GeoInsight®
Environmental Strategy & Engineering
Practical in Nature

April 16, 2015 GeoInsight Project 7372-000

Victor Alvarez
U.S. Environmental Protection Agency
Water Technical Unit
5 Post Office Square – Suite 100
Boston, MA 02109-3912

RE: NPDES Dewatering General Permit
Pre-Dewatering Sampling
Dexter-Russell Penstock Infiltration Mitigation
44 River Street
Southbridge, Massachusetts

Mr. Alvarez:

GeoInsight, Inc. (GeoInsight) prepared a Notice of Intent (NOI) dated April 7, 2015 for proposed construction dewatering activities for the above-referenced project. As required by the National Pollutant Discharge Elimination System (NPDES) Dewatering General Permit (DGP), Massachusetts General Permit (MAG070000), if the discharge will include groundwater, the NOI must include the results of laboratory analysis of a representative sample of the effluent for the parameters summarized in the following table.

Antimony	Chromium (Total)	Iron	Zinc
Arsenic	Chromium (VI)	Mercury	Lead
Cadmium	Copper	Nickel	Hardness (of receiving water)
pH	Chloride	Silver	

In accordance with the NPDES DGP, GeoInsight collected a representative grab groundwater sample from the location of the proposed construction dewatering activities at the above-referenced Site on April 13, 2015. The groundwater sample was collected from a temporary 1-inch diameter polyvinyl chloride well installed within the area of proposed construction activities. A grab groundwater sample was collected from the well and dispensed into pre-preserved containers provided by a qualified testing laboratory (Spectrum Analytical, Inc. of Agawam, Massachusetts), and was delivered to the laboratory under chain-of-custody documentation. The groundwater sample was analyzed for the metals parameters summarized above, as well as pH and chloride. A grab surface water sample was collected from the planned receiving water (the Quinebaug River downstream of the Russell-Harrington Mill Pond Dam) and was analyzed for hardness.

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The results of the laboratory testing are summarized in the following table, and the laboratory report prepared by the testing laboratory is included as Attachment A.

Parameter	Result
Silver	ND (5.0 ppb)
Arsenic	ND (4.0 ppb)
Cadmium	ND (2.5 ppb)
Chromium (Total)	5.8 ppb
Chromium (VI)	ND (5 ppb)
Copper	ND (5.0 ppb)
Iron	828 ppb
Nickel	ND (5.0 ppb)
Lead	ND (7.5 ppb)
Antimony	ND (6.0 ppb)
Zinc	ND (10.0 ppb)
Mercury	ND (0.20 ppb)
Chloride	35,300 ppb
pH	5.70 (pH units)
Hardness	17,200 ppb
Notes: ND = not detected (laboratory reporting limit in parentheses)	

GeoInsight requests the U.S. Environmental Protection Agency review the attached sample results in reference to our April 7, 2015 NOI. A copy of the April 7, 2015 NOI is attached. If there are questions regarding the NOI or these sample results, please contact us at (603) 314-0820.

Sincerely,
GEOINSIGHT, INC.

Brian T. Nereson, P.E.
Project Engineer

Michael C. Penney, P.E., L.S.P.
Senior Engineer/Principal

Attachments

P:\7372-000-Dexter Russell-Mill Pond Dam Repair-Southbridge MA-Geotechnical\Construction DGP\7372.DGP Sampling Transmittal.Doc

ATTACHMENT A

LABORATORY TEST RESULTS

Report Date:
15-Apr-15 15:55

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

GeoInsight, Inc.
186 Granite Street; Suite A
Manchester, NH 03101
Attn: Brian Nereson

Project: Dexter Russell - Southbridge, MA
Project #: 7372

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC05807-01	DGP-S1	Ground Water	13-Apr-15 11:10	13-Apr-15 15:49
SC05807-02	DGP-S2	Ground Water	13-Apr-15 11:15	13-Apr-15 15:49

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 # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435

Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds 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 10 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 Spectrum Analytical, Inc.

Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum 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 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 (NJ-MA012, PA-68-04426 and FL-E87936).

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

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 1.8 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.

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.

SW846 6010C

Duplicates:

1506895-DUP1 *Source: SC05807-01*

MRL raised to correlate to batch QC reporting limits.

Zinc

Samples:

SC05807-01 *DGP-S1*

MRL raised to correlate to batch QC reporting limits.

Zinc

Sample Acceptance Check Form

Client:	GeoInsight, Inc. - Manchester, NH
Project:	Dexter Russell - Southbridge, MA / 7372
Work Order:	SC05807
Sample(s) received on:	4/13/2015

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?	☑	☐	☐

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
DGP-S1 SC05807-01	7372	Ground Water	13-Apr-15 11:10	13-Apr-15

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													
	Preservation	**Field Preserved**		N/A			1	EPA 200/6000 methods			AAH	1506846	
Total Metals by EPA 6000/7000 Series Methods													
7440-22-4	Silver	< 0.0050		mg/l	0.0050	0.0012	1	SW846 6010C	13-Apr-15	15-Apr-15	BJW/E	1506895	
7440-38-2	Arsenic	< 0.0040		mg/l	0.0040	0.0027	1	"	"	"	"	"	
7440-43-9	Cadmium	< 0.0025		mg/l	0.0025	0.0002	1	"	"	"	"	"	
7440-47-3	Chromium	**0.0058**		mg/l	0.0050	0.0010	1	"	"	"	"	"	
7440-50-8	Copper	< 0.0050		mg/l	0.0050	0.0035	1	"	"	"	"	"	
7439-89-6	Iron	**0.828**		mg/l	0.0150	0.0082	1	"	"	"	"	"	
7440-02-0	Nickel	< 0.0050		mg/l	0.0050	0.0014	1	"	"	"	"	"	
7439-92-1	Lead	< 0.0075		mg/l	0.0075	0.0020	1	"	"	"	"	"	
7440-36-0	Antimony	< 0.0060		mg/l	0.0060	0.0025	1	"	"	"	"	"	
7440-66-6	Zinc	< 0.0100	R06	mg/l	0.0100	0.0006	1	"	"	"	"	"	
Total Metals by EPA 200 Series Methods													
7439-97-6	Mercury	< 0.00020		mg/l	0.00020	0.00009	1	EPA 245.1/7470A	13-Apr-15	14-Apr-15	YR	1506896	X
General Chemistry Parameters													
16887-00-6	Chloride	**35.3**		mg/l	1.00	0.321	1	EPA 300.0	14-Apr-15	15-Apr-15	WET	1507028	X
18540-29-9	Hexavalent Chromium	< 0.005		mg/l	0.005	0.002	1	SM3500-Cr-B/7196A	13-Apr-15 17:34	13-Apr-15 17:37	CAA/T	1506912	
	pH	**5.70**	pH	pH Units			1	ASTM D 1293-99B	13-Apr-15 19:17	15-Apr-15 11:45	DJB	1506925	X

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
DGP-S2 SC05807-02	7372	Ground Water	13-Apr-15 11:15	13-Apr-15

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													
	Preservation	**Field Preserved**		N/A			1	EPA 200/6000 methods			AAH	1506846	
Total Metals by EPA 6000/7000 Series Methods													
7440-70-2	Calcium	**4.26**		mg/l	0.100	0.0234	1	SW846 6010C	13-Apr-15	15-Apr-15	BJW/E	1506895	
7439-95-4	Magnesium	**1.60**		mg/l	0.0100	0.0016	1						
General Chemistry Parameters													
	Hardness	**17.2**	HD	mg/l CaCO3	0.291	0.0650	1	SM 2340B	13-Apr-15	15-Apr-15	BJW/E	[CALC]	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1506895 - SW846 3005A										
Blank (1506895-BLK1)					Prepared: 13-Apr-15 Analyzed: 15-Apr-15					
Iron	< 0.0150		mg/l	0.0150						
Magnesium	< 0.0100		mg/l	0.0100						
Silver	< 0.0050		mg/l	0.0050						
Arsenic	< 0.0040		mg/l	0.0040						
Calcium	< 0.100		mg/l	0.100						
Cadmium	< 0.0025		mg/l	0.0025						
Chromium	< 0.0050		mg/l	0.0050						
Copper	< 0.0050		mg/l	0.0050						
Nickel	< 0.0050		mg/l	0.0050						
Lead	< 0.0075		mg/l	0.0075						
Antimony	< 0.0060		mg/l	0.0060						
Zinc	< 0.0100		mg/l	0.0100						
LCS (1506895-BS1)					Prepared: 13-Apr-15 Analyzed: 15-Apr-15					
Magnesium	**1.26**		mg/l	0.0100	1.25		101	85-115		
Iron	**1.22**		mg/l	0.0150	1.25		98	85-115		
Chromium	**1.24**		mg/l	0.0050	1.25		99	85-115		
Antimony	**1.30**		mg/l	0.0060	1.25		104	85-115		
Zinc	**1.24**		mg/l	0.0100	1.25		100	85-115		
Lead	**1.27**		mg/l	0.0075	1.25		101	85-115		
Nickel	**1.27**		mg/l	0.0050	1.25		101	85-115		
Silver	**1.27**		mg/l	0.0050	1.25		101	85-115		
Cadmium	**1.25**		mg/l	0.0025	1.25		100	85-115		
Calcium	**6.32**		mg/l	0.100	6.25		101	85-115		
Arsenic	**1.27**		mg/l	0.0040	1.25		102	85-115		
Copper	**1.33**		mg/l	0.0050	1.25		106	85-115		
LCS Dup (1506895-BSD1)					Prepared: 13-Apr-15 Analyzed: 15-Apr-15					
Magnesium	**1.28**		mg/l	0.0100	1.25		102	85-115	1	20
Iron	**1.27**		mg/l	0.0150	1.25		102	85-115	4	20
Zinc	**1.27**		mg/l	0.0100	1.25		102	85-115	2	20
Silver	**1.29**		mg/l	0.0050	1.25		103	85-115	1	20
Arsenic	**1.31**		mg/l	0.0040	1.25		105	85-115	3	20
Calcium	**6.44**		mg/l	0.100	6.25		103	85-115	2	20
Cadmium	**1.28**		mg/l	0.0025	1.25		103	85-115	2	20
Chromium	**1.26**		mg/l	0.0050	1.25		100	85-115	1	20
Nickel	**1.30**		mg/l	0.0050	1.25		104	85-115	2	20
Copper	**1.33**		mg/l	0.0050	1.25		106	85-115	0.3	20
Lead	**1.30**		mg/l	0.0075	1.25		104	85-115	2	20
Antimony	**1.32**		mg/l	0.0060	1.25		106	85-115	2	20
Duplicate (1506895-DUP1)			**Source: SC05807-01**		Prepared: 13-Apr-15 Analyzed: 15-Apr-15					
Iron	**0.840**		mg/l	0.0150		0.828			1	20
Nickel	< 0.0050		mg/l	0.0050		BRL				20
Lead	< 0.0075		mg/l	0.0075		0.0020				20
Cadmium	< 0.0025		mg/l	0.0025		BRL				20
Chromium	**0.0062**		mg/l	0.0050		0.0058			7	20
Copper	< 0.0050		mg/l	0.0050		BRL				20
Arsenic	< 0.0040		mg/l	0.0040		BRL				20
Silver	< 0.0050		mg/l	0.0050		BRL				20
Zinc	**0.0097**	J,R06	mg/l	0.0100		0.0093			4	20
Antimony	< 0.0060		mg/l	0.0060		BRL				20
Matrix Spike (1506895-MS1)			**Source: SC05807-01**		Prepared: 13-Apr-15 Analyzed: 15-Apr-15					
Iron	**2.03**		mg/l	0.0150	1.25	0.828	96	75-125		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1506895 - SW846 3005A										
Matrix Spike (1506895-MS1)			**Source: SC05807-01**		Prepared: 13-Apr-15 Analyzed: 15-Apr-15					
Antimony	**1.28**		mg/l	0.0060	1.25	BRL	103	75-125		
Silver	**1.26**		mg/l	0.0050	1.25	BRL	101	75-125		
Zinc	**1.25**		mg/l	0.0100	1.25	0.0093	99	75-125		
Lead	**1.26**		mg/l	0.0075	1.25	0.0020	101	75-125		
Nickel	**1.26**		mg/l	0.0050	1.25	BRL	101	75-125		
Chromium	**1.24**		mg/l	0.0050	1.25	0.0058	99	75-125		
Cadmium	**1.26**		mg/l	0.0025	1.25	BRL	100	75-125		
Arsenic	**1.30**		mg/l	0.0040	1.25	BRL	104	75-125		
Copper	**1.32**		mg/l	0.0050	1.25	BRL	106	75-125		
Matrix Spike Dup (1506895-MSD1)			**Source: SC05807-01**		Prepared: 13-Apr-15 Analyzed: 15-Apr-15					
Iron	**2.04**		mg/l	0.0150	1.25	0.828	97	75-125	0.4	20
Arsenic	**1.30**		mg/l	0.0040	1.25	BRL	104	75-125	0.08	20
Zinc	**1.25**		mg/l	0.0100	1.25	0.0093	99	75-125	0.4	20
Antimony	**1.30**		mg/l	0.0060	1.25	BRL	104	75-125	0.8	20
Lead	**1.26**		mg/l	0.0075	1.25	0.0020	101	75-125	0.04	20
Copper	**1.34**		mg/l	0.0050	1.25	BRL	108	75-125	2	20
Silver	**1.29**		mg/l	0.0050	1.25	BRL	103	75-125	2	20
Cadmium	**1.26**		mg/l	0.0025	1.25	BRL	101	75-125	0.7	20
Nickel	**1.26**		mg/l	0.0050	1.25	BRL	101	75-125	0.1	20
Chromium	**1.24**		mg/l	0.0050	1.25	0.0058	99	75-125	0.4	20
Post Spike (1506895-PS1)			**Source: SC05807-01**		Prepared: 13-Apr-15 Analyzed: 15-Apr-15					
Iron	**2.06**		mg/l	0.0150	1.25	0.828	99	80-120		
Lead	**1.30**		mg/l	0.0075	1.25	0.0020	104	80-120		
Cadmium	**1.29**		mg/l	0.0025	1.25	BRL	104	80-120		
Nickel	**1.30**		mg/l	0.0050	1.25	BRL	104	80-120		
Antimony	**1.32**		mg/l	0.0060	1.25	BRL	106	80-120		
Arsenic	**1.34**		mg/l	0.0040	1.25	BRL	107	80-120		
Silver	**1.30**		mg/l	0.0050	1.25	BRL	104	80-120		
Copper	**1.35**		mg/l	0.0050	1.25	BRL	108	80-120		
Zinc	**1.29**		mg/l	0.0100	1.25	0.0093	102	80-120		
Chromium	**1.27**		mg/l	0.0050	1.25	0.0058	101	80-120		

Total Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1506896 - EPA200/SW7000 Series										
Blank (1506896-BLK1)						Prepared: 13-Apr-15 Analyzed: 14-Apr-15				
Mercury	< 0.00020		mg/l	0.00020						
LCS (1506896-BS1)						Prepared: 13-Apr-15 Analyzed: 14-Apr-15				
Mercury	**0.00444**		mg/l	0.00020	0.00500		89	85-115		
Duplicate (1506896-DUP1)			**Source: SC05807-01**			Prepared: 13-Apr-15 Analyzed: 14-Apr-15				
Mercury	< 0.00020		mg/l	0.00020		BRL				20
Matrix Spike (1506896-MS1)			**Source: SC05807-01**			Prepared: 13-Apr-15 Analyzed: 14-Apr-15				
Mercury	**0.00463**		mg/l	0.00020	0.00500	BRL	93	80-120		
Matrix Spike Dup (1506896-MSD1)			**Source: SC05807-01**			Prepared: 13-Apr-15 Analyzed: 14-Apr-15				
Mercury	**0.00448**		mg/l	0.00020	0.00500	BRL	90	80-120	3	20
Post Spike (1506896-PS1)			**Source: SC05807-01**			Prepared: 13-Apr-15 Analyzed: 14-Apr-15				
Mercury	**0.00491**		mg/l	0.00020	0.00500	BRL	98	85-115		

General Chemistry Parameters - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch 1506912 - General Preparation										
Blank (1506912-BLK1)						Prepared & Analyzed: 13-Apr-15				
Hexavalent Chromium	< 0.005		mg/l	0.005						
LCS (1506912-BS1)						Prepared & Analyzed: 13-Apr-15				
Hexavalent Chromium	**0.052**		mg/l	0.005	0.0500		105	90-111		
Calibration Blank (1506912-CCB1)						Prepared & Analyzed: 13-Apr-15				
Hexavalent Chromium	**-0.0002**		mg/l							
Calibration Blank (1506912-CCB2)						Prepared & Analyzed: 13-Apr-15				
Hexavalent Chromium	**-0.0004**		mg/l							
Calibration Check (1506912-CCV1)						Prepared & Analyzed: 13-Apr-15				
Hexavalent Chromium	**0.053**		mg/l	0.005	0.0500		105	90-110		
Calibration Check (1506912-CCV2)						Prepared & Analyzed: 13-Apr-15				
Hexavalent Chromium	**0.052**		mg/l	0.005	0.0500		104	90-110		
Reference (1506912-SRM1)						Prepared & Analyzed: 13-Apr-15				
Hexavalent Chromium	**0.024**		mg/l	0.005	0.0250		96	85-115		
Batch 1506925 - General Preparation										
Duplicate (1506925-DUP1)			**Source: SC05807-01**			Prepared: 13-Apr-15 Analyzed: 15-Apr-15				
pH	**5.70**		pH Units			5.70			0	5
Reference (1506925-SRM1)						Prepared: 13-Apr-15 Analyzed: 15-Apr-15				
pH	**5.98**		pH Units		6.00		100	97.5-102.5		
Reference (1506925-SRM2)						Prepared: 13-Apr-15 Analyzed: 15-Apr-15				
pH	**5.98**		pH Units		6.00		100	97.5-102.5		
Batch 1507028 - General Preparation										
Blank (1507028-BLK1)						Prepared & Analyzed: 14-Apr-15				
Chloride	< 1.00		mg/l	1.00						
LCS (1507028-BS1)						Prepared & Analyzed: 14-Apr-15				
Chloride	**20.2**		mg/l	1.00	20.0		101	90-110		
Reference (1507028-SRM1)						Prepared & Analyzed: 14-Apr-15				
Chloride	**26.0**		mg/l	1.00	25.0		104	90-110		

Notes and Definitions

R06	MRL raised to correlate to batch QC reporting 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).
pH	The method for pH does not stipulate a specific holding time other than to state that the samples should be analyzed as soon as possible. For aqueous samples the 40 CFR 136 specifies a holding time of 15 minutes from sampling to analysis. Therefore all aqueous pH samples not analyzed in the field are considered out of hold time at the time of sample receipt. All soil samples are analyzed as soon as possible after sample receipt.
HD	Total Hardness is a calculation based on the reported values of Ca and Mg.

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.

Validated by:
Kimberly LaPlante

Sc 05807

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

☐ Standard TAT - 7 to 10 business days

☒ Rush TAT - Date Needed: 48 hr

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

Report To: Geosight, Inc.
116 Granite St 3rd Floor
Manchester, NH 03103

Telephone #: 603-314-0820
Project Mgr: Brian Nereson

Invoice To: Same

P.O No.: 7372 Quote/RQN:

Project No: 7372
Site Name: Dexter Russell
Location: Southbridge State: MA
Sampler(s): BTN

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH_3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= 12=

List Preservative Code below:

QA/QC Reporting Notes:
* additional charges may appply

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	Hardness	Analysis: pH, chloride, silver	antimony (total), chromium (VI), sulfide, iron, zinc	mercury, lead, nickel, cadmium, arsenic				Check if chlorinated
05807-01	DGP-S1	4/13/15	1110		GW				2		x	x	x	x	x		☐
-02	DGP-S2	4/13/15	1115		GW				1	x							☐
																	☐
																	☐
																	☐
																	☐
																	☐
																	☐
																	☐
																	☐

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
		4/13/15	1549	Observed 2.8
				Correction Factor -1
				Corrected 1.8
				IR ID # 01

☐ EDD format:
☐ E-mail to: btnereson@geoinc.com

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

ATTACHMENT B

APRIL 7, 2015 NOI

GeoInsight®
Environmental Strategy & Engineering
Practical in Nature

April 7, 2015 GeoInsight Project 7372-000

Via E-mail: GeneralPermit.Dewatering@epa.gov

Environmental Protection Agency – Region 1
Office of Ecosystem Protection (OEP06-3)
Dewater General Permit NOI Processing
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: Notice of Intent
NPDES Dewatering General Permit
Dexter-Russell Penstock Infiltration Mitigation
44 River Street
Southbridge, Massachusetts

To Whom It May Concern:

GeoInsight, Inc. (GeoInsight) prepared this Notice of Intent (NOI) for coverage under the National Pollutant Discharge Elimination System (NPDES) Dewatering General Permit (DGP), Massachusetts General Permit (MAG070000) at the request of Dexter-Russell, Inc. (Dexter Russell). This NOI was prepared in accordance with the general requirements of the NPDES DGP under Federal Register dated July 17, 2014 and related guidance documentation provided by the U.S. Environmental Protection Agency (EPA). A completed NOI form is provided in Attachment A.

1.0 SITE INFORMATION

This NOI has been prepared to address the discharge of dewatering effluent planned, and excavation associated with, filling activities for the Penstock Infiltration Mitigation project at the above-referenced property (the Site). The geographic location of the Site is depicted on the Site Locus presented as Figure 1 and the location of pertinent existing Site features are shown on the plan presented as Figure 2. The vicinity of the project Site is a portion of a dam within a heavily urbanized mix of industrial and residential buildings, and roadway/parking areas.

GeoInsight, Inc.
186 Granite Street, 3rd Floor, Suite A
Manchester, NH 03101-2643
Tel (603) 314-0820
Fax (603) 314-0821
www.geoinsightinc.com

GeoInsight, Inc.
One Monarch Drive, Suite 201
Littleton, MA 01460-1440
Tel (978) 679-1600
Fax (978) 679-1601
www.geoinsightinc.com

GeoInsight, Inc.
200 Court Street, 2nd Floor
Middletown, CT 06657-3341
Tel (860) 894-1022
Fax (860) 894-1023
www.geoinsightinc.com

The Site is located abutting the Quinebaug River at the Russell-Harrington dam reservoir. The Russell-Harrington dam includes an earthen embankment, a centrally-located concrete overflow spillway and a low level outlet structure. The total dam length is approximately 400 feet. The earthen berm portion is constructed south of the southern dam wing wall, through which an 8 to 10-foot (oval) diameter penstock is constructed. Water formerly entered the penstock through a stacked block and concrete intake structure. The penstock is inactive and historic attempts to seal the intake of the penstock have not been completely successful, and flow through the earthen berm and into the penstock is evident.

In order to mitigate seepage through the earthen berm into the penstock, the overall project generally includes: filling the penstock with flowable fill in order to remove the penstock as a potential seepage pathway; removing the portion of the intake structure that extends above ground surface and filling the face of the intake structure with new low permeability fill (effectively extending the earthen berm over the intake structure); and installing an impermeable geomembrane liner over the face of the earthen berm at the location of the intake structure and to approximately 30 feet south of the intake structure in order to further reduce the potential for seepage through the earthen berm. The estimated total disturbed project area will be less than 1 acre. The filling activities are expected to require construction dewatering efforts in order to perform the work in relatively unsaturated conditions.

2.0 DISCHARGE AND RECEIVING WATER INFORMATION

Some excavation dewatering will likely be necessary during localized excavations associated with:

- installation of a temporary cofferdam;
- removal of unsuitable soil (muck) at the intake structure prior to placement of new low permeable fill;
- stripping of surficial fill material along the water-side face of the earthen embankment for installation of the impermeable geomembrane liner; and
- trenching to install the impermeable geomembrane liner.

This DGP is intended to provide a controlled method of discharging water from the project Site to existing on-Site storm drain infrastructure. The existing on-Site storm drain infrastructure in the vicinity of the project work area generally consists of catch basins and conveyance piping that discharges back to the Quinebaug River immediately east (and downstream) of the Russell-Harrington Dam (see Figure 2).

The water pumped from the work area will include primarily pond water seeping into the coffer dam area. The size of the area will facilitate settling out of fines and pumping depths will be limited to collect clear water near the surface. During excavation and construction-related activities, the collected water will pumped to a sedimentation control “filter bag,” which will be installed on a crushed stone mattress. The receiving catch basin(s) will be fitted with silt sacks and encircled with compost wattles or filter fabric-wrapped stone. These sedimentation controls are expected to be sufficient to allow for removal of solids from the dewatering water prior to

discharge from the storm water infrastructure to the Quinebaug River. The effectiveness of the sedimentation controls will be evaluated through effluent sampling and laboratory testing in accordance with the MAG070000, Part 1.1 and the NPDES requirements outlined in Section 4.4 of the CGP. Sampling is expected to consist of the following:

Total Suspended Solids	Antimony	Arsenic	Cadmium[1]
pH	Chromium (Total) [1]	Chromium (VI) [1]	Copper[1]
Chloride	Iron	Mercury	Nickel[1]
Silver[1]	Zinc[1]	Lead[1]	Hardness[2]
Notes: 1. Indicates parameter is based upon results of hardness testing of receiving water. 2. Sample to be collected of receiving water.			

Sampling for Oil and Grease will be performed only if a visible sheen is identified.

Based upon the results of initial dewatering discharge testing, additional treatment of dewatering water may be implemented in order to achieve effluent standards.

3.0 CONSULTATION WITH FEDERAL SERVICES

GeoInsight reviewed online electronic data viewers and databases from the Massachusetts Geographical Information System (MassGIS), the Massachusetts Division of Fisheries and Wildlife (MassWildlife; Natural Heritage and Endangered Species Program), and the U.S. National Parks Service National Historic Places (NPS). Based on this review, neither the Site nor the points 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. The Site and surroundings are urban (industrial and some residential) and have been urban since the early 1900s. Based on this information, specific consultation with federal and/or state officials was deemed not to be necessary for this permit application. Supporting documentation is included as Attachment B.

4.0 COVERAGE UNDER THE DGP

It is GeoInsight's opinion that the proposed discharge is eligible for coverage under the NPDES DGP based on the requirements of the NPDES DGP. At the request of Dexter Russell, GeoInsight is requesting coverage under the NPDES DGP for the intermittent discharge of recovered water during soil excavation and construction activities at the Site to storm drains and eventually surface water (Quinebaug River).

In order to be eligible for coverage under the DGP, one sample of untreated water will be collected from the area of work and will be analyzed for the metals parameters discussed herein. If the levels of contamination in the sample are equal or less than the metals parameters listed in the DGP, the proposed discharge will be eligible for a DGP. Otherwise, application for a Remediation General Permit will be required.

The enclosed NOI form (Attachment A) and supplemental attachments provide required information on the general Site conditions, discharge, treatment, receiving water, and evaluation of federal services databases. For this project, Dexter Russell's general contractor, Jim Pioppi Construction (Pioppi), will be the Operator and have control over the construction activities, including the ability to make modifications to those activities to comply with plans for the project (as prepared by GeoInsight). Pioppi will be responsible for directing the implementation of day-to-day operations and activities that are necessary to ensure compliance with the NPDES DGP, including operation and inspection of dewatering and sediment removal devices. GeoInsight will be responsible for monitoring and reporting. Discharge of water after sedimentation control may commence as soon as authorization from the EPA is received.

If you have questions or comments regarding this submittal, please call us at 603-314-0820.

Sincerely,
GEOINSIGHT, INC.

Brian T. Nereson, P.E.
Project Engineer

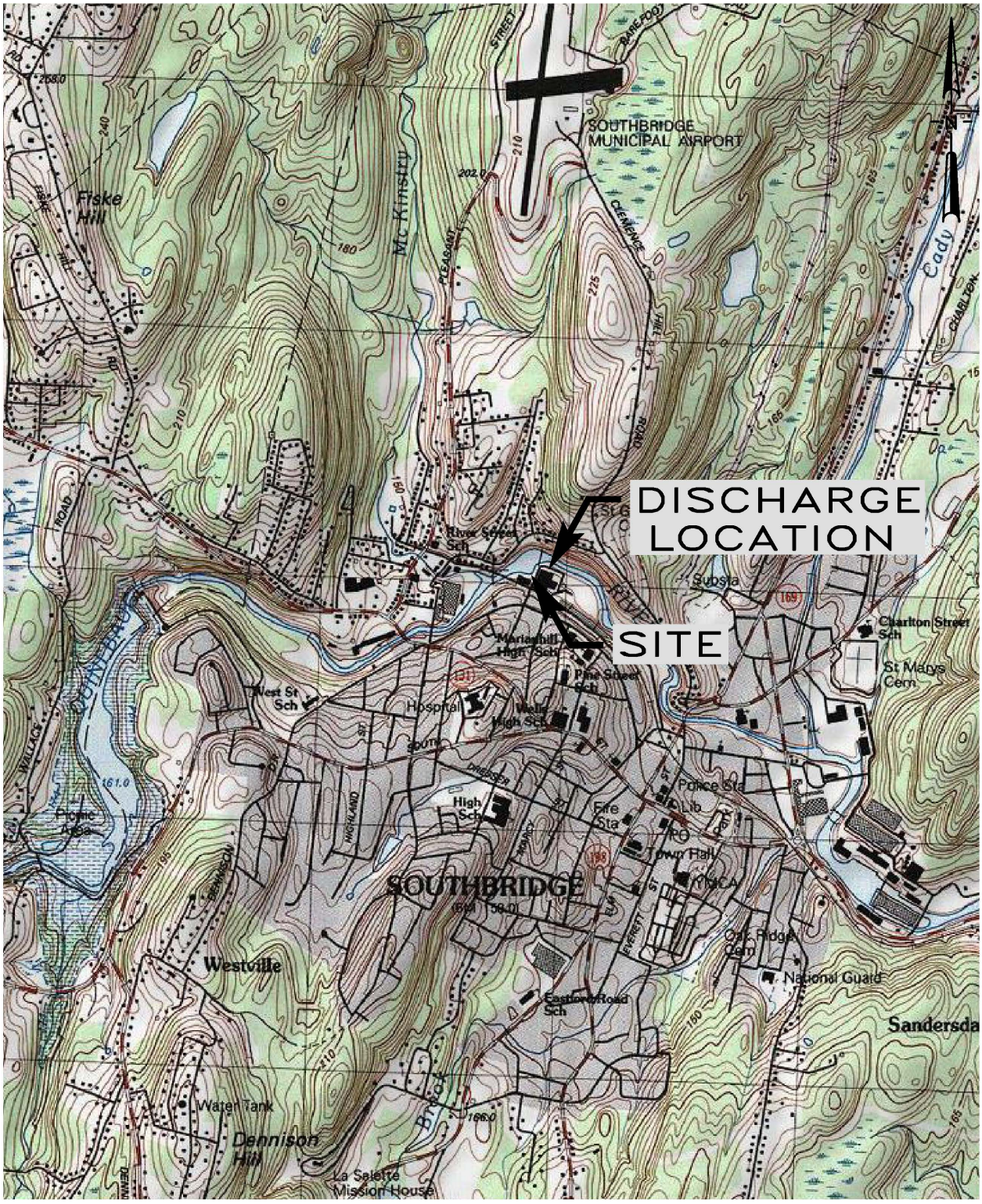
Michael C. Penney, P.E., L.S.P.
Senior Engineer/Principal

Attachments

cc: MADEP – Division of Watershed Management

p:\7372-000-dexter russell-mill pond dam repair-southbridge ma-geotechnical\construction dgp\dgp narrative.doc

FIGURES



SOURCE:

USGS SOUTHBRIDGE, MASSACHUSETTS TOPOGRAPHIC QUADRANGLE DATED 19793.

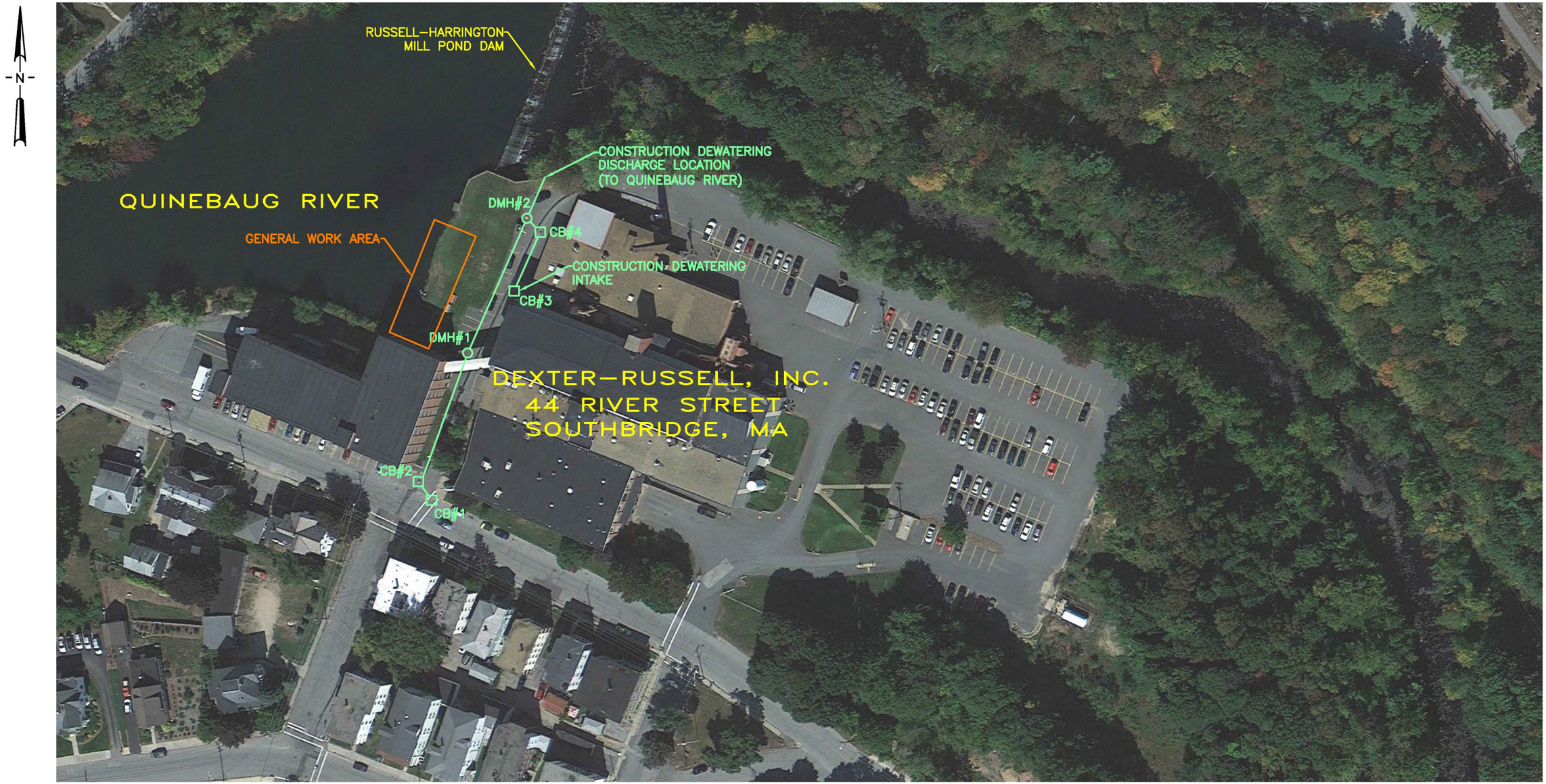
CONTOUR INTERVAL: 10 FEET

0 2000 4000

APPROX. SCALE IN FEET

CLIENT: DEXTER-RUSSELL, INC.				GeoInsight Practical in Nature
PROJECT: DEXTER-RUSSELL PENSTOCK INFILTRATION MITIGATION				
TITLE: SITE LOCUS				
DESIGNED: BTN	DRAWN: BTN	CHECKED: MCP	APPROVED: MCP	
SCALE: 1" = 2000'	DATE: 3/31/15	FILE NO.: 7372LOCUS	PROJECT NO.: 7372	FIGURE NO.: 1

PLOT DATE: 3-31-15
FILE: I:\7372\7372LOCUS.dwg



LEGEND

DMH#1 ○ APPROXIMATE EXISTING DRAINAGE MANHOLE LOCATION AND DESIGNATION

CB#3 □ APPROXIMATE EXISTING CATCH BASIN LOCATION AND DESIGNATION

——— APPROXIMATE DRAINAGE PIPE LOCATION

NOTES:

1. THIS FIGURE IS BASED UPON AN AERIAL IMAGE OBTAINED FROM GOOGLE EARTH.

2. APPROXIMATE LOCATIONS OF DRAINAGE FEATURES ARE BASED UPON OBSERVATIONS BY GEOINSIGHT AND AVAILABLE PLANS. THE LOCATIONS ARE SHOWN TO ILLUSTRATE GENERAL THE GENERAL STORMWATER INFRASTRUCTURE LAYOUT NEAR THE AREA OF WORK, AND SHOULD BE CONSIDERED APPROXIMATE.

0 100 200

APPROX. SCALE IN FEET

CLIENT: DEXTER–RUSSELL, INC.			
PROJECT: PENSTOCK INFILTRATION MITIGATION			
TITLE: DEWATERING PLAN OVERALL SITE PLAN			
DESIGNED: BTN	DRAWN: BTN	CHECKED: MCP	APPROVED: MCP
SCALE: 1" = 100'	DATE: 3/31/15	FILE NO.: 7372D007	PROJECT NO.: 7372
			FIGURE NO.: 2

GeoInsight
Practical in Nature

PLOT DATE: 3-31-15
FILE: I:\7372\7372D008.dwg

ATTACHMENT A
COMPLETED NOI FORM

II. Suggested Notice of Intent (NOI) Format

1. General facility information. Please provide the following information about the facility.

a) Name of facility: Dexter-Russell, Inc.	**Mailing Address for the Facility:** 44 River Street, Southbridge, MA	
b) Location Address of the Facility (if different from mailing address): Same as above	**Facility Location** **longitude:** -72.04029 **latitude:** 42.08319	**Type of Business:** Cutlery **Facility SIC codes:** 3421

c) Name of facility owner: Alan S. Peppel **Owner's email:** _____

Owner's Tel #: 508-765-0201 **Owner's Fax #:** NA

Address of owner (if different from facility address)

Owner is (check one): 1. Federal____2. State _____ 3. Private X **_____ 4. Other _____(Describe)_____**

Legal name of Operator, if not owner: NA

Operator Contact Name: NA

Operator Tel Number: NA **Fax Number:** NA

Operator's email: NA

Operator Address (if different from owner)

NA

d) Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water. Map attached? Yes

e) Check Yes or No for the following:

1. **Has a prior NPDES permit been granted for the discharge? Yes ____ No** X **___ If Yes, Permit Number: _____**
2. **Is the discharge a "new discharger" as defined by 40 CFR Section 122.2? Yes_____ No** X **_____**
3. **Is the facility covered by an individual NPDES permit? Yes_____ No** X **____ If Yes, Permit Number ____**
4. **Is there a pending application on file with EPA for this discharge? Yes _____ No** X **_____ If Yes, date of submittal:**

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

a) Name of receiving water into which discharge will occur: Quinebaug River

State Water Quality Classification: Class B **Freshwater:** X **Marine Water:** _____

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

1. **Construction dewatering of groundwater intrusion and/or storm water accumulation.**
2. **Short-term or long-term dewatering of foundation sumps.**
3. **Other.**

c) Number of outfalls 1

For each outfall:

d) Estimate the maximum daily and average monthly flow of the discharge (in gallons per day – GPD). Max Daily Flow 15,000 **GPD**
Average Monthly Flow 60,000 **GPD**

e.) What is the maximum and minimum monthly pH of the discharge (in s.u.)? Max pH 8.0 **Min pH** 6.5

f.) Identify the source of the discharge (i.e. potable water, surface water, or groundwater). If groundwater, the facility shall submit effluent test results, as required in Section 4.4.5 of the General Permit. Groundwater and surface water

g.) What treatment does the wastewater receive prior to discharge? "Wastewater" (dewatering water from groundwater and surface water) will be treated via silt bags to remove suspended solids. Additional measures may be implementented based upon the results of samplng.

h.) Is the discharge continuous? Yes _____ **No** X **If no, is the discharge periodic (P) (occurs regularly, i.e., monthly or seasonally, but is not continuous all year) or intermittent (I) (occurs sometimes but not regularly) or both (B)** (I)
If (P), number of days or months per year of the discharge _____ **and the specific months of discharge** _____;
If (I), number of days/year there is a discharge Approx. 30
Is the discharge temporary? Yes X **No** _____
If yes, approximate start date of dewatering April 15, 2015 **approximate end date of dewatering** May 15, 2015

i.) Latitude and longitude of each discharge within 100 feet (See http://www.epa.gov/tri/report/siting_tool): Outfall 1: long. -72.038818 **lat.** 42.083572;
Outfall 2: long. NA **lat.** NA; **Outfall 3: long.** NA **lat.** NA.

j.) If the source of the discharge is potable water, please provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water and attach any calculation sheets used to support stream flow and dilution calculations NA **cfs**
(See Appendix VIII for equations and additional information)

MASSACHUSETTS FACILITIES: See Section 3.4 and Appendix 1 of the General Permit for more information on Areas of Critical Environmental Concern (ACEC):

k.) Does the discharge occur in an ACEC? Yes _____ No X_____
If yes, provide the name of the ACEC: _____

3. Contaminant Information

a) Are any pH neutralization and/or dechlorination chemicals used in the discharge? If so, include the chemical name and manufacturer; maximum and average daily quantity used as well as the maximum and average daily expected concentrations (mg/l) in the discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC_{50} in percent for aquatic organism(s)). No

b) Please report any known remediation activities or water-quality issues in the vicinity of the discharge. 2013 IRA perormed on the property, downstream of work area.

4. Determination of Endangered Species Act Eligibility: Provide documentation of ESA eligibility as required at Part 3.4 and Appendix IV. In addition, respond to the following questions.

a) Which of the three eligibility criteria listed in Appendix IV, Criterion (A, B, or C) have you met? A
b) Please attach documentation with your NOI supporting your response. Please see Appendix IV for acceptable documentation

5. Documentation of National Historic Preservation Act requirements: Please respond to the following questions:

a) See Screening Process in Appendix III and respond to questions regarding your site and any historic properties listed or eligible for listing on the National Register of Historic Places. Question 1: Yes _____ No X ; Question 2: No X Yes _____

b) Have any State historic preservation officers been consulted in this determination? Yes _____ or No X If yes, attach the results of the consultation(s).

c) Which of the three National Historic Preservation Act requirements listed in Appendix III, Criterion (A, B, or C) have you met? B

6. 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

7. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22 (see below) including the following certification:

I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the dewatering system; (2) the discharge consists solely of dewatering and authorized pH adjustment and/or dechlorination chemicals; (3) the discharge does not come in contact with any raw materials, intermediate product, water product or finished product; (4) if the discharge of dewatering subsequently mixes with other permitted wastewater (i.e. stormwater) prior to discharging to the receiving water, any monitoring provided under this permit will be only for dewatering discharge; (5) where applicable,

the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act; and (6) 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 Name: Dexter Russell, Inc.

Operator signature: Alan S Peppel

Print Full Name and Title: Alan S. Peppel, President

Date: 4-16-15

Federal regulations require this application to be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.

ATTACHMENT B
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:

Dexter-Russell

U.S. Fish and Wildlife Service

Trust Resources List

Project Location Map:

Project Location Measurements:

Area : 2.0 ac.

Length : 0.2 mi.

Project Counties:

Worcester, MA

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

MULTIPOLYGON (((-72.0398954 42.0833343, -72.0397133 42.0840428, -72.0391554 42.0842299, -72.0386458 42.0841702, -72.038678 42.0837482, -72.0390213 42.0836964, -72.0391876 42.0834456, -72.0394019 42.0832706, -72.0398954 42.0833343)))

U.S. Fish and Wildlife Service

Trust Resources List

Project Type:

** Other **

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.

U.S. Fish and Wildlife Service

Trust Resources List

To search and view summaries of year-round bird occurrence data within your project area, go to the Avian Knowledge Network Histogram Tool links in the Bird Conservation Tools section at: http://www.fws.gov/migratorybirds/CCMB2.htm.

For information about conservation measures that help avoid or minimize impacts to birds, please visit: http://www.fws.gov/migratorybirds/CCMB2.htm.

Migratory birds of concern that may be affected by your project:
There are **15** birds on your Migratory birds of concern list. The underlying data layers used to generate the migratory bird list of concern will continue to be updated regularly as new and better information is obtained. User feedback is one method of identifying any needed improvements. Therefore, users are encouraged to submit comments about any questions regarding species ranges (e.g., a bird on the USFWS BCC list you know does not occur in the specified location appears on the list, or a BCC species that you know does occur there is not appearing on the list). Comments should be sent to the ECOS Help Desk.

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
Blue-winged Warbler (*Vermivora pinus*)	Yes	species info	Breeding
Canada Warbler (*Wilsonia canadensis*)	Yes	species info	Breeding
Fox Sparrow (*Passerella liaca*)	Yes	species info	Wintering
Least Bittern (*Ixobrychus exilis*)	Yes	species info	Breeding
Peregrine Falcon (*Falco peregrinus*)	Yes	species info	Breeding
Pied-billed Grebe (*Podilymbus podiceps*)	Yes	species info	Year-round
Prairie Warbler (*Dendroica discolor*)	Yes	species info	Breeding

Purple Sandpiper (*Calidris maritima*)	Yes	species info	Wintering
Short-eared Owl (*Asio flammeus*)	Yes	species info	Wintering
Upland Sandpiper (*Bartramia longicauda*)	Yes	species info	Breeding
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.

U.S. Fish and Wildlife Service

Trust Resources List

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.

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Southbridge; Place: Southbridge; Street Name: River St; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
SBD.R	River Streetscape		Southbridge	
SBD.87	Hamilton Woolen Company - New Mill	River St	Southbridge	1860
SBD.910	River Street Bridge over Quinebaug River	River St	Southbridge	1956
SBD.112		25-27 River St	Southbridge	c 1910
SBD.113		29-31 River St	Southbridge	r 1915