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# City of Wenatchee

## Waste Water Treatment Plant

Odor Control, Visual Mitigation & Headworks  
Screening Improvements



Partial funding by the Public Works Trust Fund



## Project Objectives

As the redevelopment of the Wenatchee waterfront began to occur, it became obvious to City leaders that something needed to be done to help the Waste Water Treatment Plant (WWTP) become more compatible with the proposed uses. The City engaged local businesses, adjoining property owners and interested individuals in a stakeholders committee in 2008 to develop key objectives that would provide direction to the design team on the scope of the project.

Due to the location and future redevelopment of the waterfront area, the committee determined that reducing odors and mitigating the appearance of the facility was beneficial to accomplishing the long-term goals for the community, resulting in these objectives:

1. Comply with all regulatory requirements for treatment
2. Capture and treat four air to a reasonable standard
3. Utilize architectural, landscaping and artistic elements to make the facility blend into the waterfront



Construction started where the new Headworks building would be.

## Project Timeline

This is the culmination of a 5 plus-year project. Some of the key milestones include:

- 2007-2008 collection of odor data at the plant and construction of air quality models.
- Fall 2008 – Spring 2009 saw the formation of a stakeholders committee and several meetings to develop a conceptual design
- In July 2009, the City selected HDR Engineering to design the improvements and added the headworks to the scope.
- The preliminary design report was completed in March 2010.
- Potential bidders were pre-qualified in September 2011.
- On October 4, 2011 Apollo Inc. was the low bidder at \$7.4M.
- Construction began on February 15, 2012
- October 16, 2013 – Ribbon Cutting Ceremony!



Updates to the primary clarifier

## Visual Mitigation

*Objective – Reduce visual impact in area*

Stakeholders considered a variety of options to mitigate the visual impact on the waterfront. The committee determined that the treatment plant should blend into the environment without the large expense of completely concealing the entire facility or relocating to a more compatible area. Through architectural, landscaping and artistic elements, the facility is hidden in plain sight, but also invites those interested to learn more about what happens at the facility.

It was also decided to utilize original artwork to help tell the story of what is happening at the plant every day.



Landscaping and a new fence along Worthen Street

## Headworks Improvements

*Objective – Replace screens and comply with new regulations*

All sewage entering the treatment plant goes through screens to remove inorganic materials and large debris. New regulations implemented in 2012 required a maximum 3/8" opening on screens. The existing 1/2" screens did not meet this new regulatory requirement.

A new building was constructed to house the screens and ancillary equipment to comply with the regulations and reduce the impact of hauling these materials offsite.



The completed Headworks Building

This improvement also:

1. Removed bar racks which were manually cleaned each day
2. Eliminated clogged influent pumps requiring daily maintenance
3. Relocated the screens to a better location at the head of the plant
4. Included washers, compactors and an automatic bagging system

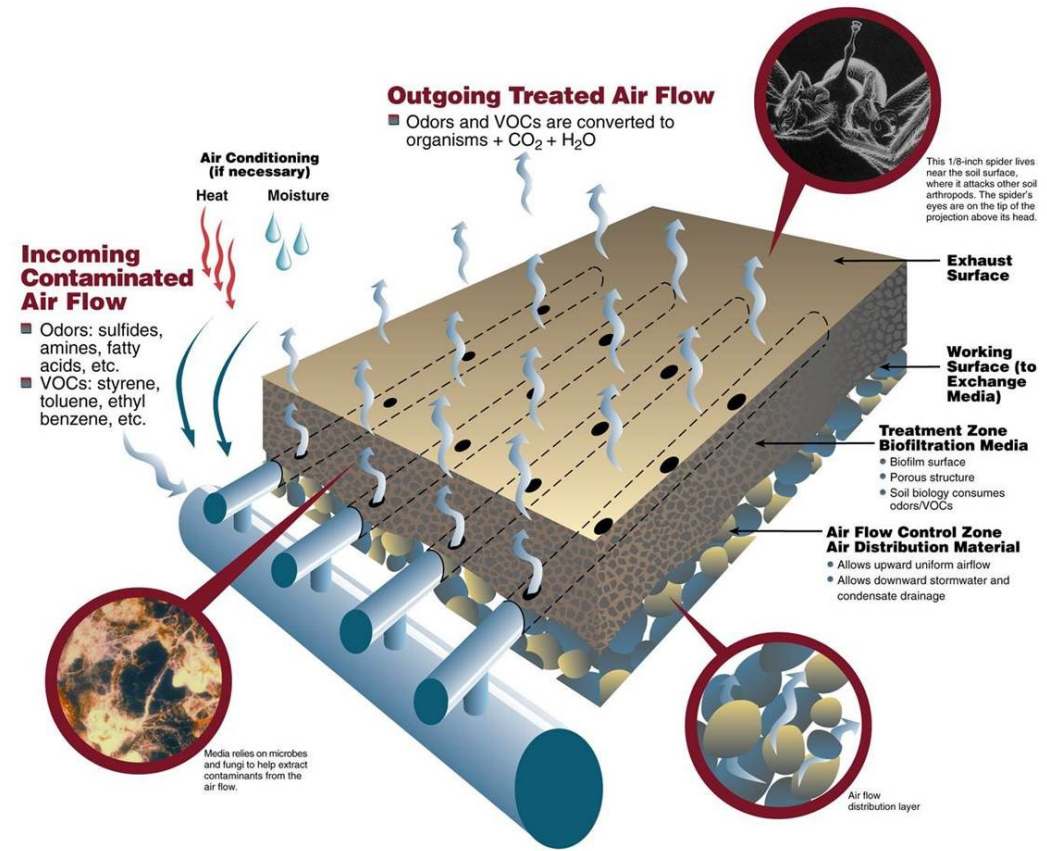
# Odor Control and Treatment

*Objective – Reduce odor emissions*

Modeling was done on data collected from all of the sources of odor in the WWTP. Stakeholders and staff agreed that an odor standard of 20 D/T (dilutions to threshold) would be acceptable for this location.

Dispersion modeling helped the design team choose the most effective technology to minimize odors outside the treatment plant, while keeping O&M costs as low as possible.

Odorous air is captured from the most problematic areas and conveyed through piping to the biofilter, where biological processes utilize the odorous compounds as food. The only by-products are CO<sub>2</sub>, water and biomass.



Drawing showing target odor isopleths...or “iso-stink” lines



Installing the media in the biofilter