

## City of Worcester's Water Treatment Plant Becomes State of the Art Facility with Johnson Screens' Help

**Whether your installation is a new project or a retrofit, Johnson Screens Passive Intake Screening Solutions are engineered to meet your needs!**

### Background

The City of Worcester, MA needed an upgrade to 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.

The woven wire intake screens they had previously installed 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 was sometimes required multiple times a week.



### Challenge

After being asked to improve the existing pass intake screening system for the city, the initial challenge for our experts was conceiving a design that included a Hydroburst self-cleaning feature and ensured a consistent flow rate at two different elevations.

The next challenge was then figuring out how to fit a Hydroburst system through the narrow door of the tower without having to dismantle and reassemble any of the existing infrastructure.

### Solution

Johnson Screens achieved the installation of the chosen T-54 high capacity intake screens by floating the screens into place with the help of a local construction company, as seen in the image above.

As for the challenge presented by installing the Hydroburst system, Johnson Screens tackled this with a design that used 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.

### Results

The Hydroburst was kept as small as possible, with each side of the screens are cleaned 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.

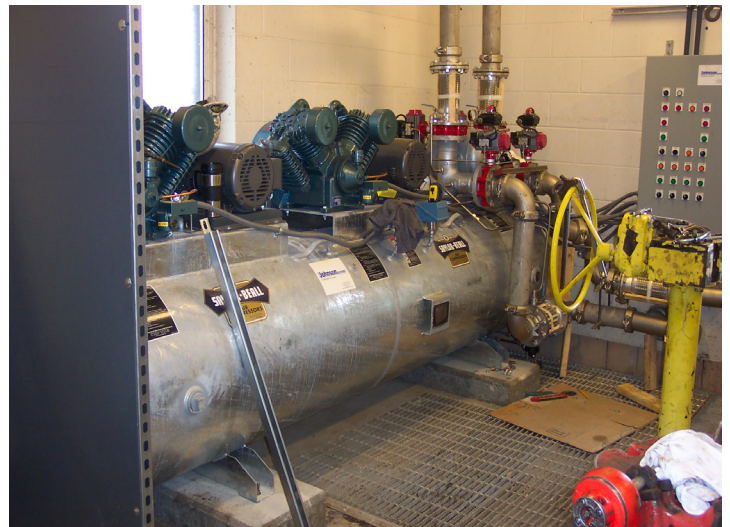
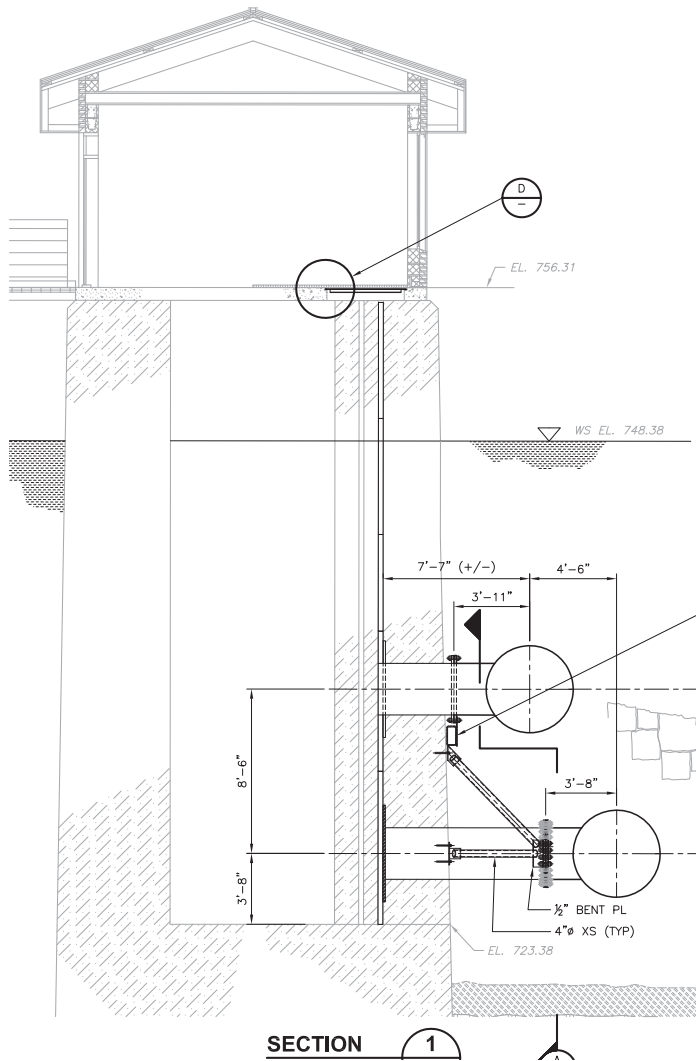
This system has been operating since installation with great success. Plant shut downs are now avoided for the purpose of cleaning the intake system.

# An Innovation Nearly 60 Years in the Making

Many years after inventing Vee-Wire®, we at Johnson Screens leveraged this technology to introduce a new innovation in 1968: our passive intake screen. 50+ years and over 4,000 installations later, we continue to lead the way in static intake screening equipment.

The combination of our non-plugging Vee-Wire design and our patented internal flow modifiers provide a high open area while maintaining the lowest entrance velocity and pressure drop on the market. Additionally, our passive intakes have no submerged moving parts that could break down or wear out and incorporate the use of the Hydroburst™ air backwash cleaning system, guaranteeing minimal maintenance.

Available in stainless steel, super duplex, and NSF-certified Z-Alloy, every system is fully compliant with Section 316(b) of the Clean Water Act, reducing impingement while protecting aquatic life.



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