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U.S. Army Corps of Engineers

Fallujah's first central sewage treatment facility being built

By Kendal Smith
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The growing Influent Pump Station of the Waste Water Treatment Facility, 13 meters below ground level, is the first stop for Fallujah's collected sewage. [USACE Photo]

FALLUJAH, Iraq - The U.S. Army Corps of Engineers' Gulf Region Division is directing an $85 million first-ever central wastewater treatment facility for Fallujah's estimated 200,000 residents. Started in May 2007, the project is the largest in Al Anbar province and currently is 45 percent complete.

The facility is projected to be sufficient for all of Fallujah's wastewater treatment needs when the city integrates its own collection systems later and through population expansion to the year 2025. The facility is a four-train facility – a term that describes a complete beginning-to-end treatment system that usually exists in parallel and complementary sets with other trains. Included in the work is a collection system for 27 percent of the present city population, trunk mains for the projected 100 percent capability, pump stations, and a wastewater treatment plant processing 40,000 cubic meters daily

Workers weld a hatch beside the sludge drying beds of Fallujah's future sewage treatment facility. [USACE Photo]

(10.5 million gallons). The remainder of the collection system will be developed by the Government of Iraq.

An operational plant of Trains 1 and 2 should come on line by the end of August, while Trains 3 and 4 will likely complete around October 2008, according to Peter Collins, a project manager with the Gulf Region Central district. Having several trains enables a treatment facility to handle emergencies and to provide for future expansion, he said. Two trains are sufficient for Fallujah at its current population, although the city is expanding faster than anticipated due to the improved security in Al Anbar province.

Key to the operation are two central pump stations that are being finished 13 meters below ground level and will have a pumping capacity of 40 million gallons daily. Fallujah's sewerage will be sent to inlet tanks, and then directed to aerated grit and oil removal tanks, on to 60-meter diameter aeration tanks, sent to settling tanks and, finally, a chlorination contact chamber before release into the Euphrates River.

"The impact on the people of Fallujah and the environment of the Euphrates River Valley will greatly improve the health of the citizens, particularly the infants, both within the city, but also downstream where the Euphrates is the primary drinking source." Collins said. "By the end of this summer, there will be no wastewater in the collection-connected streets and children will be able to play safely outside. This represents a monumental step forward for all Al Anbar province and that is a great motivating factor for those of us bringing this project on line."

On site, Trains 1 and 2 are at the early stage of electro-mechanical work, pending delivery of the major electro-mechanical plant. Trains 3 and 4 are at the first stage of civil works. Earth fills for the two, 60m-diameter aeration tanks and four, 30m-diameter final settling tanks are in process.

Apart from a 450-member Iraqi work force, the project has 35 Iraqi engineers visiting the various project sites daily, checking on the quality of the ongoing

construction and encouraging worker safety. GRD officials meet regularly with the various construction firms on 13 separate contracts, as well as city and Iraqi ministry officials to ensure issues are worked out and the project continues to completion.

With the building of such a large structure, safety at every work location is a daily concern. A resident Iraqi Safety Engineer is expected at Camp Fallujah very soon. The addition of two Safety Engineers into the Fallujah Quality Assurance (QA) team will then give the project a defined safety structure. This will mean that GRD project supervisors can raise concerns from Camp Fallujah and have them transmitted in Arabic to the QA Team on site, and they will resolve the issues directly with the contractor.

Safety and security in other areas are also noteworthy, according to Awaf Abdul Rahim, a construction manager. Fallujah's citizens are benefitting all-around.

"People are happy because our community is safer now and there are more American projects creating jobs in different areas," Rahim said. "It's helped Fallujah's unemployment. With the improvement in the security, we are inspired to work hard. Our construction crews became more serious and active and are now getting more done."

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