LOCATION MAP

-PROJECT DIRECTORY

(E)

(P)

(E)

(P)

APPLICATION/

ENGINEERING:

CONSTRUCTION:

PROPERTY OWNER:



SBA COMMUNICATIONS CORPORATION

3545 WHITEHALL PARK DRIVE SUITE 450

CHARLOTTE, NORTH CAROLINA 28273

3545 WHITEHALL PARK DRIVE SUITE 450

CHARLOTTE, NORTH CAROLINA 28273

8051 CONGRESS AVE.

MACKENZIE CLIFFORD

704.527.0003 x2106

TREVOR MCALLISTER

478-542-3291

MARK MINTON

865-556-5283

BOCA RATON, FL 33487-2797

MCLIFFORD@SBASITE.COM

P. MARSHALL & ASSOCIATES

TMCALLISTER@PMASS.COM

P. MARSHALL & ASSOCIATES

MMINTON@PMASS.COM

SITE NAME: SITE NUMBER: NC40177-T

MAMERS



SITE NAME: T · · Mobile ·

L-SPRINT RA73XC0 SITE NUMBER: 5RA0821A DESCRIPTION: 67D5A97DB_B25 **SPRINT KEEP** 190' RAD CENTER

-PROJECT SUMMARY -- SITE SUMMARY -SITE ADDRESS: 40 RAVEN ROCK RD JURISDIC PARCEL LILLINGTON, NC 27546 PROPOSED WORK WILL CONSIST OF PREPARATION AND INSTALLATION OF ZONING: CELLULAR COMMUNICATION CARRIER EQUIPMENT, WHERE ALL WORK NC40177-T SBA NUMBER: SHALL BE CONTAINED WITHIN COMPOUND & SHALL NOT ADVERSELY MAMERS SBA NAME: ACREAG IMPACT THE SURROUNDING ADJACENT PARCELS. NO GRADING IS (E) IMPEI REQUIRED. NO NEW BUILDING BEING CONSTRUCTED, AND NO ELECTRICAL TOWER TYPE: MONOPOLE (P) IMPER SERVICE UPGRADE IS REQUIRED. ALL PROPOSED CONSTRUCTION WILL BE COMPANY: SBA COMPO CONTAINED WITHIN THE LIMITS OF THE EXISTING FENCED TELECOM CARRIER: T-MOBILE COMPOUND OR WITHIN PROPOSED UTILITY EASEMENT. WORK WILL TENANT ID/NAME: 5RA0821A UTILITIES: INCLUDE, BUT NOT LIMITED TO; ANTENNA SWAP & INSTALL, MOUNT WORK, CABLE REMOVAL/ INSTALLATION, AND CABINET INSTALLATION WITHIN POWER EXISTING EQUIPMENT LEASE AREA. TELCO C SITE LATITUDE(NAD83): 35.41925 (35° 25' 9.2994") -78.919083 (-78° 55' 8.6988'') SITE LONGITUDE (NAD83): ALL CONSTRUCTION SPECIFIED ON DOCUMENTS SUBMITTED FOR BUILDING PERMIT SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING & ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GND ELEVATION (NAVD88): 292' TOWER HEIGHT (AGL.) 195' • 2018 NORTH CAROLINA BUILDING CODE (2015 IBC) 2018 NORTH CAROLINA FIRE CODE 2018 NORTH CAROLINA PLUMBING CODE 2018 NORTH CAROLINA MECHANICAL CODE 2018 NORTH CAROLINA ENERGY CONSERVATION CODE -SHEET INDEX 2017 NORTH CAROLINA ELECTRICAL CODE - NFPA 70 • TIA-222-G, TIA-598-C, TIA-6087-B, TIA-569-B, TIA-568-C WIND LOAD DESIGN: 117_mph EXPOSURE CATEGORY:

OCCUPANCY: •• CONSTRUCTION TYPE: ••

GOVERNING AUTHORITIES :

SCOPE OF WORK

CODES

. ansi/ tia

••

••

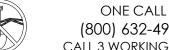
• TIA-1019-A

SITE DESIGN SUMMARY:

- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAP ACCESS IS NOT REQUIRED.
- FACILITY HAS NO SANITARY OR POTABLE WATER
- THERE IS "NO EMERGENCY RESPONSE EQUIPMENT ON THE TOWER AND EXISTING &/OR PROPOSED EQUIPMENT WILL NOT INTERFERE WITH COUNTY EMERGENCY COMMUNICATIONS AND THAT, IF SUCH, INTERFERENCE IS FOUND TO EXIST, THEN APPLICANT WILL TAKE WHATEVER STEPS NECESSARY TO CORRECT INTERFERENCE."

II-A

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FEMA PANEL:
```



CALL BEFORE YOU DIG

(800) 632-4949 CALL 3 WORKING DAYS **BEFORE YOU DIG!**

CALL NORTH CAROLINA



THIS SITE IS NOT IN ANY SPECIAL FLOOD HAZARD AREAS OR FUTURE CONDITIONS FLOOD HAZARD AREAS, AS SHOWN PER FIRM PANEL: 3720062000J. DATED: 10/03/2006.

T-1	TITLE SHEET
T-1A	APPENDIX B
T-1B	APPENDIX B
T-1C	APPENDIX B
C-1	SITE PLAN
C-2	EQUIPMENT PLAN
C-3	TOWER ELEVATION
C-4	ANTENNA ORIENTATION & CABLE SCHEDULE
C-5	PLUMBING DIAGRAM
C-6	EQUIPMENT SPECS
E-1	ELECTRICAL DETAILS
E-2	PANEL SCHEDULE & ONE-LINE DIAGRAM
G-1	GROUNDING DETAILS

OR IN NG Building Codes infactor. Building Harnett C O U N T Y NORTH CAROLINA	T - Mobile-
	SBA D)))) SBA COMMUNICATIONS CORP. 5900 BROKEN SOUND PKWY NW BOCA RATON, FL 33487
47	P. MARSHALL & ASSOCIATES
	LOCATION: 40 RAVEN ROCK RD LILLINGTON, NC 27546 SBA:
CTION: HARNETT COUNTY . #: 130620009702 5: RA-30	MAMERS NC40177-T
GE: RVIOUS: 3600 ± SQFT. RVIOUS: 0 SQFT. DUND SIZE: 3600 ± SQFT.	L-SPRINT RA73XC047 5RA0821A SITE TYPE: 195' MONOPOLE T-MOBILE SPRINT KEEP
- Company: South river emc	REV DATE DESCRIPTION
COMPANY: CENTURY LINK	0 12/30/20 FOR CONSTRUCTION
	SITE COORDINATES LAT: 35.41925 LONG: -78.919083
	DRAWN: RSW CHECKED: PWM JOB#: 20ASBTMMNC-0042
SEAL 024126	TITLE SHEET & PROJECT INFORMATION
WANNEL CONTRACTOR	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:	MT MORIAH -5RA	0039A			
Address: 2883 MT MORIAH ROAD DURHAM, NC 27707 Zip Code					
Owner/Authorized Agent: MACKENZIE CLIFFORD Phone # (704) 527 -0003 x 2106 E-Mail MCLIFFORD@SBASF					MCLIFFORD@SBASITE.COM
Owned By: City/County Private District					
Code Enforceme		y	County COU	N¥MLE ⊡ St INTY □ St	ate
Code Emorecine		y	County		aic
CONTACT:					
DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	P. MARSHALL & ASSOCIATES	PATRICK MARSHALL	024136	(<u>678</u>) 280-2325	
Civil Electrical	P. MARSHALL & ASSOCIATES		024136	() 200-2325	
Fire Alarm					
Plumbing					
Mechanical					
Sprinkler-Standp	ipe				
Structural				()	
Retaining Walls	>5' High			()	
Other	P. MARSHALL & ASSOCIATES	TREVOR MCALLISTER		(478) 542-3291	
("Other" should	include firms and individu	als such as truss, p	recast, pre-engine	ered, interior des	igners, etc.)
(check all that ap	Addit: ING BUILDING CODE	ion Prescriptive Repair Chapter 14	Shell/Core Phased Construct Alteration Alteration Alteration Alteration ST OCCUPANC	ion – Shell Core n Level I – – n Level II – – n Level III	erior Completions] Historic Property] Change of Use
RENOVAT	· · · ·				
OCCUPANCY	CATEGORY (Table 1604	+.5): Current:			
BASIC BUILDI Construction Ty (check all that ap Sprinklers: Standpipes:	ype: □ I-A ply) □ I-B □ No □ Partial □ No □ Class □	⊠ II-A □ II-B □ NFPA 13 □ II □ III	III-A III-B NFPA 13R Wet Dry		U-A V-B
Primary Fire Di	istrict: 🖾 No 🔛 Yes		Iazard Area:		s
Special Inspecti	ons Required: 🗌 No	Yes			
	GR	OSS BUILDING	AREA TABLE		
FLOOR	EXISTING (SQ FT)	NEW (S	SQ FT)	SUE	B-TOTAL
3 rd Floor					
2 nd Floor					
Mezzanine					
1 st Floor					
Basement					
TOTAL					

Primary Occupancy Classification(s): Assembly $ A-1 $ $ A-2 $ $ A-3 $ Business $ Business $ $ A-1 $ $ A-2 $ $ A-3 $ Educational $ Factory $ $ F-1 Moderate $ $ F-2 Low $ Hazardous $ H-1 Detonate $ $ H-2 Deflagrate $ $ H-3 Combust $ $ H-4 Health $ Institutional 1-1 $ 1-2 $ $ 1-3 $ $ 1-4 $ Institutional 1 2 $ 1-2 $ $ 1-3 $ $ 1-4 $ Institutional 1-1 2 $ 3 $ $ 4 $ $ 5 $ Mercantile Image: Residential R-1 $ R-2 $ $ R-3 $ $ R-4 $ Storage S-1 Moderate $ R-2 $ $ R-3 $ $ R-4 $ Storage S-1 Moderate $ R-2 $ $ R-3 $ $ R-4 $ Utility and Miscellaneous $ Accessory Occupancy Classification(s):$
Business
Educational \square Factory F-1 Moderate F-2 Low Hazardous H-1 Detonate H-2 Deflagrate H-3 Combust H-4 Health Institutional I-1 I-2 I-3 I-4 I-1 Condition 1 2 I-3 I-4 I-2 Condition 1 2 I-3 I-4 I-3 Condition 1 2 I-3 I-4 I-2 Condition 1 2 I-3 I-4 I-3 Condition 1 2 I-3 I-4 Kercantile Image: Condition Image: Condition Image: Condition Image: Condition Residential R-1 R-2 Image: R-3 Image: R-4 R-4 Storage S-1 Moderate S-2 Low Image: Repair Garage Utility and Miscellaneous Image: Repair Garage Utility and Miscellaneous Image: Repair Garage Image: Repair Garage Image: Repair Garage Incidental Uses (Table 509): Image: Repair Garage Image: Repair Garage Image: Repair Garage This separation is not exempt as a Non-Separated Image: Repair Garage Imag
Factory $F-1$ Moderate $F-2$ Low Hazardous $H-1$ Detonate $H-2$ Deflagrate $H-3$ Combust $H-4$ Health Institutional $I-1$ $I-2$ $I-3$ $I-4$ Institutional $I-1$ $I-2$ $I-3$ $I-4$ I-1 Condition 1 2 $I-3$ $I-4$ I-2 Condition 1 2 $I-3$ $I-4$ I-3 Condition 1 2 $I-3$ $I-4$ I-3 Condition 1 2 $I-3$ $I-4$ Kercantile $I-3$ $I-4$ $I-4$ 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 \square \square \square \square Accessory Occupancy Classification(s):
Hazardous H-1 Detonate H-2 Deflagrate H-3 Combust H-4 Health Institutional I-1 I-2 I-3 I-4 Institutional I-1 I-2 I-3 I-4 I-1 Condition 1 I I I-2 I-3 I-2 Condition 1 I I I I-3 I-4 I-2 Condition 1 I I I I-3 I-4 I-3 Condition 1 I I I I I I I-3 Condition 1 I
Institutional I-1 I-2 I-3 I-4 I-1 Condition 1 2 I-3 I-4 I-2 Condition 1 2 I-3 I-4 I-2 Condition 1 2 I-3 I-4 I-3 Condition 1 2 I-3 I-4 I-3 Condition 1 2 I-3 I-4 Mercantile Integration Integration Integration Integration 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 X Accessory Occupancy Classification(s):
I-1 Condition 1 2 I-2 Condition 1 2 I-3 Condition 1 2 I-4 Storage Re-1 Residential R-1 R-2 R-3 Storage S-1 Moderate S-2 Low High-piled Parking Garage Open Enclosed Repair Garage Utility and Miscellaneous X Accessory Occupancy Classification(s):
I-2 Condition 1 2 I-3 Condition 1 2 3 4 5 Mercantile
I-3 Condition 1 2 3 4 5 Mercantile
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):
Storage S-1 Moderate S-2 Low High-piled Parking Garage Open Enclosed Repair Garage Utility and Miscellaneous Accessory Occupancy Classification(s):
Parking Garage Open Enclosed Correct Description (S): Incidental Uses (Table 509): This separation is not exempt as a Non-Separated
Utility and Miscellaneous Accessory Occupancy Classification(s):
Accessory Occupancy Classification(s):
Incidental Uses (Table 509):
This separation is not exempt as a Non-Separate ⁴ (s). Special Uses (Chapter 4 – List Code Sections):
Special Uses (Chapter 4 – List Code Sections):
special Uses (Chapter 4 – List Code Sections).
Special Provision (Chapter 5) List C_{2} de f_{1}
Special Provisions: (Chapter 5 – List Code
Mixed Occupancy: Select one Ser
Select one
<u>Actual Area of Oc</u> <u>Jf Occupancy B</u> <1
Allowable Area ι_{i} Allowable Area ι_{i} Allowable Area ι_{i} Allowable Area ι_{i} Area of Occupancy B ≤ 1
$\mathcal{A}\mathcal{O}$
V + =
STORY DESCRIPTION AND (A) (B) (C) (D)
NO. USE \rightarrow LDG AREA PER TABLE 506.2 ⁴ AREA FOR FRONTAGE ALLOWABLE A
STORY (ACTUAL) AREA INCREASE ^{1,5} STORY OR UNI
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 =
b. Total Building Perimeter =(P)
c. Ratio $(F/P) = $ (F/P)
d. $W = Minimum width of public way = (W)$
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
control towers must comply with Table 412.3.1.
⁵ Frontage increase is based on the unsprinklered area value in Table 506.2.

th 🗌 H-5 HPM

 ≤ 1.00

(D) WABLE AREA PER OR UNLIMITED^{2,3}

____(F)

6.2). rea of air traffic **T** - Mobile



SBA COMMUNICATIONS CORP. 5900 BROKEN SOUND PKWY NW BOCA RATON, FL 33487



LOCATION:

40 RAVEN ROCK RD LILLINGTON, NC 27546

SBA:

MAMERS NC40177-T

T-MOBILE: L-SPRINT RA73XC047 5RA0821A

SITE TYPE:

195' MONOPOLE T-MOBILE SPRINT KEEP

REV	DATE	DESCRIPTION
0	12/30/20	FOR CONSTRUCTION

SITE COORDINATES LAT: 35.41925 LONG: -78.919083

DRAWN: RSW CHECKED: PWM JOB#: 20ASBTMMNC-0042

APPENDIX B

T-1A

ALLOWABLE HEIGHT

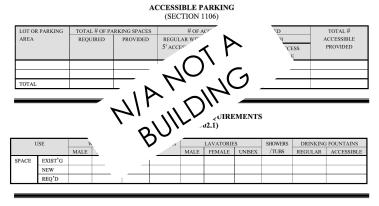
	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE			
Building Height in Feet (Table 504.3)						
Building Height in Stories (Table 504.4)						
¹ Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.						

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	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			⊢ ⋌	r			
South			$+$ \frown	\ '			
Interior Nonbearing Walls and		<u> </u>	NOT	С.	1		
Partitions					/		
Exterior walls		こり	· - \	h_{-}			
North	- \	11	\sim	// -/	l		
East	\sim	1	$\mathcal{N}\mathcal{V}$				
West	\	\	\\\ ' .	1			
South		2	J`				
Interior walls and partitions		V.					
Floor Construction		•	1				
Including supporting beams							
and joists		1					
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 Separatio	n						
Party/Fire Wall Separation							
Smoke Barrier Separation							
Smoke Partition							
Tenant/Dwelling Unit/ Sleeping Unit Separation							
Incidental Use Separation	itting reductio						

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



SPECIAL APPROVALS

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

	PERCENTAGE OF W	ALL OPENING CALCUL	ATIONS
FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	Allowable area (%)	ACTUAL SH

LIFE SAFETY SYSTEM REQUIREMENTS

	LIFE SAFETT STSTEM REQUIREMENTS	
Emergency Lighting: Exit Signs: Fire Alarm: Smoke Detection Systems: Carbon Monoxide Detection:	Yes □ No Yes □ No	
Life Safety Plan Sheet #:	LIFE SAFETY PLAN REQUIRE ^{M®}	
Assumed and real property Exterior wall opening area Occupancy Use for each ar Occupant loads for each ar Exit access travel distance	with respect to rea as it re ¹	.1.2)

- 414 Common path of trav Dead end lengths (B Clear exit widths for Maximum calculated oc sat door can accommodate based on egress width (1005.3)
- Actual occupant load for c A separate schematic plan in re fire rated floor/ceiling and/or roof structure is provided for
- purposes of occupancy separa.
- 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

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

Existing building envelope complies with code: Select one

Exempt Building: Select one Provide code or statutory reference:

Climate Zone: Select one

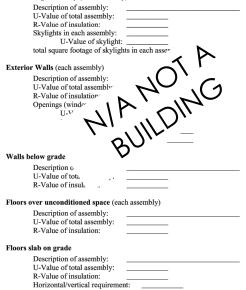
proposed design.

Method of Compliance: <u>Select one</u> (If "Other" specify source here)

THERMAL ENVELOPE (Prescriptive method only)

slab heated:

Roof/ceiling Assembly (each assembly)



SHOWN ON PLANS (%)	

T Mobile |SBA

SBA COMMUNICATIONS CORP. 5900 BROKEN SOUND PKWY NW BOCA RATON, FL 33487



LOCATION:

40 RAVEN ROCK RD LILLINGTON, NC 27546

SBA:

MAMERS NC40177-T

T-MOBILE: L-SPRINT RA73XC047 5RA0821A

SITE TYPE:

195' MONOPOLE T-MOBILE SPRINT KEEP

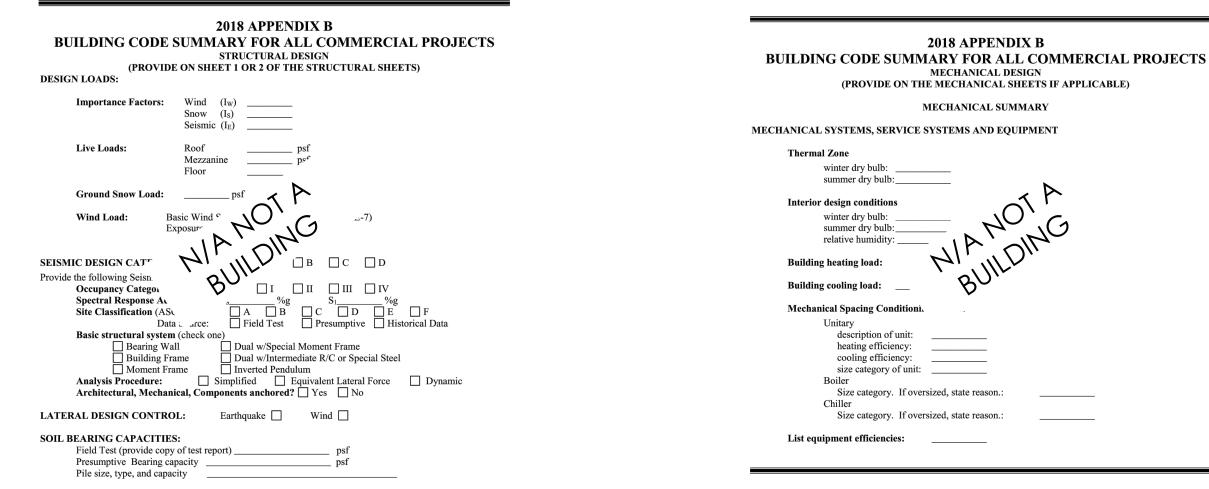
REV	DATE	DESCRIPTION
0	12/30/20	FOR CONSTRUCTION

SITE COORDINATES LAT: 35.41925 LONG: -78.919083

DRAWN: RSW CHECKED: PWM JOB#: 20ASBTMMNC-0042

APPENDIX B

T-1B



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

Method of Compliance: Select one

Lighting schedule (each fixture type)

lamp type required in fixture number of lamps in fixture ballast type used in the fixtynumber of ballasts in f total wattage per fitotal interior wattage total exterior wattage

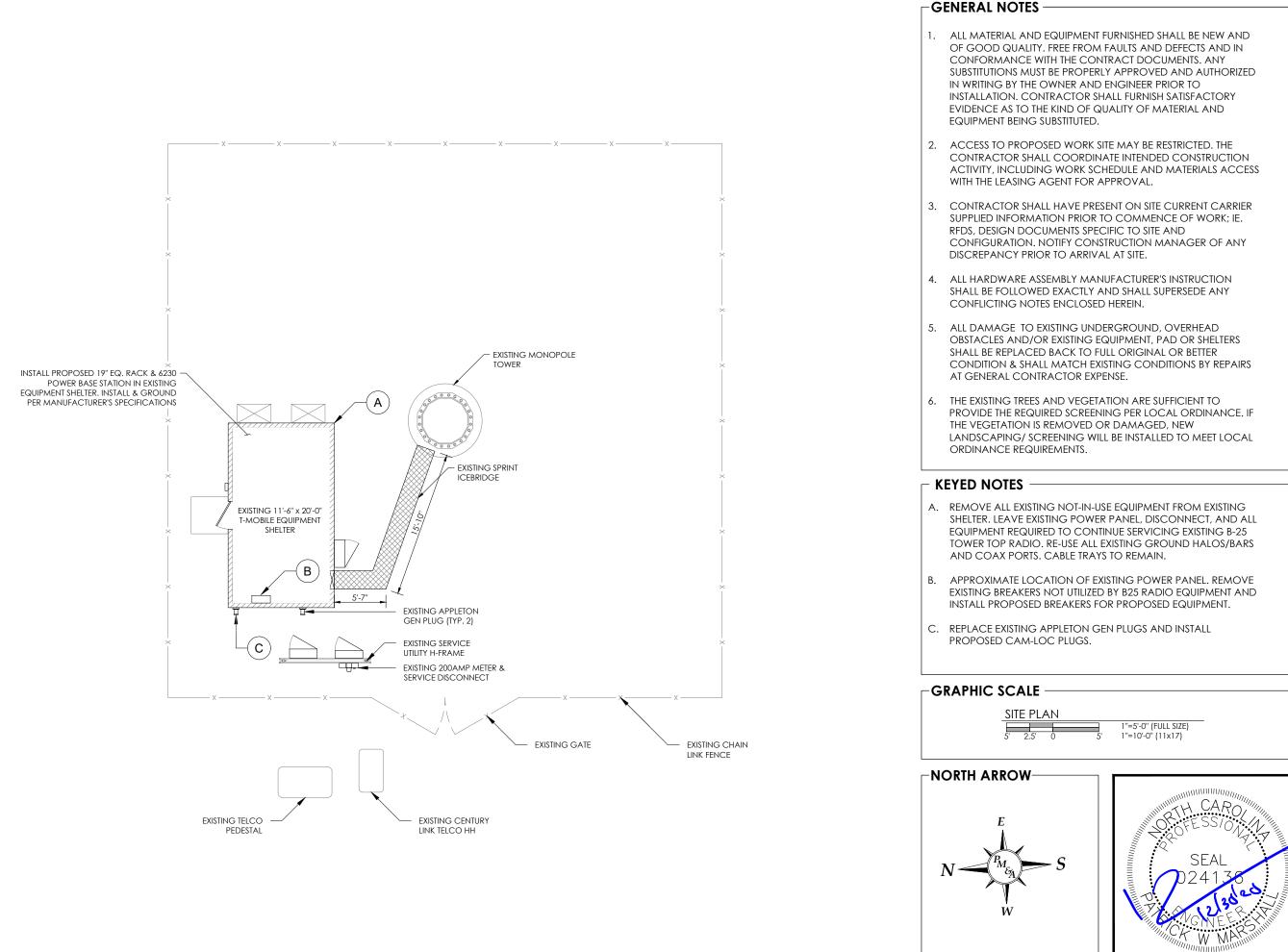
.e building or space by space)

Additional Prescriptive Complia.

- 506.2.1 More Efficient N ... chanical 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

T - Mobile-SBA SBA COMMUNICATIONS CORP. 5900 BROKEN SOUND PKWY NW BOCA RATON, FL 33487 LOCATION: 40 RAVEN ROCK RD LILLINGTON, NC 27546 SBA: MAMERS NC40177-T T-MOBILE: L-SPRINT RA73XC047 5RA0821A SITE TYPE: 195' MONOPOLE T-MOBILE SPRINT KEEP REV DATE DESCRIPTION 0 12/30/20 FOR CONSTRUCTION SITE COORDINATES LAT: 35.41925 LONG: -78.919083 DRAWN: RSW CHECKED: PWM JOB#: 20ASBTMMNC-0042 **APPENDIX B**

T-1C



T - Mobile-



SBA COMMUNICATIONS CORP. 5900 BROKEN SOUND PKWY NW BOCA RATON, FL 33487



LOCATION:

40 RAVEN ROCK RD LILLINGTON, NC 27546

SBA:

MAMERS NC40177-T

T-MOBILE L-SPRINT RA73XC047 5RA0821A

SITE TYPE:

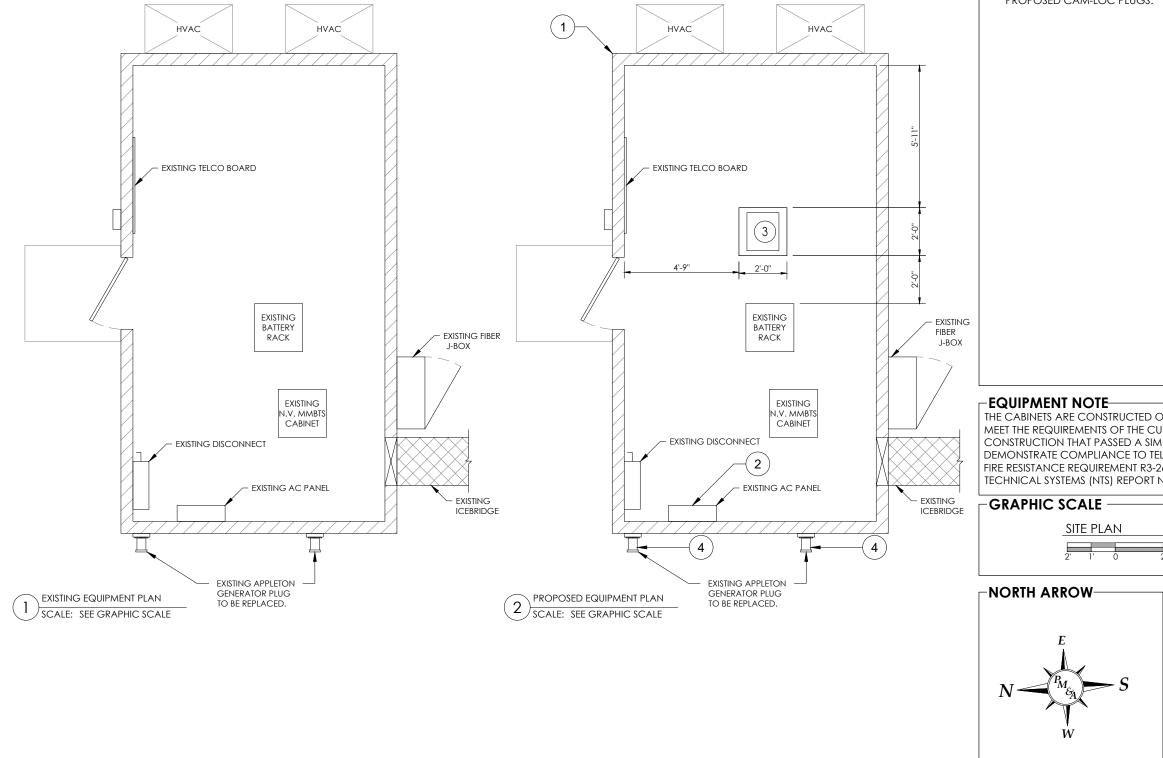
195' MONOPOLE T-MOBILE SPRINT KEEP

RE	/ DATE	DESCRIPTION	
0	12/30/20	FOR CONSTRUCTION	
	SITE COORDINATES		
	LAT: 35.41925 LONG: -78.919083		
DRA	WN: RS	N	
CHE	CKED: PW	M	
JOB	#: 20/	ASBTMMNC-0042	
	6	ITE PLAN	
	3	IIE FLAN	

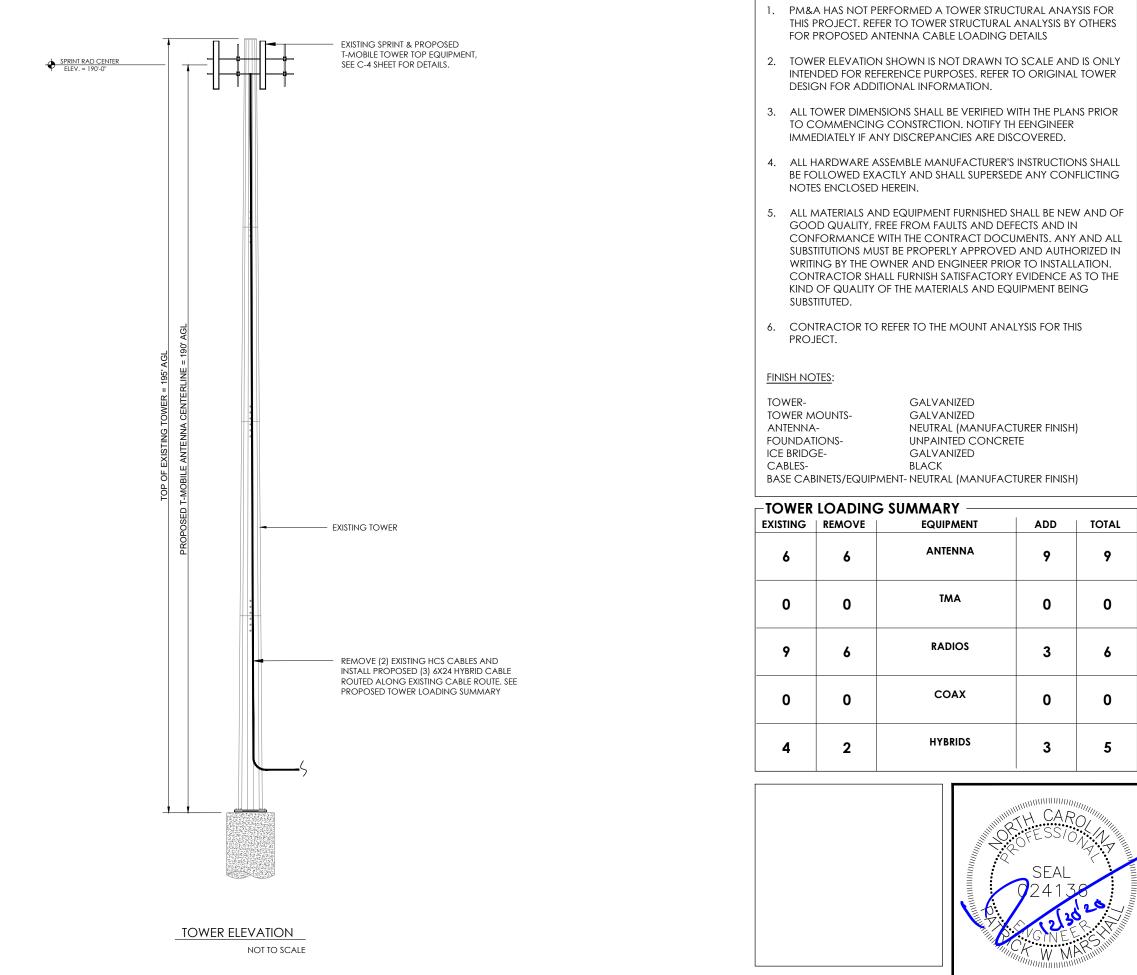
C-1

GENERAL NOTES -

- REMOVE ALL EXISTING NOT-IN-U SHELTER. LEAVE EXISTING POWE EQUIPMENT REQUIRED TO CON TOWER TOP RADIO. RE-USE ALL AND COAX PORTS. CABLE TRAN
- 2. EXISTING POWER PANEL. REMOV UTILIZED BY B25 RADIO EQUIPME BREAKERS FOR PROPOSED EQUI
- 3. PROPOSED 19" RACK WITH 6230 FULL EQUIPMENT LIST.
- 4. REPLACE EXISTING APPLETON G PROPOSED CAM-LOC PLUGS.



JSE EQUIPMENT FROM EXISTING ER PANEL, DISCONNECT, AND ALL ITINUE SERVICING EXISTING B-25	T - Mobile-
EXISTING GROUND HALOS/BARS YS TO REMAIN. IVE EXISTING BREAKERS NOT ENT AND INSTALL PROPOSED IIPMENT.	SBA COMMUNICATIONS CORP. 5900 BROKEN SOUND PKWY NW BOCA RATON, FL 33487
D PP, AND RBS 6601. SEE RFDS FOR GEN PLUGS AND INSTALL	P. MARSHALL & ASSOCIATES
	LOCATION: 40 RAVEN ROCK RD LILLINGTON, NC 27546 SBA: MAMERS
	NC40177-T T-MOBILE: L-SPRINT RA73XC047 5RA0821A SITE TYPE: 195' MONOPOLE
	T-MOBILE SPRINT KEEP REV DATE 0 12/30/20 FOR CONSTRUCTION
DF NONCOMBUSTIBLE MATERIALS TO JRRENT NFPA 37 EDITION 2018. CABINET AULATED BRUSH FIRE TEST TO ELCORDIA GR-487-CORE SECTION 3.39 265. REFER TO THE NATIONAL NO. PR067628-GR487.	
1"=2'-0" (FULL SIZE) 2' 1"=4'-0" (11x17)	LAT: 35.41925 LONG: -78.919083 DRAWN: RSW CHECKED: PWM JOB#: 20ASBTMMNC-0042
2 ² P=4-0" (11x17)	EXISTING EQUIPMENT PLAN
WARDING WARDING	C-2



-GENERAL NOTES

utral (manufacturer finish)				
MARY —				
EQUIPMENT	ADD	TOTAL		
ANTENNA	9	9		
ТМА	0	0		
RADIOS	3	6		
COAX	0	0		
HYBRIDS	3	5		

T - Mobile-



SBA COMMUNICATIONS CORP. 5900 BROKEN SOUND PKWY NW BOCA RATON, FL 33487



LOCATION:

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SBA:

MAMERS NC40177-T

T-MOBILE: L-SPRINT RA73XC047 5RA0821A

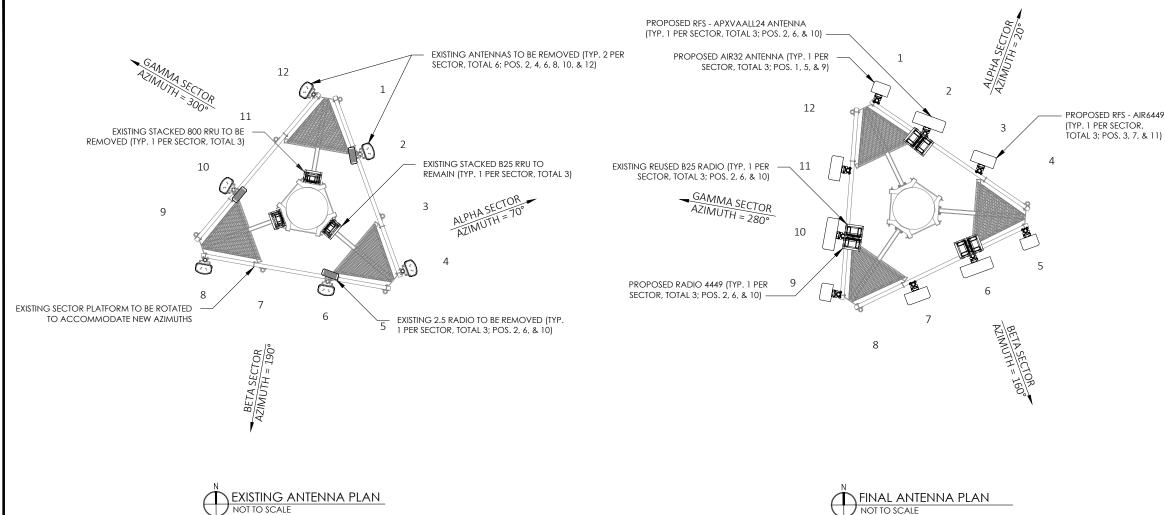
SITE TYPE:

195' MONOPOLE T-MOBILE SPRINT KEEP

REV	DATE	DESCRIPTION
0	12/30/20	FOR CONSTRUCTION
SITE COORDINATES LAT: 35.41925 LONG: -78.919083		
DRAWN: RSW CHECKED: PWM JOB#: 20ASBTMMNC-0042		



C-3



()	
		NOT TO SCALE

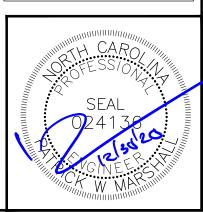
SECTOR	MARK	AZIMUTH	ANTENNA MODEL	RADIO MODEL	CABLE DESCRIPTION	
ALPHA	1	20°	ERICSSON - AIR32 KRD901146-1_B66A_B2A (OCTO) (P)	-	(1) 1 1/2" 6x12 HCS (EXISTING TO REMAIN)	CONTRACTOR T ANTENNAS AND
ALPHA	2	20°	RFS - APXVAALL24_43-U-NA20 (OCTO) (P)	(1) B25 4TRT RRU (E) (1) RADIO 4449 B71+B85 (P)	(1) ERICSSON 6x24 HCS 4AWG 80M (263') (P)	TO OBTAIN NEW REFER TO FINAL F
ALPHA	3	20°	ERICSSON - AIR6449 B41 (MASSIVE MIMO) (P)	-	-	TO CONFIRM NE (E)- EXISTING
-	4	-	-	-	-	(P) - PROPOSEE
BETA	5	160°	ERICSSON - AIR32 KRD901146-1_B66A_B2A (OCTO) (P)	-	(1) 1 1/2" 6x12 HCS (EXISTING TO REMAIN)	GC TO PROVIDE CONSTRUCTION
BETA	6	160°	RFS - APXVAALL24_43-U-NA20 (OCTO) (P)	(1) B25 4TRT RRU (E) (1) RADIO 4449 B71+B85 (P)	(1) ERICSSON 6x24 HCS 4AWG 80M (263') (P)	DOCUMENTATIO ANTENNA AZIMU COLOR CODINO
BETA	7	160°	ERICSSON - AIR6449 B41 (MASSIVE MIMO) (P)	-	-	
-	8	-	-	-	•	
GAMMA	9	280°	ERICSSON - AIR32 KRD901146-1_B66A_B2A (OCTO) (P)	-	-	
GAMMA	10	280°	RFS - APXVAALL24_43-U-NA20 (OCTO) (P)	(1) B25 4TRT RRU (E) (1) RADIO 4449 B71+B85 (P)	(1) ERICSSON 6x24 HCS 4AWG 80M (263') (P)	
GAMMA	11	280 °	ERICSSON - AIR6449 B41 (MASSIVE MIMO) (P)	-	-	
-	12	-	<u>-</u>	-	-	

ATE THE DUNTS THS. CUMENTS *N*UTHS

ALL ٧D CABLES.

EQUIPMENT NOTES

- THE HYBRID CABLE LENGTH SHOWN IS ONLY AN ESTIMATE AND SHOULD NOT BE USED FOR ORDERING MATERIALS. CONFIRM THE REQUIRED HYBRID CABLE LENGTH WITH T-MOBILE PRIOR TO ORDERING OR INSTALLATION.
- 2. THE CONTRACTOR SHALL TEST THE OPTICAL FIBER AFTER INSTALLATION IN ACCORDANCE WITH T-MOBILE STANDARDS AND SUPPLY THE RESULTS TO T-MOBILE.
- 3. THE CONTRACTOR SHALL CONFIRM THE TOWER TOP EQUIPMENT LIST ABOVE WITH THE FINAL T-MOBILE RFDS PRIOR TO INSTALLATION.
- 4. ALL PROPOSED ANTENNA CABLES SHALL BE COLOR CODED PER T-MOBILE MARKET STANDARDS.
- 5. REFER TO ERICSSON EQUIPMENT INSTALLATION STANDARDS FOR ADDITIONAL INFORMATION.
- 6. REFER TO EQUIPMENT MANUFACTURER'S SPECIFICATION SHEETS FOR ADDITIONAL INFORMATION NOT LISTED ABOVE.
- 7. CONTRACTOR TO FIELD COORDINATE EXACT LOCATION OF PROPOSED EQUIPMENT WITH EXISTING CONDITIONS ON SITE.
- 8. PROPOSED EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE FASTENERS SHALL BE HIGH STRENGTH (A325, A36)
- 9. DRILLING OF EXISTING STEEL MEMBERS IS NOT PERMITTED.
- **10.BOND PROPOSED EQUIPMENT** TO EXISTING SECTOR GROUND BAR PER MANUFACTURER'S SPECIFICATIONS. PROVIDE ADDITIONAL SECTOR GROUND BARS AS REQUIRED.
- 11. ALL ANTENNAS, CABLES, AND MOUNTS SHALL BE INSTALLED IN ACCORDANCE WITH THE **ENGINEER'S RECOMMENDATIONS IN A** MANNER CONSISTENT WITH THE
- STRUCTURAL ANALYSIS REPORT. 12. CONTRACTOR TO CONTACT T-MOBILE FOR UP-TO-DATE RF DESIGN DATA. NOTIFY ENGINEER IF CONFLICT EXISTS.



T - Mobile-



SBA COMMUNICATIONS CORP. 5900 BROKEN SOUND PKWY NW BOCA RATON, FL 33487



LOCATION:

40 RAVEN ROCK RD LILLINGTON, NC 27546

SBA:

MAMERS NC40177-T

T-MOBILE L-SPRINT RA73XC047 5RA0821A

SITE TYPE:

195' MONOPOLE T-MOBILE SPRINT KEEP

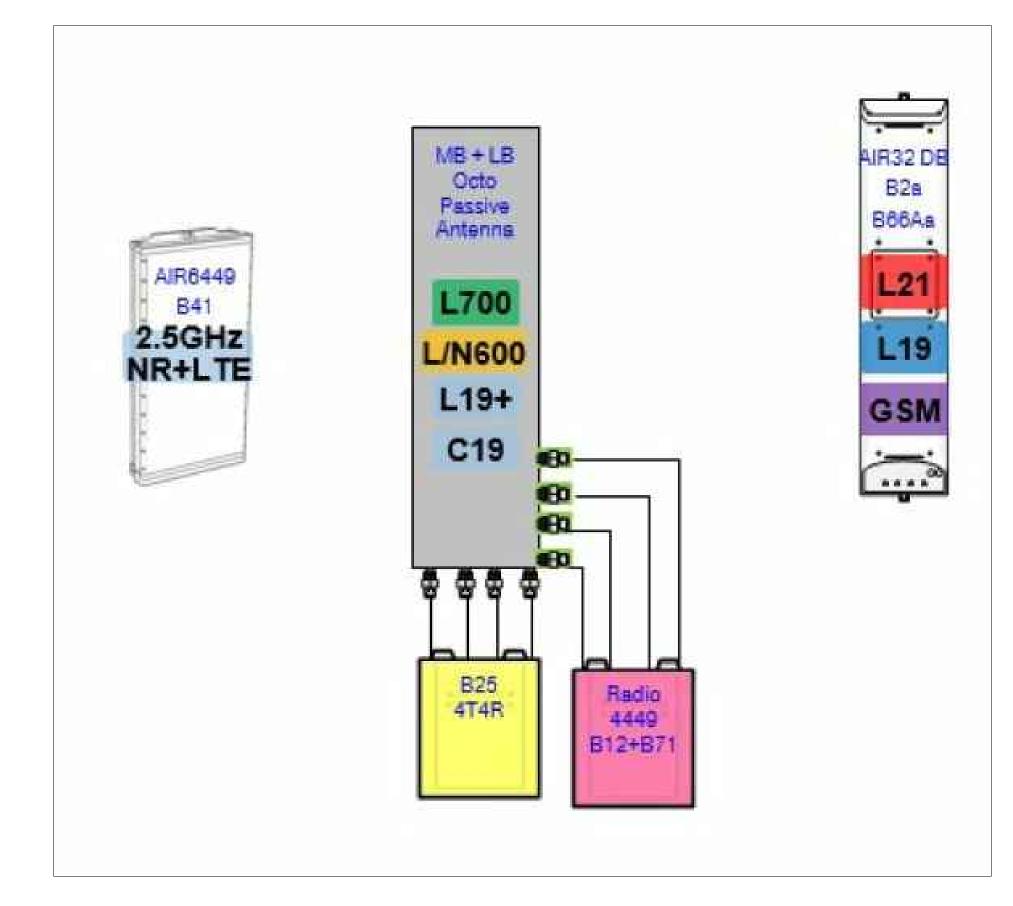
DATE	DESCRIPTION		
12/30/20	FOR CONSTRUCTION		
SITE COORDINATES			
LAT: 35.41925			
LONG: -78.919083			
	12/30/20 		

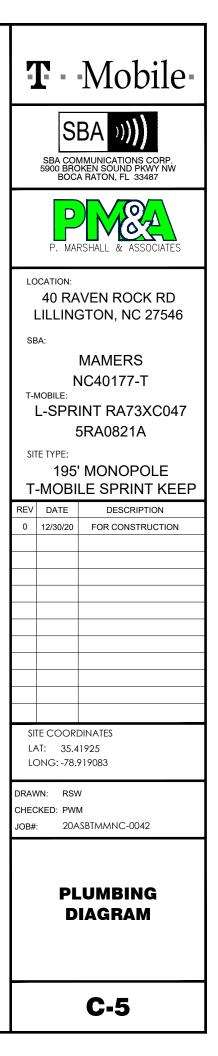
DRAWN:	RSW
CHECKED:	PWM
JOB#:	20ASBTMMNC-0042

ANTENNA ORIENTATION & CABLE SCHEDULE

C-4

PROPOSED RF CONFIGURATION: 67D5A97DB_B25

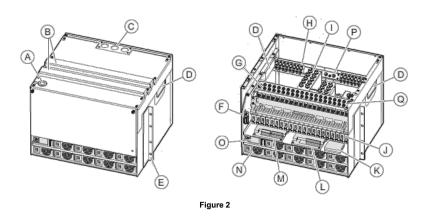




T - Mobile-

Ericsson 6230 Design Specification

13.7" Figure '



Feature	Unit
А	Alarm circuit breaker cable, temperature sensor, SCU power cable
В	Cable routing
С	AC cable interface
D	Battery cable inlet
E	Adaptor bracket for wall mounting kit
F	RTN alarm
G	0 V bus bar DC connection
Н	AC input
	0 V/RTN for battery cables
J	DC distribution circuit breaker
К	DC SPD
L	Extended interface board (EIB)
М	Interface board (IB2)
N	Rectifier
0	Power controller unit (PCU)
Р	AC grounding
Q	-48 VDC distribution

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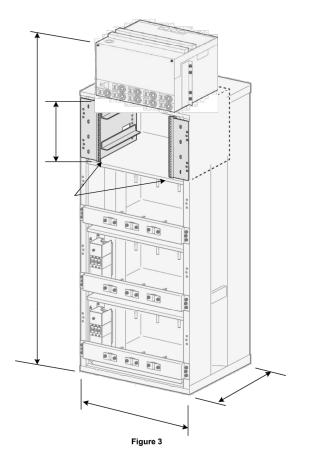
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5 of 17

T - Mobile-

6230 Placement 3

The 6230 arrives mounted on top of the prescribed Ericsson battery rack (Figure 3), which is to be bolted down onto the floor. Clearance at the top shall be provided to enable cabling for AC feed, DC loads, SPD, and battery cables. Front clearance shall allow work space for loading/unloading of 190 Ahr batteries (22"x5"x12" each). If desired, any of the battery shelves can be converted for user equipment by installing optional rack kit to provide up to 8U each.



T-Mobile USA, INC. Confidential

Rev

T - Mobile-SBA SBA COMMUNICATIONS CORP. 5900 BROKEN SOUND PKWY NW BOCA RATON, FL 33487 LOCATION: 40 RAVEN ROCK RD LILLINGTON, NC 27546 SBA: MAMERS NC40177-T T-MOBILE: L-SPRINT RA73XC047 5RA0821A SITE TYPE: 195' MONOPOLE T-MOBILE SPRINT KEEP DESCRIPTION REV DATE 0 12/30/20 FOR CONSTRUCTION SITE COORDINATES LAT: 35.41925 LONG: -78.919083 DRAWN: RSW CHECKED: PWM 20ASBTMMNC-0042 JOB#: EQUIPMENT **SPECS**

C-6

6 of 17



EQUIPMENT NOTES

DEMO NOTES:

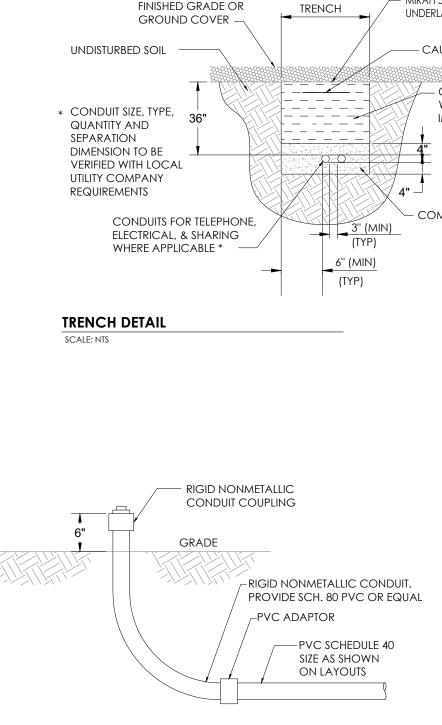
- 1. REWORK ALL TERMINATION, ELECTRICAL CONNECTORS, CONDUCTORS, CONDUITS, ETC. TO FACILITATE NEW WORK.
- 2. VERIFY LOCATION IN THE FIELD OF ALL UNDERGROUND UTILITIES PRIOR TO EXCAVATING. COORDINATE WITH PUBLIC UTILITIES AS NECESSARY TO COMPLETE REQUIRED WORK AS INDICATED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR / REPLACEMENT OF ALL DAMAGED UTILITIES AT THE EXPENSE OF THE CONTRACTOR.
- DEMOLITION IS INCLUDED TO GIVE A COMMON BASIS FOR QUOTATIONS AND MAY NOT SHOW EVERY ITEM TO 3. BE DEMOLISHED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE TO DETERMINE THE EXACT EXTENT OF WORK, COORDINATION, DEMOLITION, TEMPORARY FACILITIES, UTILITIES, ETC. NECESSARY TO COMPLETE THE PROJECT AS INDICATED ON THE CONTRACT DOCUMENTS.
- 4. PROTECT NETWORK EQUIPMENT, RECTIFIERS, FIBER CABLE, RACEWAYS, UTILITIES, BUILDING SYSTEMS, ETC. FROM DAMAGE.
- 5. EQUIPMENT DESIGNATED TO BE RELOCATED SHALL BE CLEANED, STORED AND PROTECTED FROM DAMAGE UNTIL REINSTALLED. REPLACE ALL EQUIPMENT DAMAGED DURING RELOCATING.
- PROVIDE TEMPORARY POWER TO ALL ESSENTIAL SYSTEMS AS REQUIRED TO FACILITATE DEMOLITION. PROVIDE TEMPORARY COOLING UNITS AS REQUIRED.
- 7. MAINTAIN CIRCUIT CONTINUITY TO EXISTING CIRCUITS AND EQUIPMENT TO REMAIN OR TO BE RELOCATED.
- WHERE ALLOWED BY CODE IT IS PERMISSIBLE TO REUSE EXISTING CONDUIT. PROVIDE NEW CONDUIT AND 8. CONDUCTORS FOR NEW CIRCUITS AND THE EXTENSION OF EXISTING CIRCUITS.
- 9. PROVIDE EQUIPMENT PROTECTION ABOVE ALL NETWORK EQUIPMENT (INCLUDING BUT NOT LIMITED TO CABLING, BUS, CABLE TRAY, EQUIPMENT BAYS, RECTIFIERS, BATTERIES, INVERTERS, DISTRIBUTION PANELS, ETC.) WHEN WORKING ABOVE ALL EQUIPMENT. ALL PROTECTION SHALL BE COORDINATED WITH THE SWITCH MANAGER TO ENSURE THAT THE PROTECTION WILL NOT BLOCK ACCESS TO EQUIPMENT OR CAUSE OVERHEATING. PROVIDE TEMPORARY COOLING AS REQUIRED.
- 10. PROVIDE APPROPRIATE SEALING AND PATCHING OF ANY BUILDING PENETRATIONS AFTER REMOVAL OF ELECTRICAL DEVICES, EQUIPMENT, ETC. MATCH EXISTING WALLS. SEE ARCHITECTURE.

GENERAL NOTES:

- 1. IT IS CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE & DETERMINE THE EXACT EXTENT OF WORK, COORDINATION, DEMOLITION, TEMPORARY FACILITIES, UTILITIES, ETC. NECESSARY TO COMPLETE THE PROJECT AS INDICATED ON THE CONTRACT DOCUMENTS.
- 2. VERIFY LOCATION IN THE FIELD OF ALL UNDERGROUND UTILITIES PRIOR TO EXCAVATING. COORDINATE WITH PUBLIC UTILITIES AS NECESSARY TO COMPLETE REQUIRED WORK AS INDICATED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR/REPLACEMENT OF ALL DAMAGED UTILITIES AT THE EXPENSE OF THE CONTRACTOR.
- 3. PROVIDE SEPARATE INSULATED GROUNDING CONDUCTOR IN ALL FEEDER & BC.
- 4. PROVIDE 2-HOLE LUGS CAPABLE OF ACCEPTING MULTIPLE CRIMPS FOR ALL POWER & GROUNDING CONNECTIONS TO A BUS OR WHERE FEASIBLE. USE MANUFACTURER'S COMPRESSION TOOL WITH PROPER DIE FOR EACH CONNECTOR, MANUFACTURER'S EMBOSSED CODING SYSTEM IS REQUIRED. A UNIVERSAL OR DIE-LESS TYPE CRIMPING TOOL SHALL NOT BE USED. PROVIDE LUGS WITH INSPECTOR HOLE FOR ALL INTERIOR INSTALLATIONS. PROVIDE CLOSED LUGS (NO INSPECTION HOLE) FOR EXTERIOR OR UNDERGROUND CONNECTIONS.
- 5. FEEDER CIRCUITS, GROUND LEADS, & DEDICATED EQUIPMENT CIRCUITS SHALL NOT BE SPLICED.
- VERIFY LASHING REQUIREMENTS FOR SERVICE ENTRANCE & MAIN DISTRIBUTION EQUIPMENT WITH MANUFACTURER. 6. INSTALL LASHING PER MANUFACTURER'S REQUIREMENTS.

COMPRESSION LUG NOTES:

REFER TO SPECIFICATION SECTION 260519 & NSTD516 REGARDING REQUIREMENTS FOR A SAMPLE COMPRESSION LUG SUBMITTAL ON ALL PROJECTS, FAILURE TO PROVIDE CORRECT LUGS & SUBMIT A SAMPLE COMPRESSION LUG TO VZW PRIOR TO INSTALLATION OF ANY LUGS MAY RESULT IN REJECTION OF THE INSTALLATION & REPLACEMENT OF ALL LUGS & ASSOCIATED CABLE, WHERE REQUIRED, AT NO COST TO T-MOBILE.



UNDERGROUND CONDUIT STUB-UP SCALE: NTS

MIRAFI 500X GEOFABRIC UNDERLAYMENT

CAUTIONARY TAPE

COMPACTED BACKFILL W/ SATISFACTORY NATIVE OR IMPORTED SOIL

COMPACTED SAND BED





LOCATION:

40 RAVEN ROCK RD LILLINGTON, NC 27546

SBA:

MAMERS NC40177-T

T-MOBILE L-SPRINT RA73XC047 5RA0821A

SITE TYPE:

195' MONOPOLE T-MOBILE SPRINT KEEP

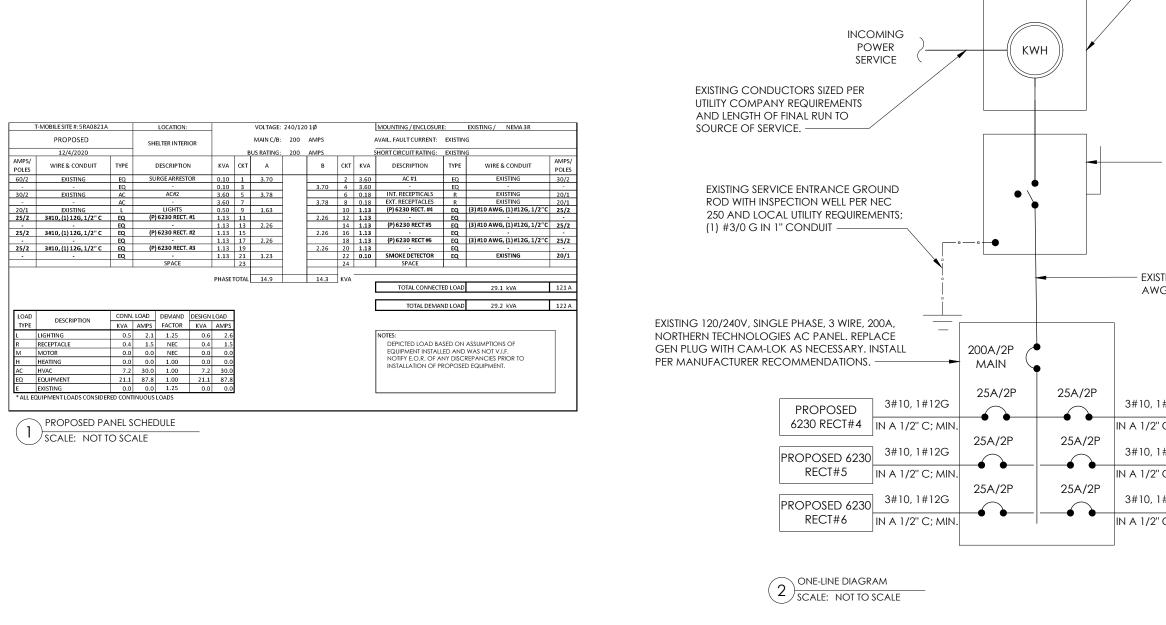
REV	DATE	DESCRIPTION	
0	12/30/20	FOR CONSTRUCTION	
SITE COORDINATES LAT: 35.41925 LONG: -78.919083			

DRAWN: RSW CHECKED: PWM 20ASBTMMNC-0042 JOB#:





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GENERAL ELECTRICAL NOTES

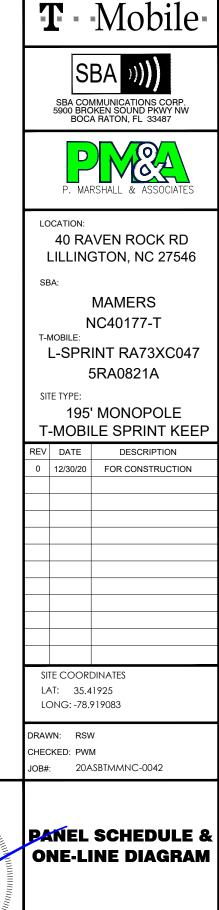
- NO SITE SPECIFIC LOAD STUDY WAS ACQUIRED. DEMAND LOADING KVA SHOWN AS ASSUMPTIONS PER MANUFACTURER SPECIFICATION DOCUMENTS & INDUSTRY STANDARD. WHEN OVERAGES ARE VERIFIED ON SITE, ALL DISCREPANCY SHALL BE BROUGHT TO THE ENGINEER OF RECORD PRIOR TO COMMENCING WORK.
- 2. ELECTRICAL SERVICE SHALL BE 200A, 240/120v, 1 P, 3W
- 3. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT, REFER TO VENDER PRINTS PROVIDED BY EQUIPMENT MANUFACTURER.
- 4. CONTRACTOR SHALL VERIFY AVAILABLE FAULT CURRENT WITH POWER COMPANY AND ENSURE ALL ELECTRICAL EQUIPMENT IS SUITABLE FOR AVAILABLE FAULT CURRENT.CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY AND CALCULATE SHORT CIRCUIT FAULT CURRENT AND ARC FLASH AND PROVIDE LABELS ON ELECTRICAL EQUIPMENT PER THE N.E.C. AND LOCAL JURISDICTION. CONTRACTOR SHALL PROVIDE EQUIPMENT RATED FOR FAULT CURRENT.
- 5. CONTRACTOR SHALL COORDINATE UTILITY SERVICES WITH LOCAL UTILITY COMPANIES. VERIFY ALL REQUIREMENTS WITH UTILITY COMPANY STANDARDS. THE MAXIMUM 12-MONTH DEMAND LOAD WAS NOT AVAILABLE AT TIME OF PRINTING. CONTRACTOR SHALL COORDINATE WITH POWER CO., OBTAIN MAXIMUM DEMAND LOAD, MULTIPLY VALUE BY 1.25, ADD ALL NEW LOADS & VERIFY NEW MAXIMUM DEMAND LOAD DOES NOT OVERLOAD ANY PORTION OF THE EXISTING ELECTRICAL SYSTEM. CONTACT EOR IF OVERLOAD IS POSSIBLE BEFORE START OF WORK.
- 6. ONE-LINE DIAGRAM IS SCHEMATIC ONLY AND NOT INDICATIVE OF ACTUAL EQUIPMENT LAYOUT. CONTRACTOR IS RESPONSIBLE FOR LOADING ON ALL PANELS AND FEEDERS PER THE N.E.C. CONTRACTOR SHALL ENSURE CONTINUITY OF EXISTING CIRCUITS TO REMAIN. ELECTRICAL CONTRACTOR SHALL VERIFY THAT ALL EXISTING AND PROPOSED LOADS PLACED ON EXISTING PANELS DO NOT EXCEED THE MAXIMUM LOADING REQUIRED PER THE LATEST EDITION OF THE N.E.C. NOTIFY EOR IF OVERLOAD IS POSSIBLE
- 7. 6230 ENCLOSURE CONFIGURATION INCLUDES (6) 3500W RECTIFIERS. LOAD PROVIDED IN PANEL SCHEDULE IS BASED ON THIS CONFIGURATION. IF ADDITIONAL RECTIFIERS ARE REQUIRED, ENGINEER OF RECORD SHALL BE CONTACTED TO DETERMINE ADEQUACY OF EXISTING PANEL FOR ADDITIONAL LOAD
- 8. CONTRACTOR SHALL FIELD VERIFY EXISTING AC PANEL MODEL AND ENSURE SUFFICIENT BREAKER SPACE IS AVAILABLE. CONTACT EOR IF DISCREPANCIES ARE FOUND.
- 9. CONTRACTOR TO FIELD VERIFY ALL EQUIPMENT RATINGS AND WIRE SIZES. IF ANY DISCREPANCIES EXIST, CONTACT ENGINEER PRIOR TO ROUGH IN.

EXISTING T-MOBILE 120/240v 200AMP SERVICE METER

EXISTING120/240V, SINGLE PHASE, 3 WIRE, 200A, NEMA 3R MANUAL DISCONNECT (TYP.)

EXISTING (3) 3/0 & (1) #4 AWG IN 3" CONDUIT

#12G	PROPOSED	
C; MIN.	6230 RECT#1	
#12G C; MIN.	PROPOSED 6230 RECT#2	
#12G	PROPOSED 6230	
C; MIN.	RECT#3	



E-2



