KIWWTP – Main and Auxiliary Pump Station Improvements

LCA BOARD MEETING

September 18, 2023

Project Goals:

- **Increase pumping capacity from 87 million gallons per day (MGD) to 100 MGD to reduce the frequency of Outfall 003 activations during extreme wet-weather events.**
- **Upgrade Main Influent pumps that are past their useful life (1960s vintage)**
- **Eliminate the need for a vacuum prime system**

Project Plan to Include:

- **Replacement of four (4) existing Main Pump Station (MPS) vacuum primed pumps with four 20 MGD vertical turbine pumps, new motors and VFDs**
- **Replacement of two (2) existing Auxiliary Pump Station (APS) pumps with larger 40 MGD vertical turbine pumps, includes increased motor size and new VFDs**
- **Necessary electrical upgrades to accommodate new pumps and new VFDs**
- **Valve and Piping replacement**
- **Structural modifications to accommodate the new MPS pumps**
- **Elimination of hydraulic bottleneck in the influent force main**
- **HVAC modifications due to increased heat from larger pump motors & new VFDs**

Physical Modeling:

- **In accordance with Hydraulic Institute standards, a physical hydraulic model is recommended for pumping systems of this size**
- **Kleinfelder has partnered with Clemson Engineering Hydraulics to provide a physical hydraulic model study of both the MPS and APS**