

Septage Receiving Modifications



Project Purpose:

The purpose of this project is to address issues related the existing septage receiving station.

Project History and Status:

Constructed as part of the Plant's Tenth Addition, the Headworks Facility continues to experience numerous operational and maintenance issues. These include the septage receiving area which becomes icy and unsafe during the winter. Sand and grit can sometimes also accumulate in the discharge trough requiring personnel to clean the trough periodically.

This project was included in the 2016 Liquid Processing Facilities Plan.

Alternatives:

The following alternatives were evaluated in detail in the 2016 Liquid Processing Facilities Plan:

Alternative HWO—No Change (Null Alternative)

In this alternative hauled waste receiving facilities and operations would be unchanged. There would be no capital costs for this alternative, and the annual operating costs are unchanged from the existing costs.

Alternative HW1—Construction of a Drive-Through Hauled Waste Receiving Station at the Headworks Building

In this alternative the existing hauled waste receiving area will be widened to allow installation of two mechanical receiving stations equipped with rock traps and screening equipment. The existing trough would be removed and the drive would be extended to allow one-way traffic

through the receiving area and to eliminate the need for trucks to back in. The drive would be sloped to allow trucks to be completely emptied. Receiving stations would be installed in an approximately 27- by 53-foot building. Because of the location and size of the building, it is likely that the existing canopy will have to be removed and several pipes will have to be relocated. Additional facilities will need to be added to allow dumping from irregular sources such as barrels, totes, porta-potties, and grease trailers. A proposed preliminary layout for the drive and building is shown in Figure 9, although other layouts should also be considered that may allow the existing canopy to remain in place. An existing stormwater bioswale would be disturbed by construction of the drive that would have to be relocated and likely enlarged to accommodate increased runoff from the increased impervious area. The ventilation system would be designed to incorporate odor control in the future if needed. No costs for an odor control system are included.



Figure 9 Proposed Expanded Hauled Waste Receiving Area Layout

Modification of the hauled waste receiving facilities would include incorporation of more security and tracking measures to reduce the potential for unauthorized or inaccurately reported discharges. The measures would include a card or keypad activated entry gate and flow meters on the two receiving stations.

An important consideration of this alternative is the displacement of hauled waste receiving activities during construction. An alternate location for trucks to discharge would need to be identified and any temporary measures, such as a rental receiving station, would need to be put in place prior to the start of construction.

Key Risks and Issues

The key social, environmental, and other nonmonetary considerations of each alternative are summarized in Table 1.

Table 1 - Hauled Waste Receiving Alternative Nonmonetary Considerations Summary

Alternative	Benefits	Limitations
HW0—No Change (Null Alternative)	<ul style="list-style-type: none"> ▪ No interruption to existing receiving area. ▪ Reuses existing facilities that have remaining useful life. 	<ul style="list-style-type: none"> ▪ The numerous issues with hauled waste receiving are not addressed.
HW1—Construction of a Drive-Through Hauled Waste Receiving Station at the Headworks Building	<ul style="list-style-type: none"> ▪ Improved traffic flow. ▪ Improved safety for haulers and operators. ▪ Reduced operator attention regarding unloading operations. ▪ Rocks and larger objects removed prior to screening channels; reduced associated maintenance. ▪ Improved security and tracking. ▪ More accurate and equitable billing for services. ▪ Improved accessibility to haulers. 	<ul style="list-style-type: none"> ▪ Hauled waste receiving operations displaced during construction.

Economic Analysis

The present worth analysis completed for the Liquid Processing Facilities Plan is presented below.

	HW0	HW1
Total Opinion of Capital Cost	\$0	\$2,864,000
Annual O&M	\$21,000	\$36,000
Present Worth		
O&M Cost	\$276,000	\$473,000
Salvage	\$0	(\$58,000)
Total Opinion of Present Worth	\$276,000	\$3,279,000

Project Recommendation

The recommended alternative for hauled waste receiving is Alternative HW1, which includes construction of a drive-through hauled waste receiving station to improve the operations, safety, maintenance, and function of the facility and the downstream headworks processes. The District’s hauled waste receiving facilities provide a valuable resource to the community, local industry, and septage haulers. The existing facilities, while functional, require significant attention for operations and maintenance and winter time traffic is a safety concern with icing roadways and difficult truck maneuvering. In addition, the new system would include an automated card reader system, which will provide improved tracking, billing, and management for the various haulers and for the District.

Project Schedule:

	Start Date	Completion Date
Planning	2016	2020
Design	2021	2021
Construction	2022	2023

Financial Summary (2019\$):

Total Project Cost	
District Staff & Engineering	\$510,000
Contractor	\$2,560,000
Total	\$3,070,000

Fiscal Allocation (2019\$):

	2020	2021	2022	2023
District staff	\$5,000	\$40,000	\$55,000	\$55,000
Consultant	\$0	\$225,000	\$65,000	\$65,000
Construction	\$0	\$0	\$1,280,000	\$1,280,000
Total	\$5,000	\$265,000	\$1,400,000	\$1,400,000

Fiscal Allocation (actual \$):

	2020	2021	2022	2023
District staff	\$5,000	\$45,000	\$60,000	\$60,000
Consultant	\$0	\$240,000	\$75,000	\$75,000
Construction	\$0	\$0	\$1,400,000	\$1,440,000
Total	\$5,000	\$285,000	\$1,535,000	\$1,575,000