STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF WASTE MANAGEMENT

NOTICE OF PUBLIC COMMENT PERIOD ON A SOLID WASTE MANAGEMENT FACILITY MONITORING PLANS

In accordance with 42-35-1 et seq. of the Rhode Island General Laws, the Department of Environmental Management Office of Waste Management ("DEM") announces its intent to accept the air and groundwater monitoring plans submitted by Orbit Energy Rhode Island, LLC for its anaerobic digestion facility site at corner of Scituate Ave. and Old Pocasset Rd, in Johnston, Rhode Island.

These monitoring plans are available for public viewing at the Johnston Town Hall and the Mohr Public Library in Johnston, on the DEM website, www.dem.ri.gov/programs/wastemanagement/facilities/OrbitEnergymonitoringplans.pdf, and by appointment, at the following address:

Department of Environmental Management
Office of Waste Management
235 Promenade Street, Providence, RI 02908
(401) 222-2797
Attention: Chris Shafer

Public comments on these plans may be submitted no later than September 17, 2017. Submit comments by e-mail to christopher.shafer@dem.ri.gov or in writing to:

Department of Environmental Management
Office of Waste Management
Attn: Chris Shafer
235 Promenade Street
Providence, RI 02908

Leo Hellested, Chief
Office of Waste Management

SAGE ENVIRONMENTAL
172 Armistice Boulevard
Pawtucket, RI 02860

PROPOSED ON-SITE GROUNDWATER MONITORING PLAN

Orbit Energy Rhode Island LLC
Corner of Scituate Ave & Old Pocasset Road
Johnston, Rhode Island

This proposed Groundwater Monitoring Plan has been prepared by *SAGE* Environmental, Inc. (*SAGE*) in accord with Section 8.4.04 (Water Pollution) of the Rhode Island Department of Environmental Management's (RIDEM's) PUTRESCIBLE WASTE COMPOSTING OPERATING STANDARDS and Sections 1.14.01 (General information) and 1.14.02 (Onsite Monitoring Plan Requirements) of RIDEM's SOLID WASTE MANAGEMENT FACILITIES OR ACTIVITIES LOCATED WITHIN THE ENVIRONMENTAL MANAGEMENT DISTRICT (EMD).

This plan has been developed to address RIDEM's requirement to determine whether operation of the referenced putrescible waste composting facility is causing or is likely to cause pollution of the groundwater beneath the facility.

The proposed groundwater monitoring plan detailed below is submitted to RIDEM for review and approval prior to groundwater monitoring well installations and/or the initiation of monitoring activities. The proposed monitoring well network will be installed upon completion of the facility and initiation of the acceptance of feedstock.

1. *SAGE* will arrange subcontracted services for the advancement of six (6) soil borings at the Site using Geoprobe® direct-push technology. Borings will be advanced to estimated depth of ten (10) to fifteen (15) feet below grade; however, the actual depths will be determined based on data obtained in the field during the installation of the borings. Upon completion of the borings, they will be converted into permanent groundwater monitoring wells.

   This groundwater monitoring plan includes a sufficient number of wells to properly determine groundwater flow at the Site and to properly characterize the hydrogeology of the Site and surrounding area, where required. Proposed groundwater monitoring well locations are depicted on the attached figure.

2. *Subsurface Soil Screening* – During boring advancement, continuous soil samples will be collected using Geoprobe® Macro-core samplers. Subsurface soil samples will be screened in the field for the presence of total photoionizable compounds using a photoionization detector (PID) and the jar headspace technique. Photoionizable compounds that might typically be detected include volatile organic compounds (VOCs) present in petroleum hydrocarbons and many common solvents.

3. *Groundwater Sample Collection Laboratory Analysis* – To evaluate potential objectionable impacts to groundwater at the Site, *SAGE* will collect a sample from each newly-installed monitoring well. Prior to sampling, *SAGE* will measure the depth to groundwater in each groundwater monitoring well and evaluate for the presence/absence of separate-phase petroleum (SPP) using an interface probe. The monitoring wells will be purged using a low-flow peristaltic pump. Each sample will be placed in a cooler on ice and transported to a State-certified laboratory, utilizing proper chain-

of-custody protocol, for select analysis of volatile organic compounds (VOCs) via EPA Method 8260C, semivolatile organic compounds (SVOCs) via EPA Method 8270D and the 13 Priority Pollutant Metals (PP13) via EPA Method 6010C, 7470A and 7010 to evaluate for potential contaminants from parking lot/truck traffic runoff.

The list of parameters to be analyzed for using the methods above and their respective detection limits (DLs) are summarized in the following tables.

Table 1

List of Analytes and Reporting Limits for Volatile Organic Compounds (VOCs) - Method 8260C

COMPOUND	Reporting Limits Groundwater [1] (µg/L)
Benzene	1
Bromobenzene	1
Bromochloromethane	1
Bromodichloromethane	1
Bromoform	1
Bromomethane	1
n-Butylbenzene	1
sec-Butylbenzene	1
tert-Butylbenzene	1
Carbon tetrachloride	1
Chlorobenzene	1
Chlorodibromomethane	1
Chloroethane	1
Chloroform	1
Chloromethane	1
2-Chlorotoluene	1
4-Chlorotoluene	1
Dibromomethane	1
Diisopropyl Ether	1
1,2-Dibromo-3-chloropropane	1
1,2-Dichlorobenzene	1
1,3-Dichlorobenzene	1
1,4-Dichlorobenzenc	1
Dichlorodifluoromethane	1
1,1-Dichloroethane	1
1,2-Dichloroethane	1
1,1-Dichloroethene	1
cis-1,2-Dichloroethene	1
trans-1,2-Dichloroethene	1
1,2-Dichloropropane	1
1,3-Dichloropropane	1
2,2-Dichloropropane	1

Table 1 (concluded)

List of Analytes and Reporting Limits for VOCs - Method 8260C

COMPOUND	Reporting Limits Groundwater (1) (µg/L)
1,1-Dichloropropene	1
cis-1,3-Dichloropropene	1
trans-1 ,3-Dichlorooropene	1
Ethylbenzene	1
Ethylene dibromide	1
Hexachlorobutadiene	1
Isopropylbenzene	1
p-Isopropyltoluene	1
Methylene chloride	1
Naphthalene	1
n-Propylbenzene	1
Styrene	1
1,1,1,2-Tetrachloroethane	1
1,1,2,2-Tetrachloroethane	1
Tetrachloroethene	1
Tetrahydrofuran	1
Toluene	1
1,2,3-Trichlorobenzene	1
1,2,4-Trichlorobenzene	1
1,1,1-Trichloroethane	1
1,1,2-Trichloroethane	1
Trichloroethene	1
Trichlorofluoromethane	1
1,2,3-Trichloropropane	1
1,2,4-Trimethylbenzene	1
1,3,5-Trimethylbenzene	1
Vinyl chloride	1
m+p Xylene*	2
o-Xylene	1
Acetone	5
2-Butanone	5
tert-Butyl-methyl ether	1
Carbon disulfide	1
1,4-Dioxane	250
2-Hexanone	5
4-Mcthyl-2-pentanone	5
Dichlorofluoromethane	1

*m- and p-xylene coelute. Each compound is in the low calibration at a concentration of 1 ug/L; therefore, the two compounds are reported as a single analyte with a reporting limit of 2 ug/L.
(1) Nominal value based on undiluted analysis.

Table 2

List of Analytes and Reporting Limits for Semivolatile Volatile Organic Compounds (SVOCs) - Method 8270D

COMPOUND	Reporting Limits Groundwater [1] (µg/L)
N-Nitrosodirnethylamine	3
Pyridine	2
Phenol	2
Aniline	2
Bis(2-chloroethyl)ether	1
2-Chlorophcnol	2
1 ,3-Dichlorobenzene	1
1,4-Dichlorobcnzene	1
1,2-Dichlorobenzene	1
2-Methylphenol	1
3- & 4-Methylphenol	2
N-Nitroso-di-n-propylamine	1
Hexachloroethane	1
Nitrobenzene	1
Isophorone	1
2-Nitrophenol	5
2,4-Dimethylphenol	10
Benzoic acid	15
Bis(2-chloroethoxy)methane	1
2,4-Dichlorophenol	2
1,2,4-Trichlorobenzene	1
Naphthalene	1
4-Chloroaniline	1
Hexachlorobutadiene	1
4-Chloro-3-methylphenol	5
2-Melhylnaphthalene	1
Hcxachlorocyclopcntadicne	1
2,4,6-Trichlorophenol	2
2,4,5-Trichlorophenol	2
2-Chloronaphthalene	1
2-Nitroaniline	1
Dimethylphthalate	1
Acenaphthylene	1
2,6-Dinitrotoluene	1
3-Nitroaniline	1
Acenaphthene	1
2,4-Dinitrophenol	5
4-Nitrophenol	5
Dibenzofuran	1
2,4-Dinitrotoluene	1
Diethyl phthalate	1
Fluorene	1
4-Chlorophenyl phenyl ether	1
4-Nitroaniline	1
4,6-Dinitro-2-methylphenol	5
N-Nitrosodiphenylamine	1
4-Bromophenyl phenyl ether	1
Hexachlorobenzene	1

Table 2 (continued)

List of Analytes and Reporting Limits for SVOCs - Method 8270D

COMPOUND	Reporting Limits Groundwater [(1)] (µg/L)
Pentachlorophenol	5
Phenanthrene	1
Anthracene	1
Di-n-butylphthalate	3
Fluoranthene	1
Pyrene	1
Butyl benzyl phthalate	1
3,3'-Dichlorobenzidine	1
Benzo(a)anthracene	1
Chrysene	1
bis(2-Ethyl hexyl)phthalate	3
Di(n)octyl phthalate	3
Benzo(b)fluoranthene	1
Benzo(k)fluoranthene	1
Benzo(a)pyrene	1
Indeno(1,2,3-cd)pyrene	1
Dibenzo(a,h)anthracene	1
Benzo(g,h,i)perylene	1

(1) Nominal values based on 1,000 L aqueous sample

Table 3

List of Analytes and Reporting Limits for 13 Priority Pollutant Metals (PP13)

COMPOUND	Method of Analysis	Reporting Limit, mg/L
Antimony, Sb	6010C	0.01
Arsenic, As	6010C	0.01
Beryllium, Be	6010C	0.005
Cadmium, Cd	6010C	0.005
Chromium, Cr	6010C	0.005
Copper, Cu	6010C	0.02
Lead, Pb	6010C	0.005
Mercury, Hg	7470A	0.0002
Nickel, Ni	6010C	0.005
Selenium, Se	6010C	0.01
Silver, Ag	6010C	0.005
Thallium, Tl	7010	0.001
Zinc, Zn	6010C	0.02

4. *Letter Report* - Upon receipt of analytical data from the laboratory, *SAGE* will evaluate the data and prepare a letter report comparing results to applicable RIDEM regulatory standards.

   Groundwater monitoring will be conducted, at a minimum, on a quarterly basis, unless otherwise requested by the Department. *SAGE* may propose, at the completion of one year of groundwater monitoring, a reduction is the frequency of sampling if results warrant.

Developmental Data

CURRENT ZONING:	I
MINIMUM LOT SIZE:	N/A
MINIMUM DISTANCE OF STRUCTURE FROM RESIDENTIAL ZONE BOUNDARY:	100'
MINIMUM LOT WIDTH:	N/A
MINIMUM FRONT YARD:	50'
MINIMUM SIDE YARD:	50'
MINIMUM REAR YARD:	50'
MAXIMUM STRUCTURE HEIGHT:	40'
MAXIMUM BUILDING COVERAGE:	40%
PROPOSED BUILDING COVERAGE	10%
AREA TO BE DISTURBED	225,800± SF

Parking Data

PARKING REQUIRED:

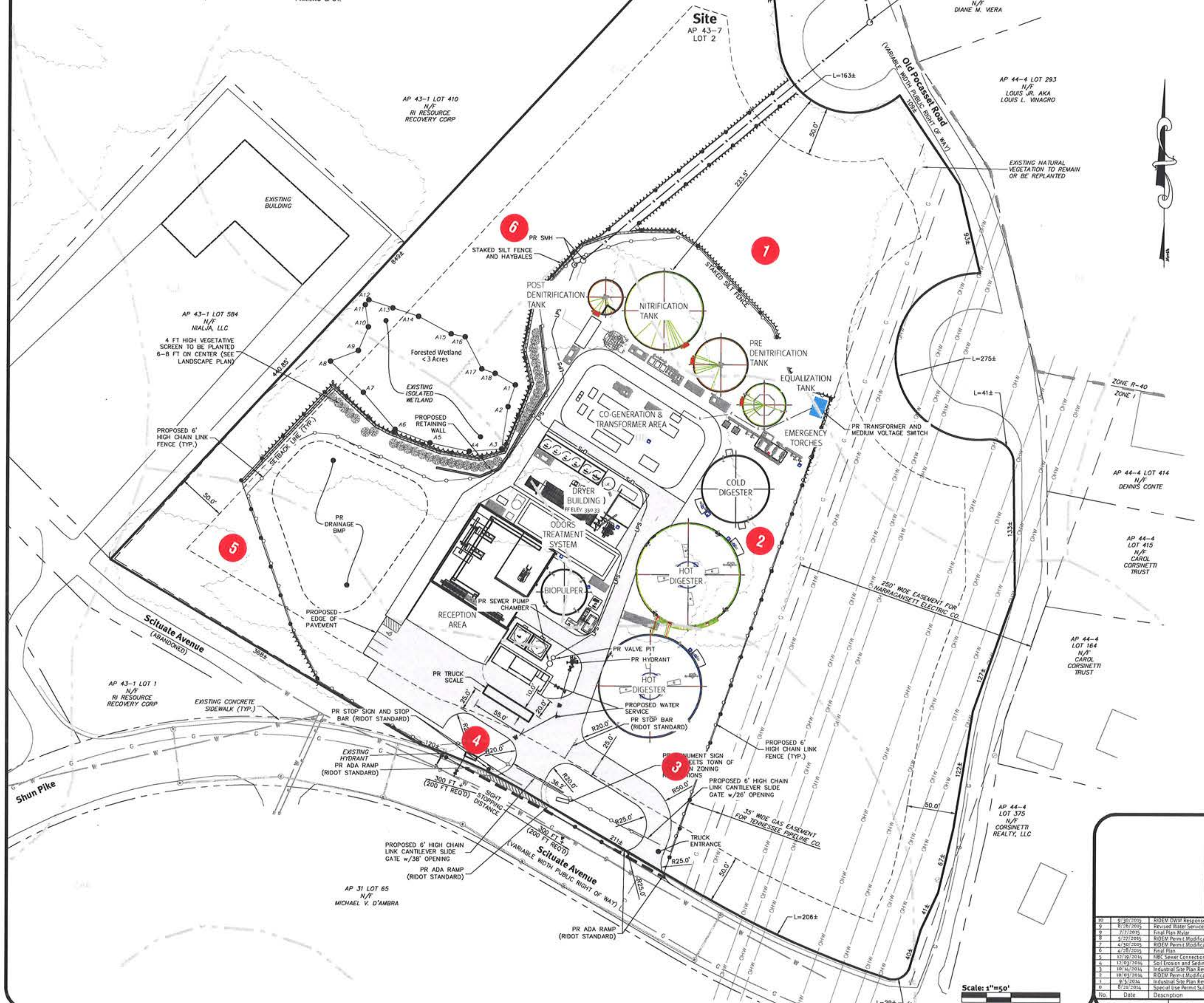
ONE CAR SPACE PER EVERY 2 EMPLOYEES

NUMBER OF EMPLOYEES PER SHIFT = 3 EMPLOYEES

REQUIRED PARKING = 2 PARKING SPOTS

PARKING PROVIDED:

4 SPOTS TOTAL, INCLUDING 1 ADA ACCESSIBLE PARKING SPOT.



Construction Schedule

1. CONSTRUCTION TO COMMENCE IN SUMMER OF 2015, OR UPON RECEIPT OF ALL NECESSARY APPROVALS

Construction Notes

1. THE CONTRACTOR IS TO NOTIFY DIG SAFE PRIOR TO THE START OF CONSTRUCTION.
2. NO STOCKPILING OF MATERIAL IS TO BE ALLOWED WITHIN A PUBLIC R.O.W.. NO OPEN TRENCHES ARE TO BE LEFT OVERNIGHT.
3. CONTRACTOR TO OBTAIN ALL FEDERAL, STATE, AND MUNICIPAL APPROVALS PRIOR TO THE START OF CONSTRUCTION.
4. THE CONTRACTOR IS TO NOTIFY THE DESIGN ENGINEER, THE DIRECTOR OF PUBLIC WORKS, THE TOWN ENGINEER, AND RI DEPT. OF ENVIRONMENTAL MANAGEMENT AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
5. ALL WORK PERFORMED HEREIN SHALL BE GOVERNED BY THE RHODE ISLAND STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION AND TOWN OF JOHNSTON STANDARD SPECIFICATIONS AND DETAILS.
6. ALL EXCESS SOIL, STUMPS, TREES, ROCKS, BOULDERS AND OTHER REFUSE, SHALL BE DISCARDED IN AN APPROVED MANNER AT AN APPROVED LOCATION.
7. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING FINISH GRADING AND DRAINAGE AROUND THE BUILDINGS TO ENSURE SURFACE WATER AND/OR GROUND WATER ARE DIRECTED AWAY FROM THE STRUCTURES. THIS PLAN SHOWS GENERAL GRADING ONLY AND ADDITIONAL DETAIL IS LIKELY TO BE REQUIRED AROUND THE BUILDINGS.
8. ALL LOAM IN DISTURBED AREAS TO BE STOCKPILED FOR FUTURE USE.
9. ALL PROPOSED DRAINAGE PIPE TO BE HDPE UNLESS OTHERWISE NOTED.
10. OIL WATER SEPARATOR TO BE INSTALLED IN (CB-13) CATCH BASIN 13 (SNOUT OR PRE-APPROVED EQUAL).
11. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR UTILITY CONNECTIONS.
12. ABOVEGROUND UTILITIES ARE PROPOSED ONSITE. UNDERGROUND UTILITIES MAY BE INSTALLED AS AN ALTERNATIVE.
13. ALL CUT AND FILL AREAS ARE TO BE DONE UNDER THE DIRECTION OF A GEOTECHNICAL ENGINEER WITH TESTING AND CERTIFICATION TO BE PROVIDED TO THE OWNER UPON THE COMPLETION OF THE PROJECT. DIPRETE ENGINEERING ASSOCIATES, INC. HAS NOT PROVIDED THE FILL SPECIFICATION, GEOTECHNICAL ENGINEERING, STRUCTURAL ENGINEERING SERVICES, OR SUPERVISION AS PART OF THESE DRAWINGS.
14. ALL EXISTING UTILITIES SHOWN ARE SCHEMATIC IN NATURE AND DIPRETE ENGINEERING ASSOCIATES, INC. DOES NOT CERTIFY ITS ACCURACY. THE CONTRACTOR IS TO VERIFY THE UTILITY LOCATIONS PRIOR TO THE START OF CONSTRUCTION.
15. THE PROPOSED WORK INCLUDING GRADING, ACCESS DRIVEWAY, AND UTILITIES REQUIRES COORDINATION THROUGH UTILITY EASEMENTS. CONTRACTOR SHALL VERIFY ALL APPROVALS ARE IN PLACE PRIOR TO START OF CONSTRUCTION.

Existing Conditions Legend:

EX MAJOR FOOT CONTOUR
EX MINOR FOOT CONTOUR
SETBACK
PROPERTY LINE
ASSESSOR LINE
WETLAND EDGE
WETLAND FLAG
EDGE OF PAVEMENT
ASPHALT PAVEMENT
BUILDING
TREELINE
OVERHEAD WIRES
UNDERGROUND ELECTRIC
GAS LINE
WATER LINE
FIRE SERVICE LINE
SEWER LINE
DRAIN LINE
HYDRANT
SEWER MANHOLE
DRAINAGE MANHOLE
CATCH BASIN
EXISTING WELL
LIGHT POLE
UTILITY POLE
SOIL EVALUATION
TEST PIT
SEWER VALVE
WATER VALVE
GAS VALVE

Proposed Conditions Legend:

PR FOOT CONTOUR
PR TOP/BOTTOM OF POND
EASEMENT
EASEMENT HATCH
POND/RAIN GARDEN OUTLINE
RIP-RAP
BUILDING FOOTPRINT
LIMIT OF WORK
STAKED SILT FENCE
STAKED HAY BALES
CONCRETE CURB
ASPHALT PAVEMENT
UNDERGROUND TRENCH
GAS LINE
WATER LINE
SEWER LINE
DRAIN LINE
OVERHEAD WIRES
LOW PRESSURE SEWER MAIN
PAVEMENT STRIPING (4" WHITE STRIPING 2' ON CENTER @ 45°)
ACCESSIBLE PARKING SPACE SYMBOL
MANHOLE
CATCH BASIN

Abbreviations:

EXISTING	EX
PROPOSED	PR
FINISH FLOOR ELEVATION	FFE

THIS REGULATORY SUBMISSION SET SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNLESS STAMPED 'ISSUED FOR CONSTRUCTION' AND SIGNED BY A DIPRETE ENGINEERING REPRESENTATIVE

THE CONTRACTOR IS RESPONSIBLE FOR ALL OF THE MEANS, METHODS, SAFETY PRECAUTIONS AND REQUIREMENTS, AND OSHA CONFORMANCE IN THE IMPLEMENTATION OF THIS PLAN AND DESIGN

Scale: 1"=50'

JASON P. CLOUGH
No. 9110
REGISTERED PROFESSIONAL ENGINEER CIVIL

No.	Date	Description	By:
10	9/30/2015	RIDEM OWM Response to Comments	J.P.C.
9	8/26/2015	Revised Water Service	J.P.C.
9	7/7/2015	Final Plan Mylar	J.P.C.
8	5/27/2015	RIDEM Permit Modification Response to Comments	J.P.C.
7	4/30/2015	RIDEM Permit Modification	J.P.C.
6	4/28/2015	Final Plan	J.P.C.
5	12/19/2014	NBC Sewer Connection Permit	B.A.H.
4	12/03/2014	Soil Erosion and Sediment Control Permit	B.A.H.
3	10/14/2014	Industrial Site Plan Review - Preliminary Plan	B.A.H.
2	10/03/2014	RIDEM Permit Modification	B.A.H.
1	9/5/2014	Industrial Site Plan Review	J.A.R.
0	8/21/2014	Special Use Permit Submission	J.A.R.

Drawn By: J.A.R. Design By: B.A.H.

Overall Site Plan

Orbit Energy Rhode Island 3.2 MW Bio-Gas Plant

Assessor's Plat 43-7 Lot 2
Johnston, Rhode Island

DiPrete Engineering

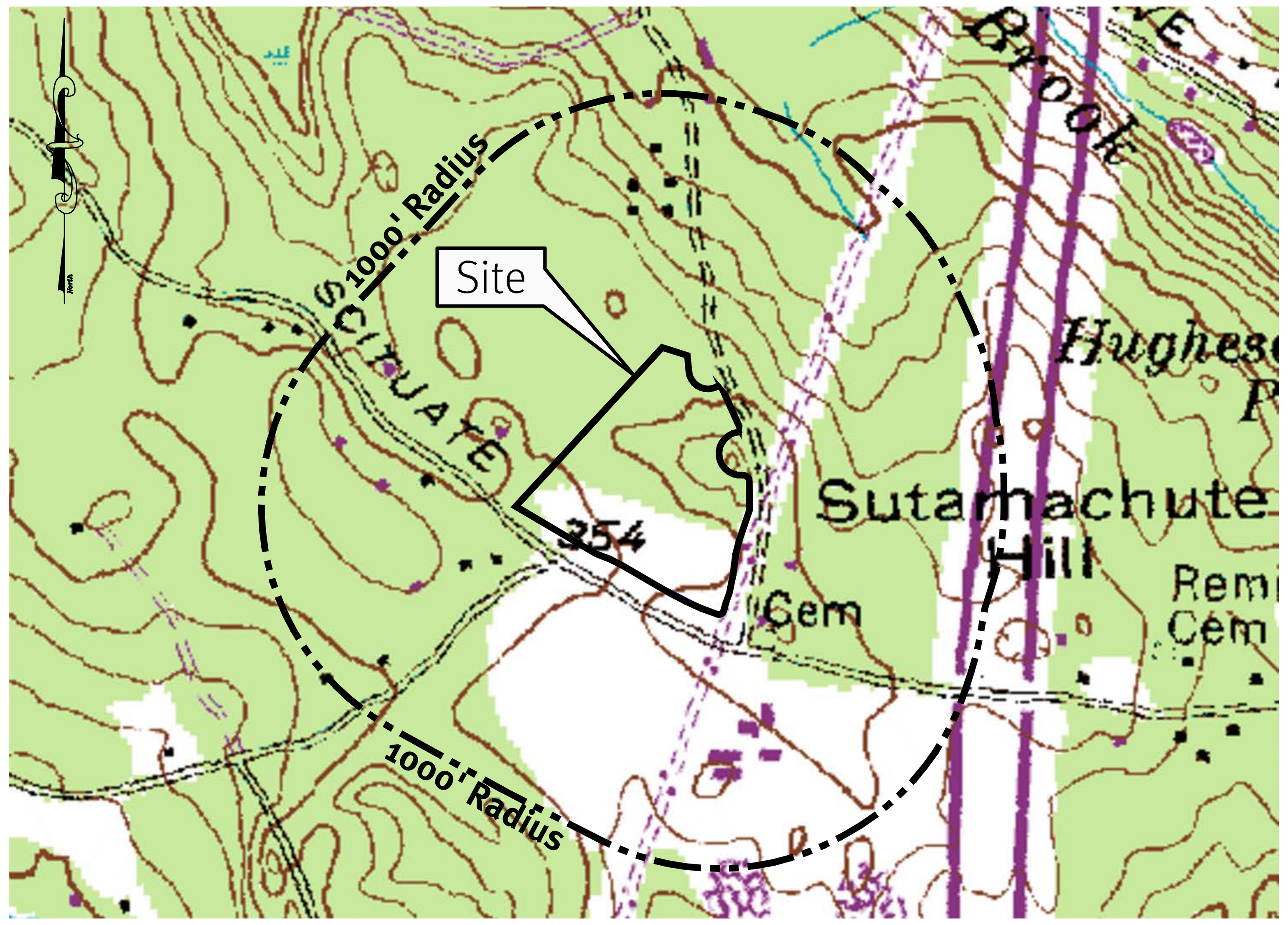
Two Stafford Court Cranston, RI 02920
tel 401-943-1000 fax 401-464-6006 www.DiPrete-Eng.com

Owner: **Shelby Realty Inc.**
24 Armand Way
Hope, RI 02831

Applicant: **Orbit Energy Rhode Island, LLC**
900 Ridgefield Drive, Suite 145
Raleigh, North Carolina 27609

SHEET 3 OF 11

Engineers • Planners • Surveyors



USGS Map Scale: 1"=500'

Scale: 1"=300'

0 150' 300' 600'

Photo obtained from the RI-GIS of 2011 Digital Orthophotography Northern Urban Areas of Rhode Island.

THIS REGULATORY SUBMISSION SET SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNLESS STAMPED 'ISSUED FOR CONSTRUCTION' AND SIGNED BY A DIPRETE ENGINEERING REPRESENTATIVE.

THE CONTRACTOR IS RESPONSIBLE FOR ALL OF THE MEANS, METHODS, SAFETY PRECAUTIONS AND REQUIREMENTS, AND OSHA CONFORMANCE IN THE IMPLEMENTATION OF THIS PLAN AND DESIGN.

JASON P. CLOUGH
No. 9110
REGISTERED PROFESSIONAL ENGINEER CIVIL
9/30/2015

No.	Date	Description	By:
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0	8/21/2014	Special Use Permit Submission	J.A.R.

Drawn By: J.A.R. Design By: B.A.H.

Aerial 1/2 Mile Radius

Orbit Energy Rhode Island 3.2 MW Bio-Gas Plant

Assessor's Plat 43-7 Lot 2
Johnston, Rhode Island

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Raleigh, North Carolina 27609

SHEET 2 OF 11

Engineers • Planners • Surveyors

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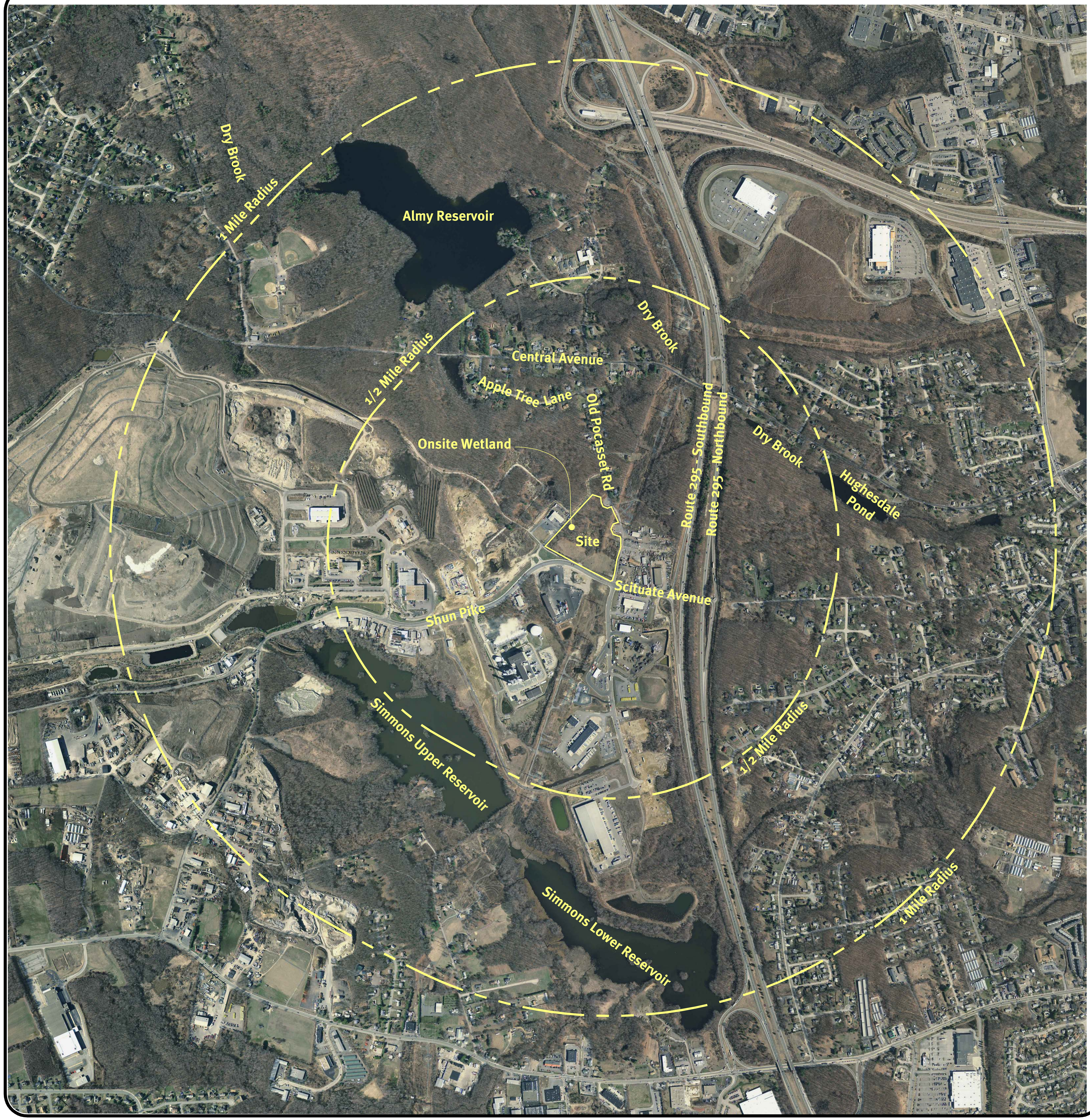

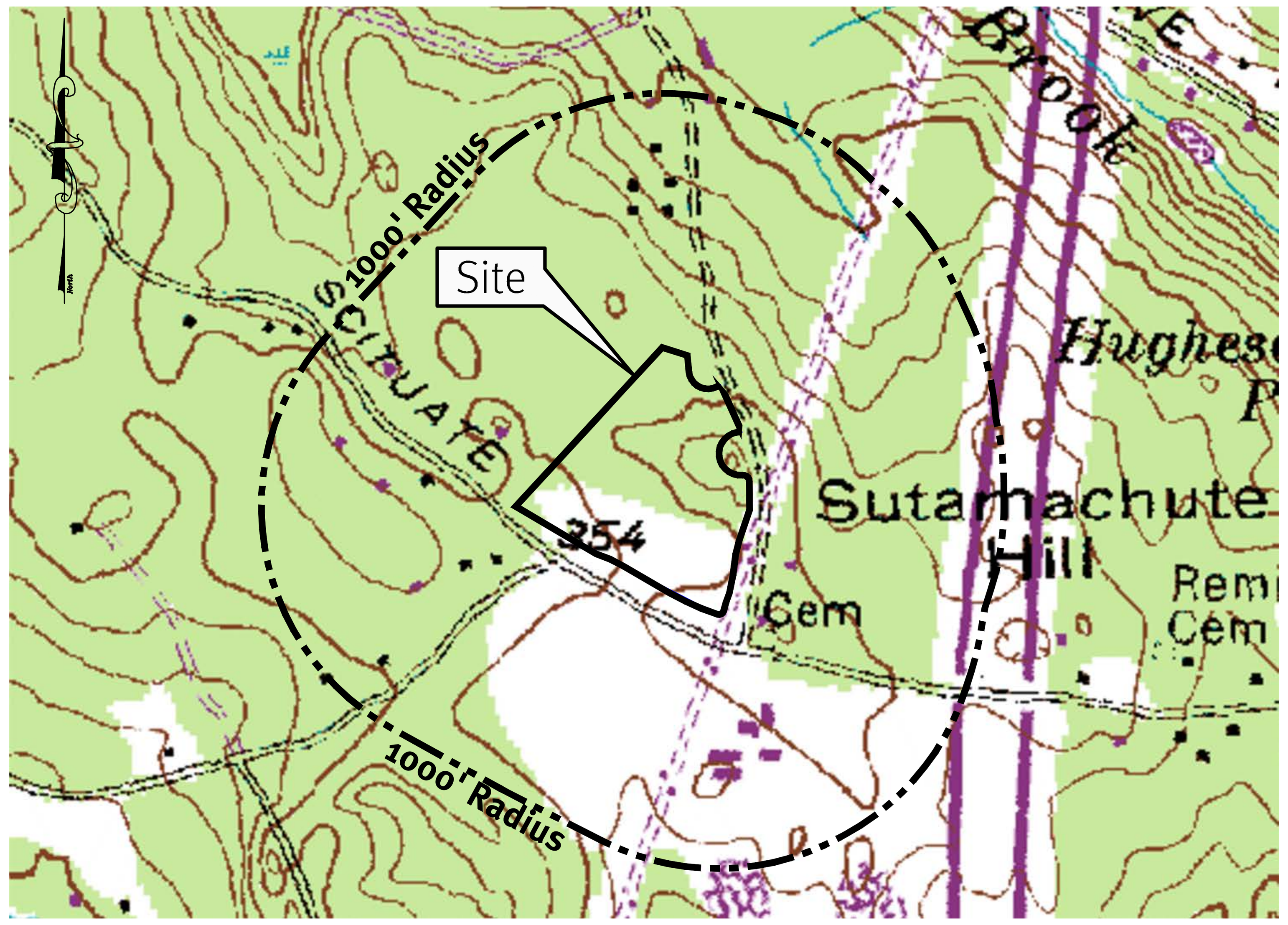

USGS Map Scale: 1"=500'

Scale: 1"=300'
0 150' 300' 600'

Photo obtained from the RI-GIS of 2014 Digital Orthophotography

No.	Date	Description	By:
0	04/05/2016	Radius Map	J.P.C.

Drawn By: J.P.C.

Radius Map

Orbit Energy Rhode Island 3.2 MW Bio-Gas Plant

Assessor's Plat 43-7 Lot 2
Johnston, Rhode Island

DiPrete Engineering
Two Stafford Court Cranston, RI 02920
tel 401-943-1000 fax 401-464-6006 www.DiPrete-Eng.com
Engineers • Planners • Surveyors

Owner:
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900 Ridgefield Drive, Suite 145
Raleigh, North Carolina 27609

SHEET 1 OF 1

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Revised Draft

AMBIENT AIR MONITORING PLAN, ORBIT ENERGY RHODE ISLAND, LLC, JOHNSTON, RHODE ISLAND

Prepared by:

AQA
Air Quality Associates

574 Boston Road, Suite 14
Billerica, MA 01821

and

SAGE
ENVIRONMENTAL

172 Armistice Blvd.
Pawtucket, RI 02860

Prepared for:
Orbit Energy Rhode Island LLC

April 8, 2016

CONTENTS

LIST OF TABLES

LIST OF FIGURES

1.0 OVERVIEW

This air monitoring plan is proposed for emissions from a biogas-to-electricity facility located at Plat 43, Lot 2 off Scituate Ave and Old Pocasset Road in Johnston, Rhode Island. This air monitoring plan is required due to the fact that the facility is located in an Environmental Management District (EMD). This monitoring plan addresses the requirements of Rhode Island Department of Environmental Management's (RIDEM's) Solid Waste Regulation Number 1, Section 1.14.02.

1.1 Project Description

Orbit Energy Rhode Island LLC (Orbit) will construct a biogas production plant through anaerobic digestion of food waste (95%) and cellulose waste (5%) collected around the Providence metropolitan area for both electrical and thermal energy production. The facility will receive about 270-280 tons per day of waste material for processing in the operation. The main components of the system are:

- Reception,
- Squeezing System or Separation,
- Pulping,
- Anaerobic Digestion,
- Gas Combustion,
- Liquid/Solid Separation,
- Solids Drying, and
- Solids Storage.

Orbit has secured food and cellulose waste contracts with private and public entities as feedstock to their waste to energy facility. Diversion of these wastes will extract valuable energy and reduce landfill disposal of these wastes.

1.2 Air Emission Sources

Most of the Orbit process is an enclosed system; however, potential emissions addressed in this application will result from the reception area and bio-pulper (odors only), gas combustion, and solids drying process steps. The site location is shown in Figure 1-1. The preliminary site layout is shown in Figure 1-2.

1.2.1 Reception Building

Trucks bringing waste to the facility will enter the Reception Building to unload material for processing and squeeze out free water. The material then enters the bio-pulper to homogenize the waste. The Reception Building air system is designed to have a continuous negative draft with building air, as well as the bio-pulper vapors passing through a packed-bed wet scrubber followed by a biofilter for odor control prior to entering the atmosphere. Odor is the only emission of concern from the Reception Building and bio-pulper, and Orbit is confident that the odor control system is adequate to prevent odor nuisances near the facility operations as evidenced from numerous European operations.

1.2.2 Combined Heat & Power (CHP) Engines

Digester gas will be combusted in one 2,000 kilowatt (kW) and one 1,200 kW lean burn, spark ignition reciprocating internal combustion engines. The digester gas will be comprised of approximately 50% to 60% methane, 23% carbon dioxide, and 23% nitrogen. Emissions from the combustion process will primarily be oxides of nitrogen (NO_X), carbon monoxide (CO), and volatile organic compounds (VOC). Emissions of particulate matter (PM) and sulfur dioxide (SO_2) occur as well but the emission levels for these compounds are small in comparison to the other pollutants.

Two small safety torches will be located in the digester gas line between the digesters and CHPs. These torches will be used as a safety device to flare residual gas in the digesters during CHP maintenance.

1.2.3 Solids Drying

After being digested to extract the methane, the digested solids are centrifuged to remove free water. Subsequently, these centrifuged solids are transferred to a belt dryer to reduce the moisture content of the solid material to a level of approximately 25%. During this drying process, approximately 85% of available ammonium (NH_4) in the material is converted to ammonia (NH_3). The belt drying will be equipped with a 50% sulfuric acid/50% water wet scrubber to control emissions of ammonia, PM, and VOCs. The dryer does not burn fuel.

1.3 Air Pollution Control Equipment

The air pollution control equipment implemented at the facility is summarized in Table 1-1. A Best Available Control Technology (BACT) analysis was included in the air permit application.

Table 1-1 Summary of Proposed Air Emission Control Equipment

Source	Pollutant	Proposed Control
Reception Building	Odor	Negative draft
Bio-pulper	Odor	Packed-bed wet scrubber followed by a biofilter
Flares	--	--
Engines	CO	CO Oxidation Catalyst
	VOC	CO Oxidation Catalyst
	NO_X	Selective Catalytic Reduction
Dryer	NH_3	50% sulfuric acid/50% water wet scrubber
	PM	
	VOC	
Fugitive Dust	PM	Good Management Practices

1.4 Annual Air Emission Estimate

An estimate of the Hazardous Air Pollutants emitted from the facility appears in Table 1-2. An estimate of the annual controlled emissions of criteria air pollutants and toxic air pollutants was made for each source and is summarized in Table 1-3. The total facility emissions were compared to major source thresholds as well as RIDEM's modeling thresholds. The annual estimated controlled emissions for all pollutants will be below the major source thresholds. Therefore, a minor source air permit application was submitted and was approved by RIDEM. Details of the air emissions calculations can be found in the air permit application.

Table 1-2 Hazardous Air Pollutant Emissions

Pollutant	CAS	Total (lb/yr)
1,1,2,2-Tetrachloroethane	79345	0.35
1,1-Dichloroethane	75343	0.43
1,2-Dichloropropane	78875	0.04
1,3-Butadiene	106990	3.89
1,4-Dioxane	123911	1.39
Acetaldehyde	75070	10.07
Acrolein	107028	2.33
Acrylonitrile	107131	0.63
Benzene	71432	271.73
Bromodichloromethane	75274	0.96
Carbon disulfide	75150	0.08
Carbon tetrachloride	56235	0.71
Carbonyl sulfide	463581	0.05
Chlorobenzene	108907	0.05
Chloroform	67663	1.42
Ethyl Benzene	100414	1.1
Ethyl chloride (Chloroethane)	75003	0.15
Ethylene dibromide	106934	0.7
Ethylene dichloride	107062	0.78
Formaldehyde	50000	288.23
Hexane	110543	1.18
Hydrogen Sulfide	7783064	2.26
Isopropyl Alcohol	67630	5.61
Methyl Chloride (Chloromethane)	74873	0.11
Methyl ethyl ketone	78933	0.95
Methyl isobutyl ketone (Hexone)	108101	0.35
Methylchloroform	71556	1.54
Methylene chloride	75092	16.27
Naphthalene	91203	0.01
p-Dichlorobenzene	106467	6.91
Perchloroethylene	127184	2.59
Propylene	115071	14.69
Styrene	100425	5.3
Toluene	108883	119.73
Trichloroethylene	79016	2.09
Vinyl Chloride	75014	2.68
Vinylidene Chloride	75354	0.76
Xylene	1330207	28.56
Total		**796.68**

Table 1-3 Summary of Facility-Wide Controlled Emissions (tons per year)

Source	NO_X	CO	$PM_{10/2.5}$	VOC	SO_2	Max HAP	NH_3
Flares	2.7	1.3	0.16	0.3	4.7	--	--
Engines	6.7	8.1	2.1	12.3	13.0	0.144	0.6
Dryer	--	--	7.1	35.2	--	--	23.6
Fugitive Dust	--	--	0.29	--	--	--	--
Total	9.4	9.4	9.7	47.8	17.7	0.144	24.3
Major Source Threshold	50.0	100.0	100.0	50.0	100.0	10.0	--

Notes:

(1) See the air permit application for details of air emission estimates.

1.5 Air Dispersion Modeling

Air dispersion modeling was performed for the pollutants shown in Table 1-4 for the air permit application due to the fact that the facility had estimated annual emissions above RIDEM's air dispersion modeling thresholds. Five years of meteorological data was used in the analysis. The modeled concentrations were below RIDEM's Acceptable Ambient Levels (AALs). See the air permit application for additional details.

Table 1-4 Pollutants Modeled Using Air Dispersion Modeling

Pollutant	CAS#	1-hour ($\mu g/m^3$)	24-hour ($\mu g/m^3$)	Annual ($\mu g/m^3$)
1,3-Butadiene	106990	--	--	0.03
Acrolein	107028	0.2	--	0.02
Benzene	71432	30	20	0.1
Ethylene dibromide	106934	--	9	0.02
Formaldehyde	50000	50	40	0.08
Ammonia	7664417	1,000	100	70

Figure 1-1   Site Location – Google Earth

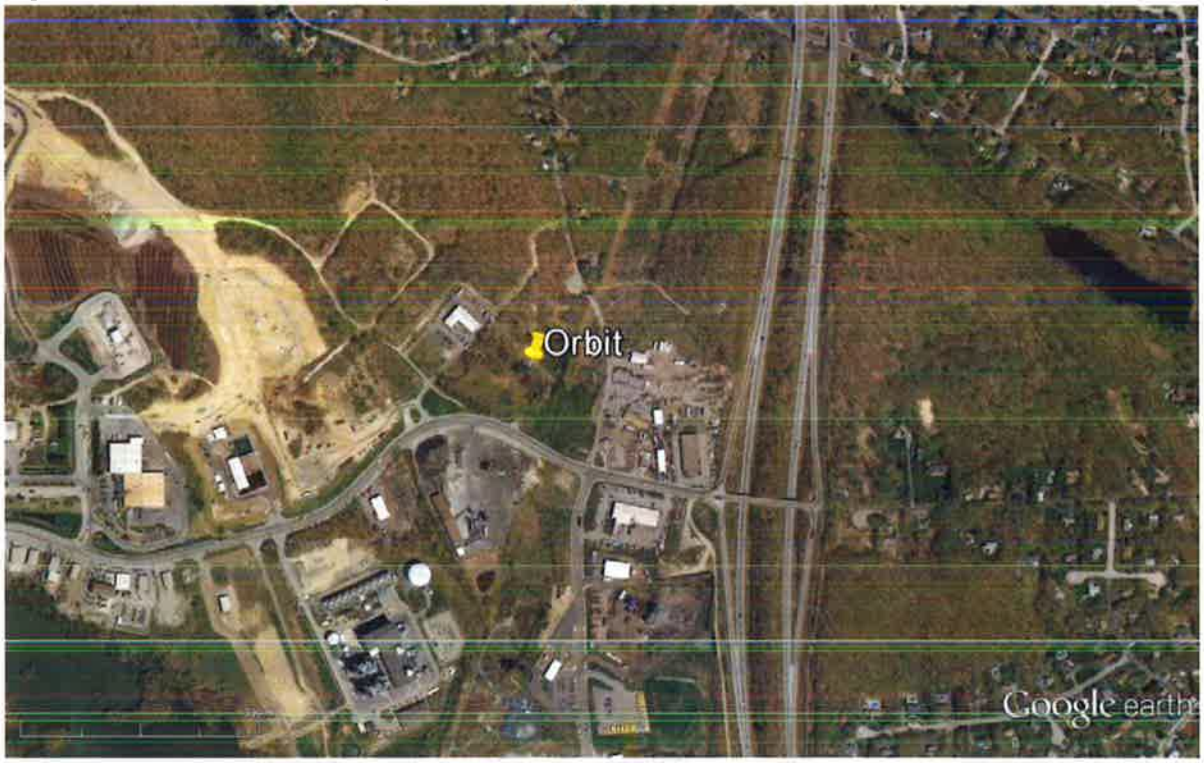
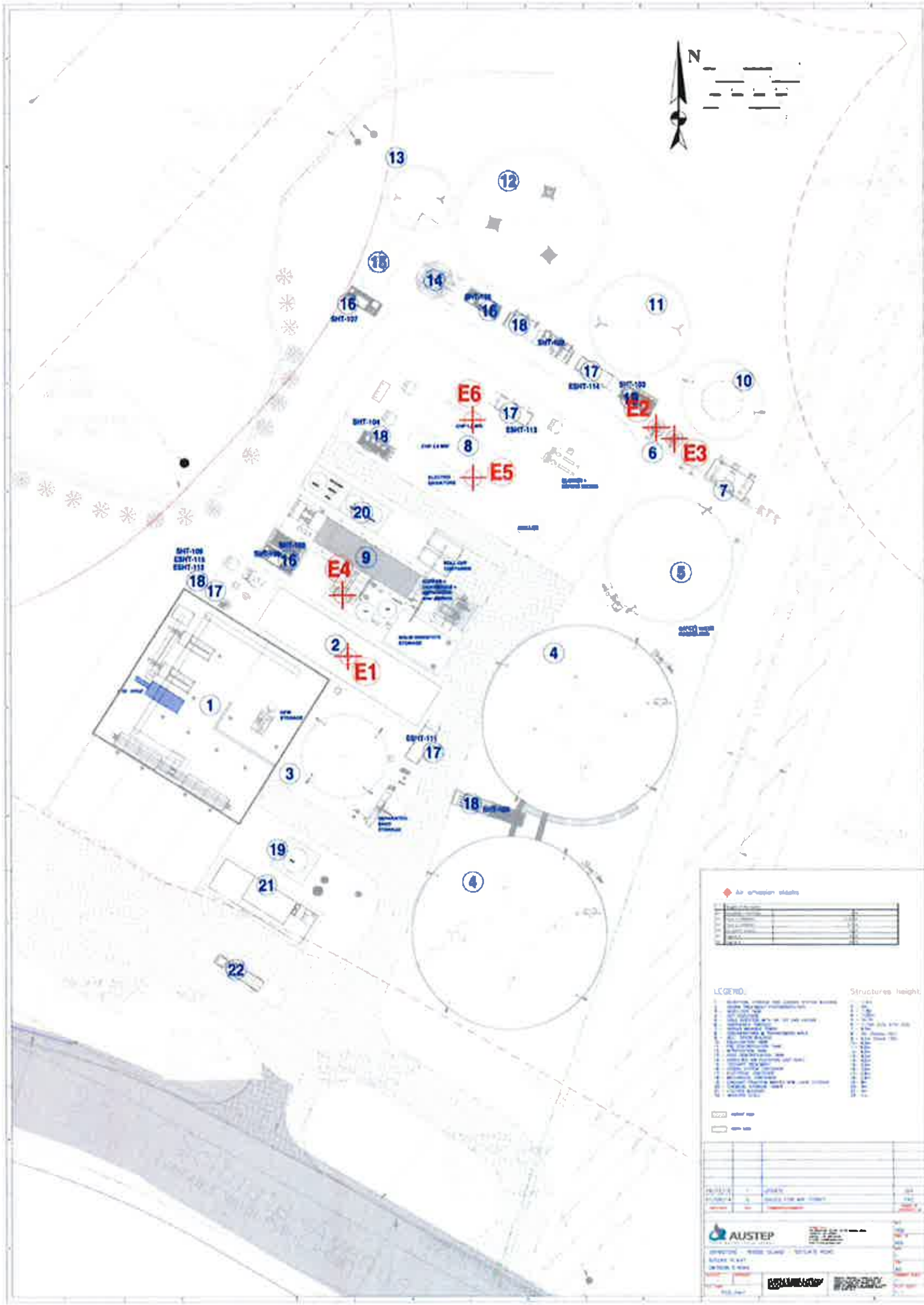


Figure 1-2 Site Layout



2.0 AMBIENT AIR MONITORING PLAN

2.1 Frequency

Since air dispersion modeling allows for the prediction of ambient concentrations of pollutants over a 5-year period and over a large geographical area, it is superior to air monitoring in determining compliance with ambient standards.

However, to satisfy the requirements of the Solid Waste Regulation Number 1, Orbit is proposing to conduct ambient air monitoring during the required stack testing. It is proposed that this would be performed for twice on an annual basis. If any results show values above the Acceptable Ambient Levels (AALs), ambient monitoring will continue annually until the values remain below the AALs for two consecutive years.

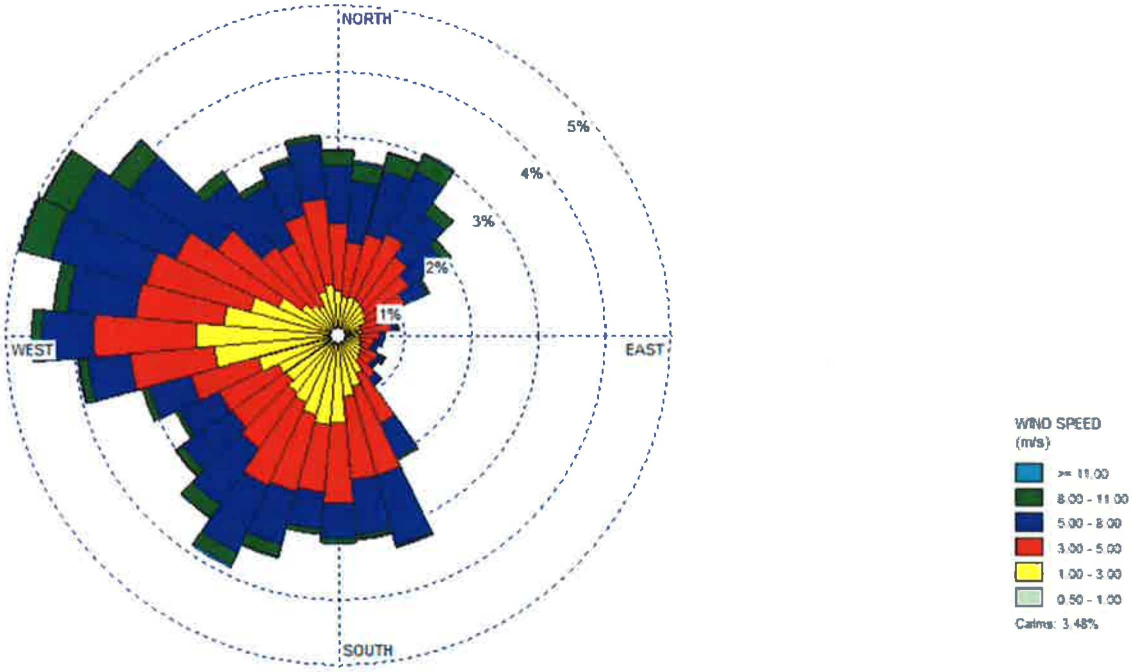
2.2 Meteorological Data

Figure 2-1 shows the average wind direction and wind speed for the Providence, Rhode Island area. Meteorological data will be collected in the hour prior to and during the ambient air monitoring. The following data will be collected:

- Temperature
- Wind Speed
- Wind Direction

Collection of meteorological data will confirm that the monitors were placed in upwind and downwind locations.

Figure 2-1 Windrose Plot for Providence, Rhode Island (2007-2011)



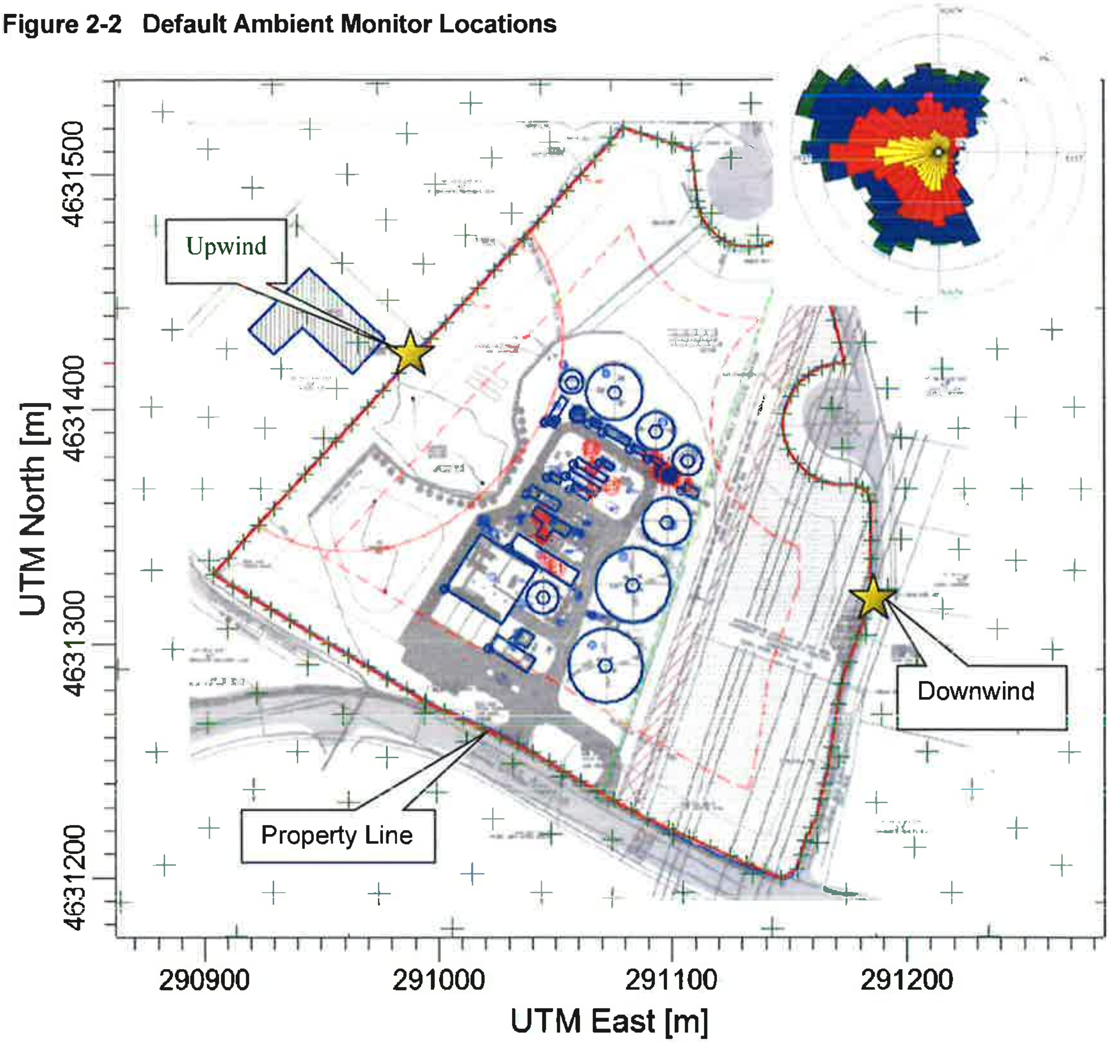
2.3 Monitor Locations

Air pollutants will be monitored at two locations:

- On the fence line, upwind of emission sources; and
- On the fence line, downwind of emission sources.

The predominant wind direction will be determined in the hour preceding the sampling in an attempt to identify the upwind and downwind directions. If the wind is highly variable or calm, the upwind and downwind monitor locations will be determined based on Figure 2-1 (or updated meteorological data from the Providence airport). Figure 2-2 shows the default monitor locations.

Figure 2-2 Default Ambient Monitor Locations



2.4 Methods

- Hazardous Air Pollutants (HAPs) and Volatile Organic Compounds (VOCs): A Summa canister will be used to collect air samples. Method TO-15 will be used to analyze for all potentially emitted HAPs as shown in Table 1-2. In addition to the HAP and VOC compounds listed in Table 1-2, total VOC will also be analyzed.

- Acetaldehyde and Formaldehyde: For these compounds, EPA Method TO-11A will be used. The samples will be collected on a DNPH tube or UMEX SKC badge.

- Ammonia: The Thermo Scientific™ Model 17i Ammonia Analyzer[1] will be used to monitor ammonia. If this model is not available to rent, another suitable monitor will be used.

- Hydrogen Sulfide: The Thermo Scientific™ Hydrogen Sulfide Analyzer Model 450[2]. This monitor is available for rent from Pine Environmental.

Although Nitrogen Dioxide, Carbon Monoxide, Sulfur Dioxide and Particulates will also be emitted from the engines and flares as products of combustion, the emission rates are below RIDEM major source and air dispersion modeling thresholds. In addition, these pollutants can be transported regionally from large power plants and/or nearby roadways, and therefore, it would be difficult to interpret the air monitoring results. Therefore, these pollutants are not proposed to be monitored.

2.5 Duration

Ambient monitoring will be conducted for a 24-hour period in order to compare the results to the 24-hour Acceptable Ambient Levels (AALs).

2.6 Relevant Standards

The air monitoring results will be compared to relevant standards as shown in Table 2-1. Some compounds do not have a 24-hour time average specified for an AAL. In these cases, the 24-hour monitored result can be scaled using the United States Environmental Protection Agency scaling factors for the screening air dispersion model, AERSCREEN[3], to approximate the 1-hour and/or annual time averages sample results from the 24-hour sample result. The results will then be compared to the 1-hour and/or annual AALs for those pollutants that do not have 24-hour AALs in order to determine if further sampling should be performed for these compounds. The scaling factors would be as follows: Factor of 1.67 (to approximate the 1-hour time averaged concentration from the 24-hour time average) and factor of 0.17 (to approximate the annual time average concentration from the 24-hour time average).

[1] http://www.thermoscientific.com/content/tfs/en/product/sthash.z7Oxlwoo.dpuf
[2] http://www.thermoscientific.com/en/product/hydrogen-sulfide-sulfur-dioxde-analyzer-model-450.html#sthash.WThSTEwD.dpuf
[3] https://www3.epa.gov/ttn/scram/models/screen/aerscreen_userguide.pdf

Table 2-1 Acceptable Ambient Levels (AALs)

Pollutant	CAS	1-hour AAL (μg/m3)	24-hour AAL (μg/m3)	Table I Annual AAL (μg/m3)
1,1,2,2-Tetrachloroethane	79345	---(1)	2,000	---(2)
1,1-Dichloroethane	75343	---(1)	---(3)	0.6
1,2-Dichloropropane	78875	200	4	0.1
1,3-Butadiene	106990	---(1)	---(3)	0.03
1,4-Dioxane	123911	3,000	---(3)	0.1
Acetaldehyde	75070	---(1)	---(3)	0.5
Acrolein	107028	0.2	---(3)	0.02
Acrylonitrile	107131	200	---(3)	0.01
Ammonia	7664417	---(1)	100	---(2)
Benzene	71432	30	20	0.1
Bromodichloromethane	75274	100	70	0.03
Carbon disulfide	75150	6,000	---(3)	700
Carbon tetrachloride	56235	2,000	200	0.07
Carbonyl sulfide	463581	200	---(3)	30
Chlorobenzene	108907	---(1)	---(3)	1,000
Chloroform	67663	100	---(3)	0.2
Ethyl Benzene	100414	40,000	3,000	1,000
Ethyl chloride (Chloroethane)	75003	40,000	10,000	---(2)
Ethylene dibromide	106934	---(1)	9	0.002
Ethylene dichloride	107062	---(1)	---(3)	0.04
Formaldehyde	50000	50	40	0.08
Hexane	110543	---(1)	---(3)	700
Hydrogen Sulfide	7783064	40	30	10
Isopropyl Alcohol	67630	3,000	---(3)	---(2)
Methyl Chloride (Chloromethane)	74873	1,000	400	90
Methyl ethyl ketone	78933	10,000	5,000	---(2)
Methyl isobutyl ketone (Hexone)	108101	---(1)	3,000	---(2)
Methylchloroform	71556	9,000	6,000	5,000
Methylene chloride	75092	2,000	1,000	2
Naphthalene	91203	---(1)	3	0.03
p-Dichlorobenzene	106467	12,000	800	0.09
Perchloroethylene	127184	1000	---(3)	0.2
Propylene	115071	---(1)	---(3)	3,000
Styrene	100425	9,000	1,000	100
Toluene	108883	4000	---(3)	300
Trichloroethylene	79016	10,000	500	0.5
Vinyl Chloride	75014	1000	100	0.2

Pollutant	CAS	1-hour AAL (µg/m3)	24-hour AAL (µg/m3)	Table I Annual AAL (µg/m3)
Vinylidene Chloride	75354	---(1)	200	70
Xylene	1330207	9,000	3,000	100

Notes:

(1) Does not have 1-hour AAL.
(2) Does not have annual AAL.
(3) Does not have 24-hour AAL.

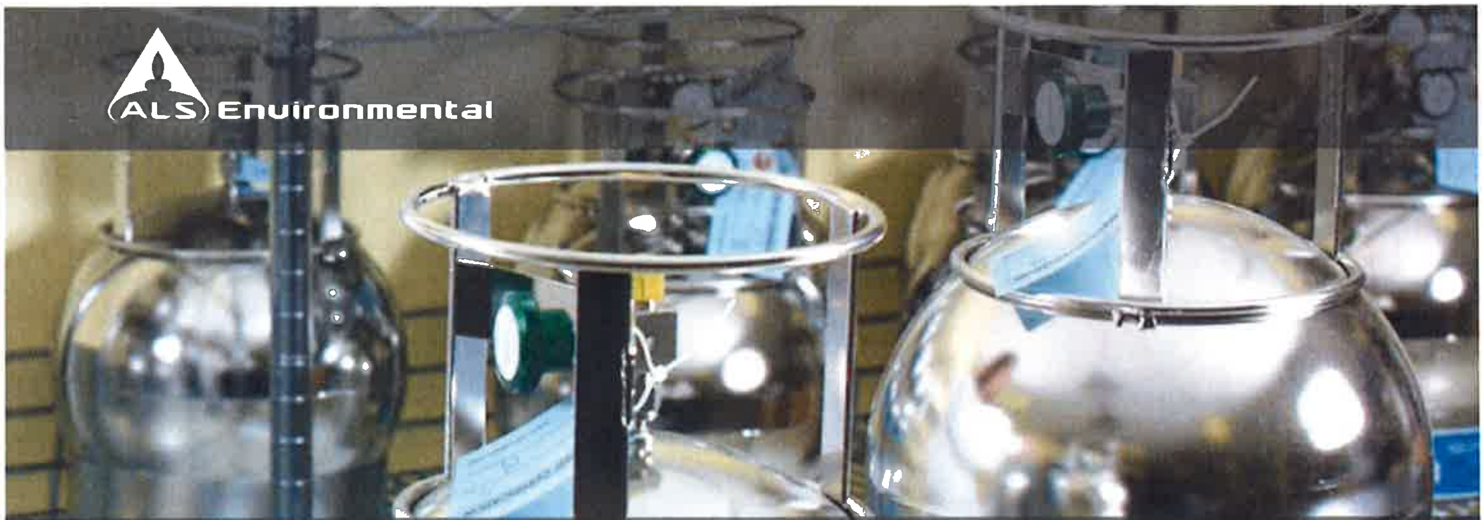
2.7 Detection Limits

The detection limits for the standard Method TO-15 and TO-11A are contained in Appendix A. The detection limit for the Model 17i Ammonia Analyzer is 50 parts per billion (ppb). The detection limit for Hydrogen Sulfide Analyzer Model 450 is below 10 ppb (according to Pine Environmental). The detection limits for all monitored pollutants will be below their respective AALs. Therefore, the proposed methods will be sufficient to determine compliance with the AALs.

2.8 Radius Plans

The required radius plans are contained in Appendix B.

APPENDIX A – DETECTION LIMITS FOR TO-15 AND TO-11A METHODS



COMPARISON OF METHODS FOR ANALYZING VOLATILE ORGANIC COMPOUNDS IN AMBIENT AIR

Contact your local ALS Technical Sales Representative for more information.

For the collection of volatile organic compounds (VOCs) in ambient and indoor air, two commonly cited methods are EPA Method TO-15 and TO-17. EPA Method TO-15 utilizes a passivated stainless steel canister (Summa) to collect an air sample, although Tedlar bags or glass-lined canisters can also be used as a slight modification to the original sampling approach. EPA Method TO-17 collects samples onto a sorbent tube through the use of a sampling pump. As a modification of the method, TO-17 samples can also be collected passively.

The two methods differ by how samples are collected and introduced into the instrumentation for analysis, however once the samples are in the gas chromatograph, the analytical approach is essentially the same. Once inside the instrument, compound identification and quantitation is carried out with a mass spectrometer (GC/MS). While the original methods were written for ambient air applications, they are also commonly used for other kinds of air and vapor samples, such as soil gas and subslab vapor monitoring.

Overview

Parameter	EPA TO-15	EPA TO-17
Reporting Limit (RL)	SIM: 0.025 - 0.10 µg/m³ SCAN: 0.20 - 0.50 µg/m³ • Assumes a 1L sample aliquot is analyzed (using a 6L canister)	SCAN: 0.125 - 1.25 µg/m³ • Assumes a 4L sample is collected • RL is a function of sample volume collected
Analysis	GC/MS	Thermal desorption followed by GC/MS
Applications	Most	Best suited for ambient / indoor air
Sampling Method	• Evacuated canisters • Flow regulators can be calibrated to sample from 1 to 24 hours • Long duration flow regulators are also available, allowing sample times up to 5 days	• Pump required • Most sampling pumps are battery operated and last ~8 hours (longer sampling would likely require a power source)
Sampling Rate	Variable - can be collected over a specific time interval or flow rate	20 ml/min to 100 ml/min • Ambient or indoor air - Up to 10L may be collected • Soil gas - no more than 100mL should be collected
Analytes	VOCs up to ~235°C BP • Standard lab list is 75 VOCs	VOCs and some SVOCs up to ~400°C BP • Analyte list is shorter than the list available by a Summa canister • Sorbent is selected based on project-specific target analyte list • Not all analytes/combinations are possible from single sorbent or multi-sorbent bed
Holding Times	30 days after sampling	30 days after sampling
Preservation	None	Samples must be kept cold before and after sampling (4°C)

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Continued from reverse side...

Comparison of Methods in Different Applications

Indoor and Ambient Air Investigations

EPA TO-15

- Longer target analyte list available.
- Utilizes an evacuated canister to collect sample. Considered by many practitioners to be easier than using a pump and sorbent tube.

EPA TO-17

- Can characterize a broader range of target analytes, including semi-volatile compounds.
- Can yield lower reporting limits than TO-15, depending on the sample volume collected.

Odor and Other "Unknown" Investigations

EPA TO-15

- Typically a "grab sample" - easy sample collection. No flow regulators or sample pumps required.

EPA TO-17

- Since thermal desorption tubes can capture a broader range of compounds, it is more useful sampling/analytical approach than TO-15 for odor investigations and for "unknowns".
- Since there are different sorbent options, the sampling can be customized to the compounds of interest.

High Concentration Source Sampling

EPA TO-15

- Samples collected in canisters allow ALS to perform an initial "screen" prior to analysis to determine the optimal sample injection/dilutions.

EPA TO-17

- No initial "screen" can be performed on sorbent tubes by thermal desorption prior to analysis. Therefore, when there are high concentrations, there is the potential of saturating the instrument, which will yield unusable results.
- Unless semi-volatile compounds are of interest, TO-17 is not the preferred method for characterization of high concentration sources.

Soil Gas Sampling

EPA TO-15

- Soil gas can be sampled using either a 1L or a 6L canister depending on regulatory requirements.
- The standard compound list encompasses most target analytes.
- This method is more widely cited by regulatory agencies.

EPA TO-17

- A 50mL sample volume is often adequate to achieve target reporting limits.
- A disposable syringe may be used to draw the sampling into the sorbent tube, making sample pumps unnecessary.
- Analytes with higher boiling points can be collected and recovered better with sorbent tubes than with canisters. Thus, TO-17 is useful when semi-volatile compounds are of interest.
- Performing a leak check of the probe utilizing sorbent tubes can be more challenging and unfamiliar than with a canister.

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Target Analyte Lists and Reporting Limits

Below is a summary of typical EPA TO-15 and EPA TO-17 target analyte lists and reporting limits offered by ALS Environmental. Additional compounds may be available - inquire with the lab for more information. All units are reported in μg/m³.

Compound	Tedlar Bag[1]	1L Canister[2]	6L Canister[3]	C300 Thermal Desorption Tube[4]
1,1,1-Trichloroethane	5.0	1.3	0.5	0.13
1,1,2,2-Tetrachloroethane	5.0	1.3	0.5	0.13
1,1,2-Trichloroethane	5.0	1.3	0.5	0.13
1,1-Dichloroethane	5.0	1.3	0.5	0.13
1,2,4-Trichlorobenzene	5.0	1.3	0.5	1.25
1,2,4-Trimethylbenzene	5.0	1.3	0.5	0.13
1,2-Dibromo-3-chloropropane	5.0	1.3	0.5	0.50
1,2-Dibromoethane	5.0	1.3	0.5	0.13
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC 114)	5.0	1.3	0.5	0.50
1,2-Dichlorobenzene	5.0	1.3	0.5	0.13
1,2-Dichloroethane	5.0	1.3	0.5	0.13
1,2-Dichloropropane	5.0	1.3	0.5	0.13
1,3,5-Trimethylbenzene	5.0	1.3	0.5	0.13
1,3-Butadiene	5.0	1.3	0.5	0.25
1,3-Dichlorobenzene	5.0	1.3	0.5	0.13
1,4-Dichlorobenzene	5.0	1.3	0.5	0.13
1,4-Dioxane	5.0	1.3	0.5	0.25
2,2,4-Trimethylpentane (Isooctane)	-	-	-	0.13
2-Butanone (MEK)	50	13.0	5.0	0.25
2-Hexanone	5.0	1.3	0.5	0.25
2-Propanol (Isopropyl Alcohol)	10	2.5	5.0	0.50
3-Chloro-1-propene (Allyl Chloride)	5.0	1.3	0.5	-
4-Methyl-2-pentanone	-	-	-	0.50
4-Ethyltoluene	5.0	1.3	0.5	-
4-Methyl-2-pentanone	5.0	1.3	0.5	-
Acetone	50	13	5.0	1.25
Acetonitrile	5.0	1.3	0.5	0.50
Acrolein	20	5.0	2.0	-
Acrylonitrile	5.0	1.3	0.5	-
alpha-Pinene	5.0	1.3	0.5	-
Benzene	5.0	1.3	0.5	0.50
Benzyl Chloride	5.0	1.3	0.5	-
Bromodichloromethane	5.0	1.3	0.5	0.13
Bromoform	5.0	1.3	0.5	0.25
Bromomethane	5.0	1.3	0.5	-
Carbon Disulfide	50	13.0	5.0	1.25
Carbon Tetrachloride	5.0	1.3	0.5	0.13
Chlorobenzene	5.0	1.3	0.5	0.13
Chloroethane	5.0	1.3	0.5	1.25

Continued from reverse side...

Compound	Tedlar Bag[1]	1L Canister[2]	6L Canister[3]	C300 Thermal Desorption Tube[4]
Chloroform	5.0	1.3	0.5	0.13
Chloromethane	5.0	1.3	0.5	0.13
cis-1,2-Dichloroethene	5.0	1.3	0.5	0.25
cis-1,3-Dichloropropene	5.0	1.3	0.5	1.25
Cumene	5.0	1.3	0.5	0.13
Cyclohexane	10	2.5	1.0	0.25
Dibromochloromethane	5.0	1.3	0.5	0.13
Dichlorodifluoromethane (CFC 12)	5.0	1.3	0.5	0.13
d-Limonene	5.0	1.3	0.5	-
Ethanol	50	13	5.0	1.25
Ethyl Acetate	10	2.5	1.0	-
Ethylbenzene	5.0	1.3	0.5	0.13
Hexachlorobutadiene	5.0	1.3	0.5	0.50
m,p-Xylenes	10	2.5	1.0	0.25
Methyle Methacrylate	10	2.5	1.0	0.25
Methyl tert-Butyl Ether	5.0	1.3	0.5	0.13
Methylene Chloride	5.0	1.3	0.5	0.13
Naphthalene	5.0	1.3	0.5	0.50
n-Butyl Acetate	5.0	1.3	0.5	-
n-Heptane	5.0	1.3	0.5	0.13
n-Hexane	5.0	1.3	0.5	0.13
n-Nonane	5.0	1.3	0.5	-
n-Octane	5.0	1.3	0.5	0.13
n-Propylbenzene	5.0	1.3	0.5	-
o-Xylene	5.0	1.3	0.5	0.13
Propene	5.0	1.3	0.5	-
Styrene	5.0	1.3	0.5	0.13
Tetrachloroethene	5.0	1.3	0.5	0.13
Tetrahydfuran (THF)	5.0	1.3	0.5	0.25
Toluene	5.0	1.3	0.5	0.13
trans-1,2-Dichloroethene	5.0	1.3	0.5	0.13
trans-1,3-Dichloropropene	5.0	1.3	0.5	1.25
Trichloroethene	5.0	1.3	0.5	0.13
Trichlorofluoromethane (CFC 11)	5.0	1.3	0.5	0.25
Trichlorotrifluoroethane (CFC 113)	5.0	1.3	0.5	0.13
Vinyl Acetate	50	13	5.0	-
Vinyl Chloride	5.0	1.3	0.5	0.25

1. Assumes a 100mL sample volume.
2. Assumes a 400mL sample volume and reporting limits are listed prior to canister dilution.
3. Assumes a 1L sample volume and reporting limits are listed prior to canister dilution.
4. C300 stands for carbotrap 300 multi-sorbent bed. Reporting limits are based off a sample volume of 4L and please note that other sorbents are available depending on client-specified target analytes.

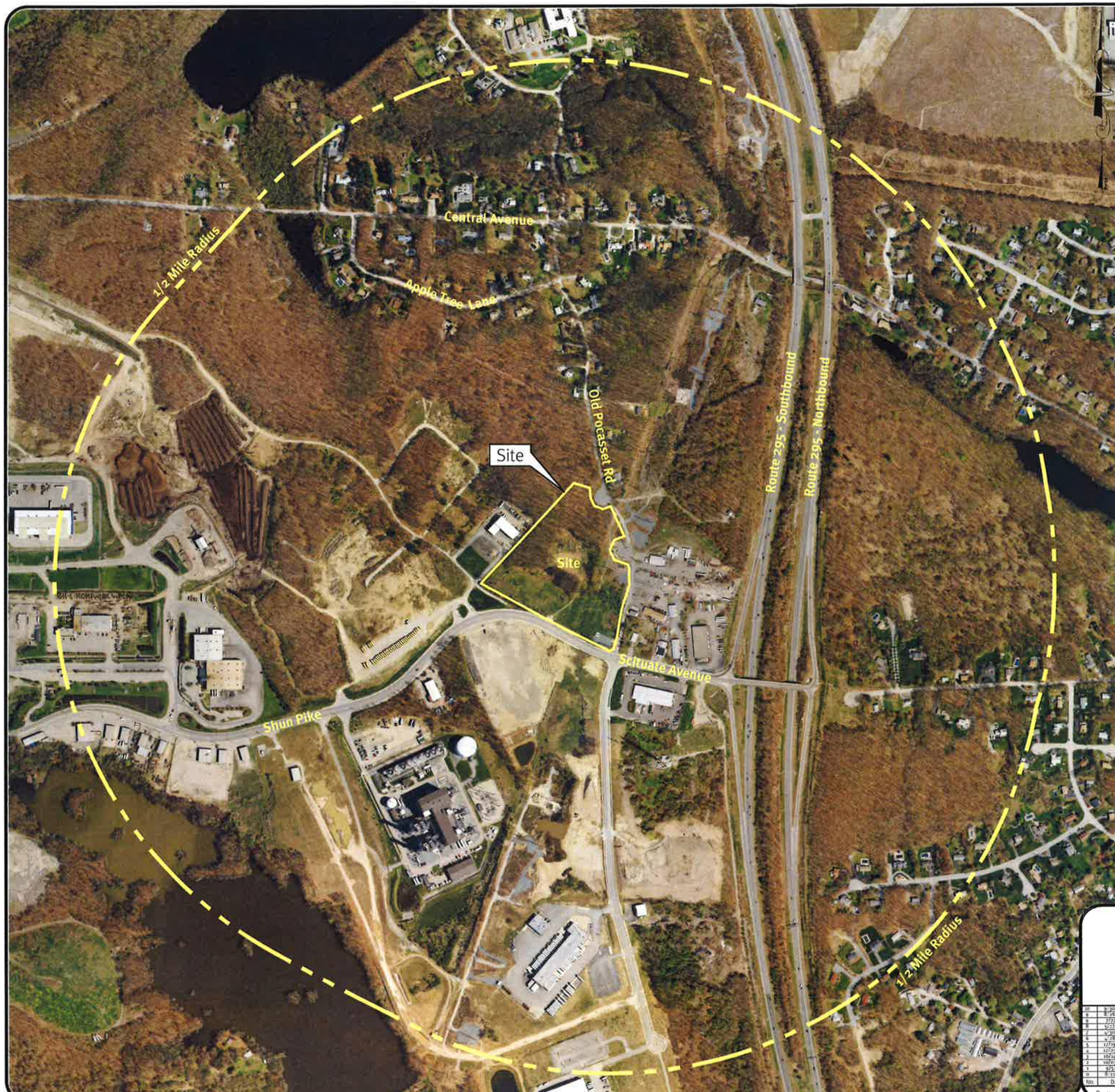
EPA TO-11A MDL and RL
Common Sample Air Volumes

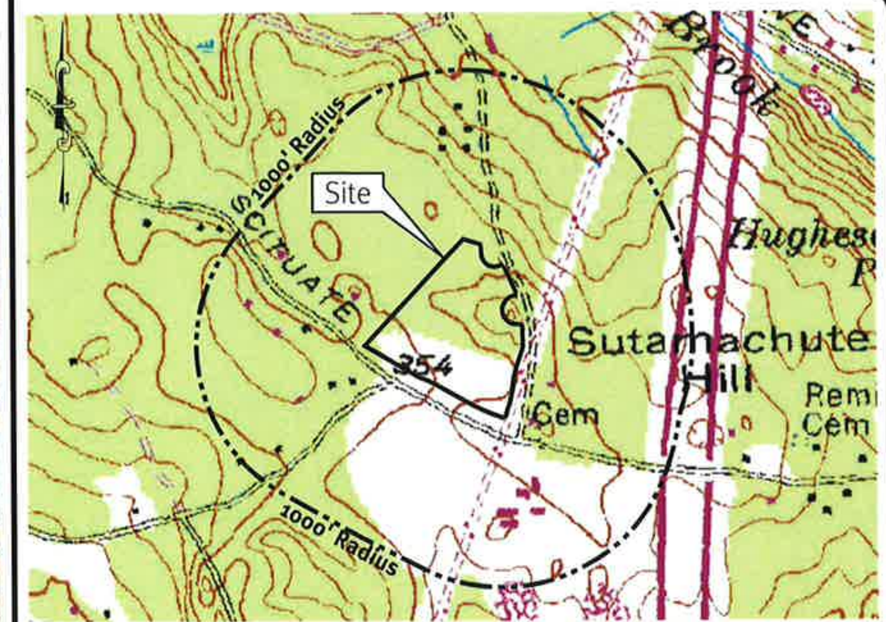
Analyte	MDL ug	MDL ug/m3	MDL ug/m3	LOQ ug	LOQ ug/m3	LOQ ug/m3
Air Volume		**0.48 m3**	**1.44 m3**		**0.48 m3**	**1.44m3**
Formaldehyde	0.08	0.167	0.056	0.24	0.500	0.167
Acetaldehyde	0.08	0.167	0.056	0.24	0.500	0.167
Acrolein (2)	0.08	0.167	0.056	0.24	0.500	0.167
Acetone	0.25	0.521	0.174	0.75	1.562	0.521
Propionaldehyde	0.08	0.167	0.056	0.24	0.500	0.167
Butyraldehyde	0.08	0.167	0.056	0.24	0.501	0.167
Methyl ethyl ketone	0.08	0.167	0.057	0.24	0.501	0.170
Benzaldehyde	0.08	0.167	0.056	0.24	0.500	0.167
Valeraldehyde	0.12	0.250	0.083	0.36	0.750	0.250
Cyclohexanone	0.16	0.333	0.111	0.48	1.000	0.333
Hexaldehyde	0.12	0.250	0.083	0.36	0.750	0.250

TO-11 Common Sample Air Volumes

Air Volume (m3)	Flow (L/min)	Time (hrs)	Volume (L)
0.48	1.0	8	480
1.44	1.0	24	1444

APPENDIX B - RADIUS PLANS





USGS Map Scale: 1"=500'

Scale: 1"=300'

0 150' 300' 600'

Photo obtained from the RI-GIS of 2011 Digital Orthophotography Northern Urban Areas of Rhode Island.

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THE CONTRACTOR IS RESPONSIBLE FOR ALL OF THE MEANS, METHODS, SAFETY PRECAUTIONS AND REQUIREMENTS, AND OSHA CONFORMANCE IN THE IMPLEMENTATION OF THIS PLAN AND DESIGN

JASON P. CLOUGH
No. 5110
REGISTERED PROFESSIONAL ENGINEER CIVIL

No.	Date	Description	By
10	9/30/2015	RIDEM [illegible] Response to Comments	J.P.C.
9	8/26/2015	Revised Water Service	J.P.C.
8	7/7/2015	Final Plan Mylar	J.P.C.
8	5/27/2015	RIDEM Permit Modification Response to Comments	J.P.C.
7	4/30/2015	RIDEM Permit Modification	J.P.C.
6	4/28/2015	Final Plan	J.P.C.
5	12/19/2014	UBC Sewer Connection Permit	B.A.H.
4	12/03/2014	Soil Erosion and Sediment Control Permit	B.A.H.
3	10/14/2014	Industrial Site Plan Review - Preliminary Plan	B.A.H.
2	10/03/2014	RIDEM Permit Modification	B.A.H.
1	8/5/2014	Industrial Site Plan Review	J.A.R.
0	8/11/2014	Special Use Permit Submission	J.A.R.

Drawn By: J.A.R. Design By: B.A.H.

Aerial 1/2 Mile Radius

Orbit Energy Rhode Island
3.2 MW Bio-Gas Plant

Assessor's Plat 43-7 Lot 2
Johnston, Rhode Island

DiPrete Engineering

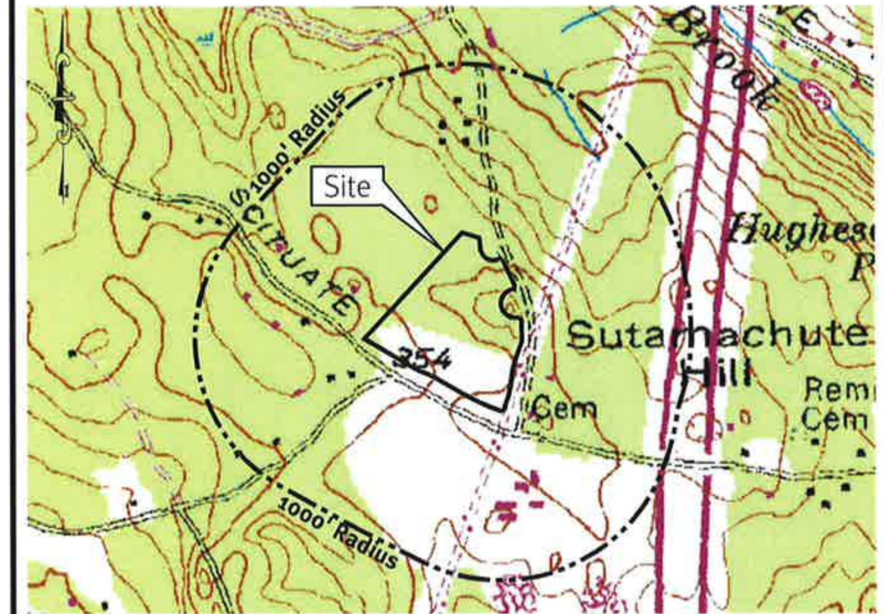
Two Stafford Court Cranston, RI 02920
tel 401-943-1000 fax 401-464-6006 www.DiPrete-Eng.com

Owner:
Shelby Realty Inc.
24 Armand Way
Hope, RI 02831

Applicant:
Orbit Energy Rhode Island, LLC
900 Ridgefield Drive, Suite 145
Raleigh, North Carolina 27609

SHEET 2 OF 11

Engineers • Planners • Surveyors



USGS Map Scale: 1"=500'

Scale: 1"=300'
0 150' 300' 600'

Photo obtained from the RI-GIS of 2014 Digital Orthophotography

No	Date	Description	By
0	04/05/2016	Radius Map	JPC

Drawn By: J.P.C.

Radius Map

Orbit Energy Rhode Island 3.2 MW Bio-Gas Plant

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