Revised 3/14/2018 CR

App No: 2018030286

ApplicantName	Site Link Wireless			EquipmentGvtUse	No
ApplicationType	Modification			Gvt. Use Desc.	
Carrier	Verizon Wireless	Updated	3/1/2018	Antenna Complianc	Yes
SolutionType	Macro	6409?	Yes	ComplianceDesc	
Existing	Existing	Ann. Plan?	Yes	AntennaLocation	Yes
AntennaDescription				Ant. Loc. Desc.	
				Environmental	
				Cat. Excluded?	checked
				Routine Environ.	

Application Description

Remove 12 & add 6 antennas and swap 6 RRH's on existing rooftop. The proposed antenna models are 2 JMA MX06FIT845-02 (95.9"x15.4"x10.7") and 4 JMA MX06FRO860-02 (95.9"x15.4"x10.7").

Justification

Already existing site

SiteId	492		
StructureType	Building	Latitude	39.039292
Address	11119 Rockville Pike	Longitude	-77.108464
CountySiteName	White Flint Professional Building	Ground Elevation	331
CarrierSiteName	Addie	City	Kensington
Zoning	EOF 3.0	Lease Status	Leased
CarrierName	Verizon Wireless	PROW	No
SiteOwner	Rockville Pike Partnership		
StructureOwner	Rockville Pike Partnership		
StructureHeight	52.75		

Antenna	JMA MX06FRO860						
Frequency	835-845, 846.5-849, 880-890, 891.5-894, 1895-1905, 1975-1985, 1905-1910, 1985-1990, 746-757, 776-787, 1						
Height	58	EffectiveRadiati	331	EmissionDesignator		AntennaDimensions	95.9"x15.4"x10.7"

Friday, March 2, 2018

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App No: 2018030286

Antenna JMA MX06FRO860

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CountySiteName	White Flint Professional Building	Ground Elevation	331
CarrierSiteName	Addie	City	Kensington
Zoning	EOF	Lease Status	Leased
CarrierName	Verizon Wireless	PROW	No
SiteOwner	Rockville Pike Partnership		
StructureOwner	Rockville Pike Partnership		
StructureHeight	52.75		

Antenna	JMA MX06FRO860						
Frequency	835-845, 846.5-849, 880-890, 891.5-894, 1895-1905, 1975-1985, 1905-1910, 1985-1990, 746-757, 776-787, 1						
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Height	58
EffectiveRadiati	331
EmissionDesignator	
AntennaDimensions	95.9"x15.4"x10.7"


11119 Rockville Pike
© 2018 Google
Google Earth
Tour Guide
1988
Imagery Date: 12/19/2016 39°02'22.80" N 77°06'41.00" W elev 352 ft eye alt 3084 ft

Product Specifications

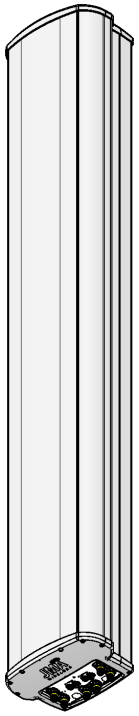
MX06FIT845-02

NWAV™ X-Pol Antenna | Hex-Port | 8 ft | 45°

X-Pol, Hex-Port 8 ft 45º Form In Tighter with Smart Bias T

(2) 698-894 MHz & (4) 1695-2180 MHz

- Excellent passive intermodulation (PIM) performance reduces harmful interference
- Fully integrated (iRETs) with *independent* RET control for low & high bands for ease of network optimization
- *SON-Ready* array spacing supports beamforming capabilities
- Suitable for LTE/CDMA/PCS/UMTS/GSM air interface technologies
- Integrated Smart Bias-Ts reduce leasing costs
- Optimized width for reduced wind loading



nWAV technology

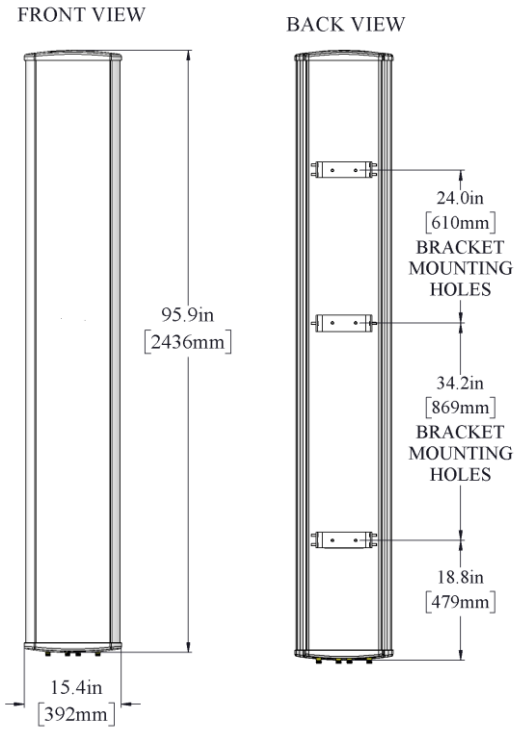
Electrical specification (minimum/maximum)	Ports 1,2		Ports 3,4,5,6		
Frequency bands, MHz	698-798	824-894	1695-1880	1850-1990	1920-2180
Polarization	± 45^0		± 45^0		
Average gain over all tilts, dBi	17.3	18.4	18.9	19.4	19.7
Horizontal beamwidth (HBW), degrees[1]	48.0	41.0	46.0	45.0	43.0
Front-to-back ratio, co-polar power @180^0± 30^0, dB	>22.0	>21.0	>25.0	>25.0	>25.0
X-Pol discrimination (CPR) at boresight, dB	>18.0	>15.0	>18	>18	>15
Vertical beamwidth (VBW), degrees[1]	9.0	8.3	6.0	5.5	5.0
Electrical downtilt (EDT) range, degrees	2-12	2-12	0-9		
First upper side lobe (USLS) suppression, dB[1]	≤ -15.0	≤ -15.0	≤ -16.0	≤ -16.0	≤ -16.0
Minimum cross-polar isolation, port to port, dB	25	25	25	25	25
Maximum VSWR/return loss, dB	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0
Maximum passive intermodulation (PIM), 2x20W carrier, dBc	-153	-153	-153		
Maximum input power per any port, watts	300		250		
Total composite power all ports, watts	1500				

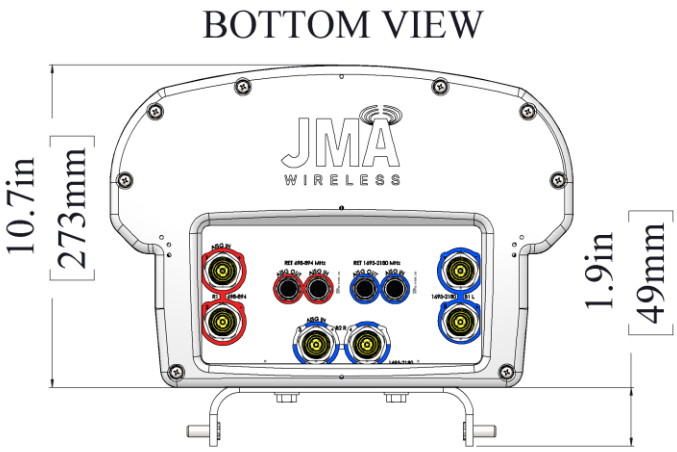
[1] Typical value over frequency and tilt

MX06FIT845-02

NWAV™ X-Pol Antenna | Hex-Port | 8 ft | 45°

Mechanical specifications	
Dimensions height/width/depth, inches (mm)	95.9/ 15.4/ 10.7 (2436/ 392/ 273)
Shipping dimensions length/width/height, inches (mm)	106/ 20/ 15 (2692/ 508/ 381)
No. of RF input ports, connector type and location	6 x 4.3-10 female, bottom
RF connector torque	96 in- lb (10.85 N-M or 8 ft-lbs)
Net antenna weight, lbs. (kg)	51 (27.8)
Shipping weight, lbs. (kg)	81 (36.8)
Antenna mounting and downtilt kits included with antenna	91900318, 91900319 (middle bracket)
Net weight of the mounting and downtilt kit, lb (kg)	18 (8.2)
Range of mechanical up/down tilt	-2º to 12^0
Rated wind survival speed, mph (km/h)	150 (241)
Frontal, lateral, and rear wind loading @ 150 km/h, lbf (N)	250 (1111), 173 (772), 250 (1111)
Equivalent flat plate @100 mph and Cd=2, sq. ft	5.74





Ordering information	
Antenna model	**Description**
MX06FIT845-02	8F X-Pol HEX FIT 45^0 2-12^0/ 0-9^0 RET, 4.3-10 & SBT
Optional accessories	
992100-CA030-SC	Optional AISG jumper cable, M/F, 3.0 meters
PCU-220	Primary control unit, USB

MX06FIT845-02

NWAV™ X-Pol Antenna | Hex-Port | 8 ft | 45°

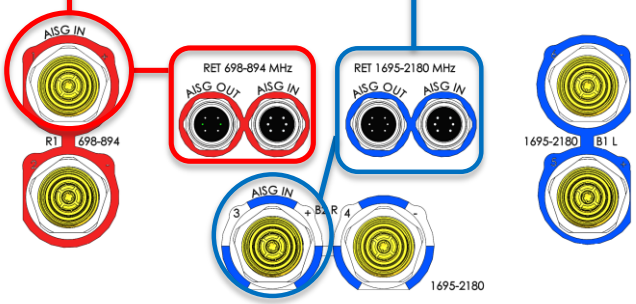
Remote electrical tilt (RET 1000) information	
RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9
RET interface connector quantity	2 pairs of AISG male/female connectors
RET interface connector location	Bottom of the antenna
Total No. of internal RETs (low bands)	1
Total No. of internal RETs (high bands)	1
RET input operating voltage, vdc	10-30
RET max. power consumption, idle state, W	≤ 2.0
RET max. power consumption, normal operating conditions, W	≤ 13.0
RET communication protocol	AISG 2.0/3GPP

RET and RF connector topology

Each RET device can be controlled either via the designated external AISG connector or RF port as shown below

RET Device	Band	RF Port
1	698-894	1-2

RET Device	Band	RF Port
2	1695-2180	3-6

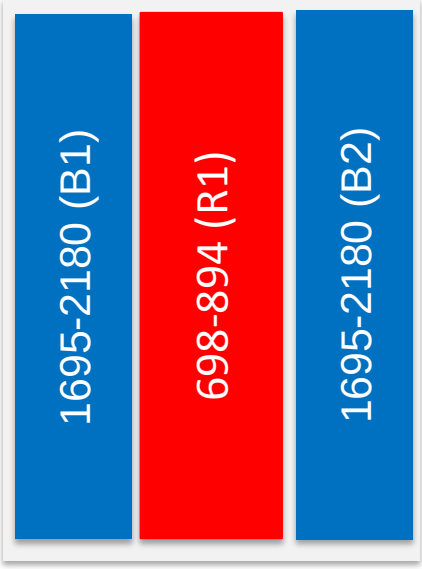


Array topology

3 sets of radiating arrays

R1 – 698-894MHz
B1 – 1695-2180MHz
B2 – 1695-2180MHz

Band	RF Port
1695-2180	3-4
698-894	1-2
1695-2180	5-6



Product Specifications

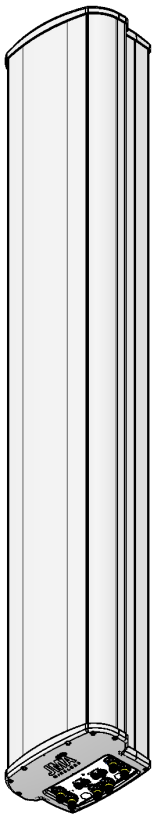
MX06FRO860-02

NWAV™ X-Pol Antenna | Hex-Port | 8 ft | 60°

X-Pol, Hex-Port 8 ft 60º Fast Roll Off with Smart Bias T

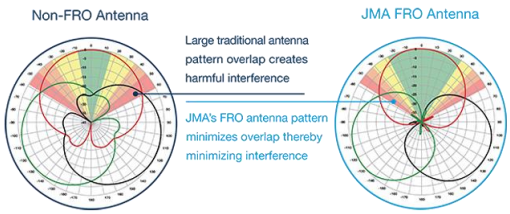
(2) 698–894 MHz & (4) 1695–2180 MHz

- Fast Roll Off (FRO™) Azimuth beam pattern improves Intra- and Inter-cell SINR
- Excellent Passive Intermodulation (PIM) performance reduces harmful interference
- Fully integrated (iRETs) with *independent* RET control for low and high bands for ease of network optimization
- *SON-Ready* array spacing supports beamforming capabilities
- Suitable for LTE/CDMA/PCS/UMTS/GSM Air interface technologies
- Integrated Smart BIAS-Ts reduces leasing costs



nWAV technology

Fast Roll-Off (FRO) increased throughput, without compromising coverage.



FRO technology increases the Signal to Interference & Noise Ratio (SINR) by eliminating overlap between sectors.

LTE Throughput	SINR	Speed (bps/Hz)	Speed Increase	CQI
Excellent	>20	>5	333+ %	14-15
Good	12-20	3.3-5	277%	10-13
Fair	6-12	1.5-3.3	160%	7-9
Poor	<6	<1.5	0%	1-7

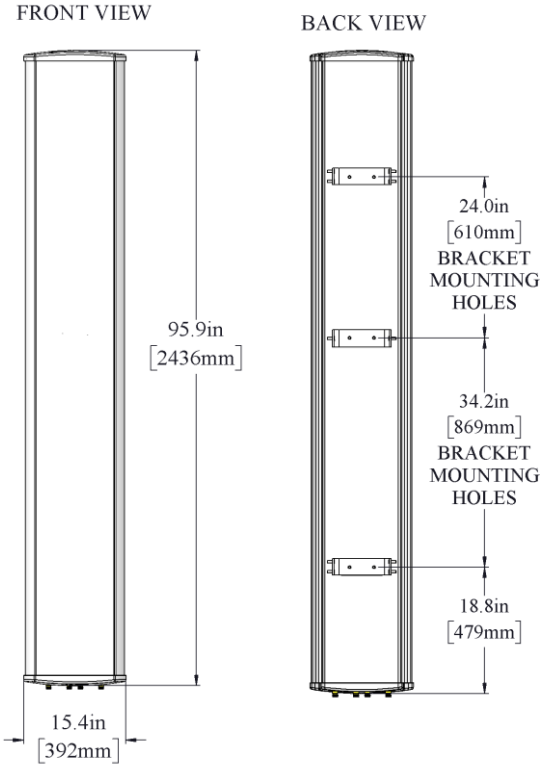
Electrical Specification (Minimum/ Maximum)	Ports 1,2		Ports 3,4,5,6		
Frequency bands, MHz	698–798	824–894	1695–1880	1850–1990	1920–2180
Polarization	± 45⁰		± 45⁰		
Average gain over all tilts, dBi	15.9	15.4	17.6	17.9	18.2
Horizontal beamwidth (HBW), degrees[1]	60.0	53.5	55.0	55.0	55.5
Front-to-back ratio, co-polar power @180⁰± 30⁰, dB	>22.0	>21.0	>25.0	>25.0	>25.0
X-Pol discrimination (CPR) at boresight, dB	>18.0	>15.0	>18	>18	>15
Sector power ratio, percent	<4.5	<3.5	<3.7	<3.8	<3.6
Vertical beamwidth, (VBW), degrees[1]	9.0	8.3	6.0	5.5	5.5
Electrical downtilt (EDT) range, degrees	2-12	2-12	0-9		
First upper side lobe (USLS) suppression, dB[1]	≤ -15.0	≤ -15.0	≤ -16.0	≤ -16.0	≤ -16.0
Minimum cross polar isolation, port-to-port, dB	25	25	25	25	25
Maximum VSWR/ return loss, dB	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0
Maximum passive Intermodulation (PIM), 2x 20W carrier, dBc	-153	-153	-153		
Maximum input power per any port, watts	300		250		
Total composite power all ports, watts	1500				

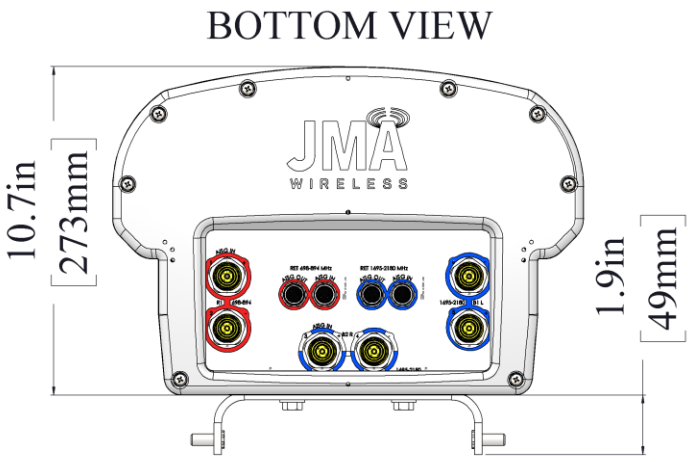
[1] Typical value over frequency and tilt

MX06FRO860-02

NWAV™ X-Pol Antenna | Hex-Port | 8 ft | 60°

Mechanical Specifications	
Dimensions height/ width/ depth, inches (mm)	95.9/ 15.4/ 10.7 (2436/ 392/ 273)
Shipping dimensions length/ width/ height, inches (mm)	106/ 20/ 15 (2692/ 508/ 381)
No. of RF input ports, connector type & location	6 x 4.3-10 female, bottom
RF connector torque	96 lbf·in (10.85 N m or 8 lbf·ft)
Net antenna weight, lb (kg)	51 (23.1)
Shipping weight, lb (kg)	81 (37.0)
Antenna mounting and downtilt kit included with antenna	91900318, 91900319 (middle bracket)
Net weight of the mounting and downtilt kit, lb (kg)	18 (8.2)
Range of mechanical up/ down tilt	-2º to 12^0
Rated wind survival speed, mph (km/h)	150 (241)
Frontal, lateral & rear wind loading @ 150 km/h, lbf (N)	250 (1111), 173 (772), 250 (1111)
Equivalent flat plate @100 mph and Cd=2, sq. ft.	5.74





Ordering Information	
Antenna Model	**Description**
MX06FRO860-02	8F X- Pol HEX FRO 60^0 2-12^0/ 0-9^0 RET, 4.3-10 & SBT
Optional Accessories	
992100-CA030-SC	Optional AISG jumper cable, M/F, 3.0 meters
PCU-220	Primary control unit, USB

MX06FRO860-02

NWAV™ X-Pol Antenna | Hex-Port | 8 ft | 60°

Remote Electrical Tilt (RET 1000) Information	
RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9
RET interface connector quantity	2 pairs of AISG male/ female connectors
RET interface connector location	Bottom of the antenna
Total No. of internal RETs low bands	1
Total No. of internal RETs high bands	1
RET input operating voltage, vdc	10–30
RET max. power consumption, idle state, W	≤ 2.0
RET max. power consumption, normal operating conditions, W	≤ 13.0
RET communication protocol	AISG 2.0/ 3GPP

RET & RF Connector Topology

Each RET device can be controlled either via the designated external AISG connector or RF port as shown below

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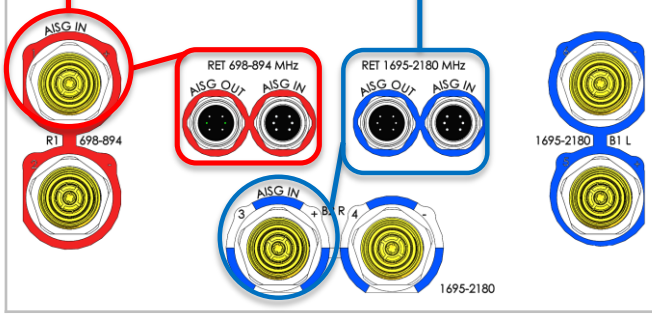
1	698–894	1–2

RET Device	Band	RF Port
2	1695–2180	3–6



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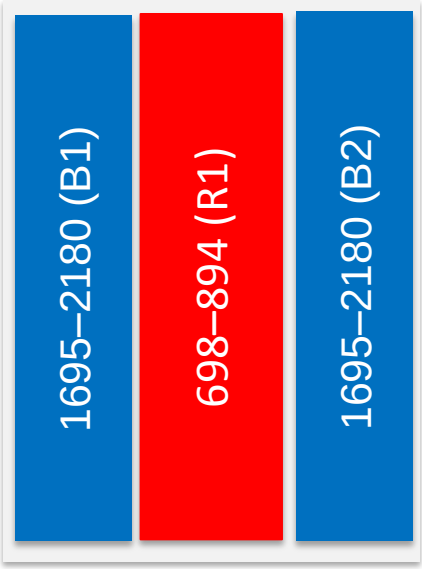
R1: 698–894MHz
B1: 1695–2180MHz
B2: 1695–2180MHz

Band	RF Port
1695–2180	3–4
698–894	1–2
1695–2180	5–6



Product Specifications

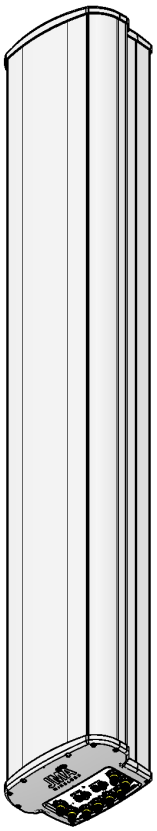
MX08FRO860-02

NWAV™ X-Pol Antenna | Octo-Port | 8 ft | 60°

X-Pol, Octo-Port 8 ft 60º Fast Roll Off with Smart Bias T

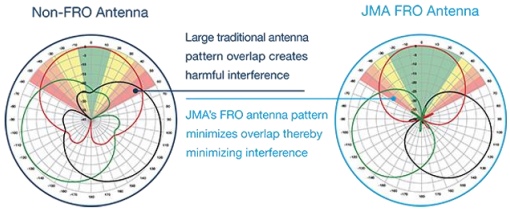
(2) 698-798 MHz, (2) 824-894 MHz & (4) 1695-2180 MHz

- Fast Roll Off (FRO™) Azimuth beam pattern improves Intra- and Inter-cell SINR
- Excellent Passive Intermodulation (PIM) performance reduces harmful interference
- Fully integrated (iRETs) with *independent* RET control for low bands as well as *dependent* RET control for high bands for ease of network optimization
- *SON Ready* array spacing supports beamforming capabilities
- Suitable for LTE/CDMA/PCS/UMTS/GSM air interface technologies
- Integrated Smart BIAS-Ts reduces leasing costs



nWAV technology

Fast Roll-Off (FRO) increased throughput, without compromising coverage.



FRO technology increases the Signal to Interference & Noise Ratio (SINR) by eliminating overlap between sectors.

LTE Throughput	SINR	Speed (bps/Hz)	Speed Increase	CQI
Excellent	>20	>5	333+ %	14-15
Good	12-20	3.3-5	277%	10-13
Fair	6-12	1.5-3.3	160%	7-9
Poor	<6	<1.5	0%	1-7

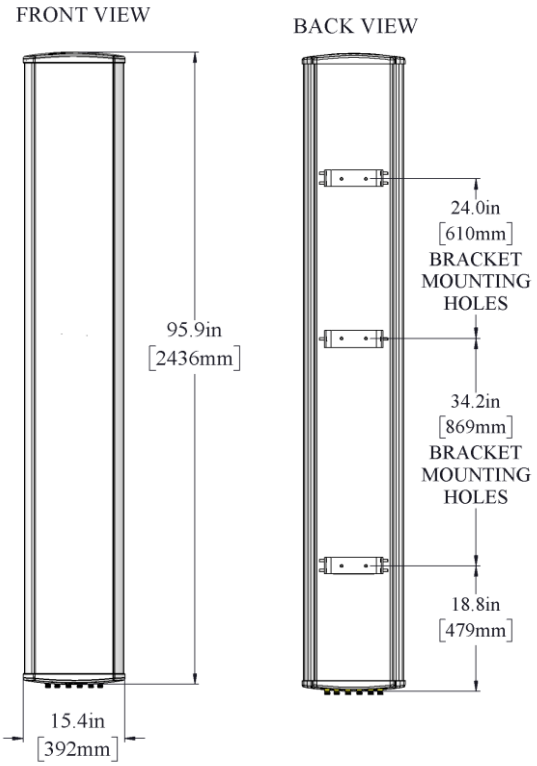
Electrical Specification (Minimum/ Maximum)	Ports 1&2	Ports 3&4	Ports 5,6,7 & 8		
Frequency bands, MHz	698-798	824-894	1695-1880	1850-1990	1920-2180
Polarization	± 45^0	± 45^0	± 45^0		
Average gain over all tilts, dBi	15.6	14.8	17.6	18.1	18.4
Horizontal beamwidth (HBW), degrees[1]	60.0	53.5	55.0	55.0	55.5
Front-to-back ratio, co-polar power @180^0± 30^0, dB	>22.0	>21.0	>25.0	>25.0	>25.0
Xpol discrimination (CPR) at boresight, dB	>18.0	>15.0	>18	>18	>15
Sector power ratio, percent	<4.5	<3.5	<3.7	<3.8	<3.6
Vertical beamwidth, (VBW), degrees[1]	9.0	8.3	6.0	5.5	5.5
Electrical downtilt (EDT) range, degrees	2-12	2-12	0-9		
First upper side lobe (USLS) suppression, dB[1]	≤ -15.0	≤ -15.0	≤ -16.0	≤ -16.0	≤ -16.0
Minimum cross-polar isolation, port-to-port, dB	25	25	25	25	25
Maximum VSWR/ return loss, dB	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0
Maximum passive Intermodulation (PIM), 2x 20W carrier, dBc	-153	-153	-153		
Maximum input power per any port, watts	300	300	250		
Total composite power all ports, watts	1500				

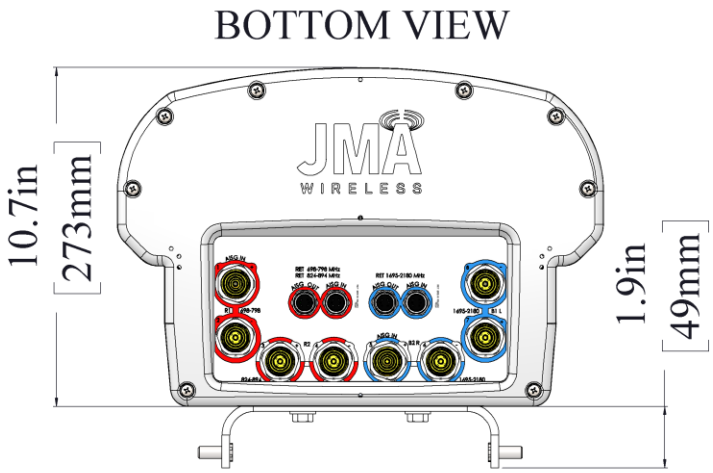
[1] Typical value over frequency and tilt

MX08FRO860-02

NWAV™ X-Pol Antenna | Octo-Port | 8 ft | 60°

Mechanical Specifications	
Dimensions height/ width/ depth, inches (mm)	95.9/ 15.4/ 10.7 (2436/ 392/ 273)
Shipping dimensions length/ width/ height, inches (mm)	106/ 20/ 15 (2692/ 508/ 381)
No. of RF input ports, connector type & location	8 x 4.3-10 female, bottom
RF connector torque	96 in- lb (10.85 N-M or 8 ft-lbs)
Net antenna weight, lb (kg)	55 (25)
Shipping weight, lb (kg)	85 (38.64)
Antenna mounting and downtilt kit included with antenna	91900318, 91900319 (middle bracket)
Net weight of the mounting and downtilt kit, lb (kg)	18 (8.2)
Range of mechanical up/ down tilt	-2º to 12^0
Rated wind survival speed, mph (km/h)	150 (241)
Frontal, lateral & rear wind loading @ 150 km/h, lbf (N)	250 (1111), 173 (772), 250 (1111)
Equivalent flat plate @100 mph and Cd=2, sq. ft.	5.74





Ordering Information	
Antenna Model	**Description**
MX08FRO860-02	8F X- Pol OCTO FRO 60^0 2-12^0/ 0-9^0 RET, 4.3-10 & SBT
Optional Accessories	
992100-CA030-SC	Optional AISG jumper cable, M/F, 3.0 meters
PCU-220	Primary control unit, USB

MX08FRO860-02

NWAV™ X-Pol Antenna | Octo-Port | 8 ft | 60°

Remote Electrical Tilt (RET 1000) Information	
RET location	Integrated into antenna
RET interface connector type	8 Pin AISG connector per IEC 60130-9
RET interface connector quantity	2 pairs of AISG male/ female connectors
RET interface connector location	Bottom of the antenna
Total No. of internal RETs low bands	2
Total No. of internal RETs high bands	1
RET input operating voltage, vdc	10-30
RET max power consumption, idle state, W	≤ 2.0
RET max power consumption, normal operating conditions, W	≤ 13.0
RET communication protocol	AISG 2.0/ 3GPP

RET & RF Connector Topology

Each RET device can be controlled either via the designated external AISG connector or RF port as shown below

RET Device	Band	RF Port
1	698-798	1-2
2	824-894	3-4

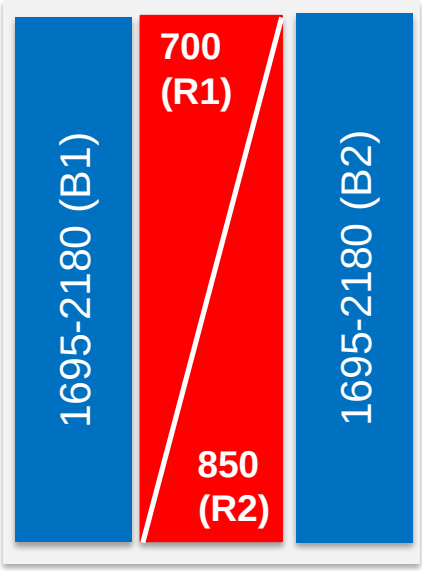
RET Device	Band	RF Port
3	1695-2180	5-8

Array Topology

3 sets of radiating arrays

R1/R2 – 698-894MHz
B1 – 1695-2180MHz
B2 – 1695-2180MHz

Band	RF Port
1695-2180	5-6
698-798	1-2
824-894	3-4
1695-2180	7-8



MORRIS & RITCHIE ASSOCIATES, INC.

ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS,
AND LANDSCAPE ARCHITECTS

February 15, 2018

Mr. Lloyd Anderson
Verizon Wireless
7600 Montpelier Road,
Floor 2 South-Network
Laurel, Maryland 20723

Re: Verizon Wireless - Addie
11119 Rockville Pike
Rockville, Montgomery County, MD 20852
MRA Project No.: 19214.506

Dear Lloyd:

As requested, Morris & Ritchie Associates, Inc. (MRA) has completed a structural evaluation for the proposed Verizon Wireless telecommunications installation consisting of antennas & equipment in each sector mounted to existing steel antenna frames. The objective of MRA's evaluation was to determine if the existing building structure and existing antenna mounts have sufficient load carrying capacity to safely support the proposed Verizon Wireless installation.

The evaluation of the existing structure has been based upon the International Building Code (IBC 2015), previous Construction Drawings for the original Verizon Wireless installation by MRA titled "Addie" last dated June 09, 2015, and the proposed antenna configuration and equipment layout provided by Verizon Wireless. According to Verizon Wireless, twelve (12) existing panel antennas will be removed and replaced with six (6) proposed panel antennas (two (2) at each sector). Additionally, six (6) existing Remote Radio Heads (RRH) are to be removed and replaced by six (6) proposed RRH (two (2) at each sector).

Below is a breakdown of the antenna types (existing and proposed) and additional equipment proposed:

Sector	**Existing Antenna Model**	Quantity	Height (in)	Width (in)	Area (sf)	Weight (lbs)
Alpha	Amphenol HTXC4518x050	2	76.3	16.0	8.47	40.0
	Amphenol WWX063X19x000	2	75.0	12.1	6.31	32.0
	ALU B4 2x60W AWS RRH	1	37.0	11.0	2.83	55.0
	ALU RRH2x40-700 RRH	1	20.0	17.0	2.36	51.0
	ALU B25 RRH4x30-PCS RRH	1	21.2	12.0	1.80	53.0
	Raycap Main Distribution Box	1	19.2	15.8	2.09	26.9

Beta	Amphenol HTXC6318M000	2	76.9	12.0	6.41	30.0
	Amphenol WWX063X19x000	2	75.0	12.1	6.31	32.0
	ALU B4 2x60W AWS RRH	1	37.0	11.0	2.83	55.0
	ALU RRH2x40-700 RRH	1	20.0	17.0	2.36	51.0
	ALU B25 RRH4x30-PCS RRH	1	21.2	12.0	1.80	53.0
	Raycap Main Distribution Box	1	19.2	15.8	2.09	26.9
Gamma	Amphenol HTXC6318M000	2	76.9	12.0	6.41	30.0
	Amphenol WWX063X19x000	2	75.0	12.1	6.31	32.0
	ALU B4 2x60W AWS RRH	1	37.0	11.0	2.83	55.0
	ALU RRH2x40-700 RRH	1	20.0	17.0	2.36	51.0
	ALU B25 RRH4x30-PCS RRH	1	21.2	12.0	1.80	53.0
	Raycap Main Distribution Box	1	19.2	15.8	2.09	26.9

Sector	**Proposed Antenna Model**	Quantity	Height (in)	Width (in)	Area (sf)	Weight (lbs)
Alpha	JMA MX06FIT845-02	2	95.9	15.4	10.25	51.0
	ALU B66 RRH4x45-AWS RRH	1	25.8	11.8	2.11	56.8
	ALU B13 RRH4x30-700 RRH	1	20.9	11.8	1.71	55.6
	ALU B25 RRH4x30-PCS RRH	1	21.2	12.0	1.80	53.0
	Raycap Main Distribution Box	1	19.2	15.8	2.09	26.9
Beta	JMA MX06FRO860-02	2	95.9	15.4	10.25	51.0
	ALU B66 RRH4x45-AWS RRH	1	25.8	11.8	2.11	56.8
	ALU B13 RRH4x30-700 RRH	1	20.9	11.8	1.71	55.6
	ALU B25 RRH4x30-PCS RRH	1	21.2	12.0	1.80	53.0
	Raycap Main Distribution Box	1	19.2	15.8	2.09	26.9
Gamma	JMA MX06FRO860-02	2	95.9	15.4	10.25	51.0
	ALU B66 RRH4x45-AWS RRH	1	25.8	11.8	2.11	56.8
	ALU B13 RRH4x30-700 RRH	1	20.9	11.8	1.71	55.6
	ALU B25 RRH4x30-PCS RRH	1	21.2	12.0	1.80	53.0
	Raycap Main Distribution Box	1	19.2	15.8	2.09	26.9

The antennas and new equipment at the Alpha sector will combine for a total weight of approximately 295 pounds, a net decrease of approximately 36 pounds of dead load. The antennas and new equipment in the Beta & Gamma sectors will combine for a total weight of approximately 295 pounds, a net decrease of approximately 16 pounds of dead load.

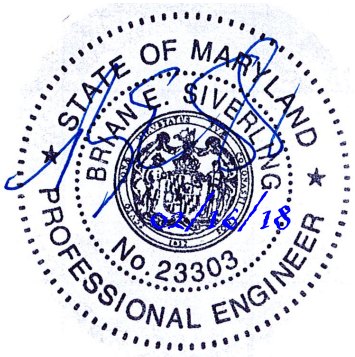
MRA has based the evaluation of the existing structure on the following loading conditions:

IBC 2015:	115 mph Wind (ultimate wind gust) + No Ice
IBC 2015:	89.1 mph Wind (3-second gust) + No Ice
TIA-222-G:	40 mph Wind (3-second gust) + 3/4" Radial Ice
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Roof Live Load:	30 psf (Per IBC 2015 Standards)

The decrease in total dead weight and the minimal increase in total wind load due to the proposed installation will have a minimal impact on the existing building structure at the existing antenna sectors. It is the professional opinion of MRA that the existing antenna mounts and building structure have sufficient capacity to support the proposed Verizon Wireless installation and no modifications are required at this time.

We appreciate the opportunity to be of service on this project. If you should have any questions or require any additional information, please do not hesitate to call our office.

Sincerely,
MORRIS & RITCHIE ASSOCIATES, INC.



Alexander J Leadore, EIT
Structural Designer

Brian E Siverling, PE
Principal

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 23303, Expiration Date: July 7, 2018

V:\bg_PROJECTS\19200-19299\19214 - Verizon Wireless 5G\19214.506 Addie\Analysis & Design\Addie - StrEvalLtr

GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE VERIZON REPRESENTATIVE OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS OTHERWISE NOTED OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY, OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVEMENTS, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL MAINTAIN THE GENERAL WORK AREA AS CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
14. THE CONTRACTOR SHALL NOTIFY THE VERIZON REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE VERIZON REPRESENTATIVE.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
16. THE CONTRACTOR SHALL SUBMIT SHOP DRAWING FOR ALL EQUIPMENT/MATERIALS AS DIRECTED IN THESE DRAWINGS. SHOP DRAWINGS SHALL BE SUBMITTED FOR ARCHITECTURAL FINISHES, HARDWARE, ETC.; STRUCTURAL COMPONENTS; AND SERVICE EQUIPMENT ETC.

verizon

ADDIE

4x4 / AWS SWAP / 700 SWAP

1119 ROCKVILLE PIKE

ROCKVILLE, MARYLAND 20852

INDEX OF DRAWINGS

CS-1	COVER SHEET
C-1	SITE PLAN
C-2	SITE DETAILS
C-3	ANTENNA SECTOR PLANS
S-1	STRUCTURAL DETAILS
E-1	GROUNDING PLAN

ANTENNA ANALYSIS

EXISTING ANTENNAS:	TWELVE (12) FOUR (4) PER SECTOR
ANTENNAS TO BE REMOVED:	TWELVE (12) FOUR (4) PER SECTOR
ANTENNAS TO BE INSTALLED:	SIX (6) TWO (2) PER SECTOR
TOTAL ANTENNAS:	SIX (6) TWO (2) PER SECTOR

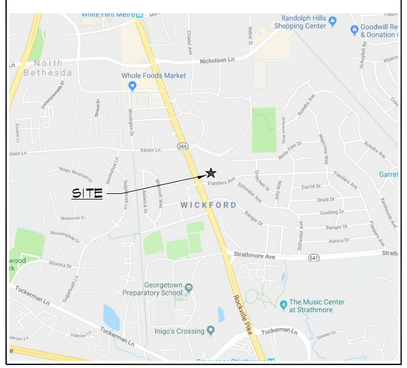
CODE ANALYSIS

APPLICABLE BUILDING CODE:	IBC 2015
USE GROUP:	BUSINESS (B)
CONSTRUCTION TYPE:	IIA

VERIZON REVIEW

BUILDING OWNER	DATE
ENGINEERING	DATE
OPERATIONS	DATE
CONSTRUCTION	DATE

VICINITY PLAN



PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF REMOVING TWELVE (12) EXISTING PANEL ANTENNAS, FOUR (4) FROM EACH SECTOR AND INSTALLING SIX (6) PANEL ANTENNAS, TWO (2) AT EACH SECTOR. REMOVE SIX (6) EXISTING REMOTE RADIO HEADS (RRH), TWO (2) FROM EACH SECTOR AND INSTALL SIX (6) PROPOSED RRH, TWO (2) AT EACH SECTOR.

DIRECTIONS TO SITE

FROM 7600 MONTPELIER RD, LAUREL, MD:

1. TURN LEFT ONTO MONTPELIER RD
2. TURN LEFT ONTO JOHNS HOPKINS RD
3. USE THE RIGHT LANE TO TAKE THE RAMP ONTO US-29 S/COLUMBIA PIKE
4. MERGE ONTO US-29 S/COLUMBIA PIKE
5. SLIGHT RIGHT TO MERGE ONTO I-495 W TOWARD BETHESDA/NORTHERN VIRGINIA
6. TAKE EXIT 34 TO MERGE ONTO MD-355 N/ROCKVILLE PIKE TOWARD ROCKVILLE/BETHESDA/WISCONSIN AVENUE
7. MERGE ONTO MD-355 N/ROCKVILLE PIKE
   DESTINATION WILL BE ON THE RIGHT

MRA

MORRIS & RITCHIE ASSOCIATES, INC.

Civil / Structural Engineers

1220-C East Joppa Road, Suite 505
Towson, Maryland 21286
410-821-1690
410-821-1748 Fax

STATE OF MARYLAND — BRIAN C. SIVERLING — No. 23303 — PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23303, EXPIRATION DATE: 01/01/2018.

verizon

ADDIE - 4X4 / AWS SWAP / 700 SWAP
1119 ROCKVILLE PIKE
ROCKVILLE, MD 20852 (MONTGOMERY COUNTY)

REVISIONS:

NO.	DESCRIPTION	DATE
	PERMIT DWGS	2/28/18

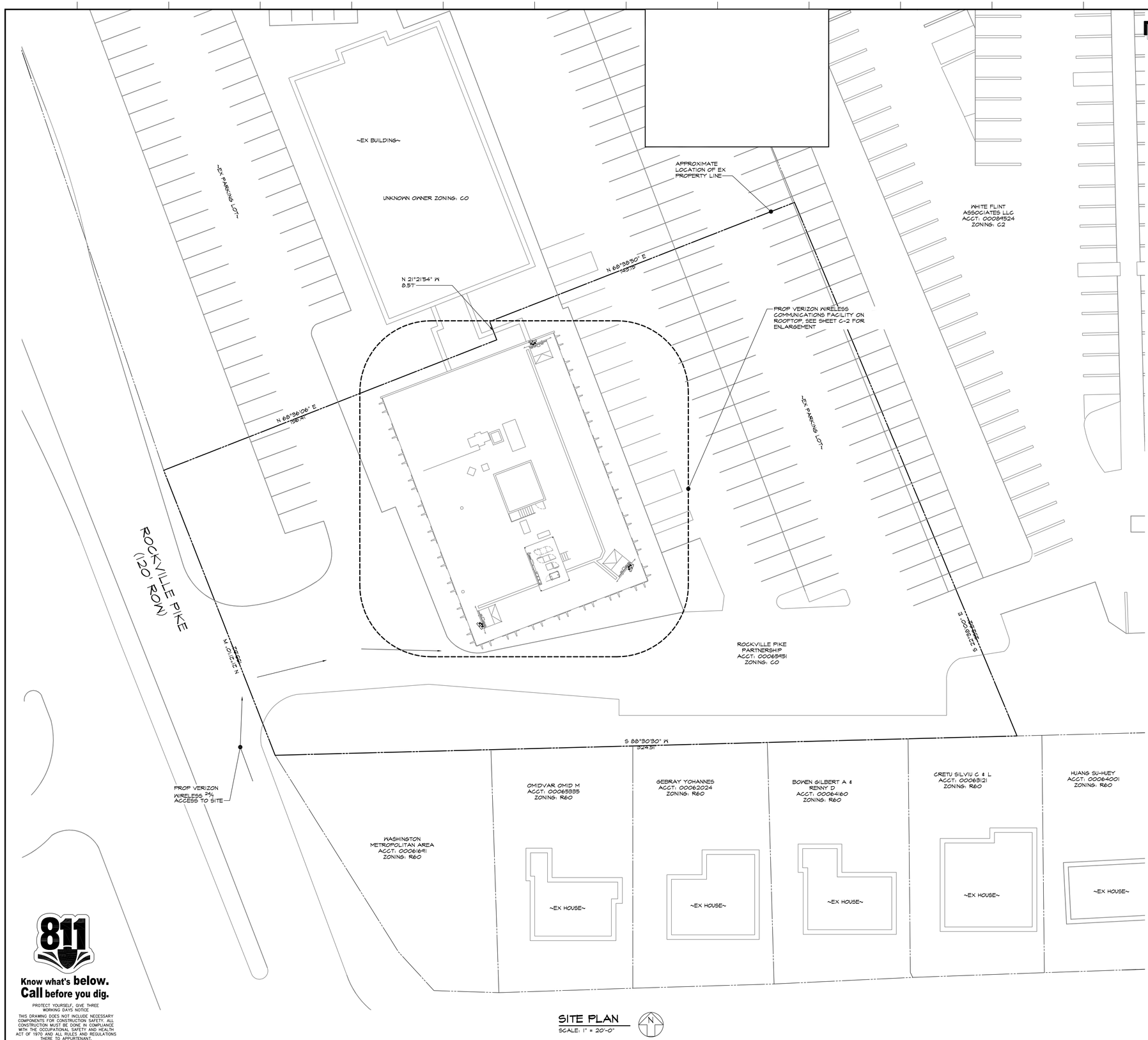
DESIGNED BY:	BES
DRAWN BY:	AJL
PROJECT NO:	19214.506
DATE:	02/14/2018
SCALE:	AS NOTED

TITLE:

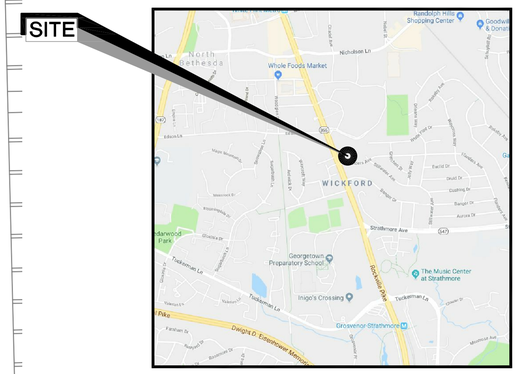
Cover Sheet

SHEET:

CS-1



SITE PLAN
SCALE: 1" = 20'-0"



VICINITY MAP
SCALE: 1" = 1500'

SITE NOTES:

1. APPLICANT: VERIZON WIRELESS
   7600 MONTPELIER ROAD, FLOOR 2 SOUTH-NETWORK
   LAUREL, MD 20723
   TEL. (301) 512-2000
   FAX (301) 512-2186

   APPLICANT'S ATTORNEY: M.G. DIAMOND
   LAW OFFICES OF M. GREGG DIAMOND, P.C.
   7500 WOODMONT AVENUE, SUITE 902
   BETHESDA, MARYLAND 20814-5574
   (240) 396-5574

2. PROPERTY OWNER: ROCKVILLE PIKE PARTNERSHIP
   1055 1ST ST STE 200
   ROCKVILLE, MD 20850

3. SITE DATA: DEED BOOK 04587, PAGE 00770
   PARCEL ID: 00065451
   TRACT AREA: 59,295 SF
   DISTRICT: 04
   ADDRESS: 11119 ROCKVILLE PIKE
   KENSINGTON, MD 20895
   EXISTING USE: PROFESSIONAL BUILDING

4. ZONING: EOF-3.0 H-100

   HORIZONTAL AND VERTICAL CONTROL SHOWN HEREON IS BASED SATELLITE IMAGERY PROGRAMS AND INFORMATION PROVIDED BY VERIZON WIRELESS.

   LATITUDE: N39° 02' 21.45" GROUND ELEVATION: 334' AMSL (AVG.)
   LONGITUDE: W77° 06' 30.41" EXISTING STRUCTURE HEIGHT: 63' AGL
   TOTAL ELEVATION (AMSL): 398' AMSL

5. TOTAL DISTURBED AREA = 0 SF (ANTENNA WORK ONLY)

6. THIS PROJECT CONSISTS OF REMOVING TWELVE (12) EXISTING PANEL ANTENNAS, FOUR (4) FROM EACH SECTOR AND INSTALLING SIX (6) PANEL ANTENNAS, TWO (2) AT EACH SECTOR. REMOVE SIX (6) EXISTING REMOTE RADIO HEADS (RRH), TWO (2) FROM EACH SECTOR AND INSTALL SIX (6) PROPOSED RRH, TWO (2) AT EACH SECTOR.

7. THE STRUCTURE WILL NOT SUPPORT LIGHTS OR SIGNS UNLESS REQUIRED FOR AIRCRAFT WARNING OR OTHER SAFETY RECORDS.

8. THE APPLICANT WILL PROVIDE A CERTIFICATION FROM A REGISTERED ENGINEER THAT THE STRUCTURE WILL MEET THE APPLICABLE DESIGN STANDARDS FOR WIND LOADS PER THE REQUIREMENTS OF THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION.

9. IF THE ANTENNAS ARE NO LONGER USED FOR TELECOMMUNICATIONS PURPOSES FOR A CONTINUOUS PERIOD OF ONE (1) YEAR, THEY SHALL BE REMOVED BY THE ANTENNA OWNER AT OWNER'S EXPENSE.

10. NO WATER OR SANITARY UTILITIES ARE REQUIRED FOR THE OPERATION OF THIS FACILITY.

11. STORMWATER MANAGEMENT NOTE: NO STORMWATER MANAGEMENT IS REQUIRED FOR THIS SITE.

12. BOUNDARY SHOWN PER COUNTY RECORDS.

13. THIS PLAN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. PLAN IS SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.

14. ALL DETAILS SHOWN ARE "STANDARD" OR "TYPICAL" FOR REFERENCE ONLY. FOR ACTUAL DETAILS, SEE ARCHITECTURAL, STRUCTURAL, OR CONSTRUCTION PLANS BY OTHERS.

15. STRUCTURAL ANALYSIS/DESIGN TO BE PERFORMED BY OTHERS AT CLIENT AND/OR OWNER'S DISCRETION PRIOR TO COMMENCEMENT OF ANY WORK.

16. THE COMMUNICATION EQUIPMENT SHALL BE UNMANNED, WITH INFREQUENT VISITS (FOUR OR FEWER PER YEAR) BY MAINTENANCE PERSONNEL AND WITH ACCESS AND PARKING FOR NO MORE THAN ONE VEHICLE. THE PROPOSED FACILITY IS NOT FOR HUMAN HABITATION AND THEREFORE HANDICAP ACCESS IS NOT REQUIRED.

17. THE PROPOSED COMMUNICATIONS EQUIPMENT, ANTENNAS AND RELATED MOUNTING DEVICES DO NOT EXCEED TWELVE (12) FEET IN TOTAL HEIGHT.

GENERAL NOTES

1. CONTRACTOR SHALL NOTIFY "MISS UTILITY" (811) 48 HOURS PRIOR TO DOING ANY EXCAVATION IN THIS AREA. CONTRACTOR SHALL CONTACT A SUBSURFACE UTILITY LOCATOR FOR LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL VERIFY EXISTING UTILITY LOCATIONS BY TEST PIT AS NECESSARY. LOCATION OF UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE AND FOR PLANNING PURPOSES ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. DAMAGE TO UTILITIES OR PROPERTY OF OTHER BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO PRECONSTRUCTION CONDITIONS BY THE CONTRACTOR.
2. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES, THE LATEST EDITION THEREOF.
3. ANY PERMITS WHICH MUST BE OBTAINED SHALL BE THE CONTRACTOR'S RESPONSIBILITY. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNMENTAL AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
4. CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS WITH APPROPRIATE UTILITY OWNERS.
5. THESE PLANS ARE NOT FOR RECORDATION OR CONVEYANCE.
6. EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY CONTRACTOR (WHICH ARE NOT TO BE REMOVED) SHALL BE REPAIRED TO PRECONSTRUCTION CONDITIONS BY THE CONTRACTOR.

811
Know what's **below.**
Call before you dig.
PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE

THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERE TO APPURTENANT.

MRA
MORRIS & RITCHIE ASSOCIATES, INC.
Civil / Structural Engineers
1220-C East Joppa Road, Suite 505
Towson, Maryland 21286
410-821-1690
410-821-1748 Fax

STATE OF MARYLAND · BRIAN C. SIVERLING · No. 23303 · PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23303, EXPIRATION DATE: 07/07/2018.

verizon

ADDIE - 4X4 / AWS SWAP / 700 SWAP
11119 ROCKVILLE PIKE
ROCKVILLE, MD 20852 (MONTGOMERY COUNTY)

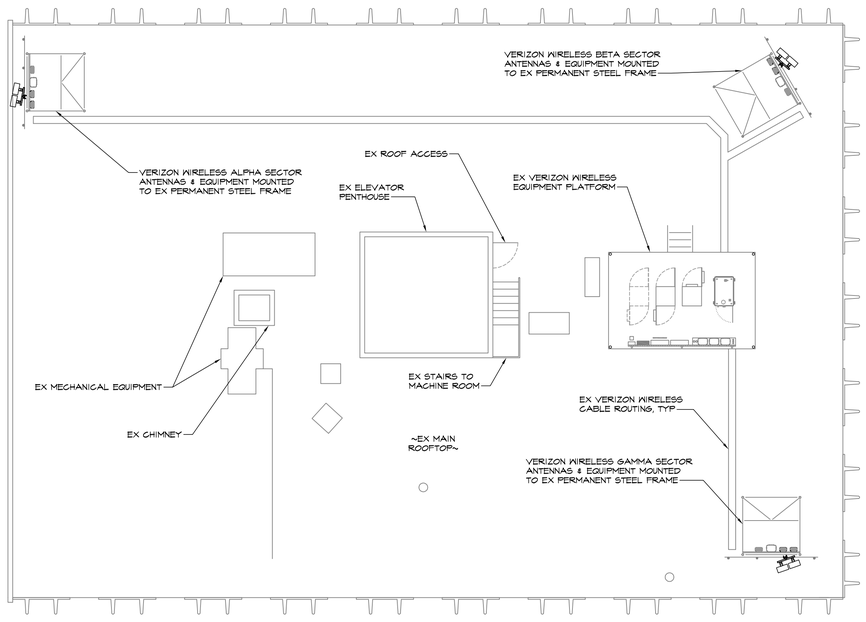
REVISIONS:

NO.	DESCRIPTION	DATE
	PERMIT DWGS	2/28/18

DESIGNED BY:	BES
DRAWN BY:	AJL
PROJECT NO:	19214.506
DATE:	02/14/2018
SCALE:	AS NOTED

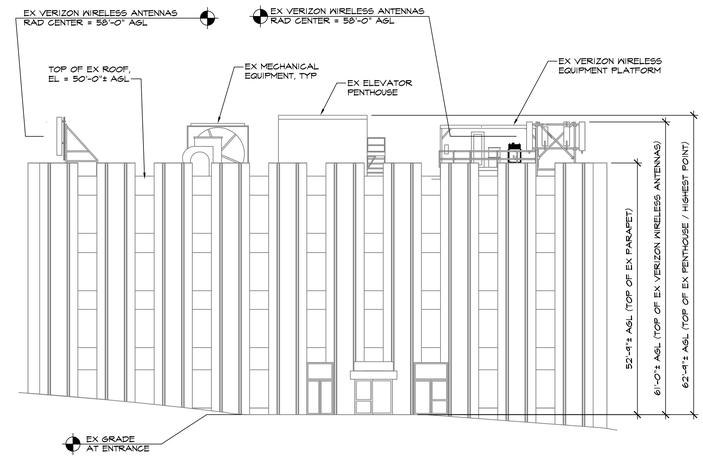
TITLE: **Site Plan**

SHEET: **C-1**



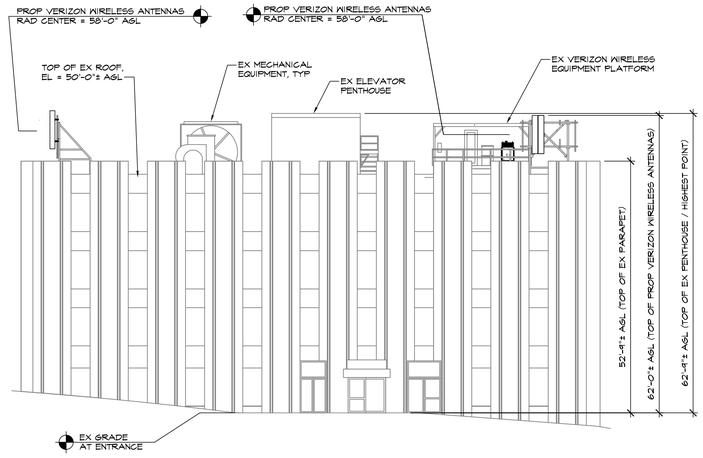
ENLARGED ROOFTOP LAYOUT

SCALE: 1" = 10'-0"



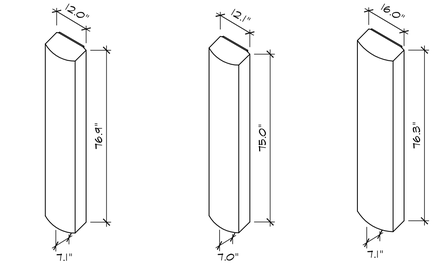
EXISTING BUILDING ELEVATION

SCALE: 1" = 15'-0"



PROPOSED BUILDING ELEVATION

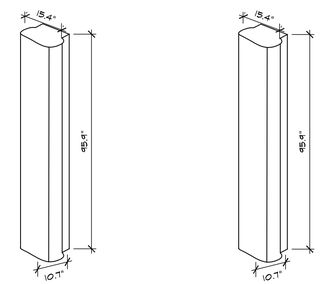
SCALE: 1" = 15'-0"



AMPHENOL HTXC6316M000 | AMPHENOL WWx063x19x00 | AMPHENOL HTXC4518x050

EXISTING VERIZON WIRELESS ANTENNA DETAILS

NOT TO SCALE



JMA MX06FIT845-02 JMA MX06FR0860-02

PROPOSED VERIZON WIRELESS ANTENNA DETAILS

NOT TO SCALE

MRA
MORRIS & RITCHIE ASSOCIATES, INC.
Civil / Structural Engineers
1220-C East Joppa Road, Suite 505
Towson, Maryland 21286
410-821-1690
410-821-1748 Fax

STATE OF MARYLAND
BRUCE E. SIVERLING
No. 23303
PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23303, EXPIRATION DATE: 01/01/2018.

verizon

ADDE - 4X4 / AWS SWAP / 700 SWAP
1119 ROCKVILLE PIKE
ROCKVILLE, MD 20852 (MONTGOMERY COUNTY)

REVISIONS:		
NO.	DESCRIPTION	DATE
	PERMIT DWGS	2/28/18

DESIGNED BY:	BES
DRAWN BY:	AJL
PROJECT NO:	18214.506
DATE:	02/14/2018
SCALE:	AS NOTED

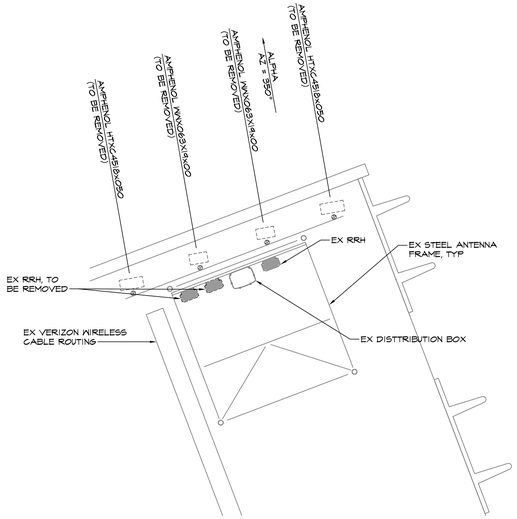
TITLE: **Site Details**

SHEET: **C-2**

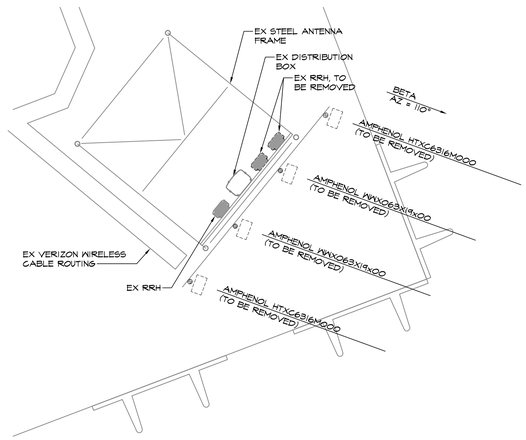
811 Know what's **below.** **Call** before you dig.

PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE

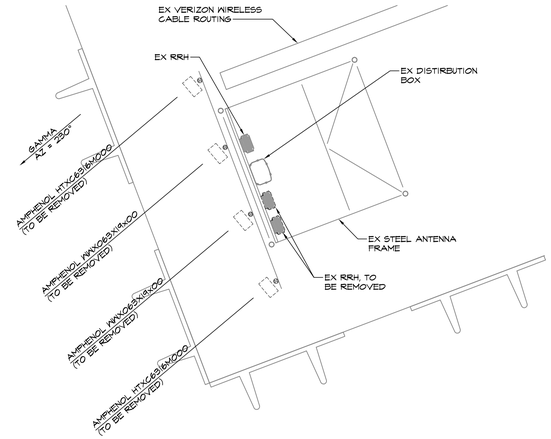
THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERE TO APPURTENANT.



ALPHA SECTOR



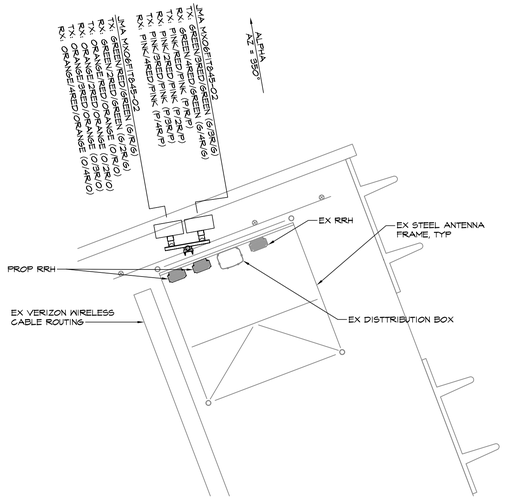
BETA SECTOR



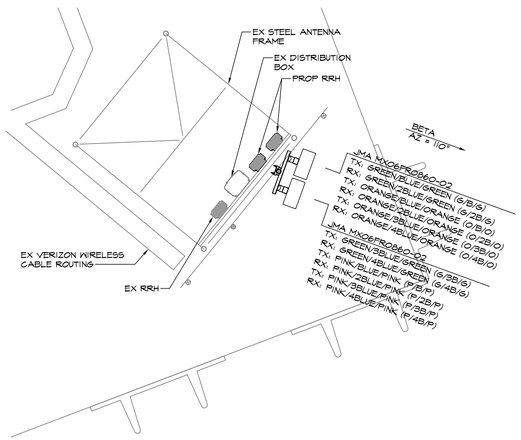
GAMMA SECTOR

EXISTING ANTENNA SECTOR PLANS

SCALE: ¼" = 1'-0"



ALPHA SECTOR



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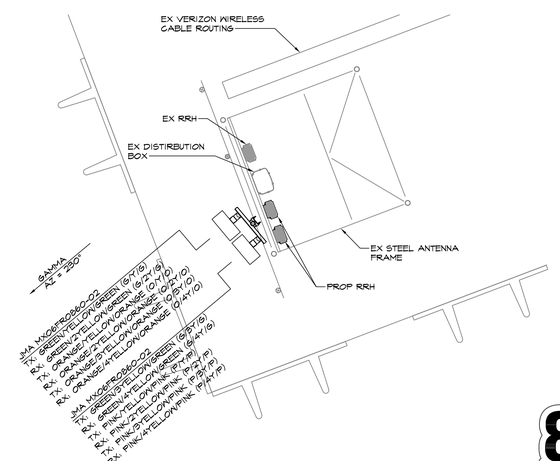

GAMMA SECTOR

PROPOSED ANTENNA SECTOR PLANS

SCALE: ¼" = 1'-0"

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MRA
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Civil / Structural Engineers
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410-821-1690
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STATE OF MARYLAND · BRIAN E. SIVERLING · No. 23303 · PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23303, EXPIRATION DATE: 07/07/2018.

verizon

ADDE - 4X4 / AWS SWAP / 700 SWAP
1119 ROCKVILLE PIKE
ROCKVILLE, MD 20852 (MONTGOMERY COUNTY)

REVISIONS:		
NO.	DESCRIPTION	DATE
	PERMIT DWGS	2/28/18

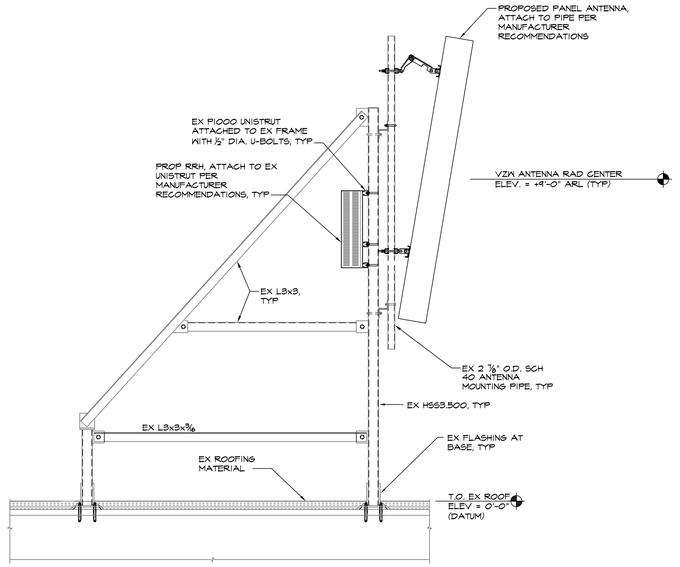
DESIGNED BY:	BES
DRAWN BY:	AJL
PROJECT NO:	19214.506
DATE:	02/14/2018
SCALE:	AS NOTED

TITLE:

Antenna Sector Plans

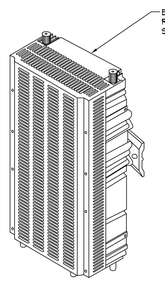
SHEET:

C-3



1 / S-1 ANTENNA MOUNT SIDE ELEVATION

SCALE: ½" = 1'-0"



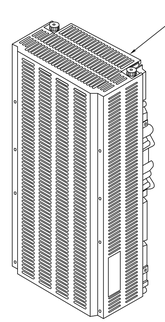
B13 RRH4x30 REMOTE RADIO HEAD	
MANUFACTURER:	ALCATEL-LUCENT
ANTENNA TECH.:	700 MHz (LTE)
DIMENSIONS:	7.5"Dx11.8"Wx20.9"H
WEIGHT:	55.6 LBS

NOTES:

1. INSTALL RRH PER MANUFACTURERS RECOMMENDATIONS.
2. FIBER, DC POWER & GROUND CONNECTIONS NOT SHOWN.

ALCATEL-LUCENT B13 RRH 4x30-700 MHz RRH DETAIL

NOT TO SCALE



B66A RRH4x45 REMOTE RADIO HEAD	
MANUFACTURER:	ALCATEL-LUCENT
ANTENNA TECH.:	AWS
DIMENSIONS:	7.2"Dx11.8"Wx25.8"H
WEIGHT:	56.8 LBS

NOTES:

1. INSTALL RRH PER MANUFACTURERS RECOMMENDATIONS.
2. FIBER, DC POWER & GROUND CONNECTIONS NOT SHOWN.

ALCATEL-LUCENT B66A RRH 4x45-AWS RRH DETAIL

NOT TO SCALE

STRUCTURAL NOTES

1. BUILDING CODES

   A. ALL CONSTRUCTION SHALL CONFORM WITH THE IBC 2015 BUILDING CODE AND ALL SUBSEQUENT SUPPLEMENTS.

   B. IN ADDITION, ALL CONSTRUCTION SHALL CONFORM WITH THE GOVERNING LOCAL BUILDING CODE.

2. DESIGN LOADS

   A. WIND LOAD DESIGN CRITERIA:

ULTIMATE WIND SPEED (Vult) =	115 MPH
BASIC WIND SPEED (Vasd)	89.1 MPH
WIND EXPOSURE=	C
IMPORTANCE FACTOR (I)=	1.0

   B. SEISMIC LOADING: DOES NOT CONTROL

3. MISCELLANEOUS

   A. SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN ON THE CONTRACT DOCUMENTS MUST BE SUBMITTED BY THE CONTRACTOR OR OWNER FOR REVIEW BY THE ENGINEER. IF THE CONTRACTOR OR OWNER FAILS TO SUBMIT THE SHOP DRAWINGS, THE ENGINEER WILL NOT BE RESPONSIBLE FOR STRUCTURAL CERTIFICATION AND DESIGN OF THE PROJECT. THE SHOP DRAWINGS SHALL INDICATE ANY DEVIATIONS OR OMISSIONS FROM THE CONTRACT DOCUMENTS. THE GENERAL CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMISSION AND MAKE ALL CORRECTIONS DEEMED NECESSARY.

   B. THE CONTRACTOR SHALL REVIEW THE ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATION AND DIMENSION OF CHASES, INSERTS, OPENINGS, SLEEVES, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS WHICH IMPACT THE STRUCTURAL COMPONENTS.

   C. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS BEFORE PROCEEDING WITH CONSTRUCTION. ALL DISCREPANCIES AND OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.

   D. THE CONTRACTOR SHALL NOT SUBMIT REPRODUCTIONS OF THE STRUCTURAL CONTRACT DOCUMENTS AS SHOP DRAWINGS.

   E. SCALES SHOWN ON THE STRUCTURAL CONTRACT DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DIMENSIONAL INFORMATION SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.

4. EXISTING STRUCTURE

   A. ALL EXISTING PLANS, DETAILS, DIMENSIONS, AND ELEVATIONS INDICATE EXISTING CONDITIONS AS KNOWN. THE EXISTING INFORMATION SHOWN IS NOT INTENDED TO BE "AS BUILT" AND THE ACTUAL CONSTRUCTION MAY DIFFER FROM THAT SHOWN. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS INCLUDING DIMENSIONS AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION. MINOR VARIATIONS CAN BE EXPECTED AND ANY REQUIRED DEVIATION FROM THE CONTRACT DOCUMENTS SHALL BE APPROVED BY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

   B. THE CONTRACTOR SHALL LOCATE ALL UTILITIES IN THE AREA OF CONSTRUCTION AND PREVENT DAMAGE TO THEM. SHOULD DAMAGE OCCUR TO ANY UTILITIES, THE CONTRACTOR IS REQUIRED TO REPAIR THE DAMAGE TO THE SATISFACTION OF THE OWNER AT HIS OWN EXPENSE.

   C. THE CONTRACTOR SHALL MONITOR THE EXISTING STRUCTURE DURING CONSTRUCTION. IMMEDIATELY NOTIFY THE ENGINEER OF AREAS EXHIBITING DISTRESS OR FAILURE.

   D. THE CONTRACTOR SHALL FIELD VERIFY THE SIZE AND CONDITION OF ALL EXISTING FRAMING. SHOULD THE SIZE OR CONDITION OF THE EXISTING FRAMING DIFFER FROM THAT SHOWN ON THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

6. STRUCTURAL AND MISCELLANEOUS STEEL

   A. ALL STEEL CONSTRUCTION SHALL CONFORM TO THE NINTH EDITION OF THE AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN" AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".

   B. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A 992 GRADE 50.

   C. ALL MISCELLANEOUS STEEL (ANGLES, PLATES, ETC.) SHALL CONFORM TO ASTM A 36 HAVING A MINIMUM YIELD STRENGTH OF F_y = 36,000 PSI.

   D. ALL STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A 53 GRADE "B", HAVING A MINIMUM YIELD STRENGTH OF F_y = 35,000 PSI.

   E. ALL SHOP AND FIELD WELDS SHALL BE PERFORMED BY CERTIFIED WELDERS AND CONFORM TO THE AMERICAN WELDING SOCIETY CODE FOR BUILDINGS AWS D1.1. WELDS SHALL DEVELOP THE FULL STRENGTH OF MATERIALS BEING WELDED UNLESS OTHERWISE INDICATED.

   F. ALL CONNECTIONS TO EXISTING STEEL FRAMING SHALL BE FIELD BOLTED UNLESS OTHERWISE INDICATED. THE CONTRACTOR MAY SUBSTITUTE WELDED CONNECTIONS PROVIDED THE EXISTING STEEL IS TESTED TO DETERMINE STRENGTH AND CHEMICAL PROPERTIES. TEST METHODS AND RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO ANY FIELD WELDING TO EXISTING STEEL.

   G. ALL EXPOSED STRUCTURAL STEEL SHALL CONFORM TO THE AISC "SPECIFICATION FOR ARCHITECTURALLY EXPOSED STRUCTURAL STEEL".

   H. THE CONTRACTOR SHALL NOT SPLICE OR CUT OPENINGS IN STEEL MEMBERS NOT SHOWN ON CONTRACT DRAWINGS WITHOUT THE PERMISSION OF THE STRUCTURAL ENGINEER.

   I. AN INDEPENDENT INSPECTION AGENCY SHALL INSPECT ALL STRUCTURAL STEEL AND VERIFY THAT IT CONFORMS TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. FIELD INSPECTION REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN 5 DAYS OF THE INSPECTION. THE CONTRACTOR SHALL NOTIFY THE INSPECTION AGENCY OF ALL PHASES OF STEEL CONSTRUCTION AND WELDING.

   J. STEEL MEMBERS, FABRICATIONS AND ASSEMBLIES INDICATED TO BE GALVANIZED SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A 123 AFTER FABRICATION. ALL EXPOSED STEEL MEMBERS SHALL BE HOT DIPPED GALVANIZED.

   K. GROUT FOR BASE AND BEARING PLATES SHALL BE NON-SHRINK, NON-METALLIC GROUT CONFORMING TO ASTM C 827 WITH MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS.

   L. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS INDICATING THE SIZES, EXTENT, AND LOCATION OF ALL STRUCTURAL AND MISCELLANEOUS STEEL FRAMING INCLUDING ALL CONNECTIONS, FASTENERS, AND BEARINGS.

811

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MRA

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Civil / Structural Engineers
1220-C East Joppa Road, Suite 505
Towson, Maryland 21286
410-821-1690
410-821-1748 Fax

STATE OF MARYLAND — BRIANNE E. SILVERMAN — No. 23303 — PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 23303, EXPIRATION DATE: 07/07/2018.

verizon

ADDE - 4X4 / AWS SWAP / 700 SWAP
1119 ROCKVILLE PIKE
ROCKVILLE, MD 20852 (MONTGOMERY COUNTY)

REVISIONS:

NO.	DESCRIPTION	DATE
	PERMIT DWGS	2/28/18

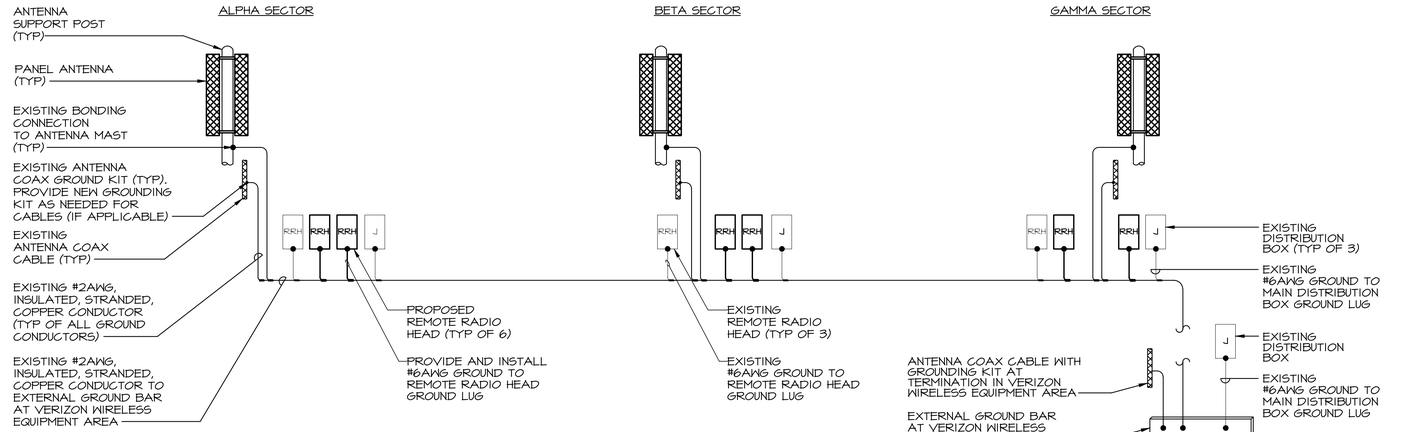
DESIGNED BY:	BES
DRAWN BY:	AJL
PROJECT NO:	19214.506
DATE:	02/14/2018
SCALE:	AS NOTED

TITLE:

Structural Details

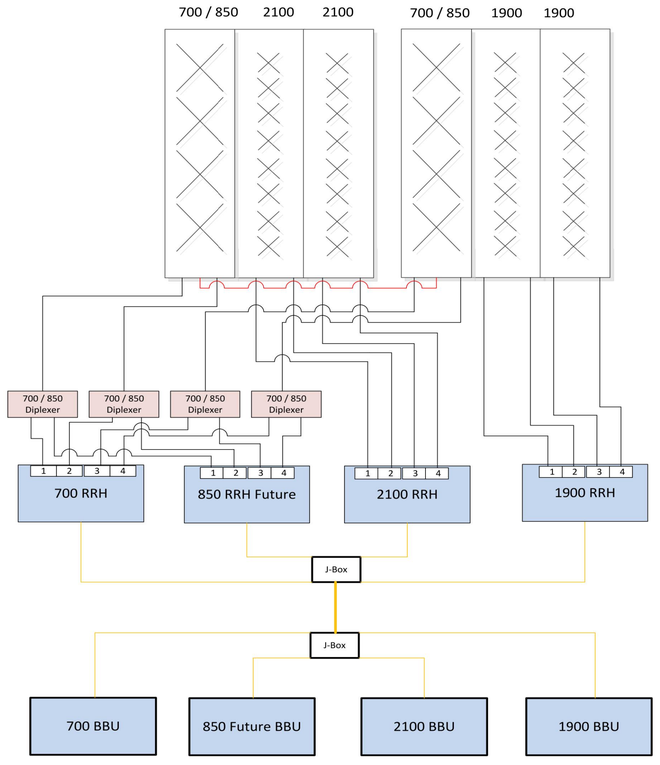
SHEET:

S-1



ANTENNA GROUNDING SYSTEM DIAGRAM

NO SCALE



ANTENNA PLUMBING DIAGRAM

NO SCALE (TYPICAL OF ALL SECTORS)

TEI
TELEGENT ENGINEERING INC.
2216 Commerce Road, Suite 1
Forest Hill, MD 21050
410-692-5816
www.tel-eng.com

STATE OF MARYLAND — TIMOTHY SMIDT — No. 21585 — REGISTERED PROFESSIONAL ENGINEER

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME TIMOTHY SMIDT, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21585, EXPIRATION DATE: MAY 8, 2019.

verizon

ADDIE - 4x4/ AWS SWAP / 700 SWAP

11119 ROCKVILLE PIKE, ROCKVILLE
MONTGOMERY COUNTY, MARYLAND 20852

REVISIONS:

NO.	DESCRIPTION	DATE
	PERMIT DWGS.	2/28/18

LAST REV.:

PROJECT NO: 180226

DATE: FEBRUARY 28, 2018

SCALE: AS NOTED

TITLE:
ANTENNA GROUNDING PLAN AND DIAGRAM

SHEET:
E-1

TEI#180226