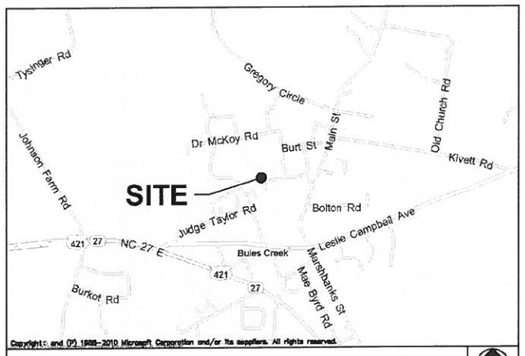
verizon

8921 RESEARCH DRIVE
CHARLOTTE, NC 28262

CAMPBELL UNIVERSITY

SITE ADDRESS

179 DAY DORM ROAD
LILLINGTON, NC 27546
HARNETT COUNTY
LATITUDE: 35° 24' 38.66" N
LONGITUDE: 78° 44' 26.82" W



VICINITY MAP

FROM CHARLOTTE OFFICE: START OUT GOING SOUTHWEST ON RESEARCH DRIVE TOWARDS HARRIS BLVD 0.4 MILE; TURN LEFT ONTO W WT HARRIS BLVD 0.4 MILE; TURN LEFT ONTO THE I-85N RAMP 0.3 MILE; MERGE ONTO I-85N 42.1 MILES; KEEP LEFT AT THE FORK TO STAY ON I-85N 32.8 MILES; KEEP LEFT AT THE FORK TO STAY ON I-85N 5.6 MILES; TAKE EXIT 126A-126B TO MERGE ONTO US-421S TOWARD SANFORD 44.9 MILES; KEEP LEFT TO STAY ON US-421S 3.4 MILES; KEEP LEFT TO STAY ON US-421S 7.3 MILES; TAKE EXIT 143A TO STAY ON US-421S TOWARD LILLINGTON 0.2 MILE; MERGE ONTO US-421S 17.7 MILES; TURN LEFT ONTO S MAIN ST 1.5 MILES TURN RIGHT ONTO US-421S 3.3 MILES; TURN LEFT ONTO LESLIE CAMPBELL AVE 315FT; TURN LEFT ONTO JUDGE TAYLER RD 0.3 MILE; TURN LEFT ONTO T T LANIER EXD 0.3 MILE; TURN RIGHT ONTO DR MCKOY RD 0.2 MILE; DR MCKOY RD TURNS RIGHT AND BECOMES CAUDELL LN 0.2 MILE; TURN RIGHT ONTO DAY DORM RD 374FT; ARRIVE AT DESTINATION ON THE RIGHT.

DRIVING DIRECTIONS

MUNICIPALITY:
TOWN OF BUIES CREEK

STATE:
NORTH CAROLINA

TOWER TYPE:
EXISTING BUILDING ROOFTOP

NUMBER OF CARRIERS:
0 EXISTING, 1 PROPOSED

USE:
EXISTING STORAGE ROOM W/ EQUIPMENT RACKS AND ROOFTOP MOUNTED ANTENNAS

CONSULTANT
KIMLEY-HORN AND ASSOCIATES, INC.
2 SUN COURT, SUITE 450
PEACHTREE CORNERS, GEORGIA 30092
PHONE: (404) 201-6156
ATTN.: COLE EDMONSON

PROJECT SUMMARY

DEVELOPER
VERIZON WIRELESS
8921 RESEARCH DRIVE
CHARLOTTE, NC 28262
PHONE: (704) 510-8717
ATTN: ROCKY CANADY

PROPERTY OWNER
CAMPBELL UNIVERSITY
P.O. BOX 97
BUIES CREEK, NC 27506

CONTACTS

SHEET	DESCRIPTION	REV.
T1	COVER SHEET	0
T2	APPENDIX B: BUILDING CODE SUMMARY	0
C1	OVERALL SITE LAYOUT	0
C2	OVERALL THIRD FLOOR PLAN	0
C3	THIRD FLOOR STORAGE ROOM LAYOUT	0
C4	ROOFTOP LAYOUT	0
C5	BUILDING ELEVATIONS	0
C6	ANTENNA & COAX MOUNT DETAILS	0
C7	WALL PENETRATION DETAILS	0
E1	ELECTRICAL NOTES	0
E2	THIRD FLOOR STORAGE ROOM ROUTING PLAN	0
E3	SINGLE-LINE DIAGRAM	0
E4	PANEL SCHEDULE	0

SHEET INDEX

HARNETT COUNTY DEVELOPMENT SERVICES
108 E. FRONT ST.
LILLINGTON, NC 27546
PHONE: (910) 893-7525
ATTN.: CUSTOMER SERVICE

PERMIT INFORMATION

verizon
8921 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28262

PROJECT INFORMATION:

VERIZON NAME:
CAMPBELL UNIVERSITY
VERIZON No.: TBD
179 DAY DORM ROAD
LILLINGTON, NC 27546
HARNETT COUNTY

CURRENT ISSUE DATE:
07/17/17

ISSUED FOR:
CONSTRUCTION

REV.:	DATE:	ISSUED FOR:	BY:
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0	07/17/17	CONSTRUCTION	WCE

CONSULTANT:
Kimley»Horn
2 SUN COURT, SUITE 450
PEACHTREE CORNERS, GA 30092
PHONE: 770-825-0744
WWW.KIMLEY-HORN.COM
NC License F-0102

CONSULTANT:

DRAWN BY:	CHK.:	APV.:
MWD	WCE	WCE

LICENSER:
NORTH CAROLINA PROFESSIONAL SEAL 041745 ENGINEER WILLIAM C. EDMONSON
7-17-17

SHEET TITLE:
COVER SHEET

SHEET NUMBER:	REVISION:
T1	0
	018985165

2012 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: VERIZON WIRELESS – CAMPBELL UNIVERSITY
Address: 179 DAY DORM ROAD, LILLINGTON, NC Zip Code 27546
Proposed Use: WIRELESS COMMUNICATION SERVICES
Owner/Authorized Agent: KEITH MARKLAND Phone # (678) 533 - 3928 E-Mail keith.markland@kimley-horn.com
Owned By: ☐ City/County ☒ Private ☐ State
Code Enforcement Jurisdiction: ☐ City_____ ☒ County HARNETT ☐ State

LEAD DESIGN PROFESSIONAL: WILLIAM C. EDMONSON, P.E. (#041745)

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural				( )	
Civil	KIMLEY-HORN & ASSOC.	WILLIAM C. EDMONSON	041745	(404)201-8156	cole.edmonson@kimley-horn.com
Electrical	KIMLEY-HORN & ASSOC.	CORBIN C. HARDY	040828	(919)653-2968	corbin.hardy@kimley-horn.com
Fire Alarm				( )	
Plumbing				( )	
Mechanical				( )	
Sprinkler-Standpipe				( )	
Structural				( )	
Retaining Walls >5' High				( )	
Other				( )	

2012 EDITION OF NC CODE FOR: ☒ New Construction ☐ Addition ☐ Upfit
EXISTING: ☐ Reconstruction ☐ Alteration ☐ Repair ☐ Renovation
CONSTRUCTED: (date) _____ **ORIGINAL USE(S)** (Ch. 3): TELECOMMUNICATIONS SITE
RENOVATED: (date) _____ **CURRENT USE(S)** (Ch. 3): TELECOMMUNICATIONS SITE
PROPOSED USE(S) (Ch. 3): TELECOMMUNICATIONS SITE

BASIC BUILDING DATA
Construction Type: (check all that apply) ☐ I-A ☐ I-B ☐ II-A ☐ II-B ☐ III-A ☐ III-B ☐ IV ☐ V-A ☐ 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 (Primary) **Flood Hazard Area:** ☐ No ☐ Yes
Building Height: (feet) _____
Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
6th Floor			
5th Floor			
4th Floor			
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor			
Basement			
TOTAL			

N/A

ALLOWABLE AREA

Occupancy:
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 ☐ I-2 ☐ I-3 ☐ I-4
I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
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 Occupancies:
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 ☐ I-2 ☐ I-3 ☐ I-4
I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
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 ☐

N/A

Incidental Uses (Table 508.2.5):
☐ Furnace room where any piece of equipment is over 400,000 Btu per hour input
☐ Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower
☐ Refrigerant machine room
☐ Hydrogen cutoff rooms, not classified as Group H
☐ Incinerator rooms
☐ Paint shops, not classified as Group H located in occupancies other than Group F
☐ Laboratories and vocational shops, not classified as Group H, located in a Group E or I-2 occupancy
☐ Laundry rooms over 100 square feet
☐ Group I-3 cells equipped with padded surfaces
☐ Group I-2 waste and linen collection rooms
☐ Waste and linen collection rooms over 100 square feet
☐ Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons, or a lithium-ion capacity of 1,000 pounds used for facility standby power, emergency power or uninterrupted power supplies
☐ Rooms containing fire pumps
☐ Group I-2 storage rooms over 100 square feet
☐ Group I-2 commercial kitchens
☐ Group I-2 laundries equal to or less than 100 square feet
☐ Group I-2 rooms or spaces that contain fuel-fired heating equipment

Special Uses: ☐ 402 ☐ 403 ☐ 404 ☐ 405 ☐ 406 ☐ 407 ☐ 408 ☐ 409 ☐ 410 ☐ 411 ☐ 412 ☐ 413 ☐ 414 ☐ 415 ☐ 416 ☐ 417 ☐ 418 ☐ 419 ☐ 420 ☐ 421 ☐ 422 ☐ 423 ☐ 424 ☐ 425 ☐ 426 ☐ 427

Special Provisions: ☐ 509.2 ☐ 509.3 ☐ 509.4 ☐ 509.5 ☐ 509.6 ☐ 509.7 ☐ 509.8 ☐ 509.9

Mixed Occupancy: ☐ No ☐ Yes Separation: ____ Hr. Exception: _____
☐ Incidental Use Separation (508.2.5)
This separation is not exempt as a Non-Separated Use (see exceptions).
☐ 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

N/A

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503 AREA	(C) AREA FOR FRONTAGE INCREASE[1]	(D) AREA FOR SPRINKLER INCREASE[2]	(E) ALLOWABLE AREA OR UNLIMITED[3]	(F) MAXIMUM BUILDING AREA[4]

[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] The sprinkler increase per Section 506.3 is as follows:
a. Multi-story building I_s = 200 percent
b. Single story building I_s = 300 percent
[3] Unlimited area applicable under conditions of Section 507.
[4] Maximum Building Area = total number of stories in the building x E (506.4).
[5] The maximum area of open parking garages must comply with Table 406.3.5. The maximum area of air traffic control towers must comply with Table 412.1.2.

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type _____		Type _____	
Building Height in Feet		Feet = H + 20' = _____		
Building Height in Stories		Stories + 1 = _____		

N/A

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (w/_____ * REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # 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							
Roof Construction Including supporting beams and joists							
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Separation							
Occupancy Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Tenant Separation							
Incidental Use Separation							

N/A

* Indicate section number permitting reduction

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
☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
☐ Existing structures within 30' of the proposed building
☐ Occupancy types for each area as it relates to occupant load calculation (Table 1004.1.1)
☐ Occupant loads for each area
☐ Exit access travel distances (1016)
☐ Common path of travel distances (1014.3 & 1028.8)
☐ Dead end lengths (1018.4)
☐ Clear exit widths for each exit door
☐ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.1)
☐ 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 (1008.1.10)
☐ Location of doors with delayed egress locks and the amount of delay (1008.1.9.7)
☐ Location of doors with electromagnetic egress locks (1008.1.9.8)
☐ Location of doors equipped with hold-open devices
☐ Location of emergency escape windows (1029)
☐ The square footage of each fire area (902)
☐ The square footage of each smoke compartment (407.4)
☐ 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

N/A

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						

N/A

STRUCTURAL DESIGN

DESIGN LOADS:

Importance Factors: Wind (I_w) _____ Snow (I_s) _____ Seismic (I_E) _____

Live Loads: Roof _____ psf Mezzanine _____ psf Floor _____ psf

Ground Snow Load: _____ psf

Wind Load: Basic Wind Speed _____ mph (ASCE-7) Exposure Category _____ Wind Base Shears (for MWFRS) Vx = _____ Vy = _____

N/A

SEISMIC DESIGN CATEGORY: ☐ A ☐ B ☐ C ☐ D

Provide the following Seismic Design Parameters:
Occupancy Category (Table 1604.5) ☐ I ☐ II ☐ III ☐ IV
Spectral Response Acceleration S_s _____ %g S_1 _____ %g
Site Classification (Table 1613.5.2) ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F
Data Source: ☐ Field Test ☐ Presumptive ☐ Historical Data
Basic structural system (check one)
☐ Bearing Wall ☐ Dual w/Special Moment Frame
☐ Building Frame ☐ Dual w/Intermediate R/C or Special Steel
☐ Moment Frame ☐ Inverted Pendulum
Seismic base shear: V_x = V_y =
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 _____

SPECIAL INSPECTIONS REQUIRED: ☐ Yes ☐ No

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATER CLOSETS MALE	WATER CLOSETS FEMALE	LAVATORIES MALE	LAVATORIES FEMALE	SHOWERS/ TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
SPACE	EXISTING							
	NEW							
	REQUIRED							

N/A

SPECIAL APPROVALS

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

N/A

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.

Climate Zone: ☐ 3 ☐ 4 ☐ 5

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

THERMAL ENVELOPE

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 skylights in each assembly: _____

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

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: _____

N/A

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

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 System
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: _____

N/A

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

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

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

Additional Prescriptive Compliance
☐ 506.2.1 More Efficient Mechanical Equipment
☐ 506.2.2 Reduced Lighting Power Density
☐ 506.2.3 Energy Recovery Ventilation Systems
☐ 506.2.4 Higher Efficiency Service Water Heating
☐ 506.2.5 On-Site Supply of Renewable Energy
☐ 506.2.6 Automatic Daylighting Control Systems

N/A

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NC License F-0102

CONSULTANT:

DRAWN BY: MWD | CHK.: WCE | APV.: WCE

LICENSER:

NORTH CAROLINA PROFESSIONAL SEAL 041745 ENGINEER WILLIAM C. EDMONSON 7/17/17

SHEET TITLE:
APPENDIX B: BUILDING CODE SUMMARY

SHEET NUMBER: T2 REVISION: 0

018985165

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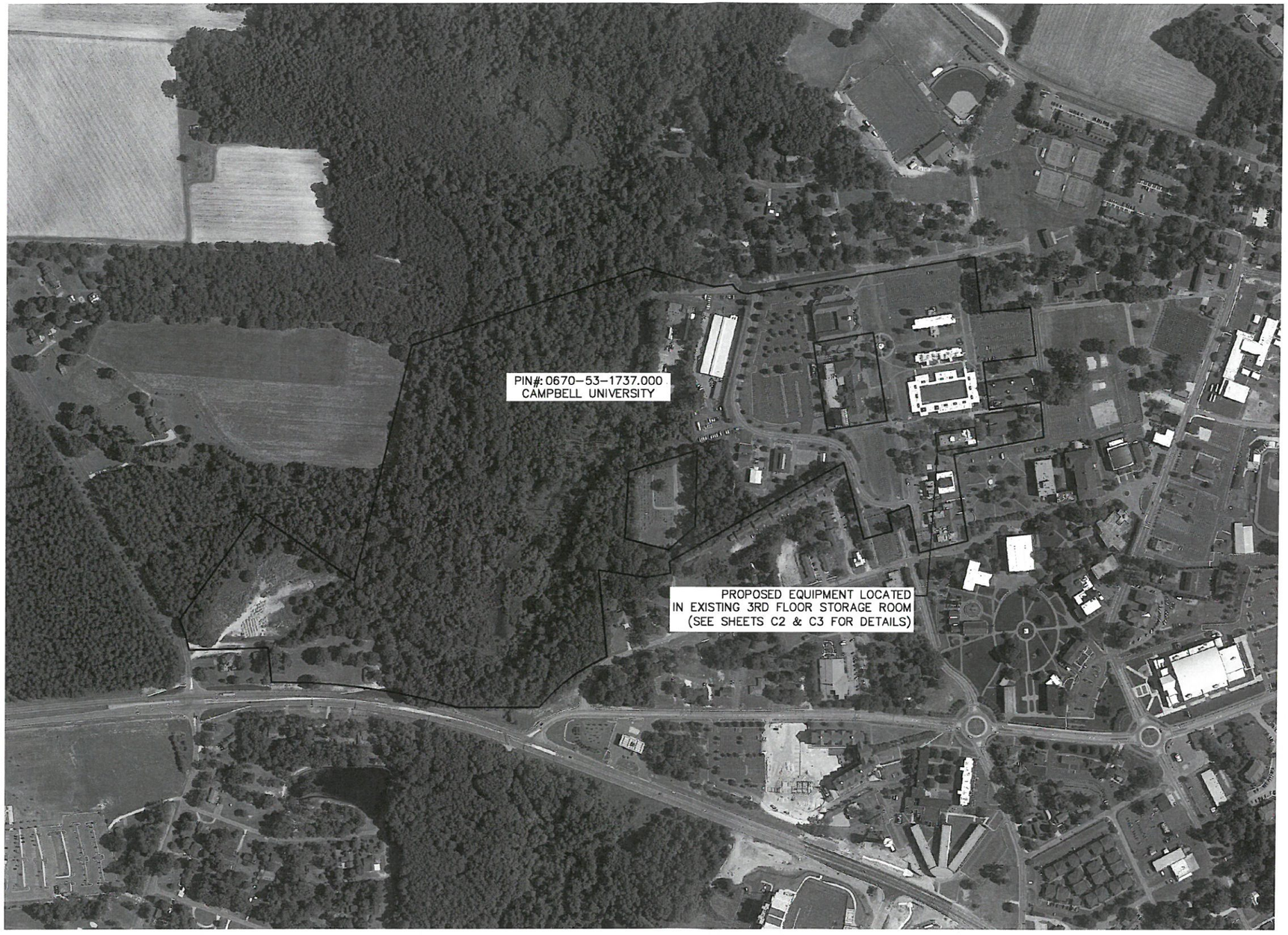

NORTH

1 / C1 OVERALL SITE LAYOUT

SCALE : 1" = 500'

0 250 500 1000

GRAPHIC SCALE: 1" = 500'

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verizon

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Kimley»Horn

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PEACHTREE CORNERS, GA 30092
PHONE: 770-825-0744
WWW.KIMLEY-HORN.COM
NC License F-0102

CONSULTANT:

DRAWN BY:	CHK.:	APV.:
MWD	WCE	WCE

LICENSER:

NORTH CAROLINA PROFESSIONAL SEAL 041725 ENGINEER WILLIAM C. EDMONSON

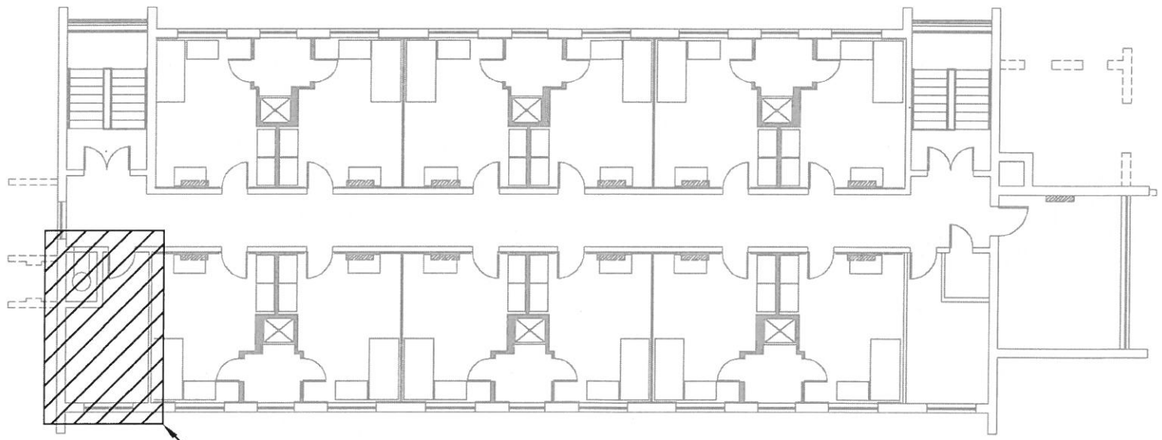
SHEET TITLE:

OVERALL SITE LAYOUT

SHEET NUMBER: C1

REVISION: 0

018985165



NORTH

1 / C2 OVERALL THIRD FLOOR PLAN

NOT TO SCALE

verizon
8921 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28262

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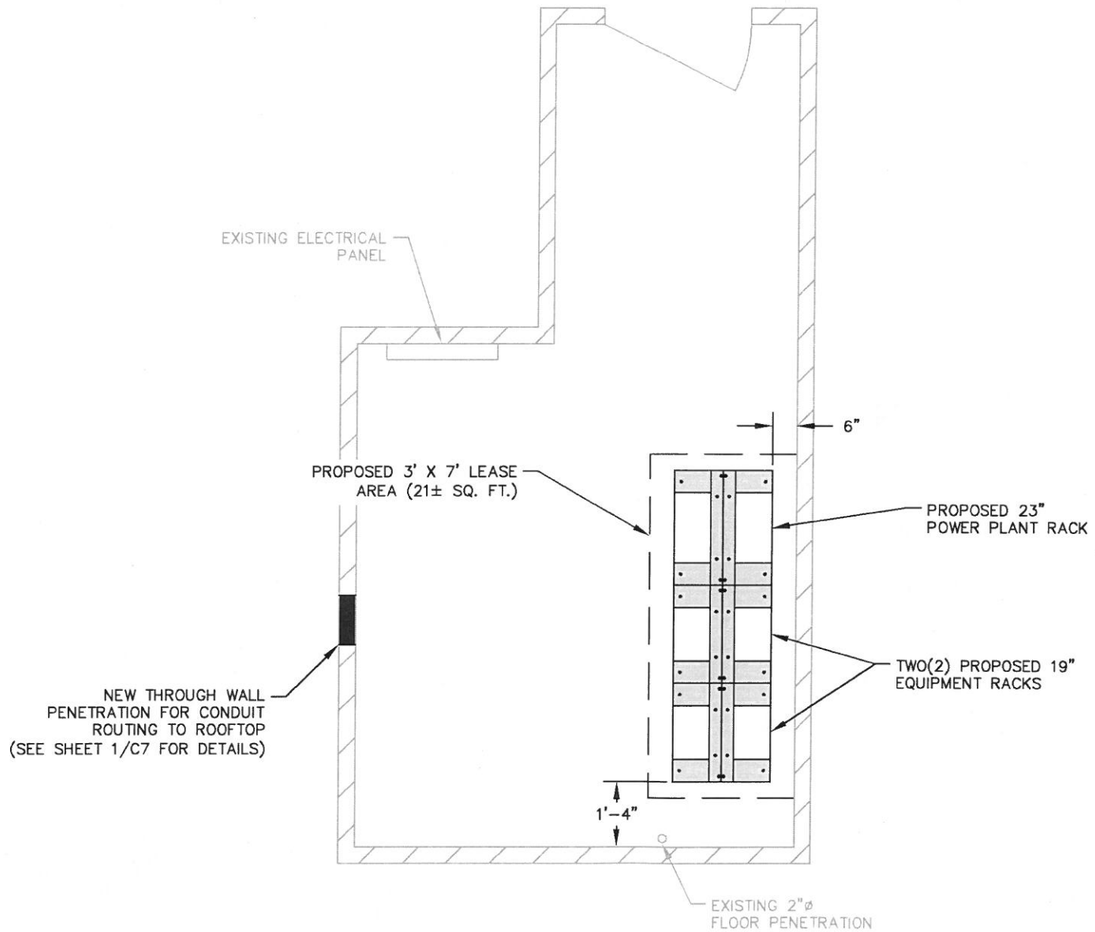
LICENSER:

NORTH CAROLINA PROFESSIONAL SEAL 041745 ENGINEER WILLIAM C. EDMONSON 7.17.17

SHEET TITLE:

OVERALL THIRD FLOOR PLAN

SHEET NUMBER:	REVISION:
C2	0
	018985165



1/C3 THIRD FLOOR STORAGE ROOM

SCALE : 1" = 3'

GRAPHIC SCALE: 1" = 3'

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verizon
8921 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28262

PROJECT INFORMATION:

VERIZON NAME:
CAMPBELL UNIVERSITY
VERIZON No.: TBD
179 DAY DORM ROAD
LILLINGTON, NC 27546
HARNETT COUNTY

CURRENT ISSUE DATE:

07/17/17

ISSUED FOR:

CONSTRUCTION

REV.:	DATE:	ISSUED FOR:	BY:
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0	07/17/17	CONSTRUCTION	WCE

CONSULTANT:

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DRAWN BY:	CHK.:	APV.:
MWD	WCE	WCE

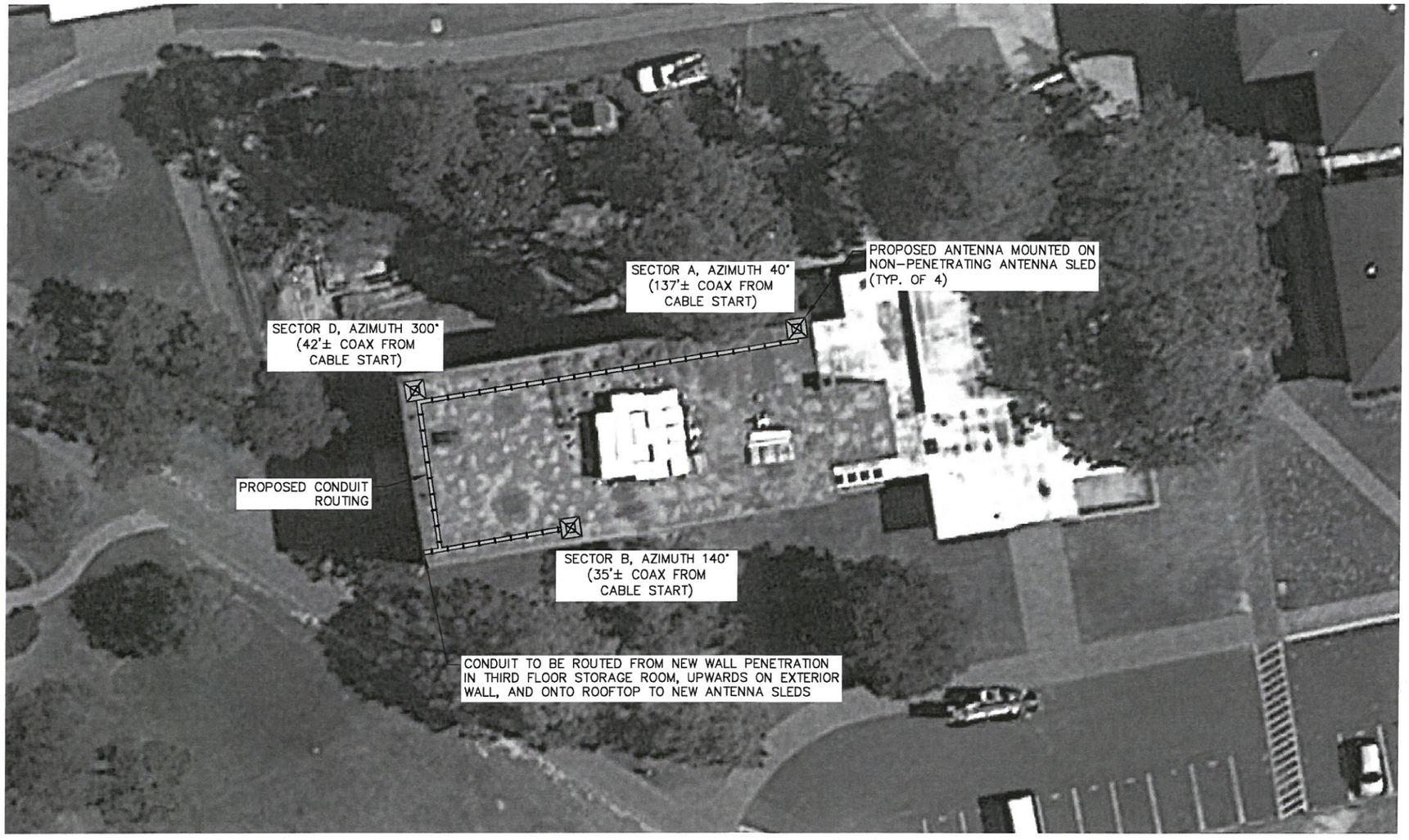
LICENSER:

NORTH CAROLINA PROFESSIONAL SEAL 041745 ENGINEER WILLIAM C. EDMONSON 7.17.17

SHEET TITLE:

THIRD FLOOR STORAGE ROOM LAYOUT

SHEET NUMBER:	REVISION:
C3	0
	018985165



1/C4 ROOFTOP LAYOUT
SCALE : 1" = 30'

0 15 30 60
GRAPHIC SCALE: 1" = 30'

ANTENNA SECTOR	AZIMUTH IN DEGREES	MECHANICAL DOWN TILT	ANTENNA* (QTY.) MAKE/MODEL	COMPOSITION CABLES LENGTH	SIZE	QTY.
SECTOR A	40°	0°	(1) ANDREW/ NH65S-DG-F0M	137'±	1-5/8"ø	1
SECTOR B	140°	0°	(1) ANDREW/ NH65S-DG-F0M	35'±	1-5/8"ø	1
SECTOR G	300°	0°	(1) ANDREW/ NH65S-DG-F0M	42'±	1-5/8"ø	1

* CONTRACTOR TO INSTALL ANY ADDITIONAL EQUIPMENT AS NECESSARY.
VERIFY WITH VERIZON WIRELESS PROJECT MANAGER PRIOR TO CONSTRUCTION.

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CONSULTANT:

DRAWN BY:	CHK.:	APV.:
MWD	WCE	WCE

LICENSER:

NORTH CAROLINA PROFESSIONAL SEAL 041745 ENGINEER WILLIAM C. EDMONSON 7/17/17

SHEET TITLE:
ROOFTOP LAYOUT

SHEET NUMBER: C4
REVISION: 0
018985165

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1 / C5 NORTHWEST BUILDING ELEVATIONS

(FACING SOUTHEAST)
NOT TO SCALE

verizon
8921 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28262

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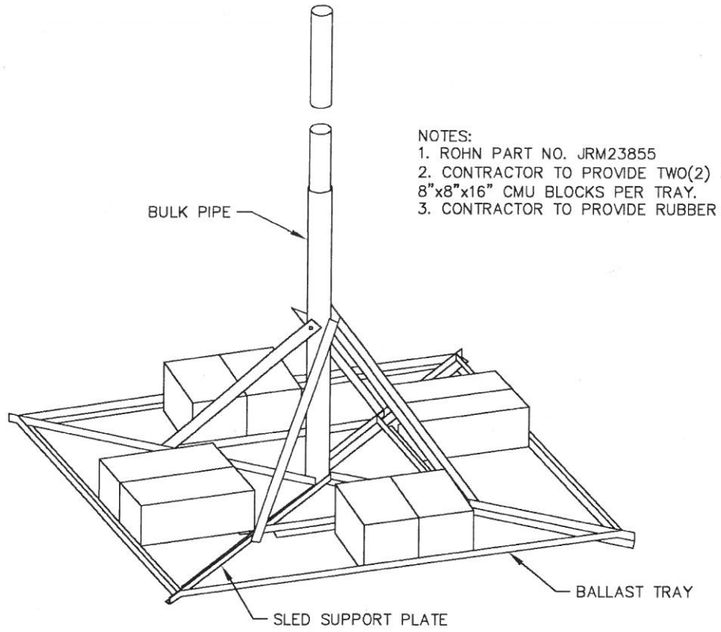
MWD	WCE	WCE

LICENSER:

NORTH CAROLINA PROFESSIONAL SEAL 011745 ENGINEER WILLIAM C. EDMONDSON 7.17.17

SHEET TITLE:
BUILDING ELEVATIONS

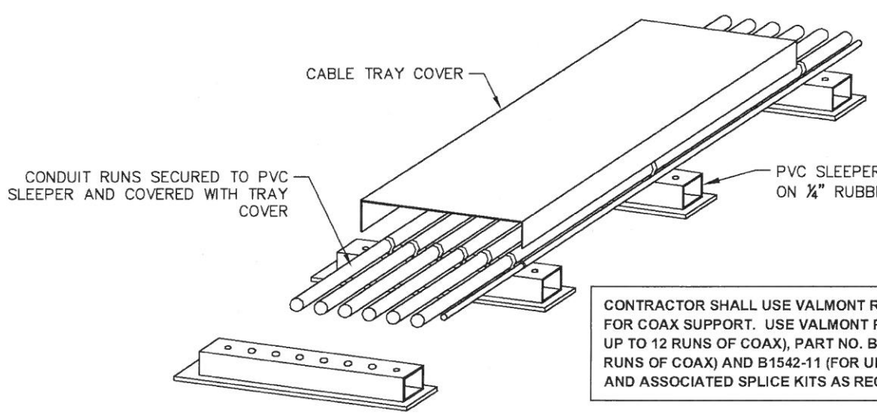
SHEET NUMBER:	REVISION:
C5	0
	018985165



NOTES:
1. ROHN PART NO. JRM23855
2. CONTRACTOR TO PROVIDE TWO(2) STANDARD 8"x8"x16" CMU BLOCKS PER TRAY.
3. CONTRACTOR TO PROVIDE RUBBER MATS AT EACH.

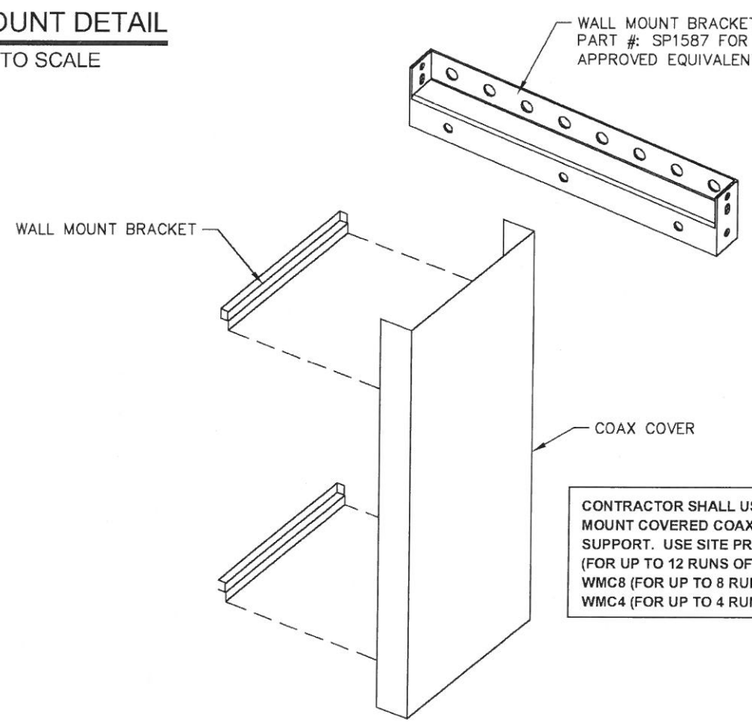
1 C6 SLED MOUNT DETAIL
NOT TO SCALE

NOTE:
CABLE TRAY COVERS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTALLATION PROCEDURES AND INSTRUCTIONS FOR HIGH WIND CONDITIONS. THIS INCLUDES CONNECTOR TYPES AND SPACINGS.



CONTRACTOR SHALL USE VALMONT ROOFTOP COAX KIT FOR COAX SUPPORT. USE VALMONT PART NO. B1595 (FOR UP TO 12 RUNS OF COAX), PART NO. B1543 (FOR UP TO 8 RUNS OF COAX) AND B1542-11 (FOR UP TO 4 RUNS OF COAX) AND ASSOCIATED SPLICE KITS AS REQUIRED.

2 C6 COAX SUPPORT DETAIL
NOT TO SCALE



CONTRACTOR SHALL USE SITE PRO1 WALL MOUNT COVERED COAX KIT FOR COAX SUPPORT. USE SITE PRO1 PART NO. WMC12 (FOR UP TO 12 RUNS OF COAX), PART NO. WMC8 (FOR UP TO 8 RUNS OF COAX) AND WMC4 (FOR UP TO 4 RUNS OF COAX).

3 C6 COAX WALL SUPPORT DETAIL
NOT TO SCALE

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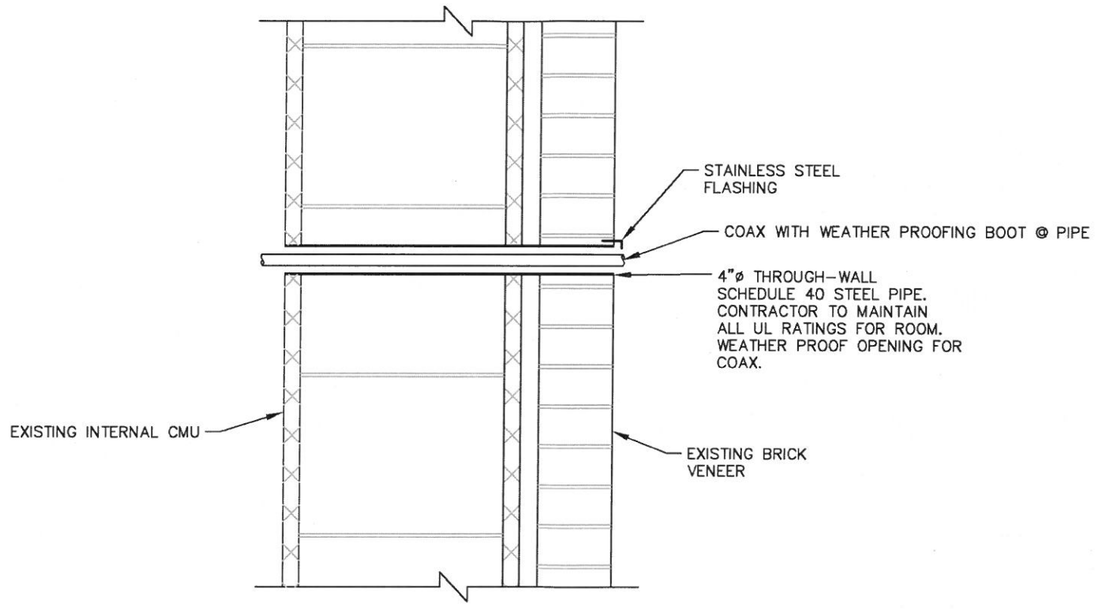
DRAWN BY:	CHK.:	APV.:
MWD	WCE	WCE

LICENSER:
NORTH CAROLINA PROFESSIONAL SEAL 041745 ENGINEER WILLIAM C. EDMONDSON 7/17/17

SHEET TITLE:
ANTENNA AND COAX MOUNT DETAILS

SHEET NUMBER:	REVISION:
C6	0
	018985165



1/C7 THROUGH WALL PENETRATION DETAIL

NOT TO SCALE

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8921 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28262

PROJECT INFORMATION:

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LILLINGTON, NC 27546
HARNETT COUNTY

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DRAWN BY:	CHK.:	APV.:
MWD	WCE	WCE

LICENSER:

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SHEET TITLE:

WALL PENETRATION DETAILS

SHEET NUMBER:	REVISION:
C7	0
	018985165

1.00 CODES, STANDARDS, AND SPECIFICATIONS

1.01 IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL MATERIALS AND LABOR RELATED DIRECTLY OR INDIRECTLY TO ALL ELECTRICAL WORK DOCUMENTED IN THESE DRAWINGS SHALL BE PROVIDED AND PERFORMED IN CONFORMANCE WITH ALL CURRENT GOVERNING CODES, STANDARDS, AND PROFESSIONAL STANDARD OF CARE TO INCLUDE THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM), UNDERWRITERS LABORATORY (UL), NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA), AMERICAN STANDARDS ASSOCIATION (ASA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), AND THE NATIONAL ELECTRICAL CODE (NEC).

1.02 MATERIALS SHALL BE NEW AND SHALL CONFORM TO ALL APPLICABLE CURRENT GOVERNING STANDARDS ESTABLISHED FOR EACH ITEM BY ASTM, UL, NEMA, ASA, AND NFPA.

1.03 ALL ELECTRICAL WORK SHALL COMPLY WITH ALL APPLICABLE STATE, COUNTY, AND MUNICIPAL CODES AND ORDINANCES, AS WELL AS ALL CURRENT GOVERNING STANDARDS AND PRACTICES AS REQUIRED BY NEC, NEMA, ANSI, NFPA, UBC, UL, IEEE, AND THE LOCAL UTILITY COMPANY.

1.04 ALL ELECTRICAL GROUNDING SHALL COMPLY WITH THE CURRENT EDITION OF THE NEC.

1.05 CONTRACTOR SHALL MAINTAIN UL LISTED FIRE RATINGS AT ALL WALL PENETRATIONS.

1.06 CONTRACTOR SHALL MAINTAIN A MINIMUM CLEARANCE OF 36" IN FRONT OF ALL ELECTRICAL EQUIPMENT AS REQUIRED BY NEC.

2.00 GENERAL

2.01 CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND ASSOCIATED FEES RELATED TO THE PROJECT AND SHALL DELIVER A COPY OF ALL PERMITS TO THE VERIZON REPRESENTATIVE.

2.02 CONTRACTOR SHALL SCHEDULE AND SHOULD ATTEND ALL INSPECTIONS REQUIRED BY THE JURISDICTION HAVING AUTHORITY.

2.03 CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, ACCESSORIES, ETC., FOR A COMPLETE WORKING ELECTRICAL INSTALLATION.

2.04 ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH APPLICABLE BUILDING CODES AND LOCAL ORDINANCES, INSTALLED IN A NEAT MANNER, AND SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.

2.05 CONTRACTOR SHALL PROTECT ADJACENT EQUIPMENT AND FINISHES FROM DAMAGE AND SHALL REPAIR TO ORIGINAL CONDITION ANY ITEMS DAMAGED AS A RESULT OF THE WORK.

2.06 IF CONDUIT RUNS HAVE MORE THAN THREE (3) CONSECUTIVE 90 DEGREE TURNS THE CONTRACTOR SHALL INSTALL PULL BOXES AS REQUIRED BY NEC.

3.00 MATERIALS

3.01 ALL EQUIPMENT AND MATERIALS SHOWN SHALL BE CONSIDERED NEW UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS.

3.02 FINAL CONNECTIONS OF EQUIPMENT SHALL BE PER MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT SUPPLIED BY VERIZON.

3.03 CONTRACTOR SHALL PROVIDE AN UPDATED PANELBOARD DIRECTORY FOR THE PANEL FROM WHICH THE NEW VERIZON EQUIPMENT CIRCUIT WILL BE CONNECTED. CONTRACTOR SHALL SUBMIT UPDATED DIRECTORY IN A PLASTIC COVER TO THE BUILDING OWNER FOR APPROVAL PRIOR TO INSTALLATION.

3.04 ALL CONDUIT WITHIN THE INTERIOR OF THE BUILDING SHALL BE EMT UNLESS OTHERWISE NOTED. ALL CONDUIT ON THE BUILDING EXTERIOR SHALL BE GALVANIZED RIGID STEEL. ALL EXTERIOR CONDUIT CONNECTIONS SHALL BE MADE WITH THREADED HUBS.

3.05 CONTRACTOR SHALL FIELD DETERMINE ACTUAL CONDUIT ROUTING AND SHALL OBTAIN APPROVAL FROM THE BUILDING OWNER OF THE PROPOSED ROUTING PRIOR TO CONDUIT INSTALLATION.

3.06 ALL CONDUCTORS SHALL BE COPPER WITH THWN INSULATION AND ALL TERMINATIONS SHALL BE RATED FOR AT LEAST 75 DEGREES CELSIUS.

3.07 ALL NEUTRAL CONDUCTORS SHALL HAVE WHITE INSULATION. ALL GROUND CONDUCTORS SHALL HAVE GREEN INSULATION. COLOR TAPE IDENTIFICATION OF THESE CONDUCTORS IS NOT PERMITTED.

4.00 PRE-CONSTRUCTION COORDINATION

4.01 CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID AND NOTE EXISTING CONDITIONS THAT MIGHT AFFECT THEIR WORK. ALL SUCH CONDITIONS SHALL BE REPORTED TO THE ENGINEER PRIOR TO BID.

4.02 CONTRACTOR SHALL PROVIDE A UTILITY LOCATOR AND SHALL VERIFY THE ACTUAL LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

4.03 CONTRACTOR SHALL VERIFY, PRIOR TO ROUGH-IN, THAT SITE CONDITIONS ALLOW FOR THE PLACEMENT OF THE ELECTRICAL EQUIPMENT AS SHOWN ON THE PLANS.

4.04 ALL OUTAGES SHALL BE CONDUCTED AT A TIME AGREED UPON IN WRITING WITH THE BUILDING OWNER. POWER OUTAGE DURATION SHALL BE PRE-APPROVED IN WRITING BY THE BUILDING OWNER.

4.05 CONTRACTOR SHALL PERFORM AN ARC FLASH ANALYSIS AT THE LOAD CENTER ON THE VERIZON TELECOMMUNICATIONS CABINET AND PROVIDE ARC FLASH LABEL PER NEC.

4.06 WHEN A NEW ELECTRICAL SERVICE IS REQUIRED, CONTRACTOR SHALL COORDINATE WITH LOCAL ELECTRICAL UTILITY REGARDING THE EXACT LOCATION OF THE TRANSFORMER, ALL METERING REQUIREMENTS, AND CONDUIT ROUTING BETWEEN TRANSFORMER AND METER.

4.07 ALL CIRCUIT BREAKERS AND EQUIPMENT SHALL HAVE A MINIMUM AIC RATING OF 10,000 AMPS. IF THE RATING OF THE UTILITY TRANSFORMER PROVIDING THE ELECTRICAL SERVICE IS GREATER THAN 75 kVA, THE CONTRACTOR SHALL PERFORM A SHORT CIRCUIT CURRENT ANALYSIS TO DETERMINE THE REQUIRED AIC RATING FOR THE CIRCUIT BREAKERS AND THE EQUIPMENT. PRIOR TO PURCHASING EQUIPMENT, THE CONTRACTOR SHALL CONTACT THE ELECTRIC UTILITY AND OBTAIN IN WRITING THE MAXIMUM AVAILABLE FAULT CURRENT (AFC) AT THE UTILITY SERVICE POINT. PROVIDE MAX. AFC SIGNAGE AS REQUIRED PER NEC 110.24. THE CONTRACTOR SHALL ENSURE ALL ELECTRICAL EQUIPMENT, CIRCUIT BREAKERS, DISCONNECTS, FUSES, AND PANELBOARDS HAVE A FAULT CURRENT INTERRUPTING RATING GREATER THAN THE AVAILABLE FAULT CURRENT.

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CHARLOTTE, NORTH CAROLINA 28262

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HARNETT COUNTY

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A	06/05/17	PRELIMINARY	DAJ
0	07/17/17	CONSTRUCTION	CCH

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LICENSER:

NORTH CAROLINA PROFESSIONAL
SEAL 040828
ENGINEER
CORBIN C. HARDY
7/17/17

SHEET TITLE:
ELECTRICAL NOTES

SHEET NUMBER:	REVISION:
E1	0
	018985165

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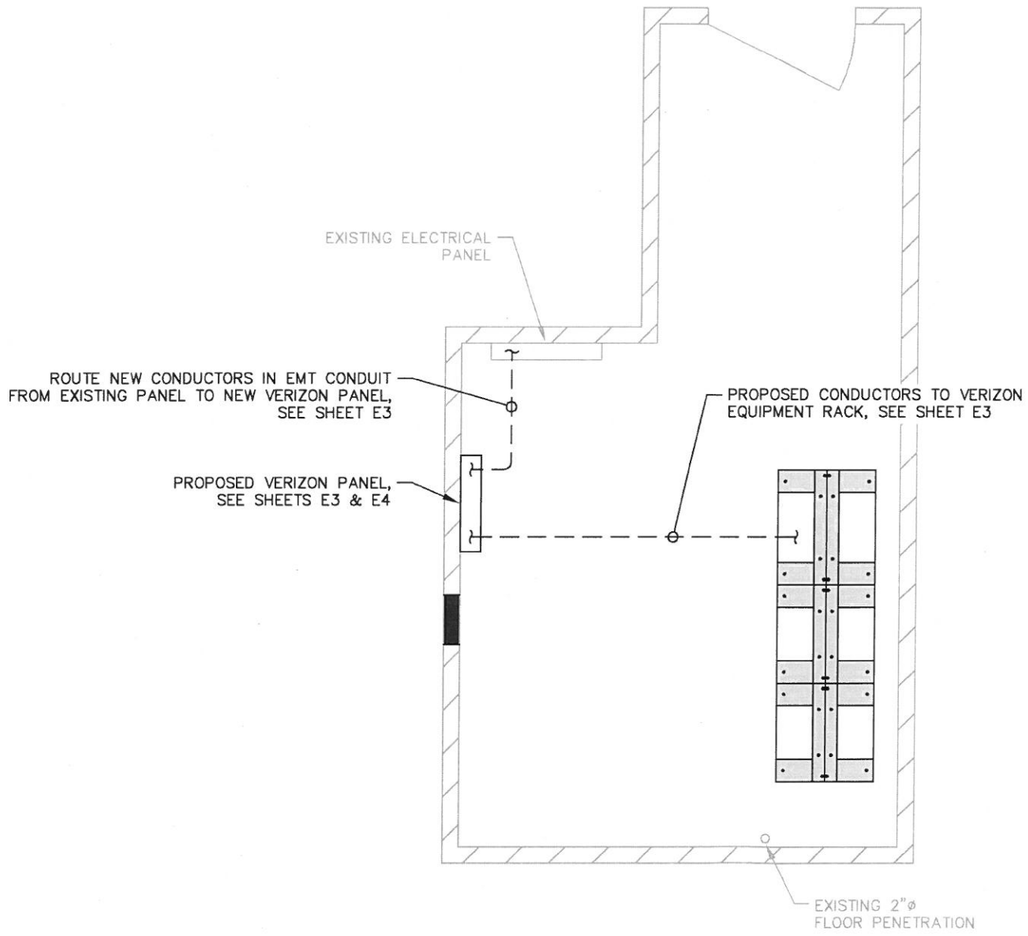

1/E2 THIRD FLOOR STORAGE ROOM ROUTING PLAN

SCALE: 1" = 3'

0 1.5 3 6

GRAPHIC SCALE: 1" = 3'

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MWD	WCE	CCH

LICENSER:

NORTH CAROLINA PROFESSIONAL SEAL 040828 ENGINEER CORBIN C. HARDY

7/17/17

SHEET TITLE:

STORAGE ROOM ROUTING PLAN

SHEET NUMBER: | REVISION:

E2 | **0**

018985165

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KEY NOTES - CONDUIT, CONDUCTORS, & MISC

(A) EXISTING UTILITY FEEDERS FROM EXISTING UTILITY TRANSFORMER SECONDARY TO EXISTING ELECTRICAL PANEL.

(B) ROUTE THREE (3) – #2 COPPER CONDUCTORS AND ONE (1) – #6 COPPER GROUND IN 1½" EMT CONDUIT TO NEW VERIZON PANEL.

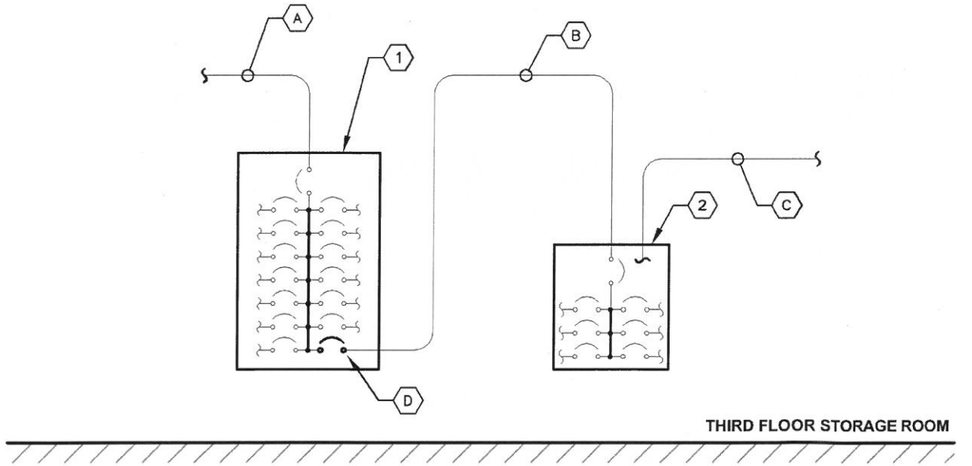
(C) OUTGOING CIRCUITS TO VERIZON EQUIPMENT RACK. FOR EACH CIRCUIT ROUTE TWO (2) – #12 COPPER CONDUCTORS AND ONE (1) – #12 COPPER GROUND IN ½" EMT CONDUIT TO VERIZON EQUIPMENT RACK. SEE PANEL SCHEDULE ON SHEET "E4" FOR ADDITIONAL DETAILS.

(D) FURNISH AND INSTALL NEW 90 AMP 3–POLE CIRCUIT BREAKER FOR POWER FEED TO VERIZON PANEL, CIRCUIT BREAKER MANUFACTURER, TYPE, ADJUSTABLE TRIP RATING, AND CURRENT INTERRUPTION CAPACITY SHALL MATCH EXISTING CIRCUIT BREAKERS IN THE PANEL. CONTRACTOR SHALL PROVIDE AND INSTALL AN ENGRAVED MICARTA NAMEPLATE NEXT TO THE CIRCUIT BREAKER WHICH SHALL READ "VERIZON PANEL".

KEY NOTES - ELECTRICAL EQUIPMENT

(1) EXISTING 208/120 VOLT, 400 AMP RATED PANEL IN THIRD FLOOR STORAGE ROOM. SEE PHOTO #1

(2) FURNISH AND INSTALL NEW 208/120 VOLT, 100 AMP, THREE–PHASE, 18 SPACE LOAD CENTER. CONTRACTOR SHALL PROVIDE AND INSTALL AN ENGRAVED MICARTA NAMEPLATE FOR THE PANEL WHICH SHALL READ "VERIZON PANEL".



1 / E3 SINGLE-LINE DIAGRAM
NOT TO SCALE

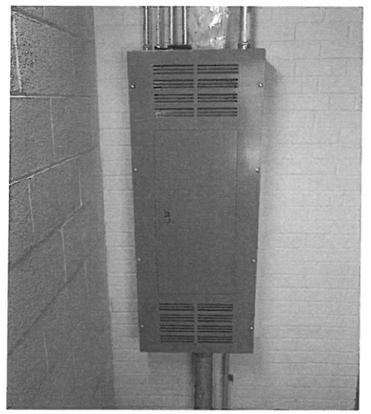


PHOTO #1 – EXISTING ELECTRICAL PANEL IN THIRD FLOOR STORAGE ROOM.

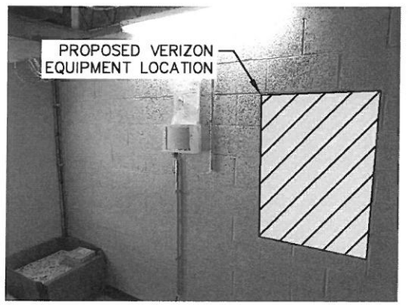


PHOTO #2 – PROPOSED LOCATION OF NEW VERIZON EQUIPMENT IN THIRD FLOOR STORAGE ROOM.

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DRAWN BY:	CHK.:	APV.:
MWD	WCE	CCH

LICENSER:

NORTH CAROLINA PROFESSIONAL SEAL 040828 ENGINEER CORBIN C. HARDY
7/17/17

SHEET TITLE: **SINGLE-LINE DIAGRAM**

SHEET NUMBER:	REVISION:
E3	0
	018985165

VERIZON PANEL SCHEDULE

Voltage: 208/120 Volts
Phase, Wires: Three Phase, 4 Wire
Mounting Type: Surface
Enclosure Type: NEMA 1R

MCB Size: 90 Amps
AIC Rating: 10,000 Amps min (see electrical notes)
Bus Rating: 100 Amps
Neutral Rating: 100%

Load Served	Load (kVA) A	B	C	Circuit Bkr Size	Ckt Nbr	Phase A B C	Ckt Nbr	Circuit Bkr Size	Load (kVA) A	B	C	Load Served
RECTIFIER #1	1.35			2P-20	1		2	----	0.00			SPACE
		1.35			3		4	2P-20		1.35		RECTIFIER #2
RECTIFIER #3			1.35	2P-20	5		6				1.35	
	1.35				7		8	2P-20	1.35			RECTIFIER #4
		0.00		----	9		10			1.35		
SPACE			0.00	----	11		12	----			0.00	SPACE
SPACE	0.00			----	13		14	----	0.00			SPACE
SPACE		0.00		----	15		16	----		0.00		SPACE
GFCI QUAD OUTLET			1.92	1P-20	17		18	----			0.00	SPACE
Sub-Total (kVA)	2.70	1.35	3.27						1.35	2.70	1.35	**Sub-Total (kVA)**

	A	B	C	
	4.05	4.05	4.62	
	12.72			Total Connected Load (kVA)

LOAD SUMMARY

Load Description	Connected Load (kVA) A	B	C	Demand Factor	Demand Load (kVA) A	B	C
RECTIFIERS	4.05	4.05	2.70	1.25	5.06	5.06	3.38
LARGEST MOTOR	0.00	0.00	0.00	1.25	0.00	0.00	0.00
ALL OTHER MOTORS	0.00	0.00	0.00	1.00	0.00	0.00	0.00
LIGHTING	0.00	0.00	0.00	1.25	0.00	0.00	0.00
OUTLETS	0.00	0.00	1.92	1.00	0.00	0.00	1.92
TOTAL MISCELLANEOUS	0.00	0.00	0.00	1.25	0.00	0.00	0.00
Total Demand Power per Phase					5.06	5.06	5.30	kVA
Total Demand Current per Phase					42.20	42.20	44.10	Amps
Total Demand Power					15.42			kVA

CAPACITY VERIFICATION - EXISTING PANEL

Name of local utility: DUKE ENERGY
Total Connected Load (Current): 280 Amps
Total demand current for Verizon panel: 90 Amps
New phase current demand on existing 200 Volt, 3 phase service: 370 Amps (B)
Service Size: 400 Amps (A)

(A) > (B), Therefore, the service has sufficient capacity for the additional load.

1 E4 PANEL SCHEDULE
NOT TO SCALE

verizon
8921 RESEARCH DRIVE
CHARLOTTE, NORTH CAROLINA 28262

PROJECT INFORMATION:

VERIZON NAME:
CAMPBELL UNIVERSITY
VERIZON No.: TBD
179 DAY DORM ROAD
LILLINGTON, NC 27546
HARNETT COUNTY

CURRENT ISSUE DATE: 07/17/17

ISSUED FOR: CONSTRUCTION

REV.	DATE:	ISSUED FOR:	BY:
A	06/05/17	PRELIMINARY	DAJ
0	07/17/17	CONSTRUCTION	CCH

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CONSULTANT:

DRAWN BY:	CHK.:	APV.:
MWD	WCE	CCH

LICENSER:

NORTH CAROLINA PROFESSIONAL SEAL 040828 ENGINEER CORBIN C. HARDY
7/17/17

SHEET TITLE: PANEL SCHEDULE

SHEET NUMBER: E4 REVISION: 0

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