



City of Keene, New Hampshire

AMENDED AGENDA

CONSERVATION COMMISSION

Monday April 16, 2018

4:30 PM

**2nd Floor Conference Room
City Hall**

Commission Members

Thomas P. Haynes, Chair
Brian Reilly
Councilor George Hansel
Alexander Von Plinsky IV

Andrew Madison
Denise Burchsted
Eloise Clark
Art Walker, Alternate
Kenneth Bergman, Alternate

- 1. Call to Order**
- 2. Minutes** – March 19, 2018
- 3. Communication & Notifications**
 - a) Wetland Permit Application – City of Keene Drainage Upgrades along Ralston Street
 - b) Otter Brook Master Plan Review - Army Corp of Engineers
- 4. Aquatic Resource Mitigation Fund Pre-Proposal**
- 5. Land Prioritization Criteria**
- 6. Updates**
 - a) **Greater Goose Pond Forest Stewardship Plan**
 - b) **Commission Functions/Roles**
- 7. New or Other Business**
- 8. Adjournment** - Next meeting date Monday, May 21, 2018

City of Keene
New Hampshire

CONSERVATION COMMISSION
MEETING MINUTES

Monday, March 19, 2018

4:30 PM

**2nd Floor Conference Room,
City Hall**

Members Present:

Thomas Haynes, Chair
Andrew Madison
Eloise Clark
Brian Reilly
George Hansel, Councilor
Art Walker, Alternate

Staff Present:

Tara Kessler, Planner
Don Lussier, City Engineer

Members Not Present:

Denise Burchsted
Alexander Von Plinsky IV
Ken Bergman, Alternate

1) Call to Order

Chair Haynes called the meeting to order at 4:30 PM.

2) Minutes – February 20, 2018

Councilor Hansel made a motion to approve the minutes of February 20, 2018 as presented. Mr. Madison seconded the motion which carried unanimously.

3) Communications & Notifications

**a. Wetlands Permit Application – City of Keene Maintenance of Drainage
Ditches**

Don Lussier, City Engineer, addressed the wetland permit application submitted by the City for maintenance and vegetative cutting / clearing in the tax ditches near the area of Production Avenue. Mr. Lussier explained the work proposed in the application is an effort to reinvigorate the maintenance of the City's manmade tax ditch system. Mr. Lussier noted the history of these ditches and who constructed them to make certain pieces of land around the city developable. Mr. Lussier said most of the ditches came with conditions that the City was obligated to maintain them for a certain period of time. Because of the dense development that occurred around many of these ditches, the City has become obligated to maintain them into the future to prevent against flooding of property adjacent to these ditches. In 2013, the City undertook the Beaver Brook restoration project to remove some of the sediment and invasive species that built up over time. A condition of the Wetlands Permit for this project was for the City to commission and prepare a citywide stream inventory. The goal of NH Department of Environmental Services (DES) was to get us to look at our natural and manmade streams and make recommendations regarding the maintenance needed. The inventory was prepared by Weston & Sampson and submitted to NH DES. Mr. Lussier continued, stating the City uses this as a roadmap for its ongoing maintenance efforts. Mr. Lussier described the section to be worked on this year noting a permit by notification was submitted under the category maintenance dredge for manmade drainage features. The project is centered on Production Avenue. The majority of work will be south of Route 9 up to the edge of Ash Swamp Brook. Mr. Lussier noted that since the inventory was completed, the City has abandoned interest in some of these drainage easements;

specifically #43 and #43 south as depicted on the map.

Mr. Lussier noted the maintenance tasks recommended by the Consultant. Except for invasive species removal, this work will be done in-house by the City's Highway Department crews. The work is to be done throughout the summer (June 1st through mid-August) and includes: sediment removal, access mowing, debris removal, invasive species control, and bank repair and stabilization.

Mr. Reilly referred to the ditches now under private ownership (#43 and #43 south) and asked if the owners do not maintain them will this jeopardize the others. Mr. Lussier replied in the negative. At one time this was two separate lots and the ditches provided drainage to each and they are now one lot.

Mr. Madison asked if there was any tiling accompanying the drainage ditches. Mr. Lussier replied in the negative; adding there are no underdrains.

Ms. Clark clarified that this is just an informational, courtesy presentation to the Commission. Mr. Lussier replied in the affirmative. In response to Chair Haynes, Mr. Lussier noted he is open to hearing recommendations from the Commission on the selection of seeds for revegetating the area and making these areas more attractive to birds. Ms. Clark noted her concerns with the plan and suggested what grows there now already prevents erosion. Mr. Lussier pointed out there are businesses there today and the vegetation there now is obstructing the flow; hence, not letting the ditches serve the purpose they were built for.

Mr. Walker asked when this work was done last to these ditches. Mr. Lussier advised he had no idea and suggested perhaps 10 or 20 years ago for these specific ditches. Mr. Lussier added this is a test case for moving forward. He conveyed that he hopes the City can come back to these ditches in five years and will not have to cut or remove the vegetation.

Charles Daloz, a member of the public asked if this was agricultural land in the past. Mr. Lussier said he thinks it has been mostly a wetlands area; he has not seen any photos showing this as an agricultural area.

Chair Haynes referred to the previous efforts of NH DES at encouraging the City not to maintain these ditches and asked if this was addressed when the stream inventory plan was submitted. Mr. Lussier replied the plan was submitted last May to NH DES for review and comment and to date the City has not received any feedback. There is an interest on the part of the City in allowing some areas to revert to natural conditions. Mr. Lussier noted that the City is looking at reversions to natural conditions at Ash Brook, Black Brook, and Beaver Brook to the extent that is feasible. The tax ditches spurred a development pattern that now requires those systems to be maintained making reversion more difficult. In response to Mr. Madison, Mr. Lussier noted there are six areas of tax ditch work:

- Edgewood to Airport tax ditches
- Meadowlands
- Production Avenue
- River Street
- East side
- Tannery Brook

Mr. Lussier also noted that Meadowlands may take a couple of years to complete.

Mr. Walker asked what a tax ditch is. Mr. Lussier replied it is a term used for a manmade drainage ditch network. The City has easements or access rights to maintain these ditches. Mr. Lussier agreed with Chair Haynes that the City's obligation to maintain these ditches has faded; it is more

of a choice at this point.

There being no further questions/comments/suggestions from the Commission Chair Haynes thanked Mr. Lussier for his presentation on the application.

Ms. Kessler noted there would be another City wetland permit coming before the Commission and Mr. Lussier would like to provide the Commission information on that while he is here.

Addressing the second project permit which has not yet been submitted, Mr. Lussier explained the City will be installing an upgrade to the drainage system near Ralston and Davis Streets, where the storm drains let out into the Ashuelot River. The upgrade entails replacing the existing 18 inch pipe with a 36 inch pipe at a lower elevation and following the existing line. There will be 73 square feet of impact on the embankment and 94 square feet of channel impacts; this will be submitted as a major Wetlands Permit because the work impacts the Ashuelot River.

Ms. Clark asked if the object is to drain the water off quicker. Mr. Lussier replied in the affirmative, noting the intent is to provide additional drainage. He explained the catch basins in this area are filling up/overflowing at the 1-year storm rate. Mr. Lussier pointed to the catch basins on the map for Mr. Reilly. Ms. Clark asked if Mr. Lussier thought the catch basins would be sufficient to carry all the contaminants that will be flushed along. Mr. Lussier replied in the affirmative, stating that they are calling for six-foot diameter catch basins to be installed with as much sump as possible. They are trying to avoid a lot of excavation below the water table. He also noted the City's more aggressive program of cleaning the catch basins; approximately, every four years.

Mr. Lussier noted discussing the Aquatic Resource Mitigation Fund with Ms. Kessler last week. He continued, stating that they are looking for some places around the City to put in some off-line storm water treatment systems. He is mostly interested in Beaver Brook.

Ms. Clark indicated the Ashuelot River Advisory Committee would be very interested in this. Mr. Lussier said a letter was sent to them.

Returning the discussion to the Production Avenue site, Chair Haynes said he would be interested in hearing the comments from NH DES when received. Ms. Kessler said she would bring them back to the Commission when received.

4) Land Prioritization Criteria

Ms. Kessler reported this item was put off last month in hopes of having more members present. Chair Haynes noted the same number of members were present at the meeting as there had been at the previous meeting. After discussion, Commission members agreed to table this issue until next month when there might be more voices present.

5) Aquatic Resource Mitigation Fund

Chair Haynes reported that the NH Department of Environmental Services is seeking pre-proposals for the upcoming round of Aquatic Resource Mitigation (ARM) grants funds. Ms. Kessler noted pre-application proposals are due April 30th. Chair Haynes said he will meet with Ms. Burchsted and Mr. Von Plinsky when they return to see what projects they can identify for a grant application. Ms. Kessler reported she reviewed the draft list of ARM priority projects developed by the Commission's ARM Subcommittee with the Public Works Director and City Engineer. The purpose of this meeting was to identify any projects that align well with the Public Works Department priorities over the next year. Ms. Kessler stated that she will provide an update on this meeting with the ARM Subcommittee. This Subcommittee will meet at the end of March or first week in April. She indicated that any other Commission members wishing to attend the Subcommittee meeting should let her know. She also noted the results of that meeting will be brought back to the Commission at the April meeting. Ms. Kessler noted August 30th as the final application deadline.

6) Conservation Master Plan Discussion

Mr. Reilly reported he is awaiting a meeting of the Land Prioritization Subcommittee to see what geospatial information is available. Chair Haynes indicated this item is currently on hold.

7) Updates

a. Greater Goose Pond Forest Stewardship Plan Update-

Mr. Madison reported no meeting was held last month. He reported the “Winter Wildlife” public walking tour was held last month. Mr. Walker said the tour lasted two hours and was very informative. Ms. Kessler reported there will be four more walking tours; and, potentially, a mountain bike tour, which was suggested by an attendee of the Winter Wildlife walking tour. Ms. Kessler noted that the Ad-hoc Committee for this project will be meeting on Thursday and there is a public forum scheduled for April 17th.

b. Commission Function/Roles

Councilor Hansel will bring his edited version of the Commission’s functions/roles as outlined in Chapter 2 of the City Code to the next meeting for discussion.

c. City Staff Support to Commission

Ms. Kessler reported she is still waiting on information from other Committees; once that is obtained she will report back to the Commission.

d. Goose Pond Dam Repairs

Ms. Kessler shared an update from Brett Rusnock, one of the City’s Civil Engineers, in response to the question raised at the last meeting on the effects of drawing down Goose Pond during construction on the Dam. Mr. Rusnock reported that, in the absence of bathymetry, they are estimating that the pond is about 19-feet at its deepest spot. Mr. Rusnock developed contours of the lake using information from the original records and from a 1980 U.S. Army Corps inspection report on the height of the dam, surface area of water, and volume of the reservoir at normal water elevation, and maximum impoundment volume. With this information, Mr. Rusnock provided a map that shows the estimated impact of a 4-foot and 10-foot drawdown of the pond on surface water area. Ms. Rusnock noted that they are actively looking for ways to avoid drawdown of 10 feet.

Chair Haynes deferred to Mr. Madison for his opinion on the impact of drawdown on aquatic habitat. Mr. Madison said it depends on many factors, including impacts to dissolved oxygen and temperature, but it would probably impact the fisheries in some way. Warm water species (bass and sunfish) would be less affected than cold water species (trout), which would be heavily impacted. There might be some die-off but it would not be catastrophic. The biggest concern would be rift in the lake bottom. Mr. Reilly and Mr. Madison commented they do not know how accurate this can be without knowing the actual depth. Mr. Madison commented that there will probably not be any stratification as a result of a 10-foot drawdown. Mr. Madison noted that there may be an increase in turbidity, which affects the clarity of water and algal blooms. Mr. Madison said it seems like the big issues are going to be: lack of dissolved oxygen, phosphorus increase, and algae increase. Ms. Clark provided a glimmer of hope by sharing information about a pond in Walpole that was drawn down and things grew back. Mr. Madison reiterated none of the impacts should be catastrophic.

8) New or Other Business

1. Charles Daloz said there is talk of using goats on the Eversource Right-of-Ways. He questioned what could happen when these corridors become broken up with potential agricultural lands. Mr. Daloz is looking for feedback on where the corridors should go and what should be paid attention to. Chair Haynes clarified that Mr. Daloz was referring to wildlife corridors. Mr. Daloz provided his suggestions on the tax ditch issue.

2. Ms. Clark reported NH DES is revising their Wetlands Standards and suggested this is something the Conservation Commission might want to be cognizant of. Ms. Clark will forward the links to Ms. Kessler. Ms. Kessler said she would contact NHDES and see what information can be shared at this point and report back to the Commission.

9) Adjournment – Next meeting date Monday, April 19, 2018

Hearing no further business, Chair Haynes adjourned the meeting at 5:27 PM.

Respectfully submitted by,
Mary Lou Sheats-Hall, Minute Taker
March 20, 2018

Reviewed and edited by,
Tara Kessler, Planner



WETLANDS PERMIT APPLICATION

Water Division/ Wetlands Bureau
Land Resources Management



Check the status of your application: www.des.nh.gov/onestop

RSA/Rule: [RSA 482-A/ Env-Wt 100-900](#)

<i>Administrative Use Only</i>	<i>Administrative Use Only</i>	<i>Administrative Use Only</i>	File No.:
			Check No.:
			Amount:
			Initials:

1. REVIEW TIME: Indicate your Review Time below. To determine review time, refer to [Guidance Document A](#) for instructions.

- Standard Review (Minimum, Minor or Major Impact) Expedited Review (Minimum Impact only)

2. MITIGATION REQUIREMENT:

If mitigation is required a Mitigation-Pre Application meeting must occur prior to submitting this Wetlands Permit Application. To determine if Mitigation is Required, please refer to the [Determine if Mitigation is Required Frequently Asked Question](#).

Mitigation Pre-Application Meeting Date: Month: ___ Day: ___ Year: ____

- N/A - Mitigation is not required

3. PROJECT LOCATION:

Separate wetland permit applications must be submitted for each municipality that wetland impacts occur within.

ADDRESS: Winchester Street		TOWN/CITY: Keene	
TAX MAP: na	BLOCK: na	LOT: na	UNIT: na
USGS TOPO MAP WATERBODY NAME: Ashuelot River		<input type="checkbox"/> NA	STREAM WATERSHED SIZE: <input checked="" type="checkbox"/> NA
LOCATION COORDINATES (If known): 42.9273073°, -072.2864484°			<input checked="" type="checkbox"/> Latitude/Longitude

4. PROJECT DESCRIPTION:

Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT reply "See Attached" in the space provided below.

The proposed project would address existing deficiencies in the stormwater collection system along Ralston and Winchester St. in Keene, NH. The existing drainage outlet consists of a 15" concrete pipe located in the NE quadrant of the Winchester St bridge over the Ashuelot River. The proposed drainage upgrades would require a 36" concrete pipe at a lower elevation, resulting in impacts to the bank and channel of the river.

5. SHORELINE FRONTAGE:

- NA This does not have shoreline frontage. SHORELINE FRONTAGE:

Shoreline frontage is calculated by determining the average of the distances of the actual natural navigable shoreline frontage and a straight line drawn between the property lines, both of which are measured at the normal high water line.

6. RELATED NHDES LAND RESOURCES MANAGEMENT PERMIT APPLICATIONS ASSOCIATED WITH THIS PROJECT:

Please indicate if any of the following permit applications are required and, if required, the status of the application.

To determine if other Land Resources Management Permits are required, refer to the [Land Resources Management Web Page](#).

Permit Type	Permit Required	File Number	Permit Application Status
Alteration of Terrain Permit Per RSA 485-A:17	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Individual Sewerage Disposal per RSA 485-A:2	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Subdivision Approval Per RSA 485-A	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Shoreland Permit Per RSA 483-B	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED

7. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:

See the Instructions & Required Attachments document for instructions to complete a & b below.

a. Natural Heritage Bureau File ID: NHB 17 - 3581

- b. [Designated River](#) the project is in ¼ miles of: Ashuelot River; and
date a copy of the application was sent to the [Local River Management Advisory Committee](#): Month: 03 Day: 26 Year: 2018
 N/A

lrn@des.nh.gov or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

www.des.nh.gov

14. IMPACT AREA:

For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact

Permanent: impacts that will remain after the project is complete.

Temporary: impacts not intended to remain (and will be restored to pre-construction conditions) after the project is complete.

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.	TEMPORARY Sq. Ft. / Lin. Ft.
Forested wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Scrub-shrub wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Emergent wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Wet meadow	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Intermittent stream	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Perennial Stream / River	/ <input type="checkbox"/> ATF	94 / 10 <input type="checkbox"/> ATF
Lake / Pond	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Intermittent stream	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Perennial stream / River	/ <input type="checkbox"/> ATF	73 / 10 <input type="checkbox"/> ATF
Bank - Lake / Pond	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Tidal water	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Salt marsh	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Sand dune	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland buffer	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Undeveloped Tidal Buffer Zone (TBZ)	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Previously-developed upland in TBZ	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - Lake / Pond	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - River	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - Tidal Water	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Vernal Pool	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
TOTAL	/	167 / 20

15. APPLICATION FEE: See the Instructions & Required Attachments document for further instruction

Minimum Impact Fee: Flat fee of \$ 200

Minor or Major Impact Fee: Calculate using the below table below

Permanent and Temporary (non-docking) _____ sq. ft. X \$0.20 = \$ 0

Temporary (seasonal) docking structure: _____ sq. ft. X \$1.00 = \$ 0

Permanent docking structure: _____ sq. ft. X \$2.00 = \$ 0

Projects proposing shoreline structures (including docks) add \$200 = \$ 0

Total = \$ 0

The Application Fee is the above calculated Total or \$200, whichever is greater = \$ 200

City of Keene
Flood Management Improvements
Ralston Street and Winchester Street

Project Need, Minimization & Avoidance, & Description

Purpose and Need:

The purpose of the flood management improvement project along Ralston and Winchester Streets in the City of Keene is to address existing deficiencies in the stormwater collection system that lead to localized flooding during heavy storm events. The proposed drainage system improvements would resolve these flooding issues.

Project Description:

The project begins just east of the bridge that carries Winchester Street over the Ashuelot River and continues approximately 1,000 feet to the east to the intersection with Ralston Street. The project also includes Ralston Street from the intersection with Winchester Street approximately 700 feet north to the intersection with Davis Street. Proposed improvements will involve installing underground drainage infrastructure below the edge of the roadway shoulder or back of sidewalk along Ralston and Winchester Streets. The project will not change the dimensions of the roadway or sidewalk and will not increase impervious surface area.

Currently stormwater collected in this area of Keene drains to the Ashuelot River through a series of pipes that run through the Keene State College. These pipes do not have sufficient capacity, which leads to localized flooding at the intersection of Winchester Street and Ralston Street. This flooding occurs nearly annually and has led to property damage of the surrounding buildings. This project will increase the size of the culvert outletting into the Ashuelot River along Winchester Street and connect it to the closed drainage system at the intersection of Winchester Street and Ralston Street. This new connection and larger pipe will provide additional capacity, which will minimize the flooding and resulting property damage that occurs at the intersection. Since no new pavement is being proposed as part of this project, the volume of water entering the Ashuelot River will remain unchanged. Rather, some of the stormwater will simply be outletting to the river in a different location, approximately 2,000 feet upstream of the existing outfall.

Work will be located within the footprint of the existing roadway and sidewalk, except at the existing drainage outlet to the Ashuelot River, where impacts associated with replacing this outlet will occur. The existing outlet is a 15-inch concrete pipe located in the northeast quadrant of the Winchester Street bridge over the Ashuelot River. The pipe carries roadway drainage only. There is existing riprap located below OHW along the river, and the bank consists of a narrow area of brushy vegetation that is often mowed when the adjacent grassed area is mowed. The existing outlet is located at the top of the riprap just above OHW (see annotated photo below).

As described above, proposed drainage upgrades will require a larger outlet, and the pipe size will increase from a 15-inch culvert to a 36-inch culvert. The pipe will also need to be lower in elevation to drain the new system properly, resulting in impacts below OHW. Impacts will be within the area that is currently riprap.

The proposed project is located within the existing roadway right-of-way, and therefore meets the requirements of a minimum impact project under Env-Wt 303.04(j). The proposed project will result in 73 square feet of temporary bank impacts and 94 square feet of temporary impacts to the channel. The proposed impacts will result in 10 linear feet of temporary impacts along the bank and OHW. As noted above the impacts below OHW will occur in an area that is currently riprap, and this work will be completed during low flow conditions to avoid any in water work.

**City of Keene
Flood Management Improvements
Ralston Street and Winchester Street**

Project Need, Minimization & Avoidance, & Description



Red arrow shows location of 15-inch drainage pipe located in the bank of the Ashuelot River. Black lines show approximate locations of Top of Bank (TOB) and Ordinary High Water (OHW).

Minimization and Avoidance:

Impacts to the bank and channel of the Ashuelot River were minimized to the maximum extent practicable. Work at the outlet will be conducted during low flow conditions in order to work in the dry and to avoid impacts below the surface of the water. This will eliminate the need for cofferdams. Appropriate BMPs will be installed to prevent sediment from entering the Ashuelot River. All disturbed areas above OHW will be loamed and seeded when construction is complete.

Christine J. Perron

From: Sommer, Lori [mailto:Lori.Sommer@des.nh.gov]
Sent: Thursday, January 25, 2018 1:35 PM
To: Christine J. Perron <CPerron@mjinc.com>
Subject: RE: Keene drainage project

Hi Christine,

As much as it is nice to see you and catch up, I don't feel a pre-application is needed. I wish everyone could articulate project impacts as well as you and based on your summary, I don't see the need for mitigation.

Lori

From: Christine J. Perron [mailto:CPerron@mjinc.com]
Sent: Monday, January 22, 2018 10:14 AM
To: Sommer, Lori
Subject: Keene drainage project

Hi Lori,

I'm working on a drainage project for the City of Keene (no State involvement). I was about to start scheduling a pre-application meeting, but as I started looking closer at the project, I'm wondering if one will be necessary.

The objective of the project is to address existing deficiencies in the stormwater collection system that lead to localized flooding during heavy storm events. Proposed improvements will involve installing underground drainage infrastructure below the edge of the roadway shoulder or back of sidewalk along Ralston and Winchester Streets. The project will not change the dimensions of the roadway or sidewalk and will not increase impervious surface area.

Work will be located within the footprint of the existing roadway and sidewalk, except at the existing drainage outlet to the Ashuelot River, where impacts associated with replacing this outlet will occur. The existing outlet is a 15-inch concrete pipe located in the northeast quadrant of the Winchester Street bridge over the Ashuelot River. This pipe carries roadway drainage only. This parcel has an urbanized exemption from Shoreland permitting. There is existing riprap located below OHW along the river, and the bank consists of a narrow area of brushy vegetation that is often mowed when the adjacent grassed area is mowed. The existing outlet is located at the top of the riprap just above OHW (see annotated photo below). The proposed drainage upgrades will require a larger outlet, with pipe size increasing to 36-inch. The pipe will also need to be lower in elevation, resulting in impacts below OHW.

Since this work involves replacing an existing outlet, and since the area is already riprap, I wasn't sure if a meeting would be necessary. We don't have impacts quantified yet but the permanent impacts (from the relocated pipe) would be within the riprap area. Would you like to see this project discussed at a pre-application meeting?

Thanks Lori.
Hope all is well.
Christine



**US Army Corps
of Engineers**®
New England District

**New Hampshire General Permits (GPs)
Appendix B - Corps Secondary Impacts Checklist
(for inland wetland/waterway fill projects in New Hampshire)**

1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to “work” include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See GC 5, regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm to determine if there is an impaired water in the vicinity of your work area.*	X	
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	X	
2.2 Are there proposed impacts to SAS, special wetlands. Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) DataCheck Tool for information about resources located on the property at https://www2.des.state.nh.us/nhb_datacheck/ . The book Natural Community Systems of New Hampshire also contains specific information about the natural communities found in NH.		X
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	N/A	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		X
2.5 The overall project site is more than 40 acres?		X
2.6 What is the area of the previously filled wetlands?	N/A	
2.7 What is the area of the proposed fill in wetlands?	0 sf	
2.8 What is the % of previously and proposed fill in wetlands to the overall project site?	N/A	
3. Wildlife	Yes	No
3.1 Has the NHB & USFWS determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require an NHB ID number & a USFWS IPAC determination.) NHB DataCheck Tool: https://www2.des.state.nh.us/nhb_datacheck/ USFWS IPAC website: https://ecos.fws.gov/ipac/location/index		X

3.2 Would work occur in any area identified as either “Highest Ranked Habitat in N.H.” or “Highest Ranked Habitat in Ecological Region”? (These areas are colored magenta and green, respectively, on NH Fish and Game’s map, “2010 Highest Ranked Wildlife Habitat by Ecological Condition.”) Map information can be found at: <ul style="list-style-type: none"> • PDF: www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html. 		X
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the GC 21?	N/A	
4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?	X	
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?	N/A	
5. Historic/Archaeological Resources		
For a minimum, minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) with your DES file number shall be sent to the NH Division of Historical Resources as required on Page 11 GC 8(d) of the GP document**	X	

*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.

** If your project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law.

**City of Keene
Flood Management Improvements
Ralston Street and Winchester Street**

ACOE Appendix B Supplemental Narrative

1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water?

According to the 2016, 303(d) List, the Assessment Unit of the reach of the Ashuelot River that flows through the proposed project area is impaired for pH. There is not currently a Total Maximum Daily Load (TMDL) associated with this segment of the Ashuelot River.

The proposed project would not result in an increase in the amount of stormwater runoff that drains into the Ashuelot River. Drainage improvements would reconfigure the existing drainage system, but there would be no net increase in stormwater runoff to the Ashuelot River.

3.1 Has the NHB determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project?

The NH Natural Heritage Bureau has determined that, although there is a record of a sensitive species or natural community in the vicinity of the project, impacts are not anticipated. The USFWS Information, Planning, and Conservation System (IPaC) web tool was utilized to determine if federally listed species have the potential to occur in the project area. According to IPaC, the Federally-threatened dwarf wedgemussel and northern long-eared bat are potential concerns in this region of New Hampshire.

Northern Long-Eared bat

The proposed project does not require any tree clearing, and there is no work proposed on the Winchester Street Bridge over the Ashuelot River. USFWS has concurred (see attached correspondence) that this species is not present in the project area, and therefore the proposed project would have no effect on this species.

Dwarf Wedgemussel

Dwarf Wedgemussel has been documented in the Ashuelot River. However, based on consultation with USFWS (see attached) the proposed project area is well outside the known population and the associated buffer zone. For these reasons, the presence of dwarf wedgemussel in the project area is not anticipated. The proposed project would have no effect on this species.

4. Flooding/Floodplain Values

- 4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?**
- 4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?**

The existing and proposed drainage outlet are located within the regulatory floodway of the Ashuelot River. However, the proposed project would not result in the addition of fill or the loss of flood storage volume. The base flood elevation would not be increased as a result of the proposed project.

5. Historic/Archaeological Resources

If a minor or major impact project, has a copy of the Request for Project Review (RPR) Form been sent to the NH Division of Historical Resources as required on Page 5 of the PGP?

The Request for Project Review was sent to DHR in January 2018. Based on their review of the project area, DHR had no concerns and determined the proposed project would have no adverse effects on historic resources (see attached).



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
<http://www.fws.gov/newengland>

In Reply Refer To:

January 22, 2018

Consultation Code: 05E1NE00-2018-SLI-0716

Event Code: 05E1NE00-2018-E-01648

Project Name: Keene Drainage Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2018-SLI-0716

Event Code: 05E1NE00-2018-E-01648

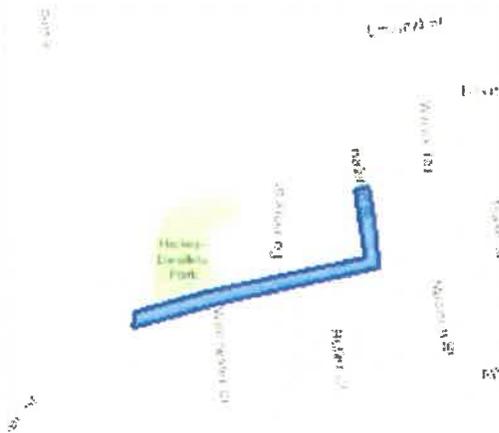
Project Name: Keene Drainage Project

Project Type: TRANSPORTATION

Project Description: The project will address existing deficiencies in the stormwater collection system along Ralston Street and Winchester Street that lead to localized flooding during heavy storm events. An existing outlet in the Ashuelot River will be replaced.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.92788122450342N72.28281101552832W>



Counties: Cheshire, NH

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Mammals

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

Clams

NAME	STATUS
Dwarf Wedgemussel <i>Alasmidonta heterodon</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/784	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Christine J. Perron

From: vonOettingen, Susi <susi_vonoettingen@fws.gov>
Sent: Tuesday, January 23, 2018 8:01 AM
To: Christine J. Perron
Subject: Re: City of Keene drainage project adjacent to Ashuelot River

Good morning!

No, no concerns. DWM is well downstream of this project area. We have a buffer around the known occurrence in the event a project with downriver impacts might be proposed.

No species present for this project, not even northern long-eared bat (no trees!).

Susi

Susi

Susi von Oettingen
Endangered Species Biologist
New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301
(W) 603-227-6418
(Fax) 603-223-0104

www.fws.gov/newengland

On Mon, Jan 22, 2018 at 10:40 AM, Christine J. Perron <CPerron@mjinc.com> wrote:

Hi Susi,

I'm working on a drainage project for the City of Keene. The objective of the project is to address existing deficiencies in the stormwater collection system that lead to localized flooding during heavy storm events. Proposed improvements will involve installing underground drainage infrastructure below the edge of the roadway shoulder or back of sidewalk along Ralston and Winchester Streets.

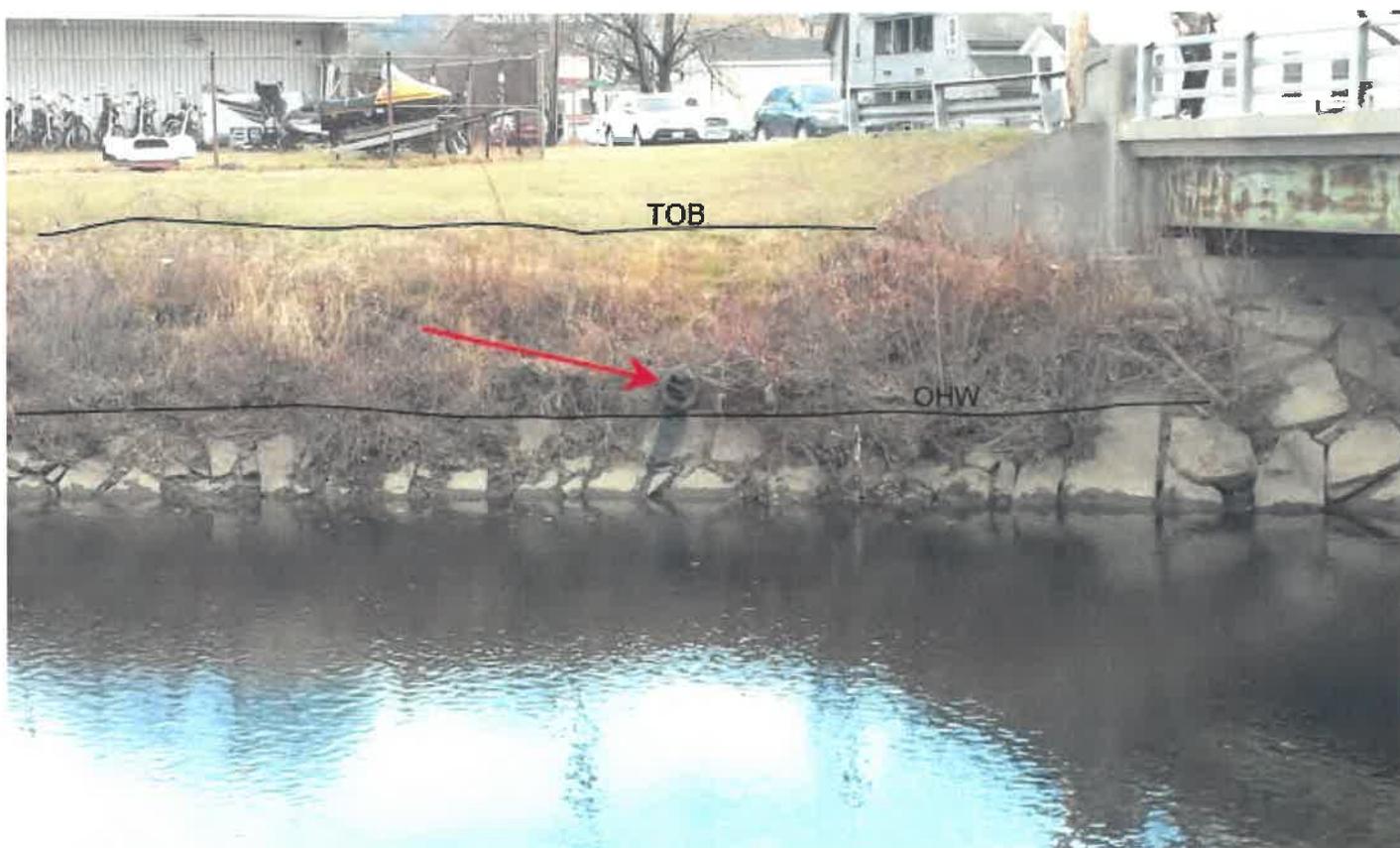
Work will be located within the footprint of the existing roadway and sidewalk, except at the existing drainage outlet to the Ashuelot River, where impacts associated with replacing this outlet will occur. The existing outlet is a 15-inch concrete pipe located in the northeast quadrant of the Winchester Street bridge over the Ashuelot River. This pipe carries roadway drainage only. There is existing riprap located below OHW along the river, and the bank consists of a narrow area of brushy vegetation that is often mowed when the adjacent grassed area is mowed. The existing outlet is

located at the top of the riprap just above OHW (see annotated photo below). The proposed drainage upgrades will require a larger outlet, with pipe size increasing to 36-inch. The pipe will also need to be lower in elevation, resulting in impacts below OHW. We don't have impacts quantified yet but the permanent impacts (from the relocated pipe) would be within the riprap area.

The NHB review did not indicate that dwarf wedgemussel is a concern at this location, although it is listed in the IPaC species list. Do you have any concerns with the work as described?

Thanks,

Christine



CHRISTINE PERRON, CWS

Project Manager • Senior Environmental Analyst

McFarland Johnson

53 Regional Drive • Concord, NH 03301
OFFICE: 603-225-2978 ext. 128

Christine J. Perron

From: Tuttle, Kim <Kim.Tuttle@wildlife.nh.gov>
Sent: Wednesday, January 24, 2018 8:53 AM
To: Christine J. Perron
Subject: RE: City of Keene drainage project adjacent to Ashuelot River NHB17-3581

Hello Christine,

I have already reviewed this one, as stated in the NHB letter: "It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project." Amy Lamb and I get together each week to process these reviews so false positives can be removed. By the way, Mike is head of the Nongame Program now, Melissa Doperalski is in his old position.

Thanks,

Kim Tuttle
Wildlife Biologist
NH Fish and Game
11 Hazen Drive
Concord, NH 03301
603-271-6544

From: Marchand, Michael
Sent: Monday, January 22, 2018 4:02 PM
To: Tuttle, Kim; Doperalski, Melissa
Subject: FW: City of Keene drainage project adjacent to Ashuelot River

Please review and respond to Christine. Let me know if you have questions.

Mike

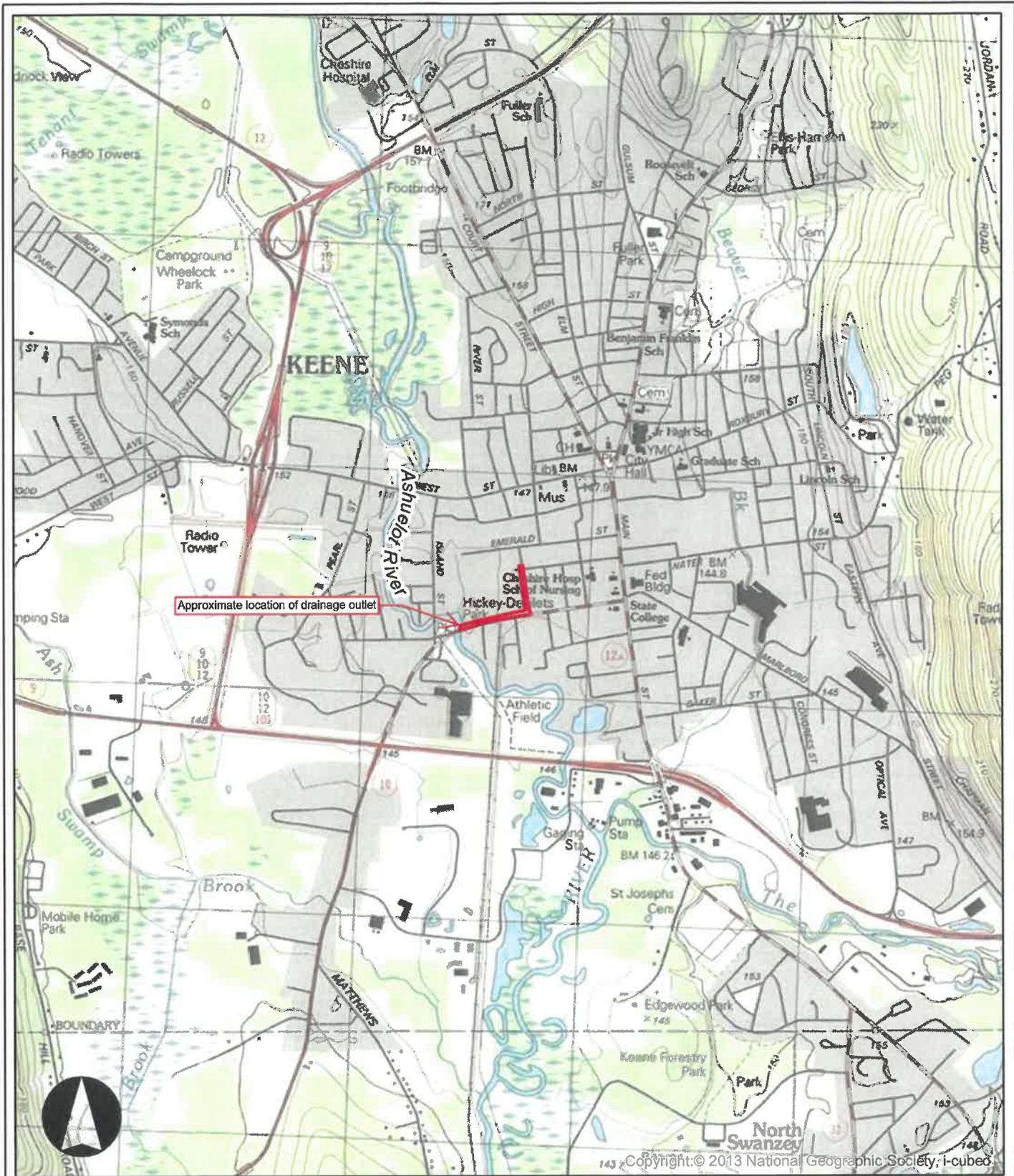
From: Christine J. Perron [<mailto:CPerron@mjinc.com>]
Sent: Monday, January 22, 2018 10:54 AM
To: Marchand, Michael
Subject: FW: City of Keene drainage project adjacent to Ashuelot River

Mike,

I sent Susi von Oettingen the email below but she is currently furloughed due to the shutdown. While we wait for the shutdown to end, do you have any information on dwarf wedgemussels in the Ashuelot or concerns with the proposed project?

Thanks,
Christine

Christine Perron, CWS
Project Manager • Senior Environmental Analyst
McFarland Johnson
53 Regional Drive • Concord, NH 03301
OFFICE: 603-225-2978 ext. 128



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 Project Limits

CITY OF KEENE
FLOOD MANAGEMENT IMPROVEMENTS

Location

SCALE:	DATE:	FIGURE:
1 inch = 2,000 feet	NOVEMBER 2017	1

FLOOD MANAGEMENT IMPROVEMENTS PROJECT - CITY OF KEENE, NEW HAMPSHIRE
SITE PHOTOGRAPHS

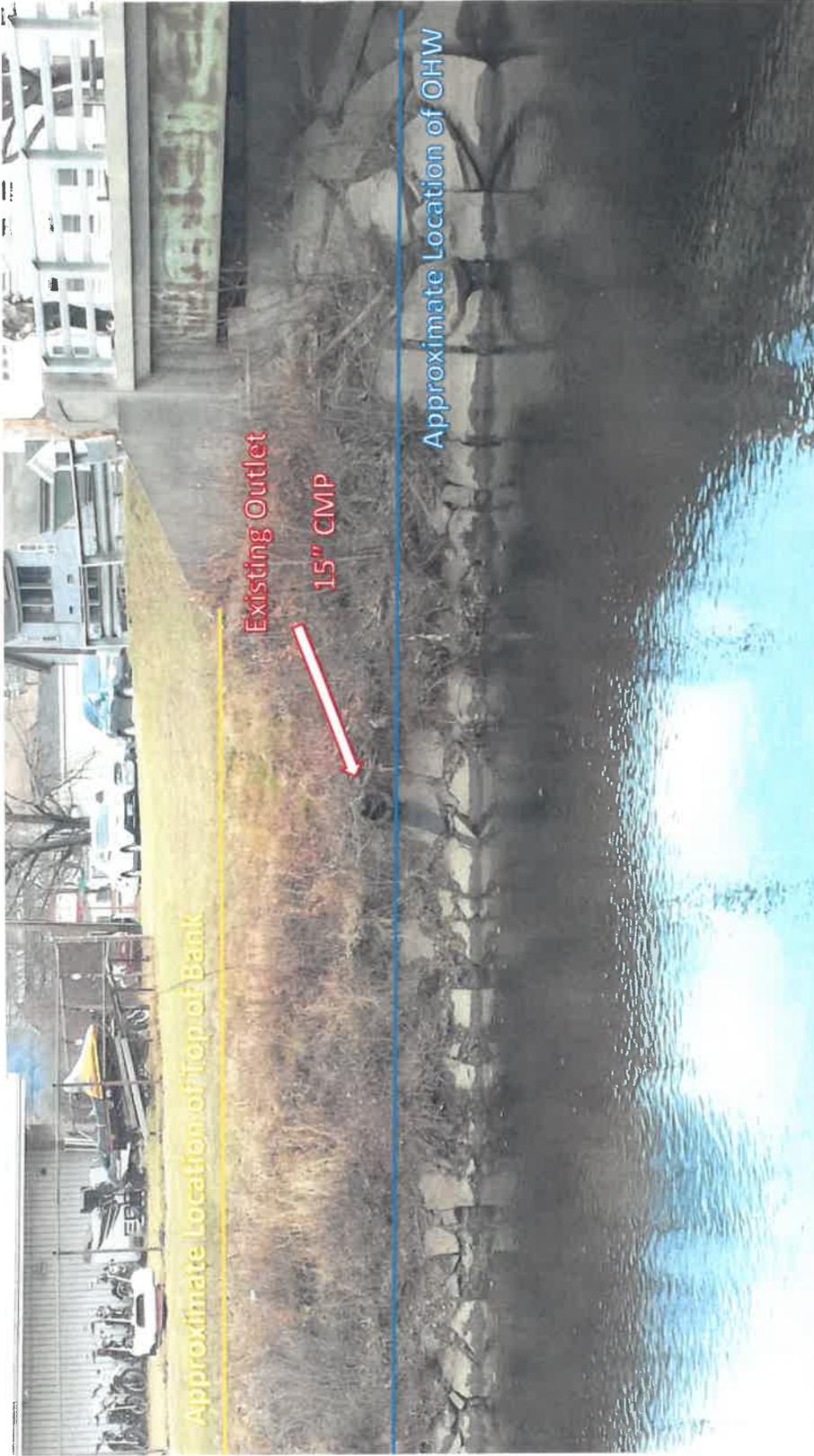


Photo 1 – Drainage outlet Winchester Street Bridge over the Ashuelot River (Photo Direction: east)

FLOOD MANAGEMENT IMPROVEMENTS PROJECT - CITY OF KEENE, NEW HAMPSHIRE
SITE PHOTOGRAPHS



Photo 2 – Ashuelot River from the northeastern quadrant of the Winchester Street Bridge (Photo Direction: west)

FLOOD MANAGEMENT IMPROVEMENTS PROJECT - CITY OF KEENE, NEW HAMPSHIRE
SITE PHOTOGRAPHS



Photo 3: Winchester Street Bridge over the Ashuelot River facing downstream (Photo Direction: south)

FLOOD MANAGEMENT IMPROVEMENTS PROJECT - CITY OF KEENE, NEW HAMPSHIRE
SITE PHOTOGRAPHS

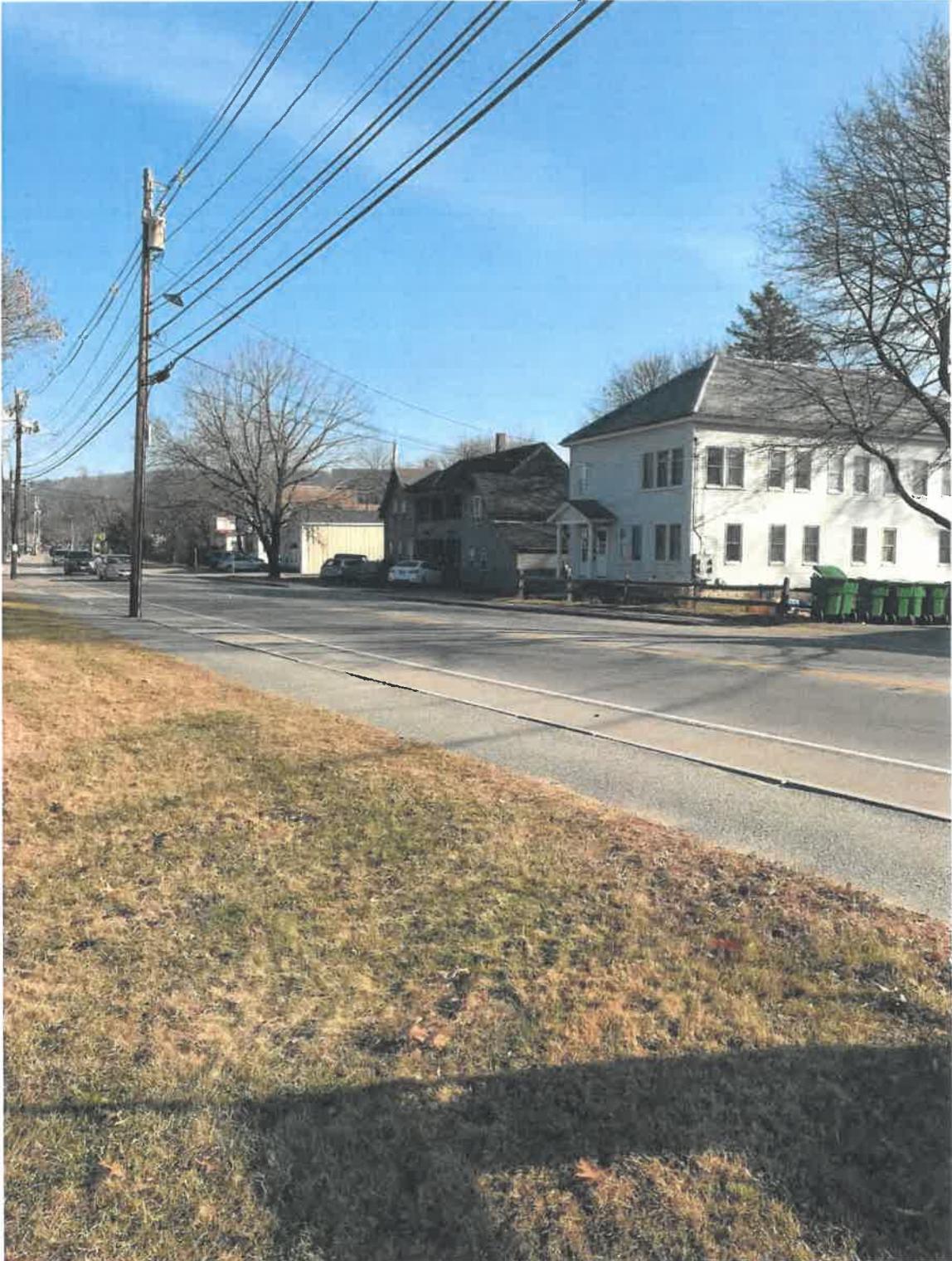
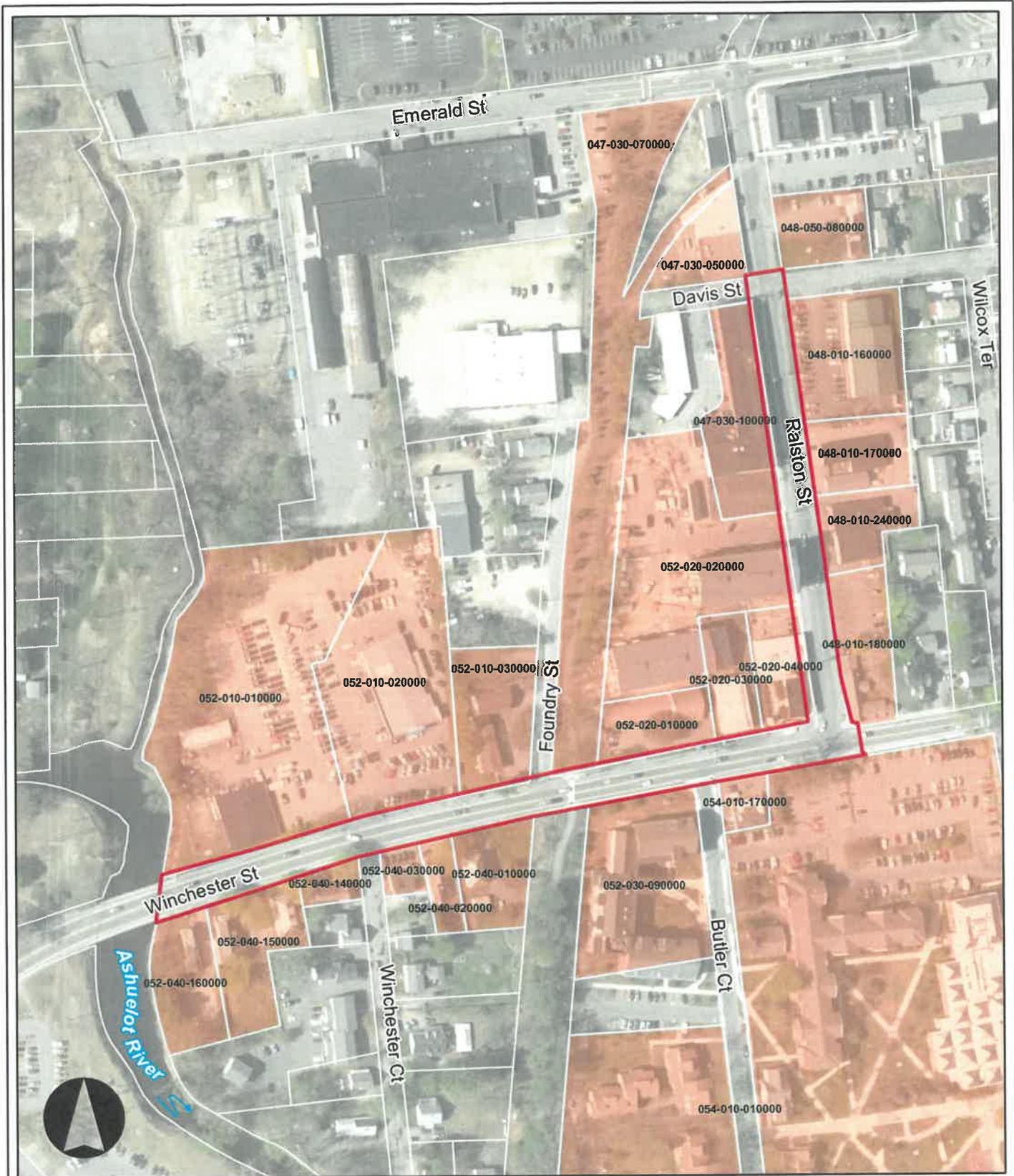


Photo 4 – Winchester Street from northeast bridge quadrant (Photo Direction: southeast)

FLOOD MANAGEMENT IMPROVEMENTS PROJECT - CITY OF KEENE, NEW HAMPSHIRE
SITE PHOTOGRAPHS



Photo 5 – Northeast quadrant of Winchester Street Bridge (Photo Direction: west)



- Project Limits
- Parcels
- Abutters

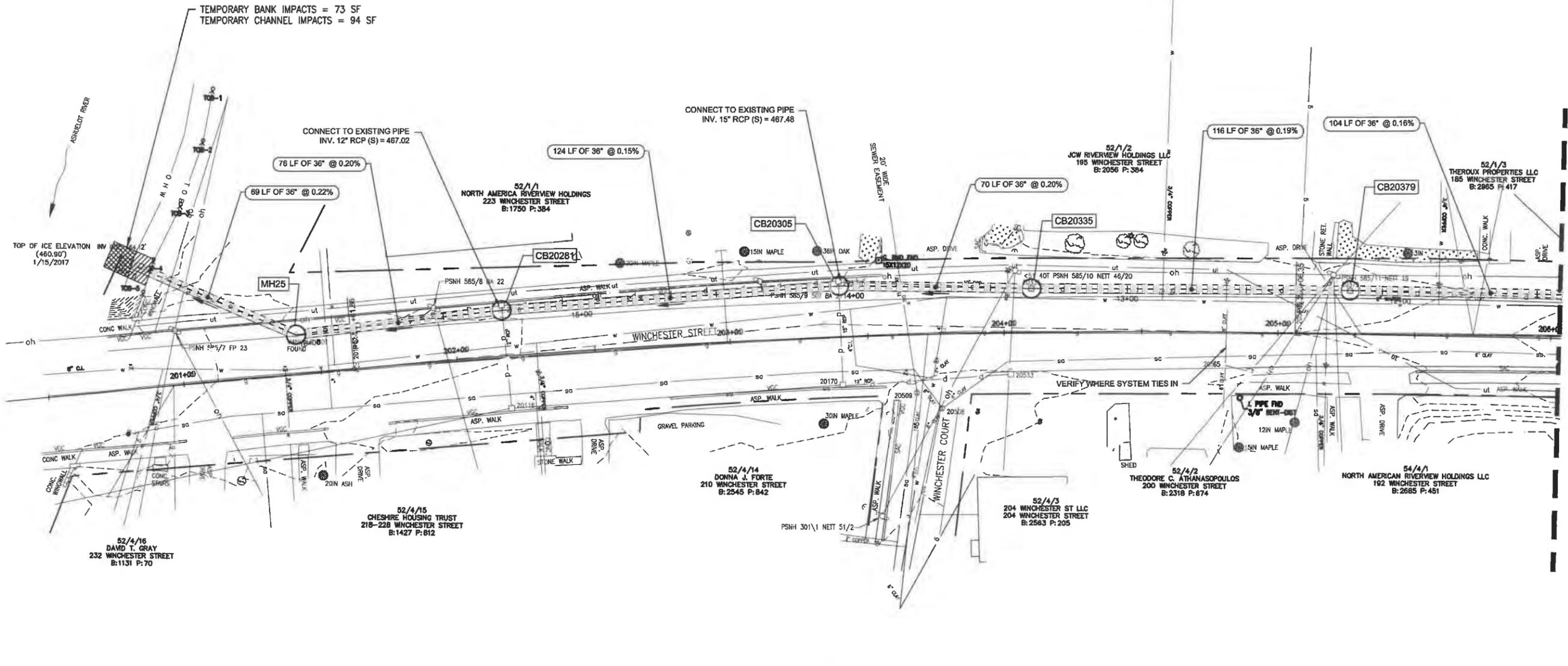
CITY OF KEENE
FLOOD MANAGEMENT IMPROVEMENTS

Parcel Map

SCALE: 1 inch = 200 feet	DATE: FEBRUARY 2018	FIGURE: 2
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City of Keene Flood Management Improvements Ralston Street and Winchester Street - NHDES Wetlands Permit Application Abutter List

PARCEL #	ADDRESS	OWNER_1	OWNER_2	MAILING ADDRESS	CITY	STATE	ZIP
047-030-050000	19 RALSTON ST	BRADEN PROPERTY HOLDINGS LLC	C/O AL BRADEN	2810 WEST FRESCO DR	AUSTIN	TX	78731
047-030-070000	0 EMERALD ST	STATE OF NH	DEPT. OF TRANSPORTATION	PO BOX 483	CONCORD	NH	03302
047-030-100000	51-55 RALSTON ST	PARODY DAVID F.		61 ALDRICH RD	KEENE	NH	03431
048-010-160000	134 DAVIS ST	134 DAVIS ST SUITES LLC		134 DAVIS ST	KEENE	NH	03431
048-010-170000	56-60 RALSTON ST	NEF PROPERTIES LLC		55 RALSTON ST	KEENE	NH	03431
048-010-180000	131 WINCHESTER ST	MEIB LLC		131 WINCHESTER ST	KEENE	NH	03431
048-010-240000	66 RALSTON ST	NORTHBROOK PROPERTIES INC		555 SKOKIE BLVD	NORTHBROOK	IL	60062
048-050-080000	125 DAVIS ST	MGI REALTY LLC		PO BOX 562	KEENE	NH	03431
052-010-010000	223 WINCHESTER ST	NORTH AMERICAN RIVERVIEW HOLDINGS		PO BOX 389	KEENE	NH	03431
052-010-020000	195 WINCHESTER ST	JCW RIVERVIEW HOLDINGS LLC		PO BOX 389	KEENE	NH	03431
052-010-030000	185 WINCHESTER ST	THEROUX PROPERTIES LLC		12 COLBY RD	LITCHFIELD	NH	03052
052-020-010000	165 WINCHESTER ST	ANDERSON BRUCE R. REV. TRUST	ANDERSON KATHLEEN V. REV. TRUST	574 OLD WALPOLE RD	SURRY	NH	03431
052-020-020000	81-83 RALSTON ST	MILLS OF KEENE LLC		PO BOX 313	DURHAM	NH	03824
052-020-030000	147 WINCHESTER ST	147 WINCHESTER STREET LLC		362 COURT ST	KEENE	NH	03431
052-020-040000	141 WINCHESTER ST	141 WINCHESTER STREET LLC	C/O THE WESTFORD GROUP INC	48 JUNCTION SQUARE DR	CONCORD	MA	01742
052-030-090000	1 BUTLER CT	UNIVERSITY SYSTEM OF NH	KEENE STATE COLLEGE	229 MAIN ST	KEENE	NH	03431
052-040-010000	192 WINCHESTER ST	NORTH AMERICAN RIVERVIEW HOLDINGS		195 WINCHESTER ST	KEENE	NH	03431
052-040-020000	200 WINCHESTER ST	ATHANASOPOULOS THEODORE C.		200 WINCHESTER ST	KEENE	NH	03431
052-040-030000	204 WINCHESTER ST	204 WINCHESTER ST LLC	C/O GREG JOHNSON	60 THOREAU ST	CONCORD	MA	01742
052-040-140000	210 WINCHESTER ST	FORTE DONNA J	KEENE STUDENT RENTALS	23 RALSTON ST	KEENE	NH	03431-9643
052-040-150000	218-228 WINCHESTER ST	CHESHIRE HOUSING TRUST		168 CASTLE ST	KEENE	NH	03431
052-040-160000	232 WINCHESTER ST	GRAY DAVID T	GRAY BRIANNE C	9 RIDGEWOOD AVE	KEENE	NH	03431
054-010-010000	283 MAIN ST	UNIVERSITY SYSTEM OF NH	KEENE STATE COLLEGE C/O JAY KAHN KEENE	229 MAIN ST	KEENE	NH	03431
054-010-170000	152 WINCHESTER ST	REBECCA W. KIRTSY		578 OLD WALPOLE RD	SURRY	NH	03431



TEMPORARY BANK IMPACTS = 73 SF
 TEMPORARY CHANNEL IMPACTS = 94 SF

CONNECT TO EXISTING PIPE
 INV. 12\"/>

CONNECT TO EXISTING PIPE
 INV. 15\"/>

116 LF OF 36\"/>

104 LF OF 36\"/>

76 LF OF 36\"/>

124 LF OF 36\"/>

70 LF OF 36\"/>

89 LF OF 36\"/>

52/1/1
 NORTH AMERICA RIVERVIEW HOLDINGS
 223 WINCHESTER STREET
 B:1750 P:384

52/1/2
 JCW RIVERVIEW HOLDINGS LLC
 185 WINCHESTER STREET
 B:2056 P:384

52/1/3
 THEROUX PROPERTIES LLC
 185 WINCHESTER STREET
 B:2865 P:417

TOP OF ICE ELEVATION
 INV. (480.90)
 1/15/2017

52/4/16
 DAVID T. GRAY
 232 WINCHESTER STREET
 B:1131 P:70

52/4/15
 CHESHIRE HOUSING TRUST
 218-228 WINCHESTER STREET
 B:1427 P:612

52/4/14
 DONNA J. FORTE
 210 WINCHESTER STREET
 B:2545 P:842

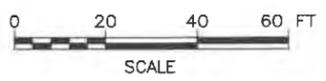
52/4/3
 204 WINCHESTER ST LLC
 204 WINCHESTER STREET
 B:2563 P:205

52/4/2
 THEODORE C. ATHANASOPOULOS
 200 WINCHESTER STREET
 B:2318 P:874

54/4/1
 NORTH AMERICAN RIVERVIEW HOLDINGS LLC
 182 WINCHESTER STREET
 B:2685 P:451

LEGEND

	BUILDING		GUARDRAIL		DECIDUOUS TREE		PAINTED HANDICAPPED SYMBOL
	CURB		PAINTED WHITE LINE		CONIFEROUS TREE		DRAIN MANHOLE
	SANITARY SEWER LINE		PAINTED YELLOW LINE		SHRUB		CATCH BASIN
	DRAIN LINE		EDGE OF CONCRETE		STUMP		ROUND CATCH BASIN
	WATER LINE		EDGE OF PAVEMENT		BOULDER		SEWER MANHOLE
	GAS LINE		EDGE OF LANDSCAPING		MAILBOX		ELECTRIC MANHOLE
	DOUBLE POST SIGN		HEDGE		BOLLARD		TELEPHONE MANHOLE
	OVERHEAD WIRES		RETAINING WALL		SINGLE POST SIGN		ELECTRIC MANHOLE
	MAJOR CONTOUR		CROSSWALK		TRAFFIC SIGNAL POLE		IRRIGATION CONTROL VALVE
	MINOR CONTOUR				PEDESTRIAN SIGNAL POLE		HYDRANT
					LIGHT		WATER SHUT-OFF
					METAL COVER		GAS SHUT-OFF
					PARKING METER		UTILITY POLE
					POST		IRON PIPE OR STEEL PIN
					MONITORING WELL		CONC OR GRANITE BOUND
							DRILL HOLE



WETLAND PERMIT PLAN

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

McFarland Johnson
 53 REGIONAL DRIVE
 CONCORD, NH 03301

REV	DATE	DESCRIPTION	BY

CITY OF KEENE
 KEENE, NH

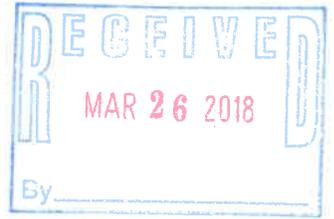
FLOOD MANAGEMENT IMPROVEMENTS

DRAINAGE PLAN 1

SCALE: 1"=20'	DESIGN: MAH
DRAWN: MAL	PROJECT: 18333-DRAN.dwg
CHECKED: BRC	DATE: MARCH 13, 2018



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD, MA 01742-2751



March 20, 2018

Mr. Thomas Haynes, Chairman
Town of Keene Conservation Commission
Keene City Hall
3 Washington Street
Keene, New Hampshire 03431

Dear Mr. Thomas Haynes:

The U.S. Army Corps of Engineers, New England District (NAE) is preparing an Environmental Assessment for a Master Plan for the Otter Brook Lake flood control project in Keene and Roxbury, New Hampshire (Figure 1). The Master Plan is a policy document that serves as an overall management guide for the flood control project. The purpose of this letter is to initiate study coordination and to obtain your comments on the proposed plan and to determine if there are New Hampshire State threatened and endangered species within the project area.

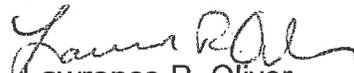
Otter Brook Lake is a unit of the comprehensive plan for flood risk management and control in the Connecticut River Basin. The project was authorized by the Flood Control Act approved September 1954 (Public Law 780, 83rd Congress). Construction of the project was initiated in May 1956 and was completed in August 1958. The Otter Brook Lake flood control project helps protect communities along Otter Brook, the Ashuelot River, and along the Connecticut River. The dam is a rolled earth-filled structure that is 1,288 feet long and has a maximum height of 133 feet above the stream bed. The permanent elevation of the pool is 701 feet above mean sea level and extends about one mile upstream where it inundates an area of 85 acres to a maximum depth of 30 feet. During flood control operations the reservoir has a maximum surface area of 374 acres, which is approximately 7.0 inches of runoff and 5.9 billion gallons of water.

Reservoir land for the project consists of 582 acres, of which 458 acres are in fee ownership and 124 acres are flowage easements. Project operations consist of the dam area and gatehouse comprising 108 acres of the project's total acreage. Developed recreation land including the day-use area (beach, parking lot, sanitary facilities, and picnic shelters) and disc golf course consists of 260 acres. Land classified as Multiple Resource Management consists of 90 acres of land for fish and wildlife (Figure 3 from Master Plan, Land Classification Plan). There are 126 acres of wetlands at Otter Brook Lake.

The proposed objectives of the Master Plan are to continue to maintain, protect and conserve the forest and wetland communities within the Otter Brook Lake project area, while protecting known archaeological sites, as well as maintaining existing recreational resources. While the project has many environmental and recreational benefits, the primary purpose at Otter Brook Lake is flood damage reduction along the Connecticut River.

If you have any questions or comments, please contact Ms. Kate Atwood at (978) 318-8537 or by email at Kathleen.a.atwood@usace.army.mil, within 30 days of receipt of this letter.

Sincerely,

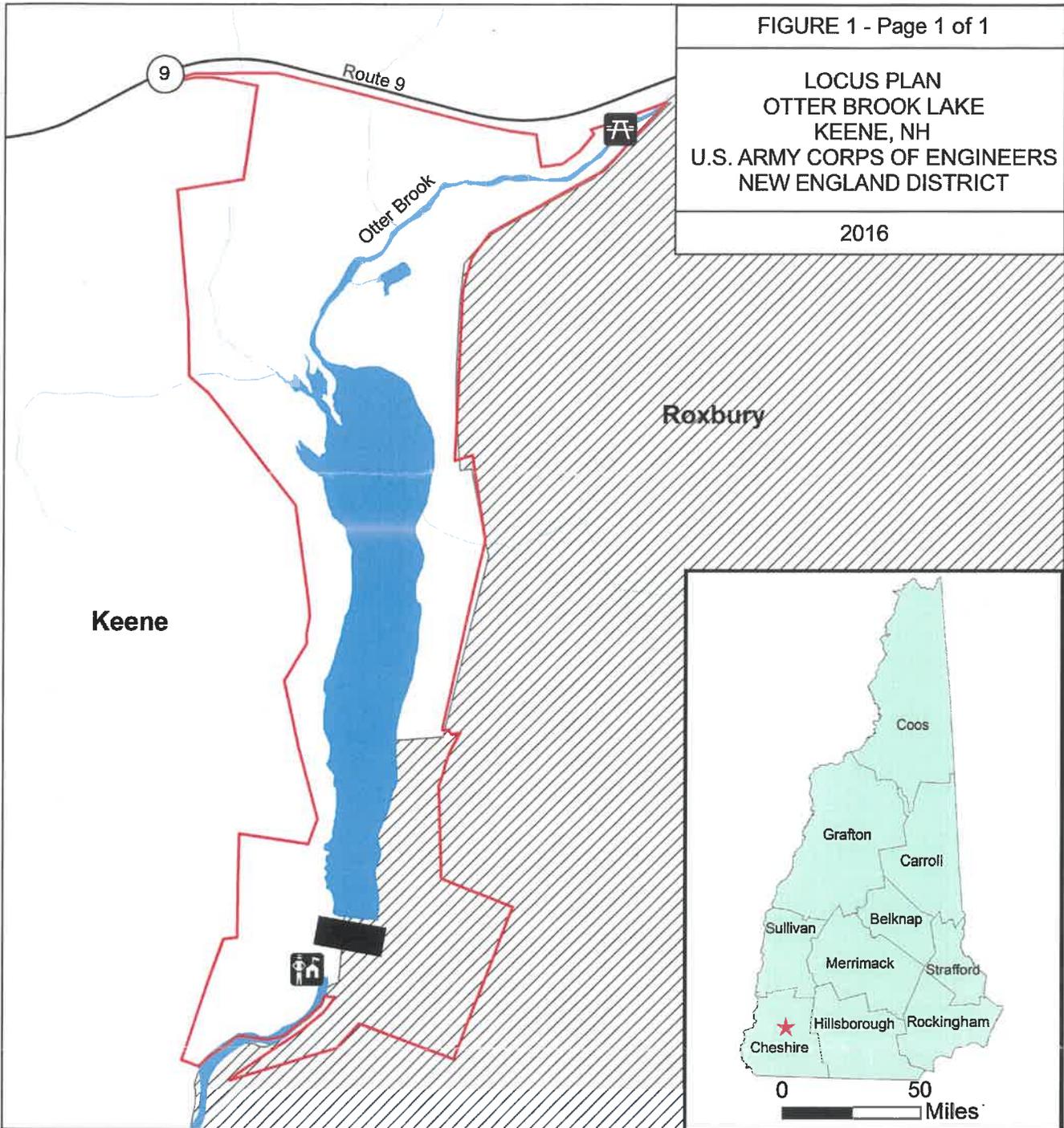

Lawrence R. Oliver
Chief, Evaluation Branch

Enclosures

FIGURE 1 - Page 1 of 1

LOCUS PLAN
OTTER BROOK LAKE
KEENE, NH
U.S. ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT

2016



U.S. ARMY CORPS
OF ENGINEERS
NEW ENGLAND
DISTRICT®



Otter Brook Lake Project Office



Otter Brook Lake Beach



Town of Roxbury



City of Keene

Project Boundary

Dam

0 0.25 0.5
Miles

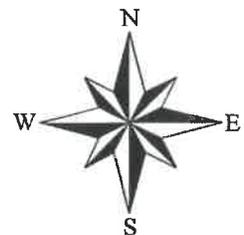
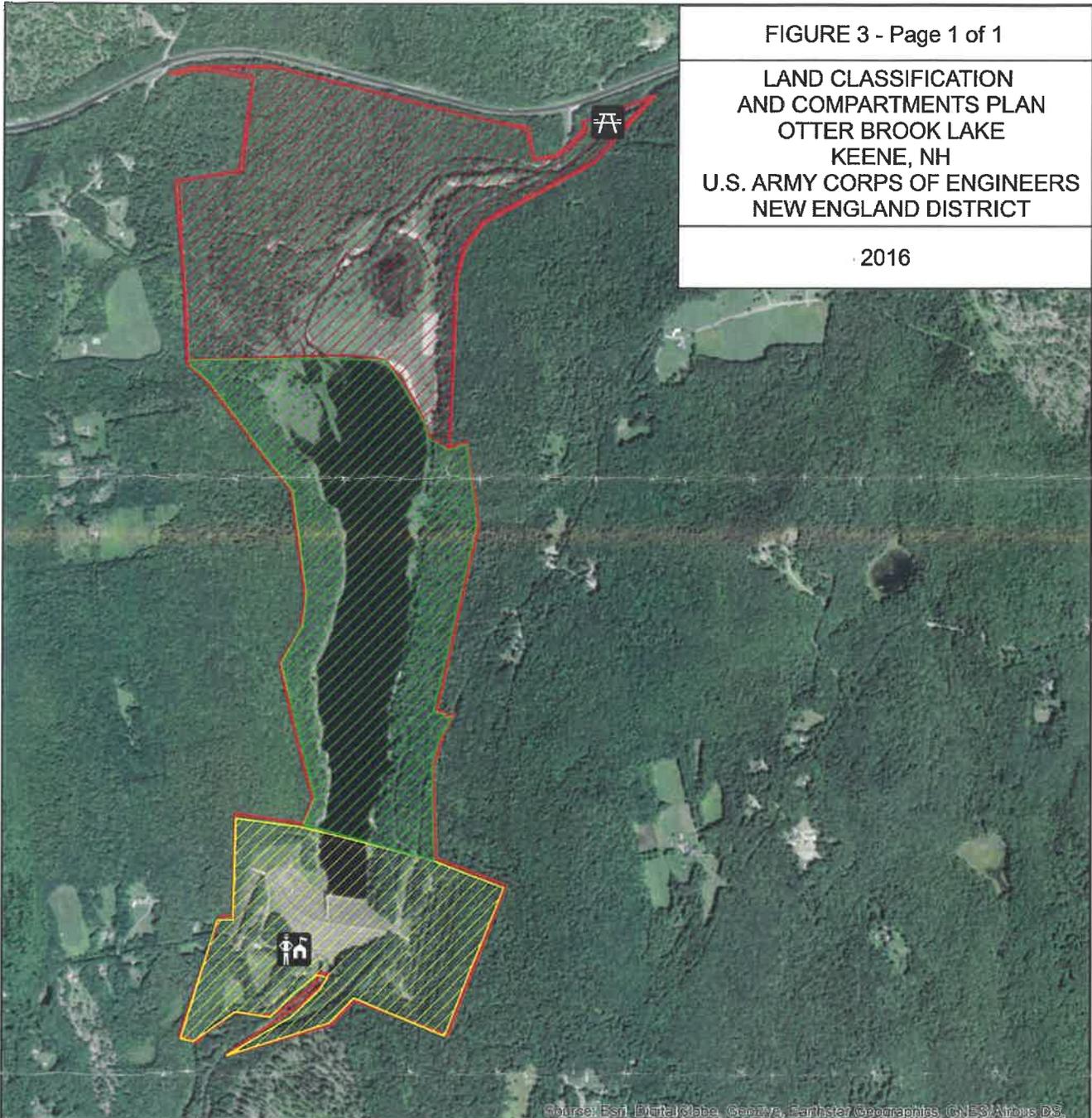


FIGURE 3 - Page 1 of 1

LAND CLASSIFICATION
AND COMPARTMENTS PLAN
OTTER BROOK LAKE
KEENE, NH
U.S. ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT

2016



U.S. ARMY CORPS
OF ENGINEERS
NEW ENGLAND
DISTRICT®

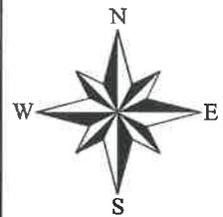
— Boundary Line

Recreation
260 acres

Multiple Resource
Management
90 acres

Project Operations
108 acres

0 0.25 0.5 1 Miles



**CITY OF KEENE CONSERVATION COMMISSION
LAND PROTECTION CRITERIA**

Land that supports or enhances the following resources/features should be a priority for the City of Keene Conservation Commission as it makes recommendations to the City Council on land protection and conservation.

1. Water Resources
 - a. Frontage on rivers, streams, lakes, ponds, and reservoirs
 - b. Land overlying aquifers and aquifer recharge areas
 - c. Wetlands, floodplains, buffer areas, and riparian zones

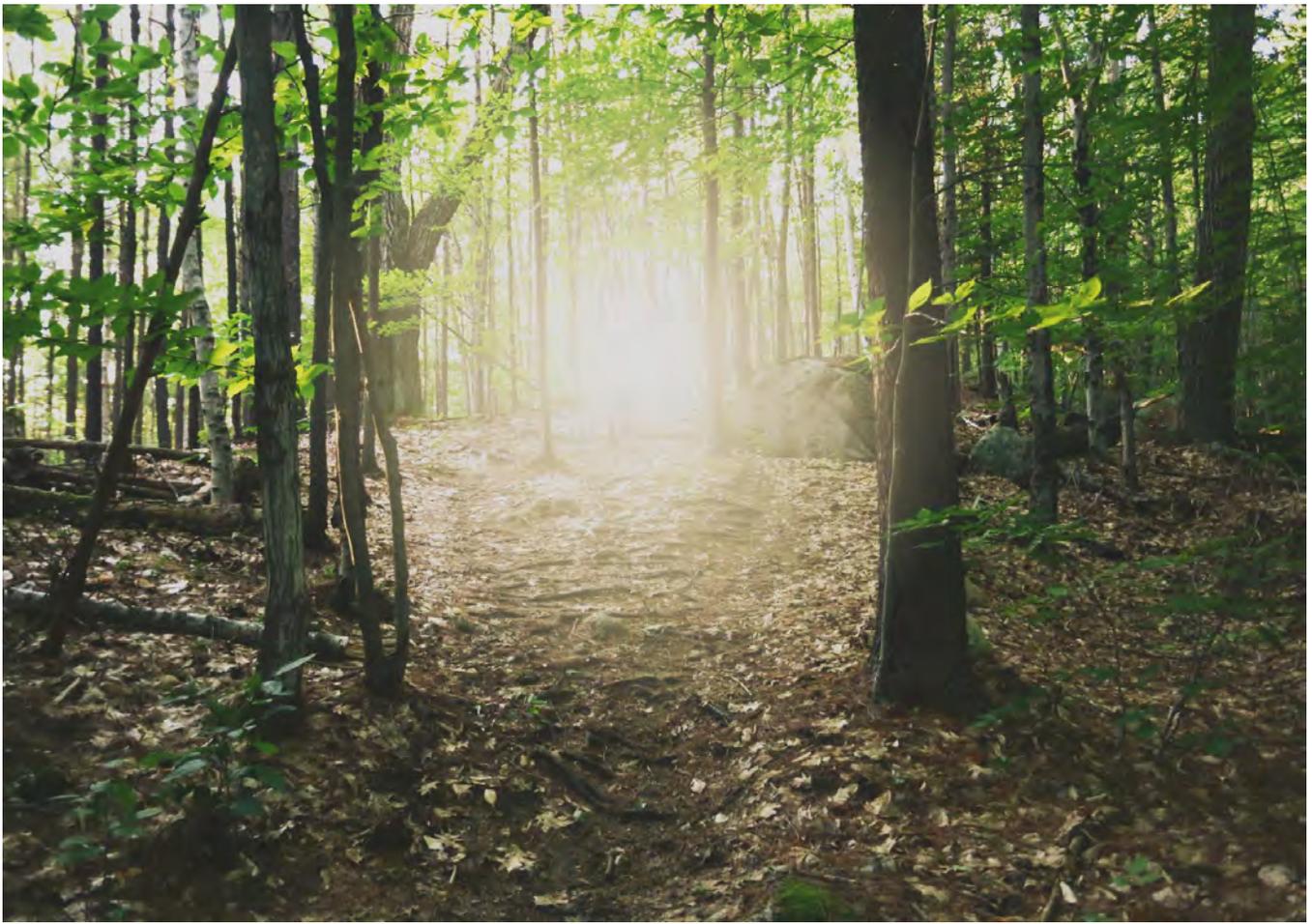
2. Forest Resources
 - a. Tracts of woodland with sufficient size, appropriate soils, and other attributes that support responsible forest management, including the production of timber and other forest products.
 - b. Steep slopes (slopes with grades greater than 15%)
 - c. Urban forests
 - d. Large un-fragmented blocks of forests

3. Agricultural Resources
 - a. Farmlands and open fields with prime soils and other attributes that support agriculture or have the potential to support agriculture.
 - b. Land well suitable for agriculture that do not have prime soils
 - c. Urban agriculture

4. Wildlife and Natural Areas
 - a. Large tracts of undeveloped habitat and corridors important for wildlife
 - b. Land containing ecologically significant or rare natural communities or species
 - c. Priority land as identified in the New Hampshire Wildlife Action Plan, Natural Resource Inventories, or existing Land Management Plans
 - d. Other lands which increase the diversity and viability of wildlife populations, including fields, riparian areas, land contiguous to existing protected natural areas, and land that can serve as a buffer to developed areas

5. Cultural, Recreational, and Scenic Value
 - a. Land that offers opportunities for appropriate outdoor recreation by the public
 - b. Scenic views, ridgelines, and other aesthetic areas
 - c. Landscapes that preserve the region's cultural and historic heritage
 - d. Land that promotes connectivity of recreational networks

6. Collaboration and Leverage
 - a. Land where there are multiple entities (e.g. surrounding towns or local organizations) willing to collaborate on protection/conservation efforts
 - b. Land that is vulnerable to development pressure
 - c. Land where there are landowners willing to support conservation and protection



COMMUNITY FORUM: Planning for the future of Goose Pond Forest

Come to learn more about the Greater Goose Pond Forest Stewardship Plan project & to share your share your thoughts on future use and management of the forest area.

April 17th (Tue.)

6:30 – 8:00 PM

**Keene Parks &
Rec Center**

312 Washington St



City of Keene
New Hampshire

For more info visit: <https://ci.keene.nh.us/ggpf>

GOOSE POND FOREST WALKS



JOIN LOCAL ECOLOGISTS &
FORESTERS ON GUIDED TOURS
OF KEENE'S LARGEST CITY-
OWNED PARK.

SIGN UP AT:
goosepond.eventbrite.com

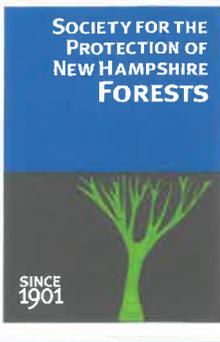
**All walks are on Saturdays
from 10 am to 12 pm**



These walks are part of the
City's Greater Goose Pond
Forest Stewardship Plan
Project



City of Keene
New Hampshire



54 Portsmouth Street
Concord, NH 03301
Tel. 603.224.9945
info@forestsociety.org
www.forestsociety.org

April 4, 2018

Lee Langella
City of Keene
Keene Conservation Commission
3 Washington St.
Keene, NH 03431

Dear Lee,

Thank you for your organization's membership renewal gift of \$50.00 on 3/26/2018. We are pleased to tell you that your donation is already hard at work protecting our state's forests, open spaces, and natural resources.

The Forest Society is committed more than ever to land protection and sustainable forest management across New Hampshire. Your generous support helps further our progressive work in other areas as well, namely research, policy, education, and outreach, and provides us with the resources necessary to advocate at the state level for balanced conservation policies.

Our quarterly magazine, *Forest Notes*, and our website at www.forestsociety.org will continue to provide you with information about field trips and special events, informative articles, and project updates. For news and updates between issues, I encourage you to sign up for our e-mail newsletter "Tree Mail" on our website's homepage.

Thank you again for partnering with the Forest Society as we work hard to achieve the goals set forth in our strategic vision, *New Hampshire Everlasting* – to protect one million acres by 2026.

If you have any questions about our work, please do not hesitate to call Sara Krzyzaniak or Margaret Liszka in our membership office at (603) 224-9945.

Sincerely yours,

Jane A. Difley
President / Forester

