



A Public Agency

# SHOREWAY OPERATIONS AND CONTRACT MANAGEMENT



## STAFF REPORT

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To: SBWMA Board Members  
From: Joe LaMariana, Executive Director  
Matt Southworth, Senior Engineering  
Hilary Gans, Senior Operations and Engineering Manger  
Date: November 19, 2000 Board of Directors Meeting  
Subject: Discussion on Recology Fleet Fueling and Shoreway Facility Needs Assessment

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### Recommendation

This staff report is for informational purposes and no formal action is required of the Board of Directors.

### Analysis

The 16-acre Shoreway site must service the current and future collection fleet and material processing needs of the Agency, and the 450,000+ tons of materials that we handle and process each year. Staff is currently conducting a Shoreway Facility Needs Assessment to analyze the impacts of several significant regulatory changes that are likely to place new demands on the Agency and on the Shoreway facility. Most notably, these regulations include:

- **CalRecycle SB1383** – Sets new organic waste diversion requirements (approved into law 11/2020)
- **CARB EV Fleets** – Establishes new requirements for replacing diesel trucks with EV trucks (2024 targets established)
- **BAAQMD 13.2** – Will impose strict materials handling and air emissions reduction requirements on the MRF and transfer station buildings (regulations are under development)

While each of these regulations is in a different stage of development, SBWMA staff anticipates that land constraints at the existing Shoreway facility will hinder the Agency's ability to implement the changes needed to meet requirements of the new regulations. For this reason, agency staff is engaging in an early planning process to:

- 1) Understand the full potential impact of the regulations and their implementation costs,*
- 2) Develop financial and infrastructure plans to meet these new requirements.*

A full listing of the projects that are under consideration in the planning process are presented in on the following page in **Table 1. Site Planning and Needs Assessment**. Of the items listed in the table, staff is currently focused on the items critical to maintaining regulatory compliance and items that have the longest lead-time for implementation. This staff report is intended to update the Board on the status of planning and progress on the following items:

**Table 1. Shoreway Site Planning and Needs Assessment**

1. **Fueling/Charging of Collection/Long Haul Fleet:**
  - a. **Diesel Fuel Tanks:** Replace 3 double-walled tanks (*by 12/31/25*)
  - b. **Electric charging stations:** Support Recology EV trucks (*2024/26*)
    - Electrical Supply needs assessment
    - PG&E site upgrades/EV fleet subsidy program
    - Additional land for more truck, parking, fueling
  
2. **Transfer Station:**
  - a. **O2E---Scale-up Project (2022+) (reduce increasing composting costs)**
    - Electrical supply upgrades
    - New storage tank footprint
  - b. **BAAQMD Reg 13-2 Emissions Compliance (TBD):**
    - Emissions compliance/capture system
  - c. **Increase C&D Diversion (2023+)**
    - Source separated materials drop-off (*reduce Zanker costs*)
  
3. **MRF:**
  - a. **Phase II Upgrades – Sort system Automation (2022/23+)**
    - Sort cost reduction and improved fiber commodity
    - Fire Suppression Enhancements—Deluge water tank(s) (*2022/23*)
    - Emergency Material (Bale) Storage (*tbd*)
  - b. **Public Recycling Center**
    - Install confidential document shredder for public (*2022*)
    - BuyBack Center reactivation - yes/no decision (*tbd*)
  
4. **Evaluate alternative and auxillary material handling processes and technologies to meet SBWMA Long-Range Plan Goals**

- A. **Collection Fleet Fueling and Shoreway Facility Needs Assessment** – To reduce local air pollution, California Air Resources Board (CARB) is pushing large truck fleets to transition from diesel to electric vehicles. Recology is on the cusp of purchasing its new collection fleet (150 trucks in total) and staff has been working with Recology to determine the best truck/fuel combination. Because the fueling decision will directly impact the Shoreway site, (i.e.; power supply and distribution, new tanks, additional parking), staff has recognized the need to conduct an Electric Supply Assessment and a Facility Needs Assessment to understand the totality of the impacts that a new fleet/fuel will have on the Shoreway site. Once completed, ***Staff will make an informational PPT presentation to the Board today on the recommendations for electrification of the Collection Fleet with the cost and operational impacts (Attachment A).***
  
- B. **Land Acquisition Options Analysis** – The current collection and materials handling operations use all the 16-acres of the Shoreway Environmental Center. Staff is looking at options for acquiring additional

land to accommodate future collection fleet and materials handling operations. The most promising option is the vacant land adjacent to the Shoreway facility owned by the County and used by the San Carlos Airport. This land will become available for potential SBWMA agency use in 2023. With Executive Committee engagement, staff has started an assessment of the airport land to understand if this property presents a viable option for the Agency's future uses.

Prior to a consideration of a lease agreement with San Mateo County, staff is conducting a preliminary feasibility assessment. Consultants are currently conducting an analysis of FAA requirements that govern the land use and a preliminary CEQA analysis to determine if the site is compatible with the Agency's intended use of expanded parking, outdoor storage, and other static activities. (The FAA analysis was started in November and a budget and scope of services is presented below in **Table 2**). **Staff will make a presentation updating the Board on the feasibility of the Airport land for the SBWMA's purposes.**

**Table 2. FAA Site Feasibility Analysis**

SBWMA has contracted with the County's airport planning contractor, Coffman Associates, to address typical planning and environmental activities required by the Federal Aviation Administration (FAA) for the proposed Project. Their work is to provide the FAA with sufficient information to make preliminary planning decisions regarding the proposed Project. If upon completion, FAA determines that there are no safety issues and that Project approval involves a federal action, then subsequent environmental work, including compliance with the *National Environmental Policy Act* (NEPA), and California Environmental Quality Act (CEQA) would be required. A summary of their work tasks includes:

Task 1	Site Planning Support and Project Coordination	\$6,258
Task 2	Section 163 Determination	\$1,434
Task 3	ALP and Exhibit "A" Property Map Changes	\$1,328
Task 4	FAA 7460-1 Submittal	\$2,764
Task 5	Glint and Glare Analysis	\$2,916
TOTAL (Tasks 1 - 5)		\$14,700
Task 6	Documented CATEX	\$6,540
Task 7	Land Release Documentation	\$5,268
TOTAL (Tasks 6 - 7)		\$11,808
		\$26,508

We are anticipating receiving the FAA's preliminary planning decision (Tasks 1 through 5) in late Spring 2021. This decision will determine whether it's even viable for the SBWMA to continue with this planning process. This project's costs are included in the SBWMA's adopted FY 2020 (\$150,000).

**Attachments:**

**Attachment A - [Presentation on Franchise Agreement Collection Fleet Replacement: Zero Emission Vehicles \(ZEV\)](#)**



## STAFF REPORT

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**To:** SBWMA Board Members  
**From:** Hilary Gans, Senior Operations and Engineering Manger  
**Date:** November 19, 2020 Board of Directors Meeting  
**Subject:** Shoreway Environmental Center Project Update

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### A. MRF PHASE I UPGRADES PROJECT

#### MRF Phase I: Start-up Schedule

Date	Milestone
7/20/2020	BHS install completed at scheduled completion date
7/20 - 8/25	New equipment start-up
8/25 – 10/25	MRF System operating at full capacity while “tuning” system
11/16 – 11/20	Contract “Performance Test” of system (Sloan/Vasquez)
12/1/2020	System Acceptance & Final Payment issued to BHS
Ongoing	Monitoring of system metrics for Phase II design
1/1- 6/1/2021	Phase II MRF Upgrades Research

#### Summary of MRF Sort System Upgrades Process

##### Background

The original MRF sorting system was installed by BHS ten-years ago and has performed very well and, overall, the sort system is in good condition. Many technical elements of the original system are obsolete, and the performance of the system can be improved by integrating new technology. Specifically, computerized sorting systems (optical and robotic) have now proven themselves more accurate and less expensive to operate than the traditional mechanical screens and manual sorting. The SBWMA Board has reserved \$10M in capital to upgrade the MRF sort system and this report addresses the first Phase of the MRF Upgrade project.

The Phase I MRF Upgrade Project (\$6,410,528) with Bulk Handling Systems (BHS) of Eugene Oregon is focused on improving the operational speed and efficiency of the entire sort system and incorporating optical sorting. After the Phase I MRF upgrades are “Accepted” by the SBWMA, Staff will initiate the design process of the second Phase of the sort system upgrades. Phase II Upgrades Project will focus primarily on improving fiber commodity quality to meet the “post-National Sword” market conditions.

##### Analysis

The Phase I MRF Sort System Upgrades Project was approved by the Board roughly one year ago (9/26/2019). Since the contract signing, the project installation has proceeded on-schedule and on-budget.

*"SBR is monitoring the throughput (productivity) of residential single-stream and commingled commercial recyclables since the installation of the new MRF equipment and comparing results against pre-system upgrade. After the installation of the BHS Phase I equipment, we recognized an **improvement in material through-put of approximately 20%.**"*

Quote from Dwight Herring, SBR General Mgr 9/14/2020

The commitment of capital to the MRF Upgrade Project by the Board was based on expectations of improved operational and financial performance. Each of the components of the Phase I MRF Upgrades Project have operational and financial benefits that justify the capital investment. SBR and SBWMA staff are collecting performance data and a financial report will be presented to the Finance Committee and full Board in January 2021. The specific components and benefits that are being analyzed are:

**1. Battery Removal System**

**Goal:** to reduce battery-ignition risk by extracting batteries from the flow of recyclable materials at the front-end of sort system.

**Processing benefit:** Greater than 90% battery capture

**Fiscal benefit:** Reduce risk of fire loss

**2. Upgrade Commercial Infeed System**

**Goal:** to improve sorting efficiency and speed by evenly feed/space materials on the conveyor belt for sorters and screening equipment to process.

**Processing Benefit:** 20% increase in commercial sort line through-put

**Fiscal Benefit:** Reduce MRF sort labor overtime expense

**3. New "Mid-Fraction" Sort Line with High-speed Optical Systems**

**Goal:** to increasing system processing speed and increased capture of fiber and containers.

**Processing benefit:** 20% increase in total system through-put

**Fiscal Benefit:** Reduce/eliminate MRF sort labor overtime, improved commodity value

**4. Glass Cleanup System**

**Goal:** to improve the glass sort system to improve glass quality and value.

**Processing benefit:** Reduced system downtime by replacement of old problematic system

**Fiscal benefits:** Improved commodity value

Two items pulled from MRF battery removal system from the on first morning of Phase I operations (7/20/20).

Hand on right (Hilary Gans) a Lithium Ion Battery pack; Hand on left (Joe La Mariana) a live bullet round.



**B. ORGANICS TO ENERGY (O2E) PILOT PROJECT**

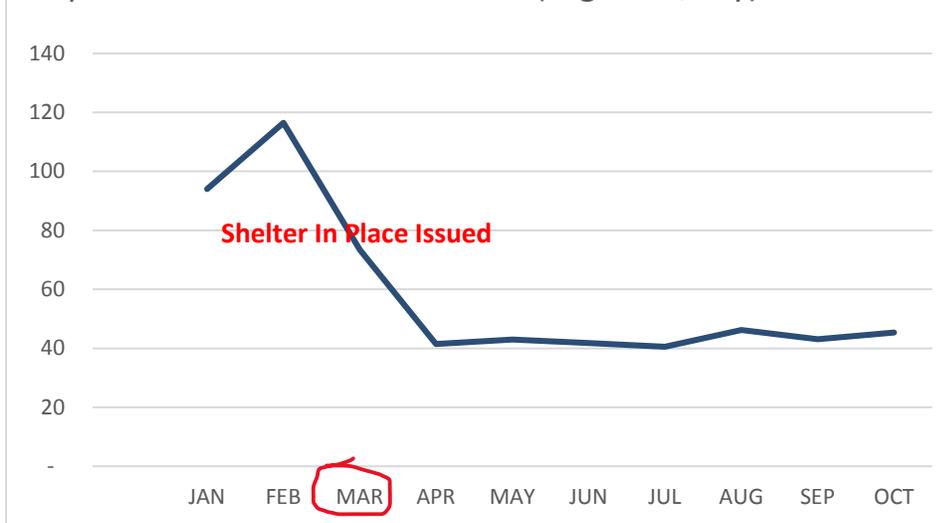
**O2E Pilot: Startup Schedule**

Date	Project Milestone
2/15/2020	O2E System installation completed by Anaergia
3/2 – 3/15/20	O2E System testing and commissioning
3/17/2020	Shelter-In-Place Ordinance issued by SMC Health
3/15 – Present	Drop in Commercial organics tonnage, <b>System start-up postponed</b>
12/2/2020	Target date for System Training
2/15/2021	O2E Startup and System Regular Operations. Final Progress Payment Made to Anaergia

**Summary of Project Status and COVID Impacts**

Startup of the O2E project was (pre-COVID) planned for mid-March but has been postponed due to the sharp drop in commercial food waste tonnage resulting from “Shelter in Place” order issued by San Mateo County (see **Graph 1** on following page that shows the drop in commercial food waste from a daily average of 100 tons per day prior to Shelter in Place to a current of **40** tons per day).

**Graph 1. Commercial Food Waste (avg. tons/day)**



Given the dramatic drop in commercial organics that the O2E Pilot project is targeting, the project startup process has been uncertain. Since it is not logistically nor financially feasible to run the O2E system for only 2 hours per day (the system is designed to process 20 tons per hour and only 40 tons is being collected from daily food waste collection routes), Staff has decided to perform “limited batch operations”; e.g., running the system 2 or 3 times per week instead of every day. With the planned limited operations the O2E project will be shipping 2-4 loads per day of “organic liquid slurry” to SVCW and other WWTP partners with the hopes of gaining essential operational information that will be used to inform the next phase of the project.

**O2E Pilot “Limited-Operations” Plan**

In addition to improving the sorting of recyclable materials, the *Phase I MRF Upgrades* project created the ability for the MRF system to sort MSW. This “dual-functionality” will be employed to sorting small quantities of MSW thereby extract the organic fraction of the municipal solid waste (OFMSW). This new MRF capability will be tested in November and December with a plan to being regular MSW sorting to create a new OFMSW feed stock for the O2E project. By combining the OFMSW and the SSO streams, it is hoped that sufficient tonnage can be generated to operate the O2E Pilot on consistent and regular basis to starting in January/February timeframe. A description of the planned activities are listed below and summarized in **Table 1 Future O2E Project Updates and Reporting** below:

- ***O2E Pilot System Training*** - scheduled for second half of December. Due to a lack of inbound tonnage and uncertainty on a startup date employee training on the O2E system operations has been delayed.
- ***WWTP Partnership MOUs*** – SBWMA staff has kept our 4 WWTP partners informed of the lack of food waste tonnage and has informed them that the system will start limited operations in 2021 and that they should expect limited quantities of food waste slurry. Extension for some of the WWTP MOUs will need to be obtained.
- ***MSW-MRF test processing in November/December*** – the new capability of the MRF to sort garbage will be tested in November/December and the OFMSW will be shuttled from the MRF to the O2E project in the transfer station where is will be processed into liquid organic slurry. The MRF only has the ability to produce 25 tons per day of OFMSW.
- ***Limited Scale O2E operations starting January/February*** – given that there are limited food waste tons (OFMSW and SSO), staff plans to operate the O2E project on a “limited operation” basis using with existing SBR staff **starting in January/February**.
- ***Regular O2E operations TBD*** – in anticipation of an eventual recovery of the commercial food waste tons, staff will work with SBR on a plan to hire full-time staff for Regular O2E operations.

Table 1. Future O2E Project Updates and Reporting	
Event/Activity	Target Date
Preliminary report on MSW MRF and O2E system effectiveness	January BOD
Preliminary review of Organic Slurry quality and WWTP energy production and interest in long-term agreement	March BOD
Preliminary SBR O2E and MSW MRF Operating cost data	March BOD
Preliminary planning for Full O2E Project	Summer 2021

## C. STORMWATER TREATMENT PROJECT

### **Summary of Project Status**

In the month of August, SBR completed the Stormwater Treatment project that was approved (under protest) by the Board at the November 21<sup>st</sup>, 2019 meeting. The treatment system was required to ameliorate the quality of the stormwater being discharged from the Shoreway Facility.

Due to the nature of the operations and the amount of truck traffic entering the site from the community, it has been difficult maintain the Shoreway center in compliance with the State Water Board's regulatory standards using traditional house-keeping methods. For this reason, the Stormwater project was recommended, designed, and implemented was by SBR and Recology to address prior year's exceedances of criteria pollutants in the stormwater leaving the site. Based on the type and level of pollutants in the stormwater, Recology and SBR staff recommend a stormwater treatment systems that will either remove/filter pollutants from the stormwater or route the stormwater so that it is not discharged into waterways. The systems installed by SBR represent the lowest-cost option for stormwater treatment and the company expects that this system will meet stormwater regulatory requirements. Specific elements that were installed over the summer include:

- One trench drain was installed at Gate #4 (Employee/Vendor Entrance) at the junction of Shoreway Road. Storm water collected here is pumped to sanitary sewer.
- One trench drain was installed at Gate #2 (Public Exit) at the junction of Shoreway Road. Storm water collected here is diverted to bioswale.
- One trench drain placed at Gate #1 (Scale Entrance) at the junction of Shoreway Road. Storm water collected here is pumped to bioswale.
- Five Kraken brand stormwater filters were installed into the drain Inlets located in the asphalt areas behind the Shoreway transfer station.

### **Fiscal Impacts**

The Board approved a not-to-exceed amount of \$250k for the installation of the stormwater treatment systems listed above. SBR via subcontractors has completed the installation at a cost of \$233k. There remains a dispute about whether the SBWMA or SBR is responsible for the cost of installing the stormwater system. In order to keep the facility in compliance the SBWMA has agreed to pay for these stormwater treatment systems "under protest" and legal actions will be addressed outside of the technical remedies to the stormwater issue.

### **Attachments**

Attachment A – [PowerPoint Presentation – Update on Shoreway Capital Projects](#)