



**Johnson
Screens**

A brand of
Aqseptence Group

Intake Screen Systems, a key element to an advanced water treatment facility



Project purpose: To improve existing intake tower and automate screen cleaning and maintenance

Several years ago, the City of Worcester, MA upgraded its water treatment operations with a state of the art water plant, with ozone and dual media filtration as the primary means of water treatment. Back then, the existing intake tower at the dam was left as is. The tower had a slot going down into the water that sections of woven wire screen segments would slide.

The woven wire intake screens effectively kept out materials, but screen cleaning required shutting down the plant intake flow, removing each panel with a jib crane and manually cleaning and re-installing them. This process sometimes occurs multiple times a week.

Project Details

- City of Worcester Consultant: CDM
- Contractor: RH White
- Johnson Screens Agent: Technology Sales
- Location: Worcester, MA, USA



Johnson Screens was approached and asked to help improve the existing intake screen system. Johnson Screens met with plant personnel and City of Worcester's consultant, CDM, to come up with a solution: the Johnson Screens® passive intakes with a Hydroburst™ system for cleaning could be retrofitted to the existing intake tower.

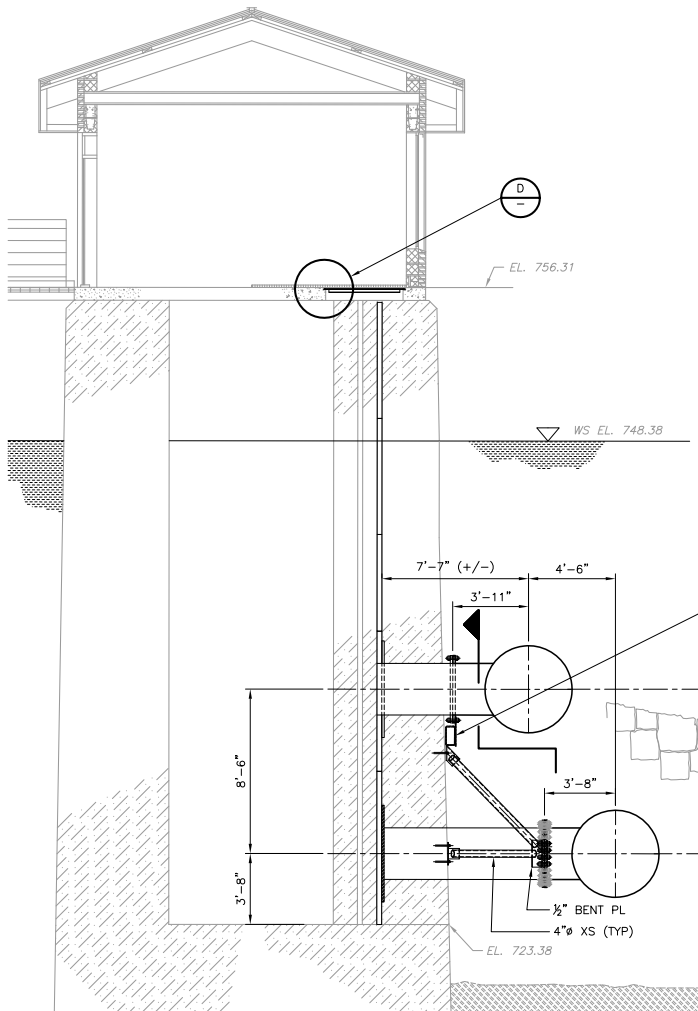
A set of solid plates was designed, with two of them having a hole and pipe connection and two T-54HC passive screens at two different elevations. Shown below is the engineering drawing of the screen locations. During construction, the screens were floated into place by RH White Construction (shown in the picture on the front page).

The next challenge was to get a Hydroburst system through the narrow door into the tower without dismantling the roof or walls. A design using a custom receiver that was longer

and narrower than standard gave the volume needed while fitting through the door. It became known as the "silver hot dog". It has a duplex compressor system mounted on top of the tank.

In order to keep the Hydroburst as small as possible, each side of the screens are cleaned (blasted with air) separately, so four air lines were included. The controls use a programmable timer to schedule automatic Hydroburst cycles, as the plant sees fit, to keep the screens free and clear of debris. They also have a level system that measures the level of the reservoir just inside the tower. If the level inside drops too much, it also initiates a Hydroburst cycle.

This system has been operating since installation with great success. Plant shut downs are now avoided for the purpose of cleaning the intake system.



Johnson Screens Water Intake System

North and South America
Phone +1 651 636 3900
info.us@johnsonscreens.com

Europe, Middle East & Africa
Phone +3 3 23 75 05 42
info.fr@johnsonscreens.com

Asia Pacific
Phone +61 7 3867 5555
info.au@johnsonscreens.com

johnsonscreens.com