

**Readfield Select Board  
Regular Meeting  
Agenda**

**September 8, 2015**

**Meeting starts: 6:30 PM  
Location: Gile Hall  
Pledge of Allegiance**

**Regular Meeting**

1. **Minutes:** Select Board meeting minutes of August 20, 24 26 & 31, 2015 - 5 minutes
2. **Warrant: #10&11** 5 minutes

**Communications – 30 minutes**

3. Select Board communications
4. Town Manager
5. Boards, Committees, Commissions & Departments

**Appointments/Reappointments: - 5 minutes**

6. Appointment –
7. Resignation – RSU – Blouin, John

**Unfinished Business**

8. Trails – 15 minutes
9. Phone Systems – 15 minutes

**New Business:**

10. DAR Proclamation 15 minutes
11. Town Farm Forest – 5 minutes
12. Emergency Operations planning – 5 minutes
13. Luce Road – 15 minutes
14. Inter local Agreement- in Wayne -5 minutes
15. Maranacook Dam update – 10 minutes
16. Other - 10 minutes

**Public Communications:**

17. Members of the public may address the Select Board on any topic – 15 minutes

**Adjournment**

# **1. Minutes**

**August 20, 24, 26 & 31**

Special Select Board Meeting  
Minutes for August 20, 2015

Attending: Valarie Pomerleau, Bruce Bouroine, Allen Curtis, Tom Dunham, and Christine Sammons.  
Others in attendance: Teresa Shaw (Interim Town Manager)

Ms. Pomerleau opened the meeting at 5:15 pm.

**Motion to enter into executive session -1 M.R.S.A § 405(6)(A) Personnel Matters – Town Manager interviews at 5:15PM**

**Motion: Ms. Pomerleau Seconded: Mr. Bourgoine Vote: 5 in favor, 0 against**

**Ms. Pomerleau brought to board out of executive session at 9:29PM**

**Motion to adjourn at 9:30PM**

**Motion: Mrs. Sammons Seconded: Mr. Bourgoine Vote: 5 in favor, 0 against**

The meeting minutes recorded by Teresa Shaw, Interim Town Manager.

# Town of Readfield – SELECT BOARD

TOWN OFFICE

08/24/2015

6:34 PM

## MINUTES

<b>MEMBERS PRESENT</b>	Valarie Pomerleau, Allen Curtis, Bruce Bourgoine, Christine Sammons, Thomas Dunham
<b>MEMBERS ABSENT</b>	
<b>MEETING TYPE</b>	SELECT BOARD MEETING
<b>NOTE TAKER</b>	Tina L. Cagle
<b>ATTENDEES</b>	Town Manager, Teresa Shaw, Roland Cote, Ann Keilty, Gary Keilty, Grace Keene, John Parent, Fran Zambella, Kathryn Mills Woodsum, Sandra Rourke

### Agenda topics

<b>#1 MINUTES 07/27/2015 &amp; 08/10/2015</b>	
<b>DISCUSSION</b>	1) Review of Minutes of 07/27/2015.
<b>MOTION</b>	Motion by Selectperson Bourgoine to approve the amended minutes of 07/27/2015.
<b>SECOND</b>	Second by Selectperson Sammons.
<b>PASS/FAIL</b>	Motion passes: 5-0
<b>DISCUSSION</b>	2) Review of Minutes of 08/10/2015
<b>MOTION</b>	Motion by Selectperson Sammons to approve the amended minutes of 07/27/2015.
<b>SECOND</b>	Second by Selectperson Dunham.
<b>PASS/FAIL</b>	Motion passes: 5-0
<b>#2 WARRANT #7 &amp; 8 REVIEW</b>	
<b>DISCUSSION</b>	1) Review of Warrant by Selectperson Dunham and Selectperson Curtis
<b>MOTION</b>	Motion by Selectperson Curtis to approve Warrant #7 & 8 in the amount of \$73,996.30.
<b>SECOND</b>	Second by Selectperson Bourgoine.
<b>PASS/FAIL</b>	Motion passes: 5-0
<b>#3 SELECT BOARD COMMUNICATIONS</b>	
<b>DISCUSSION</b>	<ol style="list-style-type: none"> <li>1) Selectperson Bourgoine attended the Elected Officials class and felt that it was a good class, focused a lot of time on FOAA. He did feel that they needed more time to ask more in depth questions.</li> <li>2) Selectperson Dunham would like to set up the Ad-Hoc Committee and will be asking for a good date and time for everyone.</li> <li>3) Selectperson Dunham inquired if the Log Books have been completed and put in the vehicles. The forms are almost complete and will be in the trucks very soon.</li> <li>4) Selectperson Dunham clarified that there was a hold on appointing Board Liasons but that current sitting members are still to attend their respective meetings.</li> <li>5) Selectperson Dunham asked if the Town Manager had gotten the answer regarding the Transfer Station being open during the MDOT Road Closing on the North Road. The road will be available to the residents for the Transfer Station.</li> <li>6) Selectperson Curtis informed the Board that the Union and the Town are now at the mediation stage and are waiting for an appointed mediator to begin the process.</li> <li>7) Selectperson Dunham noted that the monies for the Legal Expenses for the Union Mediation is coming from the Legal Line Item.</li> </ol>
<b>#4 TOWN MANAGER</b>	
<b>DISCUSSION</b>	<ol style="list-style-type: none"> <li>1) Kristin Parks has been hired for the counter position.</li> <li>2) The change orders for the road work were necessary due to complications, weather etc...</li> <li>3) September 29 from 10-2 will be Drug Take Back Day at the Transfer Station.</li> <li>4) Carry Forward Accounts are available without Town Approval if needed.</li> </ol>
<b>MOTION</b>	
<b>SECOND</b>	
<b>PASS/FAIL</b>	
<b>#5 BOARDS &amp; COMMITTEES</b>	
<b>DISCUSSION</b>	1) The Trails Committee would like to relocate the gate on the Transfer Station Road that the contractors use in order to make a parking area for a proposed trail.

	2) The Trails Committee would like the BOS to walk the route for further clarification. 3) Saturday, 09/29/2015 @ 8 am to walk the area. 4) The Town Manager will have a key available to enter the gate. 5) Trails Walkers have been inquiring as to why the Mill Stream Pathway stops where it does and doesn't continue. 6) The public use of that Trail is not outstanding at the point. 7) An Abutter has an issue with that Trail. The Committee will meet with the Abutters to try and work out a compromise. 8) The BOS should walk the proposed trails to be sure nothing is impacted negatively. 9) 09/08/2015 @ 5:30 pm to walk the Mill Stream Pathway.
<b>MOTION</b>	
<b>SECOND</b>	
<b>PASS/FAIL</b>	
	<b>#6 APPOINTMENTS</b>
<b>DISCUSSION</b>	1) None
<b>MOTION</b>	
<b>SECOND</b>	
<b>PASS/FAIL</b>	
	<b>#7 SELECT BOARD RETREAT</b>
<b>DISCUSSION</b>	1) Dana Lee is not facilitating anymore. Chairperson Pomerleau will research for more facilitators. She will also contact Great Meetings in Portland.
<b>MOTION</b>	
<b>SECOND</b>	
<b>PASS/FAIL</b>	
	<b>#8 TRANSFER STATION</b>
<b>DISCUSSION</b>	1) Enclosed in the packet are some examples and pricing of Roll Off Covers for the Transfer Station Bins. 2) The last shingles load...The Town picked up 58% of the cost and the revenue was 32%. 3) Selectperson Curtis would like to hold off on the scales research until the other procedures are in place. 4) The Transfer Station budget could be lower and the revenue higher. 5) For the last three (3) years the Transfer Station has come in under budget.
<b>MOTION</b>	
<b>SECOND</b>	
<b>PASS/FAIL</b>	
	<b>#9 SUMMER RESIDENTS MEETING</b>
<b>DISCUSSION</b>	1) The meeting was a good meeting with the main issue with the Summer Residents is the Transfer Station Availability. 2) Selectperson Curtis does not want to expend extra funds to have the Transfer Station open on Sundays for four (4) hours. 3) The cost would be approximately \$1300 for 4 hours for 10 Sundays. 4) Selectperson Bourgoine will bring up the issue during Budget Season.
<b>MOTION</b>	
<b>SECOND</b>	
<b>PASS/FAIL</b>	
	<b>#10 WINTHROP AMBULANCE CONTRACT</b>
<b>DISCUSSION</b>	1) Discussion of the new rate per capita.
<b>MOTION</b>	Motion by Selectperson Bourgoine to authorize the Town Manager to sign the Winthrop Ambulance Service Contract as presented.
<b>SECOND</b>	Second by Selectperson Sammons.
<b>PASS/FAIL</b>	Motion passes: 5-0
	<b>#11 OTT COMMUNICATIONS CONTRACT</b>
<b>DISCUSSION</b>	1) Selectperson Curtis feels that he can find a better deal on the phone service than what OTT has presented.
<b>MOTION</b>	Motion by Selectperson Bourgoine to table this discussion until the next meeting.
<b>SECOND</b>	Second by Selectperson Sammons.
<b>PASS/FAIL</b>	Motion passes: 5-0
	<b>#12 FAIRPOINT COMMUNICATIONS</b>
<b>DISCUSSION</b>	1) Will discuss next meeting once new bids have come in for the phone service.
<b>MOTION</b>	

SECOND	
PASS/FAIL	
	<b>#13 OTHER</b>
DISCUSSION	1) It was brought to the attention of the Board that Mr. Stark is using his own money and equipment for the TV program, so the Board has directed Mr. Stark to turn in his receipts to be reimbursed. 2) Selectperson Curtis would like to know if the Time Warner Cable franchise fees can be deposited in the TV Station Account instead of the General Fund. 3) There will be a discussion of the Comprehensive Plan at an October Workshop.
MOTION	
SECOND	
PASS/FAIL	
	<b>#14 PUBLIC COMMUNICATIONS</b>
DISCUSSION	1) Resident John Parent informed the Board that there is a Citizens Petition being signed now to incorporate a procedure for the Town Warrant for Secret Ballot vote. 2) Mr. Parent believes it is a Win-Win situation for the Town. 3) Does the Board have to honor a valid petition? 4) Mr. Parent believes that this will prevent future negative votes on articles. 5) Resident Roland Cote asked where the Board was on hiring a Town Manager. The Board had two (2) interviews last week and will have two (2) more this week.
MOTION	
SECOND	
PASS/FAIL	

ADJOURN AT 8:50 PM

Special Select Board Meeting  
Minutes for August 26, 2015

Attending: Valarie Pomerleau, Bruce Bourgoine, Allen Curtis, Tom Dunham, and Christine Sammons.  
Others in attendance: Teresa Shaw (Interim Town Manager)

Ms. Pomerleau opened the meeting at 5:55 pm.

**Motion to enter into executive session and invite interim Town Manager to join . -1**  
**M.R.S.A § 405(6)(A) Personnel Matters – Town Manager interviews at 5:55PM**  
**Motion: Ms. Pomerleau Seconded: Mrs. Sammons Vote: 5 in favor, 0 against**

**Ms. Pomerleau brought to board out of executive session at 9:08PM**

**Motion to have Teresa Shaw, Interim Town Manager, write a letter to the candidates that have not been interviewed.**  
**Motion: Mr. Curtis Seconded: Mr. Bourgoine Vote: 5 in favor , 0 against**

**Motion to have Teresa Shaw, Interim Town Manager, post an Executive session meeting 1 MRSA § 405(6) (A) for 8/31/15 at 5PM. This will to be to further discuss Town Manager options.**  
**Motion: Mrs. Sammons Seconded: Mr. Bourgoine Vote: 5 in favor , 0 against**

**Motion to adjourn at 9:09PM**  
**Motion: Mr. Bourgoine Seconded: Mr. Dunham Vote: 5 in favor, 0 against**

The meeting minutes recorded by Teresa Shaw, Interim Town Manager.

Special Select Board Meeting  
Minutes for August 31, 2015

Attending: Valarie Pomerleau, Bruce Bouroine, Allen Curtis, Tom Dunham, and Christine Sammons.  
Others in attendance: Teresa Shaw (Interim Town Manager)

Ms. Pomerleau opened the meeting at 4:59 pm.

**Motion to enter into executive session and invite interim Town Manager to join. -1 M.R.S.A  
§ 405(6)(A) Personnel Matters – Town Manager proposal at 4:59PM  
Motion: Mr. Bourgoine Seconded: Mr. Dunham Vote: 5 in favor, 0 against**

**Ms. Pomerleau brought to board out of executive session at 6:34PM**

**Teresa Shaw, Interim Town Manager; was directed to write a letter to the candidate that will not be interviewed.**

**Motion to have Ms. Pomerleau contact the lead candidate with a proposal.  
Motion: Mr. Bourgoine Seconded: Ms. Pomerleau Vote: 5 in favor, 0 against**

**Motion to adjourn at 6:40PM  
Motion: Mrs. Sammons Seconded: Mr. Dunham Vote: 5 in favor, 0 against**

The meeting minutes recorded by Teresa Shaw, Interim Town Manager.



**2. Warrant # 10 & 11**

# **3. Select Board Communications**

# 4. Town Manager

#### 4. Town Manager

The tax bill data has been sent to our out sourcing company. The property owners should get their bill in about a week if not sooner.

Town meeting article #4 reads...September 25, 2015 or 30 days after commitment, so we put October 2, 2015 as the first due date.

I think everyone should be thanked for keeping the mil rate down!

2015-16 Mil rate is 18.08%; 2014-15 Mil rate was 18.5 %

# 5. Boards & Committees

READFIELD LIBRARY BOARD MEETING  
July 8, 2015

The Meeting was called to order at 6:50 by Chair, Deb Peale. Members present were Brenda Lake, Lori Clark, Cricket Blouin, Jan Tarbuck, Donna Witherill, Betty Peterson and Librarian Nancy O'Toole Meservier. Excused were Pam Mitchell and Beverly Monsulick.

**Secretary's Report:** The minutes of the June meeting were accepted as read.

**Treasurer's Report:** The June Treasurer's report was given and accepted as read.

**Librarian's Report:**

- Nancy is still in the process of covering donated books for our Library.
- The Summer Reading kickoff party was a big success. Thirty-seven kids signed up that night and eighty-two have signed up to date. Also 500 books have been read so far.
- The Children's Hour being held on Thursday mornings at 10:30 is going well also.
- Maria Rungi, the Literacy Specialist from the Elementary School, will be hosting three programs at our library this summer. They are not library programs but elementary school programs that are being held at our library. Nice community use of the Library.
- Hometown Hero Board is still in the process of being completed.
- Summer hours are going quite well. Mondays are busier than Thursdays.
- Upcoming Summer book sale. Nancy has contacted Betterworldbooks about taking care of discards. They will be getting back to her this week.
- We have many books for the book sale and at this time the cutoff date for donating books is July 22.
- Chewonki program is set for Monday, August 24 from 6 to 7.

Librarian's Report was approved as read.

**Old Business:**

- A six foot table has been purchased and is stored at our Library.
- Summer Book Sale scheduled for August 8 from 9:00 a.m. to 1:00 p.m. was discussed extensively. Betty has checked with Amanda Mank and the firehouse is available to us. Karen Peterson will also help. Other assignments have been discussed. We will check with each other as needed.

**New Business:**

- Next meeting will be held on September 2 at 6:45 at the Library.
- Meeting adjourned at 8:10 p.m.

Respectfully submitted,  
Betty Peterson, Secretary

# 6. Appointments

# 1. Resignations





John Blouin

john@brookwood.com  
Cell: 207-446-7708  
Office: 207-620-8202



Town Of Readfield Select Board  
Readfield, Maine  
04355

August 24, 2015

Good day, I am writing today to resign as a School Board member from Readfield to the RSU-38 Board. My Real Estate business is extremely busy and many clients want to see homes after work. I am also very busy on the weekends showing homes also. This leaves me short on family time and I find myself having to make choices. The RSU-38 Board and the school district are very well run and something everyone is proud of. I thank the town and the RSU-38 Board for this opportunity to serve our community.

*John D Blouin*

John Blouin  
292 Winthrop Road  
Readfield, Maine  
04355

*Term Expires  
June 30, 2017 only appoint  
until next Town Mtg*

Telephone 207-620-8212  
747 Western Avenue • Manchester, Maine 04351 • Fax 207-623-0503  
www.brookwoodrealty.com



# 8. Trails

**Teresa**

**From:** Karen Peterson [readfieldfdcem@roadrunner.com]  
**Sent:** Monday, August 31, 2015 9:50 AM  
**To:** 'Teresa Shaw'  
**Subject:** FW: meeting

**From:** Rob [mailto:robnpeale@hotmail.com]  
**Sent:** Tuesday, August 25, 2015 9:01 PM  
**To:** tykel@myfairpoint.net; Christine Sammons; Greg and Nancy Durgin; Hank Laidlaw; Jeannie and Bob Harris; Karen Peterson; Ken Clark; lydnag@roadrunner.com; Nancy Buker; Will Harris  
**Subject:** RE: meeting

On Saturday I will be away for the weekend at MDI. On Sept 8 I already have another meeting scheduled for the same time slot.

If we were supposed to be at the selectboard meeting last night I guess I didn't get the email.

A few weeks ago (after our last meeting) I discussed the question of the trail across the landfill with the DEP's John James who oversees all the old unlicensed landfills. The Department has no information regarding the presense of hazardous materials in the landfill (there has been no real investigation) and it is not on a mapped aquifer. It was covered many years ago under the Intermediate Cover and Grading (ICAG) program which was supposed to be temporary but there has never been enough money and they only deal with significant, documented problems at these landfills.

There is no problem with putting the trail across the landfill as long as the cover is in good shape and we don't disturb the cover (i.e not digging into it or putting a structure on it). There are a number of old closed landfills in the state that have trails across them apparently including the city of Lewiston's old landfill. If the town would like written confirmation of this they can request it, John will do an inspection, and provide the letter but this is in no way necessary. The landfill was last inspected in 2006 and everything was fine. Technically the DEP is supposed to inspect each of these 300 or so landfills every 3 to 5 years but we no longer have the staff to do this. I believe that an inspection is basically walking over and around the landfill making sure the cover is in good shape, it is being properly maintained, and there are no breaks with exposed landfill waste.

Give me a call if you have any questions.

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**From:** tykel@myfairpoint.net  
**To:** sammons.christine@yahoo.com; tykel@myfairpoint.net; durgie@roadrunner.com; laidlawhb@roadrunner.com; jcharris51@yahoo.com; readfieldfdcem@roadrunner.com; clark2@fairpoint.net; lydnag@roadrunner.com; ladybugicp@yahoo.com; robnpeale@hotmail.com; willtrout60@gmail.com  
**Subject:** meeting  
**Date:** Tue, 25 Aug 2015 06:35:49 -0400

Good morning,







designation is intended to promote a compact (rather than sprawling) pattern of development in the district areas, and to encourage the preservation, revitalization and expansion of Readfield's two village areas (Readfield Corner and Readfield Depot). The village district designation strives to accommodate the denser, mixed land use pattern described above while seeking to maintain the character and historical integrity of the village areas, and to ensure that proposed development and land uses are compatible with existing uses in the village.

2. Village Residential District

The village residential district includes areas where the primary use is for higher density residential neighborhoods. Non-residential uses are strictly limited in this district. The designation encourages a more compact pattern of residential development, and seeks to ensure that the existing character and visual quality of the village residential areas are maintained.

3. Rural District

The rural district includes areas which contain a large acreage of open space, farmland and forest land. Lands within the district are especially important for the recreational, scenic, and other resource based opportunities which they offer. The purpose of the rural district designation is to ensure that proposed development and land uses are compatible with the preservation of Readfield's open, rural character and are protective of sensitive natural resources and visual/scenic quality. In part, this is accomplished through encouraging agriculture and forestry uses in the rural district. The rural district also accommodates certain commercial and light industry uses and strives to maintain a development pattern of mixed, low density use while protecting critical natural and scenic resources.

4. Rural Residential District

The Rural Residential District is comprised of land areas similar in nature to those in the rural district, in terms of their composition (substantial areas of open space, farmland and forest land) and their value with respect to recreational, scenic and other resource based opportunities. This district however, is more restrictive in terms of allowable uses, and primarily seeks to accommodate low density residential use, agriculture and forestry operations which are compatible with the preservation of Readfield's rural character, and which are protective of sensitive natural resources and scenic/visual quality.

5. Shoreland Residential District

The Shoreland Residential District includes all shoreland areas within 250 feet, horizontal distance, of the normal high-water mark of a great pond or the upland edge of a wetland consisting of ten (10) or more contiguous acres or as otherwise defined, other than those areas included in the Resource Protection District or the Stream Protection District. It includes areas that are appropriate for residential, recreational, and other non-intensive development activities.

6. Resource Protection District

The resource protection district includes areas having current moderate or high habitat value and in which development would adversely affect water quality, productive fish or wildlife habitat, biotic systems, or scenic and natural values. However, areas which are currently developed and which would meet the criteria of this district shall be placed in another suitable land use district. This district shall include the following areas.

- a. Wetlands, as defined, and the areas within 250 feet horizontal distance of the upland edge of the following wetlands: a wetland that is 10 acres or greater; wetlands associated with great ponds; and, wetlands which are rated "moderate" or "high" value by the Maine Department of Inland Fisheries and Wildlife.
- b. The wetlands and the areas within 25 feet horizontal distance of the upland edge of wetlands that are greater than 2 acres and less than 10 acres.
- c. Areas within 1000 feet horizontal distance of the normal high-water line of Carlton Pond.
- d. Areas within 250 feet horizontal distance of the normal high-water line of Mill Pond, Shedd Pond and Brainard Pond.
- e. Areas of 1 or more contiguous acres with sustained slopes of 20% or greater.



- f. The following areas when they are located within 250 feet horizontal distance of the normal high-water line of a great pond; within 250 feet of the upland edge of a wetland; and, within 75 feet, horizontal distance, of a stream:

- (1) Important Wildlife habitat.
- (2) Natural sites of significant scenic or aesthetic value.
- (3) Areas designated by federal, state and local government as natural areas of significance to be protected from development.
- (4) Existing areas of public access and certain significant archeological and historic sites.

7. Stream Protection District

The Stream Protection District includes all land areas within 75 feet, horizontal distance, of the normal high-water line of a stream as defined in Article 11 and other streams of local significance designated on the Official Land Use Map, exclusive of those areas within 250 feet, horizontal distance, of the normal high-water line of a great pond, or within 250 feet, horizontal distance of the upland edge of a freshwater wetland. Where a stream and its 75 foot shoreland area is located within the 250-foot shoreland area of a great pond or a freshwater wetland, that land area shall be regulated under the terms of the district in which the great pond or wetland are located.

8. Commercial and Industrial District

The Commercial and Industrial District is established for the purpose of allowing the opportunity for large scale commercial or industrial uses to locate or expand in the community if this can be accomplished with minimal negative impact, although large scale commercial operations are generally not in keeping with the Town's character. This district is the only district which may accommodate commercial and industrial uses with structures in excess of 5,000 square feet. This ordinance seeks to ensure that proposed uses are compatible with existing uses and the rural character of the Town, and are protective of natural resources and visual quality. Land proposed for designation as commercial/industrial shall follow the adoption procedures in Article 9.

9. Academic District

The Academic District is comprised of land areas that support development of educational institutions and effective delivery of their programs and activities including housing, health care, and food services. The purpose of this designation is to ensure a homogeneous pattern of development on land now occupied by educational institutions focused exclusively on accommodation of the institution's development needs and excluding unrelated residential, commercial and industrial uses. In the Academic District, only uses which directly support or relate to the principal permitted academic use shall be permitted.

B. Overlay District

Mobile Home Park District

The Mobile Home Park District may accommodate mobile home parks and developments where designated on the Town of Readfield Land Use Map, subject to the requirements of the underlying district.

**SECTION 5. LAND USES**

Land Uses permitted in Readfield are shown on Table 1 (Table of Uses) by the type of review required or not required within each land use District under this Ordinance. Required permit review shall be secured prior to obtaining the appropriate building, plumbing or other applicable construction permits in accordance with the procedures and processes described in this Ordinance.

For any land uses not specifically identified in Table 1, the following type of review required or not required within each land use district shall apply: The Code Enforcement Officer shall make the final determination on the appropriate review for any land use not listed.

1. Uses similar to uses requiring a permit from the CEO and/or LPI shall require a permit from the CEO and/or LPI
2. Uses similar to uses requiring Planning Board approval shall require Planning Board approval.
3. Uses similar to allowed uses are permitted.
4. Uses similar to prohibited uses are prohibited.



- k. The study shall include a determination of the available sight distances in all directions at each intersection in the vicinity of the development.
- l. The study shall include an inventory and analysis of traffic accidents in the vicinity of the development during the most recent 3-year period. A collision diagram shall be provided for all links and intersections found to meet Maine Department of Transportation criteria for "High Accident Locations".
- m. The study shall include a description of recommendations for improvements to deficient roads or intersections, and the results of implementation of recommendations.

## SECTION 19. RESOURCE PROTECTION, STREAM PROTECTION AND SHORELAND RESIDENTIAL DISTRICT STANDARDS

- A. Applicability and Purpose  
The standards in this section apply to uses and activities occurring in the Stream Protection, Resource Protection and Shoreland Residential Districts and supplement those environmental permits required from State agencies. The purposes of this Section and other applicable sections of this Ordinance are to further the maintenance of safe and healthful conditions; to prevent and control water pollution; to protect fish spawning grounds, aquatic life, bird and other wildlife habitat; to protect buildings and land from flooding and accelerated erosion; to protect archeological and historic resources; to protect wetlands; to control building sites, placement of structures and land uses; to conserve shore cover and visual as well as actual points of access to inland waters; to conserve natural beauty and open space; and to anticipate and respond to the impacts of development in shoreland areas.
- B. Construction or Movement of Material  
No movement of soil, sand, vegetation or other material, or construction activity, within 75 feet of the normal high water mark of a water body, stream tributary stream or the upland edge of a wetland, shall be conducted without first obtaining all permits required under State and Federal laws, including but not limited to, the Natural Resources Protection Act, Title 38 M.R.S.A., Section 480-A through 480-Y.
- C. General Provisions
  1. Land below the normal high-water line of a water body or upland edge of a wetland and land beneath roads serving more than 2 lots shall not be included in calculating minimum lot area.
  2. Lots located on opposite sides of a public or private road shall be considered each a separate tract or parcel of land unless such road was established by the owner of land on both sides thereof after September 22, 1971.
  3. The minimum width of any lot within 100 feet, horizontal distance, of the normal high-water line of a water body or upland edge of a wetland shall be equal to or greater than the shore frontage requirement for a lot with the proposed use.
  4. If more than one residential dwelling unit, principal governmental, institutional, commercial or industrial structure or use, or combination thereof, is constructed or established on a single parcel, all dimensional requirements shall be met for each additional unit, principal structure, or use.
  5. Notwithstanding the setback requirements, stairways or similar structures may be allowed with a permit, to provide shoreline access in areas of steep slopes or unstable



soils provided; that the structure is limited to a maximum of 4 feet in width; the structure does not extend below or over the normal high-water line of a waterbody or upland edge of a wetland and that the applicant demonstrates that no reasonable access alternative exists on the property.

6. A footpath, or a recreational trail for winter use during frozen ground conditions only, not to exceed 6 feet in width as measured between tree trunks and/or shrub stems is permitted within 100 feet, horizontal distance, inland from the normal high-water line of a great pond and 75 feet, horizontal distance from any stream or the upland edge of a wetland, and provided that a clear line of sight to the resource through the natural buffer strip is not created.

D. Clearing or Removal of Vegetation for Activities other than Timber Harvesting

1. Within Resource Protection District abutting a great pond, there shall be no cutting, clearing or removal of vegetation within the strip of land extending 75 feet, horizontal distance, inland from the normal high-water line, except to remove safety hazards or as permitted in Article 8, section 19.C.6 above. Elsewhere in the Resource Protection District, the cutting, clearing or removal of vegetation shall be limited to that which shall be necessary for uses expressly authorized in the District.
2. Except in areas as described in subsection 1 above, and except to allow for the development of permitted uses, within a strip of land extending 100 feet, horizontal distance, inland from the normal high-water line of a great pond and 75 feet, horizontal distance from any other water body, tributary stream, or the upland edge of a wetland, a natural buffer strip of vegetation shall be preserved as follows:
  - a. There shall be no cleared opening greater than 250 square feet in the forest canopy (or other existing woody vegetation if a forested canopy is not present) as measured from the outer limits of the tree or shrub crown.
  - b. Selective cutting, clearing, or removal of trees within the natural buffer strip shall be permitted provided that a well distributed stand of trees and other natural vegetation is maintained. For the purposes of this section a "well-distributed stand of trees adjacent to a great pond or stream flowing to a great pond, shall be defined as maintaining a rating score 24 or more in each 25-foot by 50 foot rectangular (1250 square feet) area as determined by the following rating system:

<u>Diameter of Tree at 4 ½ feet Above Ground Level (inches)</u>	<u>Points</u>
2-<4 inches	1
4-<8 inches	2
8-<12 inches	4
12 inches or greater	8

Adjacent to other waterbodies, tributary streams, and wetlands, a "well-distributed stand of trees" is defined as maintaining a minimum rating score of 16 per 25-foot by 50-foot rectangular area.

**NOTE:** As an example, adjacent to a great pond, if a 25-foot x 50-foot plot contains four (4) trees between 2 and 4 inches in diameter, two trees between 4 and 8 inches in diameter, three trees between 8 and 12 inches in diameter, and two trees over 12 inches



in diameter, the rating score is:

$$(4 \times 1) + (2 \times 2) + (3 \times 4) + (2 \times 8) = 36 \text{ points}$$

Thus the 25-foot by 50-foot plot contains trees worth 36 points. Trees totaling 12 points ( $36 - 24 = 12$ ) may be removed from the plot provided that no cleared openings are created.

The following shall govern in applying this point system:

- (i) The 25-foot by 50-foot rectangular plots must be established where the landowner or lessee proposes clearing within the required buffer;
- (ii) Each successive plot must be adjacent to, but not overlap a previous plot;
- (iii) Any plot not containing the required points must have no vegetation removed except as otherwise allowed by this Ordinance;
- (iv) Any plot containing the required points may have vegetation removed down to the minimum points required or as otherwise allowed by this Ordinance;
- (v) Where conditions permit, no more than 50% of the points on any 25-foot by 50-foot rectangular area may consist of trees greater than 12 inches in diameter.

For the purposes of this section "other natural vegetation" is defined as retaining existing vegetation under three (3) feet in height and other ground cover and retaining at least five (5) saplings less than two (2) inches in diameter at four and one half ( $4 \frac{1}{2}$ ) feet above ground level for each 25-foot by 50-foot rectangle area. If five saplings do not exist, no woody stems less than two (2) inches in diameter can be removed until 5 saplings have been recruited into the plot.

Notwithstanding the above provisions, no more than 40% of the total volume of trees 4 inches or more in diameter, measured at  $4 \frac{1}{2}$  feet above ground level may be cut, cleared or removed in any 10-year period.

- c. In order to protect water quality and wildlife habitat, existing vegetation under 3 feet in height and other ground cover, including leaf litter and the forest duff layer, shall not be cut, covered, cleared or removed, except to provide for a footpath or other permitted uses as described in Section 19 (D) paragraphs (2) and (2) (a) above.

- d. Pruning of tree branches on the bottom one-third ( $\frac{1}{3}$ ) of the tree is permitted.

- e. In order to maintain a buffer strip of vegetation, when the removal of storm-damaged, diseased, unsafe, or dead trees results in the creation of cleared openings, these openings shall be replanted with native tree species 6-ft. to 8-ft. in height unless new tree growth is present. This section does not apply to those portions of public recreational facilities adjacent to public swimming areas as long as cleared areas, are limited to the minimum area necessary.

- 3. At distances greater than one hundred feet, horizontal distance, from a great pond and 75 feet, horizontal distance, from the normal high-water line of any other waterbody, tributary stream, or the upland edge of a wetland, there shall be permitted on any lot, in any 10 year-period, selective cutting of not more than 40% of the volume of trees 4 inches or more in diameter, measured  $4 \frac{1}{2}$  feet above ground level. Tree removal in

- conjunction with the development of permitted uses shall be included in the 40% calculation. For the purposes of these standards volume may be considered to be equivalent to basal area. In no event shall cleared openings for any purpose, including but not limited to, principal and accessory structures, driveways, lawns and sewage disposal areas, exceed in the aggregate, 25% of the lot area within the shoreland zone or 10,000 square feet, whichever is greater, including land previously cleared.
4. Legally existing nonconforming cleared openings may be maintained, but shall not be enlarged, except as permitted by this Ordinance.
  5. Fields and other cleared openings which have reverted to primarily shrubs, trees, or other woody vegetation shall be regulated under the provisions of Section 19 (D).

**E. Docks, Marinas, Piers, Wharfs, Bridges and Other Water-Dependent Structures and Uses Extending Over or Beyond the Normal High-Water Line of a Water Body or Within a Wetland**

1. Access from shore shall be developed on soils appropriate for such use and constructed so as to control erosion.
2. The location shall not interfere with developed beach areas.
3. The facility shall be located so as to minimize adverse effects on fisheries.
4. The facility shall be no larger in dimension than necessary to carry on the activity and be consistent with the surrounding character and uses of the area. A temporary pier, dock, or wharf shall not be wider than six (6) feet for non-commercial uses.
5. The use of a water-dependent structure shall not be converted to a use which is not water-dependent.
6. No new structure shall be built on, over, or abutting a dock or other structure extending beyond the normal high-water line of a water body or within a wetland unless the structure requires direct access to the waterbody or wetland as an operational necessity.
7. All docks shall be constructed of materials and with methods resistant to flood damage and securely attached to the shoreline in a way not to impair or restrict flotation during extreme water level, wind or wave conditions. Attachments may be made to a tree or permanent structure using cable, chain or similar water-resistant materials of adequate strength.
8. Docks exceeding 500 square feet in area or which have a fair market value exceeding \$3,000 shall first require the issuance of a Flood Hazard Development Permit.
9. Permanent docks are prohibited. Temporary docks must be removed from waterbodies prior to seasonal freezing and remain removed until seasonal thaw. Upon removal, all dock sections shall be stored in a location with an elevation of at least one foot above the 100-year base flood elevation or securely attached to a tree or other permanent fixed object or structure.
10. Docks shall be located to comply with all setback requirements for structures from adjacent properties. In instances where the most appropriate soils for dock construction and use are located within the setback area from adjacent properties, an alternative location may be permitted as depicted in Appendix C of this Ordinance entitled, "Riparian Rights Lines."

**F. Roads and Driveways**

1. Roads and driveways shall be set back at least 100 feet, horizontal distance, from the normal high-water line of a great pond and 75 feet, horizontal distance from the normal

Trail Committee Personnel

We, Roland & Phyllis Cote, give Robert & Helen Bittar and Trail Committee Personnel permission to upgrade the landscaping on our property on lot #018 to allow for walking paths to be installed with the understanding that we assume NO liability for injuries sustained by anyone while on our property either in upgrading the property or while using the walking paths.

Roland M. Cote  
Roland Cote

Phyllis Cote  
Phyllis Cote

8-13-15  
Date

Robert Bittar  
Robert Bittar

Helen Bittar  
Helen Bittar

                      
Date

**Gary Quintal**

**From:**  
**Sent:**  
**To:**  
**Cc:**

Marquis, Adam <Adam.Marquis@maine.gov>  
Friday, August 28, 2015 9:20 AM  
rbittar@iqacc.com  
Hallowell, Dawn; readfield.ceo@roadrunner.com; Dorr, Dustin; Rousseau, Kevin;  
Lapointe, Andrea; Howatt, Kathy  
RE: Robert Bittar

**Subject:**

Good morning sir:

On May 11, 2015, myself, Dustin Dorr, and LeeAnn Neal (USACOE) visited the property detailed below. After inspecting the area, and hearing your potential plans for the property I advised you that activities in, on, over and adjacent to a natural resource may require a Natural Resources Protection Act (NRPA) permit pursuant to 38 M.R.S. Section 480-C. Natural resources present during the site visit included a river stream or brook and wetlands, as defined in statute and rule, respectively. Therefore, any proposed activities occurring in, on, over, and/or adjacent (within 75-feet of the resource) to either the stream or wetlands present will require Department review before the activity begins. This would include the cutting and/or removal of alders. In addition, we advised you to contact the Readfield CEO to inquire about cutting any trees located in the Shoreland Zone or in/or adjacent to a resource to see what may be required at the local level.

On this day we also discussed that without a more specific proposal from you, the Department cannot fully evaluate the potential environmental impacts that may result from some of the scenarios that were presented. We also recommended that you first consult with a professional wetland scientist to delineate wetlands on the property.

If, at this time you do have more of a defined scope of work (tree removal, wetland delineated, etc.,) we would be happy to further assist you with any potential permits that may be required from the Department. Alternatively, if you or Gary think it might be beneficial to have another site visit please let us know.

Thank you,

**Adam Marquis**  
Environmental Specialist  
Bureau of Land Resources  
Maine Department of Environmental Protection  
(207) 215-4550 (work cell)  
email: [Adam.Marquis@maine.gov](mailto:Adam.Marquis@maine.gov)

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**From:** Lapointe, Andrea  
**Sent:** Thursday, August 27, 2015 8:52 AM  
**To:** 'rbittar@iqacc.com'  
**Cc:** Hallowell, Dawn; Readfield CEO  
**Subject:** RE: Robert Bittar

Mr. Bittar, I am the only one in the office today. Tomorrow I will talk to Kevin about the site. I hesitate to state anything in writing without first talking to Kevin.

# 9. Phone System

**10. DAR**

**Proclamation**

# 11. Town Farm Forest

# **12. Emergency Operations**



# 13. Luce Road

Rod 16.5 Feet 3 Rods =  $49'6" \div 2 = 24'9"$

# TREES, WEEDS and ROADS



## WORKSHOP NOTEBOOK 2011 EDITION

*A Workshop Presented  
by the*  
**MAINE LOCAL ROADS CENTER**  
A Cooperative Effort to Assist Maine Towns  
with Local Transportation Concerns



U.S. Department of Transportation  
**Federal Highway Administration**



**MaineDOT**

## From MMA's "Municipal Roads Manual, 2009"

### Chapter 5

#### Brush and Tree Removal

The municipality's obligations<sup>55</sup> to keep town ways "safe and convenient" includes the duty to remove roadside brush, trees and grass that could pose a road safety problem. Uncontrolled brush can limit sight distances and in some cases may intrude onto the travel way itself.

State law authorizes the removal of shrubbery and bushes growing within the limits of the town way,<sup>56</sup> but specifically excludes from this authority the removal of shrubbery and trees planted for profit (such as an apple orchard) or ornamental and "public shade trees." Therefore, these should not be cut unless they pose a safety threat to the traveling public or pedestrians, or hamper the municipality's ability to repair and maintain the road. Public shade trees are defined and protected by the provisions of State law.

The law governing municipal affairs authorizes the municipality to initially remove roadside brush and requires abutting landowners who have "cultivated or mowing fields" to thereafter remove brush from the adjoining roadside by October 1<sup>st</sup> of each year; removal of brush from all other roadside land is the responsibility of the municipality. If the abutter fails to timely cut roadside brush, the municipality may do so and may impose a lien on the land for the actual expense of this work. This law is a throwback to the days when road repairs and maintenance were done by abutters. We recommend against using this lien method, however, as it raises constitutional issues of due process and equal protection.

One common question is, who is entitled to keep usable wood (such as hardwood) resulting from brush cutting within the road right-of-way? Generally, this wood belongs to the abutting landowner, since abutters own to the centerline of most roads in Maine. However, if the municipality owns the fee simple to the road, then any wood or other usable items belong to the municipality (the question of ownership is discussed further in Chapter 1). We recommend that usable wood be left behind for the landowner, unless that person has agreed to let the municipality take it.

Another source of questions is the removal of trees in the right of way. The municipality may at its expense remove healthy or dead trees located within the right of way if they pose a safety hazard to the traveling public or impede the municipality's ability to maintain the road. If a tree is located in the right of way but is not (in the determination of the municipal officers or road commissioner) a safety hazard, then the municipality is under no duty to remove it, even if the abutter requests removal. If the reason for removing the tree is to protect an abutter's house or property, rather than the traveling public, then the abutter

should pay the costs of removal. Trees located outside the road right of way should not be removed by the municipality without the landowner's permission. The municipality may cut any limbs in the air or roots on the ground that intrude into the right of way, even if the trunk of the tree is outside the right of way.

### **Spraying**

The Maine Department of Transportation often sprays herbicides to control brush along State roads. A municipality can enter into a "no spray" agreement with MaineDOT for land within its borders, and individual landowners can do so as well<sup>60</sup> (7 M.R.S.A. § 625). In both cases, the municipality and the landowner are responsible for removing roadside brush in areas that would otherwise have been sprayed. Under its home rule powers, a municipality also may adopt an ordinance governing the use of pesticides within its borders, and even prohibiting the spraying of pesticides.

Municipalities may spray along their own roads, but the "no spray" arrangement should be offered to abutting landowners. Sample "no spray" agreements are included in Appendix K; those samples pertain to state roads but can be modified for local roads.

# Municipal Ownership of Roads and Types of Roads

## Municipal Ownership of Roads

Questions often arise about who "owns" a road or the land on which a road sits. As pertains to municipalities, the law does not use the term "ownership," rather, it looks at the municipality's legal title or legal interest in the road. Municipalities will have either a *fee simple interest* or an *easement interest*.<sup>1</sup>

**Fee Simple Interest.** A fee simple interest is an absolute and unqualified interest in the land. At common law, this interest extends infinitely both above and below the surface of the earth, and includes mineral rights. The owner of a fee simple interest can use the land for any lawful purpose.

All roads accepted or taken by a municipality after December 31, 1976 are held in fee simple interest, unless the acceptance, deed or order of condemnation states otherwise.<sup>2</sup>

→ **Easement Interest.** An easement interest is much more limited than a fee simple interest. An easement is the right to use land owned by someone else for a specified purpose. In the case of roads, the easement allows the public to travel over land owned by someone other than the municipality.

Most municipal roads in Maine "rest on" an easement interest rather than a fee simple interest. This is because most municipal roads are held as easements over property. Some roads accepted or taken before January 1, 1977 may be held in fee simple, but this must be stated clearly in the deed or other document by which the municipality obtained the property.<sup>3</sup>

In some cases, municipalities own the fee interest in ancient roads and so-called "rangeways" that were established by grants of land from the English monarchy to the colonial proprietors of early Maine settlements. (In rare instances, the municipality may own the fee interest in the land beneath the road (e.g., through tax lien foreclosure); however, this does not necessarily mean that the road over such land is a town way unless the land has been accepted for road purposes.)

Because a municipality can accept an easement interest in a road rather than the entire fee to the road, the road so created may not include utility rights. Therefore, the deed conveying the easement and the warrant article accepting the conveyance should include those utility rights expressly.<sup>4</sup> The owner of an easement or right-of-way interest created by deed executed on or after January 1, 1990 that does not expressly reserve the right to install utility services will not have that right by implication.

**Teresa**

**From:**  
**Sent:**  
**To:**  
**Subject:**

Moosmann, Robert [Robert.Moosmann@maine.gov]  
Monday, August 24, 2015 11:21 AM  
Coughlan, Peter; Laberge, Michael; Teresa  
RE: Ditching Responsibilities, Readfield

Hi all:

I agree with Pete on this issue. Weeds, poisonous plants, and invasive plants typically are not a threat to the travelling public unless they interfere with sight distance or present a health risk to transportation workers. We may take action in those circumstances. However, when sight distance from a driveway is an issue we encourage landowners to deal with the issue themselves when feasible.

Bob

-----Original Message-----

From: Coughlan, Peter  
Sent: Friday, August 21, 2015 3:32 PM  
To: Laberge, Michael; Teresa  
Cc: Moosmann, Robert  
Subject: RE: Ditching Responsibilities, Readfield

Mike & Teresa,  
Part of the answer here is what is the town's r/w width here and is the ditch in our out of the town r/w?  
Assuming it is inside, then the town has an easement to keep the road "safe & convenient" for travellers and ensure that the structural aspect of the road is kept intact by having good drainage of the road through ditches, culverts, etc. I'm not sure why the town ditched the road but not in front of his place but if the town felt that the drainage was fine, there is no obligation for them to keep going just because he "wants" it ditched or there are weeds there. It's not really an issue here of who "owns" the road/ditch, but rather who has maintenance authority and what they decide is needed for proper road/ditch maintenance. In other words, if drainage is fine and he simply does not like the weeds, then he really should take care of them as Coop Ext suggested. And he cannot fill in the ditch or interfere with drainage of the road per state statute in Title 23.

Bob....any comment here as the "vegetation guy"?

pete

Peter M. Coughlan, P.E.  
Director, Maine Local Roads Center (LTAP) MaineDOT, Community Services Division Station 16,  
24 Child St.  
Augusta ME 04333-0016  
Phone: 207/624-3266  
FAX: 207/624-3301  
peter.coughlan@maine.gov  
<http://www.maine.gov/mdot/csd/mlrc/>

MaineDOT is now on Facebook! <http://www.facebook.com/MaineDOT>

# **14. Interlocal Agreement**

Signature  
ORIGINAL

## INTERLOCAL AGREEMENT Section I: Introduction and Purpose

This Agreement is made by and among the Towns of Readfield and Wayne, and the Maranacook Regional School Unit #38 ("RSU #38") (collectively called the "Member Subdivisions"), in accordance with 30-A M.R.S.A. §§2201-2207. Each Member Subdivision is a political subdivision as defined in 30-A M.R.S.A. §2252 and each is located in the County of Kennebec, State of Maine.

WHEREAS, the original purpose of this Agreement was to effectively utilize the grant from the Maine Bond Bank, the continuing purpose is to explore and implement cost saving and cost sharing measures; and

WHEREAS, the activities of roadside mowing and the storage of calcium for use in treating secondary roads lend themselves to a sharing agreement among the Member Subdivisions; and

WHEREAS, the Member Subdivisions are interested in investigating additional shared services which could be covered by this Agreement in the future;

NOW, THEREFORE, in consideration of the mutual covenants and promises contained herein, the Member Subdivisions enter into this Agreement to set forth the terms and conditions for the provision of certain shared services.

## Section II: Organizational Structure

1. It is hereby established and created an advisory body consisting of a Shared Services Regional Committee (the "Committee"). The Committee shall provide planning and oversight of the services provided for under this Agreement and shall serve in an advisory capacity to the Member Subdivisions.
2. Serving on the Committee shall be a Select Board member and Town Manager from each municipal Member Subdivision, the Superintendent of RSU #38 or his/her designee, and one representative from RSU#38. Each Select Board shall choose one of its members to serve on the Committee in any given year. The RSU #38 School Board shall choose a representative to serve on the Committee in any given year.
3. Meetings: The Committee may choose to meet when necessary upon initiation by any Member Subdivision. Among other business, the Committee meetings shall include a discussion of potential new ways to regionalize services and enjoy cost savings as a result. Any ideas arising from this discussion shall form the basis of recommendations the Committee shall make to the Member Subdivisions for possible amendments to this Agreement.



4. Delegation of Authority: The legislative bodies of the Member Subdivisions delegate the authority to approve amendments to this Agreement to their Select Boards or, in the case of RSU #38, the RSU #38 School Board.
5. Quorum/Vacancy: A vacancy on the Committee shall not impair the rights of the remaining members to exercise all of the powers described herein. Any vacancy notwithstanding, so long as a quorum of the existing Committee members is present at a meeting, the Committee may conduct official business by majority vote. A quorum shall be a minimum of three Committee members, with at least one representative from each member subdivision
6. The Readfield Town Manager will be responsible for coordinating the shared services provided under this Agreement, shall serve in an advisory capacity to the Member Subdivisions as a member of the Committee, and shall consider ideas from the other member subdivisions.

### **Section III: Duties**

Except as otherwise provided or limited herein, the Committee shall have the following duties:

1. to promote cooperative arrangements and coordinated action among Member Subdivisions;
2. to recommend a budget and approve the prorated charges for Member Subdivisions;
3. to recommend appropriations and expenditures in furtherance of the purposes of the Agreement;
4. to recommend establishing reserve funds for improvements and furtherance of the purposes of this Agreement;
5. to enact and enforce any and all necessary and desirable rules and regulations for the orderly conduct of the activities of this Agreement and for the carrying out of the purposes of this Agreement;
6. to delegate practical day-to-day management of operations and equipment maintenance to the respective members providing any available services, with such management to be undertaken in keeping with the provisions of this Agreement and instructions from the Committee;
7. to recommend contracts with other persons, corporations, municipalities, and organizations as may be necessary;
8. to recommend applying for, negotiating for and receiving loans and grants for replacement of existing equipment;
9. to assist with applications for all local, state and federal permits or licenses necessary to serve its purpose; and
10. to do any or all other things necessary or incidental to accomplish the purposes of this Agreement.

The above duties shall be exercised by the Committee subject to the oversight and review of the officers of the Member Subdivisions, which oversight shall be exercised as deemed necessary by said officers. The officers of the Member Subdivisions shall retain ultimate control and authority over the exercise of the above duties of the Committee.

#### **Section IV: Finances and Contributions**

1. **Budget:** The Committee shall recommend an annual budget for each fiscal year of this Agreement, itemizing revenues and expenses. Before adopting the budget, the Committee shall make copies of the draft budget available for review and comment by the officers of the Member Subdivisions.
2. **Grant:** Through efforts of the Member Subdivisions, grant funds initially were made available through the Maine Bond Bank to assist in cost sharing/saving measures. Existing budget lines in all current Member Subdivision budgets shall fund this Agreement in each fiscal year. Ongoing usage of the equipment purchased through the grant and any other equipment purchased for this Agreement shall cost each Member Subdivision an amount calculated based on usage.
3. **Storage of Roadside Mowing and Liquid Calcium Equipment:** Readfield agrees to provide storage in a secure location for the tractor, liquid calcium tank, and related equipment. RSU #38 shall also provide an alternative maintenance service location for the tractor.
4. **Day-to-Day Operations:** The respective members with available services, through their employees, shall assume the day-to-day management responsibility of this Agreement. Such management shall be undertaken in accordance with this Agreement and with any instructions from the Committee and officers of the Member Subdivisions. Such management shall include, but is not limited to, coordination of labor, maintenance, repairs, usage of facilities/equipment, insurance, depreciation and the division of ongoing costs associated with the shared services contemplated by this Agreement.
5. **Ongoing Shared Costs and Fees:** The Member Subdivisions shall each be assessed for a share of identified costs on an "as used" basis, to be administered by the respective member providing the service.
  - A. With respect to use of the tractor for roadside mowing, a fee shall be assessed on a prorated basis for each Member Subdivision based on the number of hours the tractor is used for mowing by that Member Subdivision per job. The costs to be divided on this basis include the cost of operating labor, diesel, oil, and job-specific maintenance such as mower blade replacement. Annual costs for insurance, preventive maintenance, repairs and capital replacement costs will be assessed on a prorated basis for actual use by each member.

- B. With respect to the use of the calcium tank and base located at the Town of Readfield Transfer Station, costs shall be assessed on a prorated basis for each Member Subdivision based on the number of gallons of calcium used by that Member Subdivision per job. Annual costs to be divided on a prorated basis include the cost of maintenance, insurance, repairs and capital replacement.
- C. With respect to the use of the Town of Readfield's F550 truck (or other equipment provided by any Member Subdivision), costs shall be assessed on a prorated basis for each Member Subdivision based on the number of hours used by that Member Subdivision per job. Annual costs to be divided on a prorated basis include the cost of maintenance, insurance, repairs and capital replacement.
- D. With respect to the repairs of any equipment used as part of this Agreement, a cost shall be assessed on a prorated basis for each Member Subdivision based on the number of hours the equipment is used by that Member Subdivision per job.
6. Ownership: All equipment purchased initially in 2007 with the Maine Bond Bank grant shall be owned in the name of all of the remaining Member Subdivisions. This includes the tractor and attachments, plus the liquid calcium tank and base. The Committee may recommend further capital purchases, but the authority to agree to any further capital purchases will reside with each Member Subdivision. Any equipment purchased in the future with funds other than those from the original Maine Bond Bank grant shall be owned as determined by the Member Subdivisions and all information regarding new equipment shall be set forth in this Agreement as an amendment hereto, agreed to by the Select Boards and the School Board.

Member Subdivision Owned Equipment:	
A. John Deere 56HP Tractor	\$27741.00
B. KUHN 6'7 Cut Disc40 HP Mower	\$ 6259.00
C. Land Pride PD25 Post Hole Digger	\$ 1050.00
D. Land Pride LR2596 Landscape Rake	\$ 1350.00
E. Liquid Calcium tank and hook ups	\$ 1927.60
F. Calcium Tank Base	\$ 1417.00

### **Section V: Liability, Duration, Termination and Amendment**

1. Liability: Each Member Subdivision shall indemnify and hold harmless the other Member Subdivisions against any and all future claims, loss, damage, loss of services, expenses, actions and causes of actions of all kinds whatsoever

related to the use of equipment or the undertaking of shared services in accordance with this Agreement.

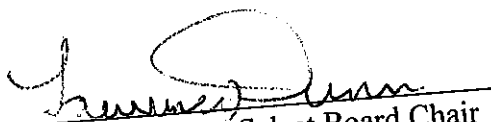
2. Duration: This Agreement shall remain in full force and effect, as of the effective date given below, for a term of five (5) years, which term is automatically renewable unless this Agreement is terminated.
3. Termination by Mutual Consent: This Agreement may be terminated by mutual written consent of all of the Member Subdivisions at any time. Consent for this purpose must be given by the legislative body of each Member Subdivision. Termination by mutual consent shall be effective on the date specified in a consent resolution.
4. Member Withdrawal: Upon vote of its legislative body, any Member Subdivision may withdraw from this Agreement by giving notice of withdrawal in writing to the other Member Subdivisions. The notice of withdrawal shall take effect following receipt of the written notice by the remaining Member Subdivisions. The withdrawal of a Member Subdivision shall not automatically result in the termination of this Agreement. Rather, this Agreement shall be amended to reflect the withdrawal of a Member Subdivision. Notwithstanding the foregoing, the following provisos shall apply:
  - A. If the Town of Readfield withdraws from this Agreement, this Agreement shall wholly terminate unless the remaining Member Subdivisions can assume the responsibilities of the Town of Readfield under this Agreement.
  - B. If RSU#38 withdraws from this Agreement, the Agreement shall wholly terminate unless the remaining Member Subdivisions can assume the responsibilities of RSU #38 under this Agreement.
5. If termination by mutual consent occurs, all equipment purchased under this Agreement shall be disposed of as follows:
  - A. All Member Subdivisions shall have the opportunity to bid on the equipment, with the equipment going to the highest bidder and the proceeds from the bid being distributed evenly among the remaining Member Subdivisions.
  - B. If none of the Member Subdivisions wish to purchase the equipment, the Committee shall solicit bids from the general public, sell the equipment to the highest bidder, and distribute the proceeds evenly among the Member Subdivisions.
6. If a Member Subdivision withdraws from this Agreement, the Member Subdivision shall not receive compensation for any portion of the value of


equipment purchased with the Maine Bond Bank grant. If other equipment was purchased in part with funds from the Member Subdivision, which funds were not Maine Bond Bank grant funds, the Member Subdivision shall be reimbursed for the amount the Member Subdivision contributed, less reasonable depreciation.


7. This Agreement contains all the terms of this Agreement between the parties, and may be amended by written addendum only, approved by the Select Boards of each Member Subdivision, and in the case of RSU #38, by the School Board.

(Note that the Town of Manchester withdrew from the original agreement signed in 2007, per a letter contained in a file with background materials and other related documents at the Readfield Town Office.)

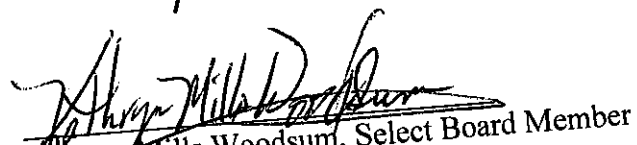
EFFECTIVE DATE for the Town of Readfield, per Select Board vote: January 28, 2013

  
Lawrence Dunn, Select Board Chair

  
Andrews Tolman, Select Board Vice-Chair

  
P. Greg Durgin, Select Board Member

  
Sue Reay, Select Board Member

  
Kathryn Mills Woodsum, Select Board Member

EFFECTIVE DATES for the Town of Wayne and Maranacook RSU #38 will be upon approval respectively by the Wayne Select Board and the Maranacook RSU #38 Board, with dated signature pages to be added to this Agreement.

# **15. Maranacook**

## **Dam**

September 2, 2015

To: Readfield Select Board  
From: Maranacook Lake Outlet Dam Committee

The MLODC has carefully reviewed the proposals submitted in June for the Maranacook Lake Dam Renovation Preliminary Engineering Study and unanimously recommends awarding the contract to GEI Consultants, Inc. for the amount of \$15,000. Readfield's share of the cost will be \$8,000.

The table below lists the five companies that submitted proposals in response to the May 21, 2015 RFP, along with their bid amount. All companies submitted the required hardcopy and electronic documents in time and all proposals were considered by the Committee.

Firm	Cost
MBP Consulting	\$19,600
GEI Consultants	\$15,000
Kleinschmidt Associates	\$13,506
James W. Sewall Company	\$11,106
A.E. Hodsdon Consulting Engineers	\$ 7,098

We recommend GEI Consultants as the best choice for the Preliminary Engineering Study for many reasons, several of which are summarized here:

- GEI has put together a team of highly qualified and experienced professionals. Together they will provide all of the expertise needed to satisfy the required services outlined in the RFP. MLODC ranked qualifications and experience very high in selecting a contractor, keeping in mind the mistakes that were made in the reconstruction of the Maranacook Lake Dam in 1995.
  - The Project Manager will be GEI's Dam Structural Designer Charles Grant. He is a Professional Engineer and a Structural Engineer specializing in dams, with many years of experience highly relevant to this project. His proposal indicates he has a good technical understanding of the Maranacook Dam and what needs to be considered in evaluating and selecting future dam modifications.
  - Northstar Hydro, Inc.'s Ellen O'Brien and Nicole Buck will be the hydraulics and hydrology consultants. They are both Professional Engineers and are the team that developed the hydraulic and hydrologic models for the Maranacook Lake Dam and watershed for the MLODC earlier this year under contract with Readfield and Winthrop. Obviously they are very well qualified to satisfy the RFP requirement that these models be used to evaluate the dam design options.
  - Main-Land Development Consultants, Robert Berry and Timothy Gallant, will provide the surveying services required for areas downstream of the dam. Timothy Gallant of Main-Land was the lead surveyor of the Maranacook Lake Dam in the fall of 2014 for the Maranacook water modeling project mentioned above.

- GEI's proposal is within our original budget of \$15,000, and both Towns have appropriated the shares necessary to afford the \$15,000 budgeted.
- GEI's proposal is very comprehensive and clear about the design objectives and scope of work. The proposal shows an understanding of the unique complexities of this dam and watershed.
- GEI's proposal is very strong with respect to process, in both the technical approach and communication with the MLODC. The Contractor will meet with the Committee twice during the process – first to explore a broad range of options and decide upon four potentially feasible options to analyze in detail, and a later meeting to review those results and narrow down the options to two for further design and cost analysis.
- GEI's proposal was selected as the best by Robert Mohlar, an Environmental Engineer at DEP and a resident of Readfield who has provided the Committee with technical advice for the past two years. After the Committee made a preliminary decision that GEI was number one, Rob reviewed our top three proposals without knowing what we had selected. This increased our confidence in our selection.
- After a final review today, MLODC, remains highly confident that the GEI proposal is the right choice to give us the best product for our money.

The MLODC respectfully requests your approval.

Wendy Dennis  
 Maranacook Lake Outlet Dam Committee Chair  
[cwg@fairpoint.net](mailto:cwd@fairpoint.net)  
 207-377-7111



June 11, 2015  
Proposal No. 610011

Maranacook Lake Outlet Dam Committee  
c/o Town Manager  
Winthrop Town Office  
17 Highland Avenue  
Winthrop, ME 04364

Dear Members of the Committee:

**Re: PROPOSAL, Maranacook Lake Dam Renovation Preliminary Engineering Study  
Submitted in Response to RFP Dated May 21, 2015  
Winthrop, Maine**

This letter presents our proposal for a preliminary engineering study of potential structural and hydraulic modifications to the Maranacook Lake Outlet Dam in Winthrop, Maine. This proposal is submitted by the following team:

- GEI Consultants, Inc. - Dam Structural Designer (Charles B. Grant, P.E., S.E.)
- Northstar Hydro, Inc. - Hydraulics & Hydrology Consultant (Ellen K. O'Brien, P.E.)
- Main-Land Development Consultants, Inc. - Surveyor (Robert L. Berry III, P.E.)

GEI Consultants, Inc. will act as the prime contractor.

### **Background**

The Maranacook Lake Outlet Dam is a concrete gravity dam located in Winthrop, Maine. It was reconstructed in 1995, replacing an old mill dam at the same location. The dam impounds Maranacook Lake in Readfield and Winthrop, Maine, with a surface area of approximately 1,700 acres, and discharges into Mill Stream.

The dam is approximately 10 feet high at the maximum section, and extends about 65 feet between abutments. The left-most third of the dam is a gate structure with a single hand-operated rectangular lift gate and two small outlet pipes. The middle third of the dam is an uncontrolled broad-crested concrete weir. The right-most third of the dam is a small concrete sill on shallow rock with provisions for stoplogs, although the stoplogs are not used. A large concrete pier separates the right-most and the middle thirds of the dam.

The dam in its current configuration cannot discharge a sufficient amount of water to maintain acceptable headwater elevations in Maranacook Lake. The water is typically higher than the target elevations, despite the fact that the lift gate is left fully open. Additionally, flow through the existing lift gate causes excessive erosion of the streambank below the left abutment. A hydrologic study by Northstar Hydro, Inc., completed in February 2015, modeled flow through the Maranacook Lake

watershed, evaluated the hydraulic capacity of the existing dam and the Bowdoin Street bridge (located immediately upstream of the dam), and provided preliminary analysis of possible dam modifications.

We propose to perform this Preliminary Engineering Study to assist the Committee and the towns in selecting a course of action involving structural and hydraulic modifications to the Maranacook Lake Outlet Dam to provide the ability to regulate the headwater elevation in Maranacook Lake to acceptable levels on a year-round basis.

### Design Objectives & Scope of Work

The proposed design objectives for the modification of the Maranacook Lake Outlet Dam are:

- Provide the ability to regulate the headwater elevation.
- Maintain the ability to safely pass large floods.
- Meet requirements for dam safety and stability.
- Prevent streambank erosion.
- Address the issue of leaves and debris clogging the outlet works.
- Provide the ability to meet minimum flow requirements.
- Be easy and economical to operate and maintain.
- Be readily constructible within a reasonable budget.

The engineering study team proposes to perform the following scope of work:

1. Review background material, gather relevant documents, and identify and resolve any requirements for additional information.
2. Meet with the Committee to explore the full range of potentially feasible dam modification options, including enlargement or modification of the existing lift gate, modification of the existing uncontrolled broad-crested weir or stoplog sill, installation of one or more new gates, and other alternatives. Considerations may include:
  - The concrete of the existing gate structure is in a deteriorated condition. Replacement of the gate structure with a new concrete non-overflow section would obviate the need for repairs in the near future. Alternatively, a new, larger gate structure could be built at the same location, which would similarly address the issue of the deteriorating concrete.
  - If the selected modification option includes a service gate or spillway at the left side of the dam (whether the existing gate or a new structure), erosion control measures will have to be provided on the streambank below the left abutment. These measures may include a concrete training wall, engineered rip-rap, stone gabions, or other devices.
  - The sill at the right side of the dam is on shallow rock. Any modification of this portion of the dam to increase discharge would involve rock excavation or blasting.
  - The center portion of the dam coincides with the deepest portion of the stream channel, and potentially provides the greatest potential for increasing the discharge capacity.
  - There is currently no electric power at the dam; all of the gates are hand-operated. Modification options that involve hydraulically or pneumatically operated gates would require the installation of electric power, with additional costs for operations and maintenance.

The outcome of this meeting will be the selection of four (4) potentially feasible dam modification options for formal engineering evaluation.

3. Perform an optical field survey of the Main Street bridge over Mill Stream and the dam at the Winthrop Commerce Center building. The results of this survey will be a key input to the subsequent refinement of the hydrologic models.

4. Perform hydraulic, hydrologic, and other engineering studies to determine the extent to which the selected potentially feasible dam modification options will achieve the design objectives. The hydraulic and hydrological analyses will be performed by refining the existing Northstar Hydro models to include the new downstream survey information and the geometry of the proposed modifications. Specifically, up to four (4) dam modification options will be coded into the hydraulic model HECRAS. The model will be modified to account for information gathered about the Commerce Center Dam. The newest version of HECRAS, version 5.0, will be employed for model runs. For selected options, this version of HECRAS allows unsteady (time varying) flow to be simulated through the dam and can account for storage above the dam. Variable gate operations can also be simulated. HECRAS model results will provide rating curves for input to hydrologic model HECHMS. For up to four (4) options, HECHMS will be used to simulate up to three (3) selected storm events. The storm events will be selected in consultation with the dam committee and can be historic events or theoretical events. Model results will include lake levels and duration of lake level rise. Starting lake elevations for model runs will be selected in consultation with CWD/dam committee.
5. Meet with the Committee to review the results of the analyses of the dam modification options. The outcome of this meeting will be the selection of two alternatives to be carried forward to preliminary design.
6. Prepare engineering drawings and construction cost estimates for the two selected alternatives.
7. Submit the following deliverables on or before November 13, 2015:
  - A surveyed site plan depicting the Main Street bridge over Mill Stream and the dam at the Winthrop Commerce Center building. (The site plan will be submitted upon completion of Task 3, above, well in advance of the November 13, 2015 date.)
  - A written report describing the full range of potentially feasible dam modification options identified, the four options selected for formal engineering evaluation, the results of the hydraulic, hydrologic, and other engineering studies, and the rationale for selecting the two alternatives advanced to preliminary design; providing the specific data from the hydrologic and hydraulic studies; summarizing the benefits, limitations, and expected construction costs for the two selected alternatives; and providing recommendations to the Committee regarding modifications to the dam.
  - Preliminary engineering drawings for the two selected final alternatives, including site plans, elevations, cross-sections, and relevant details to facilitate further evaluation and development of final engineering drawings.

To control costs and meet the objectives of the proposed preliminary engineering study within the limits of the budget stated below, the following items are excluded from the scope of work:

- Preparation of engineering drawings and construction cost estimates for more than two dam modification alternatives.
- Multiple iterations of preliminary studies, consideration of modification options, or refinement of analyses. The items in the Scope of Work, above, will be performed sequentially and in a single iteration.
- Evaluation of modifications to structures other than the Maranacook Lake Outlet Dam.
- More than two meetings with the engineering study team. (Meetings with the engineering study team are part of Tasks #2 & 5 in the Scope of Work, above.)
- Assistance with follow-on phases of design, permitting, or construction, except as provided for in a subsequent contract.

### Key Personnel

Resumes of key personnel are attached as Appendix A, and short biographies are provided below.

Mr. Charles B. Grant, P.E., S.E., of GEI Consultants, Inc., will be the lead designer and project manager for this project. Mr. Grant is a structural engineer specializing in dams and appurtenant structures, foundations, earth retention systems, water resources facilities, and industrial structures. With eleven years at GEI and a total of nineteen years' experience as an engineer, his areas of expertise include seismic analysis and design, stability analysis of dams, design of reinforced concrete, structural steel, and timber structures, structural and geotechnical finite element modeling, and construction management.

Ms. Ellen O'Brien P.E. of Northstar Hydro, Inc. will provide modeling support services to the project designer. Ms. O'Brien is a professional engineer specializing in hydrologic and hydraulic modeling. Ms. O'Brien has owned Northstar Hydro for over 20 years, working with clients to simulate flow at bridges, dams and other water conveyance structures. Northstar provided preliminary modeling services for this project, creating a hydrologic model of the Maranacook Lake Watershed and a hydraulic model of the dam and Bowdoin Street bridge at the project site.

Ms. Nicole Buck, P.E. of Northstar Hydro will also provide modeling services. Ms. Buck specializes in hydrologic modeling and incorporation of GIS based information into models. Ms. Buck created the hydrologic model of the Maranacook Lake Watershed. She joined Northstar Hydro this year after working with the Army Corps of Engineers and other consultants.

Mr. Robert L. Berry III, P.E. of Main-Land Development Consultants, Inc. in Livermore Falls, Maine, will be the primary contact at Main-Land for the field surveying portion of the project. Mr. Berry is the owner of Main-Land, Director of Engineering, and a site and stormwater engineer with 22 years of experience in Maine. Project work includes very small to Maine's largest site designs, municipal and development stormwater modelling, and other engineering design functions. Main-Land also performs professional land surveying services throughout the State of Maine.

Mr. Timothy Gallant, PLS of Main-Land will be the lead surveyor on this project. Mr. Gallant is the Director of Surveying and Mapping at Main-Land, leading a team of 4 surveyors. Mr. Gallant has 14 years' experience in the State of Maine surveying, and has surveyed half a dozen dams in the state, including the Maranacook Dam at the project site.

### Budget

We propose to perform this work for the Lump Sum Fee of \$15,000.

The work will be invoiced in two phases, as follows:

1. Following completion of Tasks 1, 2, & 3 in the Scope of Work, above, including the first meeting between the engineering study team and the Committee, and submittal of the surveyed site plan depicting the Main Street bridge over Mill Stream and the dam at the Winthrop Commerce Center building - \$7,000.
2. Following completion of all tasks in the Scope of Work, above, including the second meeting between the engineering study team and the Committee, and submittal of the written report and preliminary engineering drawings - \$8,000.

### Proposer Information

As required in the Request for Proposals, the following information is provided for each member of the engineering study team:

Name GEI Consultants, Inc.  
Place of Business: 400 Unicorn Park Drive, Woburn, MA 01801 (headquarters)  
Principals: See Appendix B.

Name Northstar Hydro, Inc.  
Place of Business: 8 Go Way, Winthrop, Maine 04364  
Principals: Ellen K. O'Brien, P.E.

Name Main-Land Development Consultants, Inc.  
Place of Business: PO Box Q, 42 Church Street, Livermore Falls, Maine 04254  
Principals: Robert L. Berry III, P.E.

"This Proposal is made without any connection with any other Proposer making any proposal for the same services, *except the members of the engineering study team identified herein.*"

"No person acting for or employed by either Town is directly or indirectly interested in the Proposal or any agreement which may be entered into to which the Proposal relates or in any portion of the profits therefrom."

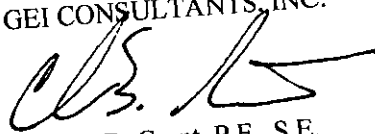
### Terms & Conditions

We propose to perform this work under the terms and conditions of the Exhibit 1 Services Agreement provided in the May 21, 2015 RFP, with the additional terms and conditions listed in Appendix C.

We appreciate the opportunity to submit this proposal and look forward to working with you on this project. Please call me at 781-721-4067 if you have any questions.

Sincerely,

GEI CONSULTANTS, INC.



Charles B. Grant, P.E., S.E.  
Project Manager

### Appendices

- Appendix A - Resumes of Key Personnel
- Appendix B - List of Principals, GEI Consultants, Inc.
- Appendix C - Additional Terms & Conditions of Services Agreement

**Appendix A**

**Resumes of Key Personnel**

Charles B. Grant, P.E., S.E., GEI Consultants, Inc.....	A.2 - A.7
Ellen K. O'Brien, P.E., Northstar Hydro, Inc. ....	A.8 - A.10
Nicole L. Buck, P.E., Northstar Hydro, Inc. ....	A.11 - A.12

**Charles B. Grant, P.E., S.E.**  
Project Manager

Mr. Grant is a structural engineer specializing in dams and appurtenant structures, foundations, earth retention systems, water resources facilities, and industrial structures. With eleven years at GEI and a total of nineteen years' experience as an engineer, his areas of expertise include seismic analysis and design, stability analysis of dams, design of reinforced concrete, structural steel, and timber structures, structural and geotechnical finite element modeling, and construction management.

PROJECT EXPERIENCE - DAMS

**Gravity Dam Stability Analysis, Guntersville Dam, Tennessee Valley Authority, Marshall County, AL.** Performed stability analyses of spillway, non-overflow, powerhouse, and lock sections of TVA Guntersville Dam in accordance with new TVA requirements based on FERC guidelines. Performed field investigations and laboratory testing to determine strength and stiffness properties of existing concrete and rock foundation materials. Investigated a variety of load cases, including normal pool, floods, earthquakes, and post-earthquake conditions. Performed all structural analyses using GT-STRUDL finite element analysis software. Seismic cases were evaluated using the response spectrum modal analysis procedure. Implemented limit equilibrium sliding stability analysis in SLOPE/W to account for non-planar section bases and dowel reinforcement of foundation.

**Harriman Intake Tower Linear Dynamic Seismic Analysis, TransCanada Hydro Northeast, Whitingham, VT.** Performed linear dynamic time history seismic analysis of existing (c. 1923) concrete intake tower. The analysis was performed in accordance with Corps of Engineers guidelines using SAP2000. The intake tower was subjected to three ground motion time histories scaled to the intensity of the design earthquake. The analysis indicated that the performance of the intake tower would be acceptable, obviating the need for an expensive seismic retrofit.

**Retaining Wall Stability Analysis, Comerford Dam, TransCanada Hydro Northeast, Monroe, NH.** Performed stability analyses of 170-foot-high concrete gravity East Retaining Wall to conform to current FERC guidelines. This wall, which retains the East Embankment adjacent to the concrete intake section, was designed c. 1929 under the direction of Dr. Karl Terzaghi. The wall performed satisfactorily for more than eighty years, but the cross-section is exceptionally narrow and would not be deemed to be suitable using conventional modern design assumptions. A sensitivity analysis was performed to examine the effect of various assumptions regarding earth pressure theory and the effectiveness of drains under normal pool, rapid drawdown, seismic, and post-earthquake conditions.

EDUCATION

M.S., Civil Engineering, University of Missouri, Rolla  
B.S., Civil Engineering, Bucknell University

EXPERIENCE IN THE INDUSTRY  
19 years

EXPERIENCE WITH GEI  
11 year(s)

REGISTRATIONS AND LICENSES  
Structural Engineer, IL No. 081.006927  
Structural Engineer, MA No. 49165  
Structural Engineer, HI No. 14443  
Professional Engineer, MA No. 47311  
Professional Engineer, MO No. 2001004595  
Professional Engineer, CA No. C 83788

**Canton Lake Dam Auxiliary Spillway, USACE - Tulsa District, Canton, OK.** Designed reinforced concrete anchored diaphragm walls for 50-foot-deep spillway channel at U.S. Army Corps of Engineers dam. Walls totaled 1,470 feet in length with a surface area of 76,000 square feet, and were designed to resist differential water pressures in a rapid drawdown scenario following the Probable Maximum Flood. Also designed secant pile cutoff wall across spillway channel to resist loads from 58 feet of downstream headcutting erosion.

**Ball Mountain Dam Intake Tower Seismic Analysis, Eagle Creek Renewable Energy, LLC, Jamaica, VT.** Performed response spectrum modal seismic analysis of existing (c. 1960) 288-foot-tall concrete intake tower. The analysis was performed in accordance with Corps of Engineers guidelines using SAP2000. The intake tower was analyzed to evaluate whether the proposed installation of two hydroelectric turbines in the base of the tower would compromise its performance in the design earthquake. The analysis indicated that the proposed work would not have a significant effect on the seismic behavior of the intake tower.

**Harriman Dam Surge Tank Linear Dynamic Seismic Analysis, TransCanada Hydro Northeast, Readsboro, VT.** Performed linear dynamic time history seismic analysis of existing (c. 1923) 200-foot-tall, 34-foot-diameter riveted steel surge tank. The analysis was performed in accordance with Corps of Engineers guidelines using SAP2000. The surge tank was subjected to three ground motion time histories scaled to the intensity of the design earthquake. The analysis indicated that the performance of the surge tank would be acceptable, obviating the need for an expensive seismic retrofit.

**Retaining Wall Stability Analysis, Moore Dam, TransCanada Hydro Northeast, NH &, VT.** Performed stability analyses of 140-foot-high concrete gravity North Retaining Wall to conform to current FERC guidelines. This wall, which retains the North Embankment adjacent to the concrete non-overflow section, was designed c. 1954 following guidelines prepared by Dr. Karl Terzaghi. The wall performed satisfactorily for nearly sixty years, but the cross-section is exceptionally narrow and would not be deemed to be suitable using conventional modern design assumptions. A sensitivity analysis was performed to examine the effect of various assumptions regarding earth pressure theory and the effectiveness of drains under normal pool, rapid drawdown, seismic, and post-earthquake conditions.

**Deerfield River FERC Part 12 Inspections, USGen New England, Inc., VT &, MA.** Assisted in the preparation of Federal Energy Regulatory Commission (FERC) Part 12D reports for four hydroelectric developments in the Deerfield River Project. Performed field inspections, participated in Potential Failure Modes Analysis (PFMA) workshop, and wrote and edited reports.

**Dam Periodic Inspections and Assessments, USACE - New England District, CT, NH, VT &, MA.** Performed structural inspections of Franklin Falls Dam, Union Village Dam, North Hartland Dam, and Ball Mountain Dam as part of the Corps' period inspection program. Inspected spillways, outlet structures, conduits, gates, control towers, and other appurtenant structures. Wrote inspection reports and made recommendations concerning dam safety repairs and maintenance requirements.

**Rueter-Hess Dam & Reservoir, Parker Water & Sanitation District, Douglas County, CO.** Designed 190-foot reinforced concrete intake tower for new earth embankment dam. Responsibilities included tower walls, deck, corbels, and gate supports. Designed 100-foot bridge pier and foundation. Implemented finite element analysis to design custom pipe connections for reservoir outlet works.

**Moore & Comerford Dams Seismic Stability Study, USGen New England, Inc., VT &, NH.** Conducted stability analysis of concrete gravity sections based on updated Probable Maximum Flood (PMF) elevation and seismic loads. Assisted in the analysis of earth embankment sections under revised PMF elevation.

**Norfolk Dams Remediation - Phase I, City of Norfolk, Suffolk, VA.** Assisted in design of elements of dam safety modification program, including micropile foundation for concrete intake tower and access bridge pier. Provided engineering assistance during construction. This project was awarded the ASDSO National Rehabilitation Project of the Year Award for 2009.



**Upper Sweetwater Falls Dam, Sweetwater Authority, Spring Valley, CA.** Performed structural evaluation of reinforced concrete valve house access stairway on downstream face of 600-foot-long, 220-foot-high arch dam. After determining that existing stairway was under-designed and failing, performed conceptual design analysis and prepared cost estimates for a new steel stairway.

**Ashmere Lake Dam Rehabilitation Design, Massachusetts Dept. of Conservation & Recreation, Hinsdale, MA.** Designed concrete spillway, bridge piers, foundations, training walls, gate structures, and outfall structures for dam rehabilitation and upgrade project. Performed stability analyses, structural design, and detailing; prepared drawings and specifications.

**Auglaize Hydroelectric Plant, City of Bryan Municipal Light & Water, Bryan, OH.** Conducted field inspection of deteriorated concrete structures at hydroelectric concrete gravity dam. Analyzed condition of structures and prepared recommendations for remedial work.

**Wildlife Sanctuary Dams - Audit, Evaluation, Rehabilitation & Removal, Massachusetts Audubon Society, Hopkinton, MA.** Designed intake structure for dam rehabilitation project. Supervised stability analyses, structural design, and detailing; prepared drawings and specifications.

**Thompson Falls Upstream Fish Passage Design, PPL Montana, Thompson Falls, MT.** Designed steel intake structure for a new fish passage project at a hydroelectric development on the Clark Fork River in northwest Montana. Performed finite element analysis using STAAD.Pro2007; designed and detailed intake in accordance with AISC guidelines. Reviewed design of reinforced concrete fish ladder.

**Deerfield River Seismic Stability Study, TransCanada Hydro Northeast, MA &, VT.** Analyzed existing (c. 1923) concrete intake tower and riveted steel surge tank for performance under seismic loading conditions. Researched construction materials and details, analyzed structures in accordance with Corps of Engineers guidelines, developed models to predict consequences of failure, and prepared conceptual designs and cost estimates to reinforce the structures.

**Kentucky Dam Seismic Analysis, Tennessee Valley Authority, Paducah, KY.** Performed seismic stability analysis of a 710-foot-long, 200-foot-high semi-gravity retaining wall supporting the main embankment of the longest dam on the Tennessee River. Seismic analysis considered deterministic ground motions associated with a magnitude 7.8 earthquake on the nearby New Madrid fault.

**Curtis Ponds Dam Assessment, Massachusetts Electric Co., Worcester, MA.** Performed field inspection of deteriorated concrete and masonry spillway and training wall structures associated with a small earth embankment dam. Prepared inspection report and developed repair procedures for undercut and eroded spillway training walls.

**Ithaca Dams Evaluation, CT Male Associates, PC, Ithaca, NY.** Performed peer review of gravity stability analyses and finite element analyses of a 60-foot-high gravity dam and a 30-foot-high arch dam owned by the city of Ithaca, New York. Evaluated the methods of analysis, assumptions, field investigations, and conclusions, and assessed the reviewed analyses for regulatory compliance.

**Upper Kapahi Dam Box Culvert & Wingwall Design, State of Hawaii, Kauai, HI.** Structural Engineer of Record for six-barrel reinforced concrete box culvert and wingwalls for highway passing over embankment dam crest. Design of box culvert and wingwalls was performed in accordance with Hawaii DOT design criteria and AASHTO LRFD Bridge Design Specifications (Fifth Ed.) for AASHTO HL-93 design vehicle load and unique conditions associated with dam crest location.

PROJECT EXPERIENCE - FOUNDATIONS

**DC Marriott Marquis Hotel, TREVIICOS Corporation, Washington, DC.** Designed drilled shaft foundations for \$520-million, 1200-room four-star hotel. Drilled shafts were proposed as a value engineering concept to replace load-bearing elements in the top-down construction sequence. A total of 148 5-foot- to 9-foot-diameter drilled shafts were drilled to depths of 140 feet. Concrete reinforcing and structural steel W14 columns were installed in the tremie-concreted shafts.

**Chicago Transit Authority Green Line, Hayward Baker, Inc., Chicago, IL.** Structural Engineer of Record for design of micropile foundations for CTA light rail station. Micropiles were accepted as a value engineering alternative to drilled shafts due to overhead clearance issues. Work included redesign of pile caps to accommodate unusual pile layouts required to avoid existing buried structures.

**Palos Community Hospital, Hayward Baker, Inc., Palos Heights, IL.** Structural Engineer of Record for design of micropile underpinning for column footings being removed to allow for adjacent excavation. Used innovative micropile arrangements to coordinate with proposed excavation support system, and designed non-standard pile caps to transfer column loads.

**Veterans Affairs Medical Center, Hayward Baker, Inc., Fayetteville, AR.** Designed micropile foundations to replace spread footings when unfavorable subsurface conditions were discovered during construction of an addition to a VA medical center. Twelve foundations for elevator shafts, retaining walls, and isolated columns required replacement with micropiles. Worked on a fast-track schedule to design micropiles, pile caps, and connection details to minimize schedule impact.

**Grain Silo Foundation Failure Investigation, Smith Amundsen LLC, Evansville, IN.** Investigated structural failure of 1,000,000-bushel grain silo concrete ringwall foundation. Documented field conditions, evaluated design and construction records, assessed significance of cracks, spalls, and other damage, developed hypotheses of potential failure mechanisms, and recommended remedial actions.

**Rockdale and West Middleton Substitute Transmission Line Tower Foundations, Sargent & Lundy, LLC, Dane County, WI.** Performed conceptual design of alternate foundation systems for new 345-kV transmission line towers. Alternate designs focused on micropiles and anchored mats in areas of difficult soil conditions or high bedrock. Additionally, reviewed traditional (caisson and direct embed) foundation designs with respect to strength and serviceability criteria.

**Printing Press Foundation Design, Saltus Press, Worcester, MA.** Engineer of Record for design of printing press foundations. Performed geotechnical analysis and structural design for mat foundation, including analysis of dynamic loading conditions.

**100 KW Wind Turbine, Solar Design Associates, Dorchester, MA.** Designed high-capacity caisson foundation for 150-foot-high wind turbine. Performed peer review of structural design of tubular steel tower and connections.

**Squantum Gardens Development, Menard USA, Quincy, MA.** Designed soil improvement system to support foundations of housing development constructed over soft marine clay and organic soils. Use of soil improvement instead of pile foundations resulted in significant time and cost savings for owner and contractor.

PROJECT EXPERIENCE - EXCAVATION SUPPORT

**City Creek Center Development, Nicholson Construction Company, Salt Lake City, UT.** Supervising engineer for fast-track design-build of excavation support systems for an urban redevelopment project. Work included more than 29,000 square feet of anchored diaphragm walls, 100,000 square feet of soil nail walls, and 860 linear feet of underpinning. Excavations were conducted immediately adjacent to and up to 65 feet below street grade and existing structures, including a 25-story office building supported on shallow foundations.

**EPIC Systems Campus Retaining Wall Design, Thornton Tomasetti, Verona, WI.** Designed concrete facing for 64-foot-high, 60,000 square foot permanent soil nail wall. Wall was constructed using soil nailing techniques and an innovative combination of passive soil nails and prestressed soil and rock anchors to accommodate unfavorable subsurface conditions. Temporary (down-stage) and permanent reinforced concrete wall facings were designed in accordance with structural design provisions of the International Building Code (IBC 2009).

**Trolley Square Garage Modifications, Nicholson Construction Company, Salt Lake City, UT.** Lead engineer for design-build of 32,000-square-foot soil nailed excavation support system for reconstruction of an underground parking garage. Project included innovative re-use of existing concrete walls as part of excavation support system.

PROJECT EXPERIENCE - OTHER

**Provo Temple Underpinning, The Church of Jesus Christ of Latter Day Saints, Provo, UT.** Designed underpinning to support 115-year-old brick masonry structure during excavation 40 feet below existing shallow foundations. Restoration of fire-damaged temple included construction of two stories of new below-grade space, requiring independent support of entire structure during excavation and construction of basement. Designed micropiles, needle beams, bracing, load-transfer brackets, construction sequencing, and performance monitoring system to ensure robust support of structure and minimize movement.

**Wolf Creek Generating Station, Bechtel & Nicholson Construction Co., Burlington, KS.** Designed permanent nuclear safety-related tangent pile retaining walls and non-safety-related temporary shoring as part of the Wolf Creek essential service water piping replacement project. Safety-related retaining walls included a total of 22 large-diameter rock-socketed drilled shafts with a cast-in-place concrete cap beam. The drilled shafts were installed from a barge in the cooling water reservoir adjacent to the operating pumphouse, and were designed to resist conventional earth retention and bulkhead wall loads as well as forces associated with tornado-generated missiles. Temporary shoring systems included secant piles, conventional timber-lagged soldier piles, soldier piles with shotcrete lagging, and combination systems to support excavations and protect adjacent structures.

**Floating Dock and Ramp System, The Gillette Company, South Boston, MA.** Designed new recreational dock structures on Boston's Fort Point Channel. Designed timber piles to support stationary platform, timber guide piles for floating platform, and landside concrete spread footings. Designed timber structures and developed specifications for manufactured components, including 60-foot-long aluminum gangway. Supervised preparation of construction documents; reviewed submittals and coordinated construction quality assurance.

**Seawall Repair, P&G Gillette, South Boston, MA.** Lead designer for repair for collapsed section of historic seawall on Boston's Fort Point Channel. Supervised field explorations, foundation design, stability analysis, preparation of construction documents, permitting, and construction services. Project included construction of foundation mat by tremie and use of dry-laid masonry for seawall.

**Electric Manhole Design, W.A. Chester, LLC, Boston, MA.** Engineer of Record for design of custom concrete vaults for upgrade of 345kV underground electric transmission lines. Configurations included cast-in-place and partially precast vaults, non-standard vaults to accommodate high bedrock elevations, rock anchorage designs, and vault covers subject to public highway traffic.

**Rigging Frame Design, W.A. Chester, LLC, Boston, MA.** Engineer of Record for design of custom rigging frame for upgrade of 345kV electric transmission lines. Portions of underground transmission line conduits were routed below an active highway overpass. Upgrade required pulling new cables through conduit at opening below overpass. Designed a steel rigging frame to support 30,000-pound cable pulling force and provide elevated working platform to splice cables.

**Geotech Damage Assessment, Halliwell Engineering Associates, Key West, FL.** Prepared conceptual designs, cost estimates, and construction schedules for repair and/or replacement of waterfront structures damaged by hurricanes.

**Moakley Courthouse Confidential Forensic Investigation, GSA Management Services Center, Boston, MA.** Conducted forensic investigation of causes and consequences of structural distress observed in recently-constructed federal courthouse on the Boston waterfront.

#### PUBLICATIONS

Linear Dynamic Seismic Analysis of Harriman Dam Intake Tower, Charles Grant, P.E., S.E., Sonia Swift, P.E., Gillian Gregory, Ph.D., P.E., and Jud Donaghy, ASDSO Dam Safety Conference, 9/15/2012.  
Case History - Performance Monitoring Success, Charles Grant, P.E., S.E. and Tom Hurley, Seventh International Conference on Case Histories in Geotechnical Engineering, 5/1/2013.

#### PROFESSIONAL ASSOCIATIONS

Earthquake Engineering Research Institute, Member  
American Society of Civil Engineers, Member  
Boston Society of Civil Engineers Section of the American Society of Civil Engineers, Member  
Society of American Military Engineers, Member  
American Institute of Steel Construction, Member  
American Concrete Institute, Member

# ***NORTHSTAR HYDRO, Inc.***

**Northstar Hydro, Inc.'s goal** is to provide *excellence in consulting engineering and scientific hydrology*. Northstar is a sole-proprietorship founded in 1994 by Ellen O'Brien, specializing in surface- and ground-water hydrology. With over 30 years of professional experience, Ms. O'Brien is licensed in engineering and geology, and has taught courses in hydrology at Bates College. Located in Winthrop, Maine, Northstar is certified as a DBE/WBE in Maine, Vermont, Massachusetts, Rhode Island, and New Hampshire. Prior to forming Northstar Hydro, Ms. O'Brien was associated with a small hydrogeologic and engineering consulting firm in Maine, and before that with DMJM Harris (now AECOM) in Boston, Mass.

Northstar Hydro has provided specialized expertise to engineers and planners in the field of hydrology and hydraulics. Northstar Hydro has provided hydrologic, hydraulic, and scour design services for bridge replacement projects in Maine, Massachusetts, Rhode Island and elsewhere. Northstar has performed many scour evaluations and inspections for existing bridges in Maine. For example, Northstar provided the hydraulic and scour analysis for the Martin's Point Bridge between Portland and Falmouth, Maine.

Northstar has provided design services associated with stormwater management on many roadway reconstruction and realignment projects in Maine such as Route 2 in Mexico/Dixfield, Route 2 in Bethel-Gilead, Route 201 in Farmingdale, and the Route 3 bypass and bridge in Augusta, as well as several projects in Massachusetts. Northstar Hydro completed a GIS based hydrologic model of the Saco River Basin for the University of New England.

Ms. O'Brien and Northstar Hydro have managed over 100 Flood Insurance Studies in Maine, Massachusetts and Rhode Island. Northstar has also worked on a number of studies involved in dam reconstruction or other dam related issues.

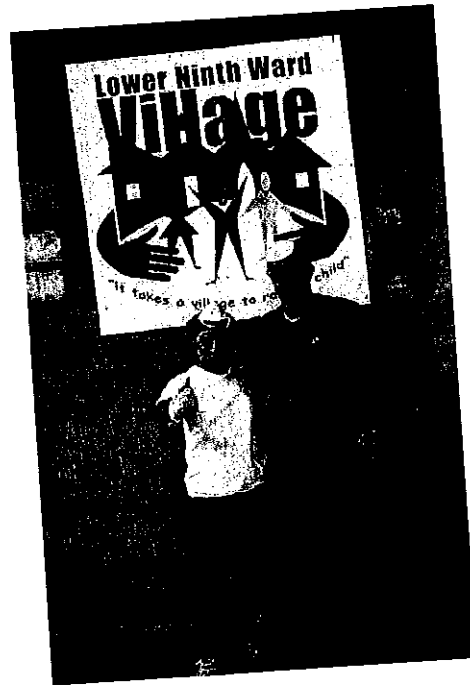
Subsurface hydrologic experience includes work on water supply development, contamination investigations, quarry operations, landfills, underground tanks and other hydrogeologic issues.

Modeling capabilities include 1- and 2-dimensional flow modeling, as well as GIS based modeling support. Professional services include: hydrologic systems analysis, coastal hydrology/hydraulics, riverine hydraulics, scour evaluations, surface water hydrology, ground water hydrology, stormwater management, erosion control, roadway and railroad drainage. Computer modeling experience includes two dimensional flow analysis using SMS – RMA2, hydrology models such as HEC-HMS, TR20, TR55, Hydrocad, riverine hydraulics – HECRAS, stormwater modeling with Hydraflow and GIS applications in water resources.

Recently Northstar Hydro has teamed with Nicole Buck Engineering based in Hartland, Vermont. Ms. Buck is a geologist and licensed engineer with over 15 years of experience specializing in hydrology and hydraulics. Ms. Buck has particular expertise in advanced hydrologic GIS applications and sediment transport. Prior to forming Nicole Buck Engineering, Ms. Buck performed technical research for the Army Corps of Engineers and was associated with several engineering consulting firms in Vermont and New Hampshire.

8 Go Way, Winthrop, Maine 04364 \* (207) 377-8043 \* Cell (207) 458-2997 \*  
email [ekobrien@northstarhydro.com](mailto:ekobrien@northstarhydro.com) \* [www.northstarhydro.com](http://www.northstarhydro.com)

ELLEN K. O'BRIEN, C.G. P.E.  
PROFESSIONAL PROFILE



8 Go Way, Winthrop, ME 04364. 207-458-2997. [ekobrien@fairpoint.net](mailto:ekobrien@fairpoint.net)

**Certifications**

Certified Geologist - State of Maine #245  
Professional Engineer - State of Maine #7945

**Education**

Northeastern University: M.S.C.E., Environmental Engineering/Water Resources, 1984  
University of New Hampshire: B.S., Hydrology, summa cum laude, 1976

**Employment History**

1994- Present. President, CEO, Northstar Hydro, Inc., Winthrop, Maine. Private Consultant specializing in engineering applications for surface-and ground-water hydrology and hydraulics of inland and coastal waters: anlysis and modelling - rivers, bridges, dams, stormwater, flooding. Responsible for all business operations, including marketing, book keeping, financial records, office management, client contact, registrations, etc. as well as professional services.

1987-1994. Project Manager/ Senior Hydrologist. Acheron Engineering Services, Winthrop, Maine. Responsible for surface- and ground-water hydrologic and hydraulic

investigations for various projects, including project oversight. Management of eleven coastal flood insurance studies in northern Maine involving hydrology and hydraulics of tidal systems. Other projects include dam investigations and hydrogeologic and contaminant investigations.

1982 -1986. Private Consultant, Hydrology, Mechanic Falls, Maine. As private consultant, conducted Flood Insurance Studies for inland and coastal systems, tidal flooding analyses for several proposed coastal developments, design review of stormwater management systems for several proposed coastal developments and numerous subdivisions and developments, dam investigations, water system evaluations, and hydrogeologic studies.

1979-1983. Hydrologist, Project Manager/Project Engineer, PRC Engineering/Frederic R. Harris, Boston, MA. Management of various water resources projects involving hydrology and hydraulics of freshwater and tidal systems, and their response to transient conditions, including the application of computer modeling techniques and all hydrologic/hydraulic analyses for water resources department.

#### **Teaching Experience**

1987-1992. Bates College, Lewiston, Maine, Lecturer, Geology Department - Courses included Surface Water Hydrology and Ground Water Hydrology.

#### **Computer Modeling Experience**

Arview GIS, HECRAS, HECHMS, TR55, TR20, Hydrocad, RMA2, BOSS SMS, 2-d coastal models on Stormsurge and Northeaster/Hurricanes

#### **Affiliations**

American Society of Civil Engineers, and Maine ASCE Board of Directors (2008-present), President Elect  
Geological Society of Maine  
American Institute of Hydrology

#### **Public Service**

Theater at Monmouth, Board of Directors, 2006 to present  
Board of Education, 1996-2006, Chair 2001, 2002, 2005, 2006, Winthrop, Maine  
Lower Ninth Ward, New Orleans, 2007, Coordinated group of 26 volunteers from central Maine to work on recovery efforts  
Saint Bernard Project, October 2006, St. Bernard Parish, New Orleans, LA, gutting houses  
American Lung Association, Trek Across Maine, 180 mile, 3-day bike ride, 18 year vet

PO Box 377, Hartland, VT 05048  
(802) 436-1060  
[nbuckengineering@gmail.com](mailto:nbuckengineering@gmail.com)

### **Certifications**

Professional Engineer - State of Vermont #88850

### **Education**

Dartmouth College: M.S. Earth Sciences, specializing in Hydrology and Geomorphology, 2008.  
Bucknell University: B.S. Civil Engineering, cum laude, 1998.  
Bucknell University: B.A. Environmental Geology, cum laude, 1998.

### **Employment History**

2014 – Present: Nicole Buck Engineering, PLC, Sole Proprietor, Hartland, Vermont. Private consultant specializing hydrologic and hydraulic studies for engineering applications. Services include hydrologic GIS analysis; model development of river channels, dams, and bridges; and drainage analysis. Responsible for all business management activities.

2012 – Present: Dartmouth College, Emergency Management Coordinator (part-time), Hanover, New Hampshire. Coordinate emergency response planning and preparedness for the College.

2009 – 2012: US Army Corps of Engineers, Cold Regions Research and Engineering Laboratory, Hanover, New Hampshire. Research Engineer studying the effects of moisture and biopolymers on the entrainment of poorly graded sands and silts and worked toward the development of a fundamental eolian sediment transport equation; the impact of high-speed vehicle maneuvers on loose-surfaces and the dynamic relationship between surface conditions, particle motion, and vehicle mobility; and the effectiveness of a GIS-based geomorphic decision tree model in predicting near-surface geologic materials.

2006 – 2008: Dartmouth College, Research Assistant, Hanover, New Hampshire. Researched the vertical structure of turbulent high-density silt suspensions under steady state conditions in an oval race-track flume in an effort to further the understanding of rivers, lakes, and coastal regions during episodic floods, storm surges, and spring tides.

2006: Bruno Associates, Engineer, Woodstock, Vermont. Determined the effects of site development on local drainage areas and watersheds including designing and permitting drainage systems using multiple hydrologic models.



2001 – 2005: Resource Systems Group, Inc., Project Associate, White River Junction, Vermont.  
Managed small and large scale transportation planning and traffic operations projects.  
Conducted site investigations, performed data analysis, recommended transportation improvements to private and public clients, and developed mathematical models of regional (county based) traffic flow.

2000 – 2001: Pathways Consulting/T&M Associates, Engineer, Lebanon, New Hampshire.  
Designed site plans, drainage, sewer, water, and remedial systems and performed hydrologic and environmental analysis for design purposes.

1998 – 2000: Environmental Strategies Corporation, Engineer/Geologist, Reston, Virginia.  
Designed and oversaw soil and groundwater remediation projects including dual and soil vapor extraction, bio-venting systems, barrier walls, and wastewater treatment systems.

### **Computer Modeling Experience**

ArcGIS, Quantum GIS, HEC-RAS, HEC-HMS, TR-55, TR-20, PondPack, AutoCAD, Matlab, and TransCAD.

### **Publications**

Haehnel, R., Buck, N., Song, A. (2013) *Moisture effects on eolian particle entrainment*. Journal of Environmental Fluid Mechanics.

Buck, N., Shoop, S. and Cary, T. (2012) *Initial Effects of Heavy Vehicle Trafficking on Vegetated Soils*. USA ERDC-CRREL Report (TR-12-6).

Buck, N., Shoop, S. and Coutermarsh, B. (2010) *Loose surface vehicle-terrain dynamics during high-speed maneuvers*. USA ERDC-CRREL Report (TR-16149).

Shoop, S., Cary, T., Barna, L., Buck, N., Howard, H. (2010) *Experimental Program for the assessment of vegetation effects on soil strength and trafficability*. Conference Paper: ISTVS Sapporo, Japan Sept. 27-30, 2010.

Lawe, Stephen and Buck, Nicole, 2005; *Modeling Future Conditions Where Demand Far Exceeds Supply*, 10th TRB Transportation Planning Applications Conference Proceedings.

### **Affiliations**

American Geophysical Union

### **Community Service**

2001 – Present: Hartland Volunteer Fire Department, Lieutenant (former), Fire Prevention Officer, Safety Officer, Hazard Mitigation Coordinator, Hartland, Vermont.

2006-2007: Hartland Zoning Working Group, committee member, Hartland, Vermont.

2006: Ford Sayre Cross Country Ski Team, 2<sup>nd</sup> and 3<sup>rd</sup> grade coach, Hanover, New Hampshire.

## Appendix B

### List of Principals, GEI Consultants, Inc.

Naser Bateni, Sr. Principal, Sacramento  
William J. Bennett, Principal, Sacramento  
Giovanni A. Bonita, Principal, Washington  
Steven P. Canton, Sr. Principal, Denver  
Judith S. Eburn, Principal, Boston  
Joseph G. Engels, Principal, Boston  
Martin Fradua, Principal, Jericho  
Michael Gatzow, Principal, Iron River  
Ileen S. Gladstone, Sr. Principal, Boston  
Gillian N. Gregory, Principal, Boston  
Raymond D. Hart, Sr. Principal, Sacramento  
Michale Hawthorne, Principal, Fort Worth  
Frederick W. Johnson, Principal, Glastonbury  
Thomas W. Kahl, Sr. Principal, Boston  
Thomas O. Keller, Principal, Carlsbad  
Benjamin Lavon, Principal, Manhattan  
Francis D. Leathers, Sr. Principal, Boston  
Ronald P. Palmieri, Sr. Principal, Chicago  
Alberto Pujol Rius, Principal, Oakland  
William A. Rettberg, Sr. Principal, Oakland  
John A. Ripp, Sr. Principal, Glastonbury  
Marc Rozman, Principal, Glendale  
Stephen W. Verigin, Principal, Sacramento  
Michael P. Walker, Sr. Principal, Boston  
William H. Walton, Sr. Principal, Chicago  
Michael J. Wheeler, Principal, Green Bay  
Mark S. Williamson, Principal, Sacramento  
Ray L. Wooten, Principal, Boston  
Michael A. Yako, Principal, Boston

## Appendix C

### Additional Terms & Conditions of Services Agreement

**Indemnification.** To the fullest extent permitted by law, CONTRACTOR agrees to indemnify and hold TOWNS harmless from and against any liabilities, claims, damages, and costs (including reasonable attorney's fees) to the extent caused by the negligence or willful misconduct of CONTRACTOR in the performance of services under this Agreement.

**Performance Standards & Warranty.** CONTRACTOR will perform its services under this Agreement in a manner consistent with that degree of skill and care ordinarily exercised by members of CONTRACTOR'S profession currently practicing in the same locality under similar conditions. CONTRACTOR makes no other warranties or representations, either expressed or implied, regarding the services provided hereunder.

**Limitation of Liability.** To the fullest extent permitted by law, the total liability, in the aggregate, of CONTRACTOR and its officers, directors, employees, agents, and independent professional associates and consultants, and any of them, to TOWNS and any one claiming by, through or under TOWNS, for any and all injuries, claims, losses, expenses, or damages whatsoever arising out of or in any way related to CONTRACTOR'S services, the project or this Agreement, will not exceed the total compensation received by CONTRACTOR under this Agreement, or available proceeds from CONTRACTOR'S insurance, whichever is less. This limitation will apply regardless of legal theory, and includes but is not limited to claims or actions alleging negligence, errors, omissions, strict liability, breach of contract, breach of warranty of CONTRACTOR or its officers, directors, employees, agents or independent professional associates or consultants, or any of them. TOWNS further agree to require that all contractors and subcontractors agree that this limitation of CONTRACTOR'S liability extends to include any claims or actions that they might bring in any forum.

**Consequential Damages.** CONTRACTOR and TOWNS waive consequential damages, including but not limited to damages for loss of profits, loss of revenues, and loss of business or business opportunities, for claims, disputes or other matters in question arising out of or relating to this Agreement.

The first sentence of the final paragraph of the agreement is modified to read, "The TOWNS shall remit to the CONTRACTOR a payment of \$7,000 by the first warrant following satisfactory completion of Tasks 1 through 3 of the Scope of Work, and a payment of \$8,000 by the first warrant following satisfactory completion of all services."

The final sentence of the Agreement is modified to read, "The TOWNS reserve the right to withhold payment should it be determined that the CONTRACTOR has not performed the services required as stated in the REQUEST FOR PROPOSALS, provided, however, that the TOWNS will make any payment determined by the Courts of the State of Maine or alternate dispute resolution to be due to CONTRACTOR."

TOWNS hereby grant permission to CONTRACTOR to perform services described above, including permission to enter the premises, perform surveying, and to document our findings. Documentation includes but is not limited to: survey data gathering; field notes and sketches; photographs; and video recording. Excepting in cases of imminent hazard to the public safety, CONTRACTOR'S findings, documentation, and other information is strictly confidential.

TOWNS give CONTRACTOR permission to cut bushes, limbs and trees, as well as, remove other objects interfering with the gathering of necessary information and measurements. CONTRACTOR agrees not to unreasonably damage the property.

TOWNS authorize CONTRACTOR to contact all adjacent landowners for permission to enter their property as required by Maine law, and to solicit information regarding property boundaries in the area.

TOWNS or their agents shall not use stakes, nails, flagging or other markers set by CONTRACTOR for construction or any other purposes without first contacting CONTRACTOR in order to determine if such use is appropriate.

TOWNS understand and acknowledge that only iron rebar, iron pipes, drill holes and concrete/stone monuments mark boundaries and that wooden stakes, nails, flagging, etc. may not mark boundaries. Contact CONTRACTOR with questions regarding boundary markers.

# 16. Other

# **17. Public Communications**