

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE:	:	
	:	
APPLICATION OF CELLCO PARTNERSHIP	:	DOCKET NO. 495A
D/B/A VERIZON WIRELESS FOR A	:	
CERTIFICATE OF ENVIRONMENTAL	:	
COMPATIBILITY AND PUBLIC NEED FOR	:	
THE CONSTRUCTION, MAINTENANCE	:	
AND OPERATION OF A WIRELESS	:	
TELECOMMUNICATIONS FACILITY AT	:	
5151 PARK AVENUE, FAIRFIELD,	:	
CONNECTICUT	:	NOVEMBER 28, 2022

RESPONSES OF CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS
TO CONNECTICUT SITING COUNCIL D&M PLAN INTERROGATORIES

On November 14, 2022, the Connecticut Siting Council (“Council”) issued D&M Plan Interrogatories to Cellco Partnership d/b/a Verizon Wireless (“Cellco”), relating to Docket No. 495A. Below are Cellco’s responses. Cellco respectfully requests an extension of time to provide adequate responses to Question Nos. 13 and 14. Supplemental responses will be provided to the Council as soon as the information is available.

Question No. 1

Is the three-pole tower capable of supporting a tower extension? If yes, indicate which pole(s) can be extended and the maximum height of the extension per the structural analysis.

Response

The specialty tower at Sacred Heart University (“SHU”) was not designed to be extended.

Question No. 2

Site Plan A-5 states the run time of the emergency backup generator is 96 hours before refueling is required. Would this run time include operation of equipment by Cellco, AT&T and

other tenants?

Response

Yes. The run time estimates assume the generator is being shared by Cellco, AT&T and T-Mobile.

Question No. 3

Provide emergency backup generator/fuel tank specifications. Identify fuel spill containment measures.

Response

The generator's fuel tank is double-walled and maintains an epoxy-based rubberized coating and leak detection alarms. The leak detection alarms are monitored by Cellco technicians at its Mobile Telephone Switching Office, 24/7. The specifications for the 100 kW Kohler generator and specialty fuel tank are included in Attachment 1.

Question No. 4

Site Plan A-1 has a callout for a chain-link fence, but no fence is shown. Clarify.

Response

Included in Attachment 2 is a revised set of D&M Plans showing (Plan Sheet A-1) the proposed chain link, connecting to existing fencing and enclosing the tower, SHU's existing generator and the proposed 100 kW generator approved in Docket No. 495A.

Question No. 5

The Antenna Schedule on Site Plan T-1 does not match the Antenna Plan on Site Plan A-1.1. Clarify.

Response

As described on D&M Plan Sheet a-1.1, Cellco will install a total of 14 antennas on the

tower structure. Six (6) antennas will be installed (two antennas each) in the Alpha, Beta and Gamma sectors, in the three support poles, behind a concealment shroud at a centerline height of 95 feet AGL. The remaining eight (8) antennas will be installed behind the RF transparent screening panels at centerline heights of 68.5 feet AGL and 67 feet AGL; two (2) antennas each in the Alpha, Beta, Gamma and Delta sectors as depicted on the Antenna Plan detail on Plan Sheet A-1.1.

Cellco also plans to install a total of 14 remote Radio Heads (“RRHs”). Seven of the RRHs are shown in the Antenna Plan detail on Plans Sheet A-1.1. An eighth RRH will be stacked below one of the RRH depicted on the Antenna Plan detail. The remaining six (6) RRHs are integrated into and are a part of six (6) of the proposed antennas. As such they do not appear as separate RRHs on the Antenna Plan drawing.

We apologize for the confusion.

Question No. 6

Site Plan A-1.1 includes “proposed T-Mobile antennas.” T-Mobile was not a party or intervenor to the proceeding. Would T-Mobile submit a separate tower sharing request to the Council if the D&M Plan is approved?

Response

Yes, T-Mobile’s needs were taken into consideration during the development of the Docket No. 495A D&M Plan. T-Mobile will, however, need to make a separate tower-share filing with the Council since it did not participate in reopened docket.

Question No. 7

Provide information regarding AT&T’s installation on the facility - number of antennas, equipment and pole height(s).

Response

AT&T intends to install a total of twelve (12) antennas and nine (9) RRHs at a height of 76 feet - 9 inches on the tower. AT&T's antennas and RRHs will be located behind the fiberglass concealment panels.

Question No. 8

Provide specification sheets for Cellco's and AT&T's antennas.

Response

Cellco's antenna specifications are included in Attachment 3. AT&T's antenna specifications are included in Attachment 4.

Question No. 9

Site Plan A-1.1 states the three-pole tower will be painted "light-gray". Provide a sample of the selected color.

Response

A color sample is included in Attachment 5.

Question No. 10

Was there any further discussion with SHU regarding the tower color and/or design after the Council issued the Certificate? If yes, provide information.

Response

No. During the course of the Docket No. 495A proceeding, Cellco provided the Council with confirmation that Sacred Heart University ("SHU") was amenable to the light gray color selection. (See Cellco's LFE No. 1 dated April 8, 2022).

Question No. 11

Site Plan C-2 indicates 15 trees are to be removed; however, no areas of tree clearing are

shown on the site plan. Clarify.

Response

See revised D&M Plan Sheet C-2 (Attachment 2). The trees to be removed are along the routing of the fiber optic service extending from the northwest corner of the SHU campus, then along the western and southern edges of the campus property.

Question No. 12

Page 8 of the geotechnical report recommends a geo-technical engineer should be on-site to observe excavation and foundation preparation. Does Cellco intend to implement this recommendation?

Response

Yes.

Question No. 13

The Connecticut State Building Code was updated effective October 1, 2022. Has the facility been designed to the updated code? If not, what changes are necessary to the design of the facility to comply with the updated Code?

Response

A new Structural Analysis (“SA”) confirming that the proposed structure will comply with the recently adopted International Building Code effective October 1, 2021, as modified by the 2022 Connecticut Supplement, is in process and will be submitted to the Council as soon as it is available. Cellco respectfully requests an extension of time to submit the revised SA.

Question No. 14

Provide a rigorous cumulative far-field radio frequency analysis for the facility that accounts for Cellco’s and AT&T’s equipment on the tower, a 6-foot tall person at ground level

and the actual antenna patterns for the facility with a cumulative % MPE at or below 100%.

Response

A copy of Cellco's radio frequency analysis is included in Attachment 6. The modified AT&T's radio frequency analysis has been requested and will be provided as soon as it is available. Cellco respectfully requests an extension of time to finalize this response.

Question No. 15

Confirm notice of the filing, or a copy of the D&M Plan was provided to the Service List (03/10/22), pursuant to Regulations of Connecticut State Agencies (RCSA) §16-50j-75(e).

Response

Yes. A copy of the D&M Plan was sent, via email, to Lucia Chiochio, Esq. and Kristen Motel, Esq. at Cuddy Feder LLP.

Question No. 16

Provide a construction schedule including hours and days of the week for construction activities.

Response

Cellco anticipates construction will occur Monday through Saturday between 7 a.m. and 7 p.m. Cellco anticipates construction of the approved facility to take 4-6 months to complete.

CERTIFICATE OF SERVICE

I hereby certify that on the 28th day of November 2022, a copy of the foregoing was sent,
via electronic mail, to:

Lucia Chiochio, Esq.
Kristen Motel, Esq.
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, NY 10601
lchiochio@cuddyfeder.com
kmotel@cuddyfeder.com



Kenneth C. Baldwin

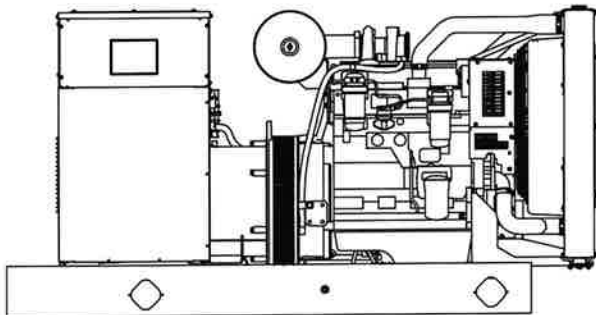
ATTACHMENT 1



Tier 3 EPA-Certified for Stationary Emergency Applications

Ratings Range

		60 Hz
Standby:	kW	77- 102
	kVA	77- 128
Prime:	kW	71- 92
	kVA	71- 115



Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- Approved for use with certified renewable Hydrotreated Vegetable Oil (HVO) / Renewable Diesel (RD) fuels compliant with EN15940 / ASTM D975.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The 60 Hz generator set offers a UL 2200 listing.
- The generator set accepts rated load in one step.
- The 60 Hz generator set meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- A one-year limited warranty covers all generator set systems and components. Two- and five-year extended limited warranties are also available.
- Alternator features:
 - The unique Fast-Response® X excitation system delivers excellent voltage response and short-circuit capability using a rare-earth, permanent magnet (PM)-excited alternator.
 - The brushless, rotating-field alternator has broadrange reconnectability.
- Other features:
 - Kohler designed controllers for one-source system integration and remote communication. See Controllers on page 3.
 - The low coolant level shutdown prevents overheating (standard on radiator models only).
 - Integral vibration isolation eliminates the need for under-unit vibration spring isolators.
- Mount up to three circuit breakers to allow circuit protection of selected priority loads.

Generator Set Ratings

Alternator	Voltage	Ph	Hz	130°C Rise Standby Rating		105°C Rise Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps
4R9X	120/208	3	60	100/125	347	90/113	312
	127/220	3	60	100/125	328	90/113	295
	120/240	3	60	100/125	301	90/113	271
	120/240	1	60	77/77	321	71/71	296
	139/240	3	60	100/125	301	90/113	271
	220/380	3	60	100/125	190	90/113	171
	277/480	3	60	100/125	150	90/113	135
4R12X	347/600	3	60	100/125	120	90/113	108
	120/208	3	60	102/128	354	92/115	319
	127/220	3	60	102/128	335	92/115	302
	120/240	3	60	102/128	307	92/115	277
	120/240	1	60	91/91	379	84/84	350
	139/240	3	60	102/128	307	92/115	277
	220/380	3	60	102/128	194	92/115	175
4T12X	277/480	3	60	102/128	153	92/115	138
	347/600	3	60	102/128	123	92/115	111
4T12X	120/240	1	60	100/100	417	90/90	375

RATINGS: All three-phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 power factor. **Standby Ratings:** The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. **Prime Power Ratings:** At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528-1 and ISO-3046-1. For limited running time and continuous ratings, consult the factory. Obtain technical information bulletin (TIB-101) for ratings guidelines, complete ratings definitions, and site condition derates. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

Alternator Specifications

Specifications	Alternator
Manufacturer	Kohler
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Rare-Earth, Permanent-Magnet
Leads: quantity, type	
4RX	12, Reconnectable
4TX	4, 120/240 V
Voltage regulator	Solid State, Volts/Hz
Insulation:	NEMA MG1
Material	Class H
Temperature rise	130°C, Standby
Bearing: quantity, type	1, Sealed
Coupling	Flexible Disc
Amortisseur windings	Full
Voltage regulation, no-load to full-load	Controller Dependent
One-step load acceptance	100% of Rating
Unbalanced load capability	100% of Rated Standby Current

- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the alternator field.
- Self-ventilated and dripproof construction.
- Windings are vacuum-impregnated with epoxy varnish for dependability and long life.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor.

Specifications	Alternator
Peak motor starting kVA:	(35% dip for voltages below)
480 V 4R9X (12 lead)	385
480 V 4R12X (12 lead)	448
240 V 4T12X (4 lead)	275

Application Data

Engine

Engine Specifications	John Deere
Manufacturer	John Deere
Engine model	4045HF285I
Engine type	4-Cycle, Turbocharged, Charge Air-Cooled
Cylinder arrangement	4 Inline
Displacement, L (cu. in.)	4.5 (276)
Bore and stroke, mm (in.)	106 x 127 (4.19 x 5.00)
Compression ratio	19:1
Piston speed, m/min. (ft./min.)	457 (1500)
Main bearings: quantity, type	5, Replaceable Insert
Rated rpm	1800
Max. power at rated rpm, kWm (BHP)	118 (158)
Cylinder head material	Cast Iron
Crankshaft material	Forged Steel
Valve material:	
Intake	Chromium-Silicon Steel
Exhaust	Stainless Steel
Governor: type, make/model	JDEC Electronic L16 Denso HP3
Frequency regulation, no-load to full-load	Isochronous
Frequency regulation, steady state	±0.25%
Frequency	Fixed
Air cleaner type, all models	Dry

Exhaust

Exhaust System	Dry
Exhaust manifold type	Dry
Exhaust flow at rated kW, m ³ /min. (cfm)	22.8 (805)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	580 (1076)
Maximum allowable back pressure, kPa (in. Hg)	7.5 (2.2)
Exhaust outlet size at engine hookup, mm (in.)	98 (3.86)

Engine Electrical

Engine Electrical System	12 Volt
Battery charging alternator:	12 Volt
Ground (negative/positive)	Negative
Volts (DC)	12
Ampere rating	65
Starter motor rated voltage (DC)	12
Battery, recommended cold cranking amps (CCA):	
Quantity, CCA rating each	One, 640
Battery voltage (DC)	12

Fuel

Fuel System	Engine-Driven, 1.8 (6.0)
Fuel supply line, min. ID, mm (in.)	11.0 (0.44)
Fuel return line, min. ID, mm (in.)	6.0 (0.25)
Max. lift, fuel pump: type, m (ft.)	Engine-Driven, 1.8 (6.0)
Max. fuel flow, Lph (gph)	74.6 (19.7)
Max. return line restriction, kPa (in. Hg)	20 (5.9)
Fuel prime pump	Manual
Fuel filter	
Primary	30 Microns
Secondary	2 Microns @ 98% Efficiency
Water Separator	Yes
Recommended fuel	#2 Diesel / HVO/ RD

Lubrication

Lubricating System	Full Pressure
Type	Full Pressure
Oil pan capacity, L (qt.) §	14.7 (15.5)
Oil pan capacity with filter, L (qt.) §	15.6 (16.5)
Oil filter: quantity, type §	1, Cartridge
Oil cooler	Water-Cooled
§ Kohler recommends the use of Kohler Genuine oil and filters.	

Application Data

Cooling

Radiator System

Ambient temperature, °C (°F) *	50 (122)
Engine jacket water capacity, L (gal.)	8.5 (2.25)
Radiator system capacity, including engine, L (gal.)	20.1 (5.3)
Engine jacket water flow, Lpm (gpm)	182 (48)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	62 (3544)
Heat rejected to air charge cooler at rated kW, dry exhaust, kW (Btu/min.)	20 (1127)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	600 (23.6)
Fan, kWm (HP)	6.6 (8.8)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O)	0.125 (0.5)

- * Enclosure with enclosed silencer reduces ambient temperature capability by 5°C (9°F).
Snow package enclosure with enclosed silencer reduces ambient temperature capability by 10°C (18°F).

Operation Requirements

Air Requirements

Radiator-cooled cooling air, m ³ /min. (scfm)‡	142 (5000)
Combustion air, m ³ /min. (cfm)	8.2 (288)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	25.0 (1420)
Alternator, kW (Btu/min.)	11.6 (660)

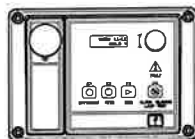
‡ Air density = 1.20 kg/m³ (0.075 lbm/ft³)

Fuel Consumption**

Diesel, Lph (gph) at % load	Standby Rating	
100%	31.0	(8.2)
75%	25.0	(6.6)
50%	17.8	(4.7)
25%	9.5	(2.5)
Diesel, Lph (gph) at % load	Prime Rating	
100%	27.6	(7.3)
75%	22.7	(6.0)
50%	14.4	(3.8)
25%	7.6	(2.0)

** Fuel consumption is up to 4% higher when using HVO/RD than #2 ULSD.

Controllers



APM402 Controller

Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.

- Digital display and menu control provide easy local data access
- Measurements are selectable in metric or English units
- Remote communication thru a PC via network or serial configuration
- Controller supports Modbus® protocol
- Integrated hybrid voltage regulator with ±0.5% regulation
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Refer to G6-161 for additional controller features and accessories.

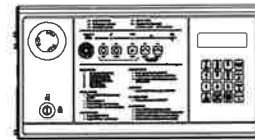


APM603 Controller

Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.

- 7-inch graphic display with touch screen and menu control provides easy local data access
- Measurements are selectable in metric or English units
- Paralleling capability to control up to 8 generators on an isolated bus with first-on logic, synchronizer, kW and kVAR load sharing, and protective relays
- Note: Parallel with other APM603 controllers only
- Generator management to turn paralleled generators off and on as required by load demand
- Load management to connect and disconnect loads as required
- Controller supports Modbus® RTU, Modbus® TCP, SNMP and BACnet®
- Integrated voltage regulator with ±0.25% regulation
- Built-in alternator thermal overload protection
- UL-listed overcurrent protective device
- NFPA 110 Level 1 capability

Refer to G6-162 for additional controller features and accessories.



Decision-Maker® 6000 Paralleling Controller

Provides advanced control, system monitoring, and system diagnostics with remote monitoring capabilities for paralleling multiple generator sets.

- Paralleling capability to control up to 8 generators on an isolated bus with first-on logic, synchronizer, kW and kVAR load sharing, and protective relays
- Note: Parallel with other Decision-Maker® 6000 controllers only
- Digital display and keypad provide easy local data access
- Measurements are selectable in metric or English units
- Remote communication thru a PC via network or modem configuration
- Controller supports Modbus® protocol
- Integrated voltage regulator with ±0.25% regulation
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Refer to G6-107 for additional controller features and accessories.

Modbus® is a registered trademark of Schneider Electric.

BACnet® is a registered trademark of ASHRAE.

Standard Features

- Alternator Protection
- Battery Rack and Cables
- Customer Connection
(standard with Decision-Maker® 6000 controller only)
- Local Emergency Stop Switch
- Oil Drain Extension
- Operation and Installation Literature

Available Options

Circuit Breakers

- | Type | Rating |
|---|--|
| <input type="checkbox"/> Magnetic Trip | <input type="checkbox"/> 80% |
| <input type="checkbox"/> Thermal Magnetic Trip | <input type="checkbox"/> 100% |
| <input type="checkbox"/> Electronic Trip (LI) | Operation |
| <input type="checkbox"/> Electronic Trip with Short Time (LSI) | <input type="checkbox"/> Manual |
| <input type="checkbox"/> Electronic Trip with Ground Fault (LSIG) | <input type="checkbox"/> Electrically Operated (for paralleling) |

Circuit Breaker Mounting

- Generator Mounted
- Remote Mounted
- Bus Bar (for remote mounted breakers)

Enclosures for Remote Mounted Circuit Breakers

- NEMA 1
- NEMA 3R

Approvals and Listings

- HCAI Pre-Approval
- CSA Certified
- IBC Seismic Certification
- UL 2200 Listing
- Hurricane Rated Enclosure

Enclosed Unit

- Snow Enclosure (sound enclosure with enclosed critical silencer, intake hood, and electrical package)
- Sound Enclosure (with enclosed critical silencer)
- Weather Enclosure (with enclosed critical silencer)

Open Unit

- Exhaust Silencer, Critical (kit: PA-354809)
- Flexible Exhaust Connector, Stainless Steel

Fuel System

- Flexible Fuel Lines
- Fuel Pressure Gauge
- Subbase Fuel Tanks

Controller

- Common Failure Relay
(Decision-Maker® 6000 and APM603 controllers only)
- Decision-Maker® Paralleling System (DPS)
(Decision-Maker® 6000 controller only)
- Dry Contact (isolated alarm)
(Decision-Maker® 6000 controller only)
- Two Input/Five Output Module (APM402 controller only)
- Four Input/Fifteen Output Module (APM603 controller only)
- Lockable Emergency Stop Switch
- Remote Emergency Stop Switch
- Remote Serial Annunciator Panel
- Run Relay (standard with APM603, optional with others)
- Manual Key Switch (APM603 controller only)
- Manual Speed Adjust (APM402 controller only)

Cooling System

- Block Heater, 1500 W, 90-120 V, 1 Ph
Required for ambient temperature below 0°C (32°F)
- Radiator Duct Flange

Electrical System

- Generator Heater
- Battery
- Battery Charger, Equalize/Float Type
- Battery Heater

Miscellaneous

- Air Cleaner, Heavy Duty
- Air Cleaner Restriction Indicator
- Certified Test Report
- Crankcase Emissions Canister
- Engine Fluids Added
- Rated Power Factor Testing
- Rodent Guards

Literature

- General Maintenance
- NFPA 110
- Overhaul
- Production

Warranty

- 2-Year Basic Limited Warranty
- 5-Year Basic Limited Warranty
- 5-Year Comprehensive Limited Warranty

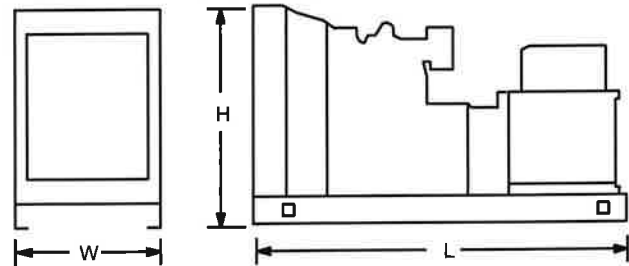
Dimensions and Weights

Overall Size, L x W x H, mm (in.):

Wide Skid: See Enclosure ADV Drawing

Narrow Skid: 2334 x 864 x 1210 (91.89 x 34.02 x 47.7)

Weight (radiator model), wet, kg (lb.): 1119 (2468)

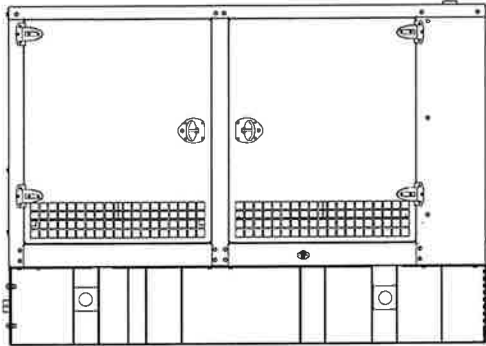


NOTE: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

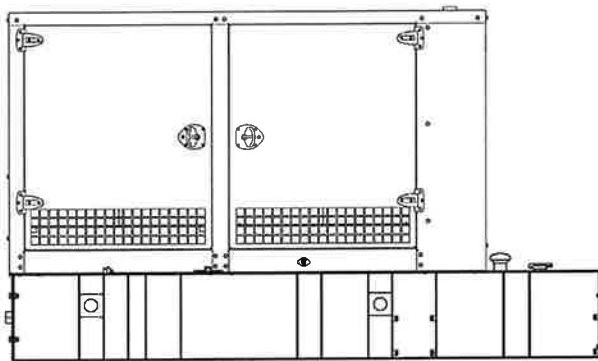
DISTRIBUTED BY:



Weather/Sound Enclosure and Subbase Fuel Tank Package



Enclosure with Standard Subbase Fuel Tank



Enclosure with State Code Subbase Fuel Tank

Available Approvals and Listings

- UL 2200 Listing
- CSA Certified
- IBC Seismic Certification *
- California OSHPD Pre-Approval *
- cUL Listing (fuel tanks only)
- Hurricane Rated Enclosure - Available on sound aluminum 80-300kW models.
(Impact rated for Large Missile Level E and Wind load rated per Florida Building Code tested to TAS201-94, TAS202-94 and TAS203-94 standards)

NOTE: Some models may have limited third-party approvals; see your local distributor for details.

* Requires a state code subbase fuel tank selection.

Applicable to the following:

**40REOZJC, 50/60REOZJD
80/100/150/200REOZJF,
125/180REOZJG,
230-275REOZJE and 300REOZJ**

Weather Enclosure Standard Features

- Internal-mounted silencer and flexible exhaust connector.
- Lift base or tank-mounted, steel construction with hinged doors.
- Fade-, scratch-, and corrosion-resistant Kohler® Power Armor™ automotive-grade textured finish.
- Enclosure has four access doors which allow for easy maintenance.
- Lockable, flush-mounted door latches.
- Vertical air inlet and outlet discharge to redirect air and reduce noise.
- Weather enclosure is designed to 150 mph (241 kph) wind load rating.

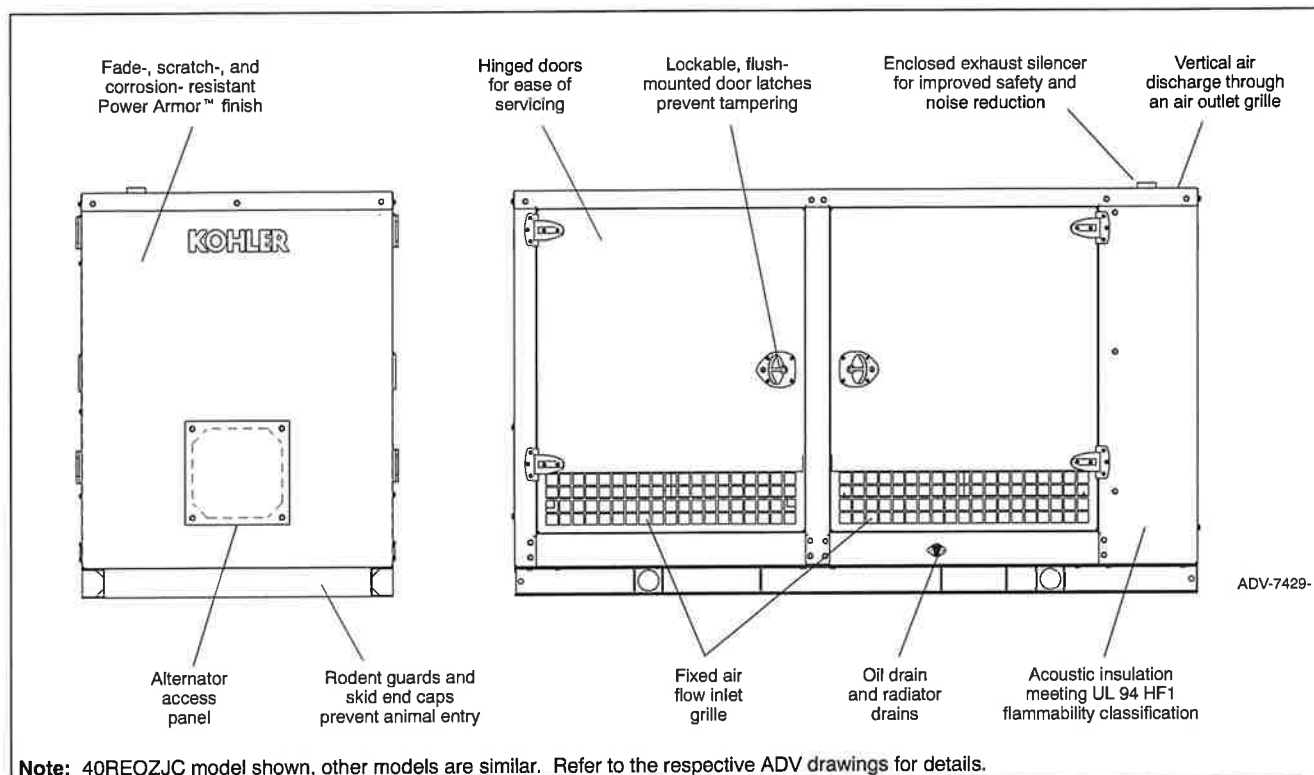
Sound Enclosure Standard Features

- Includes all of the weather enclosure features with the addition of acoustic insulation material.
- Lift base or tank-mounted, steel or aluminum construction with hinged doors. Aluminum enclosures are recommended for high humidity and/or high salt/coastal regions.
- Acoustic insulation that meets UL 94 HF1 flammability classification and repels moisture absorption.
- Sound-attenuated enclosure that uses up to 51 mm (2 in.) of acoustic insulation.
- Steel sound enclosure is designed to 150 mph (241 kph) wind load rating.
- Aluminum sound enclosure is certified to 186 mph (299 kph) wind load rating for 80-150REOZJ models.
- Aluminum sound enclosure is certified to 181 mph (291 kph) wind load rating for 180-300REOZJ models.

Subbase Fuel Tank Features

- The fuel tank has a Power Armor Plus™ textured epoxy-based rubberized coating.
- The above-ground rectangular secondary containment tank mounts directly to the generator set, below the generator set skid (subbase).
- Both the inner and outer tanks have emergency relief vents.
- Flexible fuel lines are provided with subbase fuel tank selection.
- The secondary containment generator set base tank meets UL 142 tank requirements. The inner (primary) tank is sealed inside the outer (secondary) tank. The outer tank contains the fuel if the inner tank leaks or ruptures.
- State tanks with varying capacities are an available option. Florida Dept. of Environmental Protection (FDEP) File No. EQ-634 approved.

Weather and Sound Enclosure



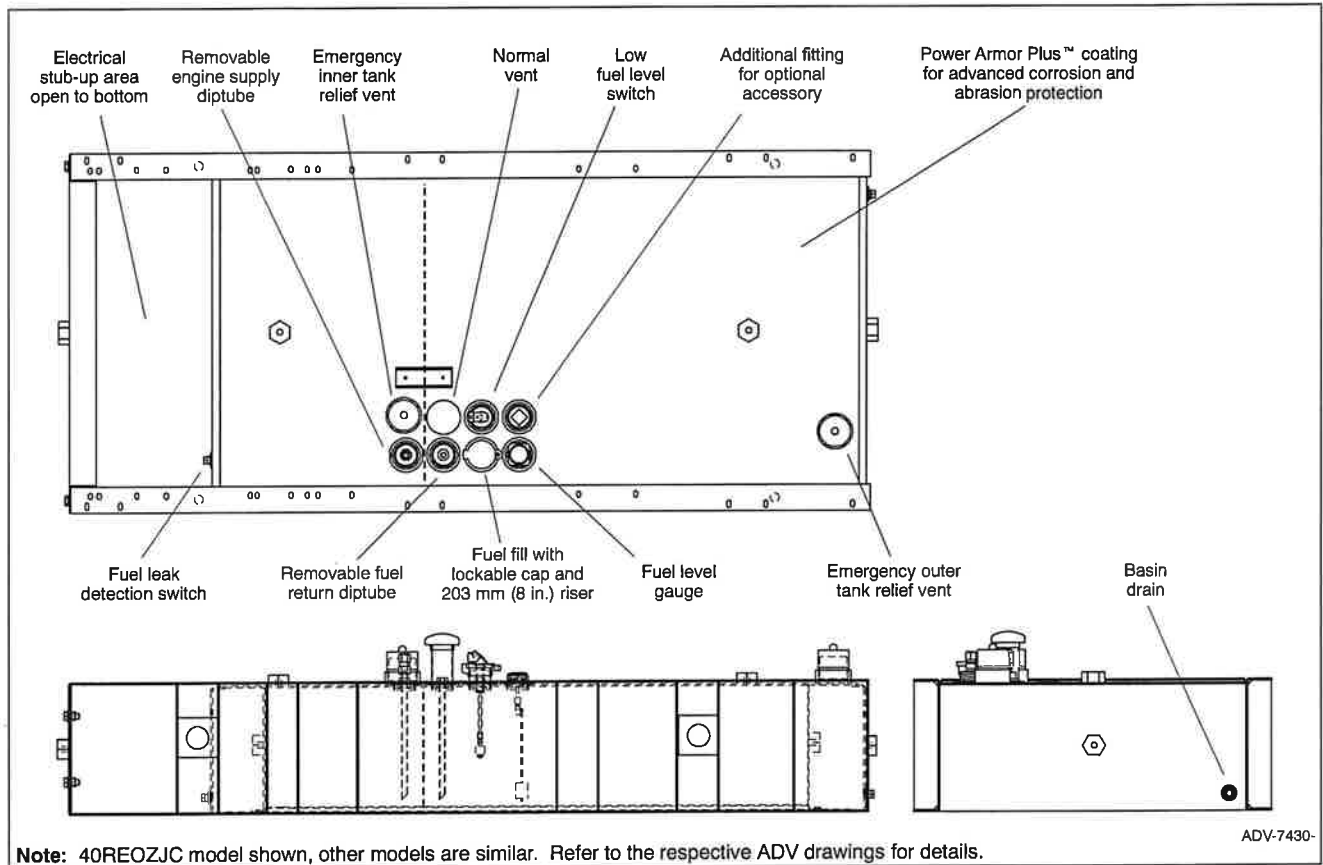
Enclosure Features

- Available in steel (14 gauge) formed panel, solid construction. Preassembled package offering corrosion resistant, dent resilient structure mounting directly to lift base or fuel tank.
 - Power Armor™ automotive-grade finish resulting in advanced corrosion and abrasion protection as well as enhanced edge coverage and color retention.
 - Internal exhaust silencer offering maximum component life and operator safety.
 - Interchangeable modular panel construction. Allows complete serviceability or replacement without compromising enclosure design.
 - Cooling/combustion air intake with a horizontal air inlet. Sized for maximum cooling airflow.
 - Service access. Multi-personnel doors for easy access to generator set control and servicing of the fuel fill, fuel gauge, oil fill, and battery.
 - Cooling air discharge. Weather protective design featuring a vertical air discharge outlet grille. Redirects cooling air up and above enclosure to reduce ambient noise.
- NOTE:** Installing an additional length of exhaust tail pipe may increase backpressure levels. Please refer to the generator set spec sheet for the maximum backpressure value.

Additional Sound Enclosure Features

- Available in steel (14 gauge) or aluminum 3.2 mm (0.125 in.) formed panel, solid construction.
- Sound-attenuated design. Acoustic insulation UL 94 HF1 listed for flame resistance offering up to 51 mm (2 in.) mechanically restrained acoustic insulation.
- Cooling air discharge. The sound enclosures include acoustic insulation with urethane film.
- Snow package enclosure is designed to meet NFPA 110 requirement to -20°C (-4°F).

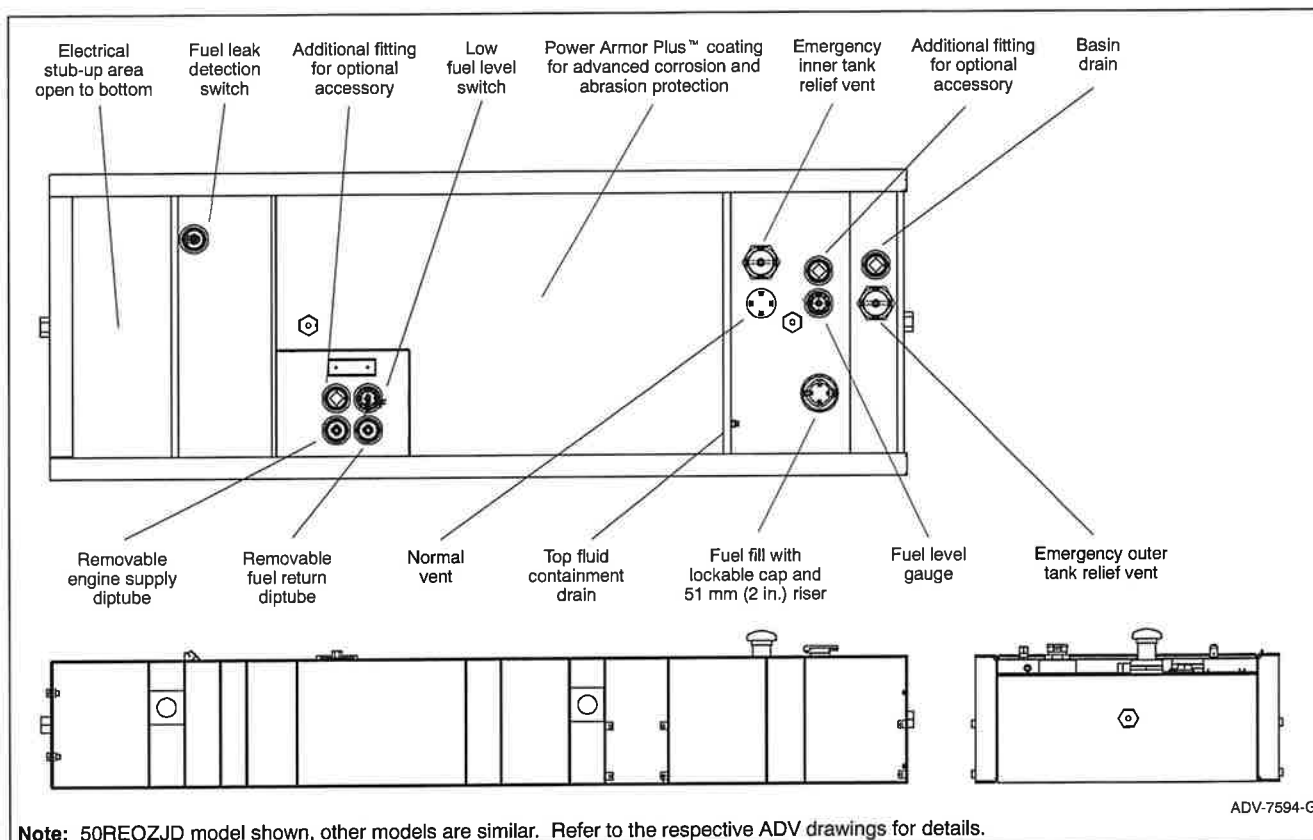
Subbase Fuel Tank



Standard Subbase Fuel Tank Features

- Extended operation. Usable tank capacity offers full load standby operation of up to 96 hours on select models.
 - Power Armor Plus™ textured epoxy-based rubberized coating that creates an ultra-thick barrier between the tank and harsh environmental conditions like humidity, saltwater, and extreme temperatures, and provides advanced corrosion and abrasion protection.
 - UL listed. Secondary containment generator set base tank meeting UL 142 requirements.
 - NFPA compliant. Designed to comply with the installation standards of NFPA 30 and NFPA 37.
 - Integral external lift lugs. Enables crane with spreader-bar lifting of the complete package (empty tank, mounted generator set, and enclosure) to ensure safety.
 - Emergency pressure relief vents. Vents ensure adequate venting of the inner and outer tank under extreme pressure and/or emergency conditions.
 - Normal vent with cap. Vent is raised above lockable fuel fill.
 - Low fuel level switch. Annunciates a 50% low fuel level condition at generator set control.
 - Leak detection switch. Annunciates a contained primary tank fuel leak condition at generator set control.
 - Electrical stub-up.
- NOTE:** For IBC Seismic Certification and/or California OSHPD Pre-Approval, see State Code Subbase Fuel Tank.

State Code Subbase Fuel Tank



Note: 50REOZJD model shown, other models are similar. Refer to the respective ADV drawings for details.

State Code Subbase Fuel Tank Features

- State tank designed to comply with the installation standards of the Florida Dept. of Environmental Protection (FDEP) File No. EQ-634.
- Includes all of the Standard Subbase Fuel Tank Features.

State Code Subbase Fuel Tank Options

Bottom Clearance

- I-beams, provides 106 mm (4.2 in.) of ground clearance

Fuel in Basin Options

- Fuel in basin switch, Florida Dept. of Environmental Protection (FDEP) File No. EQ-682 approved

Fuel Fill Options

- Fill pipe extension to within 152 mm (6 in.) of bottom of fuel tank.
- 18.9 L (5 gallon) spill containment with 95% shutoff
- 18.9 L (5 gallon) spill containment
- 18.9 L (5 gallon) spill containment fill to within 152 mm (6 in.) of bottom of fuel tank
- 28.4 L (7.5 gallon) spill containment, Florida Dept. of Environmental Protection (FDEP) File No. EQ-882 approved
- 28.4 L (7.5 gallon) spill containment with 95% shutoff, Florida Dept. of Environmental Protection (FDEP) File No. EQ-882/ EQ-883 approved

Fuel Supply Options

- Fire safety valve (installed on fuel supply line)
- Ball valve (installed on fuel supply line)

High Fuel Level Switch

- High fuel level switch
- High fuel level switch, Florida Dept. of Environmental Protection (FDEP) File No. EQ-682 approved

Normal Vent Options

- 3.7 m (12 ft.) above grade (without spill containment)
- 3.7 m (12 ft.) above grade (with spill containment)

Tank Marking Options

- Decal, Combustible Liquids - Keep Fire Away (qty. 2)
- Decal, NFPA 704 identification (qty. 2)
- Decal, tank number and safe fuel fill height (qty. 2)
- Decal, tank number and safe fuel fill height, NFPA 704 identification

Fluid Containment Options

- 100% engine fluid containment

Third-Party Approvals

- IBC Seismic Certification
- California OSPHD Pre-Approval

Enclosure and Subbase Fuel Tank Specifications

Fuel Tank Capacity, L (gal.)	Est. Fuel Supply Hours at 60 Hz with Full Load, Nominal/Actual	Enclosure and Subbase Fuel Tank					Fuel Tank Height (or additional skid height with no tank), mm (in.)	Sound Pressure Level at 60 Hz with Full Load, Weather/ Sound, dB(A)‡
		Max. Dimensions, mm (in.)			Max. Weight, kg (lb.) *			
		Length	Width	Height	With Steel Enclosure	With Aluminum Enclosure		
40REOZJC Standard Fuel Tank								
No Tank	0	2320 (91.3)	1077 (42.4)	1521 (60.0)	966 (2130)	853 (1880)	100 (4)	78/65
424 (112)	24/32			1827 (71.9)	1223 (2697)*	1110 (2447)*	406 (16)	
625 (165)	48/48			1980 (78.0)	1274 (2809)*	1161 (2559)*	559 (22)	
958 (253)	72/73			2234 (88.0)	1555 (3429)*	1442 (3179)*	813 (32)	
50REOZJD Standard Fuel Tank								
No Tank	0	2320 (91.3)	1077 (42.4)	1521 (59.9)	1027 (2265)	914 (2015)	100 (4)	78/66
424 (112)	24/26			1827 (71.9)	1285 (2832)*	1171 (2582)*	406 (16)	
625 (165)	36/38			1980 (78.0)	1335 (2944)*	1222 (2694)*	559 (22)	
946 (250)	48/58			2234 (88.0)	1555 (3429)*	1442 (3179)*	813 (32)	
50REOZJD State Code Fuel Tank †								
439 (116)	24/26	2896 (114)	1077 (42.4)	1883 (74.1)	1529 (3371)*	1416 (3121)*	356 (14)	78/66
958 (253)	48/58			2213 (87.1)	1653 (3644)*	1540 (3394)*	686 (27)	
1408 (372)	72/86			2441 (96.1)	1804 (3977)*	1691 (3727)*	914 (36)	
60REOZJD Standard Fuel Tank								
No Tank	0	2320 (91.3)	1077 (42.4)	1521 (59.9)	1164 (2566)	1051 (2316)	100 (4)	78/68
492 (130)	24/26			1878 (73.9)	1438 (3170)*	1324 (2920)*	457 (18)	
783 (207)	36/41			2107 (83.0)	1514 (3338)*	1401 (3088)*	686 (27)	
946 (250)	48/50			2234 (88.0)	1555 (3429)*	1442 (3179)*	813 (32)	
60REOZJD State Code Fuel Tank †								
556 (147)	24/29	2895 (114)	1077 (42.4)	1959 (77.1)	1616 (3563)*	1503 (3313)*	432 (17)	78/68
958 (253)	48/50			2213 (87.1)	1767 (3896)*	1654 (3646)*	686 (27)	
1408 (372)	72/74			2441 (96.1)	1918 (4228)*	1805 (3978)*	914 (36)	
80REOZJF Standard Tank								
No Tank	0	2821 (111.1)	1156 (45.5)	1723 (67.8)	1483 (3269)	1351 (2979)	150 (6)	83/69
791 (209)	24/30			2081 (81.9)	1766 (3894)*	1635 (3604)*	508 (20)	
1317 (348)	48/50			2386 (93.9)	1882 (4150)*	1751 (3860)*	813 (32)	
80REOZJF State Code Fuel Tank †								
814 (215)	24/31	3400 (133.9)	1156 (45.5)	2111 (83.1)	1996 (4400)*	1864 (4110)*	432 (17)	83/69
1571 (415)	48/60			2441 (96.1)	2236 (4929)*	2104 (4639)*	762 (30)	
3089 (816)	96/113			3607 (142.0)	1829 (72.0)	2536 (99.8)	3058 (6741)*	

Note: Data in table is for reference only, refer to the respective ADV drawings for details.

* Max. weight includes the generator set (wet) using the largest alternator option, enclosure with acoustic insulation added, silencer, and tank (no fuel).

† State code fuel tank specifications (height and weight) include I-beam option.

‡ Log average sound pressure level of 8 measured positions around the perimeter of the unit at a distance of 7 m (23 ft). Refer to TIB-114 for details.

Enclosure and Subbase Fuel Tank Specifications (continued)

Fuel Tank Capacity, L (gal.)	Est. Fuel Supply Hours at 60 Hz with Full Load, Nominal/ Actual	Enclosure and Subbase Fuel Tank					Fuel Tank Height (or additional skid height with no tank), mm (in.)	Sound Pressure Level at 60 Hz with Full Load, Weather/ Sound, dB(A)‡
		Max. Dimensions, mm (in.)			Max. Weight, kg (lb.) *			
		Length	Width	Height	With Steel Enclosure	With Aluminum Enclosure		
100REOZJF Standard Tank								
No Tank	0	2821 (111.1)	1156 (45.5)	1723 (67.8)	1592 (3510)	1461 (3220)	150 (6)	82/69
791 (209)	24/25			2081 (81.9)	1875 (4134)*	1744 (3844)*	508 (20)	
1696 (448)	48/54			3400 (133.9)	2386 (93.9)	2070 (4564)*	1939 (4274)*	
100REOZJF State Code Fuel Tank †								
814 (215)	24/26	3400 (133.9)	1156 (45.5)	2111 (83.1)	2105 (4641)*	1974 (4351)*	432 (17)	82/69
1571 (415)	48/50			2441 (96.1)	2345 (5170)*	2214 (4880)*	762 (30)	
3089 (816)	96/96	3607 (142.0)	1829 (72.0)	2536 (99.8)	3167 (6981)*	3042 (6706)*	813 (32.0)	
125REOZJG Standard Fuel Tank								
No Tank	0	3532 (139.0)	1153 (45.4)	1739 (68.5)	1651 (3632)	1515 (3333)	0 (0)	87/73
1128 (298)	24/30			2222 (87.5)	2400 (5280)*	2264 (4981)*	483 (19)	
2207 (583)	48/58			2653 (104.4)	2751 (6052)*	2615 (5753)*	914 (36)	
125REOZJG State Code Fuel Tank †								
1196 (316)	24/31	4414 (173.8)	1153 (45.4)	2328 (91.7)	2382 (5240)*	2446 (4941)*	483 (19)	87/73
2252 (595)	48/60			2683 (105.6)	2654 (5839)*	2500 (5511)*	838 (33)	
4403(1163)	96/113	4445 (175.0)	1829 (72.0)	2654 (104.5)	3707 (8173)*	3571 (7873)*	914 (36.0)	
150REOZJF Standard Fuel Tank								
No Tank	0	3532 (139.0)	1153 (45.4)	1739 (68.5)	1860 (4101)	1724 (3800)	0 (0)	86/75
1128 (298)	24/25			2222 (87.5)	2609 (5752)*	2473 (5452)*	483 (19)	
2207 (583)	48/49			2653 (104.4)	2960 (6526)*	2824 (6226)*	914 (36)	
150REOZJF State Code Fuel Tank †								
1196 (316)	24/27	4414 (173.8)	1153 (45.4)	2328 (91.7)	2591 (5712)*	2455 (5412)*	483 (19)	86/75
2252 (595)	48/50			2683 (105.6)	2890 (6361)*	2727 (6012)*	838 (33)	
4403(1163)	96/95	4445 (175.0)	1829 (72.0)	2654 (104.5)	3839 (8463)*	3702 (8163)*	914 (36.0)	
180REOZJG Standard Fuel Tank								
No Tank	0	4094 (161.2)	1338 (52.7)	2038 (80.2)	1928 (4250)	1780 (3925)	0 (0)	85/72
1514 (400)	24/31			2521 (99.3)	2861 (6307)*	2713 (5981)*	483 (19)	
2869 (758)	48/58			2927 (115.2)	3255 (7176)*	3107 (6850)*	889 (35)	
180REOZJG State Code Fuel Tank †								
1556 (416)	24/32	5008 (197.2)	1338 (52.7)	2601 (102.4)	3162 (6971)*	3014 (6646)*	457 (18)	85/72
2896 (765)	48/59			2906 (114.4)	3488 (7690)*	3340 (7363)*	762 (30)	
5742(1517)	96/106	5436 (214.0)	1829 (72.0)	2935 (115.5)	3760 (8289)*	3474 (7659)*	914 (36.0)	
200REOZJF Standard Fuel Tank								
No Tank	0	4094 (161.2)	1338 (52.7)	2025 (79.7)	2508 (5530)	2223 (4900)	0 (0)	87/75
1514 (400)	24/26			2508 (98.7)	3441 (7587)*	3156 (6957)*	483 (19)	
2869 (758)	48/49			2914 (114.7)	3836 (8456)*	3550 (7826)*	889 (35)	
200REOZJF State Code Fuel Tank †								
1575 (416)	24/27	5008 (197.2)	1338 (52.7)	2588 (101.9)	3743 (8251)*	3456 (7621)*	457 (18)	87/75
2896 (765)	48/50			2893 (113.9)	4069 (8970)*	3783 (8340)*	762 (30)	
5742(1517)	96/95	5436 (214.0)	1829 (72.0)	2935 (115.5)	4236 (9339)*	3950 (8709)*	914 (36.0)	

Note: Data in table is for reference only, refer to the respective ADV drawings for details.

* Max. weight includes the generator set (wet) using the largest alternator option, enclosure with acoustic insulation added, silencer, and tank (no fuel).

† State code fuel tank specifications (height and weight) include I-beam option.

‡ Log average sound pressure level of 8 measured positions around the perimeter of the unit at a distance of 7 m (23 ft). Refer to TIB-114 for details.

Enclosure and Subbase Fuel Tank Specifications (continued)

Fuel Tank Capacity, L (gal.)	Est. Fuel Supply Hours at 60 Hz with Full Load, Nominal/Actual	Enclosure and Subbase Fuel Tank					Fuel Tank Height (or additional skid height with no tank), mm (in.)	Sound Pressure Level at 60 Hz with Full Load, Weather/ Sound, dB(A)‡
		Max. Dimensions, mm (in.)			Max. Weight, kg (lb.) *			
		Length	Width	Height	With Steel Enclosure	With Aluminum Enclosure		
230REOZJE Standard Fuel Tank								
No Tank	0	4121 (162.3)	1338 (52.7)	2153 (84.8)	2654 (5850)	2540 (5600)	260 (10)	87/75
1787 (472)	24/29			2655 (104.5)	3561 (7850)*	3447 (7600)*	762 (30)	
230REOZJE State Code Fuel Tank †								
2101 (555)	24/34	5009 (197.2)	1338 (52.7)	2894 (113.9)	3895 (8587)*	3782 (8337)*	635 (25)	87/75
3573 (944)	48/58	5325 (209.7)		3173 (124.9)	4504 (9930)*	4391 (9680)*	914 (36)	
250REOZJE Standard Fuel Tank								
No Tank	0	4121 (162.3)	1338 (52.7)	2153 (84.8)	2699 (5950)	2585 (5700)	260 (10)	89/75
1787 (472)	24/26			2655 (104.5)	3606 (7950)*	3493 (7700)*	762 (30)	
250REOZJE State Code Fuel Tank †								
2101 (555)	24/31	5009 (197.2)	1338 (52.7)	2894 (113.9)	3940 (8687)*	3827 (8437)*	635 (25)	89/75
3573 (944)	48/53	5325 (209.7)		3173 (124.9)	4550 (10030)*	4436 (9780)*	914 (36)	
275REOZJE Standard Fuel Tank								
No Tank	0	4121 (162.3)	1338 (52.7)	2153 (84.8)	2835 (6250)	2722 (6000)	260 (10)	89/75
1787 (472)	24/24			2655 (104.5)	3742 (8250)*	3629 (8000)*	762 (30)	
275REOZJE State Code Fuel Tank †								
2101 (555)	24/28	5009 (197.2)	1338 (52.7)	2894 (113.9)	4076 (8987)*	3963 (8737)*	635 (25)	89/75
3573 (944)	48/48	5325 (209.7)		3173 (124.9)	4686 (10330)*	4572 (10080)*	914 (36)	
300REOZJ Standard Fuel Tank								
No Tank	0	4121 (162.3)	1338 (52.7)	2153 (84.8)	2835 (6250)	2722 (6000)	260 (10)	89/75
2067 (546)	24/24			2731 (107.5)	3770 (8311)*	3656 (8061)*	838 (33)	
300REOZJ State Code Fuel Tank †								
2101 (555)	24/25	5009 (197.2)	1338 (52.7)	2894 (113.9)	4076 (8987)*	3963 (8737)*	635 (25)	89/75
4065(1074)	48/48	5588 (220.0)		3173 (124.9)	4644 (10238)*	4530 (9988)*	914 (36)	

Note: Data in table is for reference only, refer to the respective ADV drawings for details.

* Max. weight includes the generator set (wet) using the largest alternator option, enclosure with acoustic insulation added, silencer, and tank (no fuel).

† State code fuel tank specifications (height and weight) include I-beam option.

‡ Log average sound pressure level of 8 measured positions around the perimeter of the unit at a distance of 7 m (23 ft). Refer to TIB-114 for details.



KOHLER CO., Kohler, Wisconsin 53044 USA
Phone 920-457-4441, Fax 920-459-1646
For the nearest sales and service outlet in the
US and Canada, phone 1-800-544-2444
KOHLERPower.com

DISTRIBUTED BY:

© 2009 Kohler Co. All rights reserved.

ATTACHMENT 2

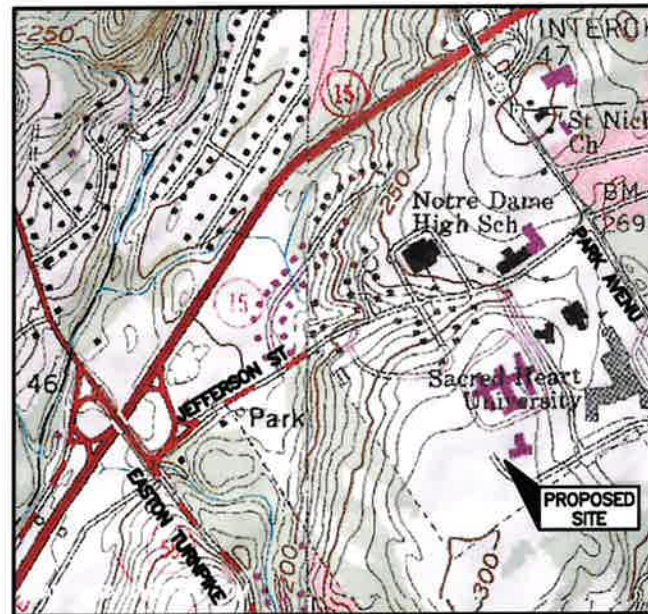
CELLCO PARTNERSHIP

d.b.a. **verizon** ✓

WIRELESS COMMUNICATIONS FACILITY
PLATTSVILLE RELO CT

DEVELOPMENT & MANAGEMENT PLAN - DOCKET No.495A

5151 PARK AVENUE FAIRFIELD, CT 06825



VICINITY MAP SCALE: 1"=800'-0"

DIRECTIONS TO SITE:
FROM VERIZON'S WALLINGFORD CT OFFICE
GET ON CT-15 S FROM ALEXANDER DR, CT-68 W AND US-5 N/N COLONY RD
HEAD SOUTH TOWARD ALEXANDER DR
SLIGHT RIGHT TOWARD ALEXANDER DR
TURN RIGHT TOWARD ALEXANDER DR
TURN RIGHT ONTO ALEXANDER DR
TURN RIGHT ONTO BARNES INDUSTRIAL PARK RD
TURN LEFT AT THE 1ST CROSS STREET ONTO CT-68 W
TURN RIGHT ONTO US-5 N/N COLONY RD
TURN LEFT TO MERGE ONTO CT-15 S TOWARD NEW HAVEN
FOLLOW CT-15 S TO PARK AVE IN TRUMBULL TAKE EXIT 47 FROM CT-15 S., MERGE ONTO CT-15 S
TAKE EXIT 47 FOR PARK AVE., CONTINUE ON PARK AVE TO YOUR DESTINATION IN FAIRFIELD., AT THE TRAFFIC CIRCLE, TAKE THE 2ND EXIT ONTO PARK AVE CONTINUE STRAIGHT TO STAY ON PARK AVE., TURN RIGHT., DESTINATION WILL BE ON THE RIGHT

CONSULTANT TEAM

PROJECT ENGINEER
HUDSON DESIGN GROUP, LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: 1-(978)-557-5553
FAX: 1-(978)-336-5586

MEP ENGINEER
HUDSON DESIGN GROUP, LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: 1-(978)-557-5553
FAX: 1-(978)-336-5586

PROJECT SUMMARY

SITE NAME: PLATTSVILLE RELO CT
SITE ADDRESS: 5151 PARK AVENUE FAIRFIELD, CT 06825

PROPERTY OWNER: BRIDGEPORT ROMAN CATHOLIC DIOCESAN CORP.
238 JEWETT AVENUE
BRIDGEPORT, CT 06806

APPLICANT: ANTHONY BEFERA
CELLCO PARTNERSHIP
d/b/a VERIZON
20 ALEXANDER DRIVE
WALLINGFORD, CT 06108

CONSTRUCTION MANAGER: MICHAEL HUMPHREYS
STRUCTURE CONSULTING GROUP
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

SITE ACQUISITION CONTACT: BRIAN ROSS
STRUCTURE CONSULTING GROUP
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

LEGAL/REGULATORY COUNSEL: KENNETH C. BALDWIN ESQ.
ROBINSON + COLE LLP
(860)275-8345

LATITUDE: N41°13'08.19"
LONGITUDE: W73°14'41.12"

SCOPE OF WORK INFO.
VERIZON WIRELESS IS PROPOSING TO INSTALL THE FOLLOWING IMPROVEMENTS ON PROPOSED TELECOMMUNICATION SITE:

- NEW 1,245 SQ. FT. MULTIUNIT STORAGE SHELTER ON EXISTING PARCEL OF LAND.
- NEW PANEL ANTENNAS: (4) ANTENNAS EACH AT ALPHA, BETA & GAMMA SECTORS, FOR A SUB-TOTAL OF (12)
(2) ANTENNAS EACH AT DELTA SECTOR, FOR A SUB-TOTAL OF (2)
TOTAL NUMBER OF PROPOSED ANTENNAS ARE (14)
- NEW RRHs: (4) RRHs EACH AT ALPHA, BETA & GAMMA SECTORS, FOR A TOTAL OF (12) RRHs
(2) RRHs EACH AT DELTA SECTOR, FOR A SUB-TOTAL OF (2)
TOTAL NUMBER OF PROPOSED RRHs ARE (14)
- NEW DIPLEXERS: (1) DIPLEXER EACH AT ALPHA, BETA & GAMMA SECTORS, FOR A TOTAL OF (3)
- NEW JUNCTION BOX: (2) JUNCTION BOXES (OVP) TOTAL.
- ITEMS LISTED ABOVE TO BE MOUNTED ON PROPOSED TOWER.
- NEW EQUIPMENT CABINETS: (2) CABINETS INSIDE THE EQUIPMENT SHELTER.
- ITEMS LISTED ABOVE TO BE INSTALLED WITHIN THE PROPOSED 1,245 SQ. FT. MULTIUNIT STORAGE SHELTER.
- NEW GENERATOR ON CONCRETE PAD
- NEW TELCO & POWER SERVICES WILL BE ROUTED UNDERGROUND FROM PROPOSED CABLE VAULT & EXISTING CABEL VAULT, RESPECTIVELY TO PROPOSED ELECTRICAL METER AND HOFFMAN BOX ON PROPOSED H-FRAME.
- FINAL UTILITY ROUTING TO BE DETERMINED/VERIFIED BY UTILITY COMPANIES.

SHEET INDEX

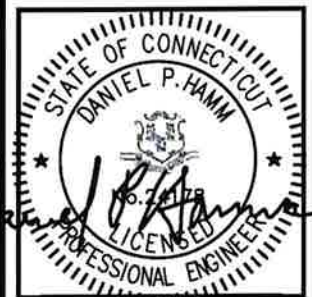
SHT. NO.	DESCRIPTION
T-1	TITLE SHEET
C-1	ABUTTERS PLAN
C-2	PARTIAL SITE PLAN
C-3	PARTIAL SITE PLAN
C-4	GRADING PLAN
A-1	COMPOUND PLAN
A-1.1	ELEVATION AND ANTENNA PLAN
A-2	FLOOR PLANS AND ELEVATION
A-3	FOUNDATIONS AND WALKWAY DETAILS
A-4	CABLE SUPPORT AND BOLLARD DETAILS
A-5	GENERATOR AND CONCRETE PAD DETAILS
A-6	FENCE DETAILS
A-7	EROSION CONTROL NOTES AND DETAILS

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.

verizon ✓

HGD HUDSON Design Group LLC

45 BEECHWOOD DRIVE N. ANDOVER, MA 01845 TEL: (978) 557-5553 FAX: (978) 336-5586



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

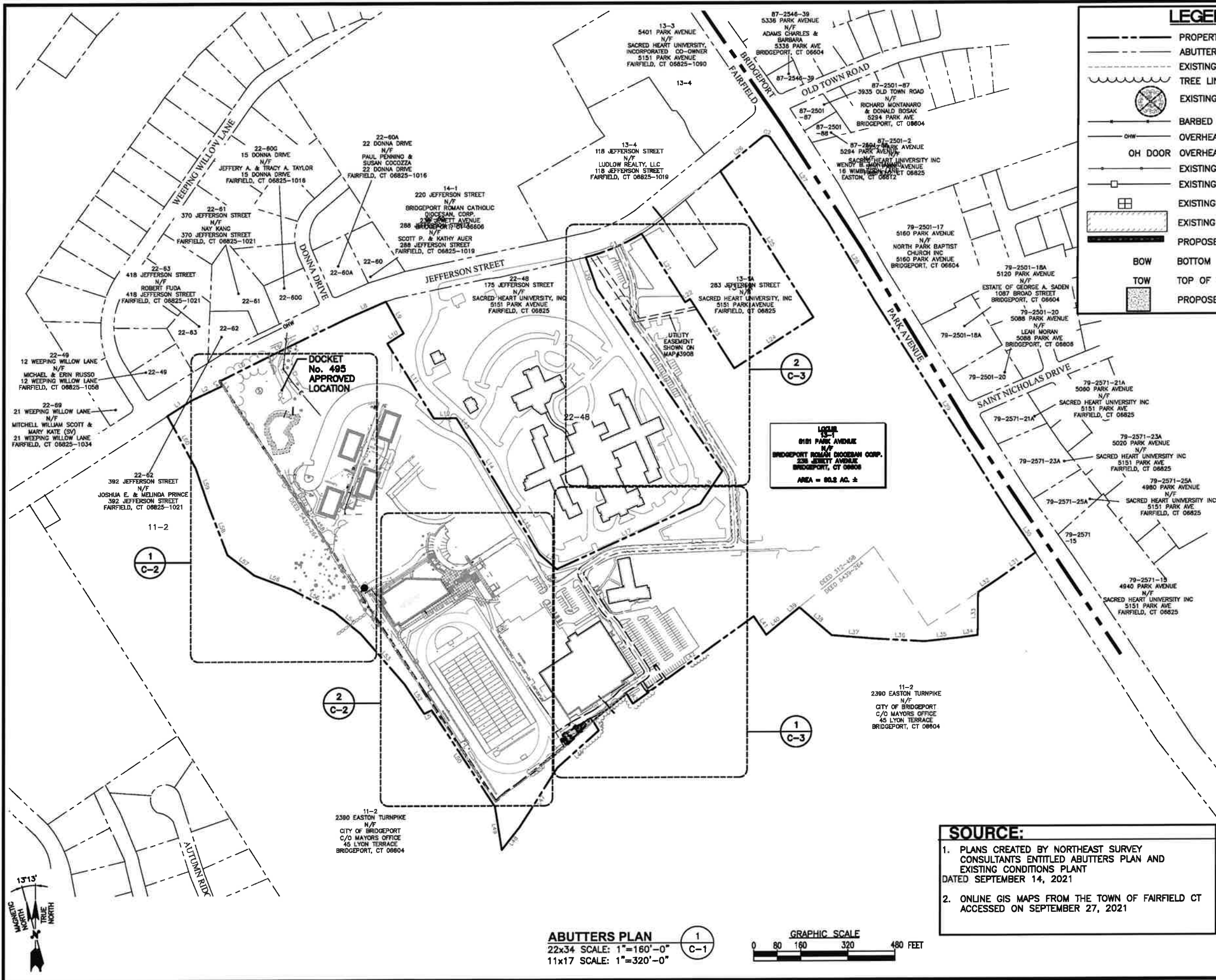
REV	DATE	DESCRIPTION	BY
2	11/17/22	ADD TREE-REMOVAL, CITY & FENCE DETAIL	SLT
1	10/27/22	ISSUED FOR GDM PLAN FILING	SLT
0	7/14/22	ISSUED FOR REVIEW	SLT

SITE NAME:
PLATTSVILLE RELO CT

SITE ADDRESS:
5151 PARK AVENUE
FAIRFIELD, CT 06825

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1



LEGEND

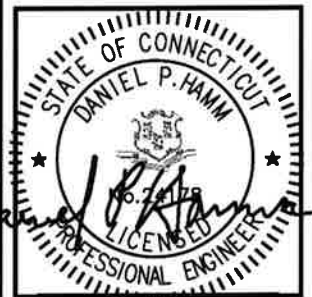
- PROPERTY LINE -- SUBJECT PARCEL
- ABUTTERS PROPERTY LINE
- EXISTING CONTOUR LINE
- TREE LINE
- EXISTING TREE TO BE REMOVED
- BARBED WIRE FENCE REMAINS
- OVERHEAD WIRE (TRANSMISSION LINE)
- OH DOOR
- OVERHEAD DOOR
- EXISTING CHAIN LINK FENCE
- EXISTING IRON FENCE
- EXISTING CATCH BASIN
- EXISTING BUILDING
- PROPOSED RETAINING WALL
- BOW
- BOTTOM OF WALL
- TOW
- TOP OF WALL
- PROPOSED CONCRETE PAD

LINE	BEARING	DISTANCE
L1	N57°14'31"E	97.44'
L2	N64°47'21"E	115.12'
L3	N33°20'19"W	2.48'
L4	N30°20'19"W	15.73'
L5	N63°40'01"E	184.50'
L6	N63°40'01"E	88.00'
L7	N64°11'29"E	202.39'
L8	N66°23'56"E	149.84'
L9	S29°12'59"E	124.84'
L10	S58°01'01"W	65.00'
L11	S31°58'59"E	300.00'
L12	N89°37'31"E	76.32'
L13	S31°58'59"E	66.76'
L14	S31°11'49"E	253.20'
L15	S31°49'09"E	223.36'
L16	S49°05'08"E	77.34'
L17	N65°40'11"E	535.52'
L18	N34°07'02"E	134.21'
L19	N34°36'30"W	752.70'
L20	N19°53'59"W	114.56'
L21	S32°38'09"E	276.96'
L22	N57°21'51"E	20.00'
L23	S32°38'09"E	280.00'
L24	N57°21'51"E	320.00'
L25	N32°38'09"W	590.00'
L26	N50°51'49"E	183.29'
L27	S34°27'13"E	345.41'
L28	S30°50'09"E	311.88'
L29	S32°26'49"E	868.94'
L30	S34°08'48"E	149.59'
L31	S55°07'59"W	162.66'
L32	S56°34'51"W	74.63'
L33	S00°25'36"W	145.03'
L34	S82°28'36"W	61.69'
L35	S83°55'24"W	121.37'
L36	N86°43'47"W	168.76'
L37	N85°19'56"W	147.83'
L38	N49°13'35"W	145.54'
L39	S51°09'01"W	41.01'
L40	S50°28'51"W	105.04'
L41	N34°27'56"W	75.48'
L42	S54°22'31"W	506.07'
L43	N32°15'39"W	39.14'
L44	S51°25'51"W	146.23'
L45	S30°53'55"E	38.14'
L46	S48°18'10"W	189.22'
L47	S32°28'36"W	239.95'
L48	S38°26'32"W	95.97'
L49	N09°02'04"W	148.27'
L50	N33°20'19"W	391.69'
L51	S64°17'19"W	28.00'
L52	N33°59'11"W	121.37'
L53	N40°58'49"W	226.85'
L54	N50°23'31"W	119.51'
L55	N62°10'57"W	161.30'
L56	N69°19'53"W	134.29'
L57	N52°43'31"W	116.02'
L58	N21°08'12"W	187.99'
L59	N18°41'07"W	125.50'
L60	N28°36'53"W	202.95'

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.



45 BEECHWOOD DRIVE
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5986



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

REV	DATE	DESCRIPTION	BY
2	11/17/22	ADD TREE-REMOVAL CITY & FENCE DETAIL	SLT
1	10/27/22	ISSUED FOR DAM PLAN FILING	SLT
0	7/14/22	ISSUED FOR REVIEW	SLT

SITE NAME:
**PLATTSVILLE
RELO CT**

SITE ADDRESS:
5151 PARK AVENUE
FAIRFIELD, CT 06825

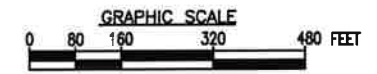
SHEET TITLE:
ABUTTERS PLAN

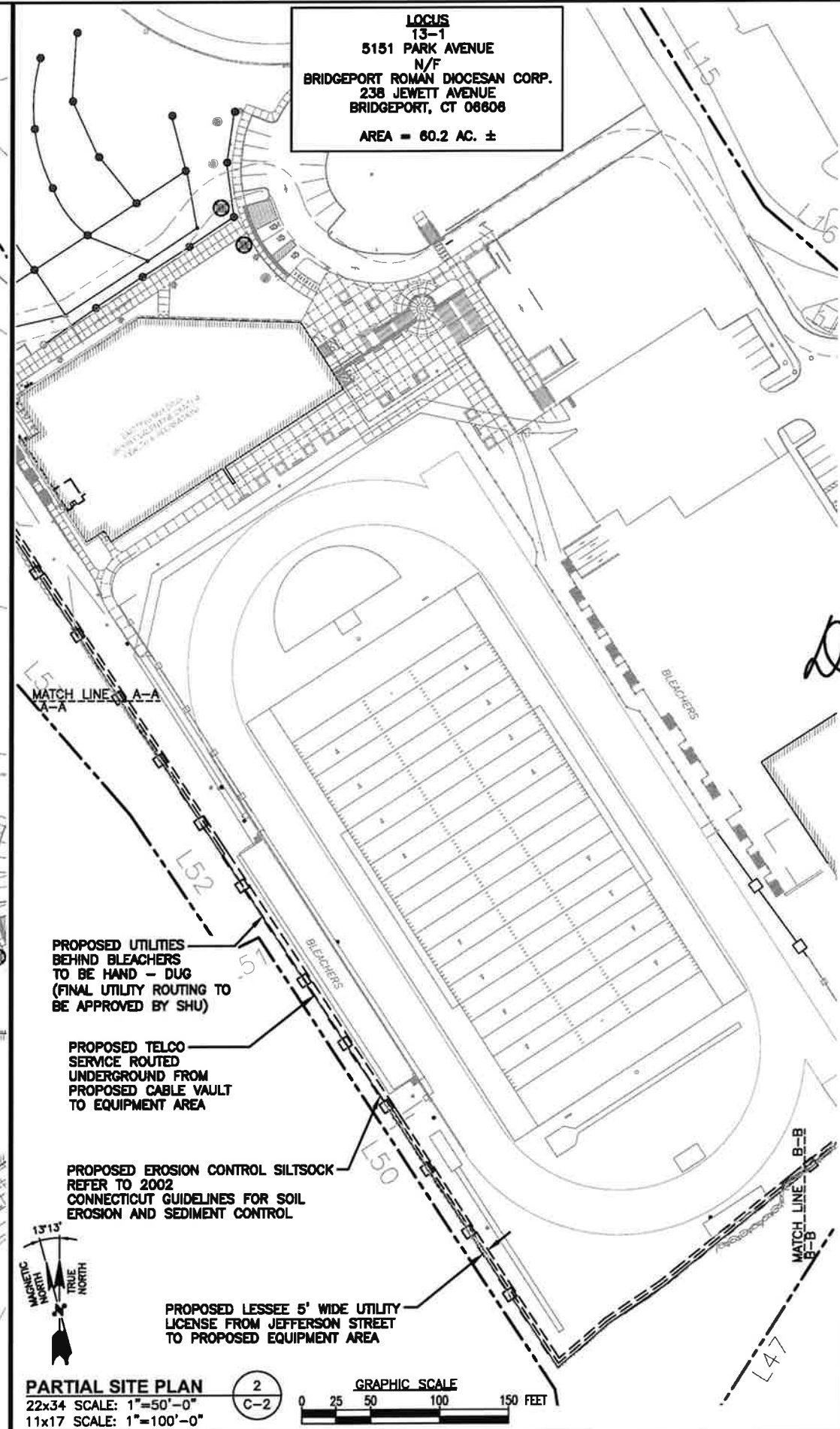
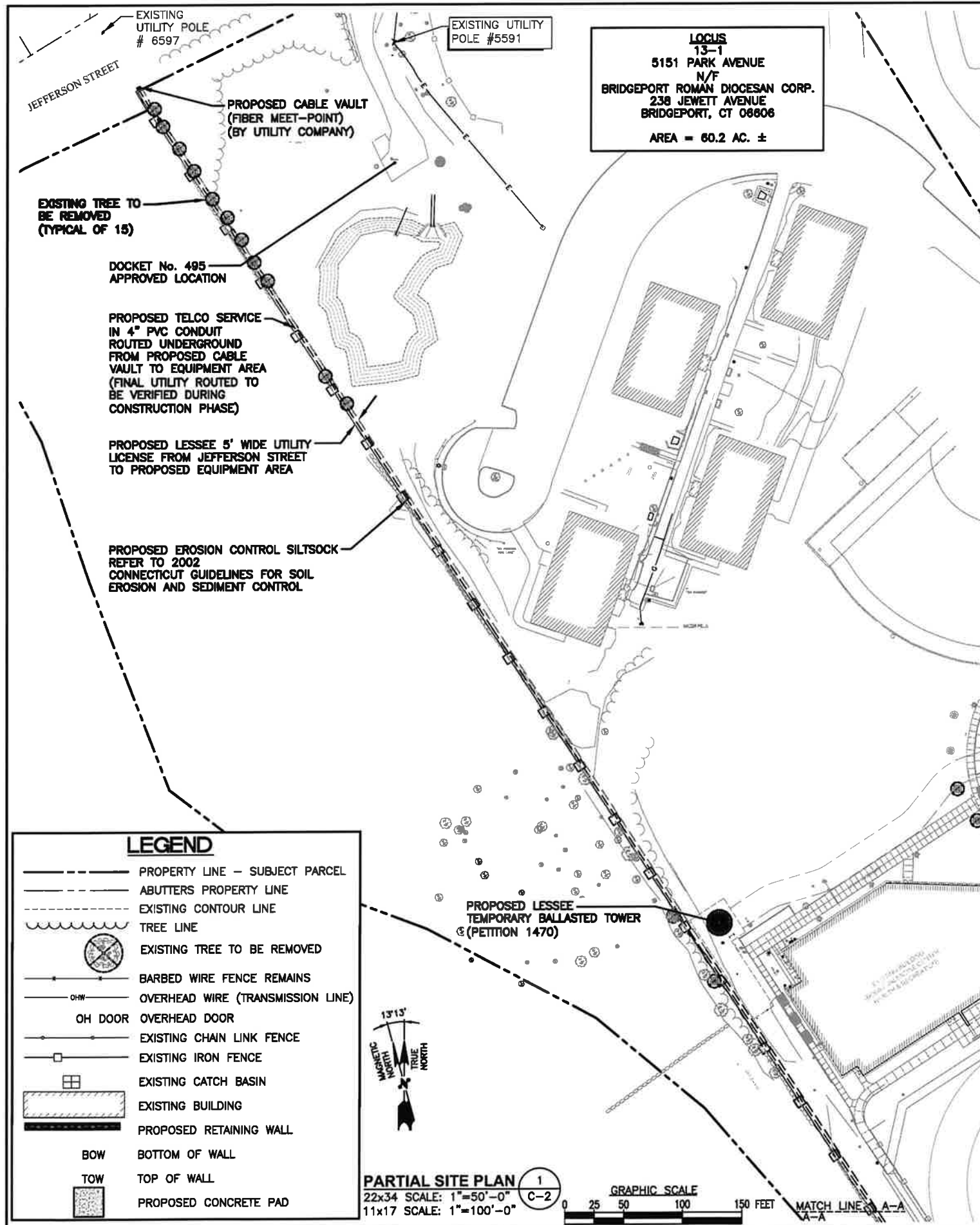
SHEET NUMBER:
C-1

SOURCE:

- PLANS CREATED BY NORTHEAST SURVEY CONSULTANTS ENTITLED ABUTTERS PLAN AND EXISTING CONDITIONS PLAN DATED SEPTEMBER 14, 2021
- ONLINE GIS MAPS FROM THE TOWN OF FAIRFIELD CT ACCESSED ON SEPTEMBER 27, 2021

ABUTTERS PLAN
22x34 SCALE: 1"=160'-0"
11x17 SCALE: 1"=320'-0"





PREPARED FOR: CELCO PARTNERSHIP D.B.A.

verizon

H2G HUDSON Design Group LLC
45 BEECHWOOD DRIVE N. ANDOVER, MA 01845 TEL: (978) 557-5533 FAX: (978) 336-5586

STATE OF CONNECTICUT
DANIEL P. HAMM
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

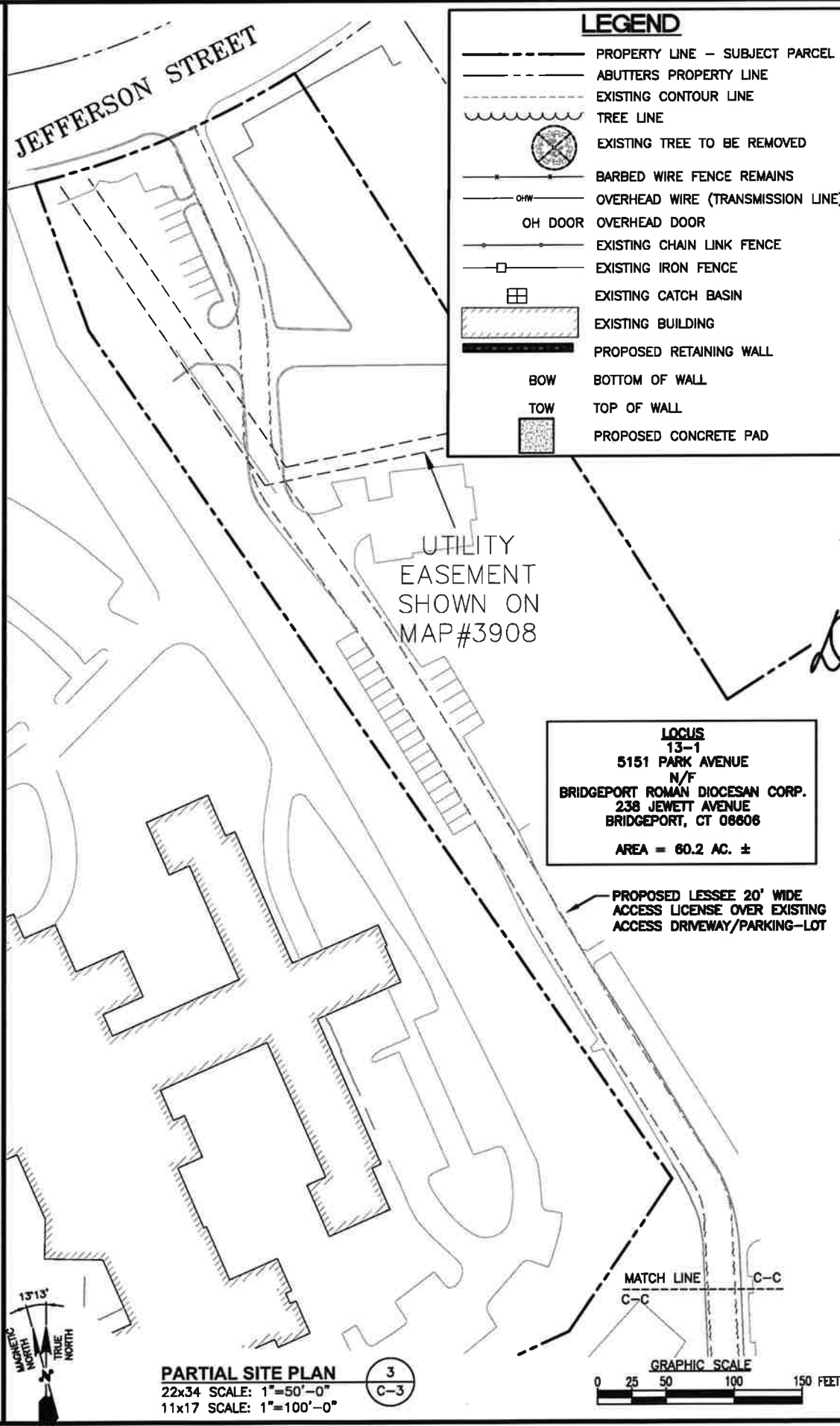
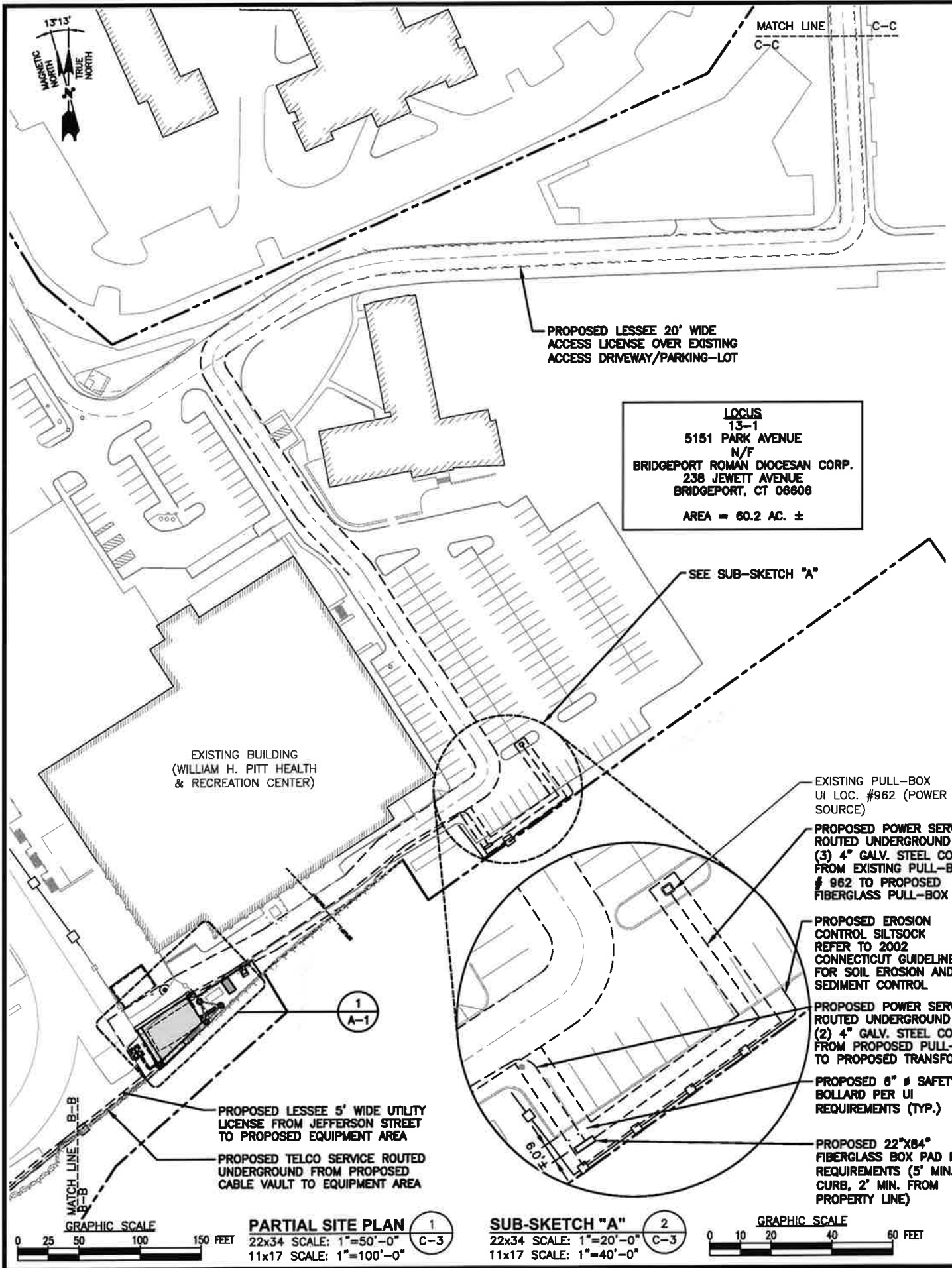
REV	DATE	DESCRIPTION	BY
2	11/17/22	ADD TREE-REMOVAL CITY & FENCE DETAIL	SLT
1	10/27/22	ISSUED FOR DAM PLAN FLING	SLT
0	7/14/22	ISSUED FOR REVIEW	SLT

SITE NAME:
PLATTSVILLE RELO CT

SITE ADDRESS:
5151 PARK AVENUE
FAIRFIELD, CT 06825

SHEET TITLE:
PARTIAL SITE PLAN

SHEET NUMBER:
C-2



PREPARED FOR: CELCO PARTNERSHIP D.B.A.

verizon

HG HUDSON Design Group LLC
 45 BEECHWOOD DRIVE N. ANDOVER, MA 01845 TEL: (978) 557-5553 FAX: (978) 336-5586

STATE OF CONNECTICUT
 DANIEL P. HAMM
 LICENSED PROFESSIONAL ENGINEER

CHECKED BY: JX
 APPROVED BY: DPH

SUBMITTALS

REV	DATE	DESCRIPTION	BY
2	11/17/22	ADD TREE-REMOVAL, CITY & FENCE DETAIL	SLY
1	10/27/22	ISSUED FOR DAMN PLAN FRING	SLY
0	7/14/22	ISSUED FOR REVIEW	SLY

SITE NAME:
PLATTSVILLE RELO CT

SITE ADDRESS:
 5151 PARK AVENUE
 FAIRFIELD, CT 06825

SHEET TITLE:
PARTIAL SITE PLAN

SHEET NUMBER:
C-3



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS			
REV	DATE	DESCRIPTION	BY
2	01/17/22	ADD TREE-REMOVAL QTY & FENCE DETAIL	SLT
1	09/27/22	ISSUED FOR DAM PLAN FILING	SLT
0	07/14/22	ISSUED FOR REVIEW	SLT

SITE NAME:
PLATTSVILLE RELO CT

SITE ADDRESS:
5151 PARK AVENUE
FAIRFIELD, CT 06825

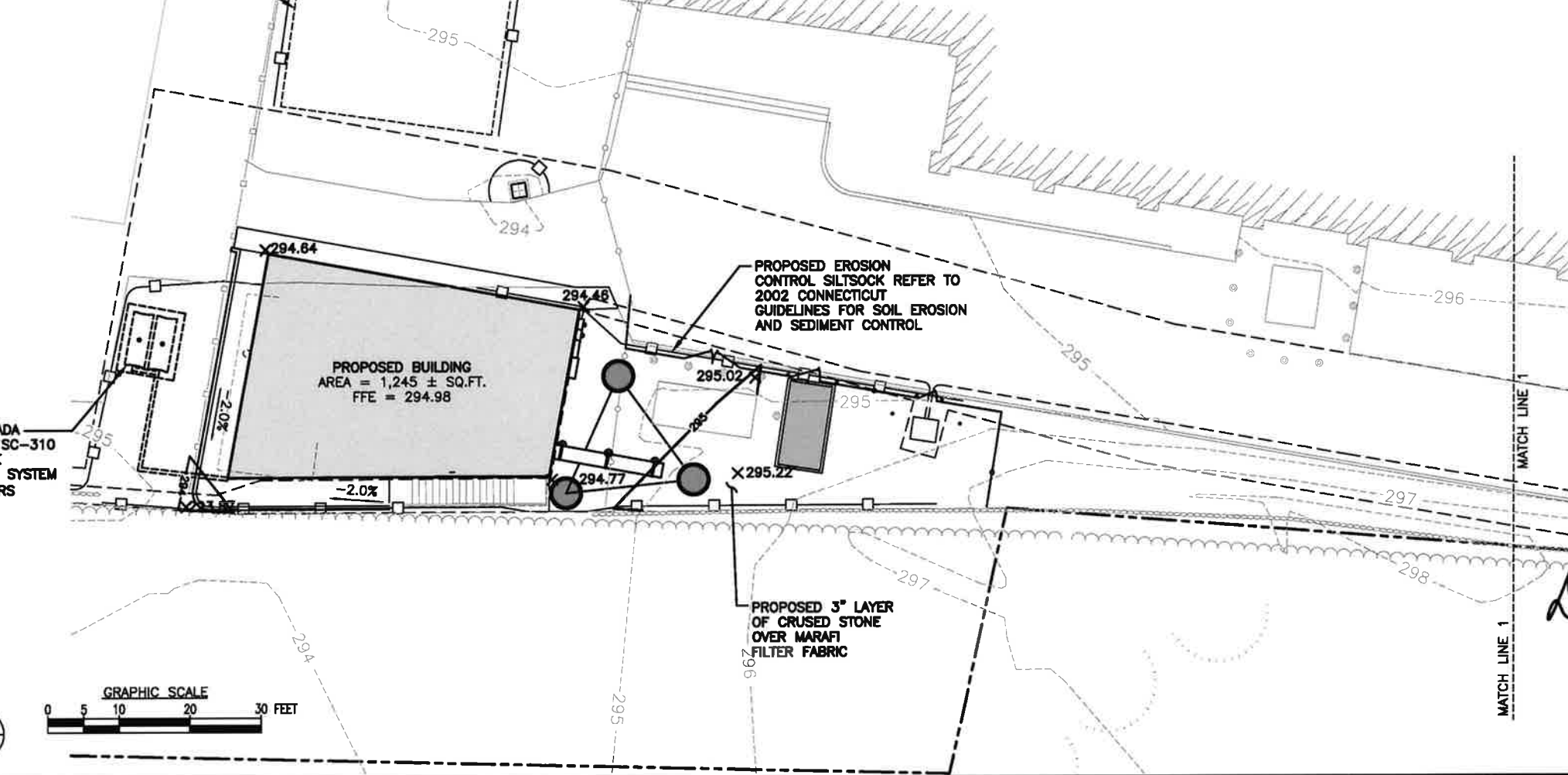
SHEET TITLE
GRADING PLAN

SHEET NUMBER
C-4

LEGEND

- PROPERTY LINE - SUBJECT PARCEL
- ABUTTERS PROPERTY LINE
- EXISTING CONTOUR LINE
- TREE LINE
- EXISTING TREE TO BE REMOVED
- BARBED WIRE FENCE REMAINS
- OVERHEAD WIRE (TRANSMISSION LINE)
- OVERHEAD DOOR
- EXISTING CHAIN LINK FENCE
- EXISTING IRON FENCE
- EXISTING CATCH BASIN
- EXISTING BUILDING
- PROPOSED RETAINING WALL
- BOTTOM OF WALL
- TOP OF WALL
- PROPOSED CONCRETE PAD

PROPOSED 20'x30' STAGING AREA



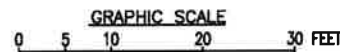
EARTHWORK:

APPROXIMATE VOLUME OF CUT WITHIN SHELTER BUILDING:	146.9 CY
APPROXIMATE VOLUME OF FILL WITHIN SHELTER BUILDING:	171.4 CY
APPROXIMATE NUMBER OF TREES TO BE REMOVED >/=6" DBH:	15
TOTAL IMPACT AREA OF DISTURBED CONSTRUCTION SITE:	9,866 Sq.Ft.

PROPOSED ADA STORMTECH SC-310 SUBSURFACE INFILTRATION SYSTEM (2) CHAMBERS



COMPOUND PLAN
22x34 SCALE: 1"=10'-0"
11x17 SCALE: 1"=20'-0"



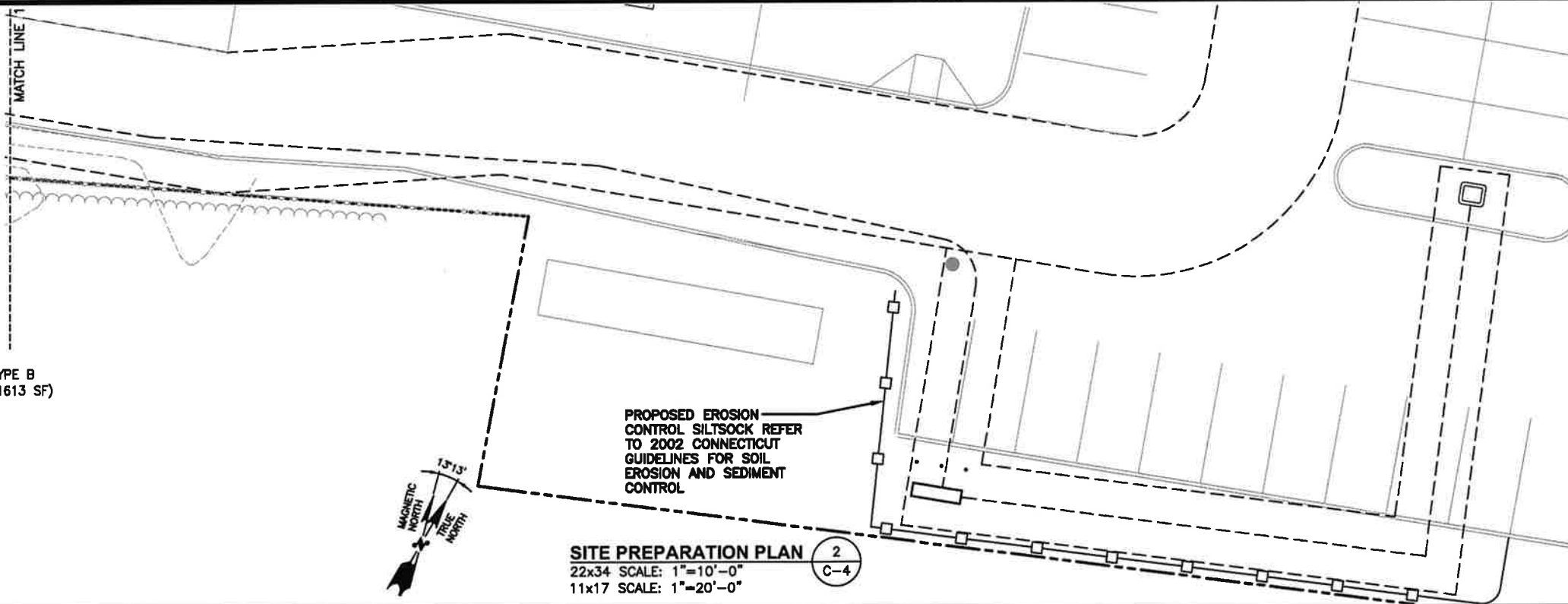
NOTES:
DOWNSPOUTS AT ROOF GUTTER SHALL BE SCREENED TO PREVENT BLOCKAGE AND TO PRESERVE THE INFILTRATION SYSTEM.
RAINWATER BY-PASS SHALL BE DIRECTED TO PERVIOUS SURFACES.

ROOF RECHARGE CALCULATIONS:
73C, HARTON-CHATFIELD COMPLEX,
0 TO 15 PERCENT SLOPES,
VERY ROCKY
FOOTPRINT PROPOSED IMPERVIOUS AREA: 1613 SQ FT
RECHARGE SIZING: HYDROLOGIC SOIL TYPE B
RECHARGE VOLUME: (0.35 INCH) x 1 FT x (1613 SF)
12 INCH
REQUIRED VOLUME = 47 CU FT.
PROVIDED VOLUME PER SC-310 CHAMBER: 31 CU FT
TOTAL # OF CHAMBERS TO BE USED: 2 CHAMBER

VERIFY DRAIN TIME:

$$t = \frac{Rv}{K(\text{bottom area})} = \frac{47 \text{ cu ft}}{(1.02 \frac{\text{IN.}}{\text{HR}} \times \frac{\text{FT}}{12 \text{ IN.}}) (7.6' \times 5.6')}$$

t = 12.9 HOURS t < 72 HOURS



SITE PREPARATION PLAN
22x34 SCALE: 1"=10'-0"
11x17 SCALE: 1"=20'-0"



45 BEECHWOOD DRIVE N. ANDOVER, MA 01845 TEL: (978) 557-5553 FAX: (978) 336-5586



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS			
REV	DATE	DESCRIPTION	BY
2	11/17/22	ADD TREE-REMOVAL QTY & FENCE DETAIL	SLY
1	10/27/22	ISSUED FOR DAM PLAN FILING	SLY
0	7/14/22	ISSUED FOR REVIEW	SLY

SITE NAME:
PLATTSVILLE RELO CT

SITE ADDRESS:
5151 PARK AVENUE
FAIRFIELD, CT 06825

SHEET TITLE
COMPOUND PLAN

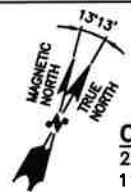
SHEET NUMBER
A-1

LEGEND

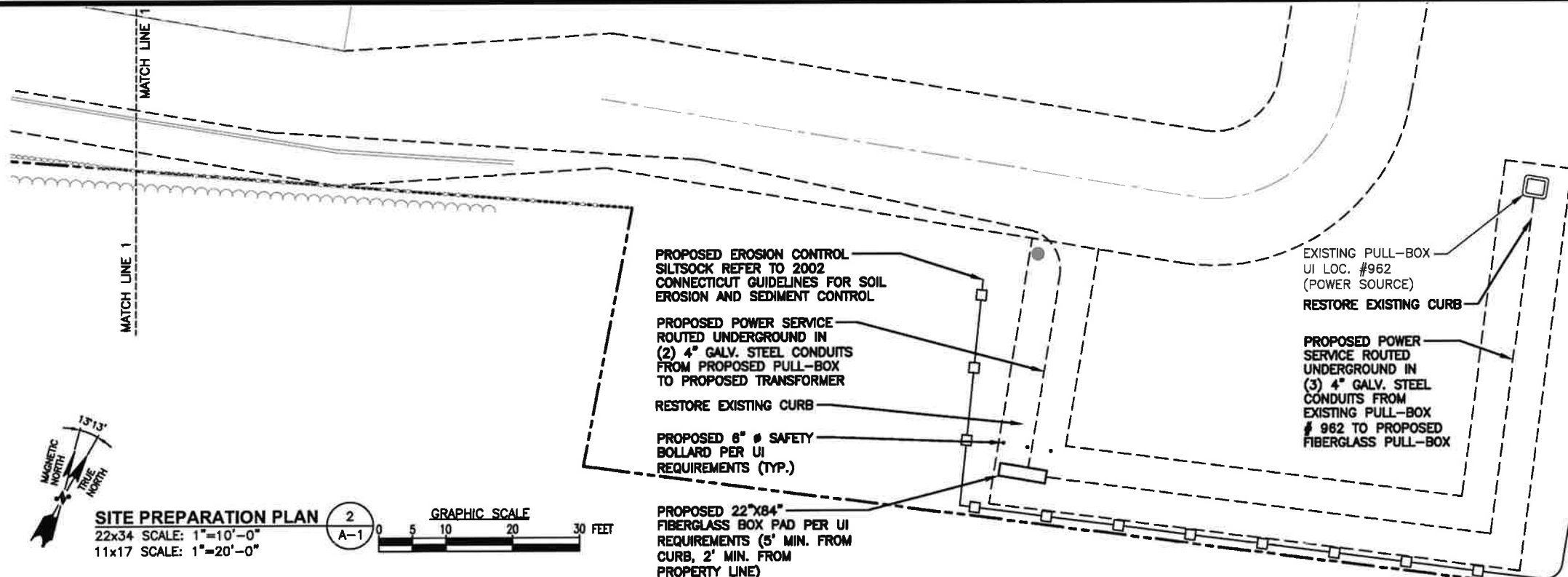
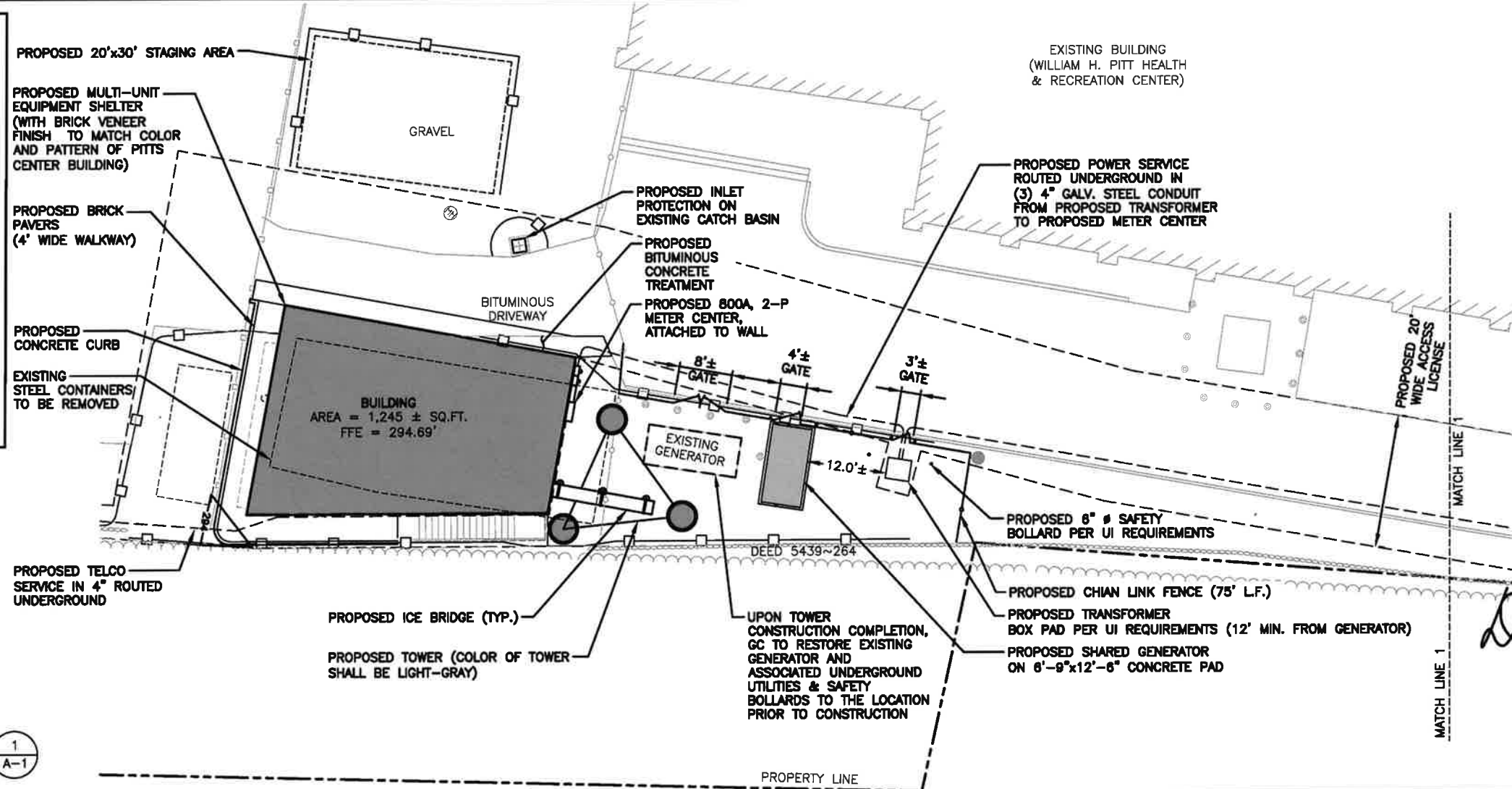
- PROPERTY LINE - SUBJECT PARCEL
- ABUTTERS PROPERTY LINE
- EXISTING CONTOUR LINE
- TREE LINE
- EXISTING TREE TO BE REMOVED
- BARBED WIRE FENCE REMAINS
- OVERHEAD WIRE (TRANSMISSION LINE)
- OH DOOR OVERHEAD DOOR
- EXISTING CHAIN LINK FENCE
- EXISTING IRON FENCE
- EXISTING CATCH BASIN
- EXISTING BUILDING
- PROPOSED RETAINING WALL
- BOW BOTTOM OF WALL
- TOW TOP OF WALL
- PROPOSED CONCRETE PAD

EARTHWORK:

APPROXIMATE VOLUME OF CUT WITHIN SHELTER BUILDING:	146.9 CY
APPROXIMATE VOLUME OF FILL WITHIN SHELTER BUILDING:	171.4 CY
APPROXIMATE NUMBER OF TREES TO BE REMOVED >/=6" DBH:	15
TOTAL IMPACT AREA OF DISTURBED CONSTRUCTION SITE:	9,866 Sq.Ft.

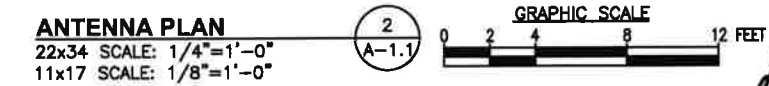
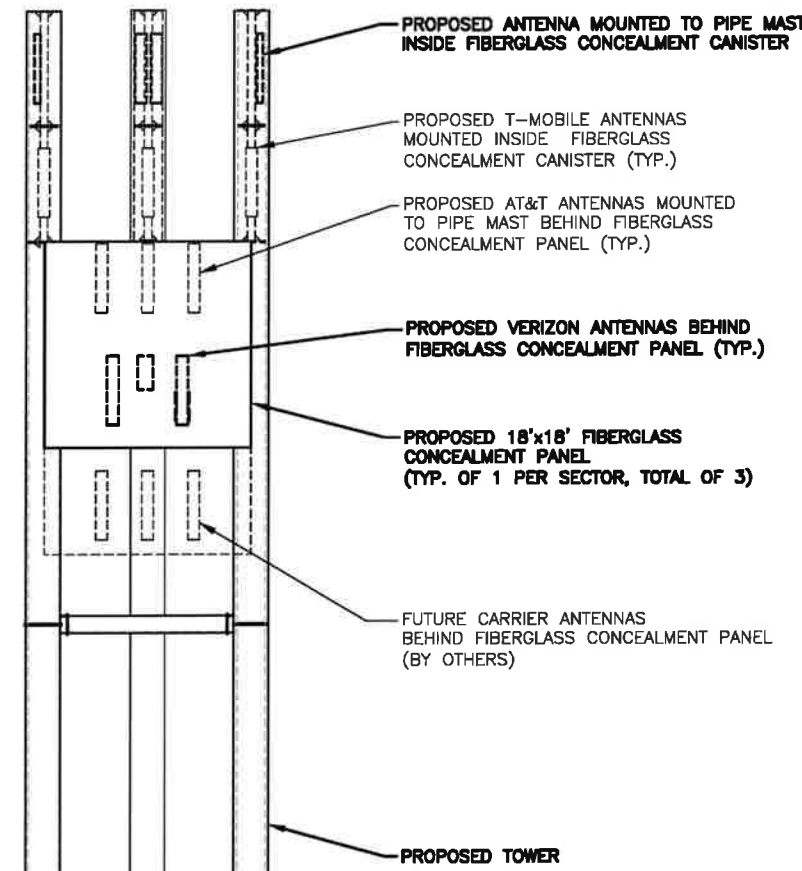
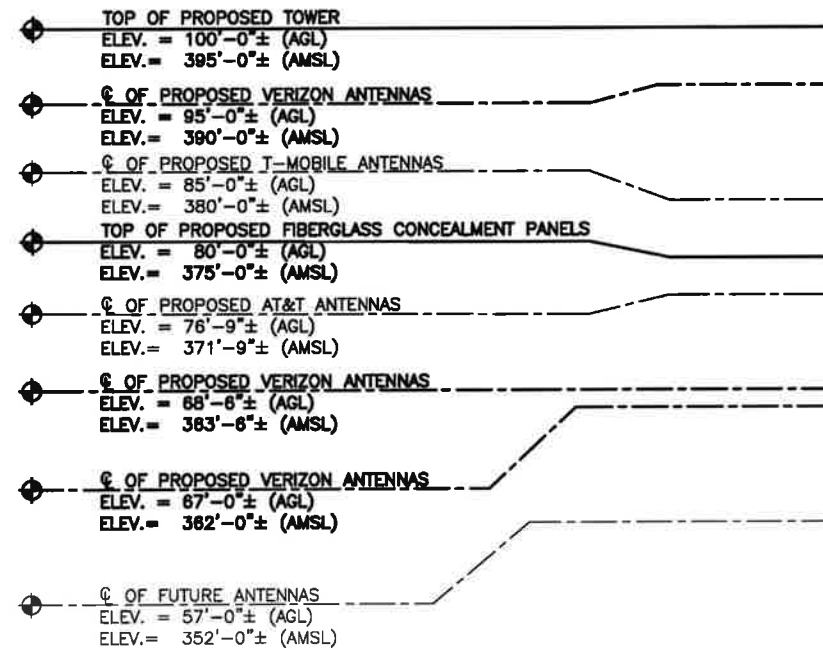
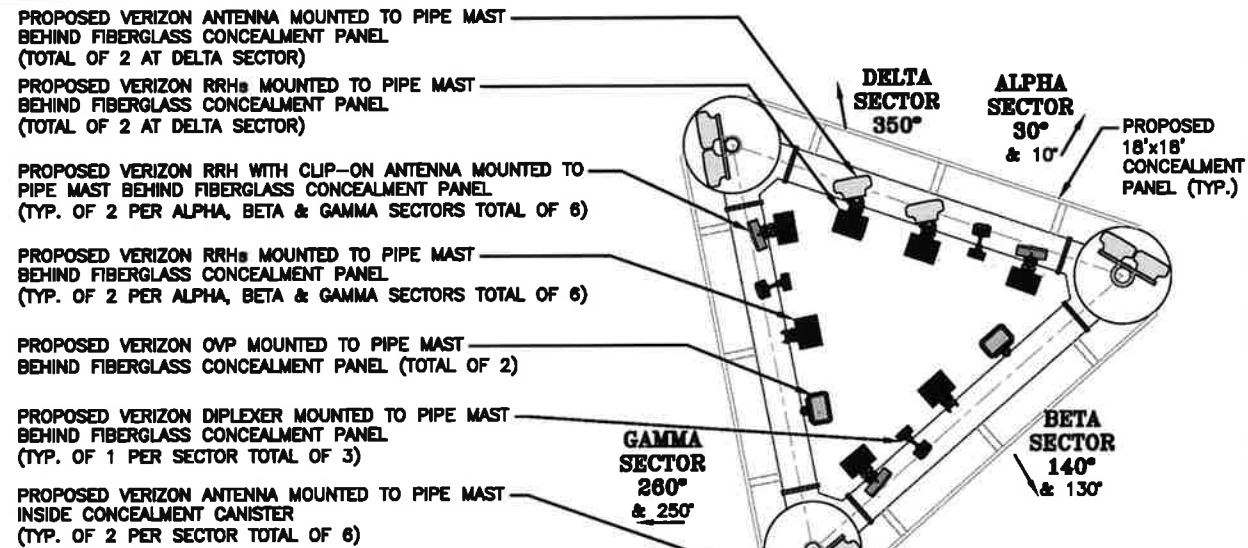


COMPOUND PLAN
22x34 SCALE: 1"=10'-0"
11x17 SCALE: 1"=20'-0"



SITE PREPARATION PLAN
22x34 SCALE: 1"=10'-0"
11x17 SCALE: 1"=20'-0"

GRAPHIC SCALE
0 5 10 20 30 FEET



CHECKED BY: JX
APPROVED BY: DPH

SUBMITTALS			
REV	DATE	DESCRIPTION	BY
2	11/17/22	ADD TREE-REMOVAL QTY & FENCE DETAIL	SLY
1	10/27/22	ISSUED FOR BIDDING PLAN FILING	SLY
0	7/14/22	ISSUED FOR REVIEW	SLY

SITE NAME:
**PLATTSVILLE
RELO CT**

SITE ADDRESS:
5151 PARK AVENUE
FAIRFIELD, CT 06825

SHEET TITLE
**ELEVATION AND
ANTENNA PLAN**

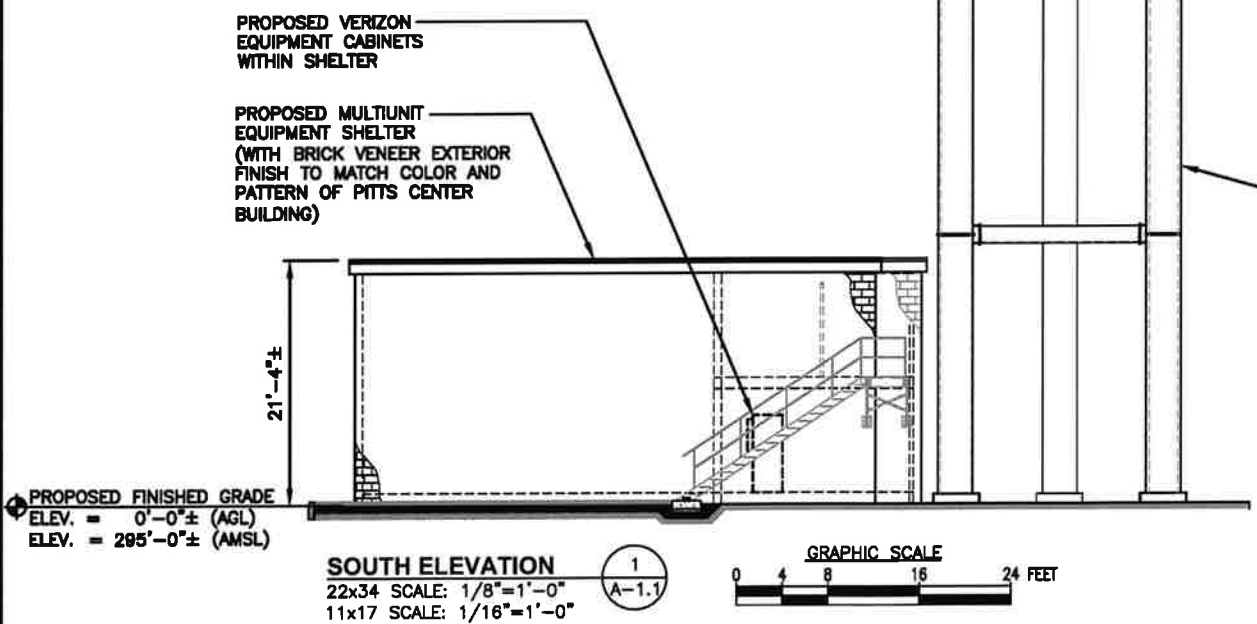
SHEET NUMBER
A-1.1

TOWER NOTES:

- 1.) TOWER ELEVATION IS SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL REFER TO TOWER MANUFACTURER DRAWINGS FOR COMPLETE INSTALLATION AND BILL OF MATERIAL INFORMATION.
- 2.) TOWER MINIMUM DESIGN SPECIFICATIONS SHALL BE IN ACCORDANCE WITH ANSI/TIA/EIA 222-H "STRUCTURAL STANDARDS FOR SUPPORTING STRUCTURES AND ANTENNAS, REVISION H" AND GOVERNING FEDERAL, STATE, AND LOCAL CODE REQUIREMENTS
- 3.) TOWER MANUFACTURER SHALL BE RESPONSIBLE FOR DESIGN AND STRUCTURAL COMPONENTS OF THE TOWER.
- 4.) FINAL UTILITY CONNECTIONS SHALL BE COORDINATED WITH THE LOCAL UTILITIES.

NOTE TO GENERAL CONTRACTOR:

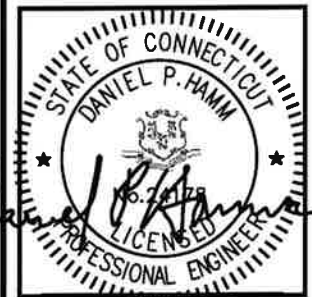
'RF' DESIGN AND EQUIPMENT IS BASED UPON RFDS ISSUED BY VZW DATED: 1/13/22 REV 1 THE CONTRACTOR OF RECORD SHALL CONTACT VZW PRIOR TO ANY AND ALL ORDERING/PURCHASING/INSTALLATION OF EQUIPMENT TO VERIFY THAT THE 'RF' LISTED IN THE DRAWING SET IS CURRENT AND UP TO DATE.



SOUTH ELEVATION
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"
GRAPHIC SCALE: 0 4 8 16 24 FEET



45 BEECHWOOD DRIVE TEL: (978) 557-5553
N. ANDOVER, MA 01845 FAX: (978) 336-5586



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

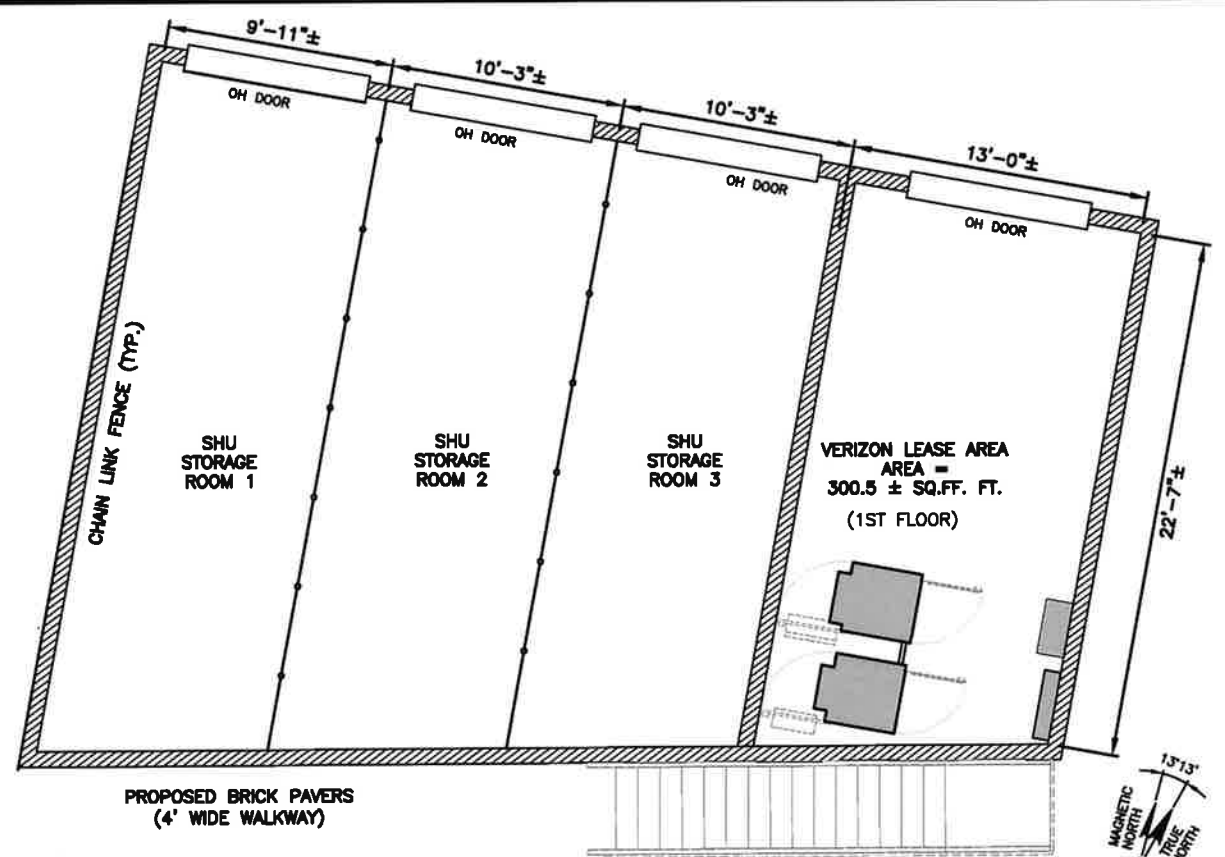
REV	DATE	DESCRIPTION	BY
2	11/17/22	ADD TREE-REMOVAL CITY & FENCE DETAIL	SLT
1	10/27/22	ISSUED FOR DAM PLAN FILING	SLT
0	7/14/22	ISSUED FOR REVIEW	SLT

SITE NAME:
PLATTSVILLE
RELO CT

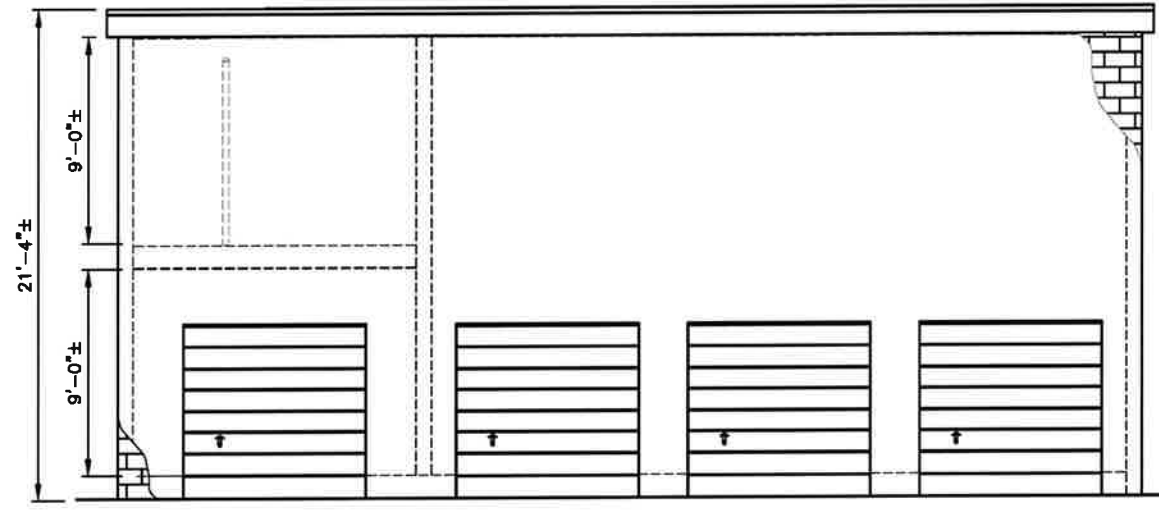
SITE ADDRESS:
5151 PARK AVENUE
FAIRFIELD, CT 06825

SHEET TITLE
FLOOR PLANS
AND ELEVATIONS

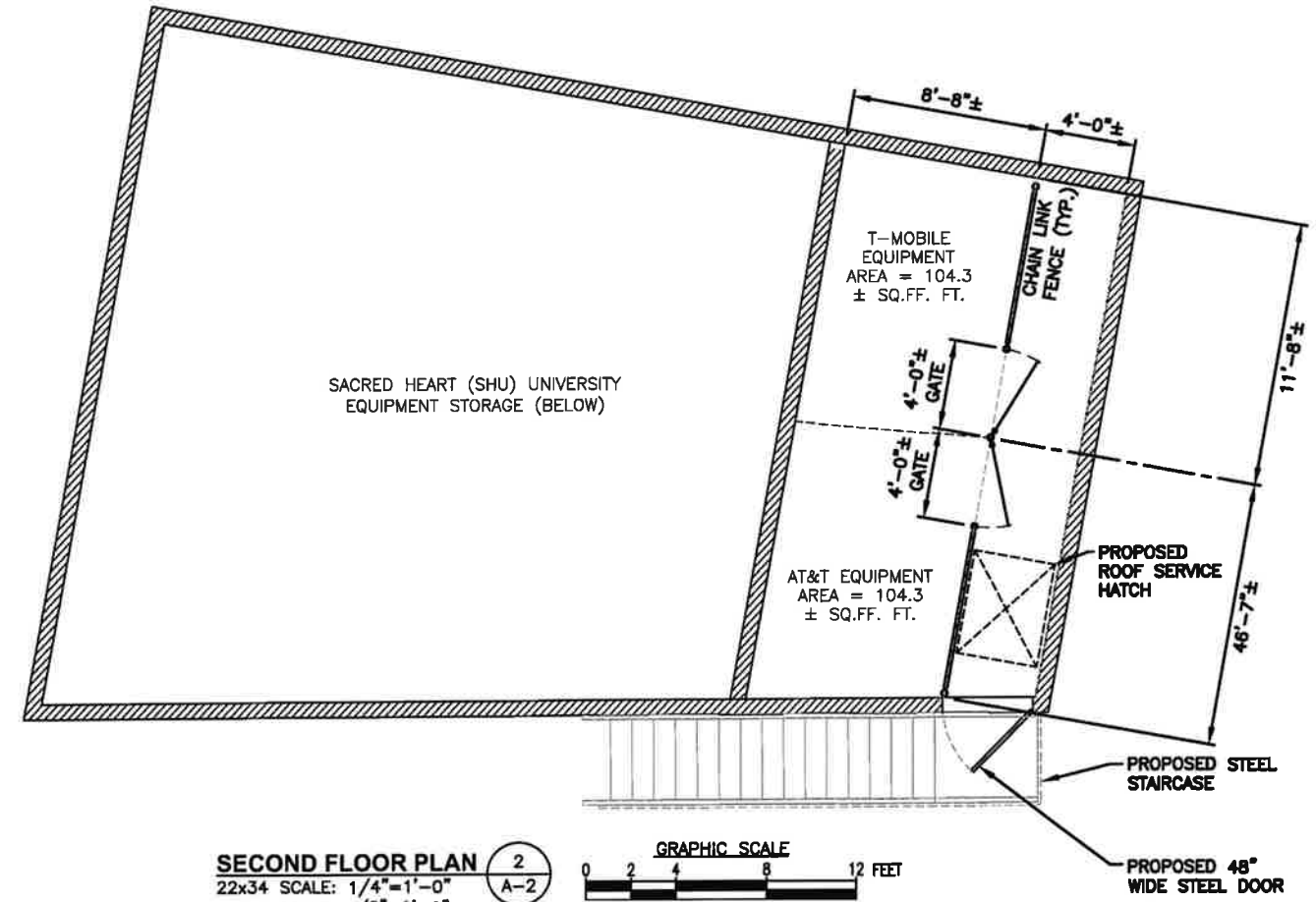
SHEET NUMBER
A-2



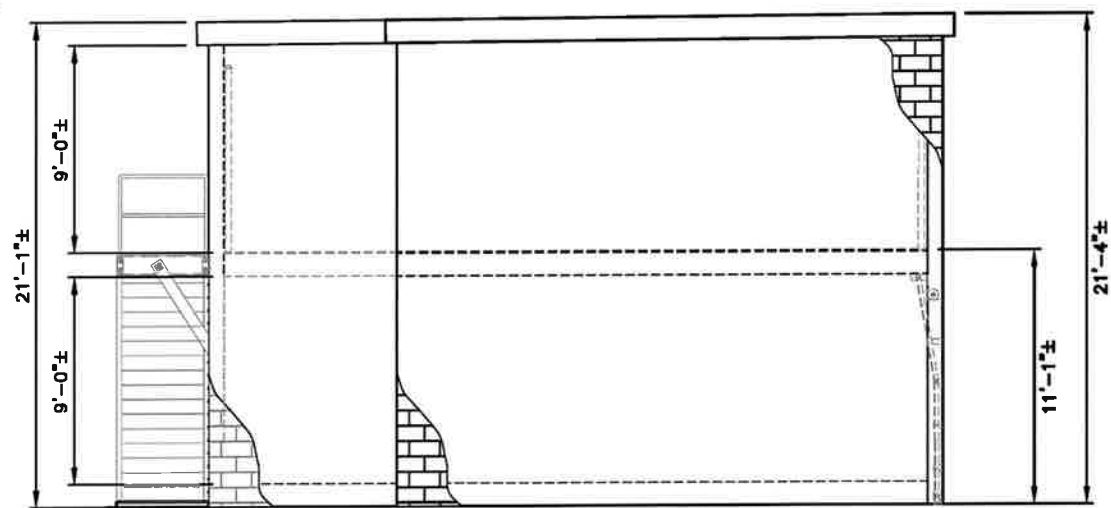
FIRST FLOOR PLAN
22x34 SCALE: 1/4"=1'-0"
11x17 SCALE: 1/8"=1'-0"
GRAPHIC SCALE
0 2 4 8 12 FEET



NORTH ELEVATION
22x34 SCALE: 1/4"=1'-0"
11x17 SCALE: 1/8"=1'-0"
GRAPHIC SCALE
0 2 4 8 12 FEET



SECOND FLOOR PLAN
22x34 SCALE: 1/4"=1'-0"
11x17 SCALE: 1/8"=1'-0"
GRAPHIC SCALE
0 2 4 8 12 FEET



EAST ELEVATION
22x34 SCALE: 1/4"=1'-0"
11x17 SCALE: 1/8"=1'-0"
GRAPHIC SCALE
0 2 4 8 12 FEET



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

REV	DATE	DESCRIPTION	BY
2	11/17/22	ADD TREE-REMOVAL CITY & FENCE DETAIL	SLT
1	10/27/22	ISSUED FOR DAM PLAN PLUMB	SLT
0	7/14/22	ISSUED FOR REVIEW	SLT

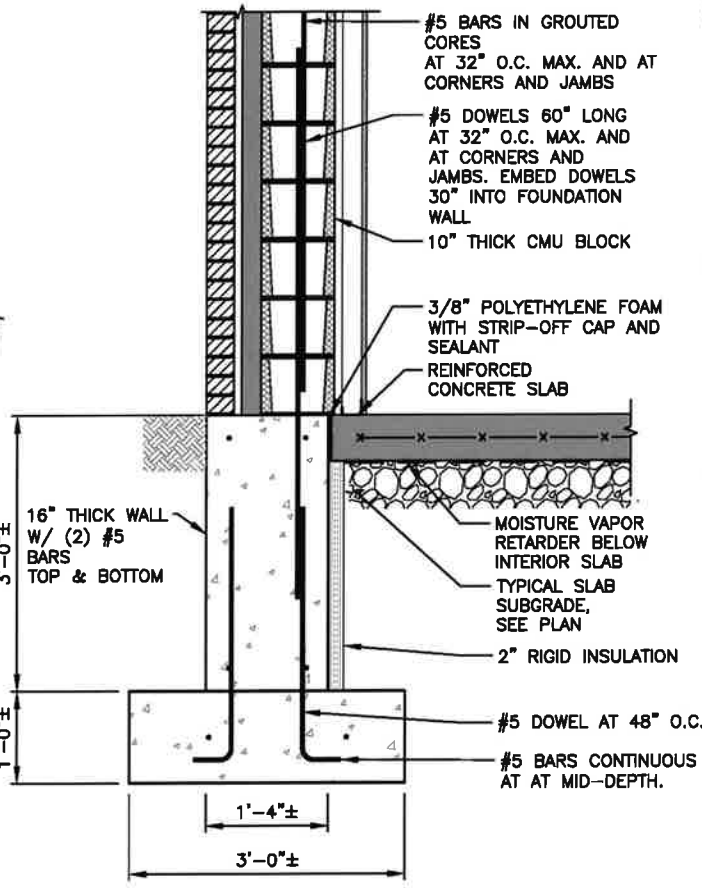
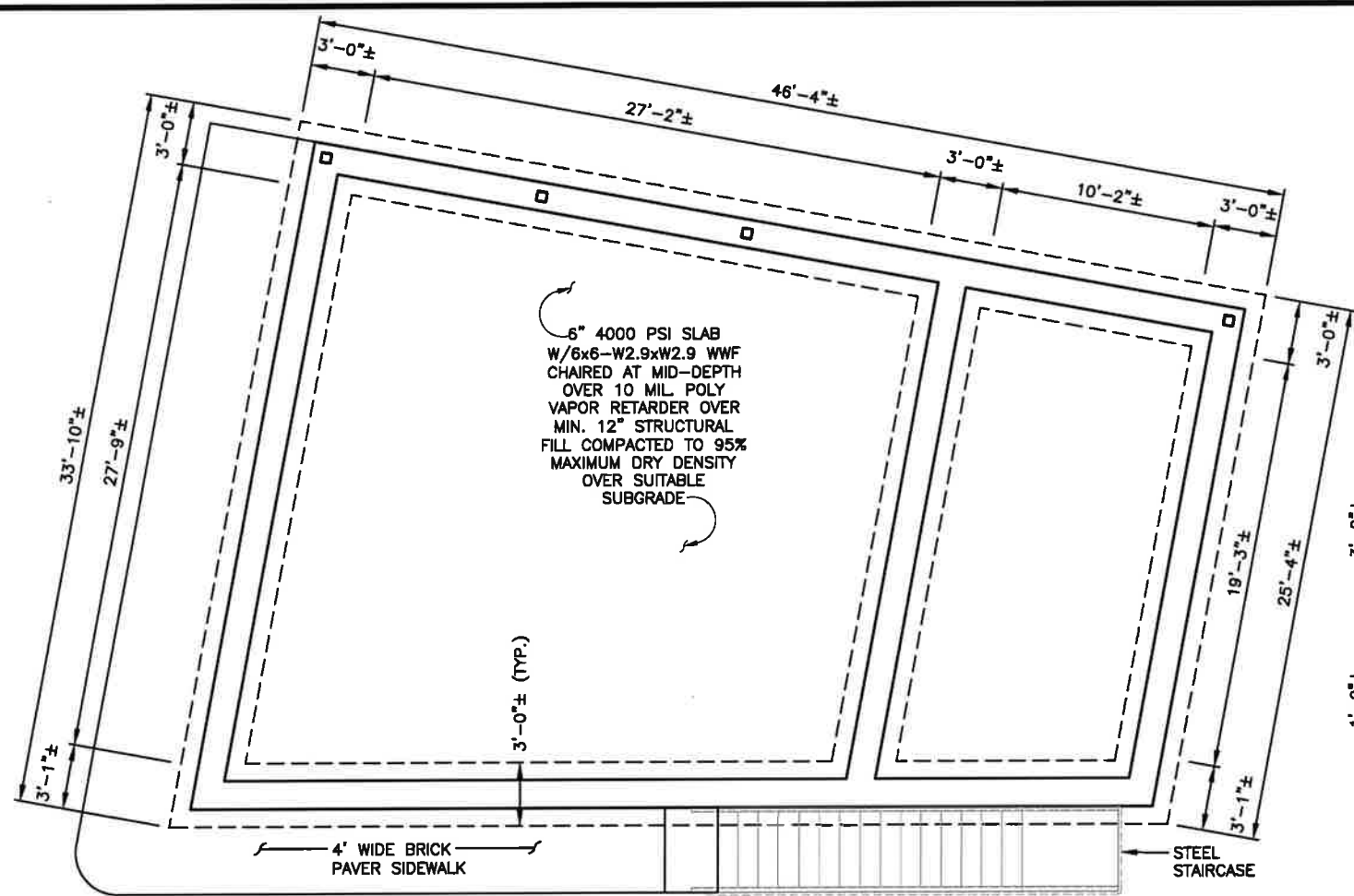
SITE NAME:
PLATTSVILLE
RELO CT

SITE ADDRESS:
5151 PARK AVENUE
FAIRFIELD, CT 06825

SHEET TITLE
FOUNDATION AND
WALKWAY DETAILS

SHEET NUMBER

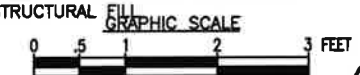
A-3



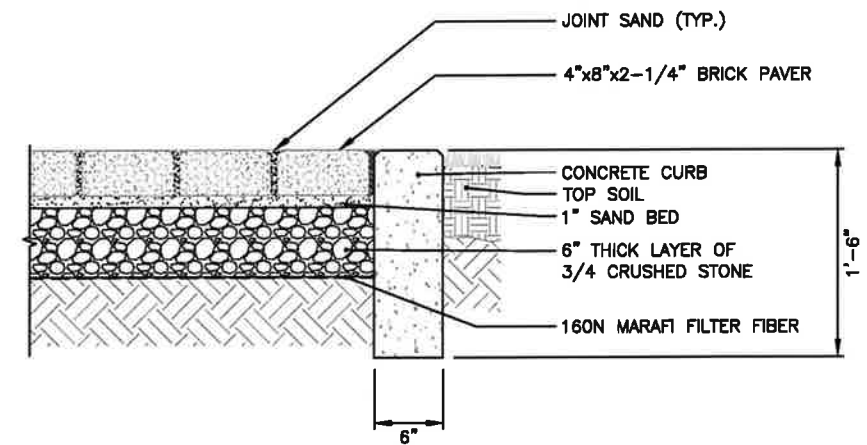
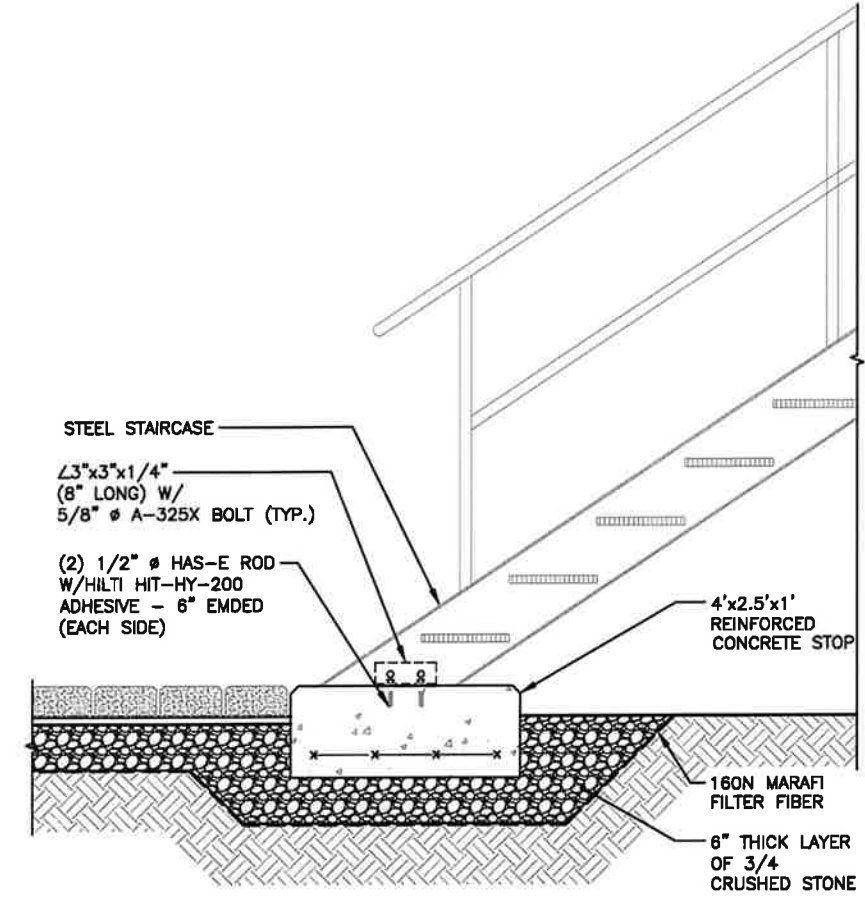
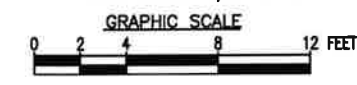
TYPICAL FOUNDATION WALL SECTION (2)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"
A-3

FOUNDATION NOTES & CONCRETE SPECIFICATIONS:

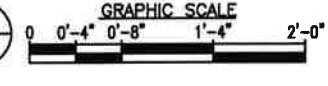
- FOUNDATION AREA SHALL BE EXCAVATED TO THE DEPTH AND DIMENSIONS SHOWN ON THE PLANS. EXISTING LEDGE AND ALL OTHER EXISTING UNSUITABLE MATERIAL SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE. THE SUBGRADE SHALL BE ROLLED WITH A 1-TON, VIBRATORY, WALK-BEHIND ROLLER AT A SPEED OF LESS THAN 2 FPS, 6 PASSES MINIMUM, TO PROVIDE UNYIELDING SURFACE.
- UNDERCUT SOFT OR "WEAVING" AREAS A MINIMUM OF 12 INCHES DEEP. BACKFILL UNDERCUT AREA WITH FILL MEETING THE SPECIFICATIONS OF STRUCTURAL FILL.
- CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c)=4000 psi. CONCRETE TO BE AIR ENTRAINED, DESIRED AIR CONTENT TO BE 6% (PLUS OR MINUS 2%)
- REINFORCING BAR TO BE ASTM A615 GRADE 60.
- WELDED WIRE FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A185. WIRES FOR FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A82.
- ALL REINFORCING TO HAVE MINIMUM CONCRETE COVER PER ACI SPECIFICATIONS.
- ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL CONFORM TO LATEST EDITION OF ACI 318 AND APPLICABLE STATE BUILDING CODE.
- BACK FILL BOTH SIDES OF FOUNDATION WALLS EVENLY WITH A COMPACTED STRUCTURAL FILL



FOUNDATION PLAN (1)
22x34 SCALE: 1/4"=1'-0"
11x17 SCALE: 1/8"=1'-0"
A-3

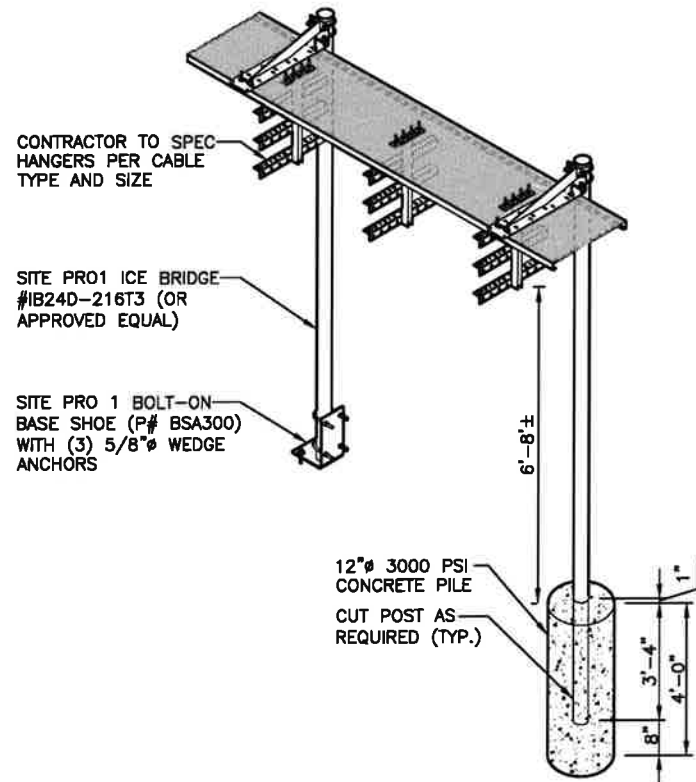


CONCRETE STOOP SECTION (3)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"
A-3



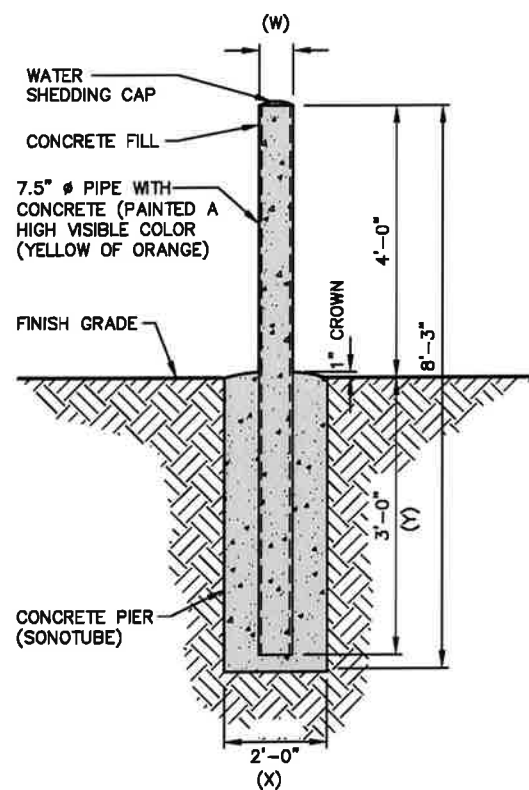
CONCRETE STOOP SECTION (3)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"
A-3





ICE BRIDGE DETAIL
SCALE: N.T.S.

1
A-4



BOLLARD DETAIL
SCALE: N.T.S.

2
A-4

BOLLARD -- SPC-B25

- BOLLARD SHALL BE MADE OF RIGID GALVANIZED STEEL CONDUIT FILLED WITH CONCRETE, AND SHALL BE SET IN A CONCRETE SONOTUBE. DIAMETER OF THE BOLLARD STEEL CONDUIT AND THE SONOTUBE SHALL CONFORM TO THE FOLLOWING TABLE:

BOLLARD CLASSIFICATION	GS CONDUIT DIAMETER (W)	GS CONDUIT DEPTH (Y)	CONCRETE SONOTUBE DIAMETER (X)
PRECAST MANUFACTURER BOLLARD	7.5"	3'	2'

- UNITED ILLUMINATING ENGINEERING SHALL BE CONTACTED FOR SELECTION OF CONDUIT AND SONOTUBE DIAMETERS.
- FOUR FEET OF THE BOLLARD SHALL BE EXPOSED ABOVE THE CONCRETE SONOTUBE.
- BOLLARD SHALL HAVE A ROUNDED TOP, OR A WATER SHEDDING CAP.
- BOLLARD SHALL BE PAINTED WITH TWO COATS OF HIGH VISIBILITY YELLOW LATEX PAINT.
- PRECAST BOLLARDS MEETING THE DIMENSION REQUIREMENTS AND SUPPLIED BY THE FOLLOWING MANUFACTURERS ARE ALSO ACCEPTED:

ARROW CONCRETE PRODUCTS
560 SALMON BROOK STREET
GRANBY, CONNECTICUT 06035

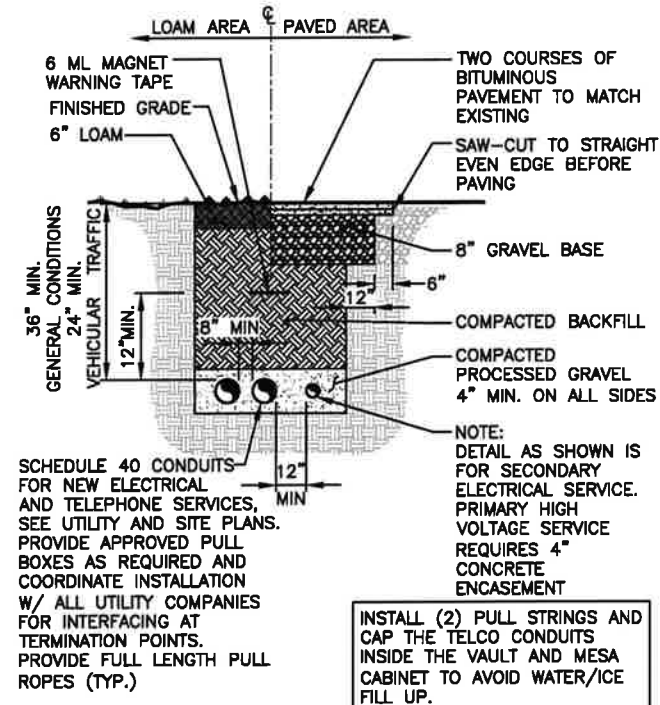
UNITED CONCRETE PRODUCTS
173 CHURCH STREET
YALESVILLE, CT 06492

21001 TRENCH REQUIREMENTS -- PRIMARY & SECONDARY CABLES

- CALLBEFORE YOU DIG(1-800-922-4455).
- TRENCH WIDTH DEPENDS ON TYPE OF TRENCHING EQUIPMENT USED.
- A MINIMUM OF 12" SEPARATION, VERTICAL OR HORIZONTAL, SHALL BE MAINTAINED BETWEEN COMMUNICATION OR CATV CABLES AND ELECTRICAL CABLE(S) OR THEIR CONDUITS.
- A MINIMUM SEPARATION OF 12" SHALL BE MAINTAINED BETWEEN ELECTRIC CONDUIT AND GAS SERVICE LINES. JOIN TRENCHING IS NOT PERMITTED WITH ANY GAS LINES.
- A MINIMUM SEPARATION OF 12" SHALL BE MAINTAINED BETWEEN ELECTRIC CONDUITS AND WATER SERVICE LINES. SEPARATION BETWEEN ELECTRICAL CONDUITS AND MAIN WATER LINES SHALL BE 18".
- THE TRENCH BOTTOM SHALL BE UNDISTURBED OR WELL TAMPED EARTH, (I.E. NOT LOOSE BACKFILL), SUCH THAT THE TRENCH BOTTOM WILL NOT SETTLE AND DISTURB UI CONDUITS. ALSO, THE TRENCH BOTTOM SHALL BE FREE FROM ALL SHARP OBJECTS AND STONES.
- WHERE ROCK OR LEDGE IS ENCOUNTERED, THE MINIMUM CONDUIT COVER MAY BE REDUCED TO 24".
- ALL BACKFILL SHALL BE FREE OF STONES, DEBRIS OR ANY SHARP OBJECT THAT MAY DAMAGE THE CONDUIT.
- FOR 3-PHASE PRIMARY, 4" DIAMETER CONDUIT SHALL BE INSTALLED. FOR SINGLE-PHASE PRIMARY, 2-3" DIAMETER CONDUIT SHALL BE INSTALLED. EITHER GALVANIZED STEEL OR SCHEDULE 40 PVC CONDUIT SHALL BE INSTALLED.
- TO PROVIDE A MEANS OF PULLING IN THE CABLE(S), A NYLON DRAW CORD, (1/8" 400 LB. MINIMUM TEST) SHALL BE INSTALLED IN THE CONDUIT. THE DRAW CORD SHALL EXTEND CONTINUOUSLY THROUGH THE ENTIRE LENGTH OF ALL CONDUIT SECTIONS. CONDUIT ENDS SHALL BE SEALED WITH BUSHINGS OR CAPS.
- MACHINE DIGGING SHALL STOP 36" FROM VAULTS, FOUNDATIONS, EQUIPMENT, CABLES AND POLES. THE REMAINDER OF THE TRENCH SHALL BE HAND DUG.
- ALL UI BURIED CONDUITS SHALL BE IDENTIFIED BY A RED MARKER TAPE (UI S.S. 40-86750). THE MARKER TAPE SHALL RUN DIRECTLY ABOVE THE ENTIRE LENGTH OF EACH CONDUIT SECTION WITH A MINIMUM VERTICAL SEPARATION OF 12".

23001 FIBERGLAS FOUNDATION -- PADMOUNT EQUIPMENT

- (1) FOR TRANSFORMER INSTALLATIONS, THE FRONT OF THE TRANSFORMER MUST BE LOCATED ON THE NARROW SIDEWALL, NOMINALLY 37-1/2". (2) FOR SINGLE PHASE JUNCTION ENCLOSURE INSTALLATIONS, THE FRONT OF THE ABOVE GRADE JUNCTION ENCLOSURE MUST BE LOCATED ALONG THE WIDE SIDEWALL, NOMINALLY 43".
- THE SYSTEM SHALL BE SOLIDLY GROUNDED WITH FOUR GROUND RODS AND A #4 AWG BARE CU GROUND GRID.
- THE GROUND GRID SHALL BE INSTALLED AND CONNECTED AS SHOWN ON PAGE 1. THE GROUND GRID 'TAILS' SHALL BE BUGGED TOGETHER AND THEN BROUGHT, BELOW GRADE, INTO THE BOX PAD. EACH END SHALL BE OF SUFFICIENT LENGTH TO CONNECT TO THE TRANSFORMER TANK GROUND OR EQUIPMENT GROUND BUS (MINIMUM OF 3' ABOVE FINISHED GRADE, EACH END).
- ALL CONDUCTOR NEUTRALS AND EQUIPMENT GROUNDS SHALL BE BONDED TOGETHER AND CONNECTED TO THE GROUND GRID. SEE APPROPRIATE EQUIPMENT DCS FOR DETAILS.
- LOCATE THE BOX PAD IN ACCORDANCE WITH THE REQUIREMENTS OF STD. DS-20501 ENSURING THAT THE BOX PAD FRONT, DEPENDING ON EQUIPMENT TO BE USED, IS POSITIONED IN THE REQUIRED DIRECTION.
- PRIMARY, SECONDARY AND SERVICE CONDUITS SHALL ENTER FROM BELOW THE BOX PAD LIP.
- A TELEPHONE COMPANY GROUND MUST BE PROVIDED WHEN TELEPHONE COMPANY FACILITIES COME WITHIN THE IMMEDIATE VICINITY OF U.I. COMPANY FACILITIES. THE GROUND LEAD, 10', SHOULD BE LOCATED ON THE SIDE OF THE TRANSFORMER/ENCLOSURE CLOSEST TO THE TELEPHONE COMPANY FACILITIES.



BURIED CONDUIT DETAIL
SCALE: N.T.S.

4
A-4



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

REV	DATE	DESCRIPTION	BY
2	11/17/22	ADD TREE-REMOVAL QTY & FENCE DETAIL	SLY
1	10/22/22	ISSUED FOR GMM PLAN FILING	SLY
0	7/14/22	ISSUED FOR REVIEW	SLY

SITE NAME:
PLATTSVILLE RELO CT

SITE ADDRESS:
5151 PARK AVENUE
FAIRFIELD, CT 06825

SHEET TITLE
CABLE SUPPORT AND BOLLARD DETAILS

SHEET NUMBER
A-4



45 BEECHWOOD DRIVE TEL: (978) 557-5553
N. ANDOVER, MA 01845 FAX: (978) 336-5566



Daniel P. Hamm

CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

REV	DATE	DESCRIPTION	BY
2	11/17/22	ADD TREE-REMOVAL QTY & FENCE DETAIL	SLY
1	10/27/22	ISSUED FOR DAM PLAN FILING	SLY
0	7/14/22	ISSUED FOR REVIEW	SLY

SITE NAME:
PLATTSVILLE
RELO CT

SITE ADDRESS:
5151 PARK AVENUE
FAIRFIELD, CT 06825

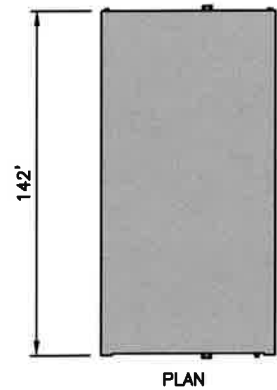
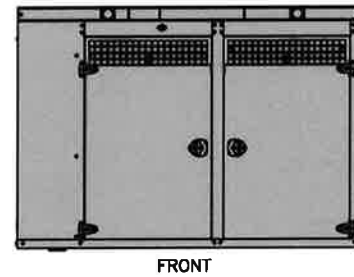
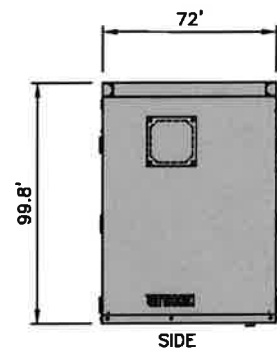
SHEET TITLE
CONCRETE PAD
AND GENERATOR
DETAILS

SHEET NUMBER

A-5

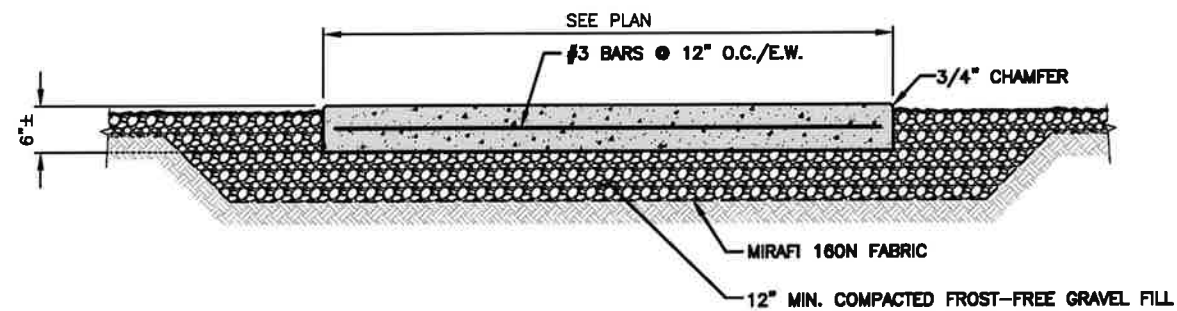
FOUNDATION NOTES & CONCRETE SPECIFICATIONS:

- FOUNDATION AREA SHALL BE EXCAVATED TO THE DEPTH AND DIMENSIONS SHOWN ON THE PLANS. EXISTING LEDGE AND ALL OTHER EXISTING UNSUITABLE MATERIAL SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE. THE SUBGRADE SHALL BE ROLLED WITH A 1-TON, VIBRATORY, WALK-BEHIND ROLLER AT A SPEED OF LESS THAN 2 FPS, 6 PASSES MINIMUM, TO PROVIDE UNYIELDING SURFACE.
- UNDERCUT SOFT OR "WEAVING" AREAS A MINIMUM OF 12 INCHES DEEP. BACKFILL UNDERCUT AREA WITH FILL MEETING THE SPECIFICATIONS OF STRUCTURAL FILL.
- CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c)=4000 psi. CONCRETE TO BE AIR ENTRAINED, DESIRED AIR CONTENT TO BE 6% (PLUS OR MINUS 2%)
- REINFORCING BAR TO BE ASTM A615 GRADE 60.
- WELDED WIRE FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A185. WIRES FOR FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A82.
- ALL REINFORCING TO HAVE MINIMUM CONCRETE COVER PER ACI SPECIFICATIONS.
- ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL CONFORM TO LATEST EDITION OF ACI 318 AND APPLICABLE STATE BUILDING CODE.



GENERATOR	
100REOZJFSTATE CODE FUEL TANK	
100KW DIESEL GENERATOR	
RUN TIME	96 HOURS
WEIGHT: 6,706 lbs.	

GENERATOR DETAIL 1
SCALE: N.T.S. A-5

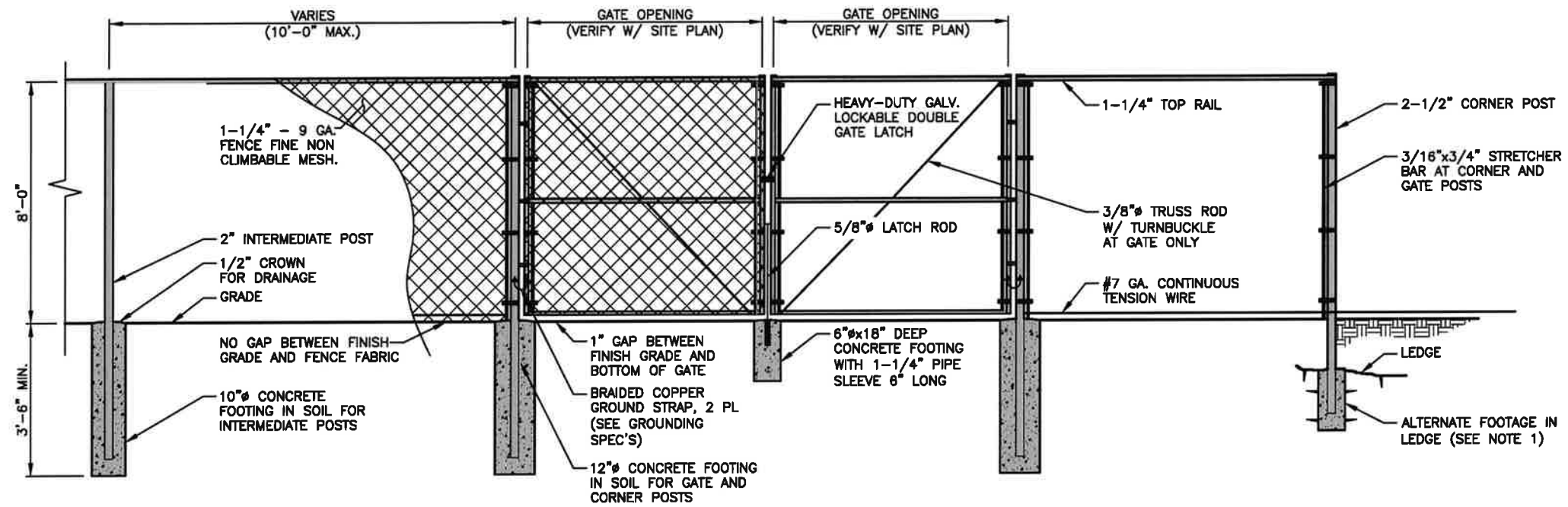


CONCRETE PAD DETAIL 2
SCALE: N.T.S. A-5

FENCE NOTES

1. ALTERNATE FOOTINGS FOR ALL FENCE POSTS IN LEDGE: IF LEDGE IS ENCOUNTERED AT GRADE, OR AT A DEPTH SHALLOWER THAN 3'-6", CORE DRILL AN 8" DIA HOLE 18" INTO THE LEDGE. CENTER POST IN THE HOLE AND FILL WITH CONCRETE OR GROUT. IF LEDGE IS BELOW FINISH GRADE, COAT BACKFILLED SECTION OF POST WITH COAL TAR, AND BACKFILL WITH WELL-DRAINING GRAVEL.

2. ATTACH EACH GATE WITH 1-1/2 PAIR OF NON-LIFT-OFF TYPE, MALLEABLE IRON OR FORGING, PIN-TYPE HINGES. ASSEMBLIES SHALL ALLOW FOR 180° OF GATE TRAVEL.



CHAINLINK FENCE DETAIL 1
SCALE: N.T.S. A-6



CHECKED BY: JX
APPROVED BY: DPH

SUBMITTALS

REV	DATE	DESCRIPTION	BY
2	11/17/22	ADD TREE-REMOVAL QTY & FENCE DETAIL	SLY
1	10/27/22	ISSUED FOR RAIN PLAN PLUMB	SLY
0	7/14/22	ISSUED FOR REVIEW	SLY

SITE NAME:
**PLATTSVILLE
RELO CT**

SITE ADDRESS:
5151 PARK AVENUE
FAIRFIELD, CT 06825

SHEET TITLE
FENCE DETAILS

SHEET NUMBER
A-6

SEQUENCE OF CONSTRUCTION

1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECPS), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECPS IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECPS EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECPS WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO THE COMPACTED SOIL AND FOLD THE REMAINING 12" PORTION OF RECPS BACK OVER THE SEED AND COMPACTED SOIL. SECURE RECPS OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECPS.
3. ROLL THE RECPS DOWN HORIZONTALLY ACROSS THE SLOPE. RECPS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECPS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL RECPS MUST BE STAPLED WITH APPROXIMATELY 2" - 5" OVERLAP DEPENDING ON THE RECPS TYPE. CONSECUTIVE RECPS SPLICED DOWN THE SLOPE MUST BE END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECPS WIDTH.

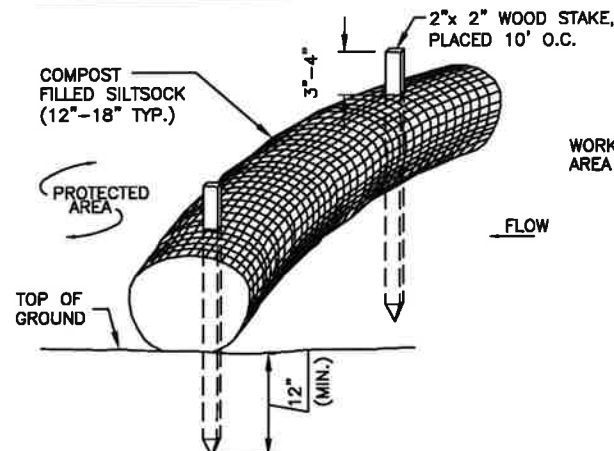
NOTES:

1. PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.
2. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
3. BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.
4. THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
5. BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

BLANKET EDGES STAPLED AND OVERLAPPED (4 IN. MIN.)

INSTALL BEGINNING OF ROLL IN 6 IN. x 6 IN. ANCHOR TRENCH, STAPLE, BACKFILL AND COMPACT SOIL

REFER TO 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL



1. SILT SOCK SHALL BE FILTREXX SILT SOCK, OR APPROVED EQUAL.
2. COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.
3. SILT SOCK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.
4. SEE SPECIFICATIONS FOR SOCK SIZE, AND COMPOST FILL, REQUIREMENTS.

SILT SOCK DETAIL

SCALE: N.T.S.

1
A-7

GENERAL CONSTRUCTION SEQUENCE:

THIS IS A GENERAL CONSTRUCTION SEQUENCE OUTLINE SOME ITEMS OF WHICH MAY NOT APPLY TO PARTICULAR SITES.

- 1) CLEAR AND GRUB AREAS OF PROPOSED CONSTRUCTION.
- 2) INSTALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES AS REQUIRED.
- 3) REMOVE AND STOCKPILE TOPSOIL. STOCKPILE SHALL BE SEEDED TO PREVENT EROSION.
- 4) CONSTRUCT CLOSED DRAINAGE SYSTEM. PROTECT CULVERT INLETS AND CATCH BASINS WITH SEDIMENTATION BARRIERS.
- 5) CONSTRUCT ROADWAYS AND PERFORM SITE GRADING, PLACING HAY BALES AND SILTATION FENCES AS REQUIRED TO CONTROL SOIL EROSION.
- 6) INSTALL UNDERGROUND UTILITIES.
- 7) BEGIN TEMPORARY AND PERMANENT SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED OR MULCHED IMMEDIATELY AFTER THEIR CONSTRUCTION. NO AREA SHALL BE LEFT UNSTABILIZED FOR A TIME PERIOD OF MORE THAN 30 DAYS.
- 8) DAILY, OR AS REQUIRED, CONSTRUCT, INSPECT, AND IF NECESSARY, RECONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, SILT FENCES AND SEDIMENT TRAPS INCLUDING MULCHING AND SEEDING.
- 9) BEGIN EXCAVATION FOR AND CONSTRUCTION OF TOWERS AND PLATFORMS.
- 10) FINISH PAVING ALL ROADWAYS, DRIVES, AND PARKING AREAS.
- 11) COMPLETE PERMANENT SEEDING AND LANDSCAPING.
- 12) NO STORM WATER FLOW SHALL BE DIVERTED TO ANY WETLANDS UNTIL A HEALTHY STAND OF GRASS HAS BEEN ESTABLISHED IN REGRADED AREAS.
- 13) AFTER GRASS HAS BEEN FULLY GERMINATED IN ALL SEEDED AREAS, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

EROSION CONTROL MEASURES:

- 1) DISTURBED AREAS SHALL BE KEPT TO THE MINIMUM AREA NECESSARY TO CONSTRUCT THE ROADWAYS AND ASSOCIATED DRAINAGE FACILITIES.
- 2) HAY BALE BARRIERS AND SEDIMENT TRAPS SHALL BE INSTALLED AS REQUIRED. BARRIERS AND TRAPS ARE TO BE MAINTAINED AND CLEANED UNTIL ALL SLOPES HAVE A HEALTHY STAND OF GRASS.
- 3) BALED HAY AND MULCH SHALL BE MOWINGS OF ACCEPTABLE HERBACEOUS GROWTH, FREE FROM NOXIOUS WEEDS OR WOODY STEMS, AND SHALL BE DRY. NO SALT HAY SHALL BE USED.
- 4) FILL MATERIAL SHALL BE FREE FROM STUMPS, WOOD, ROOTS, ETC.
- 5) STOCKPILED MATERIALS SHALL BE PLACED IN AREAS SHOWN ON THE PLANS. STOCKPILES SHALL BE PROTECTED BY SILTATION FENCE AND SEEDED TO PREVENT EROSION. THESE MEASURES SHALL REMAIN UNTIL ALL MATERIAL HAS BEEN PLACED OR DISPOSED OFF SITE.
- 6) ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED. A MINIMUM OF 4 INCHES OF LOAM SHALL BE INSTALLED WITH NOT LESS THAN ONE POUND OF SEED PER 50 SQUARE YARDS OF AREA.
- 7) APPLICATION OF GRASS SEED, FERTILIZERS AND MULCH SHALL BE ACCOMPLISHED BY BROADCAST SEEDING OR HYDROSEEDING AT THE RATES OUTLINED BELOW:

LIMESTONE: 75-100 LBS./1,000 SQUARE FEET.
FERTILIZER: RATE RECOMMENDED BY MANUFACTURER.
MULCH: HAY MULCH APPROXIMATELY 3 TONS/ACRE UNLESS EROSION CONTROL MATTING IS USED.

SEED MIX (SLOPES LESS THAN 4:1)	LBS./ACRE
CREeping RED FESCUE	20
TALL FESCUE	20
REDTOP	2
	42

SLOPE MIX (SLOPES GREATER THAN 4:1)	LBS./ACRE
CREeping RED FESCUE	20
TALL FESCUE	20
BIRDSFOOT TREFOIL	8
	48

TREATMENT SWALE PLANTING SPECIFICATIONS

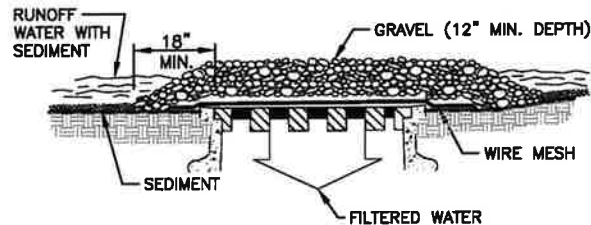
TALL FESCUE	20 LBS/ACRE	OR	0.45 LBS/10,000 SF
CREeping RED FESCUE	20 LBS/ACRE	OR	0.45 LBS/10,000 SF
BIRDSFOOT TREFOIL	8 LBS/ACRE	OR	0.20 LBS/10,000 SF

LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT TIME OF SEEDING AND INCORPORATED INTO THE SOIL. THE FOLLOWING RATES ARE RECOMMENDED:

AGRICULTURAL LIMESTONE	2 TONS/ACRE	OR	100 LBS/1,000 SF
NITROGEN (N)	50 LBS/ACRE	OR	1.1 LBS/10,000 SF
PHOSPHATE (P205)	100 LBS/ACRE	OR	2.2 LBS/10,000 SF
POTASH (K20)	100 LBS/ACRE	OR	2.2 LBS/10,000 SF

(THIS IS EQUIVALENT TO 500 LBS/ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS/ACRE OF 5-10-10).

- 8) AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED THE TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED.
- 9) PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.
- 10) ALL CATCH BASIN INLETS WILL BE PROTECTED WITH LOW POINT SEDIMENTATION BARRIER.
- 11) ALL STORM DRAINAGE OUTLETS WILL BE STABILIZE AND CLEANED AS REQUIRED, BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
- 12) ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT FILTER AREA.
- 13) NO DISCHARGE SHALL BE DIRECTED TOWARDS ANY PROPOSED DITCHES, SWALES, OR PONDS UNTIL THEY HAVE BEEN PROPERLY STABILIZED.



CONSTRUCTION SEQUENCE:

1. A WIRE MESH SHOULD BE PLACED OVER THE DROP INLET OR CURB OPENING SO THAT THE ENTIRE OPENING AND A MINIMUM OF 12 INCHES AROUND THE OPENING ARE COVERED BY THE MESH. THE MESH MAY BE ORDINARY HARDWARE CLOTH OR WIRE MESH WITH OPENINGS UP TO 1/2 INCH.
2. THE WIRE MESH SHOULD BE COVERED WITH CLEAN COARSE AGGREGATE SUCH AS SEWER STONE FOR A MINIMUM DEPTH OF 12 INCHES.
- 3) THE COARSE AGGREGATE SHOULD EXTEND AT LEAST 18 INCHES ON ALL SIDES OF THE DRAIN OPENING.

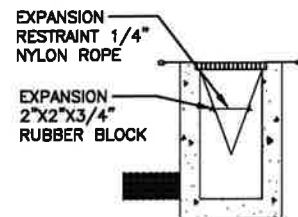
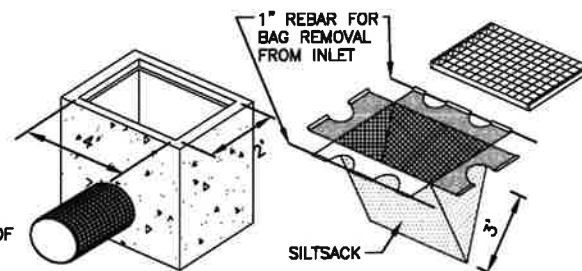
MAINTENANCE:

ALL STRUCTURES SHOULD BE INSPECTED AFTER EVERY RAIN STORM AND REPAIRS MADE AS NECESSARY. SEDIMENT SHOULD BE REMOVED FROM THE TRAPPING DEVICES AFTER THE SEDIMENT HAS REACHED A MAXIMUM OF ONE HALF THE DEPTH OF THE TRAP. THE SEDIMENT SHOULD BE DISPOSED OF IN A SUITABLE AREA AND PROTECTED FROM EROSION BY EITHER STRUCTURAL OR VEGETATIVE MEANS. THE TEMPORARY TRAPS SHOULD BE REMOVED AND THE AREA REPAIRED AS SOON AS THE CONTRIBUTING DRAINAGE AREA TO THE INLET HAS BEEN COMPLETELY STABILIZED.

STONE INLET PROTECTION DETAIL-ON SITE

SCALE: N.T.S.

2
A-7



NOTE: REGULAR FLOW = 40 GAL./MIN./SF.
 HIGH = 200 GAL./MIN./SF.

SILKSACK DETAIL - ON OR OFF SITE

PREPARED FOR: CELCO PARTNERSHIP D.B.A.

verizon

H2G HUDSON Design Group LLC

45 BEECHWOOD DRIVE N. ANDOVER, MA 01845 TEL: (978) 557-5553 FAX: (978) 336-5586



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

REV	DATE	DESCRIPTION	BY
2	11/17/22	ADD TREE-REMOVAL QTY & FENCE DETAIL	SLY
1	10/27/22	ISSUED FOR GDM PLAN FILING	SLY
0	7/14/22	ISSUED FOR REVIEW	SLY

SITE NAME:
PLATTSVILLE RELO CT

SITE ADDRESS:
 5151 PARK AVENUE
 FAIRFIELD, CT 06825

SHEET TITLE
EROSION CONTROL NOTES AND DETAILS

SHEET NUMBER

A-7

ATTACHMENT 3

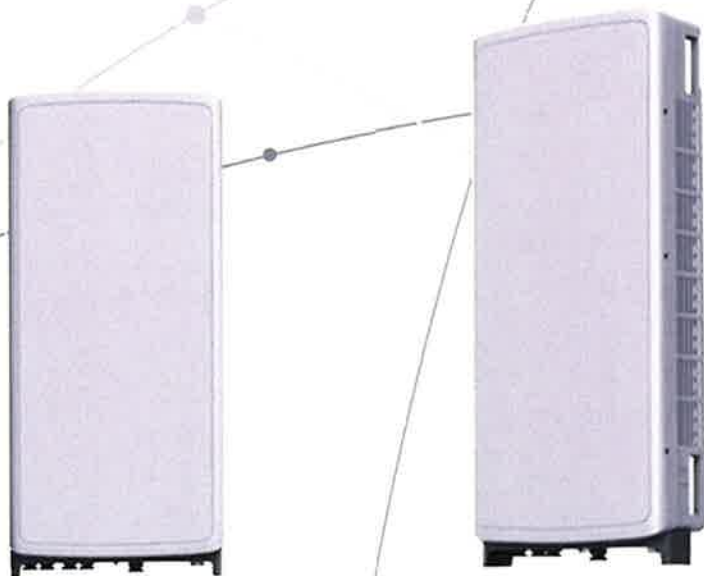
SAMSUNG

SAMSUNG C-Band 64T64R Massive MIMO Radio

for High Capacity and Wide Coverage

Samsung C-Band 64T64R Massive MIMO Radio enables mobile operators to increase coverage range, boost data speeds and ultimately offer enriched 5G experiences to users in the U.S..

Model Code : MT6407-77A



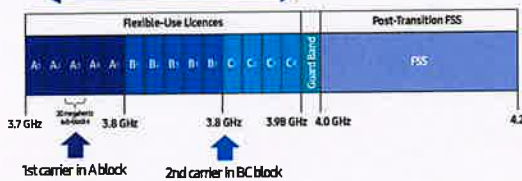
Points of Differentiation

Wide Bandwidth

With capability to support up to 2 CC carrier configuration, Samsung C-Band massive MIMO Radio supports 200 MHz bandwidth in the C-Band spectrum.

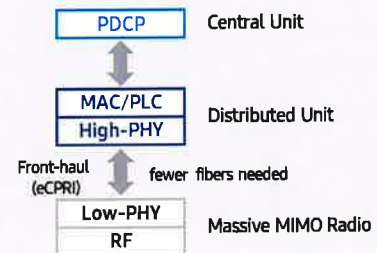
Samsung C-Band massive MIMO Radio covers the entire C-Band 280 MHz spectrum, so it can meet the operator's needs in current A block and future B/C blocks

C-Band spectrum supported by Massive MIMO Radio



Future Proof Product

Samsung C-Band 64T64R Massive MIMO radio supports not only CPRI but also eCPRI as front-haul interface. It enables operators can cut down on OPEX/CAPEX by reducing front-haul bandwidth through low layer split and using ethernet based higher efficient line.



Enhanced Performance

C-Band massive MIMO Radio creates sharp beams and extends networks' coverage on the critical mid-band spectrum using a large number of antenna elements and high output power to boost data speeds.

This helps operators reduce their CAPEX as they now need less products to cover the same area than before.

Furthermore, as C-Band massive MIMO Radio supports MU-MIMO (Multi-user MIMO), it enables to increase user throughput by minimizing interference.



Well Matched Design

Samsung C-Band Massive MIMO radio utilizes 64 antennas, supports up to 280MHz bandwidth, and delivers a 200W output power. despite the above advanced performance, the Radio has a compact size of 50.9L and 79.4lbs. This makes it easy to install the Radio.

It is designed to look solid and compact, with a low profile appearance so that, when installed, harmonizes well with the surrounding environment.



Technical Specifications

Item	Specification
Tech	NR
Band	n77
Frequency Band	3700 - 3980 MHz
EIRP	78.5dBm (53.0 dBm+25.5 dBi)
IBW/OBW	280 MHz / 200 MHz
Installation	Pole/Wall
Size/Weight	16.06 x 35.06 x 5.51 inch (50.86L) / 79.4 lbs



SAMSUNG



About Samsung Electronics Co., Ltd.

Samsung inspires the world and shapes the future with transformative ideas and technologies. The company is redefining the worlds of TVs, smartphones, wearable devices, tablets, digital appliances, network systems, and memory, system LSI, foundry and LED solutions.

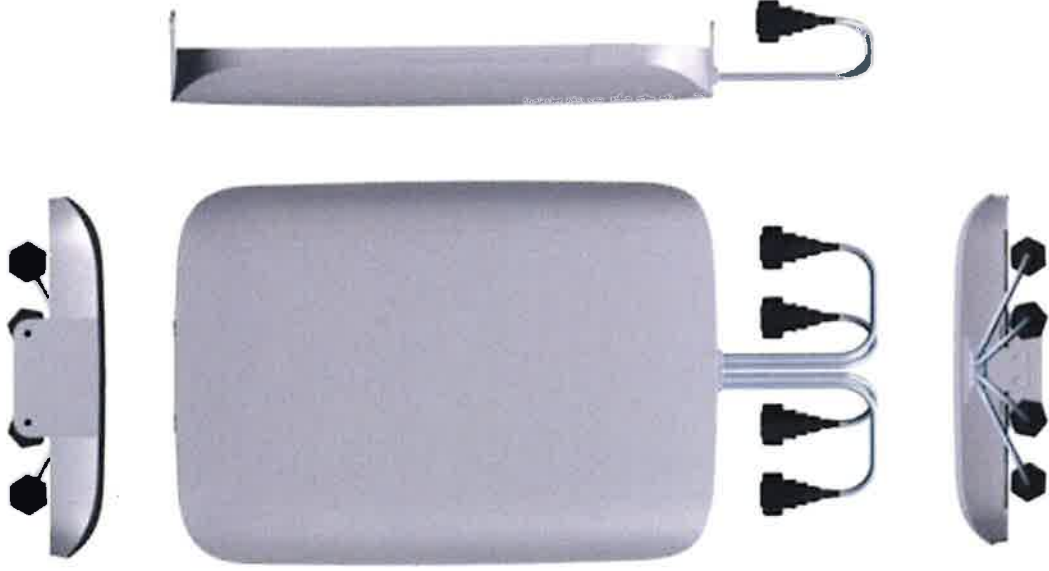
129 Samsung-ro, Yeongtong-gu, Suwon-si Gyeonggi-do, Korea

© 2021 Samsung Electronics Co., Ltd.

All rights reserved. Information in this leaflet is proprietary to Samsung Electronics Co., Ltd. and is subject to change without notice. No information contained here may be copied, translated, transcribed or duplicated by any form without the prior written consent of Samsung Electronics.

[CBRS] Clip-on Antenna Specifications

VzW accepted IP45 in FLD, but IP55 is Samsung Spec.



Items	Clip-on Antenna, BASTA**
Antenna Gain	12.5 ± 0.5 dBi (Max 13 dBi)
Horizontal BW (-3dB)	65° ± 5°
Vertical BW (-3dB)	17° ± 3°
Electrical Tilt	8° (fixed) ± 2°
Front-to-Back Ratio	> 25 dB
Port-to-Port Tracking	< 3 dB
VSWR	< 1.5
Isolation	> 25 dB
Ingress Protection	IP55
Size	220(W) × 313(H) × 34.3(D) mm (*) (8.7 × 12.3 × 1.4 inch.)
Weight	< 2.0 kg [Typ. 1.3 kg]
It is required that the radio should be weatherproofed properly with JMA WPS Boot with external antenna or with Weatherproof Boot for clip-on antennas.	

Antenna includes integrated cable with connector
 * Design is subject to minor change

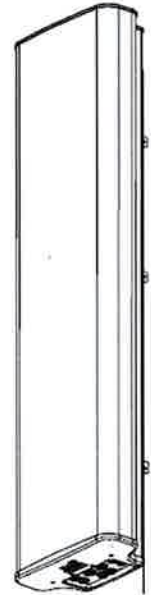
** Ant. spec. follows NGMN recommendations on Base Station Antenna Standards (BASTA). For example, 'mean ± tolerance of 86.6%' is applied to double-sided specification of statistical RF parameters.

MX06FRO640-02

NWAV™ X-Pol Antenna | Hex-Port | 6 ft | 40°

X-Pol, Hex-Port 6 ft 40° Fast Roll-Off with Smart Bias-T (2) 698–894 MHz & (4) 1695–2180 MHz

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



Electrical specification (minimum/ maximum)	Ports 1,2		Ports 3,4,5,6		
	698–798	824–894	1695–1880	1850–1990	1920–2180
Frequency bands, MHz	698–798	824–894	1695–1880	1850–1990	1920–2180
Polarization	± 45°		± 45°		
Average gain over all tilts, dBi	16.3	17.2	19.3	20.1	20.4
Horizontal beamwidth (HBW), degrees ¹	42°	37°	40°	39°	37°
Front-to-back ratio, co-polar power @180° ± 30°, dB	>25.0	>25.0	>28.0	>28.0	>28.0
X-Pol discrimination (CPR) at boresight, dB	>18.0	>15.0	>18	>18	>15
Sector power ratio, percent	<4.5	<3.5	<3.7	<3.8	<3.6
Vertical beamwidth, (VBW), degrees ¹	13.1°	11.8°	6.0°	5.7°	5.3°
Electrical downtilt (EDT) range, degrees	2-14	2-14	0-9		
First upper side lobe (USLS) suppression, dB ¹	≤ -15.0	≤ -15.0	≤ -16.0	≤ -16.0	≤ -16.0
Minimum cross polar isolation, port-to-port, dB	25	25	25	25	25
Maximum VSWR/ return loss, dB	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0
Maximum passive Intermodulation (PIM), 2x 20W carrier, dBc	-153	-153	-153		
Maximum input power per any port, watts	300		250		
Total composite power all ports, watts			1500		

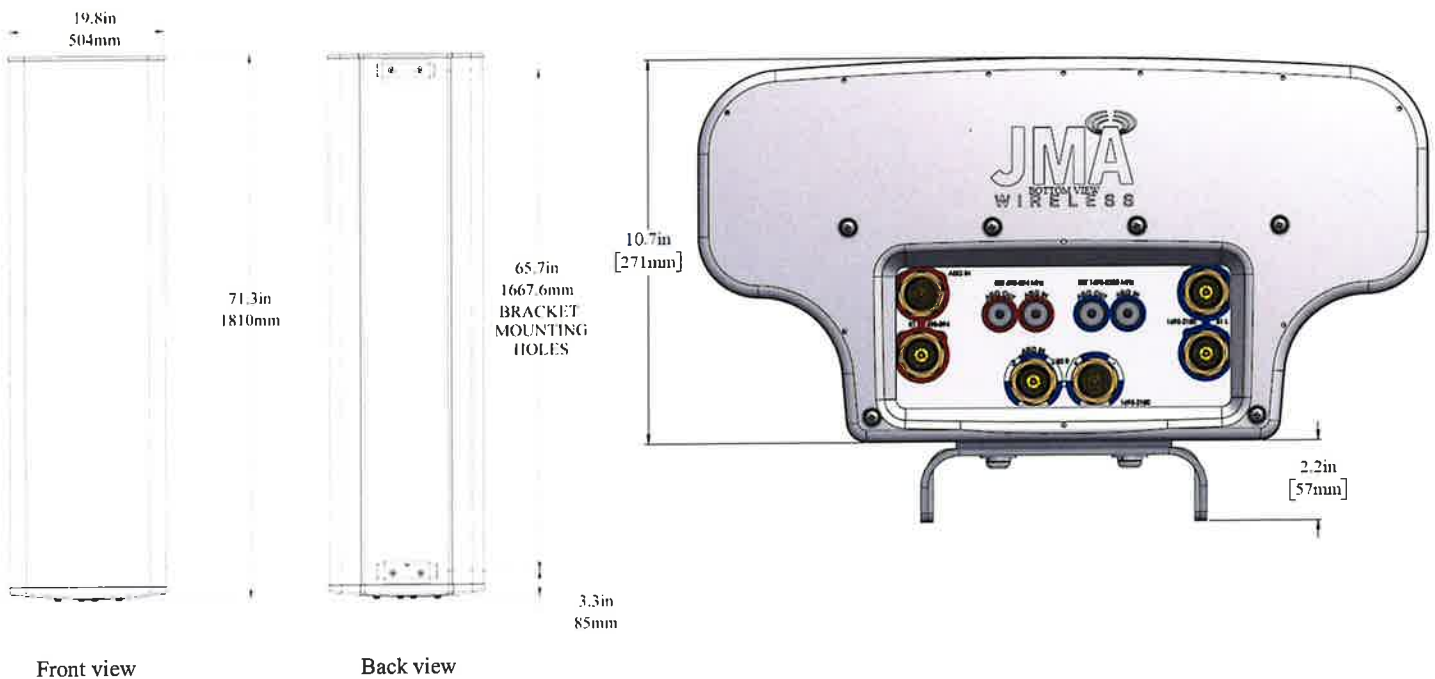
¹ Typical value over frequency and tilt

MX06FRO640-02

NWAV™ X-Pol Antenna | Hex-Port | 6 ft | 40°



Mechanical specifications	
Dimensions height/ width/ depth, inches (mm)	72/ 19.8/ 10.7 (1829/504/271)
Shipping dimensions length/ width/ height, inches (mm)	84/ 26/ 15 (2134/ 660/ 381)
No. of RF input ports, connector type & location	6 x 4.3-10 female, bottom
RF connector torque	96 lbf-in (10.85 N·m or 8 lbf-ft)
Net antenna weight, lb (kg)	70 (31.8)
Shipping weight, lb (kg)	100 (45.4)
Antenna mounting and downtilt kit included with antenna	91900318
Net weight of the mounting and downtilt kit, lb (kg)	18 (8.2)
Range of mechanical up/ down tilt	-2° to 14°
Rated wind survival speed, mph (km/h)	150 (241)
Frontal, lateral & rear wind loading @ 150 km/h, lbf (N)	263 (1170), 112 (498), 263 (1170)
Equivalent flat plate @100 mph and Cd=2, sq ft	6.03



Ordering information	
Antenna model	Description
MX06FRO640-02	6F X- Pol HEX FRO 40° 2-14°/ 0-9° RET, 4.3-10 & SBT
Optional accessories	
992100-CA030-SC	Optional AISG jumper cable, M/F, 3.0 meters
PCU-1000	Primary control unit, USB

MX06FRO640-02

NWAV™ X-Pol Antenna | Hex-Port | 6 ft | 40°

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

RET & RF connector topology

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

RET Device	Band	RF Port
1	698–894	1–2

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

Array topology

3 sets of radiating arrays

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

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

MX06FRO660-03

NWAV™ X-Pol Hex-Port Antenna

X-Pol Hex-Port 6 ft 60° Fast Roll Off antenna with independent tilt on 700 & 850 MHz:

2 ports 698-798, 824-894 MHz and 4 ports 1695-2180 MHz

- Fast Roll Off (FRO™) azimuth beam pattern improves Intra- and Inter-cell SINR
- Compatible with dual band 700/850 MHz radios with independent low band EDT without external duplexers
- Fully integrated (iRETS) with independent RET control for low and high bands for ease of network optimization
- SON-Ready array spacing supports beamforming capabilities
- Suitable for LTE/CDMA/PCS/UMTS/GSM air interface technologies
- Integrated Smart Bias-Ts reduce leasing costs

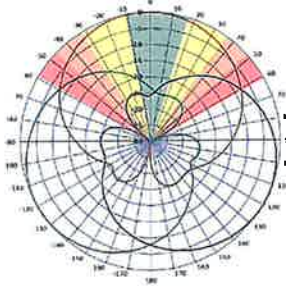


NWAV

Fast Roll-Off antennas increase data throughput without compromising coverage

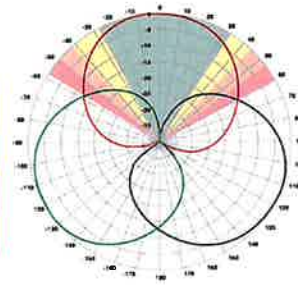
The horizontal beam produced by Fast Roll-Off (FRO) technology increases the Signal to Interference & Noise Ratio (SINR) by eliminating overlap between sectors. Large traditional antenna pattern overlap creates harmful interference.

Non-FRO antenna



JMA FRO antenna

JMA's FRO antenna pattern minimizes overlap, thereby minimizing interference.



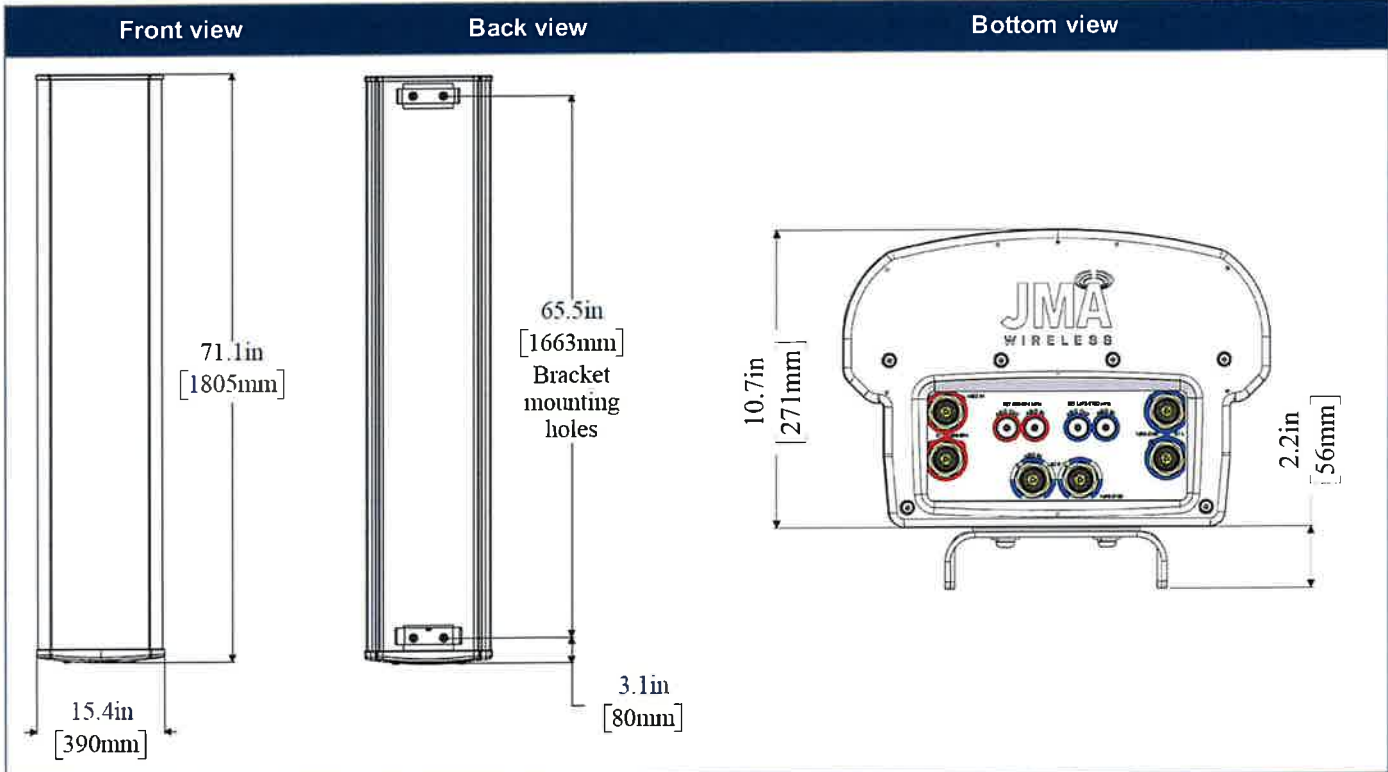
	LTE throughput	SINR	Speed (bps/Hz)	Speed increase	CQI
Excellent	>18	>4.5	330+%	5-10	
Good	15-18	3.3-4.5	277%	6-7	
Fair	10-15	2-3.3	160%	4-5	
Poor	<10	<2	0%	1-3	

The LTE radio automatically selects the best throughput based on measured SINR.

Electrical specification (minimum/maximum)	Ports 1, 2		Ports 3, 4, 5, 6		
	698-798	824-894	1695-1880	1850-1990	1920-2180
Frequency bands, MHz	698-798	824-894	1695-1880	1850-1990	1920-2180
Polarization	± 45°		± 45°		
Average gain over all tilts, dBi	14.4	14.0	17.6	18.0	18.2
Horizontal beamwidth (HBW), degrees	60.5	53.0	55.0	55.0	55.5
Front-to-back ratio, co-polar power @180°± 30°, dB	>24	>24.0	>25.0	>25.0	>25.0
X-Pol discrimination (CPR) at boresight, dB	>15.0	>14.2	>18	>18	>15
Sector power ratio, percent	<3.5	<3.0	<3.7	<3.8	<3.6
Vertical beamwidth (VBW), degrees¹	13.1	11.8	6.0	5.5	5.5
Electrical downtilt (EDT) range, degrees	2-14	2-14	0-9		
First upper side lobe (USLS) suppression, dB¹	≤-15.0	≤-16.5	≤-16.0	≤-16.0	≤-16.0
Cross-polar isolation, port-to-port, dB¹	25	25	25	25	25
Max VSWR / return loss, dB	1.5:1 / -14.0		1.5:1 / -14.0		
Max passive intermodulation (PIM), 2x20W carrier, dBc	-153		-153		
Max input power per any port, watts	300		250		
Total composite power all ports, watts	1500				

¹ Typical value over frequency and tilt

Mechanical specifications	
Dimensions height/width/depth, inches (mm)	71.3/ 15.4/ 10.7 (1811/ 392/ 273)
Shipping dimensions length/width/height, inches (mm)	82/ 20/ 15 (2083/ 508/ 381)
No. of RF input ports, connector type, and location	6 x 4.3-10 female, bottom
RF connector torque	96 lbf-in (10.85 N·m or 8 lbf-ft)
Net antenna weight, lb (kg)	60 (27.0)
Shipping weight, lb (kg)	90 (41.0)
Antenna mounting and downtilt kit included with antenna	91900318
Net weight of the mounting and downtilt kit, lb (kg)	18 (8.18)
Range of mechanical up/down tilt	-2° to 14°
Rated wind survival speed, mph (km/h)	150 (241)
Frontal, lateral, and rear wind loading @ 150 km/h, lbf (N)	154 (685), 73 (325), 158 (703)
Equivalent flat plate @ 100 mph and Cd=2, sq ft	2.6

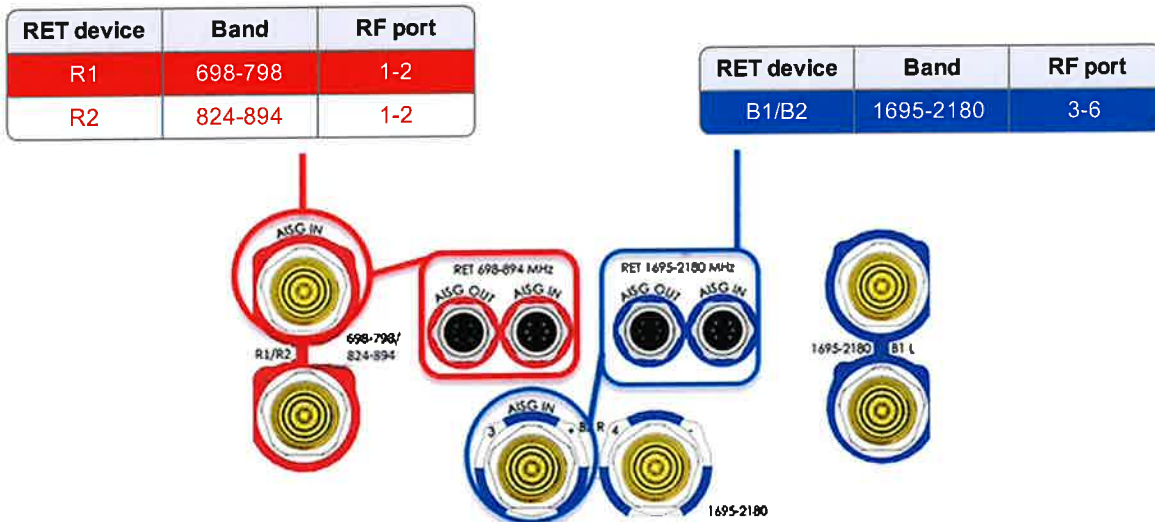


Ordering information	
Antenna model	Description
MX06FRO660-03	6F X-Pol HEX FRO 60° independent tilt 700/850 RET, 4.3-10 & SBT
Optional accessories	
AISG cables	M/F cables for AISG connections
PCU-1000 RET controller	Stand-alone controller for RET control and configurations

Remote electrical tilt (RET 1000) information	
RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9
RET connector torque	Min 0.5 N·m to max 1.0 N·m (hand pressure & finger tight)
RET interface connector quantity	2 pairs of AISG male/female connectors
RET interface connector location	Bottom of the antenna
Total no. of internal RETs (low bands)	2
Total no. of internal RETs (high bands)	1
RET input operating voltage, vdc	10-30
RET max power consumption, idle state, W	≤ 2.0
RET max power consumption, normal operating conditions, W	≤ 13.0
RET communication protocol	AISG 2.0 / 3GPP

RET and RF connector topology

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



Array topology

<p>3 sets of radiating arrays</p> <p>R1/R2: 698-894 MHz B1: 1695-2180 MHz B2: 1695-2180 MHz</p>	<table border="1"> <thead> <tr> <th>Band</th> <th>RF port</th> </tr> </thead> <tbody> <tr> <td>1695-2180</td> <td>3-4</td> </tr> <tr> <td>698-894</td> <td>1-2</td> </tr> <tr> <td>1695-2180</td> <td>5-6</td> </tr> </tbody> </table>	Band	RF port	1695-2180	3-4	698-894	1-2	1695-2180	5-6	
Band	RF port									
1695-2180	3-4									
698-894	1-2									
1695-2180	5-6									

ATTACHMENT 4



Diplexed Multi-Band Antenna

DMP65R-BU6D



- Six foot (1.8 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 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



Diplexed Multi-Band Antenna

DMP65R-BU6D

SPECIFICATIONS

Electrical

Ports	4 x Low Band Ports for 698-896 MHz	
Frequency Range	698-798 MHz	824-896 MHz
Gain ¹	14.0 dBi	14.6 dBi
Gain (Average) ²	13.2 dBi	13.7 dBi
Azimuth Beamwidth (-3dB)	74°	63°
Elevation Beamwidth (-3dB)	13.0°	11.1°
Electrical Downtilt	2° to 12°	2° to 12°
Elevation Sidelobes (1st Upper)	<-19 dB	<-19 dB
Front-to-Back Ratio @180°	> 34 dB	> 34 dB
Front-to-Back Ratio ±20°	> 30 dB	> 30 dB
Cross-Polar Discrimination at Peak	> 25 dB	> 25 dB
Cross-Polar Discrimination at Sector ²	13.0 dB	10.5 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	17.4 dBi	17.7 dBi	18.1 dBi	18.4 dBi
Gain (Average) ²	16.7 dBi	16.9 dBi	17.1 dBi	17.3 dBi
Azimuth Beamwidth (-3dB)	70°	69°	68°	54°
Elevation Beamwidth (-3dB)	5.7°	5.2°	4.8°	4.1°
Electrical Downtilt	0° to 8°	0° to 8°	0° to 8°	0° to 8°
Elevation Sidelobes (1st Upper)	<-16 dB	<-17 dB	<-16 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	> 20 dB	> 19 dB	> 20 dB	> 20 dB
Cross-Polar Discrimination at Sector ²	11.2 dB	9.5 dB	9.5 dB	8.6 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.



Diplexed Multi-Band Antenna

DMP65R-BU6D

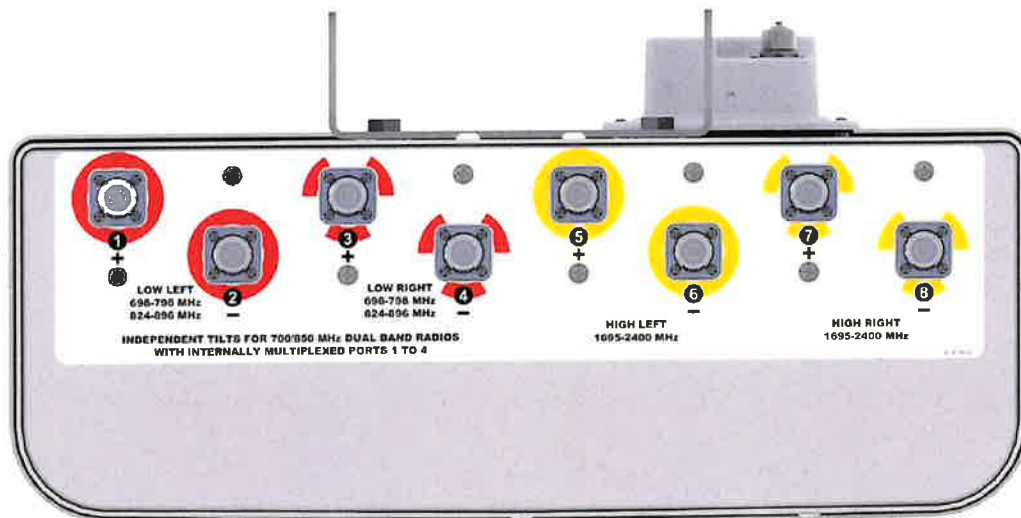
SPECIFICATIONS

Mechanical

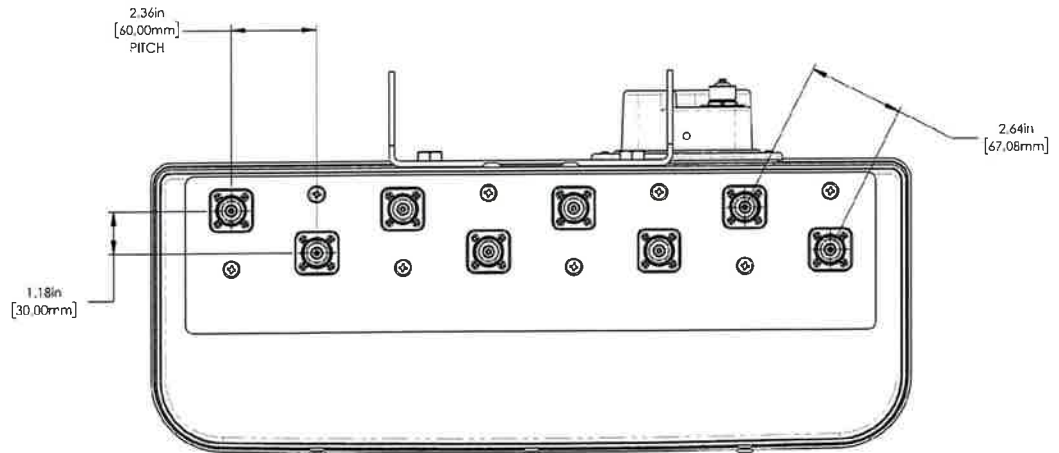
Dimensions (LxWxD)	71.2x20.7x7.7 in (1808x525x197 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load	325 lbs (1446 N) @ 100 mph (161 kph)
Side Wind Load	144 lbs (642 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	12.7 ft ² (1.2 m ²)
Weight *	96.0 lbs (43.6 kg)
Connector	8 x 4.3-10 female
Mounting Pole	2 to 5 in (5 to 12 cm)

* Weight excludes mounting

Bottom View



Connector Spacing





Diplexed Multi-Band Antenna

DMP65R-BU6D

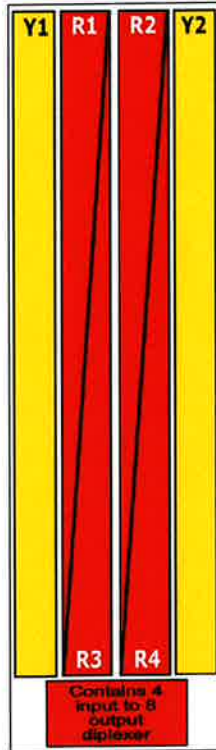
SPECIFICATIONS

Mechanical

RET to Element Configuration

DMP65R-BU6DA Element and RET configuration (Type 1 External RET)

Top of antenna Viewed from rear



RET placement as viewed from rear of antenna

Top of antenna



698-798 MHz (700 RET)
Ports 1, 2, 3 & 4
(R1 & R2)



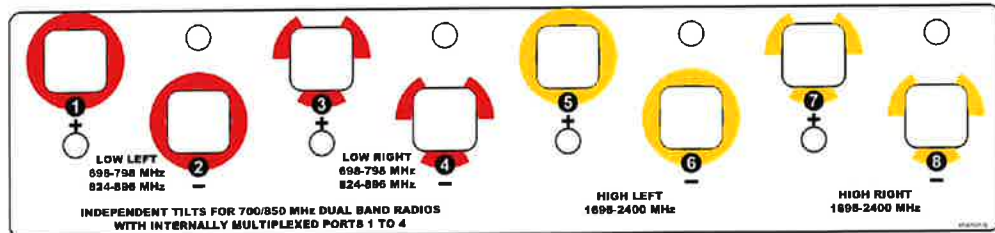
824-896 MHz (850 RET)
Ports 1, 2, 3 & 4
(R3 & R4)



1695-2400 MHz
Ports 5, 6, 7 & 8
(Y1 & Y2)

Array	Ports	Freq (MHz)	Ports controlled by dedicated RET	RET location on Antenna	AISG RET UID
R1	1, 2	698-798	1, 2, 3, 4	Top (700 RET)	C1xxxxxMM.1
R2	3, 4				
R3	1, 2	824-896	1, 2, 3, 4	Middle (850 RET)	C1xxxxxMM.2
R4	3, 4				
Y1	5, 6	1695-2400	5, 6, 7, 8	Bottom	C1xxxxxMM.3
Y2	7, 8				

Port Label





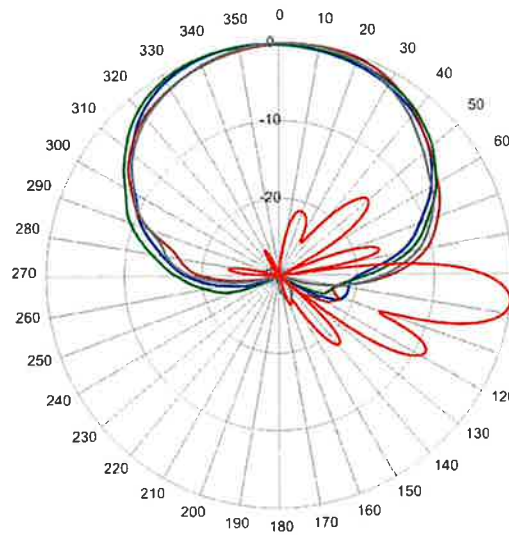
Diplexed Multi-Band Antenna

DMP65R-BU6D

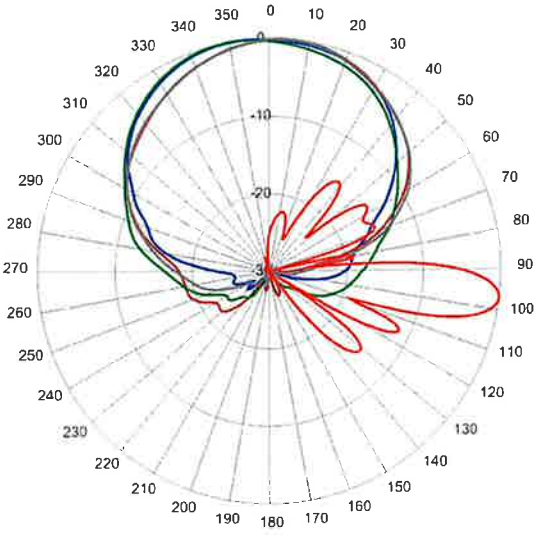
SPECIFICATIONS

Typical Antenna Patterns

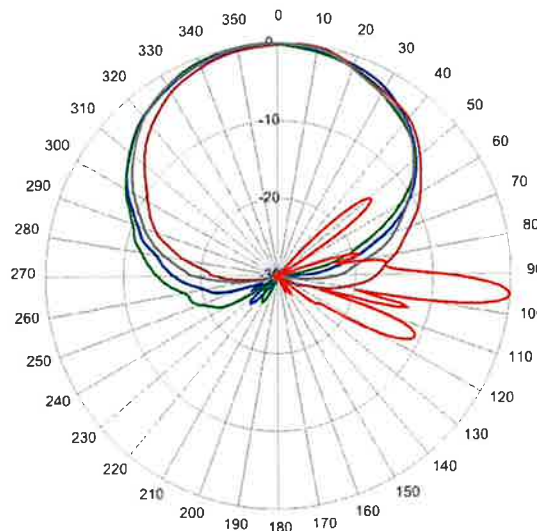
For detailed information on additional antenna patterns, contact customer support at support@cciproducts.com



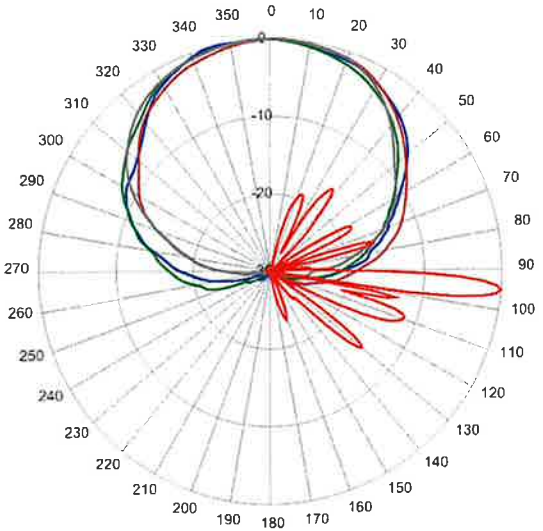
698 MHz Azimuth with Elevation 7°



840 MHz Azimuth with Elevation 7°



1780 MHz Azimuth with Elevation 5°



2155 MHz Azimuth with Elevation 5°



Diplexed Multi-Band Antenna

DMP65R-BU6D

Parts & Accessories

DMP65R-BU6DA-K	Six foot (1.8 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-BU6DB-K	Six foot (1.8 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
DM-02	Dual mount mast bracket for side by side antenna mounting
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

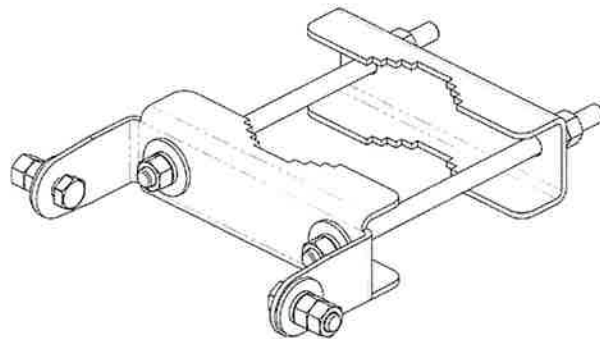
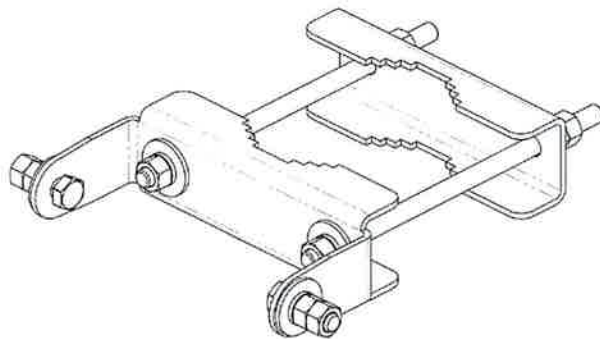


Mounting Bracket Kit

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

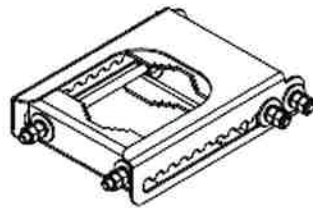


Mounting Bracket Kit

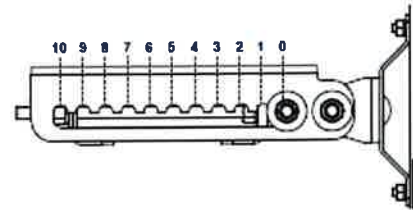
MBK-01

Mechanical

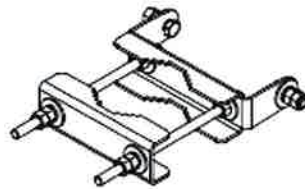
Weight	12.6 lbs (5.7 kg)
Hinge Pitch	47.25 in (1200 mm)
Mounting Pole Dimension	2 to 5 in (5 to 12 cm)
Fastener Size	M12
Installation Torque	40 ft-lb (54 Nm)
Mechanical Tilt Adjustment	0° - 10°



MBK-01 Top Adjustable Bracket



MBK-01 Top Adjustable Bracket Side View



MBK-01 Bottom Fixed Bracket

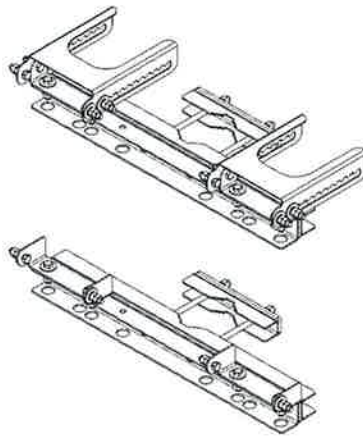


Dual Mount Mast Bracket

DM-02

Mechanical

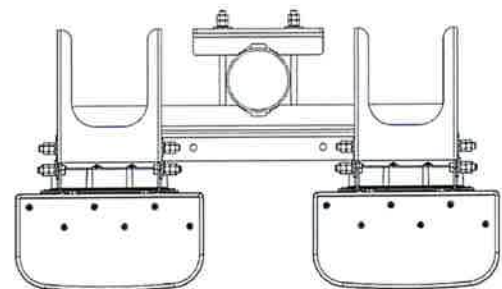
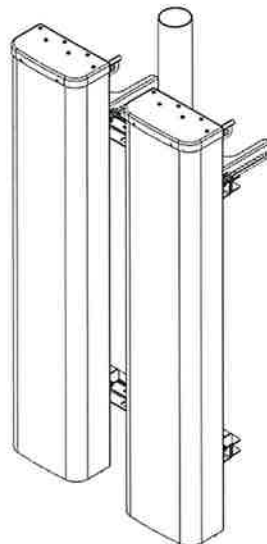
Weight	70.5 lbs (32.0 kg)
Hinge Pitch (Vertical)	47.25 in (1200 mm)
Antenna Spacing (Horizontal)	15.6 in (396 mm) or 23.4 in (594 mm)
Fastener Size	M12
Installation Torque	40 ft-lb (54 Nm)
Mechanical Tilt Adjustment	0° - 10°



DM-02 Bracket



DM-02 Mounting Brackets (on Pole)



Two - 65° Antennas Mounted on Pole using DM-02 Brackets (Iso and Top Views)



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	±0.1°
Temperature Range	-40° C to 70° C

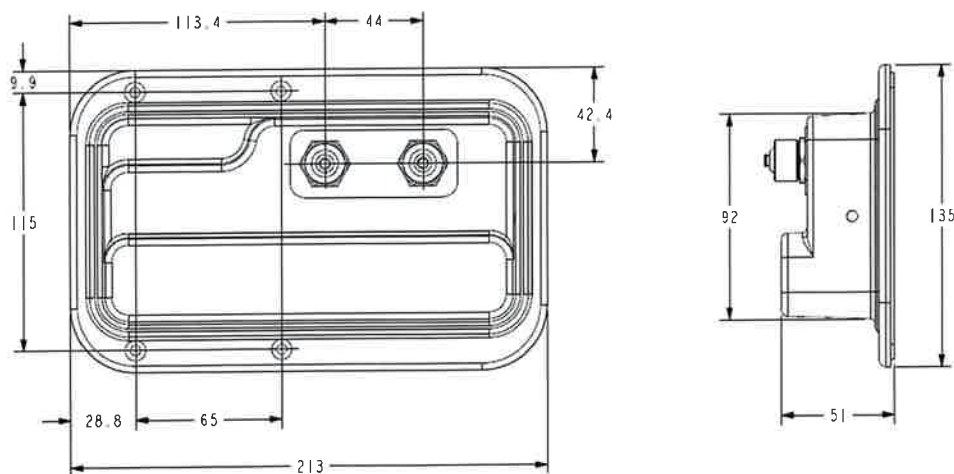
Electrical

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 x 8 pin Daisy Chain
Output Connector	Female 1 x 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





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	±0.1°
Temperature Range	-40° C to 70° C

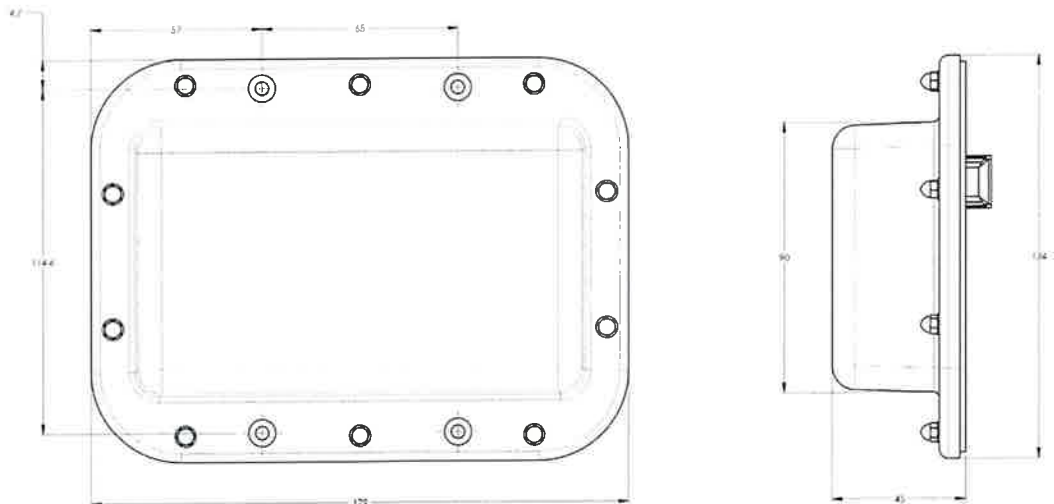
Electrical

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

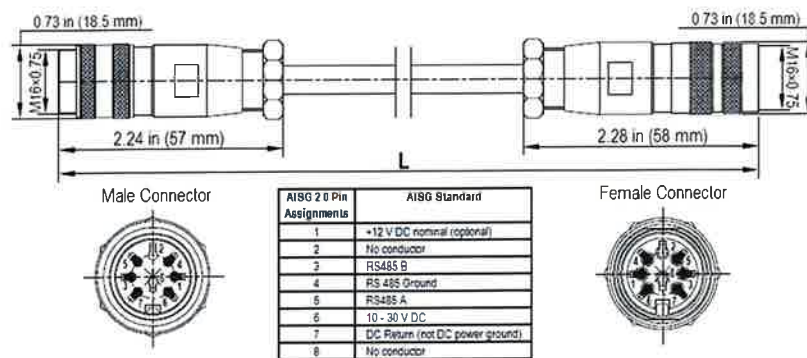




Electrical/Mechanical/Environmental Specifications

	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 ≈ 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



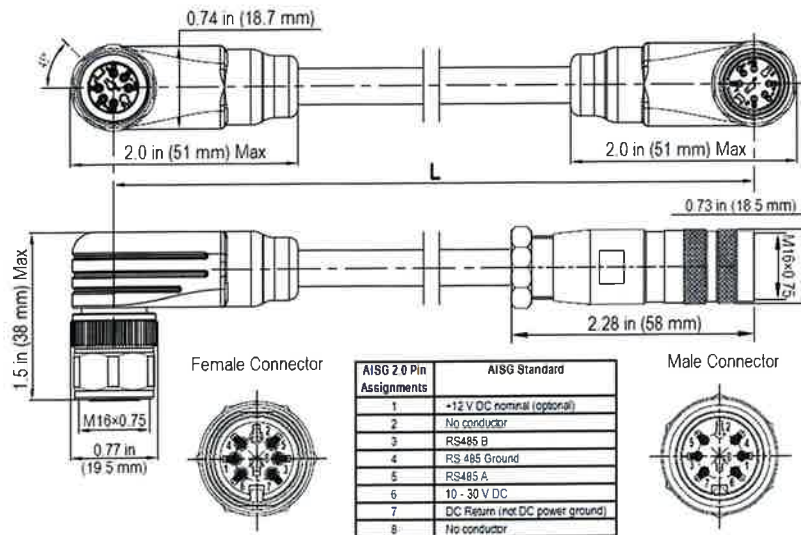
AISG-Male to AISG-Female Jumper Cable



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 ≈ 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



Diplexed Multi-Band Antenna

DMP65R-BU6D

STANDARDS & CERTIFICATIONS

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





- Six foot (1.8 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 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
- 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-BU6D

Electrical

Ports	4 x Low Band Ports for 698-896 MHz	
Frequency Range	698-806 MHz	824-896 MHz
Gain ¹	14.5 dBi	15.1 dBi
Gain (Average) ²	13.6 dBi	14.4 dBi
Azimuth Beamwidth (-3dB)	73°	63°
Elevation Beamwidth (-3dB)	12.8°	11.1°
Electrical Downtilt	2° to 12°	2° to 12°
Elevation Sidelobes (1st Upper)	<-17 dB	<-17 dB
Front-to-Back Ratio @180°	> 30 dB	> 35 dB
Front-to-Back Ratio ±20°	> 28 dB	> 30 dB
Cross-Polar Discrimination at Peak	> 25 dB	> 25 dB
Cross-Polar Discrimination at Sector ²	11.2 dB	12.1 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	17.8 dBi	18.1 dBi	18.4 dBi	18.0 dBi
Gain (Average) ²	16.6 dBi	17.0 dBi	17.3 dBi	16.9 dBi
Azimuth Beamwidth (-3dB)	70°	66°	66°	60°
Elevation Beamwidth (-3dB)	5.7°	5.2°	4.8°	4.0°
Electrical Downtilt	0° to 8°	0° to 8°	0° to 8°	0° to 8°
Elevation Sidelobes (1st Upper)	<-16 dB	<-16 dB	<-16 dB	<-16 dB
Front-to-Back Ratio @180°	> 35 dB	> 35 dB	> 35 dB	> 35 dB
Front-to-Back Ratio ±20°	> 30 dB	> 30 dB	> 30 dB	> 30 dB
Cross-Polar Discrimination at Peak	> 18 dB	> 18 dB	> 18 dB	> 20 dB
Cross-Polar Discrimination at Sector ²	12.4 dB	10.4 dB	10.8 dB	8.5 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.



Multi-Band Twelve-Port Antenna

TPA65R-BU6D

SPECIFICATIONS

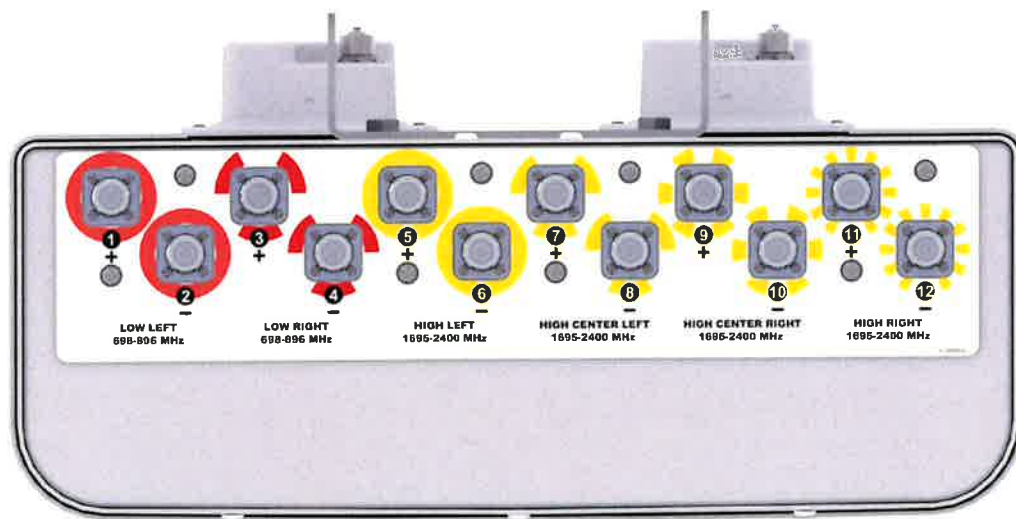
Mechanical

Dimensions (LxWxD)	71,2x20,7x7,7 in (1808x525x197 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load	325 lbs (1446 N) @ 100 mph (161 kph)
Side Wind Load	144 lbs (642 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	12,7 ft ² (1,2 m ²)
Weight *	69,0 lbs (31,3 kg)
Connector	12 x 4,3-10 female
Mounting Pole	2 to 5 in (5 to 12 cm)

* Weight excludes mounting

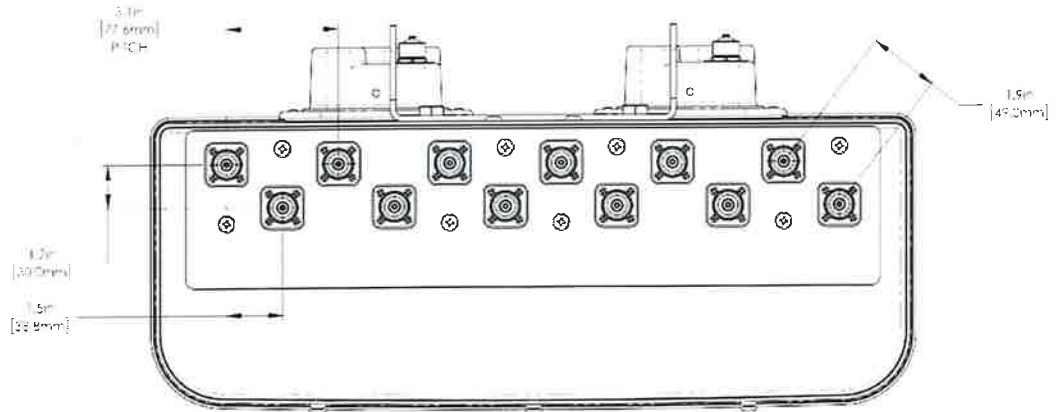
Bottom View

TPA65R-BU6DA



Connector Spacing

TPA65R-BU6DA





Multi-Band Twelve-Port Antenna

TPA65R-BU6D

SPECIFICATIONS

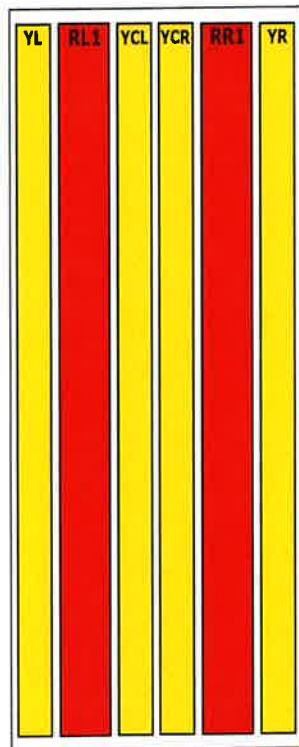
Mechanical

RET to Element Configuration

TPA65R-BU6DA Element and RET configuration (Type 1 External RET)

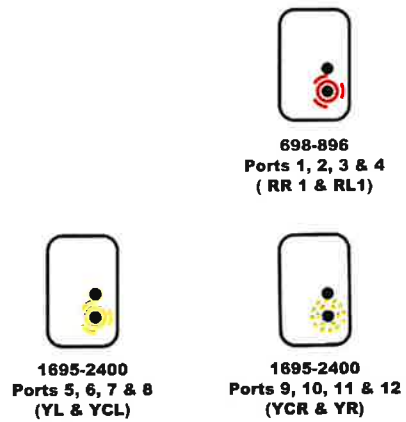
RET placement as viewed from rear of antenna

Top of antenna Viewed from rear



Mechanical

Top of antenna



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	



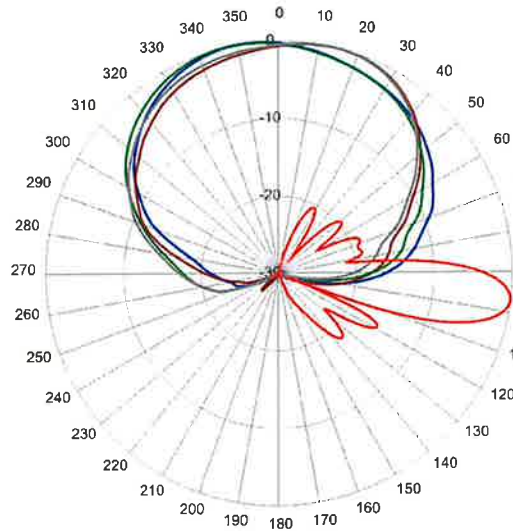
SPECIFICATIONS

Multi-Band Twelve-Port Antenna

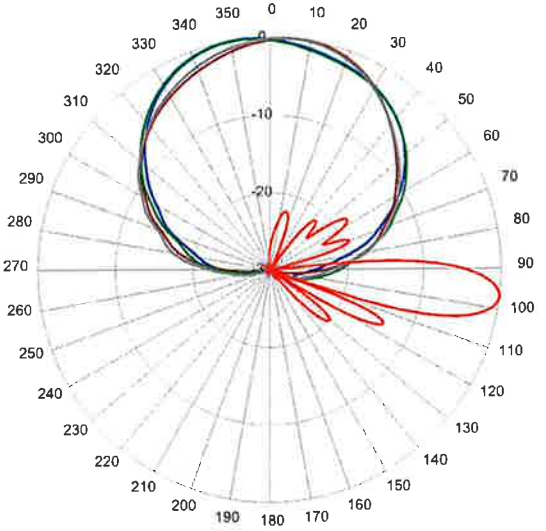
TPA65R-BU6D

Typical Antenna Patterns

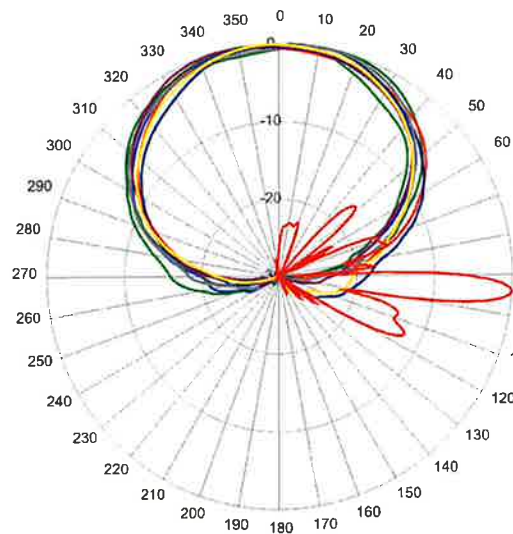
For detailed information on additional antenna patterns, contact customer support at support@cciproducts.com



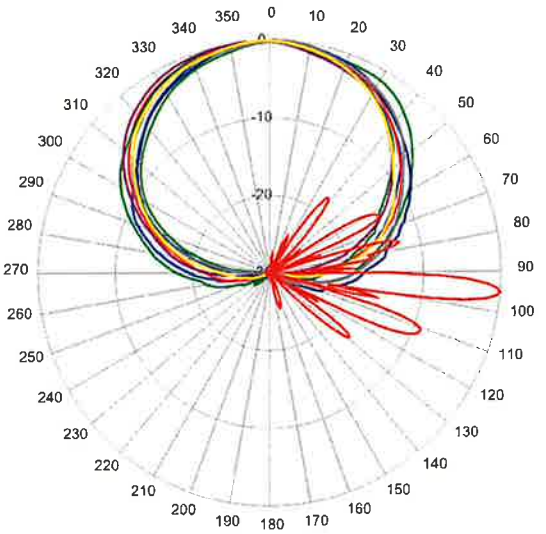
734 MHz Azimuth with Elevation 7°



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-BU6D

Parts & Accessories

TPA65R-BU6DA-K	Six foot (1.8 m) antenna with 65° azimuth beamwidth, 4.3-10 female connectors, 3 factory installed BSA-RET200 RET actuators (Type 1 External) and MBK-01 mounting bracket
TPA65R-BU6DB-K	Six foot (1.8 m) antenna with 65° azimuth beamwidth, 4.3-10 female connectors, 3 factory installed BSA-RET400 RET actuators (Type 17 Internal) and MBK-01 mounting bracket
MBK-01	Mounting bracket kit (top and bottom) with 0° to 10° mechanical tilt adjustment
BSA-RET200	Type 1 External Remote electrical tilt actuator
BSA-RET400	Type 17 Internal Remote electrical tilt actuator (RET)
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

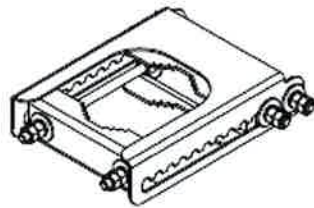


Mounting Bracket Kit

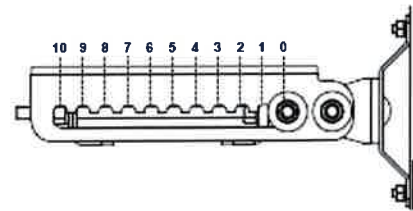
MBK-01

Mechanical

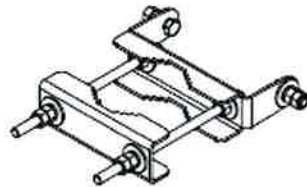
Weight	12.6 lbs (5.7 kg)
Hinge Pitch	47.25 in (1200 mm)
Mounting Pole Dimension	2 to 5 in (5 to 12 cm)
Fastener Size	M12
Installation Torque	40 ft-lb (54 Nm)
Mechanical Tilt Adjustment	0° - 10°



MBK-01 Top Adjustable Bracket



MBK-01 Top Adjustable Bracket Side View



MBK-01 Bottom Fixed Bracket



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	±0.1°
Temperature Range	-40° C to 70° C

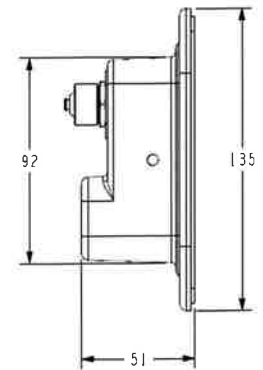
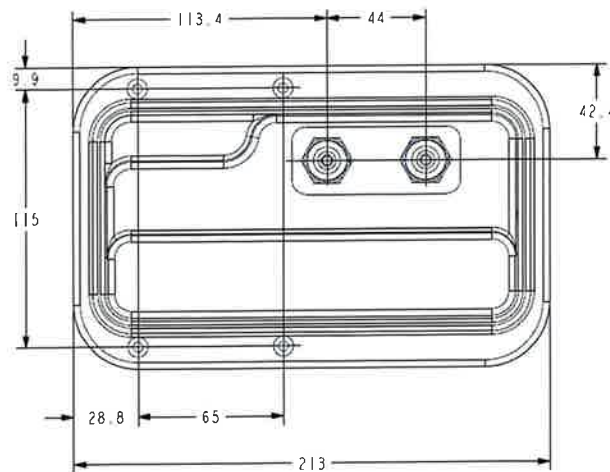
Electrical

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





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	±0.1°
Temperature Range	-40° C to 70° C

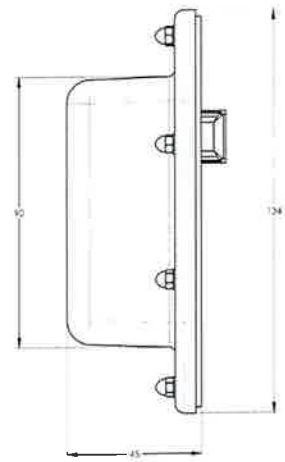
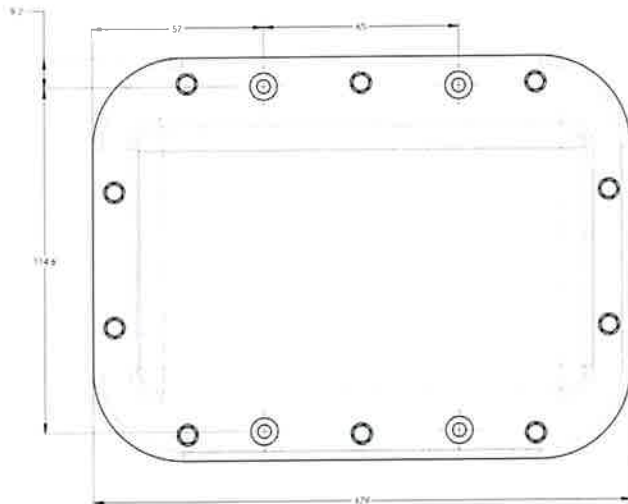
Electrical

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





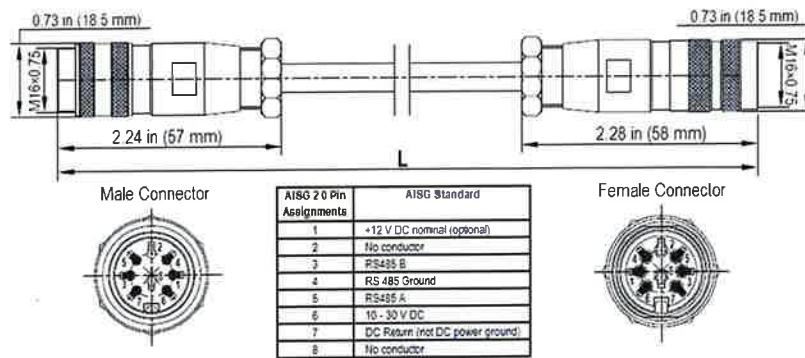
AISG Cable Kit

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 ≈ 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



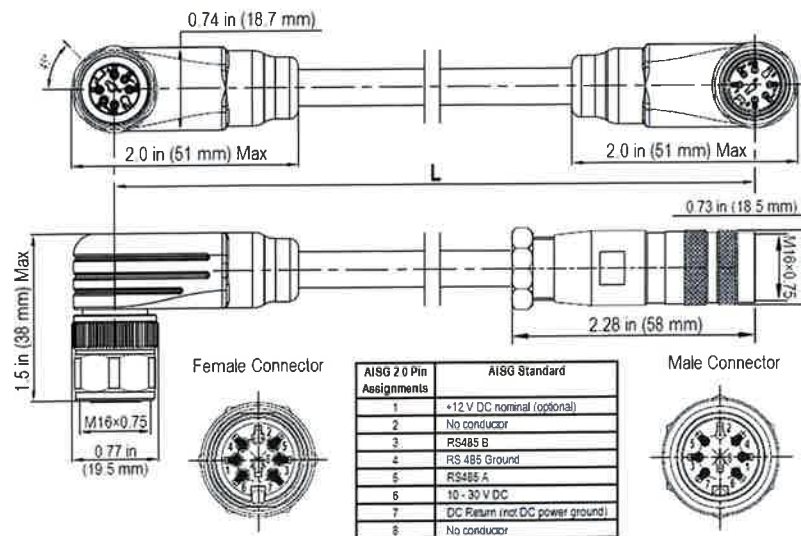
AISG Cable Kit

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 ≈ 1.84 ft-lbs (2.58 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



Multi-Band Twelve-Port Antenna

TPA65R-BU6D

STANDARDS & CERTIFICATIONS

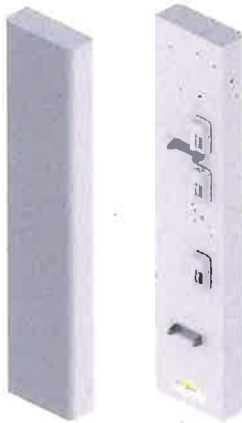
Standards & Compliance

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





- 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

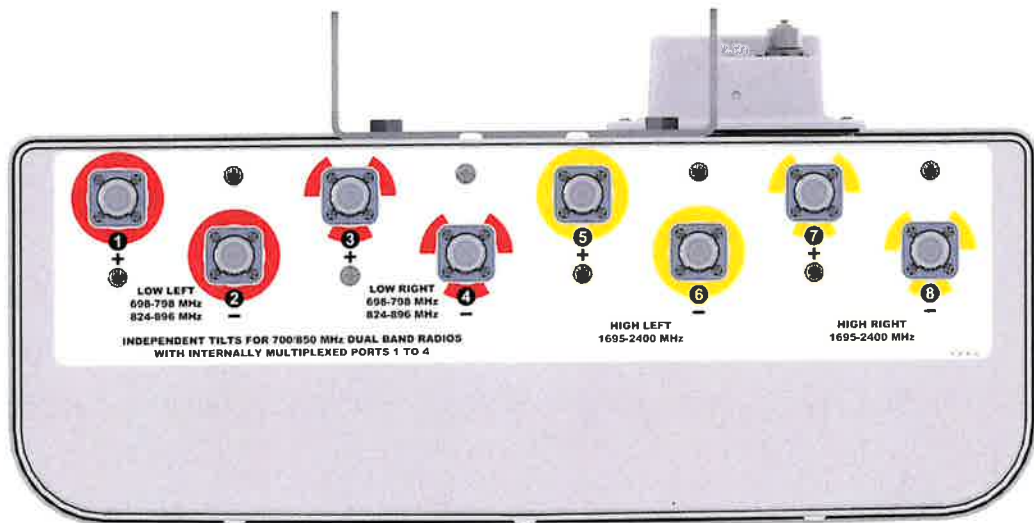
DMP65R-BU8D

Mechanical

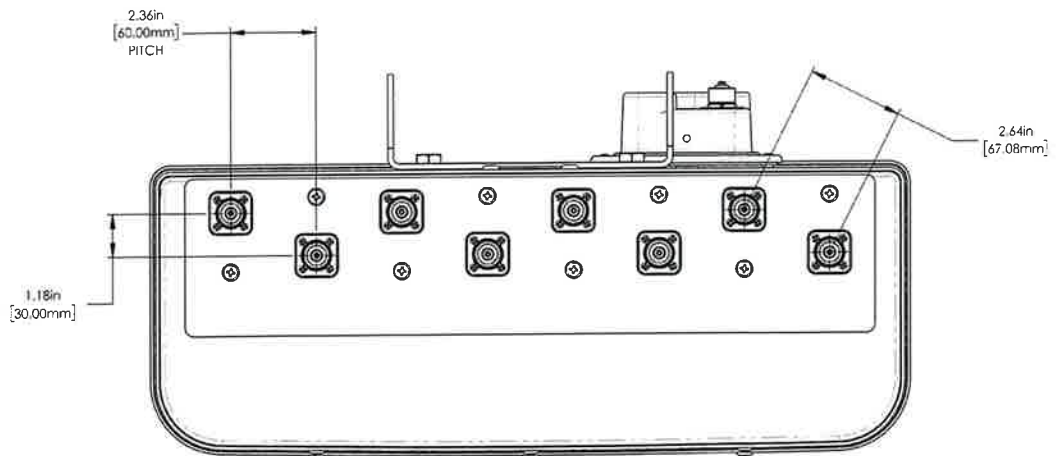
Dimensions (LxWxD)	96.0x20.7x7.7 in (2438x525x197 mm)
Survival Wind Speed	> 150 mph (> 241 kph)
Front Wind Load	457 lbs (2033 N) @ 100 mph (161 kph)
Side Wind Load	209 lbs (929 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	17.9 ft ² (1.7 m ²)
Weight *	95.7 lbs (43.4 kg)
Connector	8 x 4.3-10 female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

* Weight excludes mounting

Bottom View



Connector Spacing





Diplexed Multi-Band Antenna

DMP65R-BU8D

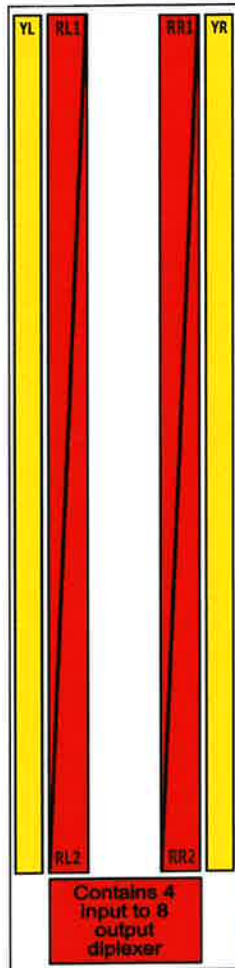
SPECIFICATIONS

Mechanical

RET to Element Configuration

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

Top of antenna Viewed from rear



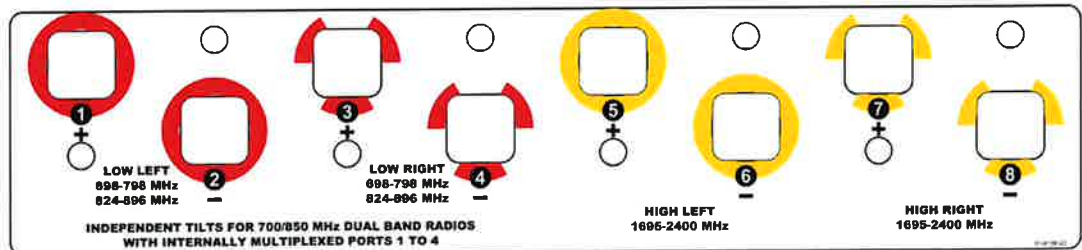
RET placement as viewed from rear of antenna

Top 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



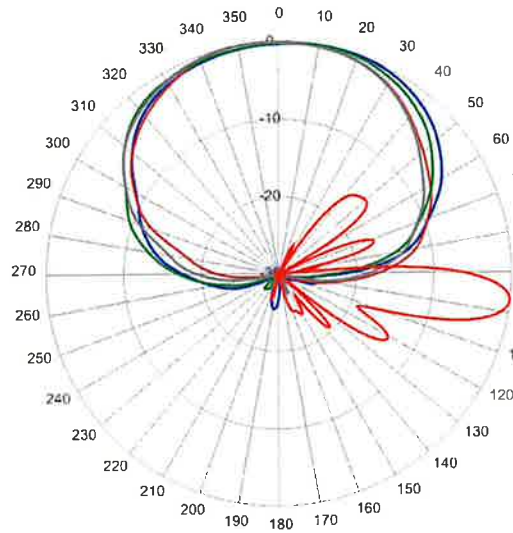


Diplexed Multi-Band Antenna

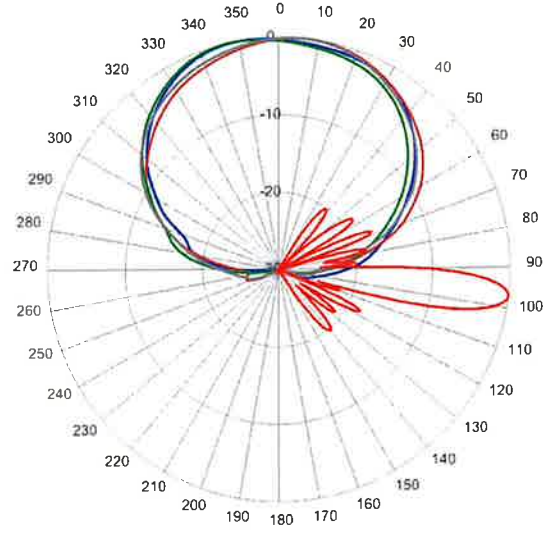
DMP65R-BU8D

Typical Antenna Patterns

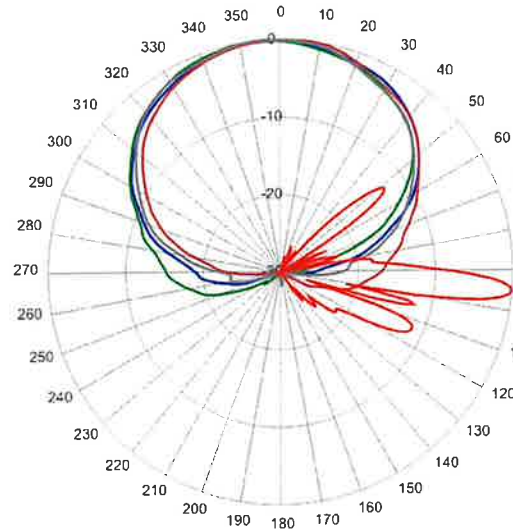
For detailed information on additional antenna patterns, contact customer support at support@cciproducts.com



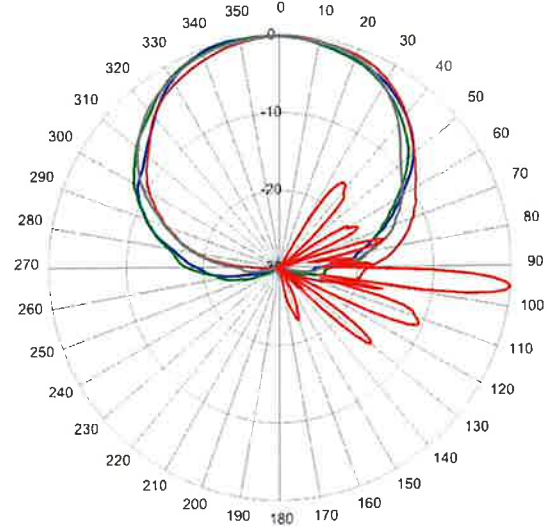
698 MHz Azimuth with Elevation 7°



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

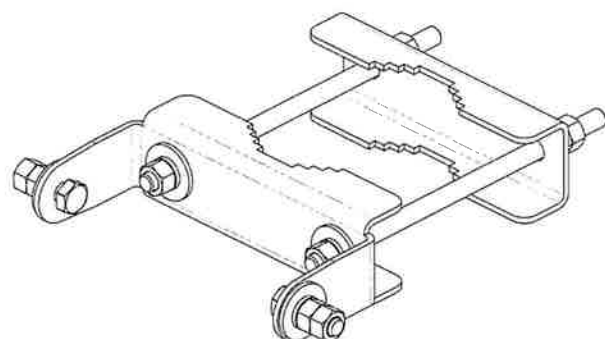
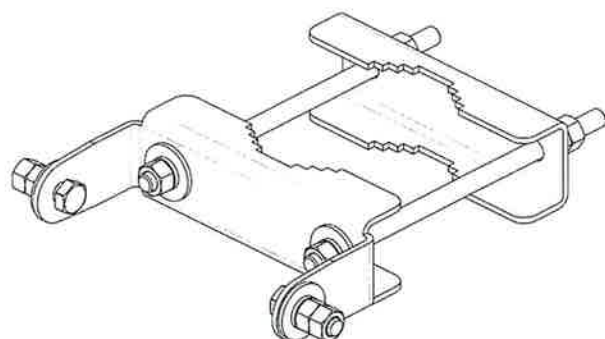


Mounting Bracket Kit

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



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	±0.1°
Temperature Range	-40° C to 70° C

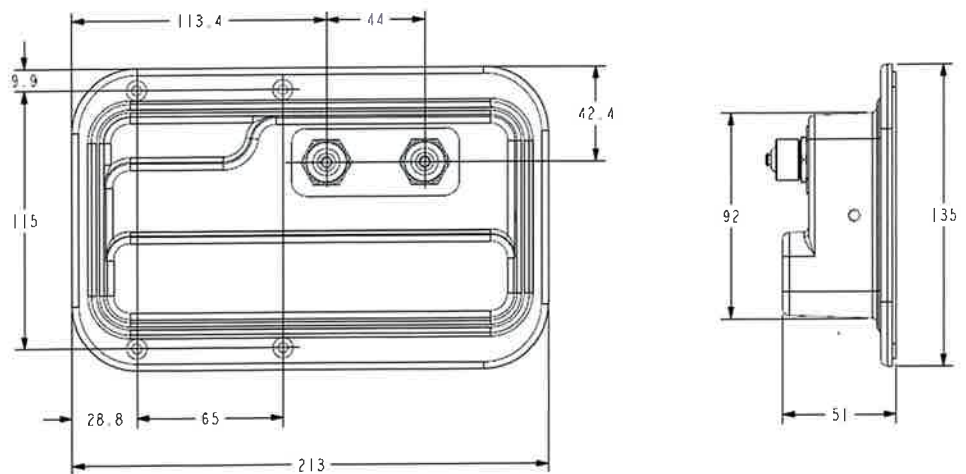
Electrical

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 x 8 pin Daisy Chain
Output Connector	Female 1 x 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





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	±0.1°
Temperature Range	-40° C to 70° C

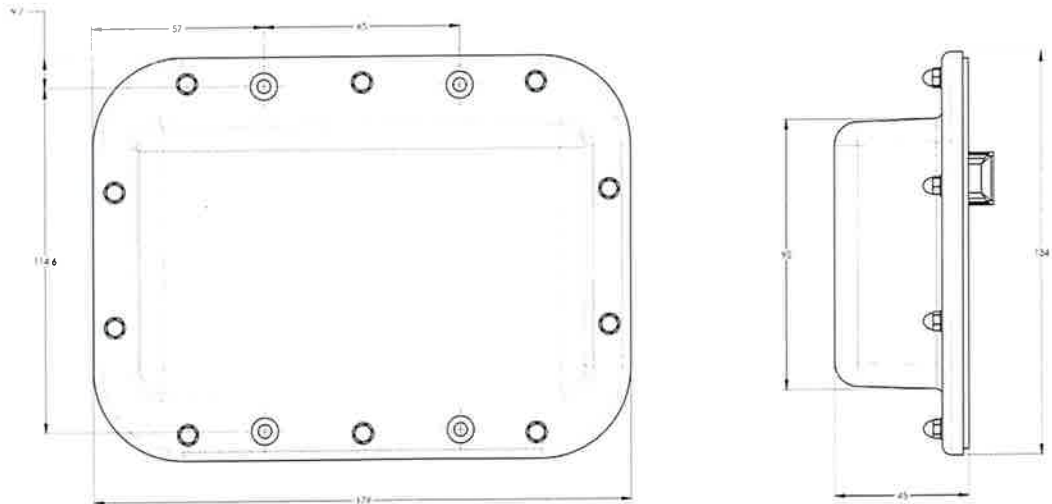
Electrical

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





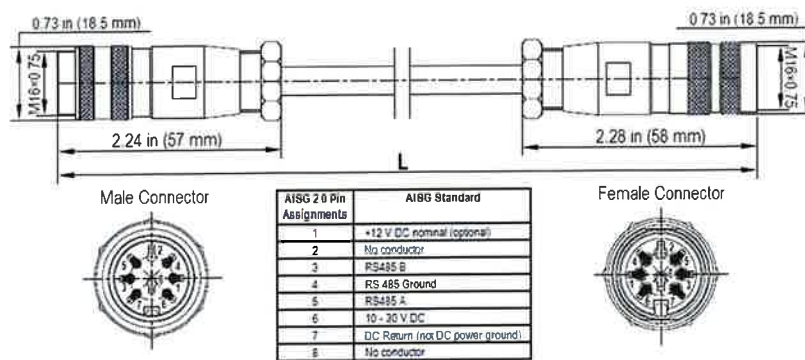
AISG Cable Kit

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 ≈ 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



AISG Cable Kit

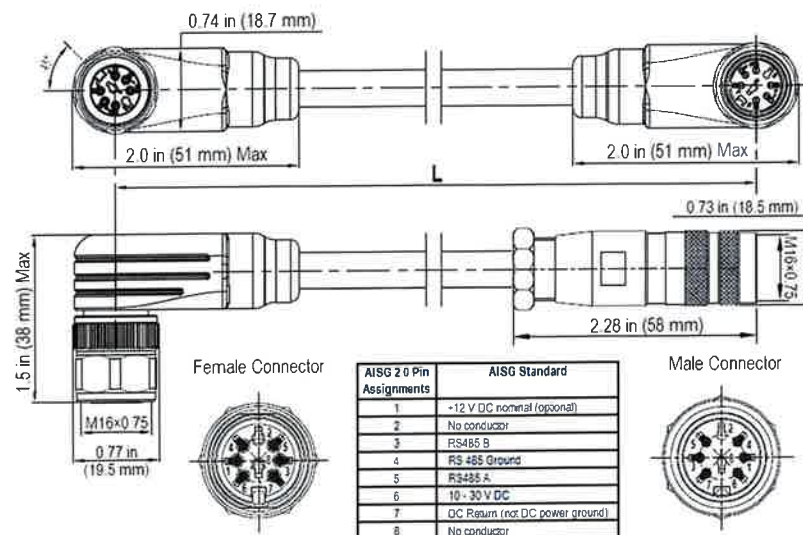
CBK-RA-AG-RRU-004

ACCESSORIES

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 ≈ 1.84 ft-lbs (2.58 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





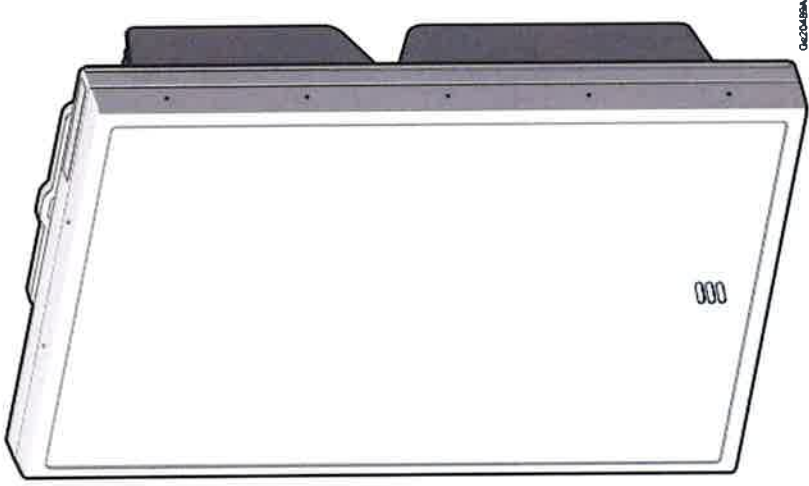
ERICSSON AIR 6419 DATA SHEET

For Turf Vendors
2021-07-22 Rev B

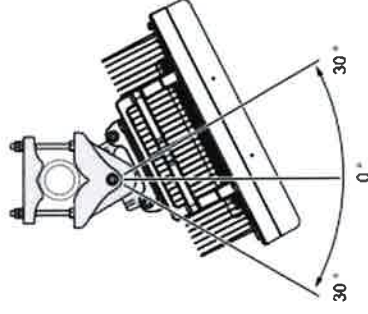
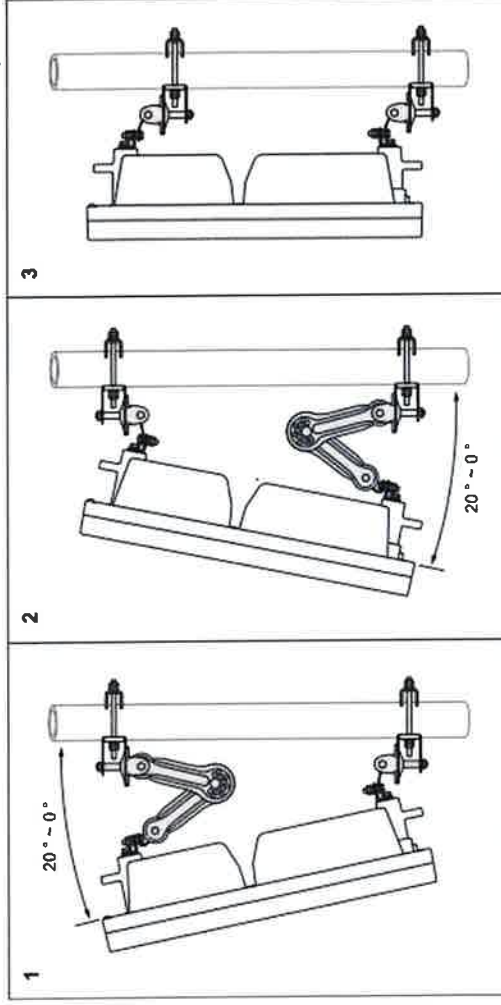
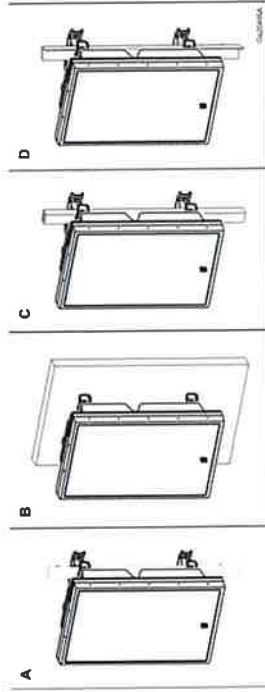
ERICSSON AIR 6419 B77G



- > ERICSSON AIR 6419 has a total of **2** ECPRI connections @ 25.8 Gbps, 1 DC Power cable connection
- > Operates over B77G DOD band (3.4-3.6 GHz)
- > Breaker size = **45A** DC, DC Power Consumption = **1280W** (for dimensioning)
- > Dimensions
 - Height: 31.1" (790 mm)
 - Width: 16.1" (408 mm)
 - Depth: 7.3" (186 mm)
- > Weight, excl. mounting hardware = **44 lbs (20 kg)**
- > Weight with Mounting Hardware = **55.4 lbs (25.2 kg)**
- > Max Frontal Wind Load @ 42m/s = **454 N**
- > Horizontal Separation Required between AIR 6419 = **100mm**
- > Minimum Vertical Space Required below/above AIR 6419 = **300mm**
- > Minimum Height Above Users = **5m**
- > Outdoor Installation locations to avoid:
 - Hot microclimates caused by, for example, heat radiated or reflected from dark or metallic walls or floors
 - Chimney mouths or ventilation system outlets
 - In front of Large glass surfaces or concrete surfaces
- > Avoid radio interference by keeping the area directly in front of the antenna clear of metal surfaces such as railing, ladders or chains or equipment generating electromagnetic fields, for example, electric motors in air conditioners or diesel generators in front of antenna
- > Do not use metallic paint to cover the AIR 6419 if painting is required. Do not paint underside of AIR 6419.



ERICSSON AIR6419 MOUNTING OPTIONS



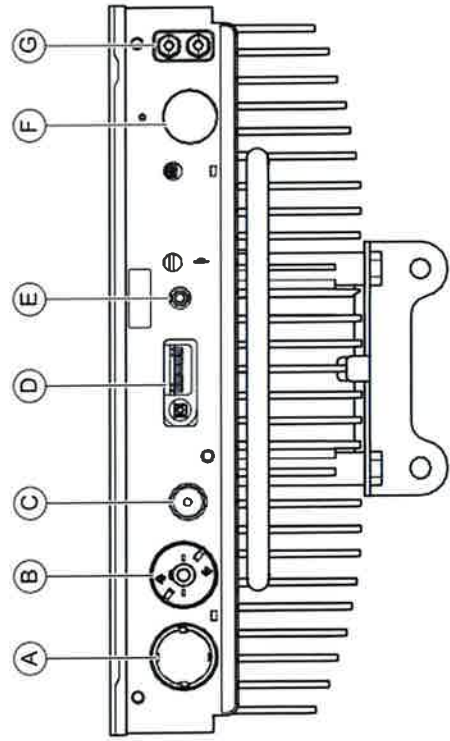
Installation Method	Description
A	Pole installation (pole with circular cross section)
B	Wall installation
C	Pole installation (pole with square cross section)
D	Pole installation (pole with 90° angle cross section)

Pole	Circular	Square	90° Angle
Minimum outer dimension	Ø76 mm	50 x 50 mm	50 x 50 mm
Maximum outer dimension	Ø114 mm	80 x 80 mm	80 x 80 mm

ERICSSON



ERICSSON AIR 6419 INTERFACES



Position	Description	Marking	Connector Types	Cable Illustration
A	eCPRI 1	①	LC (On SFP28) with support for FullAXS	
B	eCPRI 2	②		
C	DIN 14 pin, following functions supported: — RAE — EC-light — External alarms	Ⓐ	DIN 14 female connector	
Position	Description	Marking	Connector Types	Cable Illustration
D	Optical indicators <i>Note:</i> If using more than one Y-cable must be used to the DIN 14 pin for each indicator function.	! ①, ②		
E	TX Monitor	Ⓜ	SMA female connector	
F	-48 V DC power supply	-48 V	Power connector	
G	Grounding	Ⓜ	2 x 6 mm dual lug	

The AIR 6419 uses type SFP28 for ECPR1 connections and must be same SFP type used at radio connection and BBU connection. Data ports are grouped in pairs. Ports 1,2 are a pair. Connection to NR or LTE Baseband must be connected as a pair if two ports are used. Each pair is limited to 100 MHz BW for the assigned carriers, using one or two ports.



ERICSSON



ERICSSON AIR 6449 DATA SHEET

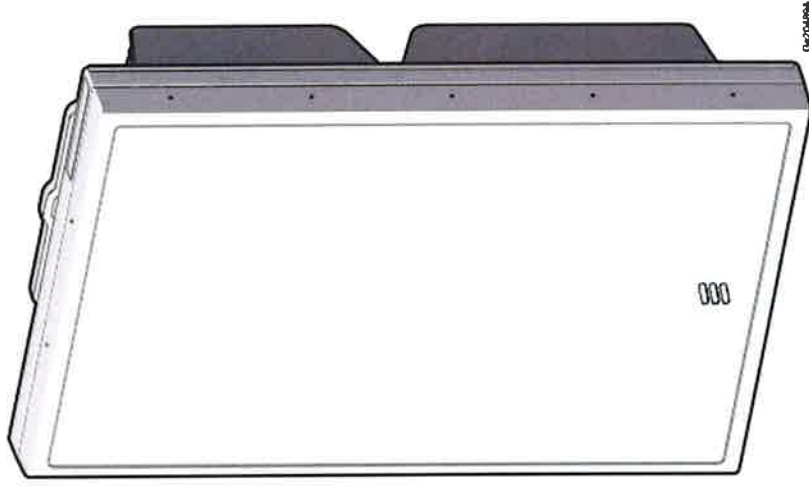
For Turf Vendors

2021-01-19 Rev A

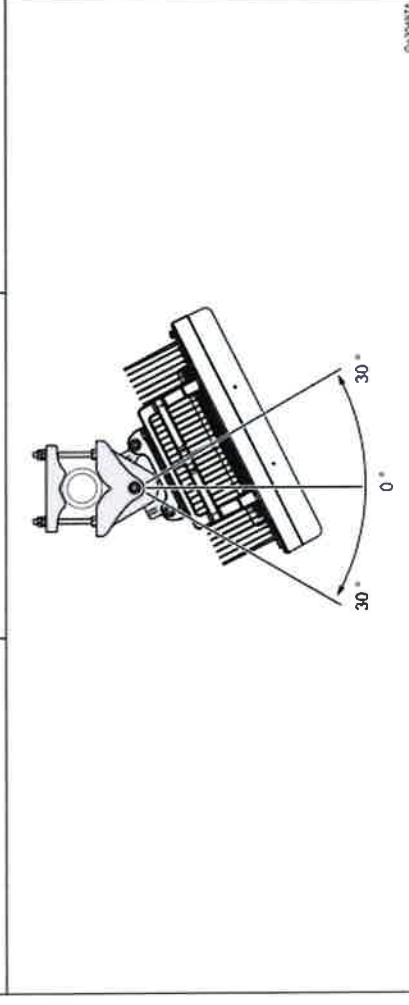
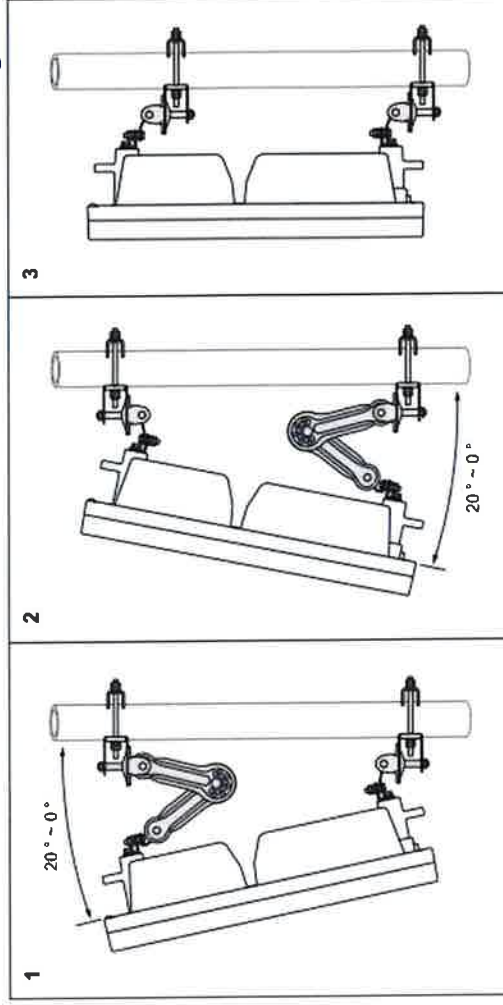
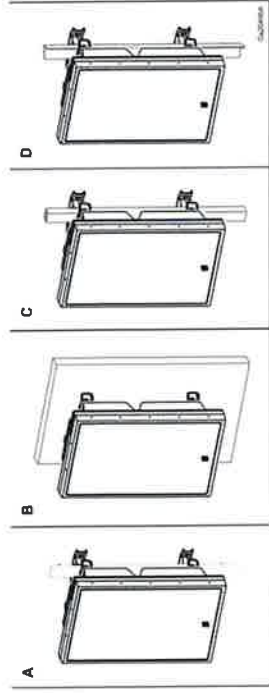
ERICSSON AIR 6449 B77



- > ERICSSON AIR 6449 has a total of 4 ECPRI connections @ 25 Gbps
- > Operates over B77 band (3.3-4.2 GHz)
- > Breaker size = 50A DC, DC Power Consumption = **1280W** (for dimensioning)
- > Dimensions
 - Height: 30.6" (778 mm)
 - Width: 15.9" (403 mm)
 - Depth: 10.6" (268 mm)
- > Weight, excl. mounting hardware = **82.5 lbs (37.5 kg)**
- > Weight with Mounting Hardware = **95.5 lbs (43.4 kg)**
- > Max Frontal Wind Load @ 42m/s = **478 N**
- > Horizontal Separation Required between AIR 6449 = **100mm**
- > Minimum Vertical Space Required below AIR 6449 = **300mm**
- > Minimum Height Above Users = **5m**
- > Outdoor Installation locations to avoid:
 - Hot microclimates caused by, for example, heat radiated or reflected from dark or metallic walls or floors
 - Chimney mouths or ventilation system outlets
 - In front of Large glass surfaces or concrete surfaces
- > Avoid radio interference by keeping the area directly in front of the antenna clear of metal surfaces such as railing, ladders or chains or equipment generating electromagnetic fields, for example, electric motors in air conditioners or diesel generators in front of antenna
- > Do not use metallic paint to cover the AIR 6449 if painting is required.
Do not paint underside of AIR 6449.



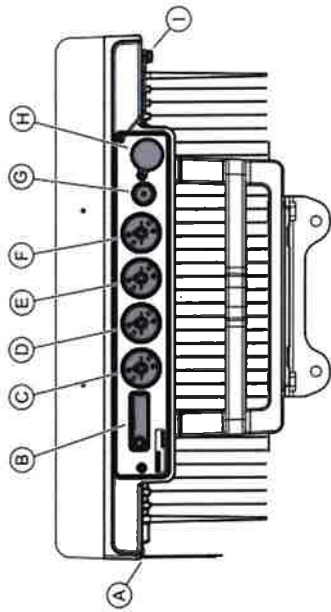
ERICSSON AIR6449 MOUNTING OPTIONS



Installation Method	Description
A	Pole installation (pole with circular cross section)
B	Wall installation
C	Pole installation (pole with square cross section)
D	Pole installation (pole with 90° angle cross section)

Pole	Circular	Square	90° Angle
Minimum outer dimension	Ø76 mm	50 x 50 mm	50 x 50 mm
Maximum outer dimension	Ø114 mm	80 x 80 mm	80 x 80 mm

ERICSSON AIR 6449 CONNECTION INTERFACES

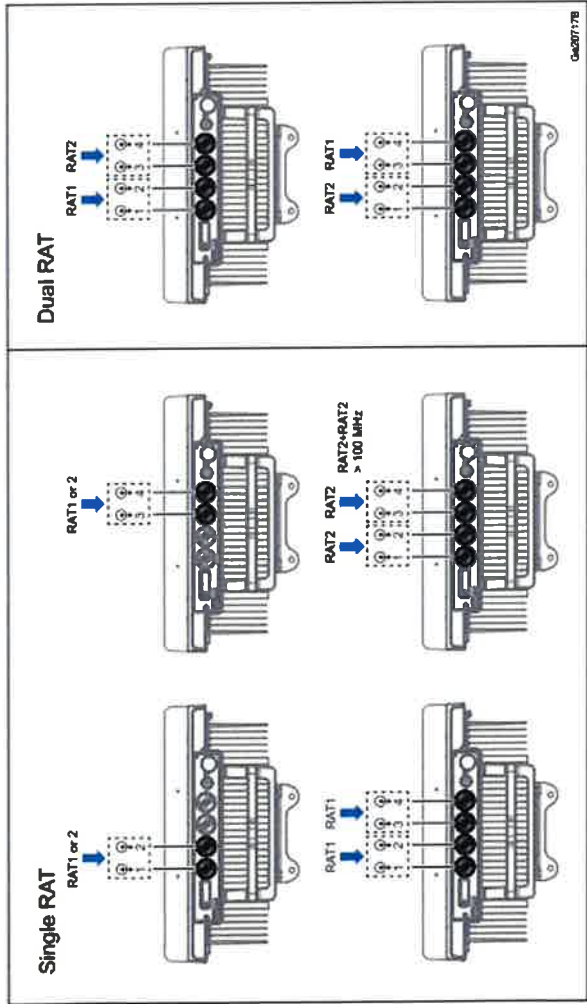


Position	Description	Marking	Connector Types	Cable Illustration
A	TX Monitor	⚡	SMA female connector	
B	Optical indicators	! ⊕ 1, ⊕ 2, ⊕ 3, ⊕ 4		
C ⁽¹⁾	eCPRI 1	⊕ 1	LC (On SFP28) with support for FullAXIS	
D ⁽¹⁾	eCPRI 2	⊕ 2		
E ⁽¹⁾	eCPRI 3	⊕ 3		
F ⁽¹⁾	eCPRI 4	⊕ 4		
G	DIN 14 pin, following functions supported: — RAE — EC-light — External alarms		DIN 14 female connector	
Position	Description	Marking	Connector Types	Cable Illustration
H	Note: If using more than one cable, the cable must be connected to the connector for each added function. -48 V DC power supply	-48 V	Power connector	
I	Grounding point	⚡	2 × 6 mm dual lug	

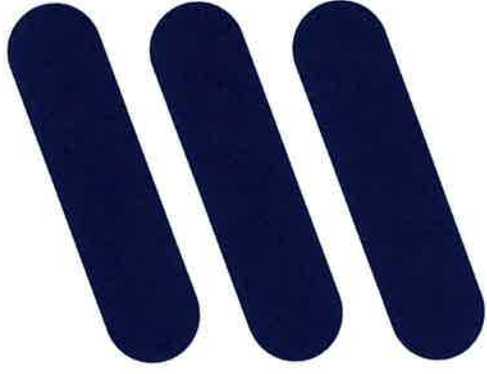
The -48 V DC power connection is made through a connector with a 3-wire (DCI) connection or a connector with a 2-wire (DC-C) connection. Each conductor shall be a minimum of 10-16mm².



ERICSSON AIR 6449 FIBER INTERFACES



The AIR 6449 uses type SFP28 for ECPR1 connections and must be same SFP type used at radio connection and BBU connection. Data ports are grouped in pairs. Ports 1, 2 or 3, 4 are a pair. Connection to NR or LTE Baseband must be connected as a pair if two ports are used. Each pair is limited to 100 MHz BW for the assigned carriers, using one or two ports.

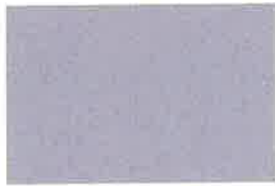


ERICSSON

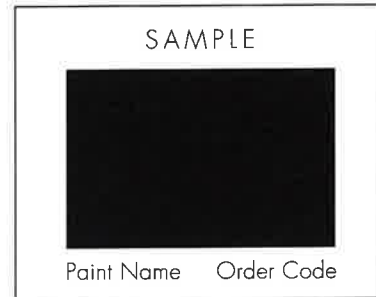
ATTACHMENT 5

FINISH COLOR OPTIONS

GALVANIZED



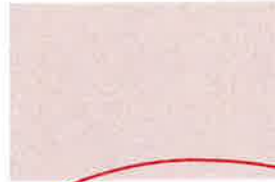
Galvanize GV



POWDER COATING



White WH



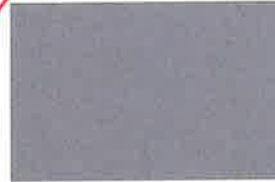
Sandstone ST



Black BK



Silver SL



Light Gray LG



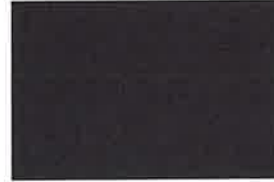
Slate Gray SG



Medium Bronze MB



Bronze CB



Dark Bronze DB



Hunter Green HG



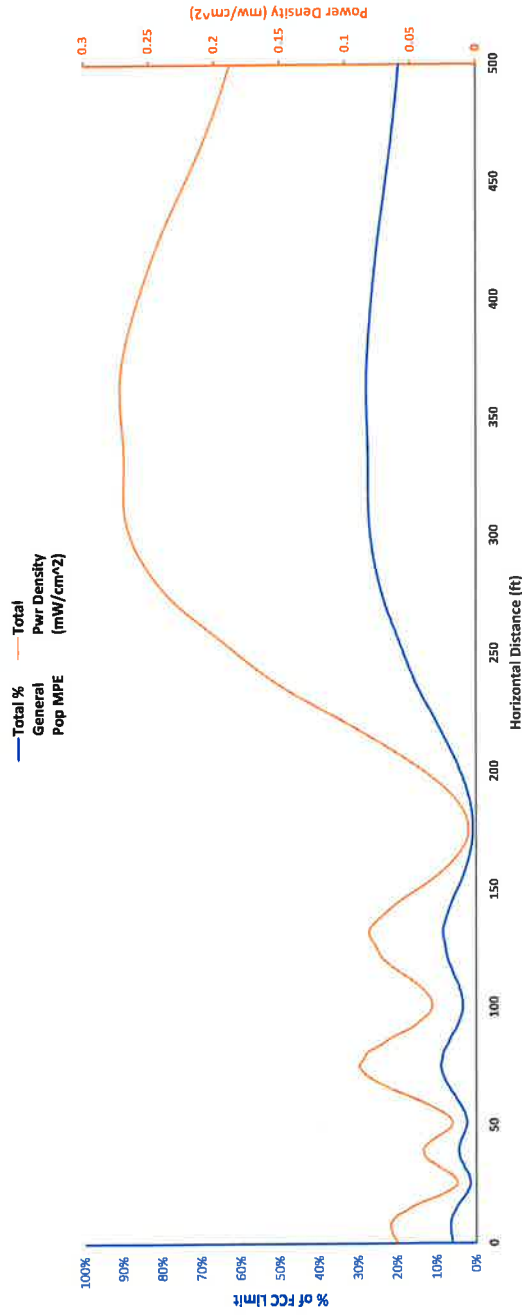
Dark Green DG

Actual colors vary slightly due to area, sheen, application or lighting. Contact your Valmont Structures representative for a more accurate paint chip sample or other color options.

ATTACHMENT 6

Location		PLATTSVILLE CT RELO				
Date	11/21/2022					
Band	C-Band	AWS	CBRS	PCS	850-LTE	700
Operating Frequency (MHz)	3,700	2,145	3,550	1,970	880	746
General Population MPE (mW/cm ²)	1	1	1	1	0.5866666667	0.4873333333
ERP Per Transmitter (Watts)	22,131	2,344	1,778	871	1,122	
Number of Transmitters	6	4	4	4	4	4
Antenna Centrline (feet)	68.5	67	67	67	67	67
Total ERP (dBm)	132,786	9,377	7,113	3,484	4,488	
Total ERP (dBm)	81	70	69	65	65	67
Maximum % of General Population Served	2.7%					

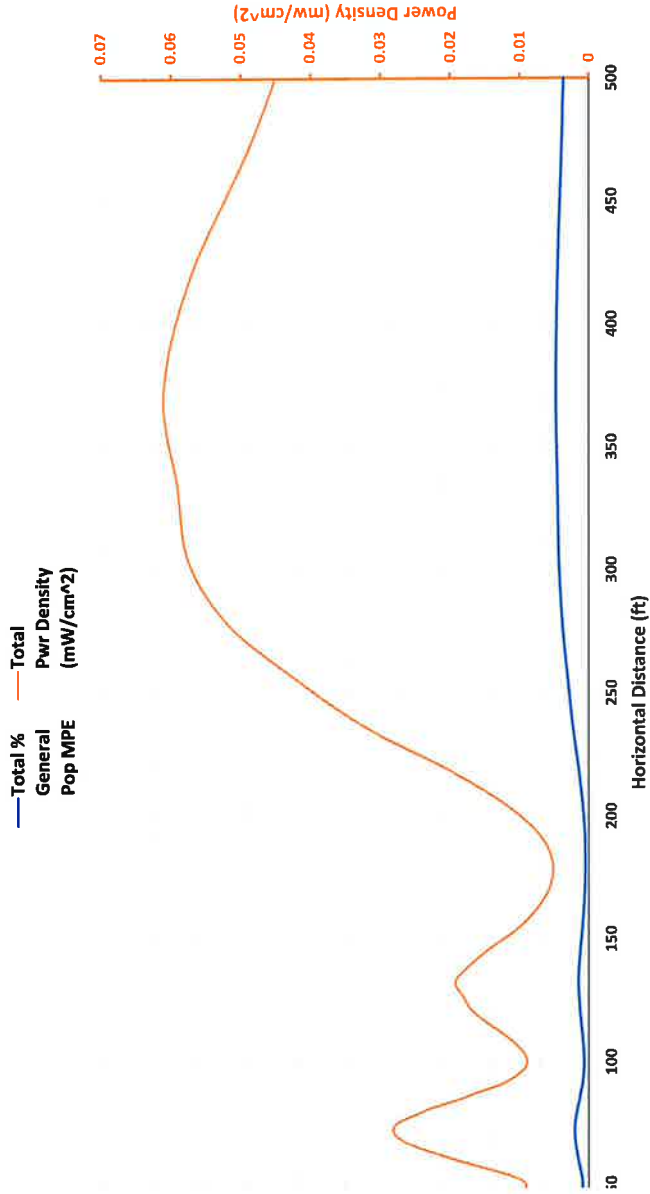
RF Exposure 6ft Above Ground Level Far Field Formula (per FCC OET65)



Angle Below Horizon	Power Density (mW/cm ²)										Total Pwr Density (mW/cm ²)	Distance	Total % General Population Served				
	C-Band	CBRS	AWS	PCS	850-LTE	700 MHL	3G/4G	2G/1T	C-Band	CBRS				AWS	PCS	Collim	CDMA
90	0.060427567	4.34404E-06	4.8111E-06	1.17285E-06	0.000163773	0.00012801	0.000	0.000	6.04%	0.00%	0.00%	0.00%	0.03%	0.00%	0.03%	0.060733676	6.10%
89	0.060411165	5.22126E-06	8.6920E-06	2.03761E-07	0.000160738	0.000130955	0.000	0.000	6.04%	0.00%	0.00%	0.00%	0.03%	0.00%	0.03%	0.060720872	6.10%
88	0.061767982	5.59013E-06	2.06419E-05	9.76673E-07	0.000156224	0.000124666	0.000	0.000	6.18%	0.00%	0.00%	0.00%	0.03%	0.00%	0.03%	0.062080078	6.23%
87	0.062542241	6.12113E-06	3.95485E-05	3.75085E-06	0.000148637	0.000114463	0.000	0.000	6.25%	0.00%	0.00%	0.00%	0.03%	0.00%	0.02%	0.062855757	6.31%
86	0.063877338	6.69893E-06	5.90598E-05	7.43468E-06	0.00013717	0.000114463	0.000	0.000	6.39%	0.00%	0.00%	0.00%	0.02%	0.00%	0.02%	0.064187248	6.44%
85	0.063721039	7.67258E-06	7.06554E-05	1.14069E-05	0.000122785	8.93968E-05	0.000	0.000	6.37%	0.00%	0.00%	0.00%	0.02%	0.00%	0.02%	0.064018485	6.42%
84	0.065010079	9.19885E-06	8.1992E-05	1.76921E-05	0.000107839	6.95074E-05	0.000	0.000	6.50%	0.00%	0.00%	0.00%	0.02%	0.00%	0.01%	0.065286303	6.54%
83	0.064779754	1.26502E-05	5.29861E-05	2.82593E-05	9.48768E-05	6.11171E-05	0.000	0.000	6.48%	0.00%	0.00%	0.00%	0.02%	0.00%	0.01%	0.065093629	6.52%
82	0.064514507	1.7957E-05	3.4379E-05	4.11427E-05	8.65547E-05	5.66622E-05	0.000	0.000	6.45%	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%	0.064755023	6.49%
81	0.064214556	2.44507E-05	2.29708E-05	5.11882E-05	8.4951E-05	5.61268E-05	0.000	0.000	6.42%	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%	0.064458814	6.46%
80	0.062426072	3.20645E-05	2.32163E-05	5.67274E-05	9.07383E-05	5.8721E-05	0.000	0.000	6.24%	0.00%	0.00%	0.00%	0.02%	0.00%	0.01%	0.062692659	6.28%
79	0.060653103	4.10687E-05	2.9796E-05	6.12574E-05	0.000104751	6.9545E-05	0.000	0.000	6.07%	0.00%	0.00%	0.00%	0.02%	0.00%	0.01%	0.060959137	6.11%
78	0.057556247	5.13749E-05	3.35943E-05	6.85908E-05	0.000127428	8.9545E-05	0.000	0.000	5.76%	0.00%	0.00%	0.00%	0.02%	0.00%	0.01%	0.05791308	5.81%
77	0.053343567	5.99403E-05	3.00685E-05	7.94539E-05	0.000158895	7.51817E-05	0.000	0.000	5.33%	0.00%	0.00%	0.00%	0.03%	0.00%	0.02%	0.053754308	5.39%
76	0.050565472	6.99001E-05	2.1812E-05	9.47753E-05	0.000138013	7.86494E-05	0.000	0.000	5.06%	0.00%	0.00%	0.00%	0.03%	0.00%	0.02%	0.051032451	5.13%
75	0.046805982	7.77964E-05	1.37408E-05	0.000121902	0.000241552	7.79695E-05	0.000	0.000	4.68%	0.00%	0.00%	0.00%	0.02%	0.00%	0.02%	0.047947585	4.76%
74	0.042318025	8.45637E-05	8.93431E-06	0.000173006	0.000283831	7.2121E-05	0.000	0.000	4.23%	0.00%	0.00%	0.00%	0.02%	0.00%	0.01%	0.042949289	4.32%

PLATTSVILLE CT RELO			
11/21/2022			
AWS	PCS	850-LTE	700
2,145	1,970	880	746
1	1	0.586666667	0.497333333
2,344	1,778	871	1,122
4	4	4	4
95	95	95	95
9,377	7,113	3,484	4,488
70	69	65	67
6.7%			

RF Exposure 6ft Above Ground Level Far Field Formula (per FCC OET65)

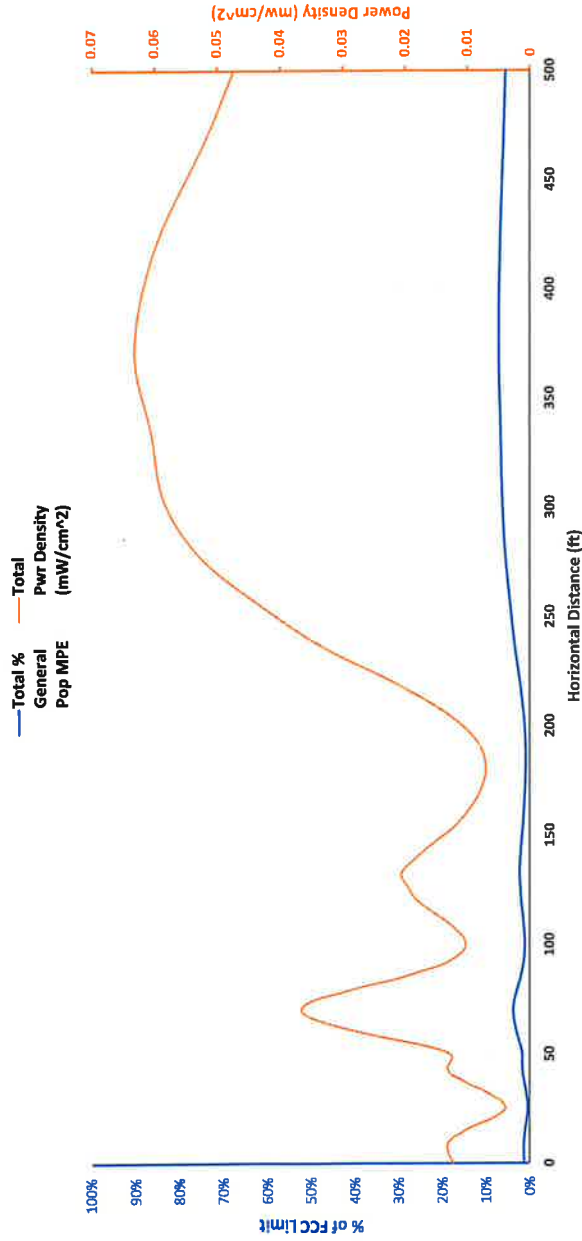


Power Density (mW/cm²)		Percent of General Population MPE										Total Pwr Density (mW/cm²)		Total % General Pop MPE	
AWS	PCS	850-LTE	700 MHz	395GHz	28GHz	C-Band	CBRS	AWS	PCS	Cellular	CBMA	700 MHz	Distance	Total Pwr Density (mW/cm²)	Total % General Pop MPE
2.26008E-06	5.50965E-07	7.69347E-05	6.01346E-05	0.00%	0.00%	1.21%	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%	0	0.012286578	1.24%
4.08381E-06	9.57339E-08	7.55203E-05	6.15271E-05	0.00%	0.00%	1.21%	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%	1.029848831	0.012285768	1.24%

0.002514597	0.000141081	5.24163E-05	0.000491438	0.000	0.69%	0.01%	0.25%	0.01%	0.03%	0.10%	106.4388176	0.010328266	1.10%
0.002522479	0.000106617	0.000109352	0.000579199	0.000	0.87%	0.01%	0.25%	0.01%	0.03%	0.12%	110.9628615	0.012198589	1.30%
0.001811041	0.000528358	0.000223319	0.000712736	0.000	1.12%	0.05%	0.18%	0.05%	0.02%	0.14%	115.7940198	0.014642267	1.56%
0.001103255	0.000898826	0.00039507	0.000907144	0.000	1.35%	0.09%	0.11%	0.09%	0.02%	0.18%	120.9679267	0.016907065	1.82%
0.000880978	0.000816516	0.000635277	0.001153361	0.000	1.46%	0.09%	0.09%	0.08%	0.01%	0.23%	126.5259083	0.01815647	1.98%
0.000960901	0.000380784	0.000945532	0.001401777	0.000	1.55%	0.00%	0.10%	0.04%	0.00%	0.28%	132.5161697	0.019275855	2.14%
0.000840787	8.10375E-05	0.001287312	0.001583749	0.000	1.34%	0.01%	0.08%	0.01%	0.00%	0.32%	138.9952896	0.017283616	1.98%
0.00040072	0.000283035	0.001598964	0.00164377	0.000	1.02%	0.02%	0.04%	0.03%	0.00%	0.33%	146.0301244	0.014325089	1.71%
0.000120775	0.000833636	0.001811235	0.001545173	0.000	0.59%	0.02%	0.01%	0.08%	0.00%	0.31%	153.7002548	0.010477673	1.33%
0.000495343	0.001188245	0.001865967	0.001290941	0.000	0.23%	0.03%	0.05%	0.12%	0.01%	0.26%	162.1011677	0.007530046	1.02%
0.001328658	0.000962527	0.001727472	0.00092345	0.000	0.02%	0.04%	0.13%	0.10%	0.01%	0.19%	171.3484418	0.010477673	1.33%
0.001824945	0.000364124	0.001410093	0.000507283	0.000	0.06%	0.05%	0.18%	0.04%	0.01%	0.10%	181.5833287	0.005582783	0.78%
0.000442537	2.59494E-06	0.000977519	0.000157082	0.000	0.42%	0.06%	0.14%	0.00%	0.01%	0.03%	192.9803045	0.00732721	0.82%
0.000547906	0.000277783	0.000528086	6.11937E-05	0.000	1.06%	0.06%	0.05%	0.03%	0.00%	0.01%	205.7574522	0.012627841	1.31%
2.34739E-05	0.000940992	0.000183478	0.000185177	0.000	1.93%	0.06%	0.00%	0.09%	0.00%	0.04%	220.1909976	0.021230955	2.15%
0.000261989	0.001337468	5.14377E-05	0.000482263	0.000	2.96%	0.06%	0.03%	0.13%	0.01%	0.10%	236.6360751	0.032410258	3.30%
0.000751991	0.001079475	0.000183743	0.000982229	0.000	3.83%	0.06%	0.08%	0.11%	0.02%	0.20%	255.5570766	0.042070158	4.33%
0.000313101	3.747E-05	0.000597926	0.001681317	0.000	4.74%	0.06%	0.08%	0.04%	0.05%	0.34%	277.5731765	0.051732855	5.40%
2.46122E-06	0.000190174	0.001215296	0.002469929	0.000	5.25%	0.05%	0.03%	0.00%	0.08%	0.50%	303.5286869	0.057558205	6.12%
0.000246329	0.000588188	0.002526471	0.003745559	0.000	5.27%	0.05%	0.00%	0.02%	0.12%	0.64%	334.6056274	0.059183699	6.43%
0.000680318	0.000704225	0.002922198	0.003996797	0.000	5.27%	0.04%	0.02%	0.06%	0.16%	0.75%	372.5113394	0.061093201	6.73%
0.000701195	0.000403495	0.003011873	0.003906961	0.000	4.75%	0.03%	0.07%	0.07%	0.19%	0.80%	419.8068136	0.057175239	6.41%
0.000300371	5.97941E-05	0.002771127	0.003496704	0.000	3.81%	0.03%	0.07%	0.04%	0.20%	0.79%	480.5164393	0.047578439	5.45%
4.7381E-05	8.74187E-05	0.002273016	0.002828817	0.000	3.01%	0.02%	0.03%	0.01%	0.20%	0.70%	561.3475028	0.038040308	4.44%
0.000288856	0.000450487	0.001628096	0.00202154	0.000	2.07%	0.01%	0.00%	0.01%	0.17%	0.57%	674.3730859	0.027099883	3.22%
0.000674972	0.000719922	0.000973383	0.001225423	0.000	1.26%	0.01%	0.03%	0.05%	0.13%	0.41%	843.7393091	0.017883013	2.16%
0.000659423	0.000585011	0.000437686	0.000563851	0.000	0.66%	0.00%	0.07%	0.07%	0.09%	0.25%	1125.787065	0.010735151	1.30%
0.000252198	0.000202182	0.000105618	0.000140845	0.000	0.25%	0.00%	0.07%	0.06%	0.04%	0.11%	1689.538944	0.004995376	0.60%
					0.05%	0.00%	0.03%	0.02%	0.01%	0.03%	3380.107736	0.001274337	0.15%

Location		PLATTSVILLE CT RELO		
Date	11/21/2022			
Band	AWS	PCS	850-LTE	700
Operating Frequency (MHz)	2,145	1,970	880	746
General Population MPE (mW/cm ²)	1	1	0.586666667	0.497333333
ERP Per Transmitter (Watts)	1,678	1,496	638	638
Number of Transmitters	8	8	8	8
Antenna Centerline (feet)	95	95	95	95
Total ERP (Watts)	13,424	11,964	5,104	5,104
Total ERP (dBm)	71	71	67	67
Maximum % of General Population Limit	7.1%			

RF Exposure 6ft Above Ground Level Far Field Formula (per FCC OET65)



Angle Below Horizon	Power Density (mW/cm ²)										Percent of General Population MPE					Total Pwr Density (mW/cm ²)	Distance	Total % General Pop MPE
	AWS	PCS	850-LTE	700 MHz	FSO/Li	28GHz	C Band	CBRS	AWS	PCS	Cellular	CDMA	700 MHz					
90	3.23559E-06	9.26733E-07	0.000112708	6.83839E-05	0.00%	0.00%	1.21%	0.00%	0.00%	0.00%	0.02%	0.00%	0.01%	0.01%	0	0.012331952	1.25%	
89	5.84649E-06	1.61026E-07	0.000110636	6.99674E-05	0.00%	0.00%	1.21%	0.00%	0.00%	0.00%	0.02%	0.00%	0.01%	1.029648831	1.029648831	0.0123331152	1.25%	
88	1.38906E-05	7.72186E-07	0.000107577	6.66379E-05	0.00%	0.00%	1.24%	0.00%	0.00%	0.00%	0.02%	0.00%	0.01%	2.0603254	2.0603254	0.012606418	1.28%	
87	2.66336E-05	2.96777E-06	0.000102431	5.96252E-05	0.00%	0.00%	1.26%	0.00%	0.00%	0.00%	0.02%	0.00%	0.01%	3.092058978	3.092058978	0.012765397	1.29%	
86	3.98127E-05	5.88874E-06	9.46285E-05	5.11708E-05	0.00%	0.00%	1.28%	0.00%	0.00%	0.00%	0.02%	0.00%	0.01%	4.125681905	4.125681905	0.013034147	1.32%	
85	4.76974E-05	9.04683E-06	8.48195E-05	4.34006E-05	0.00%	0.00%	1.28%	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%	5.161831148	5.161831148	0.012997478	1.31%	
84	4.61159E-05	1.40557E-05	7.46192E-05	3.72264E-05	0.00%	0.00%	1.31%	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%	6.201149881	6.201149881	0.013245414	1.33%	
83	3.58993E-05	2.2495E-05	6.57788E-05	3.28917E-05	0.00%	0.00%	1.30%	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%	7.244289093	7.244289093	0.013188677	1.33%	
82	2.33453E-05	3.28247E-05	6.01451E-05	3.05633E-05	0.00%	0.00%	1.30%	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%	8.291909247	8.291909247	0.013131887	1.32%	

14	0.00037507	0.002249645	7.53552E-05	0.00054842	0.00%	0.00%	2.96%	0.06%	0.04%	0.22%	0.01%	0.01%	0.11%	236.6360751	0.033525592	3.42%
13	0.001076569	0.001815696	0.00026918	0.001116973	0.00%	0.00%	3.83%	0.06%	0.11%	0.18%	0.05%	0.02%	0.22%	255.5570766	0.043351139	4.48%
12	0.001110398	0.000736635	0.00087595	0.001911962	0.00%	0.00%	4.74%	0.06%	0.11%	0.07%	0.15%	0.05%	0.38%	277.5731765	0.052873774	5.56%
11	0.000448243	6.30253E-05	0.001780386	0.002808757	0.00%	0.00%	5.25%	0.05%	0.04%	0.01%	0.30%	0.08%	0.56%	303.5286869	0.05862282	6.30%
10	3.52355E-06	0.000319876	0.002798855	0.003638986	0.00%	0.00%	5.27%	0.05%	0.00%	0.03%	0.48%	0.12%	0.73%	334.6056274	0.060641792	6.68%
9	0.000352652	0.000989343	0.003701232	0.004259379	0.00%	0.00%	4.75%	0.04%	0.04%	0.10%	0.63%	0.16%	0.91%	372.5113394	0.059856229	7.09%
8	0.00097396	0.00118452	0.004280965	0.004545082	0.00%	0.00%	4.75%	0.03%	0.10%	0.12%	0.73%	0.19%	0.89%	480.5164393	0.05009271	5.85%
7	0.001003849	0.000678687	0.004412338	0.004442923	0.00%	0.00%	3.81%	0.03%	0.10%	0.07%	0.75%	0.20%	0.80%	561.3475028	0.039978941	4.77%
6	0.000430019	0.00100575	0.004059649	0.003976386	0.00%	0.00%	3.01%	0.02%	0.04%	0.01%	0.69%	0.20%	0.80%	674.3730859	0.028564925	3.49%
5	6.78319E-05	0.00014704	0.003329926	0.003216878	0.00%	0.00%	2.07%	0.01%	0.01%	0.01%	0.57%	0.17%	0.65%	843.7930391	0.019349282	2.39%
4	0.000413534	0.00075727	0.00238513	0.002298857	0.00%	0.00%	1.26%	0.01%	0.04%	0.08%	0.41%	0.13%	0.46%	1125.787065	0.012138196	1.49%
3	0.000966307	0.001210923	0.001425988	0.001393528	0.00%	0.00%	0.66%	0.00%	0.10%	0.12%	0.24%	0.09%	0.28%	1689.538944	0.005959854	0.72%
2	0.000944047	0.000984	0.00641201	0.00641201	0.00%	0.00%	0.25%	0.00%	0.09%	0.10%	0.11%	0.04%	0.13%	3380.107736	0.001589515	0.19%
1	0.000361053	0.000340073	0.000154729	0.000160167	0.00%	0.00%	0.05%	0.00%	0.04%	0.03%	0.03%	0.01%	0.03%			