Board of Selectmen

Meeting Agenda

The Provincetown Board of Selectmen will hold a public meeting on Tuesday, September 27, 2016, at 6:00 p.m. in Judge Welsh Room, Town Hall, 260 Commercial Street, Provincetown, MA 02657.

1. Joint Meeting with Provincetown Public Pier Corp.:
    A. Yearly reporting in September as set out in the Memorandum of Understanding (MOU).
    B. Discussions on creating an outdoor fish market and/or a shellfish factory on the Pier.

2. Joint Meeting with Harbor Committee – Discussions on Kayak Racks and other Harbor Committee Concerns.

3. Other - Other matters that may legally come before the Board not reasonably anticipated by the Chair 48 hours before the meeting. Votes may be taken.

Posted: www.provincetown-ma.gov 9/23/16 11:10 am dj

Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Tuesday, September 27, 2016

1A

JOINT MEETING – PIER CORP.

Yearly Reporting as Set Out in Memorandum of Understanding (MOU)

Requested by: Town Manager David B. Panagore Action Sought: Discussion

Proposed Motion(s)

Discussion dependent. Votes may be taken.

Additional Information

See attached materials.

Board Action

Motion	*Second*	*Yea*	*Nay*	*Abstain*	*Disposition*

EXCERPT FROM MEMORANDUM OF UNDERSTANDING:

The agenda of the September joint meeting will focus on reporting of operations and events of the prior summer season. At this meeting Pier Corporation will present its forecasts of the financial results for the year ending in December, and present for review a preliminary forecast of revenues and costs for the operating year beginning in January. Another key aspect of this meeting will be an in-depth review of Pier Corporation's long range (3-5 year) Facilities Maintenance Plan. The objective of this review is to align Pier Corporation's maintenance activities and plans with the Town's CIP program for pier-related capital projects, and major asset replacement or refurbishment programs.

PROVINCETOWN PUBLIC PIER CORPORATION

OFFICE OF THE HARBORMASTER

Provincetown Board of Selectmen
260 Commercial Street
Provincetown, MA 02657

September 27, 2016

Honorable Selectmen;

Tonight we look forward to a review of our seasonal update, a discussion of staff changes with the business manager position and a first look at the Bourne Engineering Condition Survey. Given the detail and volume of the report, we should schedule another meeting soon to discuss the report with you and our engineers and decide on a course of action for the budget implication of the maintenance plan.

We have also included two papers prepared by staff regarding seafood support services. One, written in 2015 was written at the time when the future of Aquaculture Research Corp (ARC) was uncertain. Since then, ARC has been rebuilt, and additional conversations with our stakeholders have improved our direction. The second paper outlines out current thinking on seafood support services.

End of Season Update: We could say this season is winding down, but in some ways we are as busy now and through the end of the year. At this writing we are getting ready for three cruise ship visits, El Galeon Andalucía from Spain, and several other events on the pier. This in addition to the ongoing maintenance projects, the work with our engineers to complete the condition survey, & development of a business manager position.

We have had some changes in staff and staffing this year. As you know Ellen has moved back to Town Hall and Jarrod Koskey has stepped into the admin void while we reorganize the department. Additionally, staff assignments for pump-out and office were incorporated into the weekly schedule. Second shift was doubled with an additional seasonal employee to address issues with squiders. Personnel sub-committee has worked through the job description and ad for the Pier Corp business manager position with input from the Town Manager. We have received 4 applicants and had brief interviews with three candidates. We are scheduling a 2nd round of interviews which will include Town Manager Panagore who has asked to be involved in the process. We established the business manager position to improve management operations and administrative controls without increasing the budget.

When MacMillan Pier is operating at full capacity, we have 11 ferry stops carrying over 5000 passengers (on Pan Mass Challenge Sunday, it's over 8000), 5 whale watch vessels

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running as many as 3 trips a day with a total capacity of 3600 passengers, in addition to our 55 commercial fishing vessel fleet and many other excursion and visiting vessels departing daily. This season we have had 25 rescue calls or assistance to the squad, 29 vessel assistance, 11 enforcement actions, 9 citations for vehicles or vessels, and 2 accident investigations. We have assisted other departments and agencies for 4 parades, deployed 3 buoys for the shark conservancy, run training for oil spill response, marina fire training and other joint operations. The pumpout program has averaged 238 gallons of septage a day for July and August with a high on July 4th of 1,350 gallons removed from vessel holding tanks. The new boats capacity is only 400 gallons.

We handled events such as Blessing, Schooner Regatta, Swim 4 Life, Fireworks, homemade boat race and Kalmar Nyckel as well as other visiting schooners and tall ships. Yankee Lambda Car Club has returned to us and the Coastal Rowing Regatta had its first run of what is now an annual event. An unscheduled event over Labor Day saw us using the pier to stage 17 buses when Hermine cancelled two days' worth of full Boston boats. We wrap up events on the pier with a commercial fishers survival training course in late October and then First Light Provincetown begins the New Year with fireworks again. We hosted the Part-time Resident Taxpayers assoc. for their August meeting at the Pavilion with a discussion of the improvements coming to both piers.

We have replaced motors on the crane barge and patrol boat. We are refurbishing the walkway benches and did a substantial rehab of the transportation dock. We are also working on a tender float with ADA style ramp for the cruise ship tenders to aid people in wheelchairs. We have timbers on hand for some waler work and planks for repairs to the decking this off-season. This is in addition to the regular ongoing maintenance of pumps, control cables and cranes, boats, toilet handles, power pedestals, light fixtures and moorings.

The Comprehensive Condition Survey of MacMillan Pier by our engineers is in final draft form. It has been reviewed by the Pier Manager, DPW Director Rich Waldo and his Water, Sewer and Buildings and Grounds teams. While the condition of the pier is good, the report reveals that deferred maintenance is catching up to the pier. We have 177 pilings that need replacement in the near future and electrical work needs to be done to refresh the system due to the corrosive effects of the marine environment. The report separates regular maintenance for Pier Corp from capital repairs for the Town.

There is an executive summary followed by a more detailed summary with recommendations and costs. Appendices of field notes and inspection reports follow. This has been a great collaboration between the departments. Given the extensive nature of the report, we look forward to meeting with the Selectmen again after we have all had time to digest the report and start plugging this repair program into the budgets.

Additionally, we have participated in the Town Manager's initiatives. We are working with Collins Center for data collection and analysis, we have assisted with the Stellwagen Bank Marine Sanctuary feasibility study, represented Provincetown for the Cape Cod

Chambers' Blue Economy Initiative, attended public records training, and the All-Hazards planning process.

Floating docks and Wave attenuators update. We recently had a site visit as part of the Army Corp permit process. It was enlightening and beneficial as EPA, NMFS (Marine Fisheries) and FEMA were all present. The DEP Chapter 91 license and 404 Water Quality Certification should be finished by the middle of next month. After that CZM can do their consistency review. Those parts need to be done before Army Corp can issue their permit. Army Corp has an environmental assessment to do as part of the review. The Army Corp expects to be done with that permit in about 6 months. FEMA on the other hand, has to do an environmental assessment as well and their process is now projected out to two years. The engineers are finishing up the bid documents and waiting on permitting.

If the Army Corp permit is complete by next spring, we can then move forward with expansion of the trapshed program and will have all the past non-compliant issues dealt with. There were no adverse public comments to address. There may be some issues around eelgrass from Marine Fisheries and the environmental people. This will allow us to get on the dredge program schedule for next fall.

Thank you for your time, we appreciate your time to discuss the issues and find solutions together.

Respectfully submitted,

Kerry Adams, chairman

Town of Provincetown
260 Commercial Street
Provincetown, MA 02657
Direct Line (508) 487-7030
Fax: (508) 487-7005

Office of the Harbormaster | Office of the Shellfish Constable

Proposal: We are seeking and endorsement from the Provincetown Public Pier Corporation to proceed with, and seek funding for, the best and highest use concept described herein.

Initial discussions lead us to believe that the best and highest use for the area at the end of the "T" on McMillan Pier would be a multiuse warehouse style building housing a shellfish growers co-op, hatchery and upweller. The structure would also include a workshop for pier needs and a retail location offering fresh shellfish including lobster. The scientific, educational and tourism components of the building will not only be of benefit to the municipality in the way of public outreach but will also aid in the seeking of funding to achieve the final vision. We are seeking pier corp. endorsement to move forward with this concept.

Local shellfish growers have shown an interest in forming a co-op and the proposed warehouse space would fit the purpose optimally. A not-for-profit shellfish co-op has impressive potential. Provincetown's aquaculture development area has proven that growing shellfish in deep water is a viable business model. "In subsequent years I see no reason for this fledgling industry not to experience exponential growth." (Wisbauer 2015) With the new Vibrio control plan introduced by DMF growers must deliver harvested oysters to a licensed dealer in a short span of time. The co-op, as a licensed dealer, will facilitate this due to its proximity to the growing areas. Members would also benefit from individual branding without the need to become "original dealers". We see this co-op as the main tenant of the warehouse. This entity would have the ability to receive grant funding for start up and the stability necessary to be a long term, rent paying tenant.

Woods Hole Oceanographic Institute is open to discussion regarding playing a role in the proposed hatchery and upwelling system. This would provide a scientific element to the facility and the entire process being open to the public brings educational and tourism into play. A portion of the lobster available for sale could be sourced from students with 25 pot commercial permits. These elements combined to form a powerful argument when seeking grant funding and local support. "...it is known that visitors value extractive activities much less then locals. To address this gap in agreement between locals and visitors, education and outreach programs should be offered to the public."(Maggio 2015)

The wholesale/retail aspect to this project will be the main source of revenue for the facility. While seed sales and upweller use will provide some revenue, the sheer volume of foot traffic during the summer and the wholesale needs of restaurants will be the main focus. Provincetown's board of selectmen has expressed a desire to see projects like this one succeed. Making available locally grown products benefits many different groups including, but not restricted to, shellfish farmers, restaurateurs, local residents, visitors and all the people with associated jobs. Board of Selectmen support will be a definite advantage in successfully achieving these project goals.

Again, we are seeking and endorsement from the Provincetown Public Pier Corporation to proceed with, and seek funding for, the best and highest use concept described above.

Thank you.

Rex McKinsey | Daniel Maggio | Stephen Wisbauer

Bourne Consulting Engineering
A Division of GEI Consultants, Inc.

Geotechnical

Environmental

Structural

Water Resources

Ecological

Condition Survey and Report for
Marine Structures at MacMillan Pier
Town Pier, Provincetown, MA

Submitted to:

Town of Provincetown, MA

Submitted by:

Bourne Consulting Engineering
A division of GEI Consultants, Inc.
3 Bent Street
Franklin, MA 02038

Date: September 23, 2016

Project No: 36087/ 1608900

EXECUTIVE SUMMARY

The Town of Provincetown has retained ***BCE*** to perform a comprehensive update to the original MacMillan Pier facility inspection performed in 2011. The facility is a multiuse facility run by the Town and managed by the Provincetown Public Pier Corporation.

The facility was constructed in 2002 and is comprised of a steel pile supported concrete superstructure consisting of concrete pile caps and concrete decking. The Pier is oriented in a generally North / South Direction. On the East side two finger piers, part of the previous pier construction were incorporated into the current facility. The East Face also supports a commercial marina while the West Face of the facility supports multiple commercial excursion vessels and passenger ferries.

Condition Inspection

A baseline inspection was performed in 2011 by ***BCE*** to document the condition of the facility. The current 2016 inspection was a routine 5 year inspection, replicating the previous inspection to allow a direct comparison to the previous findings. Detailed findings can be found in the Condition Reports attached.

The 2016 inspection also added detailed inspections of the following components which are included in Appendix G of the Report:

- Electrical Systems were inspected including marina and building power, site lighting and observations of voltage readings.
- Architect Inspection of the Harbormaster building including review of building envelope and all components
- Water Utility Systems including the fresh water, sewer and drainage systems for the pier, building and marina

Overall the MacMillan Pier facility is in good condition.

- The structural components of the pier typically exhibit minor corrosion to the steel piles and minor concrete cracking.
- The older finger piers typically have moderate deterioration but were part of the original construction
- The commercial marina floats are in need of replacement at the earliest opportunity but are currently in the design and permitting phase for reconstruction.
- The existing fender piles present the majority of the maintenance issues associated with the facility.
    - The existing piles are untreated oak piles.
    - These piles are deteriorating at a high rate due to marine borer attack.
- The water utility systems are generally in satisfactory condition and need routine maintenance and some limited repairs to ensure proper functionality.
- The electrical system is in fair condition overall but condition found included:
    - Multiple defects noted within the electrical systems including some severe.
    - Many of the defects are associated with the marina power systems which are expected to be replaced with the proposed marina system.
- The Harbormaster building is in good condition.
    - Minor to moderate defects were noted and should be repaired.

For a comprehensive list of the findings for the Utilities, Electrical and Building inspection refer to Appendix G.

Summary and Recommendations:

The following is a brief summary of the recommendations:

Pier

- Minor cracking and spalling of concrete require preventative repairs.
- Moderate and severe spalling of concrete require repairs to limit future deterioration
- Fender Piles:
    - Existing are untreated oak – experiencing a very short life span – little as 2 years
    - Upgrade to Composite Piling is possible but the performance of the new piles on the outshore face of the T head should be evaluated – expected very long life
    - Upgrade to Greenheart piles – Expected 15+ year life, highest costs for upgrade

Floating Docks (Marina)

- Marina is in the design and permitting phase for full replacement
- Marina electrical system needs a significant amount of work but would be replaced within the overall Marina project
- Concrete floats and mooring piles are in need of replacement

Handicap Accessible Access Floats

- Barges are in good condition
- Pile guides need repairs to limit further damage to the pilings

Utility Systems

- Water systems need normal maintenance

Electrical System

- Marina power system needs significant repairs, current condition has potential for safety concerns and may be attributing to the accelerated deterioration of the mooring piles.
- Lighting system is being upgraded to LED
- Repair of heat trace system

Building

- Minor issues including sealing openings, repair of wall tiles, installation of insulation, and the soffits need repair/ maintenance
- Moderate issues including some door replacements, installation of railings and attention to some code compliance issues

Maintenance and Capital Costs

The facility is generally in good condition but needs regular maintenance and long term planning for more significant capital improvements. As included in the attached reports, the maintenance and capital improvements are forecast out to 15 plus years for planning purposes but the recommendations should be re-evaluated following each periodic inspection. The tables below provide a summary of the tasks for maintenance and capital improvements presented by year.

Based upon our inspection and analysis, the appropriate level of the maintenance budget is $75,000 to $100,000 annually. There is an immediate need for $64,000 of maintenance repairs.

An identified Capital Improvement program requires $800,000 in immediate work.

Summary of Costs- See Summary and Recommendations section of report for breakdown:

	Immediate Costs	
Maintenance	$64,050	See page 18 for details
Capital Improvements	$812,000	See page 18 for details
	$5,333,200	Marina Replacement Project

	Annual Costs	Costs in Addition to Annual spread over Years shown														
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	15+
Maintenance	$53,400	$92,250				$95,000					$90,000					
Capital Improvements		$41,700				$14,000					$90,900					$270,000

See pages 17 to 21 for details

Maintenance Schedule	Annual	2-5 years	5-10 years	10 plus years
Pier				
Concrete deck repairs	X			
Pile Replacements (anticipated number)	26	20	20	20
Barge coating Patches	X			X
Barge Fender Repairs		X		
Crane Part Replacement	X	X		
Structural Components			X	X
Electrical System				
Inspection and Testing	X			
Inspection of Terminals				
Infrared Scanning of panel/switch boards				
Misc. Part Replacemnts			X	
Utility Systems				
Water System Inspection & Testing	X			
Backflow Preventer Testing		X		
Sewer System Inspection & Testing	X			
Drainage System Inspection & Testing	X			
Building				
Wall Repairs	X			
Roof Repairs	X			

Capital Improvement Schedule	2-5 years	5-10 years	10 plus years	15 plus years
Pier				
Timber Pile Replacements (anticipated number)				348
Barge Dry Dock and Repairs				X
Crane Hoist Replacements		X		
Crane Replacements			X	
Structural Components				
Electrical System				
LED lighting				X
Ground Fault System Upgrades				X
Voltage Readings				X
Inspection and Testing			X	
Inspection of Terminals	X		X	
Infrared Scanning of panel/switch boards	X		X	
Misc. Part Replacements			X	
Utility Systems				
Pump Replacements		X		
System Pressure Testing			X	
Water System Inspection & Testing				X
Sewer System Inspection & Testing				X
Drainage System Inspection & Testing				X
Building				
Wall Repairs			X	
Roof Repairs			X	
Doors			X	
Windows			X	
Other Misc. Repairs			X	

Condition and Survey Report for

Marine Structures at Macmillan Pier
Town Pier, Provincetown

BCE No. 36087/1608900

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CONDITION AND SURVEY REPORT FOR

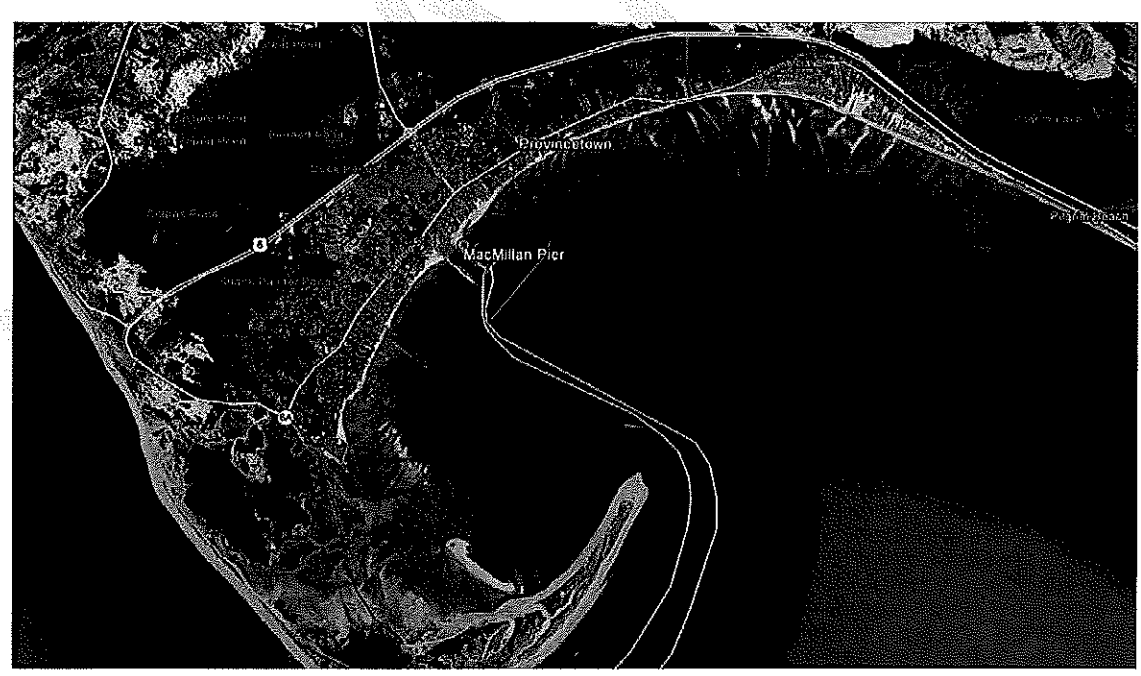
Marine Structures at MacMillan Pier
Town Pier, Provincetown

BCE No. 36087/ 1608900

1.0 INTRODUCTION

The Town of Provincetown and Provincetown Public Pier Corporation (PPPC) are seeking to revise/ update the established inspection, monitoring, and maintenance program for MacMillan Pier in Provincetown Harbor. The pier is a multi-use facility utilized by ferries, fishing vessels, commercial and recreational tour boats. It is also a public meeting place and an area where public access is encouraged to the Provincetown waterfront. The original pier construction was completed in 2003 and the PPPC is now seeking to reconfirm the current condition of the pier facility. Bourne Consulting Engineering (***BCE)*** was retained by PPPC to perform a baseline facility inspection in April 2011 and has performed annual inspections since that time. It is now 5 years since the original baseline inspection and ***BCE*** has now performed a repeat detailed inspection above and below water.

2.0 LOCATION



3.0 PURPOSE

The purpose of this study is to inspect the pier, marina, and associated structures and to identify any changes from the baseline conditions in order to provide data for future monitoring and maintenance. This inspection is intended to be an update of the original Baseline Inspection performed in 2011. The inspection methodology is to repeat the previous inspection and provide comparisons between the baseline inspection findings and this inspection. This

inspection was expanded relative to the original baseline to include a more thorough inspection of the utilities and Harbormaster building in an effort to develop a more complete maintenance program for the pier and all of its associated structures. The intent of this expanded inspection is to develop budgets for short and long term pier maintenance performed by the Town (Harbormaster) versus capital improvements performed by the Provincetown Public Pier Corporation.

4.0 SITE INVESTIGATION

On June 8-10, 2016, ***BCE*** personnel performed a routine above and below water condition inspection of the main pier, finger piers, floating docks (marina), steel barge, utilities, and Harbormaster's building at MacMillan Pier. Inspection consisted of tactile and visual inspection, including scraping of marine growth for a more detailed inspection. The timber and steel bearing piles, steel mooring piles, composite and timber fender piles and concrete floats were inspected above and below the waterline. No destructive testing or dismantling of the structure was performed.

As part of the Original Baseline inspection the methodology was 100% visual inspection, 10% cleanings on piles or area (barge) and 5% thickness readings on steel piles which were randomly selected. In an effort to provide comparison data of steel section loss to estimate corrosion rates, the same piles and the same approximate barge locations were selected for steel thickness measurements. A boat was utilized to access and inspect the below deck areas of the piers, support piles, fender piles, and under pier utilities.

Steel piles were examined for defects including corrosion, coating damage, jacket damage and jacket closure. Timber members were sounded and probed for defects including rot, section loss, and evidence of marine borers. Concrete was examined for general deterioration including rust staining, cracks, and spalling.

Underwater inspection was performed by in-house engineer divers using wet suits with self-contained underwater breathing apparatus (SCUBA) equipment. Visibility varied, but was approximately 10 to 15 feet during the majority of the inspection.

Still photographs were taken, both above and below the waterline. Representative photos can be seen in Appendix F.

The ratings found in this report are based on American Society of Civil Engineers (ASCE) Manuals and Reports on Engineering Practice No. 101 "Underwater Investigations" (SP#101) and are identified in the "Condition Grading Levels" table below, which was developed from the ASCE condition grading.

Member Rating	Est. % of Original Member Capacity	Member Rating Description
A Good	90-100%	No visible damage or only minor damage is noted. No repairs are required.
B Satisfactory	75-90%	Limited minor to moderate defects or deterioration are observed. No repairs are required.
C Fair	50-75%	All primary structural elements are sound, but minor to moderate defects or deterioration are observed. Localized areas of moderate to advanced deterioration may be present, but do not significantly reduce the load-bearing capacity of

			the structure. Repairs are recommended, but the priority of the recommended repairs is low.
D	Poor	25-50%	Advanced deterioration is observed on widespread portions of the member. Repairs may need to be carried out with moderate urgency.
E	Serious	< 25%	Advanced deterioration or breakage may have significantly affected the load-bearing capacity of primary structural components. Local failures are possible and loading restrictions may be necessary. Repairs may need to be carried out on a high-priority basis with urgency.
F	Critical	< 25%	Very advanced deterioration or breakage has resulted in localized failure(s) of primary structural components. More widespread failures are possibly or likely to occur, and load restrictions should be implemented as necessary. Repairs may need to be carried out on a very high priority basis with strong urgency.

Member Reference Plans were developed for the baseline survey based on the As-Built drawings provided by PPPC and the same base plans and inspection forms were used for this repeat inspection. All pile bents are referenced as per these as-built drawings. Copies of the referencing plans are attached in Appendix A.

5.0 INSPECTION FINDINGS

5.1 General

The seabed within the area of MacMillan Pier was made up of silty sand with shells and debris (lobster pots, line, spent fishing gear, etc.). Piles and bracing members had light to moderate growth. Typically, there was little to no scour noted around the piles. Mudline elevations varied around the pier. Soundings are included in Appendix B for the Main Pier and Appendix C for the Finger Piers. Detailed inspection notes and site layouts are included in the Appendices.

The findings below are broken down as new findings or changed conditions from the baseline survey and also identifies findings that were consistent with previous inspections (base line and annual inspections).

5.2 Main Pier

MacMillan Pier had a concrete deck slab supported on concrete pile caps on steel pipe piles. There was a timber fender system protecting berthing locations around the pier. The outshore main berthing face was in the process of having timber fender piles replaced with composite piles faced with Ultra High Molecular Weight Plastic (UHMW) and filled with concrete and sand. The composite piles were installed in early 2016 and the installation was not yet complete at the time of inspection. The fender system typically consisted of pairs of piles, spaced at 12'0" on center, and an upper timber chock and wale with rubber blocks attaching to the deck. Some piles had UHMW wear strips.

There were four "stabilizer" units below deck. Each "stabilizer" unit had a concrete cap supported by 6 steel piles and a center vertical timber pile. The stabilizer units were connected into the pier construction at the concrete pile caps.

The steel pipe piles were jacketed with a corrugated plastic pipe down to elevation -2.0'± Mean Low Water (MLW) which was filled with concrete. The interior of the piles is also believed to be filled with concrete.

Utilities, including electrical and plumbing, were present on the pier.

See Appendix B for detailed inspection notes. A summary of inspection findings is as follows:

- Deck Structure
  - 2016 Inspection findings that have changed since the baseline survey:
    - The topside of the concrete deck from the abutment to Bent 4 has minor to moderate (1/16" to 1/4") cracking that has increased since the baseline survey. Cracking in the concrete overlay is typically over the pile caps and precast panel joints. The cracks have increased in width and the concrete deck was in satisfactory condition with a "B" rating.
      - Cracking noted during the 2011 inspection was minor cracking <1/16".
  - Baseline inspection findings that were reconfirmed during inspection:
    - The underside of the concrete deck was in good condition with an "A" rating. There were two isolated panels where there was rust staining and minor spalling between Bents 52 and 54.
    - The concrete pile caps were in good condition with an "A" rating. There was rust staining and minor spalling on Bent 50 around the head of two piles.
    - The topside of the concrete deck from Bent 5 to Bent 42 was in good condition with an "A" rating. Minor cracking (hairline cracking <1/16") in concrete overlay typically over concrete pile caps.
    - The topside of the concrete deck from Bent 42 to Bent 70 was in satisfactory condition with a "B" rating. Minor to moderate (1/16" to 1/4") cracking in concrete overlay was noted over pile caps and precast panel joints.
    - The timber walkways were in satisfactory condition with a "B" rating. The timber decking typically had wear and checking with isolated areas of minor rot.
- Utilities
  - The utilities were not inspected, with the exception of visually for broken hangers, pipes, pedestals, etc., during the baseline survey but the scope of the inspection was revised by PPPC to include them in this inspection and report. The goal is to ensure complete budgets for long term pier maintenance. ***BCE*** hired sub-consultants to perform these inspections and their reports can be found in the appendices of this report.

- Electrical
  - The electrical system was inspected by RDK Engineers.
  - RDK found numerous minor maintenance items and repairs required such as cleaning terminals, installing knock out plugs for unused knockouts, changing cables that are not code compliant, etc. These items are listed in Appendix G.
  - RDK had also found more major items required as listed below:
    - Replace all marina power pedestals that do not have upward facing breakers on the power pedestals
    - Repair heat trace system
    - Install cord grips on concrete pier to support cables
    - Clean and test substation panel #6 – significant corrosion and circuit breakers require replacement
  - Complete RDK report on findings can be found in Appendix G.
- Buildings
  - The Harbormaster building was inspected by Wessling Architects
  - Wessling found numerous minor repairs required such as sealing around conduits/ openings, damaged wall tiles, insulation, soffit vents etc. as can be seen in Appendix G.
  - The more major repairs required were as follows:
    - Older vinyl clad doors/ windows, and sills requiring replacement
    - Replace and paint soffits, trim, fascia's, and corner boards
    - Replace guardrail at the buildings rear entrance and steel bollards in front of the building.
  - Complete report on findings can be found in Appendix G.
- Water and Sewer
  - The water and sewer system were inspected by Onsite Engineering, Inc.
  - Some of the minor repairs found were water pipe supports, need for a dehumidifier in the utility room, installation of an audible alarm/ remote monitoring for the sewer system in addition to the existing alarm beacon.
  - Some more major repairs were as follows:
    - Water system piping jacket repairs
    - Defective joints repair cracked risers
    - Additional back flow preventers should be installed
    - Replace frames and covers on the drainage structures
  - Complete report on findings can be found in Appendix G.

- Fender Pile System
  - 2016 Inspection findings that have changed since the baseline survey:
    - There were a total of 214 fender piles present on the main pier and the timber piles were typically in fair to critical condition with a "C" to "F" rating and the composite fender piles were in good condition with an "A" rating.
      - 62 piles in good condition with an "A", with minimal to no loss noted of the piles – new composite piles see below.
      - 24 piles in satisfactory condition with a "B" rating, with minor defects noted.
      - 53 piles in fair condition with a "C" rating, with up to 75% section loss noted.
      - 4 piles in poor condition with a "D", with less than 6" of original diameter remaining
      - 4 piles in serious condition with an "E" rating, with less than 2" of original diameter remaining.
      - 64 piles in critical condition with an "F" rating, were broken at the time of inspection.
      - 3 piles were missing during the inspection.
      - 2011 Baseline Inspection findings:
        - 140 piles were rated "C"
        - 23 piles were rated "D"
        - 10 piles were rated "E" or broken
    - The outshore face of the pier had newly installed composite piles filled with concrete and sand.
      - Six piles were not completely installed at the time of inspection. The construction was continuing to replace the wales and chocks around the piles.
    - At the locations of the ladders a lower chock and wale were typically present. Typically the chocks and wales were in satisfactory condition "C" with minor to moderate evidence of hollowing caused by rot at both ends of the timber with varying depths between 3" and 10".
  - Baseline inspection findings that were confirmed during inspection:
    - The timber chock and wale, were typically in good condition with an "A" rating. There were some chocks and wales (<10%) found to be in satisfactory to fair condition.
    - The rubber units were all in good condition with an "A" rating.
    - There was moderate to heavy marine borer damage on the timber piles; both limnoria and teredo were noted on the piles.
    - Per discussions with the Harbormaster, the timber piles were confirmed to be untreated oak piles.
    - All the piles were capped with a plastic caps which were in good condition.

- The UHMW facing and hardware on the fender piles was typically in satisfactory condition with no major defects.

- Steel Bearing Piles and Jackets
  - Original pile wall thickness is unknown for the 14" steel tapered piles and ½" for the 12" Pipe piles.
  - The Ultrasonic Thickness measurements (U/T's) of the steel were attempted to be taken in the same locations as previously by finding the old cleaning locations. Locations were on exposed steel below jackets.
  - 2016 Inspection findings that have changed since the baseline survey, See the tabulated findings in Appendix B:
    - Pile wall thicknesses varied:
      - The minimum (U/T) for the Bearing Piles was 0.400" and the maximum was 0.480" with an average of 0.424" for all of the bearing piles.
      - The average (U/T) from Bent 25 to 41 was 0.474"
        - 2011 Baseline average was 0.475"
      - The average U/T from Bent 42 to 70 was 0.400"
        - 2011 Baseline average was 0.400"
    - Based on the small variation, the corrosion rate is determined to be minimal and should be reassessed following the next facility inspection. Pile coatings were typically in good condition and the low corrosion rate is consistent with coating condition.
    - The total increase and decrease in the thickness readings ranged between 0.005 inches both positively and negatively, which is within the accuracy limitsations of the instrument.
    - The larger discrepancies the (U/T's), max 0.02" at Pile 52 ME and 58 TB, can be due to the location where the measurement was taken not matching the exact location of the original measurement.
    - There was minor surface corrosion of patches 6"x6"found on piles along Bent 55 and Bent 56 near the underside of the jackets.
  - Baseline inspection findings that were confirmed during inspection:
    - All the steel bearing piles were in good condition with "A" ratings.
    - All the corrugated plastic jackets and the steel jacket closures were in good condition with minor deficiencies noted.

- Stabilizer Units
  - 2016 Inspection findings that have changed since the baseline survey:
    - The average U/T on stabilizer piles was 0.423" in comparison to 0.405" in 2011. The "C" rated steel pile on stabilizer unit 4 had flaking of the coating with a U/T measurement of 0.440" at mudline. Original thickness is assumed to be 0.500" per the as-built plans.
      - Pile NWB in Stabilizer 2 had a 0.09 change in (U/T) reading from 0.375 to 0.285.
      - Pile W in Stabilizer 4 had a 0.440" near the mudline reading in comparison to 0.165" in 2011. The coating was found to be flaking but no visible corrosion was noted and a similar U/T reading could not be found. This low reading could have been an error in recording or an error of the instrument during the 2011 inspection

and should be re-evaluated as part of the next facility inspection.

- Discrepancy in the measurements could be due to the location where the measurement was taken as well as the accuracy of the equipment during the inspection.

- Baseline inspection findings that were confirmed during inspection:
  - The concrete caps on stabilizer units were in satisfactory condition with a "B" rating. "B" rating was due to minor to moderate (1/16" to 1/4") cracking and minor spalling was observed.
  - All the steel piles on stabilizer units 1, 3, and 4 were in good condition with "A" rated piles except the North batter pile on stabilizer unit 4 which was in fair condition with "C" rated pile.
  - Stabilizer 2 appears to have localized corrosion in the piles and concrete as seen in the U/T measurements. The underside of the concrete had minor to moderate corrosion staining present.
  - The jackets and the jacket closures were typically in good condition with no deficiencies noted for the stabilizers.
  - All the timber piles were typically in satisfactory condition with "B" rated piles except on stabilizer unit 4 which was in poor condition with "D" rated pile because a large section of the pile has been cut/ removed at the underside of concrete.

5.3 Finger Piers

There were two narrow finger piers located on the North side of the Main Pier. These finger piers were part of the previous pier construction and were incorporated into the new MacMillan Pier layout. The finger piers were referenced as North and South. The finger piers had a concrete deck slab with timber curb supported on concrete pile caps on timber piles. The North finger was longer with four additional bents added during the 2003 pier construction. There was a continuous timber fender system comprising a timber wale with a pair of piles at each end of each bent. See Appendix C for detailed inspection notes.

- Deck Structure
  - 2016 Inspection findings that have changed since the baseline survey:
    - The edge beam on the North Finger pier between Bents 15 to 21 had severe cracking ranging up ¼" wide and spalling up to 3' long and 3" deep with exposed rebar on the inshore side.
    - The concrete pile caps on the South Finger were in good condition with a "B" rating with minor cracking except Bents 3 to 6 which had minor to moderate cracking in the pile cap and were rated to be in satisfactory condition with a "C" rating.
  - Baseline inspection findings that were confirmed during inspection:
    - The concrete pile caps on the North Finger Pier were in satisfactory condition with a "B" rating with the exception of Bents 7 to 9 on the North finger. The pile cap between these bents had minor to moderate spalling and cracking and was in satisfactory condition with a "B" rating. The rebar chairs had caused rust staining at these locations.
    - The underside of the concrete deck was typically in satisfactory condition with a "B" rating with cracking noted.

- The topside of the concrete deck was in good condition with an "A" rating with only minor cracking noted.
- Timber curb was in fair to poor condition with a "C" to "D" rating. The timber curb typically had section loss and rot with portions disconnected to existing pier and fender system. The South finger curb was attached to the fender piles whereas the North finger was attached to deck.

- Timber Fender System
  - Piles rated "D" had a min of 6" of original diameter remaining and piles rated "E" or "F" were either typically broken or had less than 2" remaining.
  - 2016 Inspection findings that have changed since the baseline survey:
    - The timber fender pile condition ranged from fair to critical with a "C" to "F" rating. There was severe marine borer damage on the timber piles; both limnoria and teredo were noted on the piles.
    - On the North Finger there were 26 piles in satisfactory or better condition, 20 piles in poor condition with a "D" rating and 2 piles in serious condition with an "E" rating and 32 piles in critical condition with an "F" rating.
      - 2011 Baseline Inspection findings - North finger
        - 27 piles were in poor condition with a "D" rating
        - 35 piles were in serious condition with a "E" or broken
      - Of the piles replaced since 2010, including those performed in 2011, 2012 and 2013, most require replacement again. During those years 57 piles were replaced.
        - 18 piles were in fair condition with a "C" rating
        - 12 piles were in poor condition with a "D" rating
        - 17 piles were in critical condition with a "F" rating
        - The above list represents approximately 82% of the previously replaced piles requiring replacement again.
    - On the South Finger were 16 piles were in satisfactory or better condition, 6 piles in poor condition with a "D" rating, 1 pile in serious condition with an "E" rating, and 44 piles in critical condition with an "F" rating.
      - 2011 Baseline Inspection findings - South finger
        - 37 piles were in poor condition with a "D" rating
        - 30 piles were in serious condition with a "E" or broken
      - Of the piles replaced since 2011 including those performed in 2011, and 2013 most require replacement again. During those years 29 piles were replaced.
        - 11 piles were in fair condition with a "C" rating
        - 1 piles were in poor condition with a "D" rating
        - 3 piles were in critical condition with a "F" rating
      - The above list represnets approximately 52% of the previously replaced piles requiring replacement again

- Baseline inspection findings that were confirmed during inspection:
  - There were 88 fender piles and 101 fender piles on North and South Fingers respectively.
  - Critical condition timber fender piles were typically failed at mudline or broken at low water
  - There was no coloration or evidence that the piles had been treated with timber preservative.
  - The timber chock was in satisfactory to fair condition with a "B" to "C" rating. There were four locations in which the timber chock was in serious condition with an "E" rating or missing.

- Timber Bearing Piles
  - 2016 Inspection findings that have changed since the baseline survey:
    - All findings were consistent with the previous findings from the baseline inspection 2011.
  - Baseline inspection findings that were confirmed during inspection:
    - The bearing piles had a green hue usually associated with CCA treated timber.
    - The timber bearing piles were in satisfactory condition with a "B" rating. The timber typically had minor defects.
    - Minor marine growth was found on all piles.
    - The hardware was in satisfactory condition. There was no hardware below low water.

5.4 Floating Docks

There were two floating docks, referenced as North and South docks consistent with the Town's nomenclature. Each dock had a concrete main float with timber float fingers supported by steel mooring piles. The main floats were floating concrete modules joined using timber wales into longer units. Timber finger floats were conventional timber decking on plastic floatation units connected to the concrete main float wales using a steel pin clevis connection. There were two aluminum gangways providing access to the floating docks. See Appendix D for detailed inspection notes.

It should be noted that there is currently a plan to replace the entire floating dock system with a new system this coming Fall 2016 subject to permits and funding.

- Concrete Floats
  - 2016 Inspection findings that have changed since the baseline survey:
    - Multiple temporary repairs have been completed to the concrete main floats. The repairs were found to be in good condition with no further damage in the area.
    - The main concrete float on the North Dock was listing inshore between the gangway and mooring pile 8.
    - The main concrete dock floats were in poor condition with steel plates covering areas of heavy cracking.

- Pile guides on the fingers on both North and South Docks were in satisfactory condition, but are missing rollers or need new rollers as noted.

- Baseline inspection findings that were confirmed during inspection:
  - The concrete floats were typically in poor condition. The last 2 outshore floats on the North Dock were in fair condition.
  - Cracking was noted throughout the concrete decks.
  - The concrete bottom and the sides of many of the floats had fallen off. The foam flotation was exposed and had damage.
  - The rubber deck fenders were in poor condition and falling off.
  - The wales and cleats were in satisfactory condition.

- Timber Finger Floats
  - 2016 Inspection findings that have changed since the baseline survey:
    - No new findings were found during the inspection, all findings were consistent with the previous findings from 2011.
  - Baseline inspection findings that were confirmed during inspection:
    - The timber floats were typically in satisfactory condition. The inshore clevis connections were high holding up the edge of the floats. The "B" rating was due to the floats sagging at concrete float connection.

- Steel Mooring Piles
  - 2016 Inspection findings that have changed since the baseline survey:
    - The steel mooring piles were in poor to serious condition with "C" to "E" ratings due to holes or large corrosion areas found
    - Flaking of the coating was evident from low water to mudline on all mooring piles on the North Dock.
    - Nine out of 38 mooring piles had holes found during the inspection. See the detailed notes for locations.
    - The average U/T at low water was 0.320" but was as low as 0.210". Based on the thickness measurements, the original wall thickness has been estimated to be 0.375".
    - Similar to the pier steel pilings the U/T measurements varied by an average of 0.005" which is within the tolerance of the instrumentation. The calculated corrosion rate, based on steel thickness, is minimal but should be re-evaluated after the next facility inspection if the piles are not replaced.
    - The calculated corrosion rate is inconsistent with the multiple holes found as seen in the tabular findings attached in Appendix D. While most of the larger holes are at the low water elevation from the pile guides small pin holes to 1" diameter were located near the mudline. This should be reviewed further to determine the cause of the additional corrosion which could be stray current from the vessels.
  - Baseline inspection findings that were confirmed during inspection:
    - The coating has been worn away by the guide rollers and the steel piling

was rusted through the tide range.

5.5 Handicap Accessible Access Floats (Steel Barge)

The handicap accessible access float was comprised of two floating steel barges connected by a pin clevis type connection and supported by steel mooring piles. The barge has mooring cleats and fenders for vessel berthing. There were two aluminum gangways, an access gangway, and a ramp platform for riders which allow access down to the main barge. There was an aluminum ramp and stairs off of the main barge down to the second barge. See Appendix D for detailed inspection notes.

- Steel Barge
  - 2016 Inspection findings that have changed since the baseline survey:
    - Under the aluminum gangways the barge coating was being damaged by the gangway or the gangway flip plate resting on the barge, however the barge was recently recoated.
      - The Harbormaster noted that the barge has historically been recoated where needed yearly.
    - The oval screw down hatches (both the cover and screws) were rusted shut and had to be heated and cut open for the inspection.
    - There were three UHMW wear strips missing from pile guides at Piles SB7 and SB8. Pile guides at Pile SB2 and SB1 have split wood behind the wear strips.
    - The large barge had water inside two end compartments from previous ballasting adjustments for repairs to the connection, as notified by the Harbormaster.
      - There was significant condensation noted on the walls and interior framing due to the volume of water present.
    - The cast in place concrete ballast was found to be degrading, probably due to moisture on the interior of the large barge.
    - Barge interior was in overall good condition with minimal defects noted.
    - Barge to barge connection at inshore end was recently repaired and upgraded structurally due to previous failures according to Harbormaster.
    - Barge thickness readings were consistent with the previous inspection findings as seen below. There was minimal variation in the readings and the estimated corrosion rate is minimal but should be reassessed following the next facility inspection.
    - The tactile warning strip had been repaired and was no longer creating a tripping hazard.
  - Baseline inspection findings that were confirmed during inspection:
    - The main and small barge were in satisfactory condition with some coating peeling and minor rust areas on the interior and exterior.
    - The fenders and cleats had surface minor to moderate rusting but were in sound working condition.
    - The underside of the barge had marine growth but was in good condition where cleaned.
    - Sacrificial anodes were attached along the perimeter of the barges and

appeared to be in working condition with 80% or more remaining.

- Pile guides were in satisfactory condition.
- The main barge had minimum U/T measurements on the bottom of the barge of 0.370", the side above water of 0.365", and the side below water of 0.365"
- The second barge had minimum U/T measurements on the bottom of the barge of 0.375", the side above water of 0.380", and the side below water of 0.380"

- Steel Mooring Piles
  - 2016 Inspection findings that have changed since the baseline survey:
    - Minor corrosion and pitting was found on piles close to mudline
      - There were isolated areas where pitting was severe, however varied pile to pile.
    - Steel mooring pile thickness readings were consistent with the previous inspection findings as seen below with a variation typically of 0.005". This variation is within the tolerances of the equipment. The estimated corrosion rate is minimal and should be reassessed following the next facility inspection.
  - Baseline inspection findings that were confirmed during inspection:
    - The steel mooring piles were in good condition with an "A" rating.
    - The coating has been worn or removed by the UHMW on the pile guide and the steel was rusted through the tide range.
    - The minimum U/T measurements on the mooring piles were 0.495" at low water and mudline.
- Aluminum
  - 2016 Inspection findings that have changed since the baseline survey:
    - The large gangway with canopy supports had new rollers being installed during the inspection. The gangway was not installed at the time of inspection
    - Access gangway flip plate had UHMW installed on the end to protect the end and the deck coating.
    - There were two gangways providing access to the barges
    - The ramp rider system was no longer in place.
  - Baseline inspection findings that were confirmed during inspection:
    - Access gangway tubes rest on deck at high tide events and had wear on the underside of the tube. In area of wear there was UHMW installed.
    - Railing on ramp from 4' freeboard to 3' freeboard had impact and wear damage from the large gangway with canopy supports. Welds had failed at base of post and top tube of railing had worn through.

6.0 SUMMARY AND RECOMMENDATIONS

MacMillan Pier is generally in satisfactory condition. Maintenance needs to be performed to maintain the condition of the pier. The facility should have another annual inspection performed on the topside next year and another full facility inspection above and below water in 5 years.

Below are recommendations for repairs which should be addressed:

Main Pier

- The Main Pier is in overall good to satisfactory condition. It is recommended that routine above water inspection be performed annually and underwater inspections be performed every 5 years.
- Three ladders need bottom (low water) connections repaired for safety – Bent 64 on outshore face of "T", Bent 47 on North side and South Finger at outshore end. – Should be repaired immediately.
- 108 total timber fender piles are in poor to critical condition and should be replaced to avoid damage to vessels or pier- see attached tables in appendices. – see breakdown of pile repairs below for yearly allocation.
- Minor cracking in deck should be monitored annually for deterioration. Cracking is most likely associated with discontinuity at pile caps. Sealant should be applied to reduce the chloride infiltration to the deck and decking reinforcement. – should be repaired annually
- Isolated minor spalling should be monitored. Repair would consist of chipping away concrete, coating steel and patching however the defects are not sufficiently deteriorated at this time to warrant repair.
- Impact of Grade C pile on stabilization unit is likely to be minor but would require further analysis to quantify severity. Corrosion rate on this pile seems high given adjacent pile readings of similar age piles. The repair that would be recommended is concrete jacket around pile extending to mudline.
- Based on number of deteriorated timber fender piles after only 13 years in service, alternative material should be considered for replacement – see Capital Improvements 15+ years.

Finger Piers

- The finger piers are in overall satisfactory to fair condition. It is recommended that routine above water inspection be performed annually and underwater inspections be performed every 5 years.
- The areas of spalled concrete should be repaired to protect the rebar from further corrosion. Repair would consist of chipping away concrete to sound material, coating steel, and patching using shotcrete or equivalent – should be repaired immediately.
- The large cracking found in the pile caps should be repaired to limit further deterioration and future spalling. All other cracking should be monitored for further deterioration– should be repaired immediately.

- There are 34 total grade "E" or grade "F" on the North Finger pier fender system and 45 total grade "E" or grade "F" piles on the South Finger Pier fender system that should be replaced within the next year.
- There are 20 grade "D" piles on the North Finger Pier Fender system and 6 grade "D" piles on the South Finger Pier Fender system that should be replaced within the next 2-3 years.
- Based on number of deteriorated fender piles, alternative materials should be considered for replacement piles, refer to the Capital Improvements.

Floating Docks

- The marina is currently in the design and permitting process to be replaced in the fall of 2016 with a new system. If the marina is not replaced the issues listed below should be addressed.
- The concrete floats are in poor to serious condition and it is recommended that they be replaced. A large majority of the floats bottoms and sides are broken and resting on mudline exposing the flotation. The Styrofoam flotation is exposed and is susceptible to damage. None are recommended for reuse.
- The timber finger floats are in satisfactory condition, and could be considered for reuse, however life span should be considered in the overall cost review in comparison to cost for replacement in the future.
- Steel piles will need to be repaired/ replaced. Electrical grounding should also be evaluated due to the condition of the piles (approx. 14 yrs old) as they may have been exposed to stray currents in the marina accelerating the corrosion. Piles should be cleaned and recoated. Also, consideration should be given to filling all steel piles with concrete.
- Mooring pile guides need rehabilitation as all/ most of the rollers are seized or worn such that they no longer roll.
- New pile guides should have UHMW pads not rollers to eliminate the current issue with the mooring guide rollers. Coating on the piles shall be fusion bonded or high solids epoxy.
- In review of the existing conditions, the gangways could be considered for reuse or repurposed if there is a need/ option.

Handicap Accessible Access Floats

- The steel barges are in good condition; routine above water inspection should be performed annually and underwater inspections be performed every 5 years.
- The steel barge surface rust and coating damage should be cleaned using SSPC-SP 3 or better, power tool cleaning and recoated .
- The mooring guide bolts should be tightened or replaced as noted with lock nut or use of lock tight – should be performed annually.
- Mooring pile guide wear strips that have been damaged or lost should be replaced as noted – should be performed annually.
- Ramp from 4' freeboard to 3' freeboard top rail pipe should be repaired to prevent water infiltration– should be performed immediately.
- Mooring pile guide bolts should be checked and tightened annually or after a large storm event to prevent loss or damage.

- Aluminum structures should be inspected annually for proper hinge and roller function.
- Barges should be inspected on a regular basis for water including condensation. Water found should be removed on a regular basis.

7.0 REPAIR IMPROVEMENT COSTS

7.1 Maintenance Repairs

The MacMillan Pier facility needs repairs and maintenance to maintain the functionality which it provides to all of the users. The facility serves a multitude of users from recreational boaters to commercial fishermen and commercial passenger vessels and tour boats. The tables below provide a breakdown of the recommended maintenance and improvements program which needs to be followed to keep the facility in satisfactory working condition. The Capital Improvements represent work to be performed by the Town or Harbormaster while the Maintenance is work to be completed by the PPPC.

The following is a summary of the costs for the projected Maintenance and Capital Improvements. All fender repair costs are based on use of greenheart pilings. Composite piles have a longer projected life at higher costs but are a relatively new product and it would be prudent to evaluate durability at this facility prior to complete replacement with composite piles. All costs are estimates in present day values and will be subject to bidding conditions at the time of the work.

Immediate Repairs < 1 year

Maintenance Repairs	$64,050	See Table 1, Pg. 18
Capital Improvement Repairs	*$812,000*	See Table 1, Pg. 18
Capital Improvement – Marina Replacement	*$5,333,200*	
Maintenance Repairs		
Annual Maintenance	$53,400	See Table 2, Pg. 19
2 – 5 Year Maintenance	$92,250	See Table 3, Pg. 19
5 – 10 Year Maintenance	$95,000	See Table 4, Pg. 20
10 – 15 year Maintenance*	$90,000	See Table 5, Pg. 20
Capital Improvements		
2 – 5 Year Capital Improvements	$41,700	See Table 3, Pg. 19
5 – 10 Year Capital Improvements	$14,000	See Table 4, Pg. 20
10 – 15 year Capital Improvements*	$90,900	See Table 5, Pg. 20
15 year plus Capital Improvements*	$270,000	See Table 6, Pg. 21
Upgrade to Fender System – Tropical Hardwood	$460,000	
Upgrade to Fender System – Composite Piles	$590,000	

*Recommended to be re-evaluated following next scheduled routine inspection

	Immediate Costs	
Maintenance	$64,050	See page 18 for details
Capital Improvements	$812,000	See page 18 for details
	$5,333,200	Marina Replacement Project

	Annual Costs	Costs in Addition to Annual spread over Years shown														
		2	3	4	5	6	7	8	9	10	11	12	13	14	15	15+
Maintenance	$53,400	$92,250				$95,000					$90,000					
Capital Improvements		$41,700				$14,000					$90,900					$270,000

Table 1 Immediate Repairs					
	QUANTITY	UNITS	RATE	SUB TOTAL	**TOTAL**
Immediate Repairs - <1 year					
Maintenance Repairs					**$ 64,050**
Pier					$ 36,000
Structural Components					
Concrete Deck Repairs	62	SF	$ 500	$ 31,000	
Ladders	3	EA	$ 500	$ 1,500	
Barge - pile guide repairs	7	EA	$ 500	$ 3,500	
Utilities					$ 23,600
Water Systems	1	LS	$ 6,300	$ 6,300	
Sewer System	1	LS	$ 3,800	$ 3,800	
Drainage System	1	LS	$ 13,500	$ 13,500	
Building					$ 4,450
Walls	1	LS	$ 1,550	$ 1,550	
Windows	1	LS	$ 500	$ 500	
Roof	1	LS	$ 1,200	$ 1,200	
Other	1	LS	$ 1,200	$ 1,200	
Capital Improvement Repairs					**$ 812,000**
Pier					$ 627,000
Timber Fender System					
Piles ("E" to "F" Condition)	177	EA	$ 3,500	$ 619,500	
Chocks and Wales ("D" to "F")	5	EA	$ 1,500	$ 7,500	
Structural Components					$ 125,000
Finger Pier - Concrete Pile Caps	50	SF	$ 2,500	$ 125,000	
Electrical Systems					$ 60,000
Misc. Elec. Repairs see report	1	LS	$ 60,000	$ 60,000	

Table 2 Annual Repairs					
	QUANTITY	UNITS	RATE	SUB TOTAL	TOTAL
Annual Maintenance Budget					**$ 53,400**
Pier					$ 32,500
Concrete Deck Repairs - Misc spalls	1	LS	$ 5,000	$ 5,000	
Timber Fender System	5	EA	$ 3,500	$ 17,500	
Barges (Coating & Pile Guides)	1	LS	$ 5,000	$ 5,000	
Cranes - average cost	1	LS	$ 5,000	$ 5,000	
Electrical System -Inspection & Testing	1	LS	$ 2,000	$ 2,000	$ 2,000
Utilities					$ 17,000
Water Systems - Inspection & Testing	1	LS	$ 5,000	$ 4,000	
Sewer System - Inspection & Testing	1	LS	$ 5,000	$ 4,000	
Drainage System - Inspection & Cleaning	1	LS	$ 9,000	$ 9,000	
Building					$ 1,900
Walls	1	LS	$ 1,200	$ 1,200	
Roof	1	LS	$ 100	$ 100	
Other	1	LS	$ 600	$ 600	

Table 3 - 2-5 Year Repairs					
	QUANTITY	UNITS	RATE	SUB TOTAL	TOTAL
2-5 Years Regular Maintenance					**$ 92,250**
Pier					$ 84,000
Timber Fender System	20	EA	$ 3,500	$ 70,000	
Barges (coatings & fender repairs)	1	LS	$ 10,000	$ 10,000	
Cranes - Additional to annual maintenance	1	LS	$ 4,000	$ 4,000	
Utilities					$ 5,000
Backflow preventer testing	1	LS	$ 5,000	$ 5,000	
Building					$ 3,250
*See Attached breakdown for Building					
Capital Improvement Repairs					**$ 41,700**
Electrical System					$ 13,000
Inspection of Terminals	1	LS	$ 10,000	$ 10,000	
Infrared scanning of panelboards and switchboards	1	LS	$ 3,000	$ 3,000	
Building					$ 28,700
*See Attached breakdown for Harbormaster Building					

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Table 4 - 5+ Year Repairs					
	QUANTITY	UNITS	RATE	SUB TOTAL	TOTAL
5 + Years Regular Maintenance					**$ 95,000**
Pier					$ 90,000
Structural Components	1	LS	$ 10,000	$ 10,000	
Timber Fender System	20	EA	$ 3,500	$ 70,000	
Barges (coatings, anodes, fender repair	1	LS	$ 10,000	$ 10,000	
Electrical System					$ 5,000
Misc. replacement of units	1	LS	$ 5,000	$ 5,000	
Capital Improvement Repairs					**$ 14,000**
Utilities					$ 5,000
Pump replacements	1	LS	$ 5,000	$ 5,000	
					$ 9,000
Cranes hoist part replacement	1	LS	$ 9,000	$ 9,000	

Table 5 - 10+ Year Repairs					
	QUANTITY	UNITS	RATE	SUB TOTAL	TOTAL
10+ Years Regular Maintenance					**$ 90,000**
Pier					$ 90,000
Structural Components	1	LS	$ 10,000	$ 10,000	
Timber Fender System	20	EA	$ 3,500	$ 70,000	
Barges (coatings, anodes, fender repair	1	LS	$ 10,000	$ 10,000	
Capital Improvement Repairs					**$ 90,900**
Pier					$ 30,000
Cranes (full replacement/ upgrade)	1	LS	$ 30,000	$ 30,000	
Utilities					$ 10,000
System Pressure Testing	1	LS	$ 10,000	$ 10,000	
Electrical System					$ 23,000
Inspection of Terminals	1	LS	$ 10,000	$ 10,000	
Infrared scanning of panelboards and switchboards	1	LS	$ 3,000	$ 3,000	
Misc. replacement of units	1	LS	$ 10,000	$ 10,000	
Building Improvements					$ 27,900
Walls	1	LS	$ 7,000	$ 7,000	
Windows	1	LS	$ 8,000	$ 8,000	
Doors	1	LS	$ 4,900	$ 4,900	
Roof	1	LS	$ 2,500	$ 2,500	
Other	1	LS	$ 5,500	$ 5,500	

Table 6 - 15+ Year Repairs					
	QUANTITY	UNITS	RATE	SUB TOTAL	TOTAL
15+ year - Capital Improvements					**$ 270,000**
Pier					$ 200,000
Structural Components	1	LS	$ 50,000	$ 50,000	
Barges (drydock, anodes, and repairs)	1	LS	$ 150,000	$ 150,000	
Upgrade Remaining Timber Fender System					
Tropical hardwood piles (15-20 yr life	131	EA	$ 3,500	$ 458,500	
Composite piles (30 yr life)	131	EA	$ 4,500	$ 589,500	
Electrical System					$ 57,500
LED lighting	44	EA	$ 1,000.00	$ 44,000	
Ground Fault system	1	LS	$ 10,000	$ 10,000	
voltage readings	1	LS	$ 3,500	$ 3,500	
Utilities					$ 12,500
Water Systems	1	LS	$ 3,800	$ 3,800	
Sewer System	1	LS	$ 1,200	$ 1,200	
Drainage System	1	LS	$ 7,500	$ 7,500	

Condition and Survey Report for

Marine Structures at Macmillan Pier
Town Pier, Provincetown

BCE No. 36087/1608900

APPENDIX A

EXISTING CONDITION PLANS

Exhibit A1	Existing Deck Plan
Exhibit A2	Existing Pile Plan
Exhibit A3	Existing Floating Docks Plan
Exhibit A4	Existing Handicapped Access Barge

(It should be noted that per request from the Town upon review of the initial 2016 Draft Report the description of overall direction of the facility was to be adjusted so that North was inshore. This correction was made to the body of the report however the tables will remain unchanged until the next routine inspection tentatively scheduled for 2021.)

Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Tuesday, September 27, 2016

1 B

JOINT MEETING – PIER CORP.

Discussions to be held on creating an outdoor fish market and/or a shellfish factory

Requested by: Town Manager David B. Panagore Action Sought: Discussion

Proposed Motion(s)

Discussion dependent. Votes may be taken.

Additional Information

See attached materials.

Board Action

Motion	*Second*	*Yea*	*Nay*	*Abstain*	*Disposition*

OFFICE OF THE HARBORMASTER

MACMILLAN PIER

Town of Provincetown and PPPC locally produced seafood support summary:

We have learned, from preliminary discussions that eventually providing a simplified way to brand local seafood would be of benefit to fisherman, aquaculturists and the Town. We also learned, that while an area for a shellfish nursery, cleaning, culling and packing would be of benefit, there is great concern about any reduction of access to the pier either from boats or trucks. The needs of fishermen have changed and we are actively listening.

While supporting aquaculture branding and retail sales could require infrastructure, significant shellfish production is still years away. Today, the Town and PPPC are encouraging aquaculture by assisting with permitting and logistics. Provincetown has new growers with all needed permits in place. Local aquaculture is increasing exponentially and the pathways to market are still being developed. This industry is finding a place at our facility and we are listening to its needs as production increases.

Local lobster supply is well established and in quantity that would justify direct retail and branding support today but long existing pathways to market would seem make this a secondary business.

An organizational entity would be necessary to realize both simple and complex support for local seafood promotion. While eventual seafood branding would require a permitted single fixed location to act as primary buyer, a "lobsterfest" or "shellfish tasting" could be of use to gauge interest and continue the conversation about what support is needed. Many lobster fishermen already have the permits necessary for "meet the boat " retail sales. Live shellfish (excluding lobsters) are considered a "high hazard food" and the current standards for sale to the public are strict in comparison to other seafood. With Town zoning support, a contracted mobile food truck would have the proper permitting needed to sell local shellfish at an event.

We need to continue working with our commercial operators to determine what support systems they may need. Large quantity production of saltwater ice to reduce seafood mortality, better truck access to the pier and sorting area for shellfish are examples of requested improvements to infrastructure.

As the industry grows, we will look at more complex support. If a single fixed location became appropriate it could be found by looking at new or existing buildings on Provincetown's larger waterfront as it develops or, without reducing access, MacMillan Pier would benefit from a structure to serve as a winter workshop and indoor storage but space is tight. Addition of science and tourism could generate other grant monies and subsidies to support such a facility but the way to anticipate these future needs is by continuing to listen. This report was compiled with the assistance of the Shellfish Constable.

Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Tuesday, September 27, 2016

2

JOINT MEETING – HARBOR COMMITTEE

Discussions on Kayak Racks & Harbor Committee Concerns

Requested by: Town Manager David B. Panagore

Action Sought: Discussion

Proposed Motion(s)

Discussion dependent. Votes may be taken.

Additional Information

Board Action

Motion	*Second*	*Yea*	*Nay*	*Abstain*	*Disposition*

Provincetown Harbor Committee

260 Commercial Street
Provincetown, MA 02657

Provincetown Board of Selectmen
260 Commercial Street
Provincetown, MA 02657

September 27, 2016

Honorable Selectmen;

Tonight we would like to review the results of this seasons changes to the harbor regulations and discuss our next incremental recommendations. First, we would like to acknowledge and thank John Santos for his term as chairman of the Harbor Committee. John has stepped down as chair while he heads south on his sailboat. He has agreed to stay on as a member and attend meetings when he is able. As you know, he is a wealth of knowledge and a resource for the future.

Last spring, the selectmen approved new or replacement locations for kayak racks at Johnson, MacMillan Ryder, and Gosnold landings in addition to the rack at West End Parking lot. This is a continuation of a pilot project to address boats on the beach, relieve congestion of our beaches and protect beach grass. At that meeting on June 13th, it was decided that all future locations on Town property will be subject to a public hearing by the Selectmen. Later in this report is a recap of the Harbormasters August 17th report of boats on the beach and in racks.

We have recommended incremental changes to the regulations concerning boats on the beaches over the last several years. Making the beach boat permit seasonal and providing racks have been important components of managing the resource. As we have not yet met demand in some areas of town, we recommend continuing to expand the program. Additionally, we would like to change the designation from "kayak racks" to "boat racks". This will allow stand up paddleboards and sunfish and other small vessels access to the racks.

We recommend additional locations at Court Street, and West Vine Landing (Capt'n Jacks) and 1 Commercial Street. The first two will be the current design reduced in width to still allow DPW access on the landings. One Commercial Street, at the rotary next to Provincetown Inn has had a beach building over the last few years, and has now grown in size to fit a rack. This location helps offset the fact that the national park does not allow boat storage on their property next to the Moors.

We also recommend an adjustment to the rate for the boat rack permit. Our initial recommendation of $100 was made based on other towns fees. The revenue from the racks for one season was more than the cost to build them. Given that the racks should last many years with some maintenance, we can

address one of the citizen's concerns we have heard this summer. Many couples have two kayaks or other vessels for their recreation together. While $100 may not seem significant to an individual, $200 or more for a couple or family is noticeable. We want to encourage the use of racks to get boats off the dunes and grass. We recommend a lower rate of either $75 each or a $100/$150 single/family rate.

This is also the year that we need to work on an amendment to the current Harbor Plan. We recommend you request the Town Manager engage a consultant to help prepare the amendment with funding from the Harbor Access Gift Fund. This will ensure public participation, timely production, and coordination with other plans the Town is currently working with, such as the LCP and the Hazard Mitigation Plan. These tools are set to expire every five years to ensure timely review of results and direction. Department of Environmental Protection (DEP) uses our Harbor Plan to inform the State of our public access and benefit wishes during review of individual license permitting. The first amendment took several years with most work being done by the committee members and some final entries by Town Counsel to address properties at the Flagship and Fishermen's Wharf.

We look forward to further discussion on two other issues from our previous discussion regarding an insurance requirement for boats on moorings, and looking into potential regulation of houseboats.

Finally, one issue that has had brief mention is personal watercraft. Since adoption of the general by-law effectively banning personal watercraft at the 2002 Special Town Meeting, the nature of the machine and the people owning them has changed. This by-law only allows launching or returning the vessel to Good Templar Town Landing with travel in a corridor to Long Point and outside Provincetown Harbor (as amended in 2004). That corridor was required by the Attorney General. A complete ban was considered an unconstitutional restriction of citizen's access to Commonwealth tidelands. Since then, a storm drain and erosion control project at the landing included a set of stairs, making the launch of a personal watercraft effectively impossible.

Additionally, we regularly get visitors from Wellfleet, Dennis and as far as Plymouth making the crossing to Provincetown with larger, quieter machines. The harbormasters have allowed access to the fuel dock as a matter of public safety. These port-to-port visitors want to land and visit Provincetown. Instead of adding to the customer base, they are turned away. Any other day trip boater would be greeted with options for mooring and handed a harbor guide.

We are only recommending changing the departure/landing site from Good Templar Town Landing to the marine dependent businesses in town or as a tender to a larger vessel. Whether the boatyard, marina or vessel rental stores, this would allow us serve a growing segment of visitors and allow yachts to take their personal watercraft out past the number 3 green buoy at Long Point. All other restrictions would remain in place.

We look forward to discussing these recommendations or other ideas you may have and scheduling a public hearing on the recommendations.

Respectfully submitted,

David Flattery,
Harbor Committee Chairman

Excerpt from Staff Report August 17, 2016-

Here are the approved kayak rack locations along with the information regarding the number of permits available and issued.

Locations	Berths/Permits Available	Berths/Permits Issued	Berths/Permits Remaining
Johnson Street	24	23	1
MacMillan Pier-	24	9	15
Ryder Street	24	8	16
Gosnold Street Landing	24	9	15
West End Parking Lot	36	36	0
Total	**132**	**85**	**47**

A total of 85 permits have been sold at $100 each, for a total of $8,500. Wood and hardware for the racks cost less than $5000 from the Harbor Access Gift Fund. Labor was a combination of volunteer and staff. The total estimated hours are the equivalent of 2 people working for 120 hours (@$16/ hr. $4,320). Including labor and materials, each rack costs approximately $2,330.

Additionally, 190 beached boat permits have been sold this year. The 275 boats on the beach this year compares to 332 beached stickers issued in 2015.
As a result of changing the beached boat permit to a seasonal program, 57 vessels have not returned this year. Staff only removed 3 by the end of the season last year. And the remaining vessels were addressed by owners.

The vessel count at other town landings:

- Washington Ave. - 18 kayaks, 2 sunfish and 3 dinghies.
- Pearl Street-17 kayaks, 2 dinghies, 1 inflatable, 1 skiff and 1 laser.
- Johnson Street in addition to rack-2 dinghies, 1 inflatable, 1 canoe, 4 kayaks and a rowing scull.
- Gosnold in addition to the rack-1 dinghy.
- Franklin-8 kayaks and 5 dinghies all laid up against Coast Guard Station fence.
- Capt'n Jacks/West Vine-24 kayaks and 1 dinghy.
- West End Beach tied to hog nose rings in the bulkhead- 5 dinghies, 2 skiffs and 1 sunfish.
- There are additional boats located between landings such as behind the bank and The Mews.

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3

OTHER

Requested by: Town Manager David B. Panagore

Action Sought: Discussion

Proposed Motion(s)

Discussion Dependent – votes may be taken.

Additional Information

Board Action

Motion	*Second*	*Yea*	*Nay*	*Abstain*	*Disposition*