Memorandum

BLUEARC ASSOCIATES

To: Keli McKay-Means and Marshon Coppinger, Kitsap County Solid Waste Division

From: Karl R. Hufnagel, PE

Date: August 7, 2015

Reference: Olympic View Transfer Station – Post Fire Assessment

Dear Keli and Marshon,

This memorandum summarizes recommendations that Ian Sutton and I provided verbally to you during our site inspection of the Olympic View Transfer Station (OVTS) on August 5, 2015 following a tipping floor fire that occurred at the station from the evening of July 31through mid-morning August 1, 2015. Our recommendations are divided into the following five key areas:

Emergency Preparedness:

- KC, the local fire department and the station operator (Waste Management Inc.) should develop standard operating procedures (SOPs) to respond to fire emergencies at the OVTS and the county's other solid waste facilities. The three parties should conduct periodic fire response drills that train all personnel in how to respond to fire emergencies at the OVTS. The SOPs and drills should be jointly planned and executed by the three parties and should include practice in fire response to various types of fires such in mixed waste, hazardous materials and reactive metals such as magnesium, along with more standard fires that could occur at the office or scale attendant buildings. SOPs and response practice should include fires on the tipping floor, in the compactor and in containers. Practice drills should occur at least twice a year and should include all aspects of fire episodes including detection, alarm, notification, suppression, cleanup and re-occupancy procedures. SOPs should be updated to reflect lessons learned from drill execution.
- KC, working in conjunction with the OVTS operator should develop and implement a stronger emergency notification system to employ during emergencies such as occurred during the recent fire. The system should be robust, have redundant communications pathways and alternative call parties, and be readily available at various locations for staff access. KC should update and practice employing the system at least twice a year or more frequently to ensure all parties are proficient in system execution.
- KC should plan for and establish detailed waste management alternatives for future instances when the OVTS is not available as the central point for managing the County's waste. The alternatives should range from measures when the station is out-of-service for a few days up through long duration periods.
- KC should develop a current list of technical advisors who can be called upon on short notice to help the County respond to a wide range of emergencies, such as determining the suitability of facilities such as the OVTS for re-occupancy.

Facility Restoration:

- The affected interior surface area of the building roof (located above the fire area) should be cleaned and further assessed for damage to the coatings, thermal insulation, and electrical systems. Cleaning will require pressure washing which will likely result in damage to the thermal insulation. All damage resulting from the fire and/or the cleaning should be repaired/restored.
- Damaged side wall translucent panels should be replaced.
- Damaged rollup doors should be repaired or replaced, including identification and correction of original door malfunction.
- It should be verified that the building drainage system has not been compromised by debris carried by the large amount of fire suppression water flow that occurred during the fire event.
- We understand that 200 degree fusible sprinkler heads were installed in place of the reported 150 degree heads that reacted during the fire event on the recommendation of the Fire Marshal. The choice of fusible head type should be reviewed by a qualified fire protection engineer considering the type of fire exposure and head location. It seems logical that all heads above the main tipping floor should be the same type. Higher temperature heads will have a longer reaction time.
- Lingering odors resultant from the fire event should be reevaluated weekly to judge dissipation. If it is determined that strong odors remain prevalent, additional cleaning within the building and replacement of insulation may be warranted to restore acceptable working conditions.

Facility Improvements:

- A qualified fire protection engineer should be consulted to assess the cost and benefits of retrofitting the building with operable smoke/heat vents. As was experienced during the fire, large amounts of smoke and heat buildup made firefighting response difficult and required the fire responders to break through translucent sidewall panels.
- A qualified fire protection engineer should be consulted to assess the cost and benefits of retrofitting the building with heat and smoke detectors that would provide earlier detection and alarm than the fire sprinkler system water flow alarm.

Operational Practices:

- To reduce the threat of fire from waste left on the floor overnight, we recommend that the self-haul floor have all waste removed to container at the end of each day. Self-haul waste is more likely to contain a fire ignition threat than commercially collected residential or commercial waste.
- Consideration should be given to using hand-held thermal detectors to screen waste piles left on the floor overnight. These devices may not work well for large, deep piles.
- The size and location of waste piles left on the floor overnight should be managed to minimize the volume of combustible material and the potential damage that would occur from an uncontrolled fire.

- Most waste pile fires are controlled by spreading the waste out with loader equipment so that hot spots can be quenched. We recommend that floor loader equipment should be parked at night in areas that are away from possible fire zones and accessible to fire response personnel.
- There should be a clear and specific written understanding as to whether operating staff are authorized to respond to fires at the facility, and if so authorized, they should receive appropriate training including knowledge of the conditions under which they should defer to firefighting professionals.
- In order to ensure that the limited wastewater holding capacity at the site is available for holding fire suppression runoff, the procedure for pumping out the wastewater holding tank should be reviewed and updated if necessary. In addition consideration should be given to how fire suppression runoff in excess of available wastewater tank capacity will be safely contained, presumably within the site stormwater pond system. Plans and procedures should be established for safely disposing of fire suppression runoff that is diverted to the stormwater system.
- Container storage in proximity to the transfer building should also be considered with respect to potential building damage that could result from a container fire.

Other Considerations:

- KC should establish written clarification in the contract with the station operator regarding which party is responsible for carrying property insurance including fire coverage. This clarification should make clear responsibility for any insurance coverage deductible as well as costs associated for alternative waste management when and if the OVTS is out-of-service for reasons such as fire damage.

KRH/jav