

**TOWN OF CUMBERLAND
COASTAL WATERS COMMISSION
PUBLIC HEARING
OCTOBER 21, 2015
6:00 PM
TOWN HALL - 290 TUTTLE ROAD**

Present: Chairman Lewis Incze, Hugh Judge, David Carlson, David
Witherill, Mike Schwindt
Absent: John Berrett
Town Staff: Town Manager Bill Shane, Town Council Liaison Thomas Gruber
& Secretary Debbie Flanigan
Other: Barney Baker & Daniel Bannon from Baker Design Consultants

Chairman Incze opened the public hearing at 6:07 pm.

Chairman Incze welcomed the public to the meeting. He presented some background on the Broad Cove Reserve, the publicly owned portion of the property purchased by the town last year. The principal policy and management advisory body for the Broad Cove Reserve is a committee called the Ocean Access Committee. That committee deals with virtually everything that happens on the land parts of the reserve and has been holding regular public meetings for approximately the past year. There is also a standing committee called the Coastal Waters Commission which handles piers, docks, floats, moorings and things related to them, such as shoreline erosion and other impacts to the intertidal zone. Because this Commission exists, the Town and the Ocean Access has charged them with the planning and advising on the intertidal areas of the reserve, including the pier. There is already a pier on the property but it's an old one with limited remaining service life, owing to its age, its light construction; it was constructed as a personal pier, not a municipal pier; and its low elevation, relative to sea level and storm surges. The report that was commissioned from Baker Design Consultants estimated the useful life of the pier to about 5-7 years, if it does not succumb to a storm or winter ice damage before then. They also gave recommendations for strengthening the pier for use in the meantime and also for adequately covering public safety requirements, most of which have been implemented. Given the limitations of the current structure, earlier this year Town Manager Bill Shane hired Baker Design Consultants to help prepare a grant proposal to the Maine Coastal Program for planning and initial design of a new municipal pier to replace the existing one. The application for \$23,000 was successful and this public hearing is the first step in the process to evaluate design considerations; what is the interest in public usage and how would we design to accommodate those interests. The Baker firm was selected because the commission has been involved with them in many other applications for private piers in the town and also because they've worked on piers in neighboring towns of size that is similar to the pier that Cumberland is looking at. The Commission is here to discuss concepts of design and usage. How much it costs, how those funds would be provided, and whether or not the pier is actually built are topics for future public meetings. There is public interest in a pier for fishing, small boats and mooring access. At this point the Commission has approved twenty moorings for the upper portion of Broad Cove nearest the pier.

Barney Baker of Baker Design Consultants stated that his firm is located in Freeport, Maine and specializes in waterfront projects pretty much exclusively in Maine. They have worked on projects from Kittery to Lubec,

just in this year, and have approximately 30 years of experience in the State of Maine. He outlined the agenda for his presentation:

1. Project Background
2. Project Timeline and Progress to Date
3. Site & Existing Conditions Review
4. Proposed Replacement Concept Review
5. Public input survey
6. Examples of other recent projects

He showed a photo of the current pier. It is in Broad Cove and is 200' long, being in tough shape. He highlighted the project background:

- Town acquired Broad Cove Reserve in 2014.
- Existing 200'+/- timber pier on site.
- Jan. 2015, Town retained BDC to perform a condition assessment of existing pier.
- May 2015, Town applies for Shore and Harbor Planning Grant from Maine Coastal Program for engineering of a replacement pier.
- July 2015, grant funding approved.
- September 2015, Baker Design Consultants begins work on replacement pier design.

In January 2015, Baker Design Consultants went out to do an assessment of the existing pier and provided a report to the Coastal Waters Commission. Their findings determined that the existing pier is in tough shape.

In May 2015, the Town applied for a Shore and Harbor Grant and was awarded the grant which officially covers the engineering for the replacement of the pier, which is what Baker Design Consultants was hired to do.

Mr. Baker highlighted the project timeline:

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|----------------------------|-------------------------|
| • Concept Design | Oct. 2015 |
| • Public Participation | Oct. 2015 - Spring 2016 |
| • Town Council Approval | T.B.D. |
| • Funding Approval | July 2016 |
| • Permitting | July 2016-Oct. 2016 |
| • Construction of New Pier | Spring 2017 |

He stated that he is hoping to complete the concept design by the end of October. Public participation has already started with the Coastal Waters meetings and there will be some special meetings needed for approval and some Town Council meetings for approval, which have not been scheduled yet. Funding approval, if the project goes forward, won't occur until July 2016, with the new town budget. The permitting process will require approximately 3 months, with permits necessary from Department of Environmental Protection, Army Corps of Engineers, Submerged Lands, and the local town permits. Construction, at the earliest, would start in the spring of 2017.

He gave a report of the progress to date:

1. Site Survey
Topography. Bathymetry. Existing pier dimension and layout they can use to do the design work on.

2. Geotechnical Probes
11 probes driven to refusal to determine overburden depth/
ledge profile
3. Site Review
Aerial imagery, Resource/Habitat Data, Tidal Elevations, Flood
Mapping, Exposure
4. Conceptual Design
5. Public Participation
CWC meetings
Stakeholder identification
User input survey

He stated they have already done some survey work on the existing pier. He has a computer model of the pier site, which they can do their work on. They have done 11 probes near the existing cribs to find out what the subsurface conditions are out there. That will determine what you will use to support the pier; it's currently supported on cribs, so he thought rock was close to the surface, but it was discovered during the probes that it was not. So that may explain why some of the cribs are leaning a little. The cribs are likely to be supported by piles underneath them. They have also done a site review, and there is a lot of information available on the web about the aerial imagery, resource/habitat data, tidal elevation, and flood mapping exposure. A conceptual design has been completed and will be shared tonight. Tonight's public hearing begins the public participation process. The list of stakeholders includes:

- Coastal Waters Commission
- Ocean Access Committee
- Shellfish Commission
- Lands & Conservation Commission
- Chebeague & Cumberland Land Trust
- Robbins Family
- Wildwood Association
- Schooner Rocks Association/Ledge Road Area
- Chris Dimillo
- Bob Williams
- Nicola Manganello
- Bateman Partners
- Foreside Neighborhoods
- Yarmouth Harbor & Waterfront Committee
- Falmouth Harbor & Waterfront Committee

He stated that a public input survey has been put on Survey Monkey at:

www.surveymonkey.com/r/broadcovepier

The new pier project is located in the Broad Cove area and is a very shallow cove. Deep water access is out quite far. Next to the pier the water access is only 2' or less at low tide. This is the only public access waterfront

opportunity that Cumberland has with a pier on it. There is also water access at the Town Landing, but does not include a pier. He showed an aerial photo of the beach taken at low tide, showing areas of eel grass out from the pier. The beach is nice and sandy. The existing pier is 200' long with a 35' gangway and a float. The side view showed the cribs are spaced every 40' and the superstructure is very light, and was rated for light capacity, no more than 16 people at one time. He expressed concerned the pier would fail if there was a heavy snowfall on it. Upgrades to the railings were done so the pier would be up to code and also strengthened some of the stair elements, which are temporary measures to get the pier in operation this year. When you come off of the shore you get out about 40' and you have stairs that come down and then you have about 160' to get to the pier head, which is a barrier to any kind of ADA access. The proposed FEMA flood elevations are 16, which puts the wave height 2' above the higher elevation. The eel grass is somewhat roaming and moving around and will come into play when extending the pier out into the water and when considering the mooring field. The eel grass goes somewhere from just below water level to about 8' to 10' depending on the ability of light to travel through the water column. When you go out further to deeper water there is no eel grass. The Town has mapped out where the moorings would be that are serviced by the pier in concept, and to get to them you would have to travel through the eel grass through a designated channel, which would limit the impact to the eel grass beds. This is environmentally conscientious and progressive in placing the moorings. There is no eel grass around the pier.

He showed another photo of the current pier, explaining that the pier was a timber superstructure and the cribs were filled with rock to provide ballast and prevent them from being pushed around by the ice. The cribs are currently in different states of disrepair and some of them are rotting in place.

He showed an illustration of the proposed new pier. The cribs are every 40' and some of them are placed square to the ice and some of them are diamond shaped to the ice. He pointed to the areas where the probes were done to get the depth of ledge. He also indicated on the drawing where the probes indicated ledge and discovered how deep it was to refusal. This type of subsurface profile would indicate using piles instead of cribs, at least in the deeper section, because piles are cheaper, and just as restrictive to ice conditions if placed properly. In the shallower conditions, this is where you would use cribs, where you don't have enough overburden to develop the uplift capacity for a pile.

He presented a picture of the abutment. The original concrete was placed on the ledge but has gradually worn away. There is space below the abutment. The abutment is very cracked. The beams used to support the pier are a composite lumber and very thin construction. The construction on this pier was very ingenious because it relies on the railing in conjunction with the beams to provide the 40' spans. If the railings deteriorate, the beams on their own aren't strong enough to support their load. Everything on this pier is starting to deteriorate. The abutment has essentially been condemned because it is unfounded, on ledge; the superstructure has been condemned because it is inadequate for municipal loading, maybe for residential loading, but certainly not for municipal loading.

In showing photos of the cribs, he pointed out that due to lack of ledge below them, they are somewhat leaning. The timbers that are holding them together are rotting.

Typically for a municipal pier, you are looking at 6'. This pier is 3 ½ to 4 feet wide.

By modern standards, the gangway on the existing pier is short. The minimum gangway you can provide is 80'; the current gangway is 32'.

It is important to realize, that at extreme spring tides, this pier will dry out and floating in very shallow water, or not at all.

How do we get out to deep water? We could keep going out until we got to the deep water, but the pier would end up being so long that it would be very expensive and probably unpermissible. So we are looking at a pier that has all tide access for very shallow boats, or it would have all tide access for dinghies, which will serve the mooring field, except in extreme tide conditions which occur during full moon. But it would not have deep water access where you could just bring a sailboat up to it at any state of the tide. If you want to come and dock here with a sailboat, you would have to plan your trip. In Maine, the water rises and falls about 10'. If you have a draft of 5', you would not want to approach this pier in anything less than half tide because you would not make it to the dock.

He explained the proposed replacement concept.

A couple of features that would be employed very quickly are that the elevation of the pier would want to be raised to be consistent with the predicted base flood elevation. There is a predicted flood elevation of about 16 with high water being at elevation 5 or 6. You would be 10' about the high water elevation with the base flood elevation. That is extreme; there are no buildings on the pier. We would go to elevation 15 which is a foot below the predicted base flood elevation. The inference is, if you ever got a storm that big, the waves would reach the top of the pier, but they would only be a foot above it; they wouldn't put any extreme loads on the pier that it wouldn't be able to handle. The higher the pier is, it creates vertigo for some people walking on it, and it makes the gangway steeper. The diagram showed overlooks for people to fish, sit and watch the wildlife; an interior overlook would be installed and another overlook would be at the head of the pier. An 80' gangway would be built because that is the code requirement; it would be built off the front of the pier and it could be lifted upon the pier during the winter. The linear length of the float would be extended to get to deeper water. A side float would be added to the pier. The prevailing wind would be southwesterly. It would be a good dinghy float to protect the dinghies from the southwesterly winds. From an elevation perspective, only one crib would be put in because the middle of the pier would be anchored. Where a rock is shallow to the surface, you can drive piles to the ledge and pin them. When you get to deeper overburden, it is more cost effective to drive piles. On the overlook at the head of the pier, piles would be installed on the four corners of the overlook. In that area, this would be where the gangway is supported, which is very heavy; it is also an area where the deck has been widened and it warrants the extra piles. Piles would be placed at the end of the gangway to provide the ability to lift the gangway up, for instance in heavy weather, or if you want to move the floats out to the mooring field. The deck section would be 36' spans, with glulam beams near 30" deep. The glulam lets you go the long spans. You would not be relying on the rails to provide any support for the beams; the railing would be independent of the beam structure. The overlook section would be expanded to 12' and benches would be put on it. There would be an OSHA rail that requires a kick plate, mid-height rail and top rail. He referred to an

illustration that shows the proposed pier, which is 185' long, 15' shorter than the existing pier and doesn't project out into the water as far. The proposed pier would be pulled back onto the land, and would take advantage of the higher elevation and minimize the size of the abutment. Although the proposed pier is shorter, with an 80' gangway, the floats would actually start further out and reach deeper water. There would be one crib beneath the overlook, but the remaining pier would be supported by piles, which cost wise, are cheaper than cribs. The elevation is consistent all the way across, whereas the existing pier has stairs. Wheelchairs could be wheeled all the way down the proposed pier and down the gangway. Or if people are disabled in some way, the new pier would have the ability to reach the float. At the end of the pier, there would be a double pile configuration to complete the 12' platform.

He listed the highlights of the concept design:

- Pier length reduced by 15' +/-
- Replace existing 30' gangway with 80' gangway
 - ADA compliant
 - Moves gangway float seaward 20' for increased water depth
- Increase pier elevation to 16.0, constant elevation with no stairs
- Increase width to 6', add two 12' bump outs for fishing/viewing
- Replace timber cribs with pile bends in all but one location
- Expand float system with dinghy storage and short-term dockage

Mr. Baker showed illustrations of previous projects:

- Bowdoin College pier in Harpswell, with 44' glulam beam construction supported on steel piles, with 80' ADA gangway
- Madeleine Point pier in Yarmouth, municipal pier with granite crib support, long span glulam construction with bump out at end
- Pepperrell Cove Landing in Kittery, a town marina with floats and 80' gangway
- Lubec Town Marina, floating docks with access from a 80' ADA gangway
- Falmouth Town Landing Pier, a timber pier on timber pile supports, with dinghy storage to access mooring field

Chairman Incze opened the public portion of the public hearing at 6:55 pm.

Doug Geheb of 16 Wildwood Blvd. inquired about the requirements of a municipal pier vs. a residential pier.

Mr. Baker explained that a residential pier is typically owned and used by a single property and friends, and tends to be lighter in construction. A municipal pier has to be a catchall, being designed for the worst case conditions. There may be municipal events, commercial users, i.e. shell fisherman, or lobsterman. If the pier would have vehicles on it, it would have to meet code criteria.

Chairman Incze asked how long a pier such as the proposed pier could be expected to last?

Mr. Baker responded that the pier would be designed to clear the hundred year storm event.

Brian Mackerell of Cumberland Center asked for clarification on Mr. Baker's statement that the abutment configuration would change and it would be moved upland? What is a glulam beam and what kind of decking is being proposed?

Mr. Baker answered that the existing concrete abutment is about 10' tall. By moving further shoreward, you are essentially working up the slope. If the slope is at 1 to 2, and you move 6' further shoreward, then you effectively move up 3'. You're reducing the depth of concrete that you have to put there. Assuming that the rock is also climbing, you can put in a shorter abutment, one that is not subject to wet and dry of the tidal cycle.

Manager Shane stated that the existing gangway or walkway to the pier is located on the upland portion before you get to the actual abutment, so that may be a little confusing.

Mr. Baker showed a photo of the existing abutment, explaining that high tide comes pretty much to the base of the abutment. The proposed abutment would be further back, which does not disturb the existing upland. A glulam beam is made up of 2 x 6 material that is glued together. The joints are not lined up. The strongest timbers of the beam are at the extreme fibers. The proposed pier decking will be southern yellow pine, which is the cheapest, lasting 50 years.

Doug Geheb asked about the cost of the project. Also, going forward, what is the status of the projected to be as of July, 2016? What is the process in working with the Town of Cumberland and the Coastal Waters Commission in nailing down the requirements of the project, to nail down the final design that people can agree on?

Manager Shane stated that the preliminary design that Mr. Baker presented tonight had been seen in the past in sketch form. By January, Mr. Baker would have a cost number for the Commission and through the budget process will be going to the council with that number sometime in February or March. There will be another public hearing during a Town Council meeting and Mr. Baker will present the findings of cost. Mr. Baker will take tonight's comments and input from the Commission and put that together in final format to start putting some preliminary cost estimates together.

Mr. Geheb inquired if the proposed pier could be constructed for \$300,000 or less. The town has already spent \$3,000,000. He does support the facility and the usage. The bigger the project, the more the expense.

Manager Shane responded that is why Mr. Baker is trying to pull back the length of pier and why the town is looking at different options. This is the first time that we have seen some of this presentation and as the Coastal Waters Commission meets, they will be meeting on a monthly basis. By January or February Mr. Baker should have some number for us and those numbers will be put on the website.

Doug Geheb asked more questions about how many people can be on the pier at one time, how many boats can be put on the float, how large a boat can be put

on the float, is there swimming off the pier, what is the use going to be that drives the specs behind the design and the specs drive the dollars.

Manager Shane answered that those are the same questions that the Commission also has as well. Mr. Baker has met with the Commission twice. There is a long list of questions; there will be expectations, criteria at future meetings.

Chairman Incze stated that there was a list of stakeholders that was posted; that is obviously not the full list of stakeholders. The stakeholders are everyone in Cumberland. There have been a lot of ad hoc comments expressing interest in it. One of the purposes of the survey will be specifically to ask anyone, and encourage as many people in the town who are interested in this, to respond so there can be an accurate assessment of what the current interest really is before we start specing this out.

Penny Asherman of the Chebeague and Cumberland Land Trust asked about the process for obtaining permits and approvals for the project.

Barney Baker explained that because this is a marine environment structure, it is very heavily regulated. Authorities involved would be Army Corps of Engineers, who would speak for the Environmental Protection Agency and US Fish & Wildlife, the US Coast Guard and all the necessary federal agencies. The state agencies, which will include Department of Marine Resources, Inland Fisheries & Wildlife, Maine Geological Survey, Maine Archeological State Preservation, will be represented by the Maine Department of Environmental Protection. The land belongs almost entirely to the Town of Cumberland because the town owns all the land out to the low water mark. But anything beyond that, which is where the floats will go, is in the jurisdiction of the Submerged Lands. Approvals from the Department of Agriculture, Conservation and Forestry will be needed. Then there is the Town of Cumberland Planning Board and Coastal Waters Commission. There is an existing facility there already, which will make it a lot easier because what is being proposed, will pretty much keep to the footprint of the existing facility. If the existing facility was being upgraded, and weren't changing the elevation, the pile support, the width of the pier, or changing the floats, then an expedited permit process would be possible. But because the proposed pier will be built for the residents of Cumberland, it will necessitate the changes that will require the full permits required from the federal, state and local level agencies. The timeline for that is usually 3-4 months, depending on the agency; permits from the agencies are not required to be obtained all at once.

Chairman Incze estimated that if the town went ahead with the project, and the permitting process went smoothly, construction could possibly start in the spring of 2017.

Brian Mackerell inquired about the demolition of the existing pier and the construction of the new pier and if it will be done entirely by water or if there will be land access also.

Mr. Baker responded that the pier would typically be built from the water because it will require a barge. The nearest access point for materials would probably be the east end beach in Portland, or possibly coming out of the Royal River.

Cumberland does not have any boat ramp facilities. Depending on who got the contract for the new pier, there are marine contractors who have large

barges; they will stage an entire pier on that barge. A huge behemoth will appear on the horizon and then the pier will magically get built. And then there are smaller contractors that will require periodic loads to be delivered either by barge or possibly by land. The upland facilities here are sensitive, so that may not be possible.

The removal of the existing pier could be removed by barge and will not take that long.

Chairman Incze closed the public discussion portion of the public hearing at 7:26 am.

David Witherill inquired of Mr. Baker where the floats would be broadside to the prevailing winds and seas there and there is a fetch there. Do any of Mr. Baker's previous projects have the floats broadside to a large prevailing sea winds?

Mr. Baker stated that the prevailing winds in the summer are from the southwest. The prevailing winds in the winter are turned around from the north, so Broad Cove is protected but the pier will not be used then. The pier configuration that is being proposed has a float going at 90 degrees to the other floats and that float acts as a stabilizer to the other floats. The floats that are broadside to the waves will tip and sway with the wave action. This is a facility where the spaces are available to come up and moor alongside to pick up and drop off passengers for short periods of time when the boats are tended. If the weather gets rough, the floats will not be tenable. People who choose to use the mooring field may keep a dinghy or use a shared dinghy for a short stay and stop. Depending on the direction of the prevailing wind, people could choose which side of the float they land against. The tricky piece will be the wave action. These floats will be tethered with moorings, so they will have the ability to absorb some of the shock of the action. These floats will need to be removed from the facility each season because of the environmental requirements. The other part is what will be put on these floats?

Hugh Judge asked if the 50' extension of the pier included the floats?

Manager Shane stated that the conservation easement stated that the length of the pier could only be extended 50' without the floats. The jurisdiction ends at the low water mark. The end of new pier will pretty much be at the low water mark.

Hugh Judge asked if there is a limit of the number of floats that could go out perpendicular.

Mr. Baker stated that Army Corps of Engineers would be concerned about anything that would impede navigation.

Chairman Incze added that cost is a limitation and the advantage to going out is that you reach deeper water, whereas running parallel to the shore you don't meet that objective. From a weather exposure standpoint that may be a way to orient.

Mike Schwindt had no questions, but commented that Mr. Baker's presentation was very informative.

David Carlson asked about the pier going upland. How far back in the proposal would the pier be going back?

Mr. Baker stated that they surveyed and estimated about 5'.

Mr. Carlson asked if there was a gangway longer than 80'?
In shortening the pier, is there a limitation with respect to a longer gangway and shorter pier?

Mr. Baker responded that 80' is the longest gangway that he has ever seen. The depth of the beam is the function of the square of the length. If it gets longer, the applied section to resist the loads has to increase with the square of the length.

Manager Shane had two questions for Mr. Baker: If he was familiar with other facilities that have the same challenge where there is not boat launch but there is a municipal pier? What is Mr. Baker's opinion on the subject of the structure of the railings in relation to safety?

Mr. Baker responded that most people don't want anything to obstruct their view. The requirement of a facility is based on fall protection regulations by OSHA, which says top height rail at 42" and mid height rail is kick plate. That is something that needs to be worked on with the Coastal Water Commission. It will be very important to develop the parameters of the use of this facility. All piers have signage. There are some standards that will need to be applied.

There are launch facilities in Falmouth and Yarmouth. One of the items that is being captured in the survey is what type of boat is going to be put out. Another question in the survey is how many people already have their boats on moorings.

In closing the meeting, Chairman Incze stressed that Cumberland residents answer the survey. It is a real challenge to get this project at the right size. It is a costly project and there are a lot of things to consider. We obviously don't want to overbuild it but we have heard the estimate on the lifetime of the pier to be on the order of 50 years. We have to think about its attractiveness to education and other uses in a 50 year period. People answering this survey and attending future meeting will be important to help the Commission get this evaluated to be the right size. He encouraged people to go to the Town website and answering the survey, and also contacting members of the Coastal Waters Commission or Town Council with questions or comments that aren't addressed by the survey. There will also be regular Commission meetings, which are posted on the Town website. There have been people asking if there were going to be public moorings, many of whom do not currently have their boats moored someplace permanently, or their current location is not convenient for them for one reason or another. The Commission needs to get an accurate assessment of how many people think this is an important usage for them. The Commission envisions the attractiveness to be small boat users, kayakers, paddleboards, small sailboats and hand powered craft. Trying to build a facility that is adapted to all of that really means that the Commission needs to understand what the anticipated interest is.

Chairman Incze adjourned the public hearing at 7:50 pm.

Respectfully submitted,

Debbie Flanigan, Secretary

