December 20, 2017

U.S. Environmental Protection Agency
Office of Ecosystem Protection
EPA/OEP RGP Applications Coordinator
5 Post Office Square - Suite 100 (OEP06-01)
Boston, MA 02109-3912

Subject: **Notice of Intent (NOI) for Remediation General Permit (RGP)**
Artis Senior Living of Lexington, LLC
430 Concord Avenue
Lexington, Massachusetts

To Whom It May Concern:

Apex Companies, LLC (Apex), on behalf of Artis Senior Living of Lexington, LLC (Artis), is submitting this Notice of Intent (NOI) for Remediation General Permit (RGP) to request authorization under the National Pollutant Discharge Elimination System (NPDES) for temporary discharge of wastewater generated by construction-related dewatering at 430 Concord Avenue in Lexington, Massachusetts. The Remediation General Permit NOI is provided as **Attachment A**.

GENERAL SITE DESCRIPTION

The parcel is identified by the Town of Lexington Assessor's Office on Map 10 Lot 8 with the address of 430 Concord Avenue, Lexington, Massachusetts (Subject Property). The Subject Property is currently being redeveloped for use as a memory care assisted living facility. A Site Location Map is provided as **Figure 1**. A plan showing the property boundaries with parcel identification is provided as **Figure 2**.

A release of volatile organic compounds (VOCs), predominantly tetrachloroethylene (PCE) and trichloroethylene (TCE), was discovered at the Subject Property during a Phase II Limited Site Investigation conducted in April 2015. The Massachusetts Department of Environmental Protection (MassDEP) assigned Release Tracking Number (RTN) 3-33267 to the release. MassDEP issued a Notice of Responsibility (NOR) on November 27, 2015. Dissolved PCE, TCE, DCE, and vinyl chloride were detected above Massachusetts Contingency Plan (MCP) Method 1 Groundwater Standards for GW-2 and GW-3 categories (310 CMR 40.0974) in wells located in the northern portion of the Subject Property beneath and hydraulically downgradient of the garage building.

SOURCE WATER INFORMATION

To evaluate the construction-related dewatering discharge (Activity Category III, Contamination Type G), a sample of the discharge (source water) was collected on November 28, 2017 and submitted to Eurofins Spectrum Analytical of Agawam, Massachusetts (Spectrum) for analysis of inorganics (ammonia, chloride, total residual chlorine, total suspended solids (TSS), metals, and cyanide), halogenated VOCs, and fuels parameters. On December 12, 2017, source water temperature and pH were measured in the field and a sample was collected and submitted to Spectrum for analysis of hardness. The analytical results are tabulated on pages 18, 19, and 20 of the NOI (**Attachment A**). The laboratory data reports are provided in **Attachment B**.

Historic records indicate that ethanol may have been used at the Subject Property, or that a petroleum product containing ethanol could have been historically released. Ethanol analysis was performed on the source water sample; however, no detectable limits of ethanol in the groundwater sample.

RECEIVING WATER INFORMATION

The wastewater generated by construction-related dewatering will be discharged to a wetlands area south of the Subject Property. To evaluate the receiving water, a sample of the water was collected on December 12, 2017 and submitted to Spectrum for analysis of ammonia and hardness.

DISCHARGE INFORMATION

The legal owner of the Subject Property, Artis Senior Living of Lexington, LLC, will assume responsibility for the discharge.

Artis Senior Living of Lexington, LLC
1651 Old Meadow Road
McLean, VA 22102
(571) 376-6200

During proposed construction activities at the Subject Property, temporary dewatering will be necessary to control surface water runoff from precipitation, groundwater seepage and construction-generated water to enable construction in-the-dry. Construction-related dewatering activities are anticipated to begin in December 2017 and last through February 2018. The average discharge rate is estimated at 15 gallons per minute (gpm) with peak flows of approximately 30 gpm.

Using a spreadsheet provided by USEPA, Apex calculated water quality based effluent limits (WQBELs) for the discharge, to assess whether the RGP technology based effluent limits (TBEL) or WQBEL apply. The spreadsheet is provided in **Attachment C**.

The wastewater will be pumped into a frac tank for primary clarification, through particulate filters to remove sediment and granulated activated carbon (GAC) filters to remove VOCs then discharged via the existing sedimentation basins to the wetland area south of the Subject Property. A map showing the proposed discharge route and discharge point is attached as **Figure 2** and a schematic drawing of treatment system is attached as **Figure 3**.

ENDANGERED SPECIES ACT

According to the guidelines outlined in Attachment I of the 2017 NPDES RGP, a preliminary determination for the action area associated with this project was established using the U.S. Fish and Wildlife Service (FWS) Information, Planning, and Conservation (IPAC) online system; a copy of the determination is attached in **Attachment D**. Based on the results of the determination, the project and action area are considered to meet FWS "Criterion C" because there is only one endangered species in this area known as the "Northern Long-Eared Bat". This project does not include any tree removal or trimming so the discharge activity is determined to have "no effect" on this species.

NATIONAL HISTORIC PRESERVATION ACT

Based on a review of the resources provided by the U.S. National Register of Historic Places and a review of the Massachusetts Cultural Resource Information System (MACRIS), no historic properties have been established to be present at the Subject Property, and discharges and discharge-related activities are not considered to have the potential to affect historic properties. The discharge is considered to meet "Criterion A". Documentation is included in **Attachment E**.

TREATMENT SYSTEM INFORMATION

The wastewater will be pumped into frac tank for primary clarification, through particulate filters to remove sediment and GAC filters to remove VOCs then discharged via the existing sedimentation basins to the wetland area south of the Subject Property. A map showing the treatment system location and discharge point is attached as **Figure 2** and a schematic drawing of the treatment system is attached as **Figure 3**.

CHEMICAL AND ADDITIVES INFORMATION

The treatment system will not use any chemicals and/or additives to treat the water.

NOTIFICATION TO MUNICIPALITY

Notification of this discharge, including access to the full NOI via the U.S. Environmental Protection Agency and MassDEP web-sites, has been provided to the Town of Lexington Town Manager and Director of Public Health. Copies of the letters to the town officials are provided in **Attachment F**.

SUPPLEMENTAL INFORMATION

In accordance with the MCP, a Release Abatement Measure (RAM) Plan Modification has been submitted to MassDEP concurrently with this NOI. The purpose of the RAM Plan Modification is to modify the existing RAM Plan to allow for the management of remedial wastewater generated by construction-related dewatering.

Application for discharge of treated dewatering wastewater is being submitted by Apex Companies, LLC, 58 H Connecticut Avenue, South Windsor, CT 06074.

If you have any questions, please contact the undersigned at (860) 282-1700.

Sincerely,
APEX COMPANIES, LLC

Eric Henry, LSP, LEP
Principal Hydrogeologist

Attachments:
Figure 1 – Site Location Map
Figure 2 – Site Plan with Discharge Location
Figure 3 – Treatment System Schematic Drawing
Attachment A – Notice of Intent (NOI)
Attachment B – Laboratory Data Reports
Attachment C – Water Quality Based Effluent Limits (WQBELS) Spreadsheet
Attachment D – Endangered Species Act Documentation
Attachment E – National Historic Preservation Act Documentation
Attachment F – Notification Letters

https://apexcos.sharepoint.com/sites/SouthWindsorCT/Shared Documents/CLIENTS/ARTIS-054 Lexington MA/NPDES RGP/2017-12-15_NOI Cover Letter.docx

Figures

FIGURE 1 - Site Location Map

MassDEP - Bureau of Waste Site Cleanup

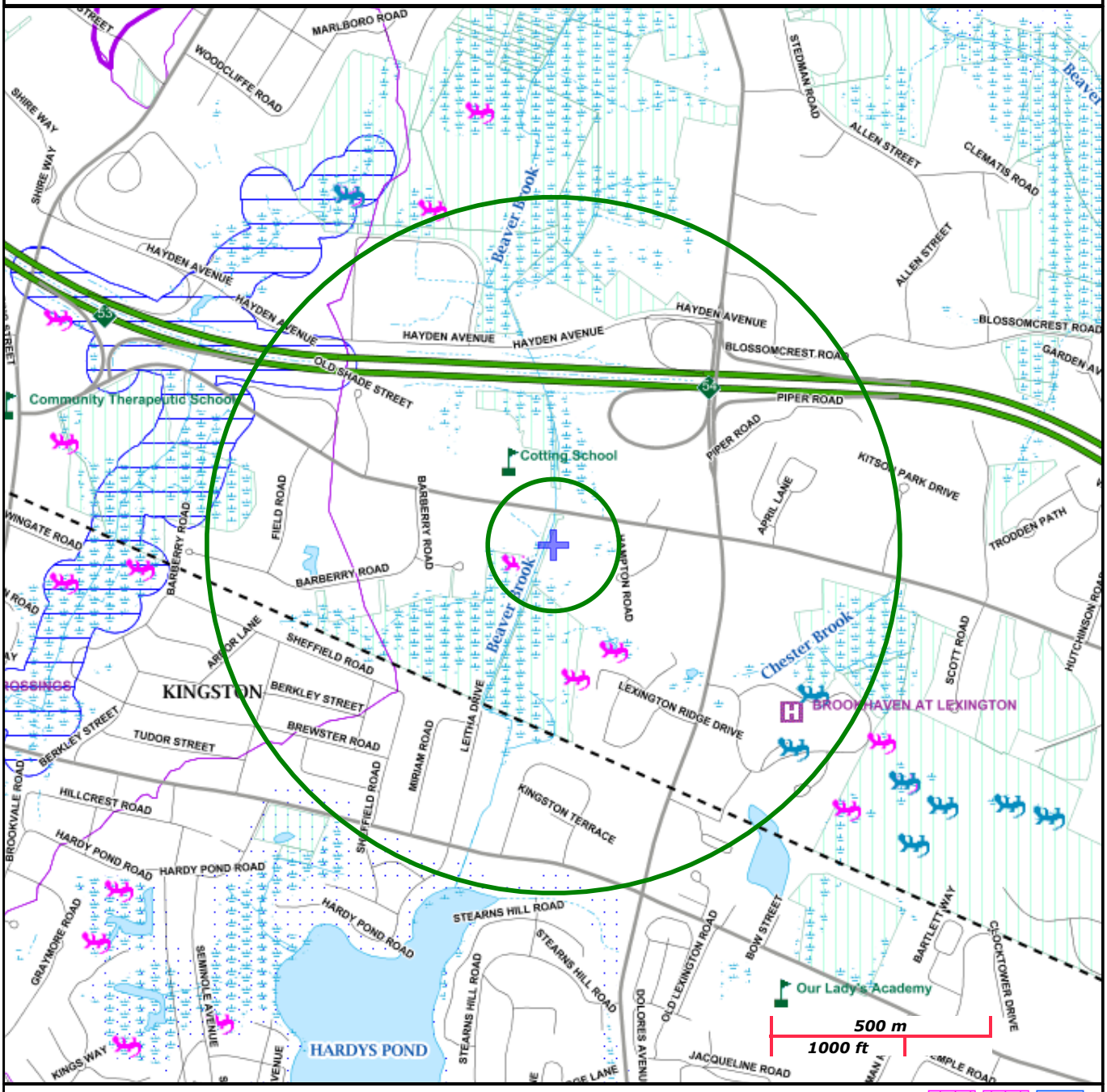
Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

Site Information:
ARTIS SENIOR LIVING
430 CONCORD AVENUE LEXINGTON, MA
3-000033267

NAD83 UTM Meters:
4698636mN , 316011mE (Zone: 19)
October 23, 2017

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: http://www.mass.gov/mgis/.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam
Aquifers: Medium Yield, High Yield, EPA Sole Source
Non Potential Drinking Water Source Area: Medium, High (Yield)
PWS Protection Areas: Zone II, IWPA, Zone A
Hydrography: Open Water, PWS Reservoir, Tidal Flat
Wetlands: Freshwater, Saltwater, Cranberry Bog
FEMA 100yr Floodplain; Protected Open Space; ACEC
Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential
Solid Waste Landfill; PWS: Com.GW,SW, Emerg.,Non-Com.

APPLICANT:

ARTIS SENIOR LIVING
1651 OLD MEADOW ROAD, SUITE 100
McLEAN, VIRGINIA 22102

RECORD OWNER:

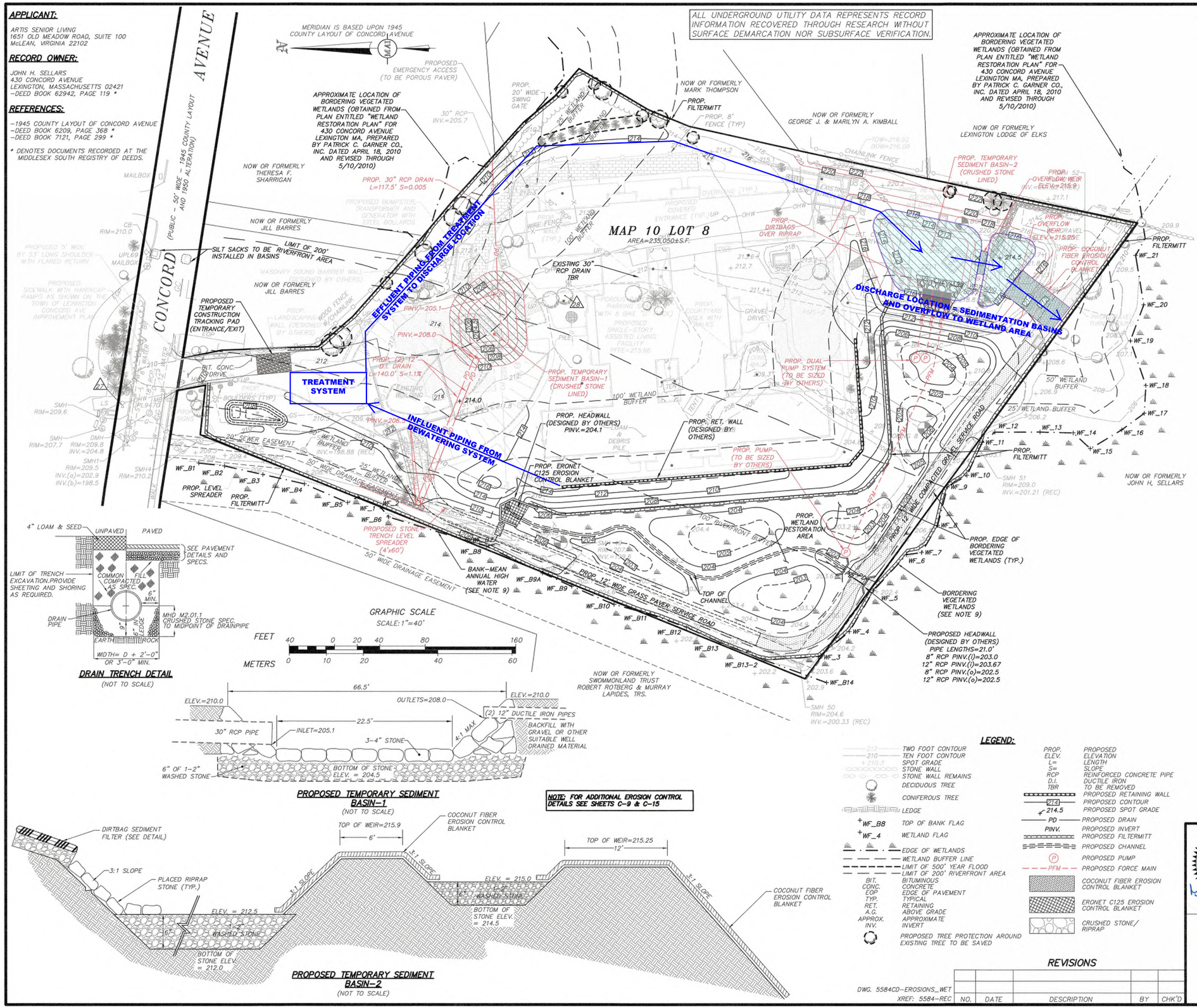
JOHN H. SELLARS
430 CONCORD AVENUE
LEXINGTON, MASSACHUSETTS 02421
–DEED BOOK 62942, PAGE 119 *

REFERENCES:

–1945 COUNTY LAYOUT OF CONCORD AVENUE
–DEED BOOK 6209, PAGE 368 *
–DEED BOOK 7121, PAGE 299 *

* DENOTES DOCUMENTS RECORDED AT THE MIDDLESEX SOUTH REGISTRY OF DEEDS.

ALL UNDERGROUND UTILITY DATA REPRESENTS RECORD INFORMATION RECOVERED THROUGH RESEARCH WITHOUT SURFACE DEMARCATION NOR SUBSURFACE VERIFICATION.



DRAIN TRENCH DETAIL
(NOT TO SCALE)

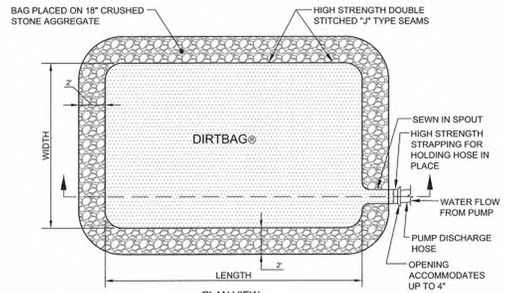
PROPOSED TEMPORARY SEDIMENT BASIN–1
(NOT TO SCALE)

NOTE: FOR ADDITIONAL EROSION CONTROL DETAILS SEE SHEETS C–9 & C–15

PROPOSED TEMPORARY SEDIMENT BASIN–2
(NOT TO SCALE)

LEGEND:

212	TWO FOOT CONTOUR	PROP.	PROPOSED
210	TEN FOOT CONTOUR	ELEV.	ELEVATION
+210.1	SPOT GRADE	L=	LENGTH
	STONE WALL	S=	SLOPE
	STONE WALL REMAINS	RCP	REINFORCED CONCRETE PIPE
	DECIDUOUS TREE	D.I.	DUCTILE IRON
	CONIFEROUS TREE	TBR	TO BE REMOVED
	LEDGE		PROPOSED RETAINING WALL
+WF_B8	TOP OF BANK FLAG	214	PROPOSED CONTOUR
+WF_4	WETLAND FLAG	+214.5	PROPOSED SPOT GRADE
	EDGE OF WETLANDS	PD	PROPOSED DRAIN
	WETLAND BUFFER LINE	PINV.	PROPOSED INVERT
	LIMIT OF 500' YEAR FLOOD		PROPOSED FILTERMITT
	LIMIT OF 200' RIVERFRONT AREA		PROPOSED CHANNEL
BIT. CONC.	BITUMINOUS CONCRETE	(P)	PROPOSED PUMP
EOP	EDGE OF PAVEMENT	PFM	PROPOSED FORCE MAIN
TYP.	TYPICAL		COCONUT FIBER EROSION CONTROL BLANKET
RET.	RETAINING		ERONET C125 EROSION CONTROL BLANKET
A.G.	ABOVE GRADE		CRUSHED STONE/ RIPRAP
APPROX.	APPROXIMATE		
INV.	INVERT		
	PROPOSED TREE PROTECTION AROUND EXISTING TREE TO BE SAVED		



DIRTBAG EROSION CONTROL FILTER DETAIL
(NOT TO SCALE)

NOTE:
1. A MINIMUM OF THREE (3) REPLACEMENT DIRTBAG EROSION CONTROL FILTERS MUST STORED ON–SITE AT ALL TIME. ANY ALTERNATIVE PRODUCT MUST BE APPROVED BY THE TOWN OF LEXINGTON CONSERVATION AGENT PRIOR TO USE.

PROPOSED CONSTRUCTION SEQUENCE

- CONSTRUCT TEMPORARY SEDIMENT BASIN–1 (TSB–1) & INSTALL PORTION OF PROPOSED 30" RCP DRAIN TO TSB–1
- CONSTRUCTION OF OUTLET (TWO (2) 12" D.I.) PIPES AND STONE TRENCH LEVEL SPREADER FROM TSB–1
- CONSTRUCTION OF TEMPORARY SEDIMENT BASIN–2
- SCHEDULE INSPECTION WITH TOWN OF LEXINGTON CONSERVATION AGENT (IF DEEMED NECESSARY DURING PHASE I PRE–CONTRUCTION MEETING
- INSTALL PUMPS WITHIN PROPOSED WETLAND REPLICATION AREA
- CONSTRUCT PROPOSED WETLAND REPLICATION AREA AND ASSOCIATED WALLS/HEADWALLS
- CONSTRUCTION OF SECTION OF SERVICE ROAD SHOWN HEREON.

EROSION CONTROL NOTES:
(FOR GENERAL NOTES SEE DEMOLITION PLAN)

1. EROSION CONTROL BARRIERS TO BE COMPRISED OF ATLEAST 12–INCH SILT SOCK FILLED WITH COMPOST AND REINFORCED ALONG ITS LIMITS WITH ORANGE CONSTRUCTION FENCE OR SNOW FENCING.
2. EXISTING TREES TO BE SAVED SHALL BE PROTECTED WITH ORANGE CONSTRUCTION FENCE (OFF–SET FROM THE TREE TRUNK BY PROFESSIONAL STANDARD BASED ON CANOPY) AND BURLAP AND STRAP BOARD TRUNK WRAP METHOD.
3. TEMPORARY CONSTRUCTION TRACKING PAD TO BE INSTALLED AT ENTRANCE/EXIT COMPRISED OF RIP–RAP STONE. ANY SEDIMENT TRACKED TO THE PUBLIC RIGHT–OF–WAY SHALL BE SWEPT, CLEANED, AND REMOVED ON A DAILY BASIS.
4. SILT SACKS SHALL BE SECURED UNDER ANY EXISTING AND PROPOSED CATCH BASIN GRATE.
5. AN ADEQUATE STOCKPILE OF EROSION CONTROL MATERIALS SHALL BE ON SITE AT ALL TIMES FOR EMERGENCY OR ROUTINE REPLACEMENT.
6. ALL STOCKPILED MATERIALS SHALL BE LOCATED AT LEAST 200' FROM THE RIVERFRONT AND 100' FROM THE WETLANDS. HAYBALES OR SILT FENCE SHALL BE INSTALLED AT THE BASE OF THE STOCKPILE AND THE STOCKPILE SHALL BE COVERED AT NIGHT AND DURING STORM EVENTS.
7. CONSTRUCTION REFUSE AND DEBRIS SHALL BE CONTAINED WITHIN A DUMPSTER LOCATED AT LEAST 200' FROM THE RIVERFRONT AND 100' FROM THE WETLANDS.

430 CONCORD AVENUE
LEXINGTON, MA

REVISIONS

NO.	DATE	DESCRIPTION	BY	CHK'D

DWG. 5584CD–EROSIONS_WET
XREF: 5584–REC

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J NOVAK
CIVIL
NO 50696
REGISTERED PROFESSIONAL ENGINEER
7-31-17

SITE PLAN WITH SIGNATURE PAGE

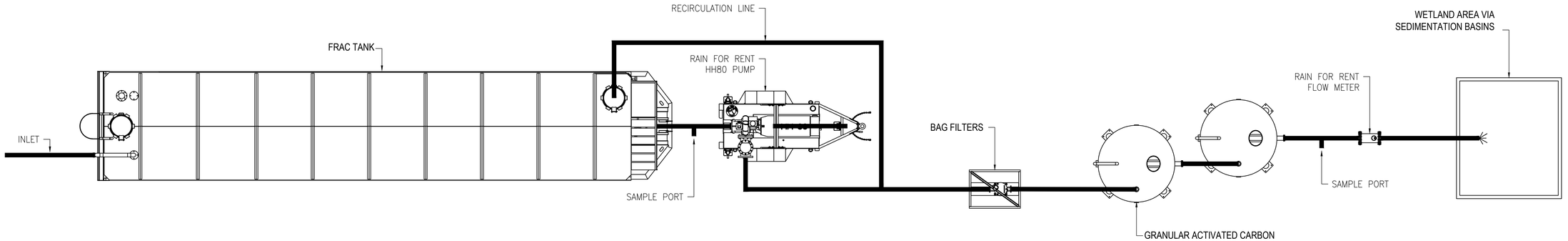
PREPARED FOR
ARTIS SENIOR LIVING
SCALE: 1"= 40' DATE: JULY 31, 2017

MERIDIAN ASSOCIATES
500 CUMMINGS CENTER, SUITE 5950
BEVERLY, MASSACHUSETTS 01915
TELEPHONE: (978) 299-0447
69 MILK STREET, SUITE 302
WESTBOROUGH, MASSACHUSETTS 01581
TELEPHONE: (508) 871-7030
WWW.MERIDIANASSOC.COM

FIGURE 2 PROJECT No. 5584

REV.NO.	DESCRIPTION	PREVIOUS DWG	BY	DATE

ITEM	QTY.	REF.	DESCRIPTION



PLAN VIEW

CONFIDENTIAL

DATE: 03-11-2014
SCALE: NOT TO SCALE
DESIGNED: N. GAMACHE
CHECKED: B. DOWNING
DRAWN: B. FUJIOKA
SHEET SIZE: D

FIGURE 3

TREATMENT SYSTEM SCHEMATIC DRAWING

Rain for Rent
Engineering
3404 STATE ROAD, P.O. BOX 2248 BAKERSFIELD, CA 93303

RAIN FOR RENT ENGINEERING DOCUMENT & DRAWING NUMBER

SHEET
OF

RAIN FOR RENT INFORMATION NUMBER(S)

–	–	10-054-581696

Attachment A
Notice of Intent (NOI)

II. Suggested Format for the Remediation General Permit Notice of Intent (NOI)

A. General site information:

<table>
<tr><td rowspan="2">1. Name of site:
Artis Senior Living</td><td colspan="3">Site address: 430 Concord Avenue
Street:</td></tr>
<tr><td>City: Lexington</td><td>State: MA</td><td>Zip: 02421</td></tr>
<tr><td rowspan="4">2. Site owner
Artis Senior Living of Lexington, LLC

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Bill Wolfgang</td></tr>
<tr><td colspan="2">Telephone: 571-376-6215</td><td>Email: bwolfgang@artissl.com</td></tr>
<tr><td colspan="3">Mailing address: 1651 Old Meadow Road, Suite 100
Street:</td></tr>
<tr><td>City: McLean</td><td>State: VA</td><td>Zip: 22201</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
Apex Companies, LLC</td><td colspan="3">Contact Person: Eric Henry</td></tr>
<tr><td colspan="2">Telephone: 860-614-8321</td><td>Email: eric.henry@apexcos.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 58H Connecticut Avenue</td></tr>
<tr><td>City: South Windsor</td><td>State: CT</td><td>Zip: 06074</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:
MAR1000VO

NPDES permit is (check all that apply: ■ RGP ☐ DGP ■ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):
■ MA Chapter 21e; list RTN(s): 3-33267
☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:
☐ CERCLA
☐ UIC Program
☐ POTW Pretreatment
☐ CWA Section 404</td></tr>
</table>

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
Wetlands adjacent to Beaver Brook	MA72-28	Class B

Receiving water is (check any that apply): ☐ Outstanding Resource Water ☐ Ocean Sanctuary ☐ territorial sea ☐ Wild and Scenic River

2. Has the operator attached a location map in accordance with the instructions in B, above? (check one): ■ Yes ☐ No

Are sensitive receptors present near the site? (check one): ■ Yes ☐ No

If yes, specify: Wetlands associated with Concord Avenue Conservation Land

3. Indicate if the receiving water(s) is listed in the State's Integrated List of Waters (i.e., CWA Section 303(d)). Include which designated uses are impaired, and any pollutants indicated. Also, indicate if a final TMDL is available for any of the indicated pollutants. For more information, contact the appropriate State as noted in Part 4.6 of the RGP.

4. Indicate the seven day-ten-year low flow (7Q10) of the receiving water determined in accordance with the instructions in Appendix V for sites located in Massachusetts and Appendix VI for sites located in New Hampshire.	Not applicable
5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.	None

6. Has the operator received confirmation from the appropriate State for the 7Q10and dilution factor indicated? (check one): ☐ Yes ■ No

If yes, indicate date confirmation received:

7. Has the operator attached a summary of receiving water sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ■ Yes ☐ No

C. Source water information:

1. Source water(s) is (check any that apply):

■ Contaminated groundwater Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ■ Yes ☐ No	☐ Contaminated surface water Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ☐ Yes ■ No	☐ The receiving water ☐ A surface water other than the receiving water; if so, indicate waterbody:	☐ Potable water; if so, indicate municipality or origin: ☐ Other; if so, specify:

2. Source water contaminants: Tetrachloroethylene, trichloroethylene, 1,2-dichloroethylene, methyl tertiary butyl ether	
a. For source waters that are contaminated groundwater or contaminated surface water, indicate are any contaminants present that are not included in the RGP? (check one): ☐ Yes ■ No If yes, indicate the contaminant(s) and the maximum concentration present in accordance with the instructions in Appendix VIII.	b. For a source water that is a surface water other than the receiving water, potable water or other, indicate any contaminants present at the maximum concentration in accordance with the instructions in Appendix VIII? (check one): ☐ Yes ☐ No
3. Has the source water been previously chlorinated or otherwise contains residual chlorine? (check one): ☐ Yes ■ No	

D. Discharge information

1.The discharge(s) is a(n) (check any that apply): ☐ Existing discharge ■ New discharge ☐ New source	
Outfall(s): 001	Outfall location(s): (Latitude, Longitude) lat 42.416542 long -71.235578
Discharges enter the receiving water(s) via (check any that apply): ■ Direct discharge to the receiving water ☐ Indirect discharge, if so, specify: Water is treated and discharged into two sedimentation basins in series which then drain into wetlands adjacent to Beaver Brook ☐ A private storm sewer system ☐ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sewer system: Has notification been provided to the owner of this system? (check one): ☐ Yes ☐ No Has the operator has received permission from the owner to use such system for discharges? (check one): ☐ Yes ☐ No, if so, explain, with an estimated timeframe for obtaining permission: Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ☐ Yes ☐ No	
Provide the expected start and end dates of discharge(s) (month/year): December 2017 through February 2018 Indicate if the discharge is expected to occur over a duration of: ■ less than 12 months ☐ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No	

<table>
<tr><td>2. Activity Category: (check all that apply)</td><td colspan="2">3. Contamination Type Category: (check all that apply)</td></tr>
<tr><td rowspan="5">☐ I – Petroleum-Related Site Remediation
☐ II – Non-Petroleum-Related Site Remediation
■ III – Contaminated Site Dewatering
☐ IV – Dewatering of Pipelines and Tanks
☐ V – Aquifer Pump Testing
☐ VI – Well Development/Rehabilitation
☐ VII – Collection Structure Dewatering/Remediation
☐ VIII – Dredge-Related Dewatering</td><td colspan="2">a. If Activity Category I or II: (check all that apply)

■ A. Inorganics
☐ B. Non-Halogenated Volatile Organic Compounds
☐ C. Halogenated Volatile Organic Compounds
☐ D. Non-Halogenated Semi-Volatile Organic Compounds
☐ E. Halogenated Semi-Volatile Organic Compounds
☐ F. Fuels Parameters</td></tr>
<tr><td colspan="2">b. If Activity Category III, IV, V, VI, VII or VIII: (check either G or H)</td></tr>
<tr><td>■ G. Sites with Known Contamination</td><td>☐ H. Sites with Unknown Contamination</td></tr>
<tr><td>c. If Category III-G, IV-G, V-G, VI-G, VII-G or VIII-G: (check all that apply)

☐ A. Inorganics
☐ B. Non-Halogenated Volatile Organic Compounds
■ C. Halogenated Volatile Organic Compounds
☐ D. Non-Halogenated Semi-Volatile Organic Compounds
☐ E. Halogenated Semi-Volatile Organic Compounds
■ F. Fuels Parameters</td><td>d. If Category III-H, IV-H, V-H, VI-H, VII-H or VIII-H Contamination Type Categories A through F apply</td></tr>
</table>

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		✓	1	E350.1	0.05	1.31		Report mg/L	---
Chloride		✓	1	EPA300.0	10.0	230		Report µg/l	---
Total Residual Chlorine	✓		1	SM4500	0.020	<0.02		0.2 mg/L	11 µg/L
Total Suspended Solids		✓	1	SM2540D	1.0	112		30 mg/L	---
Antimony	✓		1	EPA 200.8	1.0	<1.0		206 µg/L	640 µg/L
Arsenic		✓	1	EPA 200.8	1.0	1.1		104 µg/L	10 µg/L
Cadmium	✓		1	EPA 200.8	0.20	<0.20		10.2 µg/L	0.5571 µg/L
Chromium III	✓		1	EPA 200.8	10	<10		323 µg/L	191.4 µg/L
Chromium VI	✓							323 µg/L	11.4 µg/L
Copper		✓	1	EPA 200.8	1.0	5.7		242 µg/L	21.5 µg/L
Iron		✓	1	EPA 200.7	0.050	10		5,000 µg/L	1,000 µg/L
Lead		✓	1	EPA 200.8	0.50	1.3		160 µg/L	11 µg/L
Mercury	✓		1	EPA 245.1	0.00010	<0.00010		0.739 µg/L	0.91 µg/L
Nickel		✓	1	EPA 200.8	5.0	6.8		1,450 µg/L	119 µg/L
Selenium	✓		1	EPA 200.8	5.0	<2.1		235.8 µg/L	5.0 µg/L
Silver	✓		1	EPA 200.8	0.20	<0.20		35.1 µg/L	20.2 µg/L
Zinc		✓	1	EPA 200.8	20	83		420 µg/L	273.6 µg/L
Cyanide	✓		1	EPA 335.4	0.0050	<0.0050		178 mg/L	5.2 µg/L
B. Non-Halogenated VOCs									
Total BTEX								100 µg/L	---
Benzene								5.0 µg/L	---
1,4 Dioxane								200 µg/L	---
Acetone								7.97 mg/L	---
Phenol								1,080 µg/L	

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✓		1	624	1.0	<1.0		4.4 µg/L	1.6 µg/L
1,2 Dichlorobenzene	✓		1	624	1.0	<1.0		600 µg/L	---
1,3 Dichlorobenzene	✓		1	624	1.0	<1.0		320 µg/L	---
1,4 Dichlorobenzene	✓		1	624	1.0	<1.0		5.0 µg/L	---
Total dichlorobenzene	✓		1	624	1.0	<1.0		763 µg/L in NH	---
1,1 Dichloroethane	✓		1	624	1.0	<1.0		70 µg/L	---
1,2 Dichloroethane	✓		1	624	1.0	<1.0		5.0 µg/L	---
1,1 Dichloroethylene	✓		1	624	1.0	<1.0		3.2 µg/L	---
Ethylene Dibromide	✓		1	504.1	0.01	<0.01		0.05 µg/L	---
Methylene Chloride	✓		1	624	2.0	<2.0		4.6 µg/L	---
1,1,1 Trichloroethane	✓		1	624	1.0	<1.0		200 µg/L	---
1,1,2 Trichloroethane	✓		1	624	1.0	<1.0		5.0 µg/L	---
Trichloroethylene		✓	1	624	1.0	2.0		5.0 µg/L	---
Tetrachloroethylene		✓	1	624	1.0	24.2		5.0 µg/L	3.3 µg/L
cis-1,2 Dichloroethylene		✓	1	624	1.0	4.4		70 µg/L	---
Vinyl Chloride		✓	1	624	1.0	<1.0		2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates								190 µg/L	
Diethylhexyl phthalate								101 µg/L	
Total Group I PAHs								1.0 µg/L	---
Benzo(a)anthracene								As Total PAHs	
Benzo(a)pyrene									
Benzo(b)fluoranthene									
Benzo(k)fluoranthene									
Chrysene									
Dibenzo(a,h)anthracene									
Indeno(1,2,3-cd)pyrene									

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs								100 µg/L	---
Naphthalene								20 µg/L	---
E. Halogenated SVOCs									
Total PCBs								0.000064 µg/L	---
Pentachlorophenol								1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✓		1	E1664A	1,500	<500		5.0 mg/L	---
Ethanol		✓	1	SW8015D	1,000	<1,000		Report mg/L	---
Methyl-tert-Butyl Ether		✓	1	EPA524.2	0.50	1.93		70 µg/L	20 µg/L
tert-Butyl Alcohol	✓		1	EPA524.2	10	<10.0		120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✓		1	EPA524.2	0.50	<0.50		90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									
Hardness		✓	1	SM 2340B		265 mg/L			

E. Treatment system information

1. Indicate the type(s) of treatment that will be applied to effluent prior to discharge: (check all that apply)

☐ Adsorption/Absorption ☐ Advanced Oxidation Processes ☐ Air Stripping ■ Granulated Activated Carbon ("GAC")/Liquid Phase Carbon Adsorption
☐ Ion Exchange ☐ Precipitation/Coagulation/Flocculation ■ Separation/Filtration ☐ Other; if so, specify:

2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge.

Water will be pumped into a frac tank for primary clarification, through particulate filters to remove sediment and granulated activated carbon (GAC) filters to remove VOCs then discharged via the sedimentation basins to the wetland area

Identify each major treatment component (check any that apply):
■ Fractionation tanks☐ Equalization tank ☐ Oil/water separator ☐ Mechanical filter ☐ Media filter
☐ Chemical feed tank ☐ Air stripping unit ■ Bag filter ■ Other; if so, specify: GAC

Indicate if either of the following will occur (check any that apply):
☐ Chlorination ☐ De-chlorination

3. Provide the **design flow capacity** in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: Maximum flow rate of water treatment system Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	
Provide the proposed maximum effluent flow in gpm.	30
Provide the average effluent flow in gpm.	15
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	

4. Has the operator attached a schematic of flow in accordance with the instructions in E, above? (check one): ■ Yes ☐ No

F. Chemical and additive information

1. Indicate the type(s) of chemical or additive that will be applied to effluent prior to discharge or that may otherwise be present in the discharge(s): (check all that apply)

No chemicals will be added to treat water

☐ Algaecides/biocides ☐ Antifoams ☐ Coagulants ☐ Corrosion/scale inhibitors ☐ Disinfectants ☐ Flocculants ☐ Neutralizing agents ☐ Oxidants ☐ Oxygen ☐ scavengers ☐ pH conditioners ☐ Bioremedial agents, including microbes ☐ Chlorine or chemicals containing chlorine ☐ Other; if so, specify:

2. Provide the following information for each chemical/additive, using attachments, if necessary:

a. Product name, chemical formula, and manufacturer of the chemical/additive;
b. Purpose or use of the chemical/additive or remedial agent;
c. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive;
d. The frequency (hourly, daily, etc.), duration (hours, days), quantity (maximum and average), and method of application for the chemical/additive;
e. Any material compatibility risks for storage and/or use including the control measures used to minimize such risks; and
f. If available, the vendor's reported aquatic toxicity (NOAEL and/or LC50 in percent for aquatic organism(s)).

3. Has the operator attached an explanation which demonstrates that the addition of such chemicals/additives may be authorized under this general permit in accordance with the instructions in F, above? (check one): ☐ Yes ☐ No; if no, has the operator attached data that demonstrates each of the 126 priority pollutants in CWA Section 307(a) and 40 CFR Part 423.15(j)(1) are non-detect in discharges with the addition of the proposed chemical/additive? (check one): ☐ Yes ☐ No

G. Endangered Species Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

☐ **FWS Criterion A**: No endangered or threatened species or critical habitat are in proximity to the discharges or related activities or come in contact with the "action area".

☐ **FWS Criterion B**: Formal or informal consultation with the FWS under section 7 of the ESA resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by FWS on a finding that the discharges and related activities are "not likely to adversely affect" listed species or critical habitat (informal consultation). Has the operator completed consultation with FWS? (check one): ☐ Yes ■ No; if no, is consultation underway? (check one): ■ Yes ☐ No

■ **FWS Criterion C**: Using the best scientific and commercial data available, the effect of the discharges and related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the operator and affirmed by EPA, that the discharges and related activities will have "no effect" on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the FWS. This determination was made by: (check one) ■ the operator ■ EPA ☐ Other; if so, specify: New England Ecological Services Field Office (Maria Tur)

☐ **NMFS Criterion**: A determination made by EPA is affirmed by the operator that the discharges and related activities will have "no effect" or are "not likely to adversely affect" any federally threatened or endangered listed species or critical habitat under the jurisdiction of NMFS and will not result in any take of listed species. Has the operator previously completed consultation with NMFS? (check one): ☐ Yes ☐ No

2. Has the operator attached supporting documentation of ESA eligibility in accordance with the instructions in Appendix I, and G, above? (check one): ☐ Yes ■ No

An evaluation of Endangered Species was performed through the IPaC consultation and it was determined that the endangered species is the Northern Long-Eared Bat and because no trees are to be cut, the discharge activity will have "no effect" on this species.

Does the supporting documentation include any written concurrence or finding provided by the Services? (check one): ☐ Yes ■ No; if yes, attach.

H. National Historic Preservation Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

■ **Criterion A**: No historic properties are present. The discharges and discharge-related activities (e.g., BMPs) do not have the potential to cause effects on historic properties.

☐ **Criterion B**: Historic properties are present. Discharges and discharge related activities do not have the potential to cause effects on historic properties.

☐ **Criterion C**: Historic properties are present. The discharges and discharge-related activities have the potential to have an effect or will have an adverse effect on historic properties.

2. Has the operator attached supporting documentation of NHPA eligibility in accordance with the instructions in H, above? (check one): ■ Yes ☐ No

Reviewed site location on National Register of Historic Places. A copy of the map is attached.

Does the supporting documentation include any written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (TPHO), or other tribal representative that outlines measures the operator will carry out to mitigate or prevent any adverse effects on historic properties? (check one): ☐ Yes ■ No

I. Supplemental information

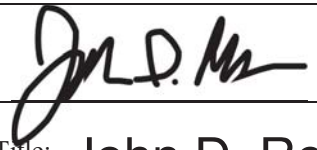
Describe any supplemental information being provided with the NOI. Include attachments if required or otherwise necessary.

Has the operator attached data, including any laboratory case narrative and chain of custody used to support the application? (check one): ■ Yes ☐ No

Has the operator attached the certification requirement for the Best Management Practices Plan (BMPP)? (check one): ☐ Yes ■ No

J. Certification requirement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

BMPP certification statement:	A BMPP meeting the requirements of this general permit will be prepared and implemented upon the initiation of the discharge.
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ■ No ☐
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ☐ No ☐ NA ■
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ☐ No ☐ NA ■
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ■ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ■ No ☐ NA ☐
Signature: By: 	Date: 12/20/2017
Print Name and Title:	John D. Reinhardt as Manager of Artis Senior Living of Lexington, LLC

Attachment B
Laboratory Data Reports

eurofins | Spectrum Analytical

☑ Final Report
☐ Revised Report

Report Date:
08-Dec-17 15:24

Laboratory Report
SC41888

Apex Companies, LLC
58H Connecticut Avenue, Mallard Crossing
South Windsor, CT 06074
Attn: Eric Henry

Project: Artis/Lexington-430 Concord Ave-Lexington, MA
Project #: ARTIS-054

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Rebecca Merz
Quality Services Manager

Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 18 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC41888

Project: Artis/Lexington-430 Concord Ave-Lexington, MA

Project Number: ARTIS-054

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC41888-01	Dewater-Raw-1	Ground Water	28-Nov-17 11:40	28-Nov-17 16:10
SC41888-02	RB	Aqueous	28-Nov-17 00:00	28-Nov-17 16:10

CASE NARRATIVE:

Data has been reported to the MDL. This report includes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the detection limit are reported as "<" (less than) the detection limit in this report.

The samples were received 0.0 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

Analyses for Total Hardness, pH, and Total Residual Chlorine fall under the state of Pennsylvania code Chapter 252.6 accreditation by rule.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

EPA 300.0

Spikes:

1719876-MS2 *Source: SC41888-01*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Chloride

1719876-MSD2 *Source: SC41888-01*

The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Chloride

Duplicates:

1719876-DUP2 *Source: SC41888-01*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Chloride

Samples:

SC41888-01 *Dewater-Raw-1*

Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

Chloride

EPA 624

Calibration:

1711037

EPA 624

Calibration:

1711037

Analyte quantified by quadratic equation type calibration.

1,3-Dichlorobenzene
Bromodichloromethane
Bromoform
Carbon tetrachloride
cis-1,3-Dichloropropene
Dibromochloromethane
trans-1,3-Dichloropropene
Vinyl chloride

This affected the following samples:

1720134-BLK1
1720134-BS1
1720134-BSD1
Dewater-Raw-1
S710164-ICV1
S710538-CCV1

SW8015D

BZ47586-MS

This parameter is outside laboratory rpd specified recovery limits.

Ethanol

BZ47586-MSD

This parameter is outside laboratory rpd specified recovery limits.

Ethanol

Sample Acceptance Check Form

Client:	Apex Companies, LLC - South Windsor, CT
Project:	Artis/Lexington-430 Concord Ave-Lexington, MA / ARTIS-054
Work Order:	SC41888
Sample(s) received on:	11/28/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☐	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC41888-01 **Client ID:** Dewater-Raw-1

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Ammonia as Nitrogen	1.31		0.05	mg/l	E350.1
Iron	10		0.050	mg/l	EPA 200.7
Arsenic	1.1		1.0	µg/L	EPA 200.8
Copper	5.7		1.0	µg/L	EPA 200.8
Lead	1.3		0.50	µg/L	EPA 200.8
Nickel	6.8		5.0	µg/L	EPA 200.8
Zinc	83		20	µg/L	EPA 200.8
Chloride	230	GS1, D	10.0	mg/l	EPA 300.0
Methyl tert-butyl ether	1.93		0.50	µg/l	EPA 524.2
cis-1,2-Dichloroethene	4.4		1.0	µg/l	EPA 624
Tetrachloroethene	24.2		1.0	µg/l	EPA 624
Trichloroethene	2.0		1.0	µg/l	EPA 624
Total Suspended Solids	112		1.0	mg/l	SM2540D (11)

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Dewater-Raw-1	ARTIS-054	Ground Water	28-Nov-17 11:40	28-Nov-17
SC41888-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Purgeable Organic Compounds													
1634-04-4	Methyl tert-butyl ether	**1.93**		µg/l	0.50	0.15	1	EPA 524.2	01-Dec-17	05-Dec-17	EK	1720134	
994-05-8	Tert-amyl methyl ether	< 0.50		µg/l	0.50	0.49	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	3.55	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*91*			*80-120 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*96*			*80-120 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*98*			*80-120 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*102*			*80-120 %*			"	"	"	"	"	
Volatile Organic Compounds by GCMS													
75-27-4	Bromodichloromethane	< 1.0		µg/l	1.0	0.4	1	EPA 624	"	"	EK	"	X
75-25-2	Bromoform	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	X
74-83-9	Bromomethane	< 2.0		µg/l	2.0	0.9	1	"	"	"	"	"	X
56-23-5	Carbon tetrachloride	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	X
108-90-7	Chlorobenzene	< 1.0		µg/l	1.0	0.2	1	"	"	"	"	"	X
75-00-3	Chloroethane	< 2.0		µg/l	2.0	0.6	1	"	"	"	"	"	X
67-66-3	Chloroform	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
74-87-3	Chloromethane	< 2.0		µg/l	2.0	0.4	1	"	"	"	"	"	X
124-48-1	Dibromochloromethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
95-50-1	1,2-Dichlorobenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
541-73-1	1,3-Dichlorobenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
106-46-7	1,4-Dichlorobenzene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0	0.6	1	"	"	"	"	"	X
75-34-3	1,1-Dichloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
107-06-2	1,2-Dichloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
75-35-4	1,1-Dichloroethene	< 1.0		µg/l	1.0	0.7	1	"	"	"	"	"	X
156-59-2	cis-1,2-Dichloroethene	**4.4**		µg/l	1.0	0.3	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	X
78-87-5	1,2-Dichloropropane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
10061-01-5	cis-1,3-Dichloropropene	< 1.0		µg/l	1.0	0.4	1	"	"	"	"	"	X
10061-02-6	trans-1,3-Dichloropropene	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
75-09-2	Methylene chloride	< 10.0		µg/l	10.0	0.7	1	"	"	"	"	"	X
79-34-5	1,1,2,2-Tetrachloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
127-18-4	Tetrachloroethene	**24.2**		µg/l	1.0	0.6	1	"	"	"	"	"	X
71-55-6	1,1,1-Trichloroethane	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	X
79-00-5	1,1,2-Trichloroethane	< 1.0		µg/l	1.0	0.3	1	"	"	"	"	"	X
79-01-6	Trichloroethene	**2.0**		µg/l	1.0	0.5	1	"	"	"	"	"	X
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	X
75-01-4	Vinyl chloride	< 1.0		µg/l	1.0	0.5	1	"	"	"	"	"	X
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*91*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*96*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*98*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*102*			*70-130 %*			"	"	"	"	"	
General Chemistry Parameters													

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Dewater-Raw-1 SC41888-01	ARTIS-054	Ground Water	28-Nov-17 11:40	28-Nov-17

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
7782-50-5	Total Residual Chlorine	< 0.020	CIHT	mg/l	0.020	0.006	1	SM4500-Cl-G (11)	30-Nov-17 09:13	30-Nov-17 09:58	RLT	1719952	X
16887-00-6	Chloride	**230**	GS1, D	mg/l	10.0	0.994	10	EPA 300.0	28-Nov-17	29-Nov-17	TN	1719876	X
57-12-5	Cyanide (total)	< 0.00500		mg/l	0.00500	0.00474	1	EPA 335.4 / SW846 9012B	07-Dec-17	07-Dec-17	RLT	1720406	X
	Total Suspended Solids	**112**		mg/l	1.0	0.4	1	SM2540D (11)	01-Dec-17	05-Dec-17	CMB	1720055	X
Subcontracted Analyses													
Analysis performed by Con-Test Analytical Laboratory - M-MA100													
7440-36-0	Antimony	< 1.0		µg/L	1.0	0.096	1	EPA 200.8	04-Dec-17 08:18	05-Dec-17 16:00	M-MA100	B192411	
Analysis performed by Con-Test Analytical Laboratory - M-MA100													
7440-38-2	Arsenic	**1.1**		µg/L	1.0	0.36	1	"	"	"	"	"	
Analysis performed by Con-Test Analytical Laboratory - M-MA100													
7440-43-9	Cadmium	< 0.20		µg/L	0.20	0.095	1	"	"	"	"	"	
Analysis performed by Con-Test Analytical Laboratory - M-MA100													
7440-47-3	Chromium	< 10		µg/L	10	0.51	1	"	"	"	"	"	
Analysis performed by Con-Test Analytical Laboratory - M-MA100													
7440-50-8	Copper	**5.7**		µg/L	1.0	0.36	1	"	"	"	"	"	
Analysis performed by Con-Test Analytical Laboratory - M-MA100													
7439-89-6	Iron	**10**		mg/l	0.050	0.040	1	EPA 200.7	04-Dec-17 08:22	05-Dec-17 18:25	M-MA100	B192415	
Analysis performed by Con-Test Analytical Laboratory - M-MA100													
7439-92-1	Lead	**1.3**		µg/L	0.50	0.14	1	EPA 200.8	04-Dec-17 08:18	05-Dec-17 16:00	M-MA100	B192411	
Prepared by method EPA 245.1													
Analysis performed by Con-Test Analytical Laboratory - M-MA100													
7439-97-6	Mercury	< 0.00010		mg/l	0.00010	0.000034	1	EPA 245.1	04-Dec-17 09:45	04-Dec-17 13:56	M-MA100	B192265	
Analysis performed by Con-Test Analytical Laboratory - M-MA100													
7440-02-0	Nickel	**6.8**		µg/L	5.0	0.37	1	EPA 200.8	04-Dec-17 08:18	05-Dec-17 16:00	M-MA100	B192411	
Analysis performed by Con-Test Analytical Laboratory - M-MA100													
7782-49-2	Selenium	< 2.1		µg/L	5.0	2.1	1	"	"	"	"	"	
Analysis performed by Con-Test Analytical Laboratory - M-MA100													
7440-22-4	Silver	< 0.20		µg/L	0.20	0.075	1	"	"	"	"	"	
Analysis performed by Con-Test Analytical Laboratory - M-MA100													
7440-66-6	Zinc	**83**		µg/L	20	4.9	1	"	"	"	"	"	
Subcontracted Analyses													
Prepared by method 411451													
*Analysis performed by Phoenix Environmental Labs, Inc. * - MACT007*													
	Oil and Grease by EPA 1664A	< 1.5		mg/l	1.5	1.5	1	E1664A	28-Nov-17 11:40	01-Dec-17 07:34	M-CT007	411451A	
Prepared by method 411277													
*Analysis performed by Phoenix Environmental Labs, Inc. * - MACT007*													
7664-41-7	Ammonia as Nitrogen	**1.31**		mg/l	0.05	0.05	1	E350.1	"	01-Dec-17 11:57	M-CT007	411277A	
Prepared by method 411209													
*Analysis performed by Phoenix Environmental Labs, Inc. * - MACT007*													
106-93-4	1,2-Dibromoethane (EDB)	< 0.01		ug/l	0.01	0.01	1	E504.1	29-Nov-17	30-Nov-17 08:11	M-CT007	411209A	
Prepared by method 411334-													

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Dewater-Raw-1 SC41888-01	ARTIS-054	Ground Water	28-Nov-17 11:40	28-Nov-17

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Subcontracted Analyses													
Prepared by method 411334-													
*Analysis performed by Phoenix Environmental Labs, Inc. * - MACT007*													
64-17-5	Ethanol	< 1.0		mg/l	1.0	1.0	1	SW8015D	30-Nov-17	01-Dec-17 00:04	M-CT007	411334A	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
RB SC41888-02	ARTIS-054	Aqueous	28-Nov-17 00:00	28-Nov-17

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Subcontracted Analyses													
Prepared by method 411209													
*Analysis performed by Phoenix Environmental Labs, Inc. * - MACT007*													
106-93-4	1,2-Dibromoethane (EDB)	< 0.01		ug/l	0.01	0.01	1	E504.1	29-Nov-17	30-Nov-17 08:38	M-CT007	411209A	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 524.2										
Batch 1720134 - SW846 5030 Water MS										
Blank (1720134-BLK1)					Prepared & Analyzed: 04-Dec-17					
Methyl tert-butyl ether	< 0.50		µg/l	0.50						
Tert-amyl methyl ether	< 0.50		µg/l	0.50						
Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0						
Surrogate: 4-Bromofluorobenzene	*44.8*		µg/l		*50.0*		*90*	*80-120*		
Surrogate: Toluene-d8	*50.3*		µg/l		*50.0*		*101*	*80-120*		
Surrogate: 1,2-Dichloroethane-d4	*57.2*		µg/l		*50.0*		*114*	*80-120*		
Surrogate: Dibromofluoromethane	*57.4*		µg/l		*50.0*		*115*	*80-120*		
LCS (1720134-BS1)					Prepared & Analyzed: 04-Dec-17					
Methyl tert-butyl ether	**23.6**		µg/l		20.0		118	80-120		
Tert-amyl methyl ether	**23.1**		µg/l		20.0		116	70-130		
Tert-Butanol / butyl alcohol	**237**		µg/l		200		118	70-130		
Surrogate: 4-Bromofluorobenzene	*53.6*		µg/l		*50.0*		*107*	*80-120*		
Surrogate: Toluene-d8	*53.3*		µg/l		*50.0*		*107*	*80-120*		
Surrogate: 1,2-Dichloroethane-d4	*50.2*		µg/l		*50.0*		*100*	*80-120*		
Surrogate: Dibromofluoromethane	*53.8*		µg/l		*50.0*		*108*	*80-120*		
LCS Dup (1720134-BSD1)					Prepared & Analyzed: 04-Dec-17					
Methyl tert-butyl ether	**24.9**		µg/l		20.0		125	80-120	6	20
Tert-amyl methyl ether	**24.2**		µg/l		20.0		121	70-130	4	30
Tert-Butanol / butyl alcohol	**249**		µg/l		200		124	70-130	5	30
Surrogate: 4-Bromofluorobenzene	*55.1*		µg/l		*50.0*		*110*	*80-120*		
Surrogate: Toluene-d8	*53.4*		µg/l		*50.0*		*107*	*80-120*		
Surrogate: 1,2-Dichloroethane-d4	*50.9*		µg/l		*50.0*		*102*	*80-120*		
Surrogate: Dibromofluoromethane	*54.7*		µg/l		*50.0*		*109*	*80-120*		
EPA 624										
Batch 1720134 - SW846 5030 Water MS										
Blank (1720134-BLK1)					Prepared & Analyzed: 04-Dec-17					
Bromodichloromethane	< 1.0		µg/l	1.0						
Bromoform	< 1.0		µg/l	1.0						
Bromomethane	< 2.0		µg/l	2.0						
Carbon tetrachloride	< 1.0		µg/l	1.0						
Chlorobenzene	< 1.0		µg/l	1.0						
Chloroethane	< 2.0		µg/l	2.0						
Chloroform	< 1.0		µg/l	1.0						
Chloromethane	< 2.0		µg/l	2.0						
Dibromochloromethane	< 1.0		µg/l	1.0						
1,2-Dichlorobenzene	< 1.0		µg/l	1.0						
1,3-Dichlorobenzene	< 1.0		µg/l	1.0						
1,4-Dichlorobenzene	< 1.0		µg/l	1.0						
Dichlorodifluoromethane (Freon12)	< 2.0		µg/l	2.0						
1,1-Dichloroethane	< 1.0		µg/l	1.0						
1,2-Dichloroethane	< 1.0		µg/l	1.0						
1,1-Dichloroethene	< 1.0		µg/l	1.0						
cis-1,2-Dichloroethene	< 1.0		µg/l	1.0						
trans-1,2-Dichloroethene	< 1.0		µg/l	1.0						
1,2-Dichloropropane	< 1.0		µg/l	1.0						
cis-1,3-Dichloropropene	< 1.0		µg/l	1.0						
trans-1,3-Dichloropropene	< 1.0		µg/l	1.0						
Methylene chloride	< 10.0		µg/l	10.0						
1,1,2,2-Tetrachloroethane	< 1.0		µg/l	1.0						

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 624										
Batch 1720134 - SW846 5030 Water MS										
Blank (1720134-BLK1)					Prepared & Analyzed: 04-Dec-17					
Tetrachloroethene	< 1.0		µg/l	1.0						
1,1,1-Trichloroethane	< 1.0		µg/l	1.0						
1,1,2-Trichloroethane	< 1.0		µg/l	1.0						
Trichloroethene	< 1.0		µg/l	1.0						
Trichlorofluoromethane (Freon 11)	< 1.0		µg/l	1.0						
Vinyl chloride	< 1.0		µg/l	1.0						
Surrogate: 4-Bromofluorobenzene	*44.8*		µg/l		*50.0*		*90*	*70-130*		
Surrogate: Toluene-d8	*50.3*		µg/l		*50.0*		*101*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*57.2*		µg/l		*50.0*		*114*	*70-130*		
Surrogate: Dibromofluoromethane	*57.4*		µg/l		*50.0*		*115*	*70-130*		
LCS (1720134-BS1)					Prepared & Analyzed: 04-Dec-17					
Bromodichloromethane	**22.6**		µg/l		20.0		113	35-155		
Bromoform	**20.9**		µg/l		20.0		105	45-169		
Bromomethane	**22.4**		µg/l		20.0		112	1-242		
Carbon tetrachloride	**23.4**		µg/l		20.0		117	70-140		
Chlorobenzene	**20.3**		µg/l		20.0		101	70-130		
Chloroethane	**25.0**		µg/l		20.0		125	14-230		
Chloroform	**23.2**		µg/l		20.0		116	51-138		
Chloromethane	**23.0**		µg/l		20.0		115	1-273		
Dibromochloromethane	**22.8**		µg/l		20.0		114	53-149		
1,2-Dichlorobenzene	**20.4**		µg/l		20.0		102	18-190		
1,3-Dichlorobenzene	**19.3**		µg/l		20.0		97	59-156		
1,4-Dichlorobenzene	**19.3**		µg/l		20.0		97	18-190		
Dichlorodifluoromethane (Freon12)	**22.1**		µg/l		20.0		111	70-130		
1,1-Dichloroethane	**24.9**		µg/l		20.0		125	59-155		
1,2-Dichloroethane	**21.8**		µg/l		20.0		109	49-155		
1,1-Dichloroethene	**23.6**		µg/l		20.0		118	70-130		
cis-1,2-Dichloroethene	**22.8**		µg/l		20.0		114	70-130		
trans-1,2-Dichloroethene	**23.1**		µg/l		20.0		116	54-156		
1,2-Dichloropropane	**22.0**		µg/l		20.0		110	1-210		
cis-1,3-Dichloropropene	**19.8**		µg/l		20.0		99	1-227		
trans-1,3-Dichloropropene	**20.3**		µg/l		20.0		102	17-183		
Methylene chloride	**23.5**		µg/l		20.0		117	1-221		
1,1,2,2-Tetrachloroethane	**23.1**		µg/l		20.0		115	46-157		
Tetrachloroethene	**20.0**		µg/l		20.0		100	64-148		
1,1,1-Trichloroethane	**22.5**		µg/l		20.0		112	52-162		
1,1,2-Trichloroethane	**23.4**		µg/l		20.0		117	52-150		
Trichloroethene	**20.9**		µg/l		20.0		105	71-157		
Trichlorofluoromethane (Freon 11)	**24.6**		µg/l		20.0		123	17-181		
Vinyl chloride	**22.2**		µg/l		20.0		111	1-251		
Surrogate: 4-Bromofluorobenzene	*53.6*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: Toluene-d8	*53.3*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.2*		µg/l		*50.0*		*100*	*70-130*		
Surrogate: Dibromofluoromethane	*53.8*		µg/l		*50.0*		*108*	*70-130*		
LCS Dup (1720134-BSD1)					Prepared & Analyzed: 04-Dec-17					
Bromodichloromethane	**23.3**		µg/l		20.0		117	35-155	3	30
Bromoform	**22.6**		µg/l		20.0		113	45-169	7	30
Bromomethane	**24.8**		µg/l		20.0		124	1-242	10	30
Carbon tetrachloride	**24.7**		µg/l		20.0		123	70-140	5	30
Chlorobenzene	**21.4**		µg/l		20.0		107	70-130	5	30

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 624										
Batch 1720134 - SW846 5030 Water MS										
LCS Dup (1720134-BSD1)					Prepared & Analyzed: 04-Dec-17					
Chloroethane	**25.9**		µg/l		20.0		129	14-230	3	30
Chloroform	**25.1**		µg/l		20.0		126	51-138	8	30
Chloromethane	**25.8**		µg/l		20.0		129	1-273	11	30
Dibromochloromethane	**23.6**		µg/l		20.0		118	53-149	4	30
1,2-Dichlorobenzene	**21.2**		µg/l		20.0		106	18-190	4	30
1,3-Dichlorobenzene	**21.6**		µg/l		20.0		108	59-156	11	30
1,4-Dichlorobenzene	**20.4**		µg/l		20.0		102	18-190	5	30
Dichlorodifluoromethane (Freon12)	**24.7**		µg/l		20.0		124	70-130	11	20
1,1-Dichloroethane	**25.4**		µg/l		20.0		127	59-155	2	30
1,2-Dichloroethane	**22.9**		µg/l		20.0		114	49-155	5	30
1,1-Dichloroethene	**25.0**		µg/l		20.0		125	70-130	6	30
cis-1,2-Dichloroethene	**24.2**		µg/l		20.0		121	70-130	6	30
trans-1,2-Dichloroethene	**24.6**		µg/l		20.0		123	54-156	6	30
1,2-Dichloropropane	**22.9**		µg/l		20.0		114	1-210	4	30
cis-1,3-Dichloropropene	**20.1**		µg/l		20.0		100	1-227	1	30
trans-1,3-Dichloropropene	**21.3**		µg/l		20.0		106	17-183	5	30
Methylene chloride	**24.7**		µg/l		20.0		124	1-221	5	30
1,1,2,2-Tetrachloroethane	**24.5**		µg/l		20.0		123	46-157	6	30
Tetrachloroethene	**21.8**		µg/l		20.0		109	64-148	9	30
1,1,1-Trichloroethane	**24.6**		µg/l		20.0		123	52-162	9	30
1,1,2-Trichloroethane	**24.3**		µg/l		20.0		122	52-150	4	30
Trichloroethene	**22.1**		µg/l		20.0		110	71-157	5	30
Trichlorofluoromethane (Freon 11)	**25.2**		µg/l		20.0		126	17-181	2	30
Vinyl chloride	**24.5**		µg/l		20.0		123	1-251	10	30
Surrogate: 4-Bromofluorobenzene	*55.1*		µg/l		*50.0*		*110*	*70-130*		
Surrogate: Toluene-d8	*53.4*		µg/l		*50.0*		*107*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4	*50.9*		µg/l		*50.0*		*102*	*70-130*		
Surrogate: Dibromofluoromethane	*54.7*		µg/l		*50.0*		*109*	*70-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 300.0										
Batch 1719876 - General Preparation										
Blank (1719876-BLK1)					Prepared: 28-Nov-17 Analyzed: 30-Nov-17					
Chloride	< 1.00		mg/l	1.00						
LCS (1719876-BS1)					Prepared: 28-Nov-17 Analyzed: 30-Nov-17					
Chloride	**19.7**		mg/l	1.00	20.0		98	90-110		
Duplicate (1719876-DUP2)			**Source: SC41888-01**		Prepared: 28-Nov-17 Analyzed: 29-Nov-17					
Chloride	**221**	GS1, D	mg/l	10.0		230			4	20
Matrix Spike (1719876-MS2)			**Source: SC41888-01**		Prepared: 28-Nov-17 Analyzed: 29-Nov-17					
Chloride	**299**	QM2	mg/l	10.0	80.0	230	86	90-110		
Matrix Spike Dup (1719876-MSD2)			**Source: SC41888-01**		Prepared: 28-Nov-17 Analyzed: 29-Nov-17					
Chloride	**299**	QM2	mg/l	10.0	80.0	230	86	90-110	0.2	20
Reference (1719876-SRM1)					Prepared: 28-Nov-17 Analyzed: 29-Nov-17					
Chloride	**25.1**		mg/l	1.00	25.0		100	90-110		
EPA 335.4 / SW846 9012B										
Batch 1720406 - General Preparation										
Blank (1720406-BLK1)					Prepared & Analyzed: 07-Dec-17					
Cyanide (total)	< 0.00500		mg/l	0.00500						
Blank (1720406-BLK2)					Prepared & Analyzed: 07-Dec-17					
Cyanide (total)	< 0.00500		mg/l	0.00500						
LCS (1720406-BS1)					Prepared & Analyzed: 07-Dec-17					
Cyanide (total)	**0.250**		mg/l	0.00500	0.250		100	90-110		
LCS (1720406-BS2)					Prepared & Analyzed: 07-Dec-17					
Cyanide (total)	**0.230**		mg/l	0.00500	0.250		92	90-110		
Reference (1720406-SRM1)					Prepared & Analyzed: 07-Dec-17					
Cyanide (total)	**0.307**		mg/l	0.00500	0.360		85	76-123		
SM2540D (11)										
Batch 1720055 - General Preparation										
Blank (1720055-BLK1)					Prepared: 01-Dec-17 Analyzed: 05-Dec-17					
Total Suspended Solids	< 0.5		mg/l	0.5						
LCS (1720055-BS1)					Prepared: 01-Dec-17 Analyzed: 05-Dec-17					
Total Suspended Solids	**108**		mg/l	10.0	100		108	90-110		
SM4500-Cl-G (11)										
Batch 1719952 - General Preparation										
Blank (1719952-BLK1)					Prepared & Analyzed: 30-Nov-17					
Total Residual Chlorine	< 0.020		mg/l	0.020						
LCS (1719952-BS1)					Prepared & Analyzed: 30-Nov-17					
Total Residual Chlorine	**0.047**		mg/l	0.020	0.0500		94	90-110		
Reference (1719952-SRM1)					Prepared & Analyzed: 30-Nov-17					
Total Residual Chlorine	**0.116**		mg/l	0.020	0.119		97	85-115		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 200.7										
Batch B192415 - EPA 200.7										
Blank (B192415-BLK1)						Prepared: 04-Dec-17 Analyzed: 05-Dec-17				
Iron	< 0.050		mg/l	0.050				-		
LCS (B192415-BS1)						Prepared: 04-Dec-17 Analyzed: 05-Dec-17				
Iron	**4.27**		mg/l	0.050	4.00		107	85-115		
LCS Dup (B192415-BSD1)						Prepared: 04-Dec-17 Analyzed: 05-Dec-17				
Iron	**4.23**		mg/l	0.050	4.00		106	85-115	1.12	20
Duplicate (B192415-DUP1)			**Source: SC41888-01**			Prepared: 04-Dec-17 Analyzed: 05-Dec-17				
Iron	**10.3**		mg/l	0.050		10.2		-	1.47	20
Matrix Spike (B192415-MS1)			**Source: SC41888-01**			Prepared: 04-Dec-17 Analyzed: 05-Dec-17				
Iron	**14.1**		mg/l	0.050	4.00	10.2	97.0	70-130		
EPA 200.8										
Batch B192411 - EPA 200.8										
Blank (B192411-BLK1)						Prepared: 04-Dec-17 Analyzed: 05-Dec-17				
Nickel	< 5.0		µg/L	5.0				-		
Chromium	< 10		µg/L	10				-		
Copper	< 1.0		µg/L	1.0				-		
Lead	< 0.50		µg/L	0.50				-		
Antimony	< 1.0		µg/L	1.0				-		
Arsenic	< 1.0		µg/L	1.0				-		
Selenium	< 2.1		µg/L	2.1				-		
Silver	< 0.20		µg/L	0.20				-		
Zinc	< 20		µg/L	20				-		
Cadmium	< 0.20		µg/L	0.20				-		
LCS (B192411-BS1)						Prepared: 04-Dec-17 Analyzed: 06-Dec-17				
Zinc	**1120**		µg/L	200	1000		112	85-115		
Cadmium	**568**		µg/L	2.0	500		114	85-115		
Copper	**1060**		µg/L	10	1000		106	85-115		
Silver	**525**		µg/L	2.0	500		105	85-115		
Selenium	**577**		µg/L	21	500		115	85-115		
Nickel	**534**		µg/L	50	500		107	85-115		
Lead	**566**		µg/L	5.0	500		113	85-115		
Chromium	**542**		µg/L	100	500		108	85-115		
Arsenic	**568**		µg/L	10	500		114	85-115		
Antimony	**568**		µg/L	10	500		114	85-115		
LCS Dup (B192411-BSD1)						Prepared: 04-Dec-17 Analyzed: 05-Dec-17				
Antimony	**514**		µg/L	10	500		103	85-115	9.91	20
Cadmium	**518**		µg/L	2.0	500		104	85-115	9.30	20
Chromium	**497**		µg/L	100	500		99.5	85-115	8.50	20
Copper	**978**		µg/L	10	1000		97.8	85-115	7.93	20
Lead	**514**		µg/L	5.0	500		103	85-115	9.66	20
Nickel	**492**		µg/L	50	500		98.5	85-115	8.13	20
Selenium	**534**		µg/L	21	500		107	85-115	7.66	20
Zinc	**1070**		µg/L	200	1000		107	85-115	4.70	20
Arsenic	**520**		µg/L	10	500		104	85-115	8.88	20
Silver	**479**		µg/L	2.0	500		95.8	85-115	9.26	20
Duplicate (B192411-DUP1)			**Source: SC41888-01**			Prepared: 04-Dec-17 Analyzed: 05-Dec-17				
Nickel	**6.94**		µg/L	5.0		6.82		-	1.75	20
Silver	< 0.20		µg/L	0.20		BRL		-		20
Zinc	**84.7**		µg/L	20		83.4		-	1.54	20
Selenium	< 2.1		µg/L	2.1		BRL		-		20

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
EPA 200.8										
Batch B192411 - EPA 200.8										
Duplicate (B192411-DUP1)			**Source: SC41888-01**			Prepared: 04-Dec-17 Analyzed: 05-Dec-17				
Copper	**5.68**		µg/L	1.0		5.66		-	0.346	20
Cadmium	**0.192**	J	µg/L	0.20		BRL		-	0.0562	20
Antimony	**0.146**	J	µg/L	1.0		BRL		-		20
Chromium	**7.60**	J	µg/L	10		BRL		-	1.92	20
Lead	**1.36**		µg/L	0.50		1.32		-	3.15	20
Arsenic	**1.21**		µg/L	1.0		1.11		-	8.86	20
Matrix Spike (B192411-MS1)			**Source: SC41888-01**			Prepared: 04-Dec-17 Analyzed: 05-Dec-17				
Zinc	**1160**		µg/L	200	1000	83.4	108	70-130		
Selenium	**537**		µg/L	21	500	BRL	107	70-130		
Antimony	**525**		µg/L	10	500	BRL	105	70-130		
Nickel	**495**		µg/L	50	500	6.82	97.7	70-130		
Lead	**531**		µg/L	5.0	500	ND	106	70-130		
Copper	**976**		µg/L	10	1000	5.66	97.1	70-130		
Chromium	**508**		µg/L	100	500	BRL	100	70-130		
Cadmium	**515**		µg/L	2.0	500	BRL	103	70-130		
Arsenic	**533**		µg/L	10	500	ND	107	70-130		
Silver	**478**		µg/L	2.0	500	BRL	95.5	70-130		
EPA 245.1										
Batch B192265 - EPA 245.1										
Blank (B192265-BLK1)						Prepared & Analyzed: 04-Dec-17				
Mercury	< 0.00010		mg/l	0.00010				-		
LCS (B192265-BS1)						Prepared & Analyzed: 04-Dec-17				
Mercury	**0.00198**		mg/l	0.00010	0.00200		99.2	85-115		
LCS Dup (B192265-BSD1)						Prepared & Analyzed: 04-Dec-17				
Mercury	**0.00193**		mg/l	0.00010	0.00200		96.6	85-115	2.69	20

Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
E1664A										
Batch 411451A - 411451										
BLK (BZ46352-BLK)						Prepared & Analyzed: 01-Dec-17				
Oil and Grease by EPA 1664A	< 1.4		mg/l	1.4	40			-		
LCS (BZ46352-LCS)						Prepared: Analyzed: 01-Dec-17				
Oil and Grease by EPA 1664A	**39.20**		mg/l	1.4	40		98	85-115		20
LCSD (BZ46352-LCSD)						Prepared: Analyzed: 01-Dec-17				
Oil and Grease by EPA 1664A	**39.50**		%	1.4	40		99	85-115	1.0	20
E350.1										
Batch 411277A - 411277										
BLK (BZ47732-BLK)						Prepared: 30-Nov-17 Analyzed: 01-Dec-17				
Ammonia as Nitrogen	< 0.05		mg/l	0.05				-		
DUP (BZ47732-DUP)			**Source: SC41888-01**			Prepared: 30-Nov-17 Analyzed: 01-Dec-17				
Ammonia as Nitrogen	**1.33**		mg/l	0.05				-	1.5	20
LCS (BZ47732-LCS)						Prepared: 30-Nov-17 Analyzed: 01-Dec-17				
Ammonia as Nitrogen	**3.690**		mg/l	0.05	3.74		98.7	90-110		20
MS (BZ47732-MS)			**Source: SC41888-01**			Prepared: 30-Nov-17 Analyzed: 01-Dec-17				
Ammonia as Nitrogen	**3.340**		mg/l	0.05	2		102	90-110		20
E504.1										
Batch 411209A - 411209										
BLK (BZ47086-BLK)						Prepared: 29-Nov-17 Analyzed: 30-Nov-17				
1,2-Dibromoethane (EDB)	**ND**		ug/l	0.01				-		
LCS (BZ47086-LCS)						Prepared: 29-Nov-17 Analyzed: 30-Nov-17				
1,2-Dibromoethane (EDB)	**0.2435**		ug/l	0.01	0.228		107	70-130		25
LCSD (BZ47086-LCSD)						Prepared: 29-Nov-17 Analyzed: 30-Nov-17				
1,2-Dibromoethane (EDB)	**0.2354**		%	%	0.228		103	70-130	3.8	25
MS (BZ47086-MS)			**Source: BZ47086**			Prepared: 29-Nov-17 Analyzed: 30-Nov-17				
1,2-Dibromoethane (EDB)	**0.2409**		ug/l	0.01	0.228		106	70-130		25
MSD (BZ47086-MSD)			**Source: BZ47086**			Prepared: 29-Nov-17 Analyzed: 30-Nov-17				
1,2-Dibromoethane (EDB)	**0.2341**		%	%	0.228		103	70-130	2.9	25
SW8015D										
Batch 411334A - 411334-										
BLK (BZ47586-BLK)						Prepared & Analyzed: 30-Nov-17				
Ethanol	**ND**		mg/l	1.0				-		
LCS (BZ47586-LCS)						Prepared & Analyzed: 30-Nov-17				
Ethanol	**9.089**		mg/l	1.0	10		91	70-130		30
LCSD (BZ47586-LCSD)						Prepared & Analyzed: 30-Nov-17				
Ethanol	**8.702**		%	%	10		87	70-130	4.5	30
MS (BZ47586-MS)			**Source: BZ47586**			Prepared & Analyzed: 30-Nov-17				
Ethanol	**7.054**	r	mg/l	1.0	10		71	70-130		30
MSD (BZ47586-MSD)			**Source: BZ47586**			Prepared & Analyzed: 30-Nov-17				
Ethanol	**10.16**	r	%	%	10		102	70-130	35.8	30

Notes and Definitions

D	Data reported from a dilution
GS1	Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
QM2	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
r	This parameter is outside laboratory rpd specified recovery limits.
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
ClHT	The method for residual chlorine indicates that samples should be analyzed immediately. 40 CFR 136 specifies a holding time of 15 minutes from sampling to analysis. Therefore all aqueous residual chlorine samples not analyzed in the field are considered out of hold time at the time of sample receipt.
OG	The required Matrix Spike and Matrix Spike Duplicate (MS/MSD) for Oil & Grease method 1664B can only be analyzed when the client has submitted sufficient sample volume. An extra liter per MS/MSD is required to fulfill the method QC criteria. Please refer to Chain of Custody and QC Summary (MS/MSD) of the Laboratory Report to verify ample sample volume was submitted to fulfill the requirement.

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC41888 Sm

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

☑ Standard TAT - 7 to 10 business days

☐ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 60 days unless otherwise instructed.

Report To: Eric Henry
Apex Companies, LLC - South Windsor
58H Connecticut Avenue
South Windsor, CT 06074
Telephone #: (860) 282-1700 x6034
Project Mgr: Eric Henry

Invoice To: Eric Henry
Apex Companies, LLC - South Windsor
58H Connecticut Avenue
South Windsor, CT 06074
P.O No.: 55-3988 Quote #:

Project No: ARTIS-054
Site Name: Artis/Lexington
Location: 430 Concord Avenue, Lexington State: MA
Sampler(s): Eric Henry

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= Na2S2O3 12= _____

DW=Dinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= _____ X2= _____ X3= _____

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: Oil & Grease by 1664	Chloride, Total Residual Chlorine, TSS	Ammonia	Total Metals per NPDES	Cyanide, Total	Halogenated VOCs by 624	MTBE, TBA, and TAME by 504.1	Ethanol by 8015	Check if chlorinated
						List Preservative Code below:				3		3	4	5	2	11		
SC41888-01	DEWATER-RAW-1	11/28/2017	11:40	G	GW	8	1		5	X	X	X	X	X	X	X	X	☐
-02	RB	8/24/17				2										X		☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☑ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC
☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other: _____
State-specific reporting standards:

Relinquished by:	Received by:	Date:	Time:	Temp °C
		11/20/17	12:30	Observed 1.9
		11/28/17	1610	Correction Factor 0
				Corrected 1.9
				IR ID # 2

☐ EDD format: _____
☑ E-mail to: eric.henry@apexcos.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☒ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

SC 41888 Sm

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

☑ Standard TAT - 7 to 10 business days

☐ Rush TAT - Date Needed: _____

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 60 days unless otherwise instructed.

Report To: Eric Henry
Apex Companies, LLC - South Windsor
58H Connecticut Avenue
South Windsor, CT 06074
Telephone #: (860) 282-1700 x6034
Project Mgr: Eric Henry

Invoice To: Eric Henry
Apex Companies, LLC - South Windsor
58H Connecticut Avenue
South Windsor, CT 06074
P.O No.: 55-3988 Quote #: _____

Project No: ARTIS-054
Site Name: Artis/Lexington
Location: 430 Concord Avenue, Lexington State: MA
Sampler(s): Eric Henry

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= Na2S2O3 12= _____

DW=Dinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= _____ X2= _____ X3= _____

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	EDDs by 504	Analysis: Oil & Grease by 1664	Chloride, Total Residual Chlorine, TSS	Ammonia	Total Metals per NPDES *	Cyanide, Total	Halogenated VOCs by 624	MTBE, TBA, and TAME by 504.1 S24	Ethanol by 8015	Check if chlorinated
List Preservative Code below:						3		3	4	5	2	11							
SC41888-01	DEWATER-RAW-1	11/28/2017	11:40	G	GW	8	1		5	X	X	X	X	X	X	X	X	X	☐
-02	RB	8/24/17				2											X		☐
																			☐
																			☐
																			☐
																			☐
																			☐
																			☐
																			☐
																			☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☑ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☐ Standard ☐ No QC
☐ DQA* ☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other: _____
State-specific reporting standards:

* Sb, As, Cd, Cr, Cu, Fe, Pb, Hg, Ni, Se, Ag, Zn per client
Sm 11/30

Relinquished by:	Received by:	Date:	Time:
		11/20/17	12:30
		11/28/17	1610

Temp °C: Observed 1.9; Correction Factor 0; Corrected 1.9; IR ID# 2

☐ EDD format: _____
☑ E-mail to: eric.henry@apexcos.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☒ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

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11 Almgren Drive
Agawam, MA 01001
(413) 789-9018

This preceding chain of custody has been amended to include the client requested additional analyses as noted below:

Laboratory ID	*Client ID*	*Analysis*	*Added*
SC41888-01	Dewater-Raw-1	Total Antimony by ICPMS	11/30/2017
SC41888-01	Dewater-Raw-1	Total Arsenic by ICPMS	11/30/2017
SC41888-01	Dewater-Raw-1	Total Cadmium by ICPMS	11/30/2017
SC41888-01	Dewater-Raw-1	Total Chromium by ICPMS	11/30/2017
SC41888-01	Dewater-Raw-1	Total Copper by ICPMS	11/30/2017
SC41888-01	Dewater-Raw-1	Total Iron by ICP	11/30/2017
SC41888-01	Dewater-Raw-1	Total Lead by ICPMS	11/30/2017
SC41888-01	Dewater-Raw-1	Total Mercury by CVAA	11/30/2017
SC41888-01	Dewater-Raw-1	Total Nickel by ICPMS	11/30/2017
SC41888-01	Dewater-Raw-1	Total Selenium by ICPMS	11/30/2017
SC41888-01	Dewater-Raw-1	Total Silver by ICPMS	11/30/2017
SC41888-01	Dewater-Raw-1	Total Zinc by ICPMS	11/30/2017

Batch Summary

1719876

General Chemistry Parameters

1719876-BLK1
1719876-BS1
1719876-DUP2
1719876-MS2
1719876-MSD2
1719876-SRM1
SC41888-01 (Dewater-Raw-1)

1719952

General Chemistry Parameters

1719952-BLK1
1719952-BS1
1719952-SRM1
SC41888-01 (Dewater-Raw-1)

1720055

General Chemistry Parameters

1720055-BLK1
1720055-BS1
SC41888-01 (Dewater-Raw-1)

1720134

Volatile Organic Compounds

1720134-BLK1
1720134-BS1
1720134-BSD1
SC41888-01 (Dewater-Raw-1)

1720406

General Chemistry Parameters

1720406-BLK1
1720406-BLK2
1720406-BS1
1720406-BS2
1720406-SRM1
SC41888-01 (Dewater-Raw-1)

411209A

Subcontracted Analyses

BZ47086-BLK
BZ47086-LCS
BZ47086-LCSD
BZ47086-MS
BZ47086-MSD
SC41888-01 (Dewater-Raw-1)
SC41888-02 (RB)

411277A

Subcontracted Analyses

BZ47732-BLK
BZ47732-DUP
BZ47732-LCS
BZ47732-MS
SC41888-01 (Dewater-Raw-1)

411334A

Subcontracted Analyses

BZ47586-BLK
BZ47586-LCS
BZ47586-LCSD
BZ47586-MS
BZ47586-MSD
SC41888-01 (Dewater-Raw-1)

411451A

Subcontracted Analyses

BZ46352-BLK
BZ46352-LCS
BZ46352-LCSD
SC41888-01 (Dewater-Raw-1)

B192265

Subcontracted Analyses

B192265-BLK1
B192265-BS1
B192265-BSD1
SC41888-01 (Dewater-Raw-1)

B192411

Subcontracted Analyses

B192411-BLK1
B192411-BS1
B192411-BSD1
B192411-DUP1
B192411-MS1
SC41888-01 (Dewater-Raw-1)

B192415

Subcontracted Analyses

B192415-BLK1
B192415-BS1
B192415-BSD1
B192415-DUP1
B192415-MS1
SC41888-01 (Dewater-Raw-1)

S710164

Volatile Organic Compounds

S710164-CAL1
S710164-CAL2
S710164-CAL3
S710164-CAL4
S710164-CAL5
S710164-CAL6
S710164-CAL7
S710164-CAL8
S710164-CAL9
S710164-ICV1
S710164-LCV1
S710164-LCV2
S710164-TUN1

S710538

Volatile Organic Compounds

S710538-CCV1
S710538-TUN1

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☑ Draft Report
☐ Revised Report

Report Date:
13-Dec-17 16:19

Draft Laboratory Report
SC42358

Apex Companies, LLC
58H Connecticut Avenue, Mallard Crossing
South Windsor, CT 06074
Attn: Eric Henry

Project: Artis/Lexington-430 Concord Ave-Lexington, MA
Project #: ARTIS-054

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 11 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our Quality web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC42358

Project: Artis/Lexington-430 Concord Ave-Lexington, MA

Project Number: ARTIS-054

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC42358-01	Dewater-South & West	Ground Water	12-Dec-17 09:00	12-Dec-17 16:24
SC42358-02	Receiving Waters	Surface Water	12-Dec-17 11:55	12-Dec-17 16:24
SC42358-03	Dewater-South & West	Ground Water	12-Dec-17 12:00	12-Dec-17 16:24

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 1.9 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW846 8260C

Calibration:

1712018

Analyte quantified by quadratic equation type calibration.

1,1,1,2-Tetrachloroethane
1,2-Dibromo-3-chloropropane
1,4-Dioxane
2-Hexanone (MBK)
Bromodichloromethane
Bromoform
Carbon disulfide
Carbon tetrachloride
cis-1,3-Dichloropropene
Dibromochloromethane
Hexachlorobutadiene
Naphthalene
trans-1,3-Dichloropropene
trans-1,4-Dichloro-2-butene
Vinyl chloride

This affected the following samples:

1720665-BLK1
1720665-BS1
1720665-BSD1
Dewater-South & West
S710641-ICV1
S710829-CCV1

S710641-ICV1

Analyte percent recovery is outside individual acceptance criteria (80-120).

Vinyl chloride (70%)

This affected the following samples:

1720665-BLK1
1720665-BS1
1720665-BSD1
Dewater-South & West
S710829-CCV1

Samples:

SW846 8260C

Samples:

S710829-CCV1

Analyte percent difference is outside individual acceptance criteria (20), but within overall method allowances.

Chloromethane (-26.5%)

Analyte percent drift is outside individual acceptance criteria (20), but within overall method allowances.

Bromoform (26.8%)

This affected the following samples:

1720665-BLK1
1720665-BS1
1720665-BSD1
Dewater-South & West

Sample Acceptance Check Form

Client:	Apex Companies, LLC - South Windsor, CT
Project:	Artis/Lexington-430 Concord Ave-Lexington, MA / ARTIS-054
Work Order:	SC42358
Sample(s) received on:	12/12/2017

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC42358-01 **Client ID:** Dewater-South & West

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
cis-1,2-Dichloroethene	1.42		1.00	µg/l	SW846 8260C

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Dewater-South & West	ARTIS-054	Ground Water	12-Dec-17 09:00	12-Dec-17
SC42358-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260 Prepared by method SW846 5030 Water MS													
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	< 1.00		µg/l	1.00	0.53	1	SW846 8260C	13-Dec-17	13-Dec-17	GMA	1720665	
67-64-1	Acetone	< 10.0		µg/l	10.0	0.80	1	"	"	"	"	"	
107-13-1	Acrylonitrile	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	
71-43-2	Benzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
108-86-1	Bromobenzene	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
74-97-5	Bromochloromethane	< 1.00		µg/l	1.00	0.34	1	"	"	"	"	"	
75-27-4	Bromodichloromethane	< 0.50		µg/l	0.50	0.42	1	"	"	"	"	"	
75-25-2	Bromoform	< 1.00		µg/l	1.00	0.42	1	"	"	"	"	"	
74-83-9	Bromomethane	< 2.00		µg/l	2.00	0.90	1	"	"	"	"	"	
78-93-3	2-Butanone (MEK)	< 2.00		µg/l	2.00	1.07	1	"	"	"	"	"	
104-51-8	n-Butylbenzene	< 1.00		µg/l	1.00	0.41	1	"	"	"	"	"	
135-98-8	sec-Butylbenzene	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
98-06-6	tert-Butylbenzene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
75-15-0	Carbon disulfide	< 2.00		µg/l	2.00	0.41	1	"	"	"	"	"	
56-23-5	Carbon tetrachloride	< 1.00		µg/l	1.00	0.44	1	"	"	"	"	"	
108-90-7	Chlorobenzene	< 1.00		µg/l	1.00	0.25	1	"	"	"	"	"	
75-00-3	Chloroethane	< 2.00		µg/l	2.00	0.59	1	"	"	"	"	"	
67-66-3	Chloroform	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
74-87-3	Chloromethane	< 2.00		µg/l	2.00	0.37	1	"	"	"	"	"	
95-49-8	2-Chlorotoluene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
106-43-4	4-Chlorotoluene	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
96-12-8	1,2-Dibromo-3-chloropropane	< 2.00		µg/l	2.00	0.86	1	"	"	"	"	"	
124-48-1	Dibromochloromethane	< 0.50		µg/l	0.50	0.32	1	"	"	"	"	"	
106-93-4	1,2-Dibromoethane (EDB)	< 0.50		µg/l	0.50	0.20	1	"	"	"	"	"	
74-95-3	Dibromomethane	< 1.00		µg/l	1.00	0.31	1	"	"	"	"	"	
95-50-1	1,2-Dichlorobenzene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
541-73-1	1,3-Dichlorobenzene	< 1.00		µg/l	1.00	0.31	1	"	"	"	"	"	
106-46-7	1,4-Dichlorobenzene	< 1.00		µg/l	1.00	0.27	1	"	"	"	"	"	
75-71-8	Dichlorodifluoromethane (Freon12)	< 2.00		µg/l	2.00	0.58	1	"	"	"	"	"	
75-34-3	1,1-Dichloroethane	< 1.00		µg/l	1.00	0.32	1	"	"	"	"	"	
107-06-2	1,2-Dichloroethane	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
75-35-4	1,1-Dichloroethene	< 1.00		µg/l	1.00	0.69	1	"	"	"	"	"	
156-59-2	cis-1,2-Dichloroethene	**1.42**		µg/l	1.00	0.33	1	"	"	"	"	"	
156-60-5	trans-1,2-Dichloroethene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	
78-87-5	1,2-Dichloropropane	< 1.00		µg/l	1.00	0.29	1	"	"	"	"	"	
142-28-9	1,3-Dichloropropane	< 1.00		µg/l	1.00	0.21	1	"	"	"	"	"	
594-20-7	2,2-Dichloropropane	< 1.00		µg/l	1.00	0.42	1	"	"	"	"	"	
563-58-6	1,1-Dichloropropene	< 1.00		µg/l	1.00	0.58	1	"	"	"	"	"	
10061-01-5	cis-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.36	1	"	"	"	"	"	
10061-02-6	trans-1,3-Dichloropropene	< 0.50		µg/l	0.50	0.35	1	"	"	"	"	"	
100-41-4	Ethylbenzene	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
87-68-3	Hexachlorobutadiene	< 0.50		µg/l	0.50	0.47	1	"	"	"	"	"	
591-78-6	2-Hexanone (MBK)	< 2.00		µg/l	2.00	0.53	1	"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Dewater-South & West	ARTIS-054	Ground Water	12-Dec-17 09:00	12-Dec-17
SC42358-01				

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Volatile Organic Compounds													
Volatile Organic Compounds by SW846 8260													
98-82-8	Isopropylbenzene	< 1.00		µg/l	1.00	0.36	1	SW846 8260C	13-Dec-17	13-Dec-17	GMA	1720665	
99-87-6	4-Isopropyltoluene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
1634-04-4	Methyl tert-butyl ether	< 1.00		µg/l	1.00	0.24	1	"	"	"	"	"	
108-10-1	4-Methyl-2-pentanone (MIBK)	< 2.00		µg/l	2.00	0.52	1	"	"	"	"	"	
75-09-2	Methylene chloride	< 2.00		µg/l	2.00	0.66	1	"	"	"	"	"	
91-20-3	Naphthalene	< 1.00		µg/l	1.00	0.35	1	"	"	"	"	"	
103-65-1	n-Propylbenzene	< 1.00		µg/l	1.00	0.34	1	"	"	"	"	"	
100-42-5	Styrene	< 1.00		µg/l	1.00	0.40	1	"	"	"	"	"	
630-20-6	1,1,1,2-Tetrachloroethane	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	
79-34-5	1,1,2,2-Tetrachloroethane	< 0.50		µg/l	0.50	0.33	1	"	"	"	"	"	
127-18-4	Tetrachloroethene	< 1.00		µg/l	1.00	0.57	1	"	"	"	"	"	
108-88-3	Toluene	< 1.00		µg/l	1.00	0.30	1	"	"	"	"	"	
87-61-6	1,2,3-Trichlorobenzene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	
120-82-1	1,2,4-Trichlorobenzene	< 1.00		µg/l	1.00	0.38	1	"	"	"	"	"	
108-70-3	1,3,5-Trichlorobenzene	< 1.00		µg/l	1.00	0.30	1	"	"	"	"	"	
71-55-6	1,1,1-Trichloroethane	< 1.00		µg/l	1.00	0.51	1	"	"	"	"	"	
79-00-5	1,1,2-Trichloroethane	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
79-01-6	Trichloroethene	< 1.00		µg/l	1.00	0.50	1	"	"	"	"	"	
75-69-4	Trichlorofluoromethane (Freon 11)	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	
96-18-4	1,2,3-Trichloropropane	< 1.00		µg/l	1.00	0.29	1	"	"	"	"	"	
95-63-6	1,2,4-Trimethylbenzene	< 1.00		µg/l	1.00	0.36	1	"	"	"	"	"	
108-67-8	1,3,5-Trimethylbenzene	< 1.00		µg/l	1.00	0.43	1	"	"	"	"	"	
75-01-4	Vinyl chloride	< 1.00		µg/l	1.00	0.47	1	"	"	"	"	"	
179601-23-1	m,p-Xylene	< 2.00		µg/l	2.00	0.38	1	"	"	"	"	"	
95-47-6	o-Xylene	< 1.00		µg/l	1.00	0.28	1	"	"	"	"	"	
109-99-9	Tetrahydrofuran	< 2.00		µg/l	2.00	1.06	1	"	"	"	"	"	
60-29-7	Ethyl ether	< 1.00		µg/l	1.00	0.37	1	"	"	"	"	"	
994-05-8	Tert-amyl methyl ether	< 1.00		µg/l	1.00	0.49	1	"	"	"	"	"	
637-92-3	Ethyl tert-butyl ether	< 1.00		µg/l	1.00	0.33	1	"	"	"	"	"	
108-20-3	Di-isopropyl ether	< 1.00		µg/l	1.00	0.29	1	"	"	"	"	"	
75-65-0	Tert-Butanol / butyl alcohol	< 10.0		µg/l	10.0	5.90	1	"	"	"	"	"	
123-91-1	1,4-Dioxane	< 20.0		µg/l	20.0	11.4	1	"	"	"	"	"	
110-57-6	trans-1,4-Dichloro-2-butene	< 5.00		µg/l	5.00	0.82	1	"	"	"	"	"	
64-17-5	Ethanol	< 200		µg/l	200	30.9	1	"	"	"	"	"	
Surrogate recoveries:													
460-00-4	*4-Bromofluorobenzene*	*97*			*70-130 %*			"	"	"	"	"	
2037-26-5	*Toluene-d8*	*99*			*70-130 %*			"	"	"	"	"	
17060-07-0	*1,2-Dichloroethane-d4*	*101*			*70-130 %*			"	"	"	"	"	
1868-53-7	*Dibromofluoromethane*	*101*			*70-130 %*			"	"	"	"	"	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Receiving Waters SC42358-02	ARTIS-054	Surface Water	12-Dec-17 11:55	12-Dec-17

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Total Metals by EPA 200/6000 Series Methods													
Prepared by method General Prep-Metal													
	Preservation	**Lab Preserved**		N/A			1	EPA 200/6000 methods	13-Dec-17		JS	1720682	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
Dewater-South & West SC42358-03	ARTIS-054	Ground Water	12-Dec-17 12:00	12-Dec-17

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Total Metals by EPA 200/6000 Series Methods													
Prepared by method General Prep-Metal													
	Preservation	**Lab Preserved**		N/A			1	EPA 200/6000 methods	13-Dec-17		JS	1720682	

Notes and Definitions

dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC42358 Rev 1 R.R17966

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

☐ Standard TAT - 7 to 10 business days

☑ Rush TAT - Date Needed: 12/17/17

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: Apex Comp. LLC
58H Conn Ave
S. Windsor CT 06074

Telephone #: 860 282 1700
Project Mgr: Eric Henry

Invoice To: Apex Comp. LLC
SAME

P.O No.: ARTIS-054 Quote #:

Project No: ARTIS-054
Site Name: ARTIS - Lexington
Location: Lexington State: MA
Sampler(s): Plural

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= ASIS 12= _____

List Preservative Code below: 2 | 11 | 11

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= _____ X2= _____ X3= _____

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: VOC 8260	* Hardness	* Ammonia	Check if chlorinated
SC42358-01	Dewater - South & West	12/12/17	0900	G	GW	3	Pres			X	Pres		☐
02	Receiving Waters	"	1155	G	SW		2				X	X	☐
03	Dewater - South & West	"	1200	G	GW		1				X		☐
													☐
													☐
													☐
													☐
													☐
													☐
													☐
													☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☑ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☑ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other: _____
State-specific reporting standards:

* Lab to preserve Samples upon receipt

Relinquished by:	Received by:	Date:	Time	Temp °C
		12/12/17	1425	Observed 1.9
		12/12/17	1624	Correction Factor 0
				Corrected 1.9
				IR ID # 2

☐ EDD format:
☑ E-mail to: eric.henry@apexcos.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☑ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Batch Summary

1720665

Volatile Organic Compounds

1720665-BLK1
1720665-BS1
1720665-BSD1
SC42358-01 (Dewater-South & West)

1720682

Total Metals by EPA 200/6000 Series Methods

SC42358-02 (Receiving Waters)
SC42358-03 (Dewater-South & West)

S710641

Volatile Organic Compounds

S710641-CAL1
S710641-CAL2
S710641-CAL3
S710641-CAL4
S710641-CAL5
S710641-CAL6
S710641-CAL7
S710641-CAL8
S710641-CAL9
S710641-ICV1
S710641-LCV1
S710641-LCV2
S710641-TUN1

S710829

Volatile Organic Compounds

S710829-CCV1
S710829-TUN1

Attachment C
Water Quality Based Effluent Limits (WQBELS) Spreadsheet

Enter number values in green boxes below

Enter values in the units specified

↓	
0	Q_R = Enter upstream flow in **MGD**
0.0216	Q_P = Enter discharge flow in **MGD**
0	Downstream 7Q10

Enter a dilution factor, if other than zero

↓	
0	

Enter values in the units specified

↓	
265	C_d = Enter influent hardness in **mg/L** $CaCO_3$
191	C_s = Enter receiving water hardness in **mg/L** $CaCO_3$

Enter **receiving water** concentrations in the units specified

↓	
7.2	pH in **Standard Units**
3.1	Temperature in **°C**
0.39	Ammonia in **mg/L**
191	Hardness in **mg/L** $CaCO_3$
0	Salinity in **ppt**
0	Antimony in **µg/L**
0	Arsenic in **µg/L**
0	Cadmium in **µg/L**
0	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
0	Copper in **µg/L**
0	Iron in **µg/L**
0	Lead in **µg/L**
0	Mercury in **µg/L**
0	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
0	Zinc in **µg/L**

Enter **influent** concentrations in the units specified

↓	
0	TRC in **µg/L**
1.31	Ammonia in **mg/L**
0	Antimony in **µg/L**
1.1	Arsenic in **µg/L**
0	Cadmium in **µg/L**
0	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
5.7	Copper in **µg/L**
10000	Iron in **µg/L**
1.3	Lead in **µg/L**
0	Mercury in **µg/L**
6.8	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
83	Zinc in **µg/L**
0	Cyanide in **µg/L**
0	Phenol in **µg/L**
0	Carbon Tetrachloride in **µg/L**
24.2	Tetrachloroethylene in **µg/L**
0	Total Phthalates in **µg/L**
0	Diethylhexylphthalate in **µg/L**
0	Benzo(a)anthracene in **µg/L**
0	Benzo(a)pyrene in **µg/L**
0	Benzo(b)fluoranthene in **µg/L**
0	Benzo(k)fluoranthene in **µg/L**
0	Chrysene in **µg/L**
0	Dibenzo(a,h)anthracene in **µg/L**
0	Indeno(1,2,3-cd)pyrene in **µg/L**
1.93	Methyl-tert butyl ether in **µg/L**

Notes:

Freshwater: Q_R equal to the 7Q10; enter alternate Q_R if approved by the State; enter 0 if no dilution factor approved
Saltwater (estuarine and marine): enter Q_R if approved by the State; enter 0 if no entry
Discharge flow is equal to the design flow or 1 MGD, whichever is less
Only if approved by State as the entry for Q_R; leave 0 if no entry

Saltwater (estuarine and marine): only if approved by the State
Leave 0 if no entry

Freshwater only

pH, temperature, and ammonia required for all discharges
Hardness required for freshwater
Salinity required for saltwater (estuarine and marine)
Metals required for all discharges if present and if dilution factor is > 1
Enter 0 if non-detect or testing not required

if >1 sample, enter maximum
if >10 samples, may enter 95th percentile
Enter 0 if non-detect or testing not required

I. Dilution Factor Calculation Method

A. 7Q10

Refer to Appendix V for determining critical low flow; must be approved by State before use in calculations.

B. Dilution Factor

Calculated as follows:

$$Df = \frac{Q_R + Q_P}{Q_P}$$

Q_R = 7Q10 in MGD

Q_P = Discharge flow, in MGD

II. Effluent Limitation Calculation Method

A. Calculate Water Quality Criterion:

Step 1. Downstream hardness, calculated as follows:

$$C_r = \frac{Q_d C_d + Q_s C_s}{Q_r}$$

C_r = Downstream hardness in mg/L

Q_d = Discharge flow in MGD

C_d = Discharge hardness in mg/L

Q_s = Upstream flow (7Q10) in MGD

C_s = Upstream (receiving water) hardness in mg/L

Q_r = Downstream receiving water flow in MGD

Step 2. Total recoverable water quality criteria for hardness-dependent metals, calculated as follows:

Total Recoverable Criteria = $\exp\{m_c [\ln(h)] + b_c\}$

m_c = Pollutant-specific coefficient (m_a for silver)

b_c = Pollutant-specific coefficient (b_a for silver)

ln = Natural logarithm

h = Hardness calculated in Step 1

Step 3. Total recoverable water quality criteria for non-hardness-dependent metals, calculated as follows:

$$\text{WQC in µg/L} = \frac{\text{dissolved WQC in µg/L}}{\text{dissolved to total recoverable factor}}$$

B. Calculate WQBEL:

Step 1. WQBEL calculated as follows for parameter sampled in and detected in the receiving water:

$$C_d = \frac{Q_r C_r - Q_s C_s}{Q_d}$$

C_r = Water quality criterion in µg/L

Q_d = Discharge flow in MGD

C_d = WQBEL in µg/L

Q_s = Upstream flow (7Q10) in MGD

C_s = Ustream (receiving water) concentration in µg/L

Q_r = Downstream receiving water flow in MGD

Step 2. WQBEL calculated as follows for parameter not sampled in or not detected in receiving water:

$$C_d = (Q_r/Q_d) \times C_r$$

C_r = Water quality criterion in µg/L

Q_d = Discharge flow in MGD

Q_r = Downstream receiving water flow in MGD

C. Determine if a WQBEL applies:

Step 1. For parameter sampled in and detected in receiving water, downstream concentrations calculated as follows:

$$C_r = \frac{Q_d C_d + Q_s C_s}{Q_r}$$

C_r = Downstream concentration in µg/L

Q_d = Discharge flow in MGD

C_d = Influent concentration in µg/L

Q_s = Upstream flow (7Q10) in MGD

C_s = Upstream (receiving water) concentration in µg/L

Q_r = Downstream receiving water flow in MGD

The WQBEL applies if:

1) the projected downstream concentration calculated in accordance with Step 1, above, and the discharge concentration of a parameter are greater than the WQC calculated for that parameter in accordance with II.A, above

AND

2) the WQBEL determined for that parameter in accordance with II.B, above, is less than the TBEL in Part 2.1.1 of the RGP for that parameter. Otherwise, the TBEL in Part 2.1.1

of the RGP for that parameter applies.

Step 2. For a parameter not sampled in or not detected in receiving water, the WQBEL applies if:

1) the discharge concentration of a parameter is greater than the WQBEL determined for that parameter in accordance with II.A or II.B, above;

AND

2) the WQBEL determined for that parameter in accordance with II.A or II.B, above is less than the TBEL in Part 2.1.1 of the RGP for that parameter. Otherwise, the TBEL in

Part 2.1.1 of the RGP for that parameter applies.

Dilution Factor	1.0					
A. Inorganics	TBEL applies if bolded		WQBEL applies if bolded		Compliance Level applies if shown	
Ammonia	**Report**	mg/L	---			
Chloride	**Report**	µg/L	---			
Total Residual Chlorine	0.2	mg/L	**11**	µg/L	50	µg/L
Total Suspended Solids	**30**	mg/L	---			
Antimony	**206**	µg/L	640	µg/L		
Arsenic	**104**	µg/L	10	µg/L		
Cadmium	**10.2**	µg/L	0.5571	µg/L		
Chromium III	**323**	µg/L	191.4	µg/L		
Chromium VI	**323**	µg/L	11.4	µg/L		
Copper	**242**	µg/L	21.5	µg/L		
Iron	5000	µg/L	**1000**	µg/L		
Lead	**160**	µg/L	11.00	µg/L		
Mercury	**0.739**	µg/L	0.91	µg/L		
Nickel	**1450**	µg/L	119.0	µg/L		
Selenium	**235.8**	µg/L	5.0	µg/L		
Silver	**35.1**	µg/L	20.2	µg/L		
Zinc	**420**	µg/L	273.6	µg/L		
Cyanide	**178**	mg/L	5.2	µg/L	---	µg/L
B. Non-Halogenated VOCs						
Total BTEX	**100**	µg/L	---			
Benzene	**5.0**	µg/L	---			
1,4 Dioxane	**200**	µg/L	---			
Acetone	**7970**	µg/L	---			
Phenol	**1,080**	µg/L	300	µg/L		
C. Halogenated VOCs						
Carbon Tetrachloride	**4.4**	µg/L	1.6	µg/L		
1,2 Dichlorobenzene	**600**	µg/L	---			
1,3 Dichlorobenzene	**320**	µg/L	---			
1,4 Dichlorobenzene	**5.0**	µg/L	---			
Total dichlorobenzene	**---**	µg/L	---			
1,1 Dichloroethane	**70**	µg/L	---			
1,2 Dichloroethane	**5.0**	µg/L	---			
1,1 Dichloroethylene	**3.2**	µg/L	---			
Ethylene Dibromide	**0.05**	µg/L	---			
Methylene Chloride	**4.6**	µg/L	---			
1,1,1 Trichloroethane	**200**	µg/L	---			
1,1,2 Trichloroethane	**5.0**	µg/L	---			
Trichloroethylene	**5.0**	µg/L	---			
Tetrachloroethylene	5.0	µg/L	**3.3**	µg/L		
cis-1,2 Dichloroethylene	**70**	µg/L	---			
Vinyl Chloride	**2.0**	µg/L	---			
D. Non-Halogenated SVOCs						
Total Phthalates	**190**	µg/L	---	µg/L		
Diethylhexyl phthalate	**101**	µg/L	2.2	µg/L		
Total Group I Polycyclic Aromatic Hydrocarbons	**1.0**	µg/L	---			
Benzo(a)anthracene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Benzo(a)pyrene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Benzo(b)fluoranthene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Benzo(k)fluoranthene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Chrysene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Dibenzo(a,h)anthracene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Indeno(1,2,3-cd)pyrene	**1.0**	µg/L	0.0038	µg/L	---	µg/L
Total Group II Polycyclic Aromatic Hydrocarbons	**100**	µg/L	---			
Naphthalene	**20**	µg/L	---			
E. Halogenated SVOCs						
Total Polychlorinated Biphenyls	**0.000064**	µg/L	---		0.5	µg/L
Pentachlorophenol	**1.0**	µg/L	---			
F. Fuels Parameters						
Total Petroleum Hydrocarbons	**5.0**	mg/L	---			
Ethanol	**Report**	mg/L	---			
Methyl-tert-Butyl Ether	**70**	µg/L	20	µg/L		
tert-Butyl Alcohol	**120**	µg/L	---			
tert-Amyl Methyl Ether	**90**	µg/L	---			

Attachment D
Endangered Species Act Documentation

IPaC Information for Planning and Consultation **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

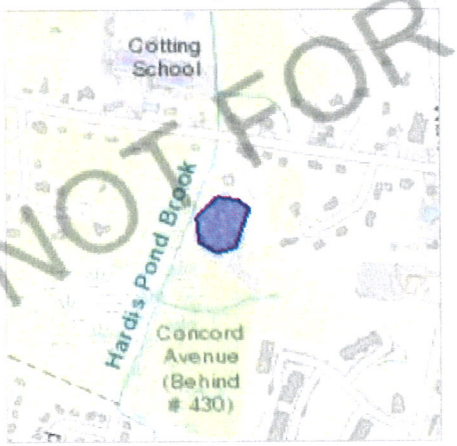
Project information

NAME

Artis Senior Living Center

LOCATION

Middlesex County, Massachusetts



DESCRIPTION

Dewatering
activities under Remediation General Permit Notice of Intent (NOI).

Local office

New England Ecological Services Field Office

(603) 223-2541

(603) 223-0104

70 Commercial Street, Suite 300
Concord, NH 03301-5094

http://www.fws.gov/newengland

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species

[1] are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Northern Long-eared Bat Myotis septentrionalis No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered

species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act

[1] and the Bald and Golden Eagle Protection Act[2].

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service

[3]. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured. Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or are known to have particular vulnerabilities in your project location. To learn more about the levels of concern for birds on your list, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your specific project area. To see maps of where birders and the general public have sighted birds in and around your project area, visit E-bird tools such as the E-bird data mapping tool (search for the scientific name of a bird on your list to see specific locations where that bird has been reported to occur within your project area over a certain time-frame) and the E-bird Explore Data Tool (perform a query to see a list of all birds sighted in your county or region and within a certain time-frame). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list can be found below.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC), but is of concern in this area either because of the Eagle Act, or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Mar 20 to Sep 15
Black-billed Cuckoo Coccyzus erythropthalmus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink Dolichonyx oryzivorus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Eastern Whip-poor-will Antrostomus vociferus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Evening Grosbeak Coccothraustes vespertinus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC), but is of concern in this area either because of the Eagle Act, or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere
Golden-winged Warbler Vermivora chrysoptera This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8745	Breeds May 1 to Jul 20
King Rail Rallus elegans This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936	Breeds May 1 to Sep 5
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere

Long-eared Owl asio otus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3631

Nelson's Sparrow Ammodramus nelsoni — Breeds May 15 to Sep 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prothonotary Warbler Protonotaria citrea — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-headed Woodpecker Melanerpes erythrocephalus — Breeds May 10 to Sep 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-throated Loon Gavia stellata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Rusty Blackbird Euphagus carolinus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Saltmarsh Sparrow Ammodramus caudacutus — Breeds May 15 to Sep 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Semipalmated Sandpiper Calidris pusilla — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Snowy Owl Bubo scandiacus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Whimbrel Numenius phaeopus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9483

Willet Tringa semipalmata — Breeds Apr 20 to Aug 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wood Thrush Hylocichla mustelina — Breeds May 10 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in your project's counties during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

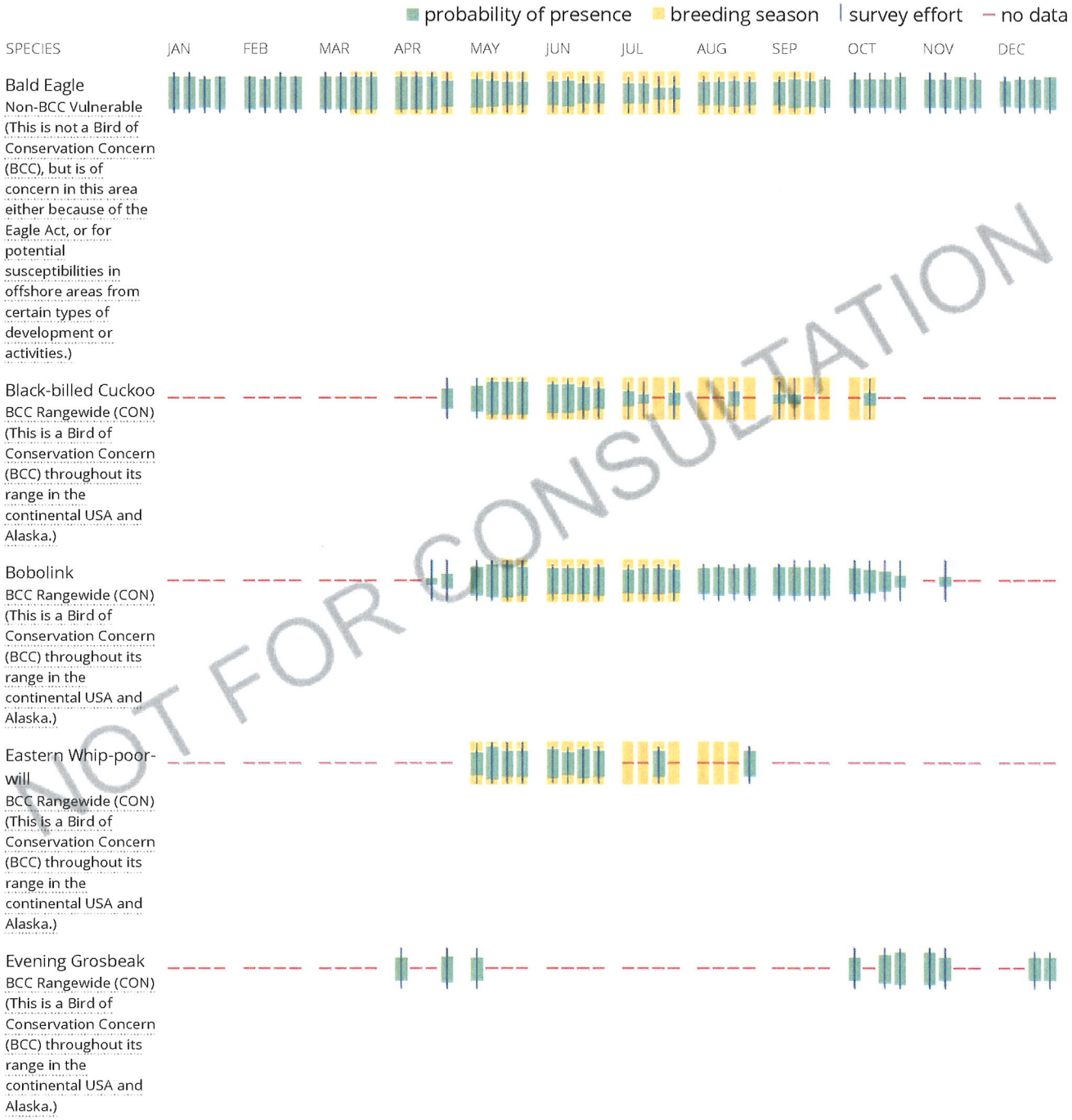
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

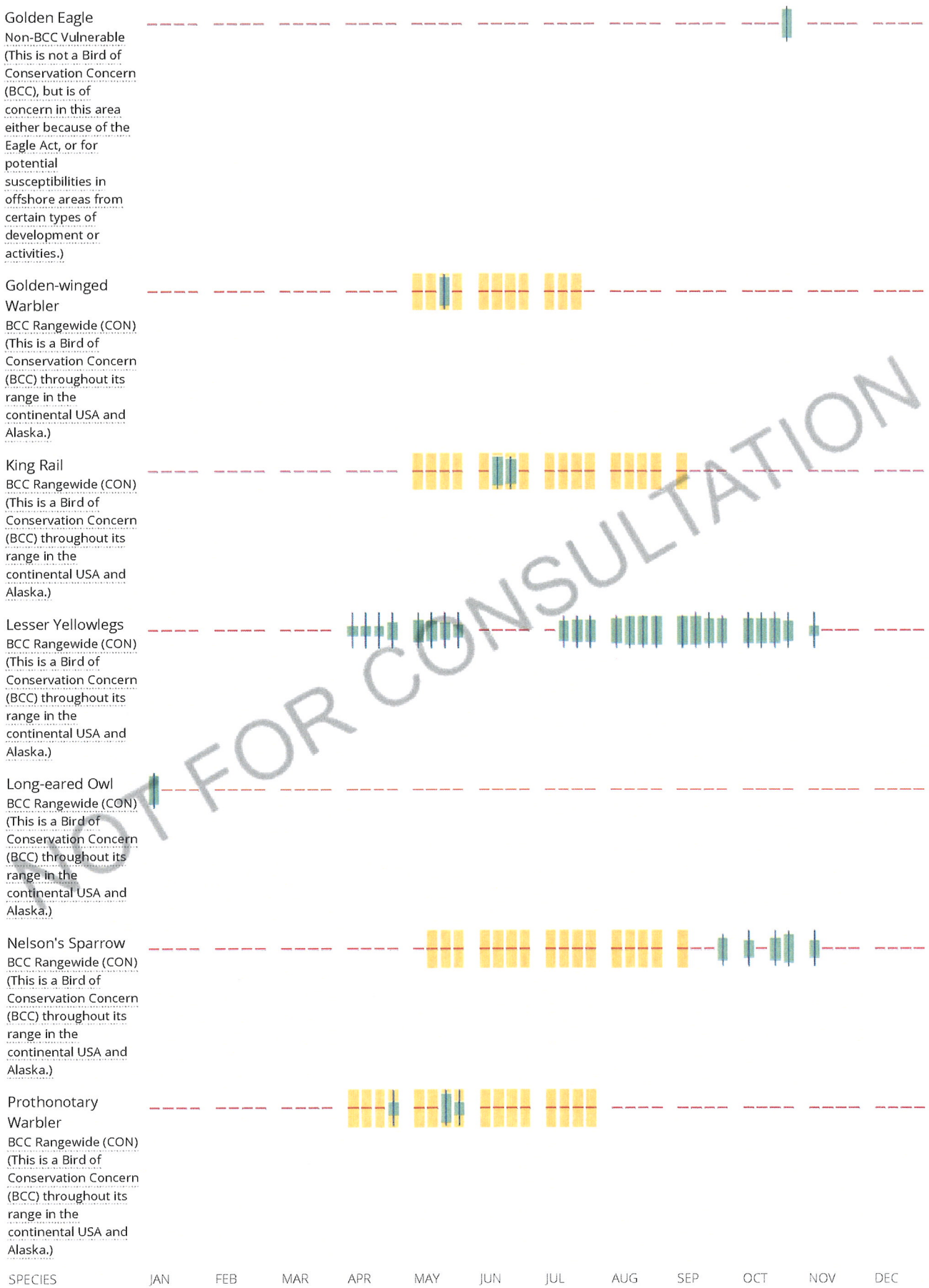
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the counties of your project area. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information.





Red-headed Woodpecker
BCC Rangewide (CON)
(This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Red-throated Loon
BCC Rangewide (CON)
(This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

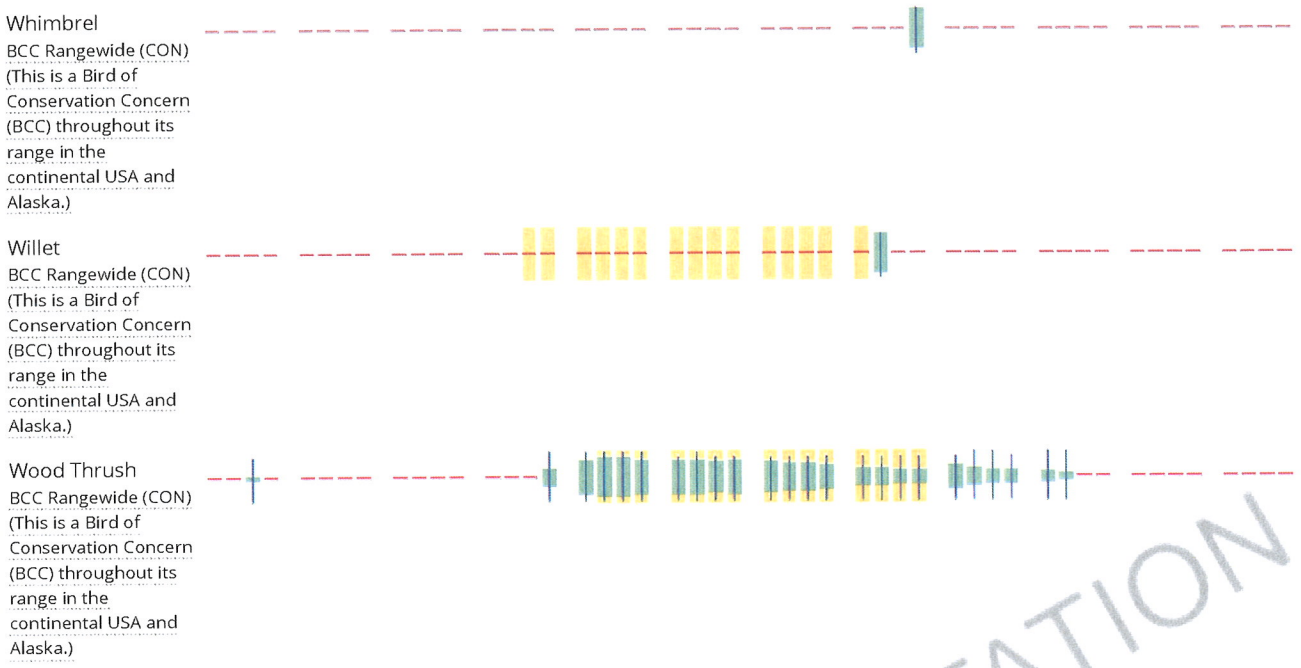
Rusty Blackbird
BCC Rangewide (CON)
(This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Saltmarsh Sparrow
BCC Rangewide (CON)
(This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Semipalmated Sandpiper
BCC Rangewide (CON)
(This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Short-billed Dowitcher
BCC Rangewide (CON)
(This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Snowy Owl
BCC Rangewide (CON)
(This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Such measures are particularly important when birds are most likely to occur in the project area. To see when birds are most likely to occur in your project area, view the Probability of Presence Summary. Special attention should be made to look for nests and avoid nest destruction during the breeding season. The best information about when birds are breeding can be found in Birds of North America (BNA) Online under the "Breeding Phenology" section of each species profile. Note that accessing this information may require a subscription. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) that might be affected by activities in your project location. These birds are of priority concern because it has been determined that without additional conservation actions, they are likely to become candidates for listing under the Endangered Species Act (ESA).

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets. The AKN list represents all birds reported to be occurring at some level throughout the year in the counties in which your project lies. That list is then narrowed to only the Birds of Conservation Concern for your project area.

Again, the Migratory Bird Resource list only includes species of particular priority concern, and is not representative of all birds that may occur in your project area. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird entry on your migratory bird species list indicates a breeding season, it is probable the bird breeds in your project's counties at some point within the time-frame specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Avoidance and minimization measures should be implemented to reduce impacts to birds on your list, and all other birds that may occur in your project area. Nationwide Standard Conservation Measures can be applied for any project, regardless of project type or location.

If measures exist that are specific to your activity or to any of the species on your list that are confirmed to exist at your project area, these should also be considered for implementation in addition to the Nationwide Standard Conservation Measures. Implementation of avoidance and minimization measures is particularly important for BCC birds of rangewide concern.

If your project has the potential to disturb or kill eagles, you will need to obtain a permit to avoid violating the BGEPA should such impacts occur.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND
PEM1E

A full description for each wetland code can be found at the National Wetlands Inventory website:
https://ecos.fws.gov/ipac/wetlands/decoder

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some

deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

G. Endangered Species Act Eligibility Determination

As required in Part 1.4.1 of the RGP and in accordance with the instructions in Appendix I, the operator must demonstrate eligibility for coverage under this general permit with regards to listed species as follows:

c. **FWS Criterion C**: Using the best scientific and commercial data available, the effect of the discharges and related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the operator and affirmed by EPA, that the discharges and related activities will have “no effect” on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the FWS.

FWS Criterion C: The operator must attach written rationale on how the determination that the discharge(s) and related activities will have “no affect” on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the Services was made.

An evaluation of Endangered Species was performed through the IPaC consultation and it was determined that the endangered species is the Northern Long-Eared Bat and because no trees are to be cut, the discharge activity will have "no effect" on this species.

New England Ecological Services Field Office (Maria Tur).

Attachment E
National Historic Preservation Act Documentation

National Register of Historic Places

Public, non-restricted data depicting National Register spatial data processed by the Cultural Resources GIS facility. Data last updated in April, 2014.

National Park Service
U.S. Department of the Interior

Attachment F
Notification Letters

December 20, 2017

Director of Public Health
Town Office Building
1625 Massachusetts Avenue
Lexington, MA 02420

RE: Notification of Release Abatement Measure Plan Modification and Notice of Intent for Remediation General Permit
Artis Senior Living of Lexington, LLC
430 Concord Avenue
Lexington, MA
RTN 3-33267

To the Director of Public Health:

Apex Companies, LLC (Apex), on behalf of Artis Senior Living of Lexington, LLC and pursuant to 310 CMR 40.1403(3)(d), is hereby providing notification that the Release Abatement Measure (RAM) Plan filed with the Massachusetts Department of Environmental Protection (MassDEP) on September 15, 2017 has been modified. The purpose of the RAM Plan Modification is to modify the existing RAM Plan to allow for the management of remedial wastewater generated by construction-related dewatering. A copy of the RAM Plan Modification may be obtained or reviewed at the MassDEP Northeast Regional Office located at 205B Lowell Street, Wilmington, MA or downloaded on-line at:

http://public.dep.state.ma.us/SearchableSites2/Search.aspx

A Notice of Intent (NOI) for discharge of this remedial wastewater has been filed concurrently with the United State Environmental Protection Agency (USEPA) in accordance with the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP). A copy of the NOI may be downloaded on-line at:

https://www.epa.gov/npdes-permits/remediation-general-permit-rgp-massachusetts-new-hampshire

Should you have any questions, please do not hesitate to contact the undersigned at (860) 282-1700.

Sincerely,
APEX COMPANIES, LLC

Eric Henry, LEP, LSP
Principal Hydrogeologist

December 20, 2017

Town Manager
Town Office Building
1625 Massachusetts Ave
Lexington, MA 02420

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