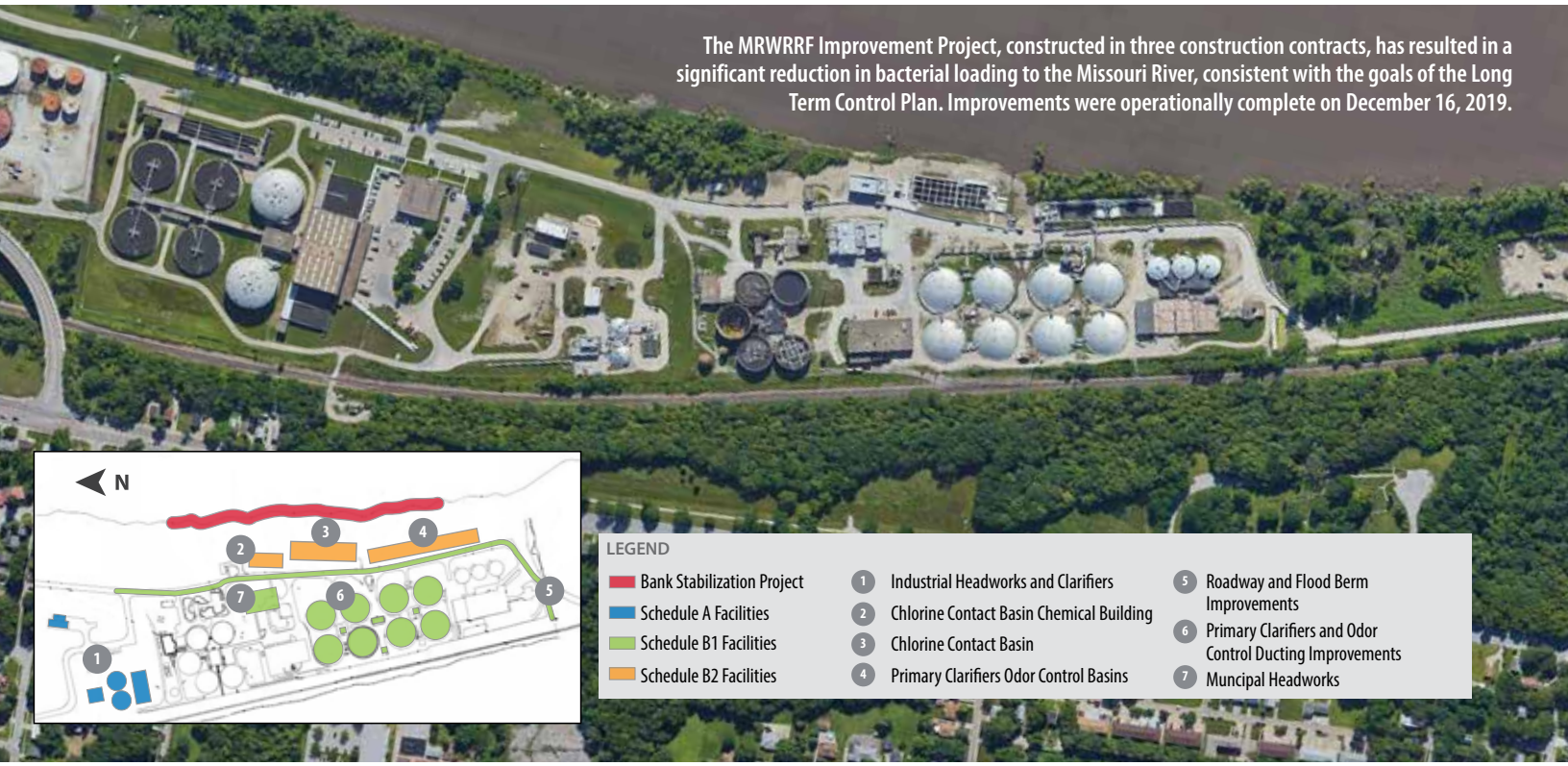
MRWRRF OPERATIONALLY COMPLETE

The Missouri River Water Resource Recovery Facility (MRWRRF) Improvements Project was identified as a critical, early action project in the Combined Sewer Overflow Long Term Control Plan. Improvements allow for significantly higher treatment rates of combined sewage during wet weather events and provide separate treatment of industrial wastewater to reduce bacteria and other contaminants being discharged to the Missouri River during wet weather. This has resulted in a reduction of *E. coli* bacteria entering the River by approximately 50% in an average year. Plant improvements now accept and treat flow rates of up to 165 million gallons per day (mgd) through a combination of new facilities and maximized re-use of existing facilities. Of the 165 mgd, 15 mgd comes to the plant from the South Omaha Industrial Area (SOIA) Lift Station and 150 mgd comes from the rest of the system (South Interceptor Force Main, Monroe Street Lift Station and In-Plant Lift Station).

The MRWRRF Improvements Project was constructed under three construction contracts: Schedule A (separate treatment of industrial wastewater), Schedule B1 (new headworks and improvements to existing clarifiers to allow for treatment of additional flow), and the recently completed Schedule B2 (disinfection of primary effluent). Schedules A and B1 projects were completed previously. The $52M, Schedule B2 project became operationally complete in December 2019. Together, these efforts represent the final component of Phase 1 Major Projects identified in the Long Term Control Plan and a significant milestone for the CSO Program.

The MRWRRF was originally built in 1964. Upgraded facilities can now treat up to 165 million gallons per day during wet weather, significantly reducing the amount of untreated combined sewage discharged to the Missouri River.



The MRWRRF Improvement Project, constructed in three construction contracts, has resulted in a significant reduction in bacterial loading to the Missouri River, consistent with the goals of the Long Term Control Plan. Improvements were operationally complete on December 16, 2019.

MRWRRF SCHEDULE B2

As part of Schedule B2, new facilities were constructed to disinfect wet weather flows with chlorine that previously only received primary treatment. Processes also include removing residual chlorine to protect aquatic life in the Missouri River. Odor control facilities were also constructed to complete improvements to primary clarifiers that were modified as part of Schedule B1 and to minimize odor in surrounding neighborhoods. Through these efforts, the CSO Program has been able to substantially improve water quality and reduce odors in efficient and cost effective ways.

MEETING CONSTRUCTION CHALLENGES

Working along the Missouri River inherently comes with challenges. Schedule B2 facilities were built adjacent to where the riverbank failed following 2011 flooding. The extensive Bank Stabilization Project allowed construction of Schedule B2 facilities to continue and provides important protection for other plant facilities. Poor soil conditions at the plant also required specialized construction including the use of a diaphragm wall for the Schedule B2 chlorine contact basin.

Over an extended period during 2019, runoff from unprecedented rainfall and snow melt significantly impacted the Missouri River Watershed, resulting in widespread flooding. Flood waters inundated the MRWRRF Schedule B2 construction site and overtopped the new chlorine contact basin. Construction activities were delayed, but the City placed HESCO MIL baskets in vulnerable areas of the plant to protect the site and to allow work to resume away from the River. FEMA reimbursement is being pursued by the City to mitigate direct costs resulting from the flood event. Additionally, the City is proactively identifying and implementing plant improvements to enhance resiliency during future high river events.