOSED TOWER GROUND RING TO PROPOSED COMPOUND GROUND RING WITH #2 SOLID BARE TINNED COPPER CONDUCTOR IN (2) LOCATIONS
4. TOWER GROUND BAR

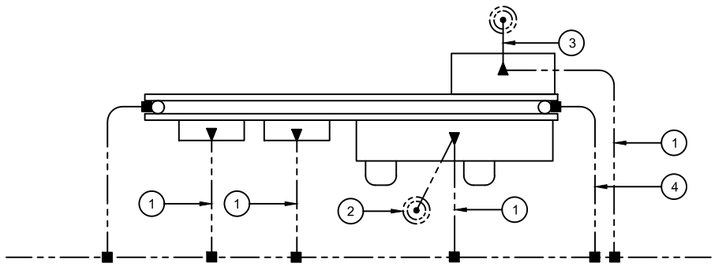


TOWER GROUNDING DETAIL

SCALE: NTS

CALLOUTS:

1. PROVIDE AN EXTERNAL #2 TINNED COATED GROUND LEAD FROM GROUND RING TO ALL METAL CABINETS ON UTILITY BACKBOARD (TELCO, ELECTRIC, BREAKER PANELS, METER RACKS, JUNCTION BOXES, ETC.) SLEEVED IN CONDUIT FROM JUST BELOW GRADE TO SAND CABINETS USING BURNDY TYPE 2 LONG BARREL LUGS WITH NO-OK OR COPPER SHIELD
2. BOND THE #6 GREEN INSULATED CONDUCTOR FROM METER PANEL AND DISCONNECT TO SEPARATE GROUND
3. BOND THE #6 GREEN INSULATED CONDUCTOR FROM TELCO BOX AND DISCONNECT TO SEPARATE GROUND
4. BOND THE #2 SOLID BARE TINNED COPPER LEADS FROM H-FRAME & CADWELD TO COMPOUND GROUND RING

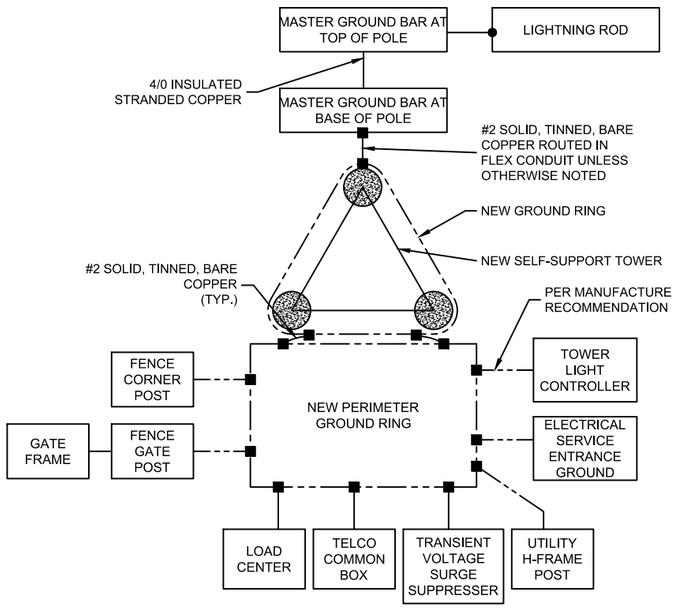


H-FRAME GROUNDING DETAIL

SCALE: NTS

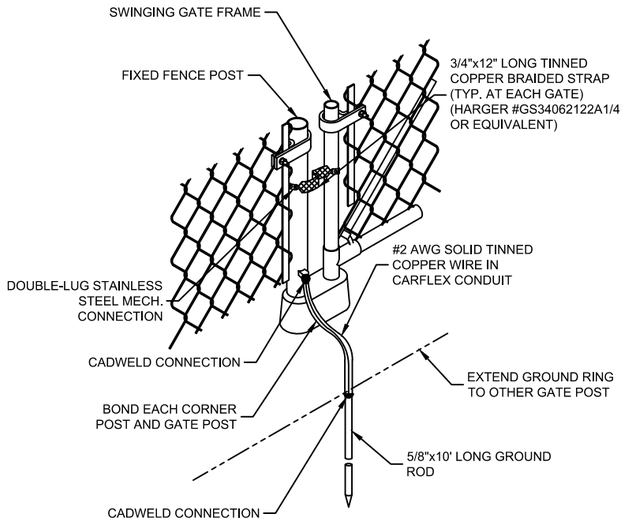
LEGEND

—— - ——	#2 SOLID BARE TINNED COPPER CONDUCTOR
▲	MECHANICAL CONNECTION (BURNDY OR EQUIVALENT)
■	EXOTHERMIC CONNECTION (CADWELD OR EQUIVALENT)
◎	INSPECTION WELL
⊙	5/8" DIA. X 10'-0" LONG, STEEL CLAD W/ A PURE COPPER JACKET (10' MAX SEPARATION)



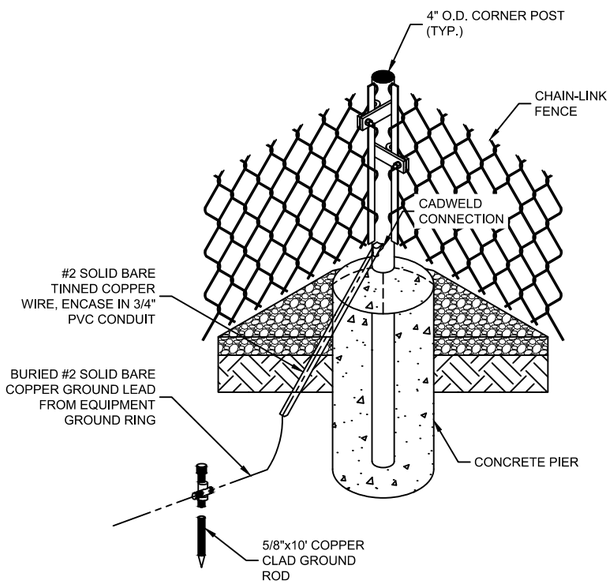
SINGLE LINE DIAGRAM

SCALE: NTS



GATE GROUNDING DETAIL

SCALE: NTS



FENCE POST GROUNDING DETAIL

SCALE: NTS

SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
02/15/19	REVIEW	A	XH
03/01/19	REVIEW	B	XH
03/21/19	CONSTRUCTION	0	XH
06/26/19	REVISED SURVEY	1	SF

DRAWN BY:	XH
CHECKED BY:	DSW
APPV'D BY:	JME
DEWBERRY PROJECT NO:	50107723

PREPARED FOR:

at&t

PREPARED BY:

MasTec Network Solutions

507 AIRPORT BLVD, SUITE 111
MORRISVILLE, NC 27560

PREPARED BY:

Dewberry®

DEWBERRY ENGINEERS INC.
2610 WYCLIFF ROAD, SUITE 410
RALEIGH, NC 27607
NCBELS#: F-0929

SITE ID:

074-487

SITE NAME:

GUFFEY

SITE ADDRESS:

1633 COXE ROAD
RUTHERFORDTON, NC 28139

FA LOCATION:

10037722

SITE NUMBER:

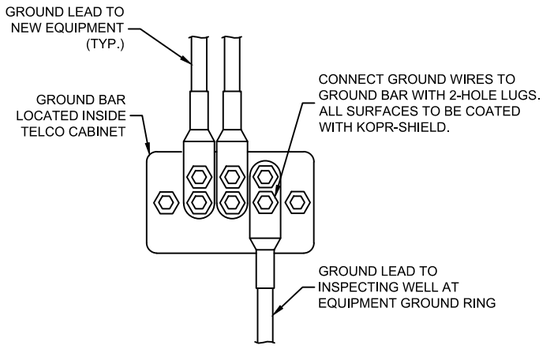
N/A

SHEET TITLE

GROUNDING DETAILS

SHEET NUMBER

G-2

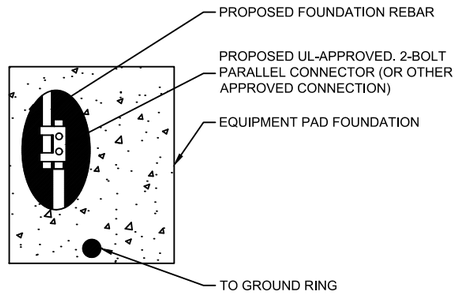


GROUND BAR IN TELCO CABINET

SCALE: N.T.S.

NOTES:

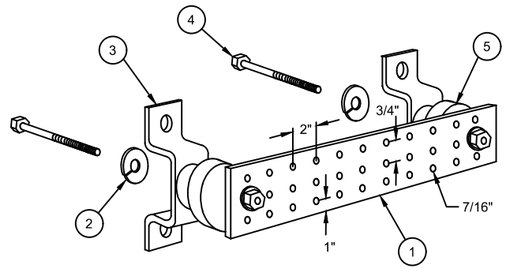
1. CONNECTION SHALL BE COVERED BY NO LESS THAN 2" OF CONCRETE.
2. ATTEMPT TO MAKE CONNECTION TO A 6'-0" RUN OF REBAR OR GREATER.
3. APPLY HEAT SHRINK OR ELECTRICAL TAPE AROUND THE CONDUCTOR TO AVOID CORROSION.



EQUIPMENT PAD GROUNDING

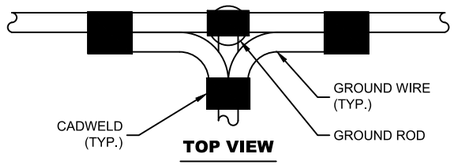
SCALE: N.T.S.

1. TINNED COPPER GROUND PLATE. 1/4" x 4" x20", NEWTON INSTRUMENT CO. CAT. NO. B-6142. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
2. 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT NO. 3015-8.
3. WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056.
4. 5/8"-11 x1" H.H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1
5. INSULATOR, NEWTON INSTRUMENT CO. (CAT.# 3061-4)



GROUND BAR DETAIL

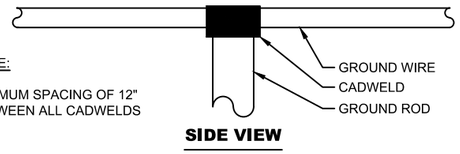
SCALE: N.T.S.



TOP VIEW

NOTE:

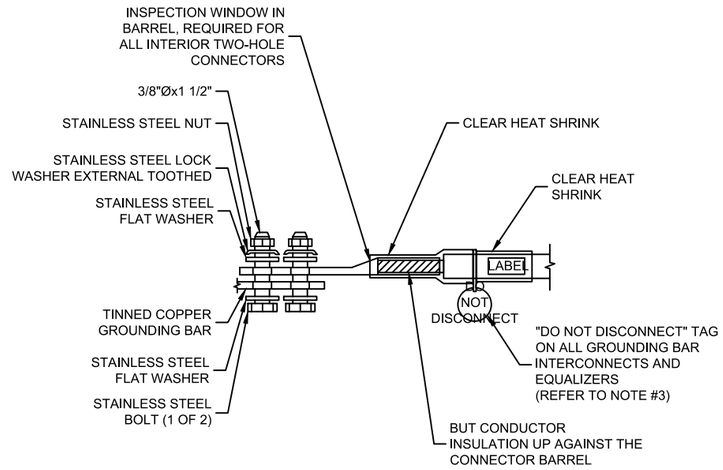
MINIMUM SPACING OF 12" BETWEEN ALL CADWELDS



SIDE VIEW

CADWELD GROUNDING DETAIL

SCALE: N.T.S.



NOTES:

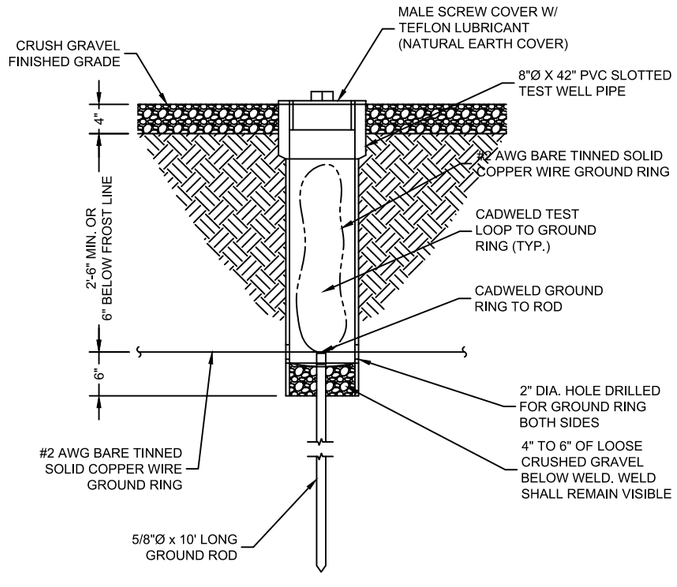
1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING SPLIT WASHER. COAT ALL SURFACES WITH KIPR-SHIELD BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH KOPR-SHIELD.
3. PROVIDE "DO NOT DISCONNECT" TAG AS REQUIRED.

INTERIOR & EXTERIOR TWO HOLE GROUND LUG DETAIL

SCALE: N.T.S.

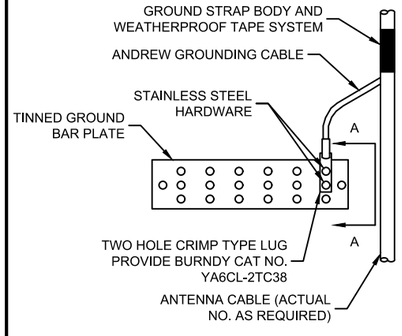
NOTES:

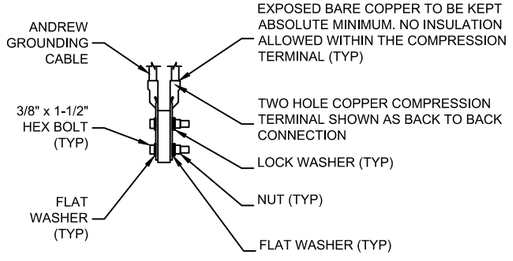
ONE TEST WELL SHALL BE PROVIDED BETWEEN THE TOWER GROUND LOOP AND THE EQUIPMENT GROUND LOOP



GROUND ROD TEST WELL DETAIL

SCALE: N.T.S.





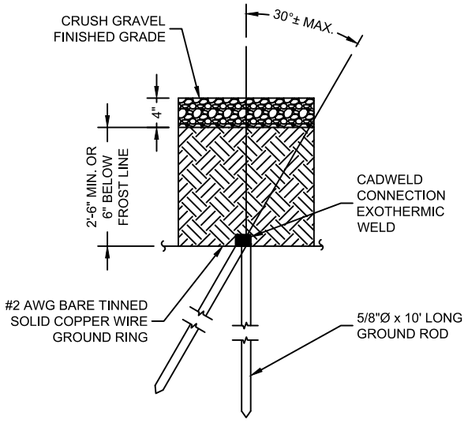
SECTION A-A

NOTES:

1. ANTENNA CABLE GROUNDING AT ANTENNA SHALL BE SIMILAR AS APPLICABLE. TYPICAL FOR ALL BONDING CONDUCTOR CONNECTIONS TO GROUND BAR PLATE.
2. DOUBLING "UP" OR "STACKING" OF CONNECTIONS IS NOT PERMITTED. OXIDE-INHIBITING JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
3. PROVIDE ANDREW 36" GROUNDING CABLE REQUIRING FIELD ATTACHABLE CRIMP ON LUG. DO NOT USE THE LUGS PROVIDED WITH THE GROUNDING KIT. PROVIDE TWO HOLE LUGS AS SHOWN IN ANTENNA CABLE GROUNDING AND GROUND BR PLATE CONNECTIONS DETAILS. AT ANTENNA, PROVIDE CRIMP TYPE "C" TAP FOR CONNECTION TO GROUND CONDUCTOR. GROUNDING CABLE SHALL BE FIELD CUT TO SHORTEST LENGTH POSSIBLE.

ANTENNA CABLE & GROUND BAR CONNECTIONS

SCALE: N.T.S.



GROUND ROD DETAIL

SCALE: N.T.S.

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074-487

SITE NAME:
GUFFEY

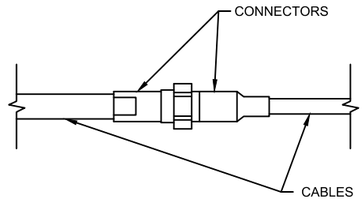
SITE ADDRESS:
1633 COXE ROAD
RUTHERFORDTON, NC 28139

FA LOCATION:
10037722

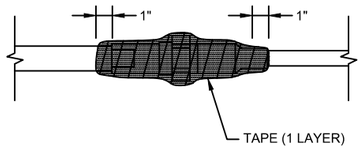
SITE NUMBER:
N/A

SHEET TITLE
GROUNDING DETAILS

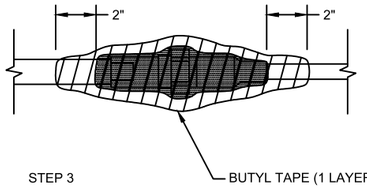
SHEET NUMBER
G-3



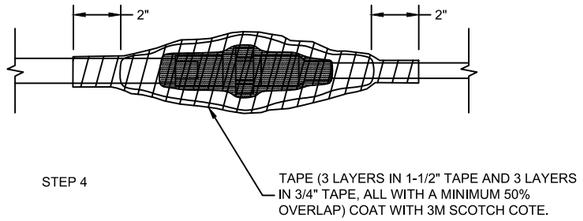
STEP 1



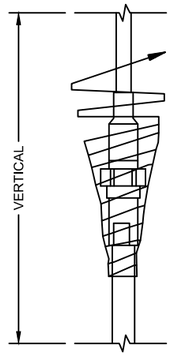
STEP 2



STEP 3



STEP 4

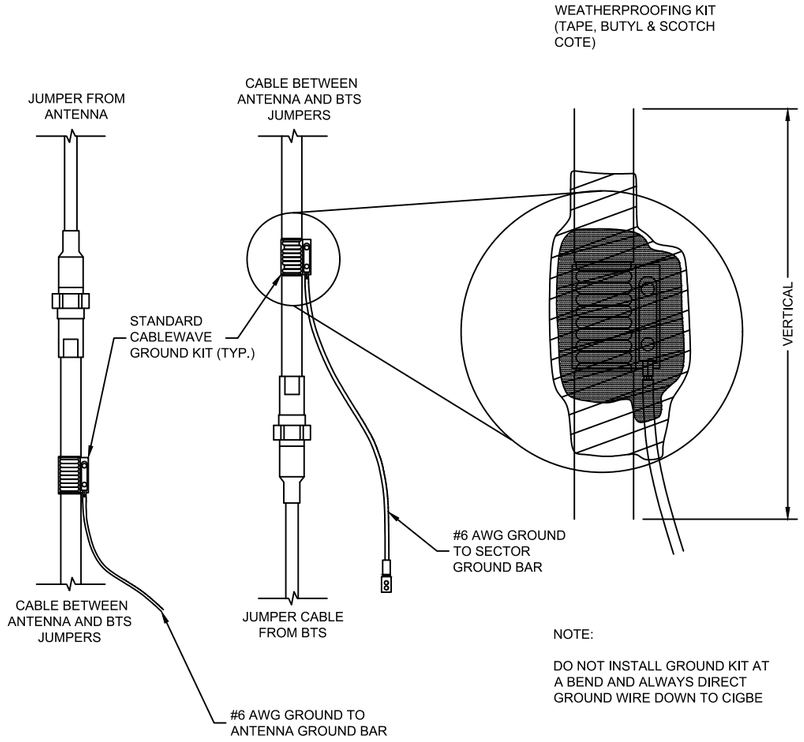


NOTES

1. VERTICAL CONNECTIONS SHOULD BE TAPED FROM THE BOTTOM UP SO OVERLAP SHEDS WATER AWAY FROM CONNECTION.
2. ELECTRICAL TAPE ENDS ARE TO BE CUT, (DO NOT STRETCH).

CABLE WEATHERPROOFING DETAILS

SCALE: N.T.S.

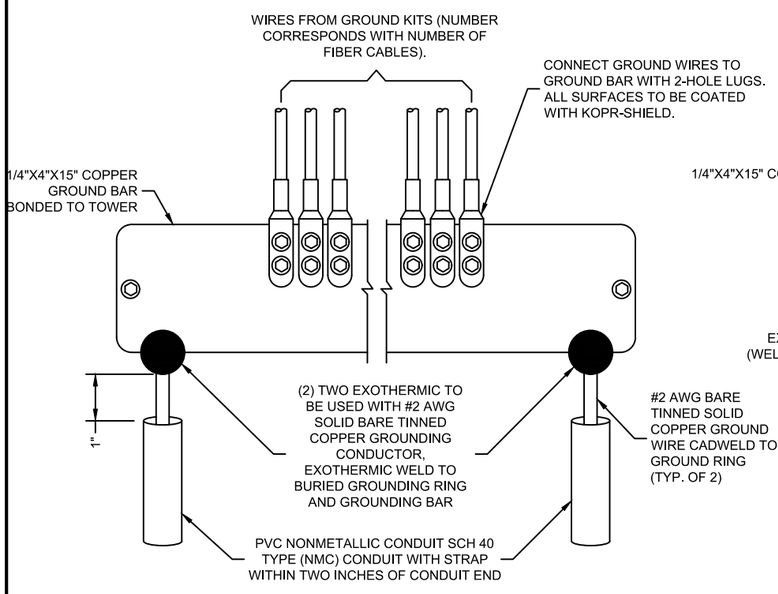


NOTE:

DO NOT INSTALL GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

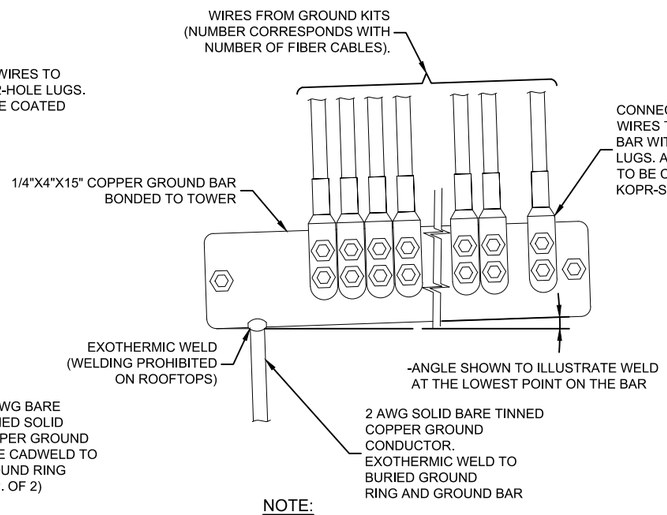
GROUND KIT CONNECTION DETAILS

SCALE: N.T.S.



LOWER GROUND BAR

SCALE: N.T.S.

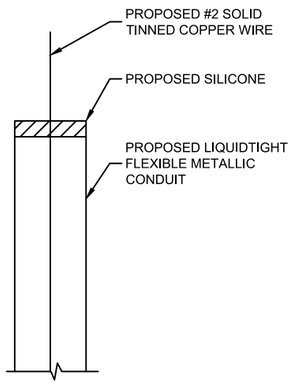


NOTE:

THE CONTRACTOR SHALL UTILIZE AN INTERMEDIATE GROUND BAR FOR ANTENNA RAD CENTERS OVER 200'-0".

UPPER/INTERMEDIATE GROUND BAR

SCALE: N.T.S.

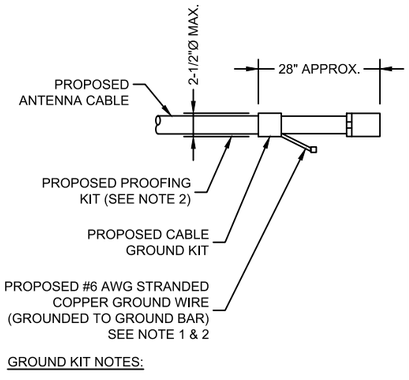


NOTE:

CONTRACTOR TO USE CLEAR OR GRAY SILICONE AS NECESSARY TO SEAL LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT.

GROUND WIRE WEATHERPROOFING

SCALE: N.T.S.



GROUND KIT NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT AND WEATHER PROOFING KIT SHALL BE OF THE SAME TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.

CABLE BAR DETAIL

SCALE: N.T.S.

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSICA M. ROBERTS
06/26/2019

SUBMITTALS

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02/15/19	REVIEW	A	XH
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RUTHERFORDTON, NC 28139

FA LOCATION:
10037722

SITE NUMBER:
N/A

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
G-4

ELECTRICAL-GROUNDING ROD SYSTEM NOTES:

1. ALL GROUNDING CONNECTIONS SHALL BE MADE BY THE EXOTHERMIC PROCESS CONNECTIONS SHALL INCLUDE ALL CABLE TO CABLE, SPLICES, ETC. ALL CABLE TO GROUND RODS, GROUND RODS SPLICES, AND LIGHTNING PROTECTION SYSTEM AS INDICATED. GROUND FOUNDATION ONLY AS INDICATED BY PM. ALL MATERIALS USED (MOLDS, WELDING, METAL, TOOLS, ETC.) SHALL BE BY EXOTHERMIC PROCESS AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND PROCEDURES. GROUND CONDUCTOR SHALL HAVE A MINIMUM 24" BENDING RADIUS.
2. ALL EXOTHERMIC CONNECTIONS ON GALVANIZED SURFACES SHALL BE CLEANED THOROUGHLY AND COLORED TO MATCH SURFACE WITH (2) TWO COATS OF SHERWIN-WILLIAMS GALVITE (WHITE) PAINT B50W3 (OR EQUAL) OR SHERWIN-WILLIAMS SILVERBRITE (ALUMINUM) B59S11 (OR EQUAL).
3. ALL ELECTRICAL & MECHANICAL GROUND CONNECTIONS SHALL HAVE ANTI-OXIDANT COMPOUND APPLIED TO CONNECTION.
4. GROUND RODS SHALL BE INSTALLED VERTICALLY IN THE PROPOSED UNDISTURBED EARTH.
5. GROUND RING AROUND BUILDING SHALL BE BARE COPPER, 4/0, BARE TINNED COPPER CONDUCTOR, IN CONTACT WITH BARE EARTH AT A MINIMUM DEPTH OF 42". ALL CONDUCTOR BENDS SHALL NOT BE LESS THAN A MINIMUM RADIUS OF 8".
6. THE FENCE LINE WILL BE GROUNDED AT THE CORNER POSTS AND GATES. POSTS SHALL HAVE ONE #4/0 THWN COPPER CONDUCTOR WIRE CONNECTED TO A 5/8"x8' SOLID COPPER CLAD GROUND ROD WHICH IS INCORPORATED INTO THE EXTERIOR GROUND RING. GATE POSTS SHALL HAVE A STRANDED COPPER GROUND-JUMPER TO THE SWING GATE FRAME. ALL CONNECTIONS ARE TO BE CAD-WELDED AND SPRAYED WITH COLD-GALVANIZED PAINT.
7. FENCE/GATE: GROUND FENCE POSTS WITHIN 6' OF ENCLOSURE AND 25' OF TOWER AS INDICATED ON DRAWINGS. GROUND EACH GATE POST AND CORNER POST. GROUND CONNECTIONS TO FENCE POSTS SHALL BE MADE BY THE EXOTHERMIC PROCESS AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES. ALL OTHER CONNECTIONS FOR THE GROUND GRID SYSTEM SHALL BE MADE BY THE EXOTHERMIC PROCESS, AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES.
8. ALL DETAILS ARE SHOWN IN GENERAL TERMS. ACTUAL GROUNDING INSTALLATION AND CONSTRUCTION MAY VARY DUE TO THE SPECIFIC SITE CONDITIONS.
9. UTILITY COMPANY COORDINATION: ELECTRICAL CONTRACTOR SHALL CONFIRM THAT ALL WORK IS IN ACCORDANCE WITH THE RULES OF THE LOCAL UTILITY COMPANY BEFORE SUBMITTING THE BID, THE CONTRACTOR SHALL CHECK WITH THE UTILITY COMPANIES SUPPLYING SERVICE TO THIS PROJECT AND SHALL DETERMINE FROM THEM ALL EQUIPMENT AND CHARGES WHICH THEY WILL REQUIRE AND SHALL INCLUDE THE COSTS IN THE BID.
10. GROUND TEST: GROUND TESTS SHALL BE PERFORMED AS REQUIRED BY LESSEE STANDARD PROCEDURES. GROUND GRID RESISTANCE SHALL NOT EXCEED 5 OHMS.
11. GROUND RINGS ARE TO BE INSTALLED A MINIMUM OF 2'-0" FROM EQUIPMENT AND TOWER.

ELECTRICAL-GROUNDING ROD SYSTEM NOTES:

1. GROUND RODS SHALL BE INSTALLED NOT MORE THAN 8' APART.
2. GROUND RODS SHALL BE INSTALLED 6" MIN. BELOW FROST.
3. ALL BELOW GRADE GROUND RINGS AND GROUND LEADS SHALL BE #2 AWG SOLID, TINNED BARE COPPER WIRE.
4. ALL BELOW GROUND CONNECTIONS SHALL BE EXOTHERMIC WELDS.
5. UNLESS PROVIDED WITH A FACTORY APPLIED LEAD, ALL CONNECTIONS TO GROUND BARS SHALL BE BURNDY HYGROUND COMPRESSION LUGS OR EQUAL.
6. STEEL SHALL BE TO BARE METAL. GRIND GALV. FINISH OR PAINT OFF PRIOR TO WELDING, REPAIR GALV. FINISH OR PAINT AS REQUIRED, MATCH PAINT COLOR.
7. ALL LUG CONNECTORS SHALL BE 2 HOLD LONG BARREL COMPRESSION TYPE OR APPROVED EQUAL.
8. ALL HARDWARE TO ATTACH MECHANICAL GROUND CONNECTIONS SHALL BE STAINLESS STEEL.
9. ALL MECHANICAL CONNECTIONS SHALL HAVE NOAX OR APPROVED EQUAL APPLIED BETWEEN COMPRESSION LUG AND FIXTURE.

LEAD IDENTIFICATION & DESCRIPTION:

1	RING, EXTERNAL BURIED W/RODS	#2 SBTC
1A	RING, CONCRETE ENCASED	#2 SBTC
2	DEEP ANODE (TO IMPROVE OHMS)	ROD OR PIPE
3	RING TO BLDG STL FRAME	#2 SBTC
4	MAN AC PANEL NEUTRAL BUS TO (2) GROUND RODS, ISOLATED FROM LEAD #1	NEC 250.66
5	RING TO GROUND BAR	(2) #2 SBTC
6	RING TO EXT MTL OBJECT	#2 SBTC
7	DEEP ANODE TO MGB	NSTD33-9
8	AC PANEL TO WATER METER	NEC 250.66
9	EXT WATER TO INT WATER PIPES	NSTD33-9
10	INT WATER PIPE TO MGB	NSTD33-9
11-12	NOT USED	
13	AC PANEL TO MGB	NSTD33-9
14	MGB/FGB TO BLDG STL FRAME	#2/0 I-STR
14C	MGB/FGB TO ROOF/WALL MTL PNL	#1/0 I-STR
15	MGB/FGB TO FGB-HE SAME FLOOR	#2/0 I-STR
16	NOT USED	
16A	ECPGB TO CABLE ENTRY RACK	#1/0 I-STR
17	MGB TO CABLE SHIELDING	#6 I-STR
17A	ECPGB TO CABLE SHIELDING	#6 I-STR
17B	MGB/FGB TO F-0 SPLICE SHELF	#1 I-STR
18	LOWEST MGB/FGB TO HIGHEST FGB	#2/0 I-STR
19	LEAD 18 TO OTHER FGB, <6'	#2/0 I-STR
20	MGB/FGB TO BRANCH AC PNL	#6 I-STR
20A	NEAREST GRIND TO DISCONNECT PNL	NEC 250.66
20B	GWB TO AC DISTR PNL	#6 I-STR
21	MGB/FGB TO INT HALO	#2 I-STR
21A	INTERIOR 'GREEN' HALO	#2 I-STR
21B	INT HALO TO EXT RING	#2 SBTC
21C	INT HALO TO EQUIPMENT MTL	#6 I-STR
22	ROOF TOWER RING TO ROOF GRND	NFPA 780
23	MGB/FGB TO ECPGB, SAME FLOOR	#1 I-STR
23A	MGB/FGB TO CXR-HF LINR PROT	#6 I-STR
24	ECPGB TO EACH PROTECTOR ASSEMBLY	#6 I-STR
24A	LOWER PROT ASSY TO UPPER	#6 I-STR
25	RING TO NEAREST LIGHTNING ROD	#2 SBTC
26	LIGHTNING ROD SYS TO NEARBY MTL	NFPA 780
27	RING TO TOWER RING	(2) #2 SBTC
28	RING TO SHELTER RING	(2) #2 SBTC
29	BRANCH AC PNL TO BTTY CHG FRM	NSTD33-11
30	BRANCH AC PNL TO OUTLETS	NSTD33-11
31	MGB/FGB TO PWR, BTTY FRAMES	#2/0 I-STR
32	#31 TO BATTERY CHARGER FRAME	#6 I-STR
33	#31 TO BATTERY RACK FRAME	#6 I-STR
34	#31 TO PCU FRAME	#6 I-STR
35	#31 TO DCU FRAME	#6 I-STR
36	#31 TO PCU FRAME	#6 I-STR
37	MGB/FGB TO BTTY RETURN	NSTD33-14.5
37A	MGB/FGB TO RTN TERM CARR SUPP	#6 I-STR
38	FGB TO PDU GB	#750MCM I-STR
38A	FGB TO PDU GB CARRIER SUPPLY	#2/0 I-STR
39	DC BUS DUCT TO NEXT SECTION	#6 I-STR
40	DC BUS DUCT TO MGB/FGB	#6 I-STR
41A	MGB/FGB TO #58	#2/0 I-STR
42-44	NOT USED	
45	MAIN AC PNL TO BRANCH AC PNL	NSTD33-11
46	BRANCH AC PNL TO DED OUTLET	NSTD33-11
47	FGB TO INTEG FRM	#2 I-STR
48	LEAD #31 TO INTEG FRM	#6 I-STR
49	INTEG FRM TO EQUIP SHELF	BY FASTENERS
50	PDU BTTY RET TO #51	#2/0 I-STR
51	#50 TO TRANS FROM ISO DC PWR	#6 I-STR
52	TRANS FRM FUSE TO FRM OR BAR	#8 I-STR
53A	MGB/FGB TO PDF/BDFB	NSTD33-22
54	MGB/FGB TO STATIC DEVICES	#6 I-STR
55	MGB/FGB TO CABLE AT ENTRY	#6 I-STR
56	MGB/FGB TO AC PWR RADIO XMTTR	#6 I-STR
57A	MGB/FGB TO CBLGRID/RUNWAY	#2/0 I-STR
58A	#41A TO AISLE FRAME	#2 I-STR
59A	#58A TO EACH SGL FRAME GRND	#6 I-STR
60-89	NOT USED	
90	GENERATOR FRAME TO EXT RING	#2 SBTC

NORTH CAROLINA PROFESSIONAL SEAL 029903 ENGINEER JESSICA M. ROBERTS
06/26/2019

SUBMITTALS

DATE	DESCRIPTION	REV	ISSUED BY
02/15/19	REVIEW	A	XH
03/01/19	REVIEW	B	XH
03/21/19	CONSTRUCTION	0	XH
06/26/19	REVISED SURVEY	1	SF

DRAWN BY:	XH
CHECKED BY:	DSW
APP'D BY:	JME
DEWBERRY PROJECT NO:	50107723

PREPARED FOR:
at&t

PREPARED BY:
MasTec Network Solutions
507 AIRPORT BLVD, SUITE 111
MORRISVILLE, NC 27560

PREPARED BY:
Dewberry®
DEWBERRY ENGINEERS INC.
2610 WYCLIFF ROAD, SUITE 410
RALEIGH, NC 27607
NCBELS#: F-0929

SITE ID:
074-487

SITE NAME:
GUFFEY

SITE ADDRESS:
1633 COXE ROAD
RUTHERFORDTON, NC 28139

FA LOCATION:
10037722

SITE NUMBER:
N/A

SHEET TITLE
GROUNDING NOTES

SHEET NUMBER
G-5

SDC20 | 2.5L | 20 kW - AC

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC® | INDUSTRIAL POWER

Model G007098-0 (Steel)

STANDARD FEATURES

ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner with Service Indicator
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Exhaust Silencer with Drain
- Factory Filled Oil & Coolant

Fuel System

- Primary Fuel Filter

Cooling System

- 120V AC Coolant Heater
- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- 50/50 Ethylene Glycol Antifreeze
- Radiator Drain Extension

Electrical System

- Battery Charging Alternator
- AGM Spill Proof Battery
- Battery Cables
- Sealed/Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor
- Output Circuit Breaker

ALTERNATOR SYSTEM

- Class H Insulation Material
- Vented Rotor
- 2/3 Pitch
- Skewed Stator
- Amortisseur Winding
- Brushless Excitation
- Sealed Bearings
- Rotor Dynamically Spin Balanced
- Full Load Capacity Alternator
- Protective Thermal Shutdown

GENERATOR SET

- Single Side Service
- Internal Genset Vibration Isolators
- Separation of Circuits- High/Low Voltage
- Silencer Heat Shield
- High Heat Wrapped Exhaust Piping
- Silencer Enclosed Within Generator
- 5 Year Extended Warranty
- Extended Factory Testing
- 12 Gallon System Spill Containment
- 2.5 Gallon Fuel Fill Spill Containment

ENCLOSURE

- Serviceable Items Accessible Though Lift-Off Door
- High Performance Sound-Absorbing Material
- Gasketed Door
- Stamped Air-Intake Louvers
- Single Door Latch Lockable with Key & Padlock
- Rhino Coat™ - Textured Polyester Powder Coat
- 150 MPH Wind Rating
- 36” Snow Rating

FUEL TANK

- UL 142 Compliant
- Double Wall Construction
- Factory Pressure Tested (5 psi)
- Rupture Basin Alarm
- Fuel Level Gauge and Sender
- Check Valve in Supply Line
- Rhino Coat™ - Textured Polyester Powder Coat
- Stainless Steel Hardware
- Integrated Fork Pockets

CONTROL SYSTEM

- Digital H Control Panel - Dual 4x20 Display
- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable PLC
- RS-232/485 Communications
- All-Phase Sensing Voltage Regulator
- Full System Status
- 2-Wire Start Compatible
- Power Output (kW)
- Power Factor
- kW Hours, Total & Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/Sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events
- Modbus protocol
- Predictive Maintenance Algorithm
- Sealed Boards
- Password Parameter Adjustment Protection
- Single Point Ground Connections
- 15 Channel Data Logging
- 0.2 msec High Speed Data Logging
- Alarm Information Automatically Comes Up On the Display

Alarms

- Generator Run- Dry Contact
- Major Alarm- Dry Contact
- Minor Alarm- Dry Contact
- Low Fuel Alarm- Dry Contact
- Rupture Basin Alarm- Dry Contact
- Alarms & Warnings Time and Date Stamped
- Alarms & Warnings for Transient and Steady State Conditions
- Snap Shots of Key Operation Parameters During Alarms & Warnings
- Alarms and Warnings Spelled Out (No Alarm Codes)

MODEL OPTIONS

CONTROL SYSTEM

- ○ 21 Light Annunciator- Shipped Loose Kit and Field Installed
- ○ External E-Stop-Shipped Loose Kit and Field Installed

ENCLOSURE

- ○ Aluminum Enclosure
- ○ Extreme Cold Weather Kit - Shipped Loose Kit and Field Installed

TANKS

- ○ External Fuel Vent- Shipped Loose Kit and Field Installed

SDC20 | 2.5L | 20 kW - AC
INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC® | INDUSTRIAL POWER

Model G007098-0 (Steel)

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Mitsubishi
EPA Emissions Compliance	Interim Tier 4
Cylinder #	4
Type	In-Line
Displacement - L (Cu In)	2.5 (158)
Bore - mm (in)	88 (3.5)
Stroke - mm (in)	103 (4.1)
Compression Ratio	22:1
Intake Air Method	Naturally Aspirated

Engine Governing

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

Lubrication System

Oil Pump Type	Trochoid Gear Pump
Oil Filter Type	Filtering Paper, Full Flow
Crankcase Capacity - L (qts)	6.5 (6.9)

Cooling System

Cooling System Type	Forced Circulation
Water Pump Type	Centrifugal Pump
Fan Type	Pusher
Fan Speed (rpm)	2100
Fan Diameter - mm (in)	431.8 (17)
Coolant Heater Wattage	1000
Coolant Heater Voltage	120

Fuel System

Fuel Type	Ultra Low Sulfur Diesel #2
Fuel Specifications	ASTM
Fuel Filtering (microns)	6
Fuel Inject Pump Make	Bosch
Injector Type	Engine Driven Gear
Engine Type	Diesel
Fuel Supply Line - mm (in.)	6.6 (0.26)

Engine Electrical System

System Voltage	12 VDC
Battery Charger Alternator	12V-50A
Battery Size	650 CCA
Battery Group	35
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	Mecc Alte ECP 28-2L/4
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5%
Telephone Interference Factor (TIF)	<45
Standard Excitation	Brushless
Bearings	Dual Sealed
Coupling	Belt, Pulley
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.5%

RATING DEFINITIONS

Standby - Applicable for a varying emergency load for the duration of a utility power outage with no overload capability.

SDC20 | 2.5L | 20 kW - AC

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC® | INDUSTRIAL POWER

Model G007098-0 (Steel)

OPERATING DATA

POWER RATINGS

Single-Phase 120/240 VAC @1.0pf	20 kW	Amps: 83
Circuit Breaker Size	100A	

FUEL CONSUMPTION RATES*

Diesel - gph (lph)

Percent Load	Standby
25%	0.74 (2.80)
50%	0.99 (3.75)
75%	1.41 (5.30)
100%	1.90 (7.19)

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

COOLING

		Standby
Coolant Flow per Minute	gpm (lpm)	11.9 (45)
Coolant System Capacity	gal (L)	3.5 (13.2)
Heat Rejection to Coolant	BTU/hr	238,200
Inlet Air	cfm (m^3/min)	2365 (67)
Max. Operating Ambient Temperature (Before Derate)	°F (°C)	77° (25°)
Maximum Radiator Backpressure	in H_2O	0.50

COMBUSTION AIR REQUIREMENTS

	Standby
Flow at Rated Power cfm (m^3/min)	88 (2.49)

ENGINE

		Standby
Rated Engine Speed	rpm	1800
Horsepower at Rated kW**	hp	33.5
Piston Speed	ft/min	1220.47
BMEP	psi	96.5

EXHAUST

		Standby
Exhaust Flow (Rated Output)	cfm (m^3/min)	193 (328)
Max. Backpressure (Post Silencer)	inHg (kPa)	1.38 (4.67)
Exhaust Temp (Rated Output - Post Silencer)	°F (°C)	928 (497.7)

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

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

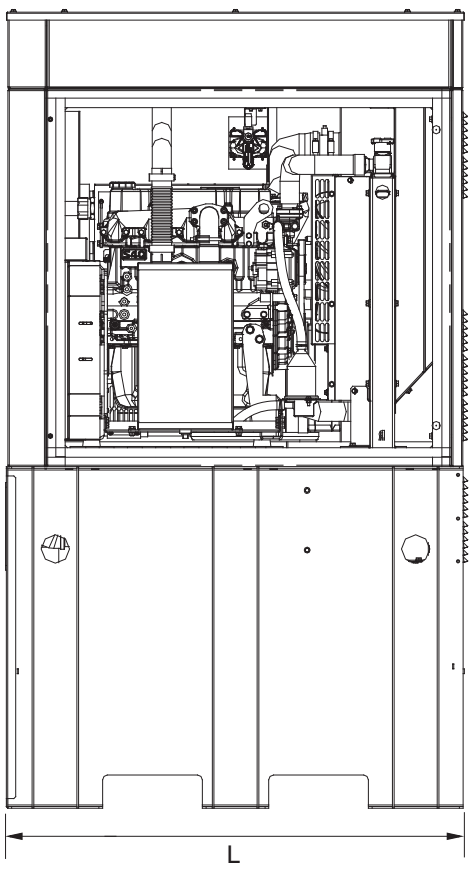
SDC20 | 2.5L | 20 kW - AC
INDUSTRIAL DIESEL GENERATOR SET

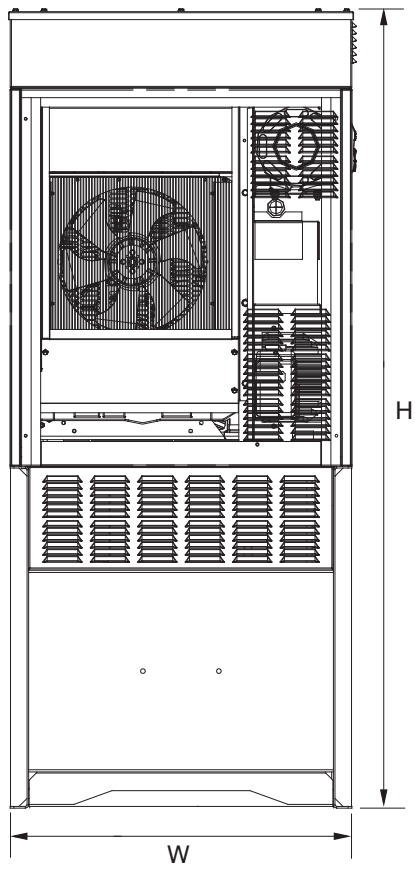
EPA Certified Stationary Emergency

GENERAC® | INDUSTRIAL POWER

Model G007098-0 (Steel)

DIMENSIONS AND WEIGHTS*





Level 2 Sound Attenuation Enclosure

Run Time Hours	48
Usable Capacity Gal (L)	92 (348.2)
L x W x H in (mm)	48 x 36 x 90 (1219.2 x 914.4 x 2286)
Weight lbs (kg)	2400 (1089)
Sound Level	71 dBA

* All measurements are approximate and for estimation purposes only.

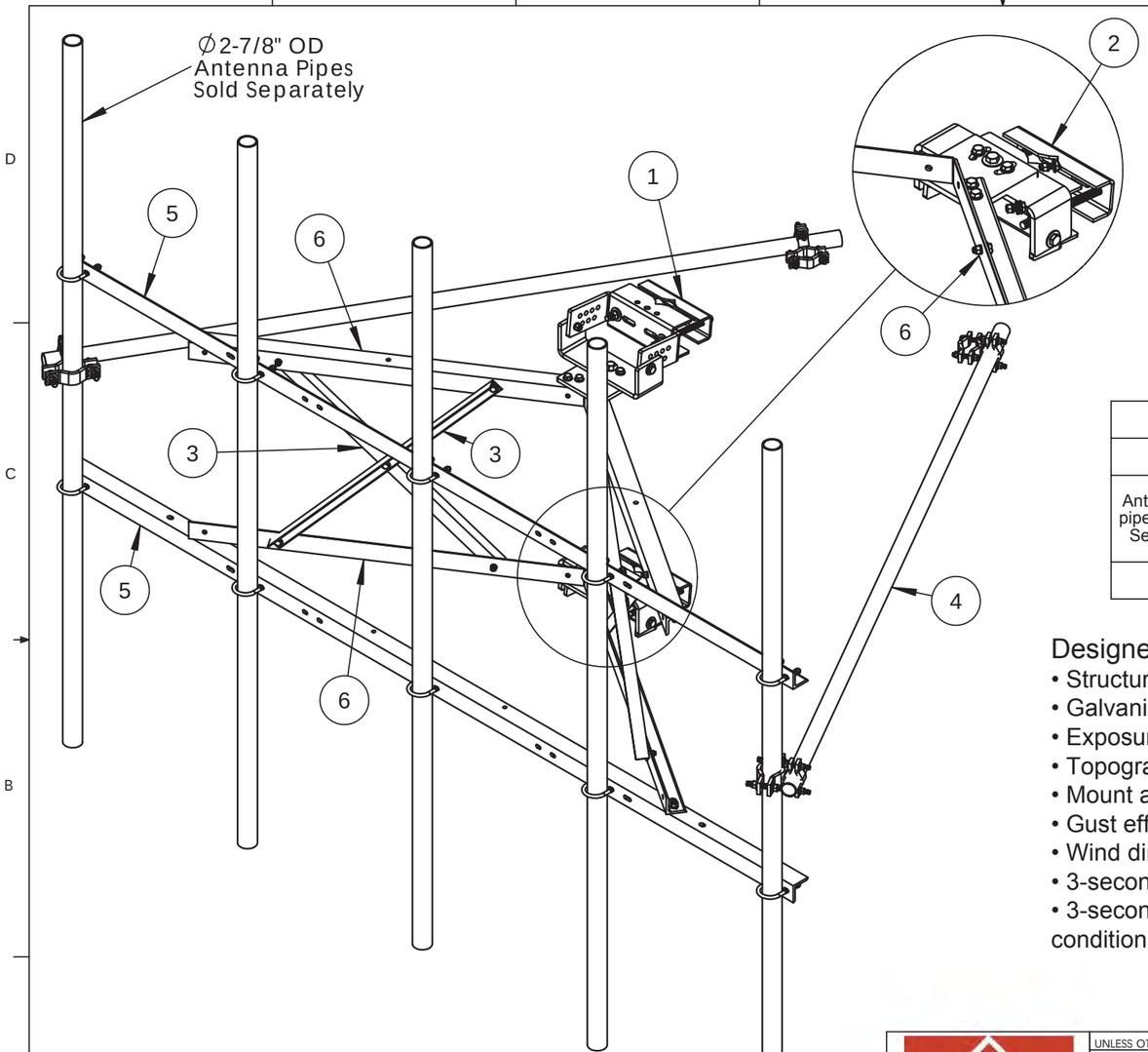
YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

SPEC SHEET

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

Generac Power Systems, Inc. | P.O.Box 8 | Waukesha, WI 53189
P: (262) 544-4811

Document No. 10000009019
Rev. WIP 11/04/16



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	K1672KT-T	Top Leg Clamp Kit for T1671 & 72 Sectors	1
2	K1672KT-B	Bottom Leg Clamp Kit - T1671&72 Sectors	1
3	K0030KT4B	Brace Angle, 48" Long	4
4	P1000KT12.5	2-3/8" OD Pipe, 150" Long	2
5	K0072KT12	Face angle, 12.5' (ATT WLL)	2
6	K0082KT	Standoff Angle, 58.75" (ATT WLL)	4
7	K1672KT-HW	Hardware Kit for T1671KT12 & T1672KT12	1

Load Ratings									
Load Rating - Bare Condition for each pipe					Load Rating - Iced Condition for each pipe				
Antenna pipes per Sector	Basic Wind Speed (mph)	(EPA) N (sq ft)	(EPA) T (sq ft)	Factored Weight (lbs)	Basic Wind Speed (mph)	Design Ice Thickness (t_i) (in)	(EPA) N (sq ft)	(EPA) T (sq ft)	Factored Weight (lbs)
5	120	17.5	17.5	530	60	1.0	24.0	24.0	1060

Designed in accordance with ANSI/TIA-222-G

- Structure Class II
- Galvanized Steel, A36 minimum grade
- Exposure Category C (Rev G or H)
- Topographic Category 1
- Mount and antenna centerline at 300’ AGL(use for gust and height factors)
- Gust effect factor, Gh = 1.0
- Wind direction probability factor, Kd=0.95
- 3-second gust basic wind speed, 50-year return, for bare conditions as noted in table
- 3-second gust basic wind speed, 50-year return, considered simultaneously for iced conditions as noted in table

NOTES:
The range of the stiffarms will be the following:
20 deg towards the tower (from perpendicular to the face angle)
30 deg away from the tower (from perpendicular to the face angle)

Antenna Pipes should be centered and evenly spaced.
Mount Classification: Satisfies Heavy WLL

EPA of Base Unit
(EPA)N = ~19.00 ft^2

KENWOOD TELECOM
3431 Novis Pointe Acworth, Ga 30101
(770) 975-0500 office (770) 974-5100 fax

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ± 1/32
ANGULAR: ± 2°
ONE PLACE DECIMAL: ± .06
TWO PLACE DECIMAL: ± .03
THREE PLACE DECIMAL: ± .010
INTERPRET GEOMETRIC TOLERANCING PER:
MATERIAL
FINISH
DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	KAR	4/6/16
CHECKED		
ENG APPR.		
MFG APPR.		

KENWOOD TELECOM

TITLE: Sector Frame, 12' Face (WLL) Angle Face

SIZE	DWG. NO.	REV
B	T1672KT12	

SCALE: 1:18 | FINISHED WEIGHT: 607.65 lbs | SHEET 1 OF 3

VERIZON SPECIFICATIONS
T1672KT12

Minimum Required Mount Classifications for each Market		
Market	Bare	Iced
North East	M900R-4[6]	**M1150R(i)-4[6]**
South East	**M1400R-4[6]**	M1000R(i)-4[6]
Great Lakes	M800R-4[6]	**M1150R(i)-4[6]**
North Central	M800R-4[6]	M1000R(i)-4[6]
South Central	M1000R-4[6]	**M1150R(i)-4[6]**
Pacific	M700R-4[6]	M1000R(i)-4[6]
Alaska	M1000R-4[6]	M1000R(i)-4[6]
Hawaii	M950R-4[6]	-

Designed in accordance with TIA-222-G-4

- Structure Height ≤ 400 feet
- Structure Class or Risk I or II
- Galvanized Steel, A36 minimum grade
- Exposure Category B or C
- Topographic Category 1
- Maximum 140 mph, 50-year return, 3-second gust basic wind speed
- Maximum 180 mph, ultimate 3-second wind speed based on risk category
- Maximum 1 inch, 50-year return design ice thickness
- Maximum 2 inch, ultimate design ice thickness based on risk category
- Maximum 60 mph basic wind speed occurring simultaneous with ice

- Factored wind pressure without ice at mounting elevation α(qz)(Gh) ≤ 135 psf
- Factored ice thickness at mounting elevation tiz ≤ 2.75 inches
- Factored wind pressure with ice at mounting elevation α (qz)(Gh) ≤ 15 psf

AT&T SPECIFICATIONS
T1672KT12

Load Ratings									
Load Rating - Bare Condition for each pipe					Load Rating - Iced Condition for each pipe				
Antenna pipes per Sector	Basic Wind Speed (mph)	(EPA) N (sq ft)	(EPA) T (sq ft)	Factored Weight (lbs)	Basic Wind Speed (mph)	Design Ice Thickness (t_i) (in)	(EPA) T (sq ft)	(EPA) T (sq ft)	Factored Weight (lbs)
4	120	15.0	15.0	663	60	1.0	24.0	24	1325

Designed in accordance with ANSI/TIA-222-G

- Structure Class II
- Galvanized Steel, A36 minimum grade
- Exposure Category C (Rev G or H)
- Topographic Category 1
- Mount and antenna centerline at 300’ AGL(use for gust and height factors)
- Gust effect factor, Gh = 1.0
- Wind direction probability factor, Kd=0.95
- 3-second gust basic wind speed, 50-year return, for bare conditions as noted in table
- 3-second gust basic wind speed, 50-year return, considered simultaneously for iced conditions as noted in table

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UNLESS OTHERWISE SPECIFIED:
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TOLERANCES:
FRACTIONAL: ± 1/32
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ONE PLACE DECIMAL: ± .06
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THREE PLACE DECIMAL: ± .010

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	KAR	5/9/17
CHECKED		
ENG APPR.		
MFG APPR.		

KENWOOD TELECOM

TITLE:

SIZE	DWG. NO.	REV
B	T1672KT12	B
SCALE: 1:18	FINISHED WEIGHT:	SHEET 2 OF 4

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	K1032KT234-2	3/4"X2-3/4" fastener kit A325 HDG (2)	1
2	K1029KT214-4	5/8" x 2-1/4" A325 bolt kit (4 bolts)	3
3	K1029KT212	A325 5/8"x2-1/2" kit (4 ea)	1
4	K1026KT112	A325 1/2"x1-1/2" Bolt Kit (10 ea)w/ (4) washers	1
5	K7940KT14-2	U-bolt kit, 2-7/8" OD pipe (2-Ubolt)	5
6	K1004KT1	Crossover clamp kit , 2-3/8" x 2-3/8"	2
7	K1004KT2	Crossover clamp kit, 2-3/8" x 5"	2
8	K1120KT9	Pivot Plate (Heavy 10 & WLL)	2

Connection Point B:
Pivot Plate(slots) to Taper Adjustment
Use Item #2, **5/8" x 2-1/2" Bolt Kits**

Connection Point A:
Pivot Plate(Hole) to Taper Adjustment
Use Item #1, **3/4" x 2-3/4" Bolt Kits**

Connection Point C:
Pivot Plate to Standoff Angles
Use Item #4, **5/8" x 2-1/4" Bolt Kits**

Connection Point D:
X-Bracing connection
Use Item #5, **1/2" x 1-1/2" Bolt Kits**

Leg Clamp
See Pg 4

Detail: A

A

X-Bracing
See Detail B

Standoff
Angles

Face Angles

Stiff Arm
Pipe

Connection Point F:
2-3/8" Antenna Pipes(Not Included)
to Face Angles
Use Item #6, **1/2" U-bolts** for
2-3/8"OD Pipe

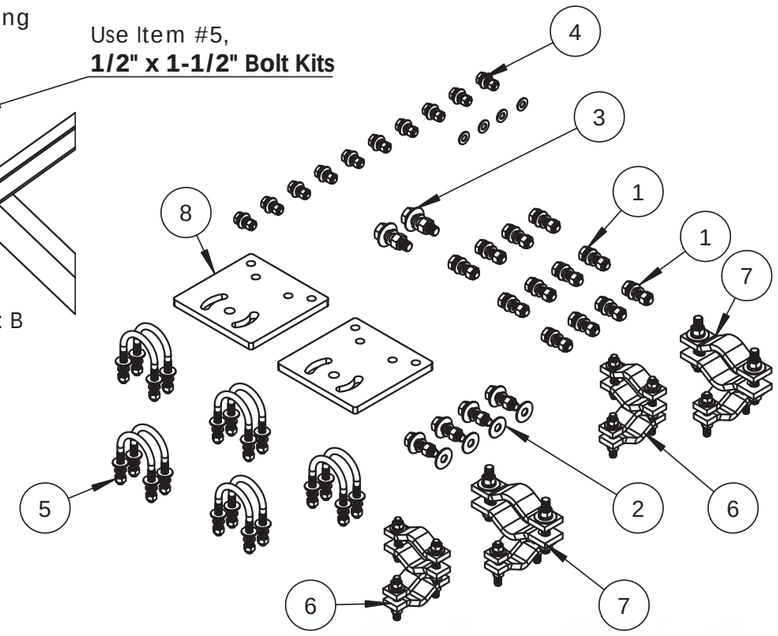
Connection Point E:
Face angle to Standoff angle
Use Item #3, **5/8" x 2-1/4" Bolt Kits**

X-Bracing

Use Item #5,
1/2" x 1-1/2" Bolt Kits

Double
Flat Washers
for spacing

Detail: B



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THREE PLACE DECIMAL: ± .010

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL

FINISH

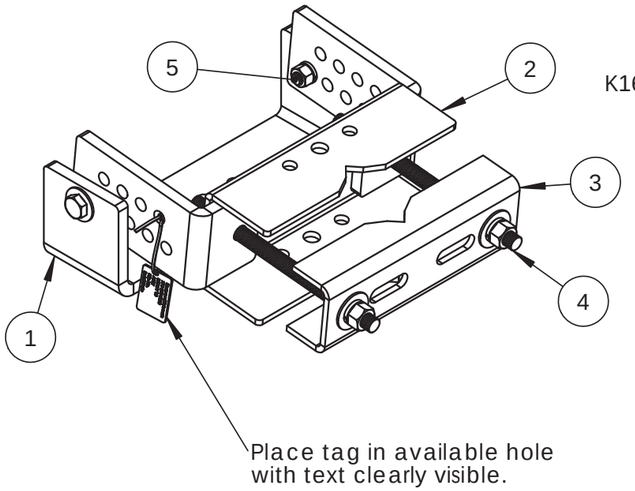
DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	KAR	5/19/16
CHECKED		
ENG APPR.		
MFG APPR.		

KENWOOD TELECOM

TITLE: Sector Frame Hardware Kits
For
AT&T Heavy 10 & WLL
VZW M1400R-4[6] & M1250R(i)-4[6]

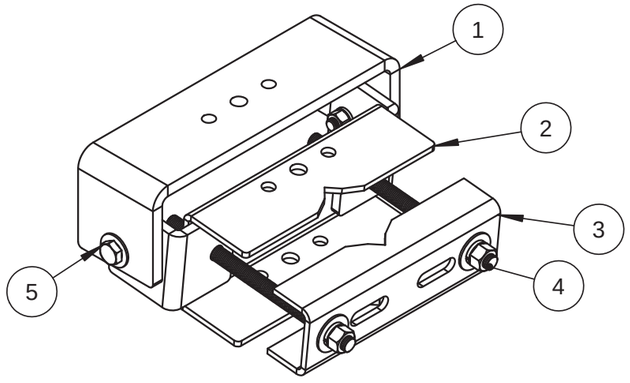
SIZE	DWG. NO.	REV
	K1672KT-HW	D
SCALE: 1:8	FINISHED WEIGHT:	SHEET 3 OF 4



K1672KT-T - Top Leg Clamp Kit

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	K1672KT-02	Taper Adjustment Connector	1
2	K1672KT-01	Leg Channel, Top Clamp (ATT H10 & WLL)	1
3	K1672KT-04	Leg Channel, Inner (Heavys)	1
4	K2320KT18iA-2	Threaded rod kit 3/4" x 18" (Set of 2) HDG B7	1
5	K1029KT212-2	A325 5/8"x2-1/2" kit (2 ea)	2

K1672KT-B -Bottom Leg Clamp Kit



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	K1672KT-02	Taper Adjustment Connector	1
2	K1672KT-03	Leg Channel, Bottom Clamp (Heavys)	1
3	K1672KT-04	Leg Channel, Inner (Heavys)	1
4	K2320KT18iA-2	Threaded rod kit 3/4" x 18" (Set of 2) HDG B7	1
5	K1029KT212-2	A325 5/8"x2-1/2" kit (2 ea)	2

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INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	KAR	5/24/17
CHECKED		
ENG APPR.		
MFG APPR.		

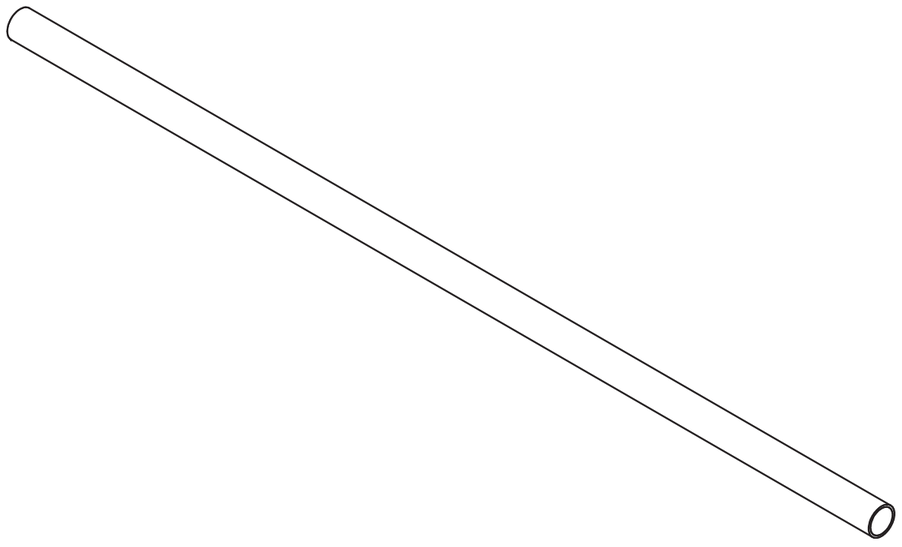
KENWOOD TELECOM

TITLE:
Sector Frame Leg Clamp Assemblies
for
AT&T Heavy 10 & WLL
VZW M1400R-4[6] & M1250R(i)-4[6]

SIZE | DWG. NO. K1672KT-T / K1672KT-B | REV C

SCALE: 1:6 | FINISHED WEIGHT: | SHEET 4 OF 4

2-1/2" Pipe Table	
Part Number	**Description**
P1090KT10	Pipe, 2-1/2" ID X 2-7/8" OD x10' L
P1090KT10.5	Pipe, 2-1/2" ID X 2-7/8" OD x10.5' L
P1090KT13	Pipe, 2-1/2" ID X 2-7/8" OD x13' L
P1090KT14	Pipe, 2-1/2" ID X 2-7/8" OD x14' L
P1090KT15	Pipe, 2-1/2" ID X 2-7/8" OD x15' L
P1090KT21	Pipe, 2-1/2" ID X 2-7/8" OD x21' L
P1090KT3	Pipe, 2-1/2" ID X 2-7/8" OD x3' L
P1090KT6	Pipe, 2-1/2" ID X 2-7/8" OD x6' L
P1090KT7	Pipe, 2-1/2" ID X 2-7/8" OD x7' L
P1090KT8	Pipe, 2-1/2" ID X 2-7/8" OD x8' L
P1090KT9	Pipe, 2-1/2" ID X 2-7/8" OD x9' L



KENWOOD TELECOM
3431 Navis Pointe Acworth, GA 30101
(888) 599-0500 (770) 974-9100 fax

NEXT ASSY	USED ON
APPLICATION	

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ± 1/32
ANGULAR: ± 2°
ONE PLACE DECIMAL: ± .06
TWO PLACE DECIMAL: ± .03
THREE PLACE DECIMAL: ± .010

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL: Hot Dipped Galvznized Pipe A123

FINISH

DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	PQ	10/23/14
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		

COMMENTS:

KENWOOD TELECOM

TITLE:
2-1/2"
Galv Pipe

SIZE	DWG. NO.	REV
B	P1090KT PIPE	

SCALE: 1:20 | SHEET 1 OF 1