UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
BOSTON, MA 02109-3912

CERTIFIED MAIL RETURN RECEIPT REQUESTED

SEP 03 2014

Kenneth Racicot
General Manager
C.J. Mabardy
50 Mooney Street,
Cambridge, MA 02138

Re: Authorization to discharge under the Remediation General Permit (RGP) – MAG910000. Worcester State University site located at 486 Chandler Street, Worcester, MA 01602 Worcester County; Authorization # MAG910637

Dear Mr. Racicot:

Based on the review of a Notice of Intent (NOI) submitted by Paul Lockwood from Lockwood Remediation Technology, Inc., on behalf of C.J. Mabardy, for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named Operator, to discharge in accordance with the provisions of the RGP at that site. Your authorization number is listed above.

The checklist enclosed with this RGP authorization indicates the pollutants which you are required to monitor. Also indicated on the checklist are the effluent limits, test methods and minimum levels (MLs) for each pollutant. Please note that the checklist does not represent the complete requirements of the RGP. Operators must comply with all of the applicable requirements of this permit, including influent and effluent monitoring, narrative water quality standards, record keeping, and reporting requirements, found in Parts I and II, and Appendices I – VIII of the RGP. See EPA's website for the complete RGP and other information at: http://www.epa.gov/region1/npdes/mass.html#dgp.

Please note the enclosed checklist includes parameters marked "Believed Present" by your consultant. The checklist also includes other parameters for which your laboratory reports indicated there was insufficient sensitivity to detect these parameters at the minimum levels established in Appendix VI of the RGP, and volatile organics (VOs) reported present at the site.

Also, please note that the metals included on the checklist are dilution dependent pollutants and subject to limitations based on a dilution factor range (DFR). With the absence of dilution to the wetland receiving the treated effluent, EPA determined that the

DFR for each parameter is in the one and five (1-5) range. (See the RGP Appendix IV for Massachusetts facilities) Therefore, the limits for antimony of 5.6 ug/L, arsenic of 10 ug/L, cadmium of 0.2 ug/L, trivalent chromium of 48.8 ug/L, hexavalent chromium of 11.4 ug/L, copper of 5.2 ug/L, lead of 1.3 ug/L, mercury of 0.9 ug/L, nickel of 29 ug/L, selenium of 5 ug/L, silver of 1.2 ug/L, zinc of 66.6 ug/L and iron of 1,000 ug/L, are required to achieve permit compliance at your site.

Finally, please note the checklist of pollutants attached to this authorization is subject to a recertification if the operations at the site result in a discharge lasting longer than six months. A recertification can be submitted to EPA within six (6) to twelve (12) months of operations in accordance with the 2010 RGP regulations.

This general permit and authorization to discharge will expire on September 9, 2015. You have reported that this project will terminate on December 31, 2014. You are required to submit a Notice of Termination (NOT) to the attention of the contact person indicated below within 30 days of project completion.

Thank you in advance for your cooperation in this matter. Please contact Victor Alvarez at 617-918-1572 or Alvarez.Victor@epa.gov, if you have any questions.

Sincerely,

Thelma Murphy

Thelma Murphy, Chief
Storm Water and Construction
Permits Section

Enclosure

cc: Robert Kubit, MassDEP
Peter Sellers, Framingham PWD
Paul Lockwood, Lockwood Remediation Technologies, LLC

2010 Remediation General Permit
Summary of Monitoring Parameters[1]

NPDES Authorization Number:	**MAG910635**
Authorization Issued:	August, 2014
Facility/Site Name:	Worcester State University
Facility/Site Address:	486 Chandler Street, Worcester, Massachusetts 01602
	Email address of owner: DCAMM/ info.dcamm@state.ma.us
Legal Name of Operator:	C.J.Mabardy
Operator contact name, title, and Address:	Kenneth Racicot-General Manager/ Mike Hosley, Field Project Manager 50 Mooney Street, Cambridge, MA 02138,
	Email: mikehosley@cjmabardy.com
Estimated date of the site's Clean up Completion:	December 31, 2014
Category and Sub-Category:	Petroleum Related Site Remediation. Subcategory B. Fuel Oils and Other Oil Sites
RGP Termination Date:	September 10, 2015
Receiving Water:	Wetland

Monitoring & Limits are applicable if checked. All samples are to be collected as grab samples

	Parameter	**Effluent Limit/Method#/ML** (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
√	1. Total Suspended Solids (TSS)	30 milligrams/liter (mg/L) **, 50 mg/L for hydrostatic testing ** Me#160.2/ML5ug/L
	2. Total Residual Chlorine (TRC) [1]	Freshwater = 11 ug/L ** Saltwater = 7.5 ug/L **/ Me#330.5/ML 20ug/L
√	3. Total Petroleum Hydrocarbons (TPH)	5.0 mg/L/ Me# 1664A/ML 5.0mg/L
√	4. Cyanide (CN) [2, 3]	Freshwater = 5.2 ug/l ** Saltwater = 1.0 ug/L **/ Me#335.4/ML 10ug/L
	5. Benzene (B)	5ug/L /50.0 ug/L for hydrostatic testing only/ Me#8260C/ML 2 ug/L
	6. Toluene (T)	(limited as ug/L total BTEX)/ Me#8260C/ ML 2ug/L
	7. Ethylbenzene (E)	(limited as ug/L total BTEX) Me#8260C/ ML 2ug/L
	8. (m,p,o) Xylenes (X)	(limited as ug/L total BTEX) Me#8260C/

	Parameter	Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
		ML 2ug/L
√	9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) [4]	100 ug/L/ Me#8260C/ ML 2ug/L
√	10. Ethylene Dibromide (EDB) (1,2- Dibromoethane)	0.05 ug/l/ Me#8260C/ ML 10ug/L
	11. Methyl-tert-Butyl Ether (MtBE)	70.0 ug/l/Me#8260C/ML 10ug/L
	12.tert-Butyl Alcohol (TBA) (TertiaryButanol)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
	13. tert-Amyl Methyl Ether (TAME)	Monitor Only(ug/L)/Me#8260C/ML 10ug/L
√	14. Naphthalene [5]	20 ug/L /Me#8260C/ML 2ug/L
√	15. Carbon Tetrachloride	4.4 ug/L /Me#8260C/ ML 5ug/L
	16. 1,2 Dichlorobenzene (o-DCB)	600 ug/L /Me#8260C/ ML 5ug/L
	17. 1,3 Dichlorobenzene (m-DCB)	320 ug/L /Me#8260C/ ML 5ug/L
	18. 1,4 Dichlorobenzene (p-DCB)	5.0 ug/L /Me#8260C/ ML 5ug/L
	18a. Total dichlorobenzene	763 ug/L - NH only /Me#8260C/ ML 5ug/L
	19. 1,1 Dichloroethane (DCA)	70 ug/L /Me#8260C/ ML 5ug/L
	20. 1,2 Dichloroethane (DCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
√	21. 1,1 Dichloroethene (DCE)	3.2 ug/L/Me#8260C/ ML 5ug/L
	22. cis-1,2 Dichloroethene (DCE)	70 ug/L/Me#8260C/ ML 5ug/L
	23. Methylene Chloride	4.6 ug/L/Me#8260C/ ML 5ug/L
	24. Tetrachloroethene (PCE)	5.0 ug/L/Me#8260C/ ML 5ug/L
	25. 1,1,1 Trichloro-ethane (TCA)	200 ug/L/Me#8260C/ ML 5ug/L
√	26. 1,1,2 Trichloro-ethane (TCA)	5.0 ug/L /Me#8260C/ ML 5ug/L
	27. Trichloroethene (TCE)	5.0 ug/L /Me#8260C/ ML 5ug/L
	28. Vinyl Chloride (Chloroethene)	2.0 ug/L /Me#8260C/ ML 5ug/L
	29. Acetone	Monitor Only(ug/L)/Me#8260C/ML 50ug/L
	30. 1,4 Dioxane	Monitor Only /Me#1624C/ML 50ug/L
√	31. Total Phenols	300 ug/L Me#420.1&420.2/ML 2 ug/L/ Me# 420.4 /ML 50ug/L
√	32. Pentachlorophenol (PCP)	1.0 ug/L /Me#8270D/ML 5ug/L,Me#604 &625/ML 10ug/L
√	33. Total Phthalates (Phthalate esters) [6]	3.0 ug/L ** /Me#8270D/ML 5ug/L, Me#606/ML 10ug/L& Me#625/ML 5ug/L
	34. Bis (2-Ethylhexyl) Phthalate [Di- (ethylhexyl) Phthalate]	6.0 ug/L /Me#8270D/ML 5ug/L,Me#606/ML 10ug/L & Me#625/ML 5ug/L

	Parameter	Effluent Limit/Method#/ML (All Effluent Limits are shown as Daily Maximum Limit, unless denoted by a **, in that case it will be a Monthly Average Limit)
	35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)	10.0 ug/L
	a. Benzo(a) Anthracene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	b. Benzo(a) Pyrene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	c. Benzo(b)Fluoranthene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	d. Benzo(k)Fluoranthene [7]	0.0038 ug/L /Me#8270D/ ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	e. Chrysene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	f. Dibenzo(a,h)anthracene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML 5ug/L
	g. Indeno(1,2,3-cd) Pyrene [7]	0.0038 ug/L /Me#8270D/ML 5ug/L, Me#610/ML 5ug/L& Me#625/ML5ug/L
	36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)	100 ug/L
	h. Acenaphthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	i. Acenaphthylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	j. Anthracene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	k. Benzo(ghi) Perylene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	l. Fluoranthene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	m. Fluorene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	n. Naphthalene [5]	20 ug/l / Me#8270/ML 5ug/L, Me#610/ML 5ug/L & Me#625/ML 5ug/L
	o. Phenanthrene	X/Me#8270D/ML 5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
√	p. Pyrene	X/Me#8270D/ML5ug/L,Me#610/ML 5ug/L & Me#625/ML 5ug/L
	37. Total Polychlorinated Biphenyls (PCBs) [8, 9]	0.000064 ug/L/Me# 608/ ML 0.5 ug/L
√	38. Chloride	Monitor only/Me# 300.0/ ML 100 ug/L

	Metal parameter	Total Recoverable MA/Metal Limit H [10] = 50 mg/l CaCO3, Units = ug/l [11/12] Freshwater Limits	Minimum level=ML
√	39. Antimony	5.6	ML 10
√	40. Arsenic **	10	ML 20
√	41. Cadmium **	0.2	ML 10
√	42. Chromium III (trivalent) **	48.8	ML 15
√	43. Chromium VI (hexavalent) **	11.4	ML 10
√	44. Copper **	5.2	ML 15
√	45. Lead **	1.3	ML 20
	46. Mercury **	0.9	ML 02
√	47. Nickel **	29	ML 20
√	48. Selenium **	5	ML 20
√	49. Silver	1.2	ML 10
√	50. Zinc **	66.6	ML 15
√	51. Iron	1,000	ML 20

	Other Parameters	Limit
√	52. Instantaneous Flow	Site specific in CFS
√	53. Total Flow	Site specific in CFS
√	54. pH Range for Class A & Class B Waters in MA	6.5-8.3; 1/Month/Grab[13]
	55. pH Range for Class SA & Class SB Waters in MA	6.5-8.3; 1/Month/Grab[13]
	56. pH Range for Class B Waters in NH	6.5-8; 1/Month/Grab[13]
	57. Daily maximum temperature - Warm water fisheries	83°F; 1/Month/Grab[14]
	58. Daily maximum temperature - Cold water fisheries	68°F; 1/Month/Grab[14]
	59. Maximum Change in Temperature in MA - Any Class A water body	1.5°F; 1/Month/Grab[14]
	60. Maximum Change in Temperature in MA - Any Class B water body- Warm Water	5°F; 1/Month/Grab[14]
	61. Maximum Change in Temperature in MA – Any Class B water body - Cold water and Lakes/Ponds	3°F; 1/Month/Grab[14]
	62. Maximum Change in Temperature in MA – Any Class SA water body - Coastal	1.5°F; 1/Month/Grab[14]
	63. Maximum Change in Temperature in MA – Any Class SB water body - July to September	1.5°F; 1/Month/Grab[14]
	64. Maximum Change in Temperature in MA –Any Class SB water body - October to June	4°F; 1/Month/Grab[14]

Footnotes:

[1] Although the maximum values for TRC are 11ug/l and 7.5 ug/l for freshwater, and saltwater respectively, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., Method 330.5, 20 ug/l).
[2] Limits for cyanide are based on EPA's water quality criteria expressed as micrograms per liter. There is currently no EPA approved test method for free cyanide. Therefore, total cyanide must be reported.
[3] Although the maximum values for cyanide are 5.2 ug/l and 1.0 ug/l for freshwater and saltwater, respectively, the compliance limits are equal to the minimum level (ML) of the Method 335.4 as listed in Appendix VI (i.e., 10 ug/l).
[4] BTEX = sum of Benzene, Toluene, Ethylbenzene, and total Xylenes.
[5] Naphthalene can be reported as both a purgeable (VOC) and extractable (SVOC) organic compound. If both VOC and SVOC are analyzed, the highest value must be used unless the QC criteria for one of the analyses is not met. In such cases, the value from the analysis meeting the QC criteria must be used.
[6] The sum of individual phthalate compounds(not including the #34, Bis (2-Ethylhexyl) Phthalate . The compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.
Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measurement of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.
[7] Although the maximum value for the individual PAH compounds is 0.0038 ug/l, the compliance limits are equal to the minimum level (ML) of the test method used as listed in Appendix VI.
[8] In the November 2002 WQC, EPA has revised the definition of Total PCBs for aquatic life as total PCBs is the sum of all homologue, all isomer, all congener, or all "Oroclor analyses."Total values calculated for reporting on NOIs and discharge monitoring reports shall be calculated by adding the measured concentration of each constituent. If the measure of a constituent is less than the ML, the permittee shall use a value of zero for that constituent. For each test, the permittee shall also attach the raw data for each constituent to the discharge monitoring report, including the minimum level and minimum detection level for the analysis.
[9]Although the maximum value for total PCBs is 0.000064 ug/l, the compliance limit is equal to the minimum level (ML) of the test method used as listed in Appendix VI (i.e., 0.5 ug/l for Method 608 or 0.00005 ug/l when Method 1668a is approved).
[10] Hardness. Cadmium, Chromium III, Copper, Lead, Nickel, Silver, and Zinc are Hardness Dependent.
[11] For a Dilution Factor (DF) from 1 to 5, metals limits are calculated using DF times the base limit for the metal. See Appendix IV. For example, iron limits are calculated using DF x 1,000ug/L (the iron base limit). Therefore DF is 1.5, the iron limit will be 1,500 ug/L; DF 2, then iron limit =1,000 x 2 =2,000 ug/L., etc. not to exceed the DF=5.
[12] Minimum Level (ML) is the lowest level at which the analytical system gives a recognizable signal and acceptable calibration point for the analyte. The ML represents the lowest concentration at which an analyte can be measured with a known level of confidence. The ML is calculated by multiplying the laboratory-determined method detection limit by 3.18 (see 40 CFR Part 136, Appendix B).
[13] pH sampling for compliance with permit limits may be performed using field methods as provided for in EPA test Method 150.1.
[14] Temperature sampling per Method 170.1

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Fax: 888.835.0617
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August 13, 2014

U.S. Environmental Protection Agency—Region 1
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, Massachusetts 02109-3912
Attn.: Remediation General Permit NOI Processing

Reference: Notice of Intent
NPDES Remediation General Permit
Worcester State University - New Athletic Center Building
486 Chandler Street
Worcester, Massachusetts
LRT Reference #2-1176

To whom it may concern:

On behalf of C.J. Mabardy, Inc. (CJM), Lockwood Remediation Technologies, LLC (LRT) has prepared this Notice of Intent (NOI) for coverage under the National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP), Massachusetts General Permit (MAG910000). This NOI was prepared in accordance with the general requirements of the NPDES and related guidance documentation provided by the US Environmental Protection Agency (EPA). The completed NOI form is provided in Appendix A.

Site Information

This NOI has been prepared for the management of water generated from construction dewatering for the installation of utilities and drainage at the new athletic center located on the campus of Worcester State University in Worcester, Massachusetts (the Site). Please refer to Figure 1 Site Plan for a locus map and an overview of the immediate area surrounding the Site. The work area is bounded to the north and east by Chandler Street, and to the south and west by the Worcester State University athletic fields as depicted on Figure 2 Site Plan. The proposed discharge location is to a storm water outfall which ultimately discharges to a wetlands located to the southwest corner of the Site as depicted in Figure 3.

Work Summary

The work scope involves localized excavations for the installation of utilities and drainage systems at the location of the new athletic center building on the campus of Worcester State University. This work requires dewatering within the excavations to complete work in the “dry”. Water generated from the excavations will be handled in accordance with A Best Management Practices Plan included as Appendix

B. To characterize water from the excavation, LRT collected a sample from well MW-10 on July 30, 2014 per NPDES RGP requirements. These samples were analyzed for the parameters specified for this RGP NOI. Laboratory data reports for these samples are provided in Appendix C.

Discharge and Receiving Surface Water Information

Based on analytical results of groundwater samples collected by LRT, there are detectable concentrations of total suspended solids (TSS), semi-volatile organic compounds (SVOCs), metals and cyanide that exceed the applicable discharge concentrations. Although TSS concentrations exceed the discharge criteria, it is expected to be significantly reduced via settling occurring in influent equalization tank and also by the filtration that occurs as part of the wastewater treatment plant provided. Any residual VOCs or SVOCs are expected to be reduced by the carbon treatment. LRT has assumed that metal concentrations will also be reduced in conjunction with reducing the TSS. If metal concentrations still exceed discharge criteria, a metals reduction system will be implemented. Similarly, a cyanide reduction system can be utilized if the cyanide concentrations exceed the discharge criteria. Refer to Figure 4 for a proposed water treatment system layout.

Calculation of Dilution Criteria

The discharge location for the proposed treatment system is to a storm drain that ultimately discharges to wetlands. Therefore since the receiving water body is not a stream, the dilution criteria do not apply.

Consultation with Federal Services

LRT reviewed online electronic data viewers and databases from the Massachusetts Geographical Information System (MassGIS) and the Massachusetts Division of Fisheries and Wildlife (MassWildlife; Natural Heritage and Endangered Species Program), and the U.S. National Parks Service Natural Historic Places (NPS). Based on this review, neither the Site nor the point where the proposed discharge reaches the receiving surface water body are Areas of Critical Environmental Concern (ACEC), Habitats of Rare Wetland Wildlife, Habitats of Rare Species or Estimated Habitats of Rare Wildlife or listed as a National Historic Place. Refer to Appendix D for supporting documentation.

Coverage under NPDES RGP

It is our opinion that the proposed discharge is eligible for coverage under the NPDES RGP. On behalf of CJM, we are requesting coverage under the NPDES RGP for the discharge of wastewater during construction activities to the wetlands located adjacent to the Site.

The enclosed NOI form provides required information on the general site conditions, discharge, treatment system, receiving water, and consultation with federal services. For this project, CJM has operational control over the construction plans and specifications, including the ability to make modifications to those plans and specifications.

Please feel free to contact us at 774-450-7177 or at plockwood@lrt-llc.net if you have any questions or if you require additional information.

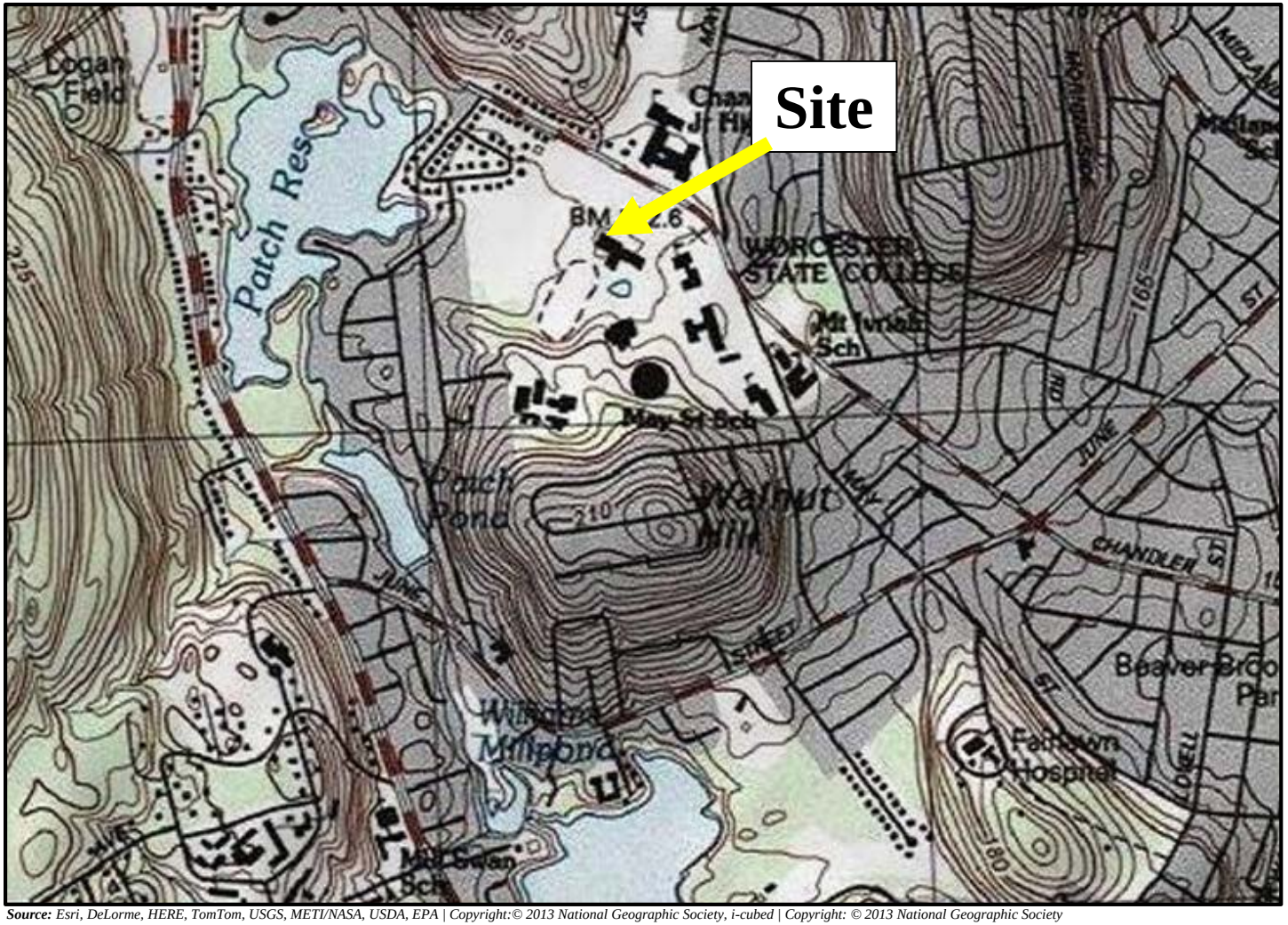
Sincerely,
Lockwood Remediation Technologies, LLC

Paul Lockwood

Paul Lockwood
President

Attachments: Figure 1 - Locus Plan
Figure 2 - Site Plan
Figure 3 - Proposed Dewatering Discharge Location
Figure 4 - Proposed System Layout
Appendix A – NOI Form
Appendix B – Best Management Practices Plan
Appendix C – Laboratory Data
Appendix D – Federal Services Supporting Documentation

Figures



Source: Esri, DeLorme, HERE, TomTom, USGS, METI/NASA, USDA, EPA | Copyright:© 2013 National Geographic Society, i-cubed | Copyright: © 2013 National Geographic Society

Notes:

1.) Figure is not to scale.

Site Location

Latitude: 42.268671
Longitude: -71.841371

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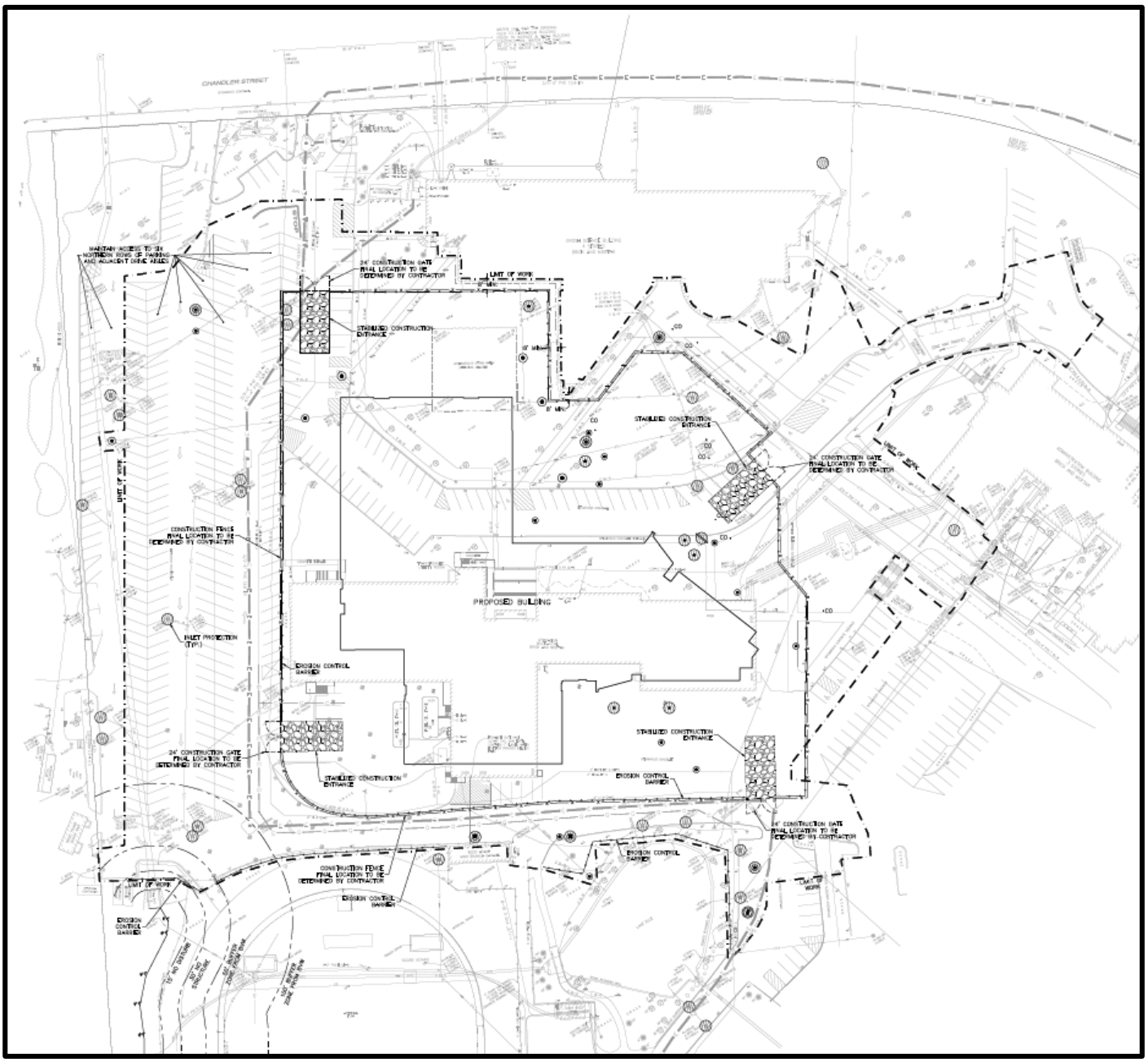
Tel: 774.450.7177
Fax: 888.835.0617
www.lrt-llc.net

Figure 1 – Locus Plan
Worcester State University – New Athletic Center Building
486 Chandler Street
Worcester, MA



Source: *DCAMM Project Number WOR0801-DC-1: Erosion and Sediment Control Plan DWG C200, 05/20/14*

Notes:

1.) Figure is not to scale.

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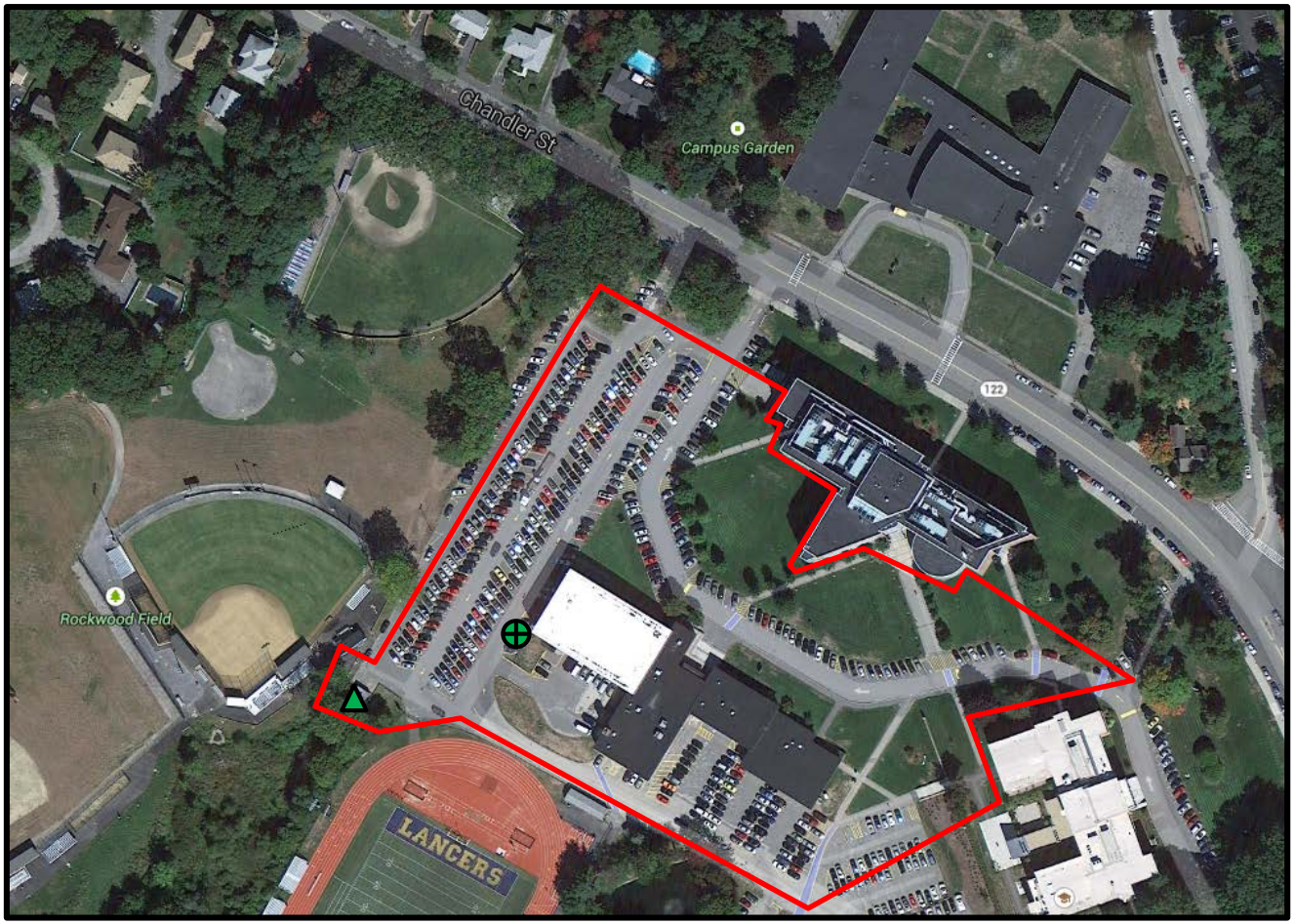
Figure 2 – Site Plan
Worcester State University – New Athletic Center Building
486 Chandler Street
Worcester, MA



Source: Imagery @2014 DigitalGlobe, MassGIS Commonwealth of Massachusetts EOEA, USDA Farm Service Agency, Map data @2014 Google

N

Notes:

1.) Figure is not to scale.

KEY

Approximate Work Area
Proposed Treatment Discharge Point
Proposed Discharge Point

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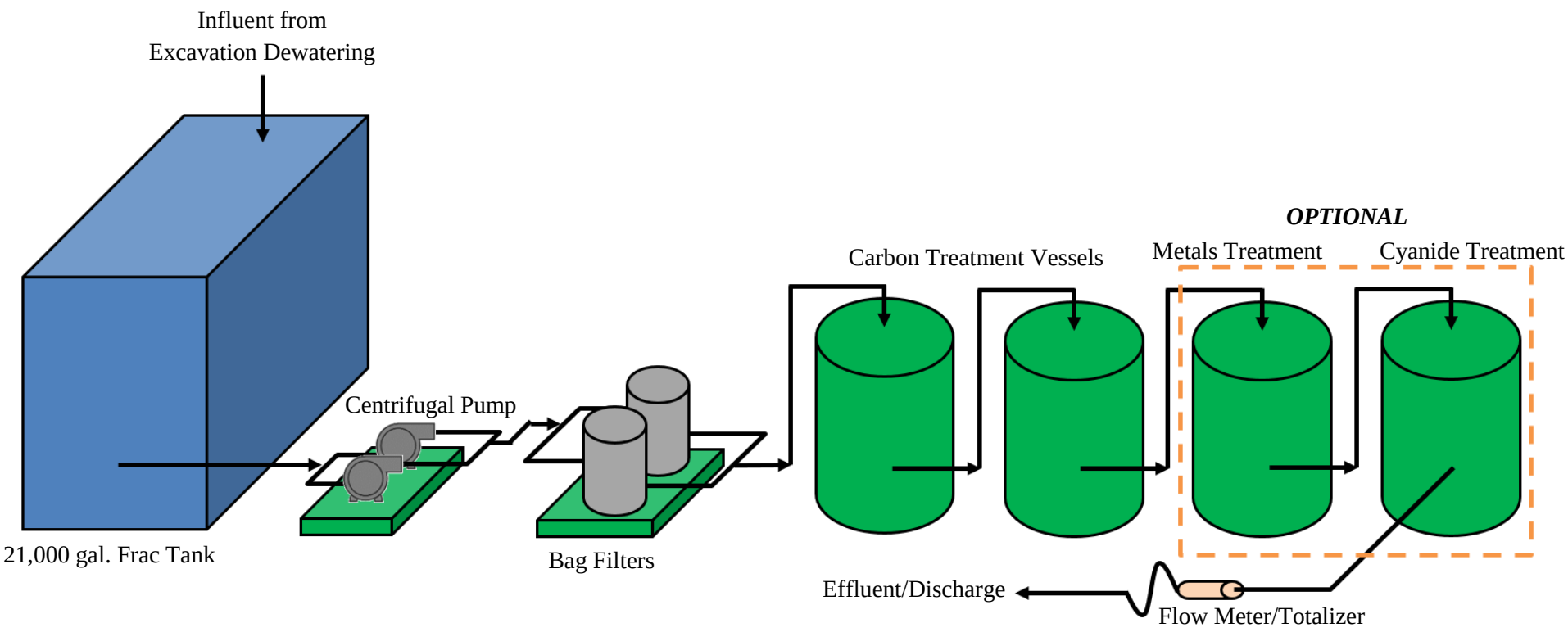
Figure 3 – Proposed Dewatering Discharge Location
Worcester State University – New Athletic Center Building
486 Chandler Street
Worcester, MA



Notes:

1.) Figure is not to scale.
2.) The water treatment system is rated for 100 gallons per minute.
3.) All discharge water shall be routed to the treatment system.
4.) This figure is property of Lockwood Remediation Technologies, LLC.

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Leominster, Massachusetts 01453
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Figure 4 – Proposed System Layout
Worcester State University – New Athletic Center Building
486 Chandler Street
Worcester, MA

Appendix A
NOI Form

B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General facility/site information. Please provide the following information about the site:

a) Name of **facility/site**: Worcester State University		**Facility/site** mailing address:			
Location of **facility/site**: longitude: -71.841371 latitude: 42.268671	Facility SIC code(s): 8221	Street: 486 Chandler Street			
b) Name of **facility/site owner:**		Town: Worcester			
Email address of facility/site owner: DCAMM info.dcamm@state.ma.us		State: Massachusetts	Zip: 01602	County: Worcester	
Telephone no. of facility/site **owner**: 617-727-4050					
Fax no. of facility/site **owner**: 617-727-5363		**Owner** is (check one): 1. Federal ○ 2. State/Tribal ⊙ 3. Private ○ 4. Other ○ if so, describe:			
Address of **owner** (if different from site):					
Street: One Ashburton Place					
Town: Boston	State: MA	Zip: 02108	County: Suffolk		
c) Legal name of **operator**:	**Operator** telephone no: 617-354-1839				
C.J. Mabardy	**Operator** fax no.: 617-864-9057	**Operator** email: mikehosley@cjmabardy.com			
Operator contact name and title: Mike Hosley - Project Manager					
Address of **operator** (if different from owner):	Street: 50 Mooney Street				
Town: Cambridge	State: MA	Zip: 02138	County: Middlesex		

d) Check Y for "yes" or N for "no" for the following:
1. Has a prior NPDES permit exclusion been granted for the discharge? Y ○ N ⊙, if Y, number:
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge?
Y ○ N ⊙, if Y, date and tracking #:
3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Y ⊙ N ○
4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y ⊙ N ○

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y ○ N ⊙
If Y, please list:
1. site identification # assigned by the state of NH or MA: MA
2. permit or license # assigned: RTN # 2-14672
3. state agency contact information: name, location, and telephone number:

NERO - MADEP
205B Lowell Street
Wilmington, Massachusetts 01887 (978-694-3200)

f) Is the site/facility covered by any other EPA permit, including:
1. Multi-Sector General Permit? Y ○ N ⊙,
if Y, number:
2. Final Dewatering General Permit? Y ○ N ⊙,
if Y, number:
3. EPA Construction General Permit? Y ○ N ⊙,
if Y, number:
4. Individual NPDES permit? Y ○ N ⊙,
if Y, number:
5. any other water quality related individual or general permit? Y ○ N ⊙, if Y, number:

g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y ○ N ⊙

h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.

Activity Category	**Activity Sub-Category**
I - Petroleum Related Site Remediation	A. Gasoline Only Sites ☐ B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) ☒ C. Petroleum Sites with Additional Contamination ☐
II - Non Petroleum Site Remediation	A. Volatile Organic Compound (VOC) Only Sites ☐ B. VOC Sites with Additional Contamination ☐ C. Primarily Heavy Metal Sites ☐
III - Contaminated Construction Dewatering	A. General Urban Fill Sites ☐ B. Known Contaminated Sites ☐

IV - Miscellaneous Related Discharges	A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites ☐ B. Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites ☐ C. Hydrostatic Testing of Pipelines and Tanks ☐ D. Long-Term Remediation of Contaminated Sumps and Dikes ☐ E. Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit) ☐

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as necessary) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:

Water from a dewatering system for a construction project.

b) Provide the following information about each discharge:

1) Number of discharge points: 1	2) What is the **maximum** and **average flow rate** of discharge (in cubic feet per second, ft^3/s)? Max. flow 0.22 Is maximum flow a **design value**? Y ⊙ N ○ Average flow (include units) 70 Gal/Min Is average flow a design value or estimate? Design

3) Latitude and longitude of each discharge within 100 feet:

pt.1: lat	42.269258	long	-71.844638	pt.2: lat.		long.	;
pt.3: lat		long		pt.4: lat.		long.	;
pt.5: lat		long		pt.6: lat.		long.	;
pt.7: lat		long		pt.8: lat.		long.	; etc.

4) If hydrostatic testing, total volume of the discharge (gals):	5) Is the discharge intermittent ⊙ or seasonal ○ ? Is discharge ongoing? Y ⊙ N ○

c) Expected dates of discharge (mm/dd/yy): start August 2014 end December 2014

d) Please attach a line drawing or flow schematic showing water flow through the facility including:
1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s). See Figures 2, 3 and 4

3. Contaminant information.

a) Based on the sub-category selected (see Appendix III), indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
1. Total Suspended Solids (TSS)		☐	☒	1	Grab	2540D	4,000	3,320,000			
2. Total Residual Chlorine (TRC)		☒	☐	1	Grab	4500	20	ND<20			
3. Total Petroleum Hydrocarbons (TPH)		☒	☐	1	Grab	8100M	150	609			
4. Cyanide (CN)	57125	☐	☒	1	Grab	SM4500	20	27.2			
5. Benzene (B)	71432	☒	☐	1	Grab	8260	2	ND<2			
6. Toluene (T)	108883	☒	☐	1	Grab	8260	2	ND<2			
7. Ethylbenzene (E)	100414	☒	☐	1	Grab	8260	2	ND<2			
8. (m,p,o) Xylenes (X)	108883; 106423; 95476; 1330207	☒	☐	1	Grab	8260	2	ND<2			
9. Total BTEX [2]	n/a	☒	☐	1	Grab	8260	2	ND<2			
10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) [3]	106934	☒	☐	1	Grab	8260	2	ND<2			
11. Methyl-tert-Butyl Ether (MtBE)	1634044	☒	☐	1	Grab	8260	2	ND<2			
12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)	75650	☐	☐								

* Numbering system is provided to allow cross-referencing to Effluent Limits and Monitoring Requirements by Sub-Category included in Appendix III, as well as the Test Methods and Minimum Levels associated with each parameter provided in Appendix VI.

[2] BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

[3] EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
13. tert-Amyl Methyl Ether (TAME)	9940508	☐	☐								
14. Naphthalene	91203	☒	☐	1	Grab	8260	10	<10			
15. Carbon Tetrachloride	56235	☒	☐	1	Grab	8260	2	ND<2			
16. 1,2 Dichlorobenzene (o-DCB)	95501	☒	☐	1	Grab	8260	2	ND<2			
17. 1,3 Dichlorobenzene (m-DCB)	541731	☒	☐	1	Grab	8260	2	ND<2			
18. 1,4 Dichlorobenzene (p-DCB)	106467	☒	☐	1	Grab	8260	2	ND<2			
18a. Total dichlorobenzene		☒	☐	1	Grab	8260	2	ND<2			
19. 1,1 Dichloroethane (DCA)	75343	☒	☐	1	Grab	8260	2	ND<2			
20. 1,2 Dichloroethane (DCA)	107062	☒	☐	1	Grab	8260	2	ND<2			
21. 1,1 Dichloroethene (DCE)	75354	☒	☐	1	Grab	8260	2	ND<2			
22. cis-1,2 Dichloroethene (DCE)	156592	☒	☐	1	Grab	8260	2	ND<2			
23. Methylene Chloride	75092	☒	☐	1	Grab	8260	5	ND<5			
24. Tetrachloroethene (PCE)	127184	☒	☐	1	Grab	8260	2	ND<2			
25. 1,1,1 Trichloro-ethane (TCA)	71556	☒	☐	1	Grab	8260	2	ND<2			
26. 1,1,2 Trichloro-ethane (TCA)	79005	☒	☐	1	Grab	8260	2	ND<2			
27. Trichloroethene (TCE)	79016	☒	☐	1	Grab	8260	2	ND<2			

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
28. Vinyl Chloride (Chloroethene)	75014	☒	☐	1	Grab	8260	2	ND<2			
29. Acetone	67641	☒	☐	1	Grab	8260	50	ND<50			
30. 1,4 Dioxane	123911	☐	☐								
31. Total Phenols	108952	☐	☒	1	Grab	8270	1.39	1.52			
32. Pentachlorophenol (PCP)	87865	☒	☐	1	Grab	8270	34.7	ND<34.7			
33. Total Phthalates (Phthalate esters) [4]		☒	☐	1	Grab	8270	34.7	ND<34.7			
34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate]	117817	☒	☐	1	Grab	8270	34.7	ND<34.7			
35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH)		☐	☐								
a. Benzo(a) Anthracene	56553	☒	☐	1	Grab	8270	0.139	ND<0.139			
b. Benzo(a) Pyrene	50328	☒	☐	1	Grab	8270	0.139	ND<0.139			
c. Benzo(b)Fluoranthene	205992	☒	☐	1	Grab	8270	0.139	ND<0.139			
d. Benzo(k)Fluoranthene	207089	☒	☐	1	Grab	8270	0.139	ND<0.139			
e. Chrysene	21801	☒	☐	1	Grab	8270	1.39	ND<1.39			
f. Dibenzo(a,h)anthracene	53703	☒	☐	1	Grab	8270	0.139	ND<0.139			
g. Indeno(1,2,3-cd) Pyrene	193395	☒	☐	1	Grab	8270	0.139	ND<0.139			
36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH)		☐	☐								

[4] The sum of individual phthalate compounds.

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
h. Acenaphthene	83329	☒	☐	1	Grab	8270	1.39	ND<1.39			
i. Acenaphthylene	208968	☒	☐	1	Grab	8270	1.39	ND<1.39			
j. Anthracene	120127	☒	☐	1	Grab	8270	139	ND<1.39			
k. Benzo(ghi) Perylene	191242	☒	☐	1	Grab	8270	1.39	ND<1.39			
l. Fluoranthene	206440	☐	☒	1	Grab	8270	1.39	1.56			
m. Fluorene	86737	☒	☐	1	Grab	8270	1.39	ND<1.39			
n. Naphthalene	91203	☒	☐	1	Grab	8270	1.39	ND<1.39			
o. Phenanthrene	85018	☒	☐	1	Grab	8270	1.39	ND<1.39			
p. Pyrene	129000	☐	☒	1	Grab	8270	1.39	1.52			
37. Total Polychlorinated Biphenyls (PCBs)	85687; 84742; 117840; 84662; 131113; 117817.	☒	☐	1	Grab	8082	0.26	ND<.26			
38. Chloride	16887006	☐	☐								
39. Antimony	7440360	☒	☐	1	Grab	6010	50	ND<50			
40. Arsenic	7440382	☐	☒	1	Grab	6010	100	1720			
41. Cadmium	7440439	☒	☐	1	Grab	6010	5	ND<5			
42. Chromium III (trivalent)	16065831	☐	☒	1	Grab	6010	50	243			
43. Chromium VI (hexavalent)	18540299	☐	☒	1	Grab	6010	50	243			
44. Copper	7440508	☐	☒	1	Grab	6010	20	245			
45. Lead	7439921	☐	☒	1	Grab	6010	50	276			
46. Mercury	7439976	☒	☐	1	Grab	245.1	0.5	ND<0.5			
47. Nickel	7440020	☐	☒	1	Grab	6010	20	195			
48. Selenium	7782492	☒	☐	1	Grab	6010	50	ND<50			
49. Silver	7440224	☒	☐	1	Grab	6010	10	ND<10			
50. Zinc	7440666	☐	☒	1	Grab	6010	50	6,270			
51. Iron	7439896	☐	☒	1	Grab	6010	1,000	155,000			
Other (describe):		☐	☐	1							

Parameter *	CAS Number	Believed Absent	Believed Present	# of Samples	Sample Type (e.g., grab)	Analytical Method Used (method #)	Minimum Level (ML) of Test Method	Maximum daily value		Average daily value	
								concentration (ug/l)	mass (kg)	concentration (ug/l)	mass (kg)
		☐	☐								
		☐	☐								

b) For discharges where **metals** are believed present, please fill out the following (attach results of any calculations):

Step 1: Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y ◉ N ○	If yes, which metals? Arsenic, Copper, Chromium, Iron, Lead, Nickel and Zinc.
Step 2: For any metals which exceed the **Appendix III** limits, calculate the **dilution factor (DF)** using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metal: N/A DF: Metal: N/A DF: Metal: N/A DF: Metal: N/A DF: Etc.	Look up the limit calculated at the corresponding dilution factor in **Appendix IV.** Do any of the metals in the **influent** have the potential to exceed the corresponding **effluent** limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y ○ N ○ If Y, list which metals: N/A

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including:

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:

The proposed treatment system consists of settling, filtration, GAC filters and options for metal and cyanide treatment. Sample ports will be provided at each system component to monitor the treatment system. See attached Figure 4.

b) Identify each applicable treatment unit (check all that apply):	Frac. tank ☒	Air stripper ☐	Oil/water separator ☐	Equalization tanks ☐	Bag filter ☒	GAC filter ☒
	Chlorination ☐	De-chlorination ☐	Other (please describe):			

c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate**(s) (gallons per minute) of the treatment system:
Average flow rate of discharge 70 gpm Maximum flow rate of treatment system 100 gpm
Design flow rate of treatment system 100 gpm

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):

N/A

5. Receiving surface water(s). Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:	Direct to receiving water ☐	Within facility (sewer) ☐	Storm drain ☒	Wetlands ☐	Other (describe):

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:

Discharge to a storm drain located at the Worcester State University athletic parking lot that discharges to an adjacent wetland. See Figure 3.

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:
1. For multiple discharges, number the discharges sequentially.
2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water
The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water Class B

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water N/A cfs
Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y ○ N ⊙ If yes, for which pollutant(s)?

Is there a final TMDL? Y ○ N ⊙ If yes, for which pollutant(s)?

6. ESA and NHPA Eligibility.
Please provide the following information according to requirements of Permit Parts I.A.4 and I.A.5 Appendices II and VII.

a) Using the instructions in Appendix VII and information on Appendix II, under which criterion listed in Part I.C are you eligible for coverage under this general permit?
A ___ B ___ C ___ D ___ E ___ F ___
b) If you selected Criterion D or F, has consultation with the federal services been completed? Y___ N___ Underway___

c) If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is "not likely to adversely affect" listed species or critical habitat received? Y___ N___

d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.

e) Using the instructions in Appendix VII, under which criterion listed in Part II.C are you eligible for coverage under this general permit?
1 ___ 2 ___ 3 ___

f) If Criterion 3 was selected, attach all written correspondence with the State or Tribal historic preservation officers, including any terms and conditions that outline measures the applicant must follow to mitigate or prevent adverse effects due to activities regulated by the RGP.

7. Supplemental information.

Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

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 gather and evaluate 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, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name:	Worcester State University - New Athletic Center Building
Operator signature:	Kenneth S. Racicot
Printed Name &Title:	Kenneth Racicot - General Manager
Date:	8/13/2014

Appendix B
Best Management Practices Plan

89 Crawford Street
Leominster, MA 01453
Tel: 774.450.7177
Fax: 888.835.0617
www.lrt-llc.net

BEST MANAGEMENT PRACTICES PLAN

National Pollutant Discharge Elimination System – Remediation General Permit

Temporary Construction Dewatering
Worcester State University – New Athletic Center Building
Worcester, Massachusetts

A Notice of Intent (NOI) for a Remediation General Permit (RGP) under the National Pollutant Discharge Elimination System (NPDES) has been submitted to the US Environmental Protection Agency (EPA) on behalf of C.J. Mabardy, Inc. (CJM) by Lockwood Remediation Technologies, LLC (LRT) in anticipation of temporary construction site dewatering for the installation of utilities and drainage at the new athletic center located on the campus of Worcester State University in Worcester, Massachusetts (the Site). This Best Management Practices Plan (BMPP) was prepared in accordance with the general requirements of the NPDES RGP, and related guidance documentation provided by the EPA. The BMPP is included as an Appendix to the NOI and will be posted at the Site during the time of the work as specified in the NOI.

Water Treatment and Management

Construction dewatering will be conducted from sumps located inside the excavations. The treatment system will include a frac tank, pumps, bag filtration and carbon adsorption to reduce concentrations of total suspended solids (TSS), volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). Additional treatment to reduce concentrations of metals and cyanide may also be necessary. This NOI has been prepared for the management of dewatering from the Site; please refer to Figure 1 Locus Plan for an overview of the immediate area surrounding the Site. The proposed work area is referred to as Worcester State University as depicted on Figure 2 Site Plan. The proposed discharge location adjacent to the Site is presented on Figure 3.

Discharge Monitoring and Compliance

Routine Operation & Maintenance (O&M) will be completed on the water treatment system. Typical monitoring includes checking the condition of the treatment system and the collection of samples throughout the treatment system to verify the discharge is in compliance with the RGP. In the event that the system effluent is not within the discharge criteria of the RGP, modifications to the treatment system may occur until discharge compliance can be consistently achieved. Please refer to Figure 4 for a layout of the proposed treatment system.

The total monthly discharge will be monitored by a non-resettable flow meter and totalizer. Monthly monitoring reports will be compiled and maintained at the Site. Employees who have direct or indirect responsibility for enduring compliance with the RGP will be trained by the treatment system operator.

Management of Treatment System Materials

Potential sources of pollutants from the Site include TSS, and petroleum related compounds. Dewatering effluent will be pumped directly to the treatment system from the excavations via sumps to minimize handling. The general contractor at the Site will establish staging areas on the Site away from the excavations and treatment system. Sediment collected in the frac tank, spent bag filters and spent media used in the treatment system will be characterized and sent to an approved receiving facility for disposal.

Appendix C
Laboratory Data

ANALYTICAL REPORT

Reported Date: 12-Aug-14

CLIENT: LRT, LLC
Lab Order: 1408007
Project: 2-1176
Lab ID: 1408007-002

Client Sample ID: Well073014
Collection Date: 7/30/2014 11:30:00 AM
Date Received: 7/31/2014
Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TOTAL SUSPENDED SOLIDS - SM2540D						Analyst: **CR**
Prep Method:		**Prep Date:**				
Total Suspended Solids	*3320*	4.00		mg/L	1	8/5/2014
POLYCHLORINATED BIPHENYLS - SW8082						Analyst: **KG**
Prep Method: (SW3510B)		**Prep Date: 8/5/2014 12:07:27 PM**				
Aroclor 1016	ND	0.260		µg/L	1	8/5/2014
Aroclor 1221	ND	0.260		µg/L	1	8/5/2014
Aroclor 1232	ND	0.260		µg/L	1	8/5/2014
Aroclor 1242	ND	0.260		µg/L	1	8/5/2014
Aroclor 1248	ND	0.260		µg/L	1	8/5/2014
Aroclor 1254	ND	0.260		µg/L	1	8/5/2014
Aroclor 1260	ND	0.260		µg/L	1	8/5/2014
Surr: Decachlorobiphenyl Sig 1	64.3	30-150		%REC	1	8/5/2014
Surr: Decachlorobiphenyl Sig 2	141	30-150		%REC	1	8/5/2014
Surr: Tetrachloro-m-Xylene Sig 1	147	30-150		%REC	1	8/5/2014
Surr: Tetrachloro-m-Xylene Sig 2	114	30-150		%REC	1	8/5/2014
TOTAL PETROLEUM HYDROCARBONS - 8100M						Analyst: **KG**
Prep Method: (8100M)		**Prep Date: 8/4/2014 3:01:11 PM**				
Total Petroleum Hydrocarbons	*0.609*	0.150		mg/L	1	8/4/2014
Surr: o-Terphenyl	140	40-140	S	%REC	1	8/4/2014
TOTAL METALS BY ICP - SW6010B						Analyst: **QS**
Prep Method: (SW3010A)		**Prep Date: 7/31/2014 1:49:40 PM**				
Antimony	ND	0.0500		mg/L	1	8/7/2014
Arsenic	*1.72*	0.100		mg/L	1	8/7/2014
Cadmium	ND	0.00500		mg/L	1	8/7/2014
Chromium	*0.243*	0.0500		mg/L	1	8/7/2014
Copper	*0.245*	0.0200		mg/L	1	8/7/2014
Iron	*155*	1.00		mg/L	10	8/7/2014
Lead	*0.276*	0.0500		mg/L	1	8/7/2014
Nickel	*0.195*	0.0200		mg/L	1	8/7/2014

Qualifiers:

B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.
45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

ANALYTICAL REPORT

Reported Date: 12-Aug-14

CLIENT:	LRT, LLC	**Client Sample ID:**	Well073014
Lab Order:	1408007	**Collection Date:**	7/30/2014 11:30:00 AM
Project:	2-1176	**Date Received:**	7/31/2014
Lab ID:	1408007-002	**Matrix:**	GROUNDWATER

TOTAL METALS BY ICP - SW6010B

Analyst: **QS**

Prep Method: (SW3010A) **Prep Date:** 7/31/2014 1:49:40 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Selenium	ND	0.0500		mg/L	1	8/7/2014
Silver	ND	0.0100		mg/L	1	8/7/2014
Zinc	6.27	0.0500		mg/L	1	8/7/2014

TOTAL MERCURY - E245.1

Analyst: **EC**

Prep Method: (SW7470A/E245.1) **Prep Date:** 8/6/2014 4:18:42 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Mercury	ND	0.0005		mg/L	1	8/6/2014

SEMIVOLATILE ORGANICS - SW8270C

Analyst: **ZYZ**

Prep Method: (SW3510) **Prep Date:** 8/5/2014 10:11:19 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,2,4-Trichlorobenzene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
1,2-Dichlorobenzene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
1,2-Dinitrobenzene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
1,3-Dichlorobenzene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
1,3-Dinitrobenzene	ND	3.47		µg/L	1	8/6/2014 12:08:00 PM
1,4-Dichlorobenzene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
1,4-Dinitrobenzene	ND	34.7		µg/L	1	8/6/2014 12:08:00 PM
2,3,4,6-Tetrachlorophenol	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
2,4,5-Trichlorophenol	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
2,4,6-Trichlorophenol	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
2,4-Dichlorophenol	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
2,4-Dimethylphenol	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
2,4-Dinitrophenol	ND	34.7		µg/L	1	8/6/2014 12:08:00 PM
2,4-Dinitrotoluene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
2,6-Dinitrotoluene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
2-Chloronaphthalene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
2-Chlorophenol	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
2-Methylnaphthalene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
2-Methylphenol	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
2-Nitroaniline	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
2-Nitrophenol	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
3,3'-Dichlorobenzidine	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside recovery limits

ANALYTICAL REPORT **Reported Date:** 12-Aug-14

CLIENT:	LRT, LLC	**Client Sample ID:**	Well073014
Lab Order:	1408007	**Collection Date:**	7/30/2014 11:30:00 AM
Project:	2-1176	**Date Received:**	7/31/2014
Lab ID:	1408007-002	**Matrix:**	GROUNDWATER

SEMIVOLATILE ORGANICS - SW8270C Analyst: **ZYZ**

Prep Method: (SW3510) **Prep Date:** 8/5/2014 10:11:19 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
3-Methylphenol/4-Methylphenol	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
3-Nitroaniline	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
4,6-Dinitro-2-Methylphenol	ND	34.7		µg/L	1	8/6/2014 12:08:00 PM
4-Bromophenyl Phenyl Ether	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
4-Chloro-3-Methylphenol	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
4-Chloroaniline	ND	3.47		µg/L	1	8/6/2014 12:08:00 PM
4-Chlorophenyl Phenyl Ether	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
4-Nitroaniline	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
4-Nitrophenol	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Acenaphthene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Acenaphthylene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Acetophenone	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Aniline	ND	6.94		µg/L	1	8/6/2014 12:08:00 PM
Anthracene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Azobenzene	ND	6.94		µg/L	1	8/6/2014 12:08:00 PM
Benz(a)Anthracene	ND	0.139		µg/L	1	8/6/2014 12:08:00 PM
Benzidine	ND	34.7		µg/L	1	8/6/2014 12:08:00 PM
Benzo(a)Pyrene	ND	0.139		µg/L	1	8/6/2014 12:08:00 PM
Benzo(b)Fluoranthene	ND	0.139		µg/L	1	8/6/2014 12:08:00 PM
Benzo(g,h,i)Perylene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Benzo(k)Fluoranthene	ND	0.139		µg/L	1	8/6/2014 12:08:00 PM
Benzyl Alcohol	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Bis(2-Chloroethoxy)Methane	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Bis(2-Chloroethyl)Ether	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Bis(2-Chloroisopropyl)Ether	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Bis(2-Ethylhexyl)Phthalate	ND	34.7		µg/L	1	8/6/2014 12:08:00 PM
Butyl Benzyl Phthalate	ND	34.7		µg/L	1	8/6/2014 12:08:00 PM
Carbazole	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Chrysene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Dibenz(a,h)Anthracene	ND	0.139		µg/L	1	8/6/2014 12:08:00 PM
Dibenzofuran	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Diethyl Phthalate	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Dimethyl Phthalate	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Di-n-Butyl Phthalate	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Di-n-Octyl Phthalate	ND	34.7		µg/L	1	8/6/2014 12:08:00 PM
Fluoranthene	*1.56*	1.39		µg/L	1	8/6/2014 12:08:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside recovery limits

ANALYTICAL REPORT **Reported Date:** 12-Aug-14

CLIENT:	LRT, LLC	**Client Sample ID:**	Well073014
Lab Order:	1408007	**Collection Date:**	7/30/2014 11:30:00 AM
Project:	2-1176	**Date Received:**	7/31/2014
Lab ID:	1408007-002	**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILE ORGANICS - SW8270C						Analyst: **ZYZ**
Prep Method: (SW3510)		**Prep Date: 8/5/2014 10:11:19 AM**				
Fluorene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Hexachlorobenzene	ND	3.47		µg/L	1	8/6/2014 12:08:00 PM
Hexachlorobutadiene	ND	3.47		µg/L	1	8/6/2014 12:08:00 PM
Hexachloroethane	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Indeno(1,2,3-cd)Pyrene	ND	0.139		µg/L	1	8/6/2014 12:08:00 PM
Isophorone	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Naphthalene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Nitrobenzene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
N-Nitrosodimethylamine	ND	6.94		µg/L	1	8/6/2014 12:08:00 PM
N-Nitrosodi-n-Propylamine	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
N-Nitrosodiphenylamine	ND	6.94		µg/L	1	8/6/2014 12:08:00 PM
Pentachlorophenol	ND	34.7		µg/L	1	8/6/2014 12:08:00 PM
Phenanthrene	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Phenol	ND	1.39		µg/L	1	8/6/2014 12:08:00 PM
Pyrene	*1.52*	1.39		µg/L	1	8/6/2014 12:08:00 PM
Pyridine	ND	6.94		µg/L	1	8/6/2014 12:08:00 PM
Surr: 2,4,6-Tribromophenol	57.8	15-110		%REC	1	8/6/2014 12:08:00 PM
Surr: 2-Fluorobiphenyl	45.6	30-130		%REC	1	8/6/2014 12:08:00 PM
Surr: 2-Fluorophenol	16.5	15-110		%REC	1	8/6/2014 12:08:00 PM
Surr: Nitrobenzene-d5	46.9	30-130		%REC	1	8/6/2014 12:08:00 PM
Surr: Phenol-d6	12.3	15-110	S	%REC	1	8/6/2014 12:08:00 PM
Surr: Terphenyl-d14	69.1	30-130		%REC	1	8/6/2014 12:08:00 PM
VOLATILE ORGANIC COMPOUNDS - SW8260B						Analyst: **ZC**
Prep Method:		**Prep Date:**				
1,1,1,2-Tetrachloroethane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,1,1-Trichloroethane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,1,2,2-Tetrachloroethane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,1,2-Trichloroethane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,1-Dichloroethane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,1-Dichloroethene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,1-Dichloropropene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,2,3-Trichlorobenzene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,2,3-Trichloropropane	ND	5.00		µg/L	1	8/11/2014 6:19:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside recovery limits

ANALYTICAL REPORT

Reported Date: 12-Aug-14

CLIENT: LRT, LLC
Lab Order: 1408007
Project: 2-1176
Lab ID: 1408007-002

Client Sample ID: Well073014
Collection Date: 7/30/2014 11:30:00 AM
Date Received: 7/31/2014
Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS - SW8260B						Analyst: **ZC**
Prep Method:		**Prep Date:**				
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,2,4-Trimethylbenzene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,2-Dibromo-3-Chloropropane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,2-Dibromoethane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,2-Dichlorobenzene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,2-Dichloroethane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,2-Dichloropropane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,3,5-Trimethylbenzene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,3-Dichlorobenzene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,3-Dichloropropane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
1,4-Dichlorobenzene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
2-Butanone	ND	10.0		µg/L	1	8/11/2014 6:19:00 PM
2-Chloroethyl Vinyl Ether	ND	5.00		µg/L	1	8/11/2014 6:19:00 PM
2-Chlorotoluene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
2-Hexanone	ND	10.0		µg/L	1	8/11/2014 6:19:00 PM
4-Chlorotoluene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
4-Isopropyltoluene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
4-Methyl-2-Pentanone	ND	5.00		µg/L	1	8/11/2014 6:19:00 PM
Acetone	ND	50.0		µg/L	1	8/11/2014 6:19:00 PM
Acrolein	ND	50.0		µg/L	1	8/11/2014 6:19:00 PM
Acrylonitrile	ND	50.0		µg/L	1	8/11/2014 6:19:00 PM
Benzene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Bromobenzene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Bromochloromethane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Bromodichloromethane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Bromoform	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Bromomethane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Carbon Disulfide	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Carbon Tetrachloride	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Chlorobenzene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Chloroethane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Chloroform	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Chloromethane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
cis-1,2-Dichloroethene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
cis-1,3-Dichloropropene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside recovery limits

ANALYTICAL REPORT

Reported Date: 12-Aug-14

CLIENT:	LRT, LLC	**Client Sample ID:**	Well073014
Lab Order:	1408007	**Collection Date:**	7/30/2014 11:30:00 AM
Project:	2-1176	**Date Received:**	7/31/2014
Lab ID:	1408007-002	**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS - SW8260B						Analyst: **ZC**
Prep Method:		**Prep Date:**				
Dibromochloromethane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Dibromomethane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Dichlorodifluoromethane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Ethylbenzene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Hexachlorobutadiene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Isopropylbenzene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Methyl Tert-Butyl Ether	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Methylene Chloride	ND	5.00		µg/L	1	8/11/2014 6:19:00 PM
Naphthalene	ND	10.0		µg/L	1	8/11/2014 6:19:00 PM
n-Butylbenzene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
n-Propylbenzene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
sec-Butylbenzene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Styrene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
tert-Butylbenzene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Tetrachloroethene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Toluene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
trans-1,2-Dichloroethene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
trans-1,3-Dichloropropene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Trichloroethene	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Trichlorofluoromethane	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Vinyl Chloride	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Xylenes, Total	ND	2.00		µg/L	1	8/11/2014 6:19:00 PM
Surr: 1,2-Dichloroethane-d4	115	70-130		%REC	1	8/11/2014 6:19:00 PM
Surr: 4-Bromofluorobenzene	88.7	70-130		%REC	1	8/11/2014 6:19:00 PM
Surr: Dibromofluoromethane	89.9	70-130		%REC	1	8/11/2014 6:19:00 PM
Surr: Toluene-d8	90.9	70-130		%REC	1	8/11/2014 6:19:00 PM
TOTAL RESIDUAL CHLORINE- SM 4500 CL-G						Analyst: **SUB**
Prep Method:		**Prep Date:**				
Total Residual Chlorine	ND	0.0200	H	mg/L	1	8/4/2014 5:30:00 PM

NOTES:
Analyzed by Phoenix Environmental Laboratories M-CT007

Qualifiers:

B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside recovery limits

ANALYTICAL REPORT

Reported Date: 12-Aug-14

CLIENT:	LRT, LLC	**Client Sample ID:**	Well073014
Lab Order:	1408007	**Collection Date:**	7/30/2014 11:30:00 AM
Project:	2-1176	**Date Received:**	7/31/2014
Lab ID:	1408007-002	**Matrix:**	GROUNDWATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
CYANIDE, TOTAL - SM4500-CN-C,E						Analyst: **RP**
Prep Method:		**Prep Date:**				
Cyanide, Total	*0.0272*	0.0200		mg/L	1	8/4/2014

Qualifiers:	B	Analyte detected in the associated Method Blank	BRL	Below Reporting Limit
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside recovery limits

GeoLabs, Inc.
45 Johnson Lane ~ Braintree MA 02184 ~ 781 848 7844 ~ 781 848 7811

Appendix D
Federal Services Supporting Documentation

U.S. Fish and Wildlife Service

Trust Resources List

This resource list is to be used for planning purposes only — it is not an official species list.

Endangered Species Act species list information for your project is available online and listed below for the following FWS Field Offices:

New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 3301
(603) 223-2541
http://www.fws.gov/newengland

Project Name:

Worcester State University - New Athletic Center Building

U.S. Fish and Wildlife Service

Trust Resources List

Project Location Map:

Project Counties:

Worcester, MA

Geographic coordinates (Open Geospatial Consortium Well-Known Text, NAD83):

MULTIPOLYGON (((-71.8453712 42.2709882, -71.8421311 42.2696703, -71.8433327 42.2678602, -71.8466801 42.2691622, -71.8453712 42.2709882)))

Project Type:

Development

U.S. Fish and Wildlife Service

Trust Resources List

Endangered Species Act Species List (USFWS Endangered Species Program).

There are no listed species found within the vicinity of your project.

Critical habitats within your project area:

There are no critical habitats within your project area.

FWS National Wildlife Refuges (USFWS National Wildlife Refuges Program).

There are no refuges found within the vicinity of your project.

FWS Migratory Birds (USFWS Migratory Bird Program).

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. For more information regarding these Acts see http://www.fws.gov/migratorybirds/RegulationsandPolicies.html.

All project proponents are responsible for complying with the appropriate regulations protecting birds when planning and developing a project. To meet these conservation obligations, proponents should identify potential or existing project-related impacts to migratory birds and their habitat and develop and implement conservation measures that avoid, minimize, or compensate for these impacts. The Service's Birds of Conservation Concern (2008) report identifies species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become listed under the Endangered Species Act as amended (16 U.S.C 1531 et seq.).

For information about Birds of Conservation Concern, go to
http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html.

Migratory birds of concern that may be affected by your project:

There are **8** birds on your Migratory birds of concern list. The Division of Migratory Bird Management is in the process of populating migratory bird data with an estimated completion date of August 1, 2014; therefore, the list below may not include all the migratory birds of concern in your project area at this time. While this information is being populated, please contact the Field Office for information about migratory birds in your project area.

Trust Resources List

Species Name	Bird of Conservation Concern (BCC)	Species Profile	Seasonal Occurrence in Project Area
American bittern (*Botaurus lentiginosus*)	Yes	species info	Breeding
Bald eagle (*Haliaeetus leucocephalus*)	Yes	species info	Year-round
Black-billed Cuckoo (*Coccyzus erythropthalmus*)	Yes	species info	Breeding
Canada Warbler (*Wilsonia canadensis*)	Yes	species info	Breeding
Least Bittern (*Ixobrychus exilis*)	Yes	species info	Breeding
Purple Sandpiper (*Calidris maritima*)	Yes	species info	Wintering
Wood Thrush (*Hylocichla mustelina*)	Yes	species info	Breeding
Worm eating Warbler (*Helmitheros vermivorum*)	Yes	species info	Breeding

NWI Wetlands (USFWS National Wetlands Inventory).

The U.S. Fish and Wildlife Service is the principal Federal agency that provides information on the extent and status of wetlands in the U.S., via the National Wetlands Inventory Program (NWI). In addition to impacts to wetlands within your immediate project area, wetlands outside of your project area may need to be considered in any evaluation of project impacts, due to the hydrologic nature of wetlands (for example, project activities may affect local hydrology within, and outside of, your immediate project area). It may be helpful to refer to the USFWS National Wetland Inventory website. The designated FWS office can also assist you. Impacts to wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes. Project Proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate U.S. Army Corps of Engineers District.

Data Limitations, Exclusions and Precautions

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 and/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.

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.

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.

IPaC is unable to display wetland information at this time.

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Street Name: Chandler St
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