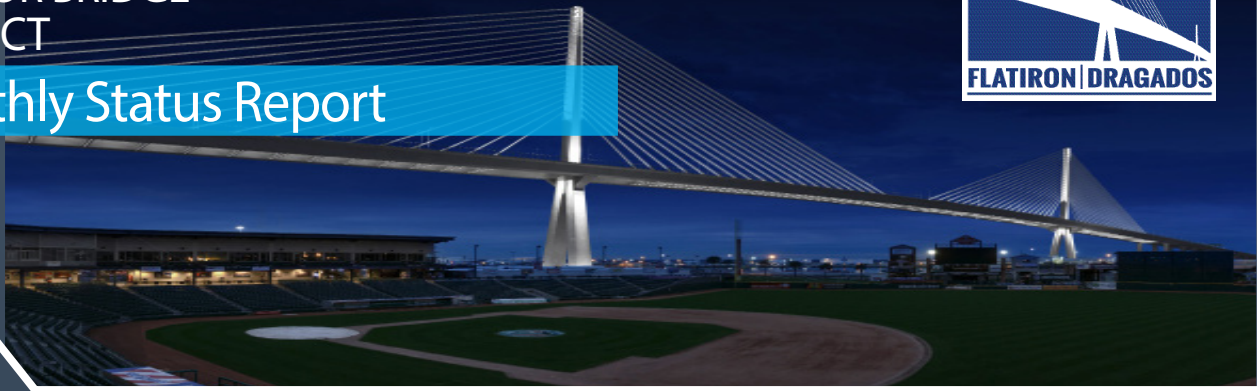


US 181 HARBOR BRIDGE PROJECT

Monthly Status Report



Toll Free: 1.877.227.4144 • Public Information: publicinformation@harborbridgeproject.com



March 2021

Pre Cast Yard (PCY) – Major Milestone

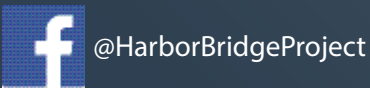
Congratulations to our PCY team in Robstown for achieving a huge HBP milestone in March by reaching 100% completion in casting all north and south approach segments. At its peak, the yard had 125 craft team members working daily to pour 200 to 250 CY (cubic yards) or an average of 455 tons of concrete per day. The beauty of Pre Cast is that you combine exceptionally high quality (170-year mix concrete) with efficient productivity through a repetitive process.

Dedicated engineers and crews at the PCY hold various certifications (PTI, PCI, ABSI) to ensure the Match Cast Process (MCP) quality and performance. MCP is a unique technique where segments are cast side by side to connect like perfect Lego pieces. A short-line casting method is done throughout the entire MCP, starting with the rebar templates, the formwork, then the casting, and relocation of the segment into the match cast position like an assembly line. Quality Control (QC) occurs daily as a critical factor in checking for reinforcement or rebar count. Quality Assurance (QA) inspections and Owner Verification Testing (OVT) of materials and concrete properties take place throughout the production cycle.

Over 1,000 segments have been transported from the PCY to the north and south approach job sites. Changing “ownership” of the segments requires tremendous planning, specialized supervision, and trust. A hauling route to relocate each heavy unit is prepared ahead of time to reduce traffic impacts and to plan for height clearance and weight restrictions of highway and county road bridges. Coordinating the workforce from PCY production to the delivery point requires a unique skill set of its own! Continued transport logistics and preparing molds to resume the Cable Stay Bridge main span segment casting sets the PCY up for achieving even greater production bragging rights.

Substructure Crew Completes Straddle Cap

Most pier caps that support the HBP approach spans are formed with an average pour of 100 CY of concrete, and the finished cap weighs about 200 tons or roughly the same as the Statue of Liberty. Our approach substructure crew poured the largest and most unique pier cap on the HBP known as a Straddle Cap (SC) in March. The mammoth double cap connects two piers (columns) at 9S-NB. The colossal structure consists of 248 CY of concrete and weighs about 400 tons. The SC size is necessary to support the south approach NB main lanes, NB entrance ramp, and the Shared Use Path. Construction techniques were more complicated in that the SC consists of 20 tie-down bars and six bearing pads, compared to a typical cap with four tie-down bars and two bearing pads. The superstructure segments that get placed on top of the cap are secured utilizing the tie-down bars. The dance floor built to construct the SC was massive at 60 by 35 feet compared to the usual 35 by 24 feet. Much of the pre-planning to construct the new element involved material procurement. Span 9S-NB on the SC also serves as a tie-down point to secure the giant Launching Gantry Crane while not in use.



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Calendar Events:

April 21 - 22:
Coastal Bend Area
Legislators - HBP Update
Texas Capital

