

The following tables summarize the best current planning regarding modified or new citywide programs that may be implemented prior to, or during the Agreement term. For each table, the programs are subject to council approval, whether or not the “Estimated Implementation Dates” column shows a specific date and unless otherwise indicated. In each table, for “Contractor Compensation”, implementation of these programs are shown either as entailing no change in compensation, or as subject to a possible modification in compensation as provided in Sections 3.5.F. and 10.20 of the Agreement to the degree the Contractor experiences demonstrated net increases in cost due to program implementation. However, note that some programs that may be implemented citywide but that are directed to a small sector, such as restaurant bottle collection, will be treated the same as a pilot program – there will be no adjustment in compensation.

The City will ensure that the selected Contractor receives early notice of pilots and of modified or new citywide programs as provided in Section 3.5.F of the Agreement, and will coordinate with the Contractor to ensure there is no interruption in SMaRT Station operation due to the change in delivered material.

Future Recycling Programs - Mountain View and Sunnyvale

If implemented, the programs identified in Table 2-4 will increase the quantity, and potentially the quality, of Source Separated Recyclable Materials, and decrease the quantity of recoverable MSW delivered to the SMaRT Station. The addition of curbside cooking oil, CFL and cell phone collection programs would likely decrease the overall tonnage of MSW, and decrease contamination of recoverable MSW fibers.

**Table 2-4
Recyclable Materials - Mountain View and Sunnyvale Programs**

Program Name	Estimated Implementation Date	Estimated Tonnage at Full Scale	Participating Agencies	Contractor Compensation
Mandatory and/or Enhanced Commercial & Multi-Family Recycling Programs	Mtn. View: 07/01/2013 Sunnyvale: 01/01/2014	Mtn. View: 1,360 Sunnyvale: 1,490	Mountain View Sunnyvale	No Change
Restaurant Glass Collection Program	City Option	Unknown	Sunnyvale	No Change
Weekly SFD Recyclables Collection (<i>as opposed to bi-weekly</i>)	City Option	430	Mountain View	Potential Change
Expanded List of Recyclable Materials for Single-Family Collection*	City Option	964 (includes recyclables and organics)	Sunnyvale	Potential Change
Curbside Cooking Oil, CFL, Cell Phone Collection	Mountain View: 07/01/2013 Sunnyvale: City Option	TBD	Mountain View Sunnyvale	No Change

*If this program is implemented in Sunnyvale, it will also likely be implemented concurrently in Mountain View.

Future Organics Programs - Mountain View and Sunnyvale

If implemented, the programs identified in Table 2-5 will increase the quantity of Source Separated Organic Materials, and decrease the quantity of recoverable MSW. However, the programs related to Food Scrap collection may also be assumed to decrease contamination of recoverable fibers in the MSW stream.

**Table 2-5
Organic Materials - Mountain View and Sunnyvale Programs**

Program Name	Estimated Implementation Date	Estimated Tonnage at Full Scale	Participating Agencies	Contractor Compensation
Single-Family Food Scraps Collection Pilot	Mtn. View: 07/01/2014 Sunnyvale: 07/01/2014	Mtn. View: TBD Sunnyvale: TBD	Mountain View Sunnyvale	No Change
Commercial Food Scraps Collection Expansion of Existing Pilot Programs <i>(currently in planning stages)</i>	Mtn. View: 07/01/2013 Sunnyvale: 07/01/2014	Mtn. View: 5,335 / 3,600 Sunnyvale: 4,773 / 960 <i>(anticipated tons at full scale / tons under pilot)</i>	Mountain View Sunnyvale	No Change
Commercial Yard Trimmings Collection	City Option	1,520 tons	Sunnyvale	Potential Change
Multi-Family Yard Trimmings Collection	Mtn. View: 07/01/2013 Sunnyvale: City Option	Mtn. View: 740 Sunnyvale: 1,025 tons	Mountain View Sunnyvale	Potential Change
Seasonal "Fall Leaves" Yard Trimmings Collection Program	07/01/2013	150	Mountain View	No Change
Weekly SFD Yard Trimmings Collection <i>(as opposed to bi-weekly)</i>	City Option	340	Mountain View	Potential Change
Expanded List of Organic Materials for Single-Family Collection*	City Option	964 (includes recyclables and organics)	Sunnyvale	Potential Change

*If this program is implemented in Sunnyvale, it will also likely be implemented concurrently in Mountain View.

Future Palo Alto Organics Programs

The City of Palo Alto is will continue the collection of food scraps portion of the Single-Family Food Scraps Collection pilot program and will consider expanding citywide the collection of Single-Family food scraps mixed with yard trimmings. This material may be delivered to the SMaRT Station for transportation and processing to a Bay Counties partner processing facility. If implemented, the programs identified in Table 2-6 will decrease the overall quantity of MSW, decrease the quantity of recoverable MSW and decrease contamination of recoverable fibers in the MSW stream.

**Table 2-6
Organic Materials – Potential Palo Alto Programs**

Program Name	Estimated Implementation Date	Estimated Tonnage at Full Scale	Participating Agencies	Contractor Compensation
Commercial wet-dry collection pilot (currently being considered)	December 31, 2014	unknown	Palo Alto	No change
Commercial wet-dry pilot expanded to all commercial	City Option	Unknown	Palo Alto	Potential Change
Expand Citywide Single-Family Food Scraps Collection combined with yard trimmings	7/01/2015	3,500 tons food scraps combined with 11,500 tons yard trimmings	Palo Alto	Potential Change
Energy/Compost Facility Development	2019	n/a (included above as 3,500 tons)	Palo Alto	Potential Change

As noted in Table 2-6, in November 2011, Palo Alto voters passed Measure E, which required staff to investigate the possibility of placing an Energy/Compost facility on ten acres of the former Palo Alto Landfill that was originally slated to be part of Byxbee Park. The City will consider an organics facility plan that could ultimately manage biosolids, Food Scraps and Yard Trimmings from the City of Palo Alto’s curbside collection program facility). A full Energy/Compost Facility (if selected) would not be expected to be operational until 2019 at the earliest.

The Palo Alto commercial wet/dry collection pilot project is in its initial planning stages. The City has not worked through all the details, but the goals are to increase diversion, simplify the sorting of wastes for businesses, and increase the available open space in public alleys currently occupied by numerous bins. Staff will initially target commercial customers in downtown Palo Alto whose waste containers are being stored in public alleys and those who have had difficulties with the existing three sort system of separating materials in categories of recycling, compostable materials and garbage. Staff anticipates the pilot will be a minimum of one truck load of waste materials per week (of each material), to a maximum three days per week collection. The pilot will include removing the garbage bins from the businesses/alleys and having the waste stream be separated into two waste streams – wet (food scraps, plant trimmings, compostable paper) and dry (loose recyclable materials and inert materials). Both loads of materials collected could go to the SMaRT Station or they could go GreenWaste’s MRF in San Jose; staff will evaluate options. Staff anticipates beginning the pilot in January 2015.

Participating Agency Education and Outreach Efforts

The Participating Agencies have also identified the education and outreach efforts shown in Table 2-7, which will affect multiple sectors and material types. Enhanced Public Education and Outreach in Palo Alto could decrease the quantity of Source Separated Organic Materials (as Source Separated Food Scraps originating in Palo Alto are processed at a third party facility), decrease the overall quantity of MSW (as Recyclable Materials originating in Palo Alto are processed at a third party facility), and decrease contamination of recoverable MSW fibers. Enhanced public education and outreach in Mountain View and Sunnyvale will likely increase the quantity of Source Separated Organic Materials and Source Separated Recyclable Materials and decrease the quantity of recoverable MSW.

**Table 2-7
Education and Outreach Efforts**

Program Name	Estimated Implementation Date	Estimated Tonnage at Full Scale	Participating Agencies	Contractor Compensation
Enhanced Public Education & Outreach <i>(In Palo Alto, specifically to Commercial and Multi-Family Customers)</i>	Mountain View: 7/1/2013 Palo Alto: 7/1/2015 Sunnyvale: City Option	Mountain View: TBD Palo Alto: TBD Sunnyvale: 2400 tons	Mountain View Palo Alto Sunnyvale	No Change

ORGANICS PROCESSING COSTS - PILOT AND FUTURE PROGRAMS

	Residential Yard Trimmings Co- Collected with Food Waste	Residential Yard Trimmings Co- Collected with Food Waste	Residential Yard Trimmings Co- Collected with Food Waste	Commercial Food Waste	Commercial Food Waste	Commercial Food Waste
A	Pre-processing at SMaRT (e.g. grinding, screening, sorting)	Grinding	Grinding			
B	Composting facility (name, location, SWIS #)	* Zanker Zbest	Harvest Power	* Zanker Zbest	Republic Newby	EBMUD
C	SMaRT processing/handling cost (\$/ton)	\$7.23	\$7.23			
D	Transportation plan (operator vehicles vs. third party)	third-party	third-party	third-party	third-party	third-party
E	Operator vehicle transportation cost (\$/ton)	\$0	\$0	\$0	\$0	\$0
F	Third party vehicle transportation cost (\$/ton)	\$12.00	\$18.00	\$12.00	\$9.00	\$11.00
G	Operator vehicle transportation cost (\$/hr)	\$0	\$0	\$0	\$0	\$0
H	Third party vehicle transportation cost (\$/hr)	included in transportation costs	included in transportation costs	included in transportation costs	included in transportation costs	included in transportation costs
I	Facility tipping fee (\$/ton): Gate Rate (\$/ton) Fees (\$/ton) TOTAL	\$75.00	\$24.00	\$82.00	\$78.00	\$45.00
J	Combined transport and tip fee - operator vehicles (\$/ton) E + I					
K	Combined transport and tip fee - 3rd party vehicles (\$/ton) F + I	\$87.00	\$42.00	\$94.00	\$87.00	\$56.00
L	Projected increase in tipping fees over the term of the operating agreement (% per year)	3%	3%	3%	3%	3%
M	Minimum specifications for material acceptance (by weight)	5%	15% organics with 85% yard waste	15%	3%	less than 2" in size

Form 15C will become part of Exhibit X to the Agreement, and relates to the information in RFP Section 2.3 and to Agreement Section 3.5.F. With relation to programs shown in RFP Tables 2-4 through 2-7 as “no change in compensation”, organics processing costs incurred with relation to use of the facilities shown in Form 15C will not be subject to compensation beyond that provided in the Basic Annual Payment and Excess Tonnage Tip Fees shown on Form 13. For programs shown in RFP Tables 2-4 through 2-7 as “potential change in compensation”, organics processing costs incurred with relation to use of the facilities shown in Form 15C may be subject to the change in scope provisions of Agreement Section 10.20.

Notes:

1. Add other columns as needed.
2. For Row A, identify whether pre-processing will occur at SMART.
3. In Row D identify whether operator transfer vehicles, 3rd party vehicles, or both will be used to transport the material. For operator vehicles, fill in rows E, G and J. For 3rd party vehicles, fill in rows F, H and K.
4. Use Row M to identify non allowable materials, and contaminants with specified acceptable % thresholds.

Exhibit Y

(Cover page through page v) pages 1-43 appended

TRANSFER/PROCESSING REPORT

For the

**Sunnyvale Materials Recovery and Transfer
SMaRT Station®**

July 2012

Prepared by

City of Sunnyvale Environmental Services Department

John Stufflebean, Director

Mark Bowers, Solid Waste Programs Division Manager

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SMaRT® Station - Storm Pre-Event Preparation Checklist

Exhibit Z

ate: / /

Weather monitoring and notification by:

Checklist completed by:

Chance of Rain: _____ %

SD-1 Parking Lot - 1	Done	Needs attention	Comments
Remove metal cover			
Litter patrol in parking lot			
Loose debris removed from top/around SD *			

SD-2 Parking Lot - 2	Done	Needs attention	Comments
Remove metal cover			
Litter patrol in parking lot			
Loose debris removed from top/around SD *			

SD-3 Buyback	Done	Needs attention	Comments
Loose debris removed from top/around SD *			
Loose debris around debris boxes picked up			
move cover			
Place rock bags around drain			
Berm around compost (cover if storming)			
Berm around fines (cover if storming)			
Universal waste (secondary containment and protected from rain)			
E-waste bins covered			
Oil shed (All containers inside roofed area and on secondary containment)			
Litter patrol (all around SD, overweight unloading area, compost, propane and recycling bins, bushes and curb)			

SD-4 Curbside Line	Done	Needs attention	Comments
Entire curb perimeters cleared *			
Remove cover			
Place rock bags around drain			
Berm and cover around dirt			
Loose debris removed from top/around SD *			
Loose debris around debris boxes picked up *			
Cover the concrete pile *			

SD-5 Appliance Recycling Area	HazMat &	Done	Needs attention	Comments
Entire perimeter around shed cleared				
Remove cover				
Place rock bags around drain				
Loose debris removed from top/around SD *				
Hazardous waste stored inside shed				
Cover low top bins (HDPE, rigid, tires, etc)				
Loose debris around debris boxes picked up *				
Appliance area picked up (debris, glass and oil spills)				
Oversized wood & debris removed from ground *				
Cover scrap aluminum bin and clean around *				

SD-6 Emergency Gate	Done	Needs attention	Comments
Entire curb perimeter cleared			
Place rock bags around drain			
Remove cover			
Loose debris removed from top/around SD *			

SD-7 TF	North	Done	Needs attention	Comments
Entire curb perimeter cleared*				
Place rock bags around drain				
Remove cover				
Loose debris removed from top/around SD *				
Loose debris removed: tire storage, dust collection system *				

SD-8	WR/Fines	Done	Needs attention	Comments
Remove cover				
Place rock bags around drain				
Loose debris removed from top/around SD *				
Entire curb perimeter cleared of litter & spilt fines *				

SD-9 Loading Dock	Done	Needs attention	Comments
FL path above loading dock cleared			
Spill-over fines under bins (C503) by loading dock swept up			
Loose debris removed from top/around SD *			
Berm around wood fines			

ScaleHouse SD	Done	Needs attention	Comments
Verify they have been cleaned			
Verify valve is open, allowing water to flow			

SD-10 Lane	Exit	Done	Needs attention	Comments
Remove cover				
Place rock bags around drain				
Loose debris removed from top/around SD *				
Entire curb perimeter cleared *				

Miscellaneous	Done	Needs attention	Comments
Carts, tubs, containers covered or turned upside down so don't collect			
In-bound/out-bound scales: Pits and drains (cleaning and then opening)			
Inspect facility & parking lot for major oil leaks on asphalt			
Inspect for absorbant left spread out - remove immediately			
Pre-loaded trucks parked inside when leaking GJ			
Cover any bales stored outside			
Inspect vehicle fueling/ maintenance areas			

SD-11 Rd (Corner)	Carl	Done	Needs attention	Comments
Entire curb perimeter cleared *				
Loose debris removed from top/around SD *				

*** Hand sweep or blower at hard to reach areas, and then use sweeper**

Note:

Checklist will be completed when 50% or more chance of rain is forecasted.
Activities conducted 24-hours prior to forecasted rain.

Bay Counties SMaRT
 Daily Industrial Sweeper Log

Run sweeper as close as possible to curb, concrete, compost and dirt piles, and bins.
Corra la barredora lo más cerca posible a las banquetas, los montos de tierra, concreto y compost, y contenedores.

Date / Fecha	Time of 1st Run	Signature	Time of 2nd Run	Time of Additional Run, if needed	Signature	Manager Initial

Option 1. MRF Fines cleanup system: Organics Separation (Vincent Screw Press) to Anaerobic Digestion (EBMUD)

For almost two years now, BCWS has been working with the City to find a solution to the MRF fines glass contamination generated from the MSW trommels. After exploring and testing many different types of machines and processes we have found one organics bio-separator that generates two different sized organics streams (with minimal contamination) that may be suitable for digestion at the East Bay Municipal Utilities District (EBMUD) Waste Water Treatment Plant (WWTP) in Oakland. EBMUD maintains multiple digesters with capacity to digest materials that far exceeds the amount that is available from the SMaRT Station. EBMUD's anaerobic digestion operations will produce renewable biogas and a digestate that can be used as a soil amendment. At present, the biogas is converted on-site into electricity, which is used to power the wastewater treatment facility and other public uses. Digestate is applied to land as an agricultural soil amendment, or otherwise beneficially reused in ways that meet CalRecycle requirements for diversion credit.

This organic bio-separator manufactured by Vincent Corporation based in Tampa, Florida is designed for numerous applications on much larger scales. The Vincent Screw Press offers a 3/8" screen that will reject smaller contaminants producing a cleaner stream that is much more desirable by EBMUD for their digesters. Based on the rate of fines generated at the SMaRT Station it is likely that two screw presses will be required.

The MRF fines cleanup system will operate as follows. MRF fines will be conveyed into the organics separator via the existing fines conveyors and drop down into the infeed hopper. The separated organic portion will be conveyed into an end dump that will deliver the organics to the WWTP. The separated inorganic portion that is rejected will be deposited into a debris box that will be emptied when it reaches capacity and eventually landfilled. The separator will be placed where the current MRF fines are stored outside the northern portion of the MRF.

In the event the City elects to exercise this Option, it will be implemented in the following three phases:

- (1) The Contractor shall provide, temporarily install and test one Vincent Screw Press to test whether its output of cleaned MRF Fines meets the wet anaerobic digestion feedstock quality requirements of EBMUD.
- (2) Contractor shall provide City with a report documenting the test, its results and Contractor's recommendations.
- (3) If Contractor reports that the Vincent Screw Press output meets EBMUD quality requirements and recommends full implementation of the Vincent Screw Press and shipment of MRF Fines to EBMUD for anaerobic digestion, the City shall determine, in its sole discretion, whether to direct Contractor to proceed with implementation of this Option. Contractor shall design, install, operate and maintain a MRF Fines Cleanup System at the Station which effectively prepares the fines to meet EBMUD quality requirements. This system will include, but not be limited to:

- System design, engineering, drawings and permitting
- Vincent Screw Press(es) -in size and number adequate to process 2" minus outputs from current system (two screw presses are assumed)
- Parts and materials to install processing equipment and/or modify existing equipment including fire protection system
- Design and installation of concrete pad, footings and building for coverage of system
- Electrical installation, and integration to existing electrical control system

A detailed list of system components is located in Exhibit AA-2.

Task	Start Date	End Date	Estimated Duration	Description
Vincent Screw Press	June 2014	Oct 2014	4 months	Rent and test Screw Press
	Oct 2014	Jan 2015	3 months	Final equipment design, order finalized, fabricate & deliver equipment
	Feb 2015	April 2015	3 months	Installation of equipment
	Feb 2015	April 2015	2-3 months	Permitting & inspections
	May 2015		2-4 weeks	Test system & make modifications, as needed

Option 2. Two Additional MRF Screens, Optical Sorter and Related Services

Additional MRF Screens for Mixed Waste Processing System: In order to maximize recovery of the existing equipment, newer machinery utilizing a simple application of disc screens to more efficiently separate materials will allow for additional recovery opportunities throughout the facility; maximizing operational efficiencies of existing equipment and labor and increasing the diversion of recyclable materials and revenue.

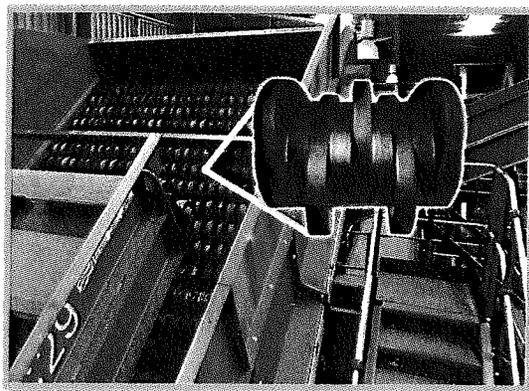
Based on our numerous and lengthy discussions with equipment manufacturers, we have determined that we can modernize the facility by adding additional screens. Rigid plastic and metal containers represent the most sortable and most valuable commodities in the missed stream. Our proposal is to create a stream of 3D materials and focus sorting materials utilizing our current mechanized and manual sorting capabilities more efficiently. In order to create sortable fractions, we are proposing to place 2 disc screens on the MSW line; one screen on the 2"-4" fraction and

another on the 4"-9" fraction. The 3D materials on the 4"-9" 2D fraction will be combined onto the existing sort lines and the remaining residue will be directed to the C-601 (residue conveyor).

In order to install these screens, the following modifications to the MSW lines will be required:

2"-4" line modifications:

1. Extend feed conveyor to magnet
2. Remove primary ECS (relocate to recyclables line)
3. Replace primary ECS and feed conveyor with 26 rotor x 140" tight pattern disc screen (as shown in the photo)
4. 3D fraction goes to existing non-ferrous line to secondary ECS
5. Several conveyors take 2D fraction to existing Hustler troughed roller conveyor



4"-9" line modifications:

1. Remove chain belt conveyor and reversing splitter conveyors
2. Replace with screen feed and 26 rotor x 140" tight pattern disc screen
3. 3D falls to the 4th sort conveyor (left to right looking in direction of sort belt travel)
4. 2D falls to 3rd sort conveyor

ECS line modifications:

1. Secondary ECS now sees material from 2"-4" 3D fraction
2. Ejected non-ferrous goes to existing QC sort station
3. Pass fraction falls on 3D sort conveyor

3D sort line modifications:

1. Conveyor is extended with a drop tail section to pick up pass fraction of ECS

It is also important to mention that with most screening equipment, there are a few challenges that may arise:

- ✓ Maximum available throughput of screens may produce a choke point, even with the largest models;
- ✓ Potential jamming hazard; and,
- ✓ Increased burden depth on 2D line.

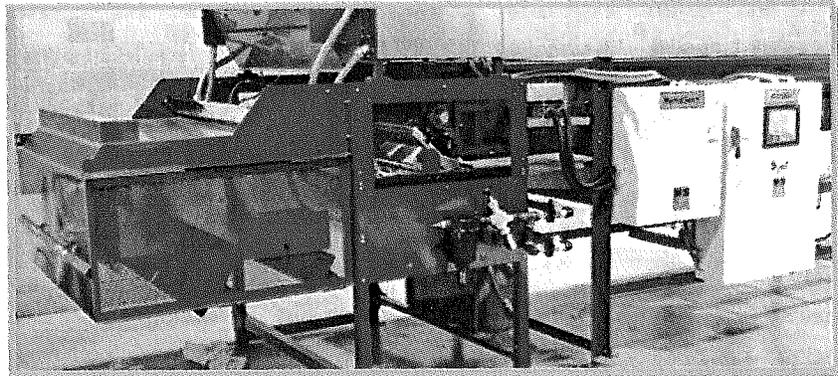
These challenges can be avoided with operational efficiencies and management oversight. Even with these challenges, the benefits far outweigh the costs in terms of increasing the efficiencies, diversion and profitability of the MSW lines with the ability to mechanically separate 2D materials from 3D. Based on our numerous and lengthy

discussions with Krause, and our own internal observations and investigations, we have determined that the proposed disc screens in the MSW lines can potentially generate an additional 2,100 tons of recyclables diverted, which results in a 1.25% increase in diversion.

Optical Sorter and Relocation of Eddy Current Separator on Curbside Processing Line: In order to maximize sorting efficiencies, minimize contamination levels, increase diversion and reduce labor intensity and costs, we are proposing that the City/Participating Agencies consider installing mechanized systems on the recyclables line. We are proposing an optical sorting unit that can be calibrated to sort many types of commodities, designed and manufactured by MSS, a division of the CP Group. The optical sorter can easily be placed on the existing recyclables line without requiring major modifications to the system or result in major downtime during installation.

Major components of the recyclables line will remain the same: the current air classifier (trom mag) will continue to force the "heavies" to go onto the glass ~~sort line~~ sort line and containers continue under a magnet to remove ferrous metals (tin cans) and transferred to the container sort line for manual separation of aluminum cans, PET and HDPE.

The "lights" are then taken up over the ~~silos~~ silos to the proposed Aladdin Optical Sorter with dual fire options (as shown in photo).



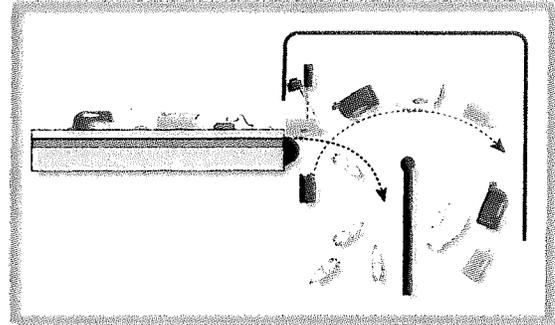
The up eject will be PET that transfers to the bunker via a conveyor equipped with a QC sorter that removes contaminants

and places them on the middle conveyor, which is also the pass fraction from the optical sorter. The down eject will be HDPE (all colors) that will also pass by a QC sorter that removes contaminants and places them onto the pass belt as well as pull HDPE natural and drop into the chute. The colored HDPE will go into the bunker at the end of the conveyor and the pass fraction will then continue on and drop onto the existing container line. This will give sorters the opportunity to capture anything that might have made it through.

The repurposed Eddy Current Magnet from the MSW line will be at the end of the container line and a blower puts the aluminum into the bunker. The residuals will drop into a tote for disposal. As an option for the City/Participating Agencies, a QC station for the recovery of additional aluminum was included into the design.

Optical sorting equipment for additional recyclables recovery offers the following features and benefits:

- ✓ Ability to scan at more than twice the speed compared to other sensors (1,200 vs. 500 FPM), which allows for running the conveyors faster, increasing throughput;
- ✓ Features an internal, automated calibration system that reduces downtime and increases accuracy;
- ✓ LED sensor uses 60-70% less energy, lowering operating costs;
- ✓ No moving parts -- all components are solid-state and insures a long lifetime and less risk of failure;
- ✓ The Aladdin unit is designed for high-capacity plastic bottle sorting and features an integrated color and near infrared (NIR) sensing providing precise plastic resin and color identification at the same time in one module;
- ✓ A touch screen user interface allows full setup control and factory software upgrades and diagnostics are available via modem/network connection.



Task	Start Date	End Date	Estimated Duration	Description
Disc Screens on MSW Line	June 2014	Dec 2014	6 months	Final equipment design, order finalized, fabricate & deliver equipment
	Dec 2014	Feb 2015	2-6 weeks	Installation of equipment
	Feb 2015	May 2015	2-3 months	Permitting & inspections
	June 2015		2-3 weeks	Test system & make modifications, as needed

Task	Start Date	End Date	Estimated Duration	Description
Optical Sorting on Recyclables Line	June 2014	Dec 2014	6 months	Final equipment design, order finalized, fabricate & deliver equipment
	Dec 2014	Feb 2015	2-6 weeks	Installation of equipment
	Feb 2015	May 2015	2-3 months	Permitting & inspections
	June 2015		2-3 weeks	Test system & make modifications, as needed

Option 3. Wood Grinder Infeed Conveyor

We are proposing to spend \$200,000 of our own money to purchase and install a new Jeffery Rader Horizontal Grinder for the SMaRT Station.

We anticipate that the replacement of the current wood grinder with a newer, more efficient machine can process twice as much material (roughly 30-35 tph), and will reduce the need to pay 2 operators overtime, reducing labor costs. There is also a savings in maintenance costs with a new grinder; as maintenance gets more and more expensive as equipment ages.

Additionally, the current conveyor structure leading to the wood grinder is also extremely old. Newer conveyors and belts are twice as strong and more reliable. The current structure needs frequent repairs and the Ultra High Molecular Weight (UHMW) polyethylene needs to be replaced. This results in multiple shutdowns in the *Wood Room* ranging from several days to an entire week when the structure and UHMW requires lengthy and expensive repairs and replacement. Our recommendation to the City/Participating Agencies is to purchase and install a new infeed conveyor that will feed the new grinder provided by BCWS.

The proposed grinder and conveyor will not exceed the permitted maximum throughput of 255 tons per day of grinding and screening, per the Bay Area Air Quality Management District's Permit to Operate and the City's Use Permit. We anticipate operating the new grinder for a maximum of 7.5 hours per day, resulting in total processing that does not exceed 240 tons per day, if operating at 32 tons per hour with the new grinder and conveyor.

Task	Start Date	End Date	Estimate Duration	Description
New Infeed Conveyor for wood room	June 2014	Aug 2014	3 months	Engineering, fabrication & delivery
	Aug 2014	Sept 2014	1 month	Installation of grinder & electrical upgrade (PG&E)
	Oct 2014		1-2 weeks	Test grinder and conveyor speeds & make modifications, as needed

Option 4. Film Plastics Vacuum Removal and Compactor System

The bag breakers in the trommels successfully open and free the contents of plastic bags before entering the post-sort rooms. As a result, the other waste entering the sorting rooms are covered with the empty plastic bags and other film plastics. Recovering the film plastic and bags would increase the ability for sorters to recover recyclables that are now covered by the bags. It would also reduce the amount of blown plastic litter around the facility.

In order to improve the sorting capability in the sort rooms and recover these materials for additional diversion potential, we are suggesting that the City/Participating Agencies consider installing a film plastics vacuum collection system in the pre- and post-sort rooms. The proposed vacuum system consists of a series of specially designed collection hoods that would be mounted in the ceiling above the sorting belts; 2 hoods in the pre-sorting room and 4 hoods in the post-sorting rooms above the conveyors (as shown in the photo).



The internal 'jetcone' hood design minimizes operational noise levels and the amount of air withdrawn from the sorting rooms by utilizing a closed loop system. The plastics

that sorters lift up into the vacuum duct will be transported to a central location and the conveying air used to transport the material is recycled back through a return air system. At the central location on the southern portion of the MRF near the trommels, the materials will enter an auger/screw press that compacts it into bales, substantially reducing volumes, storage space requirements and transportation costs. This system also reduces labor costs, eliminates the need for transfer conveyors, reduces downtime and maintenance of equipment that is routinely clogged with plastics, and eliminates the need for additional storage bunkers.

Task	Start Date	End Date	Estimated Duration	Description
Film Plastic Vacuum Collection System	June 2014	Dec 2014	6 months	Final equipment design, order finalized, fabricate & deliver equipment
	Dec 2014	Feb 2015	2-6 weeks	Installation of equipment
	Feb 2015	May 2015	2-3 months	Permitting & inspections
	June 2015		2-3 weeks	Test system & make modifications, as needed

Option	Description	Who	Source	Capital Cost	Annual Capital and Financing Costs	Applicable to 15% Minimum Recycling Level			Applicable to 17.5% Minimum Recycling Level						
						BCWS Annual Operating Costs (savings)	BCWS Share Annual Revenues	Change to Basic Annual Payment	BCWS Annual Operating Costs (savings)	BCWS Share Annual Revenues	Change to Basic Annual Payment				
Option 2 - Additional MRF Screens	Engineering	CP/Krause	CP 5/21/14	\$ 52,800											
	Equipment cost	CP/Krause	CP 5/21/14	\$ 528,300											
	Steel Package (platform and svc walkways, supports, chutes, hoppers)	CP/Krause	CP 5/21/14	\$ 164,300											
	Sales Tax	8.7500%	Calculation	\$ 60,603											
	Freight, loading	CP/Krause	CP 5/21/14	\$ 12,500											
	Installation - Mechanical	CP/Krause	CP 5/21/14	\$ 481,988											
	Installation - Electrical	CP/Krause	CP 5/21/14	\$ 150,000											
	Project Management - Krause	CP/Krause	CP 5/21/14	\$ 27,000											
	Start up, testing	CP/Krause	CP 5/21/14	\$ 10,000											
	Integrated with Advance MRF controls	CP/Krause	CP 5/21/14	\$ 84,000											
	Sprinklers	BCWS	BCWS Estimate	\$ 30,000											
	Electrical Drop (none needed per BCWS)	BCWS	BCWS Estimate	\$ -											
	Change in contractor revenues	Operating	Operating												
	Power consumption	Operating	Operating												
	Subtotal - Costs of Equipment and Installation				\$ 1,601,491										
Project Management - BCWS				\$ 40,037											
Total Financed Financing Costs				\$ 1,641,528	\$ 234,504										\$ 234,504
Total Costs - Additional MRF Screens				\$ 333,289	\$ 47,613										\$ 47,613
				\$ 1,974,816	\$ 282,117										\$ 282,117
Option 2 - Optical Sorter and relocate ECS to Curbside Line	Additional engineering design for permitting	CP/Krause	CP Doc#140520	\$ 39,000											
	Equipment cost	CP/Krause	CP Doc#140520	\$ 444,600											
	Steel Package (platform and svc walkways, supports, chutes, hoppers)	CP/Krause	CP Doc#140520	\$ 155,100											
	Sales Tax	8.7500%	CP Doc#140520	\$ 52,474											
	Freight, loading	CP/Krause	CP Doc#140520	\$ 24,500											
	Installation - Mechanical	CP/Krause	CP Doc#140520	\$ 247,000											
	Installation - Electrical	CP/Krause	CP Doc#140520	\$ 95,700											
	Project Management - Krause	CP/Krause	CP Doc#140520	\$ 28,000											
	Start up, testing	CP/Krause	CP Doc#140520	\$ 30,800											
	Integrated with Advance MRF controls	CP/Krause	CP Doc#140520	\$ 63,600											
	Sprinklers	BCWS	BCWS Estimate	\$ 70,000											
	Electrical Drop (est. power in main panel at CS)	BCWS	BCWS Estimate	\$ 45,000											
	Power consumption	Operating	Operating												
	Change in contractor revenues	Operating	Operating												
	Subtotal - Costs of Equipment and Installation				\$ 1,295,774	\$ 185,111									
Project Management - BCWS				\$ 32,536	\$ 4,648										
Total Financed Financing Costs				\$ 1,328,310	\$ 189,759										\$ 189,759
Total Costs - Optical Sorter and relocate ECS				\$ 269,694	\$ 38,528										\$ 38,528
				\$ 1,598,004	\$ 228,286										\$ 228,286
Total Financed Financing Costs				\$ 2,969,838	\$ 510,403										\$ 510,403
Total Costs - Screens and Optical				\$ 602,983	\$ 86,140										\$ 86,140
				\$ 3,572,821	\$ 510,403										\$ 510,403
				\$ 24,117	\$ 24,117										\$ 24,117
				\$ (415,857)	\$ (415,857)										\$ (415,857)
				\$ 118,662	\$ 118,662										\$ 118,662

Optional Equipment

Option	Description	Who	Source	Capital Cost	Annual Capital and Financing Costs	Applicable to 15% Minimum Recycling Level			Applicable to 17.5% Minimum Recycling Level				
						BCWS Annual Operating Costs (savings)	BCWS Share Annual Revenues	Change to Basic Annual Payment	BCWS Annual Operating Costs (savings)	BCWS Share Annual Revenues	Change to Basic Annual Payment		
Option 3 - New Wood Hog Infeed Conveyor	Krause Infeed conveyor (frame & belt)	Krause	CP 5/21/14	\$ 186,237									
	Sales Tax	8.7500%	Calculation	\$ 16,296									
	Freight	Krause	CP 5/21/14	\$ 8,500									
	Installation	Krause	CP 5/21/14	\$ 65,608									
	Sprinklers (reinstalled)		No Change	\$ -									
	Electrical tie in (rewire bigger gauge, upgrade breaker)	BCWS	No Change	\$ -									
	Power consumption (already in base)	Operating	No Change	\$ -									
	Change in contractor revenues	Operating	Calculation	\$ -									
	Subtotal - Costs of Equipment and Installation				\$ 276,641								
	Total Costs				\$ 332,808	\$ 47,544	\$ -	\$ -	\$ 47,544	\$ -	\$ -	\$ 47,544	\$ 47,544
Option 4 - Film Plastics Vacuum System	Additional engineering design for permitting	Krause	CP 5/21/14	\$ 11,700									
	Equipment cost	Krause	CP 5/21/14	\$ 164,300									
	Steel Package (platform and svc walkways, supports, chutes, hoppers)	Krause	CP 5/21/14	\$ 30,600									
	Sales Tax	8.7500%	Calculation	\$ 17,054									
	Freight, loading	Krause	CP 5/21/14	\$ 9,200									
	Installation (mechanical and electrical)	Krause	CP 5/21/14	\$ 88,943									
	Project Management - Krause	Krause	CP 5/21/14	\$ 4,000									
	Start up, testing	Krause	CP 5/21/14	\$ 3,000									
	Integrated with Advance MRF controls	Krause	CP 5/21/14	\$ 14,400									
	Sprinklers	BCWS	BCWS Estimate	\$ 25,000									
Electrical Drop	BCWS	BCWS Estimate	\$ 30,000										
Power consumption	Operating	Calculation											
Change in contractor revenues	Operating	Calculation											
Subtotal - Costs of Equipment and Installation				\$ 398,197									
Total Costs				\$ 407,003	\$ 58,143	\$ 7,624	\$ 7,624	\$ 58,143	\$ 7,624	\$ 7,624	\$ 58,143	\$ 58,143	
Total Costs				\$ 489,636	\$ 69,948	\$ 11,569	\$ 11,569	\$ 69,948	\$ 11,569	\$ 11,569	\$ 69,948	\$ 69,948	

ADDITIONAL TERMS AND CONDITIONS APPLICABLE TO INSTALLATION OF THE OPTION EQUIPMENT DESCRIBED IN SECTION 3.5.G.

These provisions are solely applicable to the Contractor's installation services and are not applicable to Contractor's ongoing operation and maintenance of such equipment.

A. Payment Bond

Not later than ten (10) days before the installation of optional capital equipment, Contractor shall file with City a Payment Bond, in an amount not less than 100% of the services to be performed by any subcontractor to secure payment of all claims of laborers, mechanics, or materialmen, subcontractors or other persons named in Civil Code Section 9100 for costs of materials, equipment, supplies, and labor furnished in the course of the performance of this Agreement. The Payment Bond Contract shall be on a form acceptable to the City and shall be executed as surety by a corporation authorized to issue surety bonds in the State of California, with a financial condition and record of service satisfactory to the City.

B. Labor Code Requirements

At its own cost and expense, Contractor shall comply with all laws, rules and regulations that pertain to Contractor's work force. Attention is directed to the following requirements of the California Labor Code:

Hours of Work. Eight hours of labor during any one calendar day and forty hours of labor during any one calendar week shall constitute the maximum hours of service upon all work done hereunder, and it is expressly stipulated that no laborer, worker, or mechanic employed at any time by the Contractor or by any subcontractor or subcontractors under these projects, upon the work or upon any part of the work contemplated by these projects, shall be required or permitted to work thereon more than eight hours during any one calendar day and forty hours during any one calendar week, except, as provided by Section 1815 of the Labor Code of the State of California, work performed by employees of contractors in excess of eight hours per day and forty hours during any one week shall be permitted upon public work upon compensation for all hours worked in excess of eight hours per day at not less than one and one-half times the basic rate of pay. In addition, contractor/subcontractor may be required to pay double the basic rate of pay for all hours worked in excess of 12 hours in any workday and under other circumstances. (See California Code of Regulations sections 16100(c)(6), 16200(a)(3)(F) and applicable prevailing wage determinations.) It is further expressly stipulated that for each and every violation of Sections 1811-1815, inclusive, of the Labor Code of the State of California, all the provisions whereof are deemed to be incorporated herein, Contractor shall forfeit, as a penalty to City, fifty dollars (\$50.00) for each laborer, worker, or mechanic employed in the execution of these projects by Contractor, or by any subcontractor under these projects, for each calendar day during which the laborer, worker, or mechanic is required or permitted to work more than eight hours in any one calendar day and forty hours in any one calendar week in violation of the provisions of the Sections of the Labor Code.

Payroll Records. Contractor, and each subcontractor, shall comply with all provisions of California Labor Code Section 1776. Contractor, and each subcontractor, shall, in accordance with California Labor Code Section 1776 or as the same may be later amended, keep accurate payroll records showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each

journeyman, apprentice, worker, or other employee employed by him or her in connection with work under these projects. Each payroll record shall contain or be verified by a written declaration under penalty of perjury, in accordance with Labor Code Section 1776(a). Such payroll records shall be made available at all reasonable times at the Contractor's principal office to the persons authorized to inspect such records pursuant to Labor Code Section 1776. A certified copy of all payroll records shall be made available for inspection or furnished upon request to a representative of the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations, as well as to the City's representative. In the event the Contractor or a Subcontractor fails to comply in a timely manner within ten days to a written notice requesting the records, such Contractor or subcontractor shall forfeit one hundred dollars (\$100.00) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated, in accordance with Labor Code Section 1776(h).

Prevailing Wage Rates. The Contractor and any subcontractor shall comply with Labor Code Sections 1774 and 1775. Pursuant to the Labor Code of the State of California, or any applicable local law, the Contractor and any subcontractor shall comply with Labor Code Sections 1774 and 1775. City has adopted, by reference, the general prevailing rate of wages applicable to the work to be done under these projects, as adopted and published by the Division of Labor Standards Enforcement and Labor Statistics and Research of the State of California, Department of Industrial Relations, to which reference is hereby made for a full and detailed description. A copy of the prevailing wage rates may be reviewed in the office of the Director of Public Works, City of Sunnyvale, 456 West Olive Avenue, Sunnyvale, California. Wage rates can also be obtained through the City's Website at www.ci.sunnyvale.ca.us/purchasing/prevailingwages.htm.

It shall be mandatory upon Contractor and upon any subcontractor to pay not less than the applicable prevailing wage rates to all laborers, workers, and mechanics employed in the execution of this work. It is further expressly stipulated that Contractor shall, as a penalty to City, forfeit not more than two hundred dollars (\$200.00) for each calendar day, or portion thereof, for each laborer, worker, or mechanic paid less than the stipulated prevailing rates for any work done under these projects by Contractor or by any subcontractor; and Contractor agrees to comply with all provisions of Section 1775 of the Labor Code. The amount of this forfeiture shall be determined by the Labor Commissioner and shall be based on consideration of whether the failure to pay the correct rate of per diem wages was due to the Contractor's good-faith mistake, and on the previous record of the Contractor or subcontractor in meeting their respective prevailing wage obligations. In addition to said penalty, the difference between such prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by the Contractor or subcontractor.

In the event that the Contractor intends to utilize categories of workers different from, or in addition to, those anticipated by the City, it shall be Contractor's responsibility to bring such categories of workers to the City's attention immediately, and to obtain the appropriate wage rate from the Department of Industrial Relations (with the City's assistance if necessary). (See Title 8 California Code of Regulations Section 16202.) The minimum rate thus furnished shall be applicable as a minimum for such trade or occupation from the time of the initial employment of the person affected and during the continuance of such employment.

The Contractor shall post general prevailing wage rates at a prominent place at the site of the work.

Labor Non-Discrimination. Section 1735 of the Labor Code states that the Contractor shall

not discriminate against any employee who is employed upon public works because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation or military or veteran status of such persons, except as provided in Section 12940 of the Government Code.

Prohibition Against Contracting with Debarred Subcontractors. The Contractor is prohibited from performing work on a public works project with a subcontractor who is ineligible to perform work on the public works project pursuant to Section 1777.1 or 1777.7 of the Labor Code.

Apprentices. The Contractor shall fully comply with the applicable requirements of Sections 1777.5 and 1777.6 of the California Labor Code and the regulations of the California Apprenticeship Council. Information relative to apprenticeship standards, wage schedules and other requirements may be obtained from the State Division of Apprenticeship Standards and its branch offices.