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Kristen Motel
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March 2, 2022

VIA OVERNIGHT DELIVERY

Honorable John Morrisette, Presiding Officer
And Members of the Connecticut Siting Council
Ten Franklin Square
New Britain, Connecticut 06051

Re: Docket No. 501
New Cingular Wireless PCS, LLC ("AT&T")
Development and Management Plan
106 Sharon Road, Salisbury, Connecticut

Dear Presiding Officer Morrisette and Members of the Siting Council:

On behalf New Cingular Wireless PCS, LLC ("AT&T"), please accept for review and Council approval this Development and Management Plan ("D&M Plan") filing for the Facility as approved in Docket No. 501.

Tower, Compound & Other Equipment

Enclosed as Exhibit C are sixteen (16) sets of 11" x 17" Development & Management Plans, dated February 4, 2022, prepared by ProTerra Design Group, LLC. Two full-sized sets of Development & Management Plans are also enclosed. These plans are being filed in accordance with the Council's Decision and Order dated August 26, 2021 ("Decision & Order"). The D&M Plan incorporates a 94' tall monopole with a 6' lightning rod on top, for an overall facility height of 100', as provided for in the Siting Council's Decision and Order in this Docket. Specifications regarding the brown finish for the monopole and tower-mounted equipment are included in the enclosed plans. AT&T will initially install six (6) panel antennas and nine (9) RRH's at a centerline of 90' above grade level ("AGL").

Attached in Exhibit A are specifications for AT&T's antennas and generator. A geotechnical report dated October 4, 2021, a structural design report dated October 28, 2021, and a mount analysis dated last revised November 9, 2020 are included in Exhibit B.

The proposed D&M plan also includes construction plans for the site clearing, drainage and erosion and sedimentation control measures consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control as amended.

Required Notifications

In accordance with the provisions of RCSA Section 16-50j-77, AT&T hereby notifies the Council of its intention to begin site work immediately after Council approval of the D&M Plan.



Construction of the tower and other site improvements will commence upon issuance of a local building permit. The supervisor for all construction related matters on this project is Caleb McVey, Director, JDH Contracting, 1996 Winchester Road, Mt. Sterling, Kentucky 40353 and can be reached by telephone at 859-404-7046. Construction is expected to take approximately 7-8 weeks and will occur during the off-season of the Inn on the property that is operated by the landlord.

In support of this filing, please find enclosed sixteen (16) copies of the instant letter with the following documents:

Exhibit A: Antenna, RRH and Equipment Specifications, WIC Specifications¹, and Polar Power, Inc. Emergency Generator and Propane Tank Specifications.

Exhibit B: Geotechnical Engineering Report, prepared by Welti Geotechnical, P.C. dated October 4, 2021; Tower and Foundation Structural Design Report, prepared by Sabre Industries, Inc, dated October 28, 2021; Mount Analysis prepared by Hudson Design Group LLC, dated May 12, 2020 and revised November 9, 2020.

Exhibit C: Development & Management Plans prepared by ProTerra Design Group, LLC dated February 4, 2022, and signed and sealed by Thomas E. Johnson, CT P.E. License No. 28192.

We respectfully request that this matter be included on the Council's next available agenda for review and approval. Thank you for your consideration of the enclosed.

Very truly yours,

A handwritten signature in dark ink, appearing to read 'Kristen Motel', is written over a horizontal line.

Kristen Motel
Enclosures

cc: Curtis Rand, Salisbury First Selectman
Brian Leyden, AT&T
Lucia Chiocchio, Esq.
Wake Robin, LLC

¹ The Vertiv Walk-in-Cabinet (WIC) specifications are being bulk filed with this submission.

CERTIFICATE OF SERVICE

I hereby certify that on this day one original and fifteen (15) copies of the foregoing was sent electronically and delivered to the Connecticut Siting Council via overnight mail.

March 2, 2022



Kristen Motel
Cuddy & Feder LLP
445 Hamilton Ave, 14th Floor
White Plains, NY 10601
(914)-761-1300
Attorneys for the Applicant

cc: Brian Leyden, AT&T
Harry Carey, AT&T
Lucia Chiocchio, Esq.

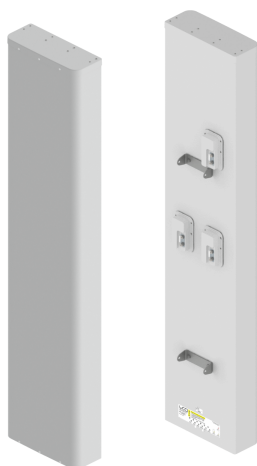
Exhibit A



DATA SHEET

Multi-Band Twelve-Port Antenna

TPA65R-BU8D



- Eight foot (2.4 m) multiband, twelve port antenna with a 65° azimuth beamwidth covering 698-896 MHz and 1695-2400 MHz frequencies
- Eight high band ports covering 1695-2400 MHz and four low band ports covering 698-896 MHz in a single antenna enclosure
- Innovative Low and High Band Array configuration allows for 4T4R (4x4 MIMO) on Low Band and Dual 4T4R (4x4 MIMO) High Band Arrays, using full length arrays (non stacked), all in under a 20.7" (525 mm) width enclosure, an Industry First
- Full Spectrum Compliance for WCS and AWS-3 frequencies and Band 14 Operations
- Array configuration allows for 4T4R (4X4 MIMO) on Low Band, essential for Band 14 Operations
- LTE Optimized FBR and SPR performance, providing for an efficient use of valuable radio capacity
- LTE Optimized Boresight and Sector XPD and USL performance, essential for LTE Performance
- Exceeds minimum PIM performance requirements
- Equipped with new 4.3-10 connector, which is 40% smaller than traditional 7/16 DIN connector
- Equipped with 3 field replaceable, integrated AISG 2.0 compliant Remote Electrical Tilt (RET) Controllers (Type 1 External)
- Ordering options for External RET Controllers (Type 1) or Internally Integrated RET Controllers (Type 17)

Overview

The CCI 12-Port multiband array is a twelve port antenna, with eight wide band ports covering 1695-2400 MHz and four low band ports covering 698-896 MHz. The antenna provides the capability to deploy Dual 4x4 Multiple-input Multiple-output (MIMO) in the high band and 4X4 Multiple-input Multiple-output (MIMO) across low band ports. The CCI 12-Port allows independent tilt control between the low band ports and high band ports and independent tilt control between left and right antenna arrays.

In this three RET configuration, the 1st RET is dedicated for the four Low Band ports. The 2nd RET is dedicated for the four Left High Band ports and the 3th RET is dedicated for the four Right High Band ports. This RET arrangement allows for complete flexibility in coverage control between left and right antenna arrays.

CCI antennas are designed and produced to ISO 9001 certification standards for reliability and quality in our state-of-the-art manufacturing facilities.

Applications

- Dual 4x4 MIMO for the High Band and 4X4 MIMO Low Band ports
- Ready for Network Standardization on 4.3-10 DIN connectors
- With CCI's multiband antennas, wireless providers can connect multiple platforms to a single antenna, reducing tower load, lease expense, deployment time and installation costs



SPECIFICATIONS

Multi-Band Twelve-Port Antenna

TPA65R-BU8D

Electrical

Ports	4 x Low Band Ports for 698-896 MHz	
Frequency Range	698-806 MHz	824-896 MHz
Gain ¹	15.6 dBi	16.6 dBi
Gain (Average) ²	14.6 dBi	15.6 dBi
Azimuth Beamwidth (-3dB)	74°	63°
Elevation Beamwidth (-3dB)	9.5°	8.0°
Electrical Downtilt	2° to 12°	2° to 12°
Elevation Sidelobes (1st Upper)	<-19 dB	<-18 dB
Front-to-Back Ratio @180°	> 35 dB	> 35 dB
Front-to-Back Ratio ±20°	> 32 dB	> 32 dB
Cross-Polar Discrimination at Peak	> 25 dB	> 25 dB
Cross-Polar Discrimination at Sector ²	11.2 dB	10.9 dB
Cross-Polar Port-to-Port Isolation	> 25 dB	> 25 dB
Voltage Standing Wave Ratio (VSWR)	< 1.5:1	< 1.5:1
Passive Intermodulation (2x20W)	≤ -153 dBc	≤ -153 dBc
Input Power Continuous Wave (CW)	500 watts	500 watts
Polarization	Dual Linear 45°	Dual Linear 45°
Input Impedance	50 ohms	50 ohms
Lightning Protection	DC Ground	DC Ground

¹Peak gain across sub-bands.²Electrical specifications follow document "Recommendation on Base Station Antenna Standards" (BASTA) V9.6.

Ports	8 x High Band Ports for 1695-2400 MHz			
Frequency Range	1695-1880 MHz	1850-1990 MHz	1920-2180 MHz	2300-2400 MHz
Gain ¹	18.0 dBi	18.1 dBi	18.3 dBi	18.0 dBi
Gain (Average) ²	16.7 dBi	17.1 dBi	17.3 dBi	16.8 dBi
Azimuth Beamwidth (-3dB)	71°	67°	67°	62°
Elevation Beamwidth (-3dB)	5.7°	5.1°	4.7°	4.1°
Electrical Downtilt	0° to 8°	0° to 8°	0° to 8°	0° to 8°
Elevation Sidelobes (1st Upper)	<-18 dB	<-18 dB	<-17 dB	<-16 dB
Front-to-Back Ratio @180°	> 35 dB	> 35 dB	> 35 dB	> 35 dB
Front-to-Back Ratio ±20°	> 32 dB	> 32 dB	> 32 dB	> 32 dB
Cross-Polar Discrimination at Peak	> 19 dB	> 18 dB	> 20 dB	> 21 dB
Cross-Polar Discrimination at Sector ²	11.0 dB	9.1 dB	9.9 dB	8.0 dB
Cross-Polar Port-to-Port Isolation	> 25 dB	> 25 dB	> 25 dB	> 25 dB
Voltage Standing Wave Ratio (VSWR)	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1
Passive Intermodulation (2x20W)	≤ -153 dBc	≤ -153 dBc	≤ -153 dBc	≤ -153 dBc
Input Power Continuous Wave (CW)	300 watts	300 watts	300 watts	300 watts
Polarization	Dual Linear 45°	Dual Linear 45°	Dual Linear 45°	Dual Linear 45°
Input Impedance	50 ohms	50 ohms	50 ohms	50 ohms
Lightning Protection	DC Ground	DC Ground	DC Ground	DC Ground

¹Peak gain across sub-bands.²Electrical specifications follow document "Recommendation on Base Station Antenna Standards" (BASTA) V9.6.



SPECIFICATIONS

Multi-Band Twelve-Port Antenna

TPA65R-BU8D

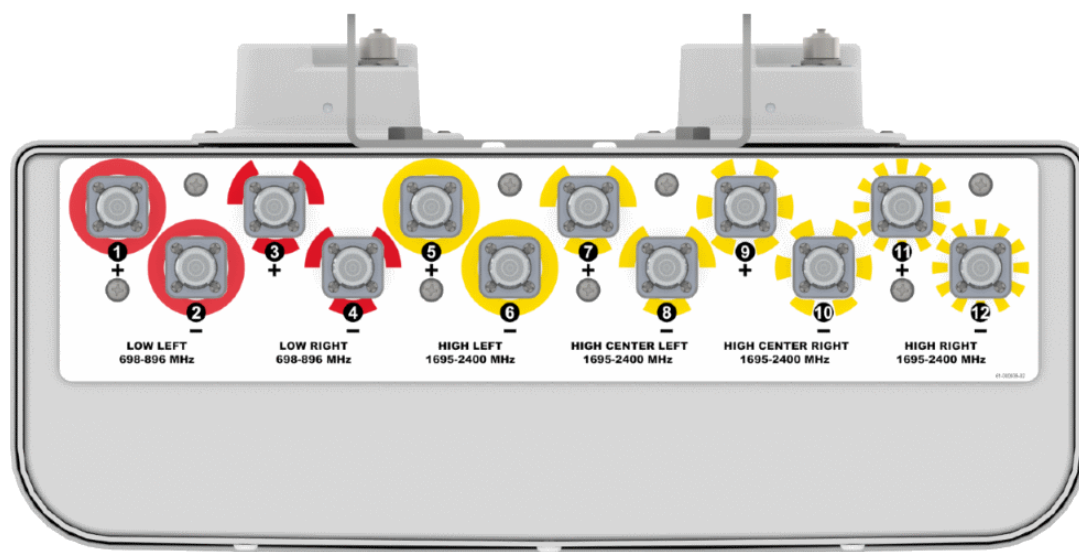
Mechanical

Dimensions (LxWxD)	96.0x20.7x7.7 in (2438x525x197 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load	457 lbs (2033 N) @ 100 mph (161 kph)
Side Wind Load	209 lbs (929 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	17.9 ft ² (1.7 m ²)
Weight *	87.1 lbs (39.5 kg)
Connector	12 x 4.3-10 female
Mounting Pole	2 to 5 in (5 to 12 cm)
Package Dimensions (LxWxD)	104.3x28.7x16.9 in (2650x730x430 mm)
Package Weight	145 lbs (65.8 kg)

* Weight excludes mounting kit

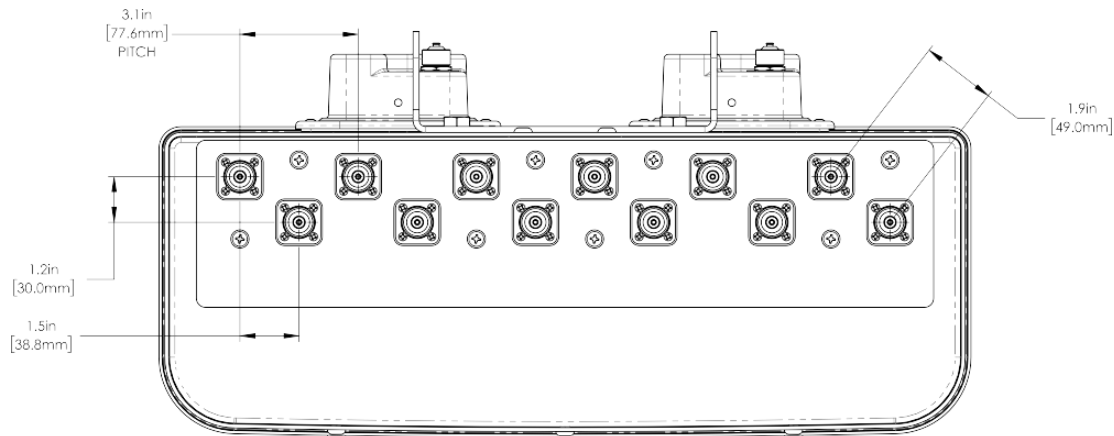
Bottom View

TPA65R-BU8DA



Connector Spacing

TPA65R-BU8DA



SPECIFICATIONS

Multi-Band Twelve-Port Antenna

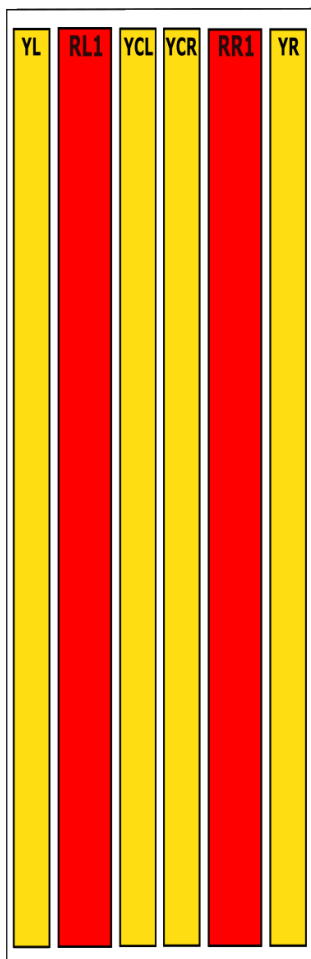
TPA65R-BU8D

Mechanical

RET to Element Configuration

TPA65R-BU8DA Element and RET configuration (Type 1 External RET)

Top of antenna Viewed from rear



Mechanical

RET placement as viewed from rear of antenna

Top of antenna



698-896
Ports 1, 2, 3 & 4
(RR1 & RL1)



1695-2400
Ports 5, 6, 7 & 8
(YL & YCL)



1695-2400
Ports 9, 10, 11 & 12
(YCR & YR)

Array	Ports	Freq (MHz)	Ports controlled by common RET
RL1	1, 2	698-896	1, 2, 3, 4
RR1	3, 4	698-896	
YL	5, 6	1695-2400	5, 6, 7, 8
YCL	7, 8	1695-2400	
YCR	9,10	1695-2400	9, 10, 11, 12
YR	11,12	1695-2400	



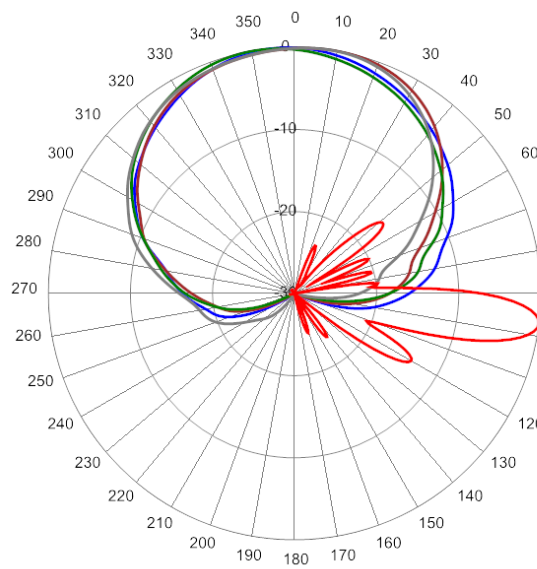
SPECIFICATIONS

Multi-Band Twelve-Port Antenna

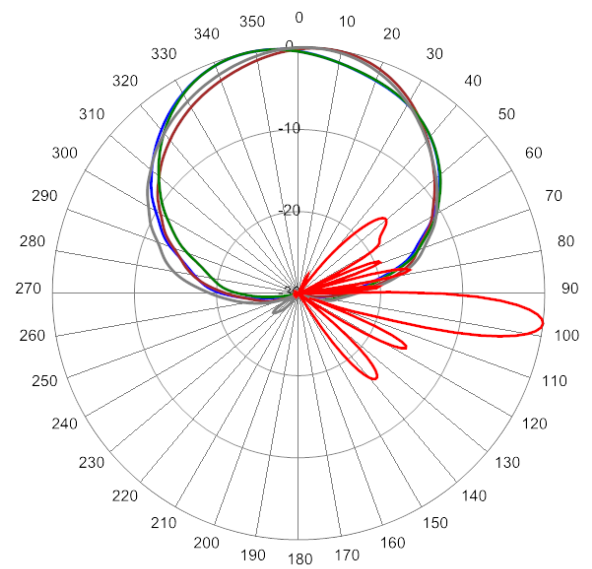
TPA65R-BU8D

Typical Antenna Patterns

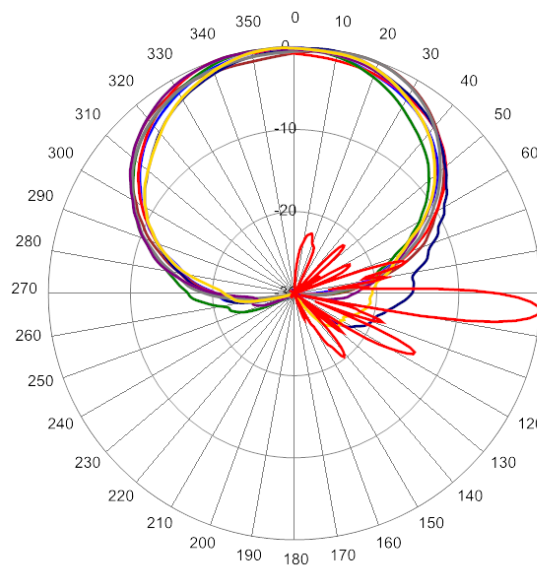
For detailed information on additional antenna patterns, contact customer support at support@cciprducts.com



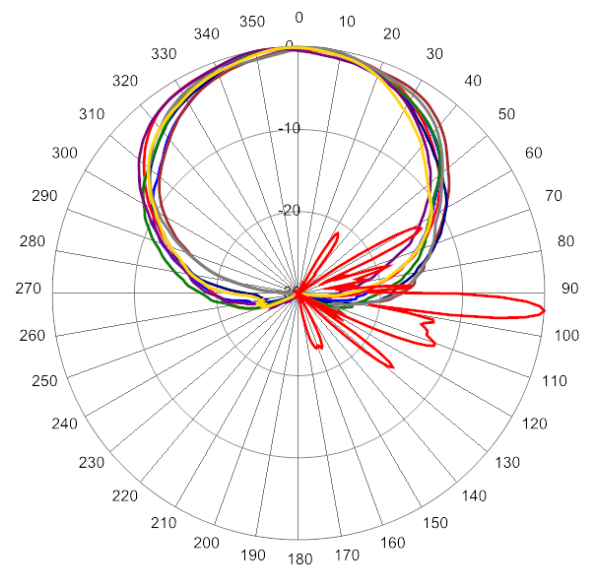
734 MHz Azimuth with Elevation 7°



880 MHz Azimuth with Elevation 7°



1720 MHz Azimuth with Elevation 4°



2155 MHz Azimuth with Elevation 4°



ORDERING

Multi-Band Twelve-Port Antenna

TPA65R-BU8D

Parts & Accessories

TPA65R-BU8DA-K	Eight foot (2.4 m) antenna with 65° azimuth beamwidth, 4.3-10 female connectors, 3 factory installed BSA-RET200 RET actuators (Type 1 external) and MBK-16 mounting bracket
TPA65R-BU8DB-K	Eight foot (2.4 m) antenna with 65° azimuth beamwidth, 4.3-10 female connectors, 3 factory installed BSA-RET400 RET actuators (Type 17 internal) and MBK-16 mounting bracket
MBK-16	Mounting bracket kit (top and bottom) with fixed 0° mechanical tilt
MBK-01	Mounting bracket kit (top and bottom) with 0° to 10° mechanical tilt adjustment
BSA-RET200	Type 1 Remote electrical tilt actuator
BSA-RET400	Type 17 Remote electrical tilt actuator
DPA-CBK-AG-RRU	Antenna with 3 RET (Type 1) to RRU AISG cable kit
DPA-CBK-RA-AG-RRU	Antenna with 3 RET (Type 1) to RRU AISG right angle cable kit
AISGC-M-F-10FT	10 Ft (3 m) Male/Female RRU to Antenna AISG cable



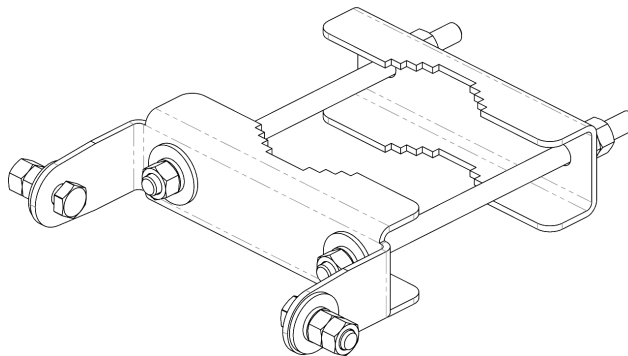
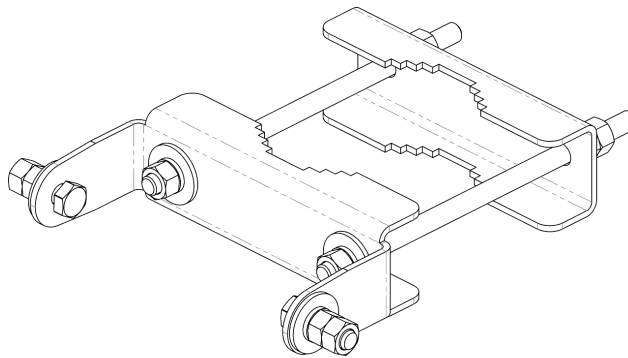
ACCESSORIES

Mounting Bracket Kit

MBK-16

Mechanical

Weight	9.9 lbs (4.5 kg)
Hinge Pitch	47.25 in (1200 mm)
Mounting Pole Dimension	2 to 5 in (5 to 12 cm)
Fastener Size	M12
Installation Torque	40 ft·lbs (54 Nm)
Mechanical Tilt	0°



MBK-16 Top and Bottom Bracket



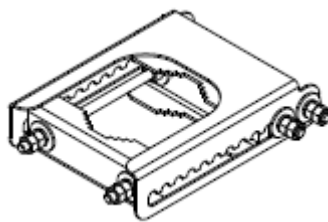
ACCESSORIES

Mounting Bracket Kit

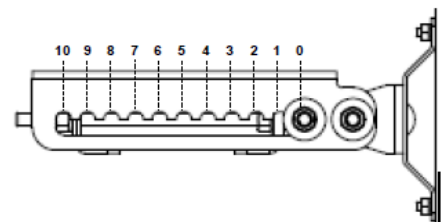
MBK-01

Mechanical

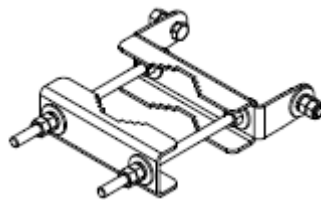
Weight	12.6 lbs (5.7 kg)
Hinge Pitch	47.25 in (1200 mm)
Mounting Pole Dimension	2 to 5 in (5 to 12 cm)
Fastener Size	M12
Installation Torque	40 ft·lb (54 Nm)
Mechanical Tilt Adjustment	0° - 10°



MBK-01 Top Adjustable Bracket



MBK-01 Top Adjustable Bracket Side View



MBK-01 Bottom Fixed Bracket



ACCESSORIES

Remote Electrical Tilt Actuator (RET)

BSA-RET200

General Specifications

Part Number	BSA-RET200
Protocols	AISG 2.0
RET Type	Type 1
Adjustment Cycles	>10,000 cycles
Tilt Accuracy	$\pm 0.1^\circ$
Temperature Range	-40° C to 70° C

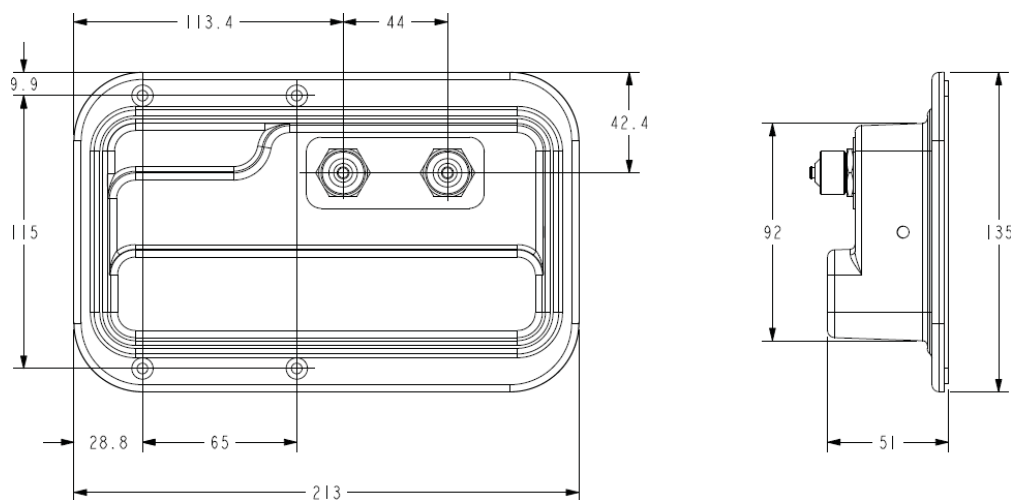
Electrical

Data Interface Signal	DC
Input Voltage	10-30 Vdc
Current Consumption Tilt	120 mA at $V_{in}=24$
Current Consumption Idle	55 mA at $V_{in}=24$
Hardware Interface	AISG-RS 485 A/B
Input Connector	Male 1 × 8 pin Daisy Chain
Output Connector	Female 1 × 8 pin Daisy Chain

Mechanical

Dimensions (LxWxD)	8.0x5.0x2.0 in. (213x135x51 mm)
Housing	ASA/ABS/Aluminum
Weight	1.7 lbs (0.75 kg)

ASA = Acrylic Styrene Acrylonitrile
ABS = Acrylonitrile Butadiene Styrene





ACCESSORIES

Internal Remote Electrical Tilt (iRET)

BSA-RET400

General Specifications

Part Number	BSA-RET400
Protocols	AISG 2.0
RET Type	Type 17
Adjustment Cycles	>10,000 cycles
Tilt Accuracy	$\pm 0.1^\circ$
Temperature Range	-40° C to 70° C

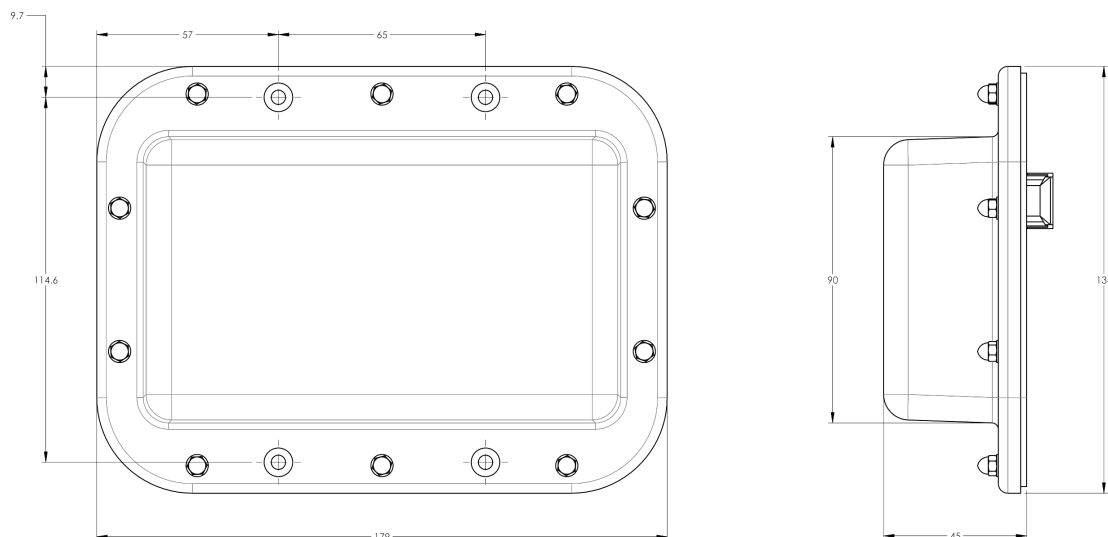
Electrical

Data Interface Signal	DC
Input Voltage	10-30 Vdc
Current Consumption Tilt	100 mA at $V_{in}=24$ (500 mA MAX)
Current Consumption Idle	10 mA at $V_{in}=24$

Mechanical

Dimensions (LxWxD)	7.0x5.3x1.8 in. (179x134x45 mm)
Housing	ASA/ABS/Aluminum
Weight	1.3 lbs (0.6 kg)

ASA= Acrylic Styrene Acrylonitrile
ABS=Acrylonitrile Butadiene Styrene





ACCESSORIES

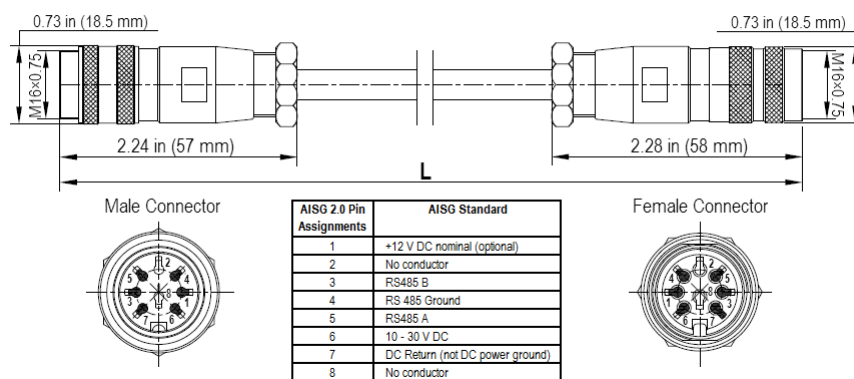
AISG Cable Kit

DPA-CBK-AG-RRU

Electrical/Mechanical/Environmental Specifications

	RET to RET Cables	RRU to Antenna Cables
Individual Cable Part Number	AISGC-M-F-27	AISGC-M-F-10FT
Cable style	UL2464	
Protocol	AISG 1.1 and AISG 2.0	
Maximum voltage	300 V	
Rated current	5 A at 104° F (40° C)	
Temperature Range	-40° to 80° C	
Flammability	UL 1581 VW-1	
Ingress Protection	IEC 60529:2001, IP67	
Tightening torque	Hand tighten only $\approx$ 1.84 ft-lbs (2.5 Nm)	
Construction	Shielded (Tinned Copper Braid)	
Braid coverage	85%	
Jacket Material	Matte Polyurethane (Black)	
Conductors	1 twisted pair - 24 AWG 3 conductors - 19 AWG AWM style 2464	
Cable Diameter	0.307 in (7.8 mm)	
Minimum bend radius	3.9 in (100 mm)	
Connectors	2 x 8 pin IEC 60130-9 Straight male/straight female	
Length	27 in (686 mm)	120 in (3048 mm)
Weight	0.33 lbs (0.15 kg)	0.69 lbs (0.31 kg)
Cables per kit	2	2

Mechanical Specifications



AISG-Male to AISG-Female Jumper Cable



ACCESSORIES

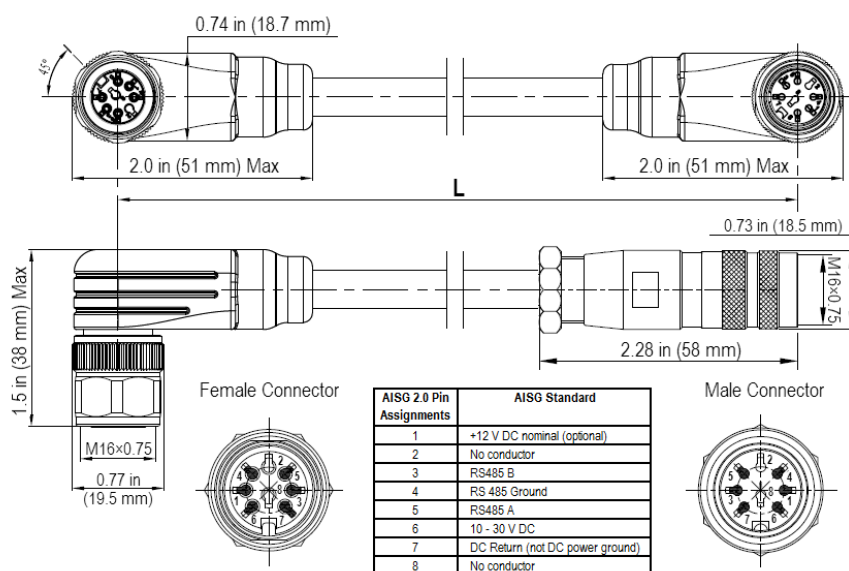
AISG Cable Kit

DPA-CBK-RA-AG-RRU

Electrical/Mechanical/Environmental Specifications

	RET to RET Cables	RRU to Antenna Cables
Individual Cable Part Number	AISGC-MRA-FRA-36	AISGC-M-FRA-10FT
Cable style	UL2464	
Protocol	AISG 1.1 and AISG 2.0	
Maximum voltage	300 V	
Rated current	5 A at 104° F (40° C)	
Temperature Range	-40° to 80° C	
Flammability	UL 1581 VW-1	
Ingress Protection	IEC 60529:2001, IP67	
Tightening torque	Hand tighten only $\approx$ 1.84 ft-lbs (2.56 Nm)	
Construction	Shielded (Tinned Copper Braid)	
Braid coverage	85%	
Jacket Material	Matte Polyurethane (Black)	
Conductors	1 twisted pair - 24 AWG 3 conductors - 19 AWG AWM style 2464	
Cable Diameter	0.307 in (7.8 mm)	
Minimum bend radius	3.9 in (100 mm)	
Connectors	2 x 8 pin IEC 60130-9 Right angle male/right angle female	2 x 8 pin IEC 60130-9 Straight male/right angle female
Length	36 in (914 mm)	120 in (3048 mm)
Weight	0.23 lbs (0.10 kg)	0.77 lbs (0.35 kg)
Cables per kit	2	2

Mechanical Specifications



Right Angle to Right Angle and Right Angle to Straight Jumper Cable



ACCESSORIES

AISG Cable

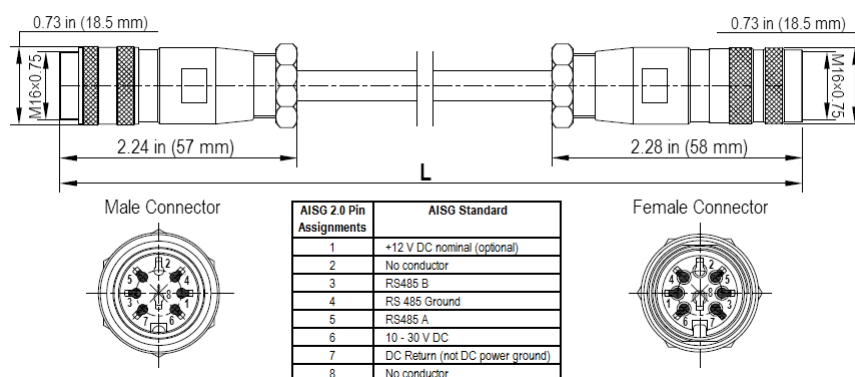
AISGC-M-F-xFT

Electrical Specifications

Individual Cable Part Number	AISGC-M-F-x(FT)
Cable style	UL2464
Protocol	AISG 1.1 and AISG 2.0
Maximum voltage	300 V
Rated current	5 A at 104° F (40° C)

Mechanical Specifications

Individual Cable Part Number	AISGC-M-F-x(FT)
Cables per kit	1
Connectors	2 x 8 pin IEC 60130-9 Straight male/straight female
Tightening torque	Hand tighten only ≈ 1.84 ft-lbs (2.5 Nm)
Construction	Shielded (Tinned Copper Braid)
Braid coverage	85%
Jacket Material	Matte Polyurethane (Black)
Conductors	1 twisted pair - 24 AWG 3 conductors - 19 AWG AWM style 2464
Cable Diameter	0.307 in (7.8 mm)
Length	See order details
Minimum bend radius	3.9 in (100 mm)



AISG-Male to AISG-Female Jumper Cable

Environmental Specifications

Individual Cable Part Number	AISGC-M-F-xFT
Temperature Range	-40° to 80° C
Flammability	UL 1581 VW-1
Ingress Protection	IEC 60529:2001, IP67



STANDARDS & CERTIFICATIONS

Multi-Band Twelve-Port Antenna

TPA65R-BU8D

Standards & Compliance

Safety	EN 60950-1, UL 60950-1
Emission	EN 55022
Immunity	EN 55024
Environmental	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-5, IEC 60068-2-6, IEC-60068-2-11, IEC 60068-2-14, IEC 60068-2-18, IEC 60068-2-27, IEC 60068-2-29, IEC 60068-02-30, IEC 60068-2-52, IEC 60068-2-64, GR-63-CORE 4.3.1, EN 60529, IP 24

Certifications

Antenna Interface Standards Group (AISG), Federal Communication
Commission (FCC) Part 15 Class B, CE, CSA US, ISO 9001



CCI Communication Components Inc.
EXTENDING WIRELESS PERFORMANCE



- Eight foot (2.4 m) internally multiplexed MultiBand antenna, including eight external RF ports (12 RF ports internal), with a 65° azimuth beamwidth covering 698-896 MHz and 1695-2400 MHz frequencies
- Four wide high band ports covering 1695-2400 MHz and four wide low band ports covering 698-896 MHz in a single antenna enclosure
- Innovative Multiplexed/RET Control configuration, supporting Dual Band Radio Configurations (B12/B5 and B29/B5). The antenna provides Dual 4T4R (4x4 MIMO) capability, while providing independent RET control, an Industry First
- Innovative Low and High Band Array configuration allows for 4T4R (4x4 MIMO) on Low Band and 4T4R (4x4 MIMO) High Band Arrays, using full length arrays (non stacked), all in a 20.7" (525 mm) width enclosure, an Industry First
- Industry leading antenna topology and RET shielding techniques drastically mitigate PIM propagation from B12/B14/B29 operations, allowing for superior Network performance
- Full Spectrum Compliance for PCS, AWS-3 and WCS frequencies and 700/850 MHz Dual Band Radio Configurations
-
- LTE Optimized FBR and SPR performance, providing for an efficient use of valuable radio capacity
- LTE Optimized Boresight and Sector XPD and USL performance, essential for LTE Performance
- Exceeds minimum PIM performance requirements
- Equipped with new 4.3-10 connector, which is 40% smaller than traditional 7/16 DIN connector
- Ordering options for External RET Controllers (Type 1) or Internally Integrated RET Controllers (Type 17)

Overview

The CCI internally multiplexed MultiBand array is an eight port (12 RF ports internal) antenna, with four wide band ports covering 1695-2400 MHz and four low band ports covering 698-896 MHz. The antenna provides the capability to deploy 4T4R (4x4 MIMO) in the high band, with separate RET control. The antenna also provides the capability to provide independent RET control for 700/850 MHz Dual Band Radio Configurations, while maintaining 4T4R (4x4 MIMO) across the low band ports.

CCI antennas are designed and produced to ISO 9001:2008 certification standards for reliability and quality in our state-of-the-art manufacturing facilities.

Applications

- 4x4 MIMO for the High Band and 4X4 MIMO Low Band ports
- Ready for Network Standardization on 4.3-10 DIN connectors
- With CCI's multiband antennas, wireless providers can connect multiple platforms to a single antenna, reducing tower load, lease expense, deployment time and installation costs



SPECIFICATIONS

Diplexed Multi-Band Antenna

DMP65R-BU8D

Electrical

Ports	4 x Low Band Ports for 698-896 MHz	
Frequency Range	698-798 MHz	824-896 MHz
Gain ¹	15.1 dBi	16.0 dBi
Gain (Average) ²	14.1 dBi	15.1 dBi
Azimuth Beamwidth (-3dB)	75°	64°
Elevation Beamwidth (-3dB)	9.5°	8.0°
Electrical Downtilt	2° to 12°	2° to 12°
Elevation Sidelobes (1st Upper)	<-19 dB	<-19 dB
Front-to-Back Ratio @180°	> 32 dB	> 35 dB
Front-to-Back Ratio ±20°	> 30 dB	> 35 dB
Cross-Polar Discrimination at Peak	> 25 dB	> 25 dB
Cross-Polar Discrimination at Sector ²	10.9 dB	11.0 dB
Cross-Polar Port-to-Port Isolation	> 25 dB	> 25 dB
Voltage Standing Wave Ratio (VSWR)	< 1.5:1	< 1.5:1
Passive Intermodulation (2x20W)	≤ -153 dBc	≤ -153 dBc
Input Power Continuous Wave (CW)	500 watts	500 watts
Polarization	Dual Linear 45°	Dual Linear 45°
Input Impedance	50 ohms	50 ohms
Lightning Protection	DC Ground	DC Ground

¹Peak gain across sub-bands.

²Electrical specifications follow document "Recommendation on Base Station Antenna Standards" (BASTA) V9.6.

Ports	4 x High Band Ports for 1695-2400 MHz			
Frequency Range	1695-1880 MHz	1850-1990 MHz	1920-2180 MHz	2300-2400 MHz
Gain ¹	17.6 dBi	17.8 dBi	18.2 dBi	18.1 dBi
Gain (Average) ²	16.7 dBi	17.0 dBi	17.3 dBi	17.2 dBi
Azimuth Beamwidth (-3dB)	70°	68°	68°	54°
Elevation Beamwidth (-3dB)	5.7°	5.1°	4.8°	4.1°
Electrical Downtilt	0° to 8°	0° to 8°	0° to 8°	0° to 8°
Elevation Sidelobes (1st Upper)	<-17 dB	<-18 dB	<-18 dB	<-17 dB
Front-to-Back Ratio @180°	> 35 dB	> 35 dB	> 35 dB	> 35 dB
Front-to-Back Ratio ±20°	> 32 dB	> 32 dB	> 32 dB	> 32 dB
Cross-Polar Discrimination at Peak	> 19 dB	> 18 dB	> 20 dB	> 20 dB
Cross-Polar Discrimination at Sector ²	10.8 dB	8.2 dB	8.5 dB	8.3 dB
Cross-Polar Port-to-Port Isolation	> 25 dB	> 25 dB	> 25 dB	> 25 dB
Voltage Standing Wave Ratio (VSWR)	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1
Passive Intermodulation (2x20W)	≤ -153 dBc	≤ -153 dBc	≤ -153 dBc	≤ -153 dBc
Input Power Continuous Wave (CW)	300 watts	300 watts	300 watts	300 watts
Polarization	Dual Linear 45°	Dual Linear 45°	Dual Linear 45°	Dual Linear 45°
Input Impedance	50 ohms	50 ohms	50 ohms	50 ohms
Lightning Protection	DC Ground	DC Ground	DC Ground	DC Ground

¹Peak gain across sub-bands.

²Electrical specifications follow document "Recommendation on Base Station Antenna Standards" (BASTA) V9.6.



SPECIFICATIONS

Diplexed Multi-Band Antenna

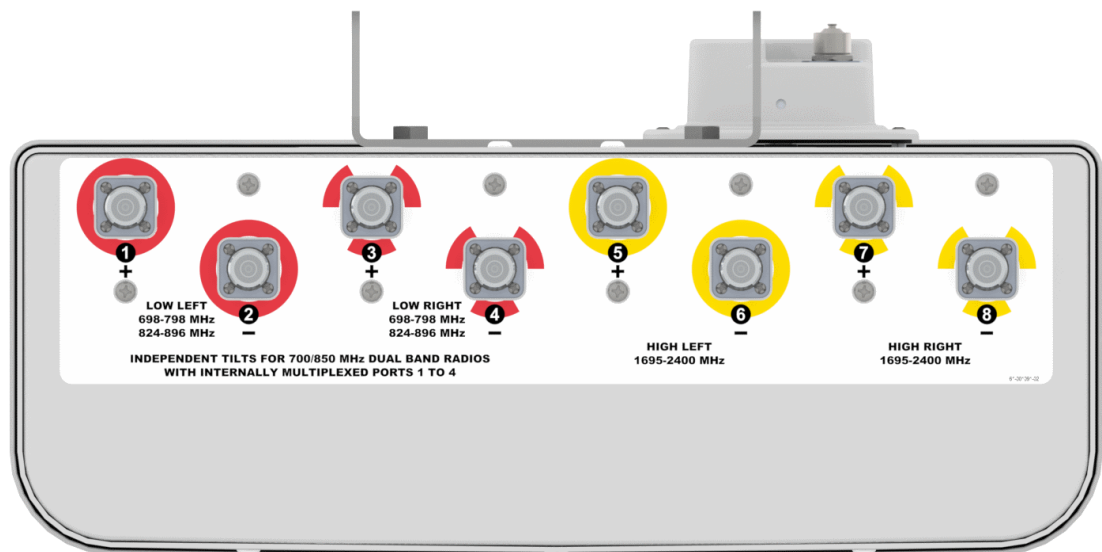
DMP65R-BU8D

Mechanical

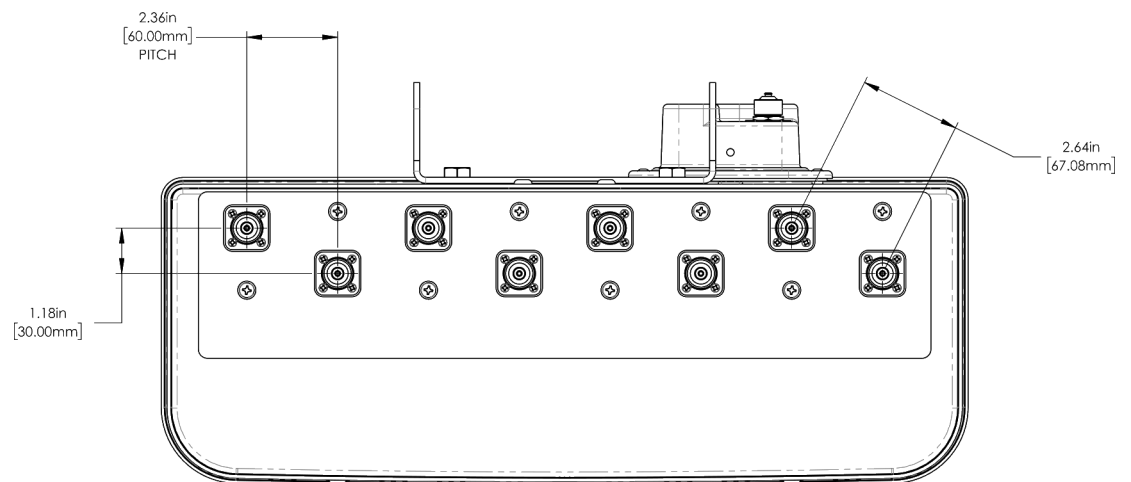
Dimensions (LxWxD)	96.0x20.7x7.7 in (2438x525x197 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load	457 lbs (2033 N) @ 100 mph (161 kph)
Side Wind Load	209 lbs (929 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	17.9 ft ² (1.7 m ²)
Weight *	95.7 lbs (43.4 kg)
Connector	8 x 4.3-10 female
Mounting Pole	2 to 5 in (5 to 12 cm)

* Weight excludes mounting

Bottom View



Connector Spacing





SPECIFICATIONS

Diplexed Multi-Band Antenna

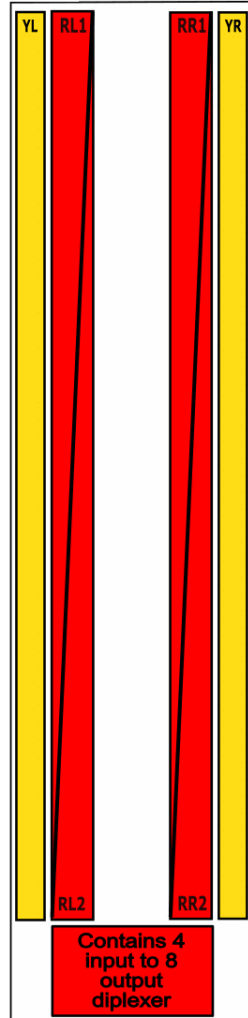
DMP65R-BU8D

Mechanical

RET to Element Configuration

DMP65R-BU8DA Element and RET configuration (Type 1 External RET)

Top of antenna Viewed from rear

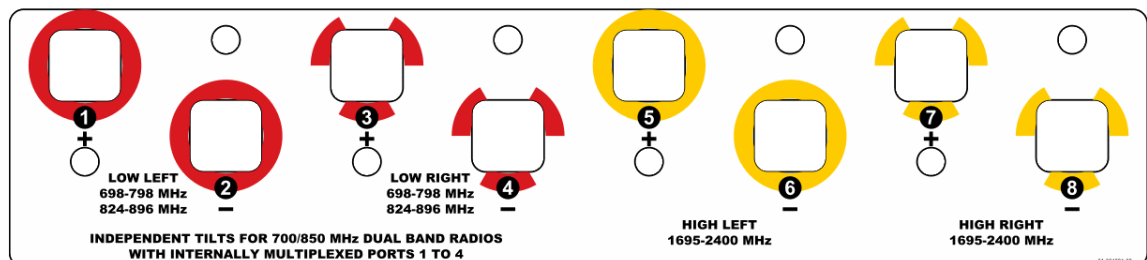


RET placement as viewed from rear of antenna



Array	Ports	Freq (MHz)	Ports controlled by dedicated RET	RET location on Antenna
RL1	1, 2	698-798	1, 2, 3, 4	Top (700 RET)
RR1	3, 4			
RL2	1, 2	824-896	1, 2, 3, 4	Middle (850 RET)
RR2	3, 4			
YL	5, 6	1695-2400	5, 6, 7, 8	Bottom
YR	7, 8			

Port Label





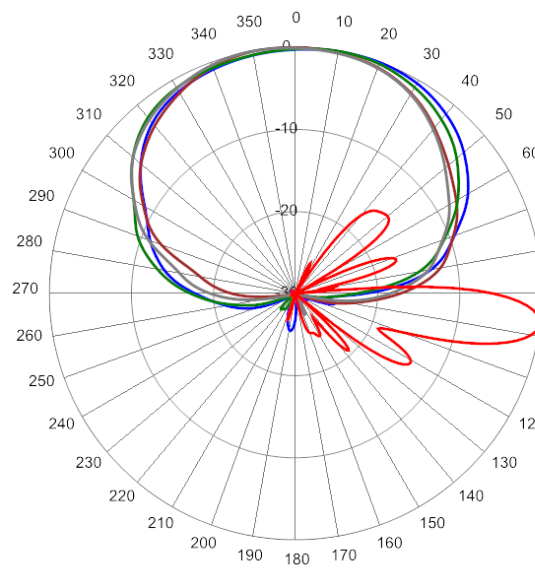
SPECIFICATIONS

Diplexed Multi-Band Antenna

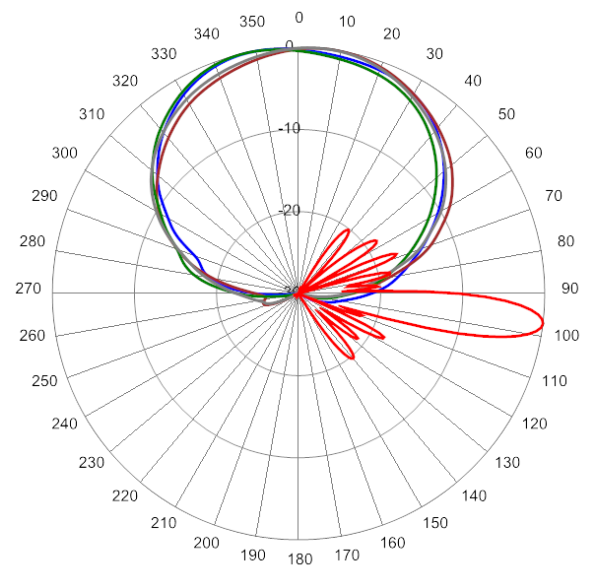
DMP65R-BU8D

Typical Antenna Patterns

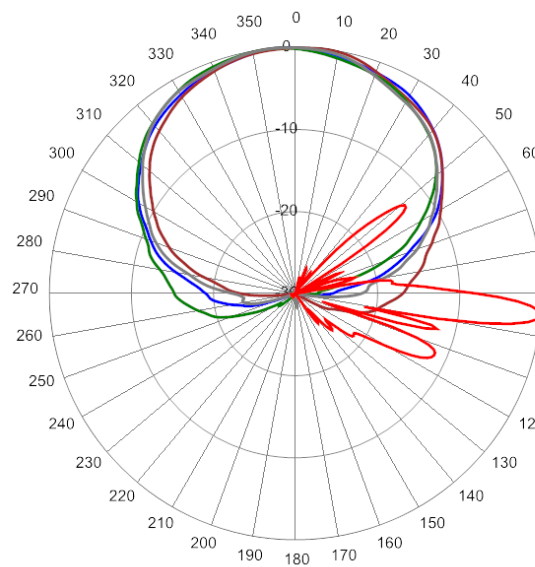
For detailed information on additional antenna patterns, contact customer support at support@cciprducts.com



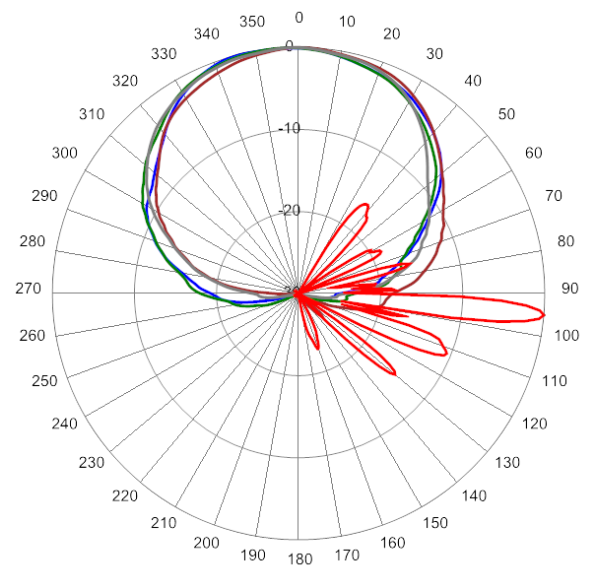
698 MHz Azimuth with Elevation 7°



840 MHz Azimuth with Elevation 7°



1780 MHz Azimuth with Elevation 5°



2155 MHz Azimuth with Elevation 5°



ORDERING

Diplexed Multi-Band Antenna

DMP65R-BU8D

Parts & Accessories

DMP65R-BU8DA-K	Eight foot (2.4 m) antenna with 65° azimuth beamwidth, 4.3-10 female connectors, 3 factory installed BSA-RET200 RET actuators (Type 1 external) and MBK-16 mounting bracket
DMP65R-BU8DB-K	Eight foot (2.4 m) antenna with 65° azimuth beamwidth, 4.3-10 female connectors, 3 factory installed BSA-RET400 RET actuators (Type 17 internal) and MBK-16 mounting bracket
MBK-16	Mounting bracket kit (top and bottom) with fixed 0° mechanical tilt
BSA-RET200	Type 1 External Remote Electrical Tilt System (RET)
BSA-RET400	Type 17 Internal Remote Electrical Tilt System (RET)
DPA-CBK-AG-RRU	Antenna with 3 Type 1 RET to RRU AISG cable kit
CBK-RA-AG-RRU-004	Antenna with 3 Type 1 RET to RRU AISG right angle cable kit



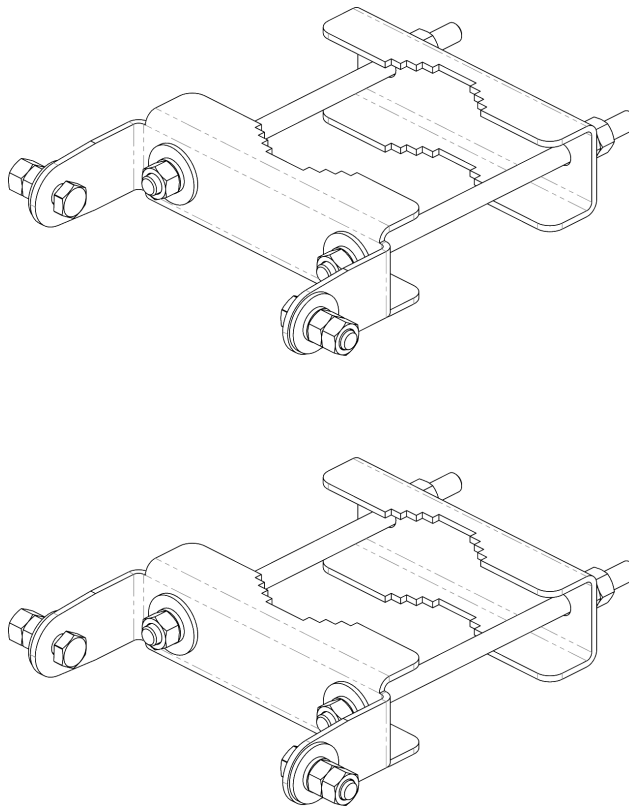
ACCESSORIES

Mounting Bracket Kit

MBK-16

Mechanical

Weight	9.9 lbs (4.5 kg)
Hinge Pitch	47.25 in (1200 mm)
Mounting Pole Dimension	2 to 5 in (5 to 12 cm)
Fastener Size	M12
Installation Torque	40 ft·lbs (54 Nm)
Mechanical Tilt	0°



MBK-16 Top and Bottom Bracket



ACCESSORIES

Remote Electrical Tilt Actuator (RET)

BSA-RET200

General Specifications

Part Number	BSA-RET200
Protocols	AISG 2.0
RET Type	Type 1
Adjustment Cycles	>10,000 cycles
Tilt Accuracy	$\pm 0.1^\circ$
Temperature Range	-40° C to 70° C

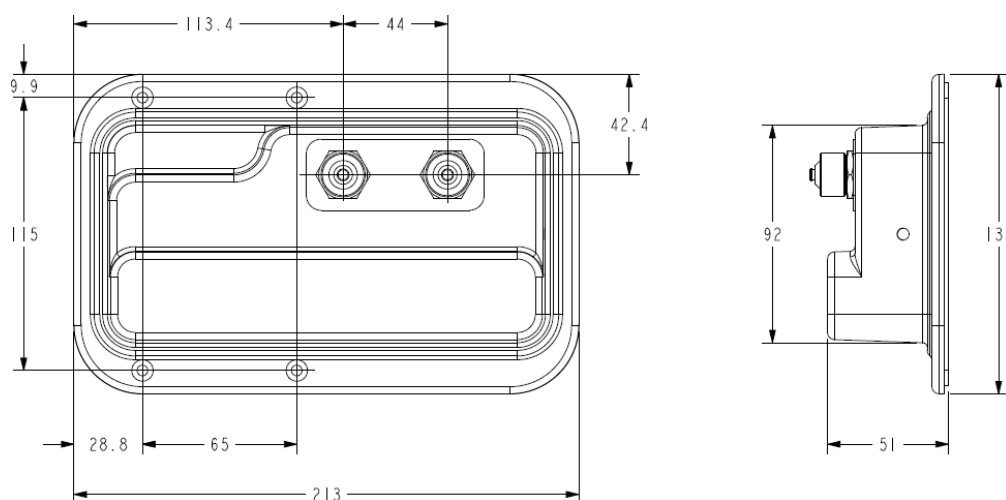
Electrical

Data Interface Signal	DC
Input Voltage	10-30 Vdc
Current Consumption Tilt	120 mA at $V_{in}=24$
Current Consumption Idle	55 mA at $V_{in}=24$
Hardware Interface	AISG-RS 485 A/B
Input Connector	Male 1 × 8 pin Daisy Chain
Output Connector	Female 1 × 8 pin Daisy Chain

Mechanical

Dimensions (LxWxD)	8.0x5.0x2.0 in. (213x135x51 mm)
Housing	ASA/ABS/Aluminum
Weight	1.7 lbs (0.75 kg)

ASA = Acrylic Styrene Acrylonitrile
ABS = Acrylonitrile Butadiene Styrene





ACCESSORIES

Internal Remote Electrical Tilt (iRET)

BSA-RET400

General Specifications

Part Number	BSA-RET400
Protocols	AISG 2.0
RET Type	Type 17
Adjustment Cycles	>10,000 cycles
Tilt Accuracy	$\pm 0.1^\circ$
Temperature Range	-40° C to 70° C

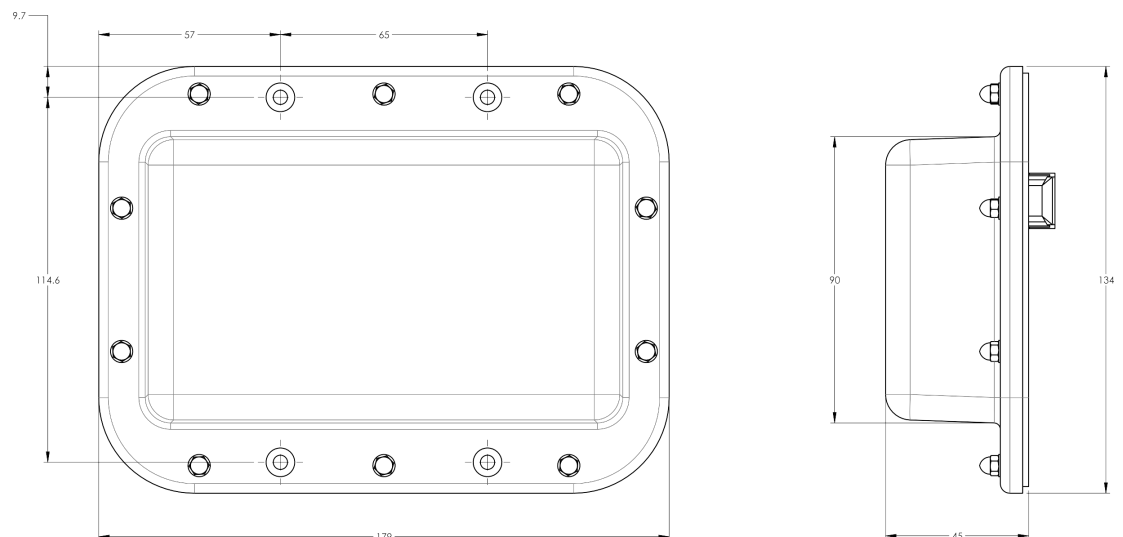
Electrical

Data Interface Signal	DC
Input Voltage	10-30 Vdc
Current Consumption Tilt	100 mA at $V_{in}=24$ (500 mA MAX)
Current Consumption Idle	10 mA at $V_{in}=24$

Mechanical

Dimensions (LxWxD)	7.0x5.3x1.8 in. (179x134x45 mm)
Housing	ASA/ABS/Aluminum
Weight	1.3 lbs (0.6 kg)

ASA= Acrylic Styrene Acrylonitrile
ABS=Acrylonitrile Butadiene Styrene





ACCESSORIES

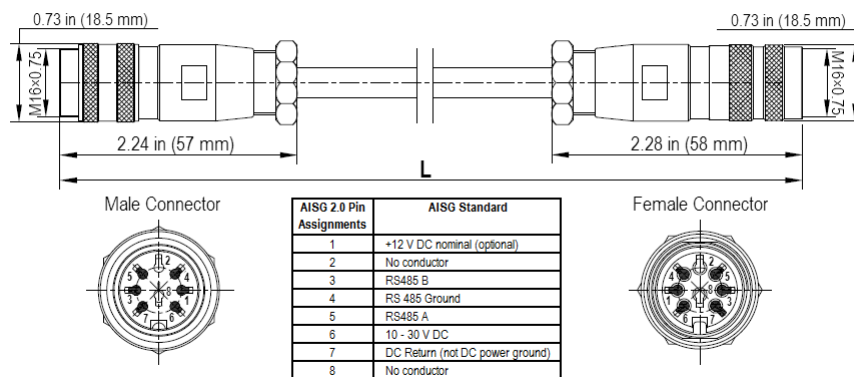
AISG Cable Kit

DPA-CBK-AG-RRU

Electrical/Mechanical/Environmental Specifications

	RET to RET Cables	RRU to Antenna Cables
Individual Cable Part Number	AISGC-M-F-27	AISGC-M-F-10FT
Cable style	UL2464	
Protocol	AISG 1.1 and AISG 2.0	
Maximum voltage	300 V	
Rated current	5 A at 104° F (40° C)	
Temperature Range	-40° to 80° C	
Flammability	UL 1581 VW-1	
Ingress Protection	IEC 60529:2001, IP67	
Tightening torque	Hand tighten only $\approx$ 1.84 ft-lbs (2.5 Nm)	
Construction	Shielded (Tinned Copper Braid)	
Braid coverage	85%	
Jacket Material	Matte Polyurethane (Black)	
Conductors	1 twisted pair - 24 AWG 3 conductors - 19 AWG AWM style 2464	
Cable Diameter	0.307 in (7.8 mm)	
Minimum bend radius	3.9 in (100 mm)	
Connectors	2 x 8 pin IEC 60130-9 Straight male/straight female	
Length	27 in (686 mm)	120 in (3048 mm)
Weight	0.33 lbs (0.15 kg)	0.69 lbs (0.31 kg)
Cables per kit	2	2

Mechanical Specifications



AISG-Male to AISG-Female Jumper Cable



ACCESSORIES

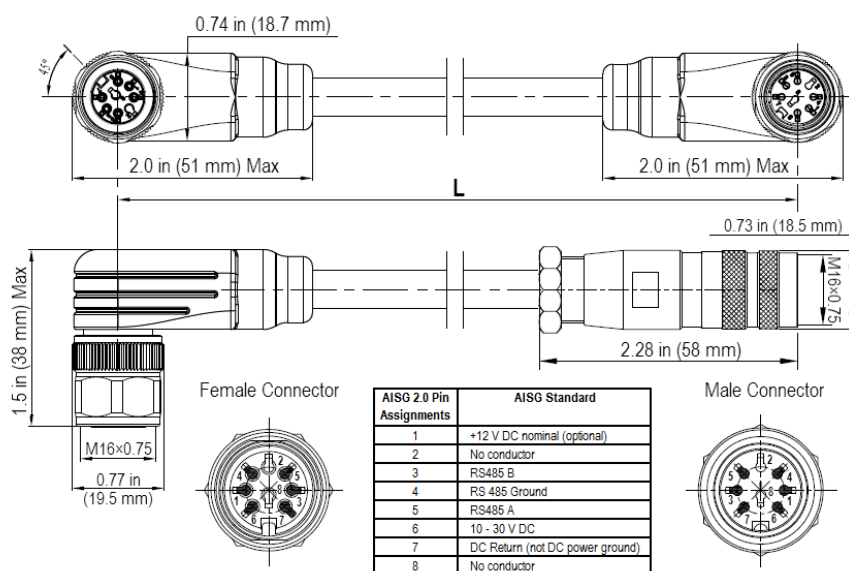
AISG Cable Kit

CBK-RA-AG-RRU-004

Electrical/Mechanical/Environmental Specifications

	RET to RET Cables		RRU to Antenna Cables
Individual Cable Part Number	AISGC-MRA-FRA-22	AISGC-MRA-FRA-36	AISGC-M-FRA-10FT
Cable style	UL2464		
Protocol	AISG 1.1 and AISG 2.0		
Maximum voltage	300 V		
Rated current	5 A at 104° F (40° C)		
Temperature Range	-40° to 80° C		
Flammability	UL 1581 VW-1		
Ingress Protection	IEC 60529:2001, IP67		
Tightening torque	Hand tighten only $\approx$ 1.84 ft-lbs (2.56 Nm)		
Construction	Shielded (Tinned Copper Braid)		
Braid coverage	85%		
Jacket Material	Matte Polyurethane (Black)		
Conductors	1 twisted pair - 24 AWG 3 conductors - 19 AWG AWM style 2464		
Cable Diameter	0.307 in (7.8 mm)		
Minimum bend radius	3.9 in (100 mm)		
Connectors	2 x 8 pin IEC 60130-9 Right angle male/right angle female		2 x 8 pin IEC 60130-9 Straight male/right angle female
Length	22 in (559 mm)	36 in (914 mm)	120 in (3048 mm)
Weight	0.18 lbs (0.08 kg)	0.23 lbs (0.10 kg)	0.77 lbs (0.35 kg)
Cables per kit	1	1	2

Mechanical Specifications



Right Angle to Right Angle and Right Angle to Straight Jumper Cable



STANDARDS & CERTIFICATIONS

Diplexed Multi-Band Antenna

DMP65R-BU8D

Standards & Compliance

Safety	EN 60950-1, UL 60950-1
Emission	EN 55022
Immunity	EN 55024
Environmental	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-5, IEC 60068-2-6, IEC-60068-2-11, IEC 60068-2-14, IEC 60068-2-18, IEC 60068-2-27, IEC 60068-2-29, IEC 60068-02-30, IEC 60068-2-52, IEC 60068-2-64, GR-63-CORE 4.3.1, EN 60529, IP 24

Certifications

Antenna Interface Standards Group (AISG), Federal Communication Commission (FCC) Part 15 Class B, CE, CSA US, ISO 9001:2008



CCI Communication Components Inc.
EXTENDING WIRELESS PERFORMANCE

RRUS 4449 B5, B12 DATA SHEET

For Turf Vendors

2018-10-18 Rev B

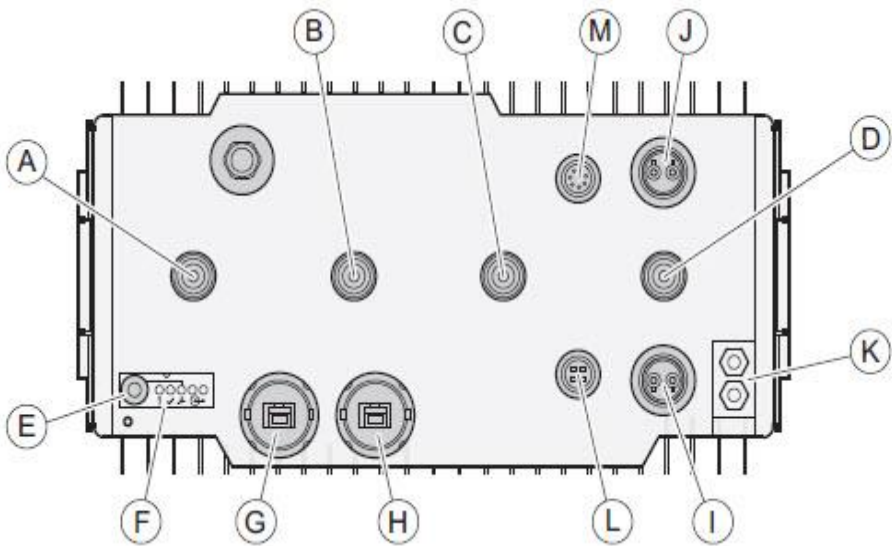
RRUS 4449 B5, B12



- › B5, B12
 - B5 TX = 869 – 894 MHz, B12 TX = 729 – 746 MHz
 - B5 RX = 824 – 849 MHz, B12 RX = 699 – 716 MHz
- Both frequency bands are combined to transmit/receive out the same RF connectors.
- › CPRI 2 ports x 2.5/4.9/9.8/10.1 Gbps. **Install 2 SFP7s and connect 2 fiber pair to the RRUS 4449 during initial install.** 2nd CPRI is reserved for 5G NR deployment later. Do not connect SFP7 to DUL20.
- › Only use Ericsson supplied and approved SFP7s **RDH10265/25.**
 - Install 2 SFP RDH 10265/3 for CPRI length 1.4 km – 10 km
 - Install SFP7 (pair): RDH 102 70/1 and RDH 102 70/2 (bi-directional SFP7 for CPRI length > 10 km)
- › 2 external alarm inputs
- › Max wind load @ **50m/sec = 260 N**
- › Breaker size = **2x25A**, DC Power Consumption = **1440 W (for dimensioning).** Both power connections **must be connected and operational for the radio to operate.** Each power feed must support 900W.
- › **40mm** horizontal separation required for side by side mounting
- › **200mm** separation required from antenna backplane to radio
- › **400mm** vertical outdoor/indoor separation required between 2 radios
- › **500mm** vertical separation below antenna
- › Min, Max DC cable size from squid to radio = **10,8 AWG**
 - Adapter is required for 2-wire connection
 - Shielded DC cable is required
- › Ground cable size = **2AWG**
- › Dimensions (incl. handles, feet and sunshield, w/o fan unit)
 - Height: 17.9" (455 mm)
 - Width: 13.19" (335 mm)
 - Depth: 9.44" (240 mm)
- › Weight, excl. mounting hardware = **71 lbs (32 kg)**



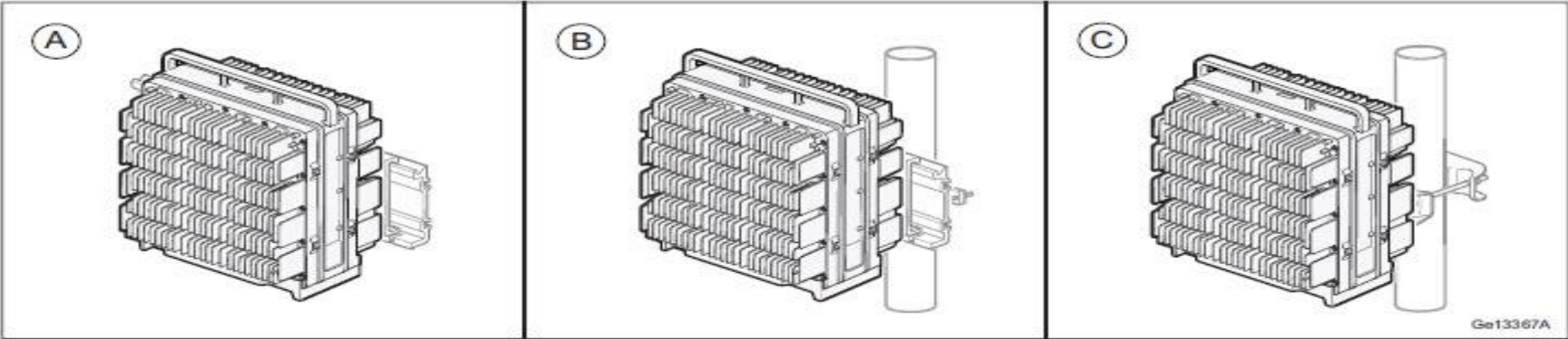
RRUS 4449 B5,12 CONNECTION INTERFACES



Position	Description	Marking	Connector Types	Cable Types
A	Antenna A	A↔	4.3-10 connector	
B	Antenna B	B↔		
C	Antenna C	C↔		
D	Antenna D	D↔		
E	Maintenance button	—	—	—
F	Optical indicators	! ✓ ✗ ⊕ 1, ⊕ 2	—	—
G	Optical cable 1	⊕ 1	LC (On SFP) with support for FullAXS	
H	Optical cable 2	⊕ 2		
Position	Description	Marking	Connector Types	Cable Types
I	~48 V DC power supply	POWER	Power connector	
J	~48 V DC power supply	POWER	Power connector	
K	Grounding	⚡	2 x M6 bolt	
L	External alarm and control	🔔	Mini-DIN connector, 14 pin	
M	ALD (used for a RET unit for example)	ALD	Mini-DIN connector, 8 pin	

CPRI, RET/AISG port, and ALD port caps have lanyards attached to the radio. DC and RF ports have protective caps to be removed when DC, RF connected to radio.

RRUS 4449 MOUNTING OPTIONS



Installation Method	Description
A	Wall installation
B	Pole installation
C	Pole installation with single pole clamp



ERICSSON

RADIO 8843 DUAL BAND B2 & B66A

Target PRA: Jun 30

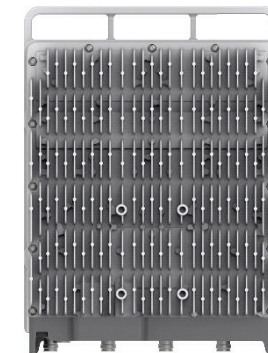


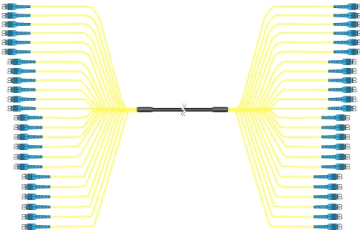
- › 4TX/4RX per Band (B2 & B66A)
- › 320W of total power with three configuration options
 - 4x40 W per band (4T4R in each band)
 - Or 4x20W for B2 and 4x60W for B66A
 - Or 2x60W for B2 and 2x80W for B66A (2T4R in each band)
- › Full IBW in each band
- › Carrier BW:
 - 5, 10, 15, 20 MHz
- › LTE: Max 3 carriers per port (DL), max 3 carriers per port (UL)
- › CPRI Support:
 - 2.5; 4.9; 9.8; 10.1
- › -48 VDC 3-wire (2-wire with adapter)
 - Two DC power ports of 20A
- › AISG TMA & RET support via RS-485 or RF connectors
 - Bias-T only be supported on antenna port A and E.
- › Eight antenna connectors : 8 x 4.3-10 plus (f)
 - 4 ports dedicated to B2 and 4 ports dedicated to B66A
- › 2 external alarms
- › ~ 75 lb.
- › ~36L (14.96" x 13.19" x 11.1")
- › IP 65, -40 to +55 °C

Ericsson Internal | 2018-03-02 | Page 4



SW Baseline- 18.Q1
Supported on DUS41
and BB5216





Heliax® FiberFeed® Bend Insensitive Singlemode Fiber DLC to DLC 48-Fiber Cable Assembly with pulling grip, 75 m

Product Classification

Portfolio	CommScope®
Product Series	RFFT
Product Type	Wireless Fiber Cable Assemblies
Regional Availability	Asia Australia/New Zealand EMEA Latin America North America

Construction Materials

Fiber Type	G.657.A2
Total Fibers, quantity	48
Jacket Color	Black

Dimensions

Cord Length	75.00 m 246.06 ft
Cable Weight	91.0 kg/km
Diameter Over Jacket	10.28 mm 0.40 in

Environmental Specifications

Environmental Space	Indoor
Operating Temperature	-40 °C to +70 °C (-40 °F to +158 °F)

General Specifications

Construction Type	Discrete fiber trunk
Interface Body Style, connector A	Straight
Interface Body Style, connector B	Straight
Interface Feature, connector A	Uniboot
Interface Feature, connector B	Uniboot
Interface, connector A	DLC
Interface, connector B	DLC
Minimum Bend Radius	10.3 cm 4.0 in
Minimum Bend Radius, furcation	30.0 mm 1.2 in
Ordering Note	CommScope® non-standard product

Optical Performance

Assembly Insertion Loss, typical 0.50 dB

Assembly Insertion Loss, typical note Insertion loss is measured at 1310 and 1550 nm

Regulatory Compliance/Certifications

Agency

RoHS 2011/65/EU

ISO 9001:2015

Classification

Compliant

Designed, manufactured and/or distributed under this quality management system



* Footnotes

Assembly Insertion Loss, typical note Insertion loss is measured at a room temp of +20°C (+68°F)

PWRT-608-S



HELIAX® Remote Radio Head Power Cable, 6 conductor with shield, 8 AWG (8.37 mm²), one Red and one Black conductors with Green Stripe, one Red and one Black conductor with Blue Stripe, one Red and one Black conductor with Orange Stripe

Product Classification

Regional Availability	North America
Portfolio	CommScope®
Product Brand	FiberFeed® HELIAX®
Product Series	PWRT
Ordering Note	CommScope® non-standard product

General Specifications

Cable Type	Power
Conductor Type, singles	Stranded
Conductors, quantity	6
Construction Type	Discrete power cable Non-armored
Fiber System Configuration Type	Hybrid with OVP, 6 RRU Hybrid with OVP, low inductance, 6 RRU Hybrid with junction box, 4 RRU
Ground Wire Type	Stranded
Jacket Color	Black
Jacket Color, singles	Black with co-extruded blue stripe Black with co-extruded green stripe Black with co-extruded orange stripe Red with co-extruded blue stripe Red with co-extruded green stripe Red with co-extruded orange stripe
Supported Application	Industrial

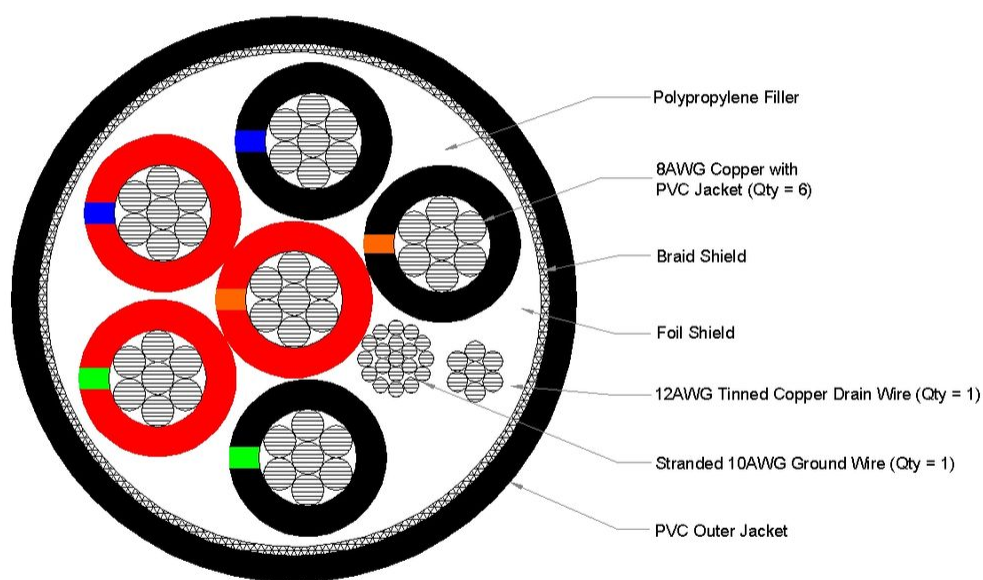
Dimensions

Diameter Over Conductor, singles, specific	0.1520 in per 19 strands
Diameter Over Dielectric	0.242 in 6.147 mm
Diameter Over Drain Wire, specific	2.5700 in per 7 strands
Diameter Over Ground Wire	0.115 in 2.921 mm

PWRT-608-S

Diameter Over Jacket, nominal	0.82 in 20.828 mm
Diameter Over Shield (Braid)	0.73 in 18.542 mm
Jacket Thickness	0.06 in 1.524 mm
Conductor Gauge, singles	8 AWG
Drain Wire Gauge	12 AWG
Ground Wire Gauge	10 AWG
Outer Shield (Braid) Gauge	36 AWG

Cross Section Drawing



Electrical Specifications

Conductor dc Resistance	0.67 ohms/kft 2.198 ohms/km
Conductor dc Resistance Note	Maximum value based on a standard condition of 20 °C (68 °F)

PWRT-608-S

Safety Voltage Rating	600 V
Material Specifications	
Conductor Material	Tinned copper
Dielectric Material	PVC
Drain Wire Material	Tinned copper
Filler Material	Polypropylene
Ground Wire Material	Tinned copper
Insulation Material, singles	PVC
Jacket Material	PVC
Outer Shield (Braid) Coverage	65 %
Outer Shield (Braid) Material	Tinned copper
Outer Shield (Tape) Material	Aluminum/Poly, non-bonded

Environmental Specifications

Operating Temperature	-40 °C to +90 °C (-40 °F to +194 °F)
Environmental Space	UV resistant for outdoor and/or direct burial installations
Safety Standard	NEC Article 336 (Type TC)

Packaging and Weights

Cable weight	620 lb/kft 922.662 kg/km
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Regulatory Compliance/Certifications

Agency	Classification
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system



* Footnotes

Operating Temperature Specification applicable to non-terminated bulk fiber cable

4

3

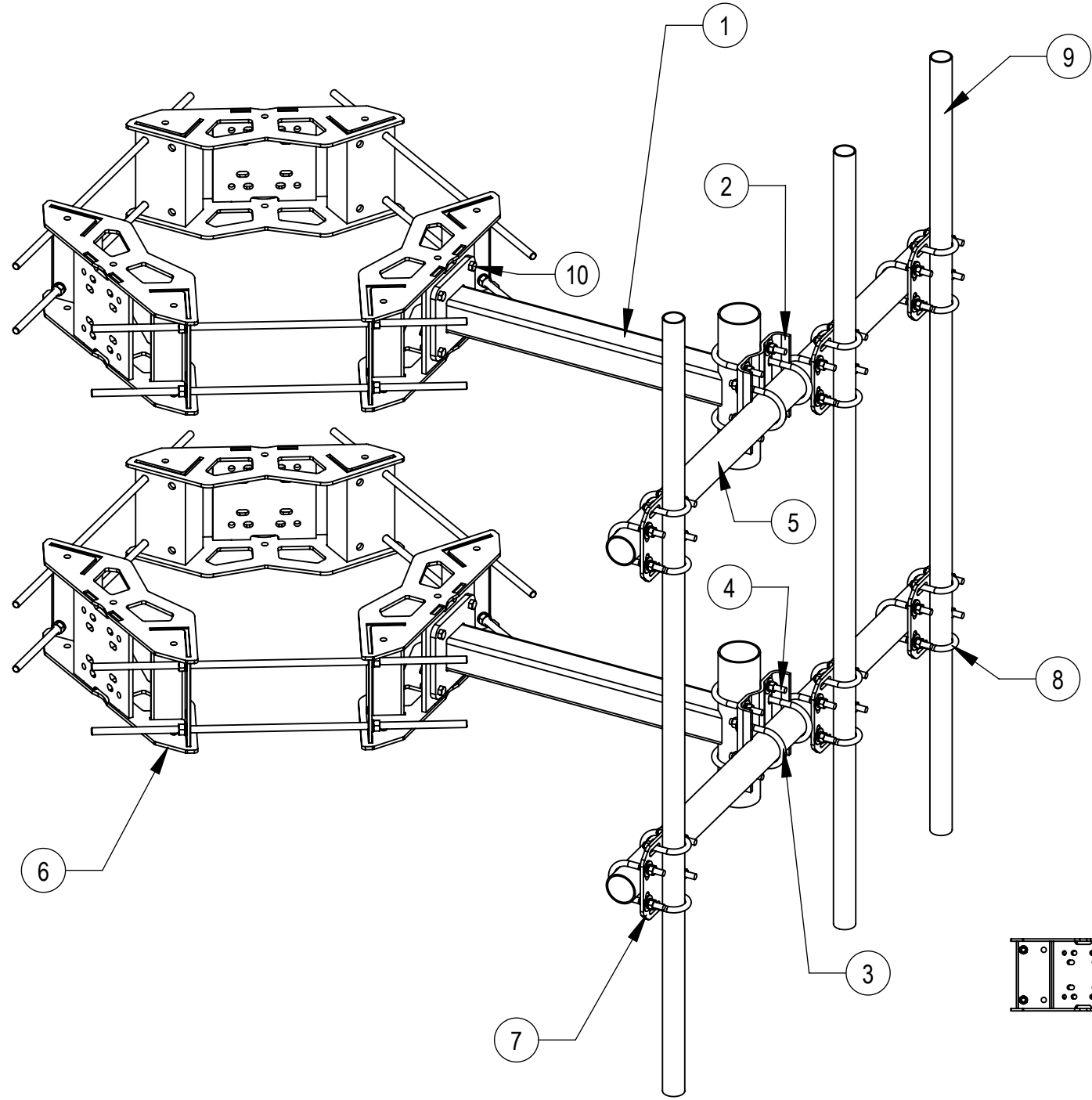
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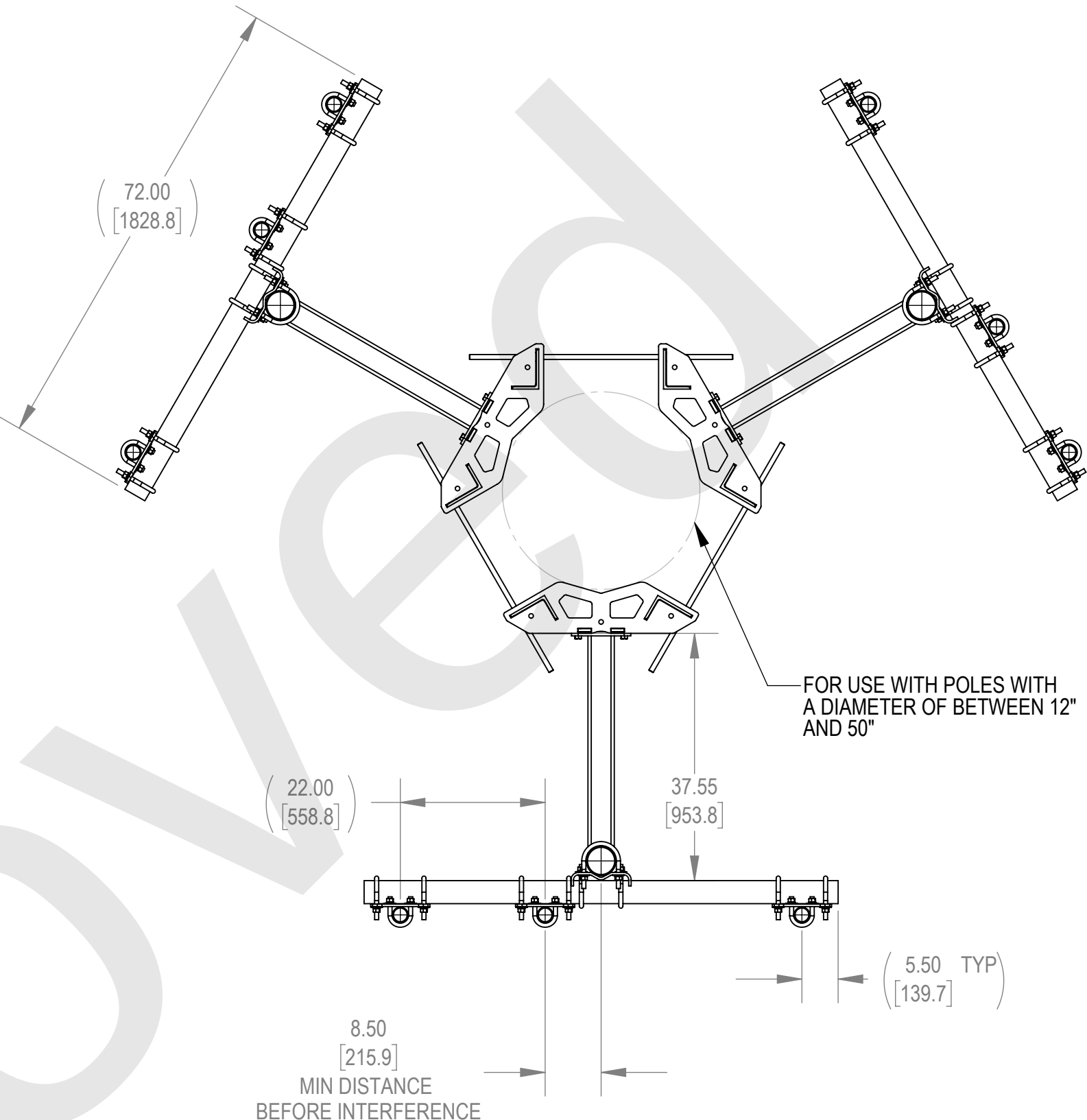
NOTES:

- 1.0 GENERAL
 - 1.1 ALL METRIC DIMENSIONS ARE IN BRACKETS
 - 1.2 FOR PATENTS, SEE WWW.CS-PAT.COM
- 2.0 DESIGN NOTES
- 3.0 MANUFACTURING/SPECIAL REQUIRMENTS
- 4.0 TEST
- 5.0 PACKAGING

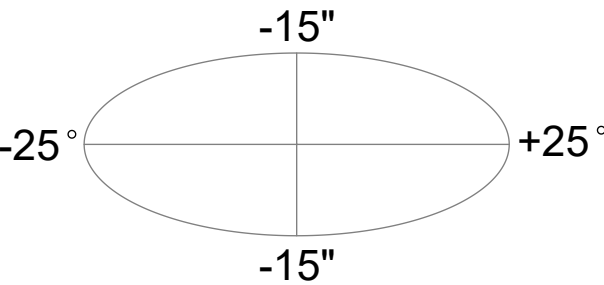
REVISIONS				
REV.	ECN	DESCRIPTION	BY	DATE
A	8000036044	INITIAL RELEASE	ES	7/19/2019



ONLY 1 OF 3 SECTORS SHOWN FOR CLARITY

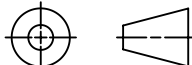


TIEBACK ANGLE RANGE DETAIL
+/- 15" VERTICAL TRAVEL FROM CENTER
+/- 25 DEGREES HORIZONTAL PIVOT



ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT
1	MT197.01	36" SINGLE SUPPORT ARM	6	57.29 LBS
2	MT216.13	CENTER BRACKET	6	11.80 LBS
3	GUB-53560	5/8" X 3-5/8" X 6" GALV U-BOLT	48	1.30 LBS
4	GUB-5456	5/8" X 4-5/8" X 6 1/2" GALV U-BOLT	12	1.43 LBS
5	MT54772	Ø 3.50" O.D X 72" PIPE	6	36.08 LBS
6	MC-RM1550-3	12" - 50" OD RINGMOUNT	2	230.13 LBS
7	XPU02	PLATE, CROSSOVER, 1.9-4.5" X 1.9-4.5" OD	18	6.93 LBS
8	GUB52440	5/8" X 2-1/2" X 4" GALV U-BOLT	36	0.89 LBS
9	MT-651-96	PLAIN END PIPE 2-3/8" OD X 96"	9	29.07 LBS
10	GB-05225	5/8" X 2-1/4" GALV BOLT KIT	24	0.28 LBS

COMMSCOPE, INC. OF NORTH CAROLINA

TOLERANCES			SAP MATERIAL MASTER				
1 PLACE .X± .25		3 PLACE .XXX± 0.06		MTC4074M6996			
2 PLACE .XX± 0.12		ANGLES ± 2°					
FINISH GALV A123			MATERIAL A1011/A1018				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES INTERPRET PER ANSI Y 14.5M-1994		NAME	DATE	DOUBLE T-ARM 6'			
	CE	ES	07/19/19				
	RW	ES1081	07/25/2019				
	RV						
	AD	MC1107	07/25/2019	SCALE 1:24	DOCUMENT NO. MTC4074M6996		
	RE	FA1024	07/23/2019				
	ECN 008000036044						
SIZE	WORK AREA 24	MODEL		DRAWING		SHEET 1 OF 1	
C		VERSION	STATUS	REVISION	VERSION		STATUS
		01	AD		01	AD	

DENSITY	MASS	1634.79	lbs/in³
VOLUME		15060.51	lbs
SURFACE AREA		86880.85	in³
HEIGHT			
LENGTH			
WIDTH			

Rooftop / Towertop

The DC9-48-60-24-8C-EV is designed to provide the ultimate coordination between the SPD and the RRH/RRU by offering industry-leading low-clamping voltage of 160V and extremely robust protection for use in a high DC voltage environment. Capable of providing 12.5kA (10/350 μ s) max per circuit surge capacity for up to 9 -48V DC circuits.

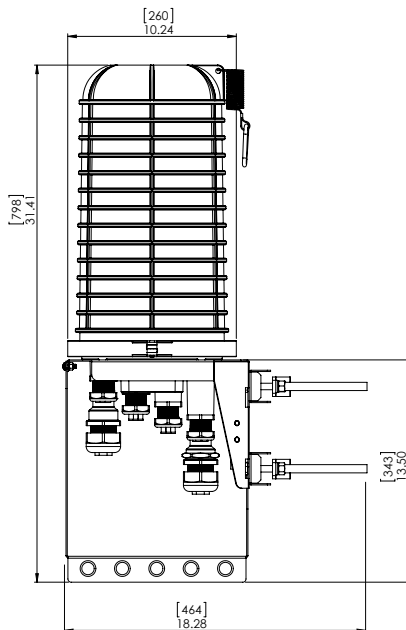
powered by
Strikesorb®

**Features**

- Provides discrete protection for nine individual -48V DC circuits
- Maximum impulse current 12.5kA 10/350 μ s
- Fiber connections for up to 24 fiber pair
- Simplifies inter-connectivity and cable management for DC conductors
- UL 1449 4th Edition Type 2 protective device for DC applications
- IEC 61643-11 Class I protection
- Copper-coated lid to reduce power line interference
- Patented design
- Patented Strikesorb technology ensures lowest let-through voltage available in the industry, providing enhanced coordination with the RRH/RRU
- Raycap recommends that DC protection system be installed within 5 meters of the radio

Benefits

- Strikesorb modules are fully recognized to UL 1449 4th Edition, and IEC 61643-11 Safety Standards, meeting all intermediate and high current fault requirements to facilitate use in original equipment manufacturers (OEM) applications
- Strikesorb offers unique maintenance-free protection against direct lightning currents
- Design provides maximum flexibility for installation
- NEMA 4X enclosure



SPECIFICATIONS

powered by

Strikesorb®

DC Surge Protection Solutions

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

Overvoltage Protection and Fiber Distribution/Cable Management Solution

Electrical

Model Number	DC9-48-60-24-8C-EV
CEQ / ANT Number	CEQ.21427
Number of Circuits Protected	9
Surge Protective Device (SPD) Type per UL 1449 4th Edition	Type 2
Surge Protection Class as per IEC 61643-11	Class I
Nominal Operating DC Voltage [U_n]	-48 VDC
Nominal Discharge Current [I_n] per UL 1449 4th Edition	20 kA 8/20 μ s
Maximum Impulse (Lightning) Current [I_{imp}] per IEC 61643-11	12.5 kA 10/350 μ s
Maximum Continuous Operating DC Voltage [U_c] (MCOV)	60 VDC
Voltage Protection Level [U_p] at 12.5kA per IEC 61643-11	160 V
Voltage Protection Level [U_p] at 5kA per IEC 61643-11	145 V
Voltage Protection Rating (VPR) per UL 1449 4th Edition	330 V
Suppression Technology	MOV
Strikesorb Module Type 2CA (UL 1449 4th edition)	30-V1-2CEV
Protection Modes:	Normal Mode -48V to Return
	Common Mode Return to Ground

Mechanical

Connection Terminal (Suppression) Method (for all power cables)	Compression lug 2 hole, #10, 5/8 pitch, #12 – #4 AWG [3.3 – 21.15 mm ²]
Connection Terminal (Terminal Block) Method	Copper #12 to #4 AWG [3.3 – 21.15 mm ²]
Fiber Connection Method	LC-LC Single Mode
Environmental Ingress Protection (IP) Rating	IP 68
Operating Temperature (°C)	-40° C to +100° C
Storage Temperature (°C)	-70° C to +80° C
Cold Temperature Cycling IEC 61300-2-22	-30° C to +60° C 200 hrs @ 5 PSI
Resistance to Aggressive Materials CEI IEC 61073-2	Including Acids and Bases
UV Protection ISO 4892-2 Method A	Xenon-Arc 2160 hrs
Enclosure Type	Outdoor NEMA 4X
Enclosure Dimensions (L x W x H)	18.28" x 10.24" x 31.4" [464 x 260 x 797 mm]
Weight*	System: 18.5 lbs [8.39 kg] Mount: 10.2 lbs [4.62 kg] Total: 28.7 lbs [13.02 kg]
Combined Wind Loading	Sustained Gust 150 mph Sustained: 105.7 lbs [470 N] 195 mph Gust: 213.6 lbs [950 N]

Optional Kits Available

Trunk Gland Kit A	CEQ.21428	Oval Gasket for 4AWG and 6AWG Trunk
Trunk Gland Kit B	CEQ.21429	Oval Gasket for (2) 4AWG Trunks
Trunk Gland Kit C	CEQ.21434	Oval Gasket for (2) 8AWG Trunks

Standards Compliance & Certifications

NEBS certified to: GR-63-CORE Issue 4, GR-1089-CORE Issue 6, GR-3108-CORE Issue 3, GR-487-CORE Issue 4, ATT-TP-76200 Issue 18

Strikesorb modules are compliant to the following Surge Protection Device Standards:

Standards: UL 1449 4th Edition: 2011, IEC 61643-11: 2011, EN 61643-11: 2012,
IEEE C62.11: 2005, IEEE C62.41: 2002, IEEE C62.45: 2002, NEMA-LS-1

Certifications: UL, VDE, CE

AWG=American Wire Gauge



Raycap

www.raycap.com

G02-01-515 190212



XTE 801 Series

Walk-In-Cabinet (WIC)

Description and Installation Manual (631-205-530), Revision B

Specification Number: F2018001-WIC

8340-100 series

RUGGED POWER



Founded in 1979 Polar Power specialized in solar photovoltaic systems, solar air conditioning and refrigeration. We developed and provided photovoltaic charging controls for telecommunications in the 1980s along with DC generators for the military. In 1994 we were first to provide DC generators with remote control and monitoring to the telecommunications industry.

Polar's success is based on engineering generators to meet the very specific needs of each application. Telecom site optimization is best met with the DC generator technology as the loads and batteries are DC. It makes no sense to install an AC generator and convert the output to DC. The AC generators are designed for a wide range of applications and they are not specifically produced for telecom applications so there are issues with reliability, space, and fuel efficiency.

Polar can save you considerable time and cost in permitting, installing, purchasing, and maintaining a backup generator. We reduce CAPEX and OPEX costs while improving backup reliability.

Intertek 4003706

Conforms to UL STD 2200

Certified to CSA STD C22.2 No. 100

Meets EPA Emission Regulations
CA/MA Emissions Compliant

2 year standard warranty

Available Models:

- **8340-100-LP-15-03** LPG 15 kW -48 VDC



The concepts and features behind Polar's Hybrid application generator for telecommunications include:

SMALL FOOTPRINT. Polar's DC generator is considerably smaller in size than an AC generator. You can now backup sites that could not accommodate an AC generator. Smaller also means less cost for space leasing.

LOW MAINTENANCE. Due to oversized oil sump, and oil/fuel filtration system.

LOW ACOUSTIC NOISE. <62 dBA @ 7 meters for LPG, and low vibration so as not to disturb the local residents or building landlords.

LIGHTWEIGHT. Up to 1/3 the weight of a comparable AC generator.

CORROSION RESISTANT. All-aluminum enclosure with stainless hardware for low maintenance, and long service life.

FUEL EFFICIENT. Up to 85% fuel savings due to smaller engine displacement, high efficiency alternator, and variable speed operation.

RODENT RESISTANT. Small animals can quickly destroy a generator set by gnawing on wires, fuel lines, radiator hoses, etc. Cooling air inlets and outlets have perforated aluminum screens to keep small rodents and large insects out. Stainless steel wire braid is placed over fuel and radiator lines to prevent damage.

SUPERCAPACITOR STARTER. Failure to start is the number one problem plaguing generator reliability and typically this is caused by a bad starting battery. Polar unique design has replaced the starting battery with a Super Capacitor. Capacitors are more reliable and last longer than batteries (10-15 year life).

LONG LIFE. Controls and wire harnesses are designed to exceed a 20 year life. Higher grade, longer life electrical wire (UL 3173), weather tight connectors, gold plated connector pins on signal circuits. No transfer switches are required.

ADVANCED MONITORING. Remote diagnostics, control, and monitoring. Ethernet and RS232 standard, with optional SNMP.

COMPARING THE COST OF AC vs DC

	AC	DC
Transfer switch required	Yes	No
Permitting costs	\$\$	\$
Shipping to site and installation cost	\$\$	\$
Site preparation/reinforcing structures	\$\$\$	\$
Ethernet/RS232 remote control and monitoring	Extra	Standard

8220 ALTERNATOR FEATURES

- No mechanical adjustments
- Very lightweight
- High quality electrical output
- Voltage and current regulation
- Up to 94% efficiency
- Class 220° C insulation
- Anodized type III process for aluminum parts
- Nickel plating for steel parts
- Stator is varnished

8220 ALTERNATOR SPECIFICATIONS

Type	Permanent Magnets, NdFeB
Weight (lb/kg)	46.5/21
Regulation Type	Variable engine speed
Stator	3 phase/32 poles
Overcurrent Protection (A)	350
Disconnect Means	Pull fuse block, sized for each generator kW
Voltage Range (VDC)	44 to 62
Alternator Exhaust Flow (cfm/cmm)	130 to 180 / 3.68 to 5.1
MTBF (hr)	100,000+

ENCLOSURE

Model	88-25-0100
Type	Weather Protective
Materials	Marine Grade Aluminum
Door Hardware	Pad Locked with Removable Side Panels
Mounting	Secure Mounting Tabs

PERMITTING IS FACILITATED

- Small engine horsepower
- DC generator is fully isolated from the utility grid
- No transfer switch
- Low acoustic noise
- Incorporates all requirements made by local Fire Marshals

STARTER SUPERCAPACITOR SPECIFICATIONS

Model	20-16-0001
Storage Rating (Farads)	500
Voltage (VDC)	13-14.4
Weight (lb/kg)	12.1/5.5
Operating Temperature (°C/°F)	-40 to 65 / -40 to 149
Service Life (year)	10 to 15

CHARGER SPECIFICATIONS

Model	00-10-0015
Input Voltage (VDC)	28.8 to 60
Output Voltage (VDC)	14 to 14.4
Recharge time from 0 VDC (min)	10
Recharge time from 8 VDC (min)	2
Weight (lb/kg)	2.2/1

SOUND EMISSIONS

Contact us for current sound data.

SPECIFICATIONS NATURAL GAS and LPG

Engine Model	Natural Gas - Kubota DG972 LPG - Kubota WG972
Cylinders	3 In-line
Displacement (L)	0.962
Bore (in./mm)	2.93/74.5
Stroke (in./mm)	2.9/73.6
Intake Air System	Naturally Aspirated
Engine HP	18
Emissions Compliance	EPA and CARB Certified
Variable RPM	2650 to 3150

ENVIRONMENTAL

Operating Temperature (°C/°F)	-40 to 72 or -40 to 162
Operating Humidity %	100
Cold Start Aids	Glow Plugs

PROPANE ENGINE FUEL CONSUMPTION

	Output (kW)	gal/hr	L/hr
Kubota 972	4	0.97	3.67
	5	1.1	4.16
	6	1.26	4.77
	7	1.475	5.58
	8	1.69	6.4
	9	1.945	7.36
	10	2.2	8.33
	12	2.52	9.54
	15	3.55	13.44

POWER ADJUSTMENT FOR AMBIENT CONDITIONS

Temperature Deration	1% derate for every 5.6 °C (10 °F) above 25 °C (77 °F)
Altitude Deration	3% derate for every 300 m (1000 ft) above 91 m (300 ft)

WEIGHTS AND DIMENSIONS

Dry Weight (lb/kg)	680/308
Dimensions (LxWxH) (in/cm)	54 x 38 x 38/137 x 97 x 97

ENGINE LUBRICATION SYSTEM

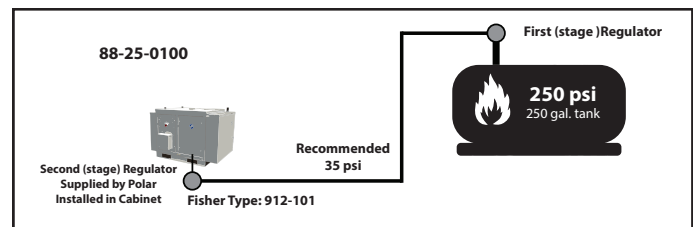
Oil Filter Type	Full flow spin-on canister
Oil Capacity	3.7 L - DG972/WG972
Oil Pressure Switch	Yes
Oil Pressure Transducer	Optional

ENGINE COOLING SYSTEM

Type	Pressurized Aluminum Radiator
Water Pump	Belt-driven, Pre-lubed, self-sealing
Fan Type	Electric Fans
Airflow CFM or M³/hr	1300 or 2200
Fan Mode	Pusher
Temperature Switch	Yes

FUEL SYSTEM

Type	Natural Gas or Propane
Fuel Tank/Line	Supplied By Customer
Max Fuel Flow Rate (BTU/hr)	15 kW - 340,000



Pressure Chart

Minimum	Recommended	Maximum
0.14 psi	0.39 psi	0.5 psi
4 in H2O	11 in H2O	13.9 in H2O
10 mbar	27.4 mbar	34.5 mbar

ENGINE COOLING

System coolant capacity (gal/L)	2.2/8.3
Maximum operation air temperature on radiator (°C/°F)	54/129
Maximum ambient temperature (°C/°F)	49/120

COMBUSTION REQUIREMENTS

Flow at rated power (cfm/cmm)	47/1.34
-------------------------------	---------

EXHAUST

Exhaust flow at rated output (cfm/cmm)	90/2.55
Exhaust temperature at rated output (°C/°F)	480/900

CONTROLLER FEATURES

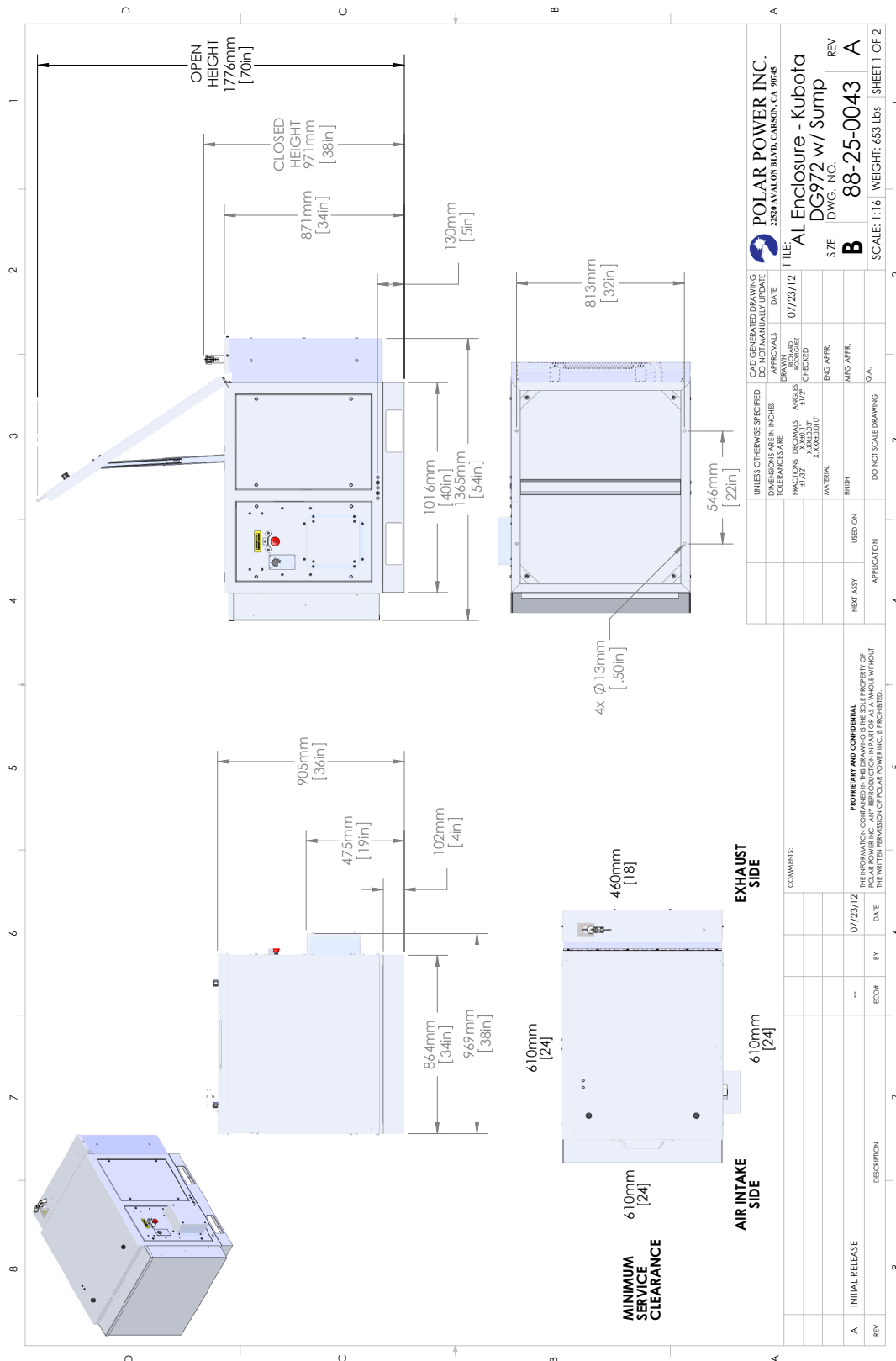
Controller Type.....	Supra Model 250
4-Line Plain Text LCD Display.....	Simple user interface for ease of operation
Engine Run Hours Indication.....	Standard
Programmable Start Delay.....	Standard
Run/Alarm/Maintenance Logs.....	Standard
Engine Start Sequence.....	Cyclic cranking: 5 sec on, 45 sec rest (3 attempts maximum)
Starter Supercapacitor Charger.....	Standard
Automatic Voltage Regulation with Over and Under Voltage Protection.....	Standard
Automatic Low Oil Pressure/High Oil Temperature Shutdown.....	Standard
Overcrank/Overspeed.....	Standard
Automatic High Engine Temperature Shutdown.....	Standard
Field Upgradeable Firmware.....	Standard
Glow Plug Delay	Automatic With Temperature
Engine Start Delay.....	Adjustable, Set at 60 sec
Return to Utility Delay.....	Adjustable, Set at 60 sec
Engine Cooldown.....	Adjustable, Set at 60 sec
Exerciser.....	Programmable, weekly/bi-weekly

WARNING ALARMS

Low/High Supercapacitor Voltage.....	Standard
High Water Temperature.....	Standard
Low Oil Pressure.....	Standard

CONTACT CLOSURE FOR REMOTE INDICATION (PN 84-12-0640)

Shutdown Alarm.....	Optional
Warning Alarm.....	Optional
Engine Run.....	Optional
E-Stop Depressed.....	Optional



TRINITY ASME STORAGE TANKS

Above Ground ASME Tanks

Domestic Storage tanks manufactured by Trinity Containers, LLC conform to the latest edition and addenda of the ASME Code for Pressure Vessels, Section VIII Division I. Complies with NFPA 58 and B149 code requirements.

All tanks are pre-purged and ready to be filled. They are rated at 250 psig, from -20° F. to 125° F. Tanks may be evacuated to a full (14.7 psi) vacuum. CRN (Canadian Registration Numbers) provided for all provinces and territories. **Vessel Finish:** Coated with TGIC powder paint for durable lasting finish. Please read and understand all warranty and installation instructions before installing the tank.



NEE #	Description	Working Pressure PSI	Weight	Height	Leg Spacing	Leg Width	Length	O.D.	Water Capacity
250WG	250 WG	250	472 lbs	3'-3 3/4"	3'-6"	12-3/4"	7'-2 1/2"	31.5"	250 USWG, 946.4 L
320WG	320 USWG		588 lbs	3'-3 3/4"	4'-0 1/4"	12-3/4"	8'-11 3/4"	31.5"	320 USWG, 1211.3 L
500WG	500 WG		871 lbs	3'-9 3/4"	5'-0"	15"	9'-10"	37.42"	500 USWG, 1892.7 L
1000WG	1000 WG		1729 lbs	4'-1 3/8"	9'-0"	16 1/4"	15'-10 7/8"	40.96"	1000 USWG, 3785.4 L
2000WG	2000 WG		3676 lbs	4'-7"	20'-0"	21"	23'-9"	46.77"	2000 USWG, 7570.8 L

Tank Replacement Parts

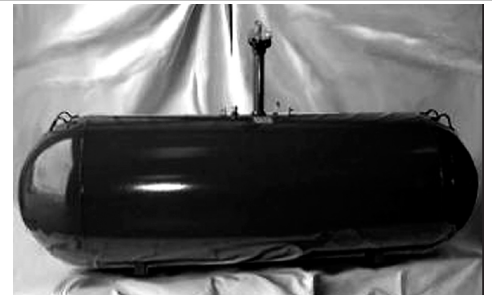
Tank Size	Multi Valve	Check Lock Valves		Relief Valve	Fill Valve	Float Gauges			
		Bottom 1-1/4"	Top 3/4"			Screw-In	Jr. Bolt-In	Screw-In	Jr. Bolt-In
250 WG	67-0720	ME462	ME460	66-1128	PVE623C/ 66-1232	B8981-1230	6281-15.75-30	TA160	JA154I
320 WG				66-1129		B8981-04037	6284-193/4	TA194	JA192J
500 WG				66-1130		B8981-04041	6281-00641	TA210A	JA2061
1000 WG									

Underground ASME Storage Tanks

Trinity Underground Tanks conform to the latest edition and addenda of the ASME Code for Pressure Vessels, Section VIII Division I. Complies with NFPA 58 and B149.

All tanks are pre-purged and ready to be filled. They are rated at 250 psig, from -20° F. to 125° F. Tanks may be evacuated to a full (14.7 psi) vacuum. **Vessel Finish:** Coated with epoxy red powder paint. Please read and understand all warranty and installation instructions before installing the tank.

Applicable federal, provincial or local regulations may contain specific requirements for protective coatings and cathodic protection. The purchaser and installer are responsible for compliance with such federal, provincial or local regulations.



NEE #	Water Capacity	O.D.	Head Type	O.A.L.	Overall Height	Weight
250WG-UG	250 USWG, 946.4 L	31.5" (800.1 mm)	Hemi	7' 2 1/2" (2197.1 mm)	14" riser - 4'- 5/8" (1235.1 mm), 28" riser - 5'- 2 1/16" (1576.4 mm)	490 lbs (222.3 kg)
320WG-UG	320 USWG, 1211.3 L	31.5" (800.1 mm)		8' 11 3/4" (2736.9 mm)		610 lbs (276.7 kg)
500WG-UG	500 USWG, 1892.7 L	37.42" (950.5 mm)		9' 10" (2997.2 mm)	14" riser - 4'- 6 1/2" (1384.3 mm), 28" riser - 5'- 8 1/8" (1730.4 mm)	920 lbs (417.3 kg)
1000WG-UG	1,000 USWG, 3785.4 L	40.96" (1040.4 mm)		15' 10 7/8" (4846.6 mm)	14" riser - 4'- 9 1/2" (1460.5 mm), 28" riser - 6'- 0" (1730.4 mm)	1760 lbs (798.3 kg)
2000WG-UG	2,000 USWG, 7570.8 L	46.614" (1184 mm)	Ellip	23' 9 3/8" (7245.5 mm)	14" riser - 5'- 3 7/8" (1722.4 mm), 28" riser - 6'- 5" (1955.3 mm)	3520 lbs (1596.6 kg)

Note: An additional set of lifting lugs on 500wg & 1,000wg vessels come complete with a 28" riser height only.

Accessories

NEE #	Description	NEE #	Description
DOM LID 500/1000	Dome lid for 500 & 1000 Gallon Tanks	0907032	17 lb Magnesium Anode bag w/ 10' #12 wire lead

Exhibit B

1

WELTI GEOTECHNICAL, P.C.

227 Williams Street · P.O. Box 397
Glastonbury, CT 06033-0397

(860) 633-4623 / FAX (860) 657-2514

October 4, 2021

Mr. Peter Nute
Proterra Design Group, LLC
4 Bay Road, Bldg A, Suite 200
Hadley, MA 01035

Re: Geotechnical Study for Proposed Cell Tower Site No. CT2246
106 Sharon Road, Lakeville, CT

Dear Peter:

1.0 Herewith are the data from the test boring taken at the above referenced site. One boring was taken at the staked tower location. The boring was drilled to a depth 8 feet below the existing grade. Hard bedrock was encountered at 3 feet below the existing grade and the boring was cored 5 feet into the bedrock. Three additional probes were drilled in areas of site development to the auger refusal on the hard bedrock at 1.3 to 3 feet below the existing grades. The boring locations are shown on the attached plan. *The boring was drilled by Clarence Welty Associates, Inc. and sampling was conducted by this firm solely to obtain indications of subsurface conditions as part of a geotechnical exploration program. No services were performed to evaluate subsurface environmental conditions.*

2.0 The **Subject Project** will include the construction of a monopole tower with a height of about 94 feet. The existing grades within the proposed 50' x 50' fenced in tower compound range from about Elev.848 to Elev.854. The proposed grades will be between Elev.849 and Elev.851. The site work will include the construction of about 200 lf of access roadway.

3.0 The **Soil/Rock Cross Section** from the boring and probes is generally as follows:

Topsoil to 4" to 8"

Fine SAND, trace to little Silt to 7" to 2 feet

Weathered Rock to auger refusal on hard rock at 1.3 to 3 feet, very dense

Bedrock; Dolomite Marble

Note: Cored bedrock from 3.0 to 8.0 feet at boring B-1 with a recovery of 100% and an RQD value of 87%

3.1 The **Ground Water Table** was not evident above the bedrock.

4.0 In general the criteria for tower support is that the foundation capacity would exceed the loads, which might collapse the tower. **Movements from strains in the soils should be limited to differential settlement (or lateral movements of less than ½").**

5.0 The **foundation for the tower** can be with a mat type foundation. The mat would provide the required weight for resistance to over turning. The mat could be placed on the weathered rock or on prepared blasted rock surface. The bottom of the mat should be at least 3.5 feet below finished grades for frost protection or be placed entirely on the hard bedrock. Where the mat is atop weathered rock or a blasted rock surface there should be a minimum 6" layer of 3/8" crushed stone beneath the foundation. The allowable loading on the hard bedrock, on crushed stone atop the weathered rock, or on crushed stone atop a blasted rock surface can be 4 Tons/sf. If bedrock removal is required, the pad area could be over blasted by 1 to 2 feet and the area could be leveled with a minimum 6" layer of 3/8" crushed stone, after removal of any large and loose pieces of rock. The foundation sub grades should be observed by someone from our office to confirm the sub grade conditions are preparation area acceptable.

5.1 Summary of design parameters:

Parameter	Value
Allowable Bearing Pressure	4 Tons/sf
Soil Unit Weight	120 pcf
Soil Unit Weight (backfill)	125 pcf
Angle of Internal Friction	34°
At rest coefficient	0.45
Active coefficient	0.28
Frost Protection Depth	3.5 feet

6.0 This report has been prepared for specific a application to the subject project in accordance with generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made. In the event that any changes in the nature, design and location of structures are planned, the conclusions and recommendations contained in this report should not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing.

The analyses and recommendations submitted in this report are based in part upon data obtained from referenced explorations. The extent of variations between explorations may not become evident until construction. If variations then appear evident, it will be necessary to re-evaluate the

recommendations of this report.

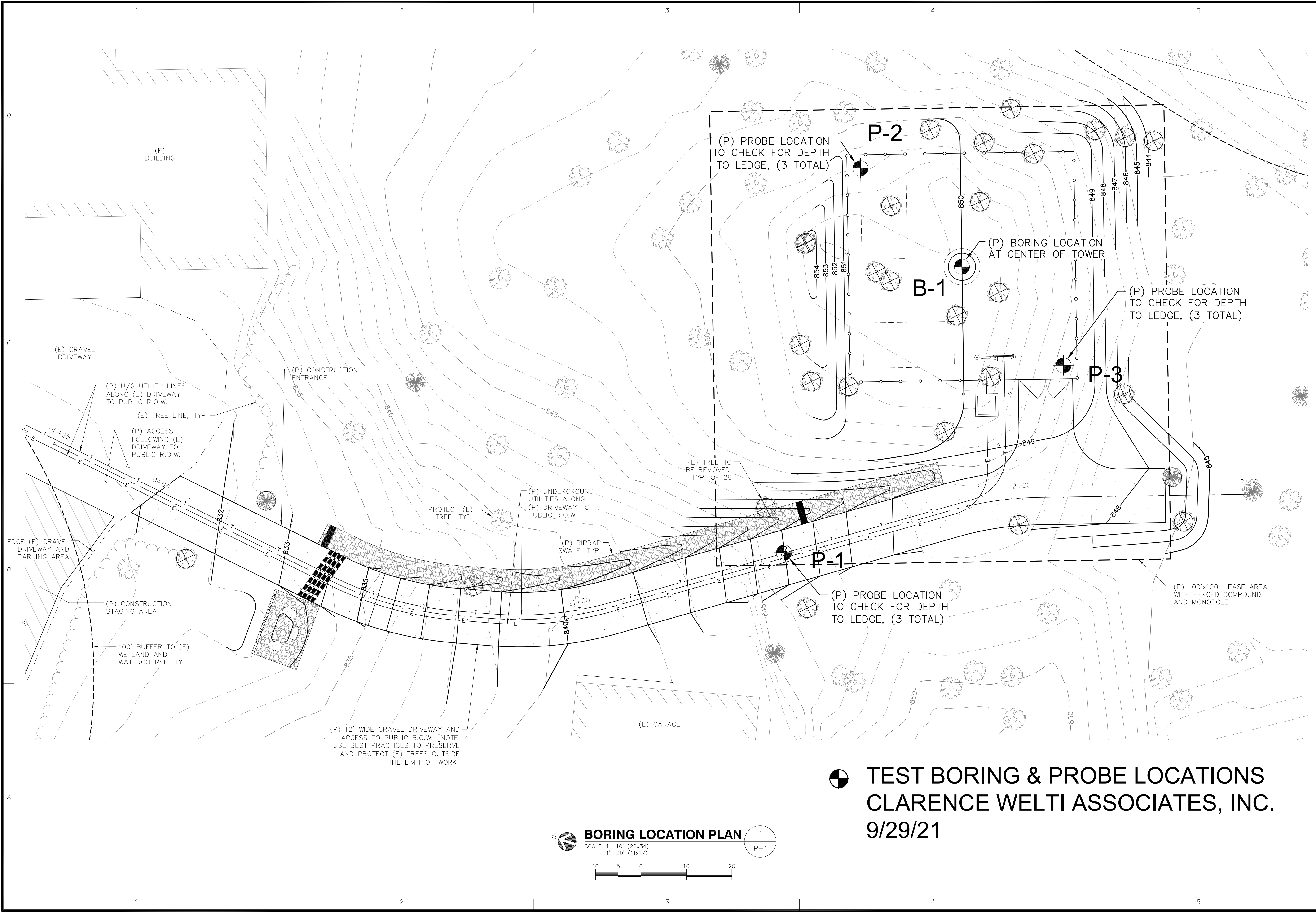
Wolti Geotechnical, P.C., should perform a general review of the final design and specifications in order that geotechnical design recommendations may be properly interpreted and implemented as they were intended.

If you have any questions please call me.

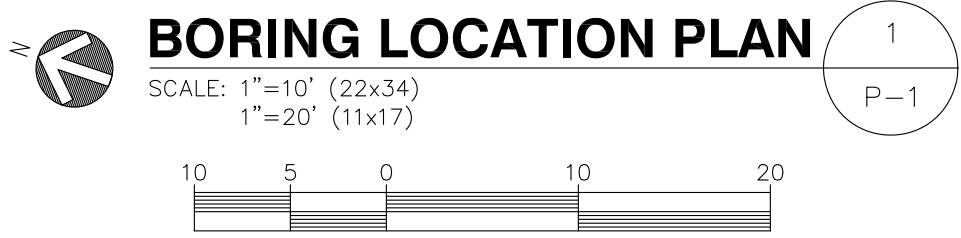
Very truly yours,

A handwritten signature in cursive script that reads "Max Wolti".

Max Wolti, P. E.
President, Wolti Geotechnical, P.C.



TEST BORING & PROBE LOCATIONS
CLARENCE WELTI ASSOCIATES, INC.
9/29/21



ProTerra
DESIGN GROUP, LLC

4 Bay Road
Bldg. A, Suite 200
Hadley, MA 01035
Ph: (413)320-4918

CONSULTANTS:

NO.	DATE	REVISIONS
A	08/20/21	ISSUED FOR REVIEW

LAKESIDE SHARON ROAD
SITE NUMBER: G2246
ADDRESS: 106 SHARON ROAD
LAKEVILLE, CT 06039

NEW CINCULAR WIRELESS
PCS, LLC ("AT&T")
c/o SAI COMMUNICATIONS
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067



STAMP:

PRELIMINARY

DATE: 08/20/21
DRAWN: BLM
CHECK: JMM/TEJ
SCALE: SEE PLAN
JOB NO.: 18-063
SHEET TITLE:

BORING PLAN

P-1

[illegible]

CLARENCE WELTI ASSOC., INC. P.O. BOX 397 GLASTONBURY, CONN 06033				CLIENT PROTERRA DESIGN GROUP			PROJECT NAME PROPOSED CELL TOWER LOCATION 106 SHARON ROAD, LAKEVILLE, CT			
		AUGER	CASING	SAMPLER	CORE BAR.	OFFSET	SURFACE ELEV.		HOLE NO. P-1	
TYPE		SSA				LINE & STA.	GROUND WATER OBSERVATIONS		START DATE 9/29/21	
SIZE I.D.		4.0"				N. COORDINATE	AT none FT. AFTER HOURS			
HAMMER WT.						E. COORDINATE	AT FT. AFTER HOURS		FINISH DATE 9/29/21	
HAMMER FALL										
DEPTH	SAMPLE			A	STRATUM DESCRIPTION + REMARKS					ELEV.
	NO.	BLOWS/6"	DEPTH							
0					TOPSOIL 0.50					
					BR.FINE-MED.SAND AND SILT					
					WEATHERED ROCK 2.0					
					BOTTOM OF BORING @ 2.5' (AUGERREFUSAL) 2.5					
5										
10										
15										
20										
25										
30										
35										
LEGEND: COL. A: SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%						DRILLER: T. CZMYR INSPECTOR:				
						SHEET 1 OF 1		HOLE NO. P-1		

CLARENCE WELTI ASSOC., INC. P.O. BOX 397 GLASTONBURY, CONN 06033				CLIENT PROTERRA DESIGN GROUP			PROJECT NAME PROPOSED CELL TOWER LOCATION 106 SHARON ROAD, LAKEVILLE, CT			
	AUGER	CASING	SAMPLER	CORE BAR.	OFFSET	SURFACE ELEV.		HOLE NO. P-2		
TYPE	SSA				LINE & STA.	GROUND WATER OBSERVATIONS		START DATE	9/29/21	
SIZE I.D.	4.0"				N. COORDINATE	AT none FT. AFTER HOURS		FINISH DATE	9/29/21	
HAMMER WT.					E. COORDINATE	AT FT. AFTER HOURS				
HAMMER FALL										
DEPTH	SAMPLE			A	STRATUM DESCRIPTION + REMARKS					ELEV.
	NO.	BLOWS/6"	DEPTH							
0					TOPSOIL 0.33					
					LIGHT GREY FINE-MED.SAND, TRACE SILT 0.56					
					WEATHERED ROCK 1.4					
					BOTTOM OF BORING @ 1.4' (AUGER REFUSAL)					
5										
10										
15										
20										
25										
30										
35										
LEGEND: COL. A: SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%						DRILLER: T. CZMYR INSPECTOR:				
						SHEET 1 OF 1		HOLE NO. P-2		

CLARENCE WELTI ASSOC., INC. P.O. BOX 397 GLASTONBURY, CONN 06033				CLIENT PROTERRA DESIGN GROUP			PROJECT NAME PROPOSED CELL TOWER LOCATION 106 SHARON ROAD, LAKEVILLE, CT			
	AUGER	CASING	SAMPLER	CORE BAR.	OFFSET	SURFACE ELEV.		HOLE NO. P-3		
TYPE	SSA				LINE & STA.	GROUND WATER OBSERVATIONS		START DATE	9/29/21	
SIZE I.D.	4.0"				N. COORDINATE	AT none FT. AFTER HOURS		FINISH DATE	9/29/21	
HAMMER WT.					E. COORDINATE	AT FT. AFTER HOURS				
HAMMER FALL										
DEPTH	SAMPLE			A	STRATUM DESCRIPTION + REMARKS					ELEV.
	NO.	BLOWS/6"	DEPTH							
0					TOPSOIL 0.66					
					LIGHT GREY FINE SAND, TRACE SILT 1.5					
					WEATHERED ROCK 3.0					
					BOTTOM OF BORING @ 3.0' (AUGER REFUSAL)					
5										
10										
15										
20										
25										
30										
35										
LEGEND: COL. A: SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%						DRILLER: T. CZMYR INSPECTOR:				
						SHEET 1 OF 1		HOLE NO. P-3		

2



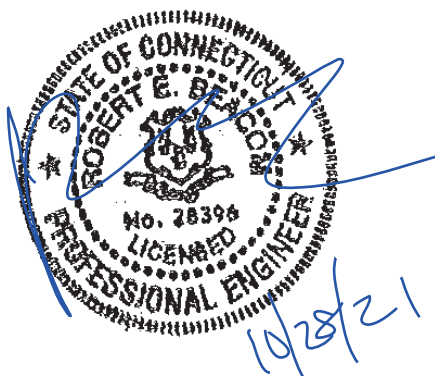
Structural Design Report
94' Extendible to 114' Monopole
Site: Salisbury, CT
Site Number: CT0027

Prepared for: TOWERCO LLC
by: Sabre IndustriesTM

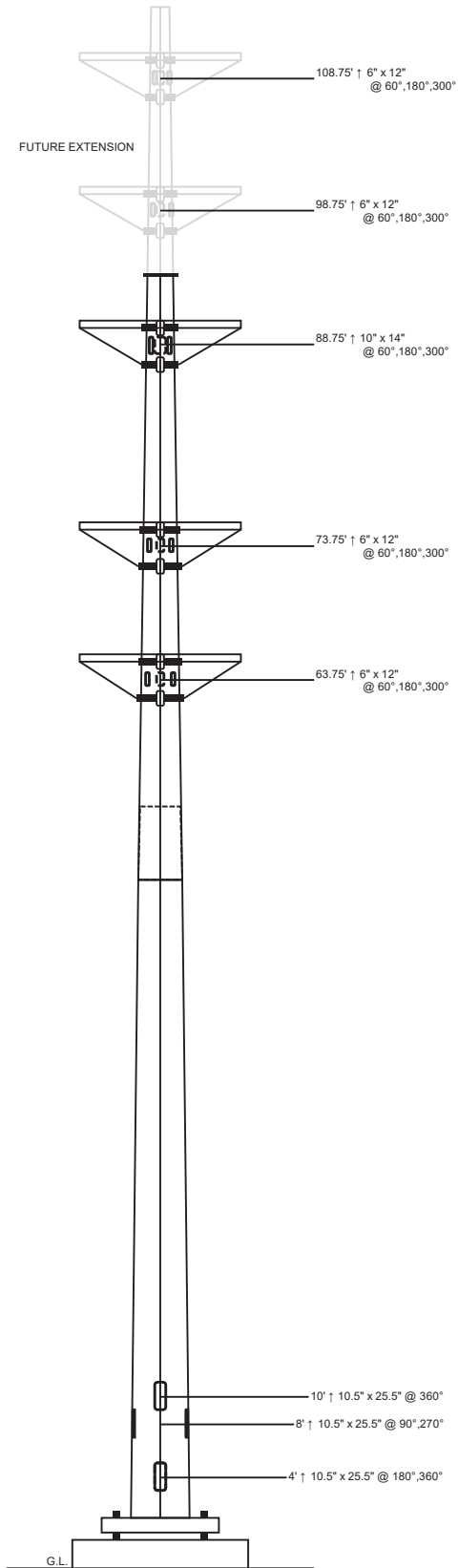
Job Number: 22-2998-JDS

October 28, 2021

Monopole Profile.....	1
Foundation Design Summary.....	2
Pole Calculations.....	3-14
Foundation Calculations.....	15-16



Length (ft)	53'-3"	45'-3"	20'-0"
Number Of Sides	18		
Thickness (in)	1/2"	3/8"	1/4"
Lap Splice (ft)		5'-6"	
Top Diameter (in)	36.37"	24.4"	17.75"
Bottom Diameter (in)	53.41"	38.88"	24.15"
Taper (in/ft)	0.32		
Grade	A572-65		
Weight (lbs)	15408	6620	1589
Overall Steel Height (ft)	93		20 (Extension)



Designed Appurtenance Loading

Elev	Description	Tx-Line
110***	Platform - 12' w/ Enhanced Support Rail	
110***	(1) 25,000 Sq. Inches EPA (4,500 lbs)	(12) 1 5/8"
100***	Platform - 12' w/ Enhanced Support Rail	
100***	(1) 25,000 Sq. Inches EPA (4,500 lbs)	(12) 1 5/8"
90	Platform - 12' w/ Enhanced Support Rail	
90	(1) 40,000 Sq. In. EPA 6000# (no ice)	(24) 1 5/8"
75	Platform - 12' w/ Enhanced Support Rail	
75	(1) 30,000 sq. in. EPA 4000# (no ice)	(12) 1 5/8"
65	Platform - 12' w/ Enhanced Support Rail	
65	(1) 30,000 sq. in. EPA 4000# (no ice)	(12) 1 5/8"

Design Criteria - ANSI/TIA-222-G

Ultimate Wind Speed (No Ice)	125 mph
Wind Speed (Ice)	40 mph
Design Ice Thickness	0.75 in
Structure Class	III
Risk Category	III
Exposure Category	C
Topographic Category	1
Seismic Importance Factor, I _e	1.25
0.2-sec Spectral Response, S _s	0.175 g
1-sec Spectral Response, S ₁	0.065 g
Site Class	D (DEFAULT)
Seismic Design Category	B
Basic Seismic Force-Resisting System	Telecommunication Tower (Pole: Steel)

Limit State Load Combination Reactions

Load Combination	Axial (kips)	Shear (kips)	Moment (ft-k)	Deflection (ft)	Sway (deg)
1.2 D + 1.0 W _o	72.49	66.67	5682.21	6.91	6.34
0.9 D + 1.0 W _o	54.37	66.62	5615.48	6.8	6.22
1.2 D + 1.0 D _i + 1.0 W _i	134.09	13.63	1222.18	1.54	1.42
1.2 D + 1.0 E _v + 1.0 E _h	74.69	2.11	200.04	0.27	0.26
0.9 D - 1.0 E _v + 1.0 E _h	52.07	2.11	196.9	0.26	0.25
1.0 D + 1.0 W _o (Service @ 60 mph)	60.41	14.42	1223.49	1.5	1.37

Base Plate Dimensions

Shape	Diameter	Thickness	Bolt Circle	Bolt Qty	Bolt Diameter
Round	66"	2.5"	60.25"	20	2.25"

Anchor Bolt Dimensions

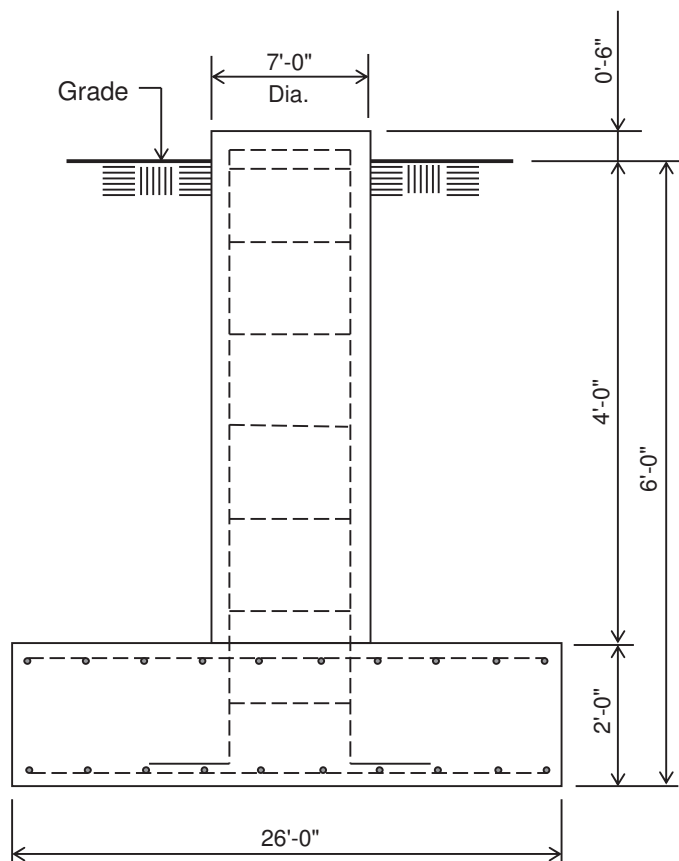
Length	Diameter	Hole Diameter	Weight	Type	Finish
84"	2.25"	2.625"	2422	A615-75	Galv

Notes

- 1) Antenna Feed Lines Run Inside Pole
 - 2) All dimensions are above ground level, unless otherwise specified.
 - 3) Weights shown are estimates. Final weights may vary.
 - 4) Full Height Step Bolts
 - 5) This tower design and, if applicable, the foundation design(s) shown on the following page(s) also meet or exceed the requirements of the 2018 Connecticut Building Code.
 - 6) Tower Rating: 97.8%
- *** These Appurtenances cannot be installed until the Monopole has been extended.

 Sabre Industries 7101 Southbridge Drive P.O. Box 658 Sioux City, IA 51102-0658 Phone: (712) 258-6690 Fax: (712) 279-0814 Information contained herein is the sole property of Sabre Communications Corporation, constitutes a trade secret as defined by Iowa Code Ch. 550 and shall not be reproduced, copied or used in whole or part for any purpose whatsoever without the prior written consent of Sabre Communications Corporation.	Job:	22-2998-JDS
	Customer:	TOWERCO LLC
	Site Name:	Salisbury, CT CT0027
	Description:	94' ext. 114' Monopole
	Date:	10/28/2021 By: DO

Customer: TOWERCO LLC
Site: Salisbury, CT CT0027
94' Monopole Extendible to 114'



ELEVATION VIEW

(56.49 Cu. Yds.)

(1 REQUIRED; NOT TO SCALE)

Notes:

- 1) Concrete shall have a minimum 28-day compressive strength of 4,500 psi, in accordance with ACI 318-11.
- 2) Rebar to conform to ASTM specification A615 Grade 60.
- 3) All rebar to have a minimum of 3" concrete cover.
- 4) All exposed concrete corners to be chamfered 3/4".
- 5) The foundation design is based on the geotechnical report by Welti Job No. CT2246, Date: 10/04/2021
- 6) See the geotechnical report for compaction requirements, if specified.
- 7) 4 ft of soil cover is required over the entire area of the foundation slab.
- 8) The foundation is based on the following factored loads:
Moment = 5,682.21 k-ft
Axial = 72.49 k
Shear = 66.67 k

Rebar Schedule for Pad and Pier	
Pier	(46) #8 vertical rebar w/ hooks at bottom w/ #5 ties, (2) within top 5" of pier, then 12" C/C
Pad	(54) #8 horizontal rebar evenly spaced each way top and bottom (216 total)

=====

(USA 222-G) - Monopole Spatial Analysis (c)2015 Guymast Inc.

Tel:(416)736-7453 Fax:(416)736-4372 Web:www.guymast.com

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94' ext. 114' Monopole / Salisbury, CT

* All pole diameters shown on the following pages are across corners.
See profile drawing for widths across flats.

POLE GEOMETRY

ELEV ft	SECTION NAME	No. SIDE	OUTSIDE DIAM in	THICK -NESS in	RESISTANCES ♦*Pn kip	♦*Mn ft-kip	SPLICE TYPE	...OVERLAP... LENGTH ft	RATIO	w/t
113.0			18.02	0.250	1031.7	369.1				
	A	18	24.52	0.250	1409.0	690.9				10.8
93.0			24.78	0.375	2124.5	1042.0				
	B	18	37.68	0.375	3248.3	2448.7				9.7
53.2			37.68	0.375	3248.3	2448.7				
	B/C	18	38.73	0.500	4438.2	3418.3	SLIP	5.50	1.73	
47.7			38.73	0.500	4438.2	3418.3				
	C	18	54.23	0.500	6145.5	6677.8				11.7
0.0										

POLE ASSEMBLY

SECTION NAME	BASE ELEV ft	 NUMBER	BOLTS TYPE	AT BASE DIAM in	OF SECTION STRENGTH ksi	 THREADS IN SHEAR PLANE	CALC BASE ELEV ft
A	93.000	0	A325	0.00	92.0	0	93.000
B	47.750	0	A325	0.00	92.0	0	47.750
C	0.000	0	A325	0.00	92.0	0	0.000

POLE SECTIONS

SECTION NAME	No.of SIDES	LENGTH ft	OUTSIDE DIAMETER BOT in	OUTSIDE DIAMETER TOP in	BEND RAD in	MAT- ERIAL ID	FLANGE.ID BOT	FLANGE.ID TOP	FLANGE.WELD ..GROUP.ID.. BOT	FLANGE.WELD ..GROUP.ID.. TOP
A	18	20.00	24.52	18.02	0.000	1	0	0	0	0
B	18	45.25	39.48	24.78	0.000	2	0	0	0	0
C	18	53.25	54.23	36.93	0.000	3	0	0	0	0

* - Diameter of circumscribed circle

MATERIAL TYPES

TYPE OF SHAPE	TYPE NO	NO OF ELEM.	ORIENT & deg	HEIGHT in	WIDTH in	.THICKNESS. WEB	.THICKNESS. FLANGE	IRREGULARITY .PROJECTION. % OF ORIENT AREA	deg
PL	1	1	0.0	24.52	0.25	0.250	0.250	0.00	0.0
PL	2	1	0.0	39.48	0.38	0.375	0.375	0.00	0.0

PL 3 1 0.0 54.23 0.50 0.500 0.500 0.00 0.0

& - with respect to vertical

MATERIAL PROPERTIES

=====

MATERIAL TYPE NO.	ELASTIC MODULUS ksi	UNIT WEIGHT pcf	.. STRENGTH .. Fu ksi	Fy ksi	THERMAL COEFFICIENT /deg
1	29000.0	490.0	80.0	65.0	0.00001170
2	29000.0	490.0	80.0	65.0	0.00001170
3	29000.0	490.0	80.0	65.0	0.00001170

* Only 5 condition(s) shown in full

=====

LOADING CONDITION A

=====

125 mph Ultimate wind with no ice. Wind Azimuth: 0° (1.2 D + 1.0 Wo)

LOADS ON POLE

=====

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AT AZI	LOAD AZI	FORCES..... HORIZ kip	DOWN kip	MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	109.000	0.00	0.0	0.0	0.0000	1.6324	0.0000	0.0000
C	109.000	0.00	0.0	0.0	10.2859	8.1013	0.0000	0.0000
C	99.000	0.00	0.0	0.0	0.0000	1.4826	0.0000	0.0000
C	99.000	0.00	0.0	0.0	10.0816	8.1013	0.0000	0.0000
C	89.000	0.00	0.0	0.0	0.0000	2.6657	0.0000	0.0000
C	89.000	0.00	0.0	0.0	15.0126	9.9013	0.0000	0.0000
C	74.000	0.00	0.0	0.0	0.0000	1.1082	0.0000	0.0000
C	74.000	0.00	0.0	0.0	11.1225	7.5013	0.0000	0.0000
C	64.000	0.00	0.0	0.0	0.0000	0.9585	0.0000	0.0000
C	64.000	0.00	0.0	0.0	10.7924	7.5013	0.0000	0.0000
D	113.000	0.00	180.0	0.0	0.0527	0.0594	0.0000	0.0000
D	93.000	0.00	180.0	0.0	0.0644	0.0748	0.0000	0.0000
D	93.000	0.00	180.0	0.0	0.0715	0.1274	0.0000	0.0000
D	79.750	0.00	180.0	0.0	0.0715	0.1274	0.0000	0.0000
D	79.750	0.00	180.0	0.0	0.0802	0.1477	0.0000	0.0000
D	66.500	0.00	180.0	0.0	0.0802	0.1477	0.0000	0.0000
D	66.500	0.00	180.0	0.0	0.0875	0.1681	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0875	0.1681	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0917	0.4213	0.0000	0.0000
D	47.750	0.00	180.0	0.0	0.0917	0.4213	0.0000	0.0000
D	47.750	0.00	180.0	0.0	0.0929	0.2566	0.0000	0.0000
D	35.812	0.00	180.0	0.0	0.0929	0.2566	0.0000	0.0000
D	35.812	0.00	180.0	0.0	0.0950	0.2811	0.0000	0.0000
D	23.875	0.00	180.0	0.0	0.0950	0.2811	0.0000	0.0000
D	23.875	0.00	180.0	0.0	0.0932	0.3056	0.0000	0.0000
D	11.938	0.00	180.0	0.0	0.0932	0.3056	0.0000	0.0000
D	11.938	0.00	180.0	0.0	0.0960	0.3301	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0960	0.3301	0.0000	0.0000

=====

LOADING CONDITION M

=====

125 mph Ultimate wind with no ice. Wind Azimuth: 0° (0.9 D + 1.0 Wo)

LOADS ON POLE

=====

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AT AZI	LOAD AZI	FORCES..... HORIZ kip	DOWN kip	MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	109.000	0.00	0.0	0.0	0.0000	1.2243	0.0000	0.0000

C	109.000	0.00	0.0	0.0	10.2859	6.0760	0.0000	0.0000
C	99.000	0.00	0.0	0.0	0.0000	1.1120	0.0000	0.0000
C	99.000	0.00	0.0	0.0	10.0816	6.0760	0.0000	0.0000
C	89.000	0.00	0.0	0.0	0.0000	1.9993	0.0000	0.0000
C	89.000	0.00	0.0	0.0	15.0126	7.4260	0.0000	0.0000
C	74.000	0.00	0.0	0.0	0.0000	0.8312	0.0000	0.0000
C	74.000	0.00	0.0	0.0	11.1225	5.6260	0.0000	0.0000
C	64.000	0.00	0.0	0.0	0.0000	0.7188	0.0000	0.0000
C	64.000	0.00	0.0	0.0	10.7924	5.6260	0.0000	0.0000
D	113.000	0.00	180.0	0.0	0.0527	0.0445	0.0000	0.0000
D	93.000	0.00	180.0	0.0	0.0644	0.0561	0.0000	0.0000
D	93.000	0.00	180.0	0.0	0.0715	0.0955	0.0000	0.0000
D	79.750	0.00	180.0	0.0	0.0715	0.0955	0.0000	0.0000
D	79.750	0.00	180.0	0.0	0.0802	0.1108	0.0000	0.0000
D	66.500	0.00	180.0	0.0	0.0802	0.1108	0.0000	0.0000
D	66.500	0.00	180.0	0.0	0.0875	0.1261	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0875	0.1261	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0917	0.3159	0.0000	0.0000
D	47.750	0.00	180.0	0.0	0.0917	0.3159	0.0000	0.0000
D	47.750	0.00	180.0	0.0	0.0929	0.1925	0.0000	0.0000
D	35.812	0.00	180.0	0.0	0.0929	0.1925	0.0000	0.0000
D	35.812	0.00	180.0	0.0	0.0950	0.2108	0.0000	0.0000
D	23.875	0.00	180.0	0.0	0.0950	0.2108	0.0000	0.0000
D	23.875	0.00	180.0	0.0	0.0932	0.2292	0.0000	0.0000
D	11.938	0.00	180.0	0.0	0.0932	0.2292	0.0000	0.0000
D	11.938	0.00	180.0	0.0	0.0960	0.2475	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0960	0.2475	0.0000	0.0000

=====

LOADING CONDITION Y =====

40 mph wind with 0.75 ice. Wind Azimuth: 0° (1.2 D + 1.0 Di + 1.0 Wi)

LOADS ON POLE

=====

LOAD TYPE	ELEV ft	APPLY. RADIUS ft	LOAD. AZI	AT AZI	LOAD AZI	FORCES..... HORIZ kip	DOWN kip	MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	109.000	0.00	0.0	0.0	0.0	0.0000	1.6324	0.0000	0.0000
C	109.000	0.00	0.0	0.0	0.0	2.1096	18.4432	0.0000	0.0000
C	99.000	0.00	0.0	0.0	0.0	0.0000	1.4826	0.0000	0.0000
C	99.000	0.00	0.0	0.0	0.0	2.0583	18.3451	0.0000	0.0000
C	89.000	0.00	0.0	0.0	0.0	0.0000	2.6657	0.0000	0.0000
C	89.000	0.00	0.0	0.0	0.0	3.0140	23.1470	0.0000	0.0000
C	74.000	0.00	0.0	0.0	0.0	0.0000	1.1082	0.0000	0.0000
C	74.000	0.00	0.0	0.0	0.0	2.2307	16.4369	0.0000	0.0000
C	64.000	0.00	0.0	0.0	0.0	0.0000	0.9585	0.0000	0.0000
C	64.000	0.00	0.0	0.0	0.0	2.1502	16.3099	0.0000	0.0000
D	113.000	0.00	180.0	0.0	0.0	0.0128	0.1136	0.0000	0.0000
D	93.000	0.00	180.0	0.0	0.0	0.0150	0.1406	0.0000	0.0000
D	93.000	0.00	180.0	0.0	0.0	0.0164	0.2006	0.0000	0.0000
D	79.750	0.00	180.0	0.0	0.0	0.0164	0.2006	0.0000	0.0000
D	79.750	0.00	180.0	0.0	0.0	0.0180	0.2304	0.0000	0.0000
D	66.500	0.00	180.0	0.0	0.0	0.0180	0.2304	0.0000	0.0000
D	66.500	0.00	180.0	0.0	0.0	0.0193	0.2595	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0	0.0193	0.2595	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0	0.0200	0.5184	0.0000	0.0000
D	47.750	0.00	180.0	0.0	0.0	0.0200	0.5184	0.0000	0.0000
D	47.750	0.00	180.0	0.0	0.0	0.0202	0.3567	0.0000	0.0000
D	35.812	0.00	180.0	0.0	0.0	0.0202	0.3567	0.0000	0.0000
D	35.812	0.00	180.0	0.0	0.0	0.0204	0.3867	0.0000	0.0000
D	23.875	0.00	180.0	0.0	0.0	0.0204	0.3867	0.0000	0.0000
D	23.875	0.00	180.0	0.0	0.0	0.0198	0.4143	0.0000	0.0000
D	11.938	0.00	180.0	0.0	0.0	0.0198	0.4143	0.0000	0.0000
D	11.938	0.00	180.0	0.0	0.0	0.0202	0.4357	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0	0.0202	0.4357	0.0000	0.0000

=====

LOADING CONDITION AK =====

Seismic - Azimuth: 0° (1.2 D + 1.0 Ev + 1.0 Eh)

LOADS ON POLE
=====

LOAD TYPE	ELEV ft	APPLY. RADIUS ft	LOAD. AT AZI	LOAD AZI	FORCES.....		MOMENTS.....	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	109.000	0.00	0.0	0.0	0.4491	8.3538	0.0000	0.0000
C	109.000	0.00	0.0	0.0	0.0905	1.6833	0.0000	0.0000
C	103.000	0.00	0.0	0.0	0.0663	1.3797	0.0000	0.0000
C	99.000	0.00	0.0	0.0	0.3715	8.3538	0.0000	0.0000
C	99.000	0.00	0.0	0.0	0.0680	1.5288	0.0000	0.0000
C	89.000	0.00	0.0	0.0	0.3681	10.2099	0.0000	0.0000
C	89.000	0.00	0.0	0.0	0.0991	2.7488	0.0000	0.0000
C	74.000	0.00	0.0	0.0	0.1938	7.7351	0.0000	0.0000
C	74.000	0.00	0.0	0.0	0.0286	1.1427	0.0000	0.0000
C	70.380	0.00	0.0	0.0	0.1605	7.0717	0.0000	0.0000
C	64.000	0.00	0.0	0.0	0.1456	7.7351	0.0000	0.0000
C	64.000	0.00	0.0	0.0	0.0186	0.9883	0.0000	0.0000
C	26.620	0.00	0.0	0.0	0.0526	15.7572	0.0000	0.0000
D	113.000	0.00	180.0	180.0	0.0000	0.0000	0.0000	0.0000
D	0.000	0.00	180.0	180.0	0.0000	0.0000	0.0000	0.0000

LOADING CONDITION AL

Seismic - Azimuth: 0° (0.9 D - 1.0 Ev + 1.0 Eh)

LOADS ON POLE
=====

LOAD TYPE	ELEV ft	APPLY. RADIUS ft	LOAD. AT AZI	LOAD AZI	FORCES.....		MOMENTS.....	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	109.000	0.00	0.0	0.0	0.4491	5.8235	0.0000	0.0000
C	109.000	0.00	0.0	0.0	0.0905	1.1734	0.0000	0.0000
C	103.000	0.00	0.0	0.0	0.0663	0.9618	0.0000	0.0000
C	99.000	0.00	0.0	0.0	0.3715	5.8235	0.0000	0.0000
C	99.000	0.00	0.0	0.0	0.0680	1.0658	0.0000	0.0000
C	89.000	0.00	0.0	0.0	0.3681	7.1174	0.0000	0.0000
C	89.000	0.00	0.0	0.0	0.0991	1.9162	0.0000	0.0000
C	74.000	0.00	0.0	0.0	0.1938	5.3922	0.0000	0.0000
C	74.000	0.00	0.0	0.0	0.0286	0.7967	0.0000	0.0000
C	70.380	0.00	0.0	0.0	0.1605	4.9298	0.0000	0.0000
C	64.000	0.00	0.0	0.0	0.1456	5.3922	0.0000	0.0000
C	64.000	0.00	0.0	0.0	0.0186	0.6889	0.0000	0.0000
C	26.620	0.00	0.0	0.0	0.0526	10.9844	0.0000	0.0000
D	113.000	0.00	180.0	180.0	0.0000	0.0000	0.0000	0.0000
D	0.000	0.00	180.0	180.0	0.0000	0.0000	0.0000	0.0000

(USA 222-G) - Monopole Spatial Analysis

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on: 28 oct 2021 at: 14:39:22

94' ext. 114' Monopole / Salisbury, CT

MAXIMUM POLE DEFORMATIONS CALCULATED(w.r.t. wind direction)
=====

MAST ELEV ft	DEFLECTIONS (ft).....			DOWN	ROTATIONS (deg).....		
	 HORIZONTAL ALONG	 ACROSS			 TILT ALONG	 ACROSS	TWIST

113.0	6.91F	0.00E	0.57F	6.34F	0.00E	0.00B
108.0	6.37F	0.00E	0.51F	6.33F	0.00E	0.00B
103.0	5.82F	0.00E	0.45F	6.26F	0.00E	0.00B
98.0	5.29F	0.00E	0.39F	6.12F	0.00E	0.00B
93.0	4.77F	0.00E	0.34F	5.89F	0.00E	0.00B
79.7	3.48F	0.00E	0.21F	5.26F	0.00E	0.00B
66.5	2.38F	0.00E	0.12F	4.36F	0.00E	0.00B
53.2	1.49F	0.00E	0.06F	3.32F	0.00E	0.00B
47.7	1.19F	0.00E	0.04F	2.97F	0.00E	0.00B
35.8	0.66F	0.00E	0.02F	2.17F	0.00E	0.00B
23.9	0.28F	0.00E	0.00F	1.40F	0.00E	0.00B
11.9	0.07F	0.00E	0.00F	0.67F	0.00E	0.00B
0.0	0.00A	0.00A	0.00A	0.00A	0.00A	0.00A

MAXIMUM POLE FORCES CALCULATED(w.r.t. to wind direction)

MAST ELEV ft	TOTAL AXIAL kip	SHEAR.w.r.t.WIND.DIR ALONG kip	WIND.DIR ACROSS kip	MOMENT.w.r.t.WIND.DIR ALONG ft-kip	WIND.DIR ACROSS ft-kip	TORSION ft-kip
113.0	0.01 H	0.01 K	0.01 W	0.03 K	0.01 R	0.00 W
108.0	20.66 Y	10.57 K	0.01 W	-11.99 F	0.02 F	0.00 W
103.0	20.66 AG	10.58 H	-0.02 F	-12.01 L	0.03 L	0.00 L
98.0	21.28 AG	10.86 H	-0.02 F	-70.44 K	0.13 F	-0.01 F
93.0	21.28 AA	10.92 K	-0.02 F	-70.45 H	0.15 F	-0.01 F
79.7	41.76 AA	21.30 K	-0.02 F	-141.68 K	0.27 F	-0.02 F
66.5	41.76 Z	21.27 K	0.04 X	-141.60 K	0.25 F	0.02 B
53.2	42.45 Z	21.58 K	0.04 X	-258.17 K	0.31 F	0.04 B
47.7	42.45 AC	21.58 F	0.03 E	-258.16 K	0.31 F	0.04 X
35.8	70.92 AC	37.53 F	0.03 E	-723.55 F	-0.62 E	0.09 B
23.9	70.92 AC	37.53 F	0.03 E	-723.54 F	-0.62 E	0.09 B
11.9	91.51 AC	49.71 F	0.03 E	-1352.27 F	-1.07 E	0.14 B
	91.51 AC	49.71 F	0.03 E	-1352.26 F	-1.07 E	0.14 B
	112.22 AC	61.66 F	0.03 E	-2178.42 F	-1.51 E	0.19 B
	112.22 AC	61.68 F	0.03 E	-2178.31 F	-1.54 E	0.20 B
	115.07 AC	62.18 F	0.03 E	-2535.18 F	-1.70 E	0.21 B
	115.07 AC	62.17 E	0.04 E	-2535.15 F	-1.69 E	0.21 B
	119.33 AC	63.28 E	0.04 E	-3314.22 F	-2.20 E	0.26 B
	119.33 AA	63.27 E	0.04 N	-3314.22 F	-2.19 E	0.26 B
	123.94 AA	64.41 E	0.04 N	-4098.89 F	-2.74 E	0.29 B
	123.94 AA	64.41 E	0.05 E	-4098.90 F	-2.75 E	0.29 B
	128.89 AA	65.52 E	0.05 E	-4888.41 F	-3.30 E	0.31 B

	128.89 Z	65.52 E	0.05 E	-4888.42 F	-3.30 E	0.31 B
	134.09 Z	66.67 E	0.05 E	-5682.21 F	-3.86 E	0.31 B

base reaction	134.09 Z	-66.67 E	-0.05 E	5682.21 F	3.86 E	-0.31 B

COMPLIANCE WITH 4.8.2 & 4.5.4

=====

ELEV ft	AXIAL	BENDING	SHEAR + TORSIONAL	TOTAL	SATISFIED	D/t(w/t)	MAX ALLOWED
113.00	0.00H	0.00K	0.00K	0.00K	YES	10.76A	45.2
108.00	0.02Y	0.03F	0.02K	0.04F	YES	11.89A	45.2
	0.02AG	0.03L	0.02H	0.04L	YES	11.89A	45.2
103.00	0.02AG	0.14K	0.02H	0.14H	YES	13.01A	45.2
	0.02AA	0.14H	0.02K	0.14H	YES	13.01A	45.2
98.00	0.03AA	0.24K	0.03K	0.25K	YES	14.14A	45.2
	0.03Z	0.24K	0.03K	0.25K	YES	14.14A	45.2
93.00	0.03Z	0.37K	0.03K	0.39K	YES	15.27A	45.2
	0.02AC	0.25K	0.02F	0.26K	YES	9.71A	45.2
79.75	0.03AC	0.50F	0.03F	0.52F	YES	11.70A	45.2
	0.03AC	0.50F	0.03F	0.52F	YES	11.70A	45.2
66.50	0.03AC	0.71F	0.03F	0.72F	YES	13.70A	45.2
	0.03AC	0.71F	0.03F	0.72F	YES	13.70A	45.2
53.25	0.03AC	0.89F	0.04F	0.91F	YES	15.69A	45.2
	0.03AC	0.67F	0.03F	0.69F	YES	11.33A	45.2
47.75	0.03AC	0.71F	0.03F	0.73F	YES	11.95A	45.2
	0.03AC	0.74F	0.03E	0.76F	YES	11.68A	45.2
35.81	0.02AC	0.80F	0.03E	0.81F	YES	13.03A	45.2
	0.02AA	0.80F	0.03B	0.81F	YES	13.03A	45.2
23.87	0.02AA	0.83F	0.02B	0.84F	YES	14.38A	45.2
	0.02AA	0.83F	0.02B	0.84F	YES	14.38A	45.2
11.94	0.02AA	0.84F	0.02B	0.85F	YES	15.73A	45.2
	0.02Z	0.84F	0.02B	0.85F	YES	15.73A	45.2
0.00	0.02Z	0.85F	0.02B	0.86F	YES	17.07A	45.2

MAXIMUM LOADS ONTO FOUNDATION(w.r.t. wind direction)

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DOWN kip	SHEAR.w.r.t.WIND.DIR ALONG kip	WIND.DIR ACROSS kip	MOMENT.w.r.t.WIND.DIR ALONG ft-kip	WIND.DIR ACROSS ft-kip	TORSION ft-kip
134.09 Z	66.67 E	0.05 E	-5682.21 F	-3.86 E	0.31 B

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on: 28 oct 2021 at: 14:39:30

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94' ext. 114' Monopole / Salisbury, CT

***** Service Load Condition *****

* Only 1 condition(s) shown in full

LOADING CONDITION A

60 mph wind with no ice. Wind Azimuth: 0° (1.0 D + 1.0 Wo)

LOADS ON POLE

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LOAD TYPE	ELEV ft	APPLY.. RADIUS ft	LOAD.. AZI	AT AZI	LOAD AZI	FORCES..... HORIZ DOWN kip kip	MOMENTS..... VERTICAL TORSNAL ft-kip ft-kip
C	109.000	0.00	0.0	0.0	0.0	0.0000 1.3603	0.0000 0.0000
C	109.000	0.00	0.0	0.0	0.0	2.2230 6.7511	0.0000 0.0000
C	99.000	0.00	0.0	0.0	0.0	0.0000 1.2355	0.0000 0.0000
C	99.000	0.00	0.0	0.0	0.0	2.1788 6.7511	0.0000 0.0000
C	89.000	0.00	0.0	0.0	0.0	0.0000 2.2214	0.0000 0.0000
C	89.000	0.00	0.0	0.0	0.0	3.2445 8.2511	0.0000 0.0000
C	74.000	0.00	0.0	0.0	0.0	0.0000 0.9235	0.0000 0.0000
C	74.000	0.00	0.0	0.0	0.0	2.4038 6.2511	0.0000 0.0000
C	64.000	0.00	0.0	0.0	0.0	0.0000 0.7987	0.0000 0.0000
C	64.000	0.00	0.0	0.0	0.0	2.3325 6.2511	0.0000 0.0000
D	113.000	0.00	180.0	0.0	0.0	0.0114 0.0495	0.0000 0.0000
D	93.000	0.00	180.0	0.0	0.0	0.0139 0.0623	0.0000 0.0000
D	93.000	0.00	180.0	0.0	0.0	0.0155 0.1062	0.0000 0.0000
D	79.750	0.00	180.0	0.0	0.0	0.0155 0.1062	0.0000 0.0000
D	79.750	0.00	180.0	0.0	0.0	0.0173 0.1231	0.0000 0.0000
D	66.500	0.00	180.0	0.0	0.0	0.0173 0.1231	0.0000 0.0000
D	66.500	0.00	180.0	0.0	0.0	0.0189 0.1401	0.0000 0.0000
D	53.250	0.00	180.0	0.0	0.0	0.0189 0.1401	0.0000 0.0000
D	53.250	0.00	180.0	0.0	0.0	0.0198 0.3510	0.0000 0.0000
D	47.750	0.00	180.0	0.0	0.0	0.0198 0.3510	0.0000 0.0000
D	47.750	0.00	180.0	0.0	0.0	0.0201 0.2138	0.0000 0.0000
D	35.812	0.00	180.0	0.0	0.0	0.0201 0.2138	0.0000 0.0000
D	35.812	0.00	180.0	0.0	0.0	0.0205 0.2342	0.0000 0.0000
D	23.875	0.00	180.0	0.0	0.0	0.0205 0.2342	0.0000 0.0000
D	23.875	0.00	180.0	0.0	0.0	0.0201 0.2546	0.0000 0.0000
D	11.938	0.00	180.0	0.0	0.0	0.0201 0.2546	0.0000 0.0000
D	11.938	0.00	180.0	0.0	0.0	0.0207 0.2751	0.0000 0.0000
D	0.000	0.00	180.0	0.0	0.0	0.0207 0.2751	0.0000 0.0000

=====

MAXIMUM POLE DEFORMATIONS CALCULATED(w.r.t. wind direction)

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MAST ELEV ft	DEFLECTIONS (ft)..... HORIZONTAL ALONG ACROSS	DOWN	ROTATIONS (deg)..... TILT ALONG ACROSS	TWIST		
113.0	1.50F	0.00E	0.03F	1.37F	0.00E	0.00E
108.0	1.38F	0.00E	0.03F	1.36F	0.00E	0.00E
103.0	1.26F	0.00E	0.02F	1.35F	0.00E	0.00E
98.0	1.15F	0.00E	0.02F	1.32F	0.00E	0.00E

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93.0	1.03F	0.00E	0.02F	1.27F	0.00E	0.00E
79.7	0.75F	0.00E	0.01F	1.13F	0.00E	0.00E
66.5	0.51F	0.00E	0.01F	0.94F	0.00E	0.00E
53.2	0.32F	0.00I	0.00F	0.71F	0.00E	0.00E
47.7	0.26F	0.00I	0.00F	0.64F	0.00E	0.00E
35.8	0.14F	0.00I	0.00F	0.47F	0.00I	0.00E
23.9	0.06F	0.00I	0.00F	0.30F	0.00I	0.00E
11.9	0.01F	0.00I	0.00F	0.15F	0.00I	0.00E
0.0	0.00A	0.00A	0.00A	0.00A	0.00A	0.00A

MAXIMUM POLE FORCES CALCULATED(w.r.t. to wind direction)

MAST ELEV ft	TOTAL AXIAL kip	SHEAR.w.r.t.WIND.DIR ALONG kip	WIND.DIR ACROSS kip	MOMENT.w.r.t.WIND.DIR ALONG ft-kip	WIND.DIR ACROSS ft-kip	TORSION ft-kip
113.0	0.00 C	0.00 K	0.00 H	0.00 I	0.00 B	0.00 I
108.0	8.37 A	2.28 B	0.00 H	-2.58 E	0.00 H	0.00 C
103.0	8.37 B	2.28 L	0.00 H	-2.59 C	0.01 C	0.00 C
98.0	8.64 B	2.35 L	0.00 H	-15.15 C	0.02 H	0.00 L
93.0	16.91 B	4.59 A	0.00 B	-30.45 C	0.04 B	0.00 B
89.0	16.91 B	4.60 F	0.00 L	-30.45 C	0.05 B	0.00 B
84.0	17.22 B	4.67 F	0.00 L	-55.48 F	0.05 B	0.00 B
79.7	17.22 B	4.66 F	-0.01 E	-55.48 F	0.05 B	0.00 B
75.7	29.10 B	8.11 F	-0.01 E	-155.64 F	0.11 E	0.00 E
71.7	29.10 B	8.11 F	-0.01 E	-155.64 F	0.12 E	0.00 E
67.5	37.90 B	10.75 F	-0.01 E	-290.78 F	0.19 E	0.00 E
63.5	37.90 B	10.75 F	-0.01 E	-290.78 F	0.19 E	0.00 E
59.2	46.81 B	13.33 F	-0.01 E	-468.39 F	0.28 E	0.00 E
55.2	46.81 I	13.33 K	-0.01 L	-468.40 F	0.28 E	0.00 E
51.7	48.74 I	13.44 K	-0.01 L	-545.08 F	0.32 E	0.00 E
47.7	48.74 B	13.44 F	-0.01 H	-545.08 F	0.32 E	0.00 E
43.8	51.29 B	13.68 F	-0.01 H	-712.69 F	0.34 E	0.00 E
39.8	51.29 B	13.69 F	-0.01 H	-712.69 F	0.34 E	0.00 E
35.8	54.08 B	13.93 F	-0.01 H	-881.70 F	0.36 E	0.00 E
31.9	54.08 B	13.93 F	-0.01 H	-881.70 F	0.36 E	0.00 E
27.9	57.12 B	14.17 F	-0.01 H	-1051.98 F	0.45 I	0.00 E
23.9	57.12 I	14.17 F	-0.01 H	-1051.98 F	0.45 I	0.00 E
19.9	60.41 B	14.42 F	-0.01 H	-1223.49 F	0.56 I	0.00 E
base reaction	60.41 B	-14.42 F	0.01 H	1223.49 F	-0.56 I	0.00 E

COMPLIANCE WITH 4.8.2 & 4.5.4

=====

ELEV ft	AXIAL	BENDING	SHEAR + TORSIONAL	TOTAL	SATISFIED	D/t(w/t)	MAX ALLOWED
113.00	0.00C	0.00B	0.00K	0.00B	YES	10.76A	45.2
108.00	0.01A	0.01E	0.00B	0.01E	YES	11.89A	45.2
	0.01B	0.01C	0.00L	0.01C	YES	11.89A	45.2
103.00	0.01B	0.03C	0.00L	0.04C	YES	13.01A	45.2
	0.01B	0.03C	0.00A	0.04C	YES	13.01A	45.2
98.00	0.01B	0.05C	0.01A	0.06C	YES	14.14A	45.2
	0.01B	0.05C	0.01F	0.06C	YES	14.14A	45.2
93.00	0.01B	0.08F	0.01F	0.09F	YES	15.27A	45.2
	0.01B	0.05F	0.00F	0.06F	YES	9.71A	45.2
79.75	0.01B	0.11F	0.01F	0.12F	YES	11.70A	45.2
	0.01B	0.11F	0.01F	0.12F	YES	11.70A	45.2
66.50	0.01B	0.15F	0.01F	0.17F	YES	13.70A	45.2
	0.01B	0.15F	0.01F	0.17F	YES	13.70A	45.2
53.25	0.01B	0.19F	0.01F	0.21F	YES	15.69A	45.2
	0.01I	0.14F	0.01K	0.16F	YES	11.33A	45.2
47.75	0.01I	0.15F	0.01K	0.16F	YES	11.95A	45.2
	0.01B	0.16F	0.01F	0.17F	YES	11.68A	45.2
35.81	0.01B	0.17F	0.01F	0.18F	YES	13.03A	45.2
	0.01B	0.17F	0.01F	0.18F	YES	13.03A	45.2
23.87	0.01B	0.18F	0.01F	0.19F	YES	14.38A	45.2
	0.01B	0.18F	0.01F	0.19F	YES	14.38A	45.2
11.94	0.01B	0.18F	0.00F	0.19F	YES	15.73A	45.2
	0.01B	0.18F	0.00F	0.19F	YES	15.73A	45.2
0.00	0.01B	0.18F	0.00F	0.19F	YES	17.07A	45.2

MAXIMUM LOADS ONTO FOUNDATION(w.r.t. wind direction)

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DOWN kip	SHEAR.w.r.t.WIND.DIR ALONG kip	WIND.DIR ACROSS kip	MOMENT.w.r.t.WIND.DIR ALONG ft-kip	WIND.DIR ACROSS ft-kip	TORSION ft-kip
60.41 B	14.42 F	-0.01 H	-1223.49 F	0.56 I	0.00 E

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Seismic Load Effects
Equivalent Lateral Force Procedure
ANSI/TIA-222-G

Parameters		Description	h (ft.)	w _i (kips)	Vertical Distribution of Seismic Forces					1.2 D + 1.0 E _v	0.9 D - 1.0 E _v
					W _i (kips)	w _i h ^{ko}	F _{ex} or E _h (kips)	E _v (kips)	(kips)		
Risk Category	III	Line Deadload	109.00	1.3603	0.0000	14,105.9495	0.0905	0.0509	1.6833	1.1734	
	R	Mount/Antenna Load	109.00	6.7511	6.7511	70,007.1130	0.4491	0.2525	8.3538	5.8235	
S _S	0.175	Structure - Section 1	103.00	1.1150	0.0000	10,341.3452	0.0663	0.0417	1.3797	0.9618	
S ₁	0.065	Line Deadload	99.00	1.2355	0.0000	10,598.3856	0.0680	0.0462	1.5288	1.0658	
Site Class	D (default)	Mount/Antenna Load	99.00	6.7511	6.7511	57,912.3928	0.3715	0.2525	8.3538	5.8235	
		Line Deadload	89.00	2.2214	0.0000	15,448.0786	0.0991	0.0831	2.7488	1.9162	
T _L (sec)	6.000	Mount/Antenna Load	89.00	8.2511	8.2511	57,379.8692	0.3681	0.3086	10.2099	7.1174	
F _a	1.600	Line Deadload	74.00	0.9235	0.0000	4,463.6755	0.0286	0.0345	1.1427	0.7967	
F _v	2.400	Mount/Antenna Load	74.00	6.2511	0.0000	30,214.2742	0.1938	0.2338	7.7351	5.3922	
S _{MS}	0.280	Structure - Section 2	70.38	5.7150	0.0000	25,022.9628	0.1605	0.2137	7.0717	4.9298	
S _{M1}	0.156	Line Deadload	64.00	0.7987	0.0000	2,899.7757	0.0186	0.0299	0.9883	0.6889	
S _{DS}	0.187	Mount/Antenna Load	64.00	6.2511	0.0000	22,695.3652	0.1456	0.2338	7.7351	5.3922	
S _{D1}	0.104	Structure - Section 3	26.62	12.7341	0.0000	8,204.5228	0.0526	0.4763	15.7572	10.9844	
T _s	0.556	Σ		60.36	21.7533	329,293.71	2.11	2.26	74.69	52.07	
I _e	1.250										
Ω	1.500										
C _S	0.035										
E (ksi)	29,000										
I _{top} (in ⁴)	539										
I _{bot} (in ⁴)	29,771										
I _{avg} (in ⁴)	15,155										
g (in/s ²)	386.4										
W ₁ (kips)	60.359										
W _u (kips)	21.753										
W _L (kips)	38.606										
L _p (in)	1356										
f ₁ (Hertz)	0.409										
T (sec)	2.442										
k _e	1.9710										
V _s (kips)	2.113										
Seismic Design Category	B										

Round Flange Plate and Bolts per ANSI/TIA 222-G

Elevation = 93 feet

Pole Data

Diameter:	24.15	in
Thickness:	0.25	in
Yield (Fy):	65	ksi
# of Sides:	18	"0" IF Round
Strength (Fu):	80	ksi

Reactions

Moment, Mu:	258.17	ft-kips
Axial, Pu:	20.69	kips
Shear, Vu:	21.58	kips

Bolt Data

Quantity:	8	
Diameter:	1	in
Bolt Material:	A325	
Strength (Fu):	120	ksi
Yield (Fy):	92	ksi
BC Diam. (in):	27.75	BC Override:

Flange Bolt Results

Allowable Φ *Rnt:	54.54 kips
Adjusted Φ *Rnt (due to shear):	54.41 kips
Maximum Bolt Tension:	53.23 kips
Bolt Interaction Ratio:	97.8% Pass

Plate Data

Diameter (in):	30.25	Dia. Override:	
Thickness:	1.5	in	
Center Hole Diam.:	16	in	
Yield (Fy):	50	ksi	
Single-Rod B-eff:	8.20	in	
Drain Hole:	1	in. diameter	
Drain Location:	11	in. center of pole to center of drain hole	

Flange Plate Results

Compression Side Plate (Mu/Z):	13.7 ksi
Allowable Φ *Fy:	45.0 ksi
Compr. Plate Interaction Ratio:	30.4% Pass

Round Base Plate and Anchor Rods, per ANSI/TIA 222-G

Pole Data

Diameter: 53.410 in (flat to flat)
Thickness: 0.5 in
Yield (Fy): 65 ksi
of Sides: 18 "0" IF Round
Strength (Fu): 80 ksi

Reactions

Moment, Mu: 5682.21 ft-kips
Axial, Pu: 72.49 kips
Shear, Vu: 66.67 kips

Anchor Rod Data

Quantity: 20
Diameter: 2.25 in
Rod Material: A615
Strength (Fu): 100 ksi
Yield (Fy): 75 ksi
BC Diam. (in): 60.25 BC Override:

Anchor Rod Results

Maximum Rod (Pu+ Vu/η): 236.6 Kips
Allowable $\Phi \cdot R_{nt}$: 260.0 Kips (per 4.9.9)
Anchor Rod Interaction Ratio: **91.0% Pass**

Plate Data

Diameter (in): 66 Dia. Override:
Thickness: 2.5 in
Yield (Fy): 50 ksi
Eff Width/Rod: 8.48 in
Drain Hole: 2.625 in. diameter
Drain Location: 24.5 in. center of pole to center of drain hole
Center Hole: 41 in. diameter

Base Plate Results

Base Plate (Mu/Z): 37.6 ksi
Allowable $\Phi \cdot F_y$: 45.0 ksi (per AISC)
Base Plate Interaction Ratio: **83.6% Pass**

MAT FOUNDATION DESIGN BY SABRE INDUSTRIES

114' Monopole TOWERCO LLC Salisbury, CT (22-2998-JDS) 10/28/21 DO

Overall Loads:

Factored Moment (ft-kips)	5682.21
Factored Axial (kips)	72.49
Factored Shear (kips)	66.67
Bearing Design Strength (ksf)	12
Water Table Below Grade (ft)	999
Width of Mat (ft)	26
Thickness of Mat (ft)	2
Depth to Bottom of Slab (ft)	6
Quantity of Bolts in Bolt Circle	20
Bolt Circle Diameter (in)	60.25
Top of Concrete to Top of Bottom Threads (in)	60
Diameter of Pier (ft)	7
Ht. of Pier Above Ground (ft)	0.5
Ht. of Pier Below Ground (ft)	4
Quantity of Bars in Mat	54
Bar Diameter in Mat (in)	1
Area of Bars in Mat (in ²)	42.41
Spacing of Bars in Mat (in)	5.75
Quantity of Bars Pier	46
Bar Diameter in Pier (in)	1
Tie Bar Diameter in Pier (in)	0.625
Spacing of Ties (in)	12
Area of Bars in Pier (in ²)	36.13
Spacing of Bars in Pier (in)	5.17
f'c (ksi)	4.5
fy (ksi)	60
Unit Wt. of Soil (kcf)	0.11
Unit Wt. of Concrete (kcf)	0.15

Volume of Concrete (yd³) 56.49**Two-Way Shear Action:**

Average d (in)	20
ϕv_c (ksi)	0.228
$\phi v_c = \phi(2 + 4/\beta_c)f'_c{}^{1/2}$	0.342
$\phi v_c = \phi(\alpha_s d/b_o + 2)f'_c{}^{1/2}$	0.254
$\phi v_c = \phi 4f'_c{}^{1/2}$	0.228
Shear perimeter, b_o (in)	326.73
β_c	1

One-Way Shear:

ϕV_c (kips)	711.6
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Stability:

Overturning Design Strength (ft-k)	6665.4
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Pier-Slab Transfer by Flexure:

b_{slab} (ft)	13.00
ϕM_n (ft-kips)	3613.6

Max. Net Bearing Press. (ksf)	10.33
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Allowable Bearing Pressure (ksf)	8.00
Safety Factor	2.00
Ultimate Bearing Pressure (ksf)	16.00
Bearing Φ_s	0.75

Minimum Pier Diameter (ft)	6.35
Equivalent Square b (ft)	6.20
Square Pier? (Y/N)	N

Recommended Spacing (in)	5 to 12
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Minimum Pier A_s (in ²)	27.71
Recommended Spacing (in)	5 to 12

v_u (ksi)	0.177
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V_u (kips)	412.9
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Total Applied M (ft-k)	6115.6
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$0.60M_{sc}$ (ft-kips)	3589.3
------------------------	--------

Pier Design:

ϕV_n (kips)	647.9	V_u (kips)	66.7
$\phi V_c = \phi 2(1 + N_u / (2000 A_g)) f'_c{}^{1/2} b_w d$	647.9		
V_s (kips)	0.0	*** $V_s \text{ max} = 4 f'_c{}^{1/2} b_w d$ (kips)	1514.7
Maximum Spacing (in)	8.71	(Only if Shear Ties are Required)	
Actual Hook Development (in)	19.00	Req'd Hook Development l_{dh} (in)	12.52

*** Ref. To Spacing Requirements ACI 11.5.4.3

Flexure in Slab:

ϕM_n (ft-kips)	3613.6	M_u (ft-kips)	3458.5
a (in)	2.13		
Steel Ratio	0.00680		
β_1	0.825		
Maximum Steel Ratio (ρ_t)	0.0197		
Minimum Steel Ratio	0.0018		
Rebar Development in Pad (in)	115.78	Required Development in Pad (in)	26.83

Condition	1 is OK, 0 Fails
Maximum Soil Bearing Pressure	1
Pier Area of Steel	1
Pier Shear	1
Interaction Diagram	1
Two-Way Shear Action	1
One-Way Shear Action	1
Overtaking	1
Flexure	1
Steel Ratio	1
Length of Development in Pad	1
Hook Development	1

3

May 12, 2020

November 9, 2020 (Rev.1)



SAI Communications
12 Industrial Way
Salem NH, 03079

RE:	Site Number:	CT2246 (NSB)
	FA Number:	12676423
	PACE Number:	MRCTB028439
	PT Number:	2051A0FKFS
	Site Name:	LAKEVILLE SHARON ROAD
	Site Address:	106 Sharon Road Lakeville, CT 06039

To Whom It May Concern:

Hudson Design Group LLC (HDG) has been authorized by SAI Communications to perform a mount analysis on the new AT&T antenna/RRH mounts to determine their capability of supporting the following additional loading:

- **(3) TPA65R-BU8DA Antennas (96.0"x20.7"x7.7" – Wt. = 87 lbs. /each)**
- **(3) DMP65R-BU8DA Antennas (96.0"x20.7"x7.7" – Wt. = 96 lbs. /each)**
- **(3) B14 4478 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)**
- **(3) B5/B12 4449 RRH's (17.9"x13.2"x9.4" – Wt. = 73 lbs. /each)**
- **(3) B2/B66A 8843 RRH's (14.9"x13.2"x10.9" – Wt. = 72 lbs. /each)**
- **(2) Squid Surge Arrestors (24.0"x9.7"Ø – Wt. = 33 lbs.)**

**Proposed equipment shown in bold.*

Mount fabrication drawings prepared by CommScope, P/N MTC4074M6996, dated July 25, 2019 were used to perform this analysis.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code, and AT&T Mount Technical Directive – R13.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix N of the Connecticut State Building Code, the max basic wind speed for this site is equal to 115 mph with a max basic wind speed with ice of 40 mph and a max ice thickness of 1.0 in. An escalated ice thickness of 1.24 in was used for this analysis.
- HDG considers this site to be exposure category C; tower is located near large, flat, open, terrain/grasslands.
- HDG considers this site to be topographic category 2; tower is located at the top or crest of an escarpment.
- HDG considers this site to have a spectral response acceleration parameter at short periods, S_s , of 0.173 and a spectral response acceleration parameter at a period of 1 second, S_1 , of 0.065.
- The mount has been analyzed with load combinations consisting of 250 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 3.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.

Based on our evaluation, we have determined that the New CommScope MTC4074M6996 mounts **ARE CAPABLE** of supporting the proposed installation.

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
New Mount Rating	12	LC1	60%	PASS

Reference Documents:

- Fabrication drawings prepared by SitePro1, P/N VFA12-M3-WLL, dated October 29, 2018

This determination was based on the following limitations and assumptions:

1. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The proposed mount will be adequately secured to the tower structure per the mount manufacturer's specifications.
5. All components pertaining to AT&T's mounts must be tightened and re-plumbed prior to the installation of new appurtenances.
6. HDG performed a localized analysis on the mount itself and not on the supporting tower structure.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
Hudson Design Group LLC



Michael Cabral
Vice President



Daniel P. Hamm, PE
Principal



HUDSON
Design Group LLC

Wind & Ice Calculations

Date: 11/9/2020
 Project Name: LAKEVILLE SHARON ROAD
 Project No.: CT2246
 Designed By: CL Checked By: MSC



2.6.5.2 Velocity Pressure Coeff:

$$K_z = 2.01 (z/z_g)^{2/\alpha}$$

K_z = 1.238

z = 90 (ft)
 z_g = 900 (ft)
 α = 9.5

$$K_{zmin} \leq K_z \leq 2.01$$

Table 2-4

Exposure	Z _g	α	K _{zmin}	K _c
B	1200 ft	7.0	0.70	0.9
C	900 ft	9.5	0.85	1.0
D	700 ft	11.5	1.03	1.1

2.6.6.2 Topographic Factor:

Table 2-5

Topo. Category	K _t	f
2	0.43	1.25
3	0.53	2.0
4	0.72	1.5

$$K_{zt} = [1 + (K_c K_t / K_h)]^2$$

K_{zt} = 1.380213672

(If Category 1 then K_{zt} = 1.0)

Category = 2

$$K_h = e^{(f \cdot z/H)}$$

K_h = 2.4596031

K_c = 1 (from Table 2-4)

K_t = 0.43 (from Table 2-5)

f = 1.25 (from Table 2-5)

z = 90

z_s = 850 (Mean elevation of base of structure above sea level)

H = 125 (Ht. of the crest above surrounding terrain)

K_{zt} = 1.38 (from 2.6.6.2.1)

K_e = 0.97 (from 2.6.8)

2.6.10 Design Ice Thickness

Max Ice Thickness =

Importance Factor =

t_i = 1.00 in

I = 1.0 (from Table 2-3)

K_{iz} = 1.11 (from Sec. 2.6.10)

$$t_{iz} = t_i * I * K_{iz} * (K_{zt})^{0.35}$$

t_{iz} = 1.24 in

Date: 11/9/2020
 Project Name: LAKEVILLE SHARON ROAD
 Project No.: CT2246
 Designed By: CL Checked By: MSC



2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

$G_h = 1.0$ Latticed Structures > 600 ft

$G_h = 0.85$ Latticed Structures 450 ft or less

$G_h = 0.85 + 0.15 [h/150 - 3.0]$

$h =$ ht. of structure

$h =$ 94

$G_h =$ 0.85

2.6.9.2 Guyed Masts

$G_h =$ 0.85

2.6.9.3 Pole Structures

$G_h =$ 1.1

2.6.9 Appurtenances

$G_h =$ 1.0

2.6.9.4 Structures Supported on Other Structures

(Cantilevered tubular or latticed spines, pole, structures on buildings (ht. : width ratio > 5))

$G_h =$ 1.35

$G_h =$ 1.00

2.6.11.2 Design Wind Force on Appurtenances

$$F = q_z * G_h * (EPA)_A$$

$$q_z = 0.00256 * K_z * K_{zt} * K_s * K_e * K_d * V_{max}^2$$

$q_z =$ 53.29

$q_z (ice) =$ 6.45

$q_z (30) =$ 3.63

$K_z =$ 1.238 (from 2.6.5.2)

$K_{zt} =$ 1.4 (from 2.6.6.2.1)

$K_s =$ 1.0 (from 2.6.7)

$K_e =$ 0.97 (from 2.6.8)

$K_d =$ 0.95 (from Table 2-2)

$V_{max} =$ 115 mph (Ultimate Wind Speed)

$V_{max (ice)} =$ 40 mph

$V_{30} =$ 30 mph

Table 2-2

Structure Type	Wind Direction Probability Factor, K_d
Latticed structures with triangular, square or rectangular cross sections	0.85
Tubular pole structures, latticed structures with other cross sections, appurtenances	0.95
Tubular pole structures supporting antennas enclosed within a cylindrical shroud	1.00

Date: 11/9/2020
 Project Name: LAKEVILLE SHARON ROAD
 Project No.: CT2246
 Designed By: CL Checked By: MSC



Determine Ca:

Table 2-9

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Square/Rectangular HSS		$1.2 - 2.8(r_s) \geq 0.85$	$1.4 - 4.0(r_s) \geq 0.90$	$2.0 - 6.0(r_s) \geq 1.25$
Round	C < 39 (Subcritical)	0.7	0.8	1.2
	$39 \leq C \leq 78$ (Transitional)	$4.14/(C^{0.485})$	$3.66/(C^{0.415})$	$46.8/(C^{1.0})$
	C > 78 (Supercritical)	0.5	0.6	0.6

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
 (Aspect ratio is independent of the spacing between support points of a linear appurtenance.)

Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = 1.24 in Angle = 0 (deg) Equivalent Angle = 180 (deg)

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
TPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	4.64	1.30	952	132	65
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	4.64	1.30	952	132	65
B14 4478 RRH	18.1	13.4	8.3	1.68	1.35	1.20	108	18	7
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.36	1.20	105	17	7
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.4	0.82	2.71	1.21	53	10	4
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.20	87	15	6
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	2.26	1.20	44	8	3
Squid Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	60	10	4
4x4 HSS	4.0	12.0		0.33	0.33	0.70	12	3	1
4" Pipe	4.5	12.0		0.38	0.38	0.70	14	3	1
3" Pipe	3.5	12.0		0.29	0.29	0.70	11	3	1
2" Pipe	2.4	12.0		0.20	0.20	0.70	7	2	1

Date: 11/9/2020
 Project Name: LAKEVILLE SHARON ROAD
 Project No.: CT2246
 Designed By: CL Checked By: MSC



WIND LOADS

Angle = 30 (deg)

Ice Thickness = 1.24 in.

Equivalent Angle = 210 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
TPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	952	433	822
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	952	433	822
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	108	67	97
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	105	75	97
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	53	75	58
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	87	72	84
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	44	72	51

WIND LOADS WITH ICE:

TPA65R-BU8DA Antenna	98.5	23.2	10.2	15.85	6.96	4.25	9.68	1.28	1.49	131	67	115
DMP65R-BU8DA Antenna	98.5	23.2	10.2	15.85	6.96	4.25	9.68	1.28	1.49	131	67	115
B14 4478 RRH	20.6	15.9	10.8	2.27	1.54	1.30	1.91	1.20	1.20	18	12	16
B5/B12 4449 RRH	20.4	15.7	11.9	2.22	1.68	1.30	1.72	1.20	1.20	17	13	16
B5/B12 4449 RRH (Shielded)	20.4	9.1	11.9	1.28	1.68	2.25	1.72	1.20	1.20	10	13	11
B2/B66A 8843 RRH	17.4	15.7	13.4	1.89	1.61	1.11	1.30	1.20	1.20	15	12	14
B2/B66A 8843 RRH (Shielded)	17.4	9.1	13.4	1.09	1.61	1.91	1.30	1.20	1.20	8	12	9

WIND LOADS AT 30 MPH:

TPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	65	29	56
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	65	29	56
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	7	5	7
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	7	5	7
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	4	5	4
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	6	5	6
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	3	5	3

Date: 11/9/2020
 Project Name: LAKEVILLE SHARON ROAD
 Project No.: CT2246
 Designed By: CL Checked By: MSC



WIND LOADS

Angle = **60** (deg)

Ice Thickness = **1.24** in.

Equivalent Angle = **240** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
TPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	952	433	563
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	952	433	563
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	108	67	77
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	105	75	82
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	53	75	69
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	87	72	76
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	44	72	65

WIND LOADS WITH ICE:

TPA65R-BU8DA Antenna	98.5	23.2	10.2	15.85	6.96	4.25	9.68	1.28	1.49	131	67	83
DMP65R-BU8DA Antenna	98.5	23.2	10.2	15.85	6.96	4.25	9.68	1.28	1.49	131	67	83
B14 4478 RRH	20.6	15.9	10.8	2.27	1.54	1.30	1.91	1.20	1.20	18	12	13
B5/B12 4449 RRH	20.4	15.7	11.9	2.22	1.68	1.30	1.72	1.20	1.20	17	13	14
B5/B12 4449 RRH (Shielded)	20.4	9.1	11.9	1.28	1.68	2.25	1.72	1.20	1.20	10	13	12
B2/B66A 8843 RRH	17.4	15.7	13.4	1.89	1.61	1.11	1.30	1.20	1.20	15	12	13
B2/B66A 8843 RRH (Shielded)	17.4	9.1	13.4	1.09	1.61	1.91	1.30	1.20	1.20	8	12	11

WIND LOADS AT 30 MPH:

TPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	65	29	38
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	65	29	38
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	7	5	5
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	7	5	6
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	4	5	5
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	6	5	5
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	3	5	4

Date: 11/9/2020
 Project Name: LAKEVILLE SHARON ROAD
 Project No.: CT2246
 Designed By: CL Checked By: MSC



WIND LOADS

Angle =	90	(deg)	Ice Thickness =	1.24	in.	Equivalent Angle =	270	(deg)
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WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
TPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	952	433	433
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	952	433	433
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	108	67	67
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	105	75	75
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	53	75	75
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	87	72	72
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	44	72	72

WIND LOADS WITH ICE:

TPA65R-BU8DA Antenna	98.5	23.2	10.2	15.85	6.96	4.25	9.68	1.28	1.49	131	67	67
DMP65R-BU8DA Antenna	98.5	23.2	10.2	15.85	6.96	4.25	9.68	1.28	1.49	131	67	67
B14 4478 RRH	20.6	15.9	10.8	2.27	1.54	1.30	1.91	1.20	1.20	18	12	12
B5/B12 4449 RRH	20.4	15.7	11.9	2.22	1.68	1.30	1.72	1.20	1.20	17	13	13
B5/B12 4449 RRH (Shielded)	20.4	9.1	11.9	1.28	1.68	2.25	1.72	1.20	1.20	10	13	13
B2/B66A 8843 RRH	17.4	15.7	13.4	1.89	1.61	1.11	1.30	1.20	1.20	15	12	12
B2/B66A 8843 RRH (Shielded)	17.4	9.1	13.4	1.09	1.61	1.91	1.30	1.20	1.20	8	12	12

WIND LOADS AT 30 MPH:

TPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	65	29	29
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	65	29	29
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	7	5	5
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	7	5	5
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	4	5	5
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	6	5	5
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	3	5	5

Date: 11/9/2020
 Project Name: LAKEVILLE SHARON ROAD
 Project No.: CT2246
 Designed By: CL Checked By: MSC



WIND LOADS

Angle =	120	(deg)	Ice Thickness =	1.24	in.	Equivalent Angle =	300	(deg)
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WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
TPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	952	433	563
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	952	433	563
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	108	67	77
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	105	75	82
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	53	75	69
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	87	72	76
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	44	72	65

WIND LOADS WITH ICE:

TPA65R-BU8DA Antenna	98.5	23.2	10.2	15.85	6.96	4.25	9.68	1.28	1.49	131	67	83
DMP65R-BU8DA Antenna	98.5	23.2	10.2	15.85	6.96	4.25	9.68	1.28	1.49	131	67	83
B14 4478 RRH	20.6	15.9	10.8	2.27	1.54	1.30	1.91	1.20	1.20	18	12	13
B5/B12 4449 RRH	20.4	15.7	11.9	2.22	1.68	1.30	1.72	1.20	1.20	17	13	14
B5/B12 4449 RRH (Shielded)	20.4	9.1	11.9	1.28	1.68	2.25	1.72	1.20	1.20	10	13	12
B2/B66A 8843 RRH	17.4	15.7	13.4	1.89	1.61	1.11	1.30	1.20	1.20	15	12	13
B2/B66A 8843 RRH (Shielded)	17.4	9.1	13.4	1.09	1.61	1.91	1.30	1.20	1.20	8	12	11

WIND LOADS AT 30 MPH:

TPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	65	29	38
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	65	29	38
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	7	5	5
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	7	5	6
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	4	5	5
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	6	5	5
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	3	5	4

Date: 11/9/2020
 Project Name: LAKEVILLE SHARON ROAD
 Project No.: CT2246
 Designed By: CL Checked By: MSC



WIND LOADS

Angle =	150	(deg)	Ice Thickness =	1.24	in.	Equivalent Angle =	330	(deg)
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WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
TPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	952	433	822
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	952	433	822
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	108	67	97
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	105	75	97
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	53	75	58
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	87	72	84
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	44	72	51

WIND LOADS WITH ICE:

TPA65R-BU8DA Antenna	98.5	23.2	10.2	15.85	6.96	4.25	9.68	1.28	1.49	131	67	115
DMP65R-BU8DA Antenna	98.5	23.2	10.2	15.85	6.96	4.25	9.68	1.28	1.49	131	67	115
B14 4478 RRH	20.6	15.9	10.8	2.27	1.54	1.30	1.91	1.20	1.20	18	12	16
B5/B12 4449 RRH	20.4	15.7	11.9	2.22	1.68	1.30	1.72	1.20	1.20	17	13	16
B5/B12 4449 RRH (Shielded)	20.4	9.1	11.9	1.28	1.68	2.25	1.72	1.20	1.20	10	13	11
B2/B66A 8843 RRH	17.4	15.7	13.4	1.89	1.61	1.11	1.30	1.20	1.20	15	12	14
B2/B66A 8843 RRH (Shielded)	17.4	9.1	13.4	1.09	1.61	1.91	1.30	1.20	1.20	8	12	9

WIND LOADS AT 30 MPH:

TPA65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	65	29	56
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	65	29	56
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	7	5	7
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	7	5	7
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	4	5	4
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	6	5	6
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	3	5	3

Date: 11/9/2020

Project Name: LAKEVILLE SHARON ROAD

Project No.: CT2246

Designed By: CL Checked By: MSC



HUDSON
Design Group LLC

ICE WEIGHT CALCULATIONS

Thickness of ice: 1.24 in.
Density of ice: 56 pcf

TPA65R-BU8DA Antenna

Weight of ice based on total radial SF area:

Height (in): 96.0
Width (in): 20.7
Depth (in): 7.7

Total weight of ice on object: 283 lbs

Weight of object: 87.0 lbs

Combined weight of ice and object: 370 lbs

DMP65R-BU8DA Antenna

Weight of ice based on total radial SF area:

Height (in): 96.0
Width (in): 20.7
Depth (in): 7.7

Total weight of ice on object: 283 lbs

Weight of object: 96.0 lbs

Combined weight of ice and object: 379 lbs

B14 4478 RRH

Weight of ice based on total radial SF area:

Height (in): 18.1
Width (in): 13.4
Depth (in): 8.3

Total weight of ice on object: 39 lbs

Weight of object: 60.0 lbs

Combined weight of ice and object: 99 lbs

B5/B12 4449 RRH

Weight of ice based on total radial SF area:

Height (in): 17.9
Width (in): 13.2
Depth (in): 9.4

Total weight of ice on object: 39 lbs

Weight of object: 73.0 lbs

Combined weight of ice and object: 112 lbs

B2/B66A 8843 RRH

Weight of ice based on total radial SF area:

Height (in): 14.9
Width (in): 13.2
Depth (in): 10.9

Total weight of ice on object: 35 lbs

Weight of object: 72.0 lbs

Combined weight of ice and object: 107 lbs

Squid Surge Arrestor

Weight of ice based on total radial SF area:

Depth (in): 24.0
Diameter(in): 9.7

Total weight of ice on object: 33 lbs

Weight of object: 33 lbs

Combined weight of ice and object: 66 lbs

4" Pipe

Per foot weight of ice:

diameter (in): 4.5

Per foot weight of ice on object: 9 plf

3" Pipe

Per foot weight of ice:

diameter (in): 3.5

Per foot weight of ice on object: 7 plf

2" Pipe

Per foot weight of ice:

diameter (in): 2.38

Per foot weight of ice on object: 5 plf

HSS 4x4

Weight of ice based on total radial SF area:

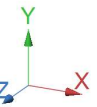
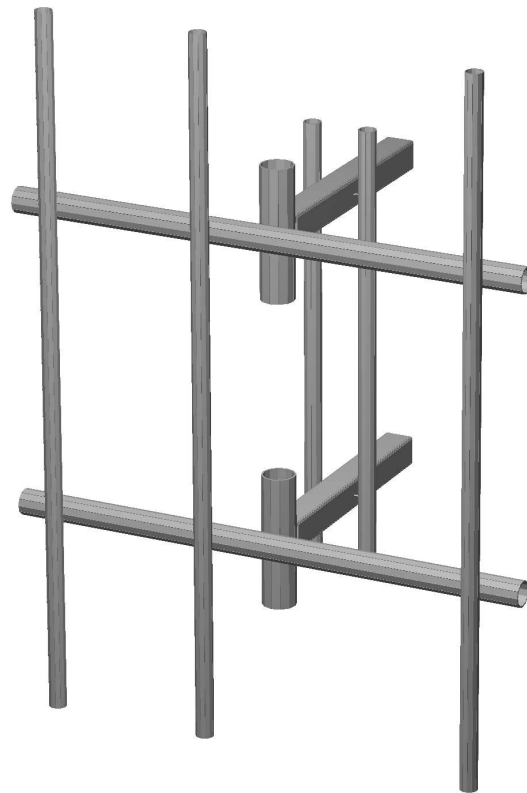
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Width (in): 4

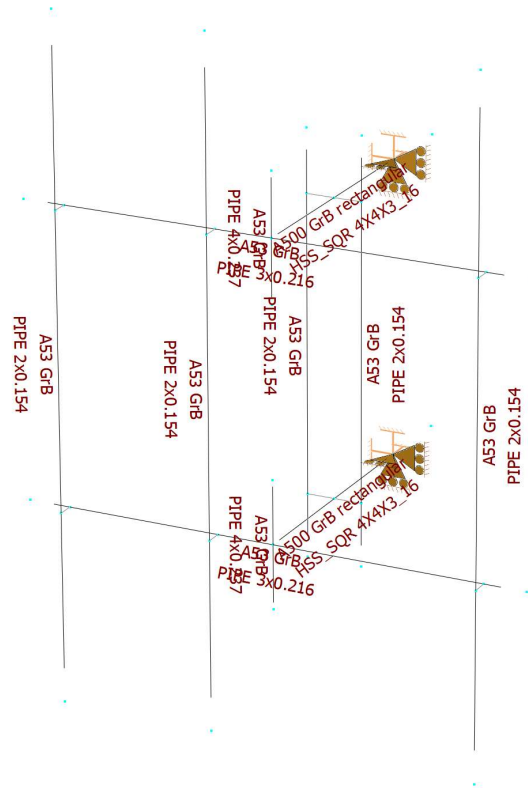
Per foot weight of ice on object: 10 plf



HUDSON
Design Group LLC

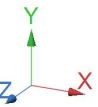
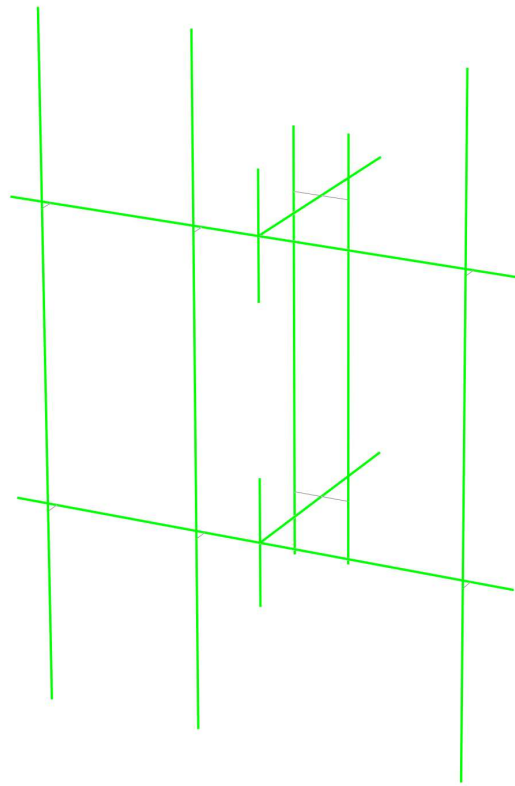
Mount Calculations (New Conditions)

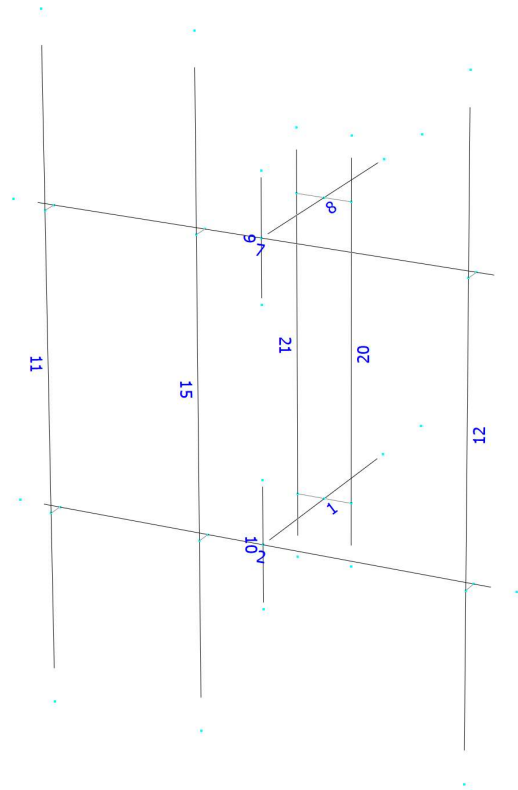




Design status

-  Not designed
-  Error on design
-  Design O.K.
-  With warnings





Current Date: 11/9/2020 12:47 PM

Units system: English

File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2246\NSB - 2C-3C-4C\Rev.1\CT2246 (NSB) (Rev.1).retx

Load data

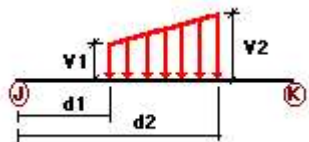
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
D	Dead Load	No	DL
Wo	Wind Load (NO ICE)	No	WIND
W30	WL 30deg	No	WIND
W60	WL 60deg	No	WIND
W90	WL 90deg	No	WIND
W120	WL 120deg	No	WIND
W150	WL 150deg	No	WIND
Di	Ice Load	No	LL
WI0	WL ICE 0deg	No	WIND
WI30	WL ICE 30deg	No	WIND
WI60	WL ICE 60deg	No	WIND
WI90	WL ICE 90deg	No	WIND
WI120	WL ICE 120deg	No	WIND
WI150	WL ICE 150deg	No	WIND
WL0	WL 30 mph 0deg	No	WIND
WL30	WL 30 mph 30deg	No	WIND
WL60	WL 30 mph 60deg	No	WIND
WL90	WL 30 mph 90deg	No	WIND
WL120	WL 30 mph 120deg	No	WIND
WL150	WL 30 mph 150deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load Right End of Mount	No	LL
LL3	250 lb Live Load Left End of Mount	No	LL
LLa1	250 lb Live Load Antenna 1	No	LL
LLa2	250 lb Live Load Antenna 2	No	LL
LLa3	250 lb Live Load Antenna 3	No	LL

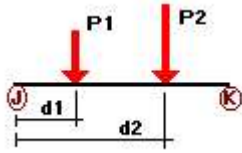
Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
Wo	2	z	-0.011	-0.011	0.00	No	100.00	Yes
	7	z	-0.011	-0.011	0.00	No	100.00	Yes
	9	z	-0.014	-0.014	0.00	No	100.00	Yes
	10	z	-0.014	-0.014	0.00	No	100.00	Yes
	15	z	-0.007	-0.007	0.00	No	100.00	Yes
	20	z	-0.007	-0.007	0.00	No	100.00	Yes
	21	z	-0.007	-0.007	0.00	No	100.00	Yes
W30	2	z	-0.011	-0.011	0.00	No	100.00	Yes
	7	z	-0.011	-0.011	0.00	No	100.00	Yes
	9	z	-0.014	-0.014	0.00	No	100.00	Yes
	10	z	-0.014	-0.014	0.00	No	100.00	Yes
	15	z	-0.007	-0.007	0.00	No	100.00	Yes
	20	z	-0.007	-0.007	0.00	No	100.00	Yes
W60	21	z	-0.007	-0.007	0.00	No	100.00	Yes
	1	x	-0.012	-0.012	0.00	No	100.00	Yes
	8	x	-0.012	-0.012	0.00	No	100.00	Yes
	9	x	-0.014	-0.014	0.00	No	100.00	Yes
	10	x	-0.014	-0.014	0.00	No	100.00	Yes
	11	x	-0.007	-0.007	0.00	No	100.00	Yes
	12	x	-0.007	-0.007	0.00	No	100.00	Yes
W90	15	x	-0.007	-0.007	0.00	No	100.00	Yes
	20	x	-0.007	-0.007	0.00	No	100.00	Yes
	21	x	-0.007	-0.007	0.00	No	100.00	Yes
	1	x	-0.012	-0.012	0.00	No	100.00	Yes
	8	x	-0.012	-0.012	0.00	No	100.00	Yes
	9	x	-0.014	-0.014	0.00	No	100.00	Yes
	10	x	-0.014	-0.014	0.00	No	100.00	Yes
W120	11	x	-0.007	-0.007	0.00	No	100.00	Yes
	12	x	-0.007	-0.007	0.00	No	100.00	Yes
	15	x	-0.007	-0.007	0.00	No	100.00	Yes
	20	x	-0.007	-0.007	0.00	No	100.00	Yes
	21	x	-0.007	-0.007	0.00	No	100.00	Yes
	1	x	-0.012	-0.012	0.00	No	100.00	Yes
	8	x	-0.012	-0.012	0.00	No	100.00	Yes
W150	9	x	-0.014	-0.014	0.00	No	100.00	Yes
	10	x	-0.014	-0.014	0.00	No	100.00	Yes
	11	x	-0.007	-0.007	0.00	No	100.00	Yes
	12	x	-0.007	-0.007	0.00	No	100.00	Yes
	15	x	-0.007	-0.007	0.00	No	100.00	Yes
	20	x	-0.007	-0.007	0.00	No	100.00	Yes
	21	x	-0.007	-0.007	0.00	No	100.00	Yes
Di	2	z	0.011	0.011	0.00	No	100.00	Yes
	7	z	0.011	0.011	0.00	No	100.00	Yes
	9	z	0.014	0.014	0.00	No	100.00	Yes
	10	z	0.014	0.014	0.00	No	100.00	Yes
	11	z	0.007	0.007	0.00	No	100.00	Yes
	12	z	0.007	0.007	0.00	No	100.00	Yes
	15	z	0.007	0.007	0.00	No	100.00	Yes
Di	20	z	0.007	0.007	0.00	No	100.00	Yes
	21	z	0.007	0.007	0.00	No	100.00	Yes
	1	y	-0.01	-0.01	0.00	No	100.00	Yes
	2	y	-0.007	-0.007	0.00	No	100.00	Yes
	7	y	-0.007	-0.007	0.00	No	100.00	Yes
	8	y	-0.01	-0.01	0.00	No	100.00	Yes
	9	y	-0.009	-0.009	0.00	No	100.00	Yes
Di	10	y	-0.009	-0.009	0.00	No	100.00	Yes
	11	y	-0.005	-0.005	0.00	No	100.00	Yes
	12	y	-0.005	-0.005	0.00	No	100.00	Yes
	15	y	-0.005	-0.005	0.00	No	100.00	Yes
	20	y	-0.005	-0.005	0.00	No	100.00	Yes

21 y -0.005 -0.005 0.00 No 100.00 Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	11	y	-0.044	0.50	No
		y	-0.044	7.50	No
	12	y	-0.048	0.50	No
		y	-0.048	7.50	No
	20	y	-0.073	2.50	No
		y	-0.072	2.50	No
	21	y	-0.06	1.50	No
		y	-0.033	3.50	No
Wo	11	z	-0.476	0.50	No
		z	-0.476	7.50	No
	12	z	-0.476	0.50	No
		z	-0.476	7.50	No
	20	z	-0.105	2.50	No
		z	-0.108	1.50	No
	21	z	-0.06	3.50	No
W30	11	3	-0.411	0.50	No
		3	-0.411	7.50	No
	12	3	-0.411	0.50	No
		3	-0.411	7.50	No
	20	3	-0.097	2.50	No
		3	-0.097	1.50	No
	21	3	-0.06	3.50	No
W60	11	3	-0.282	0.50	No
		3	-0.282	7.50	No
	12	3	-0.282	0.50	No
		3	-0.282	7.50	No
	20	3	-0.082	2.50	No
		3	-0.077	1.50	No
	21	3	-0.06	3.50	No
W90	11	x	-0.217	0.50	No
		x	-0.217	7.50	No
	12	x	-0.217	0.50	No
		x	-0.217	7.50	No
	20	x	-0.075	2.50	No
		x	-0.072	2.50	No
	21	x	-0.067	1.50	No
		x	-0.06	3.50	No
W120	11	2	-0.282	0.50	No
		2	-0.282	7.50	No
	12	2	-0.282	0.50	No
		2	-0.282	7.50	No
	20	2	-0.082	2.50	No
		2	-0.077	1.50	No
	21	2	-0.06	3.50	No

W150	11	2	-0.411	0.50	No
		2	-0.411	7.50	No
	12	2	-0.411	0.50	No
		2	-0.411	7.50	No
	20	2	-0.097	2.50	No
Di	21	2	-0.097	1.50	No
		2	-0.06	3.50	No
	11	y	-0.142	0.50	No
		y	-0.142	7.50	No
	12	y	-0.142	0.50	No
y		-0.142	7.50	No	
W10	20	y	-0.039	2.50	No
		y	-0.035	2.50	No
	21	y	-0.039	1.50	No
		y	-0.033	3.50	No
	W130	11	z	-0.066	0.50
z			-0.066	7.50	No
12		z	-0.066	0.50	No
		z	-0.066	7.50	No
20		z	-0.017	2.50	No
W160	21	z	-0.018	1.50	No
		z	-0.01	3.50	No
	11	3	-0.058	0.50	No
		3	-0.058	7.50	No
	12	3	-0.058	0.50	No
3		-0.058	7.50	No	
W190	20	3	-0.016	2.50	No
		3	-0.016	1.50	No
	21	3	-0.016	1.50	No
		3	-0.01	3.50	No
	W1120	11	3	-0.042	0.50
3			-0.042	7.50	No
12		3	-0.042	0.50	No
		3	-0.042	7.50	No
20		3	-0.014	2.50	No
W1150	21	3	-0.013	1.50	No
		3	-0.01	3.50	No
	11	x	-0.034	0.50	No
		x	-0.034	7.50	No
	12	x	-0.034	0.50	No
x		-0.034	7.50	No	
W1150	20	x	-0.013	2.50	No
		x	-0.012	2.50	No
	21	x	-0.012	1.50	No
		x	-0.01	3.50	No
	W1150	11	2	-0.042	0.50
2			-0.042	7.50	No
12		2	-0.042	0.50	No
		2	-0.042	7.50	No
20		2	-0.014	2.50	No
W1150	21	2	-0.013	1.50	No
		2	-0.01	3.50	No
	11	2	-0.058	0.50	No
		2	-0.058	7.50	No
	12	2	-0.058	0.50	No
2		-0.058	7.50	No	
W1150	20	2	-0.016	2.50	No
		2	-0.016	1.50	No
	21	2	-0.016	1.50	No
		2	-0.01	3.50	No
	W1150	11	z	-0.033	0.50
z			-0.033	7.50	No

WL30	12	z	-0.033	0.50	No	
		z	-0.033	7.50	No	
	20	z	-0.007	2.50	No	
	21	z	-0.007	1.50	No	
		z	-0.004	3.50	No	
	11	3	-0.028	0.50	No	
		3	-0.028	7.50	No	
	12	3	-0.028	0.50	No	
		3	-0.028	7.50	No	
	20	3	-0.007	2.50	No	
WL60	21	3	-0.007	1.50	No	
		3	-0.004	3.50	No	
	11	3	-0.019	0.50	No	
		3	-0.019	7.50	No	
	12	3	-0.019	0.50	No	
		3	-0.019	7.50	No	
	20	3	-0.006	2.50	No	
	21	3	-0.005	1.50	No	
		3	-0.004	3.50	No	
	11	x	-0.015	0.50	No	
WL90		x	-0.015	7.50	No	
	12	x	-0.015	0.50	No	
		x	-0.015	7.50	No	
	20	x	-0.005	2.50	No	
		x	-0.005	2.50	No	
	21	x	-0.005	1.50	No	
		x	-0.004	3.50	No	
	11	2	-0.019	0.50	No	
		2	-0.019	7.50	No	
	12	2	-0.019	0.50	No	
WL120		2	-0.019	7.50	No	
	20	2	-0.006	2.50	No	
	21	2	-0.005	1.50	No	
		2	-0.004	3.50	No	
	11	2	-0.028	0.50	No	
		2	-0.028	7.50	No	
	12	2	-0.028	0.50	No	
		2	-0.028	7.50	No	
	20	2	-0.007	2.50	No	
	21	2	-0.007	1.50	No	
WL150		2	-0.004	3.50	No	
	LL1	2	y	-0.25	50.00	Yes
	LL2	2	y	-0.25	0.00	Yes
	LL3	2	y	-0.25	100.00	Yes
	LLa1	12	y	-0.25	50.00	Yes
	LLa2	15	y	-0.25	50.00	Yes
	LLa3	11	y	-0.25	50.00	Yes

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
D	Dead Load	No	0.00	-1.00	0.00
Wo	Wind Load (NO ICE)	No	0.00	0.00	0.00
W30	WL 30deg	No	0.00	0.00	0.00
W60	WL 60deg	No	0.00	0.00	0.00
W90	WL 90deg	No	0.00	0.00	0.00
W120	WL 120deg	No	0.00	0.00	0.00
W150	WL 150deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
WI0	WL ICE 0deg	No	0.00	0.00	0.00
WI30	WL ICE 30deg	No	0.00	0.00	0.00
WI60	WL ICE 60deg	No	0.00	0.00	0.00
WI90	WL ICE 90deg	No	0.00	0.00	0.00
WI120	WL ICE 120deg	No	0.00	0.00	0.00
WI150	WL ICE 150deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30deg	No	0.00	0.00	0.00
WL60	WL 30 mph 60deg	No	0.00	0.00	0.00
WL90	WL 30 mph 90deg	No	0.00	0.00	0.00
WL120	WL 30 mph 120deg	No	0.00	0.00	0.00
WL150	WL 30 mph 150deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load Right End of Mount	No	0.00	0.00	0.00
LL3	250 lb Live Load Left End of Mount	No	0.00	0.00	0.00
LLa1	250 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load Antenna 3	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
D	0.00	0.00	0.00
Wo	0.00	0.00	0.00
W30	0.00	0.00	0.00
W60	0.00	0.00	0.00
W90	0.00	0.00	0.00
W120	0.00	0.00	0.00
W150	0.00	0.00	0.00
Di	0.00	0.00	0.00
WI0	0.00	0.00	0.00
WI30	0.00	0.00	0.00
WI60	0.00	0.00	0.00
WI90	0.00	0.00	0.00
WI120	0.00	0.00	0.00
WI150	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
WL60	0.00	0.00	0.00
WL90	0.00	0.00	0.00
WL120	0.00	0.00	0.00
WL150	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LL3	0.00	0.00	0.00
LLa1	0.00	0.00	0.00

LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00



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Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.2D+Wo
LC2=1.2D+W30
LC3=1.2D+W60
LC4=1.2D+W90
LC5=1.2D+W120
LC6=1.2D+W150
LC7=1.2D-Wo
LC8=1.2D-W30
LC9=1.2D-W60
LC10=1.2D-W90
LC11=1.2D-W120
LC12=1.2D-W150
LC13=0.9D+Wo
LC14=0.9D+W30
LC15=0.9D+W60
LC16=0.9D+W90
LC17=0.9D+W120
LC18=0.9D+W150
LC19=0.9D-Wo
LC20=0.9D-W30
LC21=0.9D-W60
LC22=0.9D-W90
LC23=0.9D-W120
LC24=0.9D-W150
LC25=1.2D+Di+W10
LC26=1.2D+Di+W130
LC27=1.2D+Di+W160
LC28=1.2D+Di+W190
LC29=1.2D+Di+W120
LC30=1.2D+Di+W150
LC31=1.2D+Di-W10
LC32=1.2D+Di-W130
LC33=1.2D+Di-W160
LC34=1.2D+Di-W190
LC35=1.2D+Di-W120
LC36=1.2D+Di-W150
LC37=1.2D+1.6LL1
LC38=1.2D+1.6LL2
LC39=1.2D+1.6LL3
LC40=1.2D+WL0+1.6LLa1
LC41=1.2D+WL30+1.6LLa1
LC42=1.2D+WL60+1.6LLa1
LC43=1.2D+WL90+1.6LLa1
LC44=1.2D+WL120+1.6LLa1
LC45=1.2D+WL150+1.6LLa1
LC46=1.2D-WL0+1.6LLa1
LC47=1.2D-WL30+1.6LLa1
LC48=1.2D-WL60+1.6LLa1
LC49=1.2D-WL90+1.6LLa1
LC50=1.2D-WL120+1.6LLa1
LC51=1.2D-WL150+1.6LLa1
LC52=1.2D+WL0+1.6LLa2

LC53=1.2D+WL30+1.6LLa2
 LC54=1.2D+WL60+1.6LLa2
 LC55=1.2D+WL90+1.6LLa2
 LC56=1.2D+WL120+1.6LLa2
 LC57=1.2D+WL150+1.6LLa2
 LC58=1.2D-WL0+1.6LLa2
 LC59=1.2D-WL30+1.6LLa2
 LC60=1.2D-WL60+1.6LLa2
 LC61=1.2D-WL90+1.6LLa2
 LC62=1.2D-WL120+1.6LLa2
 LC63=1.2D-WL150+1.6LLa2
 LC64=1.2D+WL0+1.6LLa3
 LC65=1.2D+WL30+1.6LLa3
 LC66=1.2D+WL60+1.6LLa3
 LC67=1.2D+WL90+1.6LLa3
 LC68=1.2D+WL120+1.6LLa3
 LC69=1.2D+WL150+1.6LLa3
 LC70=1.2D-WL0+1.6LLa3
 LC71=1.2D-WL30+1.6LLa3
 LC72=1.2D-WL60+1.6LLa3
 LC73=1.2D-WL90+1.6LLa3
 LC74=1.2D-WL120+1.6LLa3
 LC75=1.2D-WL150+1.6LLa3

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_SQR 4X4X3_16	1	LC8 at 0.00%	0.24	OK	
		8	LC2 at 0.00%	0.24	OK	
	PIPE 2x0.154	11	LC1 at 27.08%	0.60	OK	
		12	LC1 at 27.08%	0.60	OK	
		15	LC39 at 29.17%	0.12	OK	
		20	LC25 at 83.33%	0.08	OK	
		21	LC25 at 83.33%	0.08	OK	
	PIPE 3x0.216	2	LC7 at 50.00%	0.30	OK	
		7	LC1 at 50.00%	0.30	OK	
	PIPE 4x0.237	9	LC10 at 50.00%	0.00	OK	
		10	LC9 at 50.00%	0.00	OK	



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Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
1	0.00	0.00	0.00	0
2	0.00	0.00	1.00	0
3	0.00	0.00	4.00	0
4	3.00	0.00	4.00	0
5	-3.00	0.00	4.00	0
6	2.50	0.00	4.00	0
7	-2.50	0.00	4.00	0
8	2.50	0.00	4.20	0
9	-2.50	0.00	4.20	0
10	3.00	3.50	4.00	0
11	2.50	3.50	4.00	0
12	2.50	3.50	4.20	0
13	-3.00	3.50	4.00	0
14	-2.50	3.50	4.00	0
15	-2.50	3.50	4.20	0
16	0.00	3.50	0.00	0
17	0.00	3.50	1.00	0
18	0.00	3.50	4.00	0
19	0.00	4.25	4.00	0
20	0.00	0.75	4.00	0
21	0.00	-0.75	4.00	0

22	0.00	2.75	4.00	0
23	2.50	5.75	4.20	0
24	-2.50	5.75	4.20	0
25	2.50	-2.25	4.20	0
26	-2.50	-2.25	4.20	0
27	-0.67	0.00	4.00	0
28	-0.67	0.00	4.20	0
29	-0.67	3.50	4.00	0
30	-0.67	3.50	4.20	0
31	-0.67	5.75	4.20	0
32	-0.67	-2.25	4.20	0
33	0.00	3.50	2.50	0
34	0.00	0.00	2.50	0
35	0.33	0.00	2.50	0
36	0.33	3.50	2.50	0
37	-0.33	3.50	2.50	0
38	-0.33	0.00	2.50	0
39	0.33	4.25	2.50	0
40	-0.33	4.25	2.50	0
41	0.33	-0.75	2.50	0
42	-0.33	-0.75	2.50	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
2	1	1	1	1	1	1
17	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
1	2	3		HSS_SQR 4X4X3_16	A500 GrB rectangular	0.00	0.00	0.00
2	4	5		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
7	10	13		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
8	17	18		HSS_SQR 4X4X3_16	A500 GrB rectangular	0.00	0.00	0.00
9	22	19		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
10	21	20		PIPE 4x0.237	A53 GrB	0.00	0.00	0.00
11	24	26		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
12	23	25		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
15	32	31		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
20	39	41		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
21	40	42		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

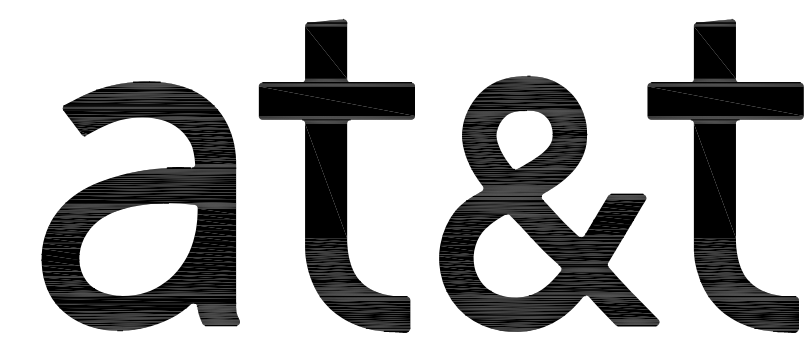
Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
11	315.00	0	0.00	0.00	0.00
12	315.00	0	0.00	0.00	0.00
20	315.00	0	0.00	0.00	0.00
21	315.00	0	0.00	0.00	0.00

Rigid end offsets

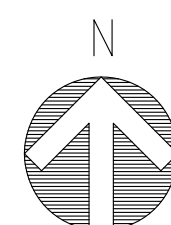
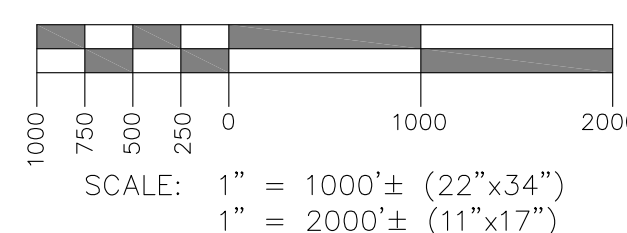
Member	DJX [in]	DJY [in]	DJZ [in]	DKX [in]	DKY [in]	DKZ [in]
1	0.00	0.00	0.00	0.00	0.00	-1.75
2	0.00	0.00	3.00	0.00	0.00	3.00
7	0.00	0.00	3.00	0.00	0.00	3.00
8	0.00	0.00	0.00	0.00	0.00	-1.75
11	0.00	0.00	3.50	0.00	0.00	3.50
12	0.00	0.00	3.50	0.00	0.00	3.50
15	0.00	0.00	3.50	0.00	0.00	3.50

Exhibit C



PTN : 2051A0FKFS
PACE JOB NUMBER: MRCTB028439

Map of the study area showing the location of the Locus site. The map includes Wononskopomuc Lake, Millerton Road (US 44), Farnam Road, Sharon Road (Route 41), and Wells Hill Road. A callout box labeled 'LOCUS' points to a specific location on Sharon Road.



PROPOSED WALL IN EQUIPMENT CABINET (W/C) AND GENERATOR WITH PROPANE TANK ON PROPOSED CONCRETE PADS AT GROUND LEVEL WITHIN PROPOSED FENCED COMPOUND. PROPOSED RF EQUIPMENT ON PROPOSED 94' TALL MONOPOLE WITHIN A 50'X50' FENCED COMPOUND AND 100'X100' LEASE AREA. THE MONOPOLE AND ALL APPURTENANCES SHALL BE PAINTED IN ACCORDANCE WITH THE CONNECTICUT SITING COUNCIL APPROVAL, (SHERWIN WILLIAMS FRENCH ROAST COLOR CODE: SW6069)

PROJECT INFORMATION

DEVELOPMENT & MANAGEMENT PLAN



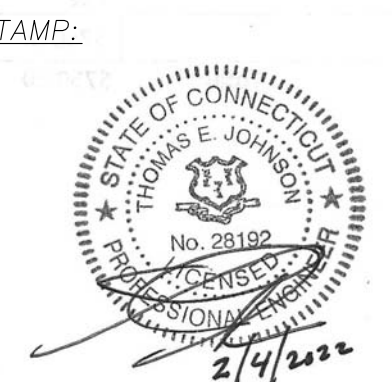
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Bldg A; Suite 200
Hadley, MA 01035

Ph: (413)320-4918

CONSULTANTS:

NO.	DATE	REVISIONS
A	11/09/21	ISSUED FOR REVIEW
0	12/03/21	DEVELOPMENT AND MANAGEMENT PLAN
1	02/04/22	REVISED DEVELOPMENT AND MANAGEMENT PLAN

APPLICANT:  **NEW CINCULAR WIRELESS**
PCS, LLC ("AT&T")
c/o SAI COMMUNICATIONS
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067



DATE:	02/04/22
DRAWN:	BLM
CHECK:	JMM/TEJ
SCALE:	SEE PLAN
JOB NO.:	18-063
SHEET TITLE:	

TITLE SHEET

T-1

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – SAI COMMUNICATIONS AND/OR ITS AFFILIATES
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – AT&T (SAI COMMUNICATIONS) & AT&T (AS APPLICABLE)
OEM – ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL, STATE AND FEDERAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
5. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER’S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, T1 CABLES AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR AND/OR LANDLORD PRIOR TO CONSTRUCTION.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR’S EXPENSE TO THE SATISFACTION OF THE OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.
13. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
14. SUBCONTRACTOR SHALL NOTIFY PROTERRA DESIGN GROUP, LLC 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS AND POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.
15. CONSTRUCTION SHALL COMPLY WITH ALL CARRIER STANDARDS AND SPECIFICATIONS.
16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
17. THE EXISTING CELL SITES ARE IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
18. IF THE EXISTING CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION.
3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
6. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
7. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
8. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.
9. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
10. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
11. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE CARRIER SPECIFICATION FOR SITE SIGNAGE.

CONCRETE & REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS (6% ±1% AIR ENTRAINMENT, 3”–5” SLUMP), UNLESS NOTED OTHERWISE. (NOTE: THIS IS SITE CONCRETE, NOT NECESSARILY STRUCTURAL CONCRETE AND SHOULD BE VERIFIED AGAINST MORE STRINGENT). A HIGHER STRENGTH (5000PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 318 CODE REQUIREMENTS.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS “B” AND ALL HOOKS SHALL BE STANDARD, UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
CONCRETE CAST AGAINST EARTH.....3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER2 IN.
#5 AND SMALLER & WWF1½ IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
SLAB AND WALL¾ IN.
BEAMS AND COLUMNS1½ IN.
5. A CHAMFER ¾” SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER’S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER’S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.
7. CONCRETE CYLINDER TESTS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (ACI 318–14 SECTION 26.12.2 – FREQUENCY OF TESTING) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER TO PROVIDE THE BUILDING OFFICIAL:
(A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
(B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST BY AN INDEPENDENT TESTING AGENCY
8. AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS OR FOUNDATIONS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND CARRIER SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM–A–36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) “MANUAL OF STEEL CONSTRUCTION”.
2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC “MANUAL OF STEEL CONSTRUCTION”, 13TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.
3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾”Ø) AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.
4. NON–STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ¾” DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL
6. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
3. AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE “UNDISTURBED SOIL” BASE SHALL BE COMPACTED WITH “COMPACTION EQUIPMENT”, LISTED BELOW, TO AT LEAST 95% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C VERIFIED BY A INDEPENDENT THIRD PARTY.
4. COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6” MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 6” LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.
5. AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND–OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL–GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE. THIS ALTERNATE NEEDS TO BE CONTINUOUSLY INSPECTED.

COMPACTION EQUIPMENT NOTES:

1. HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, CARRIER ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.
2. COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.
3. CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY AND/OR ICE BRIDGE, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE (NEC 2017) WITH CONNECTICUT AMENDMENTS.
2. SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLEING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.
3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
4. CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.
5. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA, AND MATCH INSTALLATION REQUIREMENTS.
6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA.
7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID’S).
8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
13. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY HARGER (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND NEC.
16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (EMT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
21. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
23. CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND NEC.
24. CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
25. WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
27. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED, OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
30. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.
31. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
32. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

ProTerra
DESIGN GROUP, LLC

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Ph: (413)320–4918

CONSULTANTS:

NO.	DATE	REVISIONS
A	11/09/21	ISSUED FOR REVIEW
0	12/03/21	DEVELOPMENT AND MANAGEMENT PLAN
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LAKEVILLE SHARON ROAD
SITE NUMBER: G2246
ADDRESS: 406 SHARON ROAD
LAKEVILLE, CT 06039

NEW CIRCULAR WIRELESS
PCS, LLC ("AT&T")
c/o SAI COMMUNICATIONS
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

at&t



STAMP:



DATE: 02/04/22

DRAWN: BLM

CHECK: JMM/TEJ

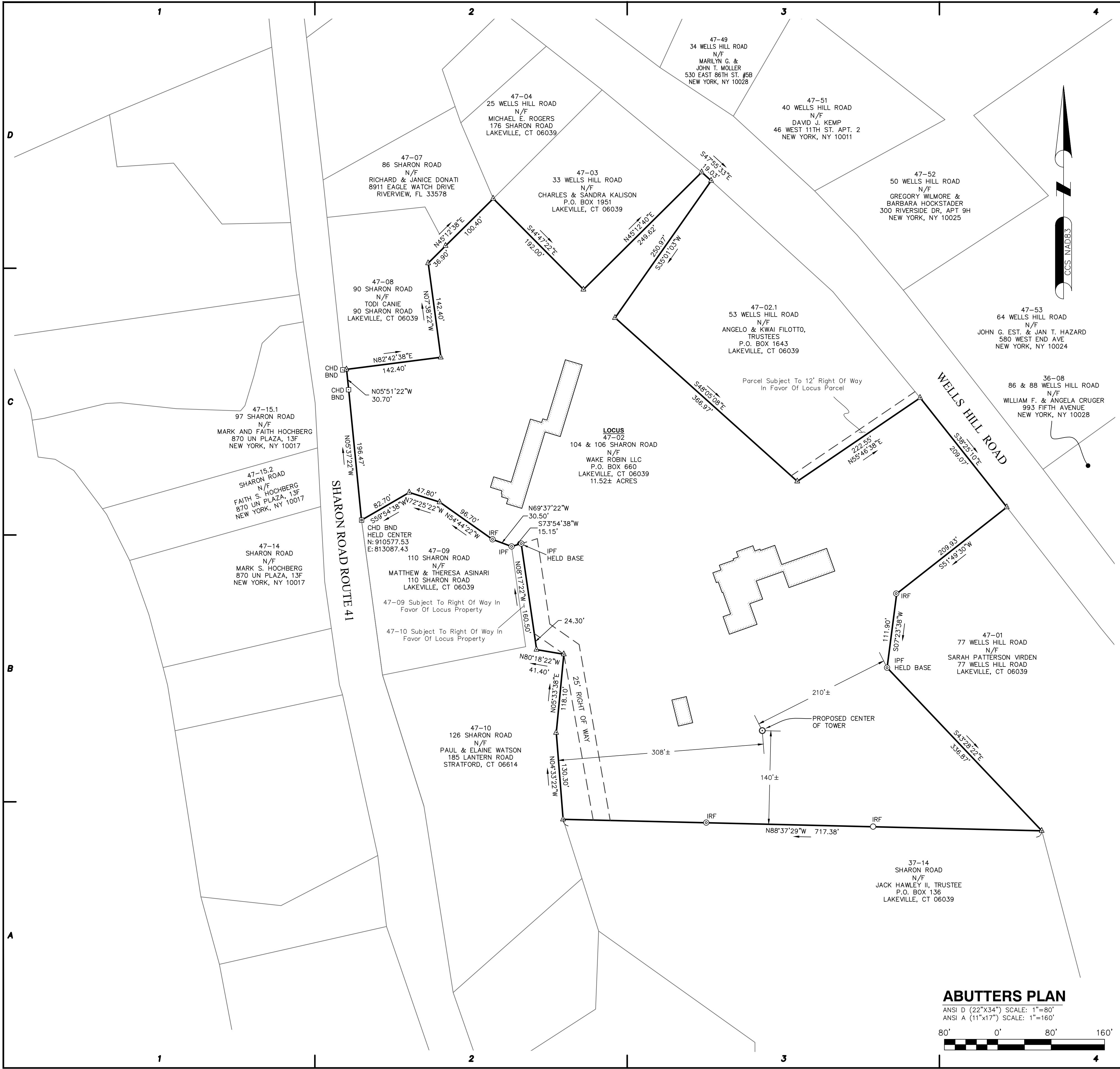
SCALE: SEE PLAN

JOB NO.: 18–063

SHEET TITLE:

GENERAL NOTES

GN-1



LEGEND

- N/F - NOW OR FORMERLY
- 47-02 - ASSESSOR'S MAP-LOT
- - TOWER CONTROL POINT
- IPF/IRFO - IRON PIPE/IRON ROD FOUND
- - CONCRETE BOUND FOUND
- △ - CALCULATED POINT
- ⚡ - UTILITY POLE
- - LOCUS BOUNDARY
- - ABUTTERS LINE
- - - - - EASEMENT LINE

SURVEY NOTES

1. THIS SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300B-1 THROUGH 20-300B-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS INC. ON SEPTEMBER 26, 1997.
- TYPE OF SURVEY: IMPROVEMENT LOCATION SURVEY
- BOUNDARY SURVEY CATEGORY: DEPENDENT SURVEY
- CLASS OF ACCURACY: HORIZONTAL CLASS D
TOPOGRAPHIC CLASS T-2
VERTICAL CLASS V-2
- PURPOSE OF SURVEY: PROPOSED CELLULAR TOWER
2. PROPERTY LINES SHOWN HEREON ARE FROM RECORD DEEDS, PLOTS, AND TAX MAPS AS OVERLAID ON ANY MONUMENTATION OR OTHER EVIDENCE THAT MAY HAVE BEEN LOCATED DURING THE TOPOGRAPHIC SURVEY. A PROPERTY LINE SURVEY WAS NOT PERFORMED BY PROTERRA DESIGN GROUP, LLC OR ITS AFFILIATES AND SUBCONTRACTORS AND AS A RESULT THE PROPERTY LINES SHOWN ARE APPROXIMATE AND DO NOT PRESENT A PROPERTY/BOUNDARY OPINION.
3. HORIZONTAL DATUM IS GRID NORTH AS DETERMINED BY THE CONNECTICUT STATE PLANE COORDINATE SYSTEM AND IS BASED UPON GPS OBSERVATIONS TAKEN AT THE TIME OF SURVEY.
4. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND/OR EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK. CALL THE FOLLOWING FOR ALL PRE-CONSTRUCTION NOTIFICATION 72-HOURS PRIOR TO ANY EXCAVATION ACTIVITY: CALL BEFORE YOU DIG: 1-800-922-4455
5. THE SURVEY PLAN IS SUBJECT TO ANY STATEMENT OF FACTS THAT AN UP-TO-DATE ABSTRACT OF TITLE WOULD DISCLOSE.
6. SUBJECT TO ALL RIGHTS, EASEMENTS, COVENANTS, OR RESTRICTIONS OF RECORD.
7. THE LOCUS PARCEL AND ALL ADJOINING PARCELS ARE LOCATED IN THE VILLAGE OF LAKEVILLE, TOWN OF SALISBURY, CT. ZONE "RR-1" RURAL RESIDENTIAL DISTRICT.
8. LATITUDE/LONGITUDE/ELEVATIONS WERE OBTAINED UTILIZING RTK GPS AND KEYNET CORRECTIONS. LATITUDE/LONGITUDE ARE REFERENCE TO NAD83 CONNECTICUT ZONE COORDINATES SHOWN. IF ANY ARE EXPRESSED IN U.S. SURVEY FEET, ELEVATIONS ARE REFERENCED TO NAVD88. TOP OF STRUCTURE HEIGHT, IF ANY, IS DETERMINED BY VERTICAL ANGLE OR BY ACTUAL LOCATION INFORMATION BASED UPON A FAA 1A CERTIFICATION ACCURACY LEVEL AS DEFINED:
- HORIZONTAL ±20 FEET/6m
- VERTICAL ± 3 FEET/1m
9. THE PROJECT AREA IS LOCATED IN FLOOD ZONE "X" (AREAS OF MINIMAL FLOODING. NO SHADING) AS SHOWN ON FLOOD INSURANCE RATE MAP FOR THE TOWN OF SALISBURY: COMMUNITY PANEL NUMBER 090052 0018 B, EFFECTIVE 1-5-1989.
10. WETLANDS DELINEATION WAS PERFORMED BY LUCAS ENVIRONMENTAL, LLC ON 11-8-2018.

PROPERTY OWNER: WAKE ROBIN LLC
P.O. BOX 660
LAKEVILLE, CT 06039

LOCUS DEED REF.: DEED BOOK 184, PAGE 509

LOCUS PLAN REF: PLANS:SALISBURY LAND RECORDS 740 & 264

THIS DOCUMENT AND COPIES THEREOF ARE VALID ONLY IF THEY BEAR THE LIVE SIGNATURE AND EMBOSSED SEAL OF THE DESIGNATED PROFESSIONAL. UNAUTHORIZED ALTERATIONS RENDER ANY DECLARATION NULL AND VOID.

TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

Charles G. Gidman
CHARLES G. GIDMAN, P.L.S.

#70103

ABUTTERS PLAN

ANSI D (22"x34") SCALE: 1"=80'
ANSI A (11"x17") SCALE: 1"=160'



ProTerra
DESIGN GROUP, LLC

4 Bay Road
Bldg A, Suite 200
Hodley, MA 01035
Ph: (413)320-4918

CONSULTANTS:
NORTHEAST SURVEY
CONSULTANTS

116 Pleasant St. Ste. 302
P.O. Box 109
Easthampton, MA 01027
(413) 203-5144
northeastsurvey.com

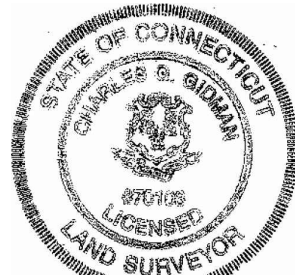
NO.	DATE	REVISIONS
1	12/7/18	ISSUED FOR REVIEW
2	04/24/19	MOVE TOWER
3	06/10/19	ADD TITLE NOTES
4	09/05/19	ADD COORDINATES
5	10/11/19	REMOVE TITLE NOTES
6	02/03/21	UPDATE ABUTTERS

SITE NAME:
SITE NUMBER:
ADDRESS: 104 & 106 SHARON ROAD
LAKEVILLE, CT 06039

APPLICANT:
NEW CINGULAR
WIRELESS PCS, LLC
("AT&T")
560 COCHITUATE ROAD
FRAMINGHAM, MA 01701

at&t

STAMP:

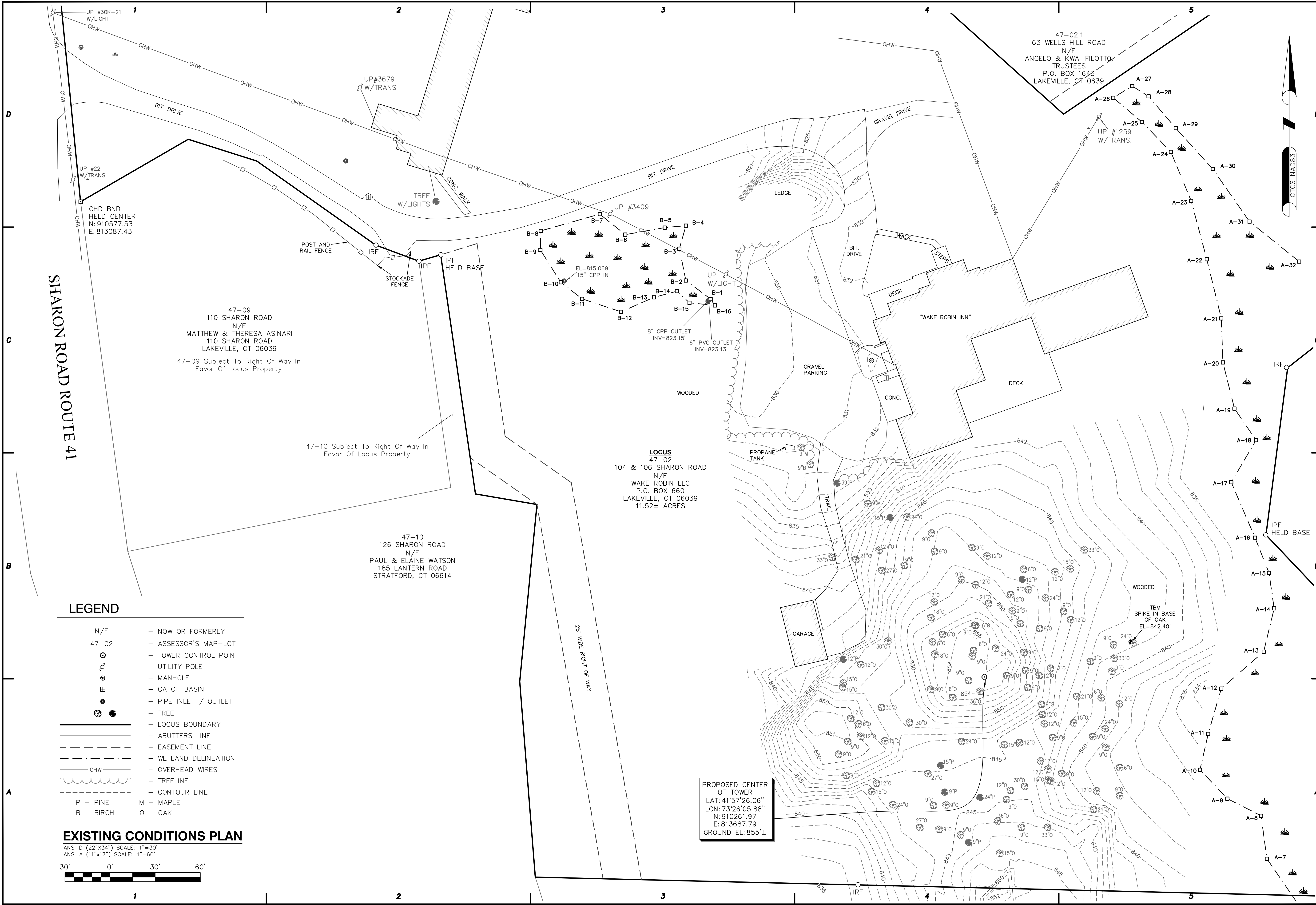


DATE: 02/03/2021
DRAWN: JDG BCF
CHECK: BCF CGG
SCALE: 1"=80'
JOB NO.: 18-317.1

SHEET TITLE:

ABUTTERS PLAN

C-1



LEGEND

- N/F — NOW OR FORMERLY
- 47-02 — ASSESSOR'S MAP-LOT
- — TOWER CONTROL POINT
- ⊗ — UTILITY POLE
- ⊙ — MANHOLE
- ⊞ — CATCH BASIN
- — PIPE INLET / OUTLET
- — TREE
- LOCUS BOUNDARY
- ABUTTERS LINE
- EASEMENT LINE
- WETLAND DELINEATION
- OHW — OVERHEAD WIRES
- TREELINE
- CONTOUR LINE
- P — PINE
- M — MAPLE
- B — BIRCH
- O — OAK

EXISTING CONDITIONS PLAN

ANSI D (22"x34") SCALE: 1"=30'

ANSI A (11"x17") SCALE: 1"=60'



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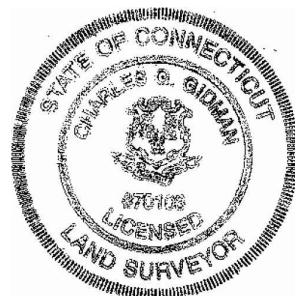
SITE NAME:
SITE NUMBER:
ADDRESS: 104 & 106 SHARON ROAD
LAKEVILLE, CT 06039

APPLICANT:
NEW CINGULAR
WIRELESS PCS, LLC
("AT&T")
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

at&t

TITLE:

STAMP:

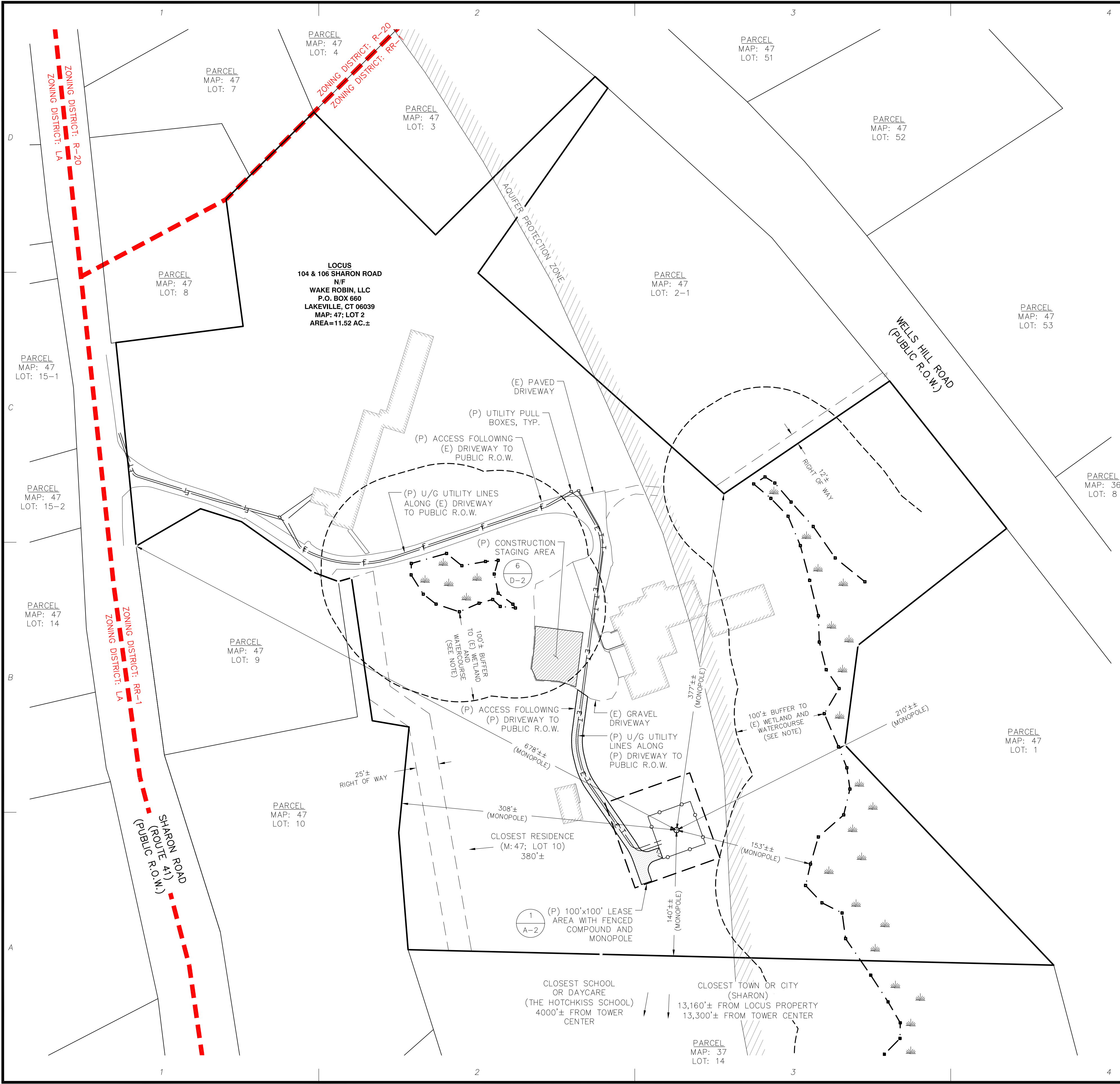


DATE: 02/05/2021
DRAWN: JDG
CHECK: BCF CGG
SCALE: 1"=30'
JOB NO.: 18-317.1

SHEET TITLE:

EXISTING
CONDITIONS

C-2



- ### GENERAL NOTES
1. THE TYPE, DIMENSIONS, MOUNTING HARDWARE, AND POSITIONS OF ALL PROJECT OWNER'S EQUIPMENT ARE SHOWN IN ILLUSTRATIVE FASHION. THESE DRAWINGS ARE NOT INTENDED FOR CONSTRUCTION. ACTUAL HARDWARE DETAILS AND FINAL LOCATIONS MAY DIFFER SLIGHTLY FROM WHAT IS SHOWN.
 2. THE PROJECT OWNER'S PCS FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
 3. THE DESIGN OF THE TOWER, FOUNDATION AND ANTENNA MOUNTING HARDWARE WILL MEET THE ANSI/EIA/TIA-222 STANDARDS FOR STRUCTURAL STEEL ANTENNA SUPPORTING STRUCTURES AND STATE BUILDING CODE REQUIREMENTS. DETAILED CONSTRUCTION DRAWINGS AND STRUCTURAL CALCULATIONS WILL BE PREPARED BY A REGISTERED PROFESSIONAL ENGINEER AND SUBMITTED WITH A BUILDING PERMIT APPLICATION FOR REVIEW AND APPROVAL BY THE LOCAL BUILDING CODE ENFORCEMENT OFFICIAL.
 4. ONCE THE FACILITY BECOMES FULLY OPERATIONAL, NORMAL AND ROUTINE MAINTENANCE BY TOWER OWNER'S AND CARRIER'S TECHNICIANS WILL BE PERFORMED. THE ESTIMATED VEHICULAR TRAFFIC GENERATED BY THESE VISITS IS PREDICTED TO BE LESS THAN THE TYPICAL TRAFFIC GENERATED BY A SINGLE-FAMILY DWELLING.

REFERENCES

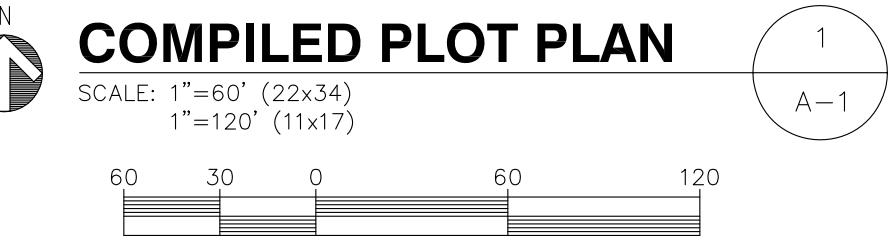
PROPERTY LINE, TOPOGRAPHY AND EXISTING FEATURES – SEE SHEETS C-1 AND C-2
PREPARED BY NORTHEAST SURVEY CONSULTANTS. A PROPERTY LINE AND/OR BOUNDARY RE-TRACEMENT HAS NOT BEEN PERFORMED. A A-2 SURVEY MAY BE REQUIRED PER CSC APPLICATION REVIEW.

ZONING DISTRICTS – TOWN OF SALISBURY, LAKEVILLE VILLAGE ZONING MAP NO. 3 DATED SEPTEMBER 4, 2007.

FLOODPLAIN – FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 0900520018B EFFECTIVE DATE JANUARY 5, 1989 PREPARED BY FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), US DEPARTMENT OF HOMELAND SECURITY. ENTIRE AREA SHOWN IS WITHIN ZONE "X" UNSHADED: AREAS DETERMINED TO BE OUTSIDE THE 500-YEAR FLOOD PLAIN.

CSC DIMENSIONS	
ASSESSORS ID: MAP 47; LOT 2 (P) USE: WIRELESS COMMUNICATION FACILITY	
MONOPOLE HEIGHT (HIGHEST APPURTENANCE)	94'± (100'±)
EXISTING SITE ACCESS LENGTH	750'±
PROPOSED SITE ACCESS LENGTH	231'±
NUMBER OF TREES OVER 6" DBH TO BE REMOVED	29
NUMBER OF TREES OVER 14" DBH TO BE REMOVED	10 (INCLUDED IN THE 29 TOTAL NUMBER OF TREES OVER 6" TO BE REMOVED)
NUMBER OF RESIDENCES WITHIN 1000 FEET	26
CLOSEST TOWN OR CITY TO LOCUS PARCEL	13,160'± (SHARON)
FOLLOWING DISTANCES FROM TOWER CENTER	
NEAREST WETLANDS (ON LOCUS PROPERTY)	153'±
NORTHERN PROPERTY BOUNDARY	377'±
SOUTHERN PROPERTY BOUNDARY	140'±
WESTERN PROPERTY BOUNDARY	308'±
EASTERN PROPERTY BOUNDARY	210'±
CLOSEST RESIDENCE	380'± (M:47; L:10)
CLOSEST SCHOOL OR DAYCARE	4,000'± (THE HOTCHKISS SCHOOL)
CLOSEST TOWN OR CITY	13,300'± (SHARON)

WETLAND BUFFER NOTE:
REFER TO THE CONSERVATION COMMISSION'S INLAND WETLANDS AND WATERCOURSE'S REGULATIONS OF THE TOWN OF SALISBURY, CONNECTICUT SECTION 2.1 & 3.1 FOR FURTHER INFORMATION ON WETLAND BUFFERS.



CONSULTANTS:

NO.	DATE	REVISIONS
A	11/09/21	ISSUED FOR REVIEW
0	12/03/21	DEVELOPMENT AND MANAGEMENT PLAN
1	02/04/22	REVISED DEVELOPMENT AND MANAGEMENT PLAN

LAKESIDE SHARON ROAD
SITE NUMBER: G2246
ADDRESS: 106 SHARON ROAD
LAKEVILLE, CT 06039

NEW CINCULAR WIRELESS PCS, LLC ("AT&T")
c/o SAI COMMUNICATIONS
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

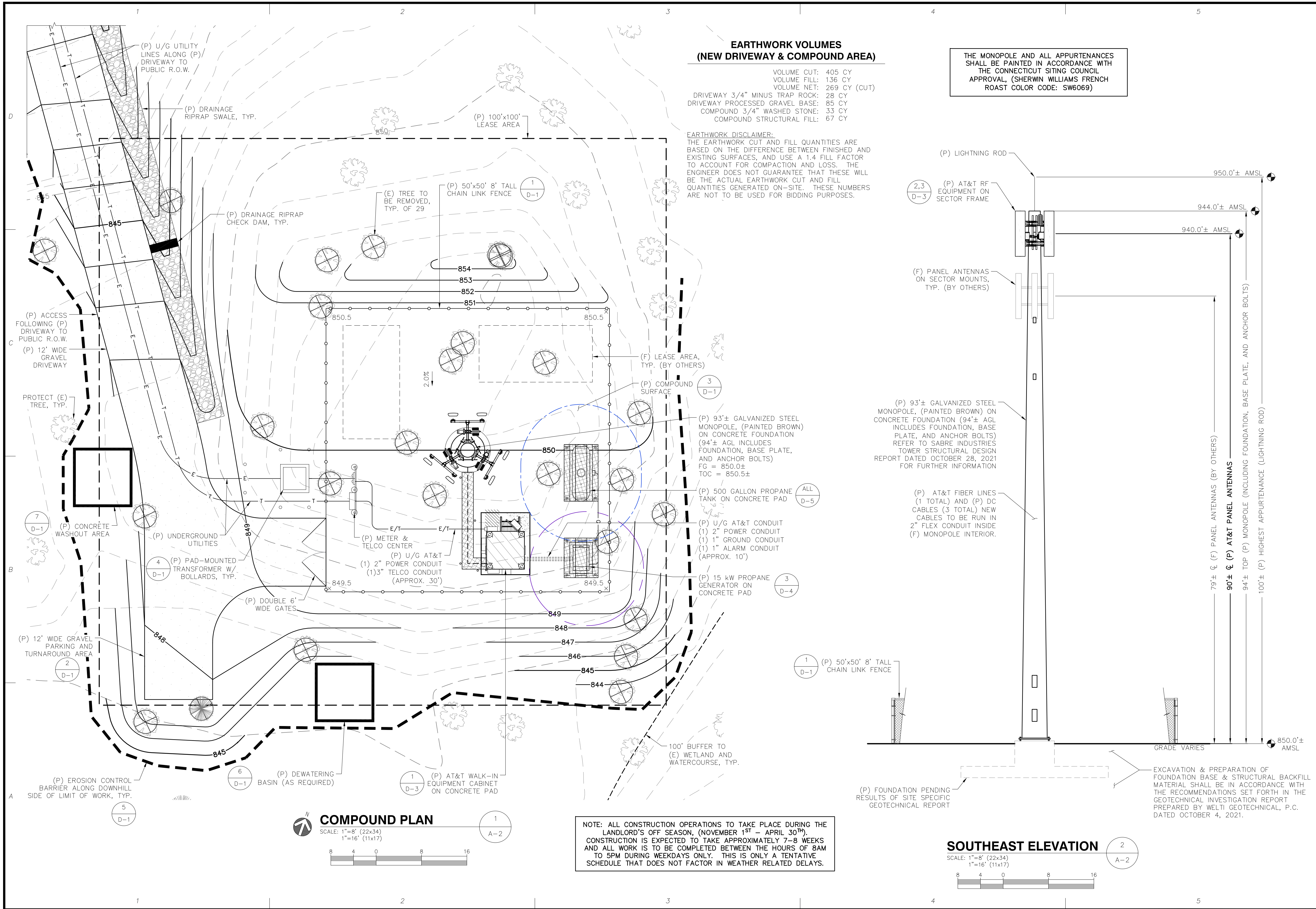
APPLICANT: **at&t**



DATE: 02/04/22
DRAWN: BLM
CHECK: JMM/TEJ
SCALE: SEE PLAN
JOB NO.: 18-063
SHEET TITLE:

COMPILED PLOT PLAN

A-1



EARTHWORK VOLUMES
(NEW DRIVEWAY & COMPOUND AREA)

VOLUME CUT: 405 CY
VOLUME FILL: 136 CY
VOLUME NET: 269 CY (CUT)
DRIVEWAY 3/4" MINUS TRAP ROCK: 28 CY
DRIVEWAY PROCESSED GRAVEL BASE: 85 CY
COMPOUND 3/4" WASHED STONE: 33 CY
COMPOUND STRUCTURAL FILL: 67 CY

EARTHWORK DISCLAIMER:
THE EARTHWORK CUT AND FILL QUANTITIES ARE BASED ON THE DIFFERENCE BETWEEN FINISHED AND EXISTING SURFACES, AND USE A 1.4 FILL FACTOR TO ACCOUNT FOR COMPACTION AND LOSS. THE ENGINEER DOES NOT GUARANTEE THAT THESE WILL BE THE ACTUAL EARTHWORK CUT AND FILL QUANTITIES GENERATED ON-SITE. THESE NUMBERS ARE NOT TO BE USED FOR BIDDING PURPOSES.

THE MONOPOLE AND ALL APPURTENANCES SHALL BE PAINTED IN ACCORDANCE WITH THE CONNECTICUT SITING COUNCIL APPROVAL, (SHERWIN WILLIAMS FRENCH ROAST COLOR CODE: SW6069)

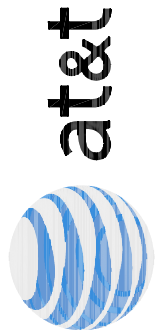
4 Bay Road
Bldg. A, Suite 200
Hadley, MA 01035
Ph: (413)320-4918

CONSULTANTS:

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1	02/04/22	REVISED DEVELOPMENT AND MANAGEMENT PLAN

LAKESVILLE SHARON ROAD
SITE NUMBER: CT246
ADDRESS: 106 SHARON ROAD
LAKEVILLE, CT 06039

NEW CIRCULAR WIRELESS
PCS, LLC ("AT&T")
c/o SAI COMMUNICATIONS
ROCKY HILL, CT 06067



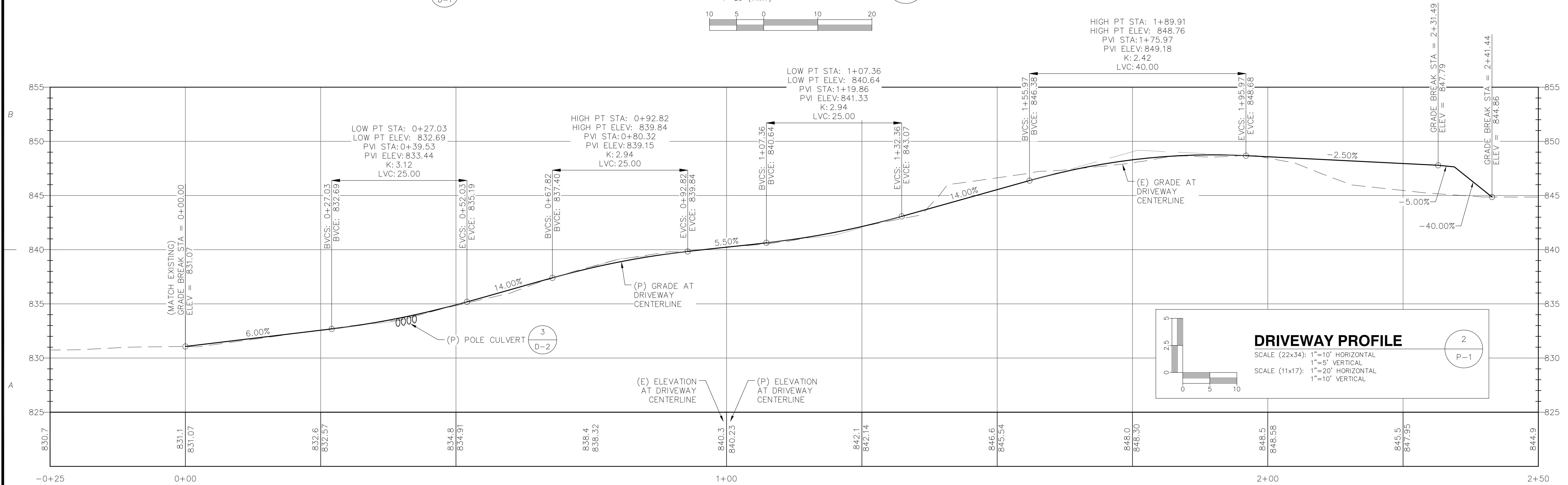
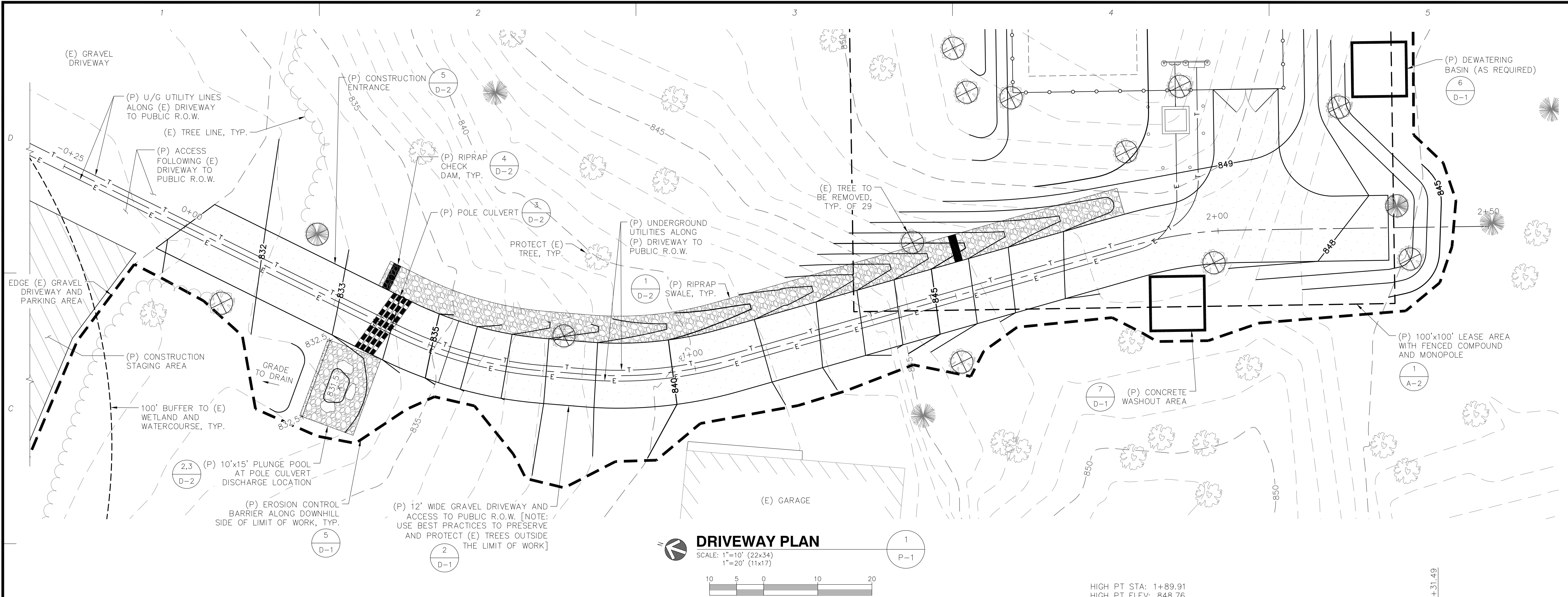
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DATE: 02/04/22
DRAWN: BLM
CHECK: JMM/TEJ
SCALE: SEE PLAN
JOB NO.: 18-063
SHEET TITLE:

COMPOUND PLAN
& ELEVATION

A-2



CONSULTANTS:

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LAKEVILLE SHARON ROAD
SITE NUMBER: CT246
ADDRESS: 106 SHARON ROAD
LAKEVILLE, CT 06039

NEW CIRCULAR WIRELESS
PCS, LLC ("AT&T")
c/o SAI COMMUNICATIONS
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

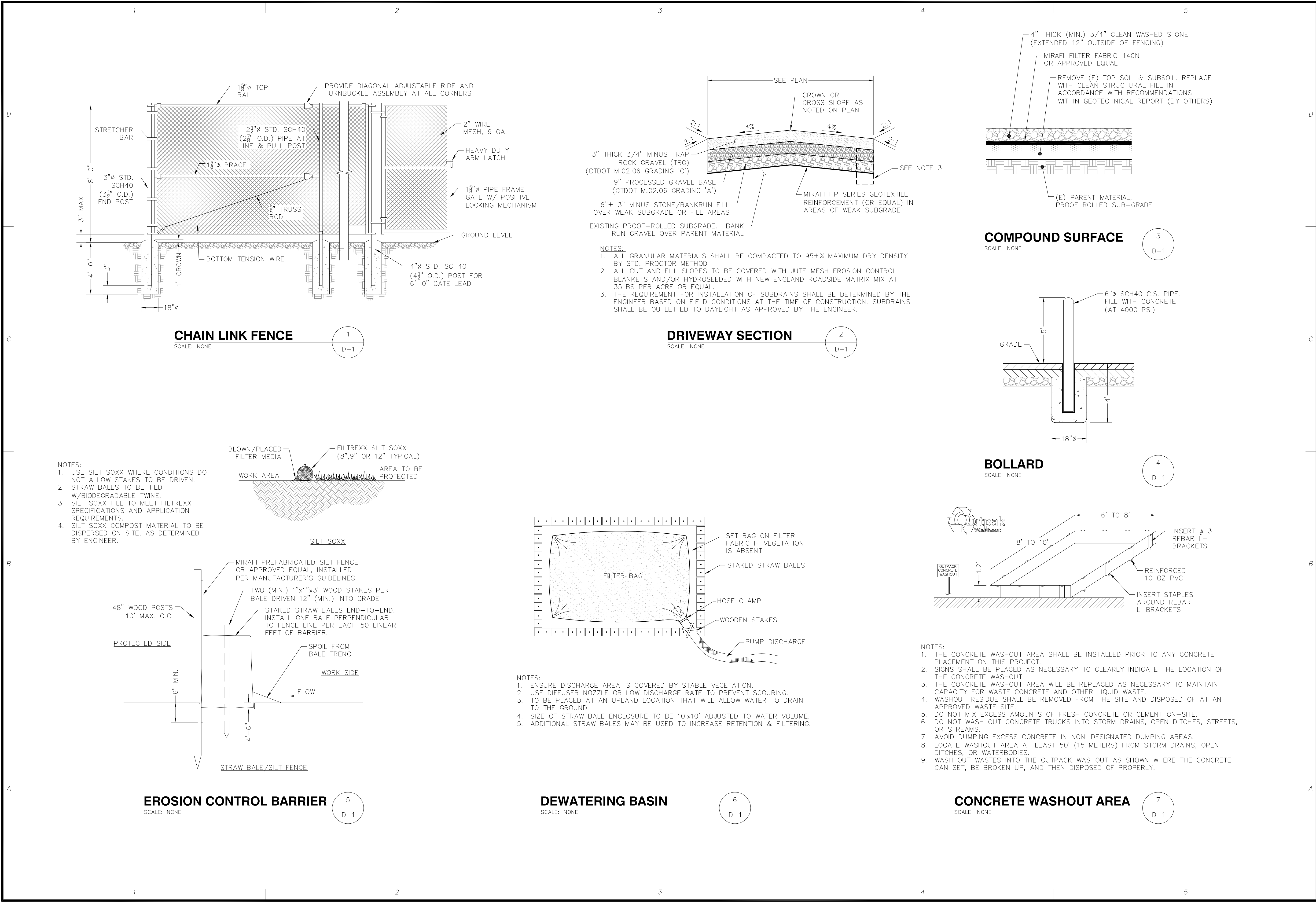


STAMP:



DATE: 02/04/22
DRAWN: BLM
CHECK: JMM/TEJ
SCALE: SEE PLAN
JOB NO.: 18-063
SHEET TITLE:

DRIVEWAY PLAN
& PROFILE



4 Bay Road
Bldg. A, Suite 200
Hodley, MA 01035
Ph: (413)320-4918

CONSULTANTS:

NO.	DATE	REVISIONS
1	02/04/22	AND MANAGEMENT PLAN
1	02/03/21	MANAGEMENT PLAN
0	12/03/21	DEVELOPMENT AND
1	11/09/21	ISSUED FOR REVIEW

LAKESVILLE SHARON ROAD
SITE NUMBER: CT246
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LAKESVILLE, CT 06039

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PCS, LLC ("at&t")
c/o SAI COMMUNICATIONS
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

at&t

STATE OF CONNECTICUT
THOMAS E. JOHNSON
No. 28192
Professional Engineer
2/4/2022

DATE: 02/04/22

DRAWN: BLM

CHECK: JMM/TEJ

SCALE: SEE PLAN

JOB NO.: 18-063

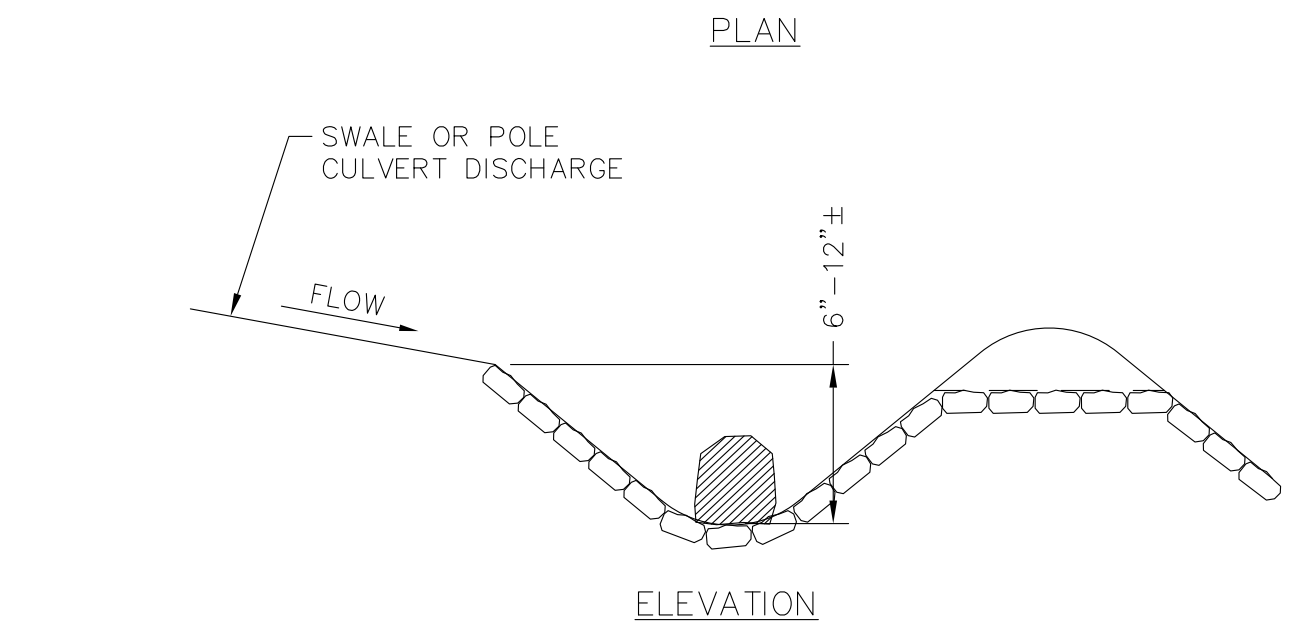
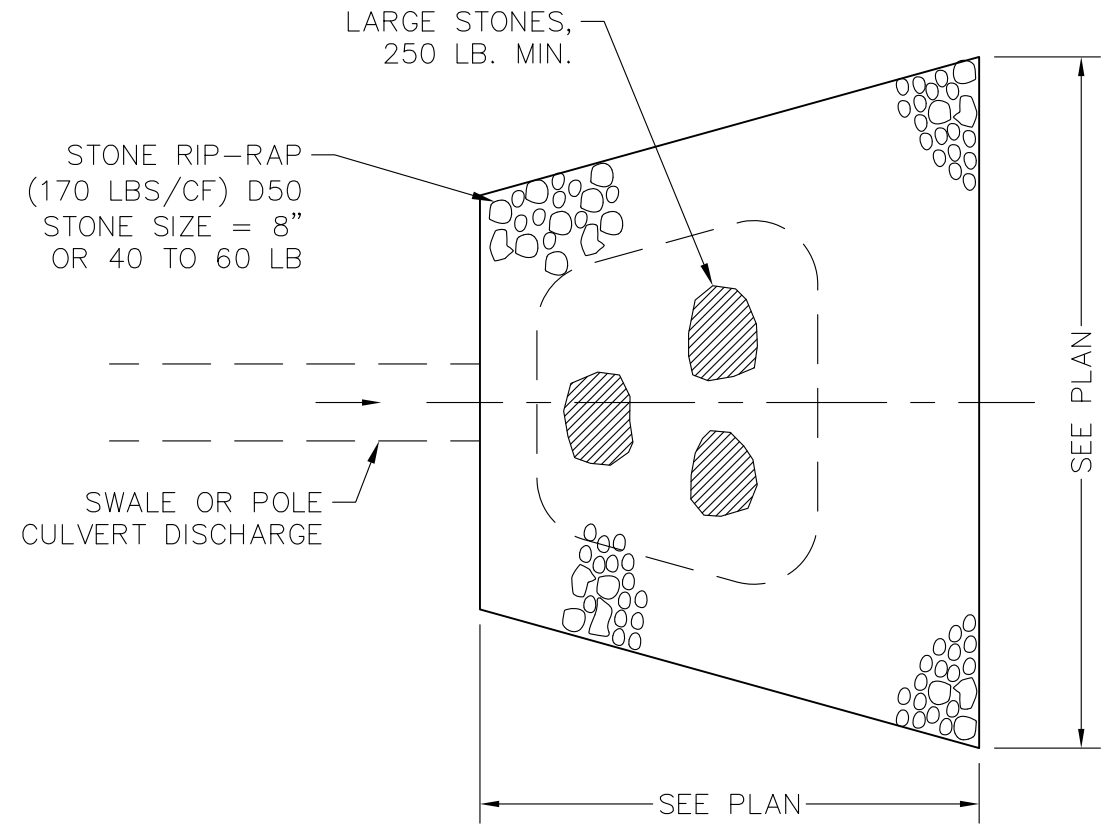
SHEET TITLE:

DETAILS

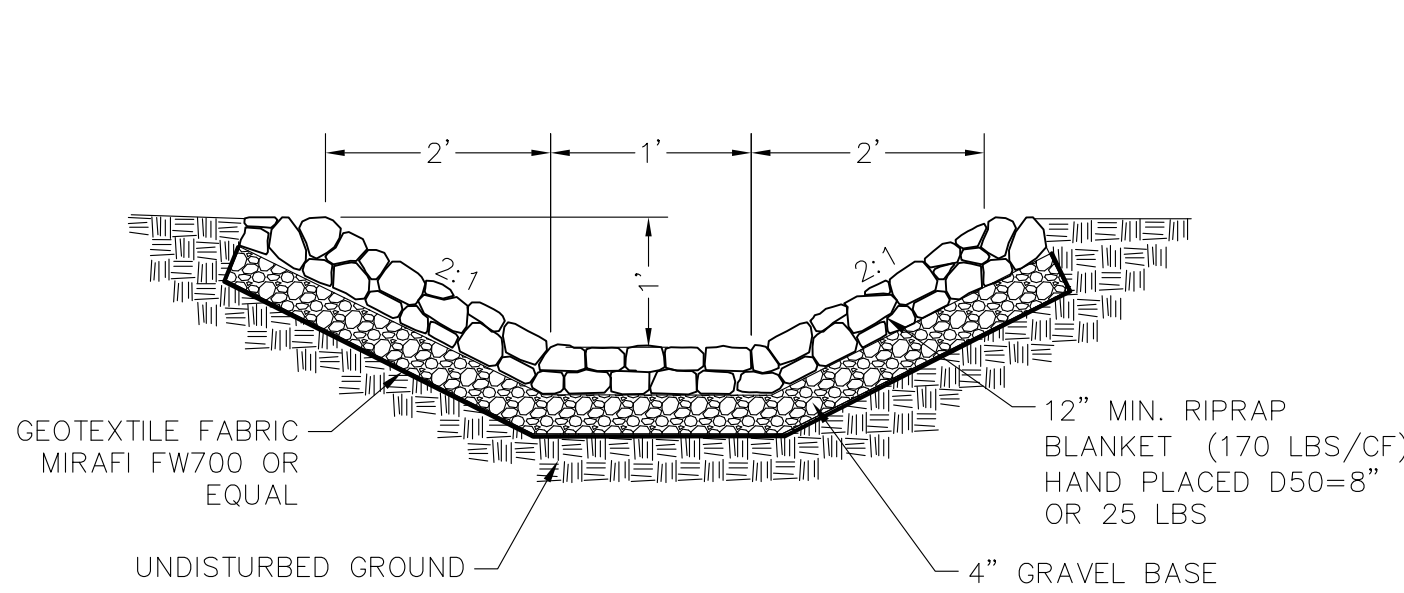
D-1

LEDGE REMOVAL NOTES:

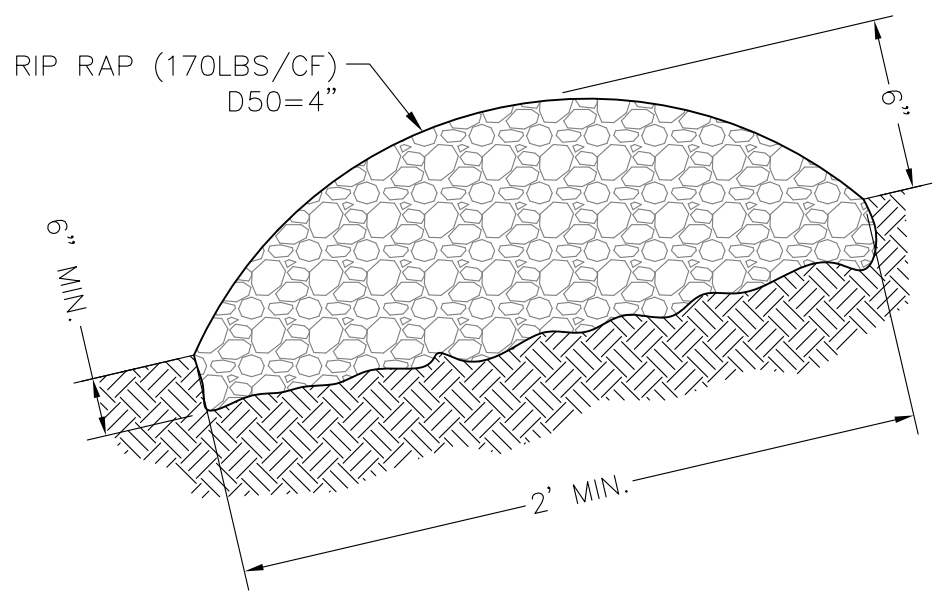
- IT IS ANTICIPATED THAT LEDGE REMOVAL CAN BE COMPLETED BY MECHANICAL MEANS ON THE SLOPE NEAR THE GROUND LEVEL EQUIPMENT, AT THE GUY ANCHORS, AND AT TOWER FOUNDATION.
- AT THE APPROVAL OF AT&T, SITE BLASTING WITH EXPLOSIVES OR OTHER REGULATED CHEMICAL MEANS MAY BE PERMITTED IF DEEMED NECESSARY TO REMOVE ROCK OR LEDGE TO INSTALL THE PROPOSED DRIVEWAY, FOUNDATION, OR UTILITIES.
- PERMIT SHALL BE COORDINATED WITH THE TOWN OF LAKEVILLE AS REQUIRED.
- THE BLASTING ACTIVITIES SHALL CONFORM TO THE AUTHORITIES HAVING JURISDICTION (AHJ) AS APPLICABLE.
- BLASTING PERMITS ARE ISSUED TO BLASTERS AFTER CERTAIN DOCUMENTS ARE COLLECTED AND FILED AT THE FIRE DEPARTMENT, INCLUDING: A DESCRIPTION OF THE WORK TO BE PERFORMED; COPIES OF BLASTERS LICENSES; INSURANCE BOND STATEMENTS; AND USE AND POSSESS CERTIFICATES
- THE DURATION OF THE PERMIT SHALL BE NO MORE THE 30 DAYS UNLESS ALLOWED BY THE JURISDICTION OR AT&T.
- PRE-BLAST SURVEYS SHALL BE CONDUCTED IN ACCORDANCE WITH STANDARDS SET FORTH BY THE AUTHORITIES HAVING JURISDICTION (AHJ). PRE-BLAST SURVEYS MAY BE WAIVED IN CONSTRUCTION BLASTING AT THE OPTION OF THE HEAD OF THE LOCAL FIRE DEPARTMENT AND AT&T.
- THE INTENT OF A PRE-BLAST SURVEY IS TO PROVIDE DOCUMENTATION OF THE EXISTING PHYSICAL CONDITION OF BUILDINGS AND STRUCTURES WITHIN THE BLASTING AREA WITH THE DIMENSIONS OF EACH OBSERVED DEFECT CLEARLY NOTED. WHEN BLASTING WITHIN 250 FEET OF A STRUCTURE, AS MEASURED FROM THE CLOSEST BOREHOLE TO THE STRUCTURE, OR STRUCTURES, NOT OWNED OR CONTROLLED BY THE PROJECT, A PRE BLAST INSPECTION SURVEY SHALL BE OFFERED.
- IT SHALL BE THE RESPONSIBILITY OF THE BLASTER TO NOTIFY STRUCTURE OWNERS OF THE SURVEY, TO OBTAIN THE PROPER PERMITS, AND TO COMPLETE ANY WORK IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS.
- BLAST MONITORING IF REQUIRED BY AT&T, THE AUTHORITY HAVING JURISDICTION, OR AS A RESULT OF THE PRE-BLAST SURVEY SHALL BE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL AND STATE REGULATIONS.
- ANY ROCK EXCAVATED USING DRILL AND BLAST TECHNIQUES, INCLUDING BLASTING FOR TOWER FOUNDATION, ROADWAY, AND PARKING CONSTRUCTION, AND ANY REQUIRED TRENCH BLASTING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS SECTION.
- NO BLASTING SHALL BE DONE WITHOUT APPROVAL FROM AT&T. WRITTEN AUTHORIZATION AND APPROVAL OF METHODS MUST BE OBTAINED FROM THE LOCAL GOVERNING AUTHORITIES.
- THE CONTRACTOR SHALL EMPLOY CONTROLLED BLASTING PROCEDURES IN ORDER TO KEEP GROUND VIBRATIONS AND AIRBLAST OVERPRESSURES BELOW THE REQUIRED MAXIMUM LEVELS AND TO MINIMIZE STRESSING AND FRACTURING OF THE ROCK BEYOND THE LIMITS OF EXCAVATION SHOWN ON THE DRAWINGS.
- IN THE EVENT THAT A CONTRACTOR'S BLASTING ROUND RESULTS IN GROUND VIBRATIONS OR AIRBLAST OVERPRESSURES WHICH EXCEED THE BLASTING LIMIT CRITERIA SPECIFIED HEREIN, THE CONTRACTOR SHALL, PRIOR TO DETONATING ANY SUBSEQUENT ROUNDS, REVISE THE ROUND DESIGN APPROPRIATELY TO REDUCE THE VIBRATIONS.
- REVIEW OF THE BLAST DESIGN AND TECHNIQUES SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR THE ACCURACY, ADEQUACY, AND SAFETY OF THE BLASTING, EXERCISING PROPER SUPERVISION AND FIELD JUDGEMENT, AND PRODUCING THE RESULTS WITHIN THE BLASTING LIMITS REQUIRED BY THESE SPECIFICATIONS.
- BLASTING SCHEDULE DETAILS: ALL CONSTRUCTION OPERATIONS TO TAKE PLACE DURING THE LANDLORD'S OFF SEASON, (NOVEMBER 1ST – APRIL 30TH). LEDGE REMOVAL OPERATIONS TO BE PERFORMED BY BAYSTATE DRILLING & EXCAVATION AND IS EXPECTED TO TAKE APPROXIMATELY ONE WEEK. ALL BLASTING WILL BE DONE IN ACCORDANCE WITH APPLICABLE STATE AND MUNICIPAL REGULATIONS. BAYSTATE DRILLING & EXCAVATION SHALL MAINTAIN ALL ONSITE SIGNAGE, HAVE ONSITE TECHNICAL SUPPORT AS REQUIRED, AND SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITTING INCLUDING ONGOING COORDINATION WITH THE LOCAL FIRE DEPARTMENT.



PLUNGE POOL
SCALE: NONE



RIPRAP SWALE
SCALE: NONE



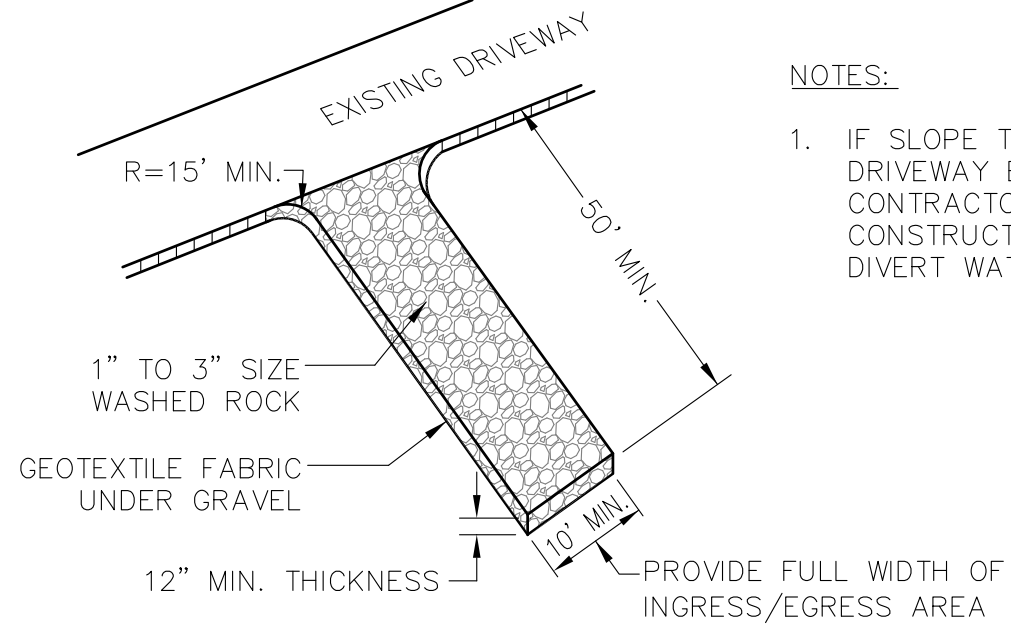
PLACE RIPRAP CHECK DAM WITHIN **RIPRAP SWALES** SPACED AT:

- 150' MIN. WHERE LONGITUDINAL SLOPES ARE 5-10%.
- 100' MIN. WHERE LONGITUDINAL SLOPES ARE 10-20%.

PLACE RIPRAP CHECK DAM WITHIN **VEGETATED SWALES** SPACED AT:

- THE MAXIMUM SPACING BETWEEN THE DAMS SHOULD BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE OVERFLOW ELEVATION OF THE DOWNSTREAM DAM.

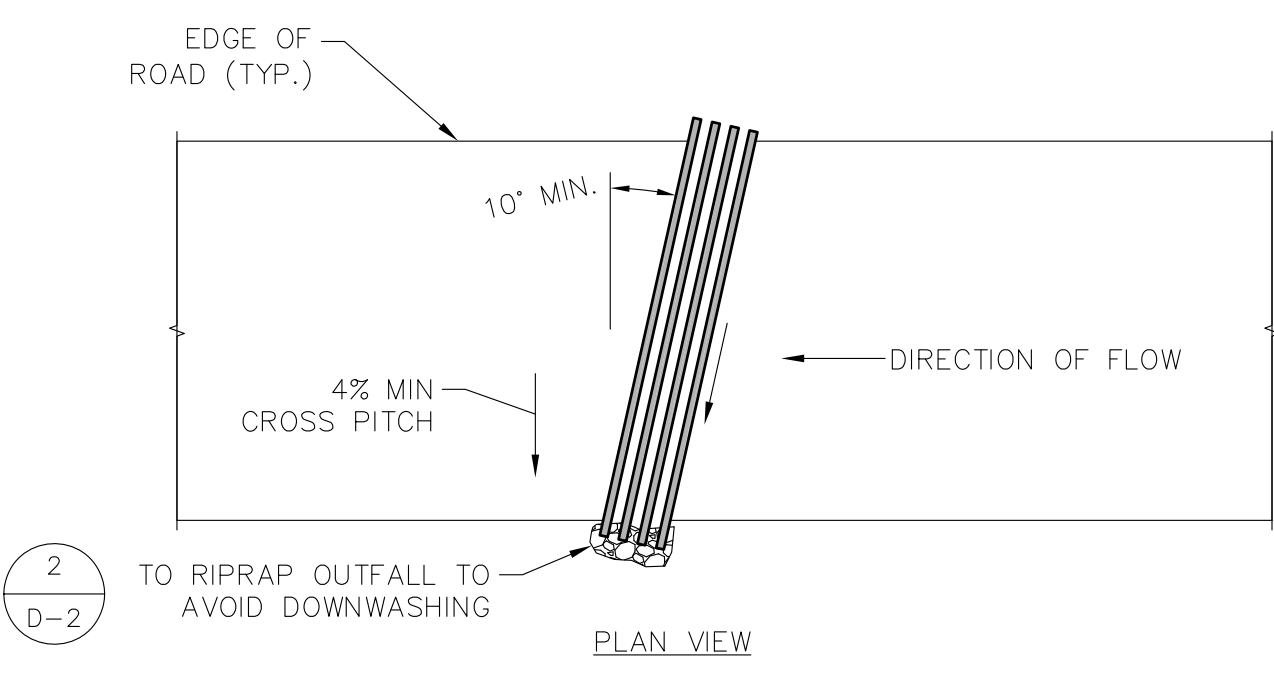
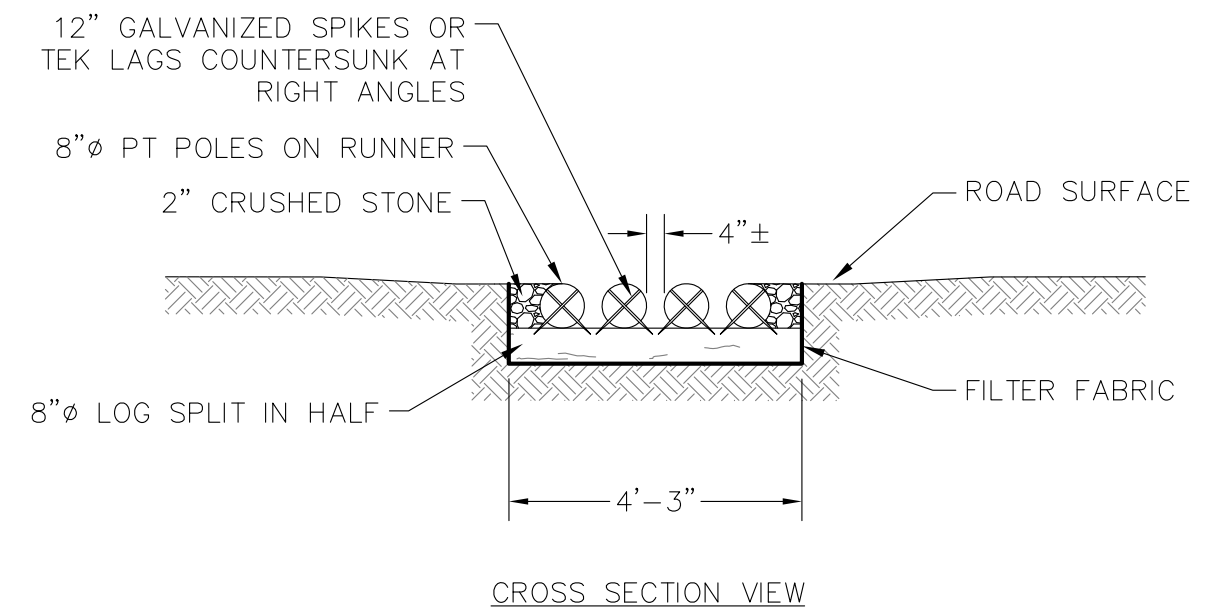
RIP RAP CHECK DAM
SCALE: NONE



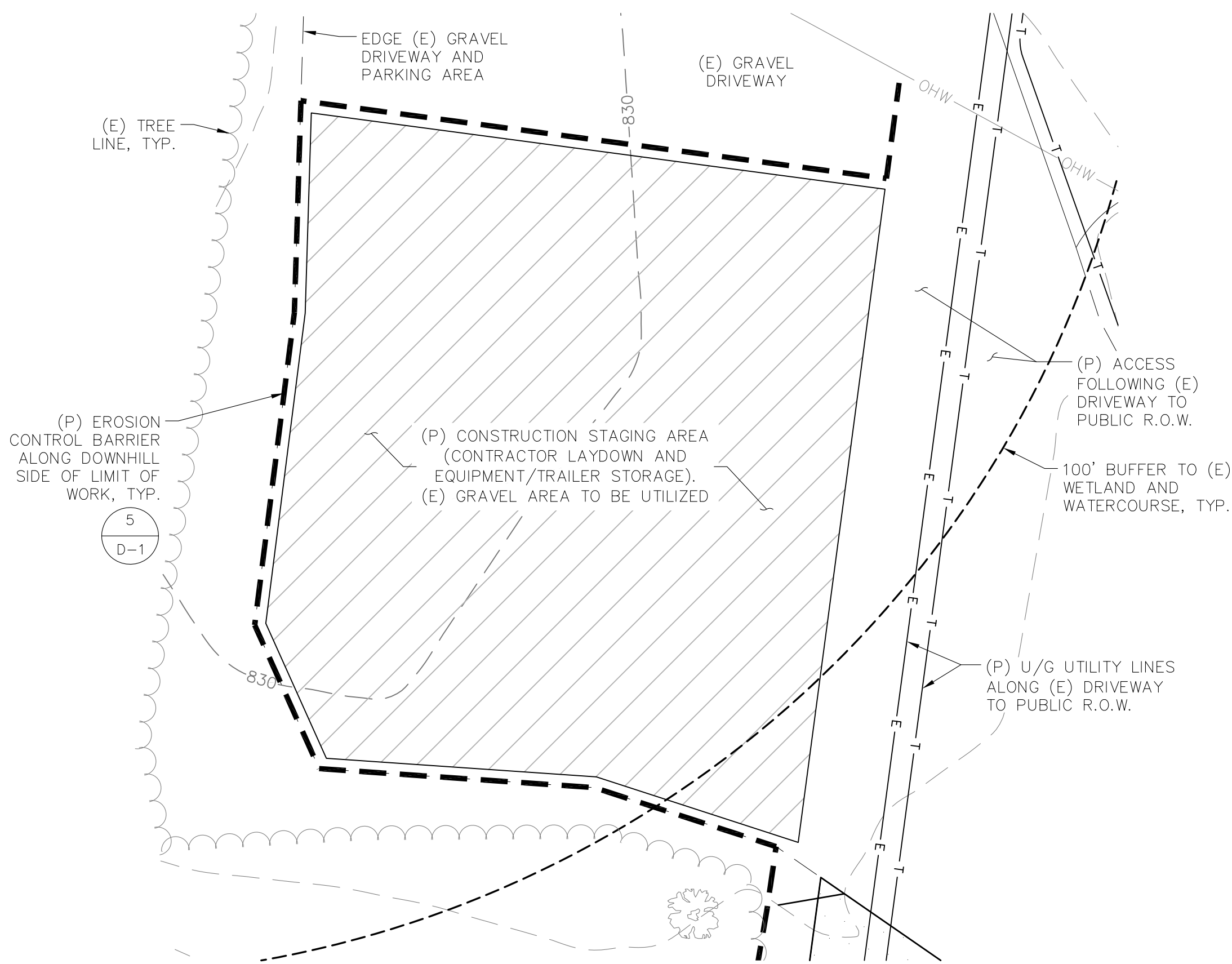
NOTES:

- IF SLOPE TOWARDS EXISTING DRIVEWAY EXCEEDS 2%, CONTRACTOR SHALL CONSTRUCT A RIDGE TO DIVERT WATER.

CONSTRUCTION ENTRANCE
SCALE: NONE



POLE CULVERT
SCALE: NONE



CONSTRUCTION STAGING AREA EROSION CONTROL
SCALE: 1"=10' (22x34)
1"=20' (11x17)

ProTerra
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LAKESVILLE SHARON ROAD
SITE NUMBER: G2246
ADDRESS: 106 SHARON ROAD
LAKESVILLE, CT 06039

NEW CIRCULAR WIRELESS
P.C.S. LLC ("AT&T")
c/o SAI COMMUNICATIONS
600 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

APPLICANT: **at&t**



DATE: 02/04/22
DRAWN: BLM
CHECK: JMM/TEJ
SCALE: SEE PLAN
JOB NO.: 18-063
SHEET TITLE:

DETAILS
D-2

1. ALL COMPONENTS SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS.
2. CONTRACTOR SHALL DETERMINE REQUIRED QUANTITY OF ALL ICE BRIDGE COMPONENTS SNAP-IN HANGERS, SPLICE KITS, HINGE KITS, EXTENSION KITS, STIFFENERS, AND OTHER MISCELLANEOUS HARDWARE SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED.
3. ICE BRIDGE SHALL BE ROUTED TO ACCOMMODATE THE MINIMUM BENDING RADIUS OF THE COAXIAL CABLE.
4. ICE BRIDGE COMPONENTS SHOWN ARE SCHEMATIC. CONSULT MANUFACTURER FOR EXACT AND CURRENT SPECIFICATIONS.

ICE BRIDGE KIT (COMMSCOPE: WB-K210-B) OR EQUAL
POSTS SPACED 8'-0" MAX.

ICE BRIDGE POST WITH BASE SHOE (COMMSCOPE: MF-126)
5/8"Ø HILTI-KWIK BOLT, TYP. OF 4
CONCRETE

ALTERNATE ANCHORING DETAIL

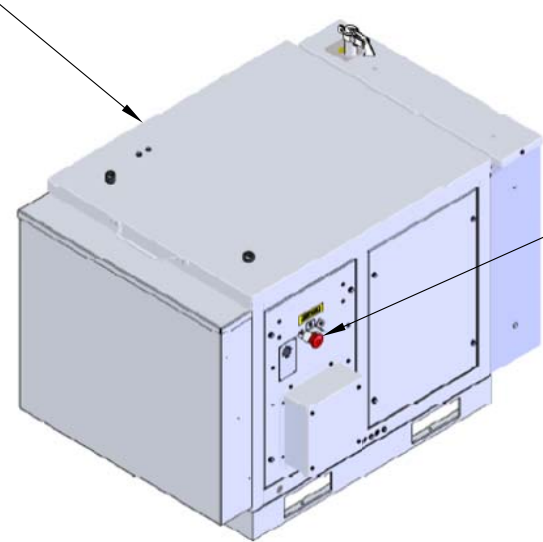
1'-0"Ø x 4'-6" CONCRETE FOOTING OR BELOW FROST DEPTH, WHICHEVER IS GREATER

ICE BRIDGE (COMMSCOPE: WB-K210-B)

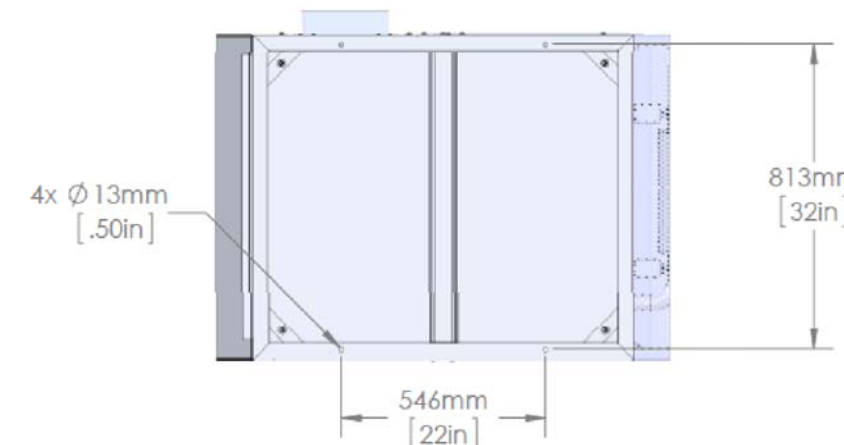
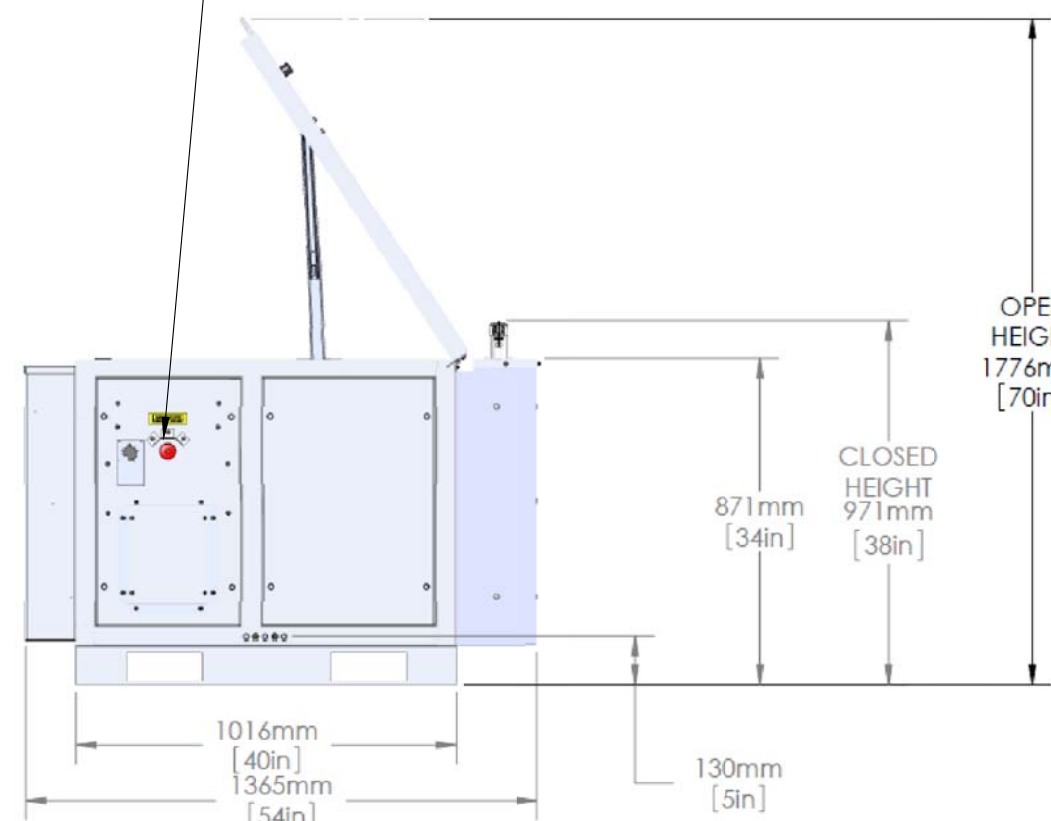
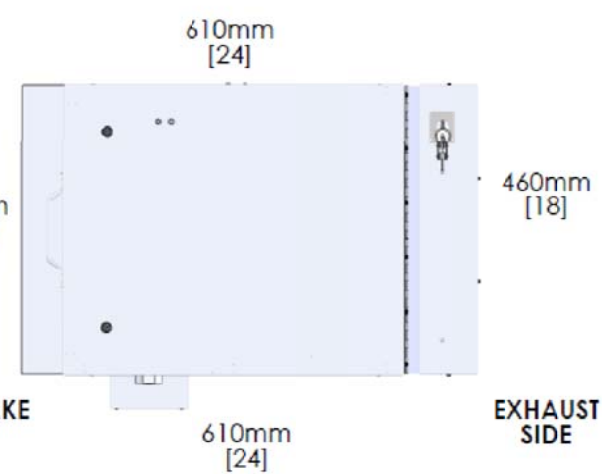
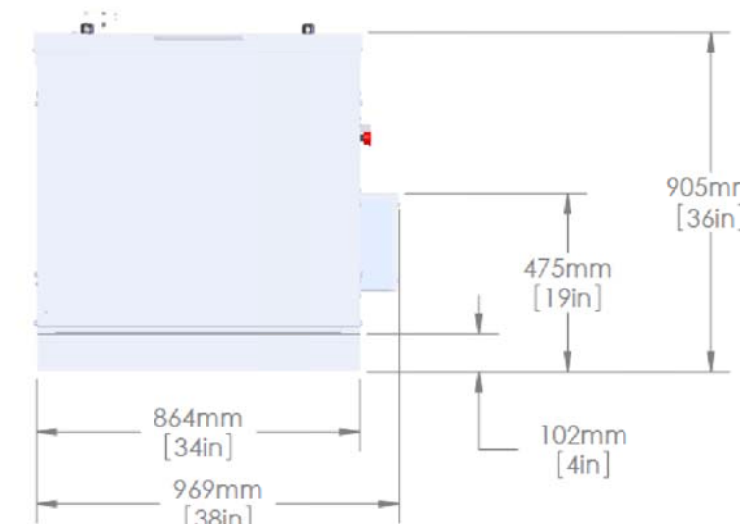
SCALE: NONE

1
D-4

15kW DC POLAR PROPANE GENERATOR (POLAR POWER 8340-100-LP-15-03)
CONTRACTOR TO VERIFY CONDUIT STUB-UP PLACEMENT WITH THE MANUFACTURER PRIOR TO INSTALLATION.



EMERGENCY STOP SWITCH WITH COVER (SEE NOTES)



PROPANE DC GENERATOR

SCALE: NONE

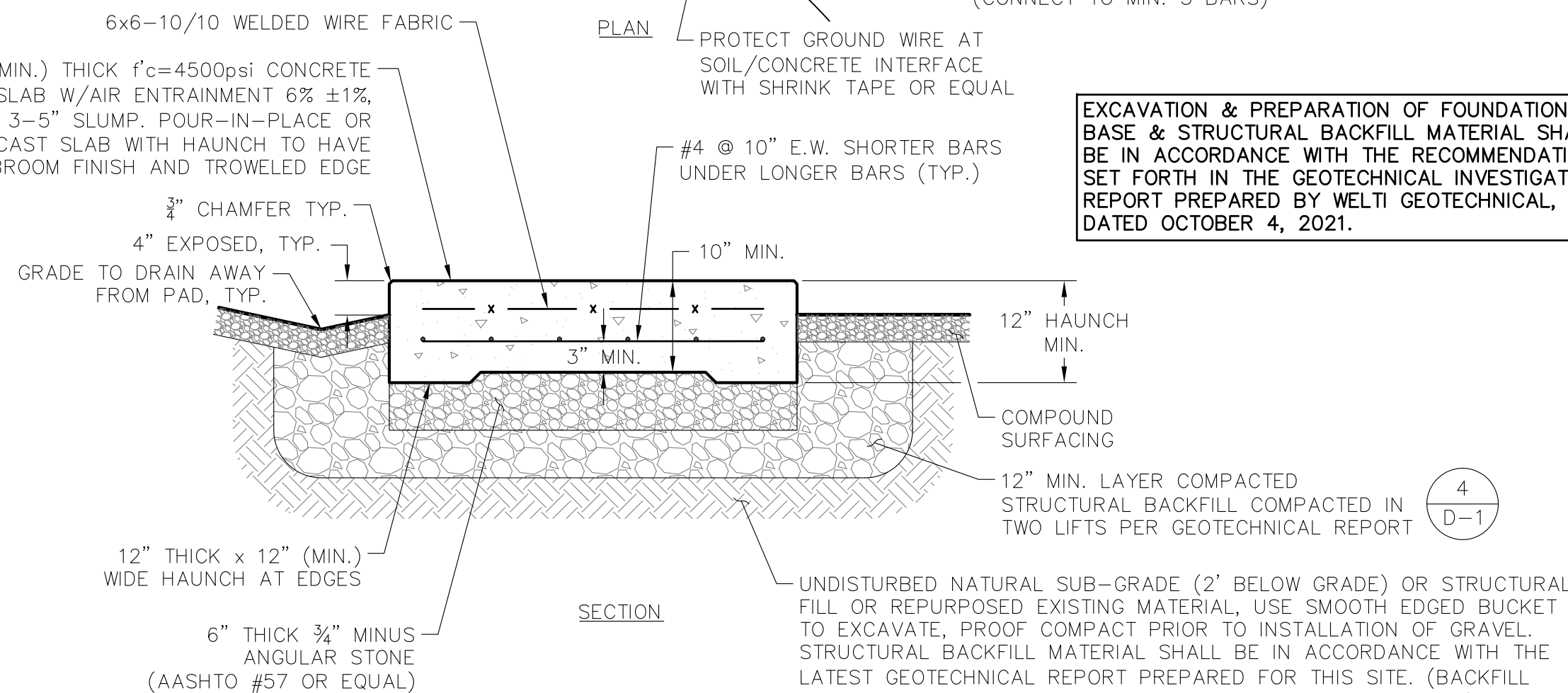
3
D-4

NOTES:

1. GENERATOR TO BE INSTALLED WITH AN EMERGENCY DISCONNECT AS REQUIRED BY NEC 445.18; DISCONNECTING MEANS AND SHUTDOWN OF PRIME MOVER.
2. AN EXTERNAL EMERGENCY DISCONNECT MAY ALSO BE REQUIRED FOR GENERATORS GREATER THAN 15kW. CONFIRM WITH THE AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLATION.

10" (MIN.) THICK $f'c=4500$ psi CONCRETE SLAB W/AIR ENTRAINMENT 6% $\pm 1\%$, 3-5" SLUMP. POUR-IN-PLACE OR PRECAST SLAB WITH HAUNCH TO HAVE A BROOM FINISH AND TROWELED EDGE

GENERATOR PAD: 4'x6'
PROPANE TANK PAD: 4'x10'



NOTE:
CONTRACTOR TO VERIFY CONDUIT STUB-UP PLACEMENT FOR THE GENERATOR WITH THE MANUFACTURER PRIOR TO INSTALLATION.

EXCAVATION & PREPARATION OF FOUNDATION BASE & STRUCTURAL BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY WELTI GEOTECHNICAL, P.C. DATED OCTOBER 4, 2021.

NOTE:
REFER TO SHEET GN-1 FOR CONCRETE & REINFORCING STEEL NOTES

GENERATOR CONCRETE PAD

SCALE: NONE

2
D-4



FOR REFERENCE & SCHEMATIC ONLY
SIGNAGE TYPE AND PLACEMENT
PER AT&T GUIDELINES

SIGNAGE

SCALE: NONE

4
D-4

ProTerra
DESIGN GROUP, LLC

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Ph: (413)320-4918

CONSULTANTS:

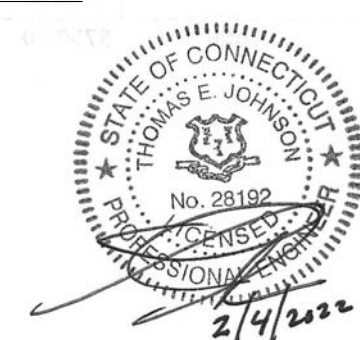
NO.	DATE	REVISIONS
A	11/09/21	ISSUED FOR REVIEW
0	12/03/21	DEVELOPMENT AND MANAGEMENT PLAN
1	02/04/22	REVISED DEVELOPMENT AND MANAGEMENT PLAN

LAKESIDE SHARON ROAD
SITE NUMBER: CT246
ADDRESS: 106 SHARON ROAD
LAKEVILLE, CT 06039

NEW CINCULAR WIRELESS
PCS, LLC ("AT&T")
C/O SAI COMMUNICATIONS
600 ENTERPRISE DRIVE
ROCKY HILL, CT 06067



STAMP:



DATE: 02/04/22

DRAWN: BLM

CHECK: JMM/TEJ

SCALE: SEE PLAN

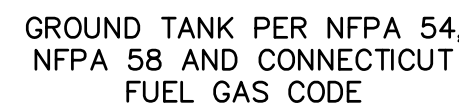
JOB NO.: 18-063

SHEET TITLE:

DETAILS

D-4

1. THE PROPANE SYSTEM IS SHOWN ON THIS DRAWING AS A SCHEMATIC ONLY. A LICENSED GAS FITTER SHALL OBTAIN ALL REQUIRED PERMITS AND CONSTRUCT IN ACCORDANCE WITH THE UTILITY PURVEYOR AND CONNECTICUT FUEL GAS CODE AS NECESSARY.
2. SEISMIC TIE DOWN KIT TO BE PROVIDED BY UTILITY PURVEYOR OR CONSULTED WITH THE ENGINEER PRIOR TO INSTALLATION.

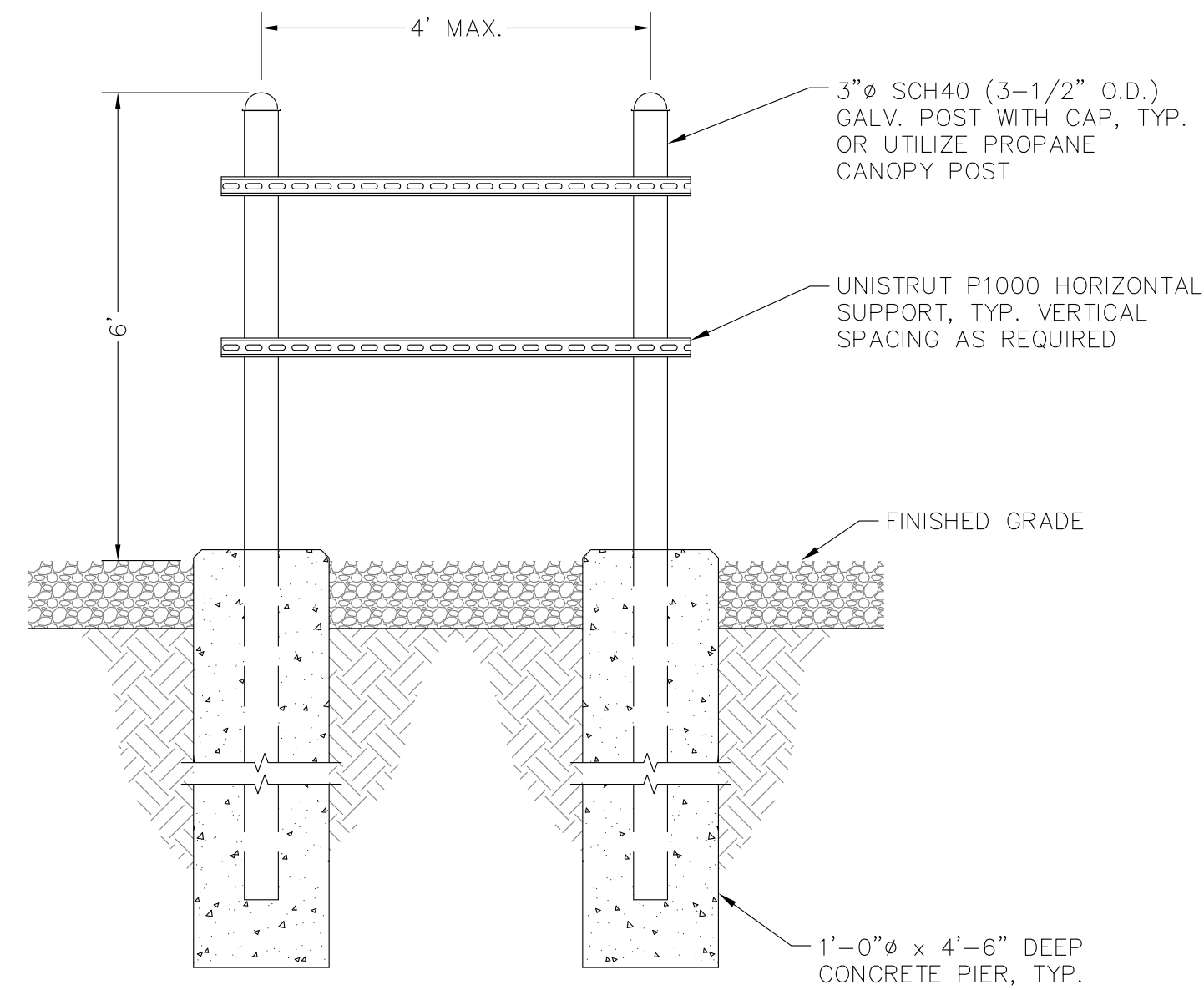


SCALE: NONE



- NOTE: IF SECONDARY REGULATOR IS DEPLOYED, SETBACKS TO THE GENERATOR & ELECTRICAL COMPONENTS IS REQUIRED (5' MIN.) TO THE REGULATOR VENT. REMOTE VENT PLUMBING MAY BE REQUIRED.

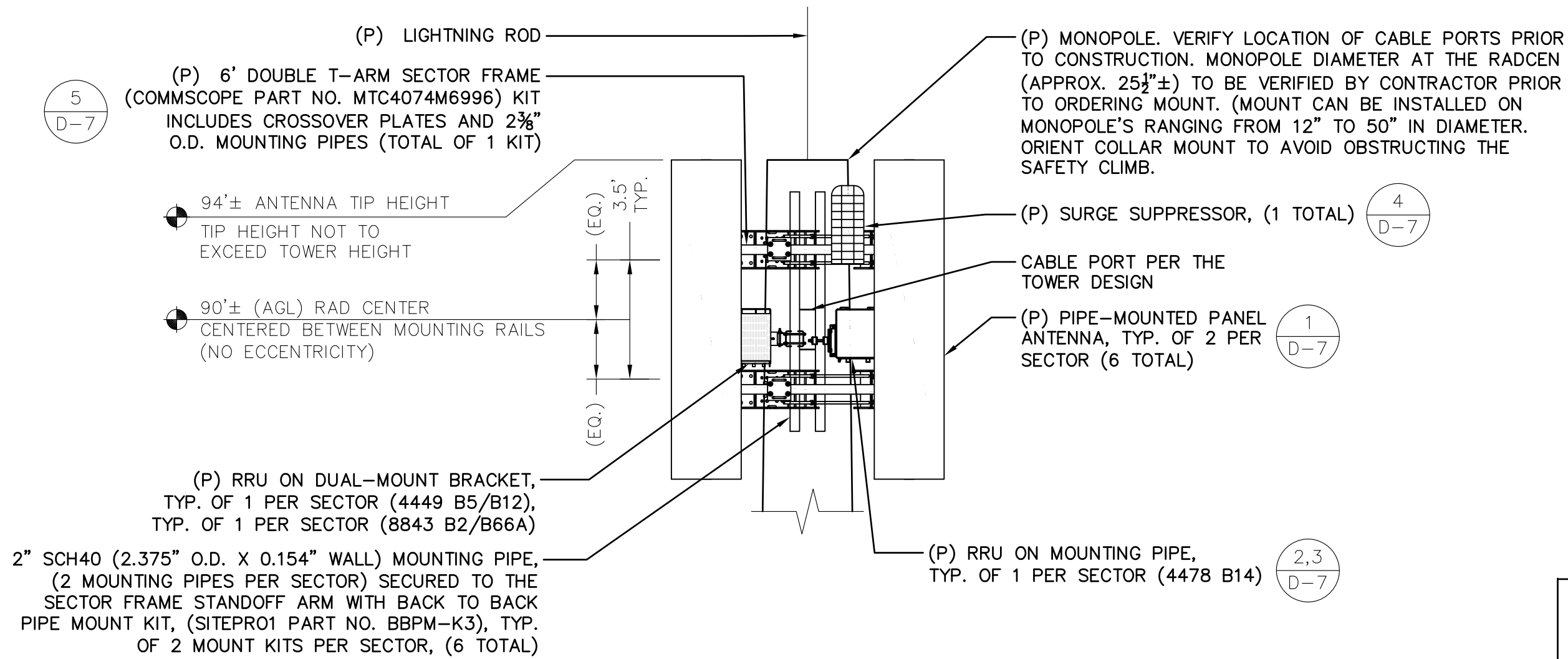
SCALE: NONE



D-5

(E) EXISTING
(P) PROPOSED
(F) FUTURE

RF EQUIPMENT TABLE																			
BASED UPON RFDS DATED 10/29/2020 (v6.00) (RFDS ID: 2284560)																			
SECTOR	PANEL ANTENNAS					FROM REMOTE RADIO UNIT					REMOTE RADIO UNIT					FROM SURGE SUPPRESSOR			
	AZIMUTH	QTY.	MAKE & MODEL		RAD. CENTER (AGL)	DOWNTILT	COAX. QTY.	COAX SIZE	COAX LENGTH	RET QTY.	QTY.	MAKE & MODEL		A2 QTY.	DC QTY.	DC SIZE	FIBER QTY.	DC & FIBER LENGTH	SURGE SUPPRESSOR QUANTITY
ALPHA	100°	(P) 1 (P) 1	(P) CCI TPA65R-BU8DA-K (P) CCI DMP65R-BU8DA-K		90'	0°M 0°M	(P) 16	1/2" ø	15'±	(P) 3	(P) 3	(P) ERICSSON 4478 B14 (P) ERICSSON 4449 B5/B12 (P) ERICSSON 8843 B2/B66A		-	(P) 3	#6 AWG PAIR	(P) 6	15'±	
BETA	200°	(P) 1 (P) 1	(P) CCI TPA65R-BU8DA-K (P) CCI DMP65R-BU8DA-K		90'	0°M 0°M	(P) 16	1/2" ø	15'±	(P) 3	(P) 3	(P) ERICSSON 4478 B14 (P) ERICSSON 4449 B5/B12 (P) ERICSSON 8843 B2/B66A		-	(P) 3	#6 AWG PAIR	(P) 6	15'±	(1) DC9-48-60-24-8C-EV
GAMMA	340°	(P) 1 (P) 1	(P) CCI TPA65R-BU8DA-K (P) CCI DMP65R-BU8DA-K		90'	0°M 0°M	(P) 16	1/2" ø	15'±	(P) 3	(P) 3	(P) ERICSSON 4478 B14 (P) ERICSSON 4449 B5/B12 (P) ERICSSON 8843 B2/B66A		-	(P) 3	#6 AWG PAIR	(P) 6	15'±	
GPS	N/A	1	TBD		12'	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A	(1) 1/2"ø COAX



RF ANTENNA ELEVATION

SCALE: NONE

THE MONOPOLE AND ALL APPURTENANCES SHALL BE PAINTED IN ACCORDANCE WITH THE CONNECTICUT SITING COUNCIL APPROVAL, (SHERWIN WILLIAMS FRENCH ROAST COLOR CODE: SW6069)

THESE PLANS ARE DEPENDENT ON A PASSING GLOBAL STRUCTURAL ANALYSIS, STRUCTURAL ASSESSMENT, OR SUFFICIENT EQUIPMENT PLACEHOLDER ON THE ORIGINAL DESIGN BY THE TOWER OWNER PRIOR TO PLACEMENT OF AT&T EQUIPMENT.

NO MOUNT SUBSTITUTIONS WITHOUT PRIOR APPROVAL BY ENGINEER

NOTE:
MOUNT TO BE INSTALLED IN ACCORDANCE WITH THE MOUNT STRUCTURAL ANALYSIS BY HUDSON DESIGN GROUP, LLC DATED 11/09/20. AT&T EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH THE RFDS DATED 10/29/2020.

POST MODIFICATION INSPECTION (PMI) REQUIREMENTS:

A POST MODIFICATION INSPECTION (PMI) REPORT IS REQUIRED FOR THE NEW MOUNT AT THIS SITE, CONTRACTOR TO PROVIDE THE FOLLOWING INFORMATION, DOCUMENTS & PHOTOS TO CONFIRM THE MOUNT HAS BEEN INSTALLED PER THE MOUNT ANALYSIS, MOUNT MODIFICATION DRAWINGS, AND/OR THE MOUNT MANUFACTURER'S SPECIFICATIONS. ALL PHOTOS AND DOCUMENTS SHALL FOLLOW THE STANDARD AT&T NAMING CONVENTIONS AND ORGANIZATION TREES.

- CONTRACTOR IS RESPONSIBLE FOR MAKING CERTAIN THE PHOTOS PROVIDED AS NOTED BELOW PROVIDE CONFIRMATION THAT THE MODIFICATION/INSTALLATION WAS COMPLETED IN ACCORDANCE WITH THE MOUNT MANUFACTURER'S SPECIFICATIONS.
- CONTRACTOR SHALL RELAY ANY DATA THAT CAN IMPACT THE PERFORMANCE OF THE MOUNT OR THE MOUNT MODIFICATION, THIS INCLUDES SAFETY ISSUES.

BASE REQUIREMENTS:

- PROVIDE "AS BUILT DRAWINGS" SHOWING CONTRACTOR'S NAME, PREPARER'S SIGNATURE, AND DATE. ANY DEVIATIONS FROM THE DRAWINGS (PROPOSED MODIFICATION) MUST BE SHOWN.
- CONFIRM THAT THE LOADING IS CONSISTENT WITH THE PLANS AND MOUNT ANALYSIS. IF LOADING IS DIFFERENT THAN WHAT IS CONVEYED IN THE DRAWING CONTACT THE ENGINEER OF RECORD IMMEDIATELY.
- CONTRACTOR SHALL ENSURE THAT THE SAFETY CLIMB SYSTEM IS SUPPORTED AND NOT ADVERSELY IMPACTED BY THE INSTALLATION OF THE MOUNT. THIS MAY INVOLVE THE INSTALLATION OF WIRE GUIDES, OR OTHER ITEMS TO PROTECT THE SAFETY CLIMB.
- SUBMIT THE BILL OF LADING/PACKING SLIPS FOR ANY MOUNTS INSTALLED AND ANY PARTS REQUIRED FOR MODIFICATIONS TO THE ENGINEER OF RECORD.

MATERIAL CERTIFICATION:

- MATERIALS USED MUST BE AS PER SPECIFICATION ON THE CONSTRUCTION DRAWINGS, THE MOUNT MODIFICATION DRAWINGS, OR THE EQUIVALENT AS VALIDATED BY THE ENGINEER OF RECORD.
- SUBMISSION OF SPECIFICATIONS, INVOICES CERTIFYING, AND/OR ENGINEER OF RECORD APPROVAL OF AN "EQUIVALENT" MUST BE SUBMITTED TO AT&T.
- THE CONTRACTOR MUST CERTIFY THAT THE MATERIALS MEET THESE SPECIFICATIONS BY ONE OF THE METHODS BELOW AND SHALL BE SUBMITTED TO AT&T:

☐ THE MATERIAL UTILIZED WAS AS SPECIFIED ON THE CONSTRUCTION DRAWINGS.

☐ THE MATERIAL UTILIZED WAS AN "EQUIVALENT" AND INCLUDED AS PART OF THE PMI ARE THE CERTIFICATIONS FROM THE ENGINEER OF RECORD, INVOICES, AND/OR SPECIFICATIONS VALIDATING ACCEPTED STATUS.

CERTIFYING INDIVIDUAL: _____
COMPANY _____
NAME _____
SIGNATURE _____

PHOTO REQUIREMENTS:

PHOTOS TAKEN AT GROUND LEVEL:

- SITE AND CARRIER IDENTIFICATION SIGNAGE PHOTOS
- PHOTOS OF THE GALVANIZING COMPOUND AND/OR PAINT USED (IF APPLICABLE), CLEARLY SHOWING THE LABEL AND NAME
- OVERALL TOWER STRUCTURE BEFORE AND AFTER INSTALLATION OF THE MOUNT
- PHOTOS OF THE APPROPRIATE MOUNT BEFORE AND AFTER INSTALLATION

PHOTOS TAKEN AT MOUNT ELEVATION

- OVERALL PHOTOS OF EACH SECTOR TO SHOW THE ENTIRE SECTOR FRAME & EQUIPMENT INSTALLED FOR EACH MOUNT. (BEFORE & AFTER IF APPLICABLE)
- CLOSE-UP PHOTOS OF EACH MOUNT COMPONENT INSTALLED PER THE MANUFACTURER'S INSTALLATION DRAWINGS; PICTURES SHOULD ALSO INCLUDE CONNECTION HARDWARE (U-BOLTS, BOLTS, NUTS, ALL-THREADED RODS, ETC.)
- PHOTOS SHOWING THE MEASUREMENTS OF THE INSTALLED MODIFICATION MEMBER SIZES (I.E. LENGTHS, WIDTHS, DEPTHS, DIAMETERS, THICKNESSES)
- PHOTOS SHOWING THE ELEVATION OR DISTANCES OF THE INSTALLED COMPONENTS FROM THE APPROPRIATE REFERENCE LOCATIONS SHOWN IN THE MANUFACTURER'S INSTALLATION DRAWINGS AND/OR THE CONSTRUCTION DRAWINGS SUCH AS:
 - PHOTOS SHOWING THE DISTANCE BETWEEN RING MOUNTS FOR KICKER BRACING;
 - THE SPACING BETWEEN MOUNTING RAIL AND HANDRAIL;
 - LOCATION OF TIE-BACKS ON SECTOR FRAMES INCLUDING SPACING FROM THE KNUCKLE AT THE STANDOFF ARM;
 - SPACING BETWEEN SECTOR FRAMES AND ANY V-BRACING KIT LEG MOUNTS;
 - PHOTOS OF OTHER CRITICAL DIMENSIONS DEPICTED IN THE CONSTRUCTION DRAWINGS MAY BE REQUIRED.

- PHOTOS SHOWING THE INSTALLED COMPONENTS ONTO THE TOWER WITH TAPE DROP MEASUREMENTS (IF APPLICABLE) (I.E. RING/COLLAR MOUNTS, TIE-BACKS, V-BRACING KITS, ETC.); IF THE EXISTING MOUNT ELEVATION NEEDS TO BE CHANGED ACCORDING TO THE CONSTRUCTION DRAWINGS, A TAPE DROP MEASUREMENT SHALL BE PROVIDED BEFORE THE ELEVATION CHANGE
- PHOTOS SHOWING THE SAFETY CLIMB WIRE ROPE ABOVE AND BELOW THE MOUNT POST MODIFICATION.

ProTerra
DESIGN GROUP, LLC

4 Bay Road
Bldg. A, Suite 200
Hadley, MA 01035
Ph: (413)320-4918

CONSULTANTS:

NO.	DATE	REVISIONS
A	11/09/21	ISSUED FOR REVIEW
0	12/03/21	DEVELOPMENT AND MANAGEMENT PLAN
1	02/04/22	REVISED DEVELOPMENT AND MANAGEMENT PLAN

LAKESIDE SHARON ROAD
SITE NUMBER: G2246
ADDRESS: 106 SHARON ROAD
LAKEVILLE, CT 06039

NEW CIRCULAR WIRELESS
PCS, LLC ("AT&T")
c/o SAI COMMUNICATIONS
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

at&t
APPLICANT

STAMP:



DATE: 02/04/22

DRAWN: BLM

CHECK: JMM/TEJ

SCALE: SEE PLAN

JOB NO.: 18-063

SHEET TITLE:

DETAILS

D-6

CONSULTANTS:

NO.	DATE	REVISIONS
1	11/09/20	ISSUED FOR REVIEW
2	12/03/21	DEVELOPMENT AND MANAGEMENT PLAN
3	02/04/22	REVISED DEVELOPMENT AND MANAGEMENT PLAN
4		
5		
6		
7		
8		
9		
10		

LAKESVILLE SHARON ROAD
SITE NUMBER: G7246
ADDRESS: 106 SHARON ROAD
LAKESVILLE, CT 06039

NEW CIRCULAR WIRELESS PCS, LLC ("AT&T")
600 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

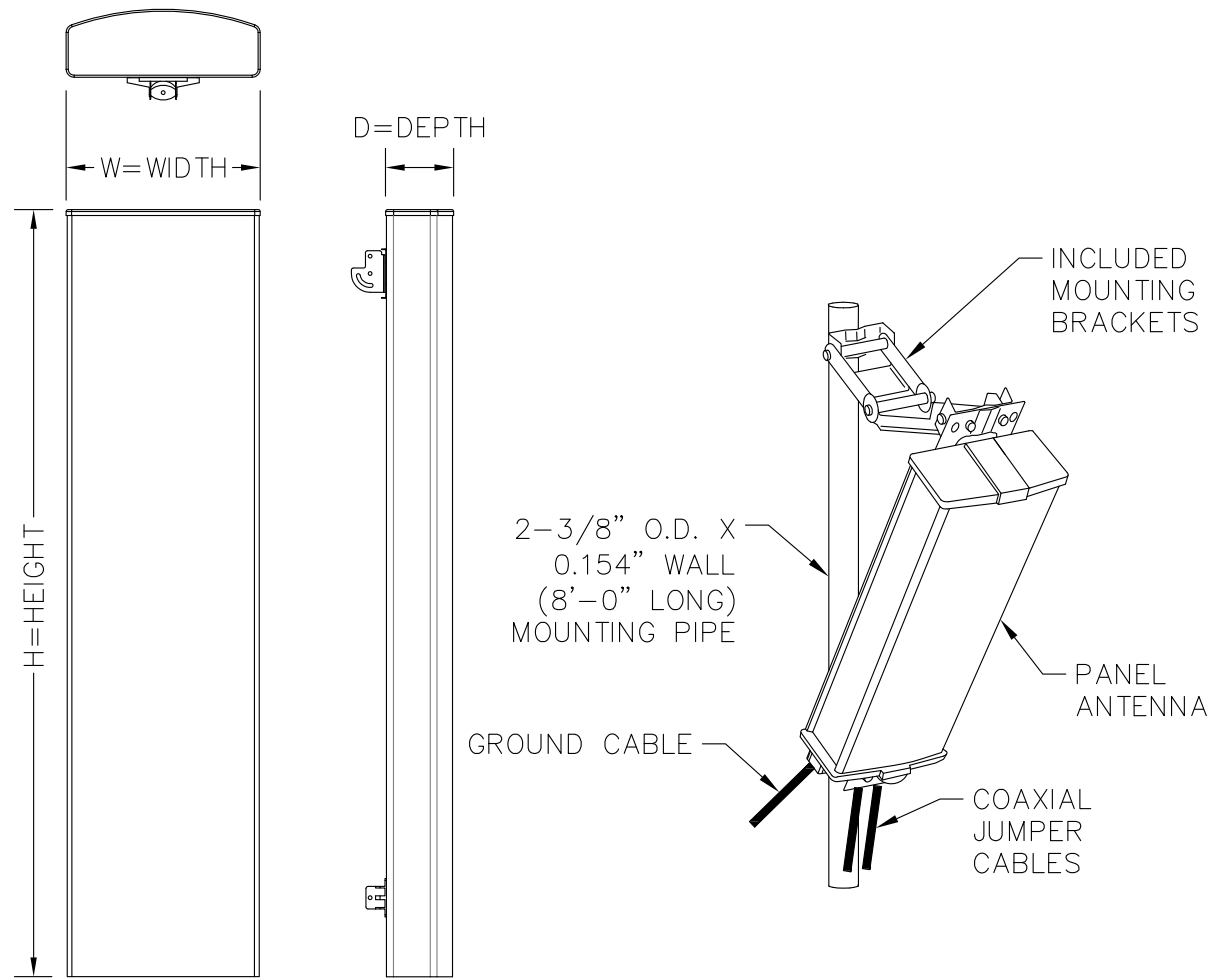
APPLICANT: **at&t**



DATE: 02/04/22
DRAWN: BLM
CHECK: JMM/TEJ
SCALE: SEE PLAN
JOB NO.: 18-063
SHEET TITLE:

DETAILS

D-7



ANTENNA

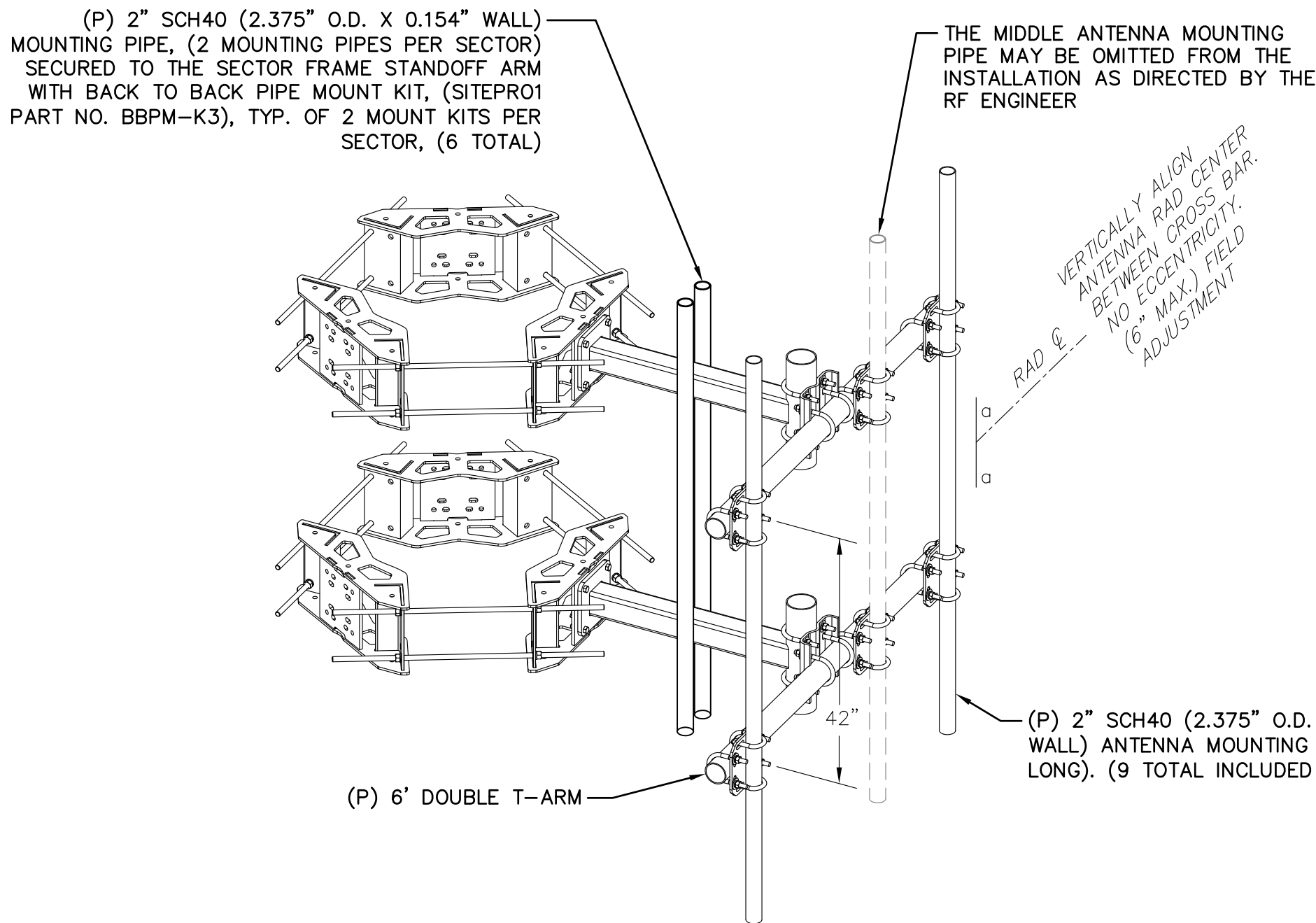
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: (P) CCI MODEL: TPA65R-BU8DA-K	96"H x 21"W x 7.8"D	88± LBS.
MAKE: (P) CCI MODEL: DMP65R-BU8DA-K	96"H x 20.7"W x 7.7"D	96± LBS.

PANEL ANTENNA DETAIL

SCALE: NONE

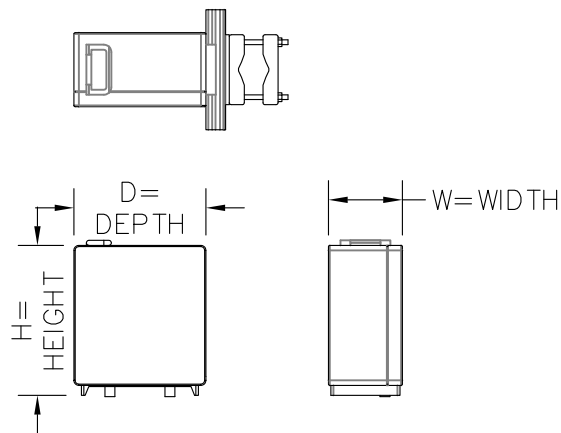
NOTE:
MOUNT TO BE INSTALLED IN ACCORDANCE WITH THE MOUNT STRUCTURAL ANALYSIS BY HUDSON DESIGN GROUP, LLC DATED 11/09/20. AT&T EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH THE RFDS DATED 10/29/2020.

EQUIPMENT PLACEMENT NOTE:
ANTENNAS TO BE INSTALLED WITH THE CENTER OF THE ANTENNAS, (RADGEN) EQUALLY SPACED BETWEEN THE MOUNTING RAILS, (CENTER OF THE MOUNT) NO VERTICAL ECCENTRICITY ALLOWED.



SECTOR FRAME DETAIL

SCALE: NONE

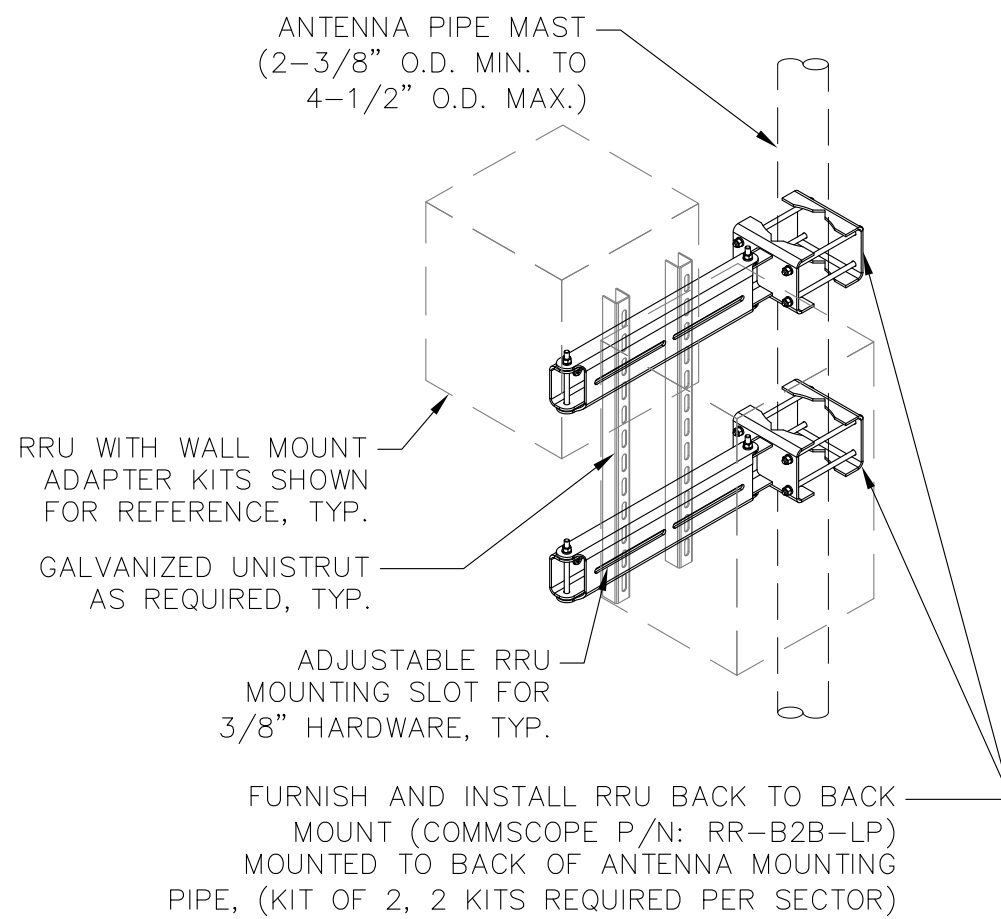


RRU (REMOTE RADIO UNIT)

EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: (P) ERICSSON MODEL: LTE 4478 B14	18.1"H x 13.5"W x 8.3"D	60± LBS.
MAKE: (P) ERICSSON MODEL: LTE 4449 B5/B12	17.9"H x 13.2"W x 9.4"D	71± LBS.
MAKE: (P) ERICSSON MODEL: LTE 8843 B2/B66A	15.0"H x 13.2"W x 11.1"D	75± LBS.

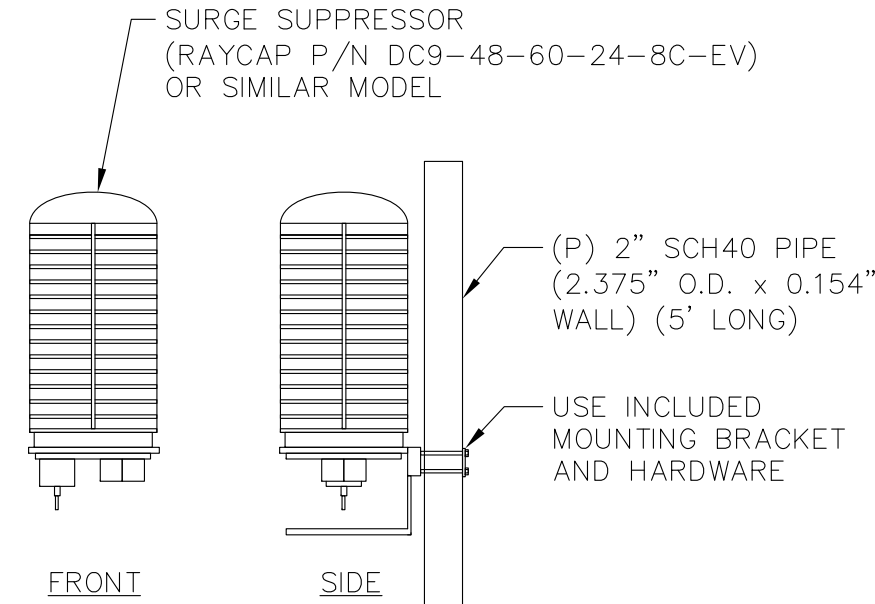
REMOTE RADIO UNIT DETAIL

SCALE: NONE



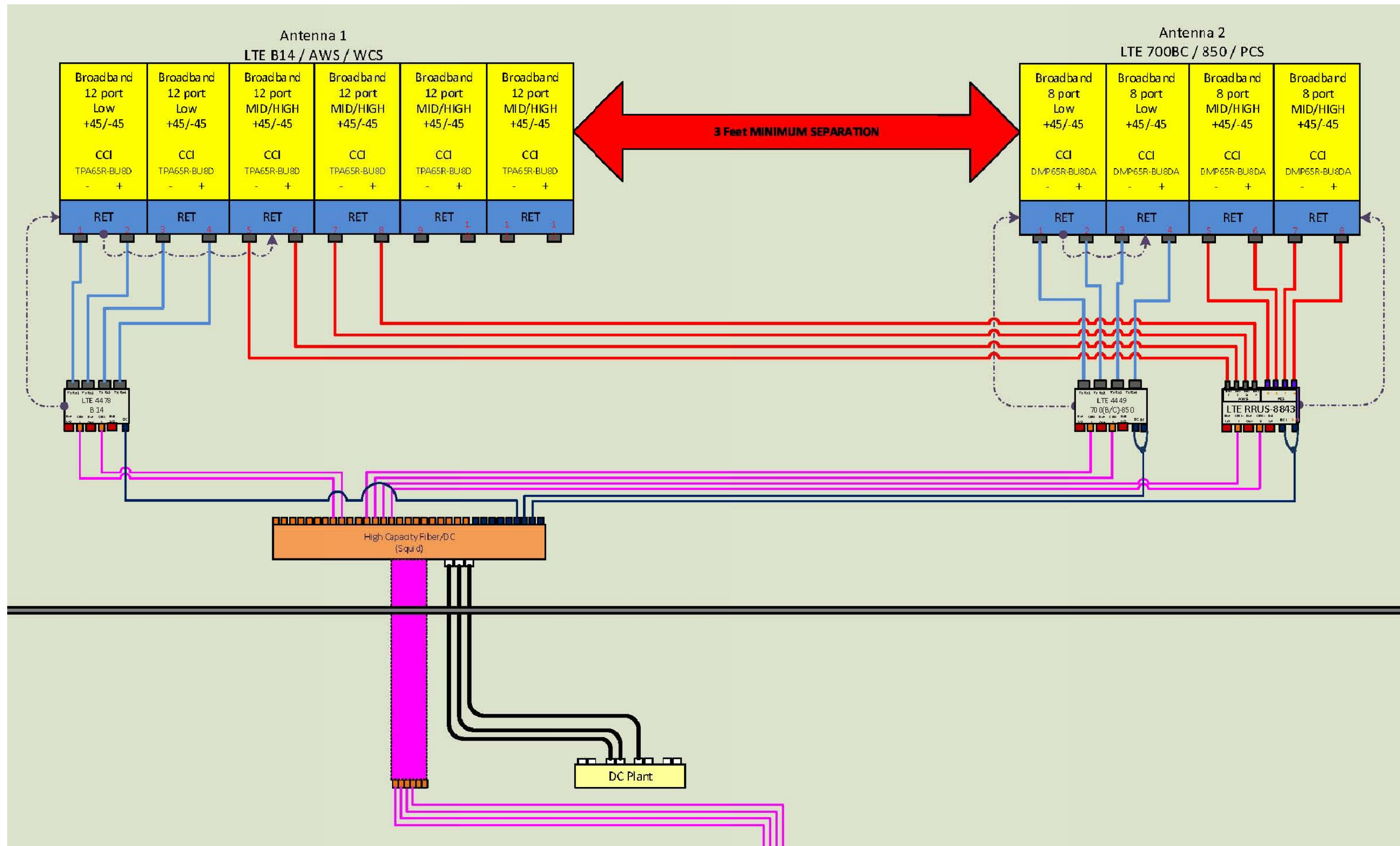
RRU MOUNTING BRACKET

SCALE: NONE



SURGE SUPPRESSOR

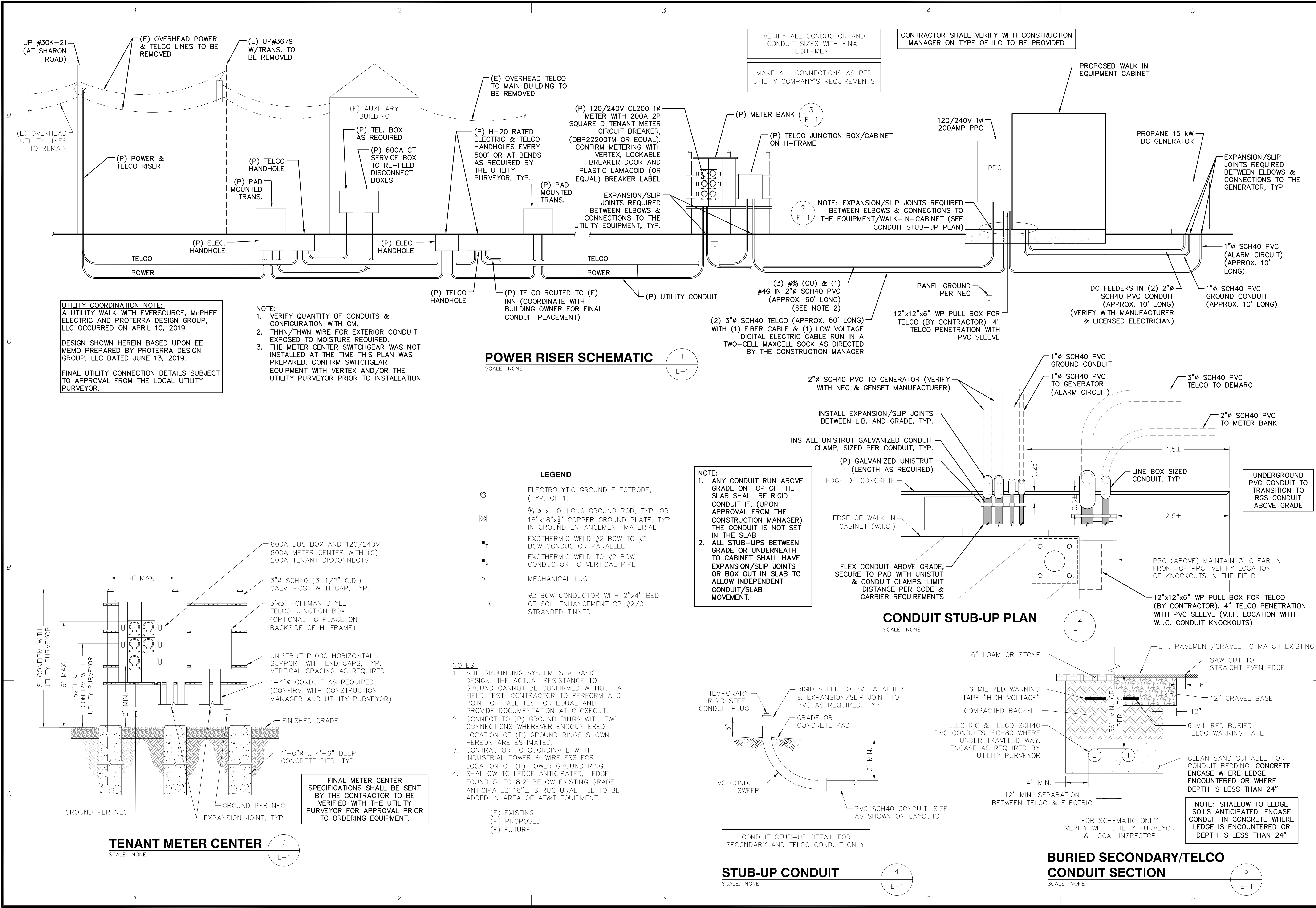
SCALE: NONE



BASED UPON RFDS DATED 10/29/2020 (v6.00) (RFDS ID: 2284560)

RF PLUMBING DIAGRAM

SCALE: NONE



CONSULTANTS:

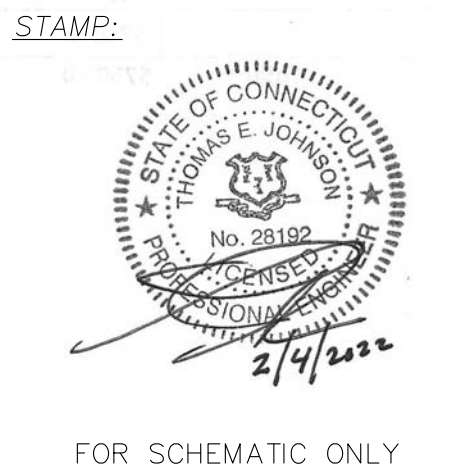
NO.	DATE	REVISIONS
1	02/04/22	AND MANAGEMENT PLAN
0	12/03/21	MANAGEMENT PLAN
1	11/09/21	DEVELOPMENT AND
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LAKESIDE SHARON ROAD
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NEW CIRCULAR WIRELESS
PCS, LLC ("AT&T")
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at&t

APPLICANT:



DATE: 02/04/22
DRAWN: BLM
CHECK: JMM/TEJ
SCALE: SEE PLAN
JOB NO.: 18-063
SHEET TITLE:

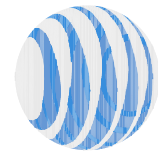
ELECTRICAL &
GROUNDING
DETAILS
E-1

[illegible]

LAKEVILLE SHARON ROAD
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NEW CINGULAR WIRELESS
PCS, LLC ("AT&T")
c/o SAI COMMUNICATIONS
500 ENTERPRISE DRIVE
ROCKY HILL, CT 06067

at&t



APPLICANT:

SHEET TITLE:

E-3



NOTE:
SITE GROUNDING SYSTEM IS A BASIC DESIGN. THE ACTUAL RESISTANCE TO GROUND CANNOT BE CONFIRMED WITHOUT A FIELD TEST. CONTRACTOR TO INSTALL AND PROVIDE DOCUMENTATION AT CLOSEOUT.

