

Stone Harbor Property Owner's Association
June 8, 2019 information meeting
Status of the Cape May County Bridges
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The Cape May County bridges are now receiving increased focus and attention and bridge conditions are trending on an upward trajectory. Recently completed rehabilitation projects and planned future rehabilitation and replacement projects will continue to improve the overall bridge conditions. The following bridge projects have been implemented over the past two years:

Roosevelt Boulevard Bridge deck rehabilitation of the entire surface- completed spring 2018. This essentially provided a new deck surface on the entire structure including sealing deck joints. It is expected that this project will provide nearly 50 years of additional deck life.

17th Street bridge replacement- replacement of the existing bridge culvert with a new precast arch culvert- completed January 2018. The new structure should have an expected life of 50 years.

Townsend's Inlet spans 1-7 replacement- replacement of the first 7 southern spans of the bridge with a new substructure and superstructure in order to address deteriorated sub structure components. The 245lf project will provide for an essentially new bridge for this portion of the project, schedule to be completed 7/30/19.

Townsend's Inlet rail replacement- replacement of the existing bridge rail with a new 4-bar rail element to conform to current standards.

Ingram's Thorofare substructure repairs- Repair of undermining at identified piers and replacement of a portion of the deteriorated bridge fender system. Completed 3/19

Mill Creek and Upper Thorofare bridges- Installation of new guiderail and bridge approach rail components to conforming standards and the sealing of all deck joints and repair of bridge spalls- completion date 6/21/19

Upcoming work fall 2019 and spring 2020

Middle Thorofare bridge- replacement of bridge rail with new 4 bar rail system and replacement of fender system

Ingram's Thorofare bridge- bridge deck replacement, guiderail upgrades and pier 9 bearing replacements

Corson Inlet bridge- trunnion column and structure steel repairs

Upper Thorofare and Mill Creek Bridges- Under deck spall repairs, scour countermeasures and bridge railing replacement, cantilevered sidewalk construction.

Hand Avenue Culvert – replacement of existing culvert bridge with a new 3 sided culvert bridge and approach guide rail replacements. (likely fall 2020)

96th Street Bridge repairs and future upgrades

Since the temporary closure of the bridge to marine traffic in early March of 2019, additional focus has been prioritized on addressing as many structural and electrical components prior to the summer. Although the bridge was re-opened in mid March to marine traffic, significant in house and outside resources were dedicated to improving the bridge function as follows:

- New resolver units and rotary cam switches were installed to improve bridge opening movements
- The Programmable Logic Controls were completely analyzed to address the long standing issues with switch unreliability. Interposing relays were installed to address these issues and restore reliability to the PLC electrical function.
- Replaced rack outer yoke plates with new plates in order to reduce the current play in the span due to wear.
- Ground down pinching steel component to allow for smoother bascule operation reducing torque on the motors.
- Addressed jog bottom cutting out during closure attempts
- Installed interposing electrical relays to allow pendants to be used only when gates are lowered. Pendants are a manual bypass to the breaker system that are used only in an electrical emergency.
- Addressed the bridge lowering while in the “rise position” by installing interposing relays for the raise and lower commands, which now only permits the bridge to lower while in the lower setting and rise in the rise settling as is appropriate and expected by the operator.
- Greased and lubricated the gearing components and established a monthly routine to continue to do so.
- Adjusted the torque potential on the drive control
- Re-wired the motors from the resistors to eliminate the internal resistance of the older wire and lower running currents

- Installed on delay relays to allow the jog function of the bascule to continue to operate until the bascule is fully seated. This permits operator with the ability to gently seat the bascules now.
- Addressed motor brake function issues
- Installed lockout keys to prevent bridge operators from using the pendants to seat the bascule which was done in the past as a matter of routine operation. The pendant use can potentially overload and destroy the electrical motors and other components. The focus on upgrade noted above were initiated to essentially eliminate the need for the pendants
- Installed two radar feedback signs to display vehicle speed and slow traffic approaching the bridge and lessen impacts on the bridge.

During the summer 2019, we will have an engineering specialist look at other existing structural and temporary repairs that have been performed on the bridge over the years with the goal of addressing as many upgrades as possible to minimize the current degree of “play” and vibration in the bridge resulting from traffic. The goal is to have a contractor make more permanent repairs during the fall 2019 or winter 2020.

Also during the summer 2019, we will be soliciting proposal from consultants to design a replacement bascule span. The goal is to have the bascule, mechanical and electrical components replaced as one unit within 5 years, approvals permitting.