
PROVIDING SUPERIOR SERVICE IN ENGINEERING
PLANNING, DESIGN AND CONSTRUCTION MANAGEMENT



HERWIT ENGINEERING
STATEMENT OF QUALIFICATIONS

WWW.HERWIT.COM

ABOUT HERWIT ENGINEERING

HERWIT Engineering was formed in 2000 by its partners Kurt Gardner, P.E., Masters in civil sanitary engineering and Gregory P. Harris, P.E., Masters in mechanical engineering.

HERWIT Engineering plans and designs water and wastewater pump stations and treatment systems, biosolids handling systems, electrical cogeneration systems and water and wastewater pump stations of all sizes with a specialty in mechanically intensive systems.

HERWIT Engineering provides services for all elements necessary to develop projects from ground zero through completion of construction and operations. These services include:

- Overall project management
- Initial site assessment and selection
- Management of the California Environmental Quality Act (CEQA) permitting process
- Negotiation and preparation of National Pollution Discharge Elimination System (NPDES) discharge permits
- Preparation of local Air Quality Management District air permits
- Preparation and negotiation of Army Corps of Engineers and Department of Fish and Game stream bed alteration permits



City of Lincoln WWTRF Centrifuge
Dewatering Building



Town of Discovery Bay 4.2 MGD
Export Pump Station



CCWD and Town of Discovery Bay
Twin Outfall Construction in Old
River



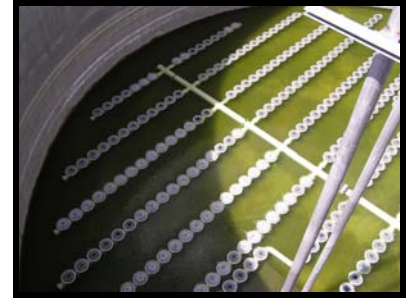
City of Brentwood Lone Tree Way
Regional Storm Drainage Project

- Development of pre-design reports and preliminary cost estimates
- Development of final construction plans and documents for all process, civil, mechanical and electrical facilities
- Bidding support services
- Construction management
- Engineering support services during construction
- Operations and Maintenance Manual Preparation
- Startup and operations assistance

HERWIT's specialty design expertise includes water and wastewater pump stations of all sizes and types, biosolids treatment and handling systems including digestion, dewatering, drying, Class A and Class B biosolids processing, aeration system design and trouble shooting, cogeneration system design, energy optimization analysis, and overall project management and development.

The partners at HERWIT, Gregory Harris and Kurt Gardner, have presented cutting edge technology for the design of treatment and conveyance systems at national conferences in Dallas, Chicago, and New Orleans, as well as at local conferences in Sacramento, Fresno, Reno, Las Vegas and Salt Lake City.

HERWIT has permitted, planned, designed, and constructed water and wastewater treatment and conveyance systems from single pump stations to complete treatment plants.



*Olivenhain solids Holding Tank
Energy Savings Project*



*Olivenhain solids Holding Tank
Energy Savings Project*



*CCWD and Town of Discovery Bay
Twin Outfall Construction in Old
River*



*Town of Discovery Bay Export
Pipeline Project*

AREAS OF EXPERTISE

Pump Station Design

Mr. Harris and Mr. Gardner have been planning and designing stand alone and integrated pumping stations for more than 19 years ranging from 5 gallons per hour up to 200 mgd. They have combined their mechanical and civil backgrounds to plan and design almost every type of pumping station including vertical turbine pumps, dry pit pumps, and submersible pumps.

Pumping applications have included:

- Fresh Water
- Raw Sewage
- Wastewater Process Flows
- Final Effluents
- Reclaimed Water
- Sludge from 1% to 6% solids
- Sludge Cake up to 25% solids
- Lime, Sodium Hypo-Chlorite, Sodium Hydroxide, and Ferric Chloride
- Hot Water
- Steam/Condensate

Aeration Design

Mr. Harris at HERWIT Engineering has been consulted by other engineering firms and blower equipment manufacturers on new integration techniques for aeration blowers, control valves, and control systems.

Mr. Harris also developed a new technique for controlling air flow called the "Fixed Most Open Valve" control system for larger aeration systems.



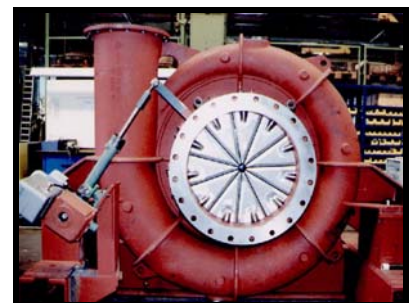
Town of Discovery Bay RAS/WAS Pump Station



Town of Discovery Bay 6 mgd Effluent Lift Station



City of Napa 8.5 mgd Aeration System Expansion



3K 20,000 cfm Turbo Blower at Factory in Germany

This system allows the lowest energy use possible while eliminating the hunting and instability issues of other most open valve control systems.

Together, Mr. Harris and Mr. Gardner have planned and designed multi stage, positive displacement, single stage turbo and high speed turbo blower systems for aeration of over 100 mgd of wastewater flows.

Solids Treatment and Handling

HERWIT Engineering has extensive experience in planning and designing treatment processes for municipal biosolids in conformance with 40 CFR 503 regulations for both Class B and Class A biosolids. This experience includes:

Sludge Stabilization and Pathogen Reduction Systems

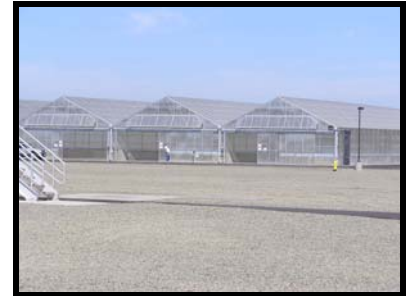
- Aerobic Digesters
- Conventional Anaerobic Digesters
- Egg Shaped Anaerobic Digesters
- Sludge Lagoons
- Conventional Solar Drying Systems
- Active Solar Drying Systems
- Lime Treatment Systems

Solids Removal and Dewatering Systems

- Primary Clarifiers
- Secondary Clarifiers
- Dissolved Air Flotation Thickeners
- Gravity Belt Thickeners
- Belt Presses
- Centrifuges



City of Napa Egg Shaped Digester Facility



City of Rio Vista Active Solar Sludge Drying Facility



City of Rio Vista Belt Press Dewatering Building



Town of Discovery Bay Active Solar Sludge Drying Facility

HERWIT designs are comprehensive and include all ancillary facilities such as:

- Digester heating systems (hot water and steam)
- Digester mixing systems
- Gas handling systems
- Gas storage systems
- Gas flare systems
- Electrical cogeneration systems
- Control buildings
- Conveyor and sludge cake pumping systems
- Sludge silos
- Truck loading stations

Cogeneration

Mr. Harris at HERWIT Engineering has been planning and designing electrical cogeneration systems utilizing digester gas for over 19 years. He has planned and designed over 3 megawatts of cogeneration systems and retrofitted other existing systems. The facilities designed have included all ancillary systems such as:

- Heat recovery systems (steam and hot water)
- Floating Piston gas storage systems
- Flexible Membrane gas storage systems
- Fixed Cover gas storage systems
- Regenerative Gas blowers
- Enclosed Stainless Steel gas blowers
- Piston gas compressor systems
- Sliding vane gas compressor systems
- Gas Flares
- Sulfur control facilities
- Gas optimization and control systems
- Standby Generator interface controls
- Electrical Parallel Bus Control System

In total, his designs have saved project Owners over \$4 million in offset energy costs.



City of NAPA 3 Million BTUH Boiler



City of NAPA Custom Pipe in Pipe Heat Exchangers



City of NAPA 600 kW Digester Gas Cogeneration System



City of West Sacramento Digester Gas Cogeneration Emissions Control Project

Construction Management

Mr. Gardner and Mr. Harris have each spent more than 26 years providing various levels of engineering construction support services for projects ranging from the \$1 million City of Brentwood Booster pump station to the \$50 million City of Fresno 68 mgd expansion project. Along with every day document tracking they have reviewed and responded to over 1,000 shop drawings, 4,000 requests for information, 500 change orders, and performed over 300 specialty inspections. They have negotiated contract time and cost changes for change orders, contract extensions, unforeseen conditions, and owner requested changes. They bring a partnered approach to working with the Owner and the Contractor to maintain project quality, while expediting construction issues and decisions to maintain project schedule. HERWIT Engineering recently completed the construction management for the \$6 Million City of Brentwood Lone Tree Way Widening and Regional Storm Drainage project.

Permitting

HERWIT Engineering personally handles all aspects of the different project permitting requirements including air permits, CEQA processing, NPDES permits, Army Corps 404 Permits, and RWQCB 401 Clean Water Act permits.



*Town of Discovery Bay Oxidation
Ditch Construction*



*City of Brentwood Lone Tree Way
Widening Construction*



*City of Fresno 68 mgd Expansion
Construction*



*Town of Discovery Bay NPDES
Copper Compliance Testing*

WHY HERWIT ENGINEERING

We at HERWIT have been planning, permitting, designing and constructing water and wastewater treatment plants and conveyance systems for over 26 years. We have extensive project design and management experience in all aspects of water and wastewater projects, delivering the design of complete plants from 1 mgd to over 80 mgd.

We have visited other countries on multiple occasions including Germany, Austria, and Canada to investigate new ideas in process treatment and equipment for water and wastewater treatment. This continuing research into different treatment processes allows us to propose multiple solutions to meet your project requirements and to work with you to pick the process that best fits your specific needs. We do not offer pre-canned solutions for our projects.

Before starting HERWIT Engineering, we were the technical experts at a larger engineering firm for more than 10 years. We designed, managed, and delivered their projects. This technical experience coupled with our commitment to client service and our nimble size allows us to deliver projects in friendly innovative ways that will meet your needs with a high level of satisfaction.