



Murray

CSO CONTROL PROJECT

Odor Control Technical Memo Key Points

King County's engineering consultant for the Murray Combined Sewer Overflow Control Facility project has submitted its report on the facility's odor control needs. The content of the report, called a technical memo, will guide King County's decision making about the equipment used to address foul air released during the normal operation of the one million gallon storage tank currently under design as well as the existing Murray Pump Station. Key points for the community to consider are listed below along with a citation for the specific section within the memo addressing the specific issue in greater detail.

Key Point	Section
The facility will require odor control to prevent foul air to the neighboring community. The facility's odor control system must be integrated with the existing pump station to control foul air from both the existing pump station and the storage tank.	1.0
Improvements to the existing pump station odor control system will include: <ul style="list-style-type: none">• Equipment can be removed from Lowman Beach Park. New odor control equipment can be installed below grade or partially below grade east of Beach Drive.• Increased safety and accessibility.• Reduced wet well corrosion and improved pump station odor control.• Increased efficiency and reduced long-term maintenance issues.	2.2
The project's odor control system design criteria are based on criteria previously established in the CSO Beaches Project Design Standards and project team discussions. Facilities must be sized to anticipate fill rates in the storage tank.	3.1
The fan room must be properly ventilated to reduce the fire risk posed by likely leakage of combustible gases at the fan, duct fittings, dampers and other joints within the odor control duct work.	3.2.2
The odor control systems for the new storage tank and existing pump station will work independently of one another. Independent systems allow for the storage tank system to be modified based on its usage without disrupting the pump station system.	4.1

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<p>The operational and safety advantages of the proposed odor control system include:</p> <ul style="list-style-type: none"> • Operators can maintain proper ventilation at one facility while working on the other. • Operators do not need to enter confined space to balance exhaust lines. • Using a separate carbon scrubber for the storage tank will reduce costs and maintenance visits to the facility. • The system is operationally simple and energy efficient. • Reduced construction impacts by allowing odor control ductwork for both facilities can share the same trench across Beach Drive. 	4.2
Carbon scrubbers are a common odor control technology at King County pump stations. Carbon scrubbers are relatively simple to operate, typically requiring only an annual replacement of carbon. They can become expensive if used to address heavy foul air loads. Ultraviolet (UV) odor control is also an option.	4.4.1 4.4.2
The preferred location for the Fan and Odor Scrubber rooms is below grade or partially below grade.	4.5
The estimated Fan and Odor Scrubber room combined footprint is approximately 1,825 square feet.	4.5.1
<p>The project has two feasible air discharge options to effectively reduce odors:</p> <ul style="list-style-type: none"> • A vertical stack with sufficient velocity to release air above neighbors. • A horizontal discharge to the northwest of the storage tank, away from southern neighbors and allowing for dilution from winds off Puget Sound. 	4.5.3
Capital costs for ultraviolet odor control are higher than those of a carbon scrubber, but UV life cycle costs are lower.	4.7
<p>Carbon scrubber odor control is recommended for the Murray project because:</p> <ul style="list-style-type: none"> • Very little risk in use. • Consistency with other King County CSO control projects. • Greater reliability due to County operations personnel familiarity. • CSO facility design schedule does not allow for UV testing. 	5.1