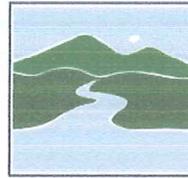


Shoreland Permit Applicationfor a **Shoreland Protection Permit** under
Chapter 49A of Title 10, § 1441 *et seq.*

For Shoreland Permit Program Use Only

Application Number: **2127-SP**VERMONT DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
**WATERSHED
MANAGEMENT DIVISION**
LAKES & PONDS PROGRAM**Public Notice:** At the same time this application is filed with the Shoreland Permit Program, a copy of this application must be provided to the municipal clerk for posting in the municipality in which the project is located.Submission of this application constitutes notice that the person in Section A intends to create impervious surface and/or cleared area within the Protected Shoreland Area, and certifies that the project will comply with Chapter 49A of Title 10, § 1441 *et seq.* All information required on this form must be provided, and the requisite fees (Section G) must be submitted made payable to the State of Vermont, to be deemed complete. Refer to *The Vermont Shoreland Protection Act - A Handbook for Shoreland Development* and related instructions for guidance in completing this application.**A. Parcel Information**

1. Landowner's Name: Amelia A. & Thomas G. Wagner

2a. Physical Address (911 Address): 1703 East Echo Lake Road

2b. Municipality: Charleston

2c. Zip: 05872

3. SPAN*: 135-042-10027

4. Phone: (802) 723-4784

5. Email: wagsvt@gmail.com

6. Name of lake/pond: Echo Lake

7. Total shore frontage: 219.5 (feet)

8. Was the parcel of land created before July 1, 2014? Yes No9. Are there wetlands associated with this parcel? Yes NoContact the Wetlands Program: (802) 828-1535 or www.anr.state.vt.us/dec/waterq/wetlands.htm.10. Is there a lake encroachment permit associated with this project? Yes No Permit #: _____Contact the Lake Encroachment Program: (802) 490-6165 or www.anr.state.vt.us/dec/waterq/permits/html/pm_encroachment.htm

11. What is the surface area of your parcel within the Protected Shoreland Area (PSA): 25,670 (square feet)

See The Vermont Shoreland Protection Act – A Handbook for Shoreland Development, Appendix C, Determining Lakeside Zone & PSA

12. What is the surface area of existing impervious surface on your parcel within the PSA: 2671 (square feet)

See The Vermont Shoreland Protection Act – A Handbook for Shoreland Development, Appendix F, Calculating Percent Impervious Surface

13. What is the surface area of existing cleared area on your parcel within the PSA: 18,314 (square feet)

See The Vermont Shoreland Protection Act – A Handbook for Shoreland Development, Appendix E, Calculating Percent Clearing

B. Applicant Contact Information (Check box if address is the same as above in Section A:)

1. Name: Amelia A. & Thomas G. Wagner

2a. Mailing Address: P.O. Box 1594

2b. Municipality: Norwich

2c. State: VT

2d. Zip: 05055

C. Application Preparer Information (If the individual preparing the application is not the landowner.)

1. Name: All Systems Septic Design, Inc., Matthew Houghton

2a. Mailing Address: P.O. Box 488

2b. Municipality: Newport

2c. State: VT

2d. Zip: 05855

3. Phone: (802) 334-7151

4. Email: houghton_matt@yahoo.com

*SPAN: The "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. SPAN is a unique identification number for each parcel of property in the State of Vermont consisting of eleven digits. The first three digits identify the town; the next three digits identify the school district; and the last five digits represent the unique parcel or property.

D. Project Description

1. Describe the proposed project and on separate pages attach site plans, photos, calculations of impervious surface and cleared area, and any other relevant supporting documents:
The Wagner's would like to remove two existing cottages and construct a 3 bedroom year-round single family dwelling (SFD). This project will also include the construction of a mound wastewater disposal system and drilled well potable water supply. The construction of the wastewater disposal system will require the removal of several large trees. The proposed dwelling will be situated no closer to the shoreline of Echo Lake than the present cottage. To benefit the shore of Echo Lake the landowners will be planting a wide variety of native trees, shrubs, and ground cover as identified within the DEC website. **New impervious 35 feet from MWL, total new impervious surface 3,453 square feet**

2. How far is existing cleared area or impervious surface from Mean Water Level ~~XX 21~~ (feet), and how far will new cleared area or impervious surface be from MWL ~~XX 35~~ (feet)?

See The Vermont Shoreland Protection Act – A Handbook for Shoreland Development, Appendix A – Estimating Mean Water Level

3. Can all new cleared area or impervious surface be set back at least 100 feet from MWL? Yes No
If no, explain why below (attach support information as needed):

Based on the size of the existing parcel the new development can not maintain a 100 foot setback from the MWL.

4a. What is the slope of the project site area: 13 %

See The Vermont Shoreland Protection Act – A Handbook for Shoreland Development, Appendix B, Determining Slope

4b. Is the slope of the project area less than 20%?

Yes No If yes, skip 4c.

4c. If no above (4b), describe the measures taken to ensure the slope is stable, resulting in minimal erosion and impacts to water quality (attach support information as needed):

5a. What is the surface area of new impervious surface associated with this project: ~~3,454~~ (square feet)

See The Vermont Shoreland Protection Act – A Handbook for Shoreland Development, Appendix F Calculating Percent Impervious Surface
3,453

5b. What is the total resulting impervious surface after completion of the project: ~~4,318~~* (square feet) and is that 20% or less of the parcel area

within the PSA? ~~X~~ Yes No If yes, skip 5c.
24.1%

5c. If no above (5b), describe the best management practices used to manage, treat and control erosion from stormwater from the portion of impervious that exceeds 20% (attach support information as needed).

To address impervious surface over 20% several BMPs are proposed, including planting 4,950 square feet of new native shrubs, trees and ground cover beginning 0 feet from mwl and extending around the newly proposed structure. 527 square feet of pervious infiltration steps will be installed to capture stormwater runoff. the steps/walkway beginat 0 ft mwl and extend around house and driveway. 885 square feet of existing impervious surface will be removed planted with grass.

Updated via email 7/26/2016--L.D. (more details added on last page of application.

*6,187 square feet new impervious

Replanting 4,950 square feet of vegetation, updated via email 7/26/2016--L.D.

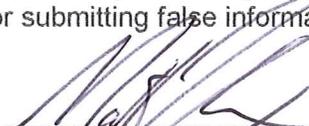
<p>6a. What is the surface area of new cleared area associated with this project: 4,208 (square feet) See The Vermont Shoreland Protection Act – A Handbook for Shoreland Development, Appendix E, Calculating Percent Clearing *3 square feet</p>	<p>6b. What is the total resulting cleared area* after completion of the project: 18,118 (square feet) and is that 40% or less of the parcel area within the PSA? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, skip 6c. 18,317 before 71.4% PSA? *Total cleared area includes impervious surface area. bmps</p>
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6c. If no above (6b), describe the best management practices used to provide erosion control, bank stability, and wildlife habitat functionally equivalent to clearing less than 40% (attach support information as needed). Prior to any construction silt fencing will be installed as shown on the site plan. Upon completion of construction or prior to any significant rainfall all disturbed areas are to be seeded and mulched. To benefit the shore of Echo Lake the landowners will be planting a wide variety of native trees, shrubs, and ground cover as identified within the DEC website. The proposed plantings will start near the shoreline and extend north surrounding the proposed SFD (Refer to the Site Plan for precise location of plantings). The proposed plantings will create an additional ~~4,208~~ sq. ft. of vegetated area from the current 18,314 sq. ft. of cleared area. **After plantings, parcel will be 52.1% clearing**

E. Landowner Certification
 As APPLICANT, I hereby certify that the statements presented on this application are true and accurate; guarantee to hold the State of Vermont harmless from all suits, claims, or causes of action that arise from the permitted activity; 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 Shoreland Protection Act, 10 V.S.A. Chapter 49A, 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 Signature:  Date: 6/17/16

F. Application 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:  Date: 6-17-2016

G. Permit Application Fees

Administrative Fee: \$125.00		125.00
Impervious Area Fee: \$0.50 per square foot	New impervious area (5a.) 3,454 x .5 3	1,727.00
Total:		\$ 1,852.00

Submit this form and application fee to:

**Vermont Department of Environmental Conservation
 Watershed Management Division
 Shoreland Permit Program
 1 National Life Drive, Main 2
 Montpelier, VT 05620-3522**

Direct all correspondence or questions to the Shoreland Permit Program at:
 ANR.WSMDShoreland@state.vt.us or (802) 490-6196

For additional information visit: www.watershedmanagement.vt.gov

All Systems Septic Design, Inc.

Page 1 of 1

June 17, 2016

Vermont Dept. of Environmental Conservation
Watershed Management Division
Shoreland Permit Program
1 National Life Drive, Main 2
Montpelier, VT 05620-3522



Re: Amelia A. & Thomas G. Wagner
1703 East Echo Lake Road, Charleston, VT
Replace Seasonal Cottages with a Year Round SFD

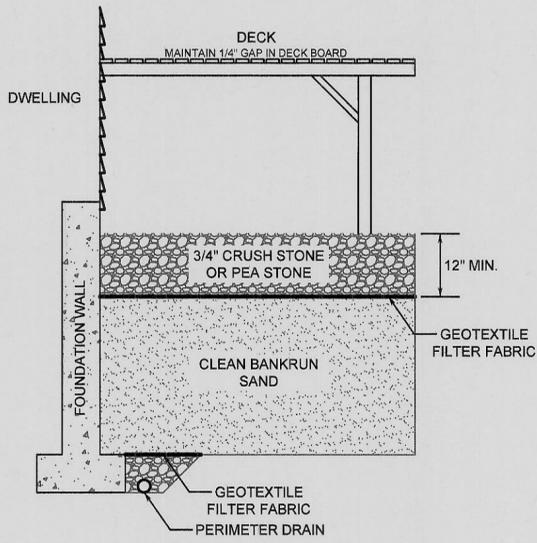
To whom it may concern,

Please find enclosed a shoreland permit application submitted on behalf of landowners, Amelia A. & Thomas G. Wagner, to remove two existing cottages and construct a 3 bedroom year-round single family dwelling (SFD). This project will also include the construction of a mound wastewater disposal system and drilled well potable water supply. The construction of the wastewater disposal system will require the removal of several large trees. The proposed dwelling will be situated no closer to the shoreline of Echo Lake than the present cottage. To benefit the Shore of Echo Lake the landowners will be planting a wide variety of native trees, shrubs, and ground cover as identified within the DEC website. Mr. Wagner has acquired an erosion control certificate from the Vermont Department of Environmental Conservation, Watershed Management Division, Lakes and Ponds Program and will oversee all phases of the project.

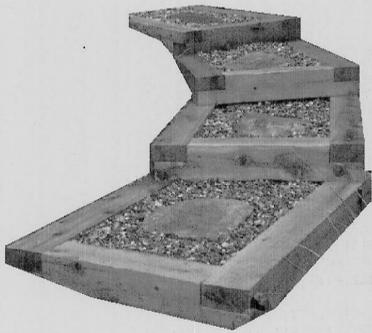
Respectfully,

A handwritten signature in black ink, appearing to read "M. Houghton".

Matthew R. Houghton, *LDB*



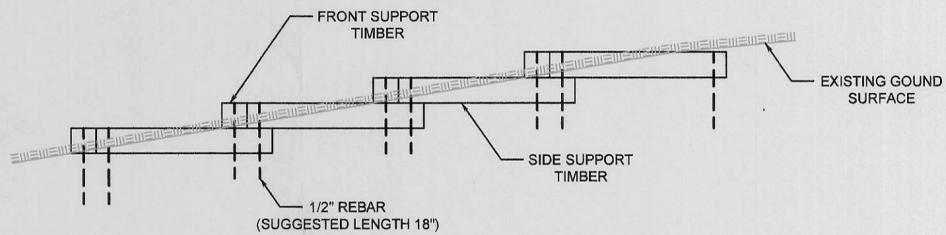
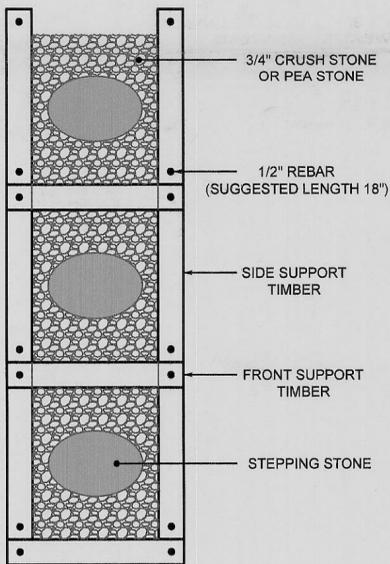
IMPERVIOUS DECK
N.T.S.



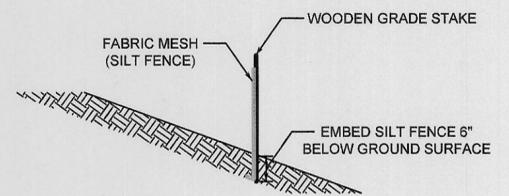
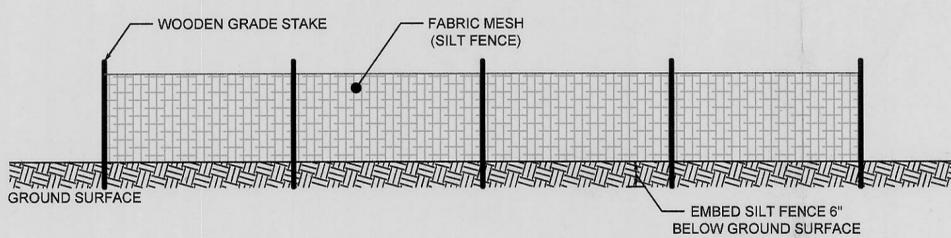
CONSTRUCTION NOTES:

1. **CALCULATE THE RISE AND RUN OF EACH STEP:** FIRST, MEASURE THE OVERALL RISE AND RUN OF YOUR STEPS IN INCHES. THE STEP HEIGHT IS DETERMINED BY THE THICKNESS OF THE TIMBER (E.G. 6"). DIVIDE THE RISE BY THE THICKNESS OF THE TIMBER AND ROUND OFF TO THE NEAREST WHOLE NUMBER TO DETERMINE THE NUMBER OF STEPS (36" RISE / 6" TIMBER = 6 STEPS). DIVIDE THE RUN BY THE NUMBER OF STEPS TO DETERMINE STEP LENGTH (90" RUN / 6 STEPS = 15" STEP LENGTH).
2. **STAKE OUT THE STEPS:** FIGURE OUT THE STEP WIDTH. A 4' WIDTH IS COMFORTABLE FOR ONE PERSON. DRIVE STAKES AT EACH CORNER OF THE STAIRWAY AND STRETCH STRING BETWEEN THEM TO OUTLINE THE STEPS. SPRAY PAINT OR SPRINKLE SAND OR FLOUR ON THE GROUND TO MARK THE OUTLINE.
3. **EXCAVATE THE FIRST STEP:** STARTING AT THE BOTTOM STEP, DIG A TRENCH FOR THE FRONT TIMBER (THIS WILL BE LITTLE MORE THAN A SHALLOW GROOVE IN THE GROUND). NEXT, DIG TRENCHES FOR THE SIDE TIMBERS, WHICH NEED TO BE LONG ENOUGH TO EXTEND 6" PAST THE NEXT FRONT TIMBER. THIS ENSURES THAT THE STEP ABOVE WILL OVERLAP THE STEP BELOW. MAKE ALL TRENCHES LEVEL.
4. **CUT THE TIMBERS:** CUT THE FRONT TIMBER TO LENGTH, THEN MEASURE AND CUT THE SIDE TIMBERS. DRILL 1/2" DIAMETER HOLES 6" FROM THE ENDS OF EACH TIMBER. POSITION THE STEP, THEN REMOVE OR ADD SOIL AS NEEDED TO LEVEL IT. ANCHOR THE STEP BY DRIVING 18" LONG PIECE OF 1/2" REBAR THROUGH THE HOLES AND INTO THE GROUND. MAKE SURE THE REBAR IS FLUSH AND SLIGHTLY RECESSED SINCE THE EDGES MAY BE SHARP. SET THE SIDE TIMBERS IN PLACE, AND LEVEL AND ANCHOR THEM. SHOVEL OUT THE SOIL INSIDE THE STEPS TO CREATE A SURFACE LEVEL WITH THE BOTTOM OF THE TIMBERS. ADDITIONAL SOIL CAN BE REMOVED TO PROVIDE MORE AREA FOR INFILTRATION. MAKE SURE TO DISPOSE OF EXCAVATED SOIL IN A PLACE WHERE IT WILL NOT WASH INTO LAKES OR STREAMS.
5. **BUILD THE NEXT STEP:** MEASURE FROM THE FRONT OF THE FIRST FRONT TIMBER TO PRECISELY LOCATE THE SECOND FRONT TIMBER. DIG A TRENCH FOR THE FRONT TIMBER, AND TRENCH BACK INTO THE HILL FOR THE SIDES, AS BEFORE. SET THE FRONT TIMBER ROUGHLY IN PLACE WITH THE ENDS RESTING ON THE SIDE TIMBERS BELOW. TO ATTACH THE FRONT TIMBER WITH THE SIDE TIMBERS BELOW IT, DRILL 1/2" HOLES THROUGH BOTH TIMBERS AND POUND REBAR AS PREVIOUSLY DONE WITH THE FIRST FRONT TIMBERS. SET THE SIDE TIMBERS, DRILL 1/2" HOLES AND POUND IN 18" REBAR PIECES INTO THE GROUND AS WITH THE FIRST STEP. EXCAVATE BETWEEN THE SIDES, AS BEFORE. CONTINUE UP THE HILLSIDE IN THIS FASHION.
6. **LAY DOWN GEOTEXTILE FABRIC AND BACKFILL WITH STONE:** LINE THE AREA INSIDE EACH SET OF TIMBERS WITH NON-WOVEN GEOTEXTILE FABRIC. THIS FELT-LIKE FABRIC WILL ALLOW WATER TO PERCOLATE THROUGH BUT WILL SEPARATE THE STONE FROM THE UNDERLYING SOIL. MAKE SURE THE FABRIC IS LONG ENOUGH TO EXTEND A FEW INCHES UP THE SIDES OF THE TIMBER. FILL EACH STEP WITH 3/4" CRUSHED STONE OR PEA STONE UNTIL IT IS ABOUT 1" BELOW THE TOP OF THE TIMBER. THIS LIP WILL BREAK UP WATER FLOW AND ENCOURAGE INFILTRATION. PAVING STONES CAN ALSO BE SET INTO CRUSHED STONE TO PROVIDE A SMOOTH SURFACE FOR BARE FEET AS LONG AS AMPLE CRUSHED STONE IS EXPOSED TO ALLOW INFILTRATION. SEED AND MULCH BARE SOIL ADJACENT TO THE STEPS. PLANTING AREAS ADJACENT TO THE STEPS WITH SHRUBS AND GROUND COVER PLANTS SOFTEN THE EDGES AND HELP PREVENT EROSION.

THIS PROCEDURE WAS TAKEN FROM THE VERMONT DEC SHORELAND BEST MANAGEMENT PRACTICES WEBSITE.



INFILTRATION STEPS & WALKWAY
N.T.S.



SILT FENCE
N.T.S.

PREPARED FOR: AMELIA A. & THOMAS G. WAGNER
LOCATED AT: 1703 EAST ECHO LAKE ROAD, CHARLESTON, VT

DETAILS

D-1
SHEET 2 OF 2

SCALE: N.T.S.
DATE: 06/16/2016

SITE WORK: M.H., C.M.
DRAWN: M.H.

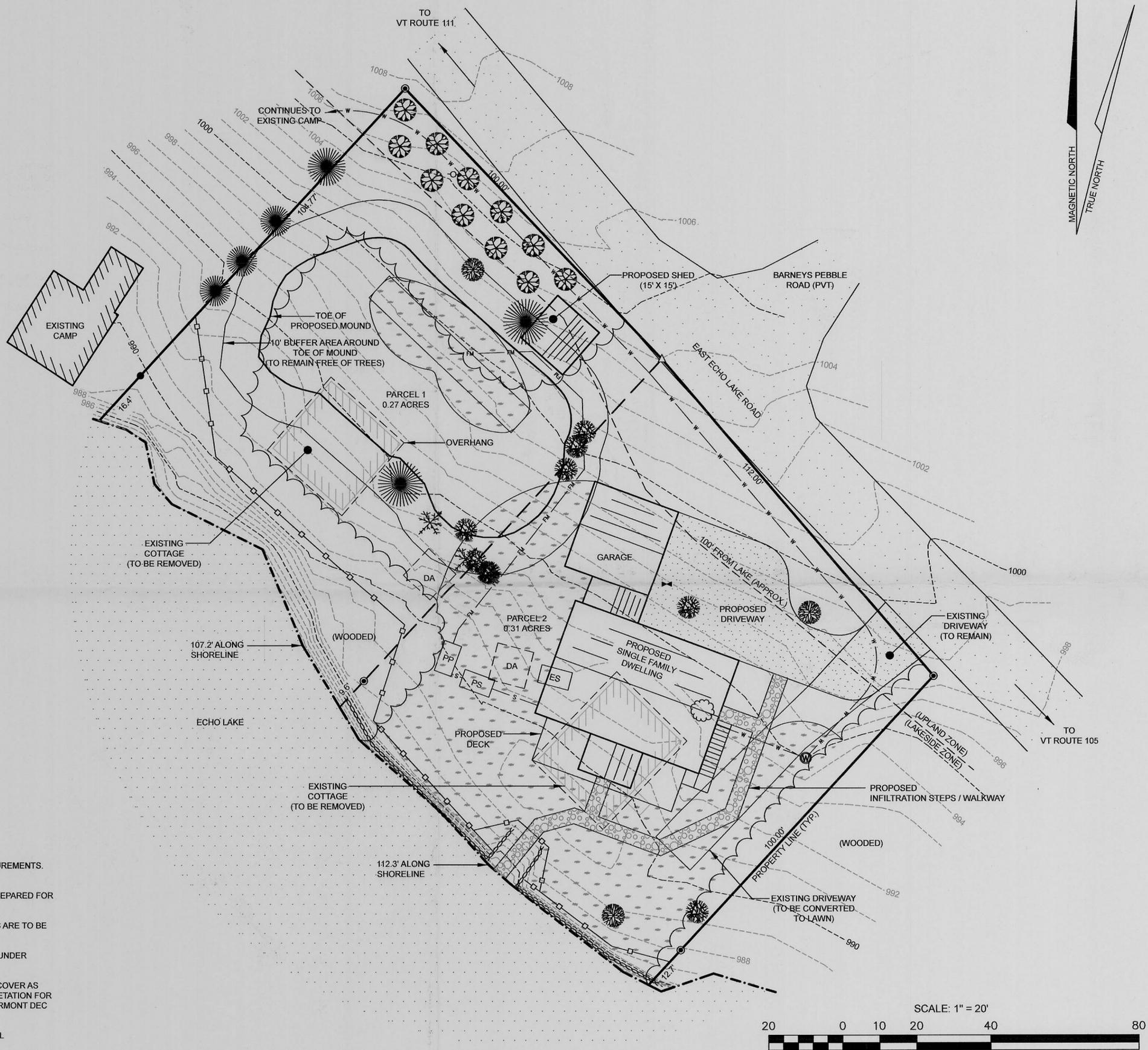
FILE NO.
86-2015

ALL SYSTEMS SEPTIC DESIGN



P.O. BOX 488
NEWPORT, VT 05855
(802) 334-7151

COMPUTED AREAS	SQ. FOOTAGE
PORTION OF LOT WITHIN PROTECTED SHORELAND AREA	25,670 SQ. FT.
EXISTING IMPERVIOUS AREA	2,672 SQ. FT.
NEW IMPERVIOUS AREA	3,454 SQ. FT.
TOTAL IMPERVIOUS AREA	4,318 SQ. FT. (16.8%)
EXISTING CLEARED AREA	18,314 SQ. FT.
NEW CLEARED AREA	-4,208 SQ. FT.
TOTAL CLEARED AREA	14,106 SQ. FT. (55.0%)



- SITE NOTES -

1. TOPOGRAPHY AND CONTOURS ARE BASED ON ELECTRONIC TOTAL STATION FIELD MEASUREMENTS. ELEVATION DATUM IS ARBITRARY AND CONTOUR INTERVALS ARE 1'.
2. PERIMETER BOUNDARIES WERE TAKEN FROM DAVID ROUND SURVEY MAP NO. 86-2015, PREPARED FOR AMELIA A. AND THOMAS G. WAGNER DATE JUNE, 2016.
3. UPON COMPLETION OF CONSTRUCTION OR SIGNIFICANT RAINFALL ALL DISTURBED AREAS ARE TO BE SEEDED AND MULCHED TO AVOID EROSION.
4. THE PROPOSED WATER SUPPLY AND WASTEWATER DISPOSAL SYSTEM ARE CURRENTLY UNDER REVIEW BY THE DRINKING WATER AND GROUND WATER PROTECTION DIVISION.
5. PROPOSED VEGETATED AREAS ARE TO BE PLANTED WITH TREES, SHRUBS AND GROUNDCOVER AS IDENTIFIED IN PLANTING & MAINTAINING VEGETATION AREAS GUIDANCE AND NATIVE VEGETATION FOR LAKESHORES, STREAMSIDES, AND WETLAND BUFFERS MANUAL, BOTH ARE FOUND ON VERMONT DEC WEBSITE.
6. THIS PLAN IS FOR USE SOLELY IN THE PERMIT PROCESS AND IS NOT INTENDED FOR LEGAL DESCRIPTION.

LEGEND

△ UNMONUMENTED POINT/CORNER	[ES] EXISTING SEPTIC TANK	□ SILT FENCE	☼ CEDAR TREE
● IRON REBAR	[PS] PROPOSED 1000 GAL. CONCRETE SEPTIC TANK	--- VEGETATED AREA (SEE NOTES)	☼ PROPOSED SPRUCE TREE
● IRON PIPE	[PP] PROPOSED 1000 GAL. CONCRETE PUMP STATION		☼ POPAL TREE
⊕ PROPOSED SHARED DRILLED WELL	--- EXISTING CONTOUR	☼ SPRUCE TREE	
⊕ EXISTING CURB STOP	--- W --- W --- PROPOSED 1" CL. 160 PLASTIC WATER LINE	☼ MAPLE TREE	
DA EXISTING WASTEWATER DISPOSAL AREA (TO BE ABANDONED)	--- S --- S --- PROPOSED 4" SDR 35 PVC SEWER LINE		
	--- FM --- PROPOSED 2" SDR 21 PVC FORCE MAIN		

PREPARED FOR: AMELIA A. & THOMAS G. WAGNER
LOCATED AT: 1703 EAST ECHO LAKE ROAD, CHARLESTON, VT

SHORELAND PLAN

S-1
SHEET 1 OF 2

SCALE: 1" = 20'
DATE: 06/16/2016

SITE WORK: M.H., C.M.
DRAWN: M.H., C.M.

FILE NO.
86-2015

ALL SYSTEMS SEPTIC DESIGN

P.O. BOX 488
NEWPORT, VT 05855
(802) 334-7151

EXISTING & PROPOSED IMPACT AREAS

Landowner: Amelia A. & Thomas G. Wagner
Location: East Echo Lake Road, Charleston, VT

Existing Impervious Surfaces

- Camp on Lot 1: 690 SQ. FT.
 - 21 FT. from mean water level (MWL)
- Camp on Lot 2: 885 SQ. FT.
 - 27 FT. from MWL
- Driveway: 1159 SQ. FT.
 - 32 FT. From MWL
- Total Existing Impervious Surfaces: 2734 SQ. FT.

Proposed Impervious Surfaces

- House & Attached Garage: 2358 SQ. FT. – 512 SQ. FT. (Overlap of Existing Camp) = 1846 SQ. FT.
 - 35 FT. from MWL
- Driveway: 1735 SQ. FT. – 353 SQ. FT. (Overlap of Existing Driveway) = 1382 SQ. FT.
 - 73 FT. from MWL
- Shed: 225 SQ. FT.
 - 89 FT. from MWL
- Total Proposed Impervious Surfaces: 3453 SQ. FT.

Alterations to Vegetation

- 3 SQ. FT. (1 Shrub) to be Removed
 - 86 FT. from MWL
- 4950 SQ. FT. of Cleared area to be Revegetated (See Site Plan)
 - To Stonewall Along Shore
- Total New Vegetation: 4947 SQ. FT.

Proposed Infiltration Steps/Walkway

- 527 SQ. FT.

Pervious Deck

- 330 SQ. FT.

Note:

- All other alterations to vegetated areas are required by the installation of the potable water supply, wastewater disposal system and appurtenances.