

# Siphon System for Dam Removal Saves Money and Protects Environment



## PROJECT SCOPE

Temporary siphon system required to dewater reservoir for dam removal project.

## CLIENT

Civil Construction company

## INDUSTRY SEGMENT

Construction

## EQUIPMENT

- 5,100 feet of 30" HDPE pipe with all adapters, elbows, saddles, gaskets, and valves.
- 14 Magnetic Flowmeters

## BACKGROUND

A Civil Construction company working on a U.S.A.C.E dam removal and river restoration project needed a temporary siphon system capable of bypassing 400 CFS. The system would need to dewater the impoundment while providing mitigations to protect the natural habitat.

## OUTCOME

The customer's discharge goal was achieved using a siphon system designed with precise layout drawings and hydraulics calculations, created by the team of Engineering and Estimation experts at Rain for Rent. The design incorporated a pipe configuration that achieved the desired flow rate with consideration for elevation and radius at the top of the dam. The result was a custom system that included measures to prevent air from re-entering the fourteen 364-foot lengths of 30-inch HDPE, and avoided kinked pipe by rounding the top of the dam to a radius of 27-feet, additionally, each pipe was equipped with a Magnetic Flowmeter. The siphon system was started by vacuum priming pumps installed alongside the siphons. The system bypassed water from the impoundment, over the dam, and through bladders in the downstream river, ensuring turbidity was kept to a minimum.

## HIGHLIGHTS

- Rain for Rent's Engineers and Customer Service Center Estimators designed a system that met specifications for the project owners, contractors, and regulatory objectives, and helped provide clear communication and safe practices for all involved.
- The siphon system provided a less disruptive bypass option for the habitat, required less fuel and maintenance than a typical bypass, and saved the customer money.
- The project was completed one month ahead of schedule which saved the customer time and reduced costs.

## CUSTOMER FEEDBACK

The customer said that working with Rain for Rent's team of top-notch professionals and pump system experts exceeded their expectations.



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