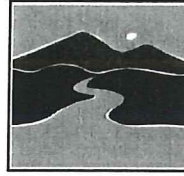


Individual Permit Applicationfor a **Lake Encroachment Permit** under
Chapter 11 of Title 29, § 401 *et seq.***For Lake Encroachment Permitting Use Only**Application Number: 2016-004VERMONT DEPARTMENT OF
ENVIRONMENTAL CONSERVATION**WATERSHED
MANAGEMENT DIVISION****LAKES & PONDS PROGRAM**

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 Information1. Physical Address (911 Address): **4800 Basin Harbor Road**2. Town - County: **Vergennes - Addison**

2b. Zip: 05491

3. 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) : 07/01/07

N/A 4. Name of lake/pond: **Inner Harbor, Lake Champlain**
B. Applicant (landowner if applicable) Contact Information

1. Name: Beach Properties, Inc.

2a. Mailing Address: 4800 Basin Harbor Road

2b. Municipality: Vergennes

2c. State: VT

2d. Zip: 05491

3. Phone: 802-475-2311 ext. 801 (Bob Beach) 4. Email: bob@basinharbor.com

C. Application Preparer Contact Information

1. Name: The Dock Doctors, LLC.

2a. Mailing Address: 19 Little Otter Lane

2b. Municipality: Ferrisburgh

2c. State: VT

2d. Zip: 05456

3. Phone: 802-877-6756 ext. 129 (Chris Girard) 4. Email: chris@thedockdoctors.com

D. Have you ever applied for a permit with the Department of Environmental Conservation associated with this parcel? Yes No

E. Abutting Land Owners

Using the abutter addendum available on watershedmanagement.vt.gov/permits/html/pm_encroachment-application.htm, attach a list of land owners who abut the proposed project.

F. Project Description

1. Describe the proposed project including a 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.

See Attached

2. Describe the purpose of the proposed project:

See Attached

3. Describe what less intrusive feasible alternatives have been considered:

A "no action" alternative would be more intrusive, due to the deteriorating quality of the existing concrete docks harming water quality and impeding navigation.

4. Describe the public benefits of the proposed project:

See Attached

G. Encroachment Effects (describe how the proposed project will affect the following)

1. What measures are proposed to minimize the project's effects on water quality (e.g., use of a turbidity curtain)?:

No dredging is required for the proposed project. Turbidity curtains will be installed and maintained during the removal of the existing concrete pier docks and while the new concrete seawall is reconstructed. Seawall forms will be sound-tight with sandbags stacked along the bottom-side and concrete pumped dry.

updated via email 03/21/2016--L.D.

2. How will the project minimize effects to fish and wildlife habitat (e.g., project is not to commence until after fish spawning July 1 of any calendar year)?:

The removal of the existing concrete pier docks and reconstruction of the concrete seawall would take place during fall 2015; the proposed floating docks would be installed during April/May keeping consistent with existing operations within the Inner Harbor.

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

The proposed project does not require any aquatic or shoreline vegetation to be removed.

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?:

The shoreline within the Inner Harbor consists of elevated ledge outcroppings, concrete pier docks, sand beach, vertical concrete seawall, natural stacked stone seawall, and some natural vegetation along the access road to the main resort grounds and buildings. The proposed improvements/updates within the Harbor will provide similar construction means/methods and result in the same or similar aesthetics as the resort has maintained for generations.

5. Will the project affect navigation, recreation, and other public uses? If so, how will these effects be minimized?:

The proposed improvements/updates remain within the Inner Harbor, we do not feel that navigation will be affected. The recreational uses and access to the Harbor will be maintained by the Resort as they have for generations.

H. 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: _____ Date: _____

I. 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: 3-10-16

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
- Application includes photos of project area

K. Permit Application Fees

Select the most applicable permit description and requisite fee. If the proposed project involves more than one of the project types, multiple fees may apply. For example, a project involving structural erosion control and marina improvement will require both fees (2) and (3).

1. Non-structural erosion control project (e.g., rip rap):

Non-structural erosion control project: \$155.00

Total:

2. Structural erosion control project (e.g., concrete wall replacement):

Structural erosion control project: \$250.00

Total:

3. Other projects (e.g., marina improvements):

Other Project: \$300.00

Project Cost Fee: 0.01 times project cost

Project cost 540,000.⁰⁰ x 0.01

Total:

300.⁰⁰5400.⁰⁰5700.⁰⁰

Print Form

Submit this form and application fee, payable to:

State of Vermont
 Vermont Department of Environmental Conservation
 Watershed Management Division
 1 National Life Dr, Main 2
 Montpelier, VT 05620-3522

Direct all correspondence or questions to Lake Encroachment Permitting
 at: ANR.WSMDShoreland@vermont.gov

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

State of Vermont Lakes & Ponds Section

Applicant Introduction & Background

Basin Harbor Club and Resort, a 700 acre paradise on the shores of Lake Champlain, is now in its' 130th year of continuous operation under the Beach family ownership and management. Over the years, many things have changed at the resort but the fundamental appeal of this historic place remains the same. In the beginning of the 19th century Basin Harbor was served by several ferries and it is logical to conclude that this harbor was a busy maritime landing. With a regular scheduled ferry from Basin Harbor to NY, the harbor became a well-established crossing point for travelers between the two states. Basin Harbor also served as an embarkation and landing place for the first generation of line-steamboats running north to south. As the steamboats became larger during the 19th century, another dock was built outside the harbor to accommodate the larger vessels. By 1945, Allen Penfield Beach combined "The Lodge" with his homestead and golf course to create the Basin Harbor Club. At this time the inner harbor was home to large pleasure yachts and the steamboat; The Ticonderoga. Guests continue to come to Basin Harbor to enjoy an array of activities at a spectacular location on the shores Lake Champlain. There is a natural beauty and sense of place here that is like no other. Generations of families visit here and return year after year. They enjoy the personal connection with fourth generation hosts, Bob and Pennie Beach. It is not unusual for a guest in his eighties or nineties to introduce himself and explain that he was married here or enjoyed a special visit here in his twenties. The property resonates with people.

#4 Project Description

Basin Harbor Club & Resort is proposing the necessary improvements and upgrades within the inner harbor in order to provide safe and responsible infrastructure to help support their long established waterfront programs offered throughout their business season. The proposed changes will better define their waterfront functions and provide ADA compliant accessibility throughout the harbor which has become mandated under federal law. Currently the inner harbor provides seasonal customers and transient boaters with 20 moorings and 45 dock slips scattered throughout the harbor; this does not include any opportunities for boats to be tied along the some of the concrete docks if water levels and conditions allow. The applicant is proposing to remove 4 out of 7 concrete docks, all existing moorings, and the wood floating docks in preparation to install all new commercial steel truss floating docks and utilities meeting current codes. The proposed improvements and upgrades will keep all the proposed floating docks and vessels within the inner harbor where safe harbor can be sought by the Lake Champlain boating community and marina customers. This application is seeking approval for 75 dock slips and the installation of an ADA compliant swimming dock. The marina does not intend to offer any moorings, fuel & pump-out services, mechanical services, or winter boat storage.

The marina's main intent is to provide transient dockage to fully utilize all of the resorts amenities and to upgrade facilities to meet ADA compliance. This plan eliminates safety hazards through the removal of the concrete docks which pose a navigation hazard when submerged and a safety hazard to swimmers because they are very slippery. The floating docks will create a much more defined swim area seen by vessels and swimmers. Slips will be used instead of moorings with less intrusive anchorage systems. The proposed slip count is designed to provide space for transient and guest use and to accommodate boats that Basin Harbor has for tours, rentals and family boats. The proposal does not include the addition of new seawalls, rather it requests to raise the elevation of the walls to create an even grade and to meet ADA compliance regulations.

Existing Concrete Docks:

- Steam Boat Pier: Maintain the existing 20'0" wide x 20'0" long concrete pier outside the harbor and directly to the north; no work on this structure is required at this time.
- Diving Board Dock: Maintain, but modify the existing 11'11" wide x 35'6" long concrete dock structure to accept the proposed ADA transition ramp extending down from the flagpole and where the ADA gangway will attach for access on and off the proposed floating swim/recreational dock.
- Beach Dock: Remove the existing 10'0" wide x 58'6" long concrete dock structure (approx. 130 cubic yards).
- 'Escape' Dock: Remove the existing 10'0" wide x 76'0" long concrete dock structure (approx. 163 cubic yards).
- Small Craft Dock: Remove the existing 9'10" wide x 47'0" long concrete dock structure (approx. 101 cubic yards).
- Cove Dock: Remove the existing 5'9" wide x 84'0" long concrete dock structure (approx. 73 cubic yards).
- South Harbor Dock: Maintain the existing 10'8" wide x 62'0" long concrete dock structure; no work on this structure is required at this time.

Swim & Recreation Dock: Install and maintain a commercial quality floating dock; this dock shall not extend more than 120' from OHW.

- (1) 20'0" wide x 138'0" main floating dock.
- The floating dock will be held in place by eight (8) 6,000lb. concrete anchor blocks.
- Main access on/off this dock will be accomplished by installing and maintaining one (1) 4'0" wide x 32'0" long ADA aluminum gangway structure. The gangway will attach to the modified concrete dock located above OHW (approx. 100.5' ASL).

The distance between the outer edge of the swim dock and the existing concrete south harbor dock is 116 feet, which is 30% larger than recommendations. This is the most narrow point, but will not impede navigation.

NE Boat Dock: Install and maintain a commercial quality floating dock; this dock shall not extend more than 300' from OHW.

- (1) 8'0" wide x 226'0" long main floating dock (along the seawall/shoreline)
- (8) 4'0" wide x 24'0" long finger docks
- (1) 8'0" wide x 112'0" long main floating dock
- (1) 8'0" wide x 218'0" long main floating dock
- (6) 4'0" wide x 24'0" long finger docks
- (1) 6'0" wide x 24'0" long finger dock
- (3) 4'0" wide x 36'0" long finger docks
- (1) 6'0" wide x 36'0" long finger dock
- (1) 8'0" wide x 158'0" long main floating dock
- (1) 8'0" wide x 218'0" long main floating dock
- (5) 4'0" wide x 40'0" long finger docks
- (1) 6'0" wide x 40'0" long finger dock
- (4) 4'0" wide x 32'0" long finger docks
- (1) 6'0" wide x 32'0" long finger dock
- The floating docks will be held in place by ten (10) 3" galvanized steel anchor spud pipes and twenty-two (22) 6,000lb. concrete anchor blocks.

The anchor blocks are permanent. Updated via email 3/23/16 by L.D.

- Main access on/off this dock will be accomplished by installing and maintaining a 4'0" wide x 40'0" long ADA gangway structure. The gangway will attach to a newly constructed concrete abutment located above OHW (approx. 102.5' ASL).

ADA Kayak Launch & Escape Dock: Install and maintain the following commercial quality floating docks.

- (1) 12'0" wide x 34'0" long irregular shaped floating dock
- (1) 10'0" wide x 40'0" long finger dock
- (1) 8'0" wide x 18'9" long transition floating head dock
- (2) 6'11" wide x 12'0" long aluminum finger docks and (1) 4'0" wide x 12'0" long aluminum roller launch ramp unit
- The floating docks will be held in place by two (2) 3" galvanized steel anchor spud pipes and one (1) 4" galvanized steel anchor spud pipe.
- Main access on/off this dock will be accomplished by the installing and maintaining an 8'0" wide x 32'0" long ADA galvanized steel gangway structure. The gangway will attach to the concrete seawall located above OHW (approx. 100.5' ASL).

SW Boat Dock: Place and maintain the following commercial quality floating docks; this dock shall not exceed more than 169' from OHW.

- (1) 8'0" wide x 238'0" long main floating dock
- (5) 4'0" wide x 32'0" long finger docks
- The floating docks will be held in place by twelve (12) 3" galvanized steel anchor spud pipes.
- Main access on/off this dock will be accomplished by the installing and maintaining a 4'0" wide x 40'0" long gangway structure; the gangway will attach to a newly constructed concrete abutment located above OHW.

The floating docks will be fabricated using commercial duty hot dipped galvanized steel truss frames with black polyethylene floatation bolted to the underside of the truss frames. Floatation devices to be rotationally molded, heavy wall polyethylene float drums, molded encasements meet the Hunt Falling Dart puncture and thickness test. The design, production and installation will be completed by The Dock Doctors, LLC. located in Ferrisburgh, VT.

Electrical services within the floating docks will be upgraded to meet applicable codes; the necessary licensed electrical engineering reviews and approvals will be completed.

A new concrete footing and seawall is required in the area of the 8' wide ADA gangway where two of the existing concrete docks will be removed in order to protect the shoreline from water elevations exceeding 97' ASL. This portion of the shoreline where the new seawall will be constructed has beach sand and gravel fines located behind it and are located below average water levels. The proposed improvement will help reduce erosion as the soils will continue to be pulled into the lake when the lake level is above 97' ASL; the proposed seawall will have an approximate finished elevation of 100.5' ASL. The bulkhead work will not be done without the installation of a turbidity curtain and the concrete forms shall be dry before pouring any concrete.

The seawall footing will require roughly 87 cubic yards of concrete to be poured into dry forms installed on the lakebed with use of a turbidity curtain system; the approximate dimensions of the proposed bulkhead footing to be 4' wide x 5' tall x 117.5 linear feet (approx. 470 sq./ft. of lakebed impact beyond OHW). All areas of proposed disturbance are located within the pre-existing marina property lines and do not extend onto neighboring properties. The lakebed has been confirmed as pure sand soils with no evidence of vegetation during the summer months. Permits were obtained by the owner for maintenance dredging within the inner harbor. The applicant has found no documentation showing negative impact on the lakebed. The existing concrete docks to be removed using an excavator. All materials will be transferred directly into a dump-truck and brought to an upland or off-site location for disposal. Forms will be installed using manual labor and the concrete will be pumped using a "snorkel" for control purposes; no machines will enter the lake. The proposed updates and improvements will reduce the amount of congestion currently experienced within the inner harbor and improve safety for both boaters and swimmers. By eliminating and exchanging moorings and concrete docks for floating docks, the inner harbor will maintain roughly half of the inner harbor as open and unoccupied water. This opportunity would allow for abandoned anchor blocks and debris to be removed as needed to clean up the natural lakebed. The floating docks ~~and wave attenuator~~ do not require dredging. The proposed improvements to the shoreline have been kept within the same general dimensional envelope. This design impacts less lakebed than the existing concrete docks and no dredging is being proposed.

(No wave attenuator will be installed)
updated 3/23/16 via email--L.D.

4 ice eaters will be installed during winter storage of the floating dock system. 3 signs will be placed to caution the public of thin ice conditions around the dock. --updated via email 5/12/16 L.D.

#5 Purpose of the Project & #6 Public Benefits of the Project

Over the past five years alone, it was common for all of the concrete docks to be submerged under the water for several weeks during the month of June and July forcing Basin Harbor Club & Resort to cancel their waterfront programs due to water depths exceeding 98' ASL. The concrete docks also convey strong safety concerns because of how slippery the topside are when submerged under the water or even when the water is level is at the surface. The concrete docks also restrict natural water flow and contribute to siltation accumulation within the harbor making for shallower water depths and sometimes poor water quality. Their existing floating docks have reached the end of their life expectancy and require constant repairs. These floating docks have been servicing the inner harbor for more than 20 years and are significantly undersized for typical boat lengths and widths found on Lake Champlain. Moorings are scattered throughout the harbor and visually they suggest congestion within the harbor. At the same time all of the utilities are outdated and none of the shoreline/waterfront meets or provides ADA access.

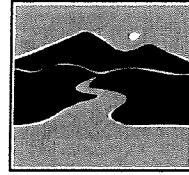
One of the unique aspects of Basin Harbor is its seasonality. This is a challenging aspect of their business because it demands of the resort to cover a year's worth of operating costs with a six month operating season. Through careful financial and hands-on family management, they have been successful at keeping their doors open. With the fifth generation now involved in the business, their plan is to continue their historical resort traditions into the future. Updating the waterfront amenities and programs is a strategic move that will help to insure the resort's

ongoing vitality. The Inner Harbor improvements are a tactical move to help make this plan a financial reality. This is an iconic, historic resort property that becomes more unique and desirable as time goes by, and the number of places like this diminish. Basin Harbor employs approximately 36, full time, year round, employees. During the operating season, this number increases to about 300 employees. This is often the first job for many local folks at Basin Harbor. The resort is comprised of 140 accommodations, an eighteen hole golf course, two restaurants, a swimming pool, and conference and wedding facilities. They own approximately one mile of shoreline on the lake to include the harbor and shoreline to the North and to the South. The Beach family's goal has always been to steward and preserve this incredible piece of the world in Ferrisburgh, Vermont. The Inner Harbor improvements and updates will give them the means, they believe, to carry the torch forward for the next century. It will allow for more enjoyment on Lake Champlain by boaters and water enthusiasts who lack this type of destination on Lake Champlain. It will attract boaters from Canada and New York, they hope, to this beautiful lake who will come back because their experience will be as unique and special as the experience enjoyed by their land based guests. The great State of Vermont deserves to call Basin Harbor and its waterfront/shoreline amenities its own as a shining example of the absolute essence of what Vermont holds dear.

The proposed ADA swim/recreational floating dock will now delineate a clear and safe swim area for their aquatics programs and separate boaters from swimmers when entering and existing the harbor. The size of the floating dock is designed to withstand strong westerly winds/waves during the resort season and accommodates the quantity of participants within their programs. The 8' wide gangway will provide safe and functional access down to the floating ADA kayak/canoe launch dock system so that all levels of paddle enthusiasts can self-launch their crafts with the proper accommodations. This same gangway will also provide access to their longtime operating tour boat named The Escape; a 40' long x 13' wide vessel which provides a floating classroom for tourists/visitors to learn about the shipwrecks, the lost loves, the lore and lure of the lake. Approximately an hour and a quarter, the cruise takes you up and down the lake, cruising both the Vermont and New York coastline. They are proposing to swap all existing moorings within the inner harbor for slips; aesthetically this has proven for a much more pleasing visual landscape and less of a congestive look. The upgraded floating docks will provide safe and adequate slip sizing for marina customers (seasonal and short-term), transient boaters, fleet boats owned/operated by Basin Harbor Club and Resort, and also provides additional capacity and opportunity for the greater Lake Champlain boating community, inclusive of the Maritime Museum. The utilities within the docks have exceeded their anticipated life cycle and need to be replaced and updated using marine industry standards equipment. The necessary upgrades and improvements will be engineered and installed to meet applicable codes. Water and power services will be available on the finger slips using standard marine pedestals with power disconnects and water faucets. The minor shoreline improvements (i.e. seawall, both concrete and stone) will continue to protect the natural shoreline and character of the inner

harbor. The inner harbor and resort will now position themselves as being a fully ADA compliant facility both with upland and waterfront amenities

**Lake Encroachment
Application Addendum**
for a **Lake Encroachment Permit** under
Chapter 11 of Title 29, § 401 *et seq.*



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

For Lake Encroachment Permitting Use Only
Application Number:

This Abutting Land Owner Addendum is intended to accompany a completed *Lake Encroachment Permit Application* in instances of a proposed lake encroachment abutting land owners other than the applicant.

I. Abutting Land Owner Information	
1. Name:	Norton Limited Family Partnership
Address:	23 Powder Hill Road, Braintree MA 02184
2. Name:	Joseph H. Cromarty, III
Address:	54 Vinebrook Road, Medfield MA 02052
3. Name:	Pratt Audrey S Living Trust
Address:	37 Piping Rock Circle, Saratoga Springs NY 12866
4. Name:	
Address:	
5. Name:	
Address:	
6. Name:	
Address:	
7. Name:	
Address:	
8. Name:	
Address:	
9. Name:	
Address:	
10. Name:	
Address:	

Submit this form as an addendum to a complete Lake Encroachment Application to:

State of Vermont
Vermont Department of Environmental Conservation
Watershed Management Division
Lake Encroachment Permitting
1 National Life Drive, Main 2
Montpelier, VT 05620-3522

Direct all correspondence or questions to Lake Encroachment Permitting at:
ANR.WSMDShoreland@state.vt.us

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

STATE OF VERMONT
Lakes & Ponds Section, Watershed Management Division, 1 National Life Drive,
Main Building Floor 2, Montpelier, VT 05620-3522

29 V.S.A. Chapter 11: Management of Lakes and Ponds

1. Name of Lake or Pond Lake Champlain Municipality Ferrisburgh
 2. Name of Applicant Beach Properties, Inc. (Robert Beach, Jr.) Telephone 802-475-2311 ex. 801
Mailing Address 4800 Basin Harbor Rd, Vergennes VT 05491
Email: bobe@basinharbor.com
 3. Person to contact (if someone other than the applicant) regarding this application:
Name Chris Girard @ The Dock Doctors, LLC. Daytime Telephone 802-877-6756
Mailing Address 19 Little Otter Lane, Ferrisburgh VT 05456
Email: Chris@thedockdoctors.com
 4. Project description (See instructions): Attached
 5. Purpose of the project: Attached
 6. Public benefits of the project: Attached
 7. Planned the work schedule: Concrete / Shoreline Fall 2016 & Rock Install Spring 2017
 8. Site location/address: 4800 Basin Harbor Road, Vergennes VT
(Inner Harbor)
 9. Complete name and mailing addresses of each abutting property owner:
(1) Norton Limited Family Partnership @ 23 Powder Hill Drive, Braintree MA 02184
(2) Joseph H. Cromarky, III @ 54 Vinebrook Road, Medfield MA 02052
(3) Pratt Audrey S Living Trust @ 37 Piping Rock Circle, Saratoga Springs NY 12866
 10. Application fee enclosed \$ 5,735.41 Estimated cost of project \$ 540,000.00
- Fee for non-structural erosion control projects \$155; Fee for structural erosion control \$250;
Fee for other projects \$300 plus 0.01 times the project cost.
11. Certification: I hereby certify that the information in this application and its enclosures are true and accurate. I grant the Department permission to enter upon the land to verify information contained in the application [29 V.S.A. 404(b)].


APPLICANT'S SIGNATURE

3-4-16
DATE











Dimensions of wall and fill – sent via email from Jeff Provost to Laura Dlugolecki on 4/22/16

The wall is 117.5 ft. Long.

The footing is $117.5 \times 4 \times 5$ ft. = 2350 cu. ft. = 87 cu. yd.

The entire wall does not have this magnitude of footing due to ledge on the western stem that is 36.5 ft. And raises up out of the water. So the actual yardage for the footing is 74+/-.

The upper wall that sets on top of the footing is also 117.5 long 1ft. Thick and 4ft. High. Totaling 17 cu. yd. But again due to the ledge on the western stem the actual yardage will be closer to 13 cu. yd.

Thus the total yardage for the sea wall is approx 87 cu. yards.

As for the back fill behind the wall the grade slopes from zero upland to 48" at the wall.

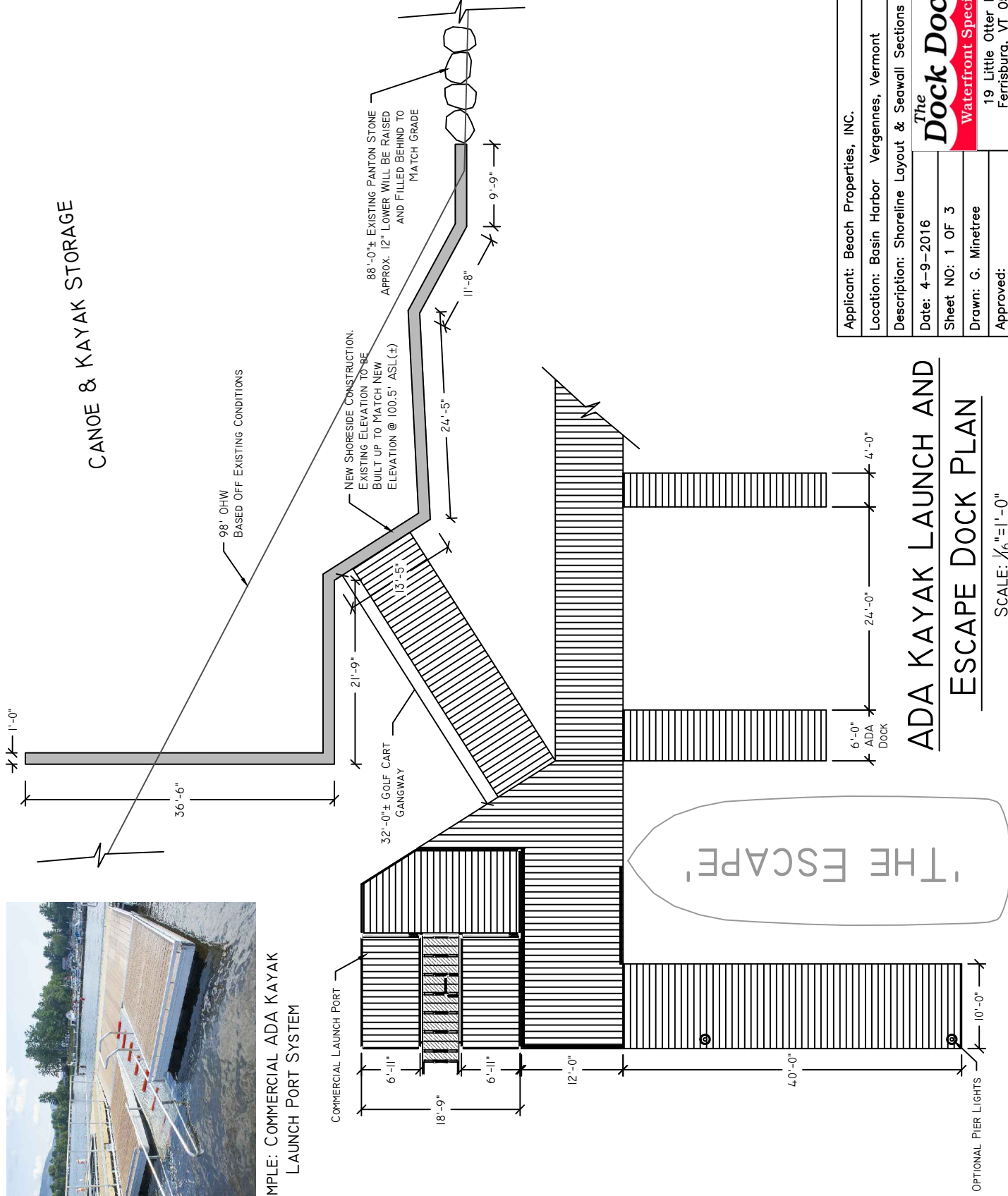
Creating an average of 24" of material the area is approx 70ft. X 48ft. Creating the need for approx 250 cu. yards of material. The size of the fill will be 4" minus for the fill with the topping 3/4" minus for the topping creating an impervious surface.

The rip rap area will be 88ft. Long and will be raised with Pantan stone to match existing stone and grade. The Back fill will be 2" minus with 3/4" minus topping to match other area and existing. This will be a total of 42 cu. yards.

I hope this helps, if you have any other questions please let me know.



EXAMPLE: COMMERCIAL ADA KAYAK LAUNCH PORT SYSTEM

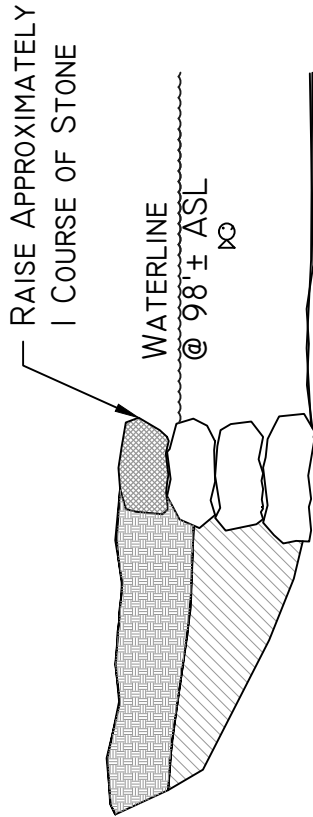


Applicant: Beach Properties, INC.
Location: Basin Harbor Vergennes, Vermont
Description: Shoreline Layout & Seawall Sections
Date: 4-9-2016
Sheet NO: 1 OF 3
Drawn: G. Minetree
Approved:

ADA KAYAK LAUNCH AND ESCAPE DOCK PLAN

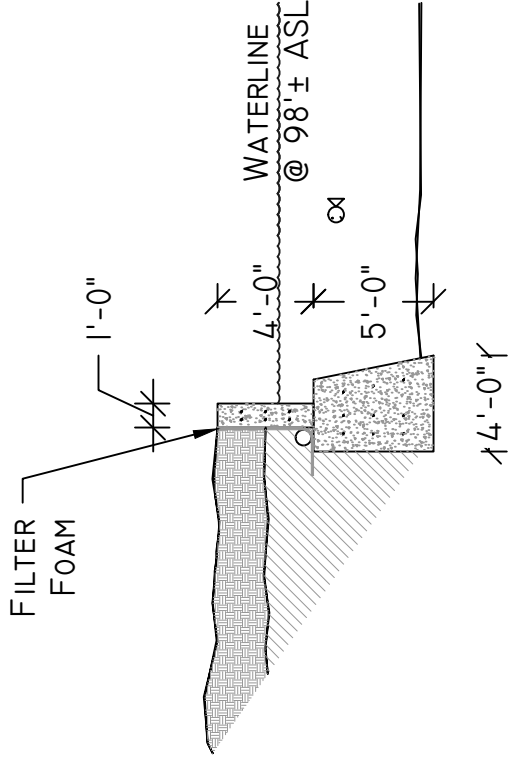
SCALE: 1/6" = 1'-0"

The Dock Doctors LLC
 Waterfront Specialists
 19 Little Otter Lane
 Ferrisburg, VT 05456



SCALE: 1/8"=1'-0"

TYPICAL RIP RAP CROSS SECTION



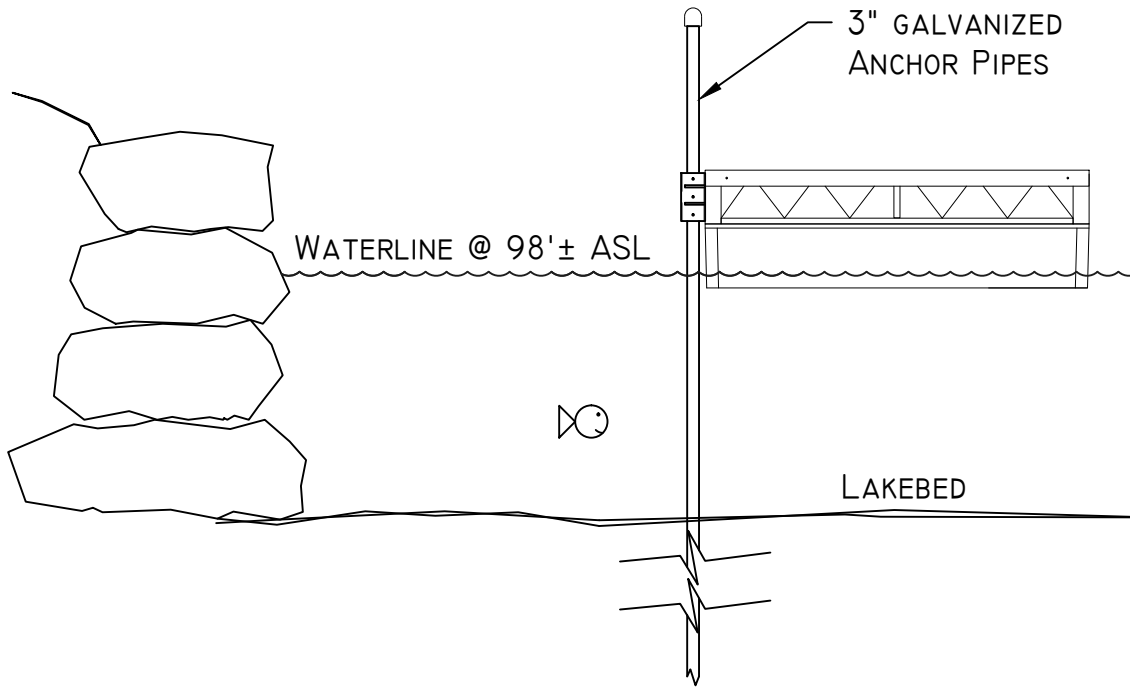
SCALE: 1/8"=1'-0"

TYPICAL CONCRETE SEAWALL CROSS SECTION

Applicant: Beach Properties, INC.
Location: Basin Harbor Vergennes, Vermont
Description: Shoreline Layout & Seawall Sections
Date: 4-9-2016
Sheet NO: 2 OF 3
Drawn: G. Minetree
Approved:

The Dock Doctors
Waterfront Specialists

19 Little Otter Lane
Ferrisburg, VT 05456



WATERLINE @ 98'± ASL

3" GALVANIZED ANCHOR PIPES

LAKEBED

TYPICAL SPUD MOUNT ANCHOR DETAIL

SCALE: 1/4"=1'-0"

Applicant: Beach Properties, INC.

Location: Basin Harbor Vergennes, Vermont

Description: Anchor Details

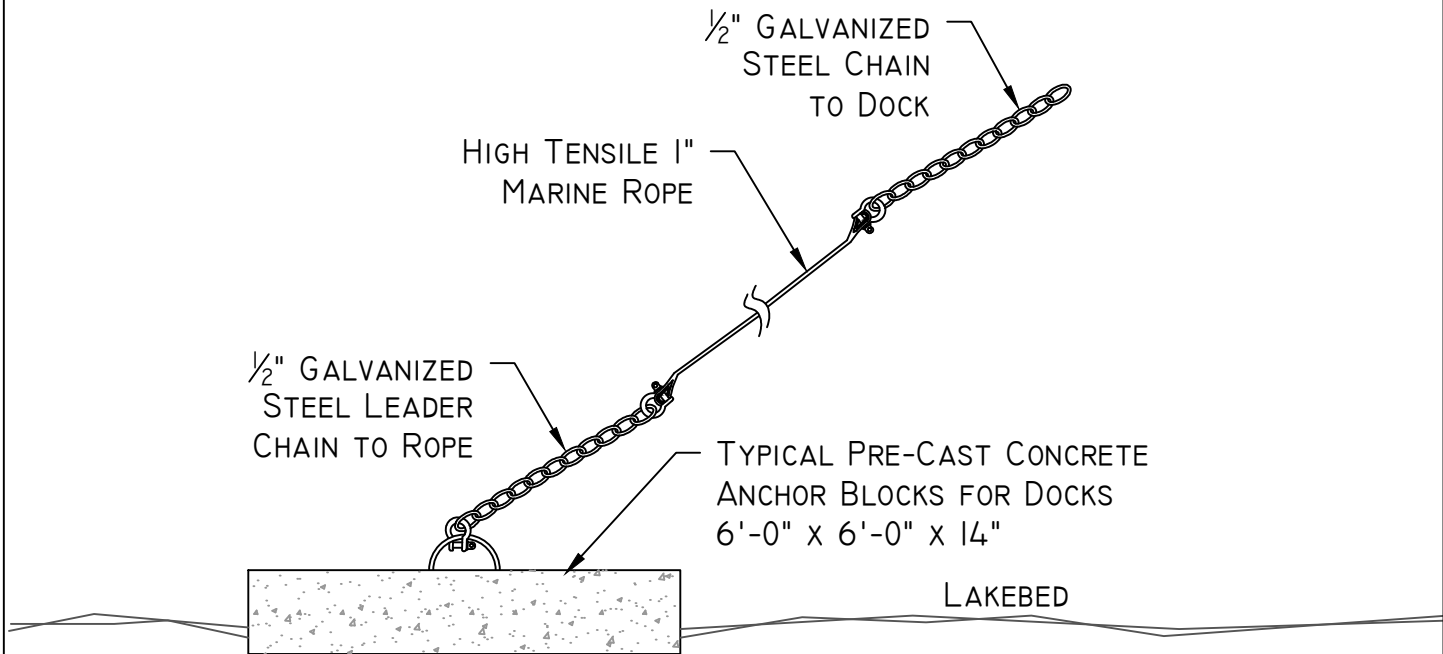
Date: 4-9-2016

Sheet NO: 3 OF 3

Drawn: G. Minetree

Approved:

The Dock Doctors
 Waterfront Specialists
 19 Little Otter Lane
 Ferrisburg, VT 05456



HIGH TENSILE 1" MARINE ROPE

1/2" GALVANIZED STEEL CHAIN TO DOCK

1/2" GALVANIZED STEEL LEADER CHAIN TO ROPE

TYPICAL PRE-CAST CONCRETE ANCHOR BLOCKS FOR DOCKS 6'-0" x 6'-0" x 14"

LAKEBED

TYPICAL ANCHOR DETAIL

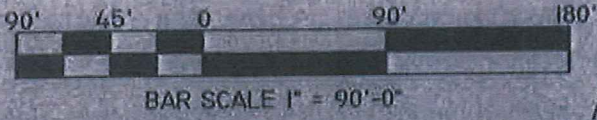
SCALE: 3/8"=1'-0"



Photos from 4/19/16 Site visit. These photos show submerged concrete walls and concrete docks.



Existing Conditions



LAKE CHAMPLAIN

20'-0" ± x 20'-0" ±
EXISTING CONCRETE
STEAM BOAT PIER
TO REMAIN

FLAGPOLE

BEACH

EXISTING MARVIA
OFFICE BUILDING

WALKS END

11'-11" ± x 35'-6" ±
EXISTING DIVING BOARD
DOCK TO REMAIN

10'-0" ± x 58'-6" ±
EXISTING CONCRETE BEACH DOCK
TO PARTIALLY REMAIN

10'-0" ± x 76'-0" ±
EXISTING CONCRETE ESCAPE DOCK
TO BE REMOVED TO LAKEBED

10'-8" ± x 62'-0" ±
EXISTING CONCRETE SOUTH HARBOR DOCK
TO REMAIN

9'-10" ± x 47'-0" ±
EXISTING CONCRETE SMALL CRAFT DOCK
TO BE REMOVED TO LAKEBED

EXISTING FLOATING DOCK

EXCLUSION BOX
SEE LCM-1 REPORT

EXISTING FLOATING DOCK

ORDINARY HIGH WATER (OHW) 98' ± ASL

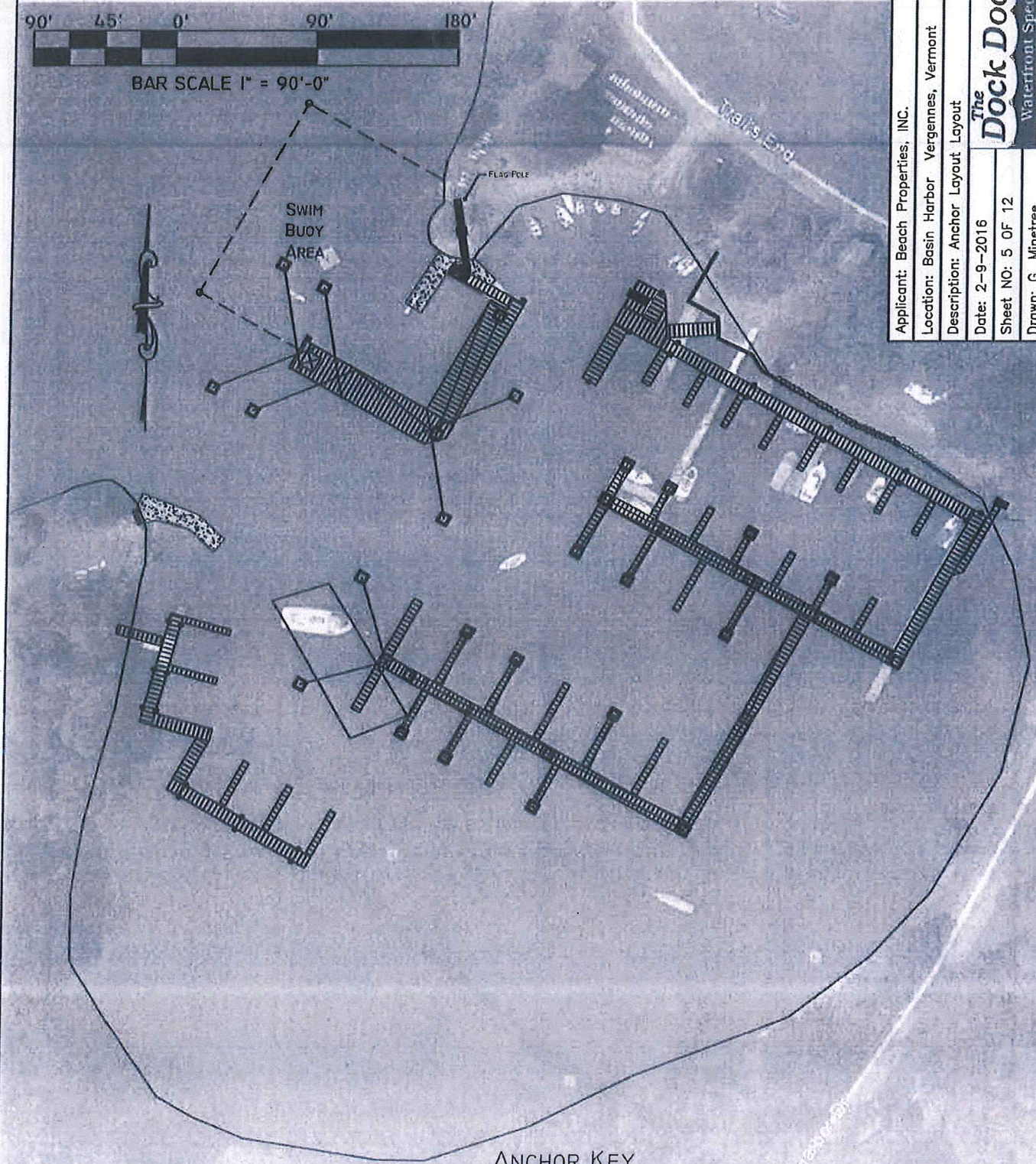
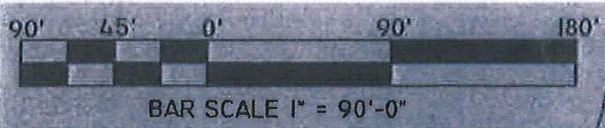
51'-9" ± x 84'-0" ±
EXISTING CONCRETE COVE DOCK
TO BE REMOVED TO LAKEBED

DOCK KEY:

	= EXISTING FLOATING DOCK
	= CONCRETE TO REMAIN
	= CONCRETE TO BE REMOVED

Applicant: Beach Properties, INC.
Location: Basin Harbor Vergennes, Vermont
Description: Existing Harbor Conditions
Date: 2-9-2016
Sheet NO: 2 OF 12
Drawn: G. Minnetree
Approved:
The Dock Doctors Waterfront Specialists
19 Little Other Lane Ferrisburg, VT 05456

Expansion plans

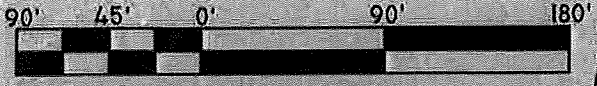
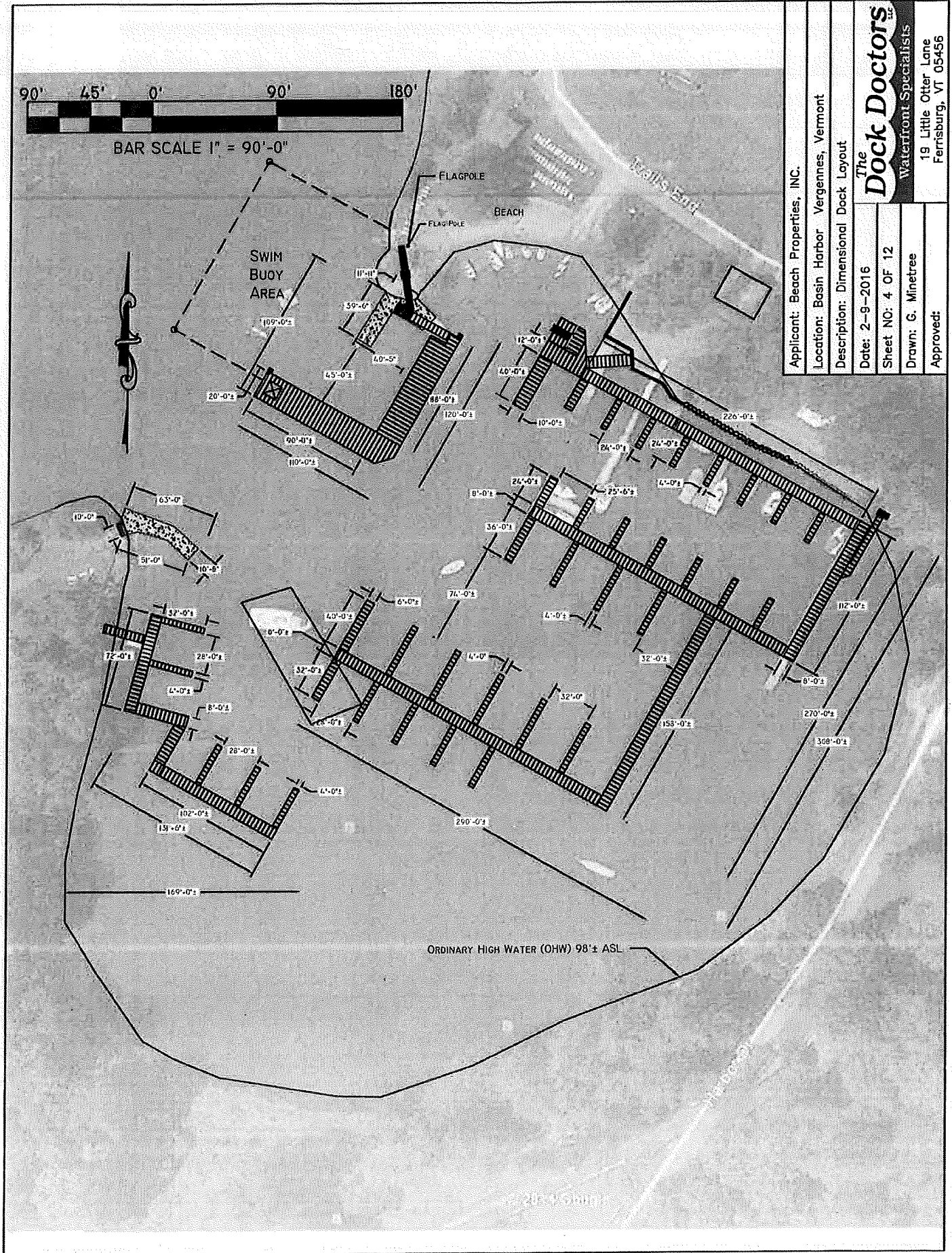


ANCHOR KEY

- = 3" GALVANIZED ANCHOR PIPE TYP. OF (25)
- = 6' X 6' X 14" CONCRETE ANCHOR BLOCKS TYP. OF (30)

Applicant: Beach Properties, INC.	
Location: Basin Harbor Vergennes, Vermont	
Description: Anchor Layout Layout	
Date: 2-9-2016	
Sheet NO: 5 OF 12	
Drawn: G. Minetree	19 Little Otter Lane Ferrisburg, VT 05456
Approved:	

Expansion



BAR SCALE 1" = 90'-0"

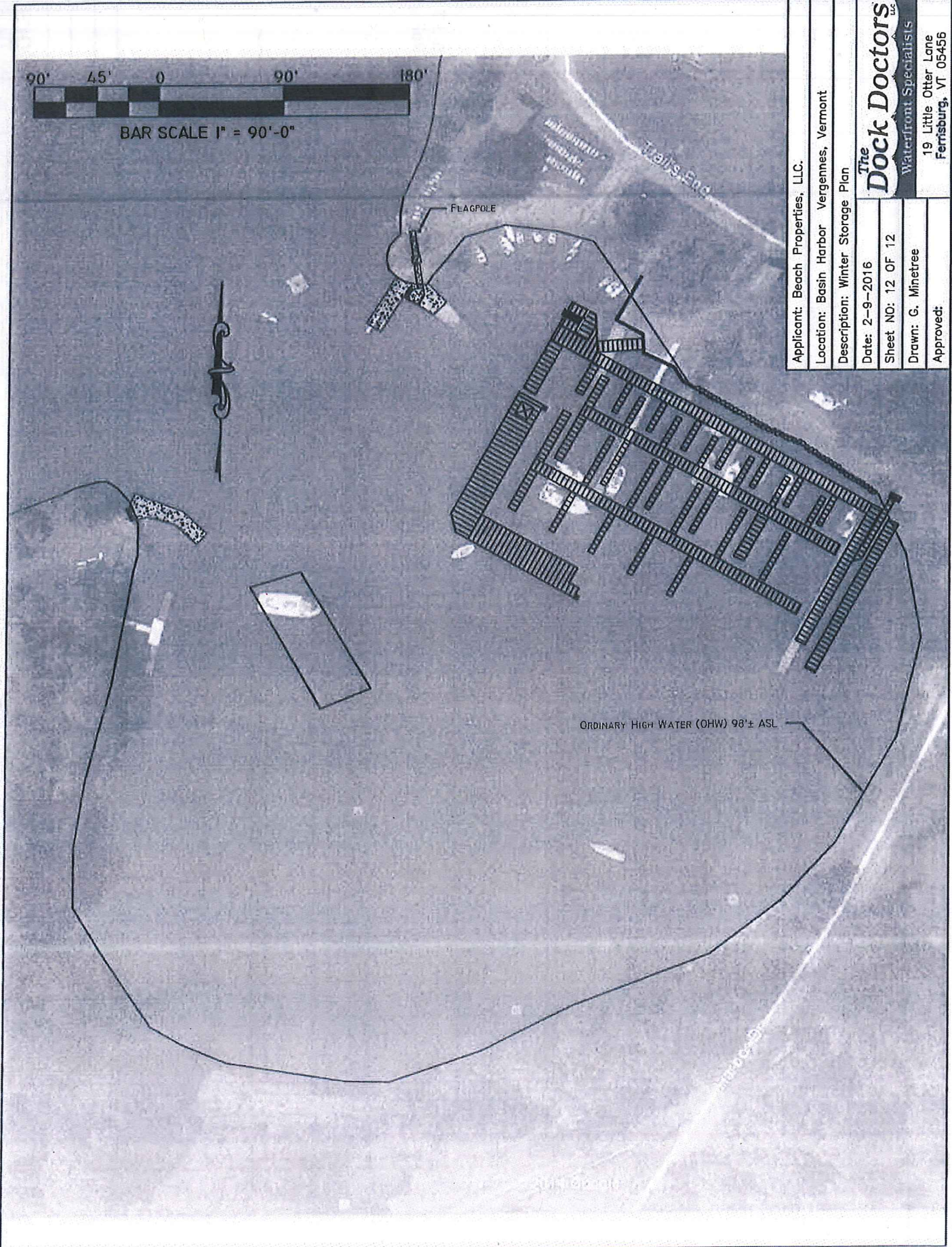
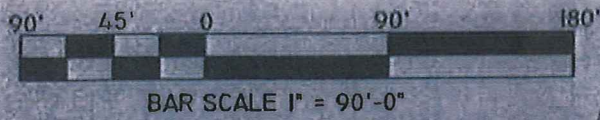


Applicant: Beach Properties, INC.
Location: Basin Harbor Vergennes, Vermont
Description: Dimensional Dock Layout
Date: 2-9-2016
Sheet NO: 4 OF 12
Drawn: G. Minetree
Approved:

The Dock Doctors
Waterfront Specialists
19 Little Otter Lane
Ferrisburg, VT 05456

ORDINARY HIGH WATER (OHW) 98'± ASL

Winter Storage



Applicant: Beach Properties, LLC.

Location: Basin Harbor Vergennes, Vermont

Description: Winter Storage Plan

Date: 2-9-2016

Sheet NO: 12 OF 12

Drawn: G. Minetree

Approved:

The Dock Doctors
Waterfront Specialists
19 Little Otter Lane
Ferrisburg, VT 05456

#4	
#3	
#2	
#1	

REV.	DESCRIPTION
DRAWN:	K. JEWELL
CHECKED:	---
APPROVED:	---

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BASIN HARBOR CLUB
LAKE CHAMPLAIN - VERGENNES, VT

GENERAL NOTES:

APPROVED TO BUILD

BY

DATE

PROJECT: BASIN HARBOR

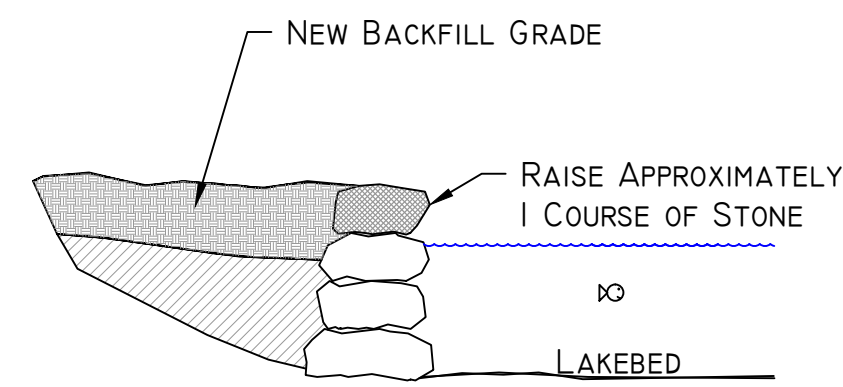
LOCATION: LAKE CHAMPLAIN

DESCRIPTION: STEEL TRUSS FLOATING DOCKS

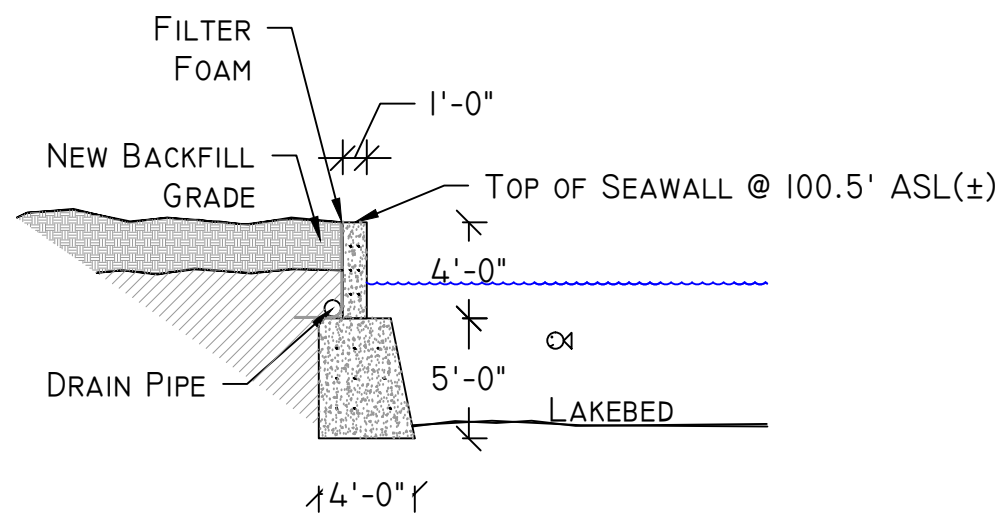
DWG#: STATE PERMIT

SCALE: 1/32" = 1'-0" DATE: 3/22/16

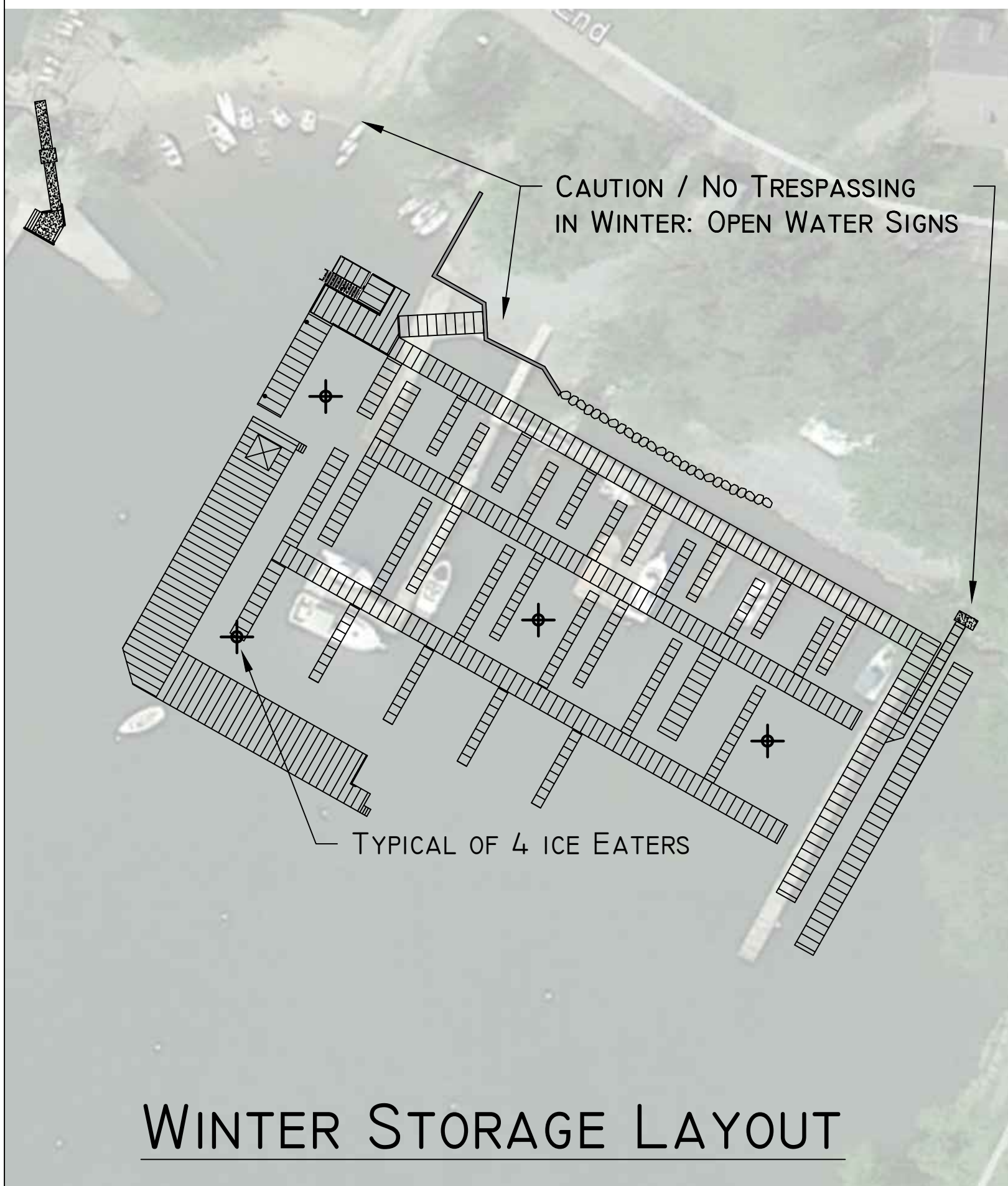
PAGE #



TYPICAL RIP RAP CROSS SECTION



TYPICAL SEAWALL CROSS SECTION



WINTER STORAGE LAYOUT



Updated 5/12/16 via email to show locations of 4 ice eaters and locations of 3 warning signs that will be posted during the winter months.--L.D.

MARINA LAYOUT