

Client
City of Boca Raton

Scope of Services
Final design, permitting,
bidding services, and
construction administration

Contact
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Start Date
09/2020

Completion Date
Dec. 2022 (est.)

Construction Cost
\$2.4 million

Key MBC Staff
Frank A. Brinson, P.E.
Andrew Barba, P.E.
Mathew Marsh, P.M.P.
Mariell Soto, E.I.

Key Features
Project included
miscellaneous structural and
mechanical repairs and
coatings of the City's nine
prestressed concrete ground
storage tanks and the two
elevated steel storage tanks,
which range in age from 20 to
56 years old.

Storage Tanks Inspection and Rehabilitation Design and Construction Boca Raton, Florida



Background

The City owns and operates nine prestressed concrete ground storage tanks and two elevated steel storage tanks that are used to store treated potable water (seven tanks), reclaimed water (three tanks), and secondary wastewater effluent (one tank). The tanks range in age from 20 to 56 years old. All nine prestressed concrete ground storage tanks were constructed by the CROM Corporation (Gainesville, Florida) and the two elevated steel storage tanks were constructed by Chicago Bridge and Iron, Inc.

Florida Administrative Code (F.A.C.) requires that drinking (potable) water storage tanks be cleaned and inspected for structural and coating integrity at least every five (5) years by personnel working under the responsible charge of a professional engineer licensed in the State of Florida. While this rule does not apply to non-potable water storage tanks, it is the City's preventative maintenance practices to periodically inspect the wastewater and reclaimed water tanks to identify repair needs and perform them to preserve the integrity of the tanks.

In 2016, the City completed the last inspection of the nine prestressed concrete ground storage tanks by Precon Corporation who prepared and submitted reports for each tank in accordance with F.A.C. The inspections of the two elevated steel storage tanks were inspected by Tank Engineering in 2019. Overall, the tanks were in satisfactory condition with only minor repairs needed at time of inspection. These inspection reports listed additional recommended repairs for each tank to extend their useful life. The findings of the structural inspections and recommended repairs were summarized in a technical memorandum prepared by MBC on January 16, 2017.

The Project

In October 2020, the City authorized MBC to provide professional engineering design services to prepare design, permitting, and bidding documents for the inspection, repairs and rehabilitation of the City's nine prestressed concrete ground storage tanks and two elevated steel storage tanks.

The scope of MBC's services on the project included the following:

- Preparation of construction documents for structural inspections of the eleven tanks, the rehabilitation work determined in the previous inspection reports and additional recommended repairs, and replacement of a 48-inch butterfly valve and actuator on the outlet pipe of a 7.5 MG storage tank at the water treatment plant.
- Preparation and submittal of updated inspection reports to the Department of Health in accordance with FAC.
- Assist the City in obtaining competitive bids from contractors.
- Contract administration services during construction.

The contract for construction of the project was awarded to Florida Design Contractors with a Notice to Proceed dated September 9, 2021. MBC is providing contract administration services during construction. The estimated project completion date is December 2022.

