STATE OF CONNECTICUT CONNECTICUT SITING COUNCIL

IN RE:

APPLICATION OF NEW CINGULAR WIRELESS PCS,
LLC (AT&T) FOR A CERTIFICATE OF
ENVIRONMENTAL COMPATIBILITY AND PUBLIC
NEED FOR THE CONSTRUCTION, MAINTENANCE,
AND OPERATION OF A WIRELESS
TELECOMMUNICATIONS FACILITY AT 499 MILE
LANE, CITY OF MIDDLETOWN, CONNECTICUTDOCKET NO. 506
DOCKET NO. 506

NEW CINGULAR WIRELESS PCS, LLC d/b/a AT&T SUPPLEMENTAL SUBMISSION

SUPPLEMENTAL AT&T SUBMISSIONS

AT&T (the "Applicant") respectfully submits the following supplemental information to the Connecticut Siting Council in the above-referenced proceeding:

1. Multiple Carriers Interested

T-Mobile and Dish have indicated initial interest in the site, but no specific commitments have been made at this time. Verizon has indicated that it has no specific interest for a site here at this time. As AT&T's engineering and radiofrequency expert witnesses testified at the November 30th and December 21st evidentiary hearings, collocation for any such future carrier would not be feasible for the existing light-duty municipal tower and any reinforcement plan.

2. Alternatives Comparison

Below is a chart comparing the alternatives the Council has inquired about regarding tower siting on the subject parcel and summarizing the technical, environmental, economic and public safety feasibility of each alternative using the siting criteria set forth in 16-50p and 16-50aa of the Connecticut General Statutes.

	AT&T's Proposal: Modify the Existing Tower Site with a Second Tower	Reinforce Existing Light- Duty Municipal Tower	Construct a New Replacement Monopole Tower in an Adjacent Location	Construct a New Large Replacement Lattice Tower
Technical Feasibility	Yes	No	No	No
Environmental Feasibility	Yes	Yes	Yes	Yes
Public Safety Feasibility	Yes	No	No	No
Economic Feasibility	Yes	No	No	No
Exclusive of AT&T Equipment Costs	Approx \$150,000	Approx \$350,000 – \$450,000	Approx \$500,000	Approx \$1,000,000+
Avoids the Unnecessary Proliferation of Towers	Yes	No	Yes	Yes
Comments Based on Testimony of AT&T and City Witnesses	No significant adverse environmental effects as listed in the CGS §16- 50p(a)(3)(B) state statutory criteria No Agricultural land impacts Not within 250' of a school or day care facility Not on water company land Meets manufacturer safety standards	Additional carriers could not collocate The scope of structural modifications that do not meet the building code and which would require custom welds render this a technically and economically infeasible option. The City has legitimate interests in public safety associated with this unique hub site for the whole City's emergency	The City wont consent to this option citing its legitimate public safety concerns related to technical viability for its microwave links and concerns over cut over issues to a second set of network facilities prior to demolition of the old site and given this site is it's unique hub for the whole City emergency network. The City wont consent to this option citing its capital investment in the existing tower structure and ownership of same for reserved capacity for additional whips the City planned for but not installed.	In addition to all the same issues with installation of one replacement monopole that the City wont consent to, other than microwave link stability, the costs to the City and AT&T are further multiplied compared to the proposed monopole tower cost and something the City wont consent to. This alternative would also have added construction costs for a new compound, driveway and utility extensions if in a modified location on the property. Notably, these costs provide added economic

	the second se	
Collocation is available for other wireless carriersnetwork and concerns with AT&T construction impacts given the magnitude of what would be required to essentially rebuild this light duty towerUse of a monopole minimizes incremental aesthetic effects with lower tower height, lesser mass and minimal footprintnetwork and concerns with AT&T construction impacts given the magnitude of what would be required to essentially rebuild this light duty towerUse of a monopole minimizes incremental aesthetic effects with lower tower height, lesser mass and minimal footprintPublic safety concerns require the City and AT&T facilities to be constructed along the higher elevations where the existing tower is located for service to the community	The City also cites economic concerns over the extra expenditures related to purchasing duplicative equipment for the new facility and the cost of decommissioning and removing the existing tower which are concerns shared by AT&T. This option would also limit the height of future collocation by other wireless carriers to avoid interference and the spacing requirements on 1 combined monopole (i.e other carriers would be at heights below 100'), whereas the proposed addition of a monopole by AT&T and the City allows enough horizontal separation of the two structures to interleave carrier elevations on the proposed monopole with typical 10' separations at the 150' through 120' elevations with the adjacent City elevations on the existing 180' light duty tower remaining and not impacted.	context in addition to the unique technical concerns the City has for its public safety network and why the City did not build a collocatable tower in 2017/2018 with taxpayer funds or why AT&T and other tower companies would have declined any request by the City to contribute capital to the City (on the order of \$500,000 to \$750,000) for the City's construction and ownership of one collocatable 180' lattice tower. This alternative would also have comparatively additional environmental effects including relative visibility, ground disturbance and other factors.

SUPPLEMENTAL INFORMATION REQUESTED BY THE SITING COUNCIL

AT&T (the "Applicant") respectfully submits the following exhibits and redirect testimony in response to the Connecticut Siting Council's request for additional information dated December 22, 2021:

a) Provide a cost estimate of the small cell configuration described in "Late Filed Exhibit a" (AT&T's November Supplemental Submission).

<u>Kelly Wade Bettuchi</u>- The estimated cost of a hypothetical small cell alternative in this Docket would be over \$3 million, which far exceeds AT&T's capital budget for this site and

renders a small cell configuration economically infeasible irrespective of the technical and public safety deficiencies small cells would present.

Mr. Lavin and AT&T's Radiofrequency Engineers have estimated that at least 42 and likely over 50 small cell nodes would be required to achieve mostly roadway coverage only. Based on a sample of AT&T's PURA utility pole attachment installations in the state, and depending on the amount of make ready work including pole replacements, the range of capital costs per small cell node is somewhere in the \$50,000 to \$70,000 range each. Other types of small cells including new poles on private properties would generally have increased costs. Notably, these costs do not include the capital costs to AT&T of building a "hub site" or "front haul fiber" required to the nodes and for a coverage type small cell build.

<u>Martin Lavin</u>- A small cell configuration would not adequately meet AT&T's coverage and public safety objectives in this Docket, given that placement of small cells is typically limited to locations along the rights-of-way. Replicating the full coverage of the proposed facility would require dozens more sites and leases for pole installations with various private landowners, thereby complicating and extending the buildout process significantly.

As an example, in-building coverage, like the coverage needed in the schools in the area within the search ring would require more than simply right of way utility pole attachments to achieve. Middletown High School has buried utilities and no available poles. In order to provide reliable coverage for the schools in the search ring area, it would be necessary to install new on-site poles at the School with commercial power and fiber for interconnection to the network too.

Additionally, small cells would not further the public safety objectives identified in this Docket because AT&T's small cells do not support FirstNet. The 700 MHz band is not deployed on small cells due to the limitations on physical antenna size. This inhibits FirstNet users from having priority access on Band 14.

The lack of 700 MHz signal on a small cell configuration also limits coverage due to the use of higher frequencies (such as PCS, AWS). This results in increased signal loss to foliage and impacts coverage objectives. Further, the unavailability of long-term emergency backup power for a small cell configuration makes them unreliable in an emergency power outage situation and renders this option infeasible from a public safety standpoint.

It is my professional opinion that small cells are not technically implicated as an alternative in this Docket.

b) Provide the run time for the proposed diesel generator based on its fuel capacity and operating at full load conditions.

<u>Daniel Hamm</u>- The proposed emergency back-up diesel generator could operate for approximately 48 hours based on full load conditions, which utilize approximately 1.90

gallons per hour. The fuel capacity for the proposed diesel generator is approximately 92 gallons. Attached as Exhibit 1 is the Equipment Specification Sheet for the proposed Generac Industrial Diesel Generator.

c) Determine if natural gas is available at the site.

<u>Daniel Hamm</u>- Natural gas is available at the street, but not at the existing tower site. The City has deployed propane as its backup power fuel source. In order to utilize natural gas as a fuel source, a new gas line would need to be installed from the street up the hill to the proposed tower location. This would involve approximately 700 linear feet of new trenching in addition to potential driveway excavation and re-paving. The capital costs of a new natural gas line would be well in excess of planned costs for back up power generation at the site for AT&T and not warranted for economic reasons in light of viable alternatives including diesel or propane that do not present significant adverse environmental effects as a fuel source at the existing tower site.

d) Identify any alternative site(s) (other than the Lawrence School property at Kaplan Drive) that were evaluated by AT&T, and provide the reason(s) such site(s) were rejected.

<u>Brian Gaudet-</u> Included as Exhibit 2 is an aerial map of all parcels within 2,500' of the center of the search area provided by AT&T with the search ring shown and color coding land uses in the area to show single family residential, municipal, utility and agricultural lands. As depicted, the majority of properties within this area are residential and there are substantial areas of wetlands to the east, north and northwest of the proposed site associated with Swamp Brook and lower elevations. The three parcels in the search ring are all owned by the City of Middletown which include the current parcel used as the City's emergency response and fire training center, Middletown High School and Keigwin Middle School, school properties also owned by the City.

<u>Martin Lavin</u>- Included as Exhibit 3 is a topographic map showing the original search ring and the refined search area based on topography. As depicted, there is limited technical availability of properties to the east or west of the proposed site because of the ridge line the existing tower is located on and which would block coverage to the area as required to address what is a significant coverage gap in Middletown for AT&T and other wireless carriers. As such a tower on one of the three City properties towards the top of the ridge line is required and why AT&T focused on the existing parcel and tower site which was made available to it by the City and has existing access and utilities.

Notably, the existing Eversource right of way to the south adjacent to residences further south along Aspen and Blacksmith Drives and Quail Run, consists of light-duty approximately 50' to 60' wood utility poles part of what is a 115kv line. Collocating on these poles is not feasible nor are they structurally engineered to accommodate the additional load of wireless equipment. Additionally, Eversource has not allowed carriers to install altogether new towers in its rights of way and further limits replacement poles due to maintenance and repair complications for them and wireless carriers. <u>See</u> Siting Council Docket No. 388 (2011). There are also access limitations to the top of the hill where a new tower would have to be located.

<u>Kelly Wade Bettuchi/Scott Pike</u>- Typically AT&T will not explore new "raw land" locations on other properties when there is an existing tower site, as is the case here. This consistent with state law that seeks to avoid the unnecessary proliferation of towers in the state and our company's understanding of Siting Council application of the Connecticut General Statutes. Our site acquisition approach also incorporates the general state legislated preference to avoid tower siting within 250' of school buildings which would include the Lawrence School and other schools in the area.

CERTIFICATE OF SERVICE

I hereby certify that on this day an electronic copy and one original and fifteen (15) hard copies of the foregoing was sent via overnight mail to the Connecticut Siting Council with an electronic copy sent to:

Christopher J. Forte, Esq. Assistant General Counsel City of Middletown 245 deKoven Drive Middletown, CT 06457 Phone (860) 638-4820 Christopher.forte@MiddletownCT.gov

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January 26, 2022

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

 cc: Christopher J. Forte, Esq., City of Middletown Office of the Attorney General Joseph Barbagallo, Talias Trail Kelly Pugliares, Talias Trail Michael Siteman, Talias Trail AT&T, Smartlink Group

Exhibit 1

2.5L | 20 kW - AC SDC20 L **INDUSTRIAL DIESEL GENERATOR SET**

EPA Certified Stationary Emergency

Standby Power Rating 20 kW AC, 60 Hz



Codes and Standards

Generac products are designed to the following standards:



UL2200, UL508, UL142, UL489



NFPA 37, 70, 99, 110



NEC700, 701, 702, 708



ISO 3046, 7637, 8528, 9001

REF

NEMA ICS10, MG1, 250, ICS6, AB1



ANSI C62.41 ional Standarde Institute

For over 50 years, Generac has provided innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial applications under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.



GENERAC NDUSTRIAL

Image used for illustration purposes only



SDC20 | 2.5L | 20 kW - AC

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

STANDARD FEATURES

ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner with Service Indicator
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Exhaust Silencer with Drain
- Factory Filled Oil & Coolant

Fuel System

• Primary Fuel Filter

Cooling System

- 120V AC Coolant Heater
- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- 50/50 Ethylene Glycol Antifreeze
- Radiator Drain Extension

Electrical System

- Battery Charging Alternator
- AGM Spill Proof Battery
- Battery Cables
- Sealed/Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor
- Output Circuit Breaker

CONTROL SYSTEM

- Digital H Control Panel Dual 4x20 Display
- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable PLC
- RS-232/485 Communications
- All-Phase Sensing Voltage Regulator
- Full System Status
- 2-Wire Start Compatible
- Power Output (kW)
- Power Factor
- kW Hours, Total & Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant LevelEngine Speed
- Battery Voltage

MODEL OPTIONS

CONTROL SYSTEM

- 21 Light Annunciator- Shipped Loose Kit and Field Installed
- External E-Stop-Shipped Loose Kit and Field Installed

ALTERNATOR SYSTEM

- Class H Insulation Material
- Vented Rotor
- 2/3 Pitch
- Skewed Stator
- Amortisseur Winding
- Brushless Excitation
- Sealed Bearings
- Rotor Dynamically Spin Balanced
- Full Load Capacity Alternator
- Protective Thermal Shutdown

GENERATOR SET

- Single Side Service
- Internal Genset Vibration Isolators
- Separation of Circuits- High/Low Voltage
- Silencer Heat Shield
- High Heat Wrapped Exhaust Piping
- Silencer Enclosed Within Generator
- 5 Year Extended Warranty
- Extended Factory Testing
- 12 Gallon System Spill Containment
- 2.5 Gallon Fuel Fill Spill Containment

ENCLOSURE

GENERAC

Model G007098-0 (Steel)

• Serviceable Items Accessible Though Lift-Off Door

INDUSTRIAL

- High Performance Sound-Absorbing Material
- Gasketed Door
- Stamped Air-Intake Louvers
- Single Door Latch Lockable with Key & Padlock
- Rhino Coat[™] Textured Polyester Powder Coat
- 150 MPH Wind Rating
- 36" Snow Rating

FUEL TANK

- UL 142 Compliant
- Double Wall Construction
- Factory Pressure Tested (5 psi)
- Rupture Basin Alarm
- Fuel Level Gauge and Sender
- Check Valve in Supply Line
- Rhino Coat[™] Textured Polyester Powder Coat
- Stainless Steel Hardware

Generator Run- Dry Contact

Major Alarm- Dry Contact

Minor Alarm- Dry Contact

Conditions

TANKS

Installed

Alarms & Warnings

Low Fuel Alarm- Dry Contact

• Rupture Basin Alarm- Dry Contact

Alarms & Warnings Time and Date Stamped

Alarms & Warnings for Transient and Steady State

Snap Shots of Key Operation Parameters During

External Fuel Vent- Shipped Loose Kit and Field

Alarms and Warnings Spelled Out (No Alarm Codes)

SPEC SHEET

2 of 5

• Integrated Fork Pockets

- Frequency
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/Sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch

Modbus protocol

Sealed Boards

Display

ENCLOSURE

○ Aluminum Enclosure

Field Installed

Alarms

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- E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)

Predictive Maintenance Algorithm

Single Point Ground Connections

• 0.2 msec High Speed Data Logging

• 15 Channel Data Logging

· Customizable Alarms, Warnings, and Events

Password Parameter Adjustment Protection

Alarm Information Automatically Comes Up On the

O Extreme Cold Weather Kit - Shipped Loose Kit and

SDC20 | 2.5L | 20 kW - AC INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Mitsubishi	
EPA Emissions Compliance	Interim Tier 4	
Cylinder #	4	
Туре	In-Line	
Displacement - L (Cu In)	2.5 (158)	
Bore - mm (in)	88 (3.5)	
Stroke - mm (in)	103 (4.1)	
Compression Ratio	22:1	
Intake Air Method	Naturally Aspirated	

Engine Governing

Governor Frequency Regulation (Steady State)

± 0.25%

Electronic Isochronous

Lubrication System

Oil Pump Type	Trochoid Gear Pump
Oil Filter Type	Filtering Paper, Full Flow
Crankcase Capacity - L (qts)	6.5 (6.9)

Cooling System

Cooling System Type	Forced Circulation
Water Pump Type	Centrifugal Pump
Fan Type	Pusher
Fan Speed (rpm)	2100
Fan Diameter - mm (in)	431.8 (17)
Coolant Heater Wattage	1000
Coolant Heater Voltage	120

Fuel System

Fuel Type	Ultra Low Sulfur Diesel #2
Fuel Specifications	ASTM
Fuel Filtering (microns)	6
Fuel Inject Pump Make	Bosch
Injector Type	Engine Driven Gear
Engine Type	Diesel
Fuel Supply Line - mm (in.)	6.6 (0.26)

Engine Electrical System

System Voltage	12 VDC
Battery Charger Alternator	12V-50A
Battery Size	650 CCA
Battery Group	35
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	Mecc Alte ECP 28-2L/4
Poles	4
Field Type	Revolving
Insulation Class - Rotor	Н
Insulation Class - Stator	Н
Total Harmonic Distortion	<5%
Telephone Interference Factor (TIF)	<45
Standard Excitation	Brushless

Bearings	Dual Sealed
Coupling	Belt, Pulley
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.5%

SPEC SHEET

RATING DEFINITIONS

Standby - Applicable for a varying emergency load for the duration of a utility power outage with no overload capability.

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GENERAC INDUSTRIAL

SDC20 | 2.5L | 20 kW - AC

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

OPERATING DATA

POWER RATINGS

Single-Phase 120/240 VAC @1.0pf Circuit Breaker Size 20 kW 100A Amps: 83

FUEL CONSUMPTION RATES*

	Diese	l - gph (lph)	
	Diesel - gph (lph) Percent Load Standby 25% 0.74 (2.80) 50% 0.99 (3.75) 75% 1.41 (5.30) 100% 1.90 (7.19)		
	25%	0.74 (2.80)	
	50%	0.99 (3.75)	
	75%	1.41 (5.30)	
	100%	1.90 (7.19)	
* Fuel supply install	ation must accommod	ate fuel consumption rates at 100)% load.

COOLING

		Standby
Coolant Flow per Minute	gpm (lpm)	11.9 (45)
Coolant System Capacity	gal (L)	3.5 (13.2)
Heat Rejection to Coolant	BTU/hr	238,200
Inlet Air	cfm (m ³ /min)	2365 (67)
Max. Operating Ambient Temperature (Before Derate)	°F (°C)	77° (25°)
Maximum Radiator Backpressure	in H ₂ O	0.50

COMBUSTION AIR REQUIREMENTS

				Standby		
			Flow at Rated Power cfm (m ³ /min)	88 (2.49)		
ENGINE			EXHA	UST		
		Standby				Standby
Rated Engine Speed	rpm	1800	Exhau	st Flow (Rated Output)	cfm (m ³ /min)	193 (328)
Horsepower at Rated kW**	hp	33.5	Max. E	Backpressure (Post Silencer)	inHg (kPa)	1.38 (4.67)
Piston Speed	ft/min	1220.47	Exhau	st Temp (Rated Output - Post Silencer)	°F (°C)	928 (497.7)
BMEP	psi	96.5				

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards.



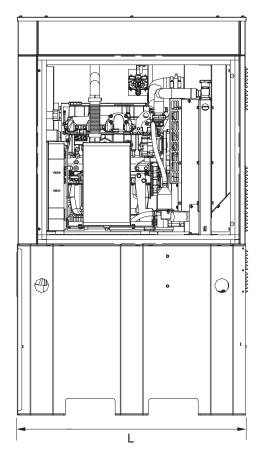


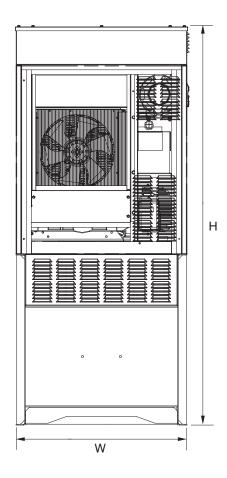
SDC20 | 2.5L | 20 kW - AC **INDUSTRIAL DIESEL GENERATOR SET**

EPA Certified Stationary Emergency

DIMENSIONS AND WEIGHTS*

Model G007098-0 (Steel)





Level 2 Sound Attenuation Enclosure

Run Time Hours	48
Usable Capacity Gal (L)	92 (348.2)
L x W x H in (mm)	48 x 36 x 90
	(1219.2 x 914.4 x 2286)
Weight lbs (kg)	2400 (1089)
Sound Level	71 dBA

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

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Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.

^{*} All measurements are approximate and for estimation purposes only.

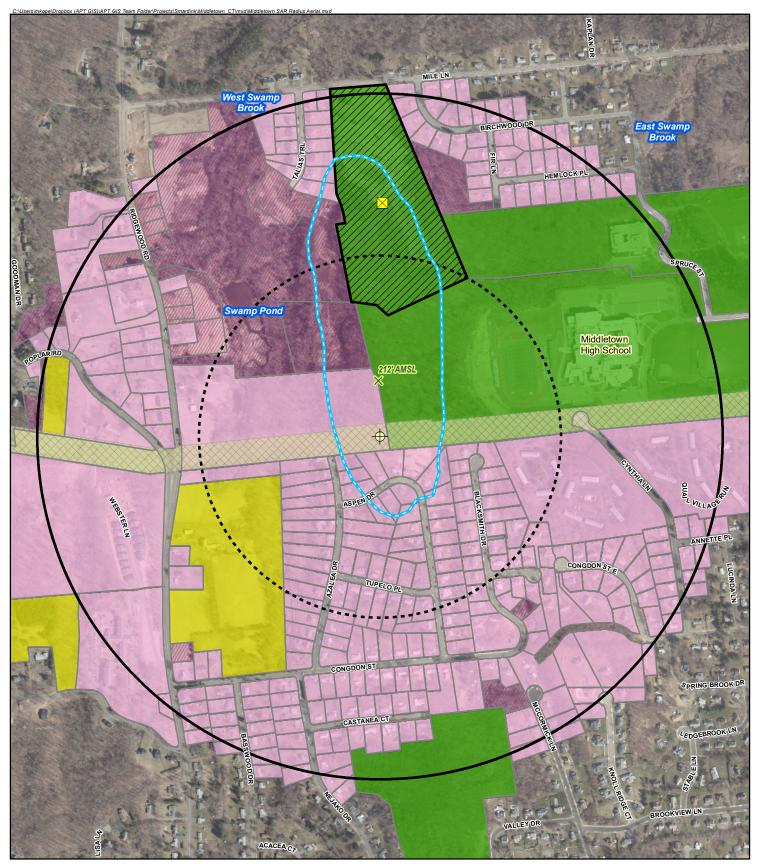
SDC20 | 2.5L | 20 kW - AC

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency



Exhibit 2



Legend

- Proposed Site
- SAR Center Point
 - Search Area Ring (SAR)
- 2,500' Radius
- Subject Property (Proposed Site)
- Approximate Ridge
 Approximate Eversource Utility Right-of-Way
- <u>Map Notes:</u> Base Map Source: 2019 Aerial Photograph (CTECO) Map Scale: 1 inch = 700 feet Map Date: January 2022

Parcels within Search Area Radius and Associated Land Use

- Residential
- Vacant Residential
- Residential (Potential Agricultural Use)
- Municipal (City of Middletown)

700

350

0

700 Feet

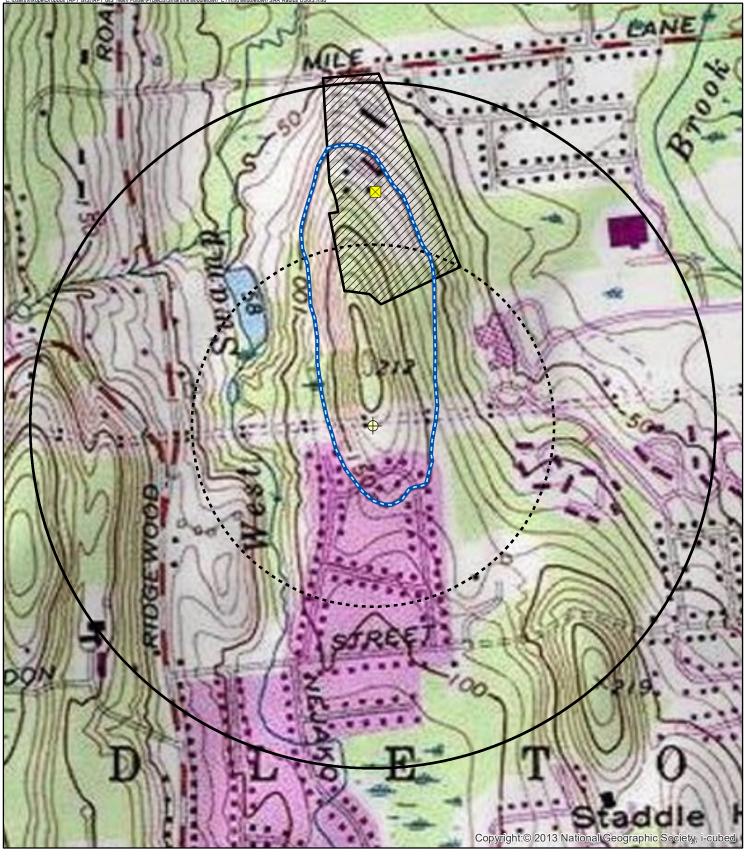
Utility Right-of-Way

Parcels within 2,500' of Search Area Center

Proposed Wireless Telecommunications Facility Middletown_Mile Lane 499 Mile Lane Middletown, Connecticut



Exhibit 3



Legend

Proposed Site

SAR Center Point

Search Area Ring (SAR)

2,500' Radius

Subject Property (Proposed Site)

<u>Map Notes:</u> Base Map Source: USGS 7.5 Minute Topographic Quadrangle Map, Middletown, CT (1992) Map Scale: 1 inch = 700 feet Map Date: January 2022 2,500' Radius Topographic Map

Proposed Wireless Telecommunications Facility Middletown_Mile Lane 499 Mile Lane Middletown, Connecticut



1 350 0

700 Feet

700