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San Diego County Water Authority (SDCWA) Moves To Factory-Built Flow Control Facility - Lakeside, CA

When the Lakeside Water District (LWD) needed a “Flow Control Facility” (FCF) to meet San Diego County Water Authority (SDCWA) specific design requirements, Engineered Fluid, Inc. (EFI) was contacted.

The consulting engineer for Lakeside Water, Dexter Wilson Engineering, Inc., suggested the factory-built FCF instead of the conventional cast-in-place concrete, site built unit. Both Lakeside Water and the SDCWA agreed.

EFI provided the FCF design to Dexter Wilson Engineering, Inc. Dexter Wilson did the site design and project management. EFI acted as the general contractor.

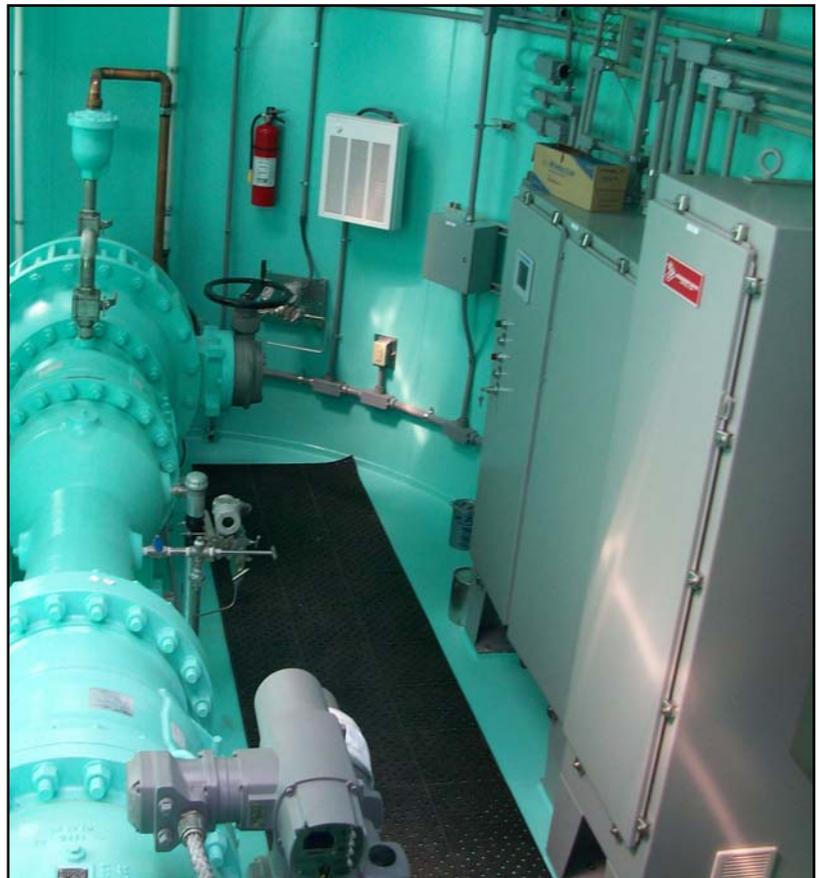
This new FCF will allow shutting down five (5) existing interconnects into the Lakeside System reducing LWD’s water costs significantly.

The design of this FCF included a 11’- 6” W x 27’L x 10’- 4” H below ground, steel capsule with connecting stairway structure. Major components included: two-20” Pratt Ball Valves, one-20” Full Form Venturi Flow Tube and one 20” VAG Plunger Valve with AUMA Electric Actuator along with the full electrical power, instrumentation and control system packages all built in Centralia, IL and sent to the site complete.

The specifications were very detailed and the third party inspection requirements were stringent. All aspect’s of EFI’s QC testing, welding, fabrication, painting and electrical workmanship were reviewed by SDCWA inspectors during manufacturing and prior to shipment.



Steel capsule in production.



Interior view of EFI buried capsule showing the 20-inch pipe train with isolation ball valves, flow tube and the plunger valve with electric actuator.



Exterior view of capsule after painting and ready for delivery.

Lakeside, California - Flow Control Facility

Below is an article the San Diego County Water Authority printed in their August 2010 newsletter "News & Notes - from the GM".

Lakeside Flow Control Facility (LKS 1 FCF), a new Water Authority-owned facility, is being project managed and constructed by the Lakeside Water District (LKS). LKS 1 FCF will be the Water Authority's first factory-built flow control facility. It began factory production and equipment outfitting in April 2010. Delivery and installation of the completed Flow Control Facility and stairway structure took place July 1, after a long cross county trip from Centralia, Illinois.

Engineered Fluid, Inc., (EFI) is the manufacturer of the packaged FCF, which includes a steel capsule-shaped structure, housing a 20 inch pipe train that includes isolation valves, flow meter, and control valve. Also housed within the capsule are electrical and instrumentation control panels.

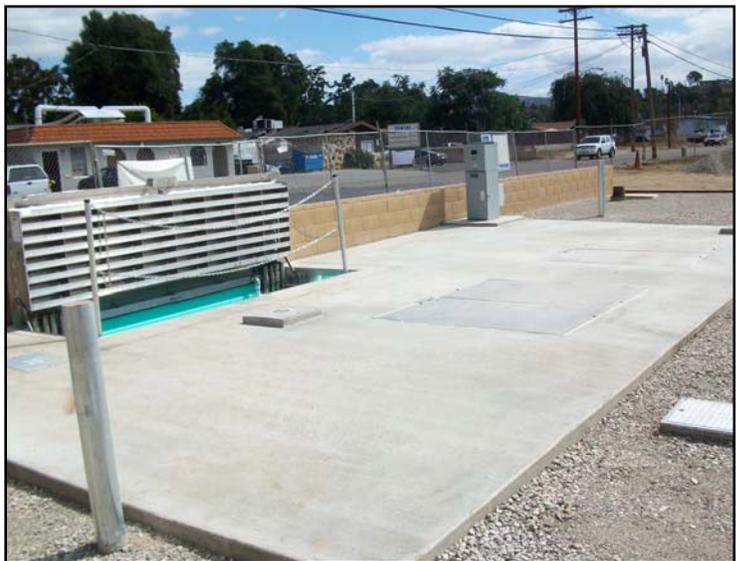
Once the installation is complete the steel capsule, appurtenant stairway structure, and connecting pip-

ing and utilities will be fully buried below grade. Personnel and equipment will access the facility through at-grade access hatches. Not only will this be the first factory-built facility owned by the Water authority, it will also be the first buried steel FCF that will be operated and maintained by Water Authority staff. Nearly all currently built FCF's are conventionally site-built, whether below-grade or above-grade, using cast-in-place concrete or concrete-block structures to house piping and equipment.

Benefits expected from this new type of construction are shorter facility construction time, reducing impact to surrounding residents and lower project costs. Overall, staff is encouraged by the design, manufacturing, and quality of work exhibited to-date on this project and look forward to other opportunities to utilize factory-built facilities withing the Water Authority's Aqueduct System.



View from above as the stairwell and buried Flow Control Facility are being installed on a concrete foundation.



The finished installation is clean and unobtrusive; It is in the front yard of a church.