Lone Tree Creek Wastewater Treatment Plant (LTCWWTP) Expansion

Owner: Arapahoe County Water and Wastewater Authority (ACWWA)

History
The LTCWWTP is a secondary wastewater treatment plant built in 2003 with a plant capacity of 2.4 million gallons per day (MGD). The plant wastewater influent currently averages 1.6 MGD. However due to rapid development in Arapahoe County and a proposed consolidation of the LTCWWTP with the Inverness Wastewater Treatment Plant nearby, ACWWA is interested in expanding the plant capacity to 3.6 MGD and including plans for doubling the plant capacity to 7.1 MGD with a parallel process train in the near future.

The current plant uses a membrane bioreactor (MBR) process which produces effluent for discharge into Lone Tree Creek which flows into Cherry Creek Reservoir. ACWWA would like an engineering study which examines wastewater treatment process options for the expanded plant.

Constraints:
1. Compliance with Colorado (State) and Cherry Creek Basin discharge water quality standards, including phosphorus less than 0.05 mg/l.
2. Treated wastewater quality compatible with reuse for irrigation of public areas (golf courses and parks).
3. Process must use the current 29-acre LTCWWTP site.

TEAM ASSIGNMENT DUE SEPTEMBER 29
Prepare a written bid on an engineering project to conduct the feasibility study of alternatives to and recommended actions for expansion of the LTCWWTP to meet owner constraints and objectives. Components of your team’s bid proposal are given below. Examples of bids will be posted or on reserve in the engineering library.

Make an oral presentation of your bid proposal, utilizing effective presentation media.

Bid Should Include:

1. Scope of services to be provided
2. Qualifications of the engineering firm
3. Deliverables
4. Schedule
5. Engineering Costs