CITY OF OAKLAND
AGENDA REPORT

TO: Office of the City Administrator
ATTN: P. Lamont Ewell, Interim City Administrator
FROM: Public Works Agency
DATE: July 12, 2011

RE: **Informational Report On Status Of Zero Waste System Design**

SUMMARY

This informational report provides an update on the development of staff recommendations to the City Council for a design of the services and contracts that compose the solid waste and recycling system. The design of a zero waste system is responsive to the goal of Zero Waste by 2020 (Resolution No. 79774 C.M.S.) and the Zero Waste Strategic Plan (Resolution No. 80286 C.M.S.). This report includes a timeline for the procurement of the next generation of recycling and solid waste collection, processing, and disposal services that would constitute a zero waste system. Staff was guided by the Evaluative Criteria adopted by City Council in 2009 (Resolution No. 81870 C.M.S.). The zero waste system will provide residents and businesses with comprehensive waste reduction programs and services, position Oakland to stay ahead of anticipated environmental and waste reduction mandates, and help the City meet its climate action goals.

FISCAL IMPACT

No fiscal impacts are associated with this informational report.

BACKGROUND

The City of Oakland's Franchise Agreement for Solid Waste and Yard Waste Collection and Disposal Services (Franchise Agreement) with Waste Management of Alameda County (WMAC) expires on June 30, 2015, as does the Agreement for Residential Recycling Services with California Waste Solutions (CWS). These two agreements form the backbone of the City's solid waste and recycling system.

Under Oakland's existing recycling and solid waste system, the City has met and exceeded the State of California mandate of 50% waste diversion by 2000 (AB 939). While the State no longer measures waste diversion using the familiar percentage metric, Oakland's most recent unofficial waste diversion percentage (2009) was 67% (the 2010 estimate is not yet available). The Zero Waste by 2020 goal is based not on the state's former percentage calculation, but on a defined reduction of tonnage to landfill (to 40,000 tons per year).

The adopted Zero Waste Strategic Plan (Plan) calls for a 90% reduction in tons sent to landfills annually, from the then-current 400,000 tons per year to 40,000 tons per year by 2020. The Plan identifies the "Development and adoption of a new waste management system design in preparation for Oakland's next collection and disposal contract" as a key strategy to achieving the goal. To guide staff's work on a new system responsive to the Plan, Council adopted Evaluative Criteria (***Exhibit A***) for assessing zero waste system design, through Resolution No. 81870 C.M.S.

The Evaluative Criteria and the "Environmental Hierarchy to Guide Oakland's Zero Waste Strategies, Policies and Action" (***Exhibit B***) have guided staff's analysis of options for reorganizing the solid waste and recycling system. Key items from these exhibits include:

- Eliminating landfilling as the default option for discarded materials
- Providing universal access to recycling services in the commercial sector
- Improving performance in the low-diversion sectors (businesses and multi-family dwellings)
- Increasing investment in local and regional processing capacity for recycling, composting, hard-to-recycle items, and reuse/refurbishment enterprises
- Meeting the City's revenue requirements
- Influencing the self-haul sectors that are outside the current Franchise Agreement to improve waste reduction and recycling

KEY ISSUES

The goal is to design a zero waste system that includes all the services covered by the Franchise and Residential Recycling agreements, as well as the garbage hauling and recycling activities not currently covered under those agreements. A comprehensive approach such as this will enable greater City control of disposal and recycling options and increased diversion performance in all sectors (i.e., commercial, self-haul, residential).

Organization of Services and Activities

The organization of collection services, hauling activities, material processing activities and landfilling in Oakland has evolved over the past three decades. The Plan and subsequent analysis by staff established that the system, originally organized to ensure the regular collection and disposal of garbage, and later to meet California's 50% waste diversion mandate (AB939), does not have the capacity to meet or make large strides towards the City's zero waste goal.

Complex fiscal, legal and statutory issues that were identified must be resolved in designing a zero waste system. The challenges to the implementation of a new zero waste system include:

- Establishing a rate structure that encourages residents and businesses to reduce waste, yet provides predictable revenues that are sufficient to fund the system.
- Establishing rate adjustment mechanisms capable of accommodating waste reduction and increased recycling services over many years while providing predictable revenues that are sufficient to fund the system.
- Ensuring that residents and businesses subscribe to and pay for collection services to meet public health and safety requirements and ensure funding for the system.
- Capturing currently unregulated commercial waste that is self-hauled to out-of-county landfills in order to increase waste diversion.
- Evaluating legal consideration related to state and local laws for solid waste, recycling, and supporting financial systems.

Non Franchise and "Self Hauling"

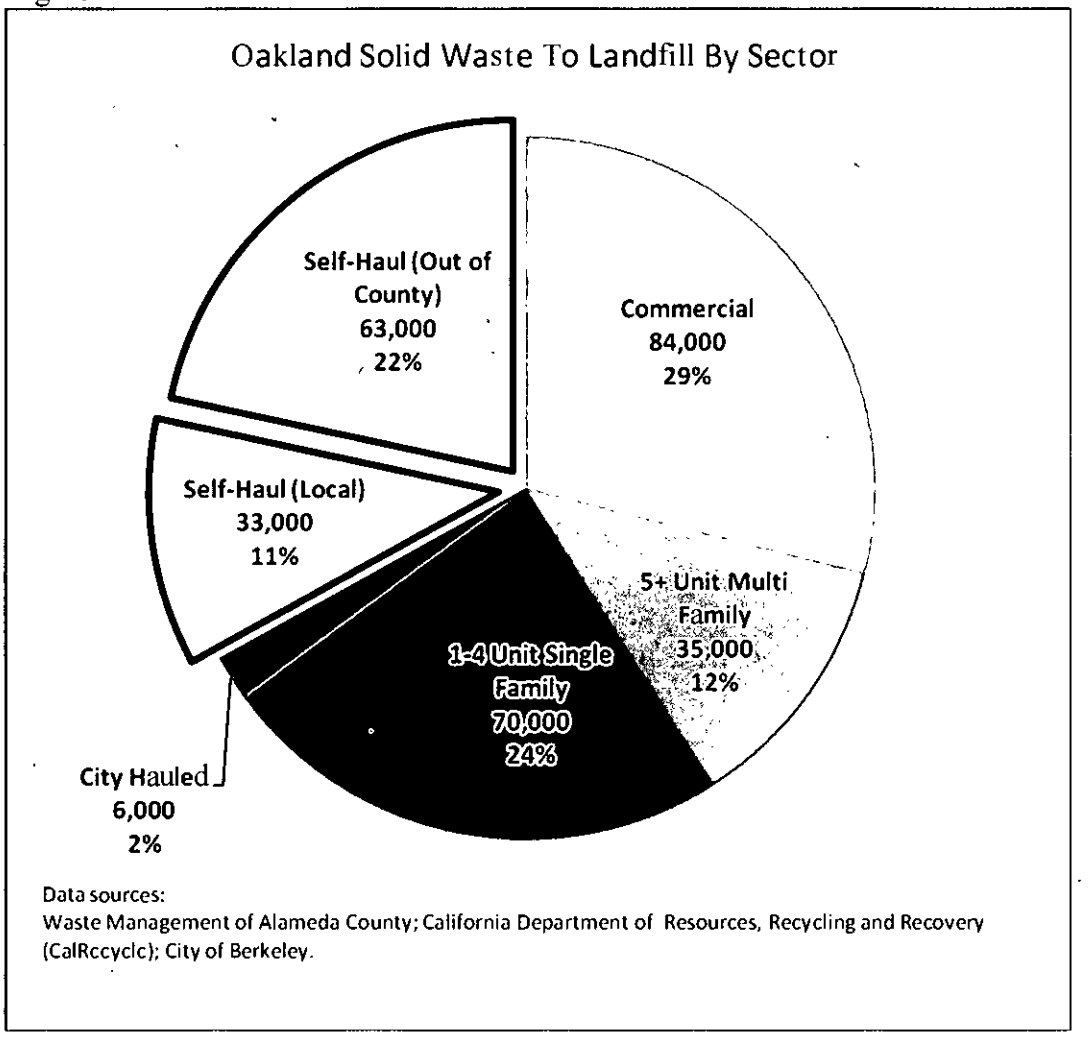
Although most of Oakland's total solid waste hauling and landfill disposal occur through the Franchise Agreement, approximately one-third of Oakland's total landfill disposal tonnage is hauled by parties other than WMAC and is not currently regulated by the City.

Figure 1 shows Oakland's total solid waste sent to landfill, divided into sectors. It includes waste collected by WMAC under the Franchise Agreement (the shaded sections), and waste that is hauled by parties other than WMAC, which is typically called "self-haul" (the un-shaded sections).

Local self-hauling is typically residents and small- to medium-size businesses that deliver waste material that they themselves generate, to the Berkeley and Davis Street (San Leandro) transfer stations. Material self-hauled directly to landfills outside of Alameda County typically is generated at construction and demolition projects, and hauled by contractors or subcontractors, as currently allowed by the Oakland Municipal Code.

In order to achieve the Zero Waste Goal of 40,000 tons to landfill in 2020, the zero waste system must address unregulated waste that comprises one-third of the solid waste that Oakland sends to landfill.

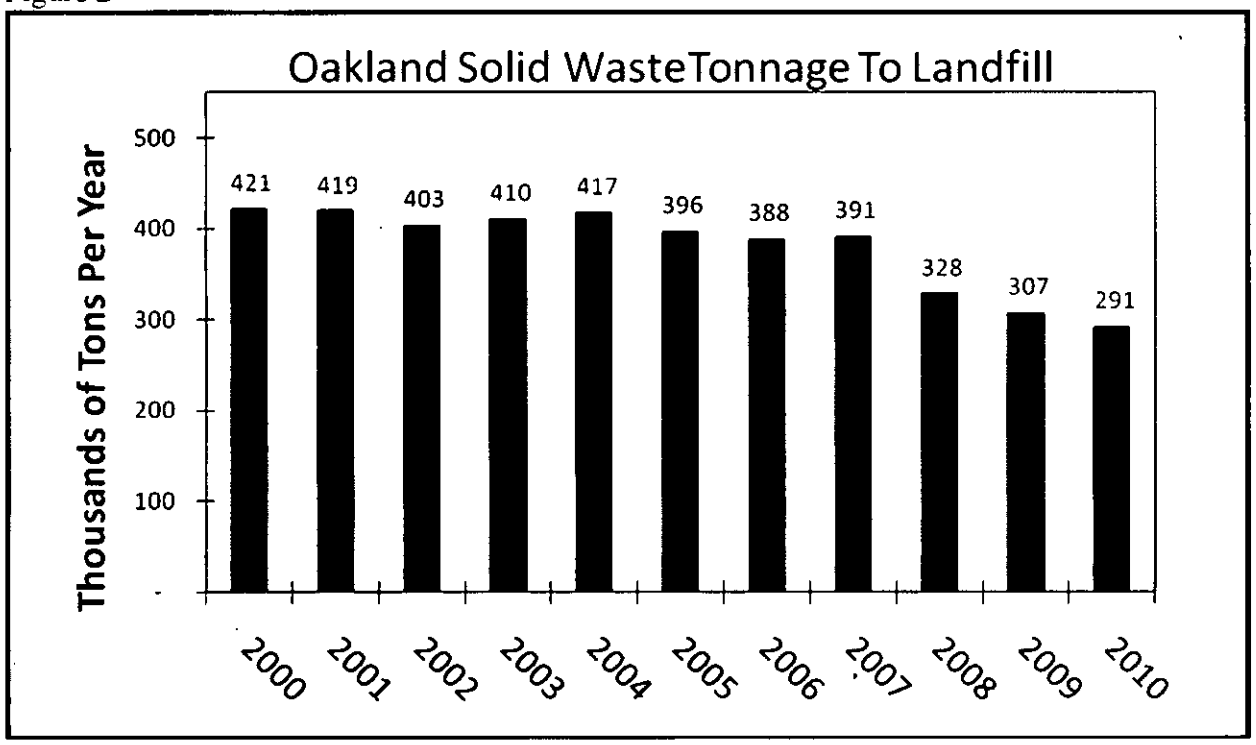
Figure 1



Landfill Tonnage During the Current Recession

When the City Council adopted the Zero Waste Strategic Plan in 2006, Oakland's annual tonnage had plateaued at approximately 400,000 tons. Figure 2 shows that Oakland's annual tonnage to landfill has decreased dramatically in each of the past three years. In 2010, annual tonnage to landfill reached an historic low of 291,000 tons. This decrease is consistent with disposal trends statewide and nationally and is primarily attributable to the economic recession that began in December 2007, rather than to significant increases in recycling or other waste diversion activities. Nonetheless, the magnitude of the challenge to reach the City's Zero Waste Goal remains the same, as the zero waste system planning process must assume that tonnage to landfill will increase as the economy recovers in the coming years.

Figure 2



PROGRAM DESCRIPTION

Staff has developed and examined options for designing the services and activities comprised by the existing solid waste and recycling system, including services and activities that are franchised, contracted, and unregulated. Some services and activities that are not currently included in the Franchise Agreement could be included in a new franchise, while non-franchised services and activities could be organized in a regulated open market.

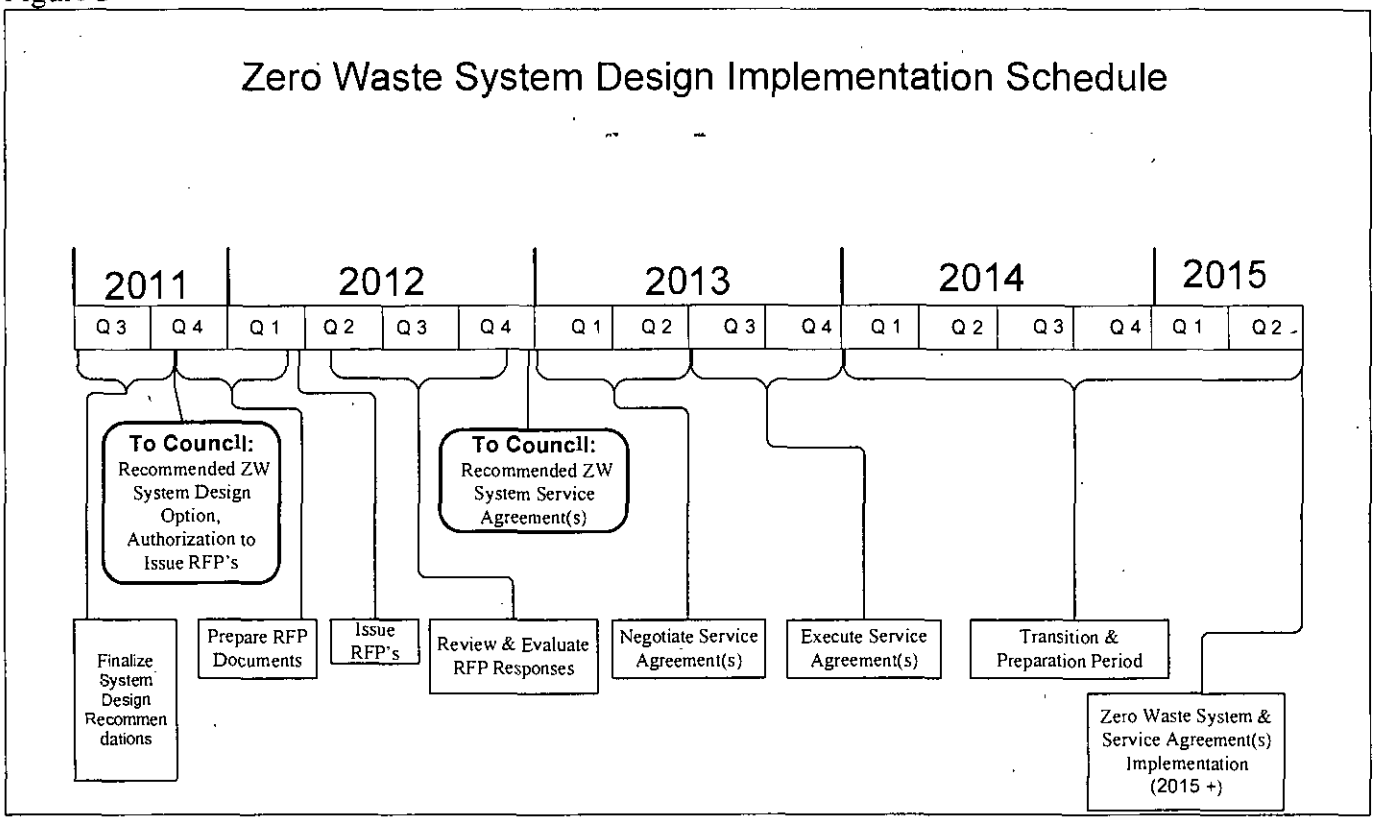
The zero waste system will include:

- Providing recycling services for the commercial sector;
- Providing composting services for the commercial sector;
- Implementing a system to recover compostable material from multi family residences;
- Implementing a permit system for the currently unregulated self-haul sector;
- Amending the Oakland Municipal Code to be consistent with a zero waste system.

Schedule to Implement Zero Waste System

Figure 3 shows a timeline of the remaining milestones to design and implement the components of the zero waste system. Significant decision points for the City Council include review of recommended system options and other policy decisions (October 2011), and award of serviee agreements by December 2012.

Figure 3



SUSTAINABLE OPPORTUNITIES

Economic: Implementing a zero waste system in Oakland will help Oakland businesses and residents reduce waste and mitigate the long-term trend of increased disposal costs associated with landfill-based systems. Expanding and actively supporting use of discarded materials drives local economic and workforce development with 'green collar' jobs and value added production.

Environmental: Implementing a zero waste system will promote sustainability, conserve natural resources, reduce air and water pollution, protect habitat, and reduce greenhouse gas (GHG) emissions. Recycling reduces the demand on virgin material extraction and processing, which are significant sources of GHG emissions. Recycling of organic materials into compost reduces

GHG emissions in a number of ways, including reducing the demand on irrigation, reducing demand on petroleum-based fertilizers and reducing landfill gas emissions.

Social Equity: Implementing a zero waste system in Oakland will help provide new living-wage jobs for the community, as well as preserve and enhance natural systems that provide basic ecological services such as clean water, clean air, and safe food.

DISABILITY AND SENIOR CITIZEN ACCESS

This is an informational report and will not have any direct impact on access for persons with disabilities or senior citizens.

ACTION REQUESTED OF THE CITY COUNCIL

Staff requests that the City Council accept this informational report.

Respectfully submitted,

Vitaly B. Troyan, P.E.
Director, Public Works Agency

Reviewed by:
Brooke A. Levin, Assistant Director

Reviewed by:
Susan Kattchee, Environmental Services Manager

Prepared by:
Peter Slote, Recycling Specialist
Environmental Services Division

APPROVED AND FORWARDED TO THE
PUBLIC WORKS COMMITTEE:

Office of the City Administrator

Attachments:
Exhibit A – Evaluative Criteria for Assessing Zero Waste System Design Options
Exhibit B – Environmental Hierarchy to Guide Oakland's Zero Waste Strategies, Policies and Actions

Item #: _____
Public Works Committee
July 12, 2011

Exhibit A

Evaluative Criteria for Assessing Zero Waste System Design Options*

Category	Evaluative Criteria
Customer Benefits	High quality, reliable and convenient services
	Universal access to recycling services, including organics recycling
	Opportunity for residents & businesses to reduce greenhouse gas emissions (GHG) through use of recycling services
	Value to rate payers
Health & Safety	Enhances public health and safety
	Sanitary management of all discarded materials
	Air quality impacts
Environmental	Reduction in tons to landfill
	Adheres to *Environmental Hierarchy* of resource conservation established in *Zero Waste Strategic Plan*
	GHG emissions reductions/carbon footprint (local and outside of community inventory)
Economic Development	Job creation - net employment gain
	Compatibility w/existing commercial recycling market
	Supports development of diverse employment opportunities associated with processing, manufacture, and sales by discards-based businesses
Financial	Revenue to City
	Cost to City to administer system
	Avoid future City liabilities
	Cost to ratepayers
	Clear, consistent and progressive pricing signals to customers/ratepayers and service providers, to incentivize waste reduction & increased recycling
	Resilient to recycling commodities markets fluctuations
Innovation	Allows for and encourages system innovation & evolution over time
	Utilizes local, available, capitalized public or private infrastructure
	Ability to meet current & future market needs for recycled materials
	Ability to incorporate reuse
Regulatory	Ability to accommodate mandatory recycling and landfill material bans
	Ability to adapt to changing needs, conditions, applicable laws, ordinances, regulations and permit requirements
Viability	Ability of waste & recycling services industry to provide services as envisioned

*Adopted by City Council in 2009, Resolution No. 81870 C.M.S.

Exhibit B

Environmental Hierarchy to Guide Oakland's Zero Waste Strategies, Policies and Actions*

Zero Waste has been defined by the Zero Waste International Alliance as a philosophy and visionary goal in which manufacturing and supply chains emulate natural cycles, where all outputs are usable inputs for other value-added processes. It means designing products and managing materials and systems for maximum resource conservation, highest, most efficient use, and minimum negative environmental impact. It means eliminating harmful discharges to land, water and air, by preventing rather than managing waste and pollution.

Highest/Best Use

Redesign Manufacturing & Supply Chain
- Mandate Extended Producer Responsibility (EPR)
- Produce durable, reusable, recyclable, and recycled-content products
- Use environmentally sustainable feedstocks & materials
- Design for repair, reconditioning, disassembly, deconstruction and recycling
- Make brand owners/first importers responsible to take back products & packaging

Reduce/Refuse/Return

Reduce Toxicity
- Reduce toxic materials in products
- Replace toxic materials in products with less toxic or non-toxic alternatives

Reduce Consumption
- Purchase and use less
- Apply Environmentally Preferable Purchasing (EPP) standards to purchasing

Reduce Packaging
- Purchase products with less packaging
- Incentive durable, reusable packaging

Reuse/Preserve Form & Function
- Repair and recondition products
- Deconstruct and salvage buildings and building products
- Support thrift stores and charity collection

Recycle/Compost/Digestion
- Recover & return materials to economic mainstream for remanufacture to like-value products
- Recover & return materials to economic mainstream for composting to value-added soil amendment products
- Ambient temperature (<200 degrees) processing of organic materials for recovery of fuels and energy, with composting of residue

Down Cycle
- Recover & return materials to economic mainstream for remanufacture to non- or marginally-recyclable products, such as office paper to tissue paper, or soda bottles to toys or clothing

Bury/Incinerate/Waste-Based Energy
- Bioreactor landfilling, when design incorporates sufficient safety & environmental protections
- "Beneficial" landfill use, such as alternative daily cover (ADC) or landfill construction
- Traditional landfilling
- High-temperature, energy-intensive processing to recover fraction of embodied energy, from non-source-separated, mixed resources, including but not limited to: mass burn, co-firing, fluidized bed, gasification, plasma arc, pyrolysis

Lowest/Worst Use

*Adopted by City Council as part of the Zero Waste Strategic Plan in 2006, Resolution No. 80286 C.M.S.