



VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
**WATERSHED MANAGEMENT DIVISION**  
 LAKES & PONDS PROGRAM

### Individual Permit Application

For a **Lake Encroachment Permit** under

Chapter 11 of Title 29, § 401 *et seq.*



*For Lake Encroachment Permitting Use Only*  
 Application Number: **237-L2P**

Submission of this application constitutes notice that the person in Section B intends to encroach beyond the mean water level of a lake or pond, and certifies that the project will comply with Chapter 11 of Title 29, § 401 *et seq.* All information required on this form must be provided, and the requisite fees (Section I) must be submitted made payable to the State of Vermont, to be deemed complete.

#### A. Project Information

1. Physical Address (911 Address): 1051 Buck Lake Road	
2a. Town- County: Woodbury - Washington	2b. Zip: 05681
3. Span (School Parcel Account Number is required for your application to be deemed complete. It can be obtained from your property tax bill. If you cannot locate your property tax bill, please obtain this information from your Town Clerk)	780-248-10813
4. Name of Lake/Pond: Buck Lake - Woodbury	
5. Have you ever applied for a permit with the Department of Environmental Conservation associated with this parcel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

#### B. Applicant (Landowner if applicable) Contact Information

1. Name: Vermont Fish & Wildlife Department: Green Mountain Conservation Camp			
2a. Mailing Address: 1 National Life Drive, Davis 2			
2b. Town: Montpelier	2c. State: Vermont	2d. Zip: 05620	
3. Phone: 802-828-1460	4. Email: FWGMCC@vermont.gov		

#### C. Application Preparer Contact Information:

1. Name: Alison Thomas			
2a. Mailing Address: 1 National Life Drive, Davis 2			
2b. Town: Montpelier	2c. State: Vermont	2d. Zip: 05620	
3. Phone: 802-371-9975	4. Email: Alison.Thomas@vermont.gov		

#### D. Abutting Land Owners

Using the abutter addendum available on [dec.vermont.gov](http://dec.vermont.gov), attach a list of land owners who abut the proposed project.

#### E. Project Description

1. Describe the proposed project including the description of the materials and mechanical equipment which may be used during construction and the anticipated work schedule. Identify whether or not the project includes placement or removal of fill and if so, specify the number of cubic yards of fill or dredged materials to be placed or removed beyond the shoreline at mean water level.

Dry hydrant installation for fire department services at the new dining hall and education center. See attached documents regarding the dry hydrant location, design, and materials. The intake pipes will extend 60 feet, 40 feet extending in the water. There will be no fill removed or additional fill placed in the site, as the pipe is getting placed below the frost line. The fill will be replaced after digging.

3. Does the project propose removal of aquatic or shoreline vegetation? If so, what measures are proposed to reduce the effects of vegetation removal?

No - this is a beach area comprised of sand and silt that is currently a waterfront swimming area for campers attending the camp during the summer.

4. Describe the surrounding shoreline. Is the project consistent with these surroundings? What measures are proposed to ensure the project is in-keeping with the surroundings?

Aside from the beach-like shoreline that this project is in, the area around the beach is early succession woody shoreline vegetation (willows and alders) and emergent wetland plants. None of the plants areas will be disturbed for this project.

5. Will the project affect navigation, recreation, and other public uses? If so, how will these effects be minimized? No

**G. Applicant Certification**

As APPLICANT, I hereby certify that the statements presented on this application are true and accurate and recognize that by signing this application, I agree to complete all aspects of the project as authorized. I understand that failure to comply with the foregoing may result in violation of the Chapter 11 of Title 29, § 401 *et seq.*, and the Vermont Agency of Natural Resources may bring an enforcement action for violations of the Act pursuant to 10 V.S.A. chapter 201.

Applicant (landowner if applicable) Signature: Alison Thomas Date: 11/1/16

**I. Applicant Preparer Certification (if applicable)**

As APPLICATION PREPARER, I hereby certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Application Preparer Signature: N/A Date: \_\_\_\_\_

**J. Additional Required Documentation: (please check to ensure you have completed the following)**

- All sections of the application are complete or otherwise indicate "not applicable";
- Application includes site plans with aerial and cross section views;
- Application description includes dimensions and surface areas of cleared areas and impervious surfaces; and
- Application includes photos of project area.

## Schedule E - Adjoiner Information

Submit with the application a list of all adjoining landowners with mailing addresses. An "adjoiner" is a person or organization which owns or controls land or easements on lands which physically abut the tract or tracts of land on which your project is located. Be certain to include landowners on the opposite sides of highways, railways, and rivers. Also include homeowner associations, utility companies, and others with significant legal interest in the project land. It is very helpful if you indicate the location of each adjoiner on your site plan.

If you do not provide a list which is thorough and up-to-date, your application could be delayed because of improper notice distribution!

**Please note:** For lists which include more than 20 adjoining landowners, our administrative staff appreciates receiving the list on mailing labels to facilitate the notification process. Thank you.

ADJOINER NAME	ADDRESS	TOWN	STATE	ZIP
Donald E. and Gene P. Turgeon	Box 94	Woodbury	VT	05681
Patrick and Jill McCaffrey	2 Dover Street	South Burlington	VT	05403
Gordon Family Irrevocable Trust	15 Holly Lane	Mattapoissett	MA	02736
Nancy McAdam Gorden	15 Holly Lane	Mattapoissett	MA	02736
Stuart and Tanner Bagley Dillion Allaire	Box 266	Woodbury	VT	05681
Perry and Carol Hodgdon	215 Equine Lane	Randolph	VT	05060
Richard Jr. and Charlene Forant	Box 295	Hardwick	VT	05843-0295
121 Buck Lake Road, LLC	1190 Hopkins Road	Hardwick	VT	05843
Eric Michael Molleur	P.O. Box 75	Woodbury	VT	05681
Yvonne Smith	Box 758	Hardwick	VT	05843
Vermont Fish and Wildlife	Heritage Building	Montpelier	VT	05602
Roger and Michelle Dufresne	52 Plains Road	Fairfax	VT	05454
Bradley and Brenda Slayton	P.O. Box 11	Woodbury	VT	05681
E.B. Hyde Company	46 East State Street	Montpelier	VT	05602
Geraldine and Felix Callan	420 Sweet Road	Waterbury Center	VT	05677

Dry Hydrant Flow Worksheet

Town: Woodbury	Date: 4/20/16	Suction Hose: 6 in
Site: 2016 RFP New		Flow: 1155 gpm

USE WITH THE HANDOUT "DRY HYDRANTS & OTHER WATER SUPPLY INNOVATIONS"

ENTER DATA BELOW, REFER TO HANDOUT WHEN NEEDED

(4, 6, 8, 10, 12 INCH PIPE ONLY)

- 6 in= PIPE 1 size (SMALLEST)  
140 =C value (100, 120 or 140)
- 8 in= PIPE 2 size  
140 =C value (100, 120 or 140)
- 10 in= PIPE 3 size  
120 =C value (100, 120 or 140)
- 10 in= PIPE 4 size  
140 =C value (100, 120 or 140)

1155 gpm= design delivery rate

1323 ft= elevation

6 ft= static lift

75 dF= water temp(HIGHEST POSSIBLE)

80 ft= total length of PIPE 1

0 ft= total length of PIPE 2

0 ft= total length of PIPE 3

0 ft= total length of PIPE 4

5 ft= strainer loss (if PIPE 1 size)

0 ft= strainer loss (if PIPE 2 size)

0 ft= strainer loss (if PIPE 3 size)

0 ft= strainer loss (if PIPE 4 size)

none = reduction #1

none = reduction #2

none = reduction #3

none = reduction #4

6 = suction hose inside diameter

(4.5, 5, 6 INCH DIAMETER ONLY)

- PIPE 3
- 0 ## of 45d elbows
  - 0 ## of 90d standard elbows
  - 0 ## of 90d long turn elbows
  - 0 ## of tees or crosses
  - 0 ## of gate valves
  - 0 ## of butterfly valves
  - 0 ## of swing check valves

- PIPE 4
- 0 ## of 45d elbows
  - 0 ## of 90d standard elbows
  - 0 ## of 90d long turn elbows
  - 0 ## of tees or crosses
  - 0 ## of gate valves
  - 0 ## of butterfly valves
  - 0 ## of swing check valves

- PIPE 1
- 0 ## of 45d elbows
  - 2 ## of 90d standard elbows
  - 0 ## of 90d long turn elbows
  - 0 ## of tees or crosses
  - 0 ## of gate valves
  - 0 ## of butterfly valves
  - 0 ## of swing check valves

- PIPE 2
- 0 ## of 45d elbows
  - 0 ## of 90d standard elbows
  - 0 ## of 90d long turn elbows
  - 0 ## of tees or crosses
  - 0 ## of gate valves
  - 0 ## of butterfly valves
  - 0 ## of swing check valves

----- RESULTS -----  
 5.0635 PSIA PUMP PRESSURE Design is OK!  
 (5 psia or greater means system will work)  
 (inputs must be changed to make it a positive 5 psia value)



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Woodbury  
Buck Lake - Potential Dry Hydrant  
72°23'48.069"W 44°28'1.366"N



**Rural Fire Protection (RFP) Water Supply Site Assessment Form**  
(Revised 5/28/15)

Date: 4/20/16 Town: WOODSBURY County: WASH Fire Department: WOODSBURY  
 Site Name: BULK LAKE Site ID Number: WOODSBURY 2010 RFP PROGRAM  
 Approx. Access/Standpipe Location: SS MILL ROAD LN Long: -72°23'40" W Lat: 44°28'1" N  
 Property Owner/Address: STATE  
 Largest Fire Load/Flow within 1000ft: \_\_\_\_\_ 1.5mi radius: \_\_\_\_\_  
 Site Assessment Completed by: TRUY DARE Project: 2010 RFP PROGRAM  
 Needed Fire Flow (if known): 1000+ gpm Existing RWS Repair  Out of service Date: \_\_\_\_\_  
 Agreements (circle applicable - check when complete): Landowner  Grant  Other

**Water Source:** BULK  Lake  Pond  Wetland  River  Stream  Brook  
**Recommended System:** Dry Hydrant  Basin  Pressure (Wet)  Drafting   
**Type of Recharge:** stream  seep  spring  groundwater  river   
**Rate of Recharge:** Poor  Fair  Good  Excellent   
**Site Accessibility:** Asphalt  Dirt  Parking Area  Driveway  Other: \_\_\_\_\_  
**Depth of water where system intake will be located:** 6 ft ASSUMING 3' OF ICE  
**Lift @ NWL:** 5-6 ft **Horizontal Distance:** 60-70 ft **Elevation (approx.):** 1350 ft  
**Connection Information:** Hose:  4.5"  5"  6" Thread Size:  4.5"  5"  6"  Male  Female  Storz  
**Estimated Flow Rate of System (from New Hydrant Flow Spreadsheet):** 1150 gpm  
**Land-use:** Private Res  Recreation  Farm  Village  Other: \_\_\_\_\_

**Water Source Information & Calculations for fire purposes (estimate):**  
**Volume (static water bodies) = Surface Area x intake depth x 7.48gal/cf x (2/3)**  
**Surface Area:** \_\_\_\_\_ ft x \_\_\_\_\_ ft = 2 MILLION sf ( From GIS Software)  
**Volume: Area** 2M sf x (Intake depth 5 ft x 7.5 gcf x (0.67) ≈ 50 M gal  
 Volume in Winter months ≈ 10 M gal  
*Note: Thickness of ice must be deducted from the intake depth value for winter months volume. If not known at time of survey use 2ft.*

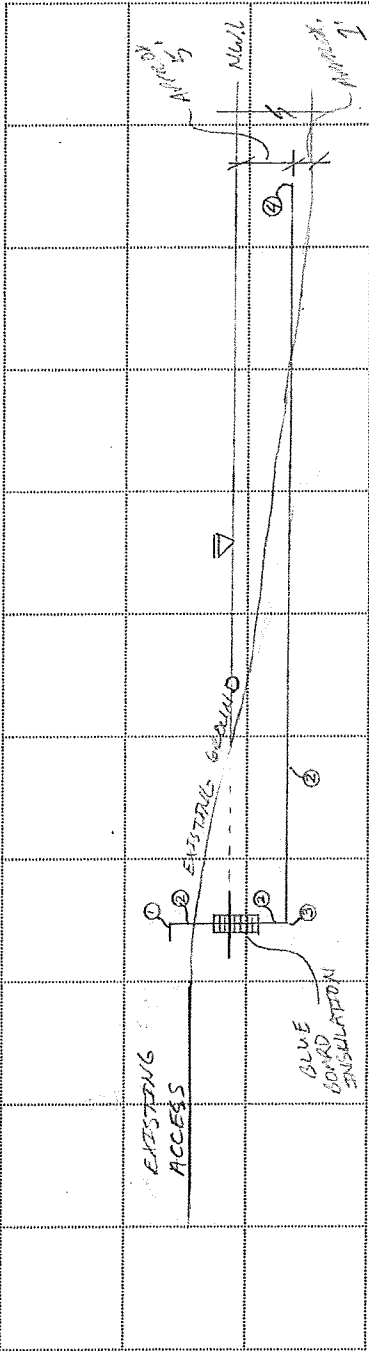
**Flow (flowing water bodies at time of survey) = Q = Area x Velocity (attach any survey or calc. sheets)**  
**Cross sectional Area** \_\_\_\_\_ sf x **Velocity** \_\_\_\_\_ f/s x (60sec/min) x (7.5gal/cf) = \_\_\_\_\_ gpm

**Permitting/Signoff Needed:** Permitting Applications and Contact Information: www.vtwaterquality.org  
 Stream Alteration/ Water Quality (State)  Lakes and Ponds (State)  Wetlands (State)  Army Corps (Federal) ?  
 Cultural Resources (Federal)  F&W Access (State)  
**Integrity:** Dist  Intact  Unknown  **Landform Slope:** ≈ 1%  
**Date Cultural Resources Review Completed (if applicable):** \_\_\_\_\_  
**Notes:** \_\_\_\_\_

**State Fish & Wildlife Access:** Approved  NOT Approved   
**F&W Concerns/Comments:** \_\_\_\_\_  
**F&W Rep: Name:** \_\_\_\_\_ **Title:** \_\_\_\_\_  
 Note: All RFP systems in VT State F&W Accesses must have a signed Memorandum Of Understanding (MOU) between the Town/FD before construction; and the RFP Technician must be present to assist and insure the system is installed as agreed upon.

**Field Notes:** INSULATE RISER

**Field Sketch:**  
 SEE GIS MAP & DESIGN



Scale: 1" = 10'

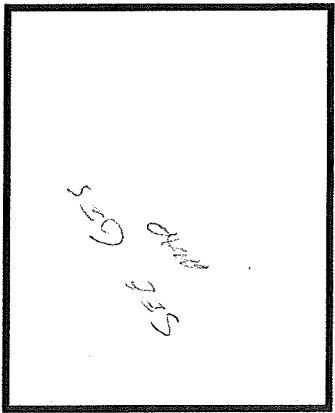
Dry hydrant installations on a river or stream should ALLWAYS: 1) Make sure the construction work is clean & neat. 2) If needed only use clean stone fill. 3) All exposed soil shall be seeded and mulched immediately upon project completion. 4) While working in shallow streams use a hay bale or sand bag cofferdam system. 5) In-stream construction is generally limited to June 1st to October 1st (and maybe more restrictive in specific streams). 6) Permitting is required for any in-stream work. Municipalities shall apply for the appropriate permit by contacting the Vermont ANR River Management Stream Alteration Engineer in your area.

**Bill Of Materials**

#	Description	No.	Unit	Unit Cost	Total
1	90° DH HEAD w/ 6" NH	1	EA	300.00	300.00
2	6" SCH 40 PVC PIPE	100	LF	7.00	700.00
3	6" SCH 40 PVC 90° ELBOW	1	EA	35.00	35.00
4	6" SCH 40 PVC HOXBENTAL STRAINER w/ GALFLUSH	1	EA	250.00	250.00
	6" SCH 40 PVC COUPLING	4	EA	15.00	60.00
	BLUE/PINK BOARD INSULATION	-	-	-	150.00
	LABOR	-	-	-	800.00
	Miscellaneous	-	-	-	500.00
	Excavation	12	HR	150.00	1800.00
	<b>Total</b>				<b>\$4,595.00</b>

**Notes**

- This design does NOT certify your rural water supply site for a 2% (50 year return period) drought condition. For the Insurance Services Office to give credit for this water supply it must meet the Suction Supply requirements of the Fire Suppression Rating Schedule as to accessibility, availability, needed fire flow, duration, pumper capacity and distances. The 2% drought volume must be determined by a Vermont registered/licensed professional engineer, hydrologist, or similarly qualified person.
- INSULATE PIPE AS SHOWN - SEE TIPS & RECOMMENDATIONS



Site Map  
Not To Scale

Design Flow (GPM): 1250

Approx. Water Volume:

Summer: 5000 GALLONS

Winter: 2.5 MILLION

See Attached Location/GIS Map

WOODSBURY	2016	NEW
DUCK LAKE		
VERMONT RURAL FIRE PROTECTION TASK FORCE Vermont Association of Conservation Districts (VACD) Rural Fire Protection Program - Randolph, VT 05060		
Drawn by: TROY DAVIS		
Reviewed by:		
Date: 4/26/16	Sheet	15

## Dry Hydrant Installation Tips and Recommendations

### For all installations:

- Always review any permits and conform to requirements for erosion control, rip rap, safety, etc.
- Have on hand at least 100 feet of 1" disposable rope (per PVC hydrant installation) for hand lines (stabilizing/controlling hydrant movement) and installing/lowering hydrant in to position; and have a knife or other means to cut the rope when hydrant is in position. For steel hydrants (river and stream applications), heavy duty chain should be used for installing/lowering hydrant in to position.
- If possible, drain the pond down to just below where intake will be located for easier installation.
- If possible, have a boat of adequate size available to help place the intake where it needs to be.
- Have at least 4 people (not including machine operators) to help with the installation.
- If your system requires blue board insulation to keep hydrant from freezing in winter, and if you're working in a wet trench (pond not drained), have an additional machine (small backhoe or tractor) available to hold hydrant down and in position (people standing on the insulation will not work, may break the insulation, and is not safe). Rope can be used to secure insulation on riser (not included in recommended 100' per installation).

