PORT OF PALM BEACH DISTRICT
REQUEST FOR DISCUSSION AND
COMMISSION ACTION

DISTRICT REPORTS
ITEM G-2

PREPARED BY: José Soler, P.E. Engineer May 10, 2018

SUBJECT: **Engineering Report**

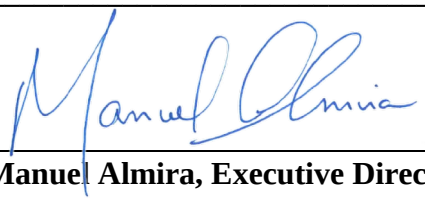
BACKGROUND: Attached for your review is a copy of the Engineering Report for the month of April. I will also be presenting an oral report at the May 10, 2018 Regular Board meeting.

ADDITIONAL INFORMATION ATTACHED: No _____ Yes __X__

FINANCIAL IMPACT: N/A

RECOMMENDATION: The Board of Commissioners is respectfully requested to review the briefing materials.

Respectfully Submitted By:



Manuel Almira, Executive Director

DATE ACTION TAKEN: _____

Approved: _____ Motion By: _____
Disapproved: _____ Seconded By: _____
Deferred To: _____ Unanimous: Yes _____ No _____
Incorporated into Minutes: _____ By: _____

Port of Palm Beach
Engineer's Report
Commission Meeting | May 10, 2018

Berth 17 and Paving Project

Construction activity has progressed slowly since the April board meeting.

After the concrete pours for the middle and west (inner) dolphin structures, that were completed on March 5 & 6 respectively, major concrete defects were discovered on both structures. The middle dolphin structure had major concrete defects, with large voids where the reinforcing steel was exposed at the lower wall section. The west (inner) dolphin, showed missing concrete at the bottom of the structure, as well as voids at the lower wall section, with exposed rebar in both areas. Notices of Non-Conformance were issued by AECOM to LMH for both structures for action to be undertaken immediately.

LMH contracted the services of structural engineer Roger Baber of MCR Engineering, to analyze and determine the action to be undertaken on both structures. In his review, the contracted engineer indicated that after review of the underwater video inspection provided by LMH's diving subcontractor Underwater Engineering, and review of the design plans and general consensus, the condition of the middle dolphin needed to be addressed by demolition, re-form and re-pour. He also recommended that the situation(s) causing the problems during this pour be carefully analyzed, and modification to the procedure should be implemented to prevent a recurrence. LMH determined that it would demolish the structure and began its demolition.

Regarding the west (inner) dolphin structure, the contracted engineer evaluated the provided underwater video inspection and repair plan provided by LMH's diving subcontractor and concurred with it. The repair plan indicated for the voids in the concrete structure to be filled with cementitious high strength grout through a high pressure flow injection. The west dolphin repair submittal was evaluated by AECOM's structural engineer, and was rejected as deficient, indicating that the provided report is insufficient to render an opinion as to the efficacy of proposed repairs and does not ascertain if latent internal defects are present that may impair the strength and durability of the dolphin. LMH has indicated that it will resubmit a repair plan with additional information for review to AECOM.

In relation to the east (outer) dolphin structure, the piles test results were evaluated by AECOM, determining that the actual capacity of the four driven piles did not meet the design requirements. AECOM provided a remediation structural design, which requires two additional piles to be driven in addition to the four already installed on the east dolphin structure location. The remediation drawings were provided to LMH, in order to proceed with the submittal and material procurement process. LMH submitted correspondence indicating that they are not responsible for the additional work required to the east dolphin structure, and that they are entitled for additional compensation for the related work. In the correspondence, they included a change order proposal for this additional work in the amount of $372,885.83. LMH also indicated that they are currently performing a time impact analysis to determine the effect of this delay and other changes on the critical path of the Project completion. LMH also submitted a claim for additional work related to the pile driving activity. The claims for additional cost is in the amount of $560,542.15, for cost incurred to fabricate pipe pile plugs, additional pile tests and for down time resulting from pipe piles not reaching capacities. Both claims for additional costs presented by LMH have been denied by the Engineer of Record (AECOM), as LMH is responsible to perform the work in accordance with the contract requirements, which specifically included achieving the design loading criteria for each pile regardless of the type of pile. LMH has not fulfilled its contractual responsibilities related to dolphin piles. (Attached copies of referenced communications). LMH has not provided any formal response to AECOM's claim evaluation.

Upland construction activities: LMH personnel completed the construction of the storm trench drains on the upland side of the west bulkhead wall as well as the two gravity walls on the north and south side of the slip. The site subcontractor began works related to the sub-base preparation for the asphalt and concrete pavements, but have not been present in the project since April 10. Activities related to surface pavements have been started, but work has not been continuous, with a final completion date unknown.

Regarding the substantial completion dates previously agreed by the Contractor for the delivery of the Berth, none of them have been accomplished. On April 17, LMH submitted a revised schedule update incorporating all pending construction work and issues related to the dolphin's concrete defects on middle and west structures, as well as the additional piles for the east dolphin. The revised updated schedule indicated a substantial completion date of August 8, 2018. The updated schedule included all pavement construction activities to be completed by May 8, but since the site subcontractor not been present since April 10, this activity is already delayed.

The substantial completion date of the Berth by LMH is uncertain due to the issues previously mentioned. Port's staff has been evaluating all present and future damages, directly and indirectly caused by the project completion delay. The Port could exercise the terms of the Contract, and execute the entitlement to retain Liquidated Damages in order to mitigate present and future Losses related to the project completion delay as recommended by the Engineer of Record.

The last pay application processed by the Port was the working period of November 2017, which was notarized and submitted by the contractor on April 12, 2018. As of November 2017 pay application, LMH invoices indicate that approximately 86% ($8,906,621.61 to date / $1,391,684.49 balance of approved modified Contract amount) of the work is complete to date, and a total retainage to date of $890,662.16. The contractor has not submitted the invoices for the working periods of December 2017, January 2018, February 2018 and March 2018.

MOB Demolition and Cargo Area Improvement Project

CH2M submitted the final 100% Bid Ready completed package and Bid process began. The Bid Phase schedule is the following:

1. Project was advertised for Request for Bids Proposal on Sunday April 22, 2018, in the Palm Beach Post.
2. Documents were available to be downloaded from the Port's website by interested bidders on Monday, April 23, 2018.
3. Mandatory Pre-Bid Conference meeting and Site Visit was held on Monday April 30, 2018.
4. Final Date for Submission of Sealed Bids will be on May 23, 2018, until 2:00 p.m.
5. Bid proposals review by Port's staff and CH2M (Engineer of Record) will begin on May 24, 2018.
6. CH2M and Port's Staff will review, evaluate bids and recommend the Board for Contract Award at the June 21, 2018 Board Meeting.

Main Rail Spur Improvement Phase 1

At the October 2017 meeting, the Board of Commissioners approved the Port's Executive Director to execute the Contract Award for the On-Port Rail Facility Expansion Project Phase One construction project to González and Sons Equipment, Inc., lowest responsive and responsible bidder, in the amount of $971,154.96.

- Contract Amount: $975,154.96
- Contract Executed: December 15, 2017.

- Notice to Proceed: January 2, 2018.
- Construction Time: 220 days
- Project Completion Date: August 2018.

The submittal and approval process has been completed. Procurement and delivery of materials is underway, with all the rail sections and concrete ties delivered to the construction staging area. Contractor began construction work on Monday, April 30, with the removal of existing rail and the subgrade preparation of Spur #1. Contractor will continue construction work on Spur #1 until completion, before commencement of work on Spur #2 without affecting Port's Rail Operation. The work on Spur #1 is scheduled to be competed in 30 days. The contractor is also working on the construction and installation of rail crossing signage equipment on Avenue E.

Maintenance Dredging of the Channel and Turning Basing - US Army Corps of Engineers

- US ARMY CE provided final hydrographic survey of the harbor on March 27; survey reflects some accumulation of sand (shoaling) on the channel due to the nor'easter weather received.
- Port's staff met with US ARMY CE engineer Bryan Merrill and the Palm Beach Pilots on Tuesday, April 3, to discuss the impact of the shoaling on the Port's vessel traffic.
- Pilots expressed their concerns of the shoaling happening too soon after the maintenance dredging completion, and the future critical effects of the normal shoaling that will continue over time.
- Port sent correspondence to the ACOE, COL Jason Kirk on April 18, requesting the emergency dredging, along with Pilots' draft restriction letter.
- US ARMY CE is working on the contract for the emergency dredging. They are tracking the completion of the actual dredging work being performed by the contractor before mobilization to the Port. It is expected to happen by the end of May.
- In addition to the emergency dredging work, ACOE shared the news that the Budget for the Operation and Maintenance supplemental projects has been approved. The Palm Beach Harbor has been included on the list of recipient projects. The ACOE is expecting to receive up to $5M for the repair of the inlet north jetty, which will prevent shoaling in the inlet channel from material coming through the jetty from the beach on the north side.

Berth 1 Bulkhead Improvement Project

- Permits:
    - FDEP permit has been approved and received.
    - US Army Corps of Engineers
        - Approved permit received. On March 28, the US Army Corps of Engineers issued a letter for the authorization by Nationwide Permit (NWP) Number 3 for the *Berth 1 Bulkhead Reconstruction* project under the file number SAJ-1990-03372(NW-LCK).
        - As part of the special conditions for the verification, a coral relocation must be completed of all healthy stony corals greater than 10 centimeters in diameter through a mitigation process.
        - Based on the coral survey report prepared by Coastal Eco-Group Inc for CH2MHill, there is an estimated potential total of 313 colonies over 10 centimeters, which will be required to be relocated to a mitigation reef prior to the reconstruction of the Berth.

- The Port and CH2M will identify the potential receiver sites for the coral relocation like the Town of Palm Beach's mitigation reef, or to an alternate artificial reef receiver site, and the cost associated with this mitigation.
- A meeting will be coordinated with Robert Weber, Coastal Program Manager from the Town of Palm Beach, for the coral recovery effort and mitigation to the Town's nursery reef.