



## Rashi Gupta, P.E.

**Rashi Gupta**, a vice president and project manager with Carollo Engineers, has specialized in delivering sustainable solutions for biosolids management and wastewater treatment throughout her career. Ms. Gupta is Carollo's National Biosolids Technology Integration Lead, which allows her to remain current on leading technologies and changes within the biosolids management field.

### Education

MS Environmental and Water Resources Engineering, University of Texas, Austin, 2001

BS Civil and Environmental Engineering, University of California, Davis, 1999

### Licenses

Civil Engineer, California  
Professional Engineer, Kentucky

### Professional Affiliations

California Water Environment Association (CWEA)

Santa Ana River Basin Section of CWEA (SARBS):

- Past-President, Board of Directors
- Professional Development Committee

Southern California Alliance of Publicly Owned Treatment Works

Water Environment Federation

- Member, Residuals and Biosolids Committee
- Incoming Chair, Solids Separation Sub-Committee
- Member, Bioenergy Sub-Committee
- Member, Municipal Resource Recovery Design Committee

Her responsibilities as project manager and process specialist on solids-related projects across the country have taken her from the initial planning phase through design to start-up after construction. She also leads applied research projects for solids processes to assess the best ways to integrate innovation into facilities. From this experience, Ms. Gupta has become a national expert in all things related to solids – from thickening and dewatering to digestion and subsequent practices to beneficially use biogas and biosolids. A summary of her experience includes:

### Biosolids Processing and Management

→ Solids systems lead for Durham Advanced Wastewater Treatment Facility East Basin 2019 Master Plan, Clean Water Services, Oregon. Ms. Gupta is leading the existing solids system capacity analysis and evaluation of solids treatment alternatives. The alternatives considered include innovative technologies like hydrothermal liquefaction, gasification, and pyrolysis as well as thermo-chemical hydrolysis and high solids digestion with recuperative thickening. The capacity analysis includes existing solids thickening, digestion, co-digestion, dewatering, fermentation, WASSTRIP/Ostara, and biogas utilization processes.

→ Project engineer for the City of Sioux Falls, South Dakota, Wastewater Treatment Expansion Project. She is responsible for preliminary and final design of a comprehensive overhaul of the plant's existing solids handling system. The preliminary design includes the addition of WAS thickening with rotary drum thickeners and associated systems within an existing solids handling building, a new digested sludge storage tank, a new solids dewatering facility with screw presses, and covered cake storage. The design also includes provisions for direct truck-loading.

→ Alternatives analysis task lead for the 2020 Energy Management Master Plan at the Nine Springs Wastewater Treatment Plant operated by the Madison Metropolitan Sewerage District, Wisconsin.

This project includes assessment of the plant's existing energy baseline within its solids processes, and evaluation of alternatives to reduce energy consumption, increase energy production, and increase resource recovery. Additional tasks include assessment of regulatory impacts on solids alternatives, identification of funding opportunities, and evaluation of business cases for various options. Ms. Gupta is leading the team responsible for conducting alternatives analyses.

→ Technical advisor for the Sludge Thickening and Dewatering Building projects at the 285 mgd Central District WWTP and 112.5 mgd South District WWTP operated by the Miami-Dade Water and Sewer Department, Florida. She worked with the team to develop facility layouts/design concepts and continued through project duration, provided technical reviews and checks for the design of the thickening and dewatering facilities polymer, cake conveyance and truck loading for both treatment plants. Each treatment plant will be provided new thickening and dewatering buildings with four 30-inch bowl dewatering centrifuges, dry polymer make-down, cake pumping systems and truck loading silos. The Central District WWTP will include thickening with eight gravity belt thickeners whereas the South District WWTP will include six 30-inch bowl thickening centrifuges. Each facility will also include new odor control, centrate management, electrical and controls systems.

→ Process specialist for the City of Burlingame, California, Digester Equipment

## Awards

Induction into Select Society of Sanitary Sludge Shovelers (5S) by the California Water Environment Association

Spotlight Volunteer Award from the Santa Ana River Basin Section of CWEA

## Other

### Accomplishments

National Science Foundation Fellow - University of Texas, Austin

Regents Scholar - University of California, Davis

Recipient of University of California, Davis M.S. Ghausi Medal for the College of Engineering

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Building and Digester No. 2 preliminary design. The preliminary design includes a new 55-ft diameter digester, rehabilitation of an existing pump mixing systems for both digesters, and a new digester equipment building to house new sludge recirculation and heating systems and a new electrical room.

→ Technical advisor for the Primary Sludge Thickening Improvements project at the 150 mgd Flamingo Water Resource Center operated by the Clark County Water Reclamation District, Nevada. She is providing technical reviews and checks for the design of the primary sludge pumping, screening, and gravity thickening facilities. The design includes installation of 20 thin primary sludge pumps, 7 sludge screens, four 80-ft diameter gravity thickeners, and 8 thickened primary sludge pumps.

→ Technical advisor for the Biosolids Recycling Alternatives Study and Management Plan Update for the Sacramento Regional County Sanitation District, California. Carollo was selected to provide a long-term biosolids management plan for reuse and recycle of biosolids while reducing Sacramento's risks and costs. Our process began with confirmation of Regional San's current solids management portfolio, diversification goals, financial objectives, and overall vision.

→ Project manager for the Blower Building Condition Assessment at the JB Latham Treatment Plant for the South Orange County Wastewater Authority, California. This project included condition assessment of the building, mechanical, and electrical systems, and performance assessments of the plant's existing blowers, primary influent pumps, RAS pumps, WAS pumps, and primary sludge pumps.

→ Project manager for the Hydraulic Study at the JB Latham Treatment Plant for the South Orange County Wastewater Authority, California. This project includes the development and calibration of a full plant hydraulic model, and hydraulic modeling to assess plant capacity under varying hydraulic scenarios. Ms. Gupta managed the project.

→ Co-principal investigator for the Characterization and Contamination Testing of Source Separated Organic (SSO) Feedstocks and Slurries for Co-Digestion at Resource Recovery Facilities project for the Water Research Foundation (WRF). The project includes multiple tasks to ultimately provide industry guidance on sampling and analytical methods to characterize food waste, standardized monitoring protocols, minimum feedstock quality standards, impacts of feedstock on digestion and biogas utilization processes, and recommended SSO feedstock pre- and post-treatment practices.

→ Project manager for the Union Sanitary District's WAS Thickener Replacement Project at the Alvarado Wastewater Treatment Plant in Union City, California. The project includes evaluation of thickening technologies, and preliminary and final design for a retrofitted thickening facility with new polymer, thickened sludge conveyance, HVAC, electrical and other ancillary systems. Ms. Gupta is managing the project.

→ Project engineer and task lead for the Treasure Island Wastewater Treatment Plant and Recycled Water Facility Project for the San Francisco Public Utilities Commission, California. Her responsibilities include the conceptual design of new solids blending, thickening, and truck loading facilities for this greenfield plant. The conceptual design documents will be used by a design/build team for delivery of the final constructed facility.

→ Project manager for the Solids Management Study for the City of Los Angeles, California, Terminal Island Water Reclamation Facility. The study includes an assessment of existing solids processing capacity and capacity available for co-digestion of food waste. The processes evaluated include thickening, thermophilic digestion, centrifuge dewatering, and dewatered cake loading systems. Biosolids management and digester gas utilization options were studied to determine feasibility of the various options for the plant.