Appendix 4-4 Preliminary Design of Downstream Eel Passage

4 3 2 1

B

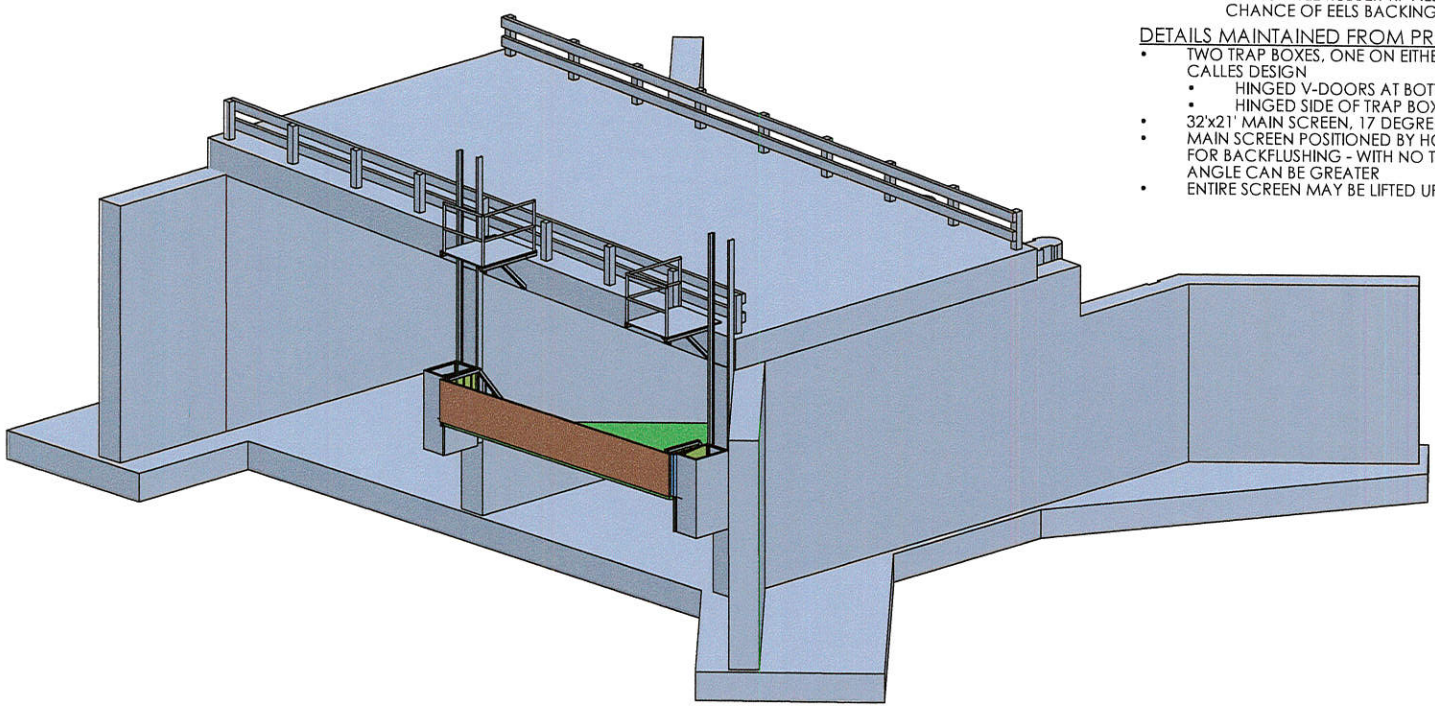
A

CHANGES FROM PREVIOUS DESIGN

- WALKWAY REMOVED - REPLACED WITH TWO ACCESS PLATFORMS
- TRAP BOX SEPARATES FROM THE SCREEN
  - LOWER LIP OF BOX ENTRANCE SETS ON SCREEN EDGE WHEN TRAPPING
  - WINCH RAISES TRAP BOX ON RAILS TO BRIDGE DECK FOR TENDING
- AIR CYLINDER TIPS TOP SCREEN TO FLUSH DEBRIS
- FRONT EDGE OF MAIN SCREEN IS SET IN RAILS TO MAINTAIN POSITION
- CONCENTRATOR PANEL LEADS ALONG FLOW AND ANGLED INTO TRAP
  - ADJUSTABLE RUBBER TIP ALLOWS SMALL SLOT TO LESSEN CHANCE OF EELS BACKING OUT OF TRAP

DETAILS MAINTAINED FROM PREVIOUS DESIGN

- TWO TRAP BOXES, ONE ON EITHER SIDE OF SCREEN, BASED ON OLLE CALLES DESIGN
  - HINGED V-DOORS AT BOTTOM OF TRAP FOR EELS REFUGE
  - HINGED SIDE OF TRAP BOX FOR TENDING
- 32'x21' MAIN SCREEN, 17 DEGREE ANGLE
- MAIN SCREEN POSITIONED BY HOISTS TO ALLOW RAISING UPSTREAM END FOR BACKFLUSHING - WITH NO TRAP ATTACHED TO THE SCREEN, THE TILT ANGLE CAN BE GREATER
- ENTIRE SCREEN MAY BE LIFTED UP UNDER BRIDGE DECK



ISOMETRIC VIEW OF BRIDGE WITH EEL SCREEN FISHING

REVISIONS
1 TRAP ENTRANCE MODIFIED
2
3
4

LAKESIDE ENGINEERING, INC.
MIRROR LAKE, NH 03853

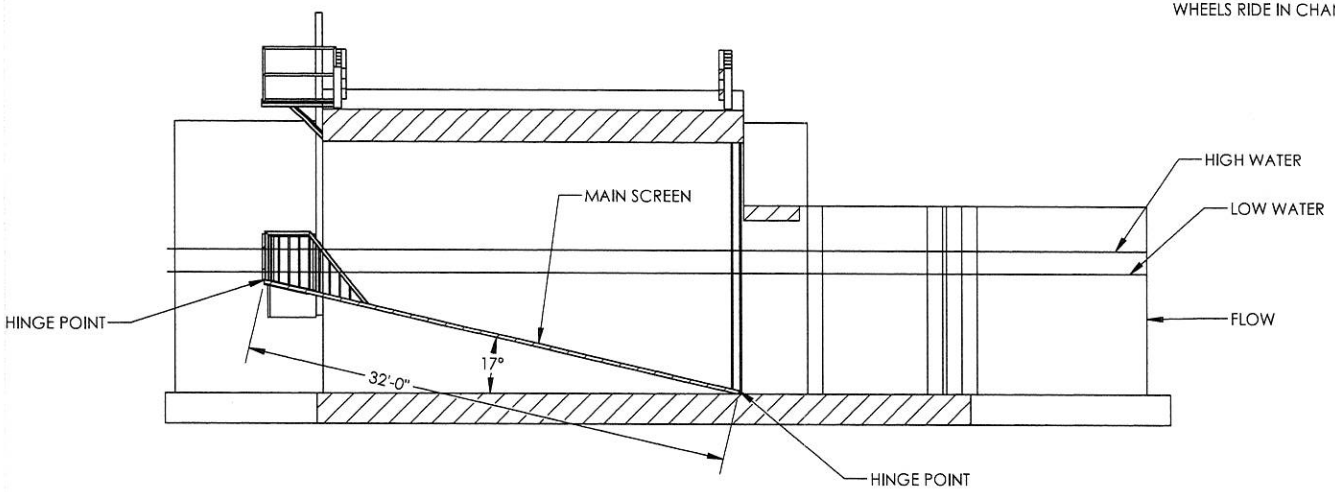
EEL SCREEN OVERVIEW

ESSEX HYDRO
ROLFE CANAL DOWNSTREAM EEL SCREEN

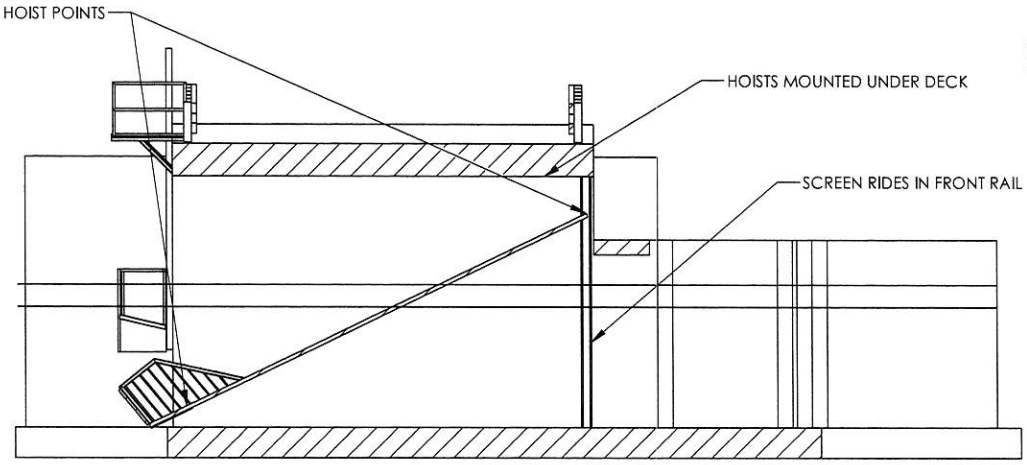
PLOT SIZE: 11x17 PLOT SCALE: SCALE
PLOT DATE: 5/23/2017

SHEET 1 OF 4

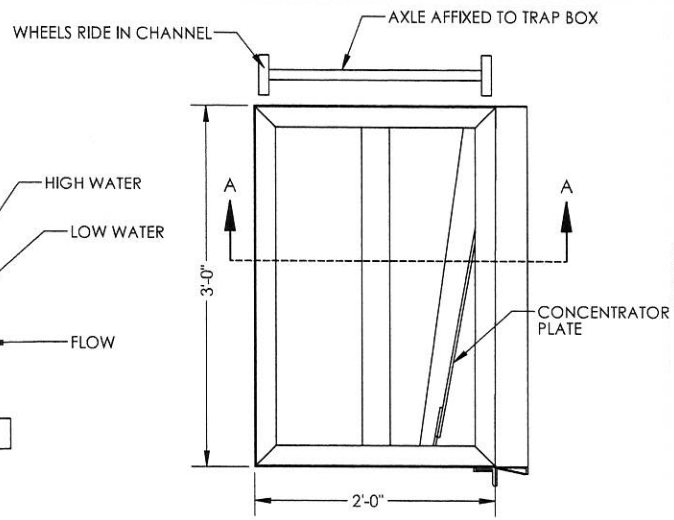
4 3 2 1



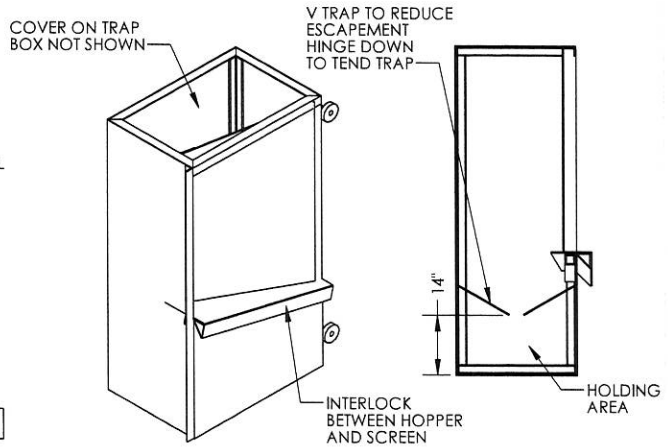
SECTION THROUGH SCREEN - FISHING



SECTION THROUGH SCREEN - BACKFLUSHING



TRAP BOX PLAN VIEW



PERSPECTIVE VIEW

SECTION A-A
SCALE 1 : 24

TRAP BOX DETAILS
BASED ON OLLE CALLES DESIGN

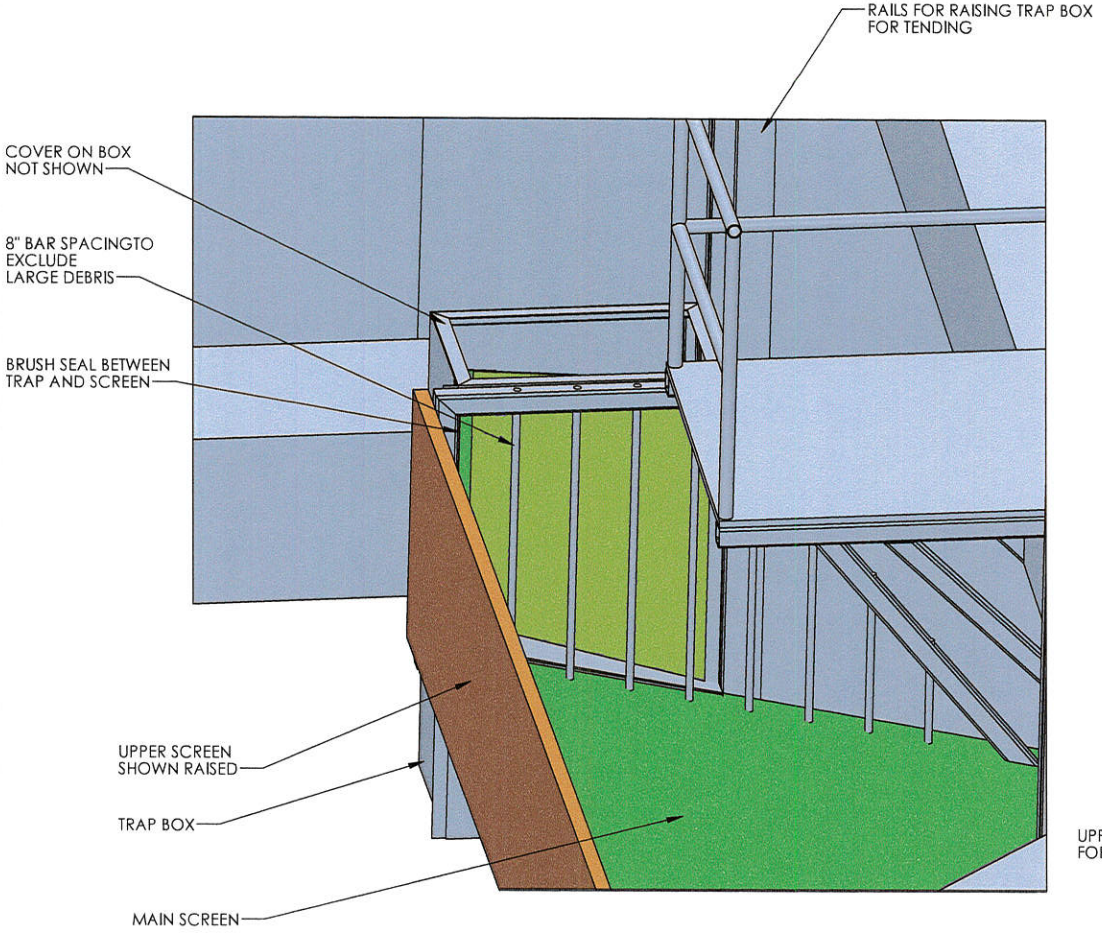
REVISIONS
1 TRAP ENTRANCE MODIFIED
2
3
4

LAKESIDE ENGINEERING, INC.
MIRROR LAKE, NH 03853

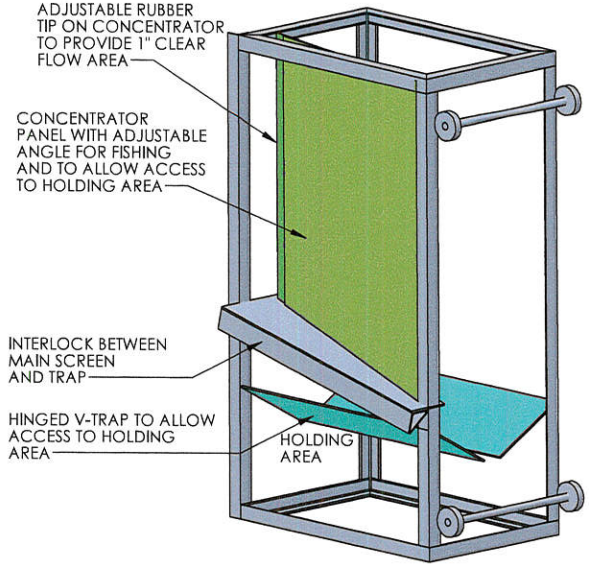
SECTIONS THROUGH SCREEN

ESSEX HYDRO
ROLFE CANAL DOWNSTREAM EEL SCREEN
PLOT SIZE: 11x17 PLOT SCALE: SCALE
PLOT DATE:5/23/2017

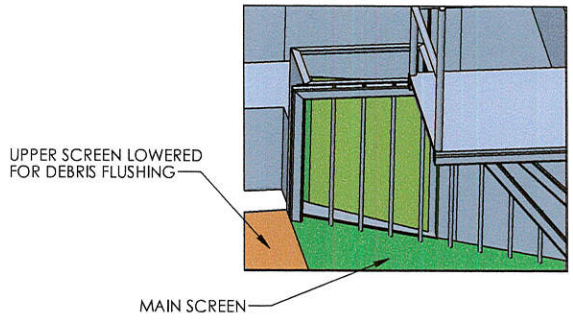
SHEET 2 OF 4



TRAP AREA ISOMETRIC NO WATER LEVEL SHOWN



TRAP WITH PUNCHED PLATE SIDES/ COVER NOT SHOWN



TRAP AREA ISOMETRIC WITH UPPER SCREEN LOWERED

REVISIONS
1 TRAP ENTRANCE MODIFIED
2
3
4

LAKESIDE ENGINEERING, INC.
MIRROR LAKE, NH 03853

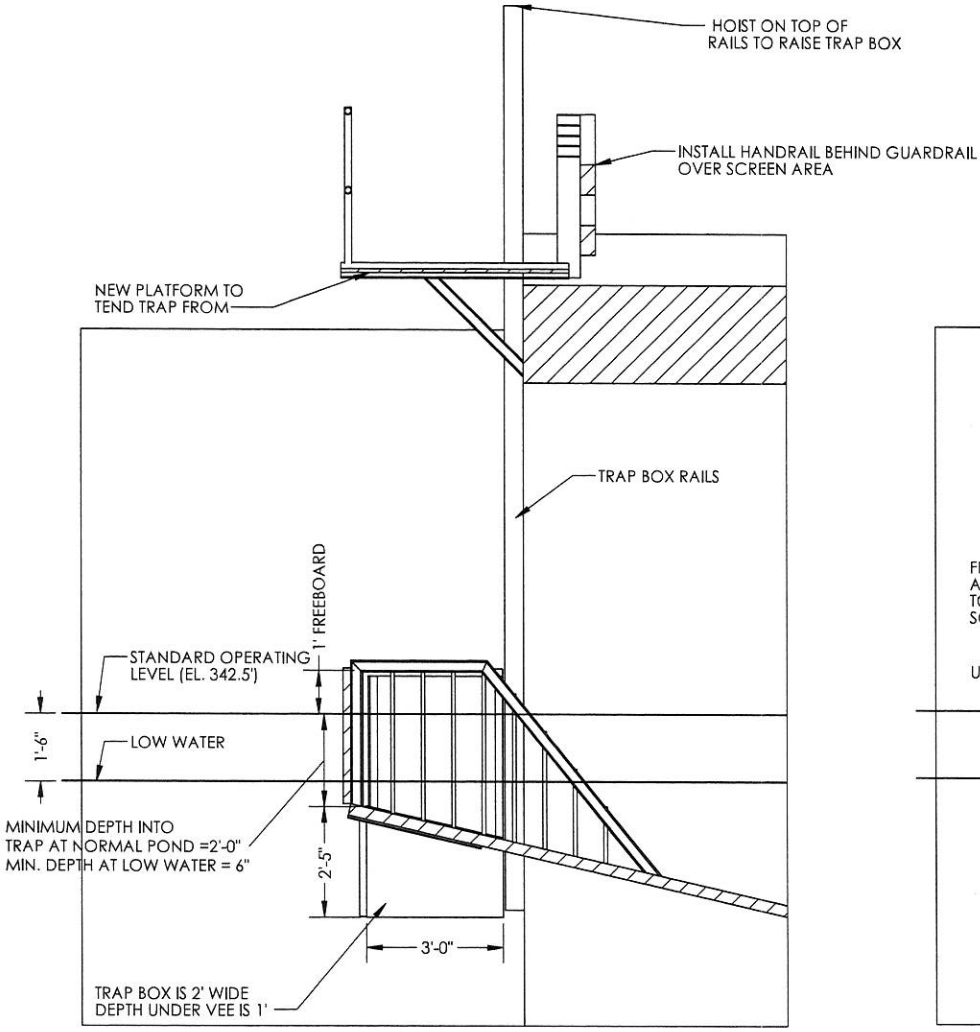
TRAP - SCREEN INTERACTION

ESSEX HYDRO

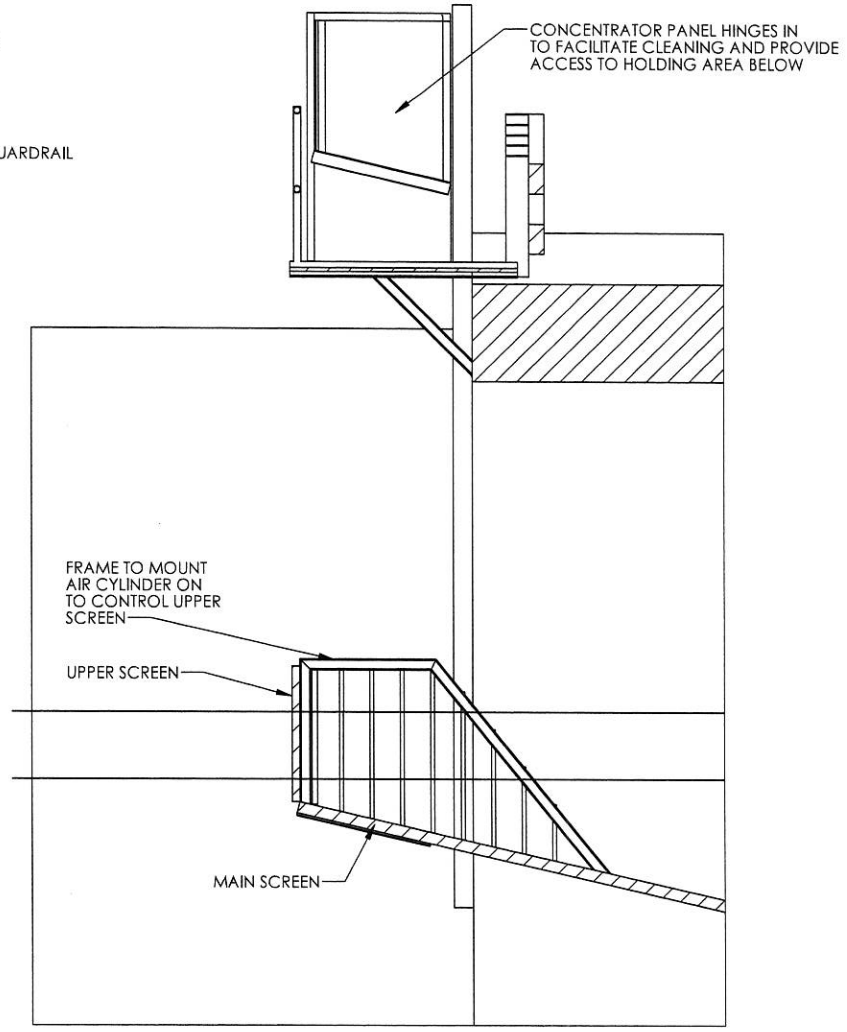
ROLFE CANAL DOWNSTREAM EEL SCREEN

PLOT SIZE: 11x17 PLOT SCALE: SCALE
PLOT DATE:5/23/2017

SHEET 3 OF 4



SECTION THROUGH SCREEN - FISHING



SECTION THROUGH SCREEN - TENDING

REVISIONS
1 TRAP ENTRANCE MODIFIED
2
3
4

LAKESIDE ENGINEERING, INC.
MIRROR LAKE, NH 03853

TRAP OPERATION / TENDING

ESSEX HYDRO

ROLFE CANAL DOWNSTREAM EEL SCREEN

PLOT SIZE: 11x17 PLOT SCALE: SCALE
PLOT DATE:5/23/2017

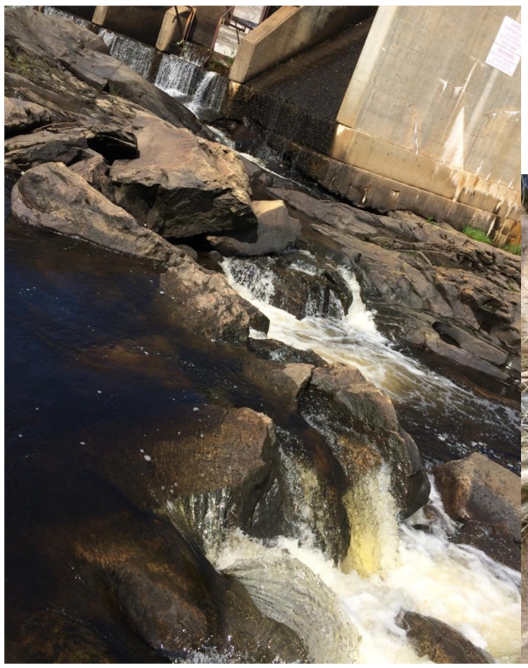
SHEET 4 OF 4

Appendix 4-5 – Report from USFWS Site Visit re: Upstream Eel Passage Studies

Update of upstream eel studies at the Penacook Lower Falls project.

Summary: Eels have so many means of passage at the Lower Falls project that I feel any eels entering the bypass reach will easily pass using existing means and are very unlikely to go into either of the two sampling Irish Elver traps at the site. **However, passage at the Upper Falls project represents a significant barrier to passage.** It is recommended that upstream passage focus on the Upper Falls Project. Eels captured here (Upper Falls) could then be transported above the Rolfe Canal Project as was originally planned for those captured at Lower Falls.

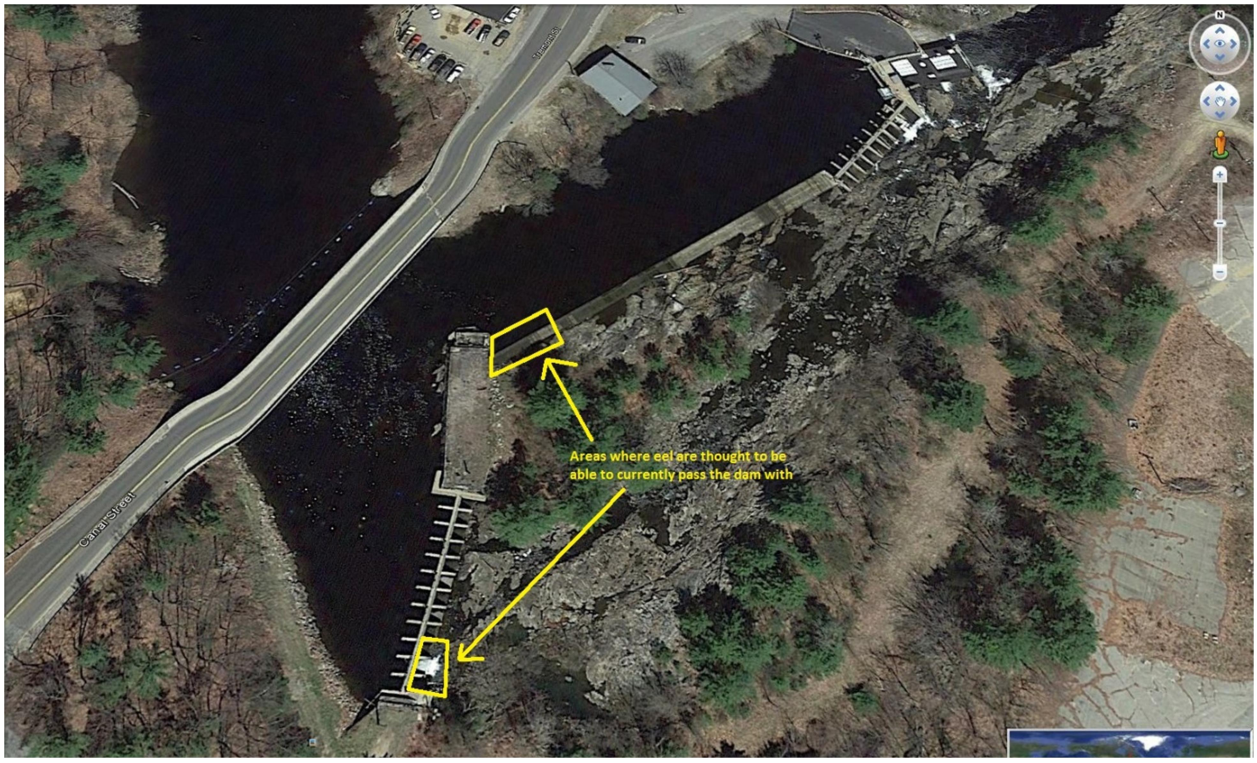
A site visit was conducted at this project on August 7, 2017 with Doug Smithwood (USFWS) and DJ Wyatt (Essex Hydro) in attendance. The primary purpose of this site visit was to test a combination rope/chain climbing matrix for assist eels in ascending three ledge areas at the base of the bypass reach.



Lowermost Ledge/Fall at Penacook Lower Falls

Chain/Rope Climbing Matrix

Climbing Matrix Installed at Small Ledge



Existing Areas of Eel Passage

2.5 inches of rain had fallen overnight causing 6 inches of spill over the powerhouse dam. This washed away the Irish Elver trap that was located at this site. The trap was recovered downstream. I told DJ that I did not think it was of value to reinstall this trap and said that I would like to focus on improving passage at the ledge area and focus on trapping eels at Upper Fall and not Lower Falls.

He will be contacting Dave Sherman to discuss purchasing 50 feet of chain needed to construct a climbing matrix for the most severe ledge at Lower Falls. This chain would be inlaid with manila and synthetic rope to test the durability of each rope type. If approved, the staff at Central New England FWCO would construct the matrix using the materials provided by Essex Hydro.

In addition: a site visit was also performed at the Upper Fall Site and several possible sites were proposed for the installation of an eel trap at this location. If approved, Doug Smithwood offered the use of one of their Irish Elver traps because this trap can be serviced by using a rope to raise the capture pail to the upper railing without having to go down to the trap itself to retrieve eels (which would be the case using their trap).

BRIAR HYDRO ASSOCIATES
c/o ESSEX HYDRO ASSOCIATES, L.L.C.
55 UNION STREET, 4TH FLOOR
BOSTON, MA 02108

TELEPHONE: 617-367-0032
FAX: 617-367-3796

December 20, 2016

Ms. Dana Hall, Deputy Director
Low Impact Hydropower Institute
PO Box 194
Harrington Park, New Jersey 07640

Dear Ms. Hall,

In conjunction with the filing of the Annual Compliance Statement for 2015 and 2016, I am providing this update on the status of the Rolfe Canal Project (the "Project") LIHI conditions. Please note, that in working with USFWS, NHDES and NHDFG, Briar Hydro Associates ("Briar") has been told that NHDES and NHDFG will follow the lead of USFWS in reviewing and approving the LIHI conditions. As such, following the Project's LIHI certification, Briar has focused on seeking USFWS approval of the Project's various conditions.

Condition 1: Briar has and continues to operate the Project in a run-of-river mode with no utilization of impoundment storage.

Condition 2: Briar increased the minimum flow released at York Dam to 100 cfs effective with the receipt of the LIHI certification in 2012. USFWS observed the 100 cfs in 2014 and verbally approved of the flows being protective of fish. Calculations were provided to USFWS to document the 100 cfs flow at the York dam and the 5 cfs flow at the Project intake. USFWS has not yet provided written approval of the site visit.

In early 2015 Briar's review of the bypass flow calculations at the York Dam revealed 150 cfs was being passed over the dam. Briar met with USFWS on July 14, 2015 and updated USFWS of the new information. At that time both parties agreed to schedule a site visit to view the flows at 100 cfs (based on the new calculations). Briar has attempted multiple times since that meeting to schedule a site visit, but USFWS has not been available. Briar plans to meet with USFWS to discuss eel passage measures in early 2017 and at that time will inquire further about the possibility of a site visit to view the flows and provide written concurrence. The project continues to bypass 150 cfs over the York Dam and 5 cfs at the Project intake.

Condition 3: Briar has developed a flow monitoring and record keeping plan to demonstrate compliance with run-of-river operations and maintenance of the prescribed minimum flows. Staff gages have been installed directly below the York Dam; however, USFWS has yet to visit the site (see Condition 2 summary) to approve of the gages and the overall flow-monitoring plan.

Pending USFWS approval, Briar has not filed a plan with FERC to date.

Condition 4: Briar met with USFWS July 14, 2015 to review an eel-monitoring plan and to discuss effective interim and permanent downstream and upstream passage for American eel (see attached email summary of this meeting). At that time, it was agreed to monitor the current eel population before determining a permanent passage solution (see attached "2015 Eel Passage Proposal").

The goal of this plan is to establish the approximate size of the eel population traveling downstream through the Rolfe project and traveling upstream from the Penacook Lower Falls ("PLF") project. The plan focuses on upstream passage at the PLF project and not Rolfe based on the fact that the eels must first pass the PLF project before passing Rolfe. Briar plans on reviewing the results of the monitoring program to date and discussing proposed permanent downstream and upstream passage measures with USFWS in early 2017.

Condition 5: Briar has not received any agency requests for upstream or downstream fish passage.

Condition 6: Briar has made no major physical or operational changes at the Project following its LIHI certification. Therefore, Briar has no reason to believe its activities have had any adverse effect on long leaved pondweed; as such, Briar has not consulted with the N.H. Natural Heritage Bureau.

Should you have any questions following the review of this letter please feel free to contact me by email (alocke@essexhydro.com) or phone (617-367-0032).

Sincerely,

BRIAR HYDRO ASSOCIATES

By: Essex Hydro Associates, L.L.C.
General Partner

Andrew Locke
President

cc: Mike Sale, Technical Advisor
Shannon Ames, Executive Director

Enc. 2015 Eel Passage Proposal & Email Summary of Meeting with USFWS

Elise Anderson

From: Andrew Locke
Sent: Thursday, November 10, 2016 3:16 PM
To: Elise Anderson
Subject: FW: Essex/Briar Hydro Rolfe Canal Meeting
Attachments: Briar Eel Trap 2015 Proposal.docx

Follow Up Flag: Follow up
Flag Status: Flagged

From: Andrew Locke [mailto:alocke@essexhydro.com]
Sent: Tuesday, December 22, 2015 12:02 PM
To: 'Warner, John'
Cc: Dave Sherman
Subject: FW: Essex/Briar Hydro Rolfe Canal Meeting

John –

Hope all is well. I need your help in closing out the discussion we had this summer regarding our plan for eels and flows. If you agree with the email I wrote you in July (see below), I will then share it with LIHI. If you could please get back to me this week I would greatly appreciate it.

Many thanks,

Andrew

From: Andrew Locke [mailto:alocke@essexhydro.com]
Sent: Friday, November 06, 2015 11:57 AM
To: 'Warner, John'
Subject: FW: Essex/Briar Hydro Rolfe Canal Meeting

Hi John –

Following up on this open item. Are you comfortable with the plan we discussed this summer? I'd like to let LIHI know we have an agreed upon plan.

Thank you,

Andrew

From: Andrew Locke [mailto:alocke@essexhydro.com]
Sent: Thursday, July 23, 2015 9:55 AM
To: 'John Warner'
Cc: Dave Sherman
Subject: Essex/Briar Hydro Rolfe Canal Meeting

John –

Thank you for meeting with me and Dave Sherman last Tuesday to review Briar Hydro's LIHI eel passage and bypass flow requirements for the Rolfe Canal Hydroelectric Project.

Below are the summary points from the meeting:

> We discussed our need to work with your agency to establish downstream and upstream eel passage at Rolfe Canal.
>
> In the meeting we discussed our proposed eel monitoring plan (attached to this email). The goal of this plan is to establish the approximate size of the eel population travelling downstream through the Rolfe project and travelling upstream from the Penacook Lower Falls (PLF) project (the plan focuses on upstream passage at the PLF project and not Rolfe based on the fact that the eels must first pass the PLF project before passing Rolfe).
>
> You approved of us implementing our proposed eel monitoring plan for the 2015 eel season and do not feel it is necessary for us to implement a downstream or upstream eel passage at Rolfe canal until we complete the eel monitoring plan and review the results with you this winter. Following this review we will work with you to determine the appropriate next steps.
>
> We discussed that our calculations show we are currently bypassing 150 cfs over the York Dam. You agreed to revisit the site at a date to be determined to evaluate if 100 cfs would be sufficient bypass.

Please let me know if this email correctly summarizes your understanding of our meeting or if edits are needed. For compliance purposes, I will then share your email with LIHI. If you do not wish me to share your response with LIHI, please let me know.

Thank you again for your time and I look forward to working with you in the future.

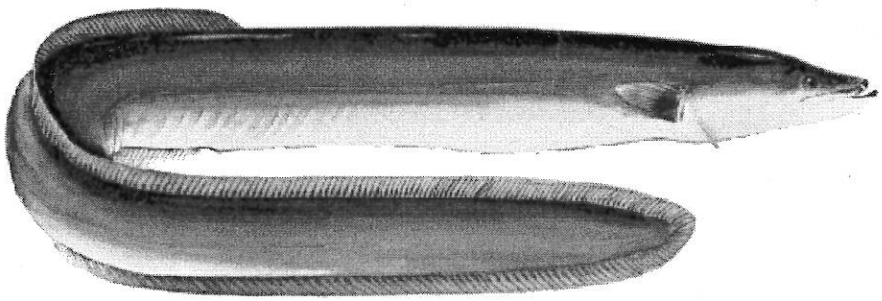
Regards,

Andrew Locke
Essex Hydro Associates
A GP of Briar Hydro Associates

EEL TRAP PROPOSAL

Upstream & Downstream Proposed Eel Passage at Briar Hydro/Rolfe Canal, and Penacook Lower Falls Project Locations

Observational 1 Seasonal Year Study, 2015



Prepared By: George "Skip" H. Zink Jr.
And Dave Sherman

TABLE OF CONTENTS

PROJECT LOCATIONS

BRIAR HYDRO/ROLFE CANAL

83A Washington Street
Penacook, NH 03303

The York Dam ("Briar") is located on the Contoocook River in the Village of Penacook, City of Concord, Merrimack County, in the State of New Hampshire. The dam is located approximately 2-1/4 miles upstream from the confluence with the Merrimack River. "Island Road/Canal Inlet", "Penstock Intake", "Briar Pipe Dam", "Bypass" are project components related directly to the Briar Hydro/Rolfe Canal Hydroelectric Project.

PENACOOK UPPER FALLS

31 Crescent Street
Penacook, NH 03303

The Penacook Upper Falls Hydro Facility ("Upper") is located on the Contoocook River in the Village of Penacook, City of Concord, Merrimack County, in the State of New Hampshire. The dam is located approximately one mile upstream from the confluence with the Merrimack River.

PENACOOK LOWER FALLS

2 Commercial Street
Boscawen, NH 03303

The Penacook Lower Falls Hydro Facility is located on the Contoocook River in the Villages of Boscawen, City of Concord, Merrimack County, in the State of New Hampshire. The dam is located approximately one half mile upstream from the confluence with the Merrimack River.

GEORGE "SKIP" H. ZINK JR.

Twenty four years with the Maine Department of Marine Resources along with the development and implementation of over twenty eel passages, evaluating the site and developing the plan, has given me the necessary experience for proper inception and execution of eel passage plans. *Resume can be found in Appendix A.*

INITIAL DETERMINATIONS

This plan is intended to be used as the main component in determining whether a permanent downstream eel program is required at the Briar Hydro Rolfe Canal Project as well as an upstream eel program at Penacook Lower Falls. This determination will be based on the amount of eel passing through the Essex Hydro facilities along the Contoocook River during the 2015 season.

After review and discussion of the project locations, river ways and other pertinent material with Essex Hydro Associates Operations Group a seasonal year observational period has been determined as the best course of action in obtaining suitable data on eel population in the Contoocook River, both upstream and downstream, and whether a permanent eel passage is needed.

With three project locations with where to collect data, there is ample opportunity to make this determination in one seasonal year. In the event that this timeline is not sufficient, the option of extending the observational study period exists.

As soon as water levels reach a point for personnel to work in a safe manner, necessary steps will be taken to implement the proposed eel trap plan.

UPSTREAM EEL PASSAGE

Upstream data collection will take place at Penacook Lower Falls hydroelectric locations.

Using a modified version of the Connecticut Trap (*"CT Trap" specifications can be found in Appendix B*), trained Essex Hydro employees will monitor any migrating eel caught in the trap(s) and record necessary data to the specifications found on the Data Collection Form. *The Data Collection Form can be found in Appendix C.*

CONNECTICUT TRAP LOCATIONS

A total of two modified CT Traps will be installed at all three of the Essex Hydro plant locations as well as the bypass reach on the Rolfe Canal.

- Two CT Traps on the downstream side of the Penacook Lower Falls Hydro Project (located approximately ½ mile upstream from the confluence with the Merrimack River).

- One CT Trap along the downstream side of the Bypass Reach (located approximately 1 ¾ miles upstream from the confluence with the Merrimack River on the Rolfe Canal).

OBSERVATION SCHEDULE

CT Traps will be installed, at the locations described above, during a safe and weather dependent period, sometime in late July of 2015, which is believed to be the earliest time spurts or bursts of eel, would be detected. This observational period for upstream passage will continue through September 1st, 2015.

DATA COLLECTION, RELEASE POINTS, and SECURITY

Traps will be pulled (they can be easily lifted out of their locations with a "pully-like" system) and checked during normal weekday. If eel are detected, trained employees with the appropriate permitting will log specified statistics of individual eel as well as bulk loads (i.e. weight, count, etc.) on the data collection form. *The Data Collection Form can be found in Appendix C.*

In the case of eel being detected in the CT Traps, once all data is properly logged, the eel will be transported upstream the Contoocook River and released above all dam obstructions known to Essex Hydro personnel.

At the more populated and active locations along the Contoocook River (Penacook Lower Falls), video surveillance is available. If suspicion arises that the traps may have been tampered with, this system will be used to help determine the cause of the issue.

DOWNSTREAM EEL PASSAGE

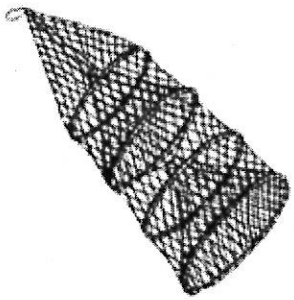
Downstream data collection will take place at the Briar Hydro/Rolfe Canal hydroelectric location; included in this program are dam components at Island Road/Canal Inlet, Penstock Intake, York Dam, and Bypass Reach.

Using Fyke Nets and a permanent Catfish Trap, trained Essex Hydro employees will monitor any migrating eel caught in the trap(s) and record necessary data to the specifications found on the Data Collection Form. *The Data Collection Form can be found in Appendix C.*

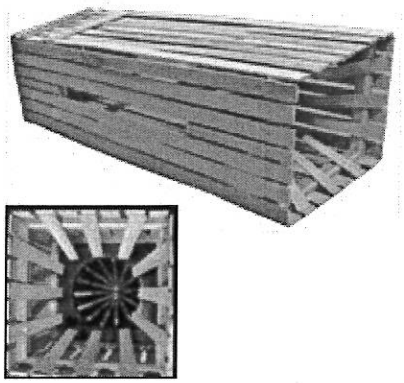
FYKE NET/CATFISH TRAP LOCATIONS

A total of three Fyke Nets are currently installed at the Briar Hydro/Rolfe Canal Project site(s). One Catfish Trap is located at the Bypass Reach.

FYKE NET



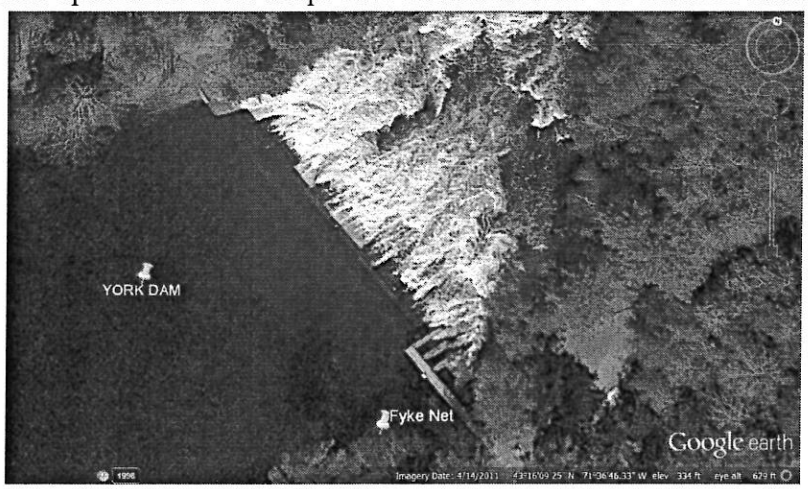
CATFISH TRAP



- Fyke Net #1 is located under the Island Road/Canal Inlet Bridge on the left bank and downstream of the canal inlet gates. The net is being held in location by ropes and at a four foot depth by floats attached to each hoop. The Fyke Net entrance faces upstream.

- Fyke Net #2 is located along the Penstock Intake wall to the left of the trash racked penstock entrance. The net is located by attached ropes and is approximately six feet under water with the net entrance facing towards Electric Avenue.

- Fyke Net #3 is located at the York Dam in front of the 50cfs minimum flow gate entrance. The net entrance faces upstream and the hoops have floats that allow the net to be at a three foot depth.



- One Catfish Trap is located along the Bypass Reach (located approximately 1 ¾ miles upstream from the confluence with the Merrimack River on the Rolfe Canal).

OBSERVATION SCHEDULE

Fyke Nets and Catfish Traps are currently installed at the locations described above. The downstream seasonal observations will begin August 1, 2015 and will continue through November 15, 2015.

DATA COLLECTION & RELEASE POINTS

Traps will be pulled and checked during normal weekday operations. If eel are detected, trained employees with the appropriate permitting will log specified statistics of individual eel as well as bulk loads (i.e. weight, count, etc.) on the data collection form. *The Data Collection Form can be found in Appendix C.*

In the case of eel being detected in the Fyke Nets and/or Catfish Trap, once all data is properly logged, the eel will be transported downstream and dropped at the boat ramp below Penacook Lower Falls, located ¼ mile upstream of the confluence with the Merrimack River.

APPENDIX A: RESUME

George H. Zink Jr.
83 Baker Rd.
Starks, Maine 04911

OBJECTIVE

To present qualifications for upstream/downstream eel passage design and data collection

EMPLOYMENT EXPERIENCE

Marine Resources Specialist — Maine Department of Marine Resources
April, 1996 to retirement October, 2011 — 21 Statehouse Station, Augusta, ME

Eel Project; Design and maintain Atlantic States Marine Fisheries Commission mandated annual young of year eel population study. Monitor and record data for upstream and downstream passage of eels on the Kennebec River drainage. Review and comment on passage designs for dams within the state. Review and comment on commercial eel fishing regulations. Build and test experimental passage and trapping equipment. Deploy and operate monitoring equipment including dip nets, Fyke nets, beach seines, Irish eel traps, Connecticut box traps, V traps, Otter trawls, Didson sonar, RFID pit tag readers and antennas, Lotek readers, and fish counters. Operate and maintain oxygen meters, flow meters, temperature recorders, scales and measuring devices. Collect and record data statewide for reports. Work in cooperation with Federal and State Agencies, public and private organizations. *Supervisor*; Dr. Gail Wippelhauser.

Marine Resources Conservation Aide — Maine Department of Marine Resources
May, 1987 to April, 1996 — 21 Statehouse Station, Augusta, ME

Androscoggin and Kennebec Projects; Trap and truck alewives, shad, stripers, and salmon. Trap and tag sturgeon. Operate and maintain related equipment including tank trucks, tanks and related water circulation systems, watercraft, otter trawls, push nets, Fyke nets, beach seines, box traps, and other related gear. Collect and record environmental, habitat, and fish growth data. Work with Federal and State Agencies. *Supervisor*; Lew Flagg.

EDUCATION

Fisher Junior College 80 Parks Street Duxbury, MA	1981, *Completed One Semester*
Allied Tractor Trailer Training, Inc. 26 Everett Street Westwood, MA	2/1973-3/1973, *Obtained Class A Commercial Drivers License*
Roslindale High School Poplar Street Roslindale, MA	

RELATED SKILLS

Heavy equipment operator, US Navy Seabees from May 1970 to November 1972. Attended USGS eel radio tracking workshop October 1997. Attended Oregon RFID workshop, June 2008. Attended USFWS fish passage workshop, October 2010. Presenter and steering committee member for ASMFC eel passage workshop, March 2011.

REFERENCES

Fred Seavey, USFWS	Fred_Seavey@fws.gov
Gail Wippelhauser	gail.wippelhauser@maine.gov
Michael Brown	Michael.Brown@maine.gov

APPENDIX B: CONNECTICUT TRAP SPECIFICATIONS

The Connecticut Trap was designed and used by Timothy Wildman and Steve Gephard, two biologists working on passage issues for their state. They made their original units out of 5 gallon buckets with two inch PVC fittings and have used both Enkamat and plastic bird netting as a climbing substrate. Jason Valliere, of Maine DMR, had modified the design to a plastic storage box and monitored the catch successfully, at a pond in Maine.

The basic design consists of a two inch PVC 90 degree fitting through the side of the container close to the bottom. This is then loosely packed with Enkamat or plastic netting from the outside, up into the container. The eel climb up and drop into the container where a screened drain sets the water level below the top of the 90 degree angle so the eel cannot climb back out.

An attraction water flow is set above the 90 degree angle into the top of the container and the tongue of the substrate is set in the direction the eel are approaching. The system can be set in areas where water flows vary and can be raised and lowered into tight spaces. It is a good method of locating where eel are attempting to travel as well as the number of eel moving.

The CT Trap has been modified down to a 5 gallon bucket as opposed to a storage bin used in the original model. Add in specs from Skip.

APPENDIX C: DATA COLLECTION FORM

[i] <http://www.landbigfish.com/images/fish/LBF_American_Eel.gif>

Appendix 5 – Site Photos

Zone of Effect #1

Figure 1 - York Dam

Figure 2 - York Dam

Figure 3 - York Dam

Figure 4 - York Dam

Figure 5 - Rolfe Canal Island Road Gate Inlet

Zone of Effect #2

Figure 6 - View from York Dam, view downstream to bypassed reach

Zone of Effect #3 & #4

Figure 7 - View Downstream from Powerhouse Tailrace

Zone of Effect #5

Figure 8 - View Downstream of Briar Pipe Dam towards Spillage Canal

Appendix 6 – NH Natural Heritage Bureau Threatened and Endangered Species Consultation

Memo

NH NATURAL HERITAGE BUREAU
NHB DATACHECK RESULTS LETTER

To: Elise Anderson
55 Union Street
Boston, MA 02108

From: Amy Lamb, NH Natural Heritage Bureau
Date: 6/27/2017 (valid for one year from this date)
Re: Review by NH Natural Heritage Bureau
NHB File ID: NHB17-2030 Town: Boscawen and Concord Location: Tax Maps: Map P1 Block 7 Lot 8
Description: This is the Rolfe Canal hydroelectric project. The project is an existing hydroelectric plant. No new construction is proposed.
cc: Kim Tuttle

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Comments: Please contact NH Fish & Game.

Invertebrate Species	**State[1]**	**Federal**	**Notes**
Rapids Clubtail (*Gomphus quadricolor*)	SC	--	Contact the NH Fish & Game Dept (see below).

Vertebrate species	**State[1]**	**Federal**	**Notes**
Northern Leopard Frog (*Rana pipiens*)	SC	--	Contact the NH Fish & Game Dept (see below).
Spotted Turtle (*Clemmys guttata*)	T	--	Contact the NH Fish & Game Dept (see below).
Wood Turtle (*Glyptemys insculpta*)	SC	--	Contact the NH Fish & Game Dept (see below).

[1]Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list. An asterisk (*) indicates that the most recent report for that occurrence was more than 20 years ago.

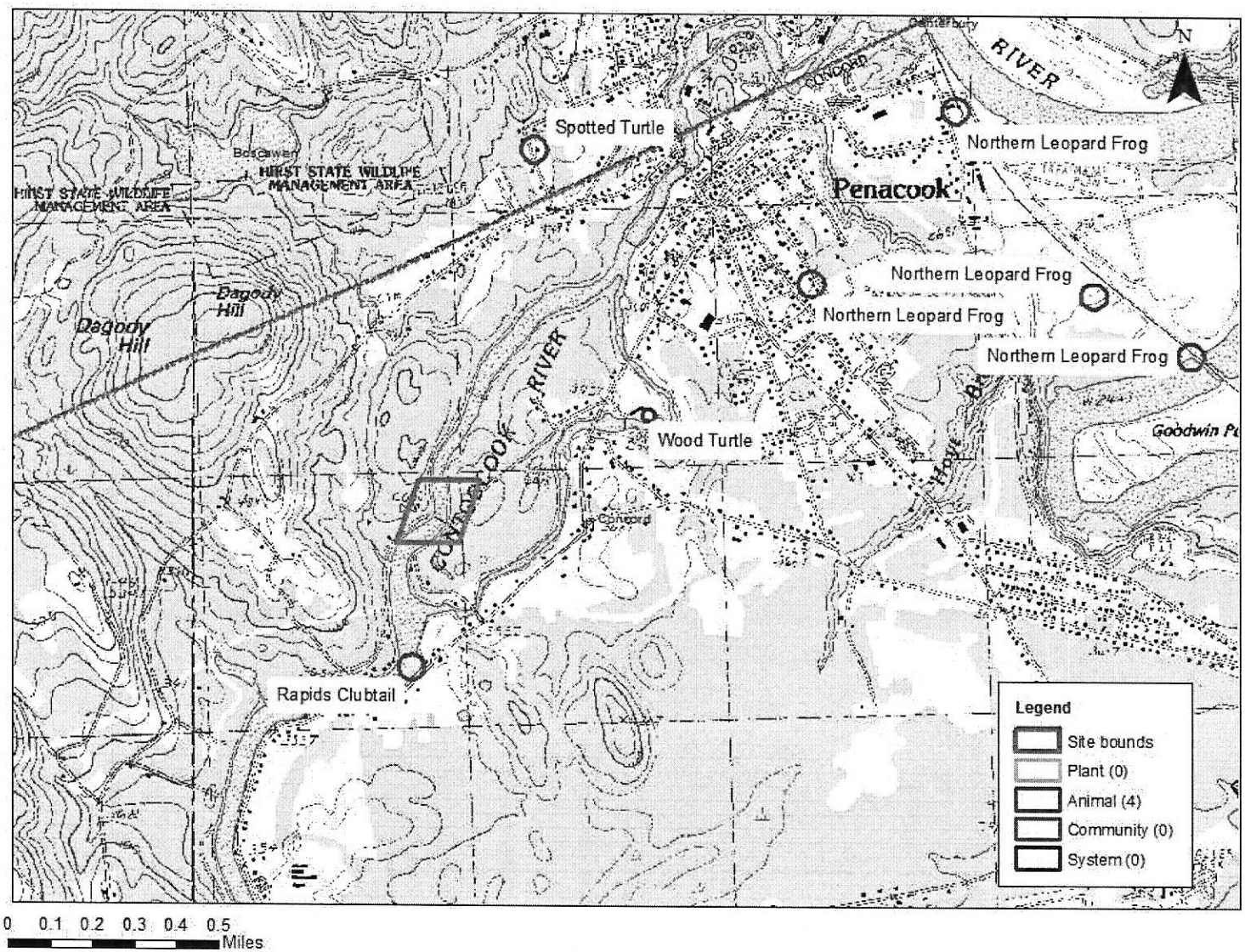
Contact for all animal reviews: Kim Tuttle, NH F&G, (603) 271-6544.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
172 Pembroke Rd.
Concord, NH 03301

NHB17-2030


Spotted Turtle
Northern Leopard Frog
Penacook
Northern Leopard Frog
Northern Leopard Frog
Northern Leopard Frog
Wood Turtle
Rapids Clubtail
HIRST STATE WILDLIFE MANAGEMENT AREA
Dagody Hill
CONTOOCOOK RIVER
Concord
Legend
Site bounds
Plant (0)
Animal (4)
Community (0)
System (0)
N
0 0.1 0.2 0.3 0.4 0.5
Miles

New Hampshire Natural Heritage Bureau - Animal Record

Rapids Clubtail (*Gomphus quadricolor*)

Legal Status

Federal: Not listed
State: Special Concern

Conservation Status

Global: Rare or uncommon
State: Critically imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2009: Common (5-20); exuvia, also emerging adult(s) on 5/30.
General Area:
General Comments:
Management Comments:

Location

Survey Site Name: Contoocook River, Penacook
Managed By:

County: Merrimack
Town(s): Concord
Size: 1.9 acres
Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions:

Dates documented

First reported: 2009-05-30
Last reported: 2009-05-30

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

Northern Leopard Frog (*Rana pipiens*)

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Demonstrably widespread, abundant, and secure
State:	Special Concern	State:	Rare or uncommon

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2011: Area 12909: 2 adults observed. Area 12910: 1 adult observed. Area 13151: 1 adult observed.2009: Area 12409: Frogs observed. Too many to count.

General Area: 2011: Area 12909: Turf lawn grass. Area 12910: Grasses and sedges along water's edge at oxbow pond. Area 13151: Wildflower garden with small pond.

General Comments:
Management Comments:

Location

Survey Site Name: Hoyt Brook
Managed By:

County: Merrimack
Town(s): Concord
Size: 7.7 acres
Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2011: Area 12909: Backyard of 1834 Abiel Rolfe House. Area 12910: Edge of Merrimack River oxbow near Goodwin Point. Area 13151: 68 Community Drive, Penacook.2009: Area 12409: Morrill's Farm (43 16'37.87 N / 71 34'55.24 W).

Dates documented

First reported: 2009-10-04 Last reported: 2011-09-03

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

Spotted Turtle (*Clemmys guttata*)

Legal Status

Federal: Not listed
State: Listed Threatened

Conservation Status

Global: Demonstrably widespread, abundant, and secure
State: Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2013: 1 adult observed, sex unknown.
General Area: 2013: Area 13483: Residential driveway. Front yard is on street, higher than backyard and dry. Backyard, some wet spots, cattails, trees, shrubs, apples, berries, tall and short grasses. Lot is one acre in size, stone walls on both sides.
General Comments:
Management Comments:

Location

Survey Site Name: Penacook, west of
Managed By: Town of Boscawen Land

County: Merrimack
Town(s): Boscawen
Size: 1.9 acres
Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2013: Area 13483: 49 Chandler Street, Boscawen.

Dates documented

First reported: 2013-09-11
Last reported: 2013-09-11

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

Wood Turtle (*Glyptemys insculpta*)

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Rare or uncommon
State:	Special Concern	State:	Rare or uncommon

Description at this Location

Conservation Rank: Fair quality, condition and/or landscape context ('C' on a scale of A-D).
Comments on Rank:

Detailed Description: 2006: Area 11662: 1 adult female seen.
General Area: 2006: Area 11662: On lawn behind old mill building.
General Comments:
Management Comments:

Location

Survey Site Name: Contoocook River, Penacook
Managed By:

County: Merrimack
Town(s): Concord
Size: .4 acres Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: Behind Briar Pipe Apts, Washington St, Penacook.

Dates documented

First reported:	2006-06-19	Last reported:	2006-06-19

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

Elise Anderson

From: Elise Anderson
Sent: Monday, August 7, 2017 4:02 PM
To: 'Carol.Henderson@wildlife.nh.gov'
Subject: New Hampshire Natural Heritage Bureau - Animal Species Occurance near Hydroproject
Attachments: Rolfe Appendix 6 - Natural Heritage Bureau TE Species Consultation 2017.pdf

Hi Carol,

I am working on recertifying the Rolfe Canal hydroelectric project in Boscawen & Concord as a low impact hydro project. This project was originally certified in 2012 for a period of 5 years.
The project is an existing plant and there are no new construction activities proposed. It will continue to be operated in the same manner as under the previous certification (run of river).

The attached species occurrence report names four species of concern in the vicinity of the project: wood turtle (species of concern), spotted turtle (threatened), Northern leopard frog (species of concern) and the rapids clubtail (species of concern).

Could you let me know if continued operation of our project poses any threat to these animal/invertebrate species of concern? I spoke with Kim Tuttle this morning who advised I follow up with you for feedback on this. Feel free to call if you would like to discuss.

Thanks,
Elise Anderson

Essex Hydro Associates
(617) 367-0032

Appendix 7 – Request for Project Review by the New Hampshire Division of Historical Resources (2017)

NEW HAMPSHIRE DIVISION OF HISTORICAL RESOURCES
State of New Hampshire, Department of Cultural Resources 603-271-3483
19 Pillsbury Street, Concord, NH 03301-3570 603-271-3558
TDD Access Relay NH 1-800-735-296 FAX 603-271-3433
www.nh.gov/nhdhr *preservation@dcr.nh.gov*

Request for Project Review by the New Hampshire Division of Historical Resources

INSTRUCTIONS

The Division of Historic Resources (DHR) is New Hampshire's State Historic Preservation Office (SHPO). Under state and federal laws, the DHR works with other governmental agencies to review publicly-assisted projects that may affect historical or archeological resources. Historic preservation "Review & Compliance" (R&C) is a consultation process to identify significant historic properties in the planning stage of a project, so that any harm to them can be avoided, minimized or mitigated. It is intended to be a conflict-resolution and problem-solving process that balances the public benefit in historic preservation with the public benefit from a variety of governmental initiatives.

The RPR is not simply a checklist. It is a framework to facilitate a clear and accurate exchange of information. Compiling data for the RPR can strengthen your recognition and understanding of cultural resources and their relationship to your project. Clear and accurate information will support federal and state agencies, including the DHR, in making informed recommendations and comments. **By following these instructions, you can help facilitate an efficient, productive consultation process.**

Laws and regulations protecting historical resources and guiding the DHR's review and consultation are listed below, with citations for additional information noted:

National Historic Preservation Act of 1966, as amended:
www.achp.gov/nhpa.html

NH RSA 227-C:9:
www.gencourt.state.nh.us/rsa/html/XIX/227-C/227-C-9.htm

ACOE NH Programmatic General Permit:
www.des.state.nh.us/wmb/Section401/reviewProcess.html

Federal Highway Administration: Section 4(f):
www.environment.fhwa.dot.gov/strmlng/newsletters/mar08nl.asp

If your project has anything to do with transportation (type of project or funding source etc.) please see the RPR for Transportation Projects and related Instructions.

Before You Submit the Request for Project Review Form

1. Check the DHR's Review & Compliance website at www.nh.gov/nhdhr/review/ to be sure you have downloaded the most current form.

2. Determine the entire geographical area in which changes may occur (project area). The boundaries of the project area should be clearly described and indicated on a 7.5 minute USGS topographic quadrangle (clear copy or computer generated).

3. As soon as you've determined your project area, and before initiating the review process, you should determine the presence/absence of standing structures, whether or not there are any previously surveyed properties, and if and when any properties have been determined eligible or not eligible for listing in the National Register of Historic Places within or adjacent to the project area. Information on recorded historic properties is available at the DHR, and this information **must** be collected prior to submitting project review materials. The DHR records are open to the public by appointment by calling the DHR Records Coordinator at 603.271.6568 or email at tanya.krajcik@dcr.nh.gov. Include findings in Table 1 or within the project narrative description. Please be aware that survey in New Hampshire is far from complete, and the absence of historic resources in DHR records does not mean that no historic properties are present.

4. Complete a field review of the project area, taking photographs as directed in the form and instructions.

5. Following the records check and field review, project proponents should complete the Request for Project Review Form and any needed attachments in their entirety by referring to these instructions. Enclose the required additional information and submit your application packet to the DHR in paper. Please include a self-addressed stamped envelope in order to expedite the review process. Incomplete materials will be returned without review.

6. Be aware that, in the event historical resources are affected by your project, you may need to speak with your lead federal agency about developing a plan for public involvement.

7. There is no need to submit the copy of these instructions that print out with the RPR form. It is there for your information and use.

Photograph Submittals

Photographs submitted for project review may be either 35mm black/white, color or digital prints. All photographs must be clear, crisp and focused. Digital images should not be pixilated. Photographs must be sized 3" x 5" or larger and their subject locations keyed to an accompanied map. They may be embedded in printed Word® documents. All photos must be printed. No CDs, flashdrives, or other storage media with digital images will be accepted.

How to Complete the Request for Project Review (RPR) Form

GENERAL PROJECT INFORMATION

New Submittal or Additional Information – Indicate if the project, or any part thereof, has been previously reviewed by DHR and if so, insert the DHR review number (R&C #). If we know that a project has been previously reviewed, we can often avoid asking for duplicate information.
Project Title – Provide a descriptive name of the project. The name should clearly but concisely indicate what the project involves.
Project Address/Location – Provide the geographical location of the project. If your project involves work on a specific building, please include the street address of the building.
City or Town – Provide the city or town in which your project is located. Provide the **tax map and lot numbers** of the property(s).
Geographic Coordinates – NH State Plane-Feet is the required coordinate system.

An example of State Plane coordinates for the State House in Concord are: Easting 1018526 Northing 257678.

Access to State Plane coordinate data can be found at: http://granitviewii.unh.edu. Please refer to the R&C FAQs at www.nh.gov/nhdhr/review/rc_faq.htm on help accessing this data. It is helpful to print the specific instructions provided at https://www.nh.gov/nhdhr/review/documents/granitview_coordinates_print.pdf prior to clicking the https://granitview.unh.edu link.

Lead Federal Agency – Indicate the federal agency and contact person (if applicable) that is responsible for Section 106 compliance and that agency's permit type and permit or job reference number (if known). If you do not know the federal agency involved in your project, please contact the party requiring you to apply for Section 106 review, *not* the DHR, for this information.

State Agency – Indicate the state agency and contact person (if applicable) that is involved in the project and that agency's permit or job reference number (if known). Also note the type of permit.

APPLICANT INFORMATION

Applicant Name – Provide the name and contact information of the applicant (project sponsor).

Contact Person to Receive Response – Provide the name and contact information of the person to receive the DHR's response. The address provided should be a mailing address. Be sure to include a self-addressed stamped envelope with your application packet to expedite the review process.

PROJECT BOUNDARIES AND DESCRIPTION

Project Map – A clear computer generated or photocopy of the 7.5 minute USGS topographic quadrangle map, or a **clearly labeled** portion thereof, showing the exact boundaries of the project location (project area) **must** be attached to this application. Do **not** reduce or enlarge the map. Color copies are helpful. Label the map with the name of the USGS quadrangle. Topographic maps may be printed or downloaded free of charge at: https://granitview.unh.edu. Please refer to the R&C FAQ's at www.nh.gov/nhdhr/review/rc_faq.htm for help on accessing this data.

Narrative Project Description – Attach a detailed written description of the project area and the proposed undertaking. The narrative should describe the project's area of potential effects including areas of potential physical and visual impacts, secondary areas or impacts, such as staging areas or borrow pits, and alterations to a structure, a building, or its landscape. Describe any known past disturbances or alterations to the project area such as grading, filling, paving, excavation and demolition, along with an approximate date. The narrative should clearly describe the proposed action, in as much detail as currently known.

Site Plan – Attach a large-scale map, diagram, or site plan(s), showing the project area's existing conditions and proposed changes (If this type of plan is not yet available for the project, explain why and give a date as to when it will be submitted). The drawing should indicate compass orientation, contours, general soil types, and presence of wetlands (if available). If any existing buildings, structures, cemeteries, dams, canals, bridges, foundations, ruins, old wells, cellar holes, stone walls, trails, or specialized uses such as dump sites, etc., are present, their locations should be shown.

Photos of Project Area – Provide photographs showing the overall project area and the area adjacent to the project location, as well as specific areas of proposed ground impacts and disturbances. These photographs should provide general visuals of the landscape(s), streetscape(s), and relationships between buildings and structures within and adjacent to the area of proposed impact. They should also include views of areas where there might be ground impacts and disturbances, such as digging or staging areas. Informative photo captions explaining each image will facilitate efficient project review. Photos should be keyed to project mapping.

DHR File Review – During the identification stage of the review process you should determine the presence/absence of standing structures. Be sure to include the results of the DHR Records search for historic properties with your submittal packet and indicate the date the file review occurred on the RPR form. Indicate if the records search revealed any historic properties in the project area and if the site inspection revealed any properties more than 50 years of age within or adjacent to the project area which may or may not be recorded at the DHR. Provide results within the project narrative or using Table 1 (available on the DHR website).

ARCHITECTURE

Buildings, Structures, and Landscapes in Project Area – Based on the results of your DHR file review *and* your field review, are there any properties more than 50 years of age **within or adjacent** to the project area? The types of properties to note include buildings, structures (such as bridges, stone walls, culverts, railroad corridors, dams, etc.), objects (such as monuments and mileposts), historic districts, and landscapes (could include designed gardens, scenic roadways, campuses, or a collection of farms across a rural agricultural landscape).

If *none* of these are located in your project area, please note that in your project narrative and then skip to the Archaeology section of the RPR.

If *any* of these are located in your project area you must submit the following information:

Age – Provide an approximate age for the resources in your project area and the source for that information. Sources to determine approximate age could include owner information, visual inspection, municipal records, etc.
Photos of Buildings, Structures, and Landscapes – Photographs of all buildings and structures within the project area must be included with the application materials. These photos should show at least the full front side, however an angled shot showing the front and one side is typically very helpful. Neighborhood streetscape images should be included if applicable, such as when the project is located within an established or possible historic district. Photos should include informative captions and be keyed to project mapping.
Detail Photos, if applicable – If your project work involves physical impacts to existing buildings or structures, such as rehabilitation, demolition, additions, or alterations, detail photos of the area(s) of work must be submitted. For example, if you propose window replacement, then provide a photo of the window to be replaced. If you propose building an addition, then provide a photo of the area of the existing building where the addition will be appended.

ARCHAEOLOGY

Ground-Disturbing Activity in Project Area – While ground-disturbing activities are generally self-explanatory, be aware that they include activities such as construction or modification of drainage ditches and retention ponds, and temporary areas used for staging and access.

If there is *no* ground-disturbing activity in your project area, please note that in your project narrative.

If *any* ground-disturbing activity is anticipated, submit the following information:

Description of Previous Land Use – Attach a detailed descriptive narrative of current and previous land use and any known disturbances within the project area as described in project narrative.
Known or Suspected Archaeological Resources – Please note to the best of your knowledge whether the land owner/developer is aware of any archaeological resources within the project area (i.e. cemeteries/grave markers, stone walls, cellar holes, wells, foundations, dams, etc.).

TYPE AND MEANING OF DHR's RESPONSE

Insufficient information to initiate review – RPR packages will be returned to the applicant without review if, upon receipt, the DHR determines that the RPR package has not been completed sufficiently to review the project efficiently. *The purpose of this policy is to avoid excessive waste of time and money resulting from efforts to interpret or track down unclear or missing materials.*

Additional information is needed in order to complete review – Depending on the presence or types of resources in a project area, there may be multiple steps to the cultural resources consultation process. The necessity of progressing to the next step depends on the result of each preceding step. (*See the DHR website for a flowchart explaining Section 106 of the National Historic Preservation Act of 1966 at www.nh.gov/nhdhr/review/documents/106flowchart.pdf.*) Consultation for some projects may end with the RPR response, while others require continued consultation and fulfillment of additional steps in the process, such as surveys by qualified consultants and findings of effect by the lead federal agency and the DHR.

RPR comment response v. letter response – Depending on the project, the lead federal agency, and the DHR's response, you may receive either comments written on the RPR form or in a separate letter. Both types of responses may be considered the DHR's response.

****

Your Request for Project Review is ready to be submitted to the DHR if you've:

- ✓ Determined the entire geographical area of the proposed project and of the project's potential impacts
- ✓ Conducted a DHR file review for already-identified historic properties within or adjacent to the project area
- ✓ Conducted a field review for other resources 50 years old or older within or adjacent to the project area
- ✓ Completed the Request for Project Review Form in its entirety including all requested information and attachments
- ✓ Included a self-addressed stamped envelope

Mail the completed RPR form, a self-addressed stamped envelope and required materials to:

NH Division of Historical Resources
State Historic Preservation Office
Attention: Review & Compliance
19 Pillsbury Street
Concord, NH 03301-3570

RPRs **cannot** be accepted via facsimile or e-mail. Please provide a completed form even in cases where project information is included in a separate document, such as DES permit applications and other environmental reports and applications. Environmental documents may be submitted as attachments to the form, only if they provide an important part of the project description. The DHR has a different focus from other agencies. In order to reduce costs and be as environmentally friendly as possible please do not submit entire permit applications. The DHR will retain all items and supporting documentation submitted with a review request, including photographs and publications. Items to be kept confidential should be clearly identified. For questions regarding project review please visit www.nh.gov/nhdhr/review or contact the R&C Specialist at christina.st.louis@dcr.nh.gov or 603.271.3558.

Blank page intended

Please mail the completed form and required material to:

New Hampshire Division of Historical Resources
State Historic Preservation Office
Attention: Review & Compliance
19 Pillsbury Street, Concord, NH 03301-3570

DHR Use Only	
R&C #	_____
Log In Date	___/___/___
Response Date	___/___/___
Sent Date	___/___/___

Request for Project Review by the New Hampshire Division of Historical Resources

☐ This is a new submittal
☒ This is additional information relating to DHR Review & Compliance (R&C) #: 8834

GENERAL PROJECT INFORMATION

Project Title Rolfe Canal Hydroelectric Project - LOW IMPACT HYDROPOWER RECERTIFICATION

Project Location Contoocook River, Merrimack County

City/Town Concord, NH Tax Map 144P Lot # 40-1

NH State Plane - Feet Geographic Coordinates: Easting 998566 Northing 280707
(See RPR Instructions and R&C FAQs for guidance.)

Lead Federal Agency and Contact *(if applicable)* Federal Energy Regulatory Commission
(Agency providing funds, licenses, or permits)
Permit Type and Permit or Job Reference # License No. 3240

State Agency and Contact *(if applicable)*

Permit Type and Permit or Job Reference #

APPLICANT INFORMATION

Applicant Name Briar Hydro Associates

Mailing Address c/o Essex Hydro Associates, LLC, 55 Union Street, 4th Floor Phone Number 6173670032

City Boston State MA Zip 02108 Email eanderson@essexhydro.com

CONTACT PERSON TO RECEIVE RESPONSE

Name/Company Elise Anderson

Mailing Address Essex Hydro Associates, LLC 55 Union Street, 4th Floor Phone Number 6173670032

City Boston State MA Zip 02108 Email eanderson@essexhydro.com

This form is updated periodically. Please download the current form at www.nh.gov/nhdhr/review. *Please refer to the Request for Project Review Instructions for direction on completing this form.* Submit one copy of this project review form for each project for which review is requested. Include a self-addressed stamped envelope to expedite review response. Project submissions will not be accepted via facsimile or e-mail. This form is required. Review request form must be complete for review to begin. Incomplete forms will be sent back to the applicant without comment. Please be aware that this form may only initiate consultation. For some projects, additional information will be needed to complete the Section 106 review. All items and supporting documentation submitted with a review request, including photographs and publications, will be retained by the DHR as part of its review records. Items to be kept confidential should be clearly identified. For questions regarding the DHR review process and the DHR's role in it, please visit our website at: www.nh.gov/nhdhr/review or contact the R&C Specialist at christina.st.louis@dcr.nh.gov or 603.271.3558.

PROJECTS CANNOT BE PROCESSED WITHOUT THIS INFORMATION

Project Boundaries and Description

- ☒ Attach the relevant portion of a 7.5' USGS Map (photocopied or computer-generated) ***indicating the defined project boundary.*** *(See RPR Instructions and R&C FAQs for guidance.)*
- ☒ Attach a detailed narrative description of the proposed project.
- ☒ Attach a site plan. The site plan should include the project boundaries and areas of proposed excavation.
- ☒ Attach photos of the project area (overview of project location and area adjacent to project location, and specific areas of proposed impacts and disturbances.) *(Informative photo captions are requested.)*
- ☐ A DHR file review must be conducted to identify properties within or adjacent to the project area. Provide file review results in **Table 1**. *(Blank table forms are available on the DHR website.)* File review conducted on / / .

Architecture

Are there any buildings, structures (bridges, walls, culverts, etc.) objects, districts or landscapes within the project area? ☒ Yes ☐ No
If no, skip to Archaeology section. If yes, submit all of the following information:

Approximate age(s): 1925

- ☒ Photographs of ***each*** resource or streetscape located within the project area, with captions, along with a mapped photo key. (Digital photographs are accepted. All photographs must be clear, crisp and focused.)
- ☐ If the project involves rehabilitation, demolition, additions, or alterations to existing buildings or structures, provide additional photographs showing detailed project work locations. (i.e. Detail photo of windows if window replacement is proposed.)

Archaeology

Does the proposed undertaking involve ground-disturbing activity? ☐ Yes ☒ No
If yes, submit all of the following information:

- ☐ Description of current and previous land use and disturbances.
- ☐ Available information concerning known or suspected archaeological resources within the project area (such as cellar holes, wells, foundations, dams, etc.)

Please note that for many projects an architectural and/or archaeological survey or other additional information may be needed to complete the Section 106 process.

DHR Comment/Finding Recommendation *This Space for Division of Historical Resources Use Only*

☐ Insufficient information to initiate review. ☐ Additional information is needed in order to complete review.

☐ No Potential to cause Effects ☐ No Historic Properties Affected ☐ No Adverse Effect ☐ Adverse Effect

Comments:_____

If plans change or resources are discovered in the course of this project, you must contact the Division of Historical Resources as required by federal law and regulation.

Authorized Signature: _____ Date: _____

APPENDIX A

Briar Hydro Rolfe Canal Hydroelectric Project
Project Description for New Hampshire Division of Historical Resources ("NHDR") Review

Briar Hydro Associates ("BRHA") plans to submit an application to the Low Impact Hydropower Institute[1] ("LIHI") for **recertify** the Rolfe Canal hydroelectric project ("Project") as a low impact hydropower plant. **No new ground-disturbing or structure-disturbing activities are associated with this recertification application**. As a component of our application, BRHA is required to submit an updated project review determination from your agency discussing the presence of historic or culturally significant resources in the project boundary that could be affected by continued operation of the Project. We are seeking to provide documentation to support the following assertions:

- There are no cultural or historic resources located on facility lands that can be affected by construction or operations of the facility.
- The facility construction and operation have not in the past adversely affected any cultural or historic resources that are present on facility lands.

A copy of NHDR's "no effect" determination from 2012 which was included in the Project's original application to LIHI is included with this supplementary information.

Project works consist of: (a) a 300-foot-long, 10-foot-high diversion dam (York Dam); (b) a reservoir with negligible storage, a surface area of 50-acres, and normal water surface elevation of 346.0 feet NGVD; (c) a 7,000-foot-long, 75-foot-wide, and 9-foot deep power canal; (d) a roughly 950-foot-long buried penstock; (e) a roughly 4,000-foot-long bypass reach; (f) a 130-foot-long, 17-foot-high granite block generation dam (Briar-Hydro Dam); (g) a reservoir with surface area of 3-acres with negligible storage, and a normal water surface elevation of 334.5 feet NGVD; (h) a powerhouse containing one generating unit with a total installed capacity of 4,300 kW; (i) 100-foot-long, 4.16-kV generator leads; (j) the 4.16/34.5 kV 3.8 MVA three-phase transformer; (k) the 650-foot-long, 34.5-kV transmission line; and (l) appurtenant facilities.

As shown in Figure 3, the Project diverts water from an impoundment created by the existing State-owned Edward M. York Dam in Boscawen, New Hampshire. Rolfe Canal is a headrace channel. Flow into the canal is controlled by an intake structure at the Island Road bridge. The intake structure gate is normally only used during flood conditions or to isolate the canal for maintenance purposes. At the lower end of the canal, the Project headworks are located at the Briar hydro dam where generation flows are conveyed to the powerhouse through a 940-foot-long steel penstock for the purposes of hydroelectric power generation.

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[1] http://lowimpacthydro.org/rolfe-canal-hydroelectric-project-briar-hydro-associates/

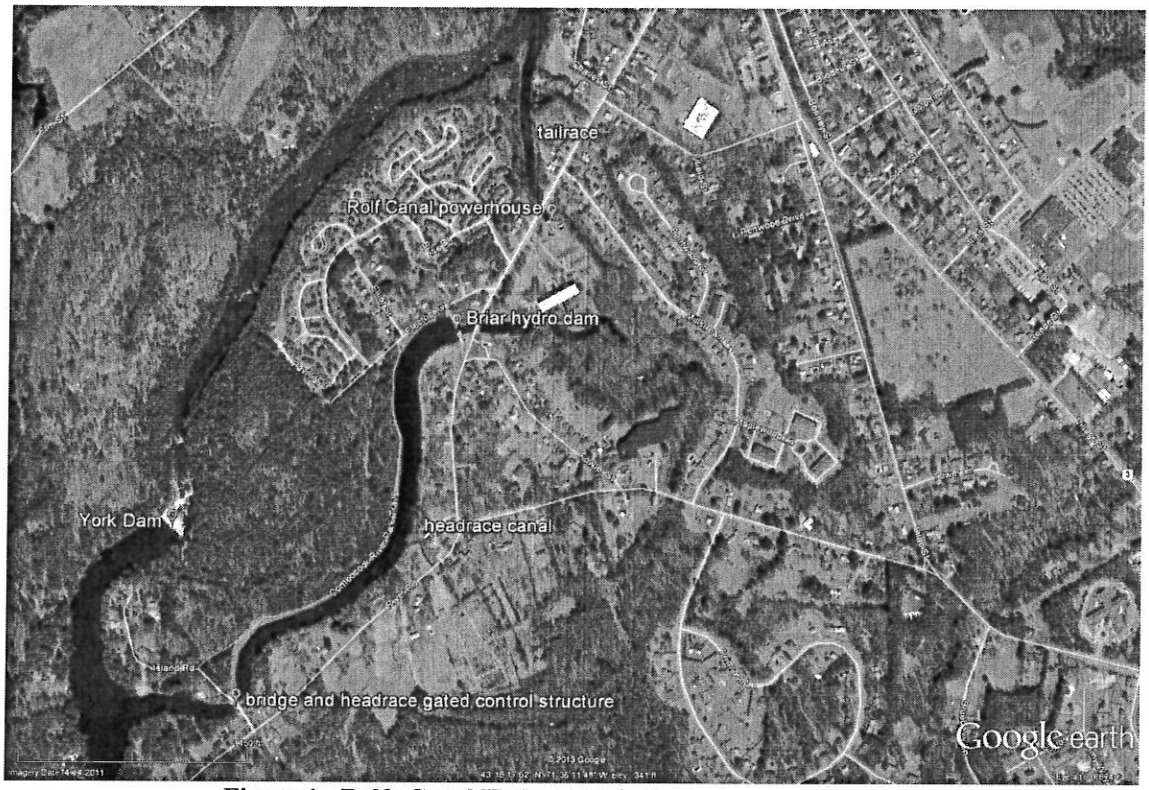

Figure 1 - Rolfe Canal Hydroelectric Project and nearby dams

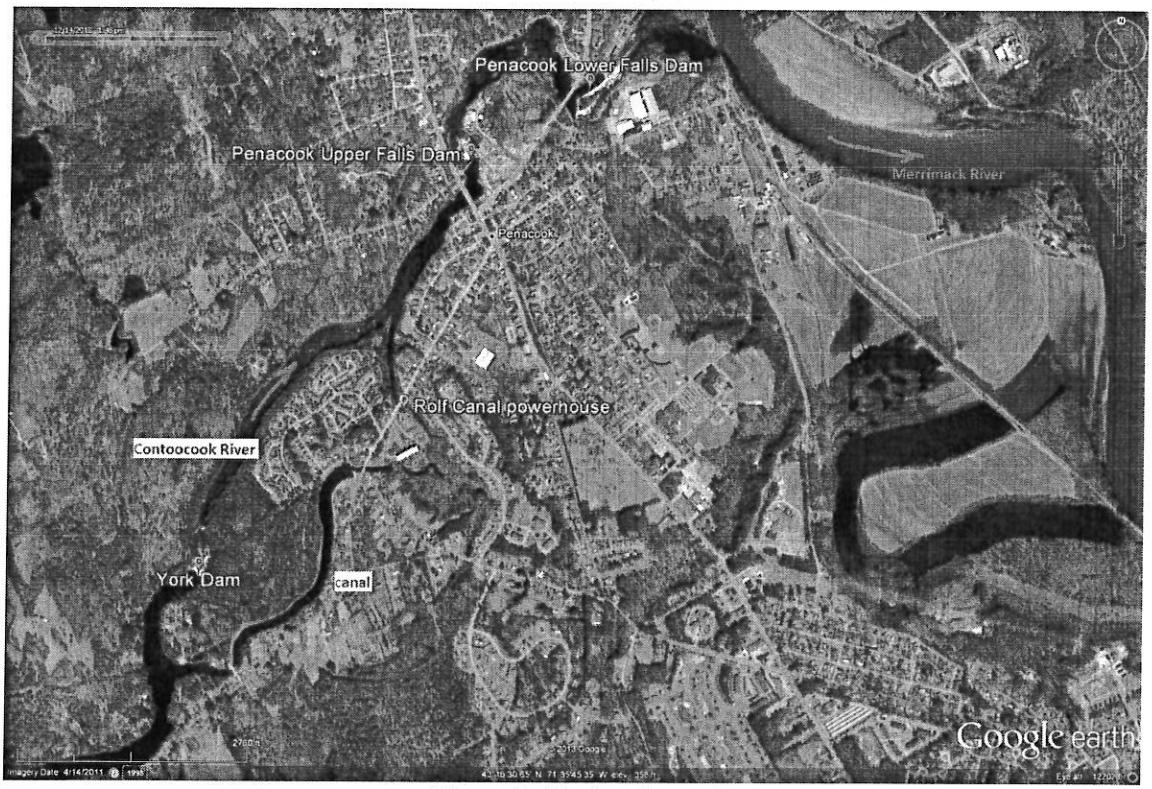

Figure 2 - Project Layout