



# Memorandum

## MONTEREY REGIONAL WASTE MANAGEMENT DISTRICT

Reviewed by: *[Signature]* Date: 12/13/21  
General Manager

DATE: December 10, 2021  
TO: General Manager  
FROM: Senior Engineer  
SUBJECT: Board authorize the General Manager to execute a contract with Western States Fire Protection Company of Roseville, CA for Materials Recovery Facility (MRF) Fire Sprinkler System Piping Replacement in the amount of \$131,130

**RECOMMENDATION:** That the Board authorize the General Manager to execute a contract with Western States Fire Protection Company of Roseville, CA for Materials Recovery Facility (MRF) Fire Sprinkler System Piping Replacement in the amount of \$131,130.

### BACKGROUND

The Material Recovery Facility (MRF) has been the centerpiece of the Monterey Regional Waste Management District's (MRWMD) recycling efforts since its construction in 1996. The 100,000 square foot building houses the dual line sorting equipment as well as the 'incoming' pre-sort materials and the 'outgoing' post-sorted recyclable materials. During the past few years the building's main overhead fire suppression sprinkler system has required increasingly frequent repairs of pin hole leaks. These types of leaks indicate the presence of corrosion within the fire sprinkler system water piping. These leaks are the result of trapped oxygen rich ambient air in the sprinkler lines which accelerate the water's ability to corrode the metal pipes from the inside out. The fire suppression equipment was not part of the 2017 MRF 2.0 retrofit. Since the installation of the new sorting equipment in 2017, these leaks have occurred in areas that are difficult to access and require the erection of scaffolding, a time consuming and relatively costly endeavor.

At the July 2021 Board Meeting, District Staff made a presentation on a fire that occurred at the MRF. In that presentation Staff stressed the importance of having adequate fire suppression systems in place to ensure adequate protection if and when a fire occurs. MRF's are susceptible to fires caused by lithium batteries or other flammable materials that get illegally dumped into the recycling and waste streams. Prior to the fire in July, MRWMD staff pursued a quote for full replacement of the existing sprinkler system and was quoted a price of about \$450,000. Given that magnitude of cost, the amount of sprinkler piping to be replaced, the duration necessary to accomplish complete replacement, and the complexity of installing piping above the existing equipment while in operation, MRWMD staff pursued an alternative to full piping replacement.

The alternative 'phased' replacement approach would consist of a mitigation element to retard the rate of corrosion in the piping system and an incremental replacement element of select portions of the piping system over time. The first step in the process was completed and consisted of the installation of a nitrogen-purge system which the Board approved at the August 2021 Board meeting. The nitrogen-purge system will have a large positive impact on reducing the rate of corrosion in the piping system and thus, will protect both existing and new piping. The second step is the incremental replacement over time of portions of the piping system; prioritized to zones that demonstrate leaking which often occur near the 'high point' of the piping. This Staff Report presents an initial scope of work to replace select piping located at the high point of the fire system on the 'post-sort' side of the building. This piping has leaked several times over the past few years and caused partial shutdown of the leaking pipe until the piping can be repaired. Putting a section of the fire suppression system out of service puts the building and equipment at risk if there were to be a fire during that time. Therefore, Staff is recommending select replacement of the fire piping system.

On November 9, 2021 a leak materialized in Bay #2 of the 'post-sort' side of the building (See attached figure). The leak was directly above the 'post-sort' work areas. An emergency repair call was made and the fire sprinklers in Bay #2 were isolated and removed from service. The General Manager then authorized a repair over the weekend in the amount of \$29,510. The leak impacted operations and put the building at risk. The repair in Bay #2 required scaffolding and replaced 320 feet of piping. The work was completed on November 14, 2021. While the contractors were onsite, they surveyed the remaining pipes in the high points in each bay and determined where scaffolding would be needed and the timeframe and cost for construction.

## **DISCUSSION**

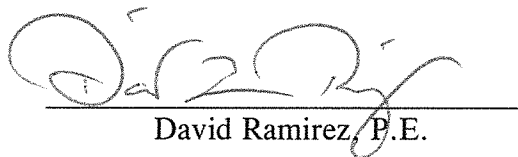
The attached figure shows the areas of work as well as the timeframe for construction. Including the work already completed in Bay #2 (320 feet), a total of 2,240 feet of fire sprinkler piping will be replaced upon Board approval of the scope of work presented in this Staff Report. The proposed fire sprinkler replacements in Bays 1, 3, and 4 are inaccessible via ladder, scissor lift, or boom lift since it is above the sorting equipment. Therefore, scaffolding will need to be erected to reach these areas and replace the piping. The proposed work for Bays 5, 6, and 7 can be reached from a boom lift. All of this work will need to take place over the weekend to ensure that the MRF can process recyclables during its normal operating hours.

## **FINANCIAL IMPACT**

This work was included in the FY 2021/22 budget of the Facilities Maintenance section for the Material Recovery Facility (MRF). It is anticipated that these piping protection measures in addition to the nitrogen-purge system will reduce the frequency and cost of sprinkler system repairs in the MRF and will defer the replacement of the full MRF sprinkler piping system.

CONCLUSION

The MRF Fire Sprinkler System Piping is essential at mitigating losses due to fires. Replacing the piping that has been more prone to leaks historically will ensure system protection and not interfere with operations. Staff therefore recommends that the Board authorize the General Manager to execute a contract with Western States Fire Protection Company of Roseville, CA for Materials Recovery Facility (MRF) Fire Sprinkler System Piping Replacement in the amount of \$131,130.



David Ramirez, P.E.