

Geotechnical Environmental Water Resources August 12, 2015

Project 1326870

Ecological Ecological

Mr. Todd Caffoe, P.E. New York State Dept. of Environ. Conservation Region 8 6274 E. Avon-Lima Road Avon, NY 14414

Re: Site Management Periodic Review Report

And IC/EC Certification Submittal (2015)

Brewer Street Site (V00214-8)

Rochester, NY

Dear Mr. Caffoe:

On behalf of Rochester Gas & Electric Corporation and Monroe County Department of Environmental services, GEI Consultants (GEI) is submitting the attached Periodic Review Report and IC/EC Certification Submittal for the Brewer Street Site. If you have any questions please contact the undersigned or Mr. Jeremy Wolf of RG&E at (585) 724-8548.

Sincerely yours,

GEI CONSULTANTS, INC., P.C.

Kelly R. McIntosh, Ph.D., P.E.

Cc: Drew Smith, Monroe County (by email)

Ed Harding, Monroe County (by email)

Site Management Periodic Review Report and IC/EC Certification (2015)

Brewer Street Site (V00214-8) Rochester, New York

Submitted to:

New York State Department of Environmental Conservation Division of Environmental Remediation, Region 8 Avon, New York

Submitted by:

GEI Consultants, Inc., P.C. 90B John Muir Drive, Suite 104 Amherst, NY 14228

On behalf of:

Rochester Gas and Electric Corporation 89 East Avenue Rochester, New York

August 2015

Project 1326870

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1. Executive Summary

GEI Consultants, Inc., P.C. (GEI) was retained to conduct the Site Management Periodic Review Report (PRR) and IC/EC Certification submittal for the Brewer Street Site located in Rochester, New York (Figure 1). The remediation of the Brewer Street Site was conducted jointly by the Rochester Pure Waters District and Monroe County through the Monroe County Department of Environmental Services (MCDES) and Rochester Gas and Electric Corporation (RG&E) pursuant to a Voluntary Cleanup Agreement (VCA, Index #B8-0547-98-12) executed with the New York State Department of Environmental Conservation (NYSDEC), on July 18, 2002.

The Brewer Street site was remediated to address the presence of aromatic volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene and xylene (BTEX), and polyaromatic hydrocarbons (PAHs) in the aqueous phase and a dense non-aqueous phase liquid (DNAPL). Remediation programs were conducted in 2003 and 2006 and a post-remediation Site Management Plan (SMP) was implemented (See Section 2, below).

In conducting this periodic review, GEI found each component of the SMP was complied with during this reporting period (July 16, 2014 through July 16, 2015):

- ICs/ECs have been in place and effective
- Inspections were performed as required

Based upon the inspections and compliance with the SMP, the site remedy continues to meet the remedial objectives for the site.

2. Site Overview

2.1 Site Description

As shown on Figure 1, the Site is located adjacent to the Middle Falls Dam in the Genesee River Gorge in Rochester, NY. The Site plan showing pre-remediation topography and features is shown on Figure 2. The approximate 3.25-acre Site was used to manage tunnel cuttings (i.e., "tunnel muck") and waters (i.e., "construction water") generated when the Cliff Street Siphon Tunnel was constructed under the Genesee River as part of the Monroe County Pure Waters Combined Sewer Overflow Abatement Program between 1984 and 1985. The tunnel muck and construction water were transferred to the Site and treated using settling and polishing ponds prior to effluent discharge. The tunnel muck contained aromatic volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene and xylene (BTEX), and polyaromatic hydrocarbons (PAHs) in the aqueous phase and a dense non-aqueous phase liquid (DNAPL).

Site characterization data are presented in reports titled "Site Characterization and Remedial Alternatives Evaluation Report" prepared by Blasland, Bouck & Lee, Inc. (BBL), dated August 1998 and "Supplemental Investigation Report (SIR)" prepared by Geomatrix, dated February 2002. The SIR was approved by the NYSDEC on April 11, 2003. Collectively, these investigations identified impacted on-Site soils and two distinct areas of impacted Genesee River sediment designated as the "North Lobe" and the "South Lobe". Site soils and Genesee River sediments adjacent to the Site were impacted primarily by PAHs and, to a lesser extent, aromatic VOCs.

2.2 Site Remedial Program Summary

The voluntary cleanup actions were conducted in two phases. The first phase was a large scale excavation of impacted soils, weathered bedrock and river sediments and off-Site disposal of the excavated materials. This was conducted in 2003 and is referred to herein as the 2003 Remedial Action.

The second phase of the voluntary cleanup entailed pressure grouting of the bedrock near the dam to displace and/or immobilize residual DNAPL and construction of a concrete cap on the exposed Rock Ledge at the base of the dam. This work was conducted in 2006-2007 and is referred to herein as the 2006 Remedial Action.

2.2.1 2003 Remedial Action

Monroe County and RG&E submitted the RWP for the 2003 Remediation in June 2003. The RWP was approved by NYSDEC by letter dated July 9, 2003. The remediation activities

conducted during 2003 involved excavation of impacted soils and river sediments for disposal at the permitted off-Site facility; the Mill Seat Landfill located in Riga, NY.

The approved cleanup objectives for the project were as follows:

Media	Cleanup Objective	
Surface and Subsurface Soil	Removal of non-aqueous phase liquids	
Marsh Area Surface Soils (upper 2 feet)	4 mg/kg total PAHs	
Surface Soils (upper 1 foot non-wetland areas)	5 mg/kg total carcinogenic PAHs 10 mg/kg total PAHs, 1 mg/kg VOCs	
Subsurface Soils (Site-wide)	100 mg/kg total PAHs 10 mg/kg total VOCs	

Soils excavation proceeded until cleanup objectives were attained at all locations. River sediments were excavated to bedrock within the areas designated for remediation in the approved RWP. A total of 62,195 tons of soils, weathered bedrock and sediment were removed from the Site between July 23, 2003 and October 10, 2003. The soil excavations were backfilled with clean soil and the Site was graded in accordance with the approved grading plan presented in the RWP. The 2003 remediation soil excavation areas are shown on Figure 3.

These actions are documented in the Construction Closeout Report and Final Engineering Report (May 2004) prepared by Geomatrix Consultants and its design/construction subcontractor TurnKey Environmental Restoration, LLC (TurnKey).

2.2.2 2006 Remedial Action

The 2006 Remedial Action was undertaken pursuant to Section 13.0 of the RWP to mitigate migration of potential DNAPL presence in shallow bedrock. The work performed is described in the Supplemental Remediation Work Plan (SRWP) (prepared by Geomatrix and dated September 7, 2006) which was approved by the NYSDEC by letter dated September 19, 2006.

The 2003 Remedial Action removed the DNAPL source within the Site overburden and weathered upper bedrock. Based on the Supplemental Investigation results supported by post-remediation monitoring conducted during 2004-2006, potential DNAPL presence remaining at the Site was found to be limited to the upper 10 feet of bedrock in the immediate vicinity of the dam headwall and in the upper 5 to 8 feet of bedrock at the exposed rock ledge within the area

between the eastern dam headwall (Abutment A) and Pier B (Rock Ledge). This area of the Site is shown on Figure 4. The 2006 remediation utilized grout injection to:

- 1. Displace mobile DNAPL upward to the Rock Ledge containment area (where it was removed); and
- 2. Immobilize any residual DNAPL presence within the bedrock fractures.

After completion of the pressure grouting and removal of displaced DNAPL, the Rock Ledge surface was sealed by capping with reinforced concrete constructed to withstand uplift force associated with the reservoir "pond level" behind the adjacent dam. In addition, the Rock Ledge Cap was designed to accommodate backfill and a new support wall required to stabilize Abutment A. The new support wall was constructed in 2007 from Pier B to Abutment A along the northern side of the Rock Ledge Cap.

Construction of this support wall created a configuration where the Rock Ledge Cap is completely surrounded by walls (i.e., the wall replacing Gate 1, Pier B, the new support wall and the existing Abutment A). To provide additional stabilization of the headwall, the interior of the walled-in area was subsequently filled with 18 to 24 inches of clean washed stone overlain with clean soil.

Details of the 2006 Remedial Action are presented in the Final Engineering Report (FER), prepared by Geomatrix (June 2007).

2.2.3 Site Management Plan

The Site Management Plan (SMP), approved by NYSDEC letter dated June 9, 2009, provides the following:

- 1. Protocols for future site excavations and soil management (see SMP Section 2.0);
- 2. Provisions for periodic inspection of the exposed outer (northern) edge of the Rock Ledge Cap, new support wall and associated drains (See SMP Section 3.0); and
- 3. Provisions for periodic certification (See SMP Section 4.0).
- 4. Copy of the filed deed restriction limiting land use to restricted residential or other restricted uses (see SMP Section 5.0);

3. Remedy Performance Evaluation

The remedial performance is evaluated based on the following:

- 1. Periodic inspection of the site vegetation cover
- 2. Periodic inspection of the rock ledge cap

3.1 Vegetative Cover

The annual inspection of the vegetative cover was performed August 6, 2015 by Mr. Kelly McIntosh, P.E. of GEI. The vegetative cover over areas that are not covered by rock outcrop, crushed stone, asphalt, concrete or structures was observed to be maintained as provided in the SMP.

3.2 Rock Ledge Cap

Inspection of the rock ledge area is conducted annually. Inspection personnel physically enter the former spillway and rock ledge area to examine the rock ledge for the indications of DNAPL seepage (sheen presence, odors). This requires gate manipulation by RG&E to divert water away from the rock ledge area.

These inspections consist of the following:

- 1. Examine the exposed edge of the cap for DNAPL or sheen presence, water seepage, and evidence of physical deterioration.
- 2. Examine the new support wall for the same.
- 3. Examine the flow (if any) from the new support wall drain pipes for DNAPL or sheen presence.
- 4. Examine the face of the waterfall adjacent to the Rock Ledge for DNAPL seepage.
- 5. Examine the surface of the river adjacent to the Rock Ledge for sheen presence.

The annual inspection was conducted on August 6, 2015 by Mr. Kelly McIntosh, P.E. of GEI. As in past, Gate 2 was held prior to the inspection per RG&E's operational procedures. This was in order to allow safe access downstream of the gates and allow personnel to access the rock ledge area. River safety and activity-specific health and safety protocols (i.e., fall protection, safety tailboard discussion and sign in / mark up sheet for gate hold) were implemented by

RG&E in accordance with RG&E requirements prior to accessing the rock ledge area. The inspection was conducted from the cap surface, just above the cap retaining wall.

The inspection log is included in Appendix A. No deterioration of the exposed edge of the cap retaining wall was observed. No structural defects (i.e., settlement) in the cap were observed.

No DNAPL, DNAPL-staining, oil sheen or petroleum odors were observed on the Rock Ledge during the annual inspection. As in past inspections, iron oxide residue was observed on the lower portion of the retaining wall and on the rock surfaces. A reddish film was observed on puddled water adjacent to the exposed edge of the cap. This film was concluded to be either biological, iron oxide, or both. No petroleum odors were experienced during the inspection.

4. IC/EC Plan Compliance

4.1 IC/EC Requirements

ICs include the following;

- Groundwater Use Restriction
- Site Management Plan
- Land Use Restriction

Site use of the property is limited to restricted residential, commercial, or industrial use, which include both operation and maintenance of RG&E's hydroelectric facilities and passive recreation including hiking, biking, parking and fishing.

ECs include the vegetative cover and rock ledge cap as described in the SMP and Section 2.0 of this PRR.

4.2 IC/EC Compliance

The NYSDEC approved SMP is in place. All required inspections were performed in accordance with the SMP. All site restrictions have been complied with during this reporting period.

4.3 IC/EC Certification

The IC/EC Certification is included in Appendix B.

5. Inspection Plan Compliance

5.1 Inspection Requirements

The inspection requirements as specified in the SMP are presented in Section 3.

5.2 Inspection Compliance

The inspections were conducted in accordance with the SMP.

6. Conclusions and Recommendations

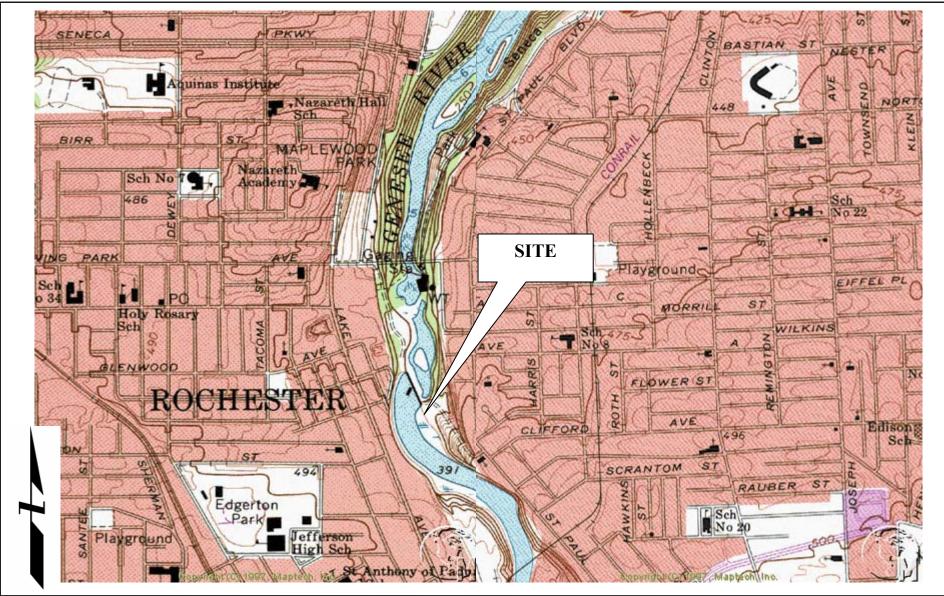
Each component of the SMP was complied with:

- ICs/ECs have been in place and effective
- Inspections were performed as required

Based upon the inspections and compliance with the SMP, the site remedy continues to meet the remedial objectives for the site.

Figures				

\\WILL1\deptdata\Project\007076 Brewer Street Site\Task A WorkPlan\Draft\Figure 1 Site Location Map.doc

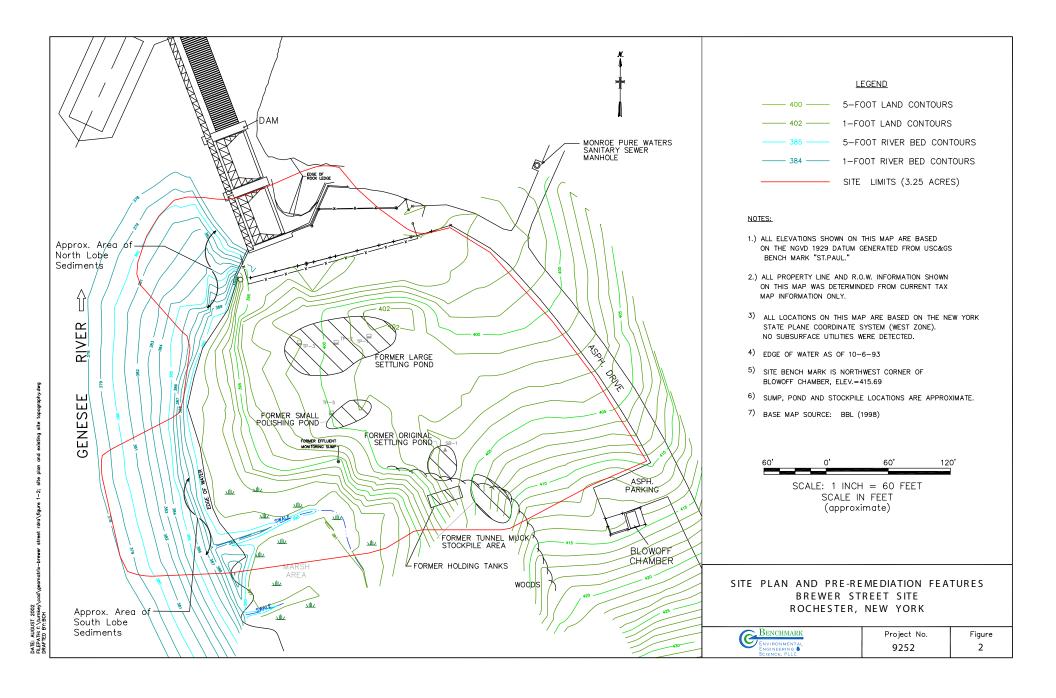


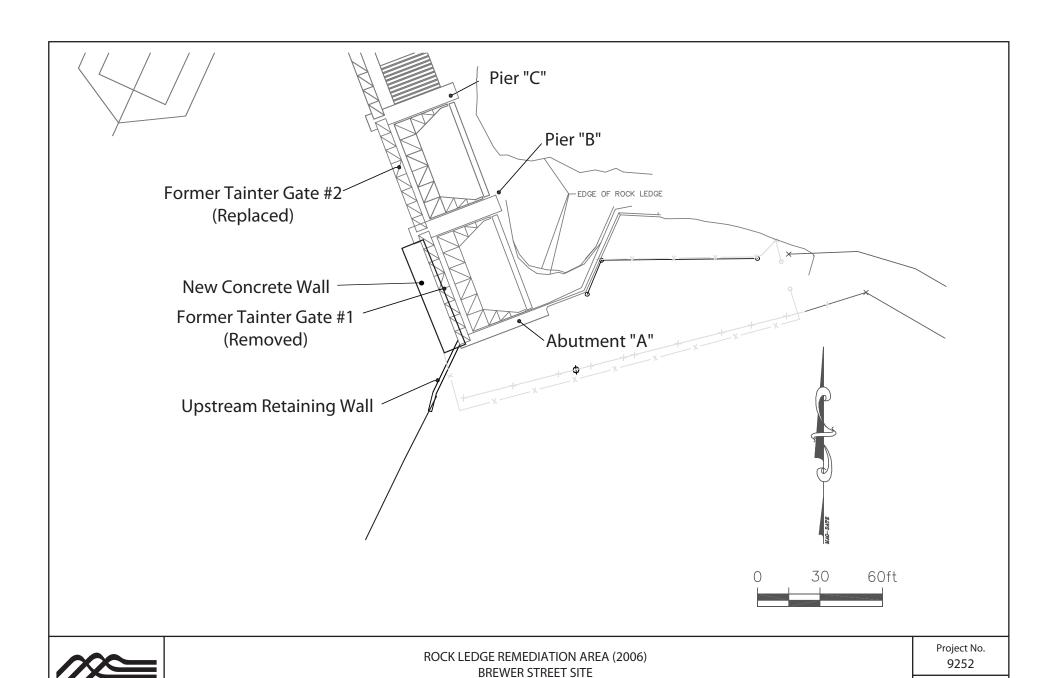


SITE LOCATION MAP
Operations, Maintenance and Monitoring Plan
Brewer Street Site

USGS Topographic Map Rochester West/East Quadrangle Project No. 9252

Figure **1**

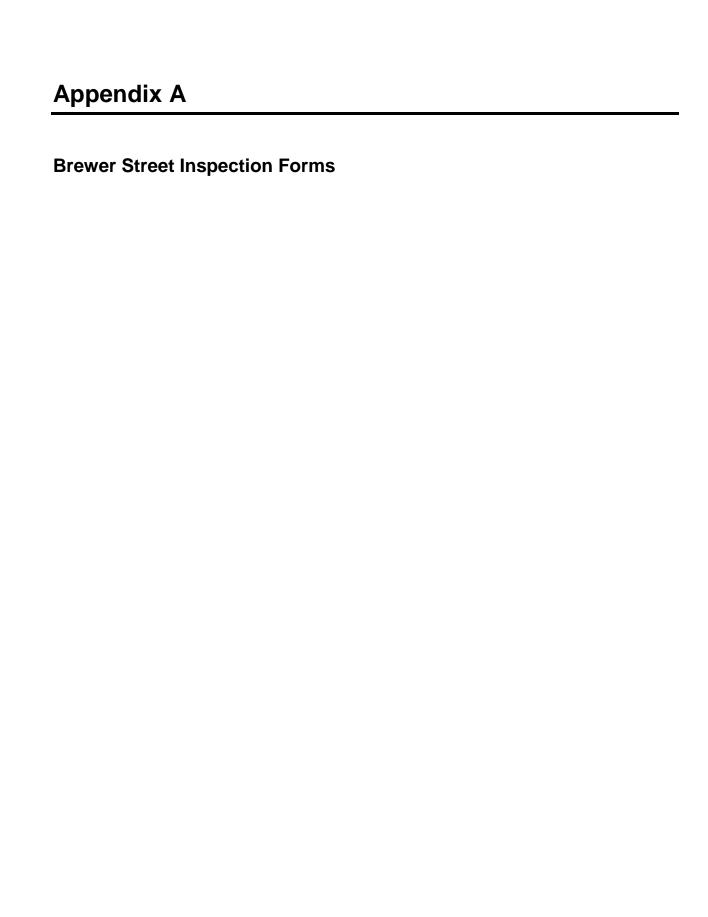




ROCHESTER, NEW YORK

GEOMATRIX

Figure



Inspection Form

Brewer Street, #1 Bay Area

Date: 8/6/15
Time: // 330
 Examine the exposed edge of the cap for DNAPL or sheen presence, water seepage and evidence of physical deterioration.
No seepage observed. No DNAPL. Slight intermittant redish film on pended water. No odor, Appears to b
2) Examine new support wall for same.
No DNAPL or sheen. No seepage
3) Examine the flows (if any) from the new support wall drain pipes for DNAPL or sheen presence (five 4" drains through wall). Pipes are dry, no flow
4) Examine the face of the waterfall adjacent to the Rock Ledge for DNAPL Seepage. No DNAPL
5) Examine the surface of the river adjacent to the Rock Ledge for sheen presence. No Sheen
Inspection quarterly for first year, semi-annually for second year and annually thereafter. After syears re-evaluate the need for inspections. Inspected by: Kell Manual Comments/Observations: This is the 4th annual inspections of the modified performed inspection from the edge of the cap above the rock ledge.

Appendix B





Enclosure 2 NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION Site Management Periodic Review Report Notice Institutional and Engineering Controls Certification Form



			Site Details	Box 1	
Site	e No.	V00214			
Site	Name Br	ewer Street			
City Cou	e Address: //Town: Ro unty: Monro e Acreage:	chester e	Zip Code: 14621		
Rep	porting Perio	od: July 16, 2014 to July	16, 2015		
				YES	NO
	l - 41 : f	mention above porrect?		×	
1.		mation above correct?	an a comprete chapt	A	
		ide handwritten above or			
2.		or all of the site property l mendment during this Rep	been sold, subdivided, merged, or undergone a porting Period?		×
3.		been any change of use a CRR 375-1.11(d))?	at the site during this Reporting Period		×
4.		federal, state, and/or local e property during this Rep	I permits (e.g., building, discharge) been issued porting Period?		×
	If you ans that docu	wered YES to questions mentation has been pre	s 2 thru 4, include documentation or evidence viously submitted with this certification form	e 1.	
5.	that docu	wered YES to questions mentation has been pre-	viously submitted with this certification form	e 1.	×
5.	that docu	mentation has been pre	viously submitted with this certification form		×
5.	that docu	mentation has been pre	viously submitted with this certification form	. 🗆	⋈
	Is the curre	mentation has been pre	viously submitted with this certification form elopment? th the use(s) listed below?	Box 2	
6.	Is the currence Restricted	mentation has been pre- currently undergoing deve	viously submitted with this certification form elopment? th the use(s) listed below? , and Industrial	Box 2	NO
6.	Is the currence Restricted Are all ICs	mentation has been pre- currently undergoing deve- ent site use consistent wit -Residential, Commercial /ECs in place and functio	viously submitted with this certification form elopment? th the use(s) listed below? , and Industrial	Box 2 YES	NO 🗆
6. 7.	Is the currence Restricted Are all ICs	mentation has been pre- currently undergoing deve- ent site use consistent witResidential, Commercial /ECs in place and functio HE ANSWER TO EITHER DO NOT COMPLETE TH	viously submitted with this certification form elopment? th the use(s) listed below? , and Industrial ning as designed? QUESTION 6 OR 7 IS NO, sign and date below	Box 2 YES	NO □
6. 7.	Is the currence Restricted Are all ICs IF T	mentation has been pre- currently undergoing deve- ent site use consistent witResidential, Commercial /ECs in place and functio HE ANSWER TO EITHER DO NOT COMPLETE TH	th the use(s) listed below? , and Industrial ning as designed? QUESTION 6 OR 7 IS NO, sign and date below IE REST OF THIS FORM. Otherwise continue. t be submitted along with this form to address	Box 2 YES	NO □

SITE NO. V00214 Box 3

Description of Institutional Controls

<u>Parcel</u>

Owner

105.28-2-3.1

Rochester Gas and Electric

Institutional Control

Ground Water Use Restriction

Box 4

Site Management Plan

Landuse Restriction

Site use of the property is limited to restricted residential, commercial, or industrial use, which uses include both operation and maintenance of RG&E's hydroelectric facilities and passive recreation including hiking, biking, parking and fishing.

The following long-term institutional controls are implemented:

- The Department approved site management plan (SMP) is in place;
- All excavations shall be implemented in accordance with the site management plan;
- The results of site inspections shall be periodically reported to the Department as provided in the SP;
- Groundwater underlying the site is prohibited unless specifically approved by the Department as provided in the SMP; and
- Periodic certifications are required as specified in the SMP at a frequency specified by the Department.

at a first to the Controls

Description of Engineering Controls

Parcel

Engineering Control

105.28-2-3.1

Cover System

Fencing/Access Control

The following long-term engineering controls are implemented:

- The vegetative cover over areas that are not covered by rock outcrop, crushed stone, asphalt, concrete, or structures shall be continually maintained, as provided in the SMP;
- The cap constructed over the rock ledge at the easternmost base the middle falls dam, shall be maintained and periodically inspected for structural integrity and evidence of any seepage of dense non-aqueous phase liquid on a schedule as agreed upon with the Department as noted in the SMP:

RAY	5
DOX	J

	Periodic Review Report (PRR) Certification Statements
1.	I certify by checking "YES" below that:
	 a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;
	b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted
	engineering practices; and the information presented is accurate and compete. YES NO
2.	If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:
	(a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;
	(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;
	(c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;
	(d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and
	(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.
	YES NO
	X . □
	IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.
	A Corrective Measures Work Plan must be submitted along with this form to address these issues.
	Signature of Owner, Remedial Party or Designated Representative Date

IC CERTIFICATIONS SITE NO. V00214

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

Kelly R. McIntosh at Amherst, NY 14228

print name print business address

am certifying as Owner's Designated Representative (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

8/12/15 Date

IC/EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

GET Consultants 90 B John Muir Drive rint name

| Kelly R m Intosh | at Amherst , NY | print name | print business address

am certifying as a Professional Engineer for the ___Owner

Remedial Party)

Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification