


**CITY OF CORPUS CHRISTI  
OFFICE OF THE CITY MANAGER**

**TO:** Peter Zanoni, City Manager

**FROM:** Ernesto De La Garza, P.E., Director of Public Works

**THRU:** Neiman Young, Ph.D., Assistant City Manager 

**COPY:** Mayor & City Council

**SUBJECT:** **Update on Yorktown Mud Bridge Repairs and Timeline**

**DATE:** December 14, 2022

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**Background**

The Yorktown Mud Bridge was built in 1985. The infrastructure was built with inferior riprap along both of its embankments versus a more resilient method (i.e., a retaining wall or shotcrete) as is employed in similar construction projects. It is estimated that the riprap protecting the northwestern embankment washed away four to seven years ago. Consequently, the barrier has slowly become compromised by Oso Creek and Oso Bay waters.

On Monday, December 12, the Public Works Department was notified via the City's 311 system of a sinkhole in a section of the Mud Bridge's paved surface. In response, Public Works went on-site to investigate the concern. In addition, the Corpus Christi Police Department, the City Manager's Office, and TxDOT were notified, and the bridge was closed to traffic.

Public Works discovered that the pavement material was falling through to the bottom of the bridge on the channel bank side of the structure. The material had deteriorated to the point that the entire channel bank was eroded, with the abutment piers exposed. In response, Public Works mobilized its in-house crews to install fill material and shore up the bridge's concrete surface.

On Tuesday, December 13, Public Works requested a structural engineer to inspect the in-house crews' work. Freese and Nichols, Inc conducted the inspection and determined that the temporary repair would not hold under traffic loading. According to the consultants, the trench of the sinkhole was too deep, and the fill would continue washing out. Therefore, repairs to the channel bank would have to be made to retain the fill material on the top side of the bridge.

## **Update on Yorktown Mud Bridge**

### **Current Conditions**

Public Works is working with the Engineering Services Department to coordinate the authorization of an emergency declaration. The emergency declaration will allow a contractor to provide a viable solution to the bridge's embankment.

Public Works has met with representatives from Anderson Columbia and Freese and Nichols, Inc. to review the eroded channel bank in support of the emergency work. Upon review, Anderson Columbia stated they have the equipment and materials needed to repair the channel bank with bull rock and shotcrete. A similar repair will be performed on the southeastern embankment as well. Once the channel banks are repaired, the contractor will fill the sinkhole.

City staff has been advised that access to the embankment and the bridge will depend on the tides since the contractor will have to work under the bridge. As such, the original timeline for re-opening the bridge in three to five days may be extended to as long as 30 days. A rough cost estimate of \$300,000 is predicted for the emergency repair.

### **Next Steps**

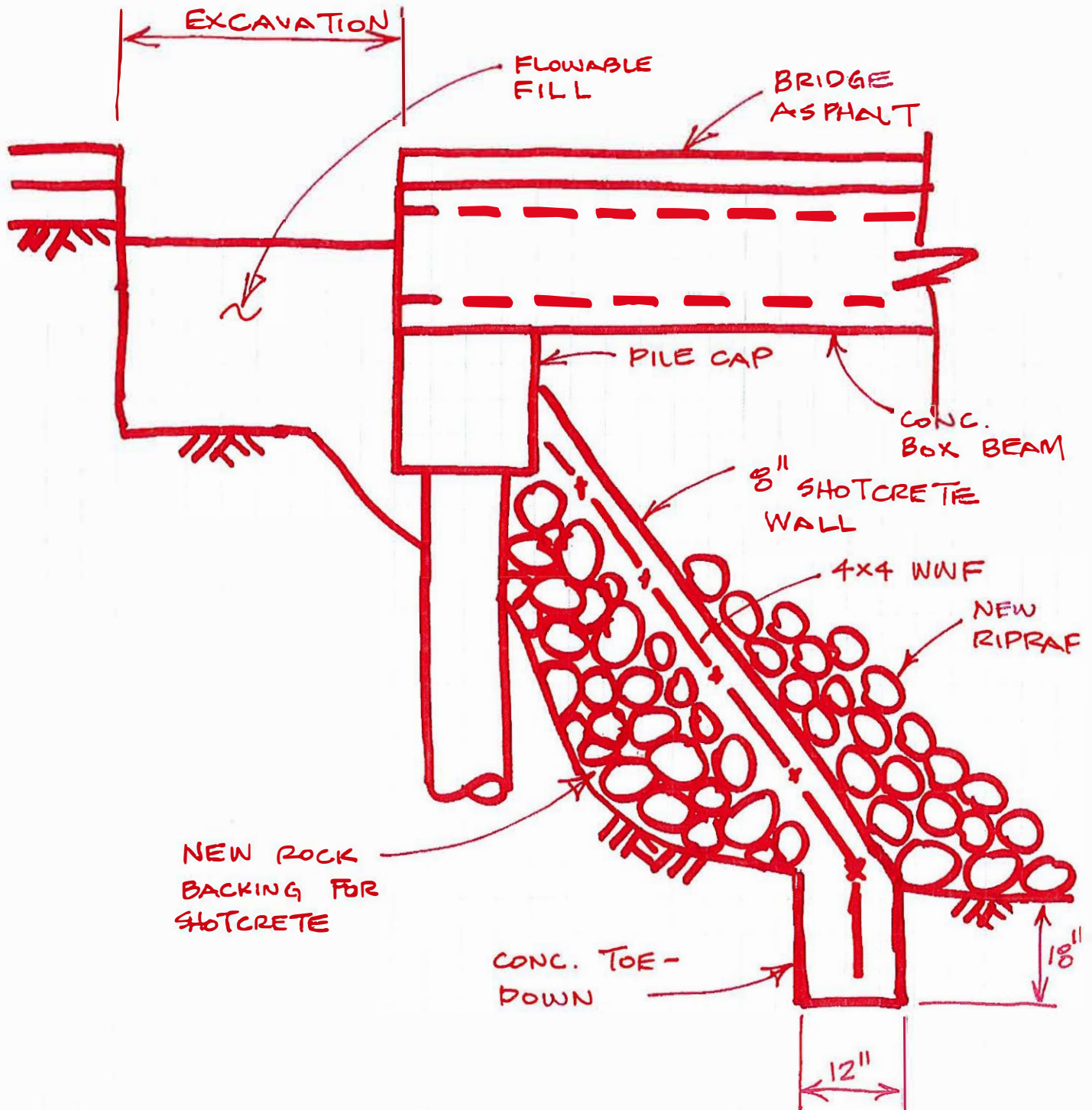
An Advance Funding Agreement (AFA) was recently approved by City Council on November 15, 2022, under the Highway Bridge Replacement and Rehabilitation Program for \$1,502,200. The AFA was established to design and replace the existing Mud Bridge as part of a \$20 million collaborative project with TxDOT. Given the recent incident on the Mud Bridge, City Staff will meet with TxDOT to request that the replacement project be expedited.

### **Attachments:**

1. Freese and Nichols Mud Bridge Repair Concept

Title: CITY OF CORPUS CHRISTI  
MUD BRIDGE REPAIR CONCEPT

Date: 12-14-22  
By: SRT  
✓



NOT TO SCALE