CITY OF OAKLAND

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AGENDA REPORT

TO: HENRY L. GARDNER
CITY ADMINISTRATOR

FROM: Brooke A. Levin

SUBJECT: Award of Zero Waste Franchise Agreements **DATE:** July 21, 2014

City Administrator Approval Henry L. Gardner Date 7/22/14

COUNCIL DISTRICT: City-Wide

RECOMMENDATION

Staff recommends that the City Council conduct a Public Hearing and upon conclusion adopt three of the six following legislation:

1. An Ordinance Granting A Franchise For Mixed Materials And Organics Collection Services To Waste Management Of Alameda County, Inc., Contingent On Its Execution Of A Mixed Materials And Organics Collection Services Contract With The City And Authorizing The City Administrator To Negotiate And Execute Such A Contract, Regulating Maximum Service Rates For Mixed Materials And Organics Collection Services, Residential Recycling Services, And Disposal Services, And Setting Forth Procedures To Allow For Adjustment Of Maximum Service Rates
2. An Ordinance Granting A Franchise For Residential Recycling Collection Services To Waste Management Of Alameda County, Inc., Contingent On Its Execution Of A Residential Recycling Collection Services And Non-Exclusive Commercial Recycling Collection Services Contract With The City, And Authorizing The City Administrator To Negotiate And Execute Such Contract
3. An Ordinance Authorizing The City Administrator To Execute An Exclusive Contract For Landfill Disposal Services With Waste Management Of Alameda County
4. An Ordinance Granting A Franchise For Mixed Materials And Organics Collection Services To California Waste Solutions, Inc., Contingent On Its Execution Of A Mixed Materials And Organics Collection Services Contract With The City And Authorizing The City Administrator To Negotiate And Execute Such A Contract, Regulating Maximum Service Rates For Mixed Materials And Organics Collection Services, Residential Recycling Services, And Disposal Services, And Setting Forth Procedures To Allow For Adjustment Of Maximum Service Rates

Item: _____
City Council
July 30, 2014

5. An Ordinance Granting A Franchise For Residential Recycling Collection Services To California Waste Solutions, Inc., Contingent On Its Execution Of A Residential Recycling Collection Services And Non-Exclusive Commercial Recycling Collection Services Contract With The City, And Authorizing The City Administrator To Negotiate And Execute Such Contract
6. An Ordinance Authorizing The City Administrator To Execute An Exclusive Contract For Landfill Disposal Service with California Waste Solutions, Inc.

EXECUTIVE SUMMARY

At a Special Meeting of the City Council on May 29, 2014, staff presented an analysis of the customer rate impacts and benefits of the two viable proposal combinations for the three franchise contracts:

1. Award of all three franchise contracts to Waste Management of Alameda County (WMAC) – Option 1; and
2. Award of the Residential Recycling (RR) contract to California Waste Solutions (CWS), and award the franchise contracts for Mixed Materials and Organics, and Disposal to WMAC – Option 2.

Staff recommended that the City Council authorize the City Administrator to accept the Option 1 Term Sheet for WMAC for the Zero Waste Services franchise contracts, and prepare the rate tables with any alternative selected by City Council and bring the Ordinances to City Council for consideration and approval to replace the existing contracts, which expire June 30, 2015.

The City Council expressed concern with the potential customer rate increases that approval of Option 1 would cause, and did not act on the resolution selecting alternatives, but by motion directed staff "to allow bidders to submit new (best and final) bids to include all components including East Bay Municipal Utility District (EBMUD), mixed materials, organics, recycling and landfill comparable in scope to the Waste Management proposal. Council further requested bidders be allowed to include additional components including but not limited to cost saving elements, at the bidders discretion."

Staff prepared Request for Proposal (RFP) documents to request "apples to apples" new best and final proposals from CWS and WMAC, the two proposers on the Zero Waste Services RFP. Both companies submitted new offers on June 13, 2014.

As the City Council had hoped to achieve, these new offers provide the single-family 32-gallon cart customers a lower rate than was provided in the May 29, 2014 Council Report. Since the proposals were received on January 9, 2013, the initial rate increase for the July of 2015 rates, have decreased from over 75% to 50% from negotiations, and again by City Council action to a range of 24% to 46% increase.

The three possible proposal combinations for City Council consideration are:

1. Award of all three franchise contracts to Waste Management of Alameda County (WMAC); or
2. Award of the Residential Recycling (RR) contract to California Waste Solutions (CWS), and award the franchise contracts for Mixed Materials and Organics, and Disposal to WMAC; or
3. Award of all three franchise contracts to CWS.

Option 1 is the most practicable and prudent option to deliver service on July 1, 2015, would provide the best value for the Oakland ratepayers and the best customer experience, while meeting the City's adopted Zero Waste goal.

Option 2 is also a viable option. It would deliver service on July 1, 2015, provide good customer experience, meet the City adopted Zero Waste goal. However, Option 2 is not the lowest rate for the Oakland ratepayers of the three Options.

Option 3 is not the preferred option. It is discussed later in this report.

Attached to this report are the necessary draft ordinances and rate tables. The draft franchise contracts will be published within the Special City Council meeting notice requirements necessary for City Council to make a selection and award of services of any of the options to replace the existing services which expire on June 30, 2015.

OUTCOME

Approval of the Ordinances would allow the City Administrator to execute franchise contracts that would replace the existing service agreements with WMAC and California Waste Solutions, which expire on June 30, 2015. Execution of new franchise contracts at this time is necessary to ensure continuity of solid waste collection and disposal services on July 1, 2015, which are vital to public health and safety in the City of Oakland.

BACKGROUND/LEGISLATIVE HISTORY

City Council provided 32 policy directives that governed the process and provisions of the Zero Waste RFP, including the three draft franchise contracts it comprised, that allowed the City to specify the contract terms and performance standards, including provisions that stabilize rates, address illegal dumping, provide service equity across customer sectors, and achieve solid waste diversion in the short- and long-term. Pursuant to Council direction provided in June 2012, Public Works (OPW) issued the Zero Waste Services RFP, and received proposals in January 2013.

On June 18, 2013, the City Council authorized the City Administrator to enter concurrent contract negotiations with CWS and WMAC.

On May 29, 2014, a Special Meeting of the City Council, staff presented an analysis of the customer rate impacts of the two viable proposal combinations for the three franchise contracts, and an analysis of the two options:

(1) award of all three franchise contracts to WMAC; and
(2) award of the Residential Recycling (RR) contract to CWS, and award the franchise contracts for Mixed Materials and Organics, and Disposal to WMAC.

Staff recommended that the City Council authorize the City Administrator to accept the Option 1 Term Sheet for Waste Management of Alameda County for the Zero Waste Services franchise contracts, and prepare the rate tables with any alternative selected by City Council and bring the Ordinances to City Council for consideration and approval to replace the existing contracts, which expire June 30, 2015.

The City Council did not act on the resolution, but by motion directed staff "to allow bidders to submit new (best and final) bids to include all components including East Bay Municipal Utility District (EBMUD), mixed materials, organics, recycling and landfill comparable in scope to the Waste Management proposal. Council further requested bidders be allowed to include additional components including but not limited to cost saving elements, at the bidders discretion."

As directed by City Council, staff prepared RFP documents to request new best and final proposals from California Waste Solutions (CWS) and Waste Management of Alameda County (WMAC). The terms and conditions contained in the May 29, 2014 City Council report were offered to both proposers to achieve the Council's request for an "apples to apples" opportunity. Both companies submitted new bids on June 13, 2014. CWS has stated their pricing is good through August 2014. WMAC's pricing is good through July 31, 2014.

ANALYSIS

Time is of the essence for the City to put in place agreements for the collection and processing of mixed materials, residential recycling, and landfill disposal. There are 11 months until the existing solid waste service agreement expires.

To stay on the critical path so that garbage service is in place on July 1, 2015, this report focuses on the essential and fundamental pieces of information necessary to bring this multi-year process to a close. Additionally, responses to City Council questions from May 29, 2014 will be forwarded in a follow up to this report within the meeting notice timeline for the scheduled July 30, 2014 meeting.

As the City Council had hoped to achieve, these new offers provide a lower rate to the single-family 32-gallon cart customer than the rates provided in the May 29, 2014 Council Report. Since the proposals were received on January 9, 2013, the initial rate increase for the July of 2015, rates have decreased from over 75% to 50% from negotiations, and again by City Council action to a range of 24% to 46% increase.

These new offers were analyzed based on the following criteria:

1. Garbage collection on July 1, 2015:
   - Collection of garbage on day one of the new franchise contract for the 150,000 Oakland customers is of foremost concern for the City
   - Public health and safety is the City's responsibility according to state law and City ordinance
   - Reliable garbage service is paramount.

2. Best value and experience for the rate payer:
   - Best value provides the greatest overall benefit in response to the services and requirements described in the RFP.
   - Best experience for the rate payer includes consistently complete and on-time collection; accurate and timely billing; expeditious customer service response to resolve performance issues;

3. Achieving the City's adopted Zero Waste goals:
   - This Zero Waste RFP process was established based on City Council adoption of Zero Waste Goal and Strategic Plan in 2006.
   - The RFP requires of materials collected a minimum of 40% be diverted from landfill by 2022.
   - The RFP required proposers to provide minimum annual diversion calculation to show progress to both the 2022 goal and the 2035 goal.

Based on these criteria, the three franchise combination options are listed below. Options 1 and 2 are the most viable options based on the criteria listed above, and Option 3 is shown because it is the lowest rate. Following is a discussion of each of the Options.

- Option 1: Award of all three franchise contracts to WMAC
- Option 2: Award of the Residential Recycling (RR) contract to CWS, and award the franchise contracts for Mixed Materials and Organics, and Disposal to WMAC.
- Option 3: Award of all three franchise contracts to CWS.

Option 1

WMAC provided new pricing on June 13, 2014 and no changes to the services in the proposals submitted on January 9, 2013. The original proposals and changes derived during negotiations and provided at the Council meeting on May 29th are published on the City's website at

www.zerowasteoakland.com. WMAC accepted all of the terms and conditions offered in the City's second request for best and final proposals.

Option 1, award of MM&O franchise contract to WMAC would ensure garbage collection on day one of the new contract, residential recycling, and disposal services. WMAC is the sole proposer with qualified experience in the collection and processing of mixed materials and organics, and disposal of garbage. WMAC owns and operates a permitted 15-acre corporation yard on 98th Avenue in Oakland for dispatch, fueling, and maintenance of trucks, WMAC owns and operates the fully permitted Davis Street Transfer Station in San Leandro, which houses an organics processing facility, and recyclable materials that were not source separated by the residents or businesses. Under Option 1, WMAC would transfer garbage for disposal to the Altamont Landfill, operated by WMAC and located in Alameda County.

Residential recycling under this option would be collected by WMAC and taken to the Davis Street Transfer Station for processing, packaging, and transfer to markets. WMAC currently provides residential recycling collection for half of Oakland and expansion to the entire city is within its capabilities.

While Option 1 does not provide the lowest cost, it does provide all services requested in the RFP on day one and the best value to the rate payer. WMAC has an established record of success for collection of garbage and organics in Oakland and other communities in Alameda County. They have extensive experience processing and marketing organic material in Alameda County and California. WMAC is the only proposer with experience in running a full-service call center, and providing billing services to garbage customers.

WMAC has the capital and operational support to ramp-up for Zero Waste service delivery in less than 11 months, providing new clean fuel trucks, new cart delivery, and roll-out of a dynamic public outreach campaign. WMAC has an established and proven customer service billing system, already providing a reliable experience for the customer. WMAC proposed enhancements to its customer service to increase a reliable customer experience. WMAC's existing and enhanced customer service includes multiple access opportunities (in person at its 98th Ave office, phone, web, mobile applications), and monthly customer service representative performance monitoring. A comprehensive description of WMAC's Customer Service Plan is provided in section 5.4 of its January 9, 2013 proposal and can be found on the City's website at www.zerowasteoakland.com.

WMAC is able to draw on its regional resources to overcome any obstacles caused by the shortened startup time for this franchise contract process. Delivery delays of needed equipment or vehicles due to local or non-local exigencies, or any other failure of equipment and facilities needed to fulfill the obligations of these franchise contracts can be managed by the company. WMAC is the only proposer able to deliver all three Zero Waste Services franchise contracts completely within Alameda County, through the entire contract term.

Option 1 provides a superior approach to achieving the City's Zero Waste goal. On day one of the contract, WMAC will process multi-family mixed materials to divert materials from the landfill and return them to the economic mainstream. WMAC's long-term plan for organics diversion far exceeds diversion proposed by CWS in Option 3. Option 1 provides the highest level of diversion and correlating Green-house Gas (GHG) emissions reduction for the City.

WMAC has already completed major capital upgrades to facilities at Davis Street. It has plans and permits ready for additional new facilities at Davis Street and Altamont that would place it among the largest and most advanced resource recovery systems in the country. The City of Oakland would continue its nationally recognized green leadership through access to these facilities by franchise contract.

As adopted by City Council policy and provided for in the MM&O and RR Franchise Contracts, WMAC will be required to hire City of Oakland residents for at least 50% of all new hires. The 50% local hire requirement will be applied to all employees of the proposer, who are associated with the contract for collection and processing, except management.

Option 2

In Option 2, the MM&O franchise contract would be awarded to WMAC. This would ensure garbage and organics service meeting the RFP standards on day one of the contract would be delivered. Billing and customer service would be provided by WMAC ensuring a continuation of systems that are in place. Zero Waste diversion goals would be met. The Disposal franchise contract would be awarded to WMAC, for use of the Altamont Landfill in Alameda County.

The RR contract would be awarded to CWS, under Option 2. CWS currently provides residential recycling to half of Oakland, using its two west Oakland facilities, at 10th and Pine Streets and on Wood Street to process, package and transfer materials to market. Doubling their service from 83,000 households to 165,000 households, and using their existing facilities until the new Gateway Facility is opened, is within the functional capacities of CWS based on the information presented by CWS and analysis by staff and technical consultants.

CWS would process Citywide residential recyclables at its two existing facilities in west Oakland, primarily by adding additional processing equipment and a second shift at its facility located at 10th and Pine Streets.

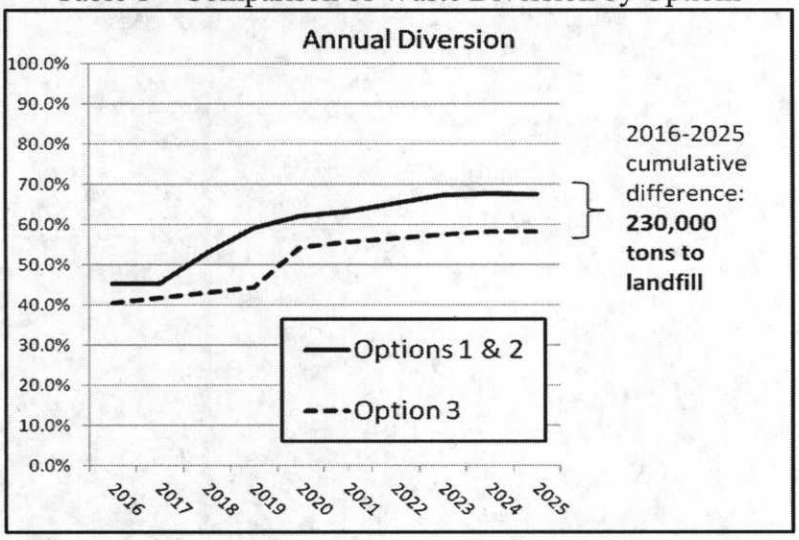
- This facility operates under a conditional use permit (CUP) that allows CWS to expand its processing hours to 9 p.m., enabling a second shift.
- CWS proposed to use additional processing capacity as needed at its Wood Street facility.
- 43 collection vehicles would be parked and operate from at 10th and Pine Street facilities.
- Recycling Services would be transferred to the new Gateway Facility when it is completed within approximately five years.

There is low risk associated with this fully viable option as CWS is currently operating these facilities and has the necessary conditional use permits to manage the increase in materials at the locations. However, Option 2, using the lowest combination of rates is more the costly choice for the rate payer by more than $3.52 per month or over $42 per year per 32-gallon single-family residential customer, compared to Option 1. The price to accommodate Local 6 recycling workers wage and benefits was offered at $0.26 per month by WMAC and $0.57 by CWS (see Rate Option A Table on page 14).

As adopted by City Council policy and provided for in the MM&O and RR Franchise Contracts, both WMAC and CWS will be required to hire City of Oakland residents for at least 50% of all new hires. The 50% local hire requirement will be applied to all employees of the proposer, who are associated with the contract for collection and processing, except management.

Table 1 shows the annual waste diversion anticipated through each of the three Options provided. Options 1 and 2 provide the superior waste diversion achievement. Over a ten year period, the difference of the number of tons of material that would be diverted from landfills through Options 1 and 2 compared to Option 3 is over 200,000 tons. This figure, 200,000 tons, is equivalent to one year's worth of franchise garbage sent to landfill today by Oakland. The selection of Option 3 would be a lost opportunity to divert this 200,000 to beneficial use.

Table 1 – Comparison of Waste Diversion by Options



Option 3

CWS on June 13, 2014, provided new pricing and a new proposal for the services requested through the RFP process. CWS provided an entire new pre-Gateway contingency proposal for

the MM&O services, new pricing for the previously proposed RR services, and a first-time landfill proposal.

CWS' June 13, 2014 new best and final proposal for the MM&O contract is the third of its proposals to provide City-wide garbage and organics collection services, and is referred to as "Plan C." Plan C was submitted as an alternative proposal that allows for use of other facilities during the first five years of the contract, while CWS' new Gateway facility is being constructed and commissioned. CWS has explained that Plan C represents their primary proposal for delivery of the MM&O services, but that Plan B was still available as a contingency in the event that Plan C could not be fully implemented on schedule. Plan B was presented to Council on May 29, 2014.

Under Option 3, CWS has stated it would use a "belt and suspenders" approach to providing MM&O collection services, organics processing and transfer, and transfer of garbage to landfill. CWS' Plan C engages a number of entities woven together with varying levels of assurances and agreements. Additionally, required permits from regulatory agencies have not been secured, leaving this option in less than strong standing. With Option 3, mixed material processing would be delayed for five years, until the Gateway Facility is open, seriously impeding the City achievement of its Zero Waste diversion goals.

Plan C would involve:

- Using a 3.6 acre portion of EBMUD property adjacent to the North Gateway property as the location for a temporary solid waste transfer station to receive and transfer mixed materials and organic material.
- The temporary transfer station would receive 660 tons per day of mixed materials and 90 tons per day of organic materials.
- Vehicle maintenance will take place at 1021 10th Street – CWS' current maintenance facility
- CNG vehicle fueling will take place at either Oakland Maritime Support Services (OMSS), Viridis Fuels, Port of Oakland, or City of Berkeley
- All new carts would be purchased and delivered
- All new multifamily and commercial bins would be purchased and delivered
- Single-family organic material would be transferred from the temporary transfer station to the organic processor in Napa County or Yolo County
- Multi-family organic material would go either to the temporary transfer station or EBMUD's food waste pre-processing facility operated by Recology for processing.
- Parking of CWS 80 route trucks on Oakland Army Base property leased to OMSS, Inc. or at future Viridis Fuels property on property owned by EBMUD
- Customer service would take place at the 10th Street facility
- Delay of Mixed Materials processing by five years until new CWS facility is in operation
- Development of a billing system for 150,000 customers

Due to essentially a new service proposal, comprising over 300 pages, and the extremely short timeframe to assess, staff secured the assistance of an independent consultant for the evaluation of Plan C, to assess the level of risk for the City should it move in this direction. The consultant selected has no association with either proposer, and frequently provides this type independent analysis for municipalities. The firm is located in southern California, distancing it from local affairs. The independent evaluation of risk is attached as **Attachment B.**

After internal and external review of Option 3, including the consultant report, staff research, questions and responses from CWS Option 3 is not being recommended. Option 3 presents the lowest rate, however, the risks associated with Option 3 outweigh the monetary benefit that might accrue to the ratepayers. The risks include the critical path to bring together the essential agreements between multiple parties and the necessary permitting to construct and operate a temporary transfer station on day one of the contract.

Another issue to consider is the use of the OMSS facility for parking trucks. Currently, OMSS occupies six acres of land at the Oakland Army Base and it is 90% occupied. CWS has stated it would lease three acres of land from OMSS for truck parking thereby displacing the existing independent truckers that use OMSS. In early 2017, OMSS is scheduled to expand, having new acreage which would be available for CWS to sublease. On June, 26, 2014, CWS also provided a letter of support from Viridis Fuels which has secured 6 acres of land in the North Gateway area on EBMUD property, and stated it is willing to provide CWS parking 130 collection trucks, employee rest, meals, meeting, locker room and bath and wash room areas and operational offices. Agreements would need to be put in place to ensure the arrangements.

Additional risks include the delivery of new collection vehicles in time for operations on day one. CWS may be able to find used vehicles to bridge the gap in time until the delivery of the new vehicles; however, the likelihood that CWS would be able to procure approximately 80 temporary collection vehicles has not been verified.

The RR contract under Option 3, would be awarded to CWS as in Option 2. CWS currently provides residential recycling to half the City, using its two West Oakland facilities, at 10th and Pine Streets and on Wood Street to process, package and transfer materials to market. Doubling their service from 83,000 households to 165,000 households, and using their existing facilities until the new Gateway Facility is opened, would appear to be within the functional capacities of CWS.

Disposal
Under Option 3, CWS submitted a disposal proposal using Vasco Road Landfill in Alameda County as the primary facility, and Keller Landfill in Contra Costa County as a backup. Both facilities are owned by Republic Services Group, a multi-national company, like WMAC, that took out the RFP for landfill disposal but did not submit a proposal on January 9, 2013.

Both Vasco Road Landfill and Keller Canyon Landfill are permitted landfills and have the daily permitted capacity to accept Oakland's franchised waste on July 1, 2015. Republic Services aerial survey from December 31, 2013 estimates that Vasco Road Landfill has approximately 22 years of remaining capacity and Keller Canyon Landfill has 78 years. The Oakland RFP for landfill disposal required 30-years of landfill disposal.

CWS has stated that the circumstances governing the use of Keller Canyon Landfill as the contingent disposal site will be the availability of capacity at the primary site. The expectation is that Vasco Road Landfill will receive at least 60% of the material to be landfilled, with the balance sent to Keller Landfill in Contra Costa County.

RATES

Council Requested New Offers

On June 13, 2014, new best and final proposals were received from CWS and WMAC, the two proposers on the Zero Waste Services RFP. This was in response to City Council's request to provide lower costs to the rate payers. The new offers provide the single-family 32-gallon cart customers a lower rate than those provided in the May 29, 2014 City Council Report. Additionally, a second offer from both companies provides a MM&O portion of the rate with a lower first year rate and an addition of 1.5% increase to the Refuse Rate Index (RRI) annual increase for years 2-5 of the contract. This results in a lower first year cost for the rate payer.

Mayor and City Administrator Request for Best and Final Offer

On July 15, 2014 the Mayor and City Administrator asked each proposer one additional time for their very last final offers. WMAC did not provide new pricing. CWS provided a second lower pricing for the RR franchise contract that includes:

- Year 1 rate of $8.85 per household
- Years 2-5 annual rate increase of $0.97 plus the RRI
- 15-year term, plus 5 year option to extend
- Years 1 through 5 use of bio-diesel (B20) collection vehicles.
- Year 6 begin use of CNG fuel collection vehicles.

This rate option provides a lower first year cost for the rate payer. However, this option also requires the City Council to approve a change in the term of the contract from 10 years to 15 years. The term for the second 5-year extension would not change. This proposal would continue the use of diesel trucks for the first five-years rather than switching to cleaner burning CNG trucks, delaying the environmental and health benefits to Oakland under this new franchise contract.

Call Center

In an effort to provide the lowest rate impact options for the City Council to select from, the out-of-county call center rate was used in both Option 1 and Option 2 rate impact scenarios.

Rate Options

The Matrix 1 shows the various rate tables prepared; the left hand column indicates what the rate options include in the rate, for each of the three contract award options previously discussed in the report. Following Matrix 1 there are samples of rate impacts for the full rate tables attached to the ordinances.

Matrix 1: Rate Options for City Council

	Option 1 *MM&O WMAC* *RR WMAC* *Disposal WMAC*	Option 2 *MM&O WMAC* *RR CWS* *Disposal WMAC*	Option 3 *MM&O CWS* *RR CWS* *Disposal CWS*
Rate Option A - includes: • Council requested Local 6 wage/benefits package • Out-of-Co. call center Option 1 & 2	Rate Tables 1A	Rate Tables 2A	Rate Tables 3A
Rate Option B - includes: • Council requested Local 6 wage/benefits package • Out-of-Co. call center Option 1 & 2 • Council requested MF Green Cart Alternative No. 3	Rate Tables 1B	Rate Tables 2B	Rate Tables 3B
Rate Option C - includes: • Council requested Local 6 wage/benefits package • Out-of-Co. call center Option 1 & 2 • Lower MMO rates in Year-1 and RRI plus 1.5% in Years 2-5	Rate Tables 1C	Rate Tables 2C	Rate Tables 3C
Rate Option D - includes: • Local 6 wage/benefits package • Out-of-Co. call center • $8.85 RR rate in Year 1 • RR Rate Increases by RRI + $0.97 in yrs 2-4 • RR rate reverts to base year RR rate escalated by RRI in Year 7 • RR be changed to a 15-year term • Use B20-bio Diesel trucks/ yrs 1-5 • Lower MMO rates in Year-1 and RRI plus 1.5% in Years 2-5		Rate Tables 2D	Rate Tables 3D

Competitive Wages and Benefits for Recycling Sorters

The ILWU Local 6 contracts with WMAC and CWS provide differing wages and benefits to the recycling sorters. The Local 6 contract with WMAC provides starting wages for recycling workers at $12.50 per hour, while its contract with CWS provides starting wages at $11.97 per hour. The health benefits are also different for each of these contracts; the Local 6 contract with WMAC includes family health benefits while its contract with CWS provides health benefits solely for the employee.

On June 12, 2012 the City Council adopted language requiring the new franchise agreements to "require contractors to pay competitive wages and benefits, defined as wages and benefits equivalent to or better than collectively bargained contracts in use in Alameda, Contra Costa, San Francisco, Santa Clara and San Mateo counties."

On March 18, 2014, the City Council adopted legislation that requires that "all workers who provide recycling services to the City of Oakland its residents and businesses, pursuant to any new City exclusive franchise agreement or renewal/extension of any existing exclusive City franchise agreement, be provided wages comparable to those wages that recycling workers in Fremont, San Jose and San Francisco currently earn or are scheduled to earn under existing agreements, while maintaining wage differentials." Additionally, the legislation directed that recycling services franchisees and recycling services franchisees renewing and/or extending their contracts be required to provide quality, affordable family health coverage to all employees.

Both firms were provided the March 18, 2014 City Council Resolution and asked to provide the cost to meet the requirement of the resolution for recycling sorter wages and benefits.

On June 30, 2014, Ms. Amy Willis of ILWU forwarded by email a package of materials that described the wage and benefit package requested by the union. On July 3, 2014, the email and the package of information was forwarded to both companies. *Rate Option A Table* shows the rate impact for each of the Options using the ILWU figures of $20.94 by 2019.

Rate Option A Table

Service		Current Monthly Rate FY 2014/15	Option 1 *MM&O WMAC RR WMAC Disposal WMAC*		Option 2 *MM&O WMAC RR CWS Disposal WMAC*		Option 3 *MM&O CWS RR CWS Disposal CWS*	
			Monthly Rate	Rate Impact	Monthly Rate	Rate Impact	Monthly Rate	Rate Impact
Single Family (32-gallon cart)	Proposed Rate	$ 29.80	$ 40.08	34.51%	$ 44.63	49.75%	$ 37.71	26.54%
	Recycling Workers Wage & Benefits		$ 0.26		$ 0.57		$ 0.11	
	Total	**$ 29.80**	**$ 40.34**	**35.37%**	**$ 45.20**	**51.68%**	**$ 37.82**	**26.92%**
Multi Family (20-unit bldg.)	Proposed Rate	$474.20	$586.61	23.70%	$664.28	40.08%	$554.23	16.88%
	Recycling Workers Wage & Benefits		$ 3.93		$ 9.89		$ 2.55	
	Total	**$474.20**	**$590.54**	**24.53%**	**$ 674.17**	**42.17%**	**$556.78**	**17.41%**
Commercial (1-cu.yd. bin)	Proposed Rate	$139.88	$200.36	43.24%	$212.63	52.01%	$158.18	13.08%
	Recycling Workers Wage & Benefits		$ 1.12		$ 1.51		$ 6.64	
	Total	**$139.88**	**$ 201.48**	**44.04%**	**$ 214.14**	**53.09%**	**$164.81**	**17.82%**

Green Cart Service Options For Multi-Family Buildings

Council has expressed preference for green cart service to be provided to all Multi-family buildings. Four scenarios for pricing were presented to City Council on May 29, 2014 which include:

1. the base rate which includes sorting of the mixed materials from all MF buildings and a green cart upon request without an additional charge;
2. an "opt in" rate where the cost for the green cart would be by subscription;
3. "opt out" where the green cart is provided unless the customer opts out; and
4. universal provision or "no opt out" whereby green carts are provided to each MF Building.

Cost options for the base rate and the three additional scenarios were presented to Council on May 29, 2014.

Rate options tables "B" showing the cost to include the universal provision or the "no opt out" of green carts for multi-family buildings have been prepared and are attached as *Rate Option B Table* to provide this option for City Council's selection.

Under the lowest cost "opt in" rate, staff is recommending a "phased-in approach," as an alternative suggested by Councilmember Kalb at the May 29, 2014 meeting. A "phased-in approach could achieve Council's goal of universal provision of green carts at MF buildings under Option 1 or Option 2. Using a "phased-in" approach, WMAC would develop an aggressive outreach campaign that specifically promotes the use of green carts at MF buildings, deploying significant public outreach efforts including the proposed corps of "Zero Waste Ambassadors", which could potentially include youth enrolled in Civicorps, as well as other community programs to move all MF buildings to the goal of the option of source separation of green waste at all MF buildings.

Furthermore, the City Council could adopt language in the Oakland Municipal Code requiring MF building owners to provide access to all of the franchised recycling services including green cart service for their tenants. In this way, the City Council's goal of universal provision of recycling for MF building tenants could be achieved at the lowest cost to ratepayers.

Rate Option B Table

Service		Current Monthly Rate FY 2014/15	Option 1 *MM&O WMAC RR WMAC Disposal WMAC*		Option 2 *MM&O WMAC RR CWS Disposal WMAC*		Option 3 *MM&O CWS RR CWS Disposal CWS*	
			Monthly Rate	Rate Impact	Monthly Rate	Rate Impact	Monthly Rate	Rate Impact
Single Family (32-gallon cart)	Proposed Rate including Recycling Workers Wage & Benefits							
	MF Green Cart Alt No. 3							
	Total							
Multi Family (20-unit bldg.)	Proposed Rate including Recycling Workers Wage & Benefits	$474.20	$590.54	24.53%	$674.17	42.17%	$556.78	17.41%
	MF Green Cart Alt No. 3		$ 60.20		$ 60.20			
	Total	**$474.20**	**$650.74**	**37.23%**	**$734.37**	**54.86%**	**$556.78**	**17.41%**
Commercial (1-cu.yd. bin)	Proposed Rate including Recycling Workers Wage & Benefits							
	MF Green Cart Alt No. 3							
	Total							

Rate Option C Table shows the second offer from both companies that provides a MM&O portion of the rate with a lower first year rate and an addition of 1.5% increase to the Refuse Rate Index (RRI) annual increase for years 2-5 of the contract. This results in a lower first year cost for the rate payer.

Rate Option C Table

Service		Current Monthly Rate FY 2014/15	Option 1 *MM&O WMAC RR WMAC Disposal WMAC*		Option 2 *MM&O WMAC RR CWS Disposal WMAC*		Option 3 *MM&O CWS RR CWS Disposal CWS*	
			Monthly Rate	Rate Impact	Monthly Rate	Rate Impact	Monthly Rate	Rate Impact
Single Family (32-gallon cart)	Proposed Rate including Recycling Workers Wage & Benefits	$ 29.80	$ 40.34	35.37%	$ 45.20	51.68%	$ 37.82	26.92%
	Lower rates in Year-1; RRI plus 1.5% in Years 2-5		$ (1.63)		$ (1.50)		$ (1.00)	
	Total	**$ 29.80**	**$ 38.71**	**29.88%**	**$43.70**	**46.65%**	**$ 36.82**	**23.56%**
Multi Family (20-unit bldg.)	Proposed Rate including Recycling Workers Wage & Benefits	$474.20	$590.54	24.53%	$674.17	42.17%	$556.78	17.41%
	Lower rates in Year-1; RRI plus 1.5% in Years 2-5		$ (24.07)		$ (20.95)		$ (9.80)	
	Total	**$474.20**	**$566.47**	**19.46%**	**$653.22**	**37.75%**	**$546.97**	**15.35%**
Commercial (1-cu.yd. bin)	Proposed Rate including Recycling Workers Wage & Benefits	$139.88	$201.48	44.04%	$214.14	53.09%	$164.81	17.82%
	Lower rates in Year-1; RRI plus 1.5% in Years 2-5		$ (8.37)		$ (8.81)		$ (8.48)	
	Total	**$139.88**	**$193.11**	**38.06%**	**$205.33**	**46.79%**	**$156.34**	**11.77%**

Rate Option D Table provides the rates for CWS, which second lower pricing for the RR franchise contract that includes:

- Year 1 rate of $8.85 per household
- Years 2-5 annual rate increase of $0.97 plus the RRI
- 15-year term, plus 5 year option to extend
- Years 1 through 5 use of bio-diesel (B20) collection vehicles.
- Year 6 begin use of CNG fuel collection vehicles.

This rate option provides a lower first year cost for the rate payer. However, this option also requires the City Council to approve a change in the term of the contract from 10 year to 15 years. The term for the second 5-year extension would not change. This proposal would continue the use of diesel trucks for the first five-years rather than switching to cleaner burning CNG trucks, delaying the environmental and health benefits to Oakland under this new franchise contract.

Rate Option D for Residential Recycling combined with *Rate Option C* for MM&O provides the lowest cost option for the rate payer. However, Rate Option D does not provide the best value for the rate payer as discussed above.

It is recommended to select *Rate Option C* which provides lowest rates for the rate payer and greatest environmental protection and achievement.

Rate Option D Table

Service		Current Monthly Rate FY 2014/15	Option 1 *MM&O WMAC RR WMAC Disposal WMAC*		Option 2 *MM&O WMAC RR CWS Disposal WMAC*		Option 3 *MM&O CWS RR CWS Disposal CWS*	
			Monthly Rate	Rate Impact	Monthly Rate	Rate Impact	Monthly Rate	Rate Impact
Single Family (32-gallon cart)	Proposed Rate including Recycling Workers Wage & Benefits	$ 29.80			$ 43.70	46.65%	$ 36.82	23.56%
	RR rates lower in Year-1, higher in later years + 15-year RR term				$ (1.47)		$ (1.02)	
	Total	**$ 29.80**			**$42.23**	**41.70%**	**$35.80**	**20.12%**
Multi Family (20-unit bldg.)	Proposed Rate including Recycling Workers Wage & Benefits	$474.20			$653.22	37.75%	$546.97	15.35%
	RR rates lower in Year-1, higher in later years + 15-year RR term				$ (29.52)		$ (20.47)	
	Total	**$474.20**			**$623.70**	**31.53%**	**$526.50**	**11.03%**
Commercial (1-cu.yd. bin)	Proposed Rate including Recycling Workers Wage & Benefits							
	Recycling Workers Wage & Benefits							
	RR rates lower in Year-1, higher in later years + 15-year RR term							
	Total							

Bulky Pick Up service options for MF Buildings
The Mixed Materials and Organics franchise contract provides bulky pickup service to MF residential customers. The basic service for MF is one annual bulky collection per dwelling unit, scheduled by the customer/ owner or manager. The cost of the service is embedded in the rate, but any resident (tenant or owner) may order additional bulky service from the contractor on a pay-as-you-go basis. Mattresses remain a part of the bulky pickup service, and state legislation that requires retailer take-back will be implemented July 1, 2014.

City Council has expressed a preference for a high level of access to Bulky Pick Up services to residents in MF buildings. Following Council direction staff requested proposers to provide rates for Bulky Pick Up service that could be ordered directly by MF building tenants. It would increase rates by 15% for building owners with no assurance that there would be higher participation in the service to justify the higher costs, which could be passed on in rent increases. Staff recommends that the program remain as proposed with aggressive outreach and education be done to let all MF owners and residents gain awareness of how to participate and access the new programs.

Commercial Organic Material to EBMUD
EBMUD has a nationally recognized program for processing food waste based on existing waste water processing capacity. EBMUD would provide a high performing solution for commercial organic material processing for any community that does not have competitive alternatives. Oakland is in the unique position of having a competitive alternative to EBMUD in the services provided in WMAC proposal.

The existing and proposed facilities at Davis Street and Altamont are multifaceted and better suited to the full range of organic materials the MM&O contractor will be required to collect under the MM&O franchise, and per the Alameda County Mandatory Recycling Ordinance. EBMUD uses a narrower range of organic materials for its digesters, requiring a high degree of pre-processing, as evidenced by the need for EBMUD to construct and operate a Food Waste Preprocessing Facility as a prerequisite for utilizing existing digestion capacity.

As discussed in staff's May 29, 2014 Agenda report, the City can achieve environmental benefits that are equal or superior to EBMUD with the WMAC proposal, at a lower cost to ratepayers. Using EBMUD would increase WMACs' commercial organics service rates for carts by approximately 10% and rates for bins by approximately 18%. The EBMUD option increases cost to commercial ratepayers and does not improve or enhance the City's zero waste goals.

20-Gallon "Mini-Cart"
Currently 74 % of Oakland residents use a 32-gallon garbage cart. Along with the 32-gallon garbage cart, each single-family residence is provided a 64-gallon recycling cart and a 64-gallon green waste cart for food scraps, contaminated paper and yard trimmings. This is a total of 160 gallons of capacity. The City Zero Waste goal and services are designed to move material from

the garbage cart to either the recycling or green waste "organics" cart for return to the economic mainstream.

Residents can support the City's Zero Waste goal by recycling more and reducing to 20- gallon cart service. Currently 19% of Oakland residents have achieved this waste reduction goal. An additional benefit of moving to the mini-cart size is the decrease in the monthly service cost by 14% or $5.36 per month using *Rate Option C* under Option 1 and 2.

Civicorps
City Council has expressed an interest in having Civicorps, a local non-profit conservation corps, be involved in the new Zero Waste services contracts. Both CWS and WMAC have stated their commitment to partner with Civicorps for activities best suited to the non-profit's strengths such as community outreach, surveying, tabling, door-to-door delivery to optimize participation and diversion. CWS has additionally stated that it would develop plans with Civicorps to provide temporary training of some interns without any impact or displacement of permanent union jobs.

Civicorps, has provided commercial recycling services in Oakland since the early 1990s'. The City informed Civicorps in 2012 that commercial food scraps collection service would be included in the franchise as part of the new Zero Waste design. The RFP clearly defined this in response to the City Council adopted policy. However, in 2012, Civicorps began working with Recology of the East Bay on providing commercial food scraps collection service. Commercial food scraps collection will be part of the franchise agreement and not be available for open market business. Civicorps can continue to provide commercial recycling services as that portion of the Zero Waste System stays in the open market.

OPTIONS FOR COUNCIL
In order to move forward and put in place the necessary contracts for garbage and organics, residential recycling, and disposal services that start on July 1, 2015, staff has provided all documents needed for City Council to make an award. Below is an outline of the steps necessary to complete the first reading. After closing the public hearing, the City Council should:

Step 1 – Select an Option for the delivery of service.

	Option 1	**Option 2**	**Option 3**
Mix Materials & Organics Contract	WMAC	WMAC	CWS
Residential Recycling Contract	WMAC	CWS	CWS
Disposal Contract	WMAC	WMAC	CWS

Step – 2 Make a motion to adopt the appropriate Ordinances.

	Option 1	**Option 2**	**Option 3**
Mix Materials & Organics Contract	Ordinance U	Ordinance U	Ordinance X
Residential Recycling Contract	Ordinance V	Ordinance Y	Ordinance Y
Disposal Contract	Ordinance W	Ordinance W	Ordinance Z

Step – 3 Make a motion to adopt the set of preferred rate tables.

	Option 1 *MM&O WMAC* *RR WMAC* *Disposal WMAC*	Option 2 *MM&O WMAC* *RR CWS* *Disposal WMAC*	Option 3 *MM&O CWS* *RR CWS* *Disposal CWS*
Rate Option A - includes: • Council requested Local 6 wage/benefits package • Out-of-Co. call center Option 1 & 2	Rate Tables 1A	Rate Tables 2A	Rate Tables 3A
Rate Option B - includes: • Council requested Local 6 wage/benefits package • Out-of-Co. call center Option 1 & 2 • Council requested MF Green Cart Alternative No. 3	Rate Tables 1B	Rate Tables 2B	Rate Tables 3B
Rate Option C - includes: • Council requested Local 6 wage/benefits package • Out-of-Co. call center Option 1 & 2 • Lower MMO rates in Year-1 and RRI plus 1.5% in Years 2-5	Rate Tables 1C	Rate Tables 2C	Rate Tables 3C
Rate Option D - includes: • Local 6 wage/benefits package • Out-of-Co. call center • $8.85 RR rate in Year 1 • RR Rate Increases by RRI + $0.97 in yrs 2-4 • RR rate reverts to base year RR rate escalated by RRI in Year 7 • RR be changed to a 15-year term • Use 20-bio Diesel trucks for yrs1-5		Rate Tables 2D	Rate Tables 3D

A second reading of the Ordinances is scheduled for Wednesday, August 13, 2014.

PUBLIC OUTREACH/INTEREST

This item did not require any additional public outreach other than the required posting on the City's website.

COORDINATION

Public Works Agency staff has coordinated closely with the Office of the City Attorney, the Division of Contract Compliance, the Risk Management Division, the Revenue Division, and the Planning and Building Department for this report and the development of the Franchise Contracts.

COST SUMMARY/IMPLICATIONS

Adoption of these ordinances will sustain the City's franchise fees ($28 million) at the same level as today. The majority of fees (70%) are used to support City sanitation services provided by the Public Works Department, including street sweeping, graffiti and illegal dumping abatement, parks litter removal. Eighteen percent of the fees go into the General Fund and eleven percent is used to support mandated Integrated Waste Management Act (AB939) program development and planning for solid waste reduction and recycling, franchise contract management, environmental compliance, and related activities.

SUSTAINABLE OPPORTUNITIES

Economic: Expanding and actively supporting use of discarded materials drives local economic and workforce development with 'green collar' jobs and value added production.

Environmental: Waste reduction and recycling conserves natural resources, reduces air and water pollution, protects habitat, and reduces greenhouse gas (GHG) emissions.

Social Equity: Increased jobs through additional diversion of materials from the landfill.

CEQA

For award of the Franchise Agreement(s) to either/both WMAC and/or CWS, City staff (Public Works and Planning & Building) determined that the City Council's actions are exempt from the California Environmental Quality Act (CEQA), because award of these franchise agreements would be a continuation of existing programs, but with greater environmental benefits. These added environmental benefits are created by shifting from a diesel-fueled fleet to a compressed

natural gas fleet, and diverting greater amounts of recyclables and organics from landfill disposal.

The City has independently reviewed, considered and confirmed the environmental analyses conducted for Options 1, 2, and 3 (see Attachment C for **CWS** and Attachment D for **WMAC**); these analyses conclude that there would not be the potential for significant environmental impacts under any of the options, therefore no further environmental review is required. Specifically, the project is exempt from CEQA pursuant to the following CEQA Guidelines, each of which provides a separate and independent basis for CEQA compliance and when viewed collectively provide an overall basis for CEQA compliance:

- Section 15301: Ongoing operation of existing facilities;
- Section 15307: Action for the protection of natural resources;
- Section 15308: Action for the protection of the environment;
- Section 15183: Approvals consistent with Community Plans
- Section 15273: City approval to change the rates; and/or
- Section 15061(b)(3): Common sense exemption because project does not have potential to cause significant effect on the environment

As a separate and independent basis from the above, should the City Council select CWS for Option 2, the City also relies on the 2002 Army Base EIR and the 2012 Army Base Addendum, and no further environmental review is required. Should the City Council select CWS for Option 3, the City also relies on the aforementioned Army Base environmental review documents and the June 2011 EBMUD certified EIR for the Main Waste Water Treatment Plant Master Plan, and no further environmental review is required (See Attachment C).

The 2002 Army Base EIR, 2012 Army Base Addendum, 2011 EBMUD EIR and related documents, including the Standard Conditions of Approval/Mitigation Monitoring and Reporting Programs, have previously been furnished to the City Council and are also available at:

- 2011 EBMUD Maser Plan EIR (Item #26 under Completed Environmental Review Documents):
  http://www2.oaklandnet.com/Government/o/PBN/OurServices/Application/DOWD009158

- 2002 Army Base EIR and 2012 Addendum (Item # 4 under Current Environmental Review Documents):
  http://www2.oaklandnet.com/Government/o/PBN/OurServices/Application/DOWD009157

For questions regarding this report, please contact Susan Kattchee, Assistant Director, 510-238-6382.

Respectfully submitted,

BROOKE A. LEVIN
Director, Public Works Department

Prepared by:
Susan Kattchee, Assistant Director

Prepared by:
Becky Dowdakin, Acting Environmental Svcs. Manager

Attachment A: Answers to Council Questions May 29, 2014
Attachment B: Report from technical consultant dated July 21, 2014
Attachment C: Environmental Analysis for CWS for Options 2,3
Attachment D: Environmental Analysis for WMAC for Options 1,2

- Ordinance – U
- Ordinance – V
- Ordinance – W
- Ordinance – X
- Ordinance – Y
- Ordinance – Z
- WMAC - MM&0 Contract
- WMAC – RR Contract
- WMAC –Disposal Contract
- CWS -MM&0 Contract
- CWS – RR Contract
- CWS –Disposal Contract
- 1A - Rate Tables
- 1B – Rate Tables
- 1C – Rate Tables
- 2A – Rate Tables
- 2B - Rate Tables
- 2C – Rate Tables
- 2D – Rate Tables
- 3A – Rate Tables
- 3B – Rate Tables
- 3C - Rate Tables

Attachment A

This Attachment not included on July 21, 2014, to be published after July 21, 2014.

Attachment B

CLEMENTS
ENVIRONMENTAL

MEMORANDUM

DATE: July 21, 2014

TO: City of Oakland - Peter Slote
Acting Solid Waste & Recycling Program Supervisor, Environmental Services Division
Oakland Public Works
250 Frank H Ogawa Plaza, Ste. 5301
Oakland, CA 94612

FROM: Clements Environmental Corp.

SUBJECT: **ANALYSIS OF CWS BEST AND FINAL OFFER FOR CITY OF OAKLAND ZERO WASTE FRANCHISE PROPOSAL**

Clements Environmental is pleased to provide the City of Oakland with the following analysis of Commercial Waste Solutions (CWS') "Best and Final Offer – Service Group 1 and Service Group 2" for the City of Oakland Zero Waste Services Franchise Request for Proposals.

The following tasks are addressed by Clements Environmental under this Memorandum:

- Analysis of the proposed interim solid waste processing facility development timeline and completion dates;
- Analysis of the interim facility's operation capacity;
- Analysis of procurement of collection vehicles and waste carts or bins; and,
- Analysis of available landfill capacity.

The above tasks are intended to assist in determining if CWS can provide the required infrastructure to meet service requirements by July 15, 2015.

Interim Transfer Facility

Overview

In developing a "typical" Material Recovery Facility (MRF)/transfer station facility, Clements would plan two-years for permitting, and one year for engineering design and construction. In this situation, there are unique circumstances that potentially streamline permitting and construction to allow a faster development process. The special circumstances include:

- East Bay Municipal Utility District (EBMUD) plans to use a Addendum to a previously certified Environmental Impact Report (EIR) for its Main Waste Water Treatment Plant (MWWTP) Master Plan that as the basis for granting the environmental clearance of the proposed interim facility;
- Project does not have to comply with City zoning laws because the interim facility is located on EBMUD property within the Port of Oakland's planning area and therefore is subject to the Port's planning/land use jurisdiction; and,
- Use of a pre-fabricated fabric, clear-span building which affords a faster construction phase.

Timeline

As part of the June 20, 2014, "Best and Final Offer" CWS proposed the following timeline for developing an interim solid waste transfer and processing facility at the EBMUD Main Wastewater Treatment Plant (MWTP):

TASK	**COMPLETION DATE**
Receive CEQA Compliance determination from EBMUD	August 1, 2014
Receive Development Permit from Port of Oakland	November 7, 2014
Facility Included in County Wide Siting Element and NDFE	August 15, 2014
Solid Waste Facility Permit	January 30, 2015
Detailed Design	November 14, 2014
Demolition of Existing Buildings	December 12, 2014
Purchase and Fabricate Building	November 28, 2014
Building Permits from City of Oakland	January 2, 2015
Construction	May 22, 2015
Facility Start-up	June 26, 2015

The following is an analysis of the proposed CWS interim facility development and permitting timeline:

1. **Receive CEQA clearance for the CWS interim facility from EBMUD by August 1, 2014.**

   This timeline is plausible. In order to have CEQA clearance by August 1, 2014, EBMUD would need to make a determination that the EBMUD's 2011 MWWTP Master EIR adequately analyzed the impacts of the interim facility, and that it does not want to circulate an addendum to the MWWTP EIR for an additional public comment period (note, there is no legal requirement to circulate an addendum for public comment).
   Even if EBMUD does issue a CEQA clearance by August 1, 2014, there is the possibility that another responsible agency could require additional environmental documentation as part of their permitting process. This doesn't imply that they will, just that it is possible. These agencies include:
   - The Local Enforcement Agency (LEA) and CalRecycle could require additional environmental analysis as part of the Solid Waste Facility Permit application;
   - The Alameda County Solid Waste Authority, acting as the Local Task Force, could require additional CEQA documentation as part the Siting Element

amendment process. It is our understanding that the Alameda County Solid Waste Authority is closely reviewing all projects to ensure that the CEQA process is adequate.

- The Port of Oakland could require additional CEQA analysis as part of the Development Permit application process.
- The local Air and Water Boards would typically weigh in during the CEQA process. However, in this case, there will not be a CEQA review process by outside agencies or the public. An Odor Impact Minimization Plan (OIMP) will be necessary to comply with Air Board regulations, and a storm water discharge permit (Notice of Intent) and Stormwater pollution Prevention Plan and Mitigation Program Plan (SWPPP/MPP) will be necessary to comply with Water Board regulations.

2. **Receive Building (Development) Permit from Port of Oakland by November 7, 2014.**

This timeline can be shortened. The project site falls within the Port of Oakland's Planning Area. This task should actually be "receive development permit from Port of Oakland"." Because the EBMUD site is classified as private property, a development permit can be approved by the Port's Executive Director in an expedited manner. The time frame for administrative approval of a development permit is four to six weeks. The Port of Oakland, as part of the development permit review process, would rely on the EBMUD environmental determination in reviewing and approving the development permit application. The Port of Oakland could require additional CEQA analysis as part of their review which could prolong the permitting process. However, in conversations with the Joe Marsh, Port Permit Coordinator, he indicated that EBMUD has done an adequate job of CEQA compliance in the past and that he did not see any issues with approving a development permit for the CWS project.

3. **Include facility in County Wide Siting Element by August 15, 2014.**

This timeline is not plausible. CWS will need to have the interim facility included in the County-Wide Siting Element. A Siting Element Amendment is processed by the Alameda County Waste Management Authority (acting as the Local Task Force). In conversations with Debra Kaufman of the Task Force we were told this process would take 60 to 90 days. The application to amend the siting element cannot be filed until a land use approval is obtained from the Port of Oakland, which we are estimating could occur by September 12, 2014.

In addition to amending the Countywide Siting Element, the City of Oakland's Non-Disposal Facility Element (NDFE) also needs to be amended. The NDFE and Countywide Siting Elements amendments could be submitted and processed simultaneously. The process for amending the NDFE is technically a straight forward process and should not present an impediment. In order to amend the NDFE, a simple project description is prepared and transmitted by the City to CalRecycle and the Alameda County Waste Management Authority, which acts as the Local Task Force. However, the City of Oakland's recent experience in processing the Recology NDFE amendment at the EBMUD site was not straight forward and took much longer than expected. That NDFE amendment was given a higher

level of review than legally required and, if the CWS NDFE amendment is subjected to a similar process, it could take longer.

4. **Obtain a Solid Waste Facility Permit (SWFP) by January 30, 2015.**

   This timeline is not plausible. The SWFP application cannot be officially filed until the NDFE and Countywide Siting Element amendments, and Land Use permit have been approved. A draft SWFP application together with supporting documentation such as the Transfer Processing Report and CEQA clearance may be submitted to the LEA for an informal review before all the necessary approvals are in place in order to allow the LEA and CalRecycle the opportunity to provide guidance in the permitting process. Obtaining an informal review of the SWFP will streamline the process once the SWFP is formally submitted and bring any issues, such as the adequacy of the CEQA clearance, to light early in the process.

   When the SWFP application is submitted, the LEA has 30 days to review and accept it, or reject it as incomplete. The LEA may be able to accept the application in less than 30 days but the full 30 days is typically taken. If accepted as complete, the LEA then has 60 days to review the application in detail, schedule a public information meeting (PIM), and draft the SWFP. The LEA then transmits the SWFP package to CalRecycle which has another 60 days to review it, clear any issues with the LEA, and finally concur with the LEA's draft SWFP. Thus, the timeline for obtaining a SWFP is 150 days from the date of submittal of the application, which would yield the final permit on May 2nd We believe this is plausible only if there is a thorough review of the draft SWFP application package by the LEA and CalRecycle prior to the formal submittal.

   Regarding the Public Information Meeting, often, the LEA will "piggyback" this meeting with any Planning Commission meeting that is held to approve (or not) the Conditional Use Permit. However, in this case, because there is no requirement for a CUP hearing before the City Planning Commission, there will be no Planning Commission meeting; therefore, the LEA will hold its own public meeting to inform the neighbors about the project and the permitting process, and to receive input from the community.

5. **Complete detailed design by November 14, 2014.**

   This timeframe is plausible and would be dependent on CWS and their design team.

6. **Demolition of Existing Buildings by December 12, 2014.**

   This timeframe is plausible and would be dependent on EBMUD.

7. **Purchase and Fabricate Building by November 28, 2014.**

   This timeframe is plausible and would be dependent on CWS and their design team. From the date the design drawings are approved, fabrication the interim building would take

approximately 8 to 10 weeks from the date working drawings are approved. The building could be fabricated and delivered to the site by February 6, 2015.

8. **Building Permits from City of Oakland by January 2, 2015.**

   Based on completing detailed design plans by November 14, 2014, obtaining building permits by January 2, 2015 is plausible. The City of Oakland may not have much experience in permitting temporary fabric structures and there may be multiple plan check corrections/revisions required before building permits are issued. One caution in this timeline is that it occurs over the holidays, which can often lead to delays.

9. **Construction by May 22, 2015.**

   Based on completing detailed design plans by November 14, 2014 and obtaining building permits by January 2, 2015 completion of construction by May 22, 2015 is plausible. Completing the construction phase, including site preparation, foundation and building erection, off-site improvements, and equipment installation and commissioning within six months would be challenging but feasible using a fabric building.

10. **Facility Start-up by June 26, 2015.**

    With construction completion by May 22, 2015, facility startup by June 26, 2015 is plausible.

A comparison of the CWS timeline and Clements revised timeline is provided below. A bar chart of the Clements revised schedule is attached.

TASK	CWS COMPLETION DATES	CLEMMENTS REVISED COMPLETION DATES
Receive Certification of CEQA Compliance from EBMUD	August 1, 2014	No Change
Receive Development Permit from Port of Oakland*	November 7, 2014	September 12, 2014
Facility Included in County Wide Siting Element and NDFE	August 15, 2014	December 1, 2014
Solid Waste Facility Permit	January 30, 2015	May 2, 2015
Detailed Design	November 14, 2014	No Change
Demolition of Existing Buildings	December 12, 2014	No Change
Purchase and Fabricate Building	November 28, 2014	No Change
Building Permits from City of Oakland	January 2, 2015	No Change
Construction	May 22, 2015	No Change
Facility Start-up	June 26, 2015	No Change

* The Port of Oakland issues a Development Permit. Building permits are issued by the City of Oakland.

Capacity Analysis

This section addresses the ability of the interim facility to be able to receive, process and transfer the required tonnage, and achieve the promised diversion. For purposes of this analysis, we are using the 2011 tonnage: from Table 2-1 of the City's January 6, 2013 Request for Proposals*

	Year 2011	Year 2016
• Mixed Material		
○ SFD:	61,406	
○ MFE:	32,165	
○ Commercial:	52,634	
○ Roll Off:	27,362	
○ City-Generated/Hauled:	9,733	
○ Misc:	3,114	
▪ Subtotal	186,414	171,414
• Organic Material:		
○ SFE+MFD	35,824	
○ Commercial*:	10,000*	25,000
▪ Subtotal	45,824	60,824
▪ MM&O Grand Total	232,238	232,238

The changes from 2011 to 2016 result from an assumption that 15,000 TPY of new source separated organics from commercial and MFD sources would be recovered from the Mixed Material.

**Commercial Organic Material was not included Table 2-1. We assumed 10,000 tons based on the City's estimate of commercial organic material currently collected outside the current franchise agreement, tonnage that will become part of the MM&O exclusive franchise effective on July 1, 2015.*

Diversion

CWS is proposing an initial diversion rate of 30% increasing to 34.5% in 2018. This rate jumps to 46% in 2019 based on the start up of the new MRF/transfer station, increasing to 52% by the end of the contract in 2025.

CWS proposes a 10% recovery rate from the Mixed Material, using floor sorting and a simple sort line, and trommel screen. Based on other MRF operations with which we have experience, this seems to be a feasible recovery rate. This would result in 171,414 TPY x 0.10 = 17,141 TPY of diversion.

CWS is proposing to divert all the Organic Material to either the Recology food pre-processing facility at EBMUD, or to a composting site. It is unrealistic to assume that all the Organic Material will be acceptable for these uses. Assuming a 15% contamination level, diversion achieved for the Organic Material would be 60,824 x 0.85 = 51,700 TPY.

Thus the total 2016 diversion would be 17,141 + 51,700 = 68,841. This represents 30% of the total 232,238 tons for that year.

Depending on the contamination level of the organics, processing equipment or increased floor sorting may need to be added for that material. There is space in the building to accommodate this.

Regarding future diversion, the modest increase in diversion to 34.5% in 2018 should be achievable with better outreach and education to improve the quality of the source separated Organic Material, and refined sorting and contamination removal activities; as well as the addition of new equipment for sorting the Mixed Material, as needed.

As part of the due diligence regarding CWS performance for this project, we sought public records from another municipality that contracts with CWS for collection and processing of residential curbside recyclables. It is our understanding that CWS may not have met their diversion requirement. A public records request for documents related to this matter has been made, but these records were not received by the July 21, 2014 publication of this report.

Scale Capacity

At 730 tons of throughput, and 8 tons of material in each collection truck, a total of approximately 92 collection truck trips will be generated each day, or an average of 12 collection trucks per hour (8 hour day for receiving waste). Assuming it takes 60 seconds to weigh-in, approximately 60 vehicles could weigh in per hour. The scale capacity would therefore be adequate to accommodate the anticipated 12 collection trucks per hour. Even if we assume that the peak hour would generate twice as many collection trucks, the scale would be adequate for the proposed throughput.

Tipping Capacity

A minimum of 4 collection trucks could tip simultaneously inside the interim facility. If it takes approximately 10 minutes to unload, a total of 24 collection trucks can tip their loads in one hour. With a capacity of 8 tons per collection truck, approximately 192 tons of waste can be tipped per hour. A total of approximately 4 hours would be necessary to unload the 730 TPD of mixed materials and organics anticipated at the interim facility.

MSW Storage Capacity

Using a mixed materials density of 500 pounds per cubic yard, a tipping area of approximately 11,000 square feet and pile height of 4 feet, approximately 400 tons of mixed materials material could be accommodated on the tipping floor. A 4 foot pile height would allow floor sorting and recovery of recyclable materials prior to being moved to the sort line staging area and/or being loaded out.

Approximately 8,000 square feet of floor area adjacent to the sort line could accommodate approximately 270 tons of mixed materials being staged for processing over the sort line based on a 4 foot pile height and a density of 500 pounds per cubic yard.

Based on initial calculations, approximately 670 tons of mixed materials can be stored on the floor of the interim CWS facility which would exceed the anticipated daily throughput of 500 TPD. There will be a requirement form the LEA to have the tipping floor clear of material at a certain time each day. There is adequate throughput capacity to meet this requirement.

Organics Storage Capacity

There is adequate room for separate organics tipping and storage piles. Because organic material densities can range from 350 pounds per cubic yard for green waste to over 1,000 pounds per cubic yard for food waste we are using a conservative number of 500 pounds per cubic yard for purposes of this analysis.

There is approximately 5,000 square feet of tipping area for organic waste material which could accommodate approximately 170 tons of material based on a 4 foot pile height and an average density of 500 pound per cubic yard.

MSW Processing Capacity

Based on a sort line capacity of 25 tons per hour, and a 20 hour operating day, approximately 500 tons of mixed material can be processed over the sort line. There would appear to be adequate capacity to process the anticipated 500 TPD of mixed materials each day over the sort line however, some loads may be simply floor sorted and then loaded into transfer trucks. Based on a 10% diversion rate approximately 50 tons of recyclables will be salvaged each day. Adequate room for recovered recyclables, roll-off storage and adequate provisions to allow removal of those recyclables will need to be incorporated into the final project design.

Organics Processing Capacity

A 4 foot pile height would allow floor sorting of the organics and recovery of recyclable materials and contaminants. Once the organics are floor sorted they can be staged on approximately 5,000 square feet of floor area adjacent to the load out area which could accommodate approximately 170 tons of material based on a 4 foot pile height and an average density of 500 pound per cubic yard.

Based on approximately 10,000 square feet of floor area devoted to organic material, a density of 500 pounds per cubic yard and a 4 foot pile height, approximately 340 tons of organic material could be staged and processed in the interim facility which exceeds the 230 TPD of material anticipated.

No specific equipment was shown for processing organics. It is reasonable to assume that some equipment will be needed to assist in removing contamination. What this equipment will be depends on the types, tonnages, and levels of contamination of the organic wastestreams. In the space provided, CWS should be able to accommodate equipment for this purpose.

Load-Out Capacity

For purposes of this analysis we are assuming that the 450 tons of mixed materials plus 15% of the organics (34 TPD) will be transferred to a landfill each day. Transfer truck load-out takes approximately 15 minutes, and each truck has a capacity of 23 tons. Based on an 8 hour transfer operating day which is tied to the landfill hours, and a total of 2 load out ports dedicated to mixed materials residual transfer, a total of 64 transfer trucks, or 1,472 tons of residual waste could be loaded out each day. This is more than adequate for the CWS interim facility.

For purposes of this analysis, we are assuming that 85% of the 230 tons per day of organic material, or 196 TPD will be transferred off site to the Recology food waste facility or composting facilities. Transfer truck load out takes approximately 15 minutes, and each truck has a capacity of 23 tons. Based on an 8 hour transfer operating day which is tied to the landfill hours, and one load out port dedicated to organics transfer, a total of 32 transfer trucks, or 736 tons of organic material could be loaded out each day. This is more than adequate for the CWS facility which is anticipating a total of 196 TPD of processed organic material.

Procurement of Collection Trucks and Carts

In order to assess the process, we had discussions with three experienced professionals in the waste industry regarding large, rapid truck and cart procurement. It is our understanding that CWS would need to purchase or otherwise procure approximately 75-80 new CNG trucks and approximately 300,000 carts if they were awarded the Oakland contract.

The purchase of this number of collection trucks and carts would be very challenging for a company the size of CWS, and represents a high risk. However, we believe this risk can be lowered if the City requires the following of CWS:

- A very tight management of the procurement process with a senior CWS manager assigned to the task for both trucks and carts.
- Letters of commitment from executive management at Peterbilt and McNeilus that they have the capacity and ability to meet the production deadline. The same commitment letters from the cart manufacturers.
- Commitment from CWS to secure one or two additional manufacturers for both the trucks, bodies, and carts to provide secondary production capacity if the prime contractor falls behind schedule; and to include this in a "Back-Up" plan to achieve the July 1, 2015 deadline.

In addition to the purchase and placement into service of the trucks, the ability and the time to recruit and train 80 drivers is of concern. However, we understand that there is a worker retention policy that might address this issue whereby CWS would hire qualified, existing drivers.

Landfill Capacity

The Vasco Road Landfill is located at 4001 North Vasco Road in Livermore approximately 40 miles from the CWS interim facility location and is owned by Republic Services. The facility accepts a variety of materials including non-hazardous industrial waste (including non-friable asbestos, contaminated soil, municipal wastewater treatment plant sludge, construction and demolition (C&D) wastes, empty containers, and other industrial and special wastes. The Vasco Road Landfill is estimated to have sufficient capacity through 2022.[1] From the CalRecycle Solid Waste Information System (SWIS) the Vasco Road Landfill has a maximum permitted throughput of 2,250 tons per day, a remaining capacity of 9,870,704 cubic yards, a maximum capacity of 32,970,000 cubic yards and an estimated closure date of August 31, 2019.

[1] Alameda County Sand Hill Wind Project Draft EIR dated November 2013.

The Keller Canyon Landfill is located at 901 Bailey Road in Pittsburg approximately 30 miles from the CWS interim facility location, and is owned by Republic Services. The facility has a permitted capacity of 75 million cubic yards. Currently, approximately 15 million cubic yards have been utilized for disposal, leaving 60 million cubic yards of airspace. Current estimates indicate that the facility has an estimated 65 years of site life remaining at current intake levels. This estimate is based on aerial photo surveys taken in 2012. The facility is permitted to handle 3,500 tons per day of refuse and currently receives 2,700 tons per day on average.[2]

Given this information, there is sufficient landfill capacity available to CWS.

In addition, Shawn Moberg, General Manager of Republic Services has provided a letter (July 9, 2014) stating that these two landfills, as well as the Golden Bear Transfer Station, have the capacity and the ability to receive and transfer or dispose the material CWS would collect under this contract with the City of Oakland.

Conclusion

Interim MRF Development Schedule

If everything goes as planned by CWS, the July 1, 2015 date can technically be met. This is true because building design, fabrication, and site construction activities can take place on a parallel track with permitting. However, in order to meet the July 1, 2015 deadline, construction of the site improvements and erection of the building would have to be accomplished concurrently with the SWFP process. We have confirmed with the LEA that such construction is permissible, however the project developer bears the full risk that the final SWFP may not be issued, or that revisions to the final design and therefore construction may be necessary.

The most important unknown in the project development schedule is whether any of the other permitting agencies/departments/jurisdictions will challenge the use of an Addendum to EBMUD's MWWTP 2011 Master Plan EIR. These agencies include: the LEA, the Port of Oakland, and the Local Task Force. A traditional CEQA process, even for a Mitigated Negative Declaration (MND) would add at least six months to the timeline. ***We rate the ability of CWS to meet the July 1, 2015 schedule a moderate to high risk.***

Interim Facility Capacity and Diversion

The interim facility has the capacity to receive, process and transfer the requisite material. This facility also has the ability to meet the 30% diversion level, with heavy reliance on organics recovery and recycling. Depending on the contamination levels of the organics, some sorting equipment may need to be installed, or floor sorting intensified. ***We rate the ability of CWS to provide the needed capacity and diversion a low risk.***

[2] Republic Services "Napa-Vallejo Waste Management Authority Long-Term Disposal and ADC Capacity Report", dated March 15, 2013.

Trucks and Carts

The purchase of 75-80 trucks and 300,000 carts and preparing the equipment for the field is a challenging task for CWS with the potential for high risk that the July 1, 2015 deadline won't be met. However, with the measures discussed above (dedication of a senior manager to the procurement, letters of commitment from manufacturers, and requirement for a back-up plan with secondary suppliers) the risk can reduced. With these measures, and depending on the strength and level of commitments in the back-up plan, ***we rate equipment procurement a low to moderate risk. Without these measures, we rate this a high risk.***

Landfills

At the current fill rates, the Vasco Landfill has about eight years of life remaining. This means Keller Canyon, or some other site, will need to be used for the remaining life of the contract. Vasco is 40 miles from the CWS interim MRF/TS site, and Keller Road is 30 miles distant from the site.

The combined life and capacities of the landfills are adequate. Republic has written in support of the project and dedicated the capacity needed.

We rate the ability of CWS to obtain the needed landfill capacity as minimal risk.

Attachment C

CALIFORNIA WASTE
SOLUTIONS

July 21, 2014

VIA EMAIL (skattchee@oaklandnet.com) AND REGULAR MAIL

Susan Kattchee
Acting Assistant Director of the Department of Facilities & Environment
City of Oakland
250 Frank H. Ogawa Plaza, Suite 4314
Oakland, CA 94612

RE: Award of Zero Waste Franchises to California Waste Solutions

Dear Ms. Kattchee:

Enclosed please find the following documents supporting the City of Oakland's decision to award solid waste franchises to California Waste Solutions ("CWS").

1. Project Description and CEQA Analysis
2. CEQA Assumptions – Use of EBMUD Interim Facility
3. Environ Emissions Analysis – EBMUD Option
4. CEQA Assumptions – Use of Golden Bear Transfer Station in Richmond
5. Environ Emissions Analysis – Golden Bear Option

We understand the City will use these materials as part of City Council actions awarding franchises to CWS. Please let us know if the City requires additional information.

Sincerely,

Kristina Duong
Vice President

CALIFORNIA WASTE SOLUTIONS, INC.

1820-10th Street, Oakland, CA 94607 USA
Main Office 510.832.8111 Customer Service 510.836.6200 Fax 510.832.8206
www.californiawastesolutions.com

July 21, 2014

CALIFORNIA WASTE SOLUTIONS
CITY OF OAKLAND SOLID WASTE FRANCHISES
PROJECT DESCRIPTION AND CEQA ANALYSIS

The City of Oakland is awarding two franchise contracts for collection and processing of three types of solid waste pursuant to the City's Zero Waste Program: one for Residential Recycling (source separated materials eligible for recycling and reuse); and one for Organics (source separated food waste and vegetation) and Mixed Material (other solid waste). The City also is awarding a franchise for Disposal of solid waste. California Waste Solutions ("**CWS**") has submitted proposals for the three franchises. Waste Management of Alameda County ("**WM**"), which currently collects solid waste in the city, also has submitted proposals.

The following information describes CWS' proposals and provides substantial evidence that awarding the contracts to CWS will not cause environmental effects triggering any thresholds of significance or requiring new processing under CEQA. The City of Oakland may use this report to support awarding its franchises to CWS. The East Bay Municipal Utility District ("**EBMUD**") may use this report to support approving an agreement with CWS for a ground lease.

CWS with the assistance of environmental and project management consultant D. Edwards, Incorporated ("**DEI**") and solid waste management consultant Gershman, Brickner & Bratton, Inc. ("**GBB**") has estimated mileages driven by collection and transfer trucks under current conditions and with CWS' proposed operations. Attached are two Assumptions reports explaining the assumptions used for CWS' alternative interim operation scenarios (EBMUD and Richmond). Air quality consultant Environ applied those assumptions and calculated greenhouse gas and other emissions for current operations and CWS' proposals, which are presented in the two attached analyses.

A. Project Summary.

1. EBMUD and West Oakland.

CWS proposes to lease a site at EBMUD's Main Waste Water Treatment Plant ("**MWWTP**") next to the former Oakland Army Base and Port of Oakland to build and operate a material recovery and transfer facility ("**Interim Solid Waste Facility**"), where CWS will receive and process Mixed Material and Organics. CWS will continue using its existing facilities at 10th Street and Wood Street in West Oakland to process recyclable materials. CWS can continue the City's present practice of using Altamont Landfill for disposal purposes if the City desires, but CWS has proposed as alternatives using either the Vasco Road Landfill or Keller Landfill. Attached are two supporting documents: An "Assumptions" report by CWS consultants, and emission tables prepared by Air Quality Consultant Environ.

2. **North Gateway.**

CWS plans to build a new material recovery and transfer station (and related solid waste processing facilities) in the North Gateway area of the former Oakland Army Base ("**Gateway Facility**"), which is adjacent to the proposed site of the Interim Solid Waste Facility. CWS will move all operations from the Interim Solid Waste Facility and West Oakland to that location during the term of the franchises. The Gateway Facility and its timing are subject to concluding agreements that have not yet been reached with the City of Oakland.

3. **Richmond Alternative.**

As an alternative to the Interim Solid Waste Facility, CWS proposes delivering Mixed Material and Organics by collection trucks to the existing Golden Bear Transfer Station in Richmond, California, for further processing and delivery to their final destinations. West Oakland facilities will be used for recyclable processing. Once the Gateway Facility becomes available all operations would move there.

B. Setting.

1. **EBMUD.**

EBMUD currently operates digesters at the MWWTP which processes food waste to produce energy ("**Food Waste Facility**"). In 2011, EBMUD adopted a Land Use Master Plan for the MWWTP ("**Master Plan**"). The Master Plan covered a number of EBMUD additions and improvements to the MWWTP facilities, and included proposed development of a food waste preprocessing facility at the MWWTP by a third party, intended to receive and prepare raw materials for use by the Food Waste Facility ("**Preprocessing Facility**"). Permitting and development of the Preprocessing Facility is underway. The Master Plan also anticipated EBMUD leasing a portion of the MWWTP for third party operations for a biodiesel fuel production facility ("**Biodiesel Facility**"), and envisioned leasing other areas that were not needed for EBMUD operations.

2. **West Oakland.**

CWS operates two facilities in West Oakland. The property at 1819-1820 10th Street has been used for recyclable processing for many years by CWS and its predecessors. A predecessor to CWS obtained a conditional use permit for the 1820 building in 1992 ("**1820 CUP**"), and CWS obtained a use permit for the1819 building in 2004 ("**1819 CUP**", and together with the 1820 CUP, the "**CUPs**"). CWS also processes recyclables at 3300 Wood Street, where zoning allows the operation without the need for land-use permits. Materials from Oakland and other communities are delivered, processed, and then shipped to markets. While there have been occasional minor isolated concerns over the years, CWS has quickly addressed and solved each situation. To its knowledge there are no current outstanding complaints.

3. Golden Bear.

The Golden Bear facility at 1 Parr Boulevard in Richmond is a fully permitted solid waste processing and transfer station operated by Republic Services. It has adequate capacity and systems to handle Mixed Material and Organics delivered by CWS, without any additional permitting or expansion.

C. Previous CEQA Review.

1. Oakland EIR and Addendum on Former Army Base.

In 2002 the City prepared and certified an EIR as part of approving the Army Base Reuse Plan. In 2012 the Reuse Plan was amended and the City prepared an Addendum to the EIR. The original Reuse Plan proposed land uses that would generate substantial truck traffic. The Addendum recognized that changes in the revised Plan would result in much less traffic, so no further CEQA study was needed.

The 2012 amended Reuse Plan included a recycling facility in the North Gateway area of the Army Base and identified CWS as the operator. That use would generate traffic of a similar nature to CWS' current proposals to EBMUD and the City. The Addendum recognized that the CWS use would be less intensive and produce less traffic than the warehouse/distribution use of the site that had been proposed in the original Reuse Plan and studied in the 2002 EIR.

2. EBMUD 2011 Master Plan EIR.

In 2011 EBMUD prepared and certified an EIR for its MWWTP Land Use Master Plan. Besides covering a number of planned EBMUD facilities, the EIR studied the Biodiesel Facility and the Preprocessing Facility, as well as potential leasing of land to third parties for other operations. The Preprocessing Facility was studied based on assuming it would process 600 tons per day of organic waste; the Biodiesel Facility study assumed it would receive 68,000 gallons per day of cooking oil and other feedstock for processing (see below for more details).

The EBMUD EIR also studied cumulative impacts based on potential future development in the area. The cumulative study included development as proposed by the City's original Reuse Plan that was studied in the 2002 EIR – but not the scaled back development in the 2012 amended Reuse Plan – so the EIR assumed much more activity than permitted by the revised Reuse Plan that now is in effect. The cumulative study also included proposed development of an Auto Mall at the North Gateway site, which the City had studied in a 2006 EIR – a project that would have generated even more traffic than development of that site as allowed under the original 2002 Reuse Plan. Thus the EBMUD EIR's build-out assumptions and analyses include much more traffic and other activity in the vicinity than will result from CWS' operations.

3. 10th Street CUPs.

The City adopted a mitigated negative declaration in 1992 as part of approving the 1820 CUP, and incorporated a number of mitigation measures into the conditions of approval. The 1819 CUP was approved in 2004 relying on a CEQA exemption (CEQA Guidelines section 15301 "minor alteration to existing facilities") based on the proposed use of that building being similar to previous uses with no changes that would warrant environmental review.

D. Existing Conditions.

Under CEQA, CWS' proposals for the Zero Waste related Franchises should be compared with existing conditions to identify any potential environmental effects. Following is a description of current operations to collect and process Oakland's solid waste and recycling.

1. Waste Management of Alameda County ("**WM**") collects all of Oakland's Mixed Material and Organics under contract with the City and brings them to WM's facility on Davis Street in San Leandro. From there Mixed Material is loaded into transfer vehicles and delivered to Altamont Landfill. Organics are loaded into transfer vehicles and delivered to two composting facilities in Novato and Vernalis, California. WM also collects Residential Recycling from the south/east portion of Oakland under City contract, which is delivered to Davis Street for processing.

2. CWS collects Residential Recycling from the north/west portion of Oakland under City contract, which is processed in CWS' facility at Wood Street in West Oakland. CWS also collects recyclable material from commercial accounts by private arrangement, which is processed in CWS's facility at 10th Street.

3. Recyclable materials are distributed by CWS and WM to market destinations by transfer vehicles. CWS estimates that 85-90 percent of the material is delivered to the Port of Oakland for transport by ship, with the remainder trucked to local customers.

4. All large transfer vehicles currently operated by WM and CWS are diesel-fueled. CWS uses 16 diesel-fueled trucks for its recyclable collections in Oakland. Information provided by the City about WM's current fleet indicates that they use 16 trucks for Organics collection (11diesel-fueled and 5 fueled with compressed natural gas ("**CNG**")), and 31 that collect both Mixed Material and Residential Recycling (24 diesel and 7 CNG). Thus the total collection fleet contains 63 trucks: 51 diesel (81%) and 12 CNG (19%). That can be allocated as follows: (a) 47 used for Recycling (85% diesel); and 47 used for Mixed Material and/or Organics (74.5% diesel) (with the 31 dual-purpose WM trucks counted in both).

5. WM and CWS currently collect the following volumes of solid waste under City of Oakland franchises:
   * Mixed Material – approximately 186,415 tons per year
   * Recyclables – approximately 35,103 tons per year
   * Organics – approximately 35,824 tons per year

E. Project Description.

1. The Interim Solid Waste Facility will be located within the MWWTP near the intersection of Wake Avenue and Engineers Road. The site is on a parcel that EBMUD recently purchased from the City that was part of the former Army Base. CWS will lease the site from EBMUD, with a lease term at least as long as the 10-year Mixed Material and Organics franchise.

2. All Residential Recycling collected under the franchise will be processed at CWS' 10th Street facility. CWS' private collection accounts will be handled at Wood Street. CWS will add equipment and shifts at 10th Street as needed to handle increased volume, in full compliance with operating hours and other terms and conditions of the existing CUPs. The Wood Street site can provide processing capacity if circumstances require, but CWS does not anticipate this will occur often or for extended periods.

3. Collection and transfer trucks used for recycling operations will be parked either at 10th Street, on EBMUD property proximate to the Interim Solid Waste Facility, or at a truck parking lot on the nearby Oakland Army Base operated by Oakland Maritime Support Services ("**OMSS**"). Collection and transfer trucks used for Mixed Material and Organics will be parked either at the Interim Solid Waste Facility or nearby at the OMSS lot. Drivers will park their personal vehicles at the same lot used for the trucks they are driving.

4. CWS will use CNG-fueled vehicles for all collection work. Diesel trucks will be used only when needed as spares to cover breakdowns. CWS anticipates that 99 percent of collection mileage will be driven by CNG trucks. As calculated above, this will convert 85 percent of the current Recycling collection fleet and 74.5 percent of the current Mixed Material and Organics fleet from diesel to CNG.

5. CWS will own and operate all transfer vehicles used in its operations. New vehicles purchased in 2015 will have the most modern emission control features available, to reduce emissions from current operations.

6. CWS will collect most franchise materials five days per week (Monday-Friday), running approximately 75 percent of the routes then. Approximately 15 percent of routes will be on Saturdays, and 10 percent on Sundays. Changes from current WM collection operations will not be significant and should not cause new CEQA impacts. CWS will continue its commercial recyclable collections under private contracts. For CEQA study purposes CWS has conservatively assumed all truck movements will be during Monday-Friday, so actual effects on peak hour traffic and actual daily emissions will be lower than calculated.

7. CWS will schedule its collection and transfer truck operations to avoid leaving or entering the Interim Solid Waste Facility and 10th Street site during peak traffic hours, in order to avoid impacting nearby streets, intersections and highways. Collection routes operated by CWS and WM currently run through city neighborhoods during peak hours, so continuing that activity will not cause any new impacts; furthermore, collection trucks are dispersed throughout the City and do not concentrate at any one neighborhood location, so they should not affect congestion in those areas.

8. CWS anticipates collecting and delivering approximately 150,000 tons per year of Mixed Material during the early years of the franchise, either to the Interim Solid Waste Facility or to Golden Bear. This translates to approximately 118 loads per day Monday-Friday, 24 on Saturdays and 16 on Sundays (involving a combination of residential curbside cart-collection trucks, commercial front-end loaders and commercial roll-off trucks). Collections are expected to reduce over time to approximately 121,000 tons through efforts to increase source separation of recyclable material under terms of the franchise. The Interim Solid Waste Facility will operate on a reduced basis on weekends, as needed to receive collections and process and transfer materials.

9. Mixed Material delivered to the Interim Solid Waste Facility will be loaded into transfer trucks for shipment to Altamont Landfill. Altamont is approximately 45 miles from the Interim Solid Waste Facility, versus 33 miles from WM's Davis Street facility. CWS has proposed using Vasco Landfill or Keller Landfill as an alternative: the distance from the Interim Solid Waste Facility or the Gateway Facility is approximately 42 miles to Vasco Landfill (3 miles less than to Altamont) and 31 miles to Keller Landfill (14 miles less than to Altamont).

10. CWS intends to operate a program at the Interim Solid Waste Facility to recover additional recyclable material found in Mixed Material loads. Incoming loads will be inspected as they arrive, and directed to particular locations in the facility if they appear to be candidates for recycling (e.g., high paper content). CWS anticipates that it may be able to salvage approximately 6.5 percent of the Mixed Material as recyclables, which will reduce the volume transported to Altamont Landfill. Some of the salvaged material can be sent directly to the Port for shipment (e.g., steel), while the rest will be brought to CWS' Wood Street facility in West Oakland for baling or other preparation before shipment. 6.5 percent of 150,000 tons translates to 188 tons per week or about 9 transfer trucks per week. Driving 1-2 trucks per day from the Interim Solid Waste Facility to Wood Street will not cause any impacts.

11. CWS anticipates collecting approximately 69,600 tons per year of Organics.

    a. Of that total, CWS is committing to deliver for EBMUD to use in its Food Waste Facility approximately 23,000 tons that are expected to be suitable for that purpose because it comes from commercial and multi-family sources where the Organics contain limited amounts of green material and high percentages of food waste and related materials ("**Suitable Organics**"). Deliveries for EBMUD use will average 80-90 tons per week. CWS will deliver most of the Suitable Organics directly to the Preprocessing Facility. A portion may go directly to EBMUD, if the load is ready for use in the Food Waste Facility without preprocessing. .

    b. In addition to Organics collected separately and delivered as described above, CWS will operate the sort line and trommel to extract Suitable Organics from Mixed Material delivered to the Interim Solid Waste Facility. CWS anticipates that this process might salvage up to 3.5 percent of the Mixed Material for EBMUD's use – approximately 5,200 tons yearly that will contribute to the 23,000 total tons of Suitable Organics. After being

extracted, depending on its condition it will be sent either to the Preprocessing Facility for additional preparation or directly to the Food Waste Facility. CWS will operate the Interim Solid Waste Facility under the same protections identified by EBMUD for the Preprocessing Facility to avoid problems (e.g., odors, vectors, escaping liquid). These together with standard regulations and requirements associated with the solid waste facility permit CWS must obtain will assure that this limited Organics processing will not cause any new significant impacts.

c. The remaining 46,600 tons per year of Organics will be transported in transfer trucks to a composting facility in Napa County, which can accommodate the full amount.

d. The EBMUD EIR recognized that a portion of the 600 tons per day of organic material delivered to the Preprocessing Facility will not be usable by the Food Waste Facility and will be hauled to a composting facility. The EIR also recognized that the Food Waste Facility will produce residue requiring disposal. These disposal activities were studied by the EBMUD EIR and are part of those projects and the responsibility of EBMUD and the operator of the Preprocessing Facility, and would occur with or without CWS' involvement. In fact, the EBMUD EIR anticipated that the City of Oakland would provide part of its organics supply. Thus this disposal activity does not require study by Oakland as part of granting the franchises to CWS.

e. CWS will collaborate with EBMUD and the City to increase the amount of Suitable Material CWS can deliver for EBMUD's energy production use, with a goal of 100 tons per day. Diverting increased Suitable Organics will reduce the amount of Organics requiring transport to Napa.

12. CWS anticipates collecting approximately 38,600 tons per year of Residential Recycling material during the early years of the franchise. This is expected to increase over time to approximately 68,100 tons through efforts to increase source separation of recyclable material. Most activity will occur Monday-Friday. After processing at 10th Street, recyclables will be loaded into transfer trucks for delivery to the Port for shipment, with small amounts delivered to local customers.

13. CWS' experience handling half of Oakland's collections has shown that 8-9 percent of materials placed in recycling bins is not usable. CWS and the City will strive to reduce this percentage, but CWS recognizes that it may need to send that much material to the landfill. This will require approximately 160 transfer truck trips annually, or 3 weekly trips (assuming 9% of 38,600 tons). At the potential increased volume of 68,100 tons annually, this might involve up to 280 truck trips to the landfill – about 5 weekly.

14. As previously discussed, CWS plans to build the Gateway Facility in the North Gateway area of the former Oakland Army Base and move all operations from the Interim Solid Waste Facility and West Oakland to that location once it is completed. CEQA clearance for the Gateway Facility has been provided for in the 2002 Army Base EIR, as well as the 2006 AutoMall Addendum and the 2012 Army Base Addendum. CWS' ability to use North Gateway will depend on separate City decisions to complete the proposed sale of the site to

CWS and grant land use approvals for the facility. Timing is uncertain: for purposes of this report CWS assumes it can begin using the Gateway Facility three years after the new franchises start – in 2018. If for some reason the Gateway Facility does not become available, CWS can continue operating at the Interim Solid Waste Facility and West Oakland for the remainder of the franchise term. CWS may consider locating another site to move its operations, but this is not part of the current project.

15. Under the Golden Bear alternative, until the Gateway Facility (or an alternative) becomes available, Mixed Material and Organics collection trucks will park at the OMSS lot on the Army Base. Trucks finishing their collection routes will drive directly to Golden Bear in Richmond to unload. Parking lot departures and arrivals will be scheduled to avoid peak hour traffic at locations near the Army Base. Trucks traveling to and from Golden Bear will be dispersed along the highway during the day, so they should not cause any measurable traffic congestion impacts. Golden Bear then will be responsible for transporting material to its final destination. CWS will deliver Suitable Organics to EBMUD's Preprocessing Facility under this alternative, reducing the number of truck trips to Golden Bear.

F. EBMUD Site-Specific Environmental Topics.

1. Demolition.

The EBMUD EIR assumed that existing buildings in the area proposed for the Interim Solid Waste Facility will be removed, studied potential impacts from demolition, and recommended mitigation measures that EBMUD has adopted. CWS' demolition activity will be governed by those mitigations together with well-recognized government standards and regulations applying to such activity.

2. Design and Construction.

The EBMUD EIR studied potential impacts from building the Biodiesel Facility and the Preprocessing Facility. CWS' improvements will be less substantial, and its construction activity will have less potential for adverse effects. EBMUD has adopted standard construction specifications, which together with mitigation measures from the EBMUD EIR and recognized applicable government standards and regulations will apply to design and construction of the Interim Solid Waste Facility and avoid impacts.

a. Preprocessing Facility.

The EBMUD EIR describes the Preprocessing Facility as a food waste preprocessing building, ancillary facilities (such as utility connections), processing systems, and office space occupying approximately 1.4 acres. The initial building would be approximately 29,000 square feet, doubled to 58,000 square feet at full build-out, of steel-frame construction with an interior height of 30 feet and an exterior height of up to 40 feet.

b. Biodiesel Facility.

The EBMUD EIR describes the biodiesel production facility as an office, quality control laboratory, processing equipment, truck parking, and storage tanks occupying approximately three acres. The initial facilities would include an outdoor tank storage area and a pre-engineered, corrugated metal building of approximately 30,800 square feet and 20 feet tall. In addition, a 4,000 square foot office building would be constructed. Storage tanks would be up to 30 feet tall, and the project might include a 65-foot-tall distillation column. A rail spur also is proposed running into the facility.

c. Interim Solid Waste Facility.

CWS will lease approximately four acres from EBMUD. The processing and transfer station will cover 69,000 square feet with a maximum height of 50 feet. This temporary facility will consist of a poured concrete floor and an exterior and roof made of engineered fabric installed on a structural steel frame, designed and constructed in accordance with the City of Oakland's Building Code. The station will include incoming scales, organics and mixed material receiving areas, a sort line and trommel for extracting Suitable Organics from Mixed Material and a load out area for the transportation of materials to their final disposition. In addition there will be a 1,500 square foot administration building providing offices, restrooms and break areas for employees.

d. EBMUD Mitigation Measures.

EBMUD has adopted standard Construction Specifications that apply to all work on its property (see Section 2.6 of the EBMUD EIR). The Specifications address aspects of construction that might cause problems, including debris and dust control, truck idling, use of hazardous materials, worker safety, waste disposal, spill control, erosion and stormwater control, and noise. These measures will be followed by CWS to avoid impacts from construction activity. In addition, the following mitigation measures from the EBMUD EIR will apply to construction of the Interim Solid Waste Facility to provide additional protection from impacts:

- AES-2a (maintenance of construction worksite)
- AES-2b (design aesthetically consistent with existing visual character)
- AES-3 (lighting design and low reflective paint)
- AIR-1 (construction emission reduction)
- CUL-1 (recovery of buried cultural resources)
- CUL-2 (recovery of buried paleontological resources)
- CUL-3 (recovery of discovered human remains)
- GEO-1 (geotechnical evaluations for seismic hazards)
- GEO-2 (geotechnical evaluations for liquefaction/other geologic hazards)
- GHG-1 (construction greenhouse gas reduction)
- NOI-1 (construction noise reduction)
- NOI-2 (construction vibration control)
- TRA-1 (construction traffic controls)
- UTIL-6 (avoiding utilities during excavation)

3. Operation.

The EBMUD EIR studied potential impacts from the Biodiesel Facility and the Preprocessing Facility, as well as EBMUD's own improvements. CWS' activities will be less intensive and pose less risk of causing adverse effects. As discussed below, the EBMUD EIR concluded that because of the distance to the nearest sensitive receptors, there would not be any significant impacts on neighbors from operations at the MWWTP – which would also apply to the Interim Solid Waste Facility.

a. Preprocessing Facility.

The EBMUD EIR studied a facility capable of processing 600 tons per day of "organics-rich" waste, operating 24 hours per day, 7 days per week. The waste will be delivered from a number of sources in the Bay Area for preprocessing – including direct haul from Oakland by collection trucks. Suitable material then will be delivered to EBMUD's Food Waste Facility and residue transported to a composting facility or landfill. All waste receipt, processing and loading for disposal would be conducted indoors. The EIR estimated that 250 of the 600 tons would end up being usable by EBMUD, with the other 350 tons per day hauled to a composting facility in Vacaville (organic material) or a landfill (e.g., silverware, plastic, plates). The EIR recognized that incoming waste from restaurants would contain liquids that might separate during transport and be collected for treatment by EBMUD.

b. Biodiesel Facility.

The EBMUD EIR studied a facility capable of producing 20 million gallons per year of biodiesel fuel (55,600 gallons per day) from approximately 25 million gallons of plant-based oils, cooking oil and animal facts (68,000 gallons per day), operating 7 days per week. Feedstock receiving, preparation and processing will occur indoors, with most of the storage tanks, loading and truck parking outdoors. Up to 26 storage tanks will be used to hold a variety of materials used in the process. Producing biodiesel requires the use of sulfuric acid, methanol and sodium methoxide in a complex multi-step industrial process. It will use substantial amounts of water and produce 7,000 gallons per day of wastewater requiring treatment by EBMUD. Besides trucks hauling raw feedstock, finished product and chemicals and other materials needed for the process, railcars might be used for transport in and out of the facility.

c. Interim Solid Waste Facility.

CWS deliveries of Mixed Material to the Interim Solid Waste Facility (150,000 tons per year) will average approximately 575 tons daily. Organics deliveries will total about 69,600 tons per year (23,000 for EBMUD use and 46,600 other Organics), averaging 265 tons daily (approximately 80-90 tons daily for EBMUD and 175 tons daily of other Organics). By comparison with the Preprocessing Facility and Biodiesel Facility, Mixed Material and Organics delivered to the Interim Solid Waste Facility are expected to contain a much lower percentage of putrescible materials that might produce odors and leaking liquids or attract vectors. EBMUD and the Preprocessing Facility operator want organics from restaurants and other sources with

the best potential for EBMUD use, and CWS will deliver loads of Suitable Organics collected from such sources directly to the Preprocessing Facility or the Food Waste Facility. Green waste and other Organics, and Mixed Material that CWS will handle at the Interim Solid Waste Facility, typically do not contain as much putrescible material. After salvaging of recyclables and sorting to extract more Suitable Organics, the remaining Mixed Material and Organics will be loaded into transfer trucks for disposal.

d. EBMUD Mitigation Measures.

EBMUD adopted mitigation measures for operation of the biodiesel facility and the Preprocessing Facility. To the extent applicable, the same mitigations will apply to the Interim Solid Waste Facility. These measures together with generally recognized standards and regulations governing such facilities will ensure that operations at the Interim Solid Waste Facility will not cause significant impacts.

- AIR-5 (onsite diesel particulate reduction measures)
- AIR-6a (odor controls)
- AIR-6b (additional odor controls, to the extent applicable and necessary)
- GHG-2a (energy efficiency measures, to the extent necessary)
- GHG-2b (water conservation measures)
- NOI-3 (noise reduction measures)

e. Distance to Sensitive Receptors.

The EBMUD EIR indicates that the closest sensitive receptors are east of the MWWTP, approximately two-thirds mile from the Biodiesel Facility, one-half mile from the Preprocessing Facility, and one-fourth mile from the various planned EBMUD improvements. The Interim Solid Waste Facility will be located adjacent and southeast of the Preprocessing Facility, with its eastern side approximately 500 feet east of the Preprocessing Facility – meaning approximately 2,100 feet from the closest sensitive receptor. Given that the EIR found no significant impacts from operations only one-fourth mile (1,320 feet) away, and no impacts from the adjacent Preprocessing Facility with its intensive handling of food waste, it is reasonable to apply the same conclusion to the Interim Solid Waste Facility.

G. West Oakland Operations.

CWS will continue to follow City regulations regarding designated truck routes and streets where trucks are prohibited. The West Oakland properties have multiple access routes and use major arteries, which reduces traffic effects on any one street.

1. 10th Street.

The building has sufficient space and processing capacity to effectively handle the added material collected under the new Residential Recycling franchise. CWS will install new equipment designed to increase processing capacity, and will add a second scale to allow more efficient on-site truck flow. Workforce hours and staffing will increase as needed, while continuing to comply with operating hours and all other terms and conditions specified by the CUP. There is adequate space on the property to park CWS' recyclables collection and transfer trucks, in areas already used to park trucks and collection bins.

The terms of the CUP allow adequate time for normal recyclable processing operations. The CUP does not set limits on the volume of materials handled or the number of trucks using the site. While the level of operations will increase, there will be no new or materially different activities that carry the potential for significant new environmental impacts. CWS can increase its operations at this site now (e.g., by bringing in more commercial material from Oakland or recyclables from other areas) without discretionary City approval or environmental studies. Thus this use of the property as a consequence of the franchises is not subject to CEQA review.

2. Wood Street.

CWS's Wood Street property is not subject to restrictions on hours of operation or volumes of material handled. CWS intends to use its 10th Street facility as its primary location for the Oakland franchise, with Wood Street available as a backup if needed (e.g., if there is a temporary interruption in operations at 10th Street such as due to a neighborhood electrical outage or closure of an access route, or if CWS receives a surge in the volume of recyclable material). CWS' non-franchise recyclable processing will occur at the Wood Street facility. Recyclables salvaged from Mixed Material and needing baling or other processing will be brought to Wood Street from the Interim Solid Waste Facility. Wood Street has sufficient independent capacity to handle such needs and is reached by different access routes than the 10th Street site. The City can be assured that CWS can accommodate all operating needs under its existing permits and without unfavorable impact on the neighborhood.

H. Golden Bear Alternative Operations.

Under this alternative interim option, Mixed Material and Organics collection trucks will drive directly to Golden Bear in Richmond (except for trucks bringing Suitable Organics to the Preprocessing Facility at EBMUD). Trucks will park overnight at the OMSS lot. The Golden Bear operator will be responsible for transporting material to its final destination, under contract with CWS, following its established procedures and pursuant to its existing permits.

I. Traffic and Emissions.

Environ has confirmed that CWS operations using the Interim Solid Waste Facility and West Oakland will reduce GHG and other emissions substantially from current operations, in light of fewer miles driven, replacement of diesel collection trucks with CNG-fueled, use of modern reduced emission transfer trucks, diversion of Suitable Organics to EBMUD, salvage of additional recyclables from Mixed Materials at the Interim Solid Waste Facility, and other factors. Moving operations to the Gateway Facility will continue to provide reduced emissions.

For the Golden Bear option, emissions will increase during the early years when CWS collection trucks deliver Mixed Material and Organics to Richmond. However, emissions during later years using the Gateway Facility (or another local site) will be much lower. Averaging emissions over the ten-year life of the franchise will result in average yearly emissions close to those generated by current operations, and will not exceed the City's adopted thresholds.

1. Background Assumptions and General Conclusions.

a. Total collection truck miles driven by CWS are assumed to be roughly the same as under current operations – which is estimated to be approximately 1,608,000 miles per year (177,000 miles for recycling and 1,431,000 miles for Mixed Material and Organics). The CWS destinations within Oakland (MWWTP and North Gateway for Mixed Material and Organics, West Oakland for recyclables) are on average a similar net distance from Oakland neighborhoods compared with WM's Davis Street facility. CWS has sufficient experience designing collection routes to ensure that they are at least as efficient as WM's current routing plan.

b. CWS anticipates some limited weekend operations by collection trucks, facility processing, and transfer trucks. However, to be conservative in its traffic and emission estimates, CWS has assigned all solid waste volumes and truck trips to Monday-Friday.

c. CWS will use all CNG-fueled collection trucks. Approximately 81percent of the current collection fleet is diesel-fueled (85 percent of the recycling trucks and 74.5 percent of the Mixed Material and Organics trucks. For purposes of this study CWS has calculated emission reductions based on 75 percent of the fleet being diesel. Converting the fleet to all CNG will substantially reduce GHG and other emissions from collection trucks. For example, GHG emissions will be reduced by approximately 487 metric tonnes ("MT") per year – 54MT for Residential Recycling and 433MT for Mixed Material and Organics collections. There will be similar reductions in ROG, NOx, PM_{10} and $PM_{2.5}$.

d. Obtaining transfer trucks with the most modern emission control features will substantially reduce GHG and other emissions compared with current operations. (The EBMUD EIR refers to equipping diesel trucks with newer "Tier 3" engines as they come into service. Such engines currently are not available for heavy diesel trucks; CWS will employ newer engines when feasible if they will achieve sufficient emission reductions to justify the expense.)

e. CWS will schedule its collection truck and transfer truck operations to avoid impacting peak hour traffic conditions, with few if any arrivals or departures occurring during those times. For the Mixed Material and Organics franchise, trucks to and from the Interim Solid Waste Facility or the adjacent Preprocessing Facility will travel only a short distance on local roads in and near the Army Base and then will rely on the highway system, as the EBMUD EIR recognized in its studies of the Biodiesel Facility and Preprocessing Facility. Given existing traffic in the area and the substantial traffic assumed by the EBMUD EIR, the City's 2002 EIR and its 2012 Addendum, a small number of new peak hour trips will not have a measurable effect on traffic.

2. <u>Recycling</u>.

a. Mileage driven by transfer trucks hauling recyclables will be reduced substantially compared with current operations. CWS' West Oakland sites are only about one mile from the Port of Oakland while WM's Davis Street facility is approximately 11 miles away – saving 18,000 miles per year of transfer truck driving through the city from Davis Street to the Port. This reduction will occur even though the terms of Oakland's Residential Recycling franchise anticipate that the annual tonnage of recyclables will increase by approximately 10 percent.

b. Environ calculates that the shorter driving distance for transfer trucks from 10th Street to the Port will reduce GHG emissions by 33MT/yr, with similar reductions for other emissions. There will be a similar reduction when the Gateway Facility opens, even with the substantial increase in recyclable tonnage expected under the City's franchise. Combined with the reductions achieved by converting the collection fleet to CNG, awarding the Residential Recycling franchise to CWS will reduce emissions in the city.

c. CWS currently runs 12 daily routes collecting Residential Recycling plus 3 daily commercial roll-off loads and uses 4 collection trucks to service carts and other errands – for a total of 19 daily collection truck trips in and out of West Oakland. CWS estimates that adding Residential Recycling from the remainder of the city will increase the daily collection truck count from 19 to 29. Daily transfer truck loads to the Port will increase from 4 to 8, while deliveries to local customers will be occasional. In addition, CWS receives recyclable materials (mainly cardboard) delivered by approximately 50 small trucks daily. As described above, there may be 1-2 trucks per day bringing salvaged recyclables from the Interim Solid Waste Facility to Wood Street, and 1-2 more trucks per week taking unusable residue to the landfill. The small increase in truck trips (16 per day) spread over the day and timed to avoid peak hours will not cause any traffic impact on West Oakland streets. Given the conversion to CNG-fueled collection trucks and newer transfer trucks, there will be little if any increase in emissions in the West Oakland neighborhood.

3. **Mixed Material and Organics – Interim Solid Waste Facility and Gateway Facility.**

   a. Increasing Residential Recycling volume by 10 percent under terms of the franchise will reduce Mixed Materials tonnage as the recyclables are diverted from the waste stream. Salvaging recyclables in the sort line at the Interim Solid Waste Facility will provide even more reduction. This will substantially reduce the number of daily transfer truck loads, which will more than offset the longer distance to Altamont Landfill from the Interim Solid Waste Facility or Gateway Facility compared with the Davis Street site.

   b. EBMUD will take 23,000 tons per year of Organics from CWS. Thus it will not be necessary for CWS to transport that material to distant composting facilities as WM now does with all of Oakland's Organics. This will eliminate approximately 1,045 transfer truck trips and over 300,000 truck miles yearly compared with current WM operations, providing substantial reductions in GHG and other emissions. (There should be a secondary benefit because a substantial portion of Organics currently is buried at landfills, where it decomposes over time and generates GHG emissions.)

   c. Environ calculates that CWS' Mixed Material and Organics proposal will increase GHG emissions by approximately 86MT/year using the Interim Solid Waste Facility, compared with current operations. This is caused mainly by the longer distance to Altamont Landfill. (Using the Vasco or Keller Landfill would reduce the effect.) The increase falls well below the City's adopted significance threshold of 1,100MT. Factoring in the 433MT reduction in GHG achieved by the collection fleet conversion, there actually will be a net decrease in GHG emissions of 347MT/yr. Furthermore, even though transfer truck mileage will increase GHG emissions, other emissions of concern will decrease despite the longer drive – a result of CWS using newer vehicles. In later years when CWS moves to the Gateway Facility, Mixed Material disposal volume is expected to decline through more aggressive recycling efforts, and GHG emissions at that time are estimated to be 177MT/yr lower than current operations (610MT/yr including the collection fleet conversion benefit). (Note that Environ's analysis did not take into account that Mixed Material requiring landfill disposal will be reduced even more after salvaging additional recyclables.)

4. **Golden Bear Option.**

   a. Truck travel for the Mixed Material and Organics franchise will increase from current operations while CWS is using Golden Bear. The primary cause is that materials will be delivered to Richmond by collection trucks. Transfer truck deliveries to the Napa composting facility will be shorter; trips to the landfill may be longer or shorter depending on which landfill is used. CWS will still deliver 23,000 tons per year of Organics for EBMUD's use.

   b. Environ calculates that direct hauling material to Richmond will increase annual GHG emissions by approximately 2,173 MT/yr over current operations due to the extra distance, even using new CNG-fueled collection trucks. This will be partly

offset by the 433MT/yr reduction in GHG emissions within the city resulting from conversion to CNG-fueled trucks, but the net increase (1,740 MT/yr) will exceed the 1,100MT/yr threshold of significance adopted by the City.

c. Ten-Year Average. The Oakland franchise will have a ten-year term. CWS anticipates operating under its interim plan for three years, then being able to switch to the Gateway Facility. In this situation it is appropriate to consider GHG emissions over the full ten-year franchise term. CEQA analyses commonly average GHG emissions over the life of a project (e.g., spreading construction emissions over time, or averaging different phases of a project). Thus three years of producing 2,173MT/yr more than current operations followed by seven years with 177MT/yr less than current operations, plus giving credit for ten years of saving 433MT/yr by converting to CNG, results in an actual increase in GHG emissions over the entire ten years of 750MT, for an average annual increase over current conditions of only 75MT/yr – well below the City's 1,100MT/yr threshold. In fact, Environ calculates that CWS could continue operating under conditions similar to the interim plan for more than seven years and then switch to Gateway or a similar nearby facility for the remaining three years and still average less than the threshold over the ten-year period.

J. CEQA Conclusions.

1. Awarding the Mixed Material and Organics franchise to CWS based on use of the Interim Solid Waste Facility followed by the Gateway Facility will not cause significant impacts, and changes from current solid waste collection and processing activities actually will reduce traffic and emissions. The City's 2002 EIR took into consideration the MWWTP and EBMUD's operations in its cumulative analyses, and the 2012 Addendum recognized the 2011 EBMUD Land Use Master Plan. In addition, the 2012 Addendum recognized the intent to convey a portion of the former Army Base to EBMUD, where the Biodiesel Facility, Preprocessing Facility and Interim Solid Waste Facility will be located. Finally, the amended Reuse Plan studied by the 2012 Addendum included CWS' proposed recycling facility in the North Gateway area of the Army Base immediately adjacent to the EBMUD site, and the change in location does not cause any different impacts. The City can use this report as an addendum to its previous CEQA studies to the extent relevant to cover the Interim Solid Waste Facility and recognize EBMUD's adopted standard construction conditions and EIR mitigation measures that will apply to CWS.

2. Awarding CWS the Mixed Material and Organics franchise under the Golden Bear option also is exempt from CEQA under each of the exemptions described below. No new facilities are required and Golden Bear is fully permitted. Timing and dispersion of trucks will avoid causing any peak hour congestion impact. Emissions averaged over the ten-year franchise term will not exceed thresholds of significance. All the benefits of CWS' changes from current operations will apply to support each exemption.

3. There will be little if any measurable effect from adding recycling from the south/east portion of Oakland to CWS' current operations in West Oakland. The 10th Street facility

will be operating under the two existing CUP's, which allow increased recycling activity without new discretionary approval. Transfer truck mileage and emissions will be substantially reduced given the shorter distance to the Port compared with Davis Street. The small increase in traffic in the vicinity of the two West Oakland facilities, dispersed during the day and avoiding peak traffic hours, cannot reasonably be claimed to cause any measurable increase in congestion or other problems. To the extent required by CEQA, given 10th Street will be operating under the two existing CUP's, the City can find the Residential Recycling franchise award exempt from CEQA without additional environmental review, under the "common sense" exemption of CEQA Guidelines section 15061(b)(3). The "existing facilities" exemption under Guidelines section 15301 also applies as no new facilities are proposed for recycling and the existing West Oakland facilities are permitted and have the capacity to accept and process Residential Recycling from the other half of the city. The other exemptions described below also apply to awarding the Residential Recycling franchise to CWS.

4. CWS' handling of disposal under the disposal franchise will not cause new significant impacts compared with current operations. If Altamont Landfill is selected as the disposal site, although the distance per trip is longer from the Interim Solid Waste Facility compared with WM's Davis Street site, the net mileage driven by transfer trucks (and resulting emissions) will be lower because of (a) use of newer engines, (b) reduced tonnage as a result of increased diversion of recyclables under the Recycling franchise, (c) additional salvaging of recyclables from Mixed Material at the Interim Solid Waste Facility, and (d) diversion of Organics for use by EBMUD. Use of the alternative Vasco Road Landfill will provide a smaller increase in per trip distance, while use of Keller Landfill will achieve an actual reduction in per trip distance compared with current trips from Davis Street to Altamont.

5. Each franchise may be awarded to CWS as exempt from CEQA for the following reasons, each providing a separate and independent basis for an exemption and when viewed collectively providing an overall basis for an exemption:

   a. CEQA Guidelines section 15061(b)(3) ("common sense" exemption), as CWS' operations and facilities will not have any significant effect on the environment and in fact will provide substantial environmental benefits compared with current operations.

   b. Guidelines section 15301 ("existing facilities" exemption) as to the Residential Recycling franchise, as no new facilities are proposed and the existing West Oakland facilities are permitted and have the capacity to accept and process additional Residential Recycling.

   c. Guidelines section 15307 ("protection of natural resources") as CWS' proposed changes from current operations will increase recycling which preserves scarce natural resources, reduce consumption of fossil fuels by vehicles and energy production, reduce emissions which have potential cumulative harmful effects on vegetation and wildlife, and reduce expansion of landfills that may impact nearby

habitats, all in furtherance of applicable local, state and federal goals, policies, regulations and programs.

d. Guidelines section 15308 ("protection of the environment"), as CWS' proposed changes from current operations will reduce disposal of solid waste and generation of GHG and other potentially harmful emissions, avoid or delay the need to expand landfill space, increase recycling and reuse of valuable resources (which in turn reduces the amount of energy and raw materials used to produce new products), facilitate energy production through diversion of organic materials, all in furtherance of state policies and requirement such as solid waste reduction (AB 939) and GHG reduction (AB 32) and the City's Zero Waste Program and emission reduction goals.

e. Public Resources Code section 21080(b)(8) and Guidelines section 15273 ("rates and charges" exemption), as rate changes that will be implemented as part of the franchises are in part for the purpose of (i) meeting operating expenses, (ii) purchasing or leasing supplies, equipment (including vehicles and carts) or materials, and (iii) obtaining funds for capital improvements necessary to maintain services within the City limits.

f. Guidelines section 15183 ("consistency with plans" exemption), as CWS' operation of the franchises and resulting changes from current practices are consistent with and will support implementation of the Alameda County Integrated Waste Management Plan, the City of Oakland Solid Waste and Zero Waste Plans, and the City of Oakland Energy and Climate Action Plan.

6. CWS has proposed that the City sell it the North Gateway site and approve development of the Gateway Facility, but the City has not made a formal commitment or decision to sell or to approve the project. Awarding one or all franchises to CWS will not commit the City to approve the sale, development or use of the site by CWS, which remain independent decisions by the City. If CWS is granted the franchises but the Gateway Facility is not approved or built, CWS may consider alternatives. Depending on circumstances, such alternatives may or may not be subject to CEQA review and discretionary approval by the City at the time, independently from award of the franchises.

7. EBMUD can approve a ground lease for the Solid Waste Facility relying on the 2011 EBMUD EIR and its recommended mitigation measures, using this report as an addendum to the EIR. In doing so, EBMUD can recognize the City's CEQA documentation and acknowledge that the MWWTP is adjacent to the Port and Army Base and should be considered an integrated part of the larger area rather than an isolated property.

City of Oakland RFP
CEQA Impact Analysis
Oakland Interim Material Recovery and Transfer Facility
Assumptions
July 21, 2014

Organics going to EBMUD assumed to come from source separated organics from MFD and Commercial that was once mixed materials.

Collection

1. City of Oakland collection miles for the existing services provided and the CWS miles anticipated under the new Zero Waste services are considered equivalent for purposes of VMT and air quality analysis.
2. CWS collection vehicles will be CNG.
3. Collection miles have been provided by GBB (CEQA Calculations v6.xls): 1,607,732 miles per year.
4. Current collection vehicles are a mix of CNG and diesel.
    a. 75% diesel: 1,205,799 miles
       25% CNG: 401,933 miles
5. CWS Interim Proposal Impacts: the incremental increase of collection VMT's for CWS's New Interim proposal is the delta between North Gateway and the Oakland Interim Material Recovery and Transfer Facility.
6. For mileage and emission calculation purposes assume all collection trips occur Monday through Friday to be conservative, though actually 25% of trips are expected to occur on weekends.

7. Trip counts have been provided by GBB

Collection Trips – All Scenariois

Material	Trips / Day	Maximum Tons/Load
Residential		
Mixed Material	37	10.3
Organics	25	5.5
Commercial		
Mixed Material / Organics FEL[1]	97	9.4
Mixed Material Roll Off	23	4.8
Organics Direct Hauled to EBMUD	9	10

NOTE: not all trips are made at the maximum tons per load weight.

[1] *Two-compartment trucks*

Transfer

1. Transfer ton assumptions
    a. Base Case, source City of Oakland RFP 2011 tons, Table 2-1
        i. Recyclables: 35,103
        ii. Mixed Material: 186,415
        iii. Organics: 35,824
    b. CWS New Interim, source GBB
        i. Recyclables: 38,590
        ii. Mixed Material: 150,171
        iii. Organics: 69,588 (23,000 tpy to Recology/EBMUD and 46,588 tpy to Napa)
    c. North Gateway, source GBB
        i. Recyclables: 68,114
        ii. Mixed Material: 120,647
        iii. Organics: 69,588 (23,000 tpy to Recology/EBMUD and 46,588 tpy to Napa)
2. 23,000 tons per year of organics will flow directly to EBMUD from collection routes and will not be considered in the transfer calculations
3. Transfer tons per load are as follows:
    a. Recyclables: 22 tons per load
    b. Solid Waste: 23 tons per load
    c. Organics: 22 tons per load
4. Transfer loads are delivered 5 days per week, 52 weeks per year

5. Base Case Transfer Routes originate at Davis Street and return to their origination point after delivering their last load.

Material	Destination	Tons / year	Trips / Day
Mixed Material	Altamont Landfill	186,415	31
Recyclables	Port of Oakland	35,103	6
Organics	Grover	17,912	3
	Redwood	17,912	3

6. CWS Interim Transfer routes originate at 10th Street for Recycling and Oakland Interim Material Recovery and Transfer Facility for all other materials. All trucks return to their origination point after delivering their last load.

Material	Destination	Tons / Year	Trips / Day
Mixed Material	Altamont Landfill	150,171	25
Recyclables	Port of Oakland	38,590	7
Organics	Napa	46,588	8
	EBMUD*	23,000	0

*23,000 tons per year of organics are routed directly to EBMUD from the collection route and are excluded from the analysis

7. CWS North Gateway Transfer routes originate at the proposed North Gateway Transfer Station. All trucks return to their origination point after delivering their last load.

Material	Destination	Tons / Year	Trips / Day
Mixed Material	Altamont Landfill	120,647	20
Recyclables	Port of Oakland	68,114	12
Organics	Napa	46,588	8
	EBMUD*	23,000	0

*23,000 tons per year of organics are routed directly to EBMUD from the collection route and are excluded from the analysis

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Environ Data Sheet
EBMUD Alternative Site

Model 1 - Collection Evaluation			
75% Diesel / 25% CNG			
Existing			
Vehicle Type:	CNG Collection Trucks	Vehicle Type:	Collection Trucks
Recycling Miles	44,232		132,696
MMO Miles	357,701		1,073,103
Annual Miles:	401,933	Annual Miles:	1,205,799
CWS Proposed			
Vehicle Type:	CNG Collection Trucks	Vehicle Type:	Collection Trucks
Recycling Miles	176,927		0
MMO Miles	1,430,805		0
Annual Miles:	1,607,732	Annual Miles:	0
Delta	**1,205,799**		**-1,205,799**
Recycling Miles	**132,695**		**-132,696**
MMO Miles	**1,073,104**		**-1,073,103**

Model 2 - Transfer Base Case vs. North Gateway (7 years)	
Vehicle Type:	Heavy Duty Diesel
Base Case Miles:	711,204
North Gateway Miles:	621,820
Annual Delta	-89,384

Model 3 - Transfer Base Case vs. CWS Interim (3 years)			
Vehicle Type:	CNG Collection Trucks	Vehicle Type:	Heavy Duty Diesel
CWS Interim Miles:	28,392	CWS Interim Miles:	729,171
		Base Case Miles:	711,204
Annual Delta	28,392	Annual Delta	17,967

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Environ Data Sheet
EBMUD Alternative Site

Model 4 - Contract Duration Comparison					
Option	*Vehicle Type*	*Years*	*Annual Miles*	*Total Miles*	*Average Annual Miles*
Base Case	**Heavy Duty Diesel**	**10**	**711,204**	**7,112,040**	**711,204**
CWS Interim	CNG Collection	3	28,392	85,176	8,518
CWS Interim	Heavy Duty Diesel	3	729,171	2,187,512	218,751
North Gateway	Heavy Duty Diesel	7	621,820	4,352,740	435,274
Total CWS Proposal				**6,625,428**	**662,543**
				Total Miles	*Average Annual Miles*
Delta	CNG Collection			85,176	8,518
	Heavy Duty Diesel			-571,788	-57,179

Model 5 - Transfer Base Case vs. North Gateway (7 years) Recycling and MMO Comparison	
Vehicle Type:	Heavy Duty Diesel
Base Case Miles:	711,204
Recycling	21,060
MMO	690,144
North Gateway Miles:	621,820
Recycling	8,669
MMO	613,151
Annual Delta	-89,384
Recycling	-12,391
MMO	-76,993

Model 6 - Transfer Base Case vs. CWS Interim (3 years) Recycling and MMO Comparison		
	Vehicle Type	
	CNG Collection Trucks	Heavy Duty Diesel
Base Case	0	711,204
Recycling	0	21,060
MMO		690,144
CWS Interim	28,392	729,171
Recycling Miles	0	3,157
MMO Miles	28,392	726,013
Annual Delta	28,392	17,967
Recycling	0	-17,903
MMO	28,392	35,869

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Environ Data Sheet
EBMUD Alternative Site

Model 7 - Contract Duration Comparison Recycling and MMO Comparison					
Option	*Vehicle Type*	*Years*	*Annual Miles*	*Total Miles*	*Average Annual Miles*
Base Case	Heavy Duty Diesel	10	711,204	7,112,040	711,204
Recycling		10	21,060	210,600	21,060
MMO		10	690,144	6,901,440	690,144
CWS Interim	CNG Collection	3	0	0	0
MMO		3	28,392	85,176	8,518
CWS Interim	Heavy Duty Diesel	3	729,171	2,187,512	218,751
Recycling		3	3,157	9,472	947
MMO		3	726,013	2,178,040	217,804
North Gateway	Heavy Duty Diesel	7	621,820	4,352,740	435,274
Recycling		7	8,669	60,683	6,068
MMO		7	613,151	4,292,057	429,206
Total CWS Proposal				**6,625,428**	**662,543**
				Total Miles	*Average Annual Miles*
	CNG - Collection			85,176	8,518
	Recycling				
Delta	MMO			85,176	8,518
	Heavy Duty Diesel				
	Transfer			-571,788	-57,179
	Recycling			-140,445	-14,044
	MMO			-431,343	-43,134

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Tonnage Assumptions

Material	Base (1) - Year 2012				Interim (2) - Year 2015				North Gateway (3,4) - Year 2018			
	Tons Per Year	Trips			Tons Per Year	Trips			Tons Per Year	Trips		
		Annual	Weekly	Daily		Annual	Weekly	Daily		Annual	Weekly	Daily
Mixed Material	186,415	8,105	156	31	150,171	6,529	126	25	120,647	5,246	101	20
Organics	35,824	1,628	31	6	46,588	2,118	41	8	46,588	2,118	41	8
EBMUD (7)					23,000	1,045			23,000	1,045		
Recyclables (8)	35,103	1,596	31	6	38,590	1,754	34	7	68,114	3,096	60	12
Totals	257,342	11,329	218	44	258,349	11,446	200	40	258,349	11,505	201	40

NOTES

Trips are Round Trips

EBMUD material directly hauled via collection trucks

DEI
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Location and Mileage Assumptions

	Facility	Altamont Landfill 10840 Altamont Pass Rd, Livermore, CA 94551	Recology Grover Environmental 3909 Gaffery Road Vernalis, CA 95385	Redwood Landfill 8950 Redwood Highway Novato, CA 94945	Port of Oakland 7th and Maritime Ave. 760 Maritime Ave. Oakland, CA	Napa Recycling & Waste Services LLC 820 Levitin Way Napa, CA 94558	North Gateway Transfer Station 2207 Wake Ave. Oakland, CA	Oakland Interim Material Recovery & Transfer Facility 2400 Engineers Road Oakland, CA	10th Street 1825 10th Street Oakland CA 94607	East Bay MUD 2020 Wake Ave Oakland, CA 94607
Base Case	Davis Street 2615 Davis Street San Leandro, CA 94577	33	55.7	45.7	11.2	45.1	12.5	12.8	11.4	
	10th Street 1825 10th Street Oakland CA 94607				0.9	34.8		2.2		
North Gateway	North Gateway Transfer Station 2207 Wake Ave. Oakland, CA	44.8	66.1	38.3	1.4	33.8		0.3	1.9	0.2
Interim	10th Street 1825 10th Street Oakland CA 94607	42.4	65.1	35.1	0.9	34.8	1.9	2.2		
	Oakland Interim Material Recovery & Transfer Facility 2400 Engineers Road Oakland, CA	44.7				33.6	0.3			

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CWS Interim
Projected Collection Vehicle Loads/Trips per Day by Material

Residential											
Mixed Material				Recyclables				Organics			
Daily		Weekly		Daily		Weekly		Daily		Weekly	
Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles
37	22	185	111	26	0	130	0	25	15	125	75

Commercial															
Mixed Material FEL				Organics FEL				Recyclables Roll Off				Mixed Material Roll Off			
Daily		Weekly		Daily		Weekly		Daily		Weekly		Daily		Weekly	
Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles
97	58	485	291	N / A	N / A	N / A	N / A	3	0	15	0	23	14	115	69

Total					
Daily		Weekly		Annual	
Trips	Miles	Trips	Miles	Trips	Miles
211	109	1,055	546	54,860	28,392

Notes:

Includes multi-family and city routes

Reclyclables are excluded as they will be processed at 10th Street during the interim

Trips are Round Trips

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Projected Transfer Truck Trips per Week by Material

Option	Mixed Material				Recyclables				Organics			
	Daily		Weekly		Daily		Weekly		Daily		Weekly	
	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles
Base Case - Grover*	31	2,046	155	10,230	3	67	15	336	6	668	30	3,342
Base Case- Redwood*									6	548	30	2,742
Base Case CWS					3	14	15	69				
CWS North Gateway	20	1,808	100.875	9,038	12	33	59.5402	167	8	551	40.7238	2,753
CWS Interim	25	2,245	125.561	11,225	7	12	33.7325	61	8	547	40.7238	2,737

Option	Total					
	Daily		Weekly		Annual	
	Trips	Miles	Trips	Miles	Trips	Miles
Base Case - Grover*	40	2,782	200	13,908	10,400	723,216
Base Case- Redwood*	6	548	30	2,742	1,560	142,584
Base Case CWS	3	14	15	69	780	3,588
CWS North Gateway	40.2	2,392	201.139	11,958	10,459	621,820
CWS Interim	40	2,805	200.017	14,023	10,401	729,171

Notes:

Trips are Round Trips

*Base Case "Grover" and "Redwood" relate to Organcis transfer only. For all Options mixed material goes to Altamont Landfill and Recyclables go to the Port of Oakland.

For CWS North Gateway and CWS Interim, materials to EBMUD assumed hauled directly by collection trucks

CWS

EBMUD Interim

Air Emissions Analysis

Table 1
Collection - Diesel to CNG Conversion Reduction
City of Oakland - CWS

Scenario[1] (ALL MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG[3]	NOx[4]	Exhaust PM_{10}[4]	Exhaust $PM_{2.5}$[4]	GHG (CO_2e)[5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Collection	DSL	0	0	0	0	0	0	0
Project	Collection	CNG	54,860	1,607,732	0.080	6.3	0.052	0.052	2,325
Base	Collection	DSL	41,145	1,205,799	0.17	15	0.081	0.074	2,230
Base	Collection	CNG	13,715	401,933	0.020	1.6	0.013	0.013	581
Change in Emissions with Diesel to CNG Conversion (Project - Base)[6]					**-0.11**	**-11**	**-0.042**	**-0.035**	**-487**
				Threshold[7]	**10**	**10**	**15**	**10**	**1,100**
				Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**

Scenario[1] (RECYCLING MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG[3]	NOx[4]	Exhaust PM_{10}[4]	Exhaust $PM_{2.5}$[4]	GHG (CO_2e)[5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Collection	DSL	0	0	0	0	0	0	0
Project	Collection	CNG	7,540	176,927	0.0088	0.69	0.0058	0.0058	257
Base	Collection	DSL	5,655	132,696	0.020	1.7	0.0089	0.0082	246
Base	Collection	CNG	1,885	44,232	0.0022	0.17	0.0014	0.0014	64
Change in Emissions with Diesel to CNG Conversion (Project - Base)[6]					**-0.013**	**-1.2**	**-0.0046**	**-0.0039**	**-54**
				Threshold[7]	**10**	**10**	**15**	**10**	**1,100**
				Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**

Scenario[1] (MMO MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG[3]	NOx[4]	Exhaust PM_{10}[4]	Exhaust $PM_{2.5}$[4]	GHG (CO_2e)[5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Collection	DSL	0	0	0	0	0	0	0
Project	Collection	CNG	47,320	1,430,805	0.071	5.6	0.047	0.047	2,068
Base	Collection	DSL	35,490	1,073,103	0.15	14	0.072	0.066	1,984
Base	Collection	CNG	11,830	357,701	0.018	1.4	0.012	0.012	517
Change in Emissions with Diesel to CNG Conversion (Project - Base)[6]					**-0.10**	**-9.4**	**-0.037**	**-0.031**	**-433**
				Threshold[7]	**10**	**10**	**15**	**10**	**1,100**
				Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**

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Table 2
Transfer (Interim) - EBMUD Interim Facility Scenario
City of Oakland - CWS

Scenario[1] (ALL MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG[3]	NOx[4]	Exhaust PM_{10}[4]	Exhaust $PM_{2.5}$[4]	GHG (CO_2e)[5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	10,401	729,171	0.12	0.88	0.033	0.031	1,292
Project	Collection	CNG	47,320	28,392	0.0029	0.18	0.0017	0.0017	63
Base	Transfer	DSL	11,180	711,204	0.31	8.6	0.17	0.16	1,301
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.19	-7.5	-0.13	-0.12	53
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.11	-11	-0.042	-0.035	-487
Net Emissions Change[6]					**-0.30**	**-18**	**-0.18**	**-0.16**	**-434**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

Scenario[1] (RECYCLING MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG[3]	NOx[4]	Exhaust PM_{10}[4]	Exhaust $PM_{2.5}$[4]	GHG (CO_2e)[5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	1,754	3,157	0.0015	0.014	1.9E-04	1.8E-04	6.6
Project	Collection	CNG	0	0	0	0	0	0	0
Base	Transfer	DSL	1,560	21,060	0.010	0.26	0.0051	0.0047	39
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.0085	-0.25	-0.0049	-0.0045	-33
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.013	-1.2	-0.0046	-0.0039	-54
Net Emissions Change[6]					**-0.021**	**-1.4**	**-0.0095**	**-0.0084**	**-86**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

Scenario[1] (MMO MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG[3]	NOx[4]	Exhaust PM_{10}[4]	Exhaust $PM_{2.5}$[4]	GHG (CO_2e)[5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	8,647	726,013	0.12	0.87	0.033	0.030	1,285
Project	Collection	CNG	47,320	28,392	0.0029	0.18	0.0017	0.0017	63
Base	Transfer	DSL	9,620	690,144	0.30	8.3	0.16	0.15	1,262
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.18	-7.3	-0.13	-0.12	86
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.10	-9.4	-0.037	-0.031	-433
Net Emissions Change[6]					**-0.28**	**-17**	**-0.17**	**-0.15**	**-347**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

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Table 3
Transfer - North Gateway Facility Scenario
City of Oakland - CWS

Scenario[1] (ALL MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG [3]	NOx [4]	Exhaust PM_{10} [4]	Exhaust $PM_{2.5}$ [4]	GHG (CO_2e) [5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	10,459	621,820	0.11	0.76	0.028	0.026	1,102
Project	Transfer	CNG	0	0	0	0	0	0	0
Base	Transfer	DSL	11,180	711,204	0.31	8.6	0.17	0.16	1,301
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.21	-7.8	-0.14	-0.13	-199
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.11	-11	-0.042	-0.035	-487
Net Emissions Change[6]					**-0.32**	**-18**	**-0.18**	**-0.17**	**-686**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

Scenario[1] (RECYCLING MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG [3]	NOx [4]	Exhaust PM_{10} [4]	Exhaust $PM_{2.5}$ [4]	GHG (CO_2e) [5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	3,096	8,669	0.0032	0.029	4.8E-04	4.4E-04	17
Project	Transfer	CNG	0	0	0	0	0	0	0
Base	Transfer	DSL	1,560	21,060	0.010	0.26	0.0051	0.0047	39
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.0068	-0.23	-0.0046	-0.0042	-22
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.013	-1.2	-0.0046	-0.0039	-54
Net Emissions Change[6]					**-0.020**	**-1.4**	**-0.0092**	**-0.0081**	**-76**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

Scenario[1] (MMO MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG [3]	NOx [4]	Exhaust PM_{10} [4]	Exhaust $PM_{2.5}$ [4]	GHG (CO_2e) [5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	7,363	613,151	0.10	0.73	0.028	0.026	1,085
Project	Transfer	CNG	0	0	0	0	0	0	0
Base	Transfer	DSL	9,620	690,144	0.30	8.3	0.16	0.15	1,262
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.20	-7.6	-0.14	-0.13	-177
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.10	-9.4	-0.037	-0.031	-433
Net Emissions Change[6]					**-0.30**	**-17**	**-0.17**	**-0.16**	**-610**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

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Table 4
Transfer - 10 Year Average Scenario
City of Oakland - CWS

Scenario[1] (ALL MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG[3]	NOx[4]	Exhaust PM_{10}[4]	Exhaust $PM_{2.5}$[4]	GHG (CO_2e)[5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	10,442	654,025	0.11	0.80	0.030	0.027	1,159
Project	Collection	CNG	14,196	8,518	8.6E-04	0.054	5.1E-04	5.1E-04	19
Base	Transfer	DSL	11,180	711,204	0.31	8.6	0.17	0.16	1,301
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.20	-7.7	-0.14	-0.13	-123
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.11	-11	-0.042	-0.035	-487
Net Emissions Change[6]					**-0.31**	**-18**	**-0.18**	**-0.16**	**-610**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

Scenario[1] (RECYCLING MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG[3]	NOx[4]	Exhaust PM_{10}[4]	Exhaust $PM_{2.5}$[4]	GHG (CO_2e)[5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	2,693	7,016	0.0027	0.024	3.9E-04	3.6E-04	14
Project	Collection	CNG	0	0	0	0	0	0	0
Base	Transfer	DSL	1,560	21,060	0.010	0.26	0.0051	0.0047	39
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.0073	-0.24	-0.0047	-0.0043	-25
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.013	-1.2	-0.0046	-0.0039	-54
Net Emissions Change[6]					**-0.020**	**-1.4**	**-0.0093**	**-0.0082**	**-79**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

Scenario[1] (MMO MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG[3]	NOx[4]	Exhaust PM_{10}[4]	Exhaust $PM_{2.5}$[4]	GHG (CO_2e)[5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	7,748	647,010	0.11	0.77	0.029	0.027	1,145
Project	Collection	CNG	14,196	8,518	8.6E-04	0.054	5.1E-04	5.1E-04	19
Base	Transfer	DSL	9,620	690,144	0.30	8.3	0.16	0.15	1,262
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.19	-7.5	-0.13	-0.12	-98
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.10	-9.4	-0.037	-0.031	-433
Net Emissions Change[6]					**-0.29**	**-17**	**-0.17**	**-0.16**	**-531**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

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Notes:

1. Based on information provided by DEI. It is assumed that all trips occur within the San Francisco Bay Area Air Basin. Project and base scenario were modeled for operational year 2015 and 2014, respectively. The 'All Material' scenario analyzes the combined emissions associated with vehicular travel for the collection and/or transfer of Recycling and MMO material. The 'Recycling Material' and 'MMO Material' scenarios represent the emissions associated with the collection and/or transfer of recycling and MMO material, respectively.

2. Emissions from diesel vehicular activity were calculated using emission factors obtained from California ARB's EMFAC2011 for all pollutants. Diesel collection and transfer trucks were modeled using T7 solid waste collection vehicles and T7 tractor emission factors, respectively. Base case diesel collection trucks were modeled using aggregated emission factors for the expected on-road fleet, while diesel transfer trucks were modeled using emission factors for model year 2015 as a new fleet is expected to be purchased for the Project. Emissions from CNG vehicular activity were calculated based on emission factors obtained from AWMA (2000), California ARB (2010), CEC (2007), and USEPA (2001).

3. ROG running and idling emission factors for CNG trucks were procured from USEPA (2001) and AWMA (2000), respectively, for heavy-heavy duty class. ROG running emission factors were reported as NMHC and converted to VOC using conversion factors from USEPA (2010). VOC was assumed to be equal to ROG as per California ARB (2009).

4. NOx, PM_{10}, and $PM_{2.5}$ running emission factors for CNG trucks were procured from California ARB (2010) for all Class 8 vehicles, whereas the idling emission factors were obtained from AWMA (2000).

5. A reduction of 23% was assumed for CO_2e running emissions for CNG trucks as compared to the diesel trucks based on CEC (2007). CO_2e idling emissions for CNG trucks were conservatively assumed to the be same as diesel trucks. EMFAC2011 reports emission factors for CO_2 only from diesel trucks. It was assumed that CO_2 emissions comprise approximately 95% of the total GHG (CO_2e) emissions based on reported values for the tranportation sector in 2010 from USEPA (2012).

6. For the Collection Scenario (Table 1) the change in emissions evaluates the benefit of the project over the base case (i.e., the benefit attributed to converting the current diesel collection vehicles to CNG collection vehicles) which is compared to the thresholds as defined below. For the Transfer Scenario (Tables 2, 3 and 4) the net change in emissions accounts for both the benefit from the Collection Scenario and the difference between the project and the base case for alternate transfer scenarios. Note that some Project transfer scenarios (Table 2 and 4) result in additional collection VMT.

7. City of Oakland significance thresholds, which are based on BAAQMD significance thresholds outlined in the May 2011 BAAQMD CEQA Guidelines.

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Abbreviations:
ARB - Air Resources Board
AWMA - Air and Waste Management Association
BAAQMD - Bay Area Air Quality Management District
CEC - California Energy Commission
CEQA - California Environmental Quality Act
CNG - compressed natural gas
CO_2e - carbon dioxide equivalents
CNG - compressed natural gas
CWS - California Waste Solutions
DEI - D. Edwards, Incorporated
DSL - diesel
EMFAC2011 - EMission FACtor Model 2011
GHG - greenhouse gas
mi - mile
MMO - mixed material and organics
MT - metric tonnes
NMHC - non-methane hydrocarbons
NOx - oxides of nitrogen
PM_{10} - coarse particulate matter (smaller than 10 µm in aerodynamic diameter)
PM2.5 - fine particulate matter (smaller than 2.5 µm in aerodynamic diameter)
ROG - reactive organic gas
ton - short tons
USEPA - United States Environmental Protection Agency
VMT - vehicle miles traveled
VOC - volatile organic compounds
yr - year

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Table 5
Transfer - Cross-Over Year Calculation for the EBMUD Interim Facility Scenario
City of Oakland - CWS

Interim Scenario	Transfer Material	Maximum Years of Operation[A]
Excluding Benefit from the Collection Scenario[B]	ALL	10
	RECYCLING	10
	MMO	10
Including Benefit from the Collection Scenario[C]	ALL	10
	RECYCLING	10
	MMO	10

Notes:

A. Maximum number of years of operation during the 10 year Project lifetime that the EBMUD Interim Facility Scenario can be operated without the annual average Project emissions exceeding the BAAQMD CEQA thresholds.

B. No exceedances occur assuming the "Interim Scenario" occurs for 3 out of the 10 years (Table 4). Accounting for the change in emissions from the transfer-related emissions only, the "Interim Scenario" could continue for up to all 10 years for the "All Material", "Recycling Material", and "MMO Material" scenarios without exceeding the BAAQMD CEQA thresholds.

C. When accounting for the change in emissions from the Collection Scenario along with the change in emissions from the transfer-related emissions, the "Interim Scenario" could continue for up to all 10 years for the "All Material", "Recycling Material", and "MMO Material" scenarios without exceeding the BAAQMD CEQA thresholds.

Abbreviations:

BAAQMD - Bay Area Air Quality Management District
CEQA - California Environmental Quality Act
CWS - California Waste Solutions
MMO - mixed material and organics

City of Oakland RFP
CEQA Impact Analysis
Golden Bear Transfer Station
Assumptions
July 21, 2014

Organics going to EBMUD assumed to come from source separated organics from MFD and Commercial that was once mixed materials.

Collection

1. City of Oakland collection miles for the existing services provided and the CWS miles anticipated under the new Zero Waste services when going to Gateway or the EBMUD Interim Transfer Station are considered equivalent for purposes of VMT and air quality analysis. CWS miles anticipated under the new Zero Waste services when going to Golden Bear Transfer Station (GBTS) are higher due to the greater distance to GBTS.
2. CWS collection vehicles will be CNG
3. Collection miles to Gateway or the EBMUD Interim Transfer Station have been provided by GBB: 1,607,732 miles per year.
4. Current (Base Case) collection vehicles are a mix of CNG and diesel.
    a. 75% diesel: 1,205,799 miles
       25% CNG: 401,933 miles
5. CWS Interim Proposal Impacts: the incremental increase of collection VMT's for CWS's New Interim proposal is the delta between North Gateway and Republic Services Golden Bear Transfer Station.
6. For mileage and emission calculation purposes assume all collection trips occur Monday through Friday to be conservative, though actually 25% of trips are expected to occur on weekends.
7. Recyclable collection is excluded from the incremental evaluation because it will be processed by the 10th Street facility

8. Trip counts have been provided by GBB

Collection Trips – All Scenarios

Material	Trips / Day	Maximum Tons/Load
Residential		
Mixed Material	37	10.3
Organics	25	5.5
Commercial		
Mixed Material / Organics FEL[1]	97	9.4
Mixed Material Roll Off	23	4.8
Organics Direct to EBMUD	9	10

NOTE: not all trips are made at the maximum tons per load weight.

[1] Two-compartment trucks

Transfer

1. Transfer ton assumptions
    a. Base Case, source City of Oakland RFP 2011 tons, Table 2-1
        i. Recyclables: 35,103
        ii. Mixed Material: 186,415
        iii. Organics: 35,824
    b. CWS Interim, source GBB
        i. Recyclables: 38,590
        ii. Mixed Material: 150,171
        iii. Organics: 69,588 (23,000 tpy to Recology/EBMUD and 46,588 tpy to RSG and then Napa)
    c. North Gateway, source GBB
        i. Recyclables: 68,114
        ii. Mixed Material: 120,647
        iii. Organics: 69,588
2. 23,000 tons per year of organics will flow directly to EBMUD from collection routes and will not be considered in the transfer calculations
3. Transfer tons per load are as follows:
    a. Recyclables: 22 tons per load

b. Solid Waste: 23 tons per load
c. Organics: 22 tons per load

4. For mileage and emission calculation purposes assume all transfer trips occur Monday through Friday to be conservative, though actually 25% of trips are expected to occur on weekends.
5. Base Case Transfer Routes originate at Davis Street and return to their origination point after delivering their last load.

Material	Destination	Tons / year	Trips / Day
Mixed Material	Altamont Landfill	186,415	31
Recyclables	Port of Oakland	35,103	6
Organics	Grover	17,912	3
	Redwood	17,912	3

6. CWS Interim Transfer routes originate at 10th Street for Recycling and Golden Bear Transfer Station for all other materials. All trucks return to their origination point after delivering their last load.

Material	Destination	Tons / Year	Trips / Day
Mixed Material	Altamont Landfill	150,171	25
Recyclables	Port of Oakland	38,590	7
Organics	Napa	46,588	8
	EBMUD*	23,000	0

*23,000 tons per year of organics are routed directly to EBMUD from the collection route and are excluded from the analysis

7. CWS North Gateway Transfer routes originate at the proposed North Gateway Transfer Station. All trucks return to their origination point after delivering their last load.

Material	Destination	Tons / Year	Trips / Day
Mixed Material	Altamont Landfill	120,647	20
Recyclables	Port of Oakland	68,114	12
Organics	Napa	46,588	8
	EBMUD*	23,000	0

*23,000 tons per year of organics are routed directly to EBMUD from the collection route and are excluded from the analysis

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Environ Data Sheet
Golden Bear Transfer Station

Model 1 - Collection Evaluation			
75% Diesel / 25% CNG			
Existing			
Vehicle Type:	CNG Collection Trucks	Vehicle Type:	Diesel Collection Trucks
Recycling Miles	44,232		132,696
MMO Miles	357,701		1,073,103
Annual Miles:	401,933	Annual Miles:	1,205,799
CWS Proposed			
Vehicle Type:	CNG Collection Trucks	Vehicle Type:	Diesel Collection Trucks
Recycling Miles	176,927		0
MMO Miles	1,430,805		0
Annual Miles:	1,607,732	Annual Miles:	0
Delta	**1,205,799**		**-1,205,799**
Recycling Miles	**132,695**		**-132,696**
MMO Miles	**1,073,104**		**-1,073,103**

Model 2 - Transfer Base Case vs. North Gateway (7 years)	
Vehicle Type:	Heavy Duty Diesel
Base Case Miles:	711,204
North Gateway Miles:	621,820
Annual Delta	-89,384

Model 3 - Transfer Base Case vs. CWS Interim (3 years)			
Vehicle Type:	CNG Collection Trucks	Vehicle Type:	Heavy Duty Diesel
CWS Interim Miles:	1,343,888	CWS Interim Miles:	846,377
		Base Case Miles:	711,204
Annual Delta	1,343,888	Annual Delta	135,173

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Environ Data Sheet
Golden Bear Transfer Station

Model 4 - Contract Duration Comparison					
Option	*Vehicle Type*	*Years*	*Annual Miles*	*Total Miles*	*Average Annual Miles*
Base Case	**Heavy Duty Diesel**	**10**	**711,204**	**7,112,040**	**711,204**
CWS Interim	CNG Collection	3	1,343,888	4,031,664	403,166
CWS Interim	Heavy Duty Diesel	3	846,377	2,539,131	253,913
North Gateway	Heavy Duty Diesel	7	621,820	4,352,740	435,274
Total CWS Proposal				**10,923,535**	**1,092,354**
				Total Miles	*Average Annual Miles*
Delta	CNG Collection			4,031,664	403,166
	Heavy Duty Diesel			-220,169	-22,017

Model 5 - Transfer Base Case vs. North Gateway (7 years) Recycling and MMO Comparison	
Vehicle Type:	Heavy Duty Diesel
Base Case Miles:	711,204
Recycling	21,060
MMO	690,144
North Gateway Miles:	621,820
Recycling	8,669
MMO	613,151
Annual Delta	-89,384
Recycling	-12,391
MMO	-76,993

Model 6 - Transfer Base Case vs. CWS Interim (3 years) Recycling and MMO Comparison		
	Vehicle Type	
	CNG Collection Trucks	Heavy Duty Diesel
Base Case	0	711,204
Recycling	0	21,060
MMO		690,144
CWS Interim	1,343,888	846,377
Recycling Miles	0	3,157
MMO Miles	1,343,888	843,220
Annual Delta	1,343,888	135,173
Recycling	0	-17,903
MMO	1,343,888	153,076

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Environ Data Sheet
Golden Bear Transfer Station

Model 7 - Contract Duration Comparison Recycling and MMO Comparison					
Option	*Vehicle Type*	*Years*	*Annual Miles*	*Total Miles*	*Average Annual Miles*
Base Case	Heavy Duty Diesel	10	711,204	7,112,040	711,204
Recycling		10	21,060	210,600	21,060
MMO		10	690,144	6,901,440	690,144
CWS Interim	CNG Collection	3	0	0	0
MMO		3	1,343,888	4,031,664	403,166
CWS Interim	Heavy Duty Diesel	3	846,377	2,539,131	253,913
Recycling		3	3,157	9,472	947
MMO		3	843,220	2,529,659	252,966
North Gateway	Heavy Duty Diesel	7	621,820	4,352,740	435,274
Recycling		7	8,669	60,683	6,068
MMO		7	613,151	4,292,057	429,206
Total CWS Proposal				**10,923,535**	**1,092,354**
				Total Miles	*Average Annual Miles*
	CNG - Collection			4,031,664	403,166
	Recycling				
Delta	MMO			4,031,664	403,166
	Heavy Duty Diesel - Transfer			-220,169	-22,017
	Recycling			-140,445	-14,044
	MMO			-79,724	-7,972

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Tonnage Assumptions

Material	Base (1) - Year 2012				Interim (2) - Year 2015				North Gateway (3,4) - Year 2018			
	Tons Per Year	Trips			Tons Per Year	Trips			Tons Per Year	Trips		
		Annual	Weekly	Daily		Annual	Weekly	Daily		Annual	Weekly	Daily
Mixed Material	186,415	8,105	156	31	150,171	6,529	126	25	120,647	5,246	101	20
Organics	35,824	1,628	31	6	46,588	2,118	41	8	46,588	2,118	41	8
EBMUD (7)					23,000	1,045			23,000	1,045		
Recyclables (8)	35,103	1,596	31	6	38,590	1,754	34	7	68,114	3,096	60	12
Totals	257,342	11,329	218	44	258,349	11,446	200	40	258,349	11,505	201	40

NOTES

Trips are Round Trips

EBMUD material directly hauled via collection trucks

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Location and Mileage Assumptions

	Facility	Altamont Landfill 10840 Altamont Pass Rd, Livermore, CA 94551	Recology Grover Environmental 3909 Gaffery Road Vernalis, CA 95385	Redwood Landfill 8950 Redwood Highway Novato, CA 94945	Port of Oakland 7th and Maritime Ave. 760 Maritime Ave. Oakland, CA	Napa Recycling & Waste Services LLC 820 Levitin Way Napa, CA 94558	North Gateway Transfer Station 2207 Wake Ave. Oakland, CA	10th Street 1825 10th Street Oakland CA 94607	East Bay MUD 2020 Wake Ave Oakland, CA 94607
Base Case	Davis Street 2615 Davis Street San Leandro, CA 94577	33	55.7	45.7	11.2	45.1	12.5	11.4	
	10th Street 1825 10th Street Oakland CA 94607				0.9	34.8			
North Gateway	North Gateway Transfer Station 2207 Wake Ave. Oakland, CA	44.8	66.1	38.3	1.4	33.8		1.9	0.2
Interim	10th Street 1825 10th Street Oakland CA 94607	42.4	65.1	35.1	0.9	34.8	1.9		
	Golden Bear Transfer Station 1 Parr Blvd Richmond, CA 94801	56.4	79.3	26.4	15.2	25.2	14.2	15.2	14.3

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CWS Interim
Projected Collection Vehicle Loads/Trips per Day by Material

Residential											
Mixed Material				Recyclables				Organics			
Daily		Weekly		Daily		Weekly		Daily		Weekly	
Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles
37	1,051	185	5,254	26	0	130	0	25	710	125	3,550

Commercial															
Mixed Material FEL				Organics FEL				Recyclables Roll Off				Mixed Material Roll Off			
Daily		Weekly		Daily		Weekly		Daily		Weekly		Daily		Weekly	
Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles
97	2,755	485	13,774	N / A	N / A	N / A	N / A	3	0	15	0	23	653	115	3,266

Total					
Daily		Weekly		Annual	
Trips	Miles	Trips	Miles	Trips	Miles
211	5,169	1,055	25,844	54,860	1,343,888

Notes:

Includes multi-family and city routes
Reclyclables are excluded as they will be processed at 10th Street during the interim
Trips are Round Trips

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Projected Transfer Truck Trips per Week by Material

Option	Mixed Material				Recyclables				Organics			
	Daily		Weekly		Daily		Weekly		Daily		Weekly	
	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles	Trips	Miles
Base Case - Grover*	31	2,046	155	10,230	3	67	15	336	6	668	30	3,342
Base Case- Redwood*									6	548	30	2,742
Base Case CWS					3	14	15	69				
CWS North Gateway	20	1,808	101	9,038	12	33	60	167	8	551	41	2,753
CWS Interim	25	2,833	126	14,163	7	12	34	61	8	410	41	2,052

Option	Total					
	Daily		Weekly		Annual	
	Trips	Miles	Trips	Miles	Trips	Miles
Base Case - Grover*	40	2,782	200	13,908	10,400	723,216
*Base Case- Redwood	6	548	30	2,742	1,560	142,584
Base Case CWS	3	14	15	69	780	3,588
CWS North Gateway	40	2,392	201.139	11,958	10,459	621,820
CWS Interim	40	3,255	200.017	16,276	10,401	846,377

Notes:

Trips are Round Trips

*Base Case "Grover" and "Redwood" relate to Organcis transfer only. For all Options mixed material goes to Altamont Landfill and Recyclables go to the Port of Oakland.

For CWS North Gateway and CWS Interim, materials to EBMUD assumed hauled directly by collection trucks

CWS

Golden Bear Transfer Station Interim Air Emissions Analysis

Table 1
Collection - Diesel to CNG Conversion Reduction
City of Oakland - CWS

Scenario[1] (ALL MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG[3]	NOx[4]	Exhaust PM_{10}[4]	Exhaust $PM_{2.5}$[4]	GHG (CO_2e)[5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Collection	DSL	0	0	0	0	0	0	0
Project	Collection	CNG	54,860	1,607,732	0.080	6.3	0.052	0.052	2,325
Base	Collection	DSL	41,145	1,205,799	0.17	15	0.081	0.074	2,230
Base	Collection	CNG	13,715	401,933	0.020	1.6	0.013	0.013	581
Change in Emissions with Diesel to CNG Conversion (Project - Base)[6]					**-0.11**	**-11**	**-0.042**	**-0.035**	**-487**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

Scenario[1] (RECYCLING MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG[3]	NOx[4]	Exhaust PM_{10}[4]	Exhaust $PM_{2.5}$[4]	GHG (CO_2e)[5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Collection	DSL	0	0	0	0	0	0	0
Project	Collection	CNG	7,540	176,927	0.0088	0.69	0.0058	0.0058	257
Base	Collection	DSL	5,655	132,696	0.020	1.7	0.0089	0.0082	246
Base	Collection	CNG	1,885	44,232	0.0022	0.17	0.0014	0.0014	64
Change in Emissions with Diesel to CNG Conversion (Project - Base)[6]					**-0.013**	**-1.2**	**-0.0046**	**-0.0039**	**-54**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

Scenario[1] (MMO MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG[3]	NOx[4]	Exhaust PM_{10}[4]	Exhaust $PM_{2.5}$[4]	GHG (CO_2e)[5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Collection	DSL	0	0	0	0	0	0	0
Project	Collection	CNG	47,320	1,430,805	0.071	5.6	0.047	0.047	2,068
Base	Collection	DSL	35,490	1,073,103	0.15	14	0.072	0.066	1,984
Base	Collection	CNG	11,830	357,701	0.018	1.4	0.012	0.012	517
Change in Emissions with Diesel to CNG Conversion (Project - Base)[6]					**-0.10**	**-9.4**	**-0.037**	**-0.031**	**-433**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

ENVIRON

Table 2
Transfer (Interim) - Golden Bear Transfer Station Scenario
City of Oakland - CWS

Scenario[1] (ALL MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG[3]	NOx[4]	Exhaust PM_{10}[4]	Exhaust $PM_{2.5}$[4]	GHG (CO_2e)[5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	10,401	846,377	0.14	1.0	0.039	0.035	1,498
Project	Collection	CNG	47,320	1,343,888	0.067	5.3	0.044	0.044	1,944
Base	Transfer	DSL	11,180	711,204	0.31	8.6	0.17	0.16	1,301
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.10	-2.3	-0.087	-0.077	2,141
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.11	-11	-0.042	-0.035	-487
Net Emissions Change[6]					**-0.22**	**-13**	**-0.13**	**-0.11**	**1,654**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**Yes**

Scenario[1] (RECYCLING MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG[3]	NOx[4]	Exhaust PM_{10}[4]	Exhaust $PM_{2.5}$[4]	GHG (CO_2e)[5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	1,754	3,157	0.0015	0.014	1.9E-04	1.8E-04	6.6
Project	Collection	CNG	0	0	0	0	0	0	0
Base	Transfer	DSL	1,560	21,060	0.010	0.26	0.0051	0.0047	39
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.0085	-0.25	-0.0049	-0.0045	-33
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.013	-1.2	-0.0046	-0.0039	-54
Net Emissions Change[6]					**-0.021**	**-1.4**	**-0.0095**	**-0.0084**	**-86**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

Scenario[1] (MMO MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG[3]	NOx[4]	Exhaust PM_{10}[4]	Exhaust $PM_{2.5}$[4]	GHG (CO_2e)[5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	8,647	843,220	0.14	1.0	0.038	0.035	1,492
Project	Collection	CNG	47,320	1,343,888	0.067	5.3	0.044	0.044	1,944
Base	Transfer	DSL	9,620	690,144	0.30	8.3	0.16	0.15	1,262
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.10	-2.1	-0.083	-0.073	2,173
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.10	-9.4	-0.037	-0.031	-433
Net Emissions Change[6]					**-0.20**	**-11**	**-0.12**	**-0.10**	**1,740**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**Yes**

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Table 3
Transfer - North Gateway Facility Scenario
City of Oakland - CWS

Scenario[1] (ALL MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG [3]	NOx [4]	Exhaust PM_{10} [4]	Exhaust $PM_{2.5}$ [4]	GHG (CO_2e) [5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	10,459	621,820	0.11	0.76	0.028	0.026	1,102
Project	Transfer	CNG	0	0	0	0	0	0	0
Base	Transfer	DSL	11,180	711,204	0.31	8.6	0.17	0.16	1,301
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.21	-7.8	-0.14	-0.13	-199
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.11	-11	-0.042	-0.035	-487
Net Emissions Change[6]					**-0.32**	**-18**	**-0.18**	**-0.17**	**-686**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

Scenario[1] (RECYCLING MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG [3]	NOx [4]	Exhaust PM_{10} [4]	Exhaust $PM_{2.5}$ [4]	GHG (CO_2e) [5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	3,096	8,669	0.0032	0.029	4.8E-04	4.4E-04	17
Project	Transfer	CNG	0	0	0	0	0	0	0
Base	Transfer	DSL	1,560	21,060	0.010	0.26	0.0051	0.0047	39
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.0068	-0.23	-0.0046	-0.0042	-22
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.013	-1.2	-0.0046	-0.0039	-54
Net Emissions Change[6]					**-0.020**	**-1.4**	**-0.0092**	**-0.0081**	**-76**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

Scenario[1] (MMO MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG [3]	NOx [4]	Exhaust PM_{10} [4]	Exhaust $PM_{2.5}$ [4]	GHG (CO_2e) [5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	7,363	613,151	0.10	0.73	0.028	0.026	1,085
Project	Transfer	CNG	0	0	0	0	0	0	0
Base	Transfer	DSL	9,620	690,144	0.30	8.3	0.16	0.15	1,262
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.20	-7.6	-0.14	-0.13	-177
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.10	-9.4	-0.037	-0.031	-433
Net Emissions Change[6]					**-0.30**	**-17**	**-0.17**	**-0.16**	**-610**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

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Table 4
Transfer - 10 Year Average Scenario
City of Oakland - CWS

Scenario[1] (ALL MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG [3]	NOx [4]	Exhaust PM_{10} [4]	Exhaust $PM_{2.5}$ [4]	GHG (CO_2e) [5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	10,442	689,187	0.12	0.83	0.031	0.029	1,221
Project	Collection	CNG	14,196	403,166	0.020	1.6	0.013	0.013	583
Base	Transfer	DSL	11,180	711,204	0.31	8.6	0.17	0.16	1,301
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.18	-6.2	-0.13	-0.11	503
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.11	-11	-0.042	-0.035	-487
Net Emissions Change[6]					**-0.29**	**-17**	**-0.17**	**-0.15**	**16**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

Scenario[1] (RECYCLING MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG [3]	NOx [4]	Exhaust PM_{10} [4]	Exhaust $PM_{2.5}$ [4]	GHG (CO_2e) [5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	2,693	7,016	0.0027	0.024	3.9E-04	3.6E-04	14
Project	Collection	CNG	0	0	0	0	0	0	0
Base	Transfer	DSL	1,560	21,060	0.010	0.26	0.0051	0.0047	39
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.0073	-0.24	-0.0047	-0.0043	-25
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.013	-1.2	-0.0046	-0.0039	-54
Net Emissions Change[6]					**-0.020**	**-1.4**	**-0.0093**	**-0.0082**	**-79**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

Scenario[1] (MMO MATERIAL)		Fuel[1]	Annual Trips[1]	Annual VMT_1	Pollutant Emissions[2]				
					ROG [3]	NOx [4]	Exhaust PM_{10} [4]	Exhaust $PM_{2.5}$ [4]	GHG (CO_2e) [5]
			[trips/yr]	[mi/yr]	[ton/yr]				[MT/yr]
Project	Transfer	DSL	7,748	682,172	0.11	0.81	0.031	0.029	1,207
Project	Collection	CNG	14,196	403,166	0.020	1.6	0.013	0.013	583
Base	Transfer	DSL	9,620	690,144	0.30	8.3	0.16	0.15	1,262
Base	Transfer	CNG	0	0	0	0	0	0	0
Change in Transfer Emissions (Project - Base)					-0.17	-5.9	-0.12	-0.11	528
Change in Collection Emissions with Diesel to CNG Conversion (Project - Base)					-0.10	-9.4	-0.037	-0.031	-433
Net Emissions Change[6]					**-0.27**	**-15**	**-0.16**	**-0.14**	**95**
Threshold[7]					**10**	**10**	**15**	**10**	**1,100**
Exceeds Threshold?					**No**	**No**	**No**	**No**	**No**

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Notes:

1. Based on information provided by DEI. It is assumed that all trips occur within the San Francisco Bay Area Air Basin. Project and base scenario were modeled for operational year 2015 and 2014, respectively. The 'All Material' scenario analyzes the combined emissions associated with vehicular travel for the collection and/or transfer of Recycling and MMO material. The 'Recycling Material' and 'MMO Material' scenarios represent the emissions associated with the collection and/or transfer of recycling and MMO material, respectively.

2. Emissions from diesel vehicular activity were calculated using emission factors obtained from California ARB's EMFAC2011 for all pollutants. Diesel collection and transfer trucks were modeled using T7 solid waste collection vehicles and T7 tractor emission factors, respectively. Base case diesel collection trucks were modeled using aggregated emission factors for the expected on-road fleet, while diesel transfer trucks were modeled using emission factors for model year 2015 as a new fleet is expected to be purchased for the Project. Emissions from CNG vehicular activity were calculated based on emission factors obtained from AWMA (2000), California ARB (2010), CEC (2007), and USEPA (2001).

3. ROG running and idling emission factors for CNG trucks were procured from USEPA (2001) and AWMA (2000), respectively, for heavy-heavy duty class. ROG running emission factors were reported as NMHC and converted to VOC using conversion factors from USEPA (2010). VOC was assumed to be equal to ROG as per California ARB (2009).

4. NOx, PM_{10}, and $PM_{2.5}$ running emission factors for CNG trucks were procured from California ARB (2010) for all Class 8 vehicles, whereas the idling emission factors were obtained from AWMA (2000).

5. A reduction of 23% was assumed for CO_2e running emissions for CNG trucks as compared to the diesel trucks based on CEC (2007). CO_2e idling emissions for CNG trucks were conservatively assumed to the be same as diesel trucks. EMFAC2011 reports emission factors for CO_2 only from diesel trucks. It was assumed that CO_2 emissions comprise approximately 95% of the total GHG (CO_2e) emissions based on reported values for the tranportation sector in 2010 from USEPA (2012).

6. For the Collection Scenario (Table 1) the change in emissions evaluates the benefit of the project over the base case (i.e., the benefit attributed to converting the current diesel collection vehicles to CNG collection vehicles) which is compared to the thresholds as defined below. For the Transfer Scenario (Tables 2, 3 and 4) the net change in emissions accounts for both the benefit from the Collection Scenario and the difference between the project and the base case for alternate transfer scenarios. Note that some Project transfer scenarios (Table 2 and 4) result in additional collection VMT.

7. City of Oakland significance thresholds, which are based on BAAQMD significance thresholds outlined in the May 2011 BAAQMD CEQA Guidelines.

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Abbreviations:
ARB - Air Resources Board
AWMA - Air and Waste Management Association
BAAQMD - Bay Area Air Quality Management District
CEC - California Energy Commission
CEQA - California Environmental Quality Act
CNG - compressed natural gas
CO_2e - carbon dioxide equivalents
CNG - compressed natural gas
CWS - California Waste Solutions
DEI - D. Edwards, Incorporated
DSL - diesel
EMFAC2011 - EMission FACtor Model 2011
GHG - greenhouse gas
mi - mile
MMO - mixed material and organics
MT - metric tonnes
NMHC - non-methane hydrocarbons
NOx - oxides of nitrogen
PM_{10} - coarse particulate matter (smaller than 10 µm in aerodynamic diameter)
PM2.5 - fine particulate matter (smaller than 2.5 µm in aerodynamic diameter)
ROG - reactive organic gas
ton - short tons
USEPA - United States Environmental Protection Agency
VMT - vehicle miles traveled
VOC - volatile organic compounds
yr - year

References:
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3. California ARB, 2009. Definitions of VOC and ROG. Available at: http://www.arb.ca.gov/ei/speciate/voc_rog_dfn_1_09.pdf Accessed May 2014.
4. California ARB, 2010. Methods to Find the Cost-Effectiveness of Funding Air Quality Projects. Available at: http://www.arb.ca.gov/planning/tsag/eval/sc-emftables.pdf Accessed May 2014.
5. CEC, 2007. Full Fuel Cycle Assessment: Well-to-Wheels Energy Inputs, Emissions, and Water Impacts. Available at: http://www.energy.ca.gov/2007publications/CEC-600-2007-004/CEC-600-2007-004-REV.PDF Accessed May 2014.
6. USEPA, 2001. Mobile6 Emission Factors for Natural Gas Vehicles. Available at: http://www.epa.gov/otaq/models/mobile6/r01033.pdf Accessed May 2014.
7. USEPA, 2010. Conversion Factors for Hydrocarbon Emission Components. Available at:

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Table 5
Transfer - Cross-Over Year Calculation for the Golden Bear Transfer Scenario
City of Oakland - CWS

Interim Scenario	Transfer Material	Maximum Years of Operation[A]
Excluding Benefit from the Collection Scenario[B]	ALL	5.6
	RECYCLING	10
	MMO	5.4
Including Benefit from the Collection Scenario[C]	ALL	7.6
	RECYCLING	10
	MMO	7.3

Notes:

A. Maximum number of years of operation during the 10 year Project lifetime that the Golden Bear Transfer Scenario can be operated without the annual average Project emissions exceeding the BAAQMD CEQA thresholds.

B. No exceedances occur assuming the "Interim Scenario" occurs for 3 out of the 10 years (Table 4). Accounting for the change in emissions from the transfer-related emissions only, the "Interim Scenario" could continue for up to 5.6 years for the "All Material", for all 10 years for the "Recycling Material", and for up to 5.4 years for the "MMO Material" scenarios without exceeding the BAAQMD CEQA thresholds.

C. When accounting for the change in emissions from the Collection Scenario along with the change in emissions from the transfer-related emissions, the "Interim Scenario" could continue for up 7.6 years for the "All Material", for all 10 years for the "Recycling Material", and for up to 7.3 years for the "MMO Material" scenarios without exceeding the BAAQMD CEQA thresholds.

Abbreviations:

BAAQMD - Bay Area Air Quality Management District
CEQA - California Environmental Quality Act
CWS - California Waste Solutions
MMO - mixed material and organics

Attachment D

WASTE MANAGEMENT

July 8, 2014

Susan Kattchee
Zero Waste Services RFP Project Manager
City of Oakland
250 Frank H. Ogawa Plaza
Suite 5301
Oakland, CA 94612-2034

Re: Zero Waste Services, analysis pursuant to the California Environmental Quality Act.

Dear Ms. Kattchee:

Waste Management of Alameda County, Inc. ("WMAC") currently provides collection, processing, recycling, and disposal services to the City of Oakland (the "City") pursuant to a July 1, 2005 Franchise Agreement for Integrated Solid Waste Management Services, as amended (the "2005 Integrated Agreement"). As described below, the services proposed by WMAC in response to the City's Zero Waste Services Requests for Proposals reduce environmental impacts incurred under the existing franchise and, as a result, the award of the new franchises to WMAC is exempt from the California Environmental Quality Act.

WMAC has submitted proposals in response to three City Requests for Proposals ("RFPs"): Mixed Materials and Organics Collection Services – Service Group 1 ("MM&O"), Residential Recycling Collection Services – Service Group 2 ("RR"), and Disposal Services – Service Group 3 ("Disposal").

WMAC's proposals present an entirely in-county solution to the City's waste management needs, as all of WMAC's facilities are in Alameda County, including the company's headquarters at 98th Avenue in Oakland, where its offices are located and collection vehicles are stored and serviced, the Davis Street Resource Recovery Complex and Transfer Station in San Leandro, and the Altamont Landfill in Livermore.

I. Project Impacts

WMAC's proposals in response to the MM&O, RR, and Disposal RFPs create no new environmental impacts over and above existing levels and in many areas substantially reduce the impacts, including the following:

1. Collection and Transfer Trucks

WMAC's proposals would result in the replacement of diesel-powered collection and transfer trucks with trucks powered by compressed natural gas ("CNG") largely generated from landfill gas. This will result in a significant reduction of air pollutants and greenhouse gas ("GHG") emissions, along with other positive impacts.

WASTE MANAGEMENT

Under the City's current agreements, WMAC uses 59 diesel collection vehicles and California Waste Solutions ("CWS") uses an estimated 16 to 18 diesel vehicles for its current portion of residential recyclables collection, all of which emit carbon dioxide and other air emissions, notably nitrogen oxides and particulate matter. Meanwhile, biogenic liquefied natural gas ("LNG") is currently powering 134 of WMAC's collection vehicles in Alameda County and 42 of WMAC's transfer trucks from the Davis Street Transfer Station in San Leandro. If awarded the MM&O, RR, and Disposal agreements, WMAC's entire fleet of vehicles serving the Oakland area will be powered by CNG, primarily derived from WMAC's Altamont landfill gas with backup CNG sources available during any plant down time. WMAC's new collection vehicles will be powered by Cummins CNG motors for residential, commercial, and industrial customer collections. The conversion to CNG will reduce air emissions now created by diesel-powered trucks. For each heavy-duty "Class 8" collection truck that WMAC converts to natural gas, the company reduces the use of diesel fuel by an average of 8,000 gallons per year. (A comparison of the type and number of vehicles, and miles traveled, between the current and proposed contract is attached as Exhibit A)

As stated above, the natural gas that will be the primary source used to fuel WMAC's collection and transfer trucks will be produced at the Altamont Landfill using biomethane, which is the lowest carbon-intensity vehicle fuel commercially available because it is made from landfill gas—a near-term carbon source.[1] High Mountain Fuels ("HMF")[2] operates a natural gas production facility at the Altamont Landfill. The HMF plant is designed to purify and liquefy landfill gas (i.e., methane) that Waste Management collects from the natural decomposition of organic waste placed in the landfill since 1980. This transportation-grade LNG and CNG fuel is produced using electricity (about 2 MW) also produced from landfill gas onsite. Therefore, no sources of fossil fuels are used to produce natural gas at the Altamont Landfill. In fact, LNG and CNG produced at the Altamont Landfill actual prevents GHG emissions by channeling landfill gases into fuel, ensuring that they cannot be released into the atmosphere. Over 13,000 gallons of natural gas fuel are produced at the HMF facility each day. Since 2009, when the facility began operation, the plant has produced over 11 million gallons of natural gas fuel to date, which has reduced consumption of diesel fuel by approximately 2 million gallons per year. This biogenic LNG and CNG has become the primary fuel for WMAC's fleet of trash and recycling collection trucks.

This method of producing transportation-grade natural gas fuel is carbon-neutral because the methane generated by landfill decomposition, which was previously flared, is now converted to fuel used in place of carbon-intensive diesel fuel and other forms of CNG that are derived from fossil fuels instead of biomethane. Compared to using diesel-fueled vehicles, using trucks powered by biogenic LNG or CNG results in significant reductions of GHG emissions. Since the HMF facility began operating in 2009, the

[1] Emissions of carbon dioxide (CO2) generated from the burning of landfill gas (either in a flare or engine) are considered biogenic, meaning they come from a biofuel recently generated from atmospheric carbon sources (such as trees, plants, or bacteria) and do not contribute to a net increase in today's atmospheric CO2.

[2] High Mountain Fuels, LLC ("HMF") is a joint venture company whose sole members are WM LNG, Inc. (an indirect subsidiary of Waste Management) and Linde Merchant Production, Inc. HMF has leased property at Altamont Landfill and produces LNG from landfill gas. Currently, HMF is providing fuel for WMAC's natural gas-fueled fleet.

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current use of biogenic LNG and CNG has already reduced GHG emissions in Alameda County by approximately 31,800 tons of CO_2 per year—the equivalent of removing over 5,000 passenger cars from the road.

WMAC's proposals for the MM&O, RR, and Disposal franchise agreements would result even greater reductions in GHG emissions. WMAC plans to replace its remaining diesel-fueled collection and transfer trucks with CNG trucks. For collection trucks, this shift will eliminate an additional 2,302 tons of anthropogenic GHG emissions in 2015 compared to 2013. Similarly, for transfer trucks, over 443 tons of anthropogenic GHG emissions per year will be eliminated when WMAC converts the trucks traveling from the Davis Transfer Station to the Grover composting facility from diesel to biogenic natural gas. (The rest of WMAC's transfer trucks are already powered by LNG or CNG.)

WMAC's proposals for the MM&O, RR, and Disposal franchise agreements would also result in significant reductions in emissions of other dangerous air pollutants, including nitrogen oxides ("NOx") and particulate matter ("PM" or "PM10"). Emissions of particulates from collection trucks will be reduced by 50 percent, from 0.093 tons in 2013 to 0.047 tons in 2015. Emissions of particulates from transfer trucks will be reduced significantly as well, from 0.03 tons in 2013 to 0.02 tons in 2015 and 0.01 tons in 2018—a reduction of over 66 percent. The elimination of particulate matter emissions from diesel is an important goal for both the Bay Area Air Quality Management District and the California Air Resources Board. Reductions of NOx emissions will be even more significant. The use of biogenic natural gas will reduce the amount of NOx produced by collection trucks from 16.31 tons per year in 2013 to 0.94 tons per year in 2015. Total NOx emissions from transfer trucks will be reduced from 3.40 tons per year in 2013 to 0.44 tons in 2015 and 0.30 tons in 2018. The result is a more than 90 percent reduction in NOx emissions from waste collection and transfer vehicles in Oakland. Thus, WMAC's proposal would help the City take an important step in reducing air pollution.

Natural gas trucks are also quieter, easier to maintain, and weigh less than new diesel truck equivalents. The result is less noise in the community and reduced wear and tear on City streets. Additionally, WMAC's proposals will result in fewer truck trips and decreased mileage traveled by transfer trucks. By diverting organic materials to the Redwood Landfill in 2015 and then to the Altamont Landfill in 2016) when the Altamont's composting facility is anticipated to be on line instead of the currently used Grover Facility in Stanislaus County, total miles traveled by trucks hauling organic material for composting will be reduced from 229,838 to 220,203 in 2015 and 162,015 in 2016. Increased diversion of organic material and recyclables (discussed below) will also result in fewer trucks hauling waste for disposal at the Altamont Landfill which will result in a reduction of total miles traveled by trucks hauling disposable waste from 451,432 in 2013 to 425,927 in 2015, 416,365 in 2016, and 248,086 when the Integrated Waste Processing Facility ("IWPF") becomes operational at the Davis Street Transfer facility in 2018.[3]

[3] There will be a nominal increase in truck miles traveled for transportation of recyclable materials to the Port of Oakland, which is due to the increase in recyclables resulting from greater diversion, as well as additional collection activities to cover routes now handled by California Waste Solutions. (See Exhibit 1) However, overall air emissions will be lower resulting from the replacement of diesel trucks, as well as the reduction in overall miles traveled for disposal.

Other environmental benefits resulting from WMAC's fleet of clean vehicles include:

- Maximized productivity through automated residential collections
- Larger legal payload (10.5 tons), resulting in fewer trips to recovery facility, which saves fuel and minimizes air contaminants and road wear and tear
- Reduced litter during collections and reduced fly-away debris during travel
- Collection vehicles will not idle during refueling because "slow-fill" CNG equipment has been installed at the 98th Avenue facility and will be installed at the Davis Street facility by no later than 2016.
- Lower noise and fuel savings due to idle compaction mode (800 rpm vs. 1400 rpm currently)
- Full eject payload vehicle, which is safer during the off-loading of the commodity procedure
- Disc brake applications will eliminate brake noise and maximize brake life by incorporating a transmission retarder, which slows the vehicle between stops without using friction material
- Leaves no skid marks due to the driver remaining in the cab in control of the brake applications and the transmission retarder assisting stops
- Has flexibility to service carts manually in difficult areas or when the need arises
- Onboard scales by Air-Weigh alert a driver when a truck is near its maximum load capacity, eliminating overweight vehicles and minimizing wear and tear on City streets.
- Proprietary onboard computer system allows centralized dispatch facilities to obtain near real-time information related to all truck locations, stops serviced, capacity, service status, and other key service indicators. This enables dispatch to communicate with Operations Base for immediate and efficient customer issue resolution including on-call requests, on-demand service requirements, re-routing, and customer service needs. The onboard computer system constantly evolves and allows WMAC to monitor and track vehicle and driver activities in order to optimize efficiency and overall performance and reduce unnecessary truck trips.

2. Composting Method

WMAC's proposal for the MM&O franchise agreements would also reduce the emission of other harmful air pollutants through superior composting methods. Under the proposal, WMAC would no longer utilize the Grover Facility for composting organic materials collected in Oakland. Rather, green waste, green waste mixed with food scraps, and source-separated organic materials would be sent to the Redwood composting facility initially, then to the Altamont composting facility beginning in 2016. Organics derived from multi-family processing will be sent to the Redwood facility for composting, beginning July 1, 2015, and then to the Altamont facility for composting in 2016. Upon completion of the Integrated Waste Processing Facility ("IWPF") in 2018, all organic material derived from MSW processing will be sent to the Altamont composting facility. The Covered Aerated Static Pile ("CASP") method of composting implemented at the Redwood and Altamont Landfills will result in significant reductions in emissions of Precursor Volatile Organic Compounds ("POCs") compared to the traditional "windrow" composting method currently being performed at the Grover Facility.

POCs are the primary precursor compounds in air pollution that result in the formation of ground-level ozone and particulate matter in the atmosphere, which are the main ingredients of the air pollutant referred to as smog. Compared to a windrow facility, reductions of POC emissions in a CASP process are primarily achieved by using mechanical air blowing systems to aerate the organic material and provide oxygen for the biological decomposition process to occur. In a windrow process (including the process used at the Grover Facility), aeration is achieved through periodic mixing of materials using a stirring or turning device, which creates uncontrolled POC emissions when the pile is stirred or turned. In a CASP system, however, process air that has passed through the compost pile is sent through a bio-filtration process to destroy the POCs prior to discharge. The CASP process is a specific form of compost aeration in which the compost piles are constructed with a layer of bio-filtration media on top of the piles. Process air is blown through the piles and, as it travels through the bio-filtration layer, bacteria consumes any POC compounds present in the process air. The resulting air discharged from the pile is significantly less contaminated with POCs compared to emissions from a traditional windrow pile. In fact, the bio-filtration emission control measures in use in CASP facilities have resulted in POC emission reductions of up to 90 percent compared to traditional windrow processes. For these projects, an 85 percent reduction has been conservatively used to determine potential emissions from a CASP facility.

Under WMAC's proposals, POC emissions would be reduced by 63 to 66 percent per year. More specifically, POC emissions from the Redwood composting facility during the first year of the agreement are estimated to be 43 tons per year compared to 129 tons from the current Grover composting facility. This significant reduction will occur even though the amount of organics processed will increase from 45,147 tons in 2013 to 53,828 tons in 2015 because of improved collection, segregation, and diversion, which will result in more organics sent for composting instead of being disposed at the landfill. By the time the IWPF becomes operational in 2018, an estimated 58,913 tons of organic material will be processed but will result in POC emissions of only 47 tons per years due to the superior CASP method.[4] This reduction in POC emissions will in turn reduce the creation of ground-level ozone and smog.

3. Collection Containers

In its MM&O and RR proposals, WMAC offered to replace existing collection containers with new containers. However, WMAC is discussing alternatives with the city under which customers could continue to use existing containers in good condition, which would reduce the need to consume additional raw materials for the production of collection carts. In any event, WMAC will continue to recycle containers taken out of service.

[4] Air emission factors from the *South Coast Air Quality Management District Technology Assessment for Rule 1133: Emissions Reduction from Composting and Related Activities*, (Table 2-11) were used to calculate the actual emissions and the potential emissions for windrow-type composting and the proposed emissions for CASP composting at Altamont and Redwood Landfills.