COASTAL RESOURCES MANAGEMENT COUNCIL

Oliver Stedman Government Center
4808 Tower Hill Road; Suite 116
Wakefield, RI 02879
401-783-3370

PUBLIC NOTICE

File Number: 2013-08-013 Date: December 3, 2013

This office has under consideration the application of:

Brian Pinsky
28 Lilly Lane
Narragansett, RI 02882

for a State of Rhode Island Assent to construct and maintain: a rack and bag oyster aquaculture farm in Ninigret Pond at: **41° 21.588'N; 71° 38.929'W**
41° 21.547'N; 71° 38.903'W
41° 21.508'N; 71° 39.002'W
41° 21.550'N; 71° 39.023'W

Project Location:	Ninigret Pond
City/Town:	Charlestown
Plat/Lot:	
Waterway:	

Plans of the proposed work may be seen at the CRMC office in Wakefield.

In accordance with the Administrative Procedures Act (Chapter 42-35 of the Rhode Island General Laws) you may request a hearing on this matter.

You are advised that if you have good reason to enter protests against the proposed work it is your privilege to do so. It is expected that objectors will review the application and plans thoroughly, visit site of proposed work if necessary, to familiarize themselves with the conditions and cite what law or laws, if any, would in their opinion be violated by the work proposed.

If you desire to protest, you must attend the scheduled hearing and give sworn testimony. A notice of the time and place of such hearing will be furnished you as soon as possible after receipt of your request for hearing. If you desire to request a hearing, to receive consideration, it should be in writing **(with your correct mailing address, e-mail address and valid contact number)** and be received at this office on or before: January 6, 2014.

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Brian Pinsky

Aquaculture Lease Application

November 15, 2013

Introduction

My name is Brian Pinsky. I am a 2010 graduate of the University of Rhode Island with a Bachelor of Science degree in Aquaculture and Fisheries. Ever since I was a young child I have been an outdoorsman and fascinated by every aspect of nature and the environment. It has always been my dream to have a career and make a living working on the water in some way. I've always had a strong attachment to the ocean. Over the past six years I have been using the ocean as my main source of income, with a variety of related jobs including working as a mate on a charter boat, scientific research diving, and observing for NMFS on commercial fishing vessels. After taking my first class in Aquaculture at URI, my goal has been to own and manage a commercial aquaculture operation.

Location Maps

Attached you will find three different location maps. The first is a nautical chart (Location Map 1), the second (Location Map 2) and the third (Location Map 3) are satellite images obtained through the Google Earth computer program. The first satellite image is a large scale view of Ninigret Pond, and the second is a smaller scale view. The GPS coordinates labeled on the maps were personally obtained on site, by me, using a handheld GPS unit (Garmin Colorado 400c).

The locations have been modified from those submitted in the preliminary determination to allow for a 50' buffer area between the site and the boundaries of Mr. Krause's existing farm, as recommended in the report. The site was also shifted slightly east to gain a bit more water depth, as this was a concern brought up by multiple people at the preliminary determination meeting.

The locations of the four corners for the proposed site which are labeled on the maps are as follows:

(A) Northeast Corner: 41° 21.588'N, 71° 38.929'W
(B) Southeast Corner: 41° 21.547'N, 71° 38.903'W
(C) Southwest Corner: 41° 21.508'N, 71° 39.002'W
(D) Northwest Corner: 41° 21.550'N, 71° 39.023'W

Photographic Documentation of Site

Attached are photographs taken at the site on May 22nd, 2013. There are 4 total, all taken from the same location (41° 21.555'N, 71° 38.982'W), which was roughly in the center of the proposed lease site. They are labeled with regard to general direction I was facing when each was taken.

Site Plans

All of the information for the site plans was gathered using personal observation and data collection techniques at the proposed site. The site was accessed on many occasions by small boat to gather the required information. There are three different sets of site plans attached. The first depicts the overall layout of the site and the arrangement of the gear; the second is a cross sectional view of the farm showing gear layout and mean high/low water depths; and the third shows detail of the PVC rack and growout bag gear which will be used.

Operational Plan

Oyster Culture

The method of aquaculture that I have chosen to use on this site is a PVC rack system. Using this system, grow-out bags are secured to PVC racks with bungee cords. The system is low cost and effective for culture of the Eastern oyster (*Crassostrea virginica*). After researching different grow-out methods and gathering information from other local farmers, this method was chosen for this site. The method works well in shallow water similar to that found at the proposed site location, and is also fairly low in materials costs compared to the other methods I researched.

The gear will be set up in rows, each assigned a letter as an identifier (ie. A,B,C,D...). Each time new oyster seed is brought to the farm, it will be put into a row and will stay in that row until it is harvested. This will allow me to easily track all seed that comes to the farm. Records about the seed on the farm will be kept in a log book, along with notes on the daily farm activities. The log book will allow me to record where seed came from, when it was planted, what row it is in, and any special notes about the seed such as high mortalities.

In my first season, I plan to start with both 1 inch and ½ inch seed. With the 1 inch seed, because of its size, a much higher yield can be expected. At this size, oysters are much more resilient against many of the stresses they are exposed to in the salt pond environment. These stresses include disease, high water temperatures, low dissolved oxygen, and predators. I also want to include the ½ inch seed so that the seed can be staggered on the farm initially. This will enable me to extend the harvest season longer than if I started with all of the seed at the same size. A long harvest season is good to have so you can provide close to the exact same size oyster year round to the customer.

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The gear maintenance that is associated with this type of oyster culture system is fairly basic. Over time, the grow-out bags accumulate biofouling. This primarily consists of seaweed, with some tunicates and other organisms showing up as well. If the bags are regularly maintained, the biofouling can be easily kept under control. The biofouling can be removed from a bag by brushing it aggressively with a stiff bristled brush, or even a gloved hand. Also, bags can be removed from the water and set out to dry in the sun periodically. This will kill anything living on the bags and make its removal easy. Bag drying will be done throughout the course of a day on the deck of the work boat. Eventually, a land site for drying bags will be used. At start-up my land based operation will be at my residence. Here, extra gear and associated supplies will be stored in a shed. Because of the location of my residence it will not be an appropriate site for bag drying to occur.

Grow-out bags need to be regularly shaken and flipped over on the racks. This is done for a few reasons; it ensures that the oysters inside are kept from growing into each other or into the bags, and also to ensure that each oyster receives sufficient food and oxygen. Cleaning the bags also provides an opportunity to remove unwanted predators that have found their way into or onto the bags. These predators include things such as crabs, oyster drills, and starfish, all of which can have detrimental effects to a farm if not controlled.

The oyster seed is initially placed into bags of ½" gauge mesh. The bags are 3' x 1.5', and 30 of them will fit onto each 50 ft PVC rack. Once the oysters in a bag just about double in volume, the bags are opened and the oysters are sorted and re-bagged. For the first year the oysters will be sorted by hand on a sorting table. When it is time to do the sorting, a bag of oysters will be dumped onto the table, dead individuals will be removed and set aside, and then the remaining live oysters will be sorted into containers based on their size. After being sorted by size, the oysters will then be put back into bags at the appropriate densities and placed back on the racks. Any dead oysters that were set aside will be taken off-site and disposed of in a dumpster.

Oysters will be harvested when they reach a length of 3 inches to 3.5 inches. This size is very popular with the half-shell market, and is where oysters will generate the best price per piece. When a batch of seed is approaching market size the oysters will be sorted and all market size oysters will be set aside into bags of specific quantities to make things easier when a customer needs an order filled.

There are many risks involved with oyster aquaculture. Problems such as disease, theft, predation, warm summer water temperatures, and winter weather (ice, wind, low tides) can be detrimental to an operation. The winter weather is especially a concern when dealing with shallow water aquaculture, such as at this proposed site. To deal with the potentially hazardous ice and low tides I will do what other farms with similar depths do and move and adjust gear as needed to prevent damage or moving of the gear. The western end of the site is the shallowest, getting down to 2' of water at low tide. If need be, the racks that are in the area will be removed to prevent damage or driven in so the gear is closer to the sea floor. The bags that were on the racks that are removed will be moved to the racks in the deeper portion of the site or put back on the racks that are closer to the sea floor. To avoid gear being moved and dragged around by the high winds that are typically present in the winter, all gear on

the site will be checked regularly to make sure that everything is secure. Adjustments to the gear will be made as needed to deal with the weather conditions present.

Seed Source

Oyster seed will be purchased from Matunuck Oyster Farm as soon as the lease is approved and all permits are obtained. I have spoken with Perry Raso, and he said that he would sell his seed to me. Depending on availability, seed might also need to be purchased from other sources. This will all be determined once the lease approval date is known and all permits and approvals are in place.

Intended Recipients

There is a high demand for Rhode Island oysters however; it is difficult to confirm definite buyers before actually having any product to sell. I have spoken with a few sources during my research and preparation for this application and have been told that if I grew a good quality product, they would be interested in purchasing shellfish from me. I am confident that there is a very strong market in the New England area for locally grown and harvested seafood. Oysters grown in the waters of the New England coast have an excellent reputation as being some of the best tasting oysters available. Oysters are very popular in both prepared dishes and eaten raw on the half-shell in many area restaurants.

Initially, I plan to sell to restaurants in the area. This will generate the best price per oyster, and can have a significant impact on profits during the first few years while the operation is still fairly small. Other outlets that I plan to explore in the first few years of operation are farmer's markets and caterers. As the farm matures and the operation is successful, it may make sense to sell to a wholesaler. Once a large number of oysters are being produced it becomes more manageable to sell everything produced to one place. There are wholesalers in the local area who could eventually be a possible outlet for my product, including: The American Mussel Harvesters and the Ocean State Shellfish Cooperative.

CRMC Section 300.11 Written Responses

1) ***Demonstrate the need for the proposed activity or alteration.***

   Aquaculture is a method of food production that unlike most others has a positive impact on the area surrounding it. Oysters are filter feeders and are constantly filtering and cleaning the waters that they live in. A single oyster will filter up to 50 gallons of water each day. In coastal ponds such as Ninigret Pond, excess nutrients are a big problem. Oysters are constantly consuming nutrients such as nitrogen, which is then permanently removed from the ecosystem when the oysters are harvested. This is a significant benefit to the water quality in an area where there is a farm containing up to a million oysters.

An oyster farm helps to contribute to the local community and economy. It creates jobs, cleans the pond water, puts money back into the economy through the purchase of gear and oyster seed, and provides fresh local seafood. There are many positive impacts resulting from the issuing of a new lease for an aquaculture operation.

2) ***Demonstrate that all applicable local zoning ordinances, building codes, flood hazard standards, and all safety codes, fire codes, and environmental requirements have or will be met.***

There are no local zoning ordinances, building codes, flood hazard standards, or safety codes, fire codes, and environmental requirements to be met in order to operate this farm.

3) ***Describe the boundaries of the coastal waters and land area that are anticipated to be affected.***

The area I have chosen for my site is located on the overwash plain in an area of Ninigret Pond that is west of the entrance to the channel leading to the Charlestown Breachway. It is situated south of Rob Krause's lease back in the cove formed by the peninsulas to the east and west of it. The only land area to be affected will be the marina that my boat is launched from and kept at. This will likely be Lavin's Landing, which is the closest marina in the pond to the site.

The pond bottom around and beneath the site will be affected, but only in positive ways. The operation will aid in Ninigret Pond becoming healthier and more productive. The oysters on the farm will be constantly filtering water, and taking out the phytoplankton that they feed on. This helps improve water clarity and fight against eutrophication of the pond. Improved water clarity gives more light to aid in the growth of aquatic plants such as eel grass. These plants then in turn serve as habitat for many juvenile fish and shellfish. The grow-out gear itself will act as a fish aggregation device and provide habitat and shelter for many of the organisms living in the pond.

4) ***Demonstrate that the alteration or activity will not result in significant impacts on erosion and/or deposition processes along the shore and in tidal waters.***

The PVC rack system that I will be using on my farm will have no negative impacts on the environment with regard to erosion or deposition processes along the shore or in the water. The oysters will deposit very small amounts of waste, or pseudofeces. This will not be a problem though as the tides present in the area will serve to flush out these wastes. Any

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biofouling that is removed from the grow-out bags will also be flushed out of the pond by the tides.

5) ***Demonstrate that the alteration or activity will not result in significant impacts on the abundance and diversity of plant and animal life.***

The proposed operation will do nothing but have positive impacts on the abundance and diversity of plant and animal life in Ninigret Pond. As I mentioned before, the gear will serve as shelter and habitat for many types of fish and shellfish. Juvenile fish can use the gear as a safe haven from predators, and adult fish can use it as a place to spawn.

Another major positive impact is that the operation will help to restore the naturally occurring oyster populations in the farm. Each year the oysters on the farm will spawn, and as a result two big events will occur. One is that the oysters in the grow-out bags will spawn with each other and then release oyster spat. This spat will find its way onto substrate throughout the pond. The second event that will occur will be that the sperm released from my oysters will find its way off the farm and help spawning with the naturally occurring population in the pond.

As far as plant life goes, an aquaculture operation will only enhance its abundance and diversity. The oysters will filter out phytoplankton and other suspended sediments. This will improve water clarity, allowing more sunlight to penetrate to the bottom where important plant species such as eelgrass live. Eelgrass is very important to the ecosystem in the salt ponds. It provides shelter and habitat for juvenile fish and also a place for juvenile shellfish to cling to and grow safely.

6) ***Demonstrate that the alteration will not unreasonably interfere with, impair, or significantly impact public access to, or use of, tidal waters and/or the shore.***

The site that I have chosen for my aquaculture operation was selected because it has no impact on public access or use of the waters or nearby shoreline. The site is located in a cove, away from the channels that boaters use to navigate around the pond. The closest land to the site is the north side of the barrier beach to the Southwest, and it is 300' away. Also, while there are many beach access points along the south shore of the pond that boaters like to use, there is not one on the shoreline directly behind the farm. The closest beach access point is

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approximately 1200' away and users do no need to cross over any portion of the proposed site to access it.

The main public use where there would be an interaction with the chosen site is kayaking. The site is deep enough where people would still be able to kayak over the gear at low tide without problem. There is plenty of room on both the East, West, and South sides of the site so that travel over it is never the only option for someone in a kayak. At mean low tide there will be between 1' and 2.5' of water over the gear. This will ensure that people can move over it without any interaction, and also there will be no visible gear to negatively impact the aesthetics of the pond.

7) ***Demonstrate that the alteration will not result in significant impacts to water circulation, flushing, turbidity, and sedimentation.***

Aquaculture gear is designed specifically to promote water circulation and flushing since oysters are filter feeders and need large amounts of water in order to grow and survive. The bags that the oysters are stored and grown in are made of plastic with mesh sizes ranging from ½" to 1" which water passes through very easily.

Oysters will have a positive impact on the turbidity of the water in which they grow. While they are filter feeding they remove phytoplankton, sand, detritus, and other organic matter from the water column. This lowers the turbidity levels in the pond. Lower turbidity helps to make the water more aesthetically pleasing as well as helps sunlight penetrate to bottom dwelling organisms that rely on it to survive.

The operation will not have any impact on sedimentation in the pond. The manner in which the gear is set up allows for good water flow both above and below the bags. The racks will be spaced out enough to allow good flow between each row. This allows currents in the pond to flush away any psuedofeces produced by the oysters along with any other sediment that may build up near the gear.

8) ***Demonstrate that there will be no significant deterioration in the quality of water in the immediate vicinity as defined by DEM.***

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Oysters are filter feeders and will improve the quality of water in the pond through their removal of phytoplankton and nutrients from the water. Water quality in the immediate vicinity of the lease site will not deteriorate at all.

9) ***Demonstrate that the alteration or activity will not result in significant impacts to areas of historic and archaeological significance.***

There are no areas of historic or archaeological significance on the proposed lease site.

10) ***Demonstrate that the alteration or activity will not result in significant conflicts with user-dependent activities such as recreational boating, fishing, swimming, navigation, and commerce.***

The chosen lease site will not create any user conflicts. The location is set away from the navigable channels in the pond, and the shoreline adjacent to the site is barrier beach and has no recreational use. There are no natural bottom structures on the site for fishing, and the water is shallow so there is little to no recreational boat traffic near it. The closest boat traffic would be in the channel, outside of the lease area, and at the beach access point well to the west of the area. There is not an abundance of wild shellfish or eelgrass located on the site.

11) ***Demonstrate that measures have been taken to minimize any adverse scenic impact.***

The proposed aquaculture operation will in no way disturb the aesthetics of the pond. All of the equipment will be totally submerged under approximately 1' of water or more at low tide. Besides the buoys marking the site corners, no gear will be visible on the site. Gear that is in the water will be laid out in an orderly fashion so that it is aesthetically pleasing to anybody who gets close enough to see it.

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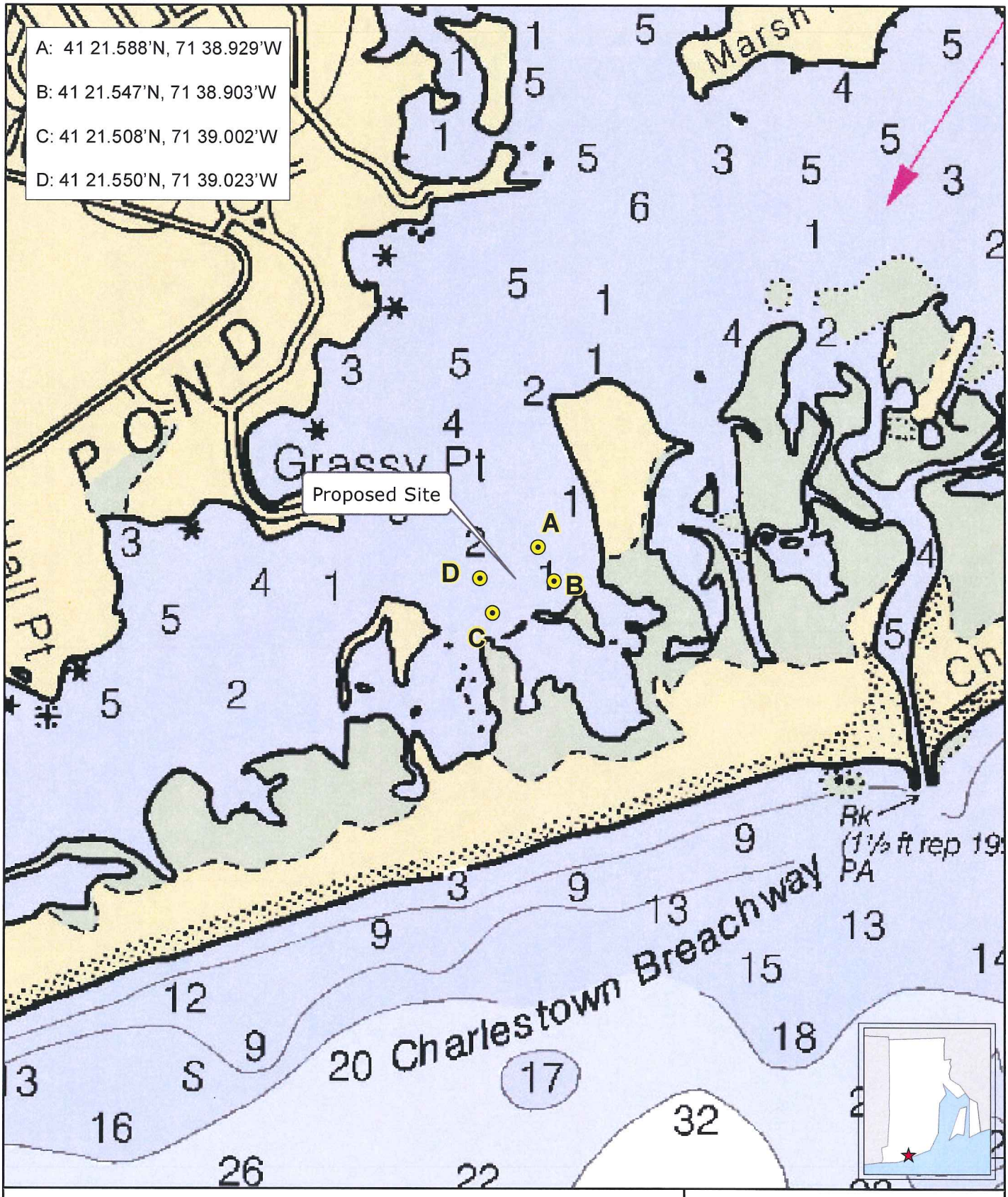

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Basemap information courtesy of University of Rhode Island Environmental Data Center, August 2013.

LOCATION MAP 1

CRMC File #2013-05-069

November 2013

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