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### PLANNING FOR GREATER LEVELS OF DIVERSION THAT INCLUDING ENERGY RECOVERY FOR THE MOJAVE DESERT AND MOUNTAIN RECYCLING AUTHORITY, CALIFORNIA REGION

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#### ABSTRACT

The Mojave Desert and Mountain Recycling Authority is a California Joint Powers Authority (the JPA), consisting of nine communities in California's San Bernardino County high desert and mountain region. In August 2008 the JPA contracted with Gershman, Brickner & Bratton, Inc. (GBB) to prepare the Victor Valley Resource Management Strategy (Resource Management Strategy). Working with RRT Design and Construction, Inc. (RRT), GBB prepared a coordinated forward-looking strategy to guide the JPA's future program and facilities decisions. The Resource Management Strategy focused on the Town of Apple Valley, population 70,092, and the City of Victorville, population 107,408, the two largest JPA member communities, which have a combined total of more than 130,000 tons per year of material entering the JPA's recycling system and the Victorville Landfill.

The Resource Management Strategy is underpinned by a characterization of waste loads delivered to the Victorville Landfill. A visual characterization was carried out by RRT in September/October 2008. RRT engineers identified proportions of materials recoverable for recycling and composting among all loads collected from residential and non-residential generators for a full week, nearly 300 loads total.

The JPA financed and manages the operations contract for the highly automated Victor Valley Material Recovery Facility (MRF). The MRF today receives and processes an average of 130 tons per day (tpd), five days per week, of single stream

paper and containers and recyclable-rich commercial waste loads. The waste characterization indicated that as much as 80 percent of loads of residential and commercial waste currently landfilled could be processed for recycling and composting in a combination manual and automated sorting facility.

Residue from the MRF, which is predominated by paper, would provide potential feedstock for an energy recovery project; however, the JPA has two strategies regarding process residue. The first strategy is to reduce residue rates from existing deliveries, to optimize MRF operations. An assessment of the MRF conducted by RRT indicated that residue rates could be reduced, although this material would continue to be rich in combustible materials.

The second strategy is to increase recovery for recycling by expanding the recyclable-rich and organics-dense waste load deliveries to the MRF and/or a composting facility. The Resource Management Strategy provided a conceptual design and cost that identified projected capital and operations costs that would be incurred to expand the MRF processing system for the program expansion. Based on the waste composition analysis, residue from a proposed system was estimated. This residue also would be rich in combustible materials.

The December 2008 California Scoping Plan is the roadmap for statewide greenhouse gas emission reduction efforts. The Scoping Plan specifically calls out mandatory commercial recycling, expanded organics composting (particularly food residue), and inclusion of anaerobic digestion as renewable

energy. The Resource Management Strategy sets the stage for JPA programs to address Scoping Plan mandates and priorities.

California Public Resources Code Section 40051(b) requires that communities:

Maximize the use of all feasible source reduction, recycling, and composting options in order to reduce the amount of solid waste that must be disposed of by transformation and land disposal. For wastes that cannot feasibly be reduced at their source, recycled, or composted, the local agency may use environmentally safe transformation or environmentally safe land disposal, or both of those practices.

Moreover, Section 41783(b) only allows transformation diversion credit (10 percent of the 50 percent required) if:

The transformation project uses front-end methods or programs to remove all recyclable materials from the waste stream prior to transformation to the maximum extent feasible.

Finally, prior to permitting a new transformation facility the California Integrated Waste Management Board is governed by Section 41783(d), which requires that CIWMB:

“Hold a public hearing in the city, county, or regional agency jurisdiction within which the transformation project is proposed, and, after the public hearing, the board makes both of the following findings, based upon substantial evidence on the record:

(1) The city, county, or regional agency is, and will continue to be, effectively implementing all feasible source reduction, recycling, and composting measures.

(2) The transformation project will not adversely affect public health and safety or the environment.”

The Resource Management Strategy assessed two cement manufacturers located in the high desert region for their potential to replace coal fuel with residue from the MRF and potentially from other waste quantities generated in the region. Cement kilns are large consumers of fossil fuels, operate on a continuous basis, and collectively are California’s largest source of greenhouse gas emissions. The Resource Management Strategy also identified further processing requirements for size reduction and screening to remove non-combustible materials and produce a feasible refuse derived fuel (RDF). A conceptual design system to process residue and supply RDF to a cement kiln was developed, as were estimated capital and operating costs to implement the RDF production system.

The Resource Management Strategy addressed the PRC requirement that “all feasible source reduction, recycling and composting measures” are implemented prior to approving any new “transformation” facility. This planning effort also provided a basis for greenhouse gas reduction analysis, consistent with statewide initiatives to reduce landfill disposal.

This paper will report on the results of this planning and the decisions made by the JPA, brought current to the time of the conference.